

# SHOP MANUAL

**HONDA**

Accord

**MAINTENANCE, REPAIR and CONSTRUCTION 99**

# INTRODUCTION

## How to Use This Manual

This Manual is divided into 24 sections. The first page of each section is marked with a black tab that lines up with its corresponding thumb index tab on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

Each section includes:

1. A table of contents, or an exploded view index showing:
  - Parts disassembly sequence.
  - Bolt torques and thread sizes.
  - Page references to descriptions in text.
2. Disassembly/assembly procedures and tools.
3. Inspection.
4. Testing/troubleshooting.
5. Repair.
6. Adjustments.

## Special Information

**⚠ WARNING** : Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**⚠ CAUTION** : Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTICE** : The purpose of these messages it is intended to help prevent damage to the vehicle, other properly, or the environment.

NOTE: Gives helpful information.

### ⚠ CAUTION

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. Please note that this manual contains warnings and cautions against some specific service methods which could cause PERSONAL INJURY, damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by HONDA, might be done, or of the possible hazardous consequences of every conceivable way, nor could HONDA investigate all such ways. Anyone using service procedures or tools, whether or not recommended by HONDA, must satisfy himself thoroughly that neither personal safety nor vehicle safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

General Info



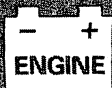
Specifications

specs

Maintenance



Engine Electrical



Engine



Cooling



Fuel and Emissions



\*Transaxle



\*Steering



Suspension



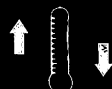
\*Brakes Including ABS



\*Body



\*Heater and Air Conditioning



\*Body Electrical



\*Restraints





## **Driveshafts**

<b>Special Tools .....</b>	<b>16-2</b>
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### **Driveshafts**

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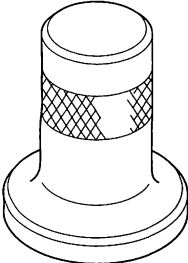
### **Intermediate Shaft**

<b>Removal .....</b>	<b>16-19</b>
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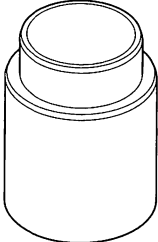


# Special Tools

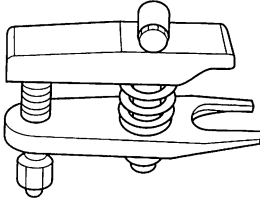
Ref. No.	Tool Number	Description	Qty	Remark
①	07GAD – PH70201	Oil Seal Driver	1	
②	07HMD – MR70100	Attachment, 35 mm I.D.	1	
③	07MAC – SL00200	Ball Joint Remover, 28 mm	1	
④	07XAC – 0010100	Threaded Adapter, 22 x 1.5 mm	1	
⑤	07XAC – 0010200	Threaded Adapter, 24 x 1.5 mm	1	
⑥	07746 – 0010200	Attachment, 37 x 40 mm	1	
⑦	07746 – 0010400	Attachment, 52 x 55 mm	1	
⑧	07749 – 0010000	Driver	1	
⑨	07936 – 5790001	Sliding Hammer Set	1	



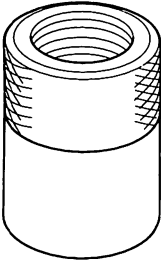
①



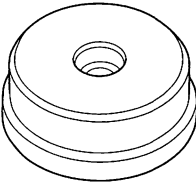
②



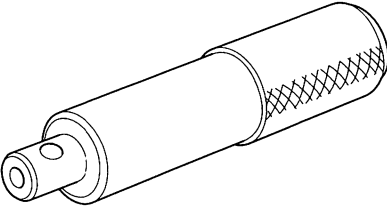
③



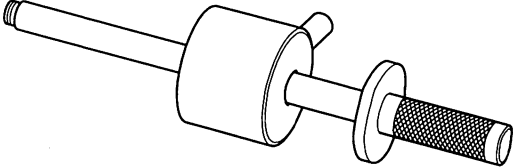
④ ⑤



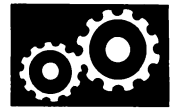
⑥ ⑦



⑧



⑨



## Inspection

### Driveshaft Boot

Check the inboard boot and the outboard boot on the driveshaft for cracks, damage, leaking grease and loose boot bands.

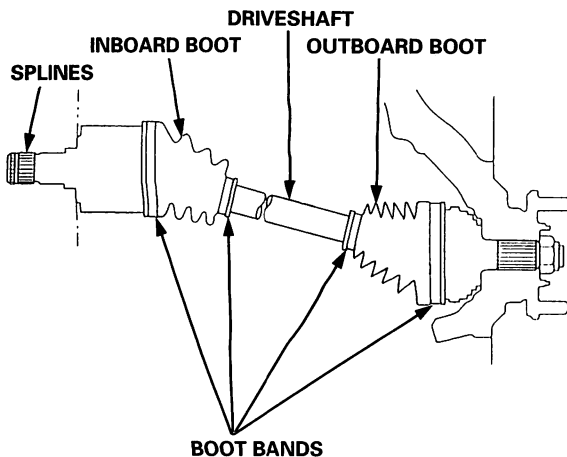
If any damage is found, replace the boot and boot bands.

### Loose Splines

Turn the driveshaft by hand, and make sure the splines and joint are not excessively loose.

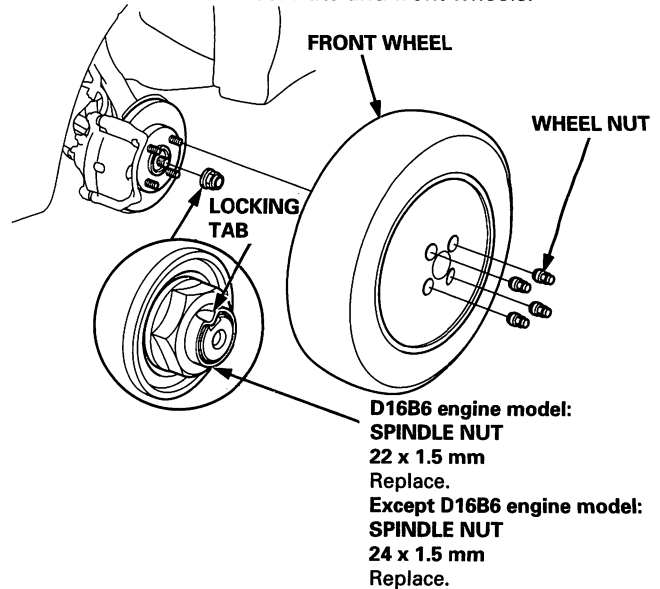
### Twisted or Cracked

Make sure the driveshaft is not twisted or cracked. Replace it if necessary.

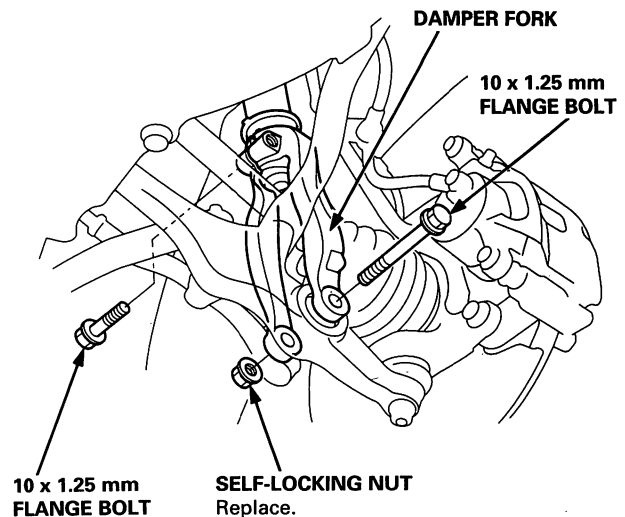


## Removal

1. Loosen the wheel nuts slightly.
2. Raise the front of vehicle, and support it with safety stands in the proper locations (see section 1).
3. Remove the wheel nuts and front wheels.



4. If the right driveshaft is removed, drain the transmission fluid (see section 13 or 14). It is not necessary to drain the transmission fluid when the left driveshaft is removed (for vehicle's with intermediate shaft).
5. Raise the locking tab on the spindle nut, then remove the nut.
6. Remove the self-locking nut and 10 mm flange bolts, then remove the damper fork.

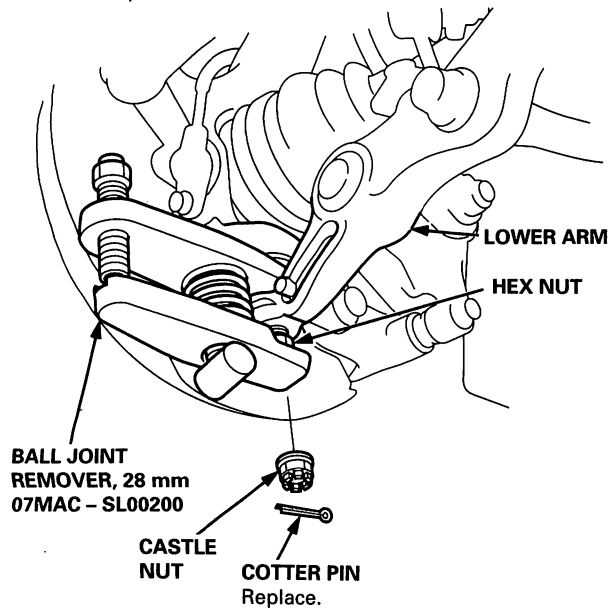


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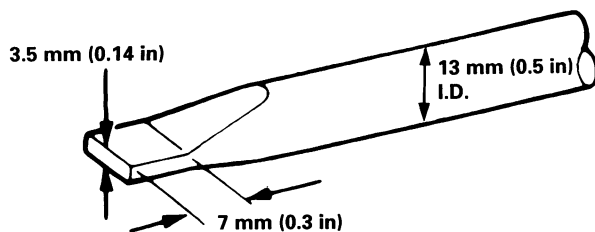
# Driveshafts

## Removal (cont'd)

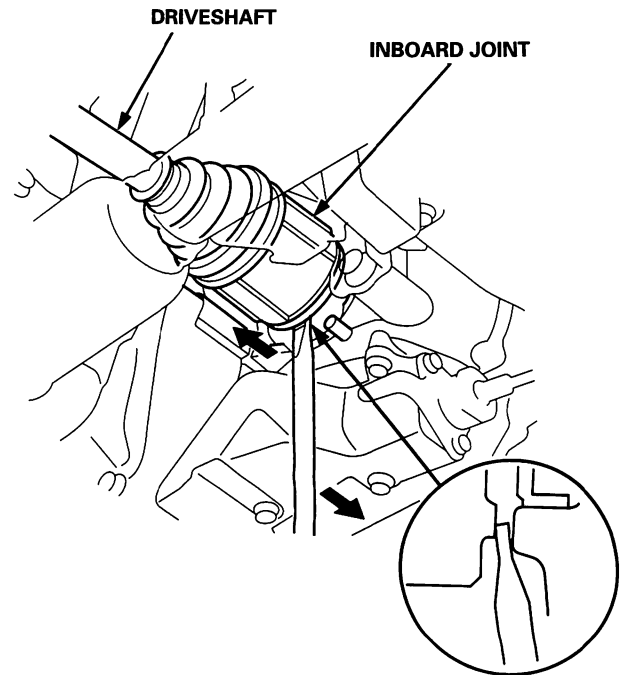
7. Remove the cotter pin from the lower arm ball joint castle nut, and remove the nut.



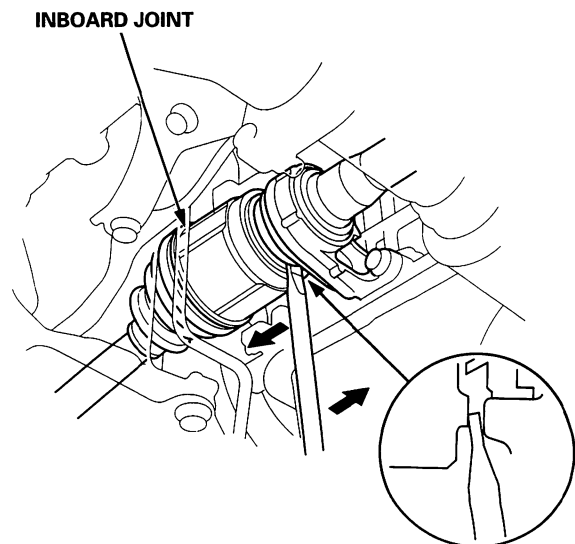
8. Install a 12 mm hex nut on the ball joint. Be sure that the hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the special tool.
9. Use the special tool as shown, to separate the ball joint and lower arm. Be careful not to damage the ball joint boot. If necessary, apply penetrating type lubricant to loosen the ball joint.
10. Pry the driveshaft assembly with a screwdriver as shown, to force the set ring at the driveshaft end past the groove. Be careful not to damage the oil seals when prying.



11. Pull the inboard joint, and remove the driveshaft from the differential case or bearing support as an assembly. Do not pull on the driveshaft the inboard joint may come apart. Pull the driveshaft straight out to avoid damaging the differential oil seal or the intermediate shaft outer seal.

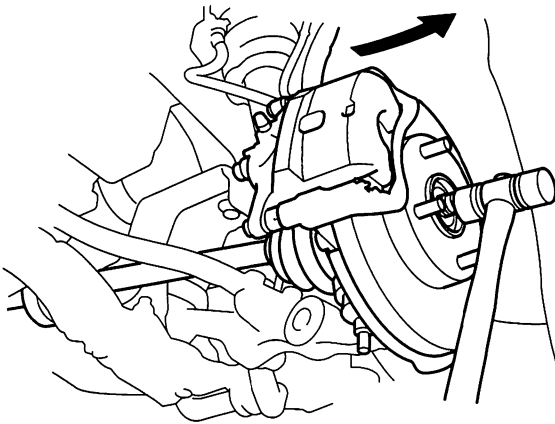


### Driveshaft with intermediate shaft:





12. Pull the knuckle outward, and remove and driveshaft outboard joint from the front wheel hub using a plastic hammer.

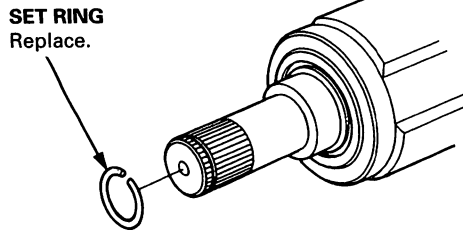


# Driveshafts

## Disassembly

### Inboard Joint Side

1. Remove the set ring from the inboard joint.

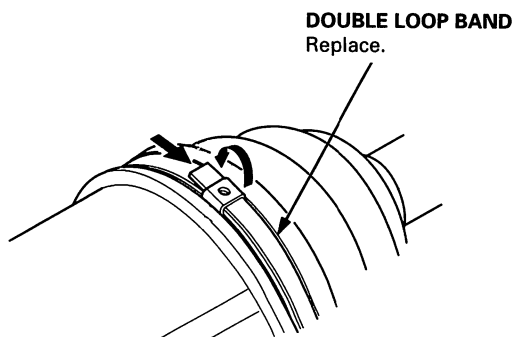


2. Remove the boot bands. Take care not to damage the boot and dynamic damper.

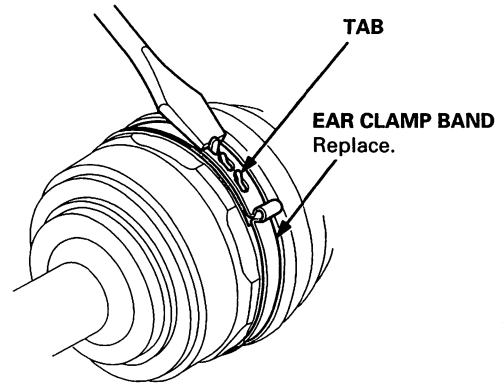
#### NOTE:

- If the boot band is a double loop type, raise the band bend.
- If the boot band is an ear clamp type, raise the three tabs with a screwdriver.
- If the boot band is a welded type, cut the boot band.
- If the boot band is the locking tabs type, pry up the tabs with a screwdriver and raise the end of the band.

### Double Loop Type:



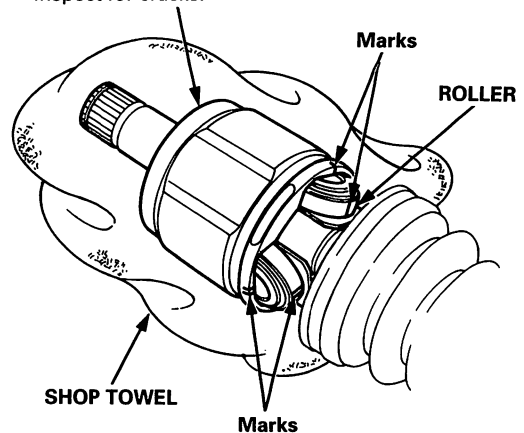
### Ear Clamp Type:



3. Mark each roller and inboard joint to identify the locations of rollers and grooves in the inboard joint. Then remove the inboard joint on the shop towel. Be careful not to drop the rollers when separating them from the inboard joint.

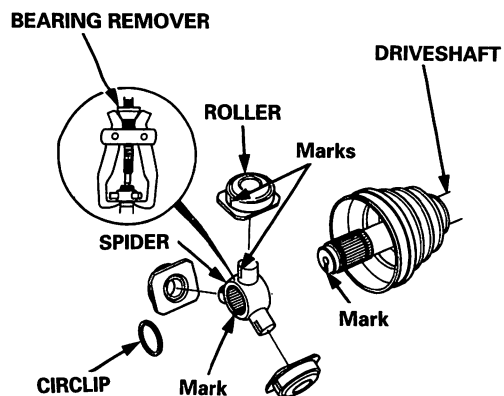
### INBOARD JOINT

Check splines for wear or damage.  
Check inside bore for wear.  
Inspect for cracks.

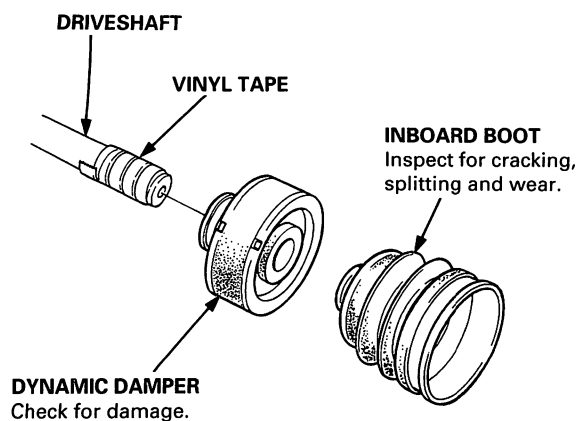




4. Mark the rollers and spider to identify the locations of rollers on the spider, then remove the rollers.



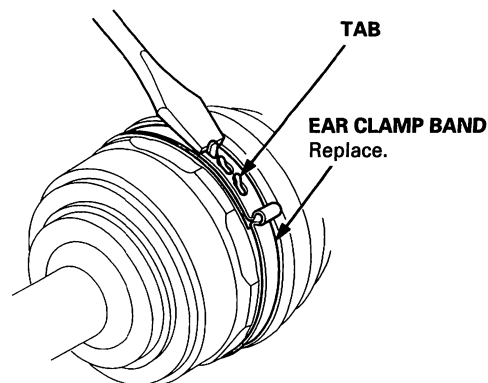
5. Remove the circlip.
6. Mark the spider and driveshaft to identify the position of the spider on the shaft.
7. Remove the spider using a commercially available bearing remover.
8. Wrap the splines on the driveshaft with vinyl tape to prevent damage to the boot and dynamic damper.



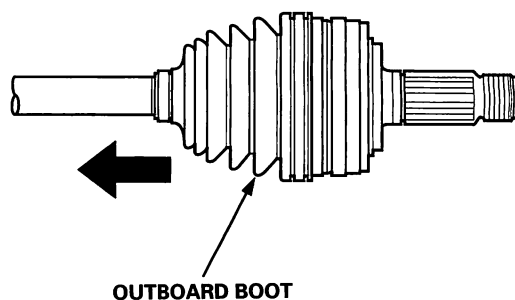
9. Remove the inboard boot and dynamic damper.

#### Outboard Joint Side

1. Raise the three tabs with a screwdriver, then remove the boot bands. Take care not to damage the boot.



2. Slide the outboard boot to the inboard joint side.

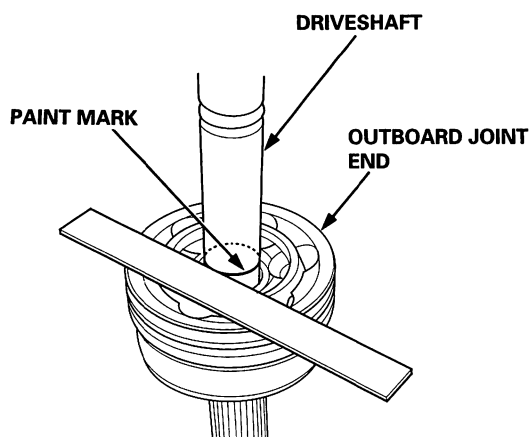


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# Driveshafts

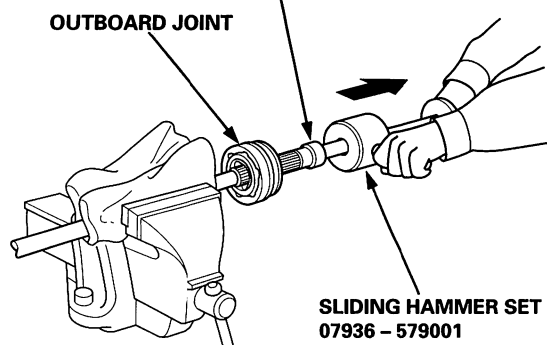
## Disassembly (cont'd)

3. Wipe off the grease to expose the driveshaft and the outboard joint inner race.
4. Mark the driveshaft at the same position of the outboard joint end with paint.



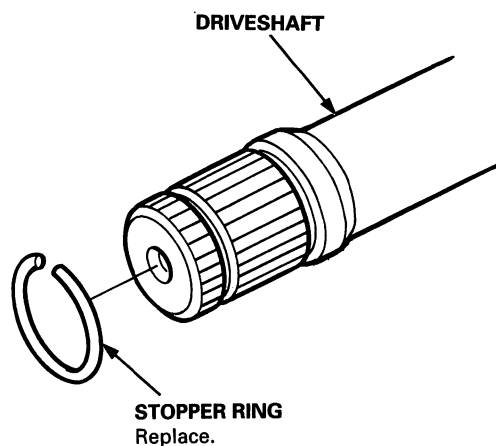
5. Carefully clamp the driveshaft in a vise.

**D16B6 engine model:**  
**THREADED ADAPTER, 22 x 1.5 mm**  
**07XAC - 0010100**  
**Except D16B6 engine model:**  
**THREADED ADAPTER, 24 x 1.5 mm**  
**07XAC - 0010200**



6. Remove the outboard joint using a special tool as shown.

7. Remove the driveshaft from the vise.
8. Remove the stopper ring from the driveshaft.







## Reassembly

Note these items during reassembly:

- Clean the disassembled parts with solvent, and dry them thoroughly with compressed air. Do not wash the rubber parts with solvent.
- Thoroughly pack both joints and both joint boots with the joint grease included in the new driveshaft set.
- The uses a TPE (Thermoplastic Polyester Elastomer) outboard joint boot. Use the ear clamp type boot band in the outboard joint boot set.

**D16B6 engine model:**

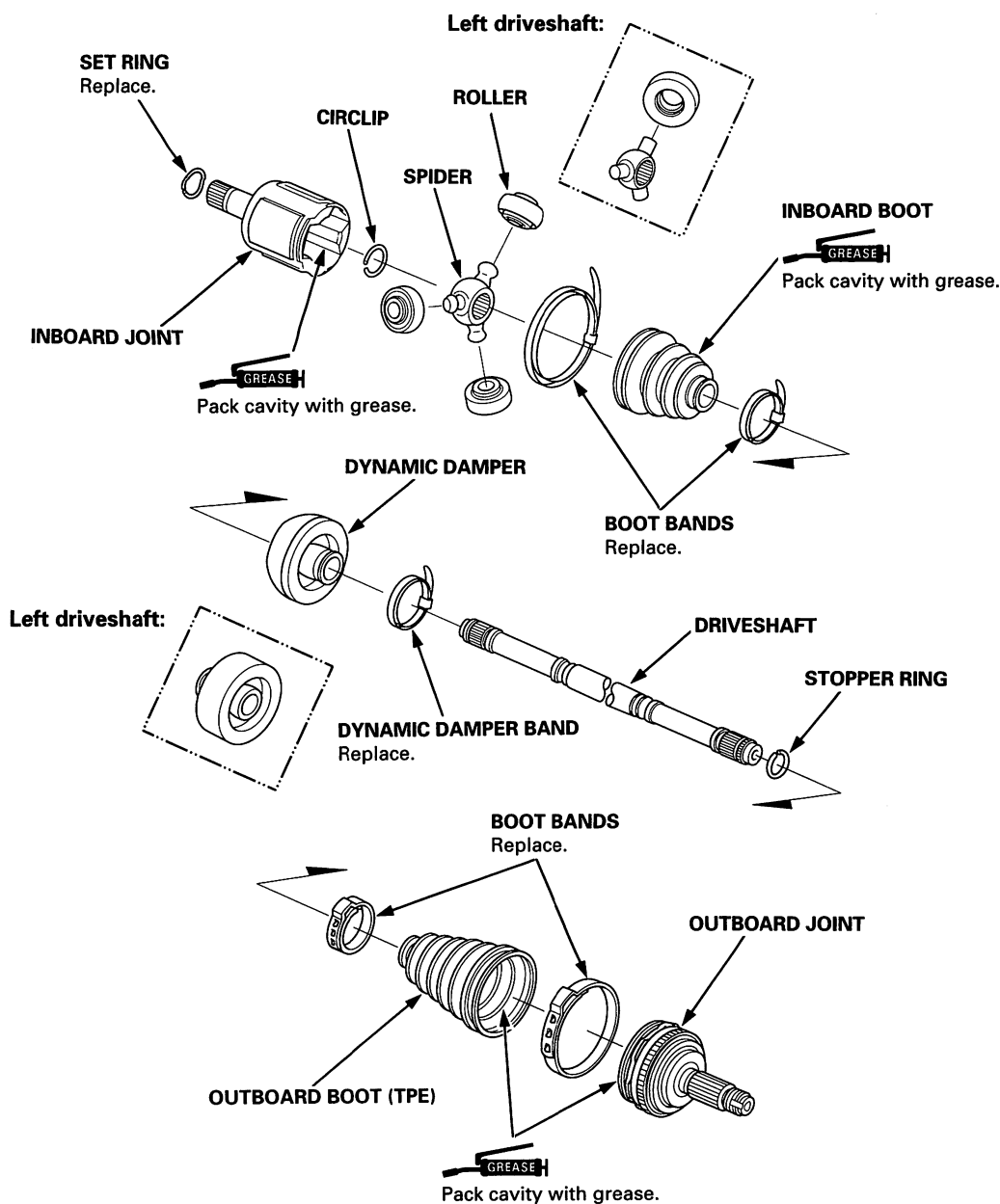
### Grease quantity

#### Inboard joint:

Left side: 125.5 – 135.5 g (4.4 – 4.8 oz)

Right side: 120 – 130 g (4.2 – 4.6 oz)

Outboard joint: 85.5 – 103.5 g (3.0 – 3.7 oz)



(cont'd)

# Driveshafts

## Reassembly (cont'd)

Note these items during reassembly:

- Clean the disassembled parts with solvent, and dry them thoroughly with compressed air. Do not wash the rubber parts with solvent.
- Thoroughly pack both joints and both joint boots with the joint grease included in the new driveshaft set.
- The uses a TPE (Thermoplastic Polyester Elastomer) outboard joint boot. Use the ear clamp type boot band in the outboard joint boot set.

**F18B2, F18B3, F20B6, H22A7 engine model:**

### Grease quantity

#### Inboard joint:

F18B2, F18B3, F20B6 engine model: 120 – 130 g (4.2 – 4.6 oz)

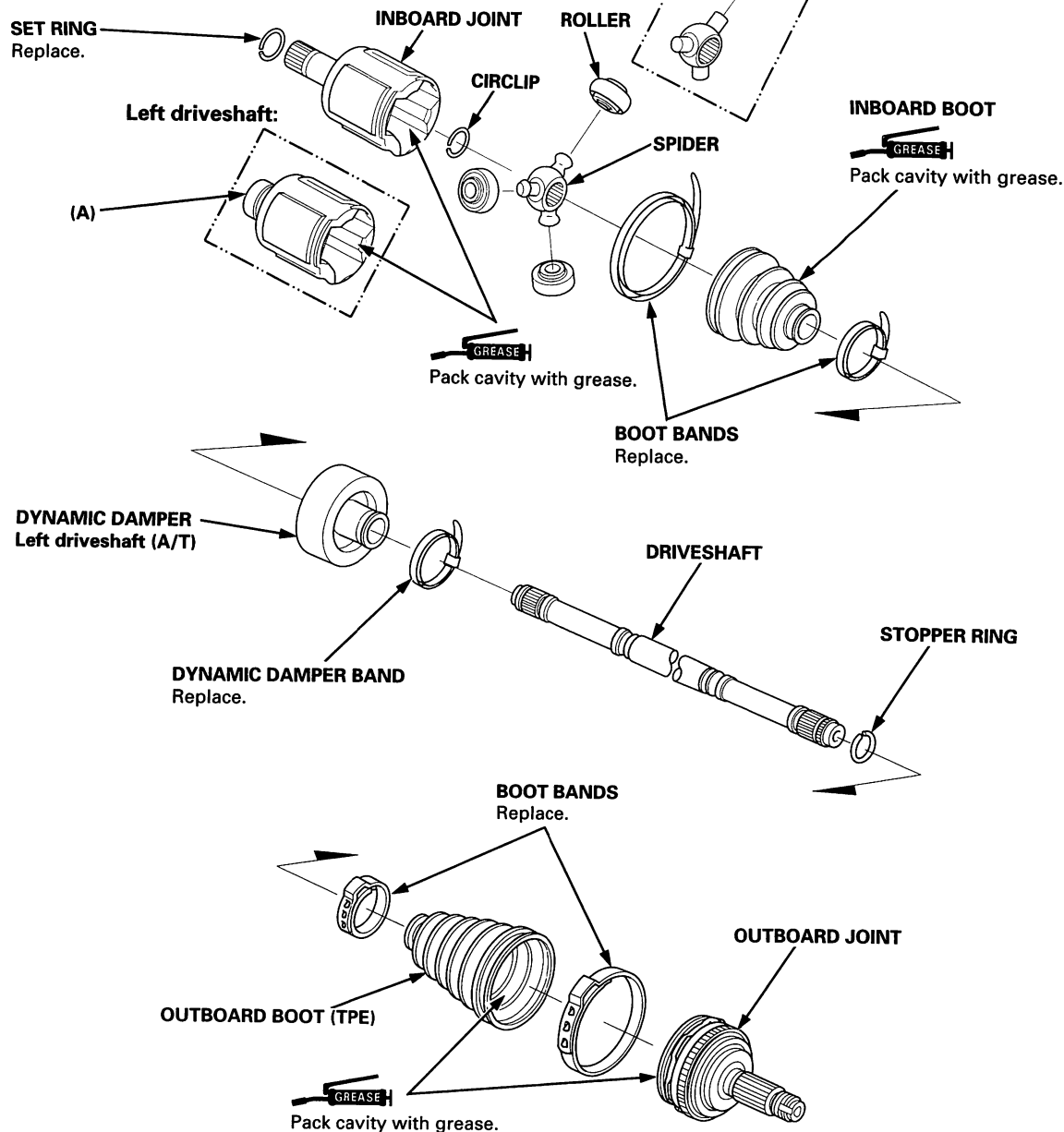
H22A7 engine model: 130 – 140 g (4.6 – 4.9 oz)

#### Outboard joint:

F18B2, F18B3, F20B6 engine model: 72.4 – 90.5 g (2.6 – 3.2 oz)

H22A7 engine model: 140 – 150 g (4.9 – 5.3 oz)

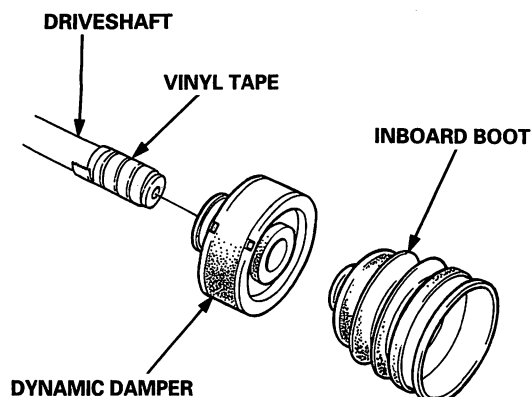
Inboard joint spline (A): 0.5 – 1.0 g (0.018 – 0.035 oz)



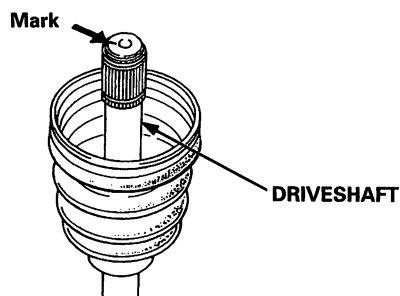
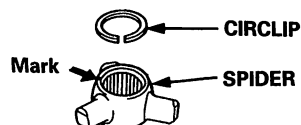


### Inboard Joint Side:

1. Wrap the splines with vinyl tape prevent damage to the boot and dynamic damper.



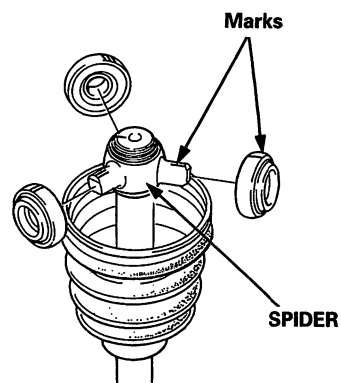
2. Install the dynamic damper and inboard boot to the driveshaft, then remove the vinyl tape. Take care not to damage the boot and dynamic damper.
3. Install the spider on the driveshaft by aligning the marks on the spider and end of the driveshaft.



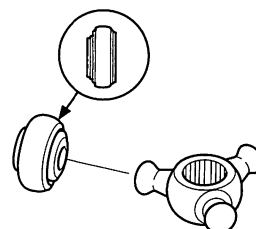
4. Fit the circlip into the driveshaft groove. Always rotate the circlip in its groove to be sure it is fully seated.

5. Fit the rollers to the spider with their high shoulders facing outward, and note these items:

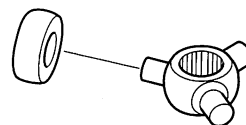
- Reinstall the rollers in their original positions on the spider by aligning the marks.
- Hold the driveshaft pointed up to prevent the rollers from facing off.



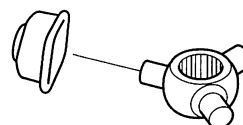
### D16B6 (Right driveshaft), F18B2, F18B3, F20B6 engine model:



### D16B6 engine (Left driveshaft model):



### H22A7 engine model:



(cont'd)

# Driveshafts

## Reassembly (cont'd)

6. Pack the inboard joint with the joint grease included in the new driveshaft set.

### Grease quantity

#### Inboard joint:

##### D16B6 engine model:

Left side: 125.5 – 135.5 g (4.4 – 4.8 oz)

Right side: 120 – 130 g (4.2 – 4.6 oz)

##### F18B2, F18B3, F20B6 engine model:

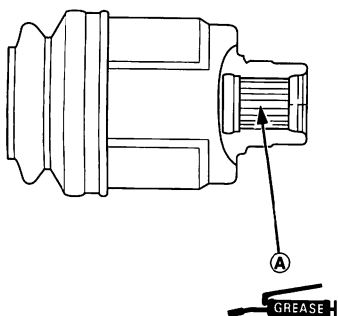
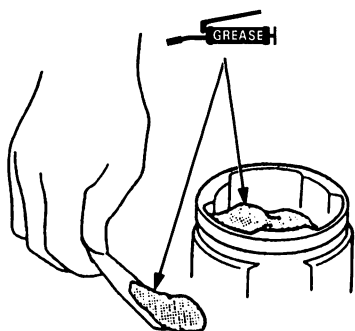
120 – 130 g (4.2 – 4.6 oz)

##### H22A7 engine model:

130 – 140 g (4.6 – 4.9 oz)

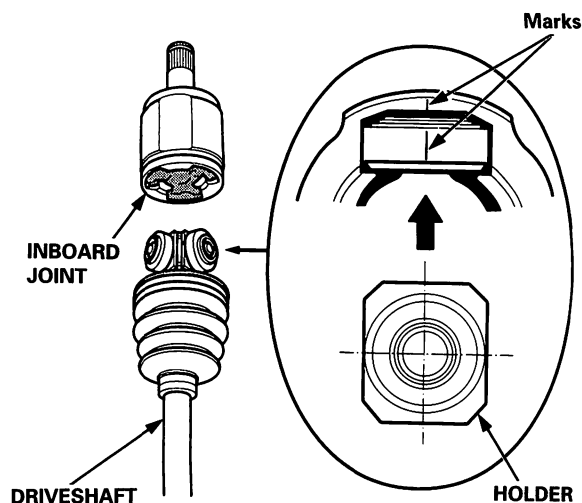
##### Inboard joint spline (A):

0.5 – 1.0 g (0.018 – 0.035 oz)



7. Fit the inboard joint onto the driveshaft, and note these items:

- Reinstall the inboard joint onto the driveshaft by aligning the marks on the inboard joint and the rollers.
- Hold the driveshaft so the inboard joint points up to prevent it from falling off.



8. Adjust the length of the driveshafts to the figure below, then adjust the boot to halfway between full compression and full extension. Make sure the ends of boots seat in the groove of the driveshaft and joint.

### D16B6 engine model:

Left: 802 – 807 mm (31.6 – 31.8 in)

Right: 523 – 528 mm (20.6 – 20.8 in)

### F18B2, F18B3, F20B6 engine model:

Left: M/T: 476 – 481 mm (18.7 – 18.9 in)

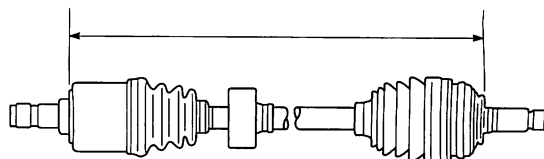
A/T: 842 – 847 mm (33.1 – 33.3 in)

Right: 485 – 490 mm (19.1 – 19.3 in)

### H22A7 engine model:

Left: 478 – 483 mm (18.8 – 19.0 in)

Right: 485 – 490 mm (19.1 – 19.3 in)





9. Position the dynamic damper as shown below.

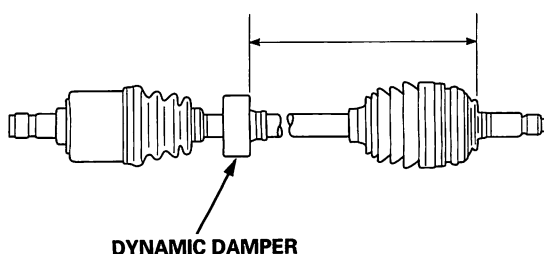
**D16B6 engine model:**

**Left: 519.3 – 524.3 mm (20.4 – 20.6 in)**

**Right: 279.7 – 284.7 mm (11.0 – 11.2 in)**

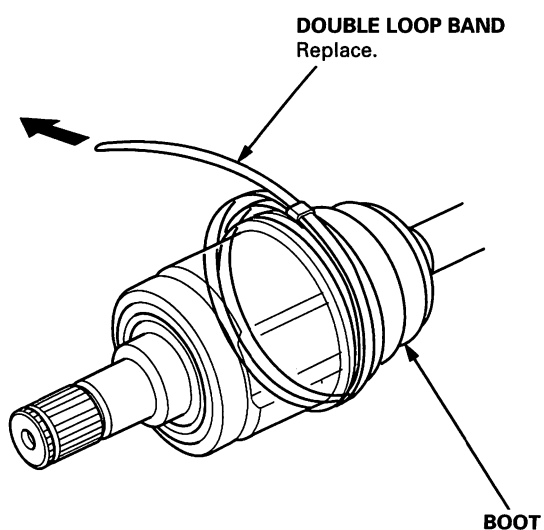
**F18B2, F18B3, F20B6 engine model:**

**484 – 488 mm (19.0 – 19.2 in)**

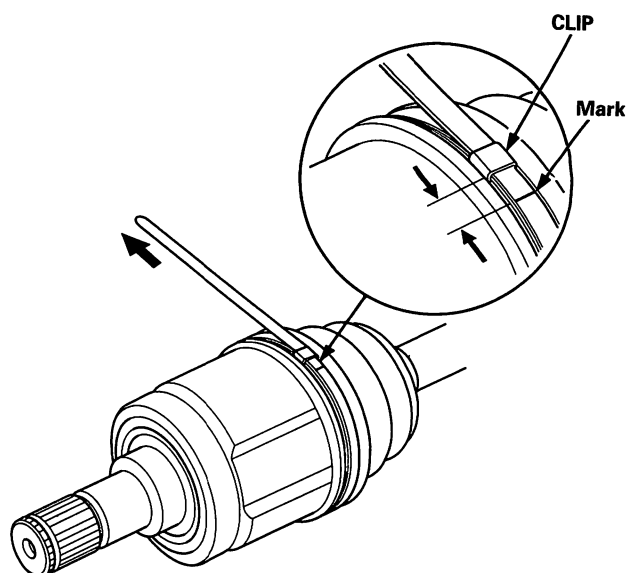


10. Install the bands.

- 1. Set the double loop band onto the boot and dynamic damper with the band end toward to front of the vehicle.



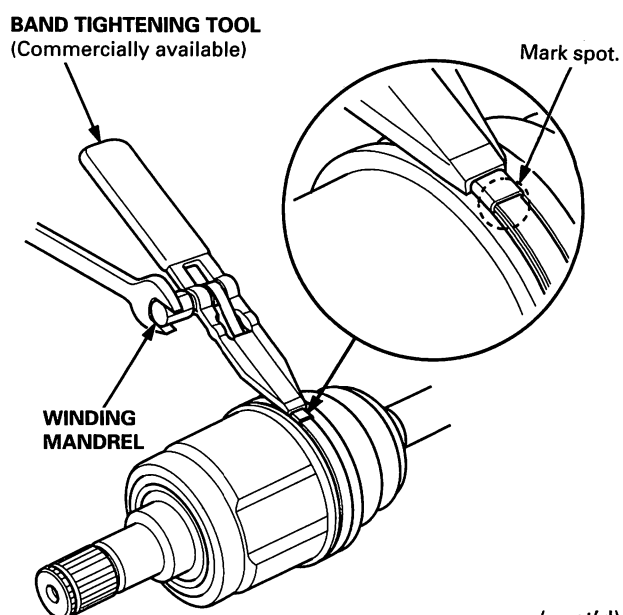
- 2. Pull up the slack in the band by hand.



- 3. Mark a position on the band 10 – 14 mm (0.4 – 0.6 in) from the clip.

- 4. Thread the free end of the band through the nose section of the commercially available band tightening tool, and into the slot on the winding mandrel.

- 5. Place a wrench on the winding mandrel of the band tightening tool, and tighten the band until the marked spot on the band meets the edge of the clip.

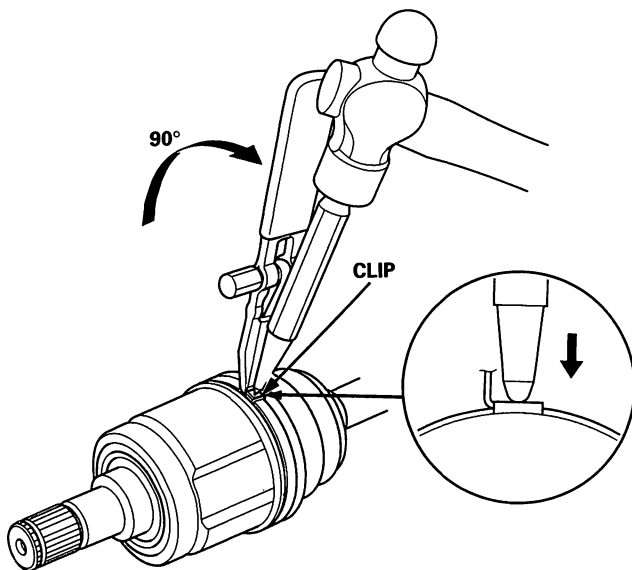


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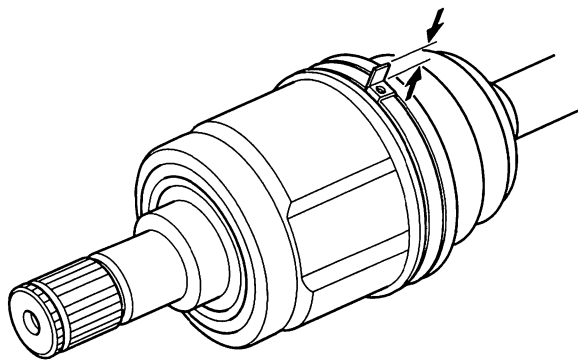
# Driveshafts

## Reassembly (cont'd)

- 6. Raise up the band tightening tool to bend the free end of the band 90° degrees to the clip. Center punch the clip, then fold over the remaining tail onto the clip.



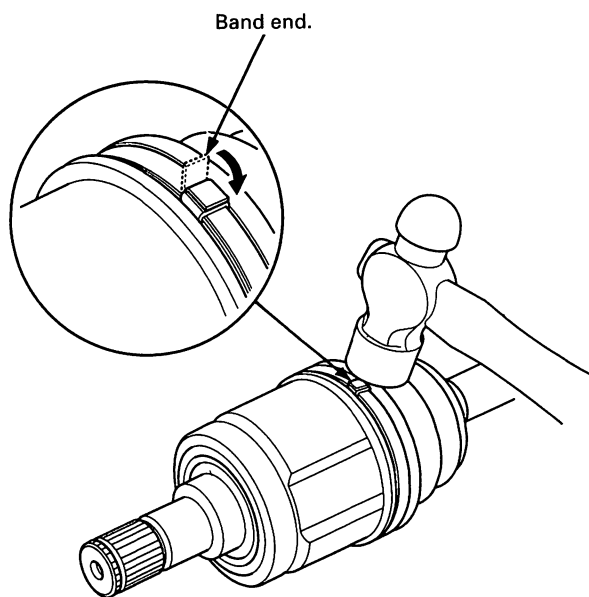
- 7. Unwind the band tightening tool, and cut off the excess free end of the band to leave a 5 – 10 mm (0.2 – 0.5 in) tail protruding from the clip.



- 8. Bend the band end by tapping it down with a hammer.

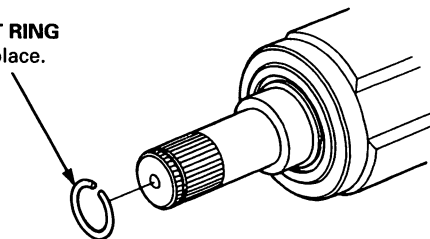
### NOTE:

- Make sure the band and clip does not interfere with anything, and the band does not move.
- Remove any grease remaining in the surrounding surfaces.



- 9. Install the new set ring.

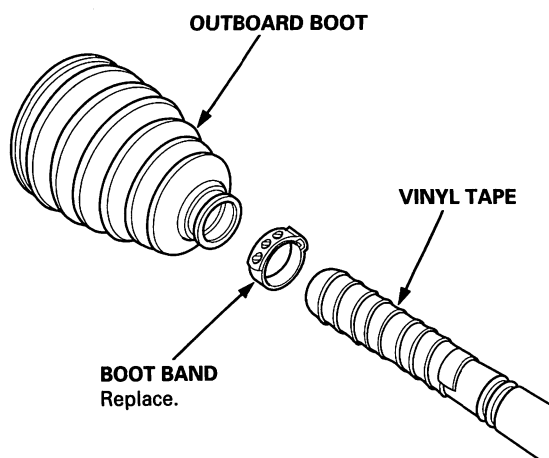
**SET RING**  
Replace.



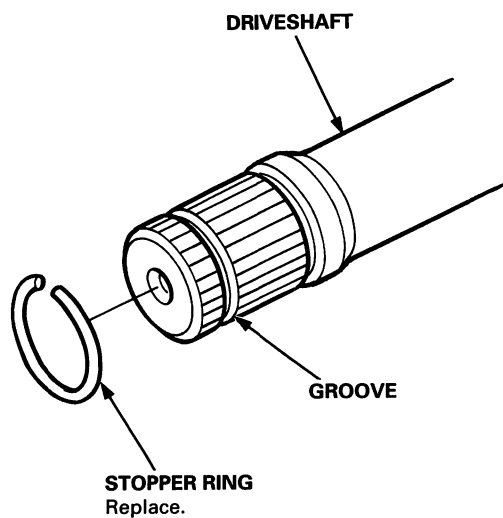


#### Outboard Joint Side:

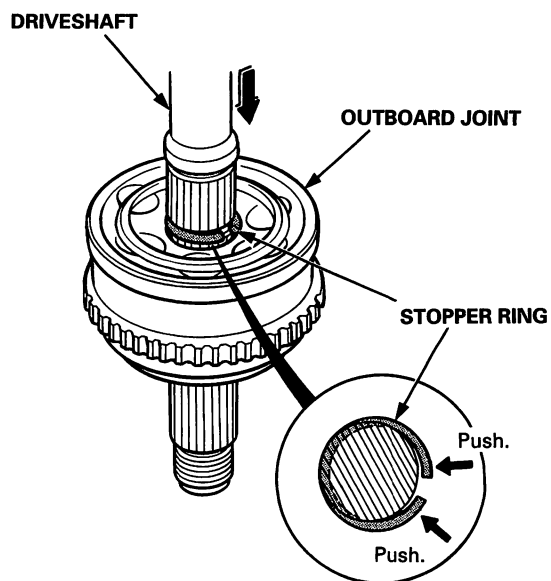
1. Wrap the splines with vinyl tape prevent damage to the boot.



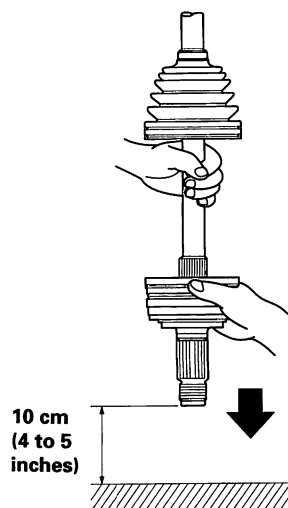
2. Install the boot band and outboard boot, then remove the vinyl tape. Take care not to damage the boot.
3. Install the stopper ring into the driveshaft groove.



4. Insert the driveshaft in the outboard joint until the stopper ring is close on the joint.



5. To drive the outboard joint on the rest of the way, pick up the driveshaft and joint, and let them fall from about 10 cm (4 to 5 inches) onto a hard surface. Do not use a hammer as excessive force may damage the driveshaft.

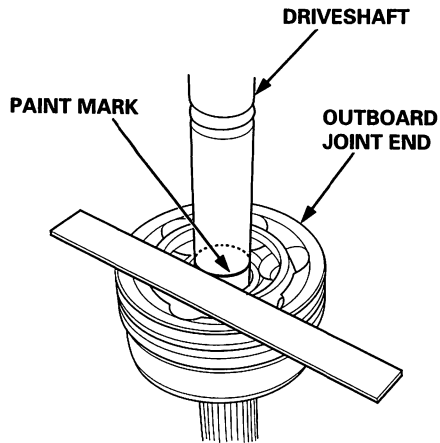


(cont'd)

# Driveshafts

## Reassembly (cont'd)

6. Check align the paint mark with the outboard joint end.



7. Pack the outboard joint with the joint grease included in the new joint boot set.

### Grease quantity

#### Outboard joint:

##### D16B6 engine model:

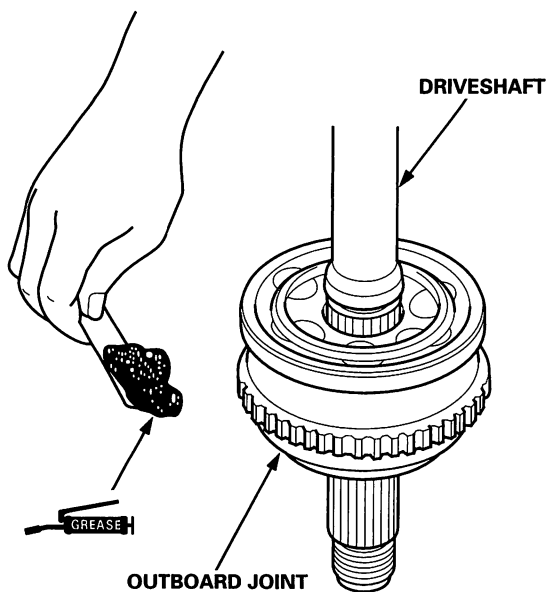
85.5 – 103.5 g (3.0 – 3.7 oz)

##### F18B2, F18B3, F20B6 engine model:

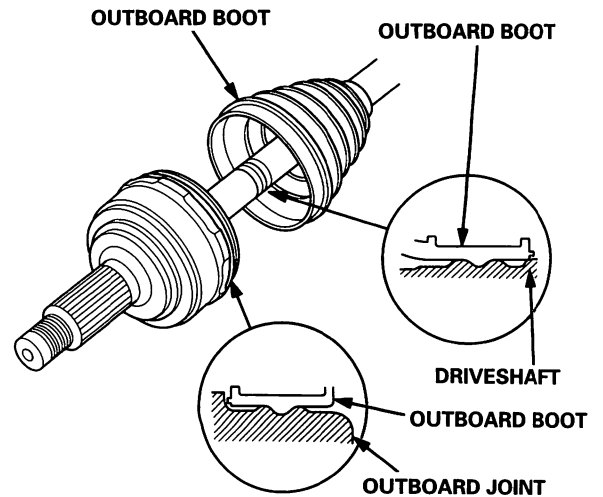
72.4 – 90.5 g (2.6 – 3.2 oz)

##### H22A7 engine model:

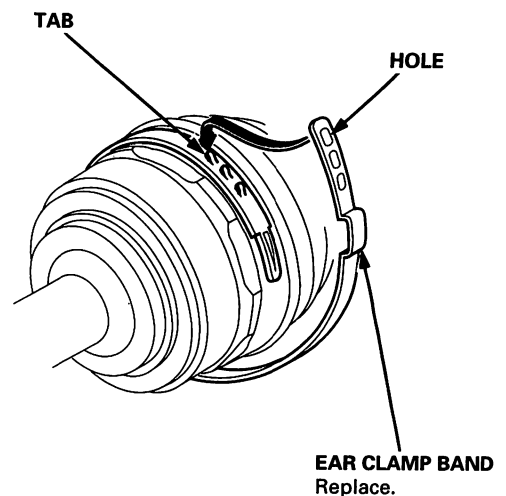
140 – 150 g (4.9 – 5.3 oz)



8. Fit the boot ends onto the driveshaft and outboard joint.



9. Set the ear clamp band by caught the tab into holes of the band.

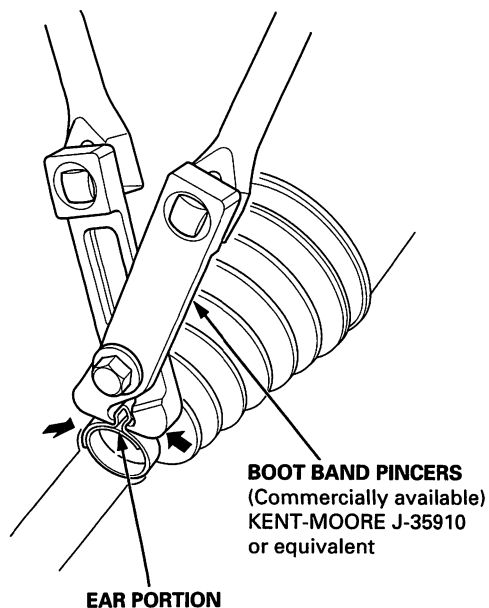




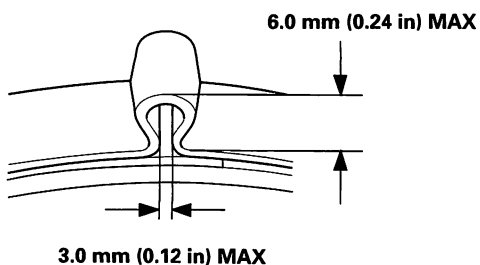


## Installation

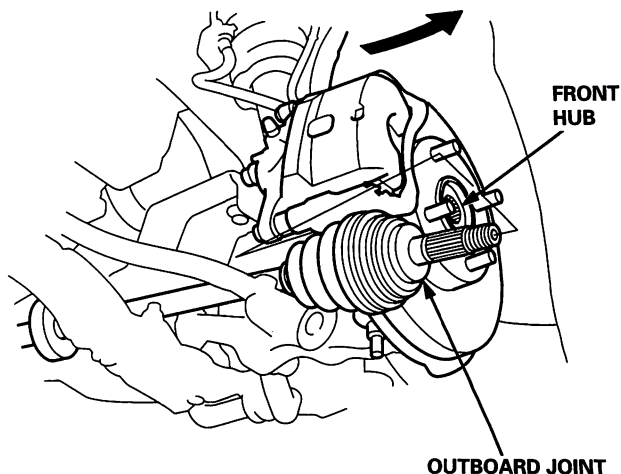
10. Close the ear portion of the band with a commercially available boot band pincers.



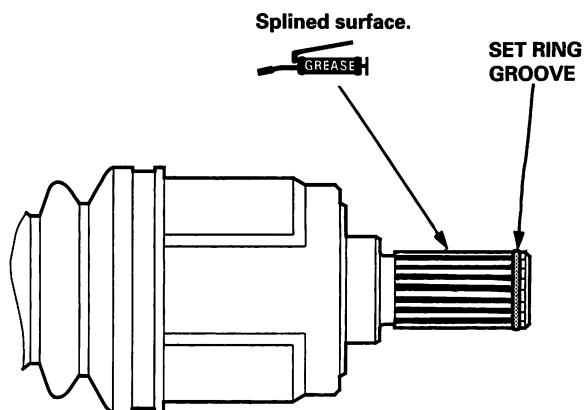
11. Check the clearance between the closed ear portion of the band. If the clearance is not within the standard, close the ear portion of the band further.



1. Install the outboard joint into the front hub.



2. Apply 0.3 – 1.0 g (0.01 – 0.04 oz) of specified grease to the whole splined surface of the left driveshaft (for vehicles with intermediate shaft). After applying grease, remove the grease from the splined grooves at intervals of 2 – 3 splines and from the set ring groove so air can bleed from the intermediate shaft.



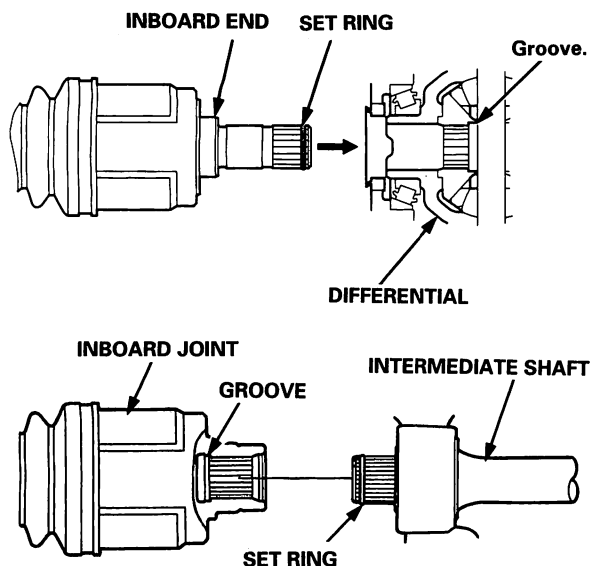
3. Install a new set ring onto the set ring groove of the driveshaft.

(cont'd)

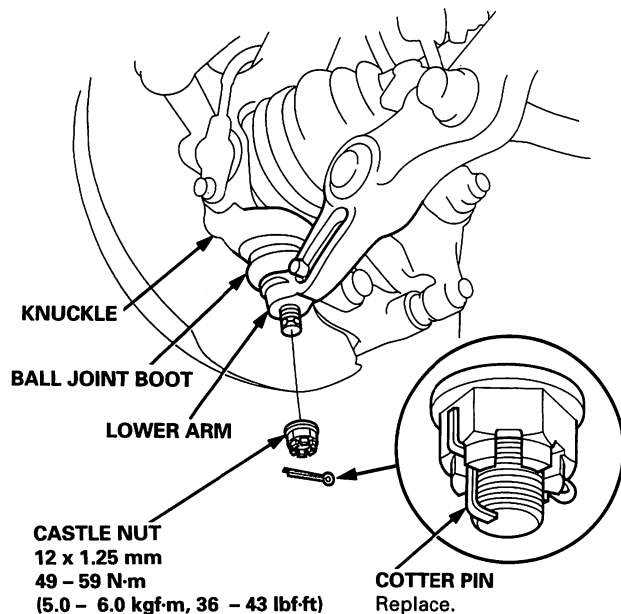
# Driveshafts

## Installation (cont'd)

- Clean the areas where the driveshaft contacts the differential thoroughly with solvent or carburetor cleaner, and dry with compressed air. Insert the inboard end of the driveshaft into the differential or intermediate shaft until the set ring locks in the groove.

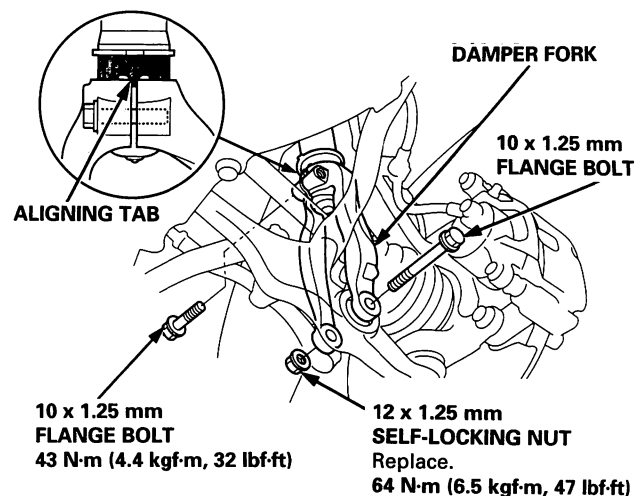


- Install the knuckle on the lower arm. Be careful not to damage the ball joint boot. Wipe off the grease before tightening the nut at the ball joint. Torque the castle nut to the lower torque specification, then tighten it only far enough to align the slot with the pin hole. Do not align the nut by loosening.

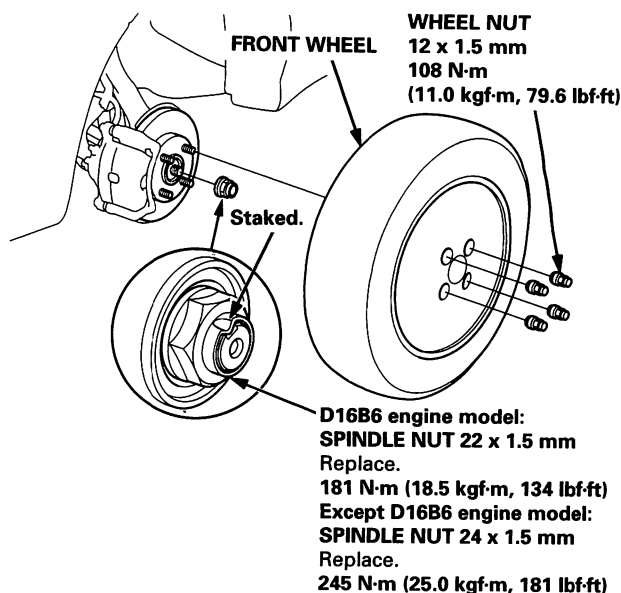


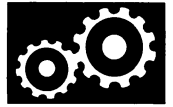
- Install the new cotter pin into the pin hole, and bend the cotter pin as shown.

- Install the damper fork over the driveshaft and onto the lower arm. Install the damper in the damper fork so the aligning tab is aligned with the slot in the damper fork. Loosely install the flange bolt.



- Loosely install the flange bolt and a new self-locking nut.
- Install a new spindle nut, then tighten the nut. After tightening, use a drift to stake the spindle nut shoulder against the driveshaft.

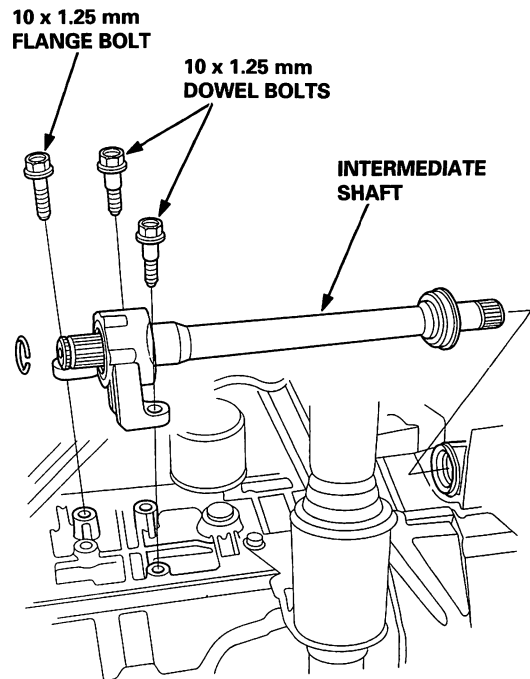




## Removal

10. Clean the mating surfaces of the brake disc and the front wheel, then install the front wheel with the wheel nuts.
11. Tighten the flange bolts and the self-locking nut with the vehicle's weight on the damper.
12. Refill the transmission with recommended fluid (see section 14).
13. Check the front wheel alignment and adjust if necessary (see section 18).

1. Remove the left driveshaft (see page 16-3).
2. Remove the flange bolt and two dowel bolts.

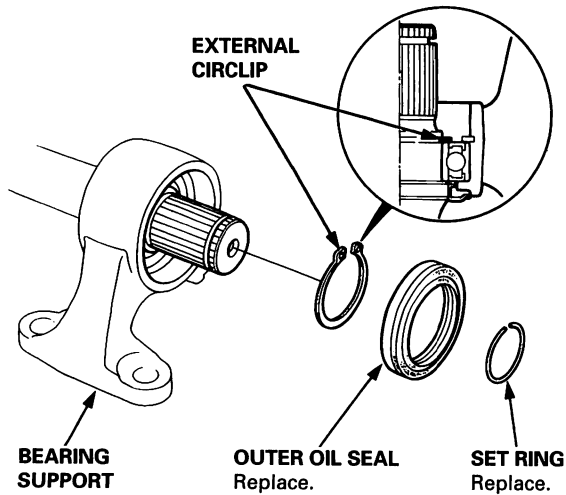


3. Remove the intermediate shaft from the differential. Hold the intermediate shaft horizontal until it is clear of the differential to prevent damage to the differential oil seal.

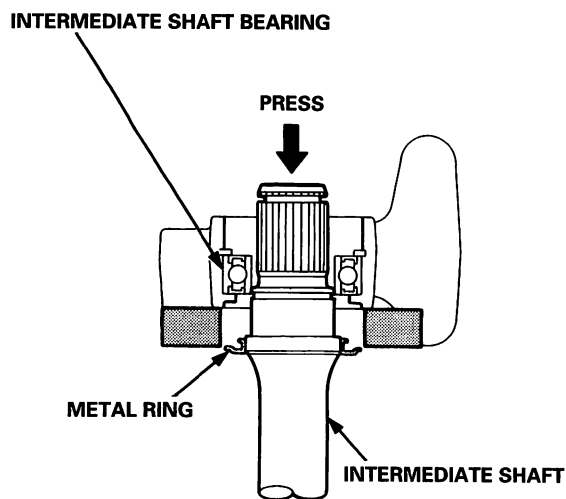
# Intermediate Shaft

## Disassembly

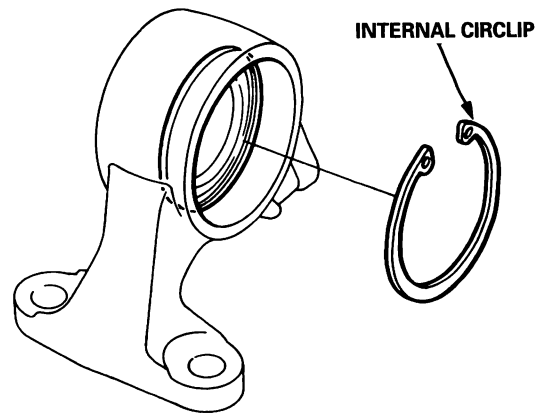
1. Remove the set ring from the intermediate shaft.



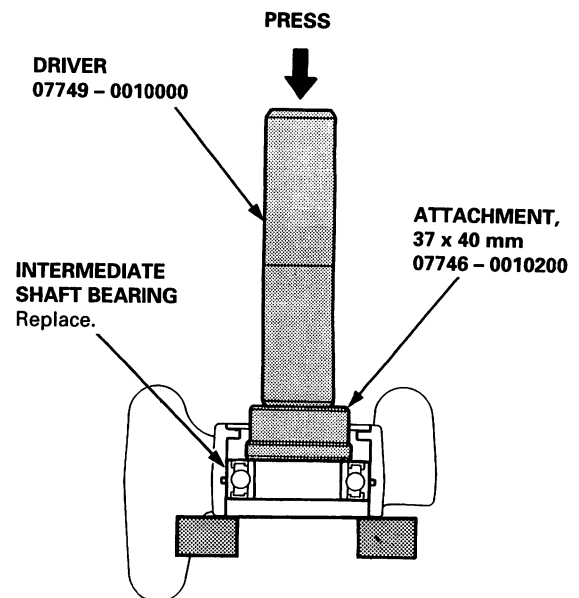
2. Remove the intermediate shaft outer oil seal from the bearing support.
3. Remove the external circlip.
4. Press the intermediate shaft out of the intermediate shaft bearing using a press. Be careful not to damage the metal rings on the intermediate shaft during disassembly.



5. Remove the internal circlip.



6. Press the intermediate shaft bearing out of the bearing support using a special tools and a press.

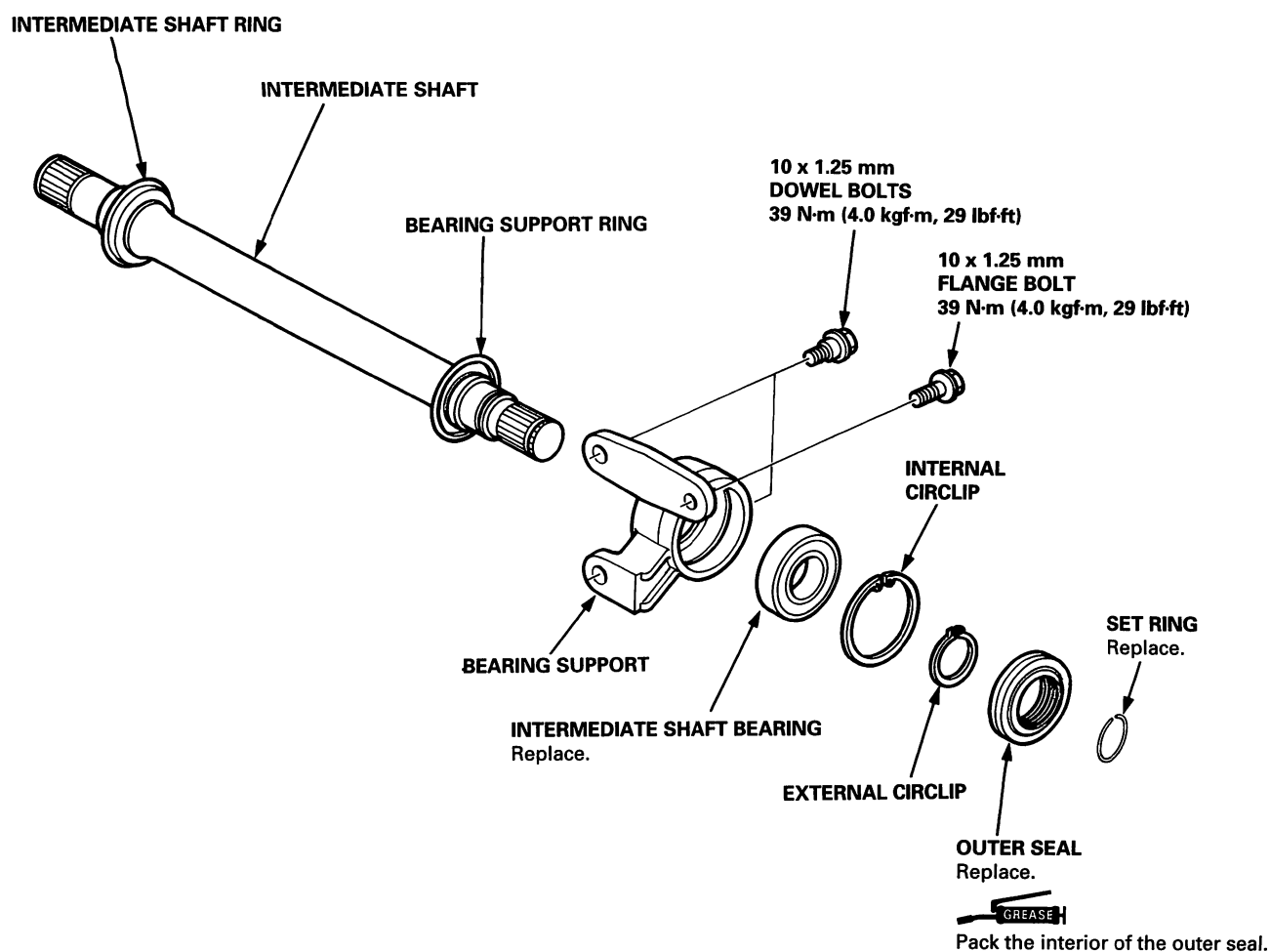




## Reassembly

Clean the disassembled parts with solvent, and dry them thoroughly with compressed air. Do not wash the rubber parts with solvent.

NOTE: Be careful not to damage the metal rings on the intermediate shaft during reassembly.

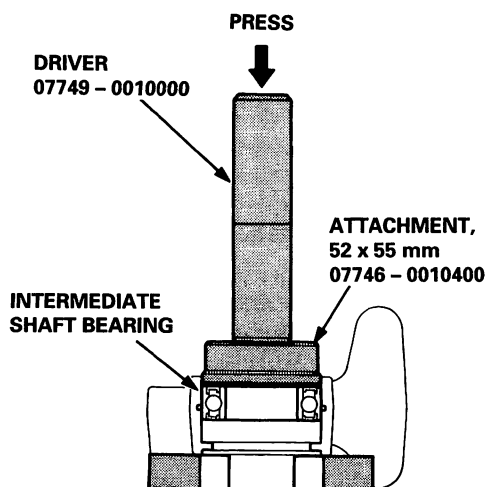


(cont'd)

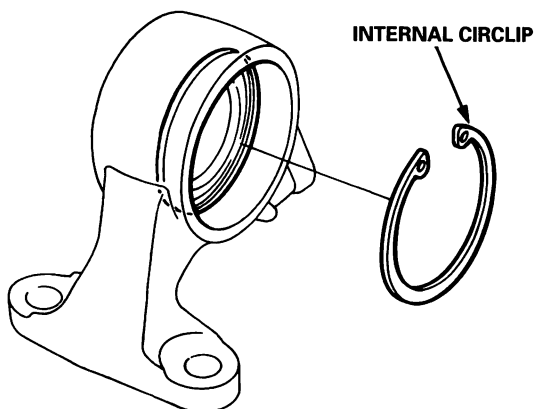
# Intermediate Shaft

## Reassembly (cont'd)

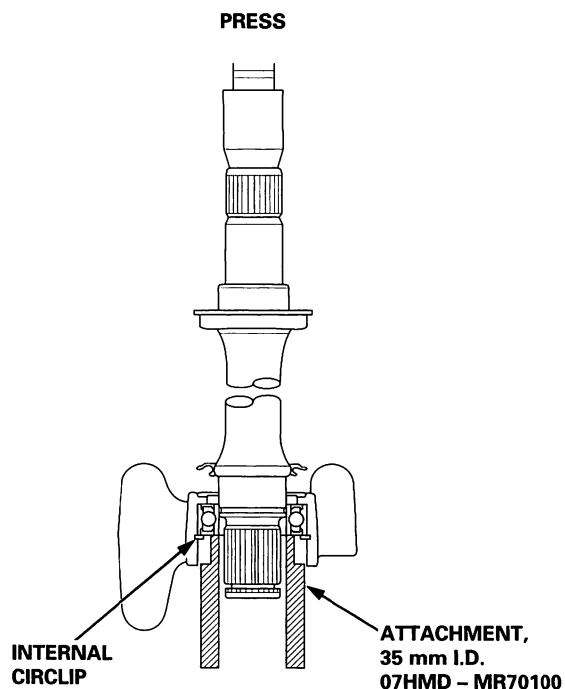
1. Press the intermediate shaft bearing into the bearing support using the special tools and a press.



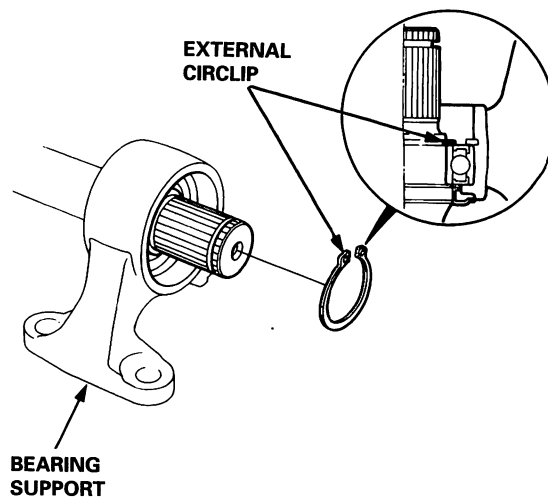
2. Seat the internal circlip in the groove of the bearing support.



3. Press the intermediate shaft into the bearing support using the special tools and a press.



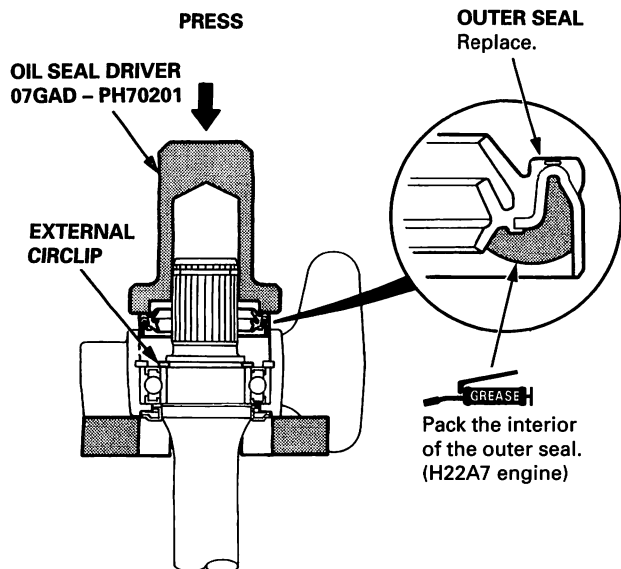
4. Seat the external circlip in the groove of the intermediate shaft.



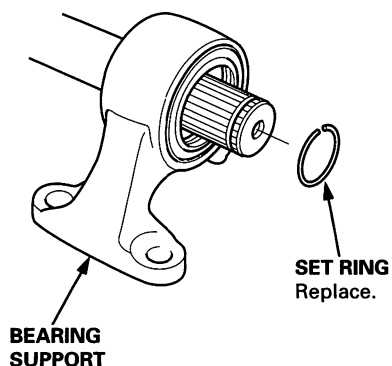


## Installation

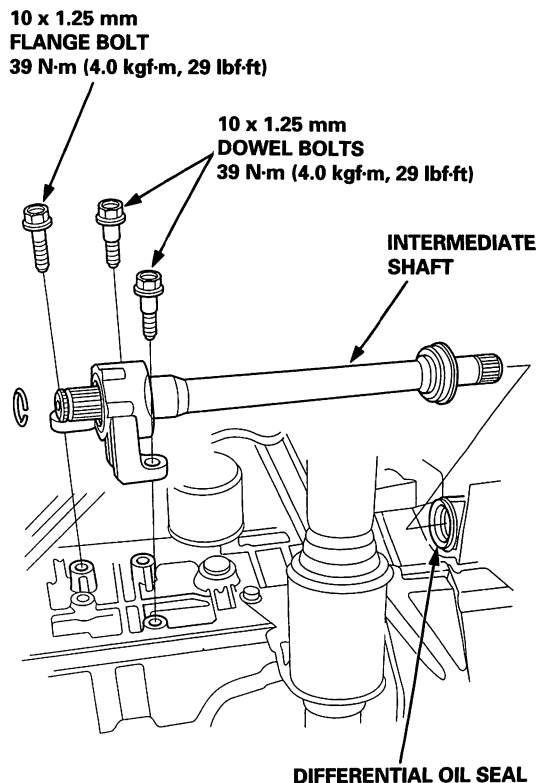
5. Install the outer seal into the bearing support using the tools and a press.



6. Pack the grease to interior of the outer seal (H22A7 engine model).
7. Install the set ring to the intermediate shaft.



1. Clean the areas where the intermediate shaft contacts the transmission (differential) thoroughly with solvent or carburetor cleaner, and dry with compressed air. Insert the intermediate shaft assembly into the differential. Hold the intermediate shaft horizontal to prevent damage to the differential oil seal.



2. Install the flange bolt and two dowel bolts.
3. Install the left driveshaft (see page 16-18).

# Steering

<b>Special Tools .....</b>	<b>17-2</b>	<b>* Steering Column</b>	
<b>Component Locations</b>		<b>Removal/Installation .....</b>	<b>17-22</b>
<b>Index .....</b>	<b>17-3</b>	<b>Inspection .....</b>	<b>17-24</b>
<b>Troubleshooting</b>		<b>Steering Lock Replacement .....</b>	<b>17-25</b>
<b>General Troubleshooting .....</b>	<b>17-4</b>	<b>Power Steering Hoses, Lines</b>	
<b>Noise and Vibration .....</b>	<b>17-8</b>	<b>Fluid Leakage Inspection .....</b>	<b>17-26</b>
<b>Fluid Leaks .....</b>	<b>17-10</b>	<b>Replacement .....</b>	<b>17-27</b>
<b>Inspection and Adjustment</b>		<b>Power Steering Pump</b>	
<b>Steering Operation .....</b>	<b>17-12</b>	<b>Replacement .....</b>	<b>17-28</b>
<b>Power Assist Check</b>		<b>Disassembly .....</b>	<b>17-30</b>
<b>with Vehicle Parked .....</b>	<b>17-12</b>	<b>Inspection .....</b>	<b>17-33</b>
<b>Steering Linkage and Gearbox .....</b>	<b>17-13</b>	<b>Reassembly .....</b>	<b>17-35</b>
<b>Pump Belt .....</b>	<b>17-14</b>	<b>Power Steering Gearbox</b>	
<b>Rack Guide Adjustment .....</b>	<b>17-16</b>	<b>Removal .....</b>	<b>17-38</b>
<b>Fluid Replacement .....</b>	<b>17-17</b>	<b>Installation .....</b>	<b>17-40</b>
<b>Pump Pressure Check .....</b>	<b>17-18</b>		
<b>* Steering Wheel</b>			
<b>Removal .....</b>	<b>17-19</b>		
<b>Disassembly/Reassembly .....</b>	<b>17-20</b>		
<b>Installation .....</b>	<b>17-21</b>		

## SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

This Accord Sedan SRS includes a driver's airbag located in the steering wheel hub, and a passenger's airbag located in the dashboard above the glove box, and some types include seat belt tensioners located in the front seat belt retractors, and some types include side airbags located in the front seat-backs.

Information necessary to safely service the SRS is included in this Shop Manual.

Items marked with an asterisk (\*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

### ⚠ WARNING


- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags, side airbags and seat belt tensioners.
- SRS electrical wiring harnesses are indicated with yellow color. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, front seats and around the floor. Do not use electrical test equipment on these circuits.



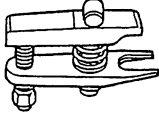


# Special Tools


Ref. No.	Tool Number	Description	Qty	Remark
①	07JGG – 0010100	Belt Tension Gauge	1	
②	07MAC – SL00200	Ball Joint Remover, 28 mm	1	
③	07QAD – P0A0100	Drive Attachment, 42 mm	1	
④	07RAK – S040110	P/S Joint Adapter (Pump)	1	
⑤	07RAK – S040120	P/S Joint Adapter (Hose)	1	
⑥	07XAA – S1A0100	Locknut Wrench, 46 mm	1	
⑦	07406 – 0010200	P/S Pressure Gauge	1	
⑧	07406 – 0010300	Pressure Control Valve	1	
⑨	07406 – 0010400	Pressure Gauge	1	



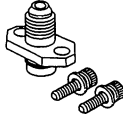
①



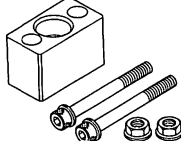
②




③



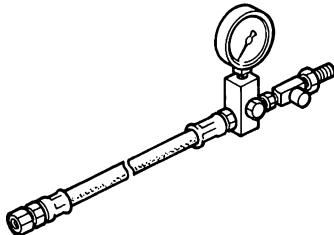
④




⑤




⑥



⑦



⑧



⑨

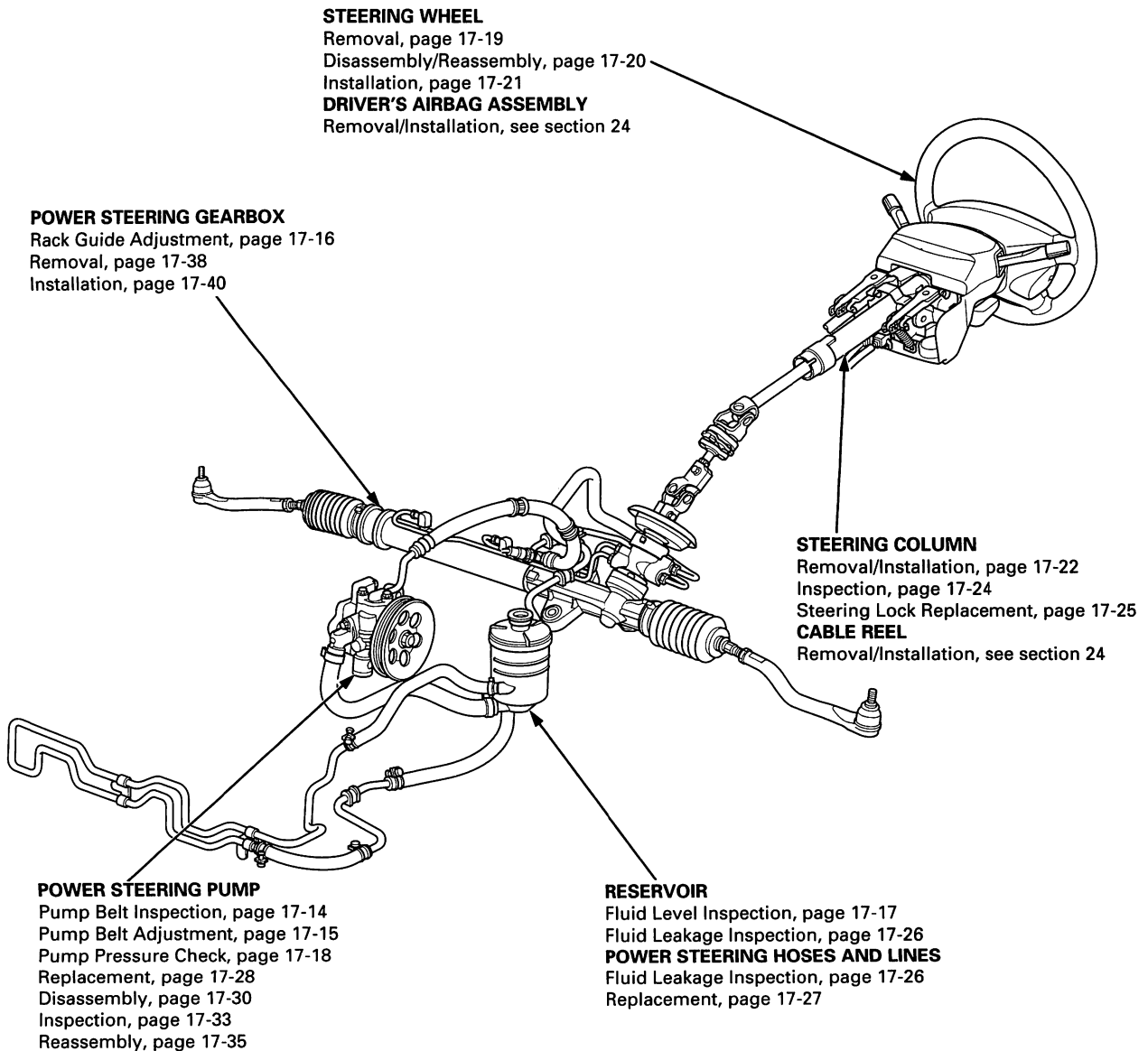


## Index

Note these items during disassembly:

- If an intact airbag assembly has been removed from a scrapped vehicle or has been found defective or damaged during transit, storage or service, it should be deployed (see section 24).
- Before removing the gearbox, remove the driver's airbag assembly and steering wheel.
- After installing the gearbox, check the wheel alignment and adjust if necessary.
- LHD type is shown, RHD type is symmetrical.

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.



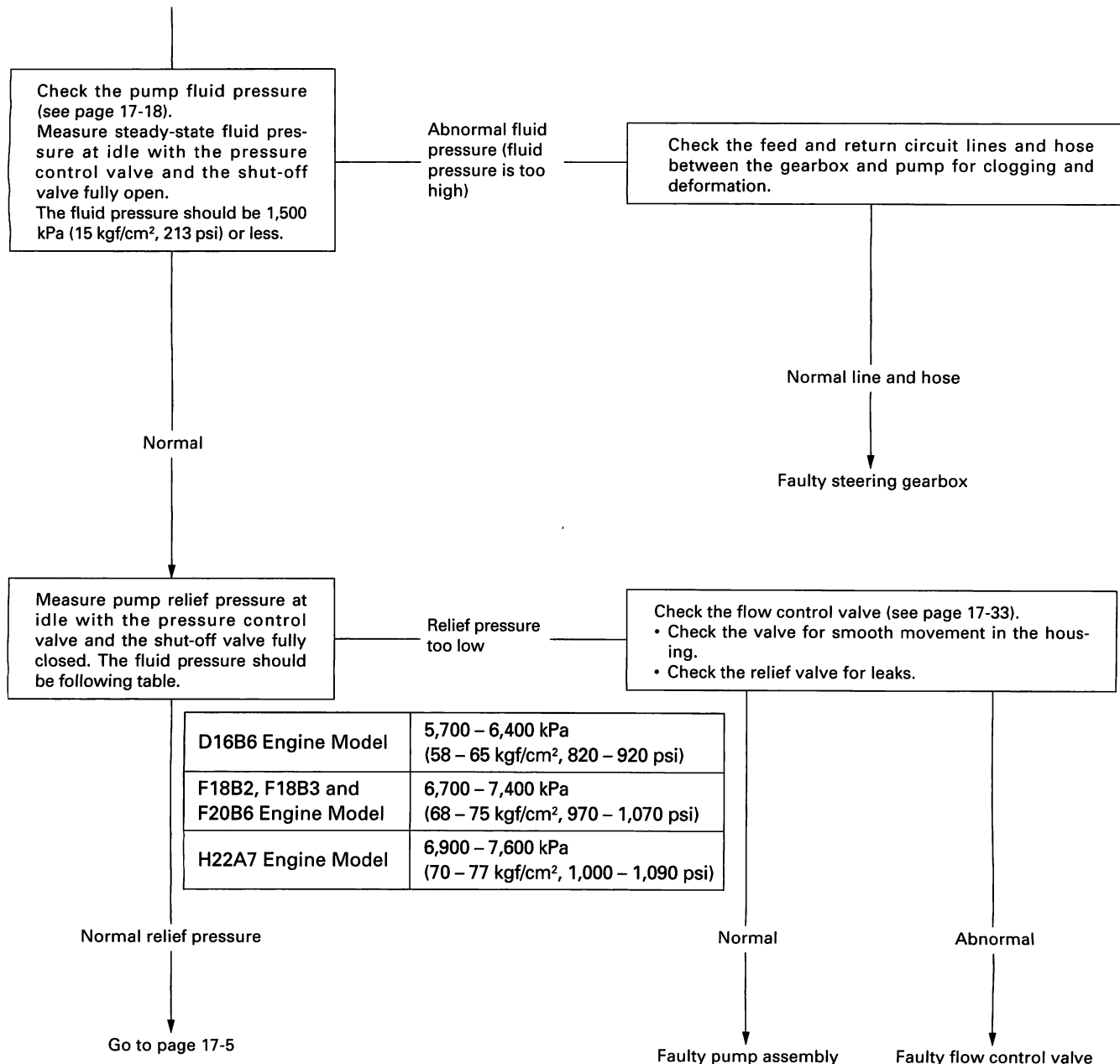
# Troubleshooting

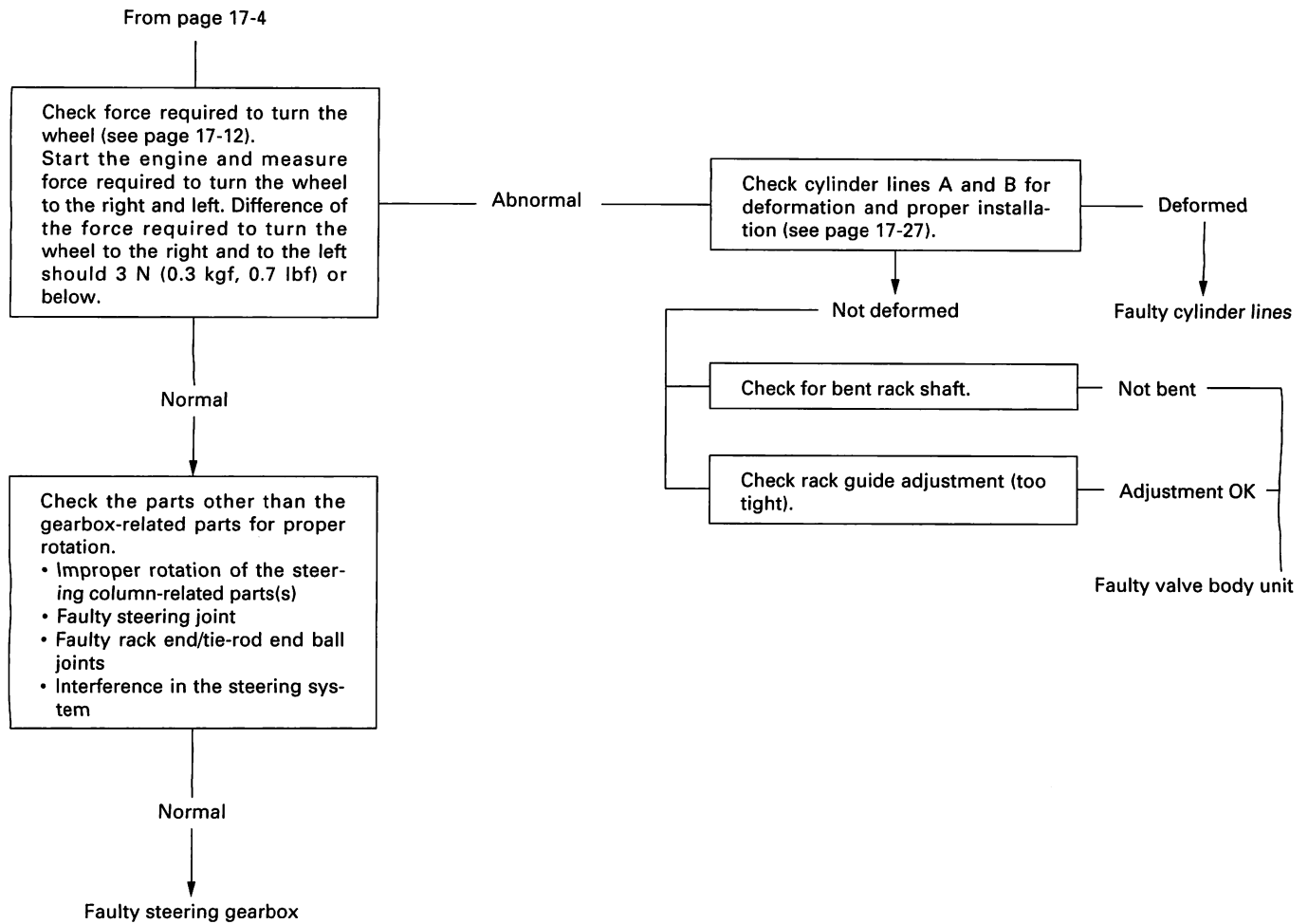
## General Troubleshooting

Check the following before you begin:

- Has the suspension been modified in a way that would affect steering?
- Are tire sizes, tire variety and air pressure correct?
- Is the steering wheel original equipment?
- Is the power steering pump belt properly adjusted?
- Is steering fluid reservoir filled to proper level?
- Is the engine idle speed correct and steady?

Hard Steering (Check the power assist, see page 17-12. If the force is over 29 N (3.0 kgf, 6.6 lbf), Precede with this troubleshooting.)





(cont'd)

# Troubleshooting

## General Troubleshooting (cont'd)

Assist (excessively light steering) at high speed.

Check the rack guide for proper adjustment (see page 17-16).

If the problem is not corrected by adjusting the rack guide, check the wheel alignment (see section 18).

Alignment OK

Check the flow control valve (see page 17-33).

Clean the flow control valve or replace the pump, if necessary.

If the flow control valve is normal, replace the steering gearbox.

Shock or vibration when wheel is turned to full lock or steering kicks back during wide turns.

Pump belt slipping on pulley (pump stops momentarily).

Adjust the belt tension (see page 17-14) or replace belt.

Install the power steering pressure gauge. Close the pressure control valve and the shut-off valve fully and measure the pump pressure (see page 17-18).

Check if pump pressure is normal and the gauge needle travel is 500 kPa (5 kgf/cm<sup>2</sup>, 71 psi) or less. Check the flow control valve if the needle travel exceeds 500 kPa (5 kgf/cm<sup>2</sup>, 71 psi). If the flow control valve is normal, replace the pump as an assembly.

Sticking power valve mechanism.

Replace steering gearbox.

Rack guide was backed off excessively.

Adjust the rack guide. If the problem is not corrected by adjusting the rack guide, replace the steering gearbox.

Steering wheel will not return smoothly.

Check cylinder lines A and B for deformation.

A or B cylinder line is deformed; replace it.

A and B cylinder lines are normal, check wheel alignment (see section 18).

Wheel alignment is abnormal, adjust as needed.

Wheel alignment is OK, check the rack guide for proper adjustment (see page 17-16).

If the problem is not corrected by adjusting the rack guide, replace the steering gearbox.



Uneven or rough steering.

Improperly rack clearance.

Adjust the rack guide (see page 17-16).

Belt slipping on pulley.

Adjust belt tension. Replace belt, if necessary (see page 17-14).

Idle speed low or erratic.

If the engine stalls when wheel is turned while the vehicle is stopped or moving at low speed, adjust idle speed (see section 11).

Air in reservoir, or check power steering fluid level.

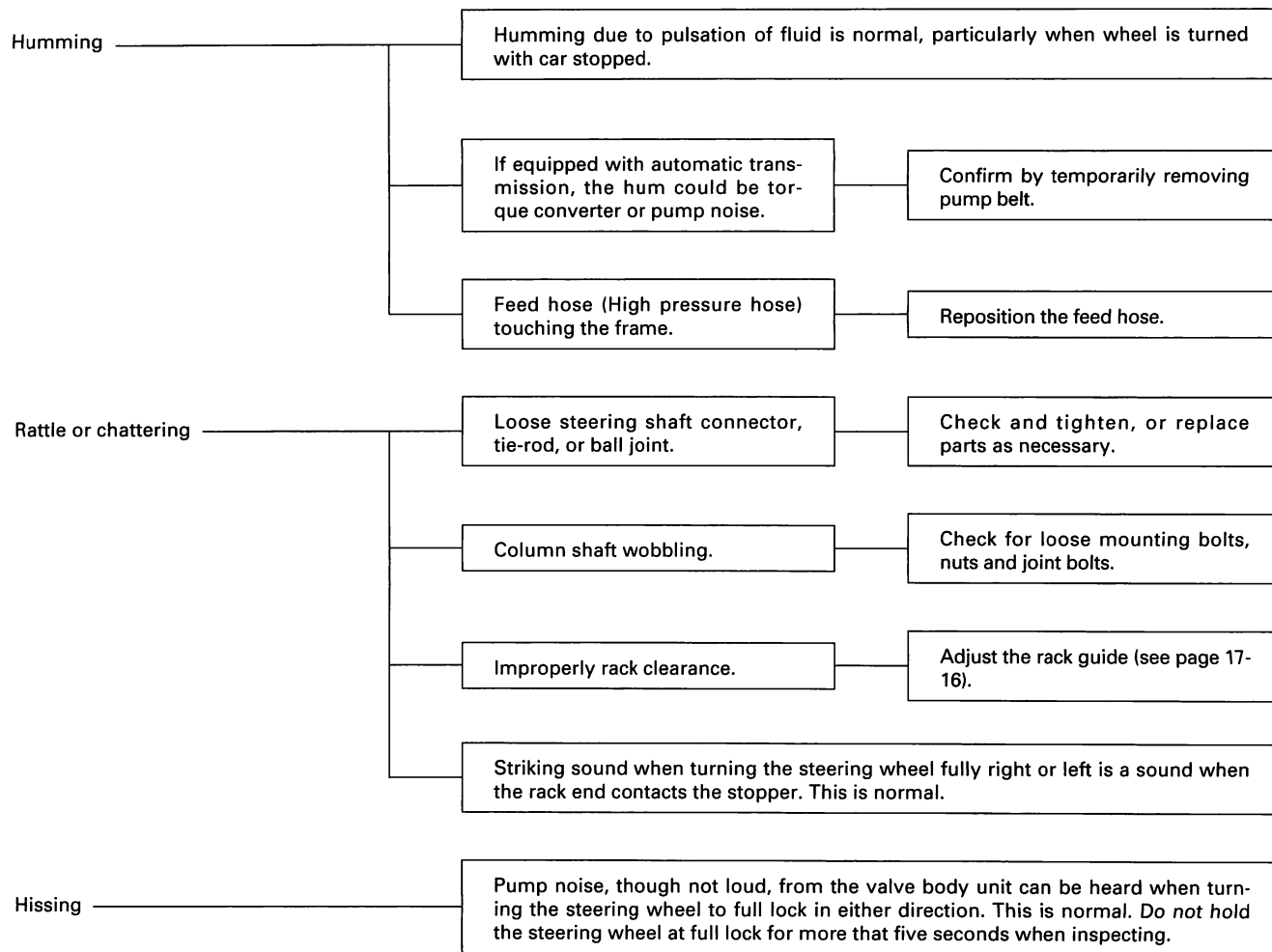
Check power steering fluid level. If level is excessively low, check for leaks in the system. Add fluid to the specified level.

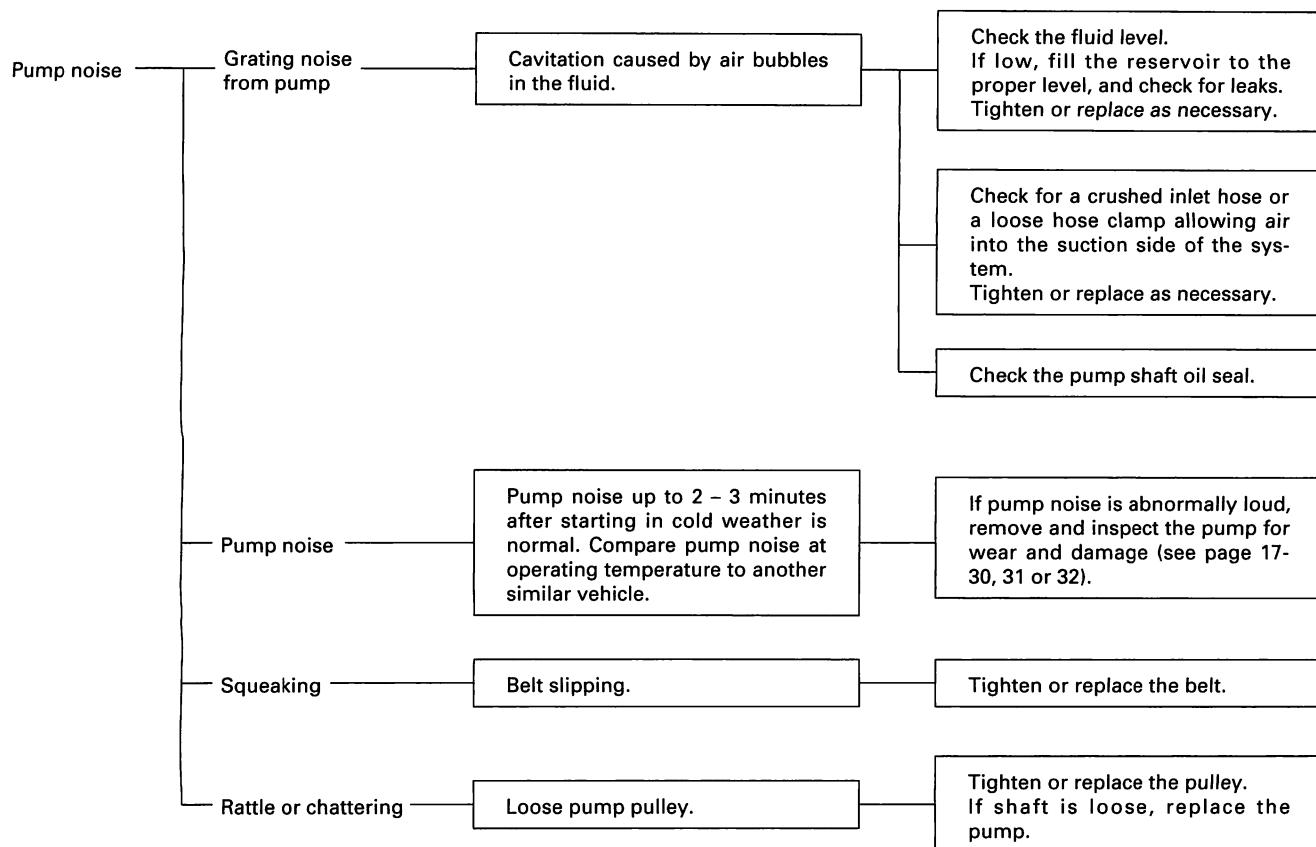
If fluid level is OK, check O-rings and seals on both ends of the pump inlet hose, and the P/S pump housing mating surfaces the pump shaft oil seal for suction leaks. Replace parts as necessary.

# Troubleshooting

## Noise and Vibration

NOTE: Pump noise in first 2 – 3 minutes after starting in cold weather is normal.







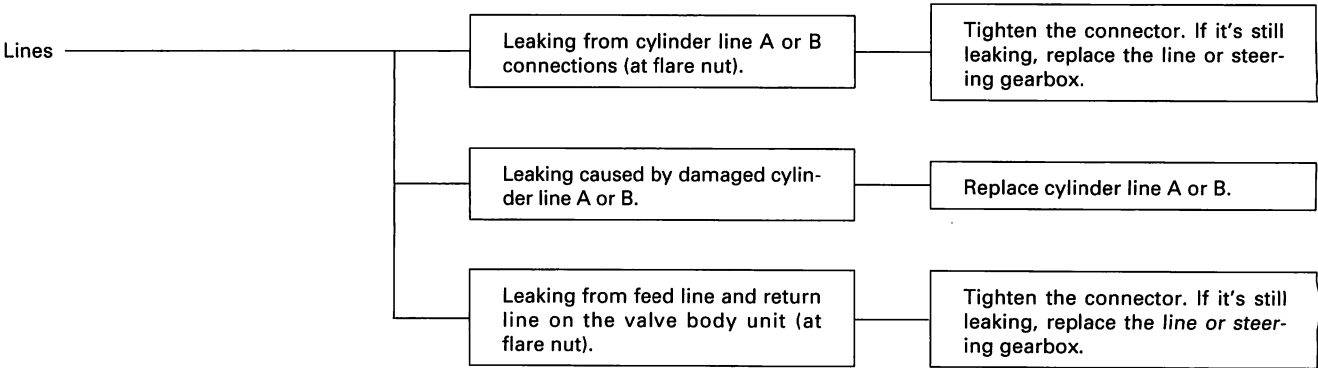
# Troubleshooting

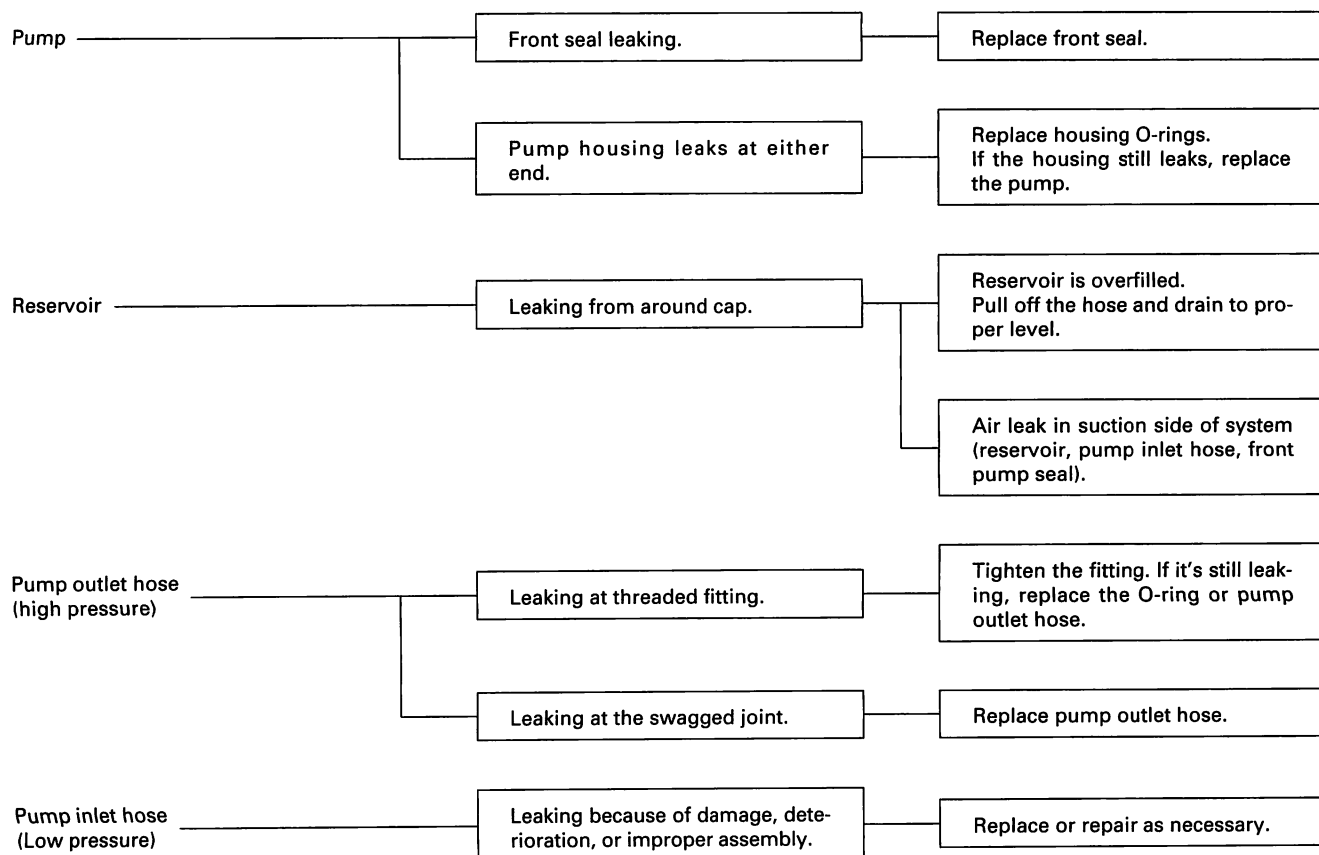
## Fluid Leaks

Steering Gearbox ————— Check the gearbox assembly for fluid leaks carefully. Fluid can leak out of various points, depending on location of the faulty oil seals/seal rings.

If leaking from the following sections on the steering gearbox, replace the whole gearbox as an assembly. Do not try to disassemble to gearbox.

- Leaking from the oil seal on the top of the valve housing.
- Leaking from the cylinder end into left or right tie-rod boots.
- Leaking from the shaft upper end section or pin engagement section of the pinion shaft.
- Leaking from the mating surface of the valve body unit and gearbox.





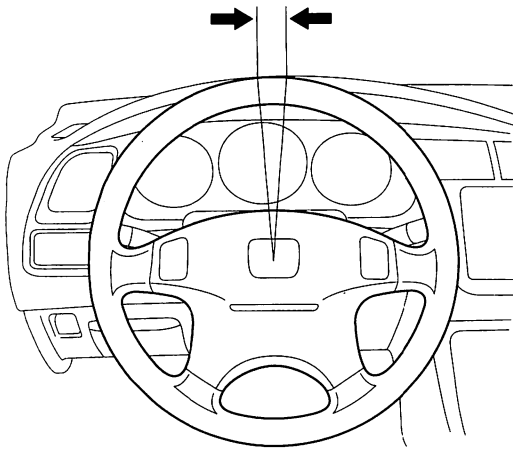
# Inspection and Adjustment

## Steering Operation

Place the front wheels in the straight ahead position, and measure the distance the steering wheel can be turned without moving the front wheels.

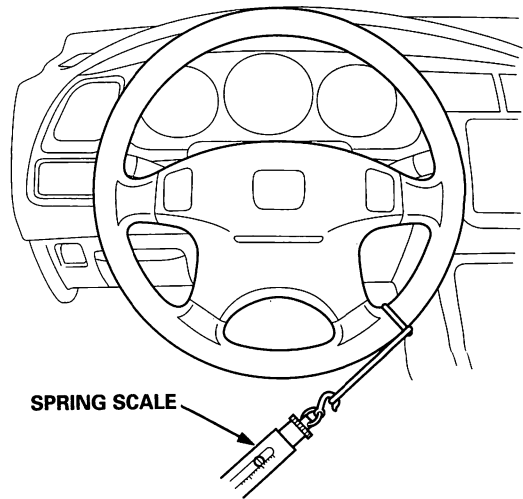
If the play exceeds the limit, inspect the steering linkage and gearbox (see page 17-13).

**ROTATIONAL PLAY: 0 – 10 mm (0 – 0.39 in)**



## Power Assist Check With Vehicle Parked

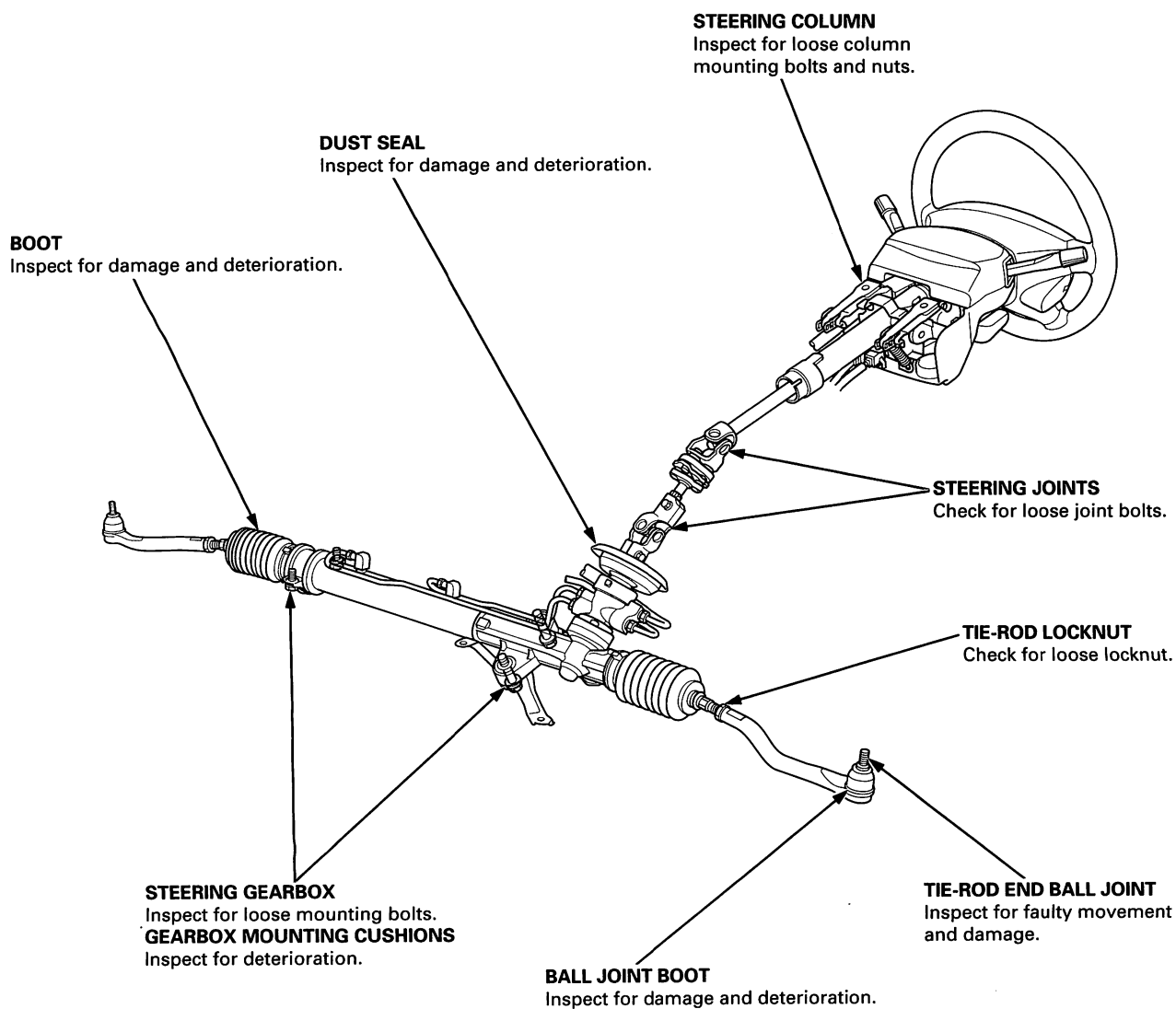
1. Check the power steering fluid level (see page 17-17) and pump belt tension (see page 17-14).
2. Start the engine, allow it to idle, and turn the steering wheel from lock-to-lock several times to warm up the fluid.
3. Attach a commercially available spring scale to the steering wheel. With the engine idling and the vehicle on a clean, dry floor, pull the scale as shown and read it as soon as the tires begin to turn.



4. The scale should read no more than 29 N (3.0 kgf, 6.6 lbf). If it reads more, check the gearbox and pump.



## Steering Linkage and Gearbox Inspection



# Inspection and Adjustment

## Pump Belt

When using a new belt, first adjust the deflection or tension to the values for the new belt, then readjust the deflection or tension to the values for the used belt after running engine for five minutes.

### Inspection

Note these items during inspection:

- If there are cracks or any damage evident on the belt, replace it with a new one.
- Follow the manufacturer's instructions for the belt tension gauge.

1. Remove the P/S reservoir from the bracket, and set it aside.
2. Attach the belt tension gauge to the belt with the gauge face toward the engine, and measure the tension of the belt.
3. Remove the belt tension gauge carefully to avoid hitting the gauge reset lever.

#### Tension:

##### D16B6 Engine Model:

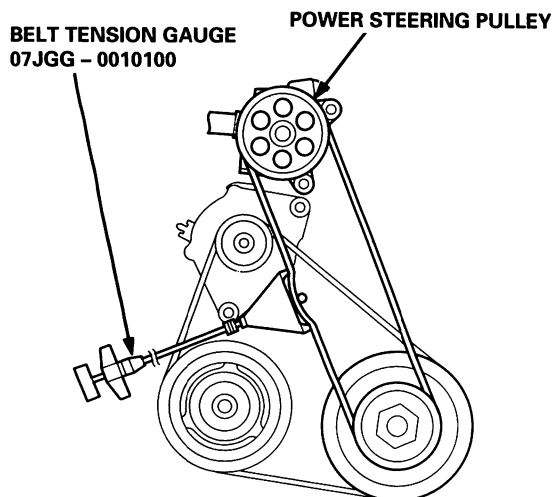
**Used Belt:** 345 – 490 N (35 – 50 kgf, 77 – 110 lbf)

**New Belt:** 640 – 780 N (65 – 80 kgf, 143 – 176 lbf)

##### Other Engine Model:

**Used Belt:** 390 – 540 N (40 – 55 kgf, 88 – 121 lbf)

**New Belt:** 740 – 880 N (75 – 90 kgf, 165 – 198 lbf)



#### Measurement without Belt Tension Gauge:

Apply a force of 98 N (10 kgf, 22 lbf) and measure the deflection between the power steering pump pulley and the crankshaft pulley.

#### Deflection:

##### D16B6 Engine Model:

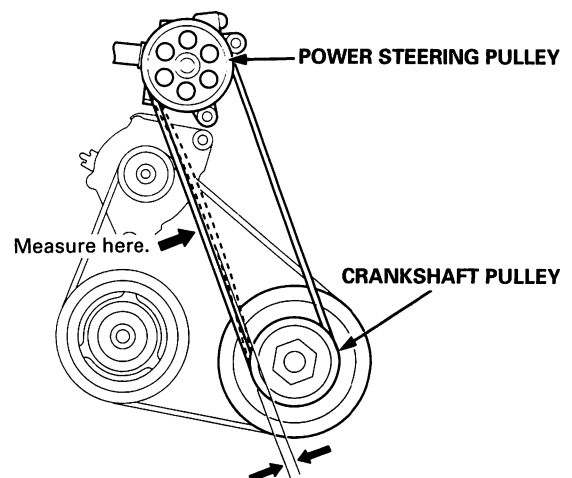
**Used Belt:** 10.5 – 14.0 mm (0.41 – 0.55 in)

**New Belt:** 7.5 – 10.0 mm (0.30 – 0.39 in)

##### Other Engine Model:

**Used Belt:** 13.0 – 16.5 mm (0.51 – 0.65 in)

**New Belt:** 8.5 – 11.0 mm (0.33 – 0.43 in)

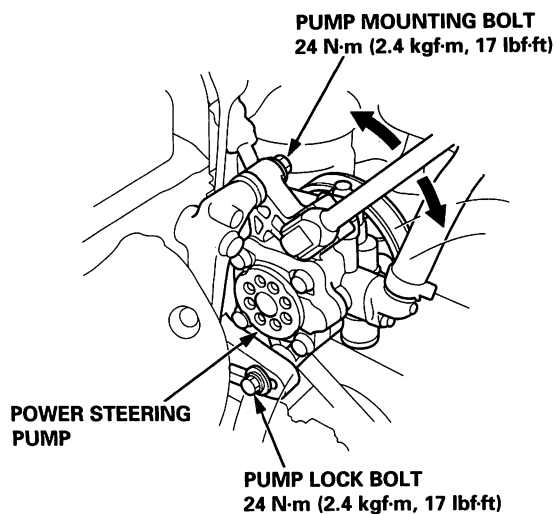




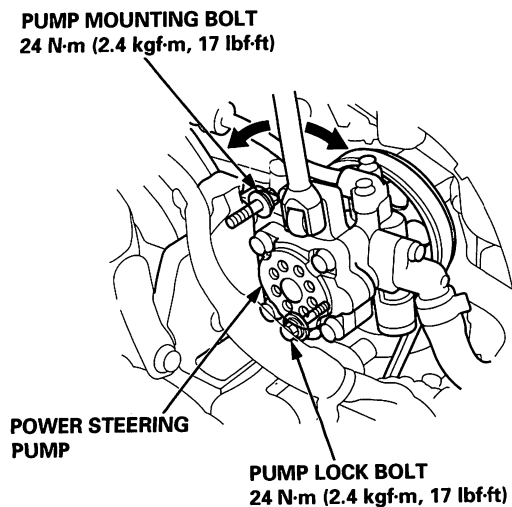
## Adjustment

1. Loosen the power steering pump mounting bolt and pump lock bolt.

### D16B6 Engine Model:



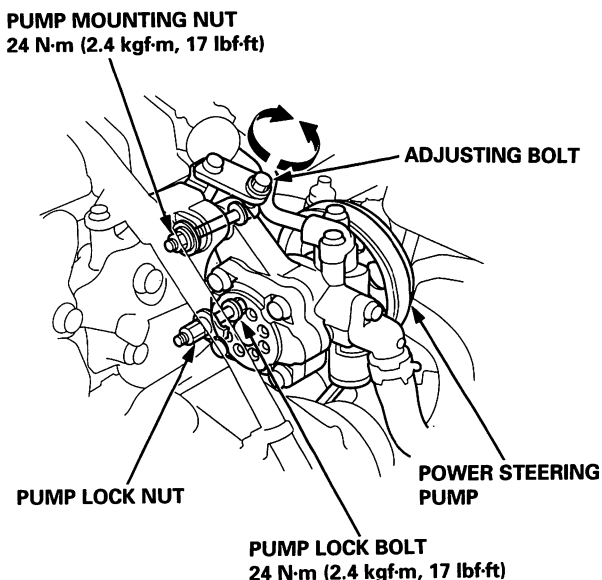
### F18B2, F18B3 and F20B6 Engine Model:



2. Adjust the belt tension by moving the power steering pump with a 1/2" drive breaker bar to obtain the proper belt tension, then retighten the mounting bolt and lock bolt.
3. Start the engine and turn the steering wheel from lock-to-lock several times, then stop the engine and recheck the deflection of the belt.

### H22A7 Engine Model:

1. Loosen the power steering pump mounting nut and pump lock bolt.

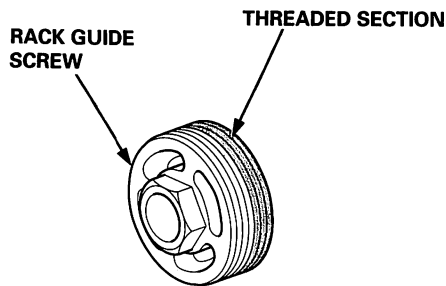


2. Turn the adjusting bolt to get the proper belt tension, then retighten the mounting nut and lock bolt.
3. Start the engine and turn the steering wheel from lock-to-lock several times, then stop the engine and recheck the deflection of the belt.

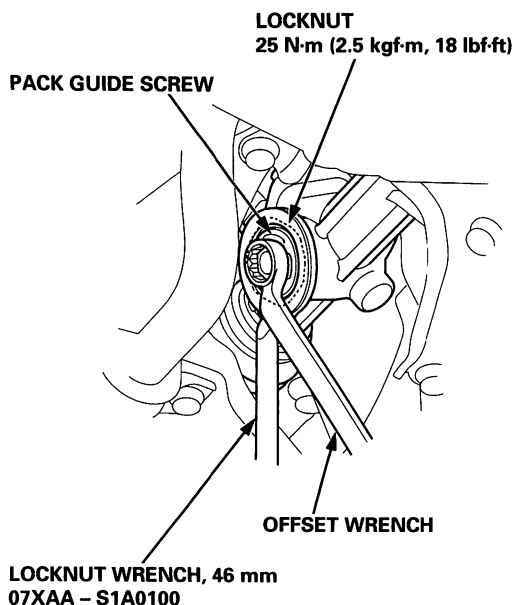
# Inspection and Adjustment

## Rack Guide Adjustment

1. Set the wheels in the straight ahead position.
2. Loosen the rack guide screw locknut with the special tool, then remove the rack guide screw.
3. Remove the old sealant from rack guide screw threaded section, and apply new sealant to the first threads. Loosely install the rack guide screw on the gearbox.



4. Tighten the rack guide screw to 5 N·m (0.5 kgf·m, 4 lbf·ft), then back it off to half turn.



5. Retighten the rack guide screw to 1.5 – 2.0 N·m (0.15 – 0.20 kgf·m, 1.08 – 1.44 lbf·ft), then back it off to specified angle (5 – 10 degrees).
6. Tighten the locknut while holding the rack guide screw.
7. Check for tight or loose steering through the complete turning travel.
8. Check for steering operation and power assist with vehicle parked (see page 17-12).



## Fluid Replacement

Check the reservoir at regular intervals, and add fluid as necessary.

### ⚠ CAUTION

Use only Genuine Honda Power Steering Fluid S. Using other fluids such as ATF or other manufacturer's power steering fluid will damage the system.

#### SYSTEM CAPACITY:

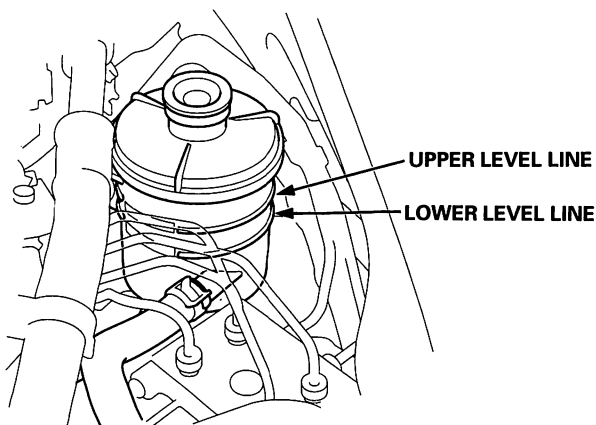
LHD: 1.0 liter (1.06 US. qt, 0.88 Imp.qt)

RHD: All Except D16B6 Engine Model:

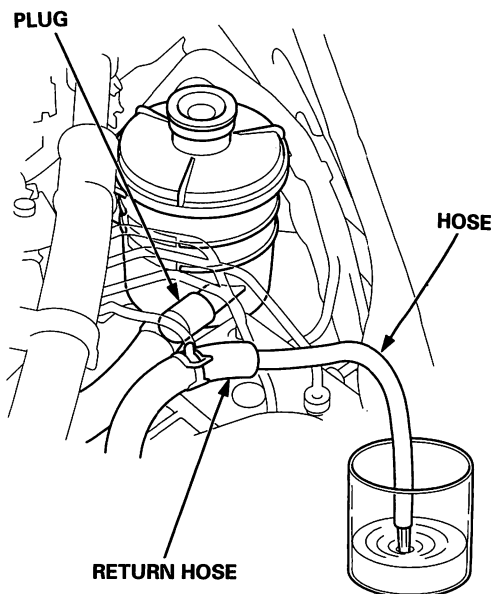
1.1 liter (1.16 US.qt, 0.96 Imp.qt)

D16B6 Engine Model:

1.0 liter (1.06 US.qt, 0.88 Imp.qt)



1. Raise the reservoir and disconnect the return hose to drain the reservoir. Take care not to spill the fluid on the body and parts. Wipe off spilled fluid at once.



2. Connect a hose of suitable diameter to the disconnected return hose, and put the hose end in a suitable container.
3. Start the engine, let it run at idle, and turn the steering wheel from lock-to-lock several times. When fluid stops running out of the hose, shut off the engine. Discard the fluid.
4. Refit the return hose on the reservoir.
5. Fill the reservoir to the upper level line.
6. Start the engine and run it at fast idle, then turn the steering from lock-to-lock several times to bleed air from the system.
7. Recheck the fluid level and add some if necessary. Do not fill the reservoir beyond the upper level line.



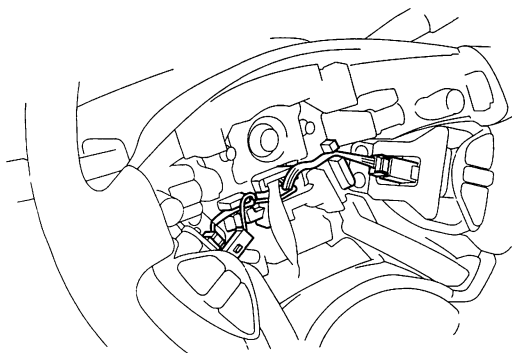




## Removal

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

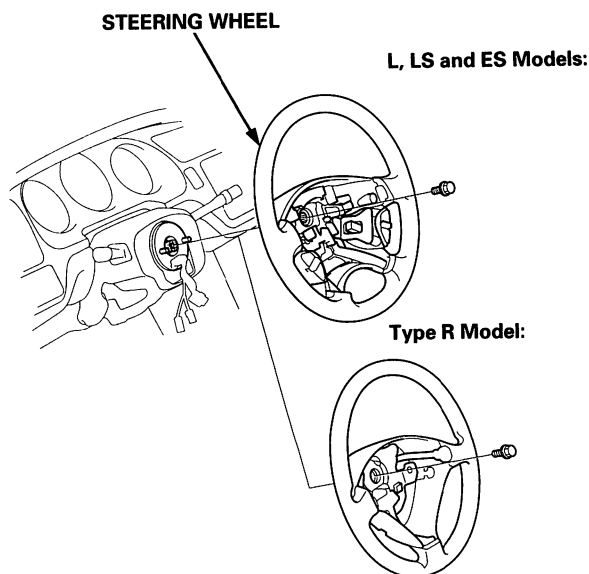
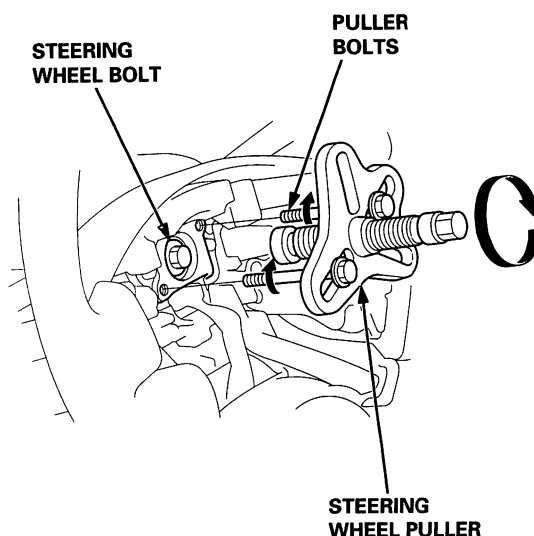
1. Align the front wheels straight ahead, then remove the driver's airbag assembly from the steering wheel (see section 24).
2. Disconnect the radio remote switches connector and cruise control switches connector if equipped.



3. Loosen the steering wheel bolt, then install a steering wheel puller on the steering wheel and remove it.

Note these items when removing the steering wheel:

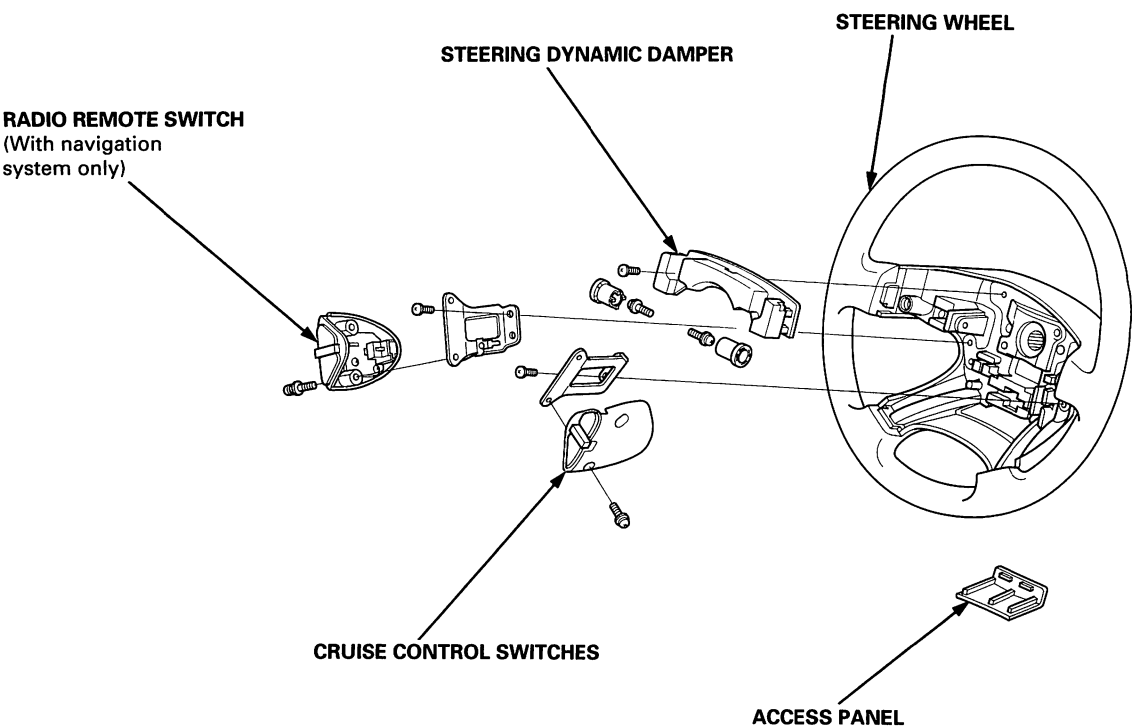
- Do not tap on the steering wheel or the steering column shaft when removing the steering wheel.
- If you thread the puller bolts into the wheel hub more than five threads, the bolts will hit the cable reel and damage it. To prevent this, install a pair of jam nuts five threads up on each puller bolt.



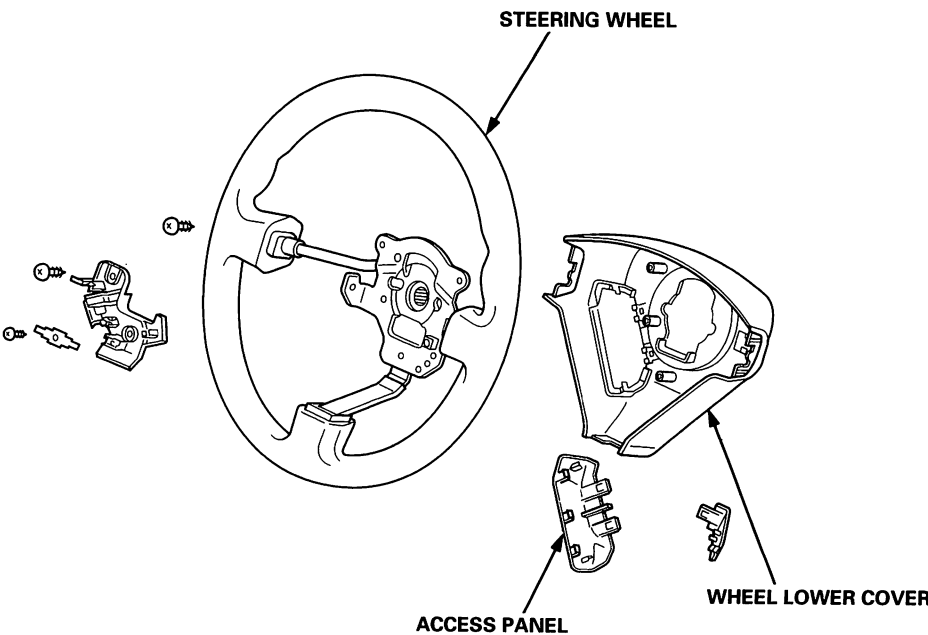
# Steering Wheel

## Disassembly/Reassembly

Type L, LS and ES:



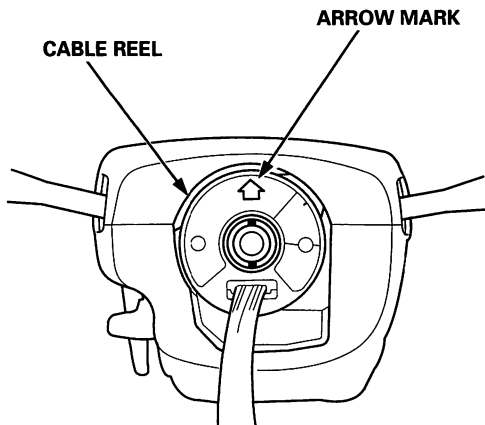
Type R:



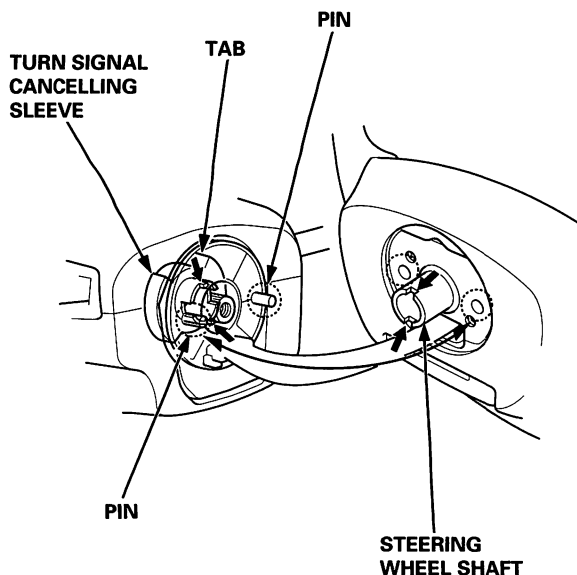


## Installation

1. Before installing the steering wheel, make sure the front wheels are aligned straight ahead, then center the cable reel. Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise approximately two and half turns. The arrow mark on the cable reel label point should point straight up.



2. Position the two tabs of the turn signal cancelling sleeve as shown, and install the steering wheel on to the steering column shaft, making sure the steering wheel shaft engages the pins of the cable reel and tabs of the canceling sleeve. Do not tap on the steering wheel or steering column shaft when installing the steering wheel.



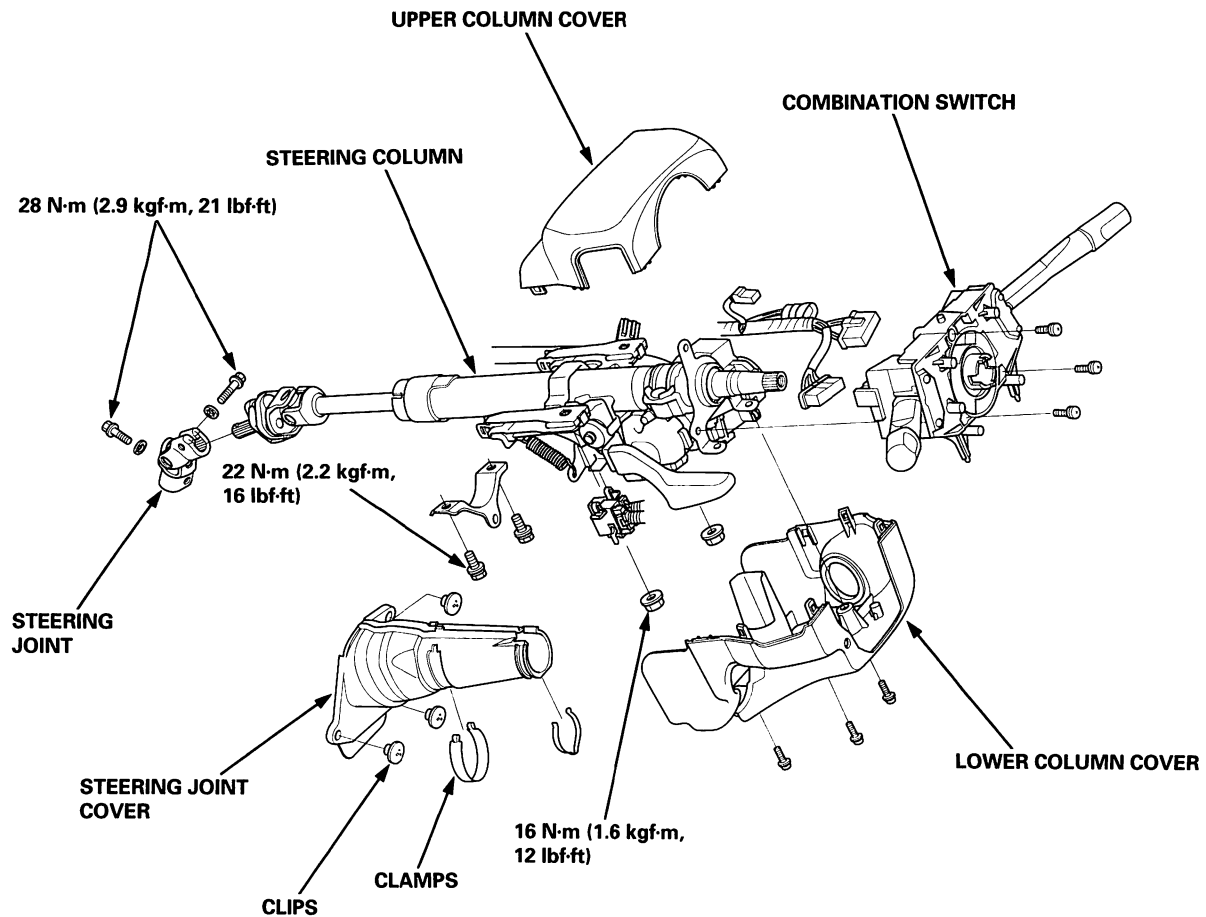
3. Install the steering wheel bolt and tighten it to 39 N·m (4.0 kgf·m, 29 lbf·ft).
4. Connect the radio remote switches connector and cruise control switches connector if equipped.
5. Install the driver's airbag assembly, and confirm that the system is operating properly (see section 24).
6. Check the horn, radio remote switches, cruise control set/resume switches and turn signal cancelling for proper operation.

# Steering Column

## Removal/Installation

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

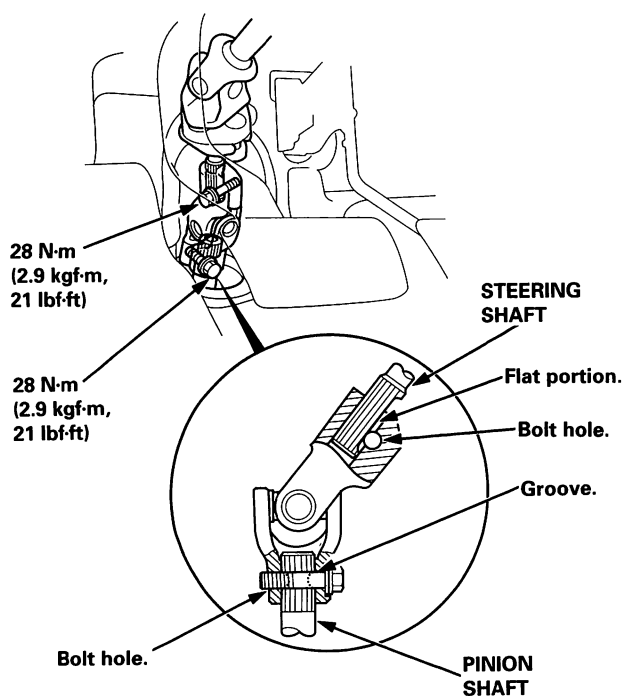
1. Remove the driver's airbag assembly and cable reel (see section 24).
2. Remove the steering wheel (see page 17-19).
3. Remove the driver's dashboard lower cover (see section 20).
4. Remove the column covers.



5. Remove the combination switch assembly from the steering column shaft by disconnecting the connectors.
6. Disconnect the ignition switch connectors.
7. Remove the steering joint cover.
8. Disconnect the steering joint, and remove it from the column shaft.
9. Remove the steering column by removing the attaching nuts and bolts.



10. Install the steering column in the reverse of removal, and note these items:
- Be sure the wires are not caught or pinched by any parts when installing the column.
  - Make sure the wire harness is routed and fastened properly.
  - Make sure the connectors are properly connected.
  - Make sure the steering joint is connected as follows:
    - Insert the upper end of the steering joint onto the steering shaft (line up the bolt hole with the flat portion on the shaft).

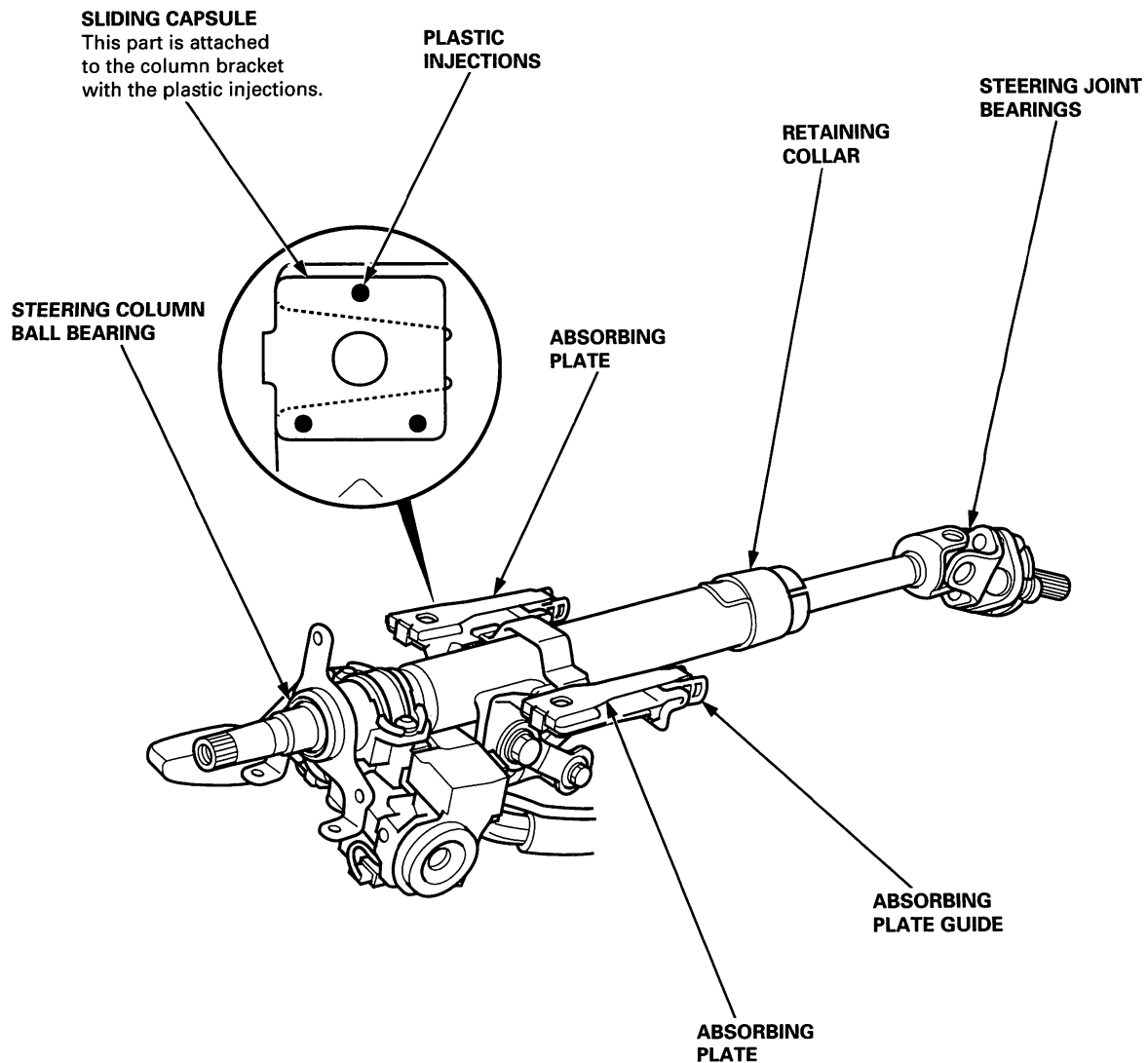


- Slip the lower end of the steering joint onto the pinion shaft (line up the bolt hole with the groove the around the shaft), and loosely install the lower joint bolt. Be sure that the lower joint bolt is securely in the groove in the pinion shaft.
- Pull on the steering joint to make sure that the steering joint is fully seated. Then install the upper joint bolt and tighten it.

# Steering Column

## Inspection

- Check the steering column ball bearing and the steering joint bearings for play and proper movement. If there is noisy or if there is excessive play, replace the steering column as an assembly.
- Check the retaining collar for damage. If it is damage, replace the steering column as an assembly.
- Check the absorbing plates, absorbing plate guides and sliding capsules for distortion breakage. If there is distortion breakage replace the steering column as an assembly.

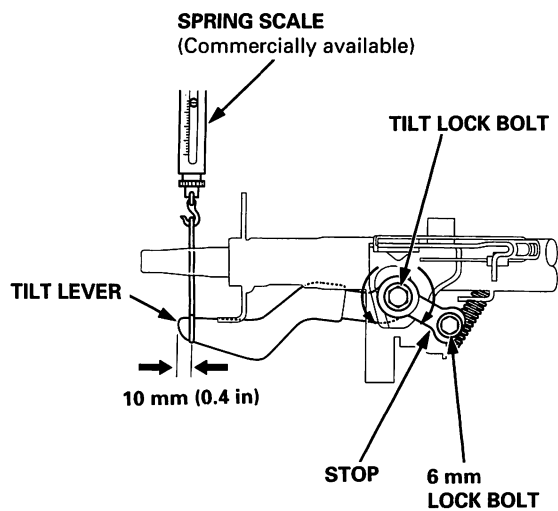




## Steering Lock Replacement

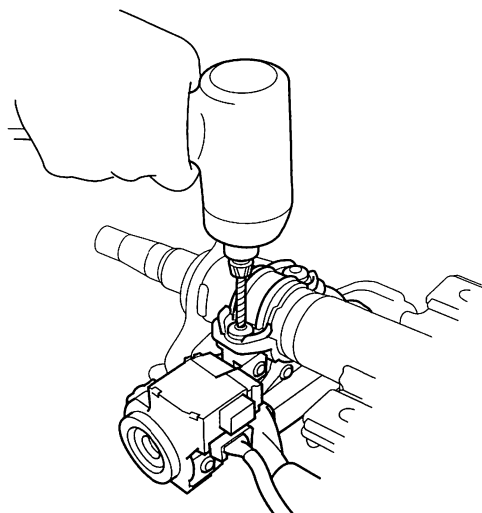
1. Move the tilt lever from the loose position to the lock position 3 to 5 times; then measure the tilt lever preload 10 mm (0.4 in) from the end of the tilt lever.

**Preload: 70 – 90 N (7 – 9 kgf, 15 – 20 lbf)**

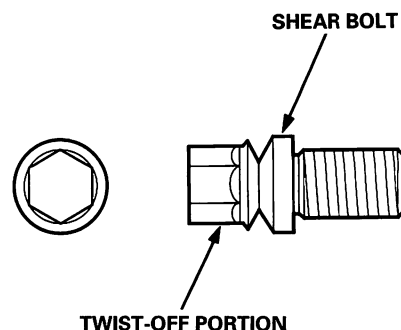


2. If the measurement is out of the specification, adjust the preload using the following procedures.
  - Loosen the tilt lever, and set the steering column in the neutral position.
  - Remove the 6 mm lock bolt, and remove the stop. Be careful not to loosen the tilt lever when installing the stop or tightening the 6 mm lock bolt.
  - Adjust the preload by turning the tilt lock bolt left or right.
  - Pull up the tilt lever to the uppermost position, and install the stop. Check the preload again. If the measurement is still out of specification, repeat the above procedures to adjust.

1. Remove the steering column (see page 17-22).
2. Center punch each of the two shear bolts, and drill their heads off with a 5 mm (3/16 in) drill bit. Be careful not to damage the switch body when removing the shear bolts.



3. Remove the shear bolts from the switch body.
4. Install the switch body without the key inserted.
5. Loosely tighten the new shear bolts.
6. Insert the ignition key, and check for proper operation of the steering wheel lock and that the ignition key turns freely.
7. Tighten the shear bolts until the hex heads twist off.

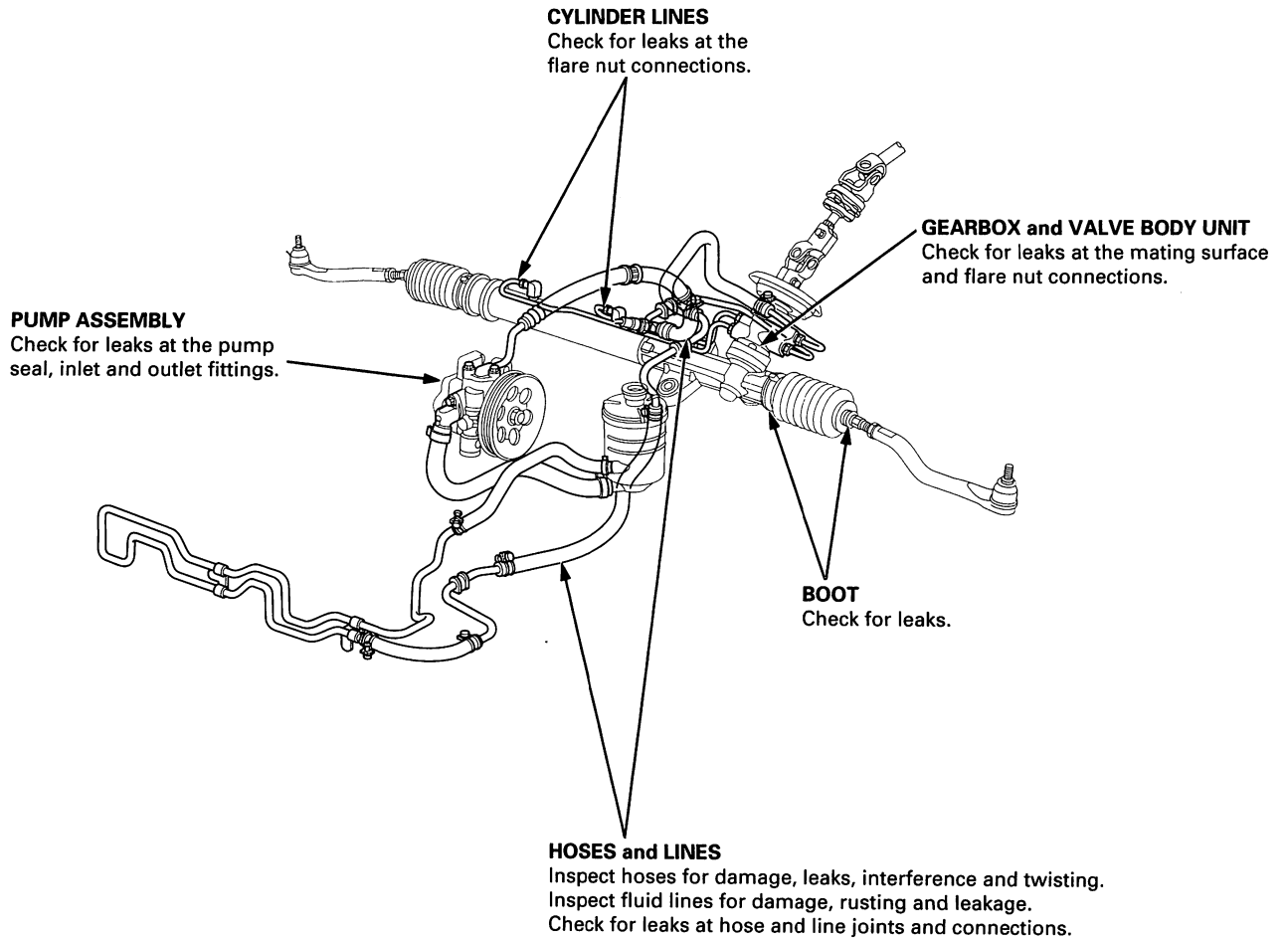




# Power Steering Hoses, Lines

## Fluid Leakage Inspection

NOTE: LHD type steering gearbox is shown. RHD type steering gearbox is symmetrical.





## Replacement

Note these items during installation:

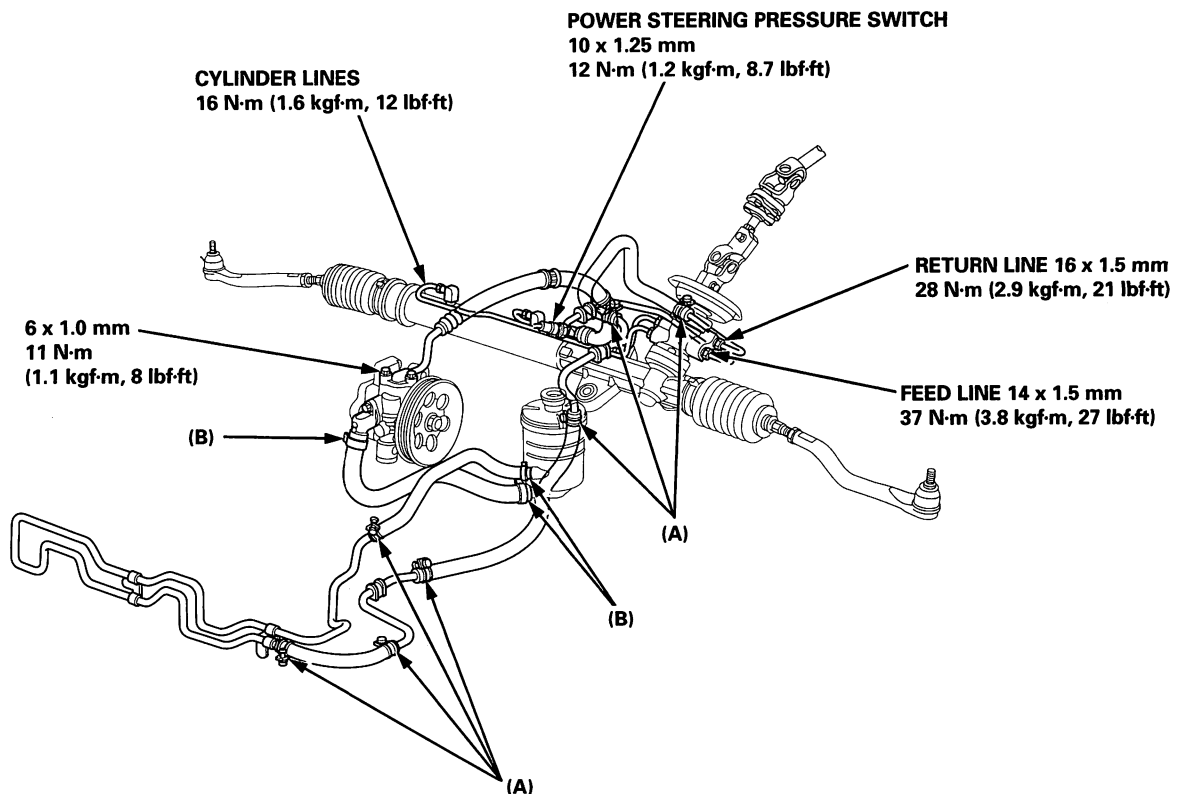
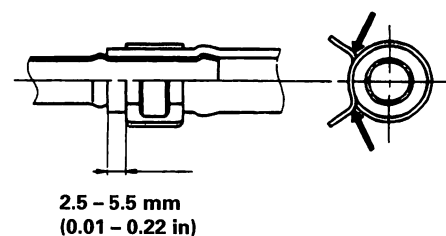
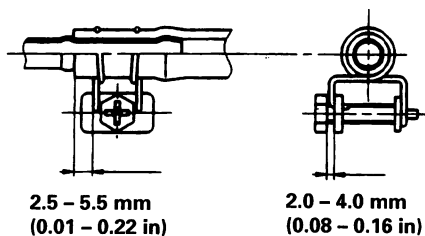
- Connect each hose to the corresponding line securely until it contacts the stop on the line. Install the clamp or adjustable clamp at the specified distance from the hose end as shown.
- Check all clamps for deterioration or deformation; replace with the clamps new ones if necessary.
- Add the recommended power steering fluid to the specified level on the reservoir and check for leaks.

### ADJUSTABLE HOSE CLAMP: (A)

- Position the adjustable hose clamps at the point indicated by (A) in the drawing.
- Slide the hose over the line until it contacts the stop.

### HOSE CLAMP: (B)

- Position the hose clamps at the point indicated by (B) in the drawing.
- Slide the hose over the line until it contacts the stop.

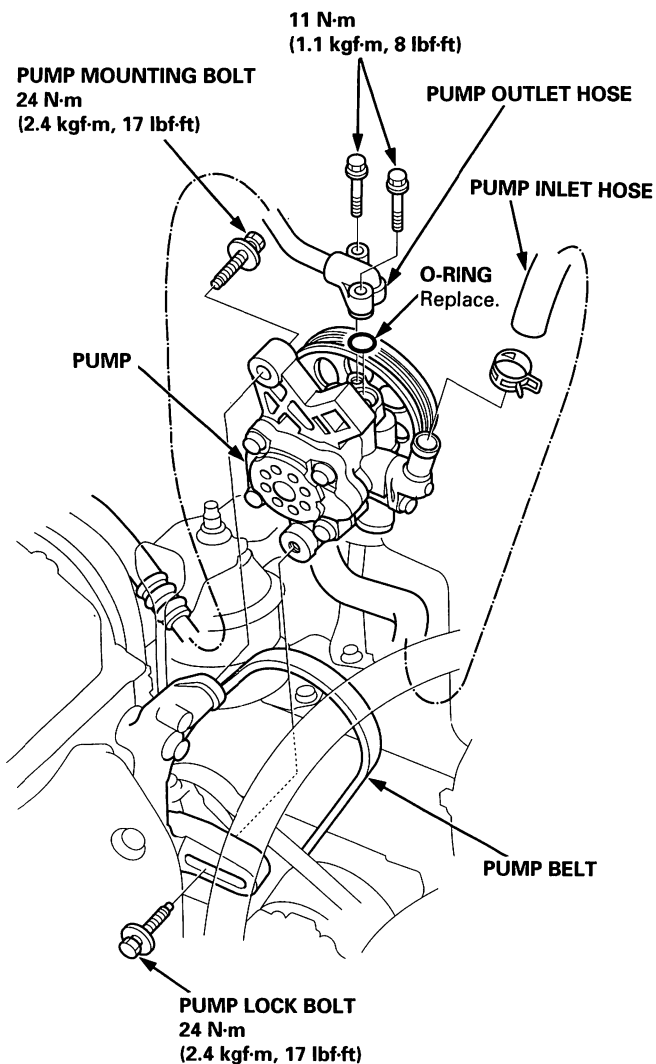


# Power Steering Pump

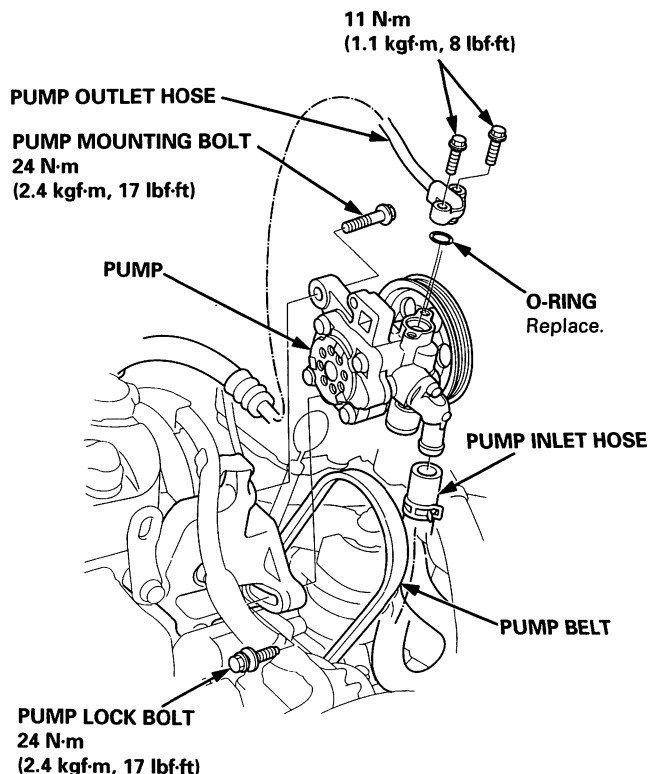
## Replacement

1. Place a suitable container under the vehicle.
2. Drain the power steering fluid from the reservoir.
3. Remove the belt by loosening the adjusting bolt (H22A7 engine model only), pump mounting bolt (nut) and pump lock bolt (nut).
4. Cover the A/C compressor or alternator with several shop towels to protect it from spilled power steering fluid. Disconnect the pump inlet hose and pump outlet hose from the pump, and plug them. Take care not to spill the fluid on the body or parts. Wipe off any spilled fluid at once.

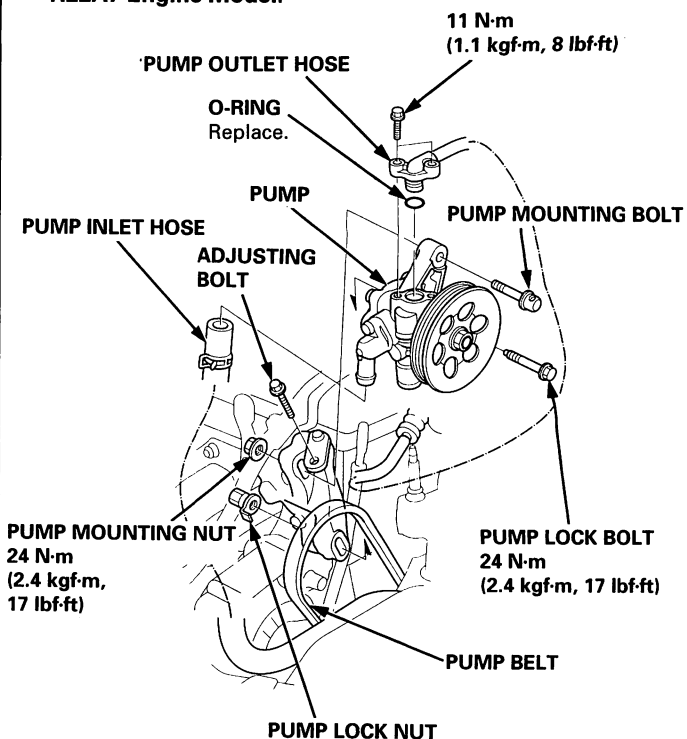
### D16B6 Engine Model:



### F18B2, F18B3 and F20B6 Engine Models:



### H22A7 Engine Model:

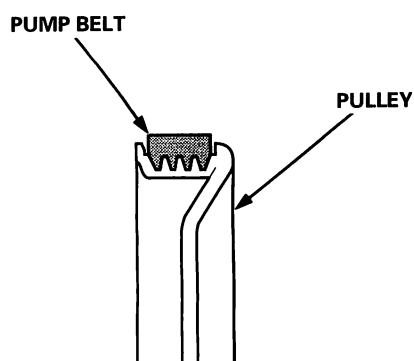




5. Remove the pump mounting bolt (nut) and pump lock bolt (nut), then remove the pump. Do not turn the steering wheel with the pump removed.
6. Cover the opening of the pump with a piece of tape to prevent foreign material from entering the pump.
7. Connect the pump inlet hose and pump outlet hose. Tighten the pump fittings securely.
8. Loosely install the pump in the pump bracket with the mounting bolt and lock bolt.
9. Install the pump belt.

Note these items during belt installation:

- Make sure that the power steering belt is properly positioned on the pulleys.
- Do not get power steering fluid or grease on the power steering belt or pulley faces. Clean off any fluid or grease before installation.



10. Adjust the pump belt adjustment (see page 17-15).
11. Fill the reservoir to the upper level line (see page 17-17).

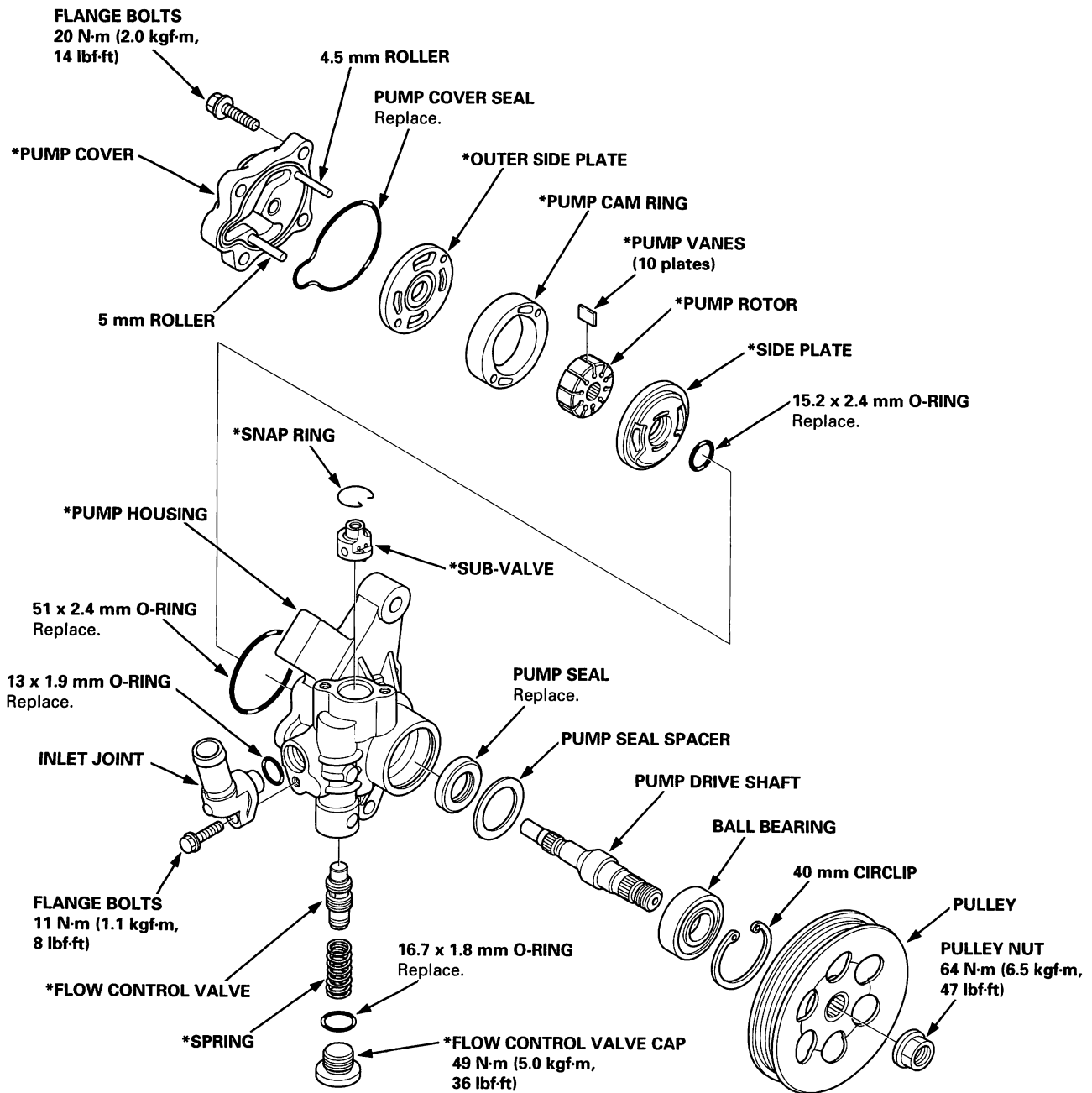
# Power Steering Pump

## Disassembly

Note these items during disassembly:

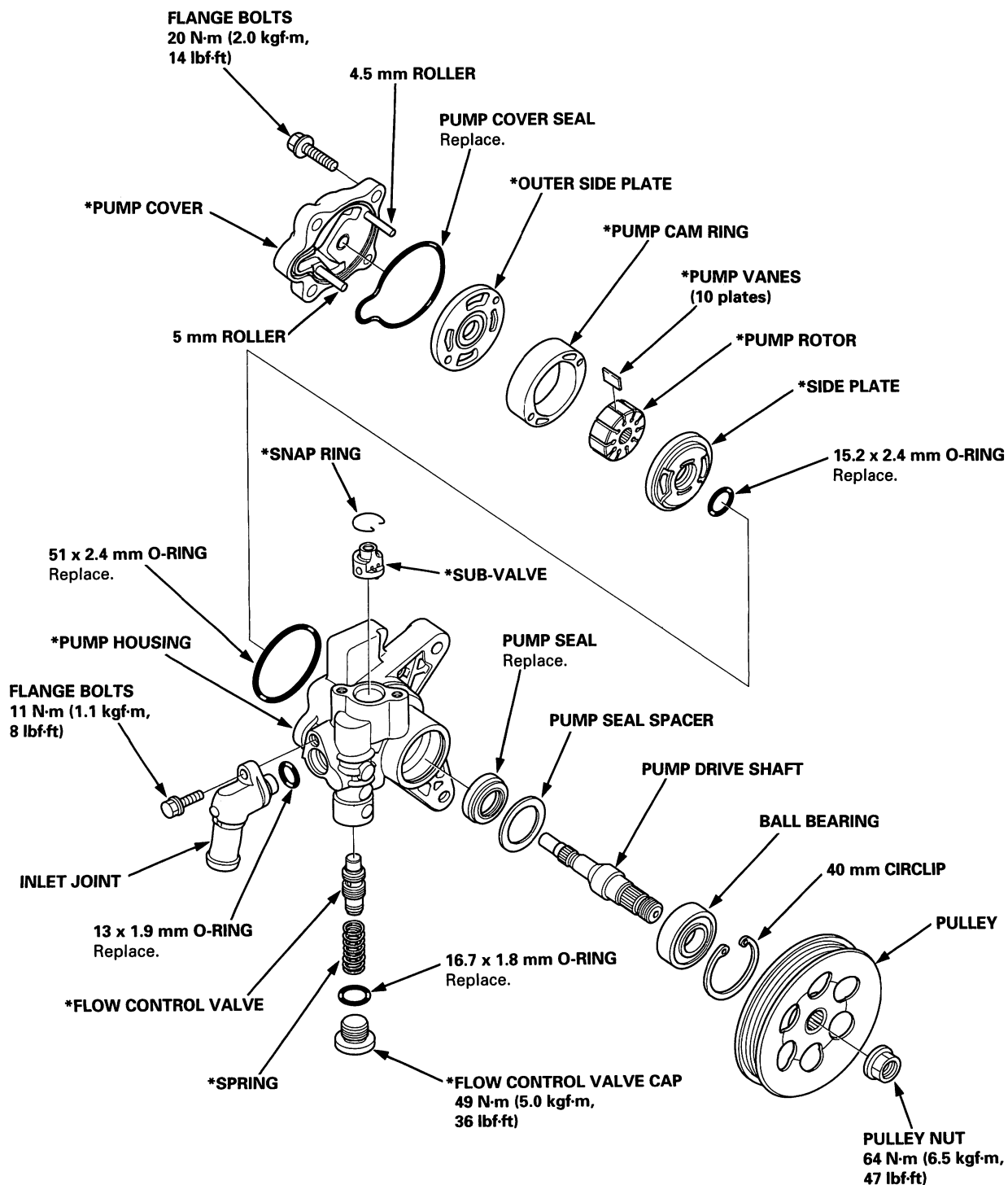
- The power steering components are made of aluminum. Avoid damaging the components during assembly.
- Clean the disassembled parts with a solvent, and dry them with compressed air. Do not dip the rubber parts in a solvent.
- Always replace the O-rings and rubber seals with new ones before assembly.
- Apply recommended power steering fluid to the parts indicated in the assembly procedures.
- Do not allow dust, dirt, or other foreign materials to enter the power steering system.
- Replace the pump as an assembly if the parts indicated with asterisk (\*) are worn or damaged.

### D16B6 Engine Model:





**F18B2, F18B3 and F20B6 Engine Models:**

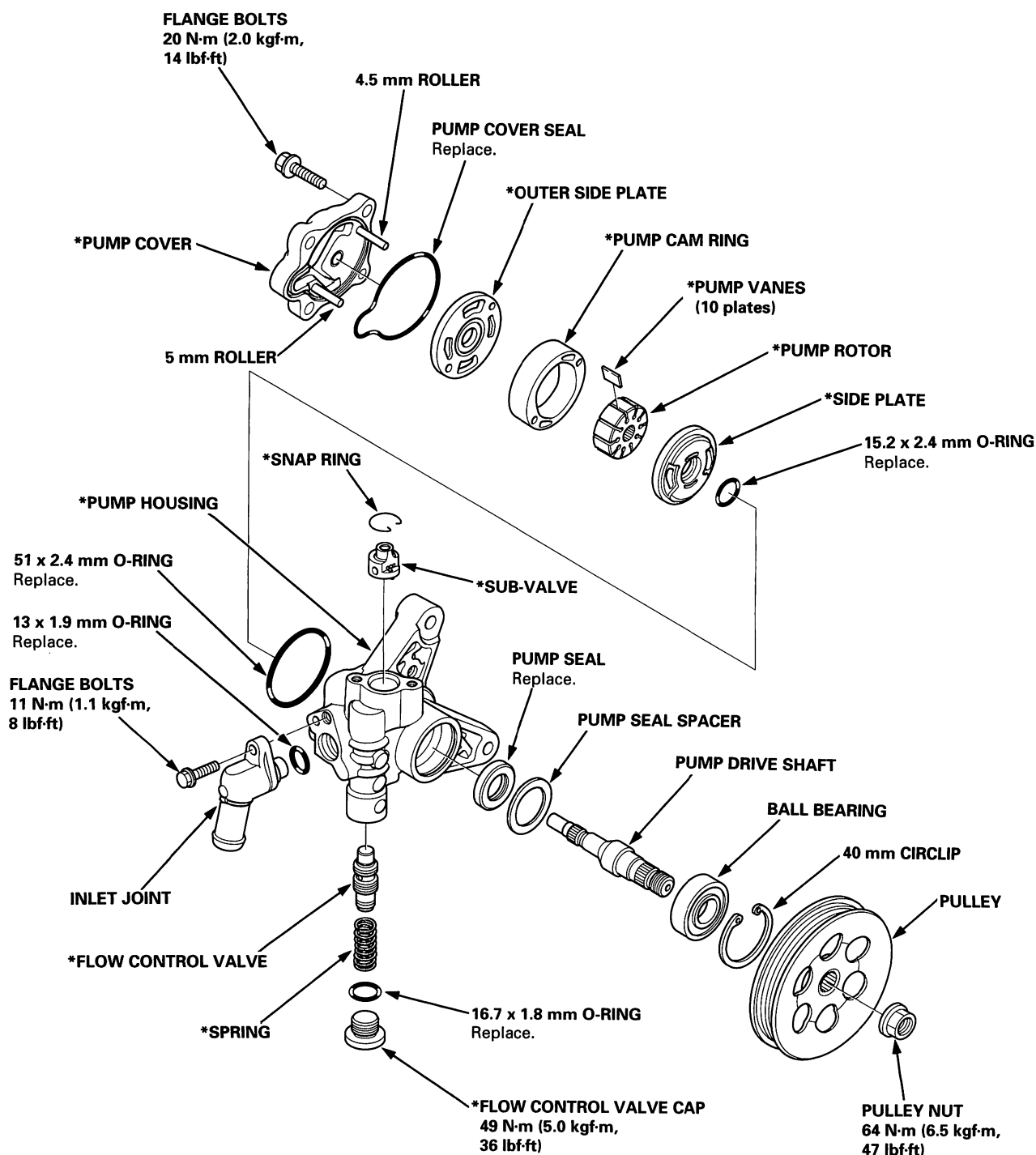


(cont'd)

# Power Steering Pump

## Disassembly (cont'd)

H22A7 Engine Model:

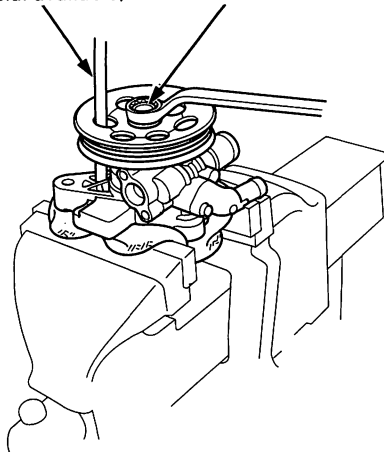




1. Drain the fluid from the pump.
2. Hold the steering pump in a vise with soft jaws, hold the pulley with the extension bar, and remove the pulley nut and pulley. Be careful not to damage the pump housing with the jaws of the vise.

**EXTENSION BAR:**  
(Commercial available)

**PULLEY NUT**

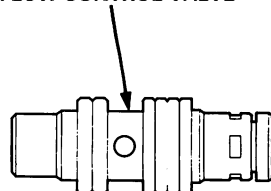


3. Remove the inlet joint and O-ring.
4. Loosen the flow control valve cap with a hex wrench, and remove it.
5. Remove the O-ring, flow control valve and spring.
6. Remove the pump cover and pump cover seal.
7. Remove the outer side plate, pump cam ring, pump rotor, pump vanes, side plate and O-rings.
8. Remove the snap ring, then remove the sub-valve from the pump housing.
9. Remove the circlip, then remove the pump drive shaft by tapping the shaft end with the plastic hammer.
10. Remove the pump seal spacer and pump seal.

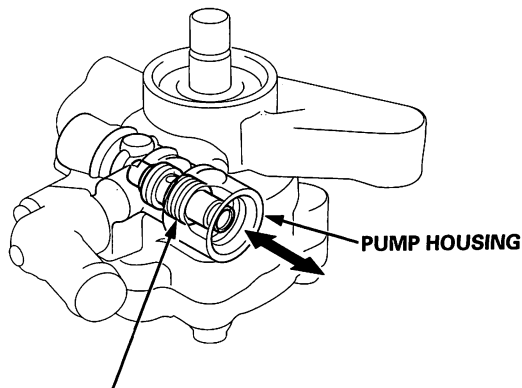
### Inspection

1. Check the flow control valve for wear, burrs, and other damage to the edges of the grooves in the valve.

**FLOW CONTROL VALVE**



2. Inspect the bore of the flow control valve on the pump housing for scratches or wear.
3. Slip the flow control valve back in the pump housing, and check that it moves in and out smoothly. If OK, go to step 4; if not, replace the pump as an assembly. The flow control valve is not available separately.

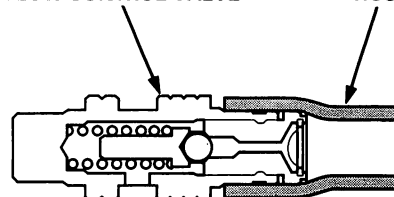


**FLOW CONTROL VALVE**

4. Test the flow control valve by attaching a hose to the end of the valve as shown.

**FLOW CONTROL VALVE**

**HOSE**



(cont'd)

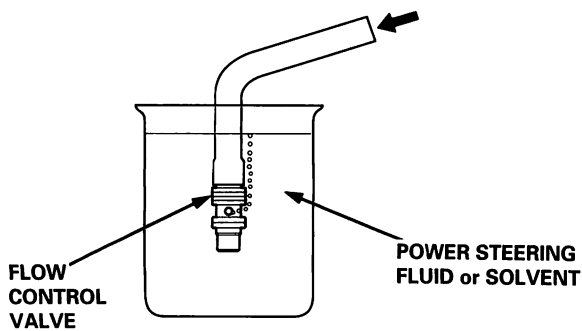


# Power Steering Pump

## Disassembly (cont'd)

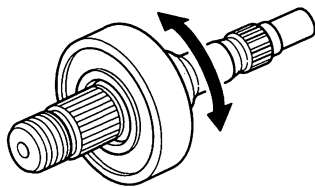
5. Submerge the flow control valve in a container of power steering fluid or solvent, and blow in the hose. If air bubbles leak through the valve at less than 98 kPa (1.0 kgf/cm<sup>2</sup>, 14.2 psi), replace the pump as an assembly.

If the flow control valve tests OK, reinstall it in the pump. If the flow control valve still leaks air, replace the pump as an assembly. The flow control valve is not available separately.

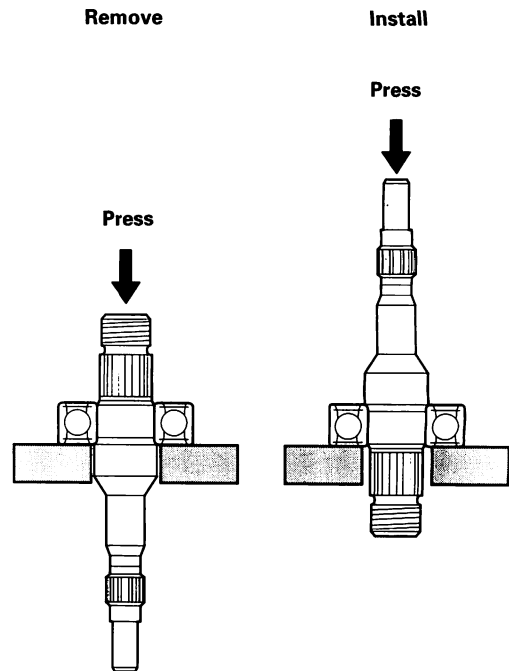


### Ball Bearing:

1. Inspect the ball bearing by rotating the outer race slowly. If any play or roughness is felt, replace the ball bearing.



2. Replace the ball bearing using a press.



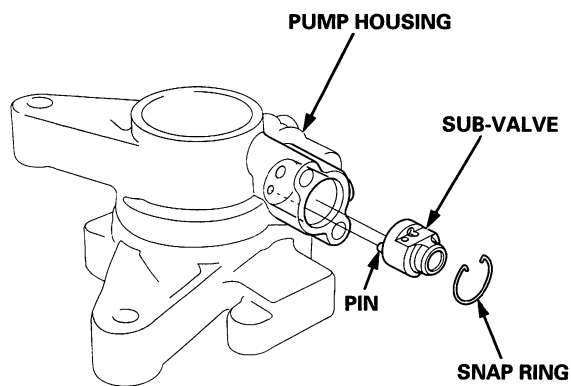


## Reassembly

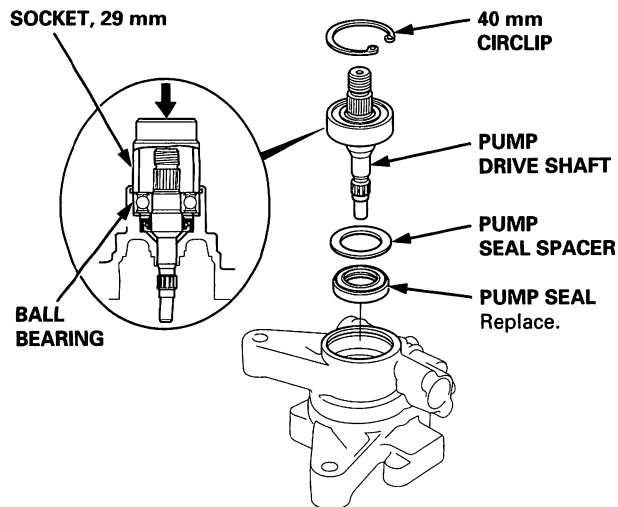
Note these items during reassembly:

- Clean the disassembled parts with solvent, and dry them with compressed air. Do not dip rubber parts in a solvent.
- Always replace the O-rings and rubber seals with new ones before reassembly.

1. Align the pin of the sub-valve with the oil passage in pump housing, and push down the sub-valve. Install the snap ring properly.

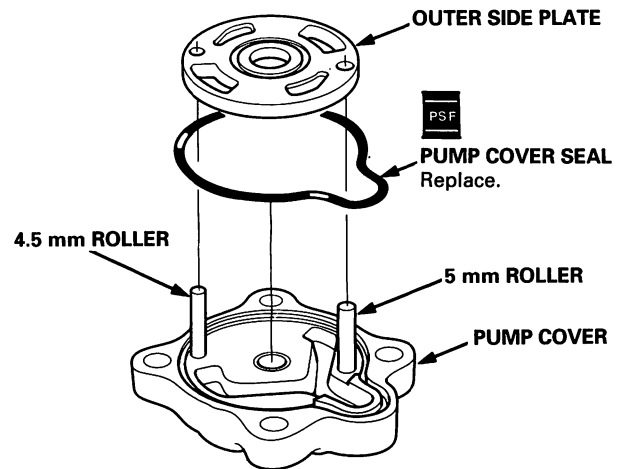


2. Install the new pump seal (with its grooved side facing in) into the pump housing by hand, then install the pump seal spacer.

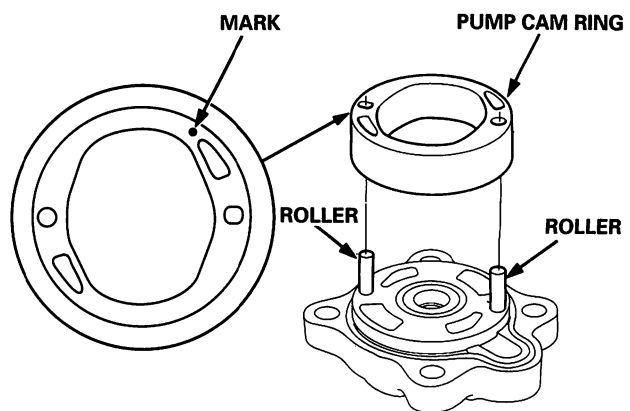


3. Position the pump drive shaft in the pump housing, then drive it in using a 29 mm socket as shown.
4. Install the 40 mm circlip with its radiused side facing out.

5. Coat the pump cover seal with power steering fluid, and install it into the groove in the pump cover.



6. Install the outer side plate over the two rollers.
7. Set the pump cam ring over the two rollers with the "•" mark on the cam ring upward.

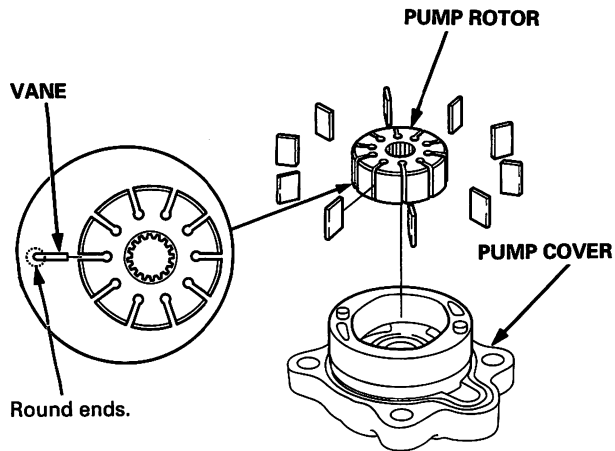


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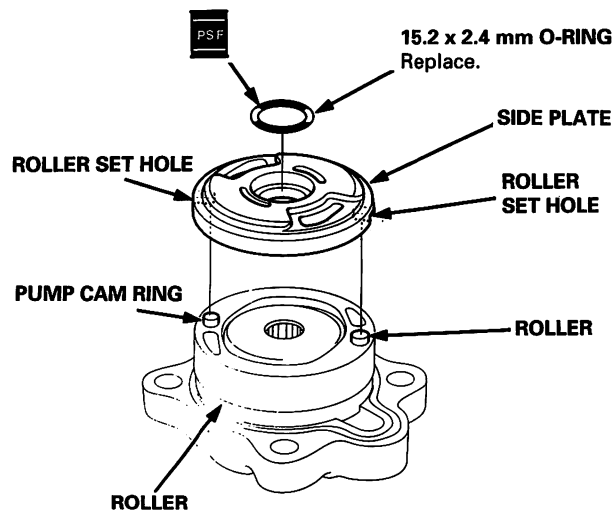
# Power Steering Pump

## Reassembly (cont'd)

8. Assemble pump rotor to the pump cover.

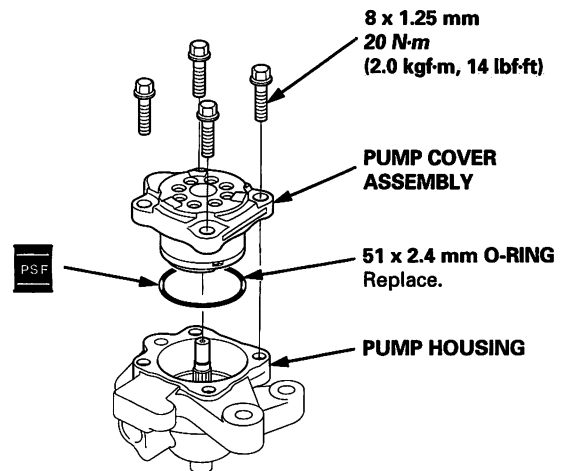


9. Set the 10 vanes in the grooves in the rotor. Make sure that the round ends of the vanes are in contact with the sliding surface of the cam ring.
10. Coat the O-ring with power steering fluid, and install it into the grooves in the side plate.

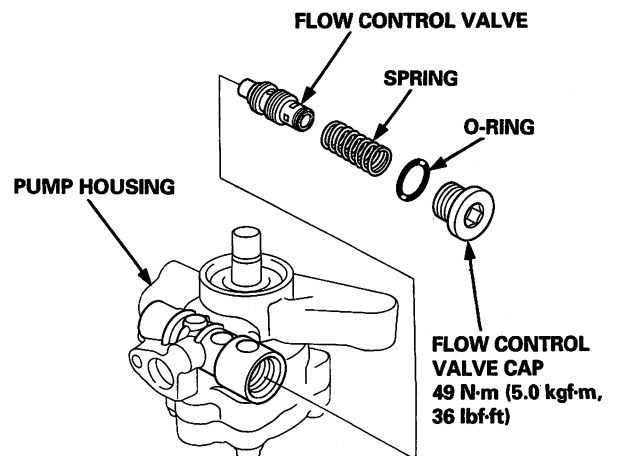


11. Install the side plate on the cam ring by aligning the roller set holes in the side plate with the rollers.

12. Coat the O-ring with power steering fluid, and position it into the pump housing.



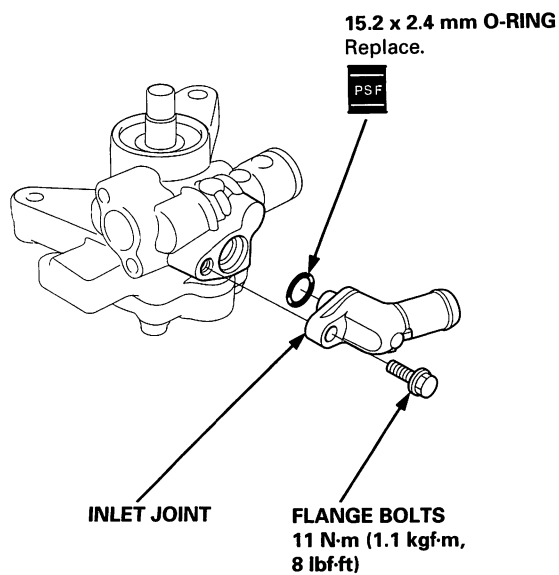
13. Install the pump cover assembly in the pump housing.
14. Coat the flow control valve with power steering fluid.



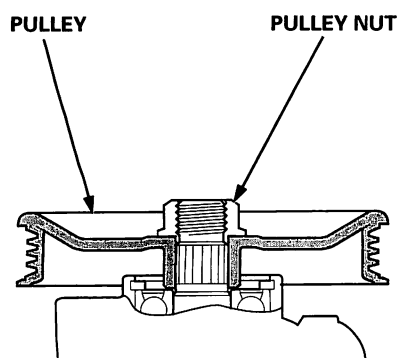
15. Install the flow control valve and spring in the pump housing.
16. Coat the O-ring with power steering fluid, and install it on the flow control valve cap.
17. Install the flow control valve cap on the pump housing, and tighten it.



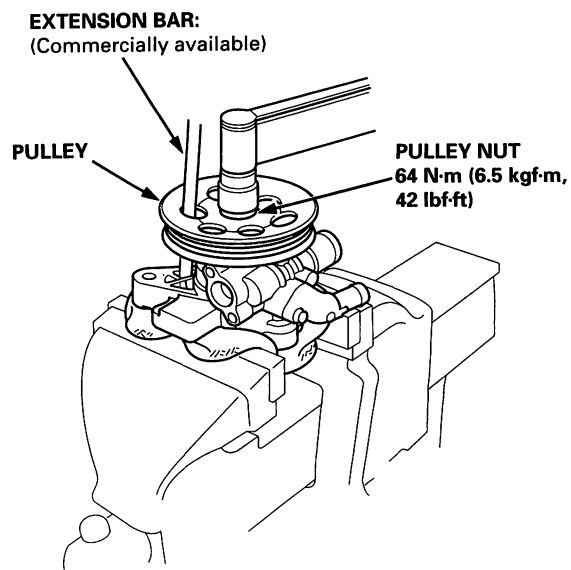
18. Coat the O-ring with power steering fluid, and install it into the grooves in the inlet joint.



19. Install the pulley, then loosely install the pulley nut. Hold the steering pump in a vise with soft jaws. Be careful not to damage the pump housing with the jaws of the vise.



20. Hold the pulley with the extension bar, and tighten the pulley nut.



21. Check that the pump turns smoothly by turning the pulley by hand.

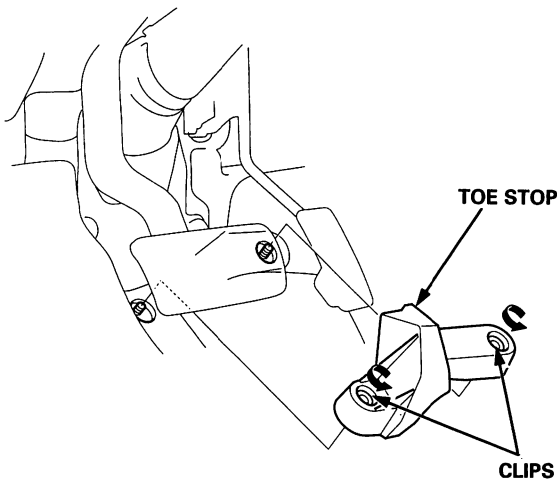
# Power Steering Gearbox

## Removal

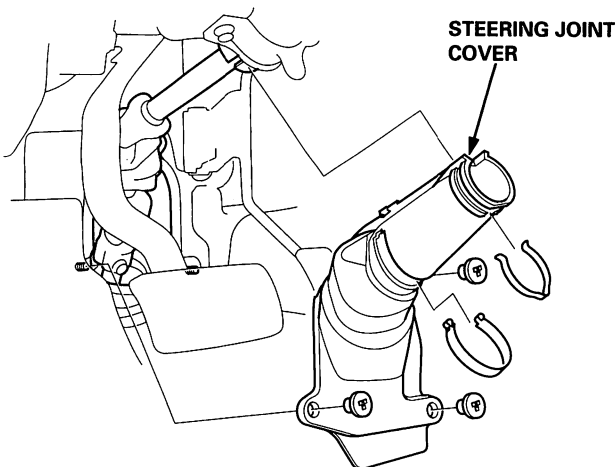
Note these items during removal:

- Using solvent and a brush, wash any oil and dirt off the valve body unit its lines, and the end of the gearbox. Blow dry with compressed air.
- Be sure to remove the steering wheel before disconnecting the steering joint. Damage to the cable reel can occur.

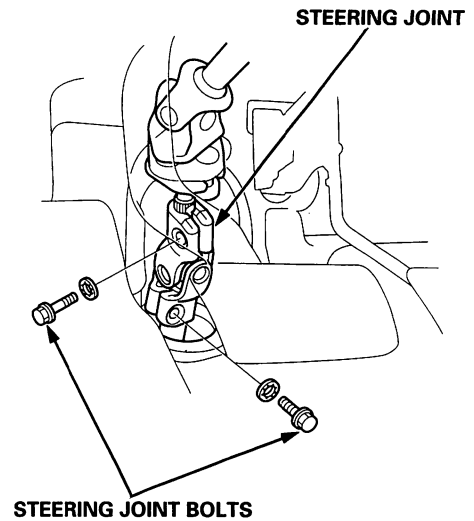
1. Drain the power steering fluid as described on page 17-17.
2. Raise the vehicle, and make sure it is securely supported. Remove the front wheels.
3. Remove the driver's airbag assembly (see section 24).
4. Remove the steering wheel (see page 17-19).
5. Turn the clips using the hex wrench, and remove the toe stop.



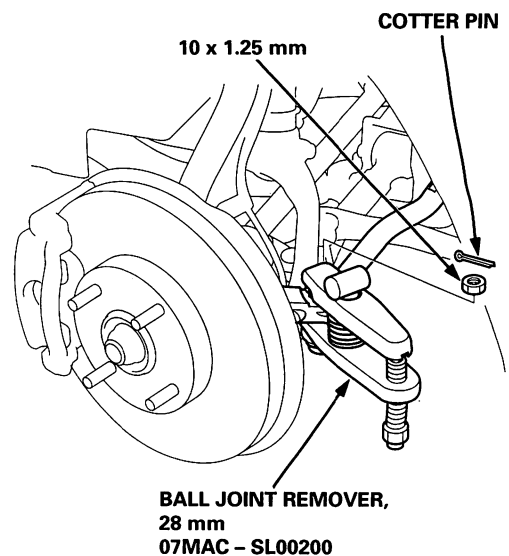
6. Remove the steering joint cover.



7. Remove the steering joint bolts, disconnect the steering joint by moving the steering joint toward the column.



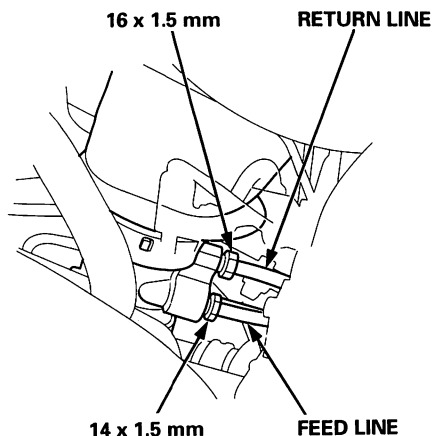
8. Remove the cotter pin from the 10 mm nut, and loosen the nut.



9. Separate the tie-rod ball joint and knuckle using the special tool (see page 18-13 for tool instructions).



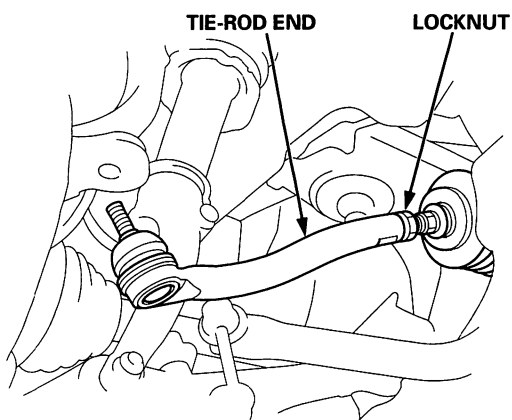
10. Loosen the 14 mm flare nut, and disconnect the feed line.



11. Loosen the 16 mm flare nut, and disconnect the return line.
12. After disconnecting the lines, plug or seal them with a piece of tape or equivalent to prevent foreign materials from entering.

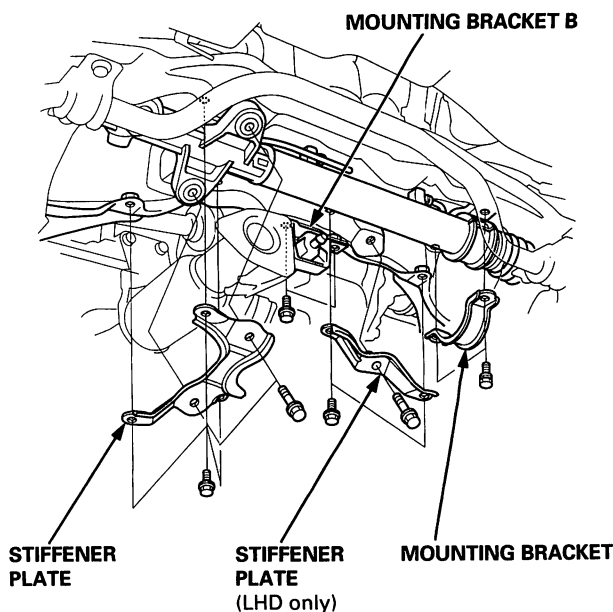
**NOTE:** Do not loosen the cylinder line A and B between the valve body unit and cylinder.

13. Grasp the right tie-rod and pull the rack all the way to the right, then remove the right and left tie-rod ends, and locknut.

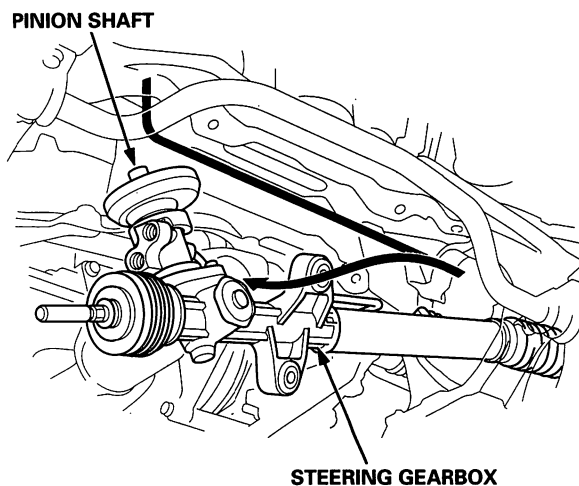


14. Separate the mounting bracket B of the exhaust pipe A from the frame, and remove the three way catalytic converter (see section 9).
15. Disconnect the shift linkage from the transmission (M/T: see section 13, A/T: see section 14).

16. Remove the stiffener plates, then remove the right mounting bracket.



17. Pull the steering gearbox all the way down to clear the pinion shaft from the bulkhead, and remove the pinion shaft grommet from the top of the valve body unit.



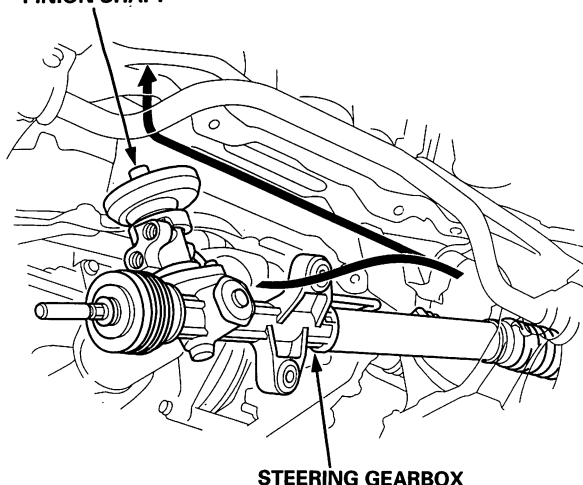
18. Move the steering gearbox to the right so the left rack end clears the rear beam, then place the left rack end below the rear beam.
19. Move the steering gearbox to the left, and tilt the left side down to remove it from the vehicle. Do not try to disassemble the steering gearbox. If the gearbox is faulty, replace the whole gearbox as an assembly.

# Power Steering Gearbox

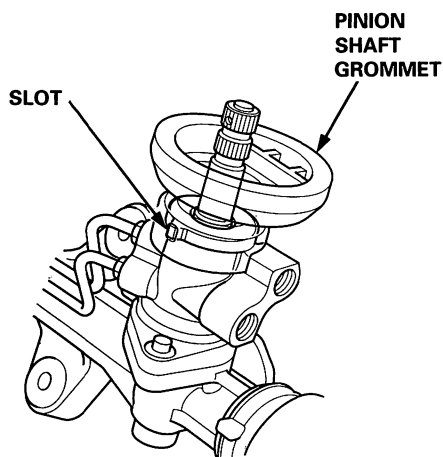
## Installation

1. Before installing the gearbox, slide the rack all the way to right.
2. Pass the right side of the steering gearbox above and through the right side of the rear beam. Be careful not to bend or damage the two power steering lines and cylinder lines when installing the gearbox.

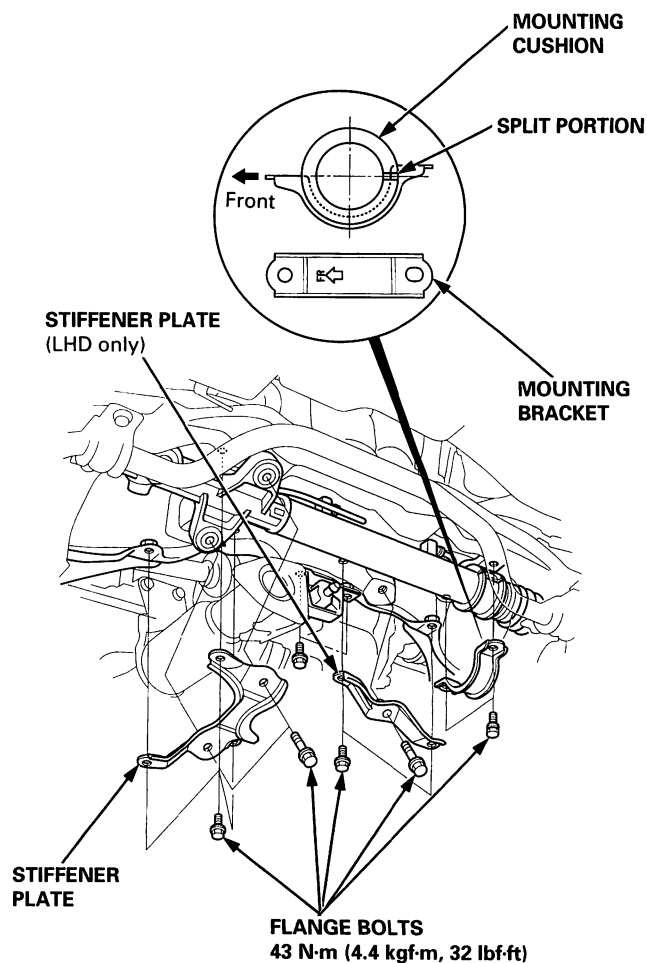
PINION SHAFT



3. Raise the left side of the steering gearbox above and through the left side of the rear beam.
4. Install the pinion shaft grommet. Align the slot in the pinion shaft grommet with the lug portion on the valve housing. Then insert the pinion shaft up through the bulkhead.



5. Install the mounting cushion on the steering gearbox.



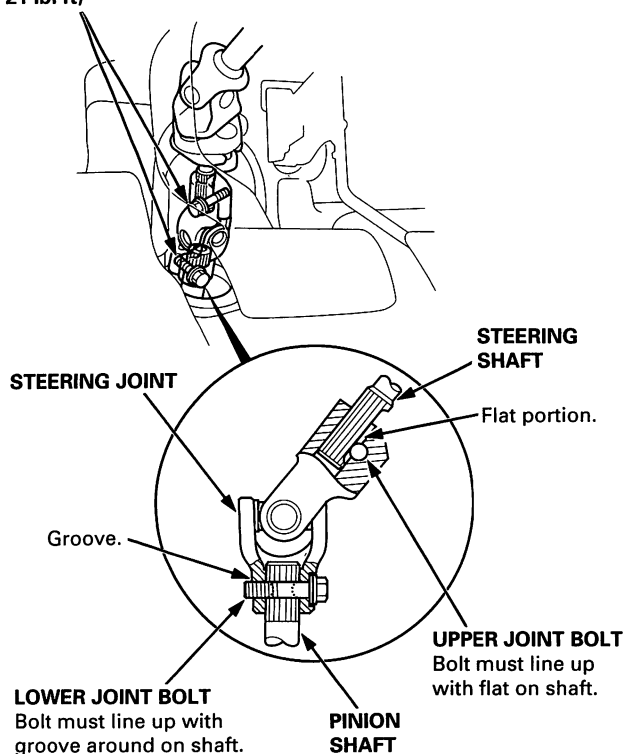
6. Install the mounting brackets over the mounting cushion, then install the two gearbox mounting bolts. Position the split portion of the mounting cushion as shown.
7. Install the stiffener plates with the two gearbox mounting bolts and six stiffener plate attaching bolts. Install the bolts loosely first, then tighten them securely.
8. Center the steering rack within its stroke.



9. Install the steering joint, and reconnect the steering shaft and pinion shaft.

- Make sure the steering joint is connected as follows:
  - Insert the upper end of the steering joint onto the steering shaft (line up the bolt hole with the flat portion on the shaft).

**STEERING JOINT BOLTS**  
28 N·m (2.9 kgf·m,  
21 lbf·ft)

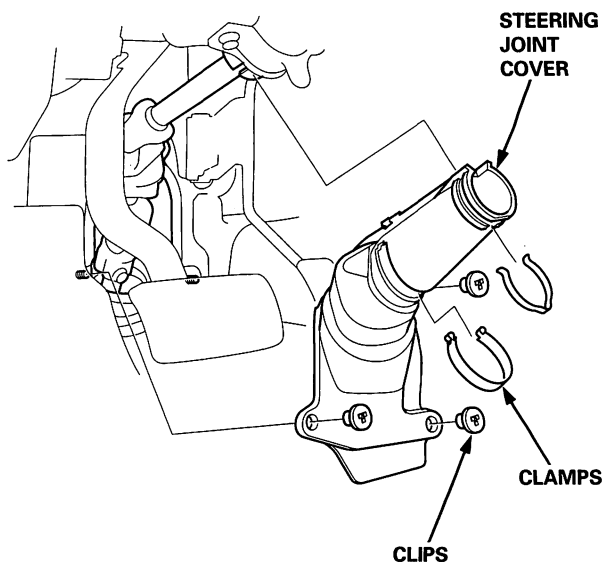


- Slip the lower end of the steering joint onto the pinion shaft (line up the bolt hole with the groove the around the shaft), and loosely install the lower joint bolt. Be sure that the lower joint bolt is securely in the groove in the pinion shaft.

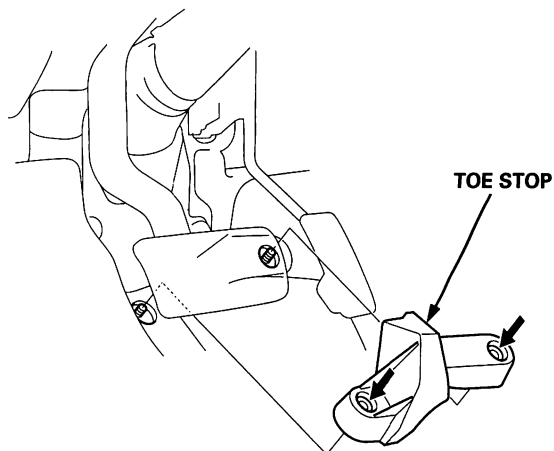
- Pull on the steering joint to make sure that the steering joint is fully seated. Then install the upper joint bolt and tighten it.

10. Center the cable reel by first rotating it clockwise until it stops. Then rotate it counterclockwise (approximately two turns) until the arrow mark on the label points straight up.  
Reinstall the steering wheel (see page 17-21).

11. Install the steering joint cover with the clamps and clips.



12. Install the toe stop.



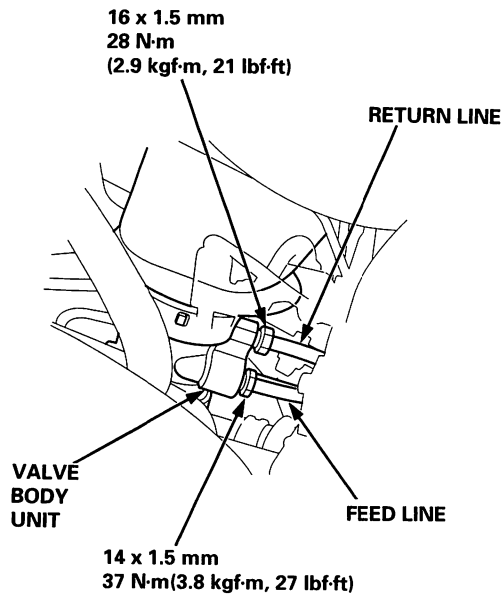
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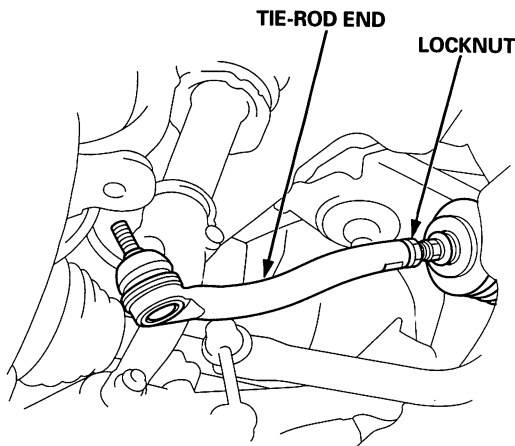
# Power Steering Gearbox

## Installation (cont'd)

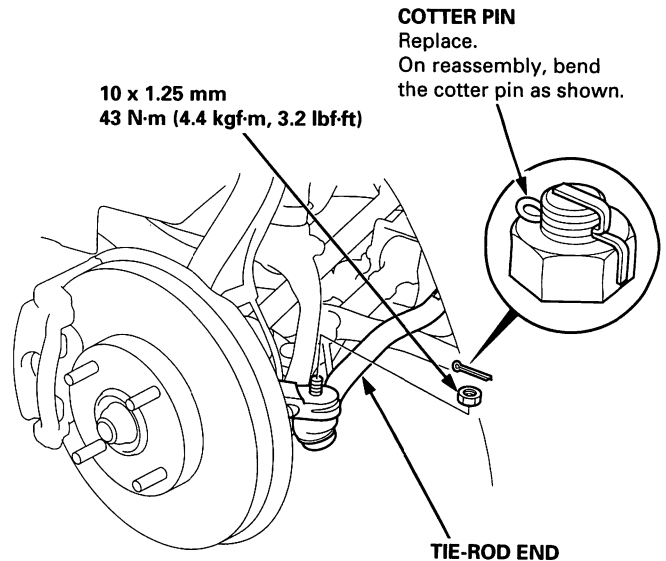
13. Connect the return line and feed line to the valve body unit. After connecting the fluid lines, make sure that there is no interference between the lines and other parts.



14. Thread the right and left tie-rod ends and locknut onto the rack an equal number of turns.



15. Wipe off any grease contamination from the ball joint tapered section and threads then reconnect tie-rod ends to the steering knuckles. Install the 10 mm nut and tighten it.

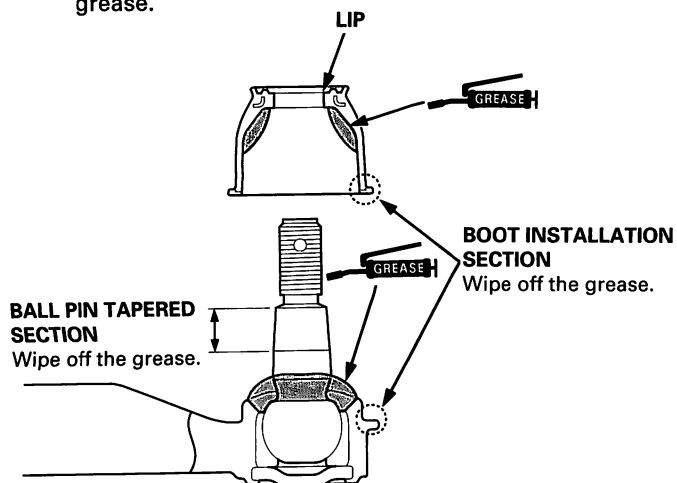


16. Install the new cotter pin and bend it as shown.
17. Connect the shift linkage from the transmission (M/T: see section 13, A/T: see section 14).
18. Install the three way catalytic converter and the mounting bracket B (see section 9).
19. Install the front wheels.
20. Fill the system with power steering fluid, and bleed air from the system (see page 17-17).
21. After installation, perform the following checks.
- Start the engine, allow it to idle, and turn the steering wheel from lock-to-lock several times to warm up the fluid. Check the gearbox for leaks (see page 17-26).
  - Adjust the front toe (see section 18).
  - Check the steering wheel spoke angle. Adjust by turning the right and left tie-rods equally, if necessary.



## Ball Joint Boot Replacement

1. Remove the boot from the tie-rod end, and wipe the old grease off the ball pin.
2. Pack the lower area of the ball pin with fresh grease.

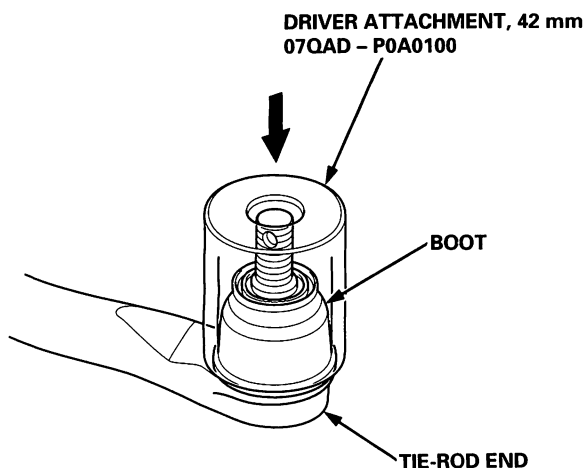


3. Pack the interior of the new boot and lip with fresh grease.

Note these items when installing new grease:

- Keep grease off the boot installation section and the tapered section of the ball pin.
- Do not allow dust, dirt, or other foreign materials to enter the boot.

4. Install the new boot using the special tool. The boot must not have a gap at the boot installation sections. After installing the boot, check the ball pin tapered section for grease contamination, and wipe it if necessary.



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# Front and Rear Suspension

## Special Tools

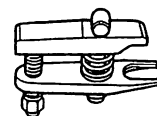
Ref. No.	Tool Number	Description	Qty	Remark
①	07GAF – SE00100	Hub Dis/Assembly Tool	1	
②	07GAG – SD40700	Ball Joint Boot Clip Guide	1	
③	07MAC – SL00200	Ball Joint Remover, 28 mm	1	
④	07MGK – 0010100	Wheel Alignment Gauge Attachment	1	
⑤	07965 – SA00600	Bearing Driver Attachment	1	
⑥	07749 – 0010000	Driver	1	
⑦	07947 – 6340201	Attachment, 58 x 72 mm	1	
⑧	07965 – SD90100	Support Base	1	



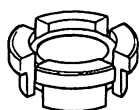
①



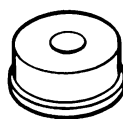
②



③



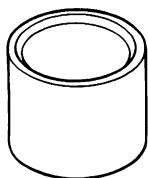
④



⑤ ⑦



⑥



⑧



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#### UPPER ARM

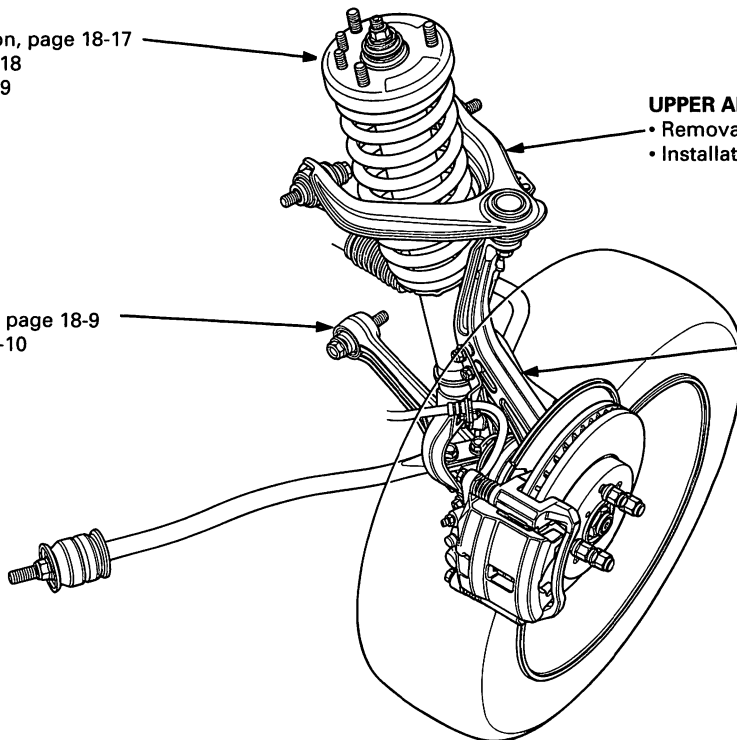
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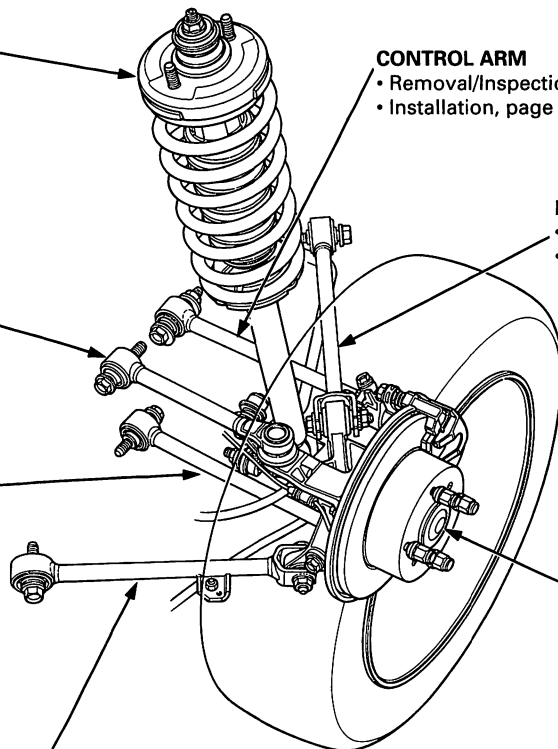
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#### TRAILING ARM

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# Wheel Alignment

## Service Information

NOTE: For proper inspection/adjustment of the wheel alignment, check and adjust the following before checking the alignment.

- Check that the suspension is not modified.
- Check the tire size and tire pressure.
- Check the runout of the wheels and tires.
- Check the suspension ball joints. (Hold the wheel with your hands, then move it up and down, and right and left to check for wobbling.)

## Wheel alignment adjustment procedure

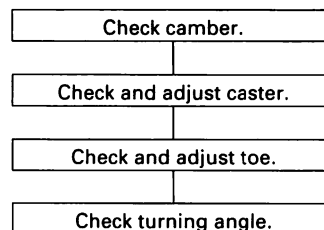
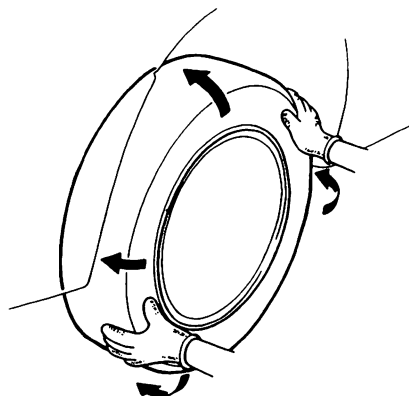
Each of the wheel alignment elements relates to the other. Therefore, the total adjustment of the front/rear wheel alignment is required whenever either one of elements (camber, caster, toe, and/or turning angle) is adjusted.

## Special Tool Information

Wheel alignment gauge attachment:

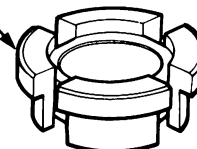
NOTE:

- As the wheel alignment gauge attachment can be installed by magnetic force of camber/caster gauge, make sure the wheel hubs are clean and rust-free before installing the wheel alignment gauge attachment.
- When installing the special tool, align the special tool groove and mating surface groove of the camber/caster gauge, to make the most of the magnetic force of the camber/caster gauge.
- For accurate readings, measure the wheel alignment at the vehicle must be level.



If any of the above needed adjustment, recheck all.

WHEEL ALIGNMENT  
GAUGE ATTACHMENT  
07MGK - 0010100





## Camber

### Inspection

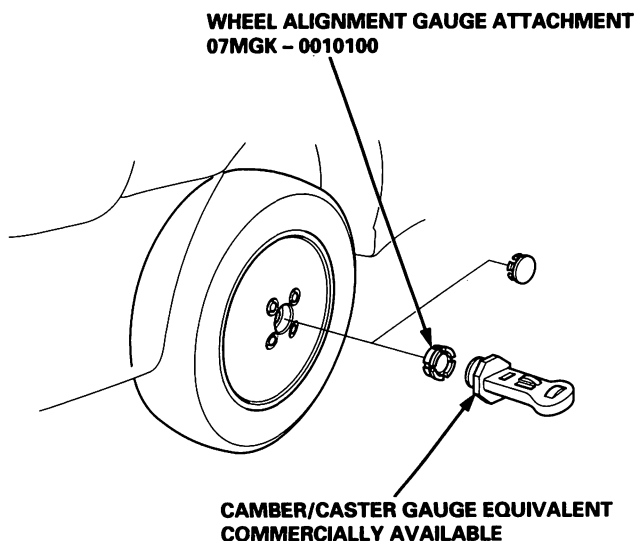
1. Remove the wheel.
2. On the aluminum wheels, remove the center cap from the inside of the wheel.
3. Remove the hub cap from the rear wheel hub (see page 18-30).
4. Install the wheel.
5. Install the wheel alignment gauge attachment and camber/caster gauge on the wheel hub.
6. Turn the front wheels to the straight ahead position.
7. Read the camber on the gauge with the bubble at the center of the gauge.

#### Camber angle:

**Front:**  $-0^{\circ}15' \pm 1^{\circ}$  (H22A7 engine model)  
 $0^{\circ}00' \pm 1^{\circ}$  (Except H22A7 engine model)  
 $0^{\circ}10' \pm 1^{\circ}$  (KY model)

**Rear:**  $-1^{\circ}15' \pm 30'$  (H22A7 engine model)  
 $-1^{\circ}00' \pm 30'$  (Except H22A7 engine model)  
 $-0^{\circ}50' \pm 30'$  (KY model)

8. If out of specification, check for bent or damaged suspension components.



## Caster

### Inspection

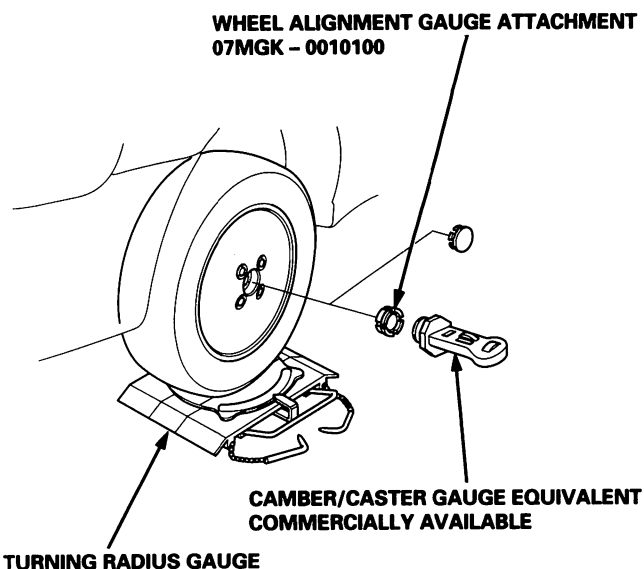
1. Remove the wheel.
2. On the aluminum wheels, remove the center cap from the inside of the wheel.
3. Install the wheel.
4. Raise the car and set the turning radius gauges beneath the front wheels, and place boards under the rear wheels the same thickness as one of the turning radius gauges, then lower the vehicle.

**NOTE:** Be sure that the car is parallel to the ground with the wheels on the turning radius gauges and boards.

5. Install the wheel alignment gauge attachment and camber/caster gauge on the wheel hub, and apply the front brake.
6. Turn the front wheel  $20^{\circ}$  outward, then turn the adjust screw so that the bubble in the camber/caster gauge is at  $0^{\circ}$ .
7. Turn the wheel  $20^{\circ}$  inward and read the caster on the gauge with the bubble at the center of the gauge.

**Caster angle:**  $3^{\circ}00' \pm 1^{\circ}$  (H22A7 engine model)  
 $2^{\circ}50' \pm 1^{\circ}$  (Except H22A7 engine model)  
 $2^{\circ}45' \pm 1^{\circ}$  (KY model)

8. If out of specification, record the caster reading, then adjust the caster.



# Wheel Alignment

## Caster

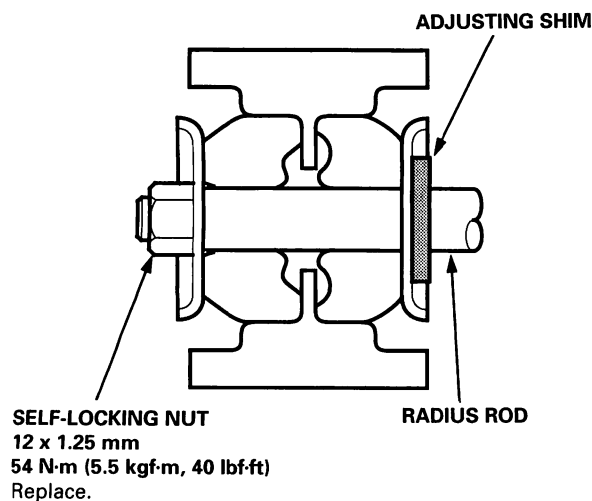
### Adjustment

NOTE: Caster angle can be adjusted by increasing or decreasing or decreasing the number of the adjusting shims. Remove and install the radius rod each time the caster angle is adjusted.

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see section 1).
2. Remove the self-locking nut on the end of the radius rod.
3. Remove the flange bolts at the radius rod on the lower arm, then remove the radius rod (see page 18-9).
4. Adjust the caster angle by increasing or decreasing the adjusting shims.

#### NOTE:

- Do not use more than two adjusting shims.
- One adjusting shim changes the caster angle by 35' and the caster angle can be adjusted by 1°10' maximum.
- One adjusting shim is 3.2 mm (0.13 in) in thickness.



5. After the adjustment, install the radius rod onto the lower arm, then tighten the flange bolts (see page 18-10).
6. Tighten the new self-locking nut to specified torque.

## Front Toe Inspection/Adjustment

### Inspection

1. Center steering wheel spokes.

NOTE: Measure difference in toe measurements with the wheels pointed straight ahead.

2. Check the front toe.

**Front toe:  $0 \pm 2$  mm ( $0 \pm 0.08$  in)**

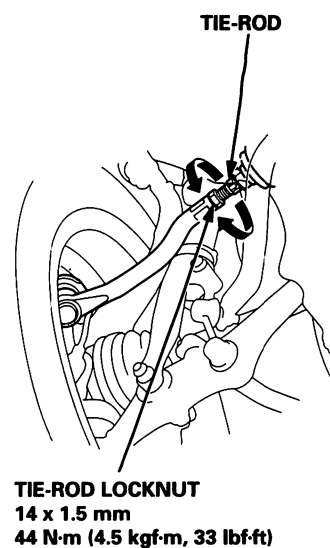
— If adjustment is required, go on to step 3.

— If no adjustment is required, remove alignment equipment.

### Adjustment

3. Loosen the tie-rod locknuts, then turn both tie-rods in the same direction until the front wheels are in straight ahead position.
4. Turn both tie-rods equally until the toe reading on the turning radius gauge is correct.
5. After adjusting, tighten the tie-rod locknuts.

NOTE: Reposition the tie-rod boot if it is twisted or displaced.







## Rear Toe Inspection/Adjustment

### Inspection

1. Release parking brake.

**NOTE:** If the parking brake is engaged, you may get an incorrect reading.

2. Check the rear toe.

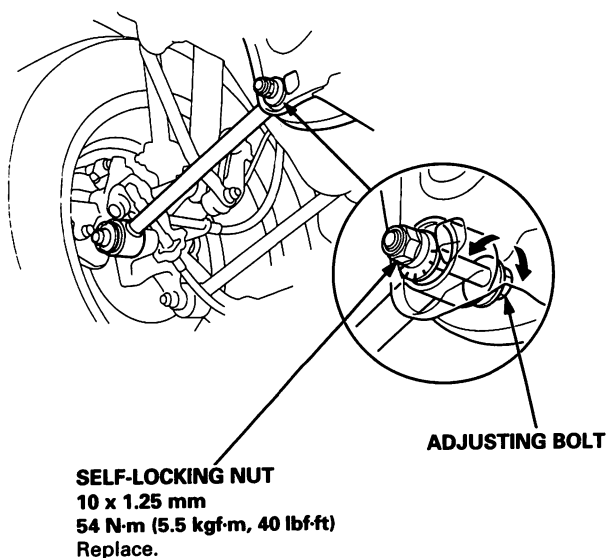
**Rear toe-in:  $2 \pm 2$  mm ( $0.08 \pm 0.08$  in)**

— If adjustment is required, go on to step 3.

— If no adjustment is required, remove alignment equipment.

### Adjustment

3. Hold the adjusting bolt on the rear control arm and loosen the self-locking nut.
4. Adjust the rear toe by turning the adjusting bolt until toe is correct.
5. Install the self-locking nut, and tighten it while holding the adjusting bolt.



## Turning Angle Inspection

1. Jack up the front of the car. Set the turning radius gauges beneath the front wheels, then lower the vehicle.
2. Jack up the rear of the car. Place boards that are the same thickness as the turning radius gauges under the rear wheels, then lower the vehicle.

**NOTE:** For accurate readings, the car must be level.

3. Turn the wheel right and left while applying the brake, and measure the turning angle of both wheels.

### Turning angle:

**Inward wheel:  $36^{\circ}06' \pm 2^{\circ}$  (H22A7 engine model)**

**$39^{\circ}10' \pm 2^{\circ}$  (Except H22A7 engine model)**

**$39^{\circ}27' \pm 2^{\circ}$  (KY model)**

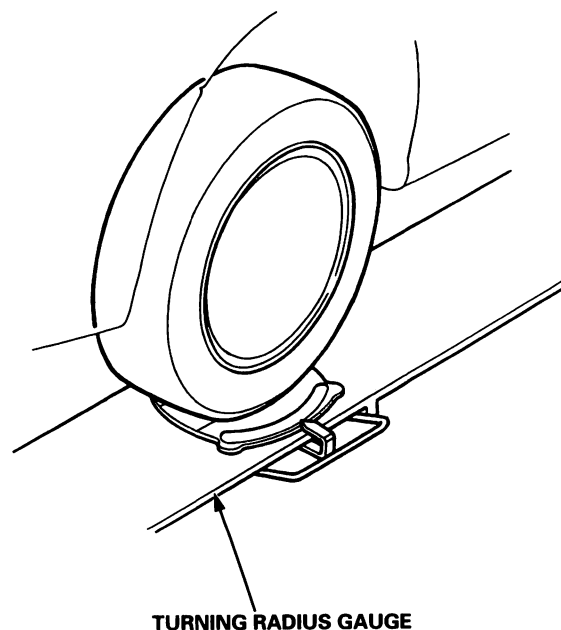
### Outward wheel (reference):

**$29^{\circ}12'$  (H22A7 engine model)**

**$30^{\circ}58'$  (Except H22A7 engine model)**

**$31^{\circ}14'$  (KY model)**

4. If the turning angle is not within the specifications, check for bent or damaged suspension components.



# Wheel/Hub Inspection

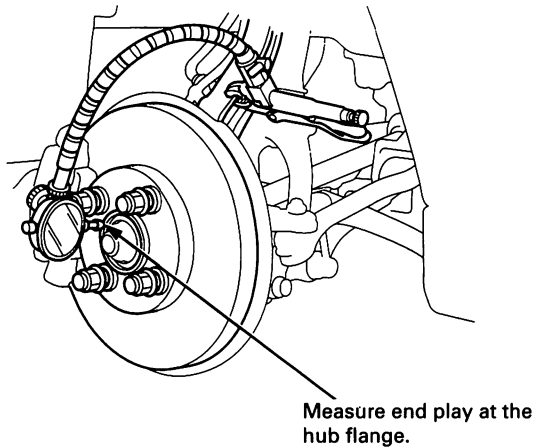
## Bearing End Play

1. Raise the car off the ground, and support it with safety stands in the proper locations (see section 1).
2. Remove the wheels, then reinstall the wheel nuts.
3. Attach the dial gauge as shown.
4. Measure the bearing end play by moving the disc in or outward.

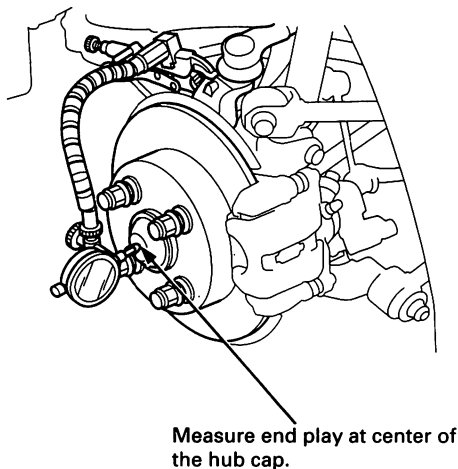
**Front/Rear:**

**Standard:** 0 – 0.05 mm (0 – 0.002 in)

**Front:**



**Rear:**



5. If the bearing end play measurement is more than the standard, replace the wheel bearing.

## Wheel Runout

1. Raise the car off the ground, and support it with safety stands in the proper locations (see section 1).
2. Check for bent or deformed wheels.
3. Attach the dial gauge as shown.
4. Measure the wheel runout by turning the wheel.

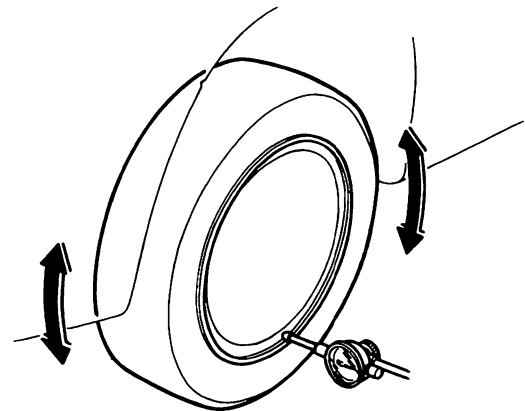
**Front and Rear Wheel Axial Runout:**

**Standard:**

**Steel Wheel:** 0 – 1.0 mm (0 – 0.04 in)

**Aluminum Wheel:** 0 – 0.7 mm (0 – 0.03 in)

**Service Limit:** 2.0 mm (0.08 in)



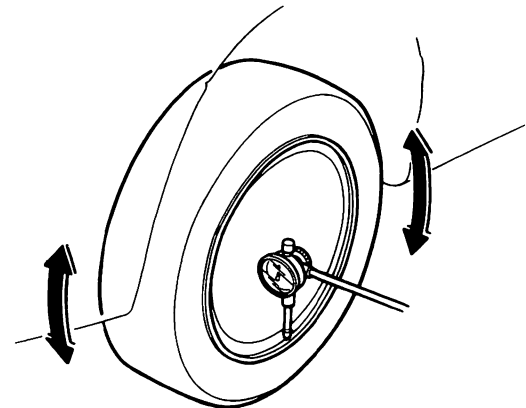
**Front and Rear Wheel Radial Runout:**

**Standard:**

**Steel Wheel:** 0 – 1.0 mm (0 – 0.04 in)

**Aluminum Wheel:** 0 – 0.7 mm (0 – 0.03 in)

**Service Limit:** 1.5 mm (0.06 in)



5. If the wheel runout is more than the service limit, replace the wheel.

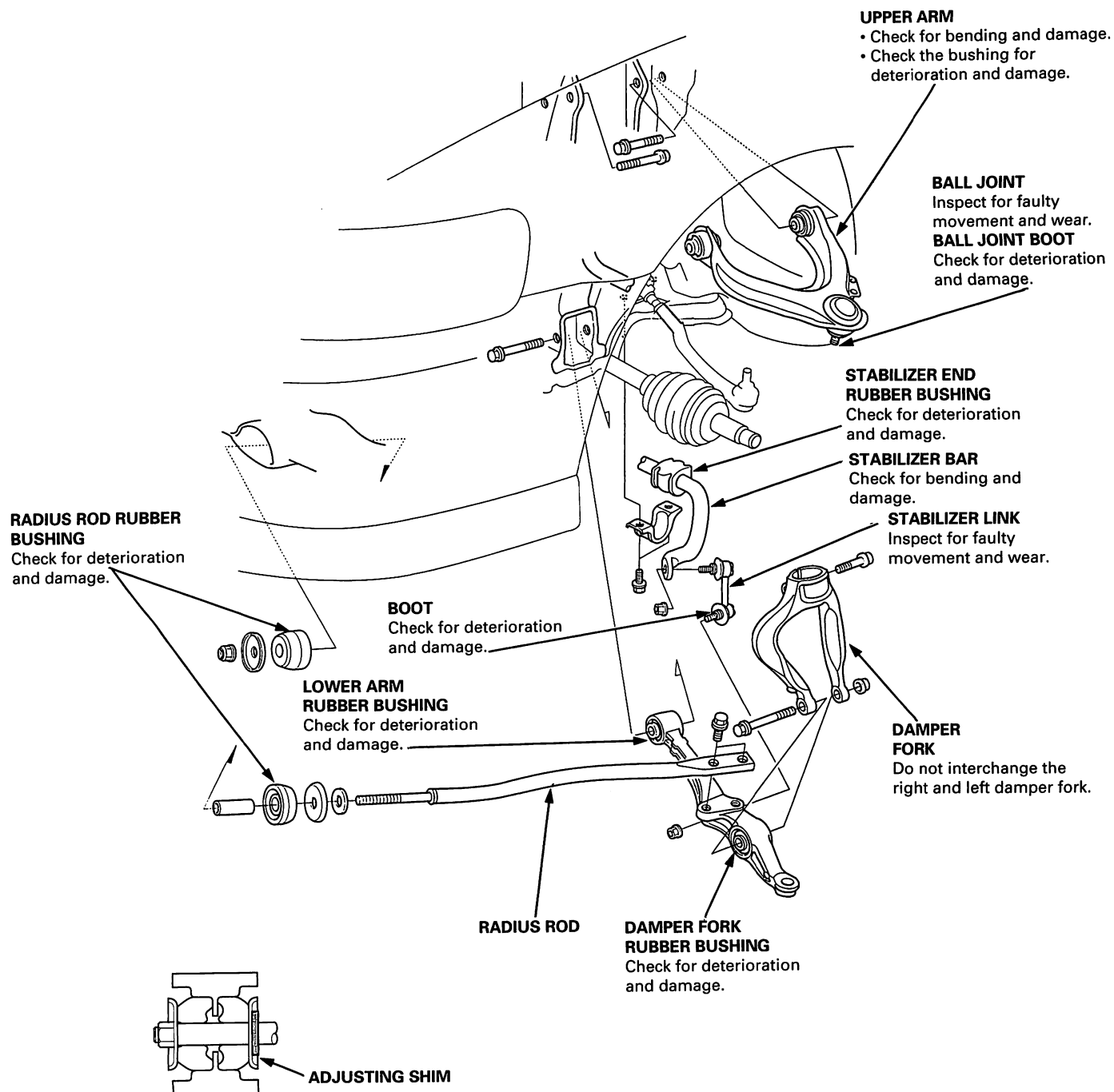
# Front Suspension



## Suspension Arms Removal/Inspection

### CAUTION:

- Replace the self-locking nuts after removal.
- Be careful not to damage the ball joint boot.
- The front damper must be removed before you remove the front upper arm.



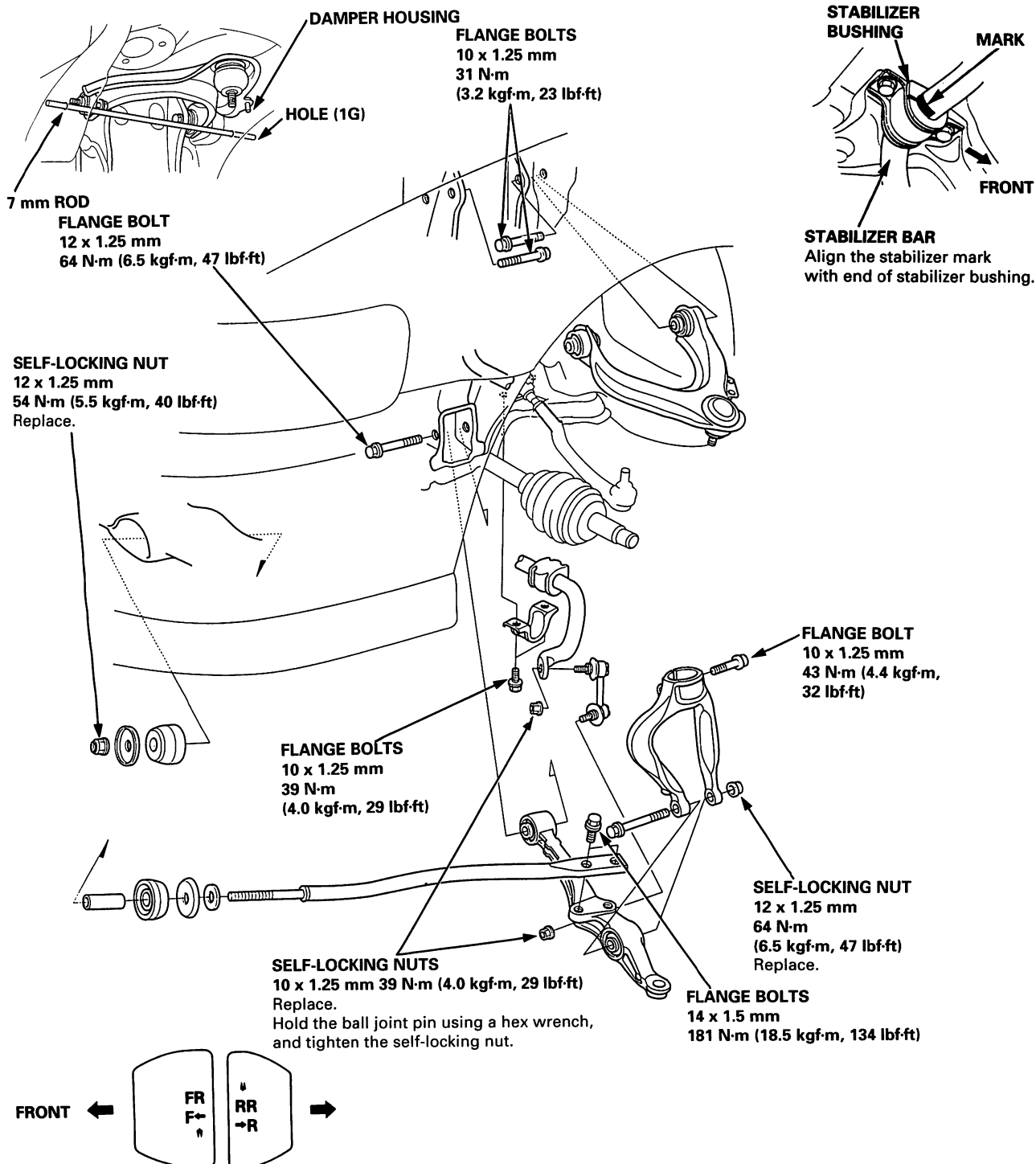
NOTE: Adjust the caster angle by increasing/decreasing the adjusting shims (page 18-4).

# Front Suspension

## Suspension Arms Installation

### NOTE:

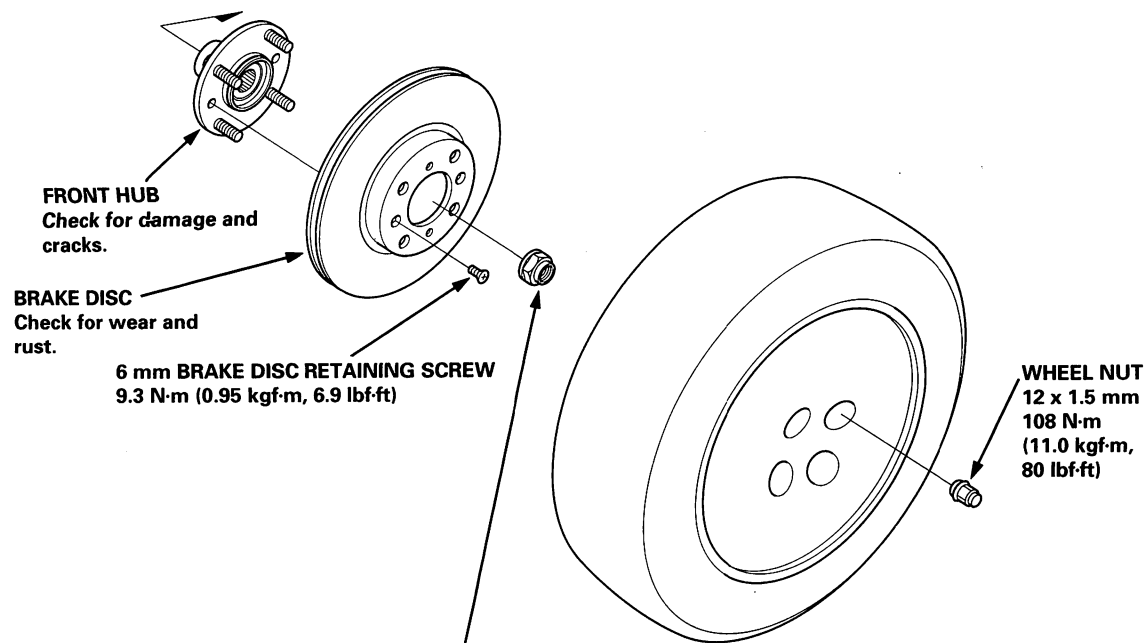
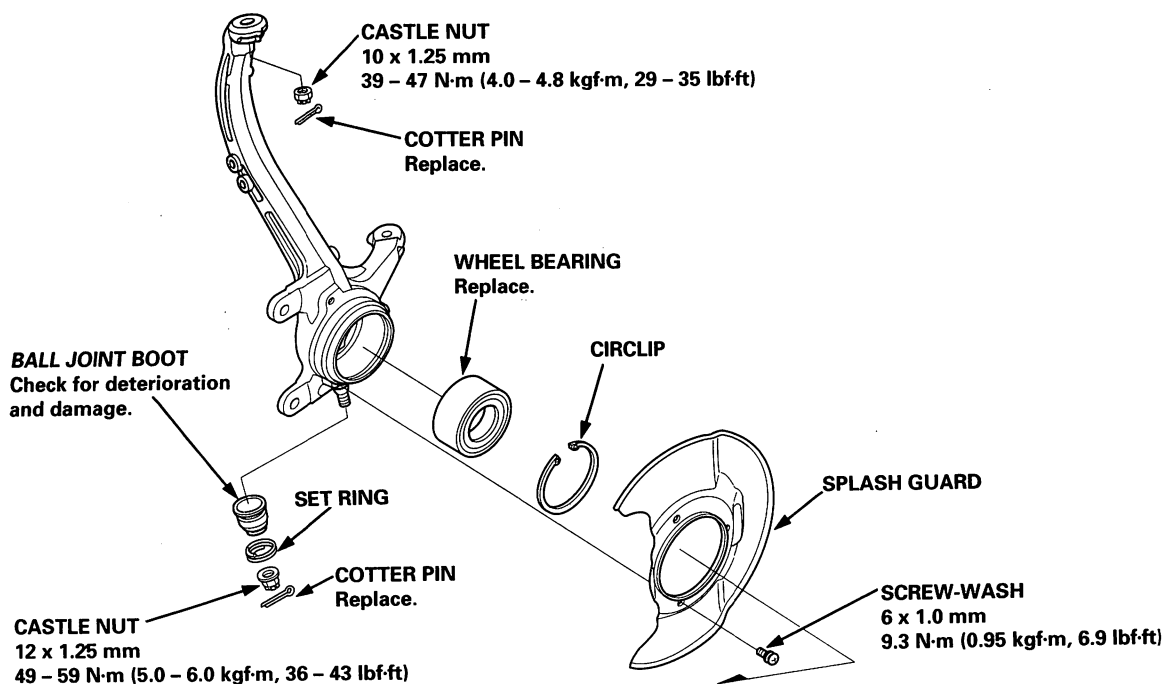
- Wipe off the dirt, oil or grease on the threads before tightening the fasteners.
- After installing the suspension arm, check the front wheel alignment, and adjust if necessary (see page 18-4).
- The upper arm cannot be tightened to the body under the weight of the vehicle. Before tightening, insert a rod (7 mm in dia) through the holes in the damper housing and place the upper arm on the rod so the upper arm can be torqued to the body under the weight of the vehicle.



**CAUTION:** Do not interchange the radius rod rubber bushings.



## Knuckle/Hub Replacement



**SPINDLE NUT**  
With H22A7 engine model  
24 x 1.5 mm  
245 N·m (25.0 Kgf·m, 181 lbf·ft)  
Replace.

**SPINDLE NUT**  
Without H22A7 engine model  
22 x 1.5 mm  
181 N·m (19.5 Kgf·m, 141 lbf·ft)  
Replace.

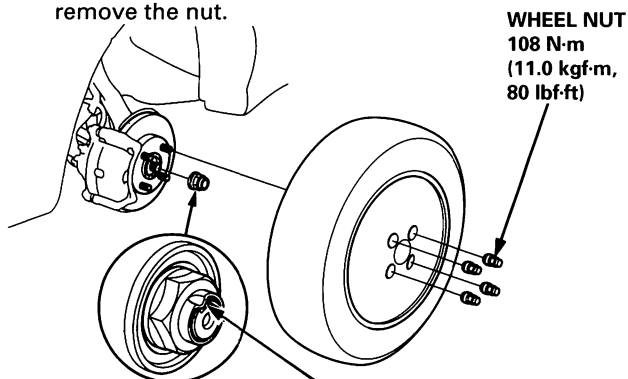
- Before installing the spindle nut, apply engine oil to the seating surface of the nut.
- After tightening, use a drift to stake the spindle nut shoulder against the spindle.

(cont'd)

# Front Suspension

## Knuckle/Hub Replacement (cont'd)

1. Loosen the wheel nuts slightly.
2. Raise the front of vehicle and make sure it is securely supported.
3. Remove the wheel nuts and front wheel.
4. Raise the locking tab on the spindle nut, then remove the nut.



5. Remove the brake hose mounting bolts.

### Brake Hose Mounting Bolts

6 x 1.0 mm  
9.3 N-m  
(0.95 kgf-m,  
6.9 lbf-ft)

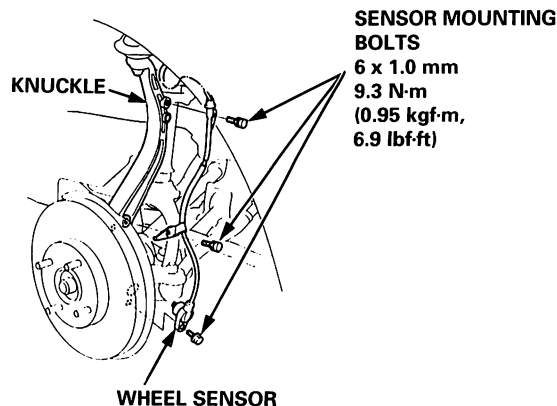
### Caliper Mounting Bolts

12 x 1.25 mm  
108 N-m  
(11.0 kgf-m, 80 lbf-ft)

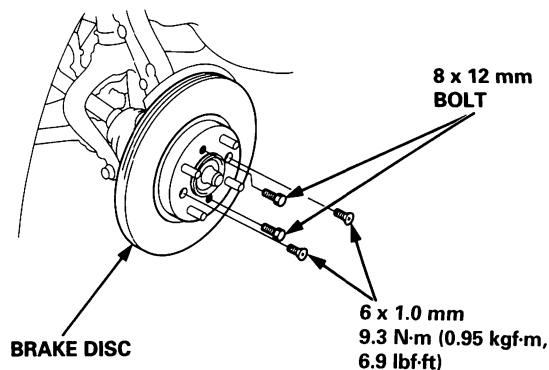
6. Remove the caliper mounting bolts and hang the caliper assembly to one side.  
To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper from the undercarriage.

**CAUTION:** To prevent accidental damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper from the undercarriage.

7. Remove the wheel sensor from the knuckle (for vehicles with ABS). Do not disconnect the wheel sensor connector.



8. Remove the 6 mm brake disc retaining screws.

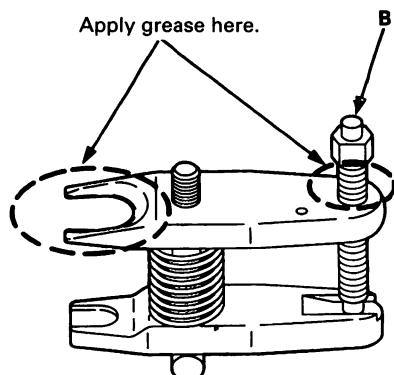


9. Screw two 8 x 1.25 mm bolts into the disc to push it away from the hub. Turn each bolt two turns at a time to prevent cocking the disc excessively.
10. Remove the brake disc from the knuckle.
11. Check the front hub for damage and cracks.
12. Clean any dirt or grease off the ball joint.
13. Remove the cotter pin from the ball joint nut, and remove the nut.



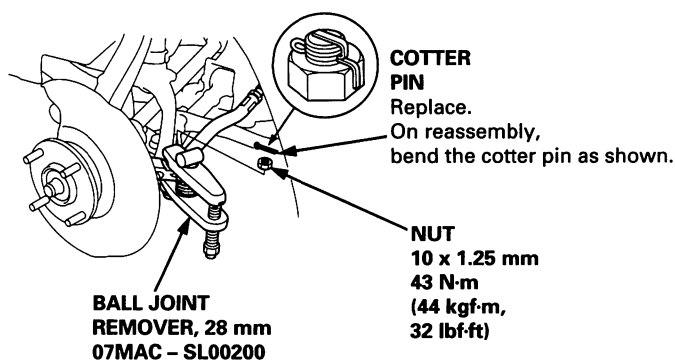
14. Install a hex nut on the threads of the ball joint. Be sure that the nut is flush with the ball joint pin end to prevent damage to the threaded end of the ball joint.

15. Apply grease to the special tool on the areas shown. This will ease installation of the tool and prevent damage to the pressure bolt threads.

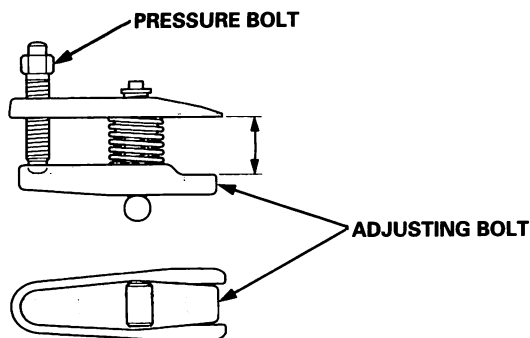


16. Install the special tool as shown. Insert the jaws carefully, making sure you do not damage the ball joint boot. Adjust the jaw spacing by turning the pressure bolt.

NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.



17. Once the special tool is in place, turn the adjusting bolt as necessary to make the jaws parallel. Then hand-tighten the pressure bolt, and recheck the jaws to make sure they are still parallel.

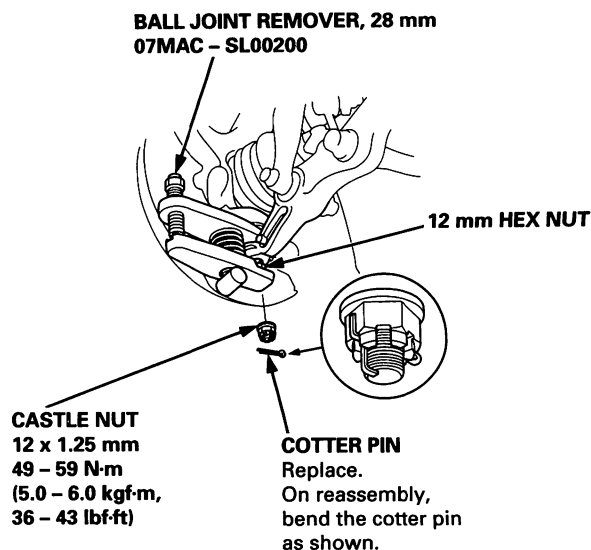


NOTE: After making the adjustment to the adjusting bolt, be sure the head of the adjusting bolt is in this position to allow the jaw to pivot.

18. With a wrench, tighten the pressure bolt until the ball joint shaft pops loose from the steering arm.

**WARNING** Wear eye protection. The ball joint can break loose suddenly and scatter dirt or other debris in your eyes.

19. Remove the tool, then remove the nut from the end of the ball joint and pull the ball joint out of the steering/suspension arm. Inspect the ball joint boot and replace it if damaged.
20. Remove the cotter pin from the lower arm ball joint castle nut, and remove the nut.



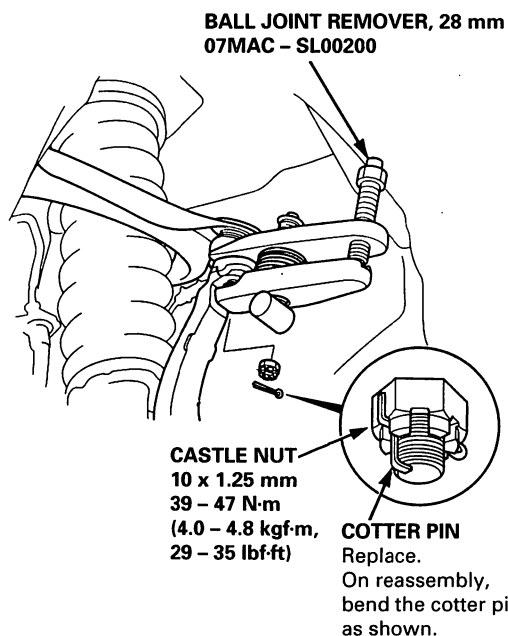
21. Remove the lower ball joint from the knuckle using the special tool.

(cont'd)

# Front Suspension

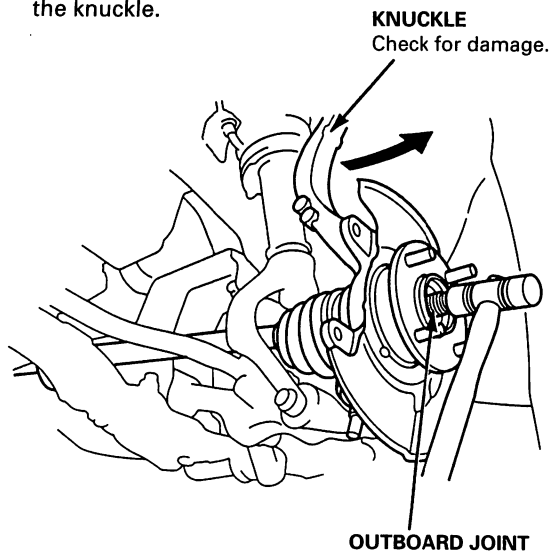
## Knuckle/Hub Replacement (cont'd)

22. Remove the cotter pin from the upper ball joint castle nut and remove the nut.

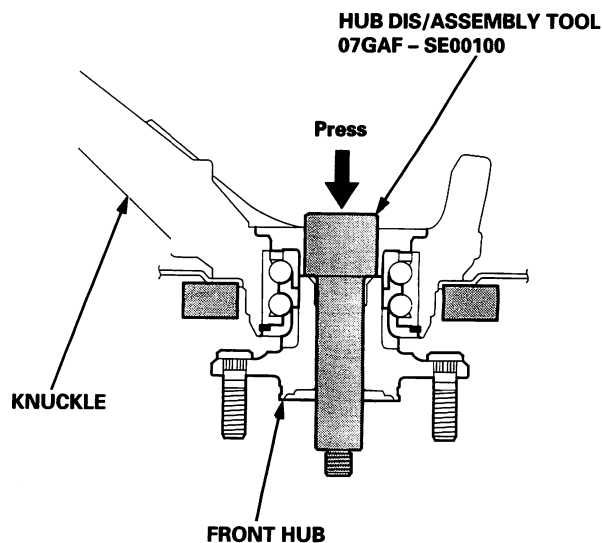


23. Remove the upper ball joint from the knuckle using the special tool.

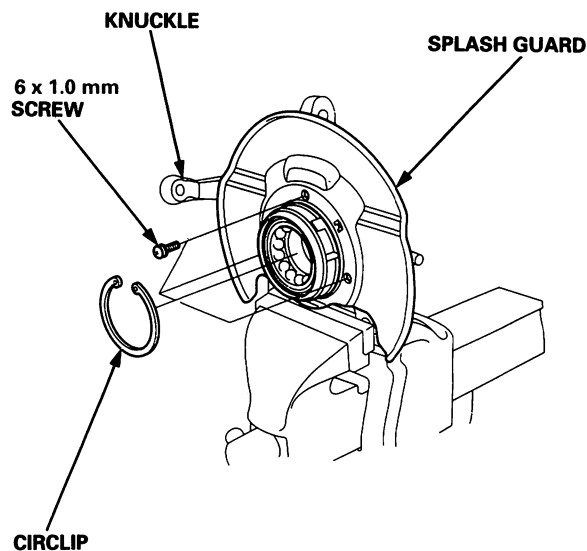
24. Pull the knuckle outward, and remove the driveshaft outboard joint from the knuckle by tapping the driveshaft end with a plastic hammer, then remove the knuckle.



25. Separate the hub from the knuckle using the special tool and a hydraulic press. Take care not to distort the splash guard. Hold onto the hub to keep it from falling when pressed clear.



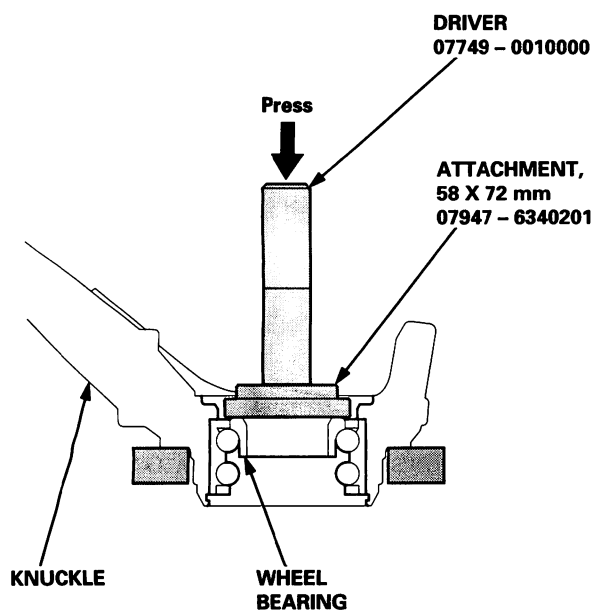
26. Remove the circlip and the splash guard from the knuckle.



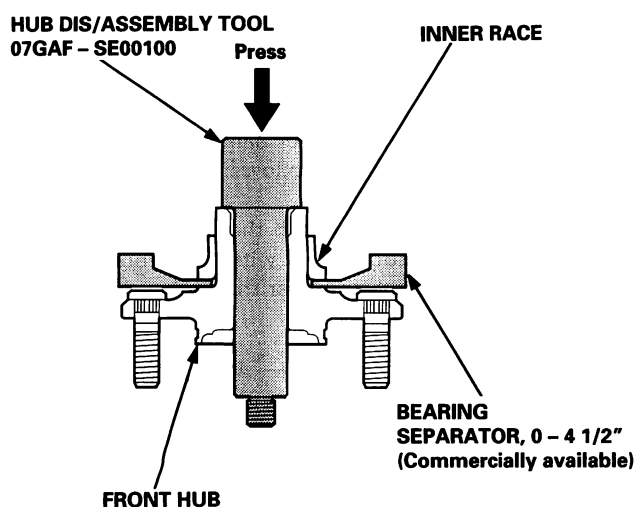




27. Press the wheel bearing out of the knuckle using the special tools and a press.

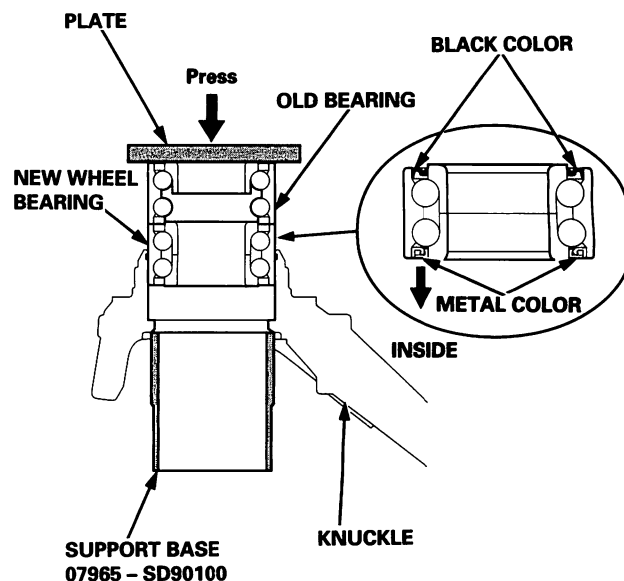


28. Press the wheel bearing inner race from the hub using the special tool, a commercially available bearing separator, and a press



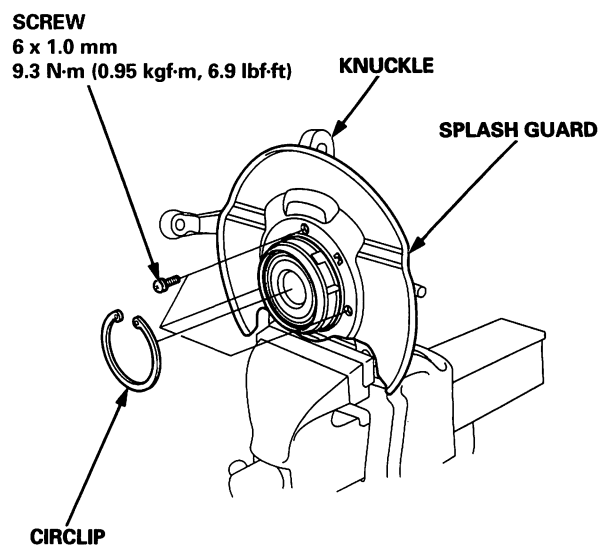
29. Wash the knuckle and hub thoroughly in high flash point solvent before reassembly.

30. Press a new wheel bearing into the knuckle using the old bearing, a steel plate, the special tool and a press. Place the wheel bearing on the knuckle with the pack seal side facing (metal color) toward the inside. Be careful not to damage the sleeve of the pack seal.



31. Install the circlip securely in the knuckle.

32. Install the splash guard, and tighten the screws.

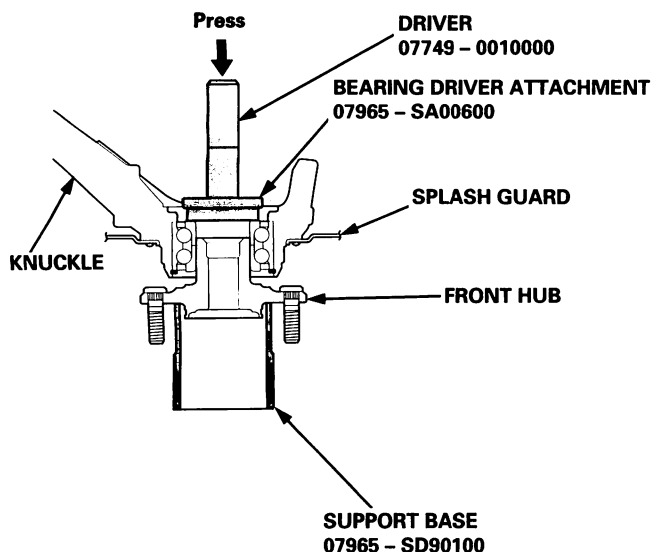


(cont'd)

# Front Suspension

## Knuckle/Hub Replacement (cont'd)

33. Install the hub on the knuckle using the special tools shown and a hydraulic press. Be careful not to distort the splash guard.



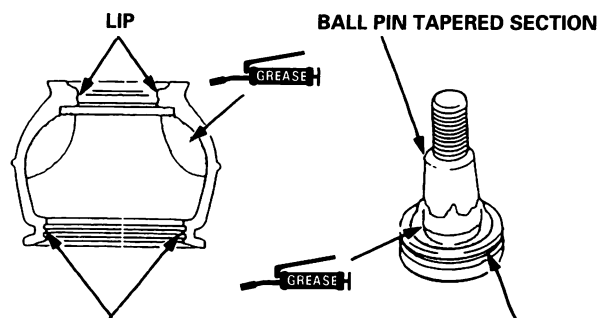
34. Install the knuckle in the reverse order of removal, and pay particular attention to the following items.
- Be careful not to damage the ball joint boots when installing the knuckle.
  - Torque all mounting hardware to the specified torque values.
  - Torque the castle nuts to the lower torque specifications, then tighten them only far enough to align the slot with the pin hole. Do not align the castle nut by loosening.
  - Install new cotter pins on the castle nuts after torquing.
  - Avoid twisting the sensor wires when installing the wheel sensor.
  - Before installing the brake disc, clean the mating surface of the front hub and the inside of the brake disc.
  - Before installing the spindle nut, apply a small amount of motor oil to the seating surface of the nut. After tightening, use a drift to stake the spindle nut shoulder against the driveshaft.
  - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.
  - Check the front wheel alignment, and adjust it if necessary (see page 18-4).

## Ball Joint Boot Replacement

1. Remove the set ring and the boot.

**CAUTION:** Do not contaminate the boot installation section with grease.

2. Pack the interior of the boot and lip with grease.



**BOOT INSTALLATION SECTION** Wipe off the grease.  
**BOOT INSTALLATION SECTION** Wipe off the grease.

3. Wipe the grease off the sliding surface of the ball pin and pack with fresh grease.

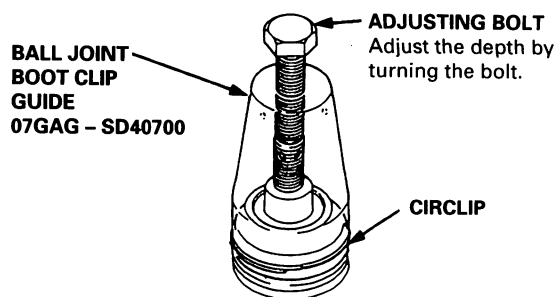
**CAUTION:**

- Keep grease off the boot installation section and the tapered section of the ball pin.
- Do not allow dust, dirt, or other foreign materials to enter the boot.

4. Install the boot in the groove of the boot installation section securely, then bleed air.

5. Install the upper and lower ball joint boot set rings using the special tool as follows:

Adjust the special tool with the adjusting bolt until the end of the tool aligns with the groove on the boot. Slide the set ring over the tool and into position.



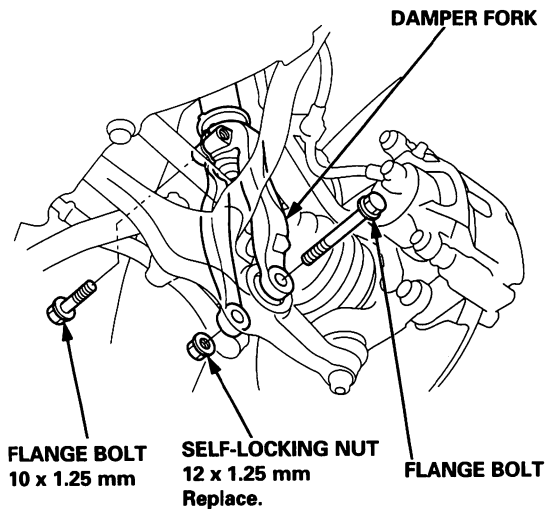
**CAUTION:** After installing the boot, check the ball pin tapered section for grease contamination and wipe it if necessary.

# Front Damper

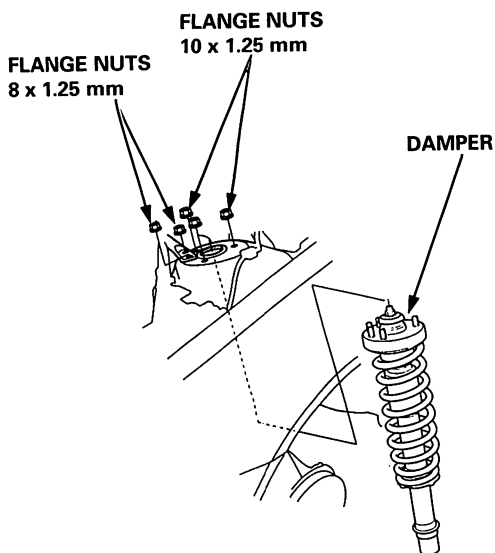


## Removal

1. Raise the front of the vehicle and make sure it is securely supported.  
Remove the front wheel.
2. Remove the damper fork.
  - 1. Remove the damper pinch bolt.
  - 2. Remove the lower bolt and self-locking nut from the damper fork.
  - 3. Remove the damper fork from the damper.



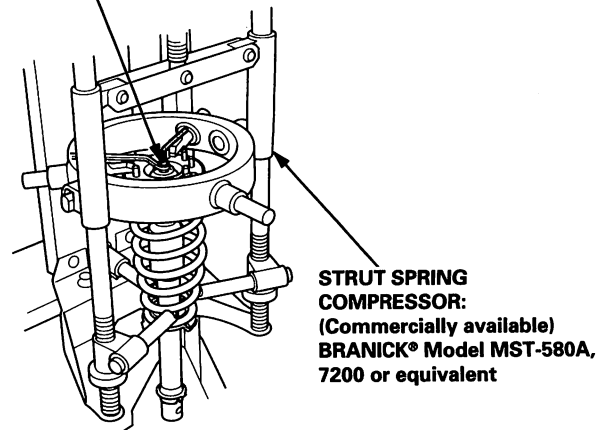
3. Remove the damper by removing the five flange nuts.



## Disassembly/Inspection

1. Compress the damper spring with the commercially available strut spring compressor according to the manufacturer's instructions, then remove the self-locking nut. Do not compress the spring more than necessary to ret move the nut.

**SELF-LOCKING NUT**  
10 x 1.25 mm  
Replace.

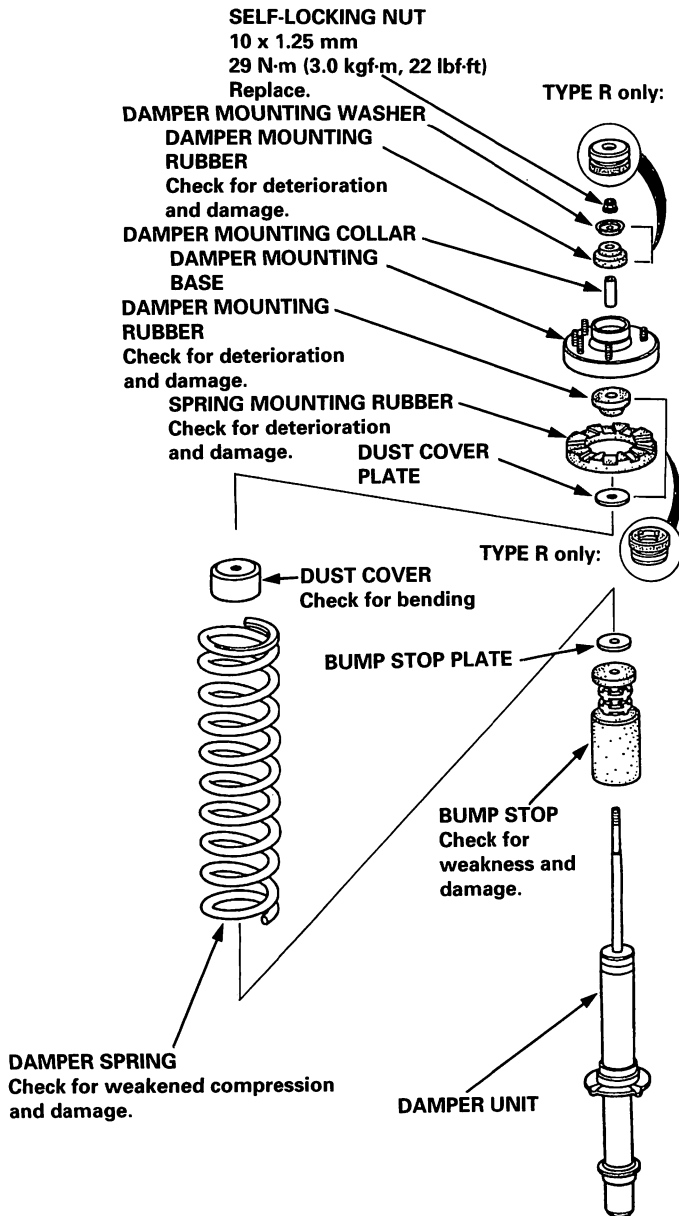


2. Release the pressure from the strut spring compressor, then disassemble the damper as shown in the next page.
3. Reassemble all parts, except the spring.
4. Compress the damper assembly by hand and check for smooth operation through a full stroke, both compression and extension the damper should move smoothly. If it does not (no compression or no extension), the gas is leaking, and the damper should be replaced.
5. Check for oil leaks, abnormal noises or binding during these tests.

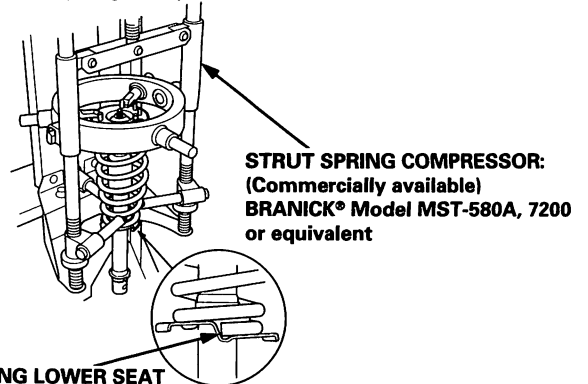
# Front Damper

## Reassembly

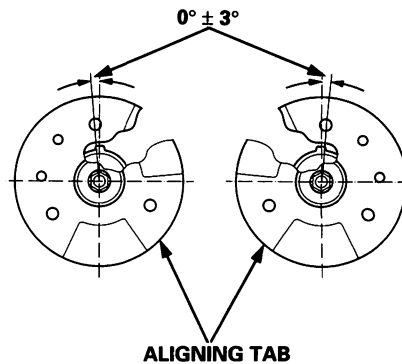
The damper springs are different left and right. Be sure to mark the springs R and L before disassembling the dampers.



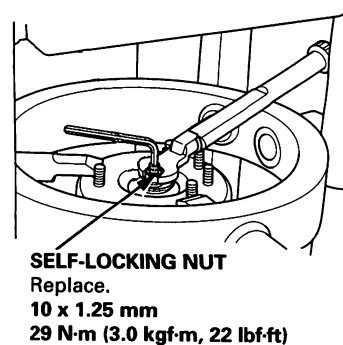
1. Install the damper unit on a commercially available strut spring compressor.



2. Assemble the damper in reverse order of removal except for the damper mounting washer and self-locking nut. Align the bottom of damper spring and spring lower seat.
3. Position the damper mounting base on the damper unit.



4. Compress the damper spring with the spring compressor.
5. Install the damper mounting rubber, damper mounting washer and a new 10 mm self-locking nut.

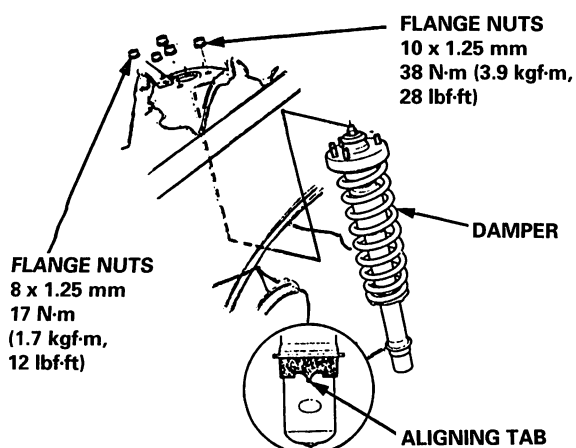


6. Hold the damper shaft, and tighten the 10 mm self-locking nut.

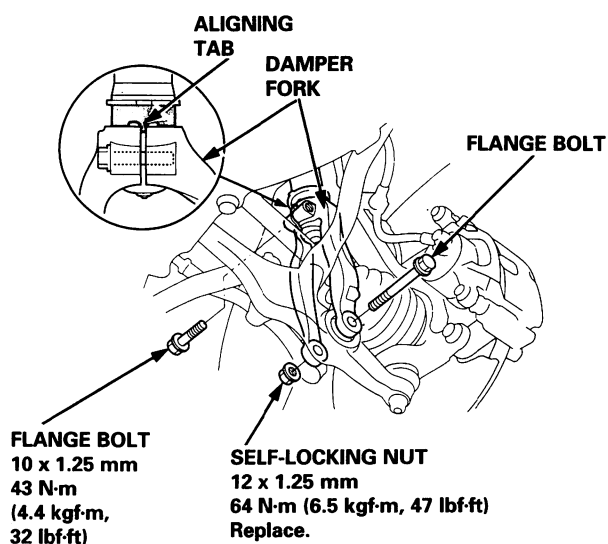


## Installation

1. Loosely install the damper on the frame with the aligning tab facing inside, then loosely install the five flange nuts.



2. Install the damper fork over the driveshaft and onto the lower arm. Install the front damper in the damper fork so the aligning tab is aligned with the slot in the damper fork.



3. Loosely install the damper pinch bolt into the damper fork.
4. Loosely install a new self-locking nut with the flange bolt.
5. Raise the knuckle with a floor jack until the vehicle just lifts off the safety stand.
6. Tighten damper pinch bolt.
7. Tighten the flange bolt and the self-locking nut.
8. Tighten the flange nuts on the top of the damper to the specified torque.
9. Install the front wheel (see page 18-13).

# Rear Suspension

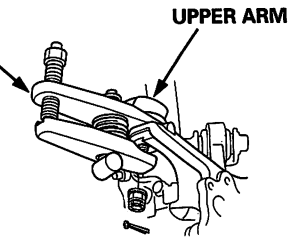
## Suspension Arms

### Removal/Inspection

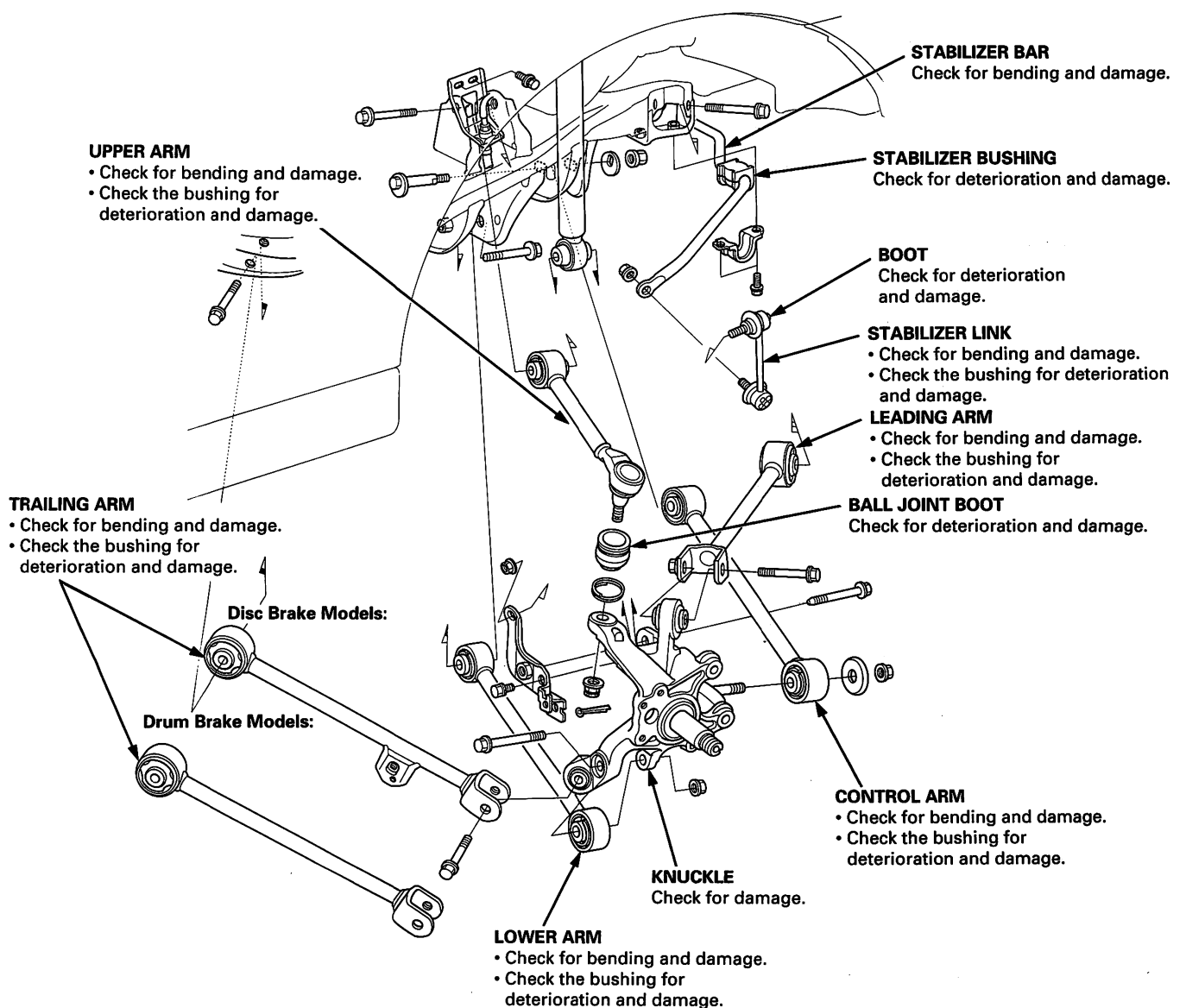
#### CAUTION:

- Replace the self-locking nuts after removal.
- Be careful not to damage the ball joint boot.

**BALL JOINT REMOVER, 28 mm**  
07MAC - SL00200  
See page 18-13 for how to  
use the ball joint remover.



**UPPER ARM**



**STABILIZER BAR**  
Check for bending and damage.

**STABILIZER BUSHING**  
Check for deterioration and damage.

**BOOT**  
Check for deterioration  
and damage.

**STABILIZER LINK**  
• Check for bending and damage.  
• Check the bushing for deterioration  
and damage.

**LEADING ARM**  
• Check for bending and damage.  
• Check the bushing for  
deterioration and damage.

**BALL JOINT BOOT**  
Check for deterioration and damage.

**CONTROL ARM**  
• Check for bending and damage.  
• Check the bushing for  
deterioration and damage.

**KNUCKLE**  
Check for damage.

**LOWER ARM**  
• Check for bending and damage.  
• Check the bushing for  
deterioration and damage.

**Disc Brake Models:**

**Drum Brake Models:**



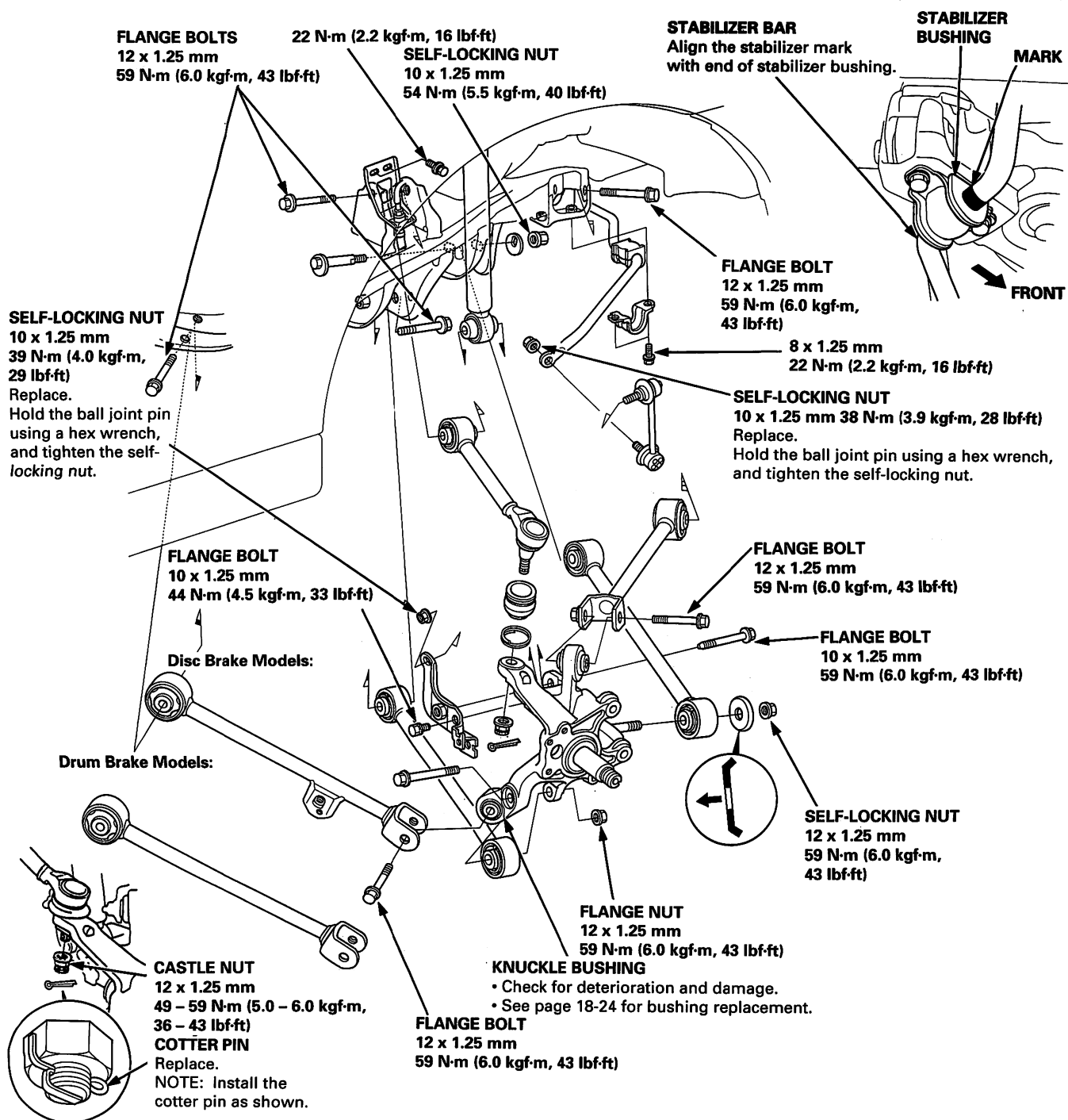
## Installation

### CAUTION:

- Any bolts or nuts connected to rubber mounts or bushings should be tightened with the vehicle on the ground.
- Torque the castle nut to the lower torque specification, then tighten it only far enough to align the slot with the pin hole. Do not align the nut by loosening.

### NOTE:

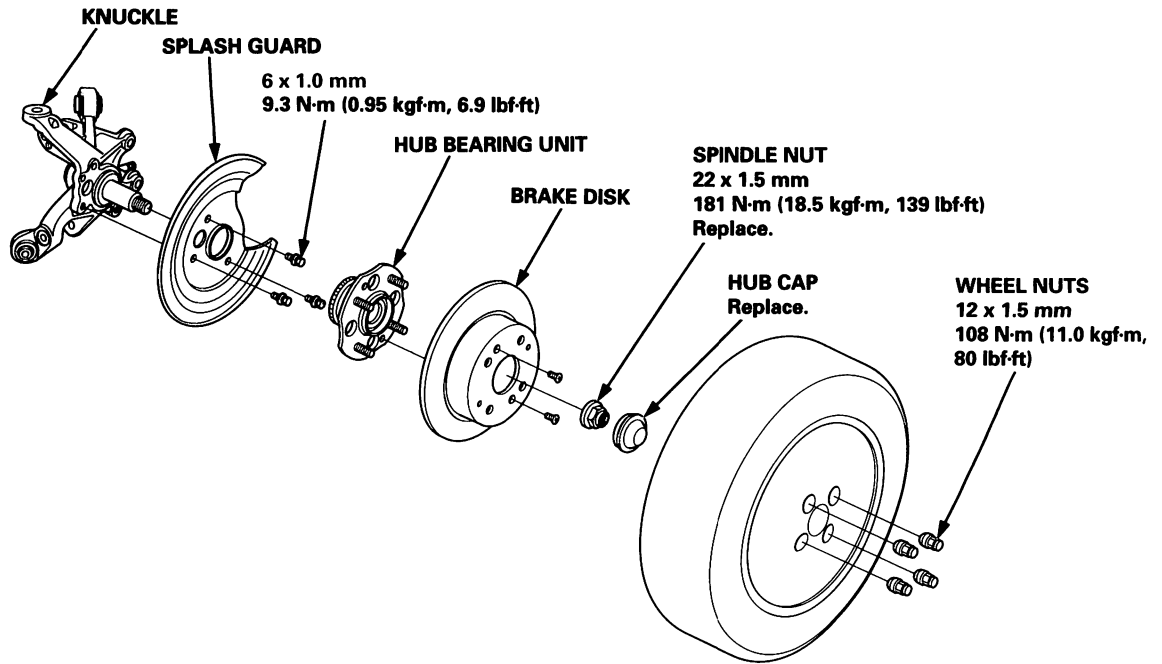
- Wipe off the oil, dirt or grease from the threads before tightening the fasteners.
- After installing the suspension arm, check the rear wheel alignment, and adjust if necessary (see page 18-4).



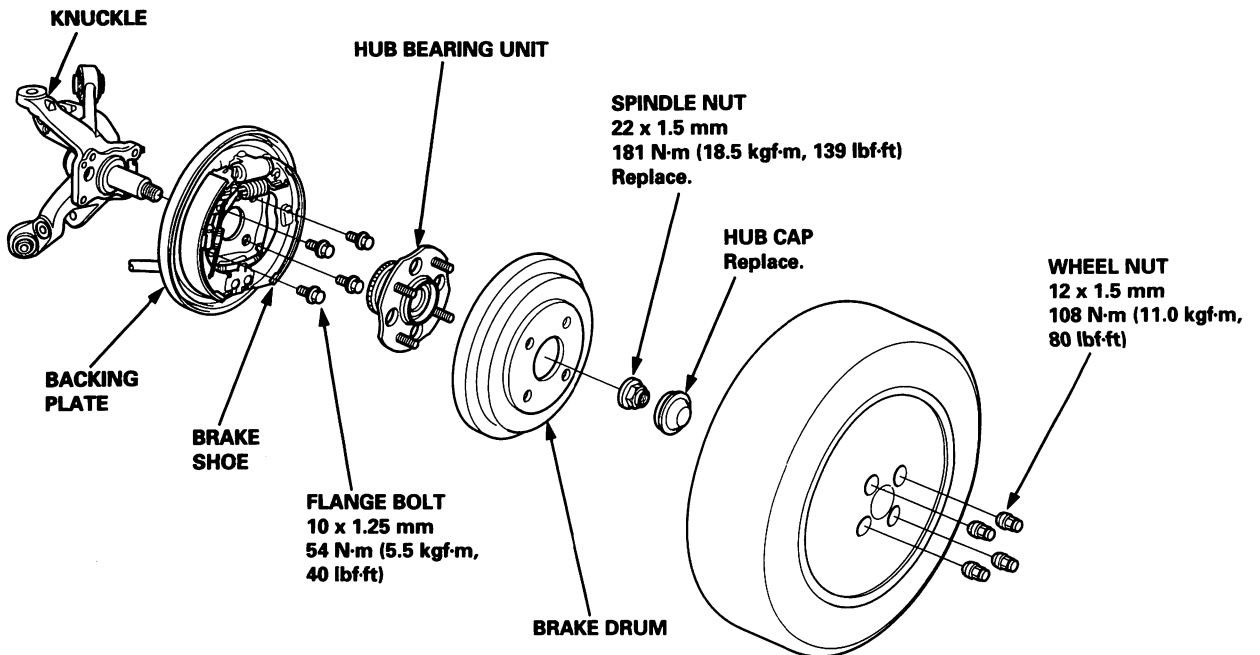
# Rear Suspension

## Hub Bearing Unit Replacement

Disc Brake Type:



Drum Brake Type:







## Disk Brake Type

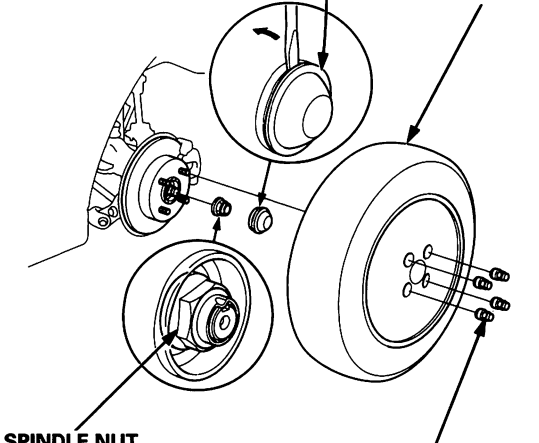
1. Raise the rear of the vehicle and make sure it is securely supported.
2. Remove the wheel nuts and rear wheel.

### HUB CAP

Replace.

NOTE: Take care not to damage the hub unit on disassembly.

### REAR WHEEL



### SPINDLE NUT

22 x 1.5 mm

181 N·m

(18.5 kgf-m,

139 lbf-ft)

Replace.

NOTE: After tightening, use a drift to stake the spindle nut shoulder against the spindle.

### WHEEL NUT

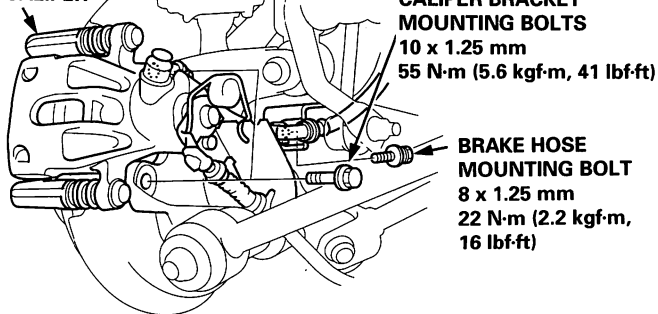
12 x 1.5 mm

108 N·m

(11.0 kgf-m,

80 lbf-ft)

### CALIPER



### CALIPER BRACKET

MOUNTING BOLTS

10 x 1.25 mm

55 N·m (5.6 kgf-m, 41 lbf-ft)

### BRAKE HOSE

MOUNTING BOLT

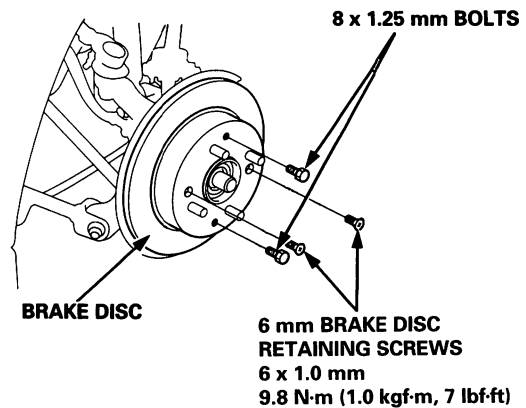
8 x 1.25 mm

22 N·m (2.2 kgf-m,

16 lbf-ft)

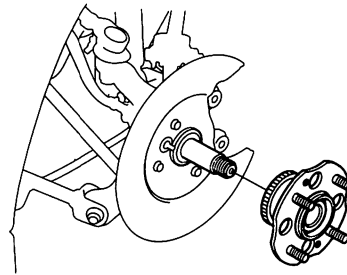
8. Remove the caliper bracket mounting bolts and hang the caliper to one side. To prevent damage to the caliper or brake hose, use a short piece of wire to hang the caliper from the undercarriage.

9. Remove the 6 mm brake disc retaining screws.



10. Screw two 8 x 1.25 mm bolts into the disc to push it away from the hub. Turn each bolt two turns at a time to prevent cocking the disc excessively.

11. Remove the hub bearing unit from the knuckle.



12. Install the knuckle in the reverse order of removal, and pay particular to the following items.
  - Before installing the brake disc, clean the mating surfaces of the rear hub and brake disc.
  - Wash the bearing and spindle thoroughly in high flash point solvent before reassembly.
  - To prevent damage to the caliper or brake hose, use a short piece of wire to hang the caliper from the undercarriage.
  - After tightening, use a drift to stake the spindle nut shoulder against the spindle.

(cont'd)

# Rear Suspension

## Hub Bearing Unit Replacement (cont'd)

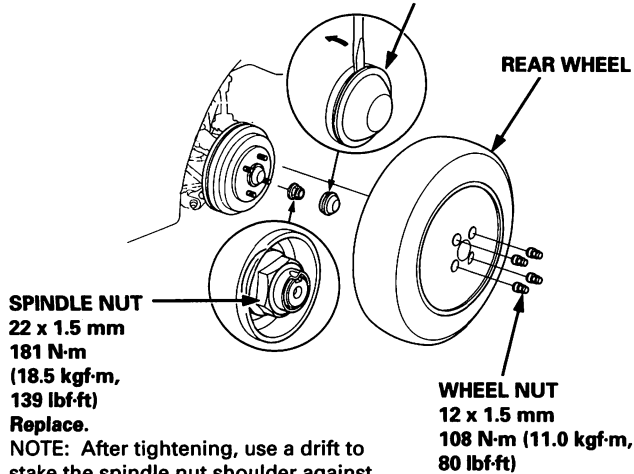
### Drum Brake Type

1. Raise the rear of the vehicle and make sure it is securely supported.
2. Remove the wheel nuts and rear wheel.

#### HUB CAP

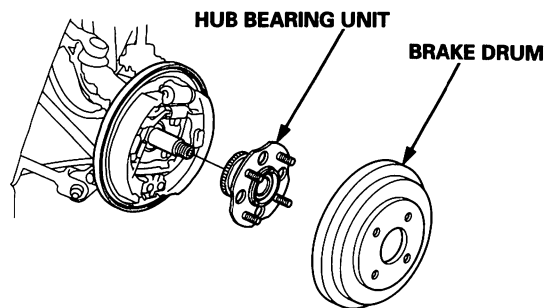
Replace.

NOTE: Take care not to damage the hub unit on disassembly.



NOTE: After tightening, use a drift to stake the spindle nut shoulder against the spindle.

3. Pull the parking brake lever up.
4. Remove the hub cap.
5. Raise the locking tab on the spindle nut, then remove the nut.
6. Release the parking brake lever.



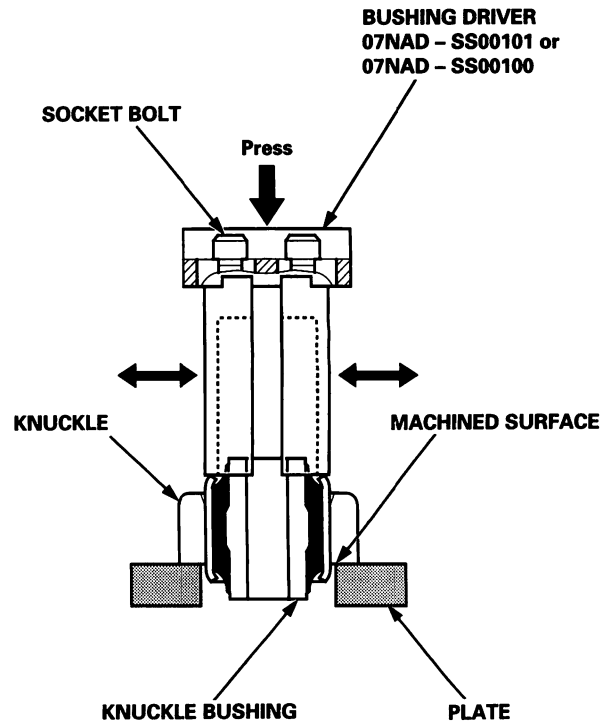
7. Remove the brake drum, hub bearing unit.
8. Install the knuckle in the reverse order of removal, and pay particular to the following items.
  - Wash the bearing and spindle thoroughly in high flash point solvent before reassembly.
  - After tightening, use a drift to stake the spindle nut shoulder against the spindle.

## Knuckle Bushing Replacement

1. Position the knuckle on the press with the machined surface facing down.
2. Adjust the bushing driver so that it matches the inner diameter of the bushing hole, then tighten the socket bolt securely.
3. Position the bushing driver on the bushing.
4. Remove the bushing by pressing on the bushing driver with a press as shown.

### CAUTION:

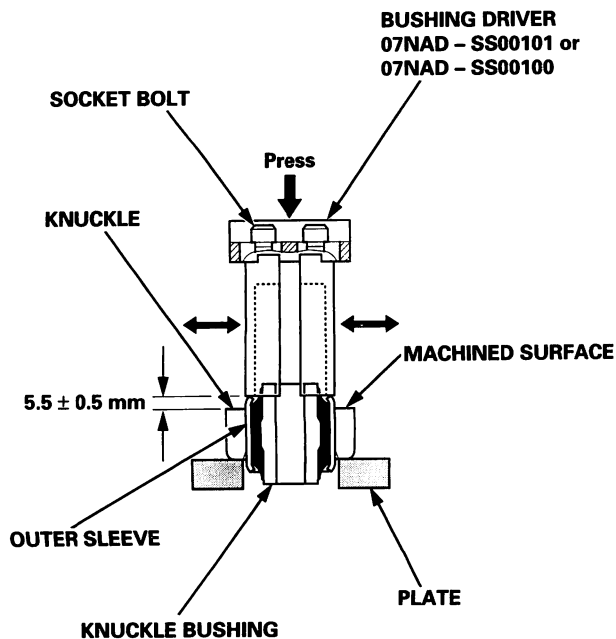
- Support the knuckle at machined surface as shown.
- Be careful not to damage the inside of the bushing hole while pressing on the bushing.



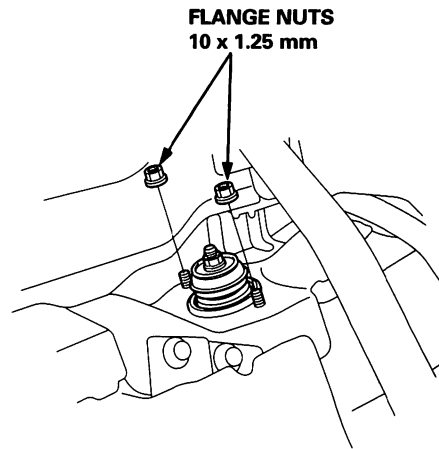


## Removal

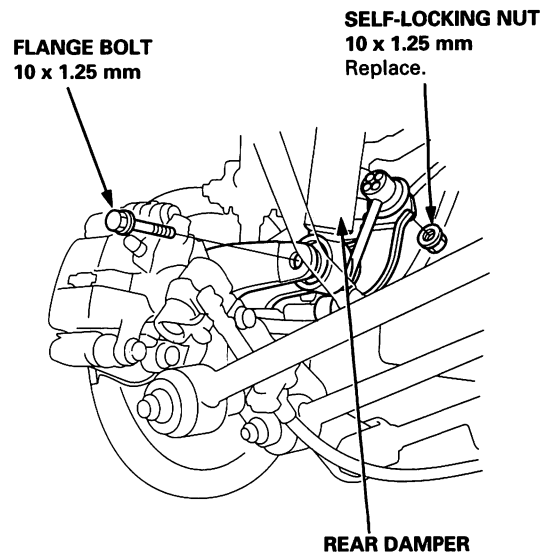
5. Position the knuckle on the press with the machined surface facing down.
6. Adjust the bushing driver so that it matches with the outer diameter of the bushing.
7. Position the bushing driver on the outer sleeve of the bushing.
8. Press the bushing into the knuckle using the bushing driver and a press until the edge of the bushing aligns with machined surface on the knuckle as shown.



1. Raise the rear of the vehicle and make sure it is securely supported.  
Remove the rear wheel.
2. Remove the rear bulkhead cover (see section 20).
3. Remove the two flange nuts.



4. Remove the flange bolt from the knuckle.

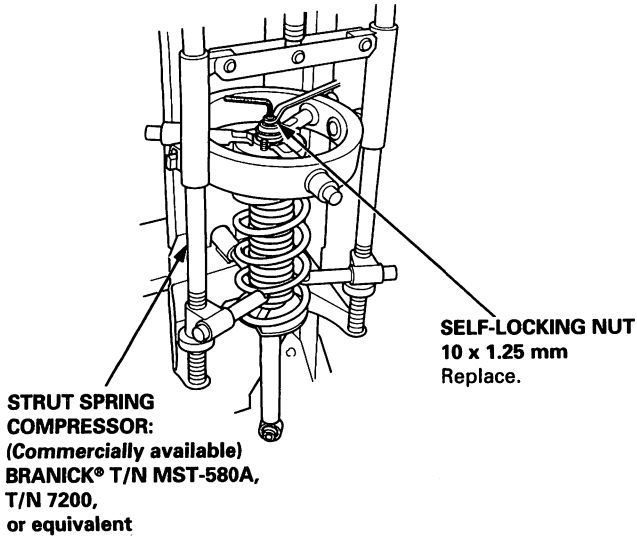


5. Remove the flange nut from the stabilizer link.
6. Lower the rear suspension and remove the damper from the vehicle.

# Rear Damper

## Disassembly/Inspection

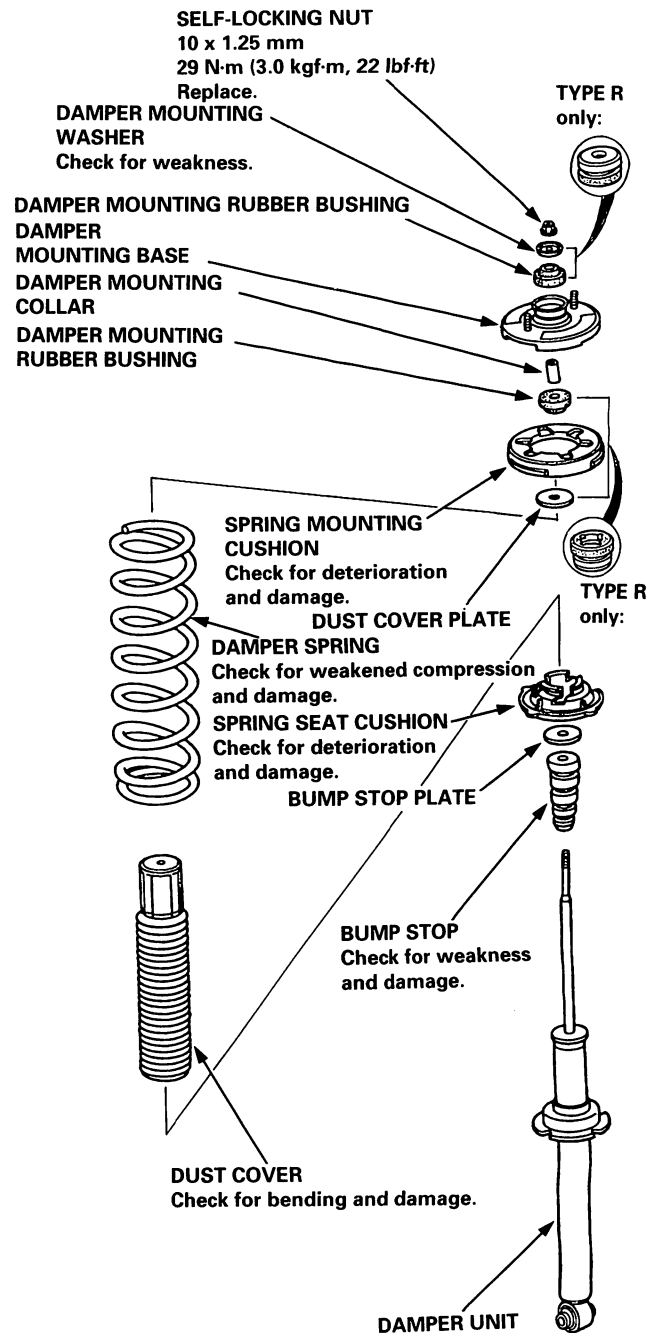
1. Compress the damper spring with the commercially available strut spring compressor according to the manufacturer's instructions, then remove the self-locking nut. Do not compress the spring more than necessary to remove the self-locking nut.



2. Release the pressure from the strut spring compressor, then disassemble the damper as shown on page 18-28.
3. Reassemble all parts, except the spring.
4. Compress the damper by hand and check for smooth operation through a full stroke, both compression and extension. The damper should move smoothly. If it does not (no compression or no extension), the gas is leaking, and the damper should be replaced.
5. Check for oil leaks, abnormal noises and binding during these tests.

## Reassembly

The damper springs are different left and right. Be sure to mark the springs R and L before disassembling the dampers.

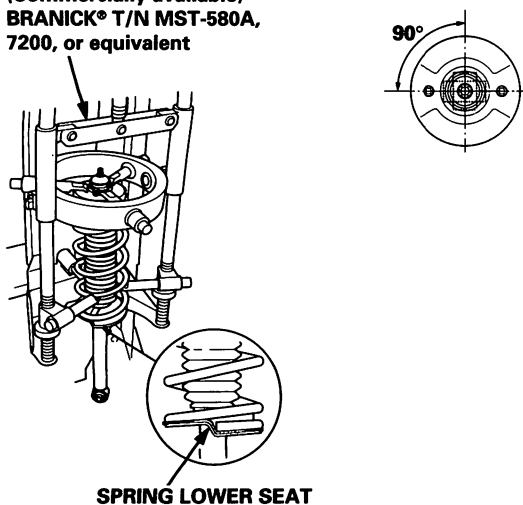




## Installation

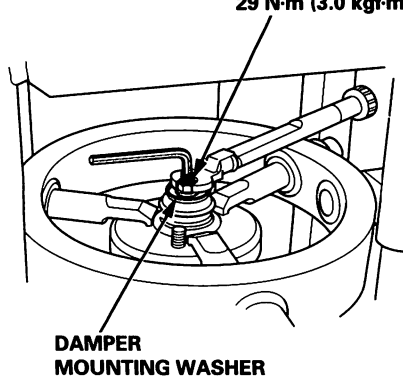
1. Install the damper unit on a commercially available strut spring compressor.
2. Assemble the damper in reverse order of disassembly, except for the damper mounting washer and self-locking nut. Align the bottom of damper spring and spring lower seat.

**STRUT SPRING COMPRESSOR:**  
(Commercially available)  
**BRANICK® T/N MST-580A,**  
7200, or equivalent



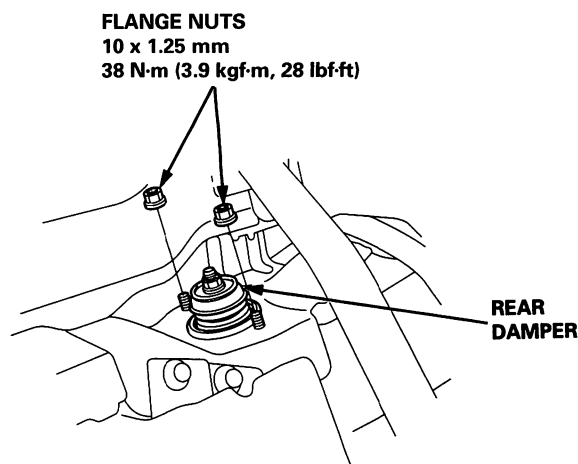
3. Position the damper mounting base on the damper unit.
4. Compress the damper spring with the spring compressor.
5. Install the damper mounting washer, and loosely install a new self-locking nut.

**SELF-LOCKING NUT**  
10 x 1.25 mm  
29 N·m (3.0 kgf·m, 22 lbf·ft)



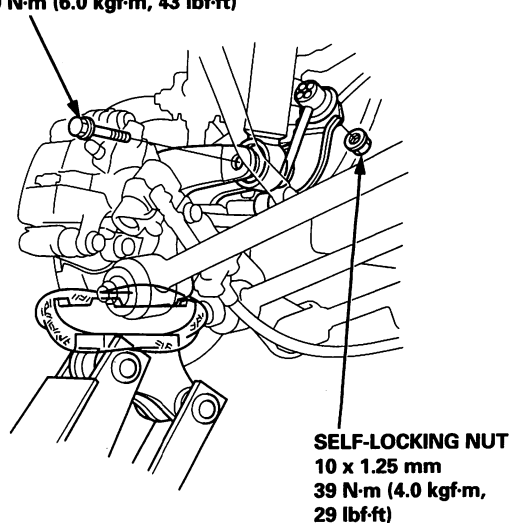
6. Hold the damper shaft with a hex wrench, and tighten the self-locking nut.

1. Lower the rear suspension, and position the damper and loosely install the two flange nuts.



2. Loosely install the flange bolt and nut.

**FLANGE BOLT**  
10 x 1.25 mm  
59 N·m (6.0 kgf·m, 43 lbf·ft)



3. Raise the rear suspension with a floor jack until the vehicle just lifts off the safety stand.
4. Tighten the flange bolt and nut on the bottom of the damper to the specified torque.
5. Tighten the two flange nuts on top of the damper to the specified torque.
6. Install the rear bulkhead cover (see section 20).
7. Install the rear wheels (see page 18-23).
8. Check the rear wheel alignment and adjust if necessary (see page 18-4).

# Damper Disposal

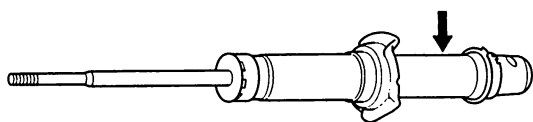
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**⚠ WARNING** The dampers contain nitrogen gas and oil under pressure.

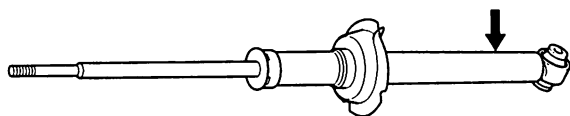
The pressure must be relieved before disposal to prevent explosion and possible injury when scraping.

Place the damper on a level surface with its rod extended and drill a hole of 2 – 3 mm (0.078 – 0.118 in) diameter in the body to release the gas.

**Front Damper:**



**Rear Damper:**



**⚠ WARNING** Always wear eye protection to avoid getting metal shavings in your eyes when the damper pressure is relieved.

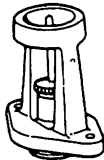
## Conventional Brakes

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# Special Tools


Ref. No.	Tool Number	Description	Qty	Remarks
①	07JAG – SD40100	Pushrod Adjustment Gauge	1	
②	07404 – 5790301	Vacuum Gauge	1	
③	07406 – 5790201	Pressure Gauges	2	
④	07410 – 5790101	Pressure Gauge Attachment C	1	
⑤	07410 – 5790501	Tube Joint Adapter	1	
⑥	07510 – 6340101	Pressure Gauge Joint Pipes	2	



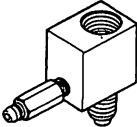
①




②



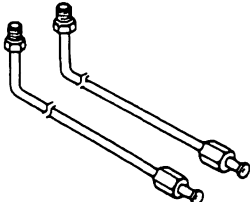
③



④



⑤



⑥

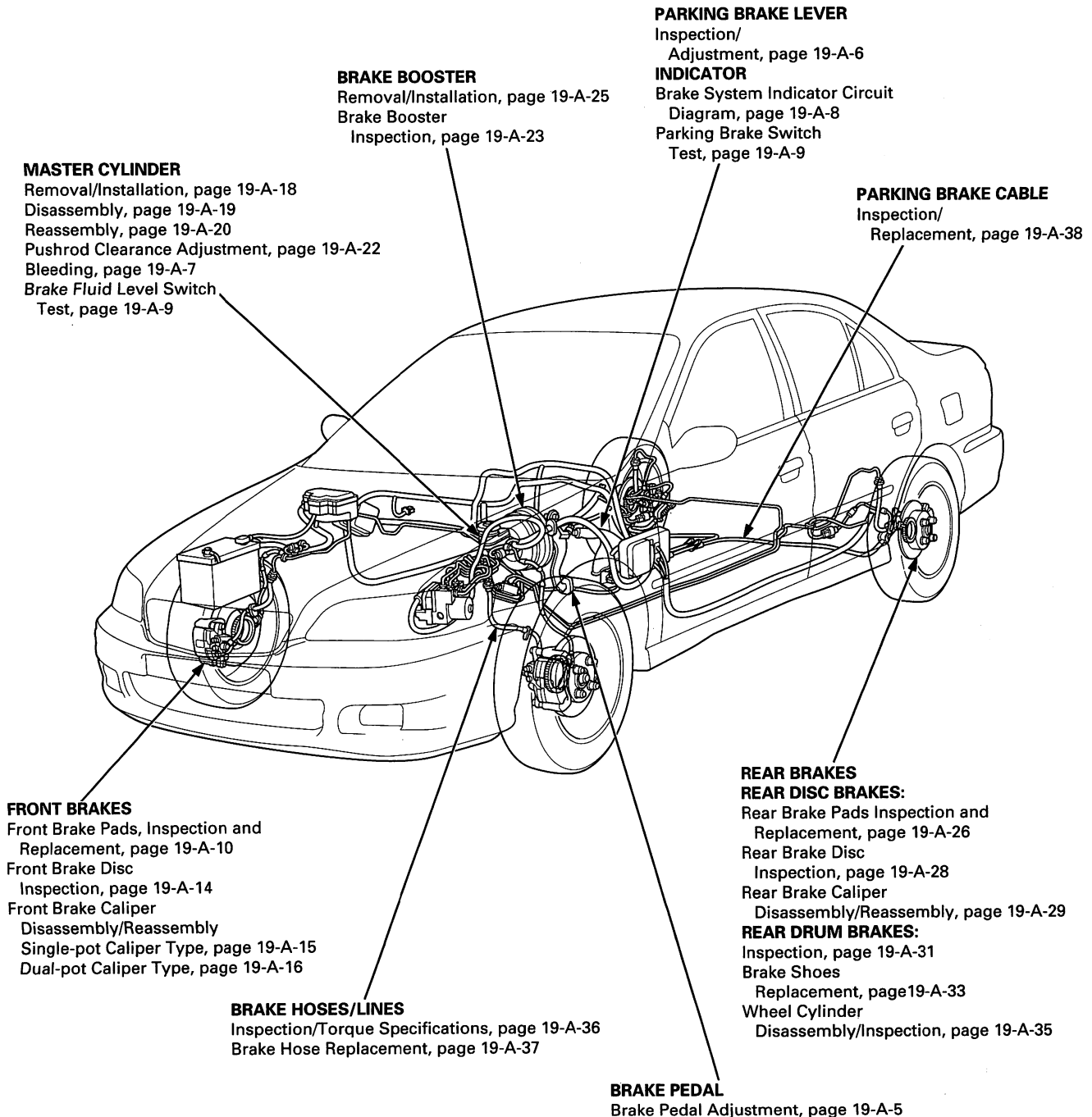


# Component Locations



## Index

NOTE: LHD type is shown, RHD type is symmetrical.



# Inspection and Adjustment

## Brake System Rubber Parts and Brake Booster

### Ⓐ-Brake Booster

Check brake operation by applying the brakes.  
If the brakes do not work properly, check the brake booster. Replace the brake booster as an assembly if it does not work properly or if there are signs of leakage.

### Ⓑ-Piston Cup and Pressure Cup Inspection

- Check brake operation by applying the brakes.  
Visually check for damage or signs of fluid leakage. If the pedal does not work properly or if there is damage or signs of fluid leakage, disassembly and inspect the master cylinder. Replace the secondary piston and primary piston as an assembly whenever the master cylinder is disassembled.
- Check for a difference in brake pedal stroke between quick and slow brake applications. If there is a difference in pedal stroke, disassembly and inspect the master cylinder.  
Replace the secondary piston and primary piston as an assembly whenever the master cylinder is disassembled.

### Ⓒ-Brake Hoses

Visually check for damage or signs of fluid leakage.  
Replace the brake hose with a new one if it is damaged or leaking.

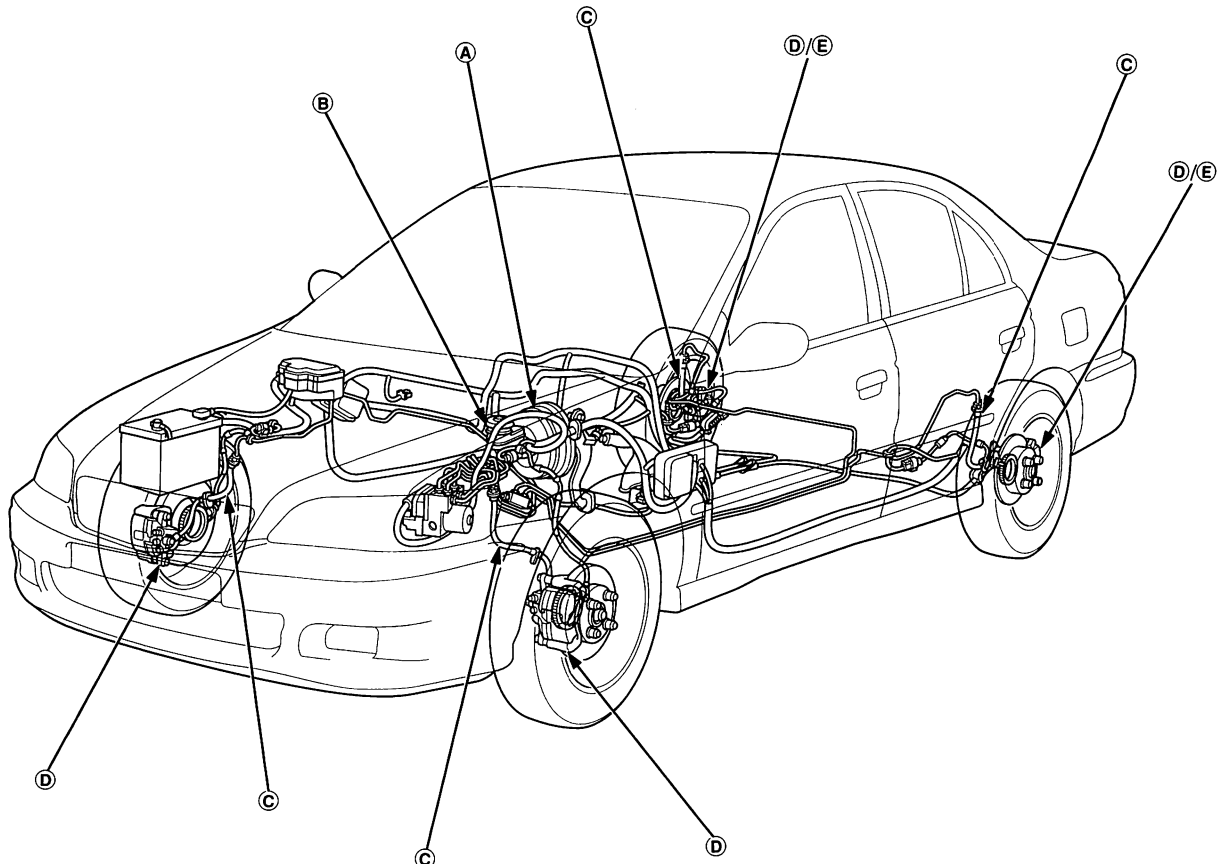
### Ⓓ-Caliper Piston Seal and Piston Boots

Check brake operation by applying the brakes.  
Visually check for damage or signs of fluid leakage. If the pedal does not operate properly, the brakes drag, or there is damage or signs of fluid leakage, disassemble and inspect the brake caliper. Replace the boots and seals with new ones whenever the brake caliper is disassembled.

### Ⓔ-Wheel Cylinder Piston Cup and Dust Cover

Check brake operation by applying the brakes.  
Visually check for damage or signs of fluid leakage. If the pedal does not operate properly, the brakes drag, or there is damage or signs of fluid leakage, disassemble and inspect the wheel cylinder. Replace the piston cups and dust covers with new ones whenever the wheel cylinder is disassembled.

NOTE: LHD type is shown. RHD type is symmetrical.

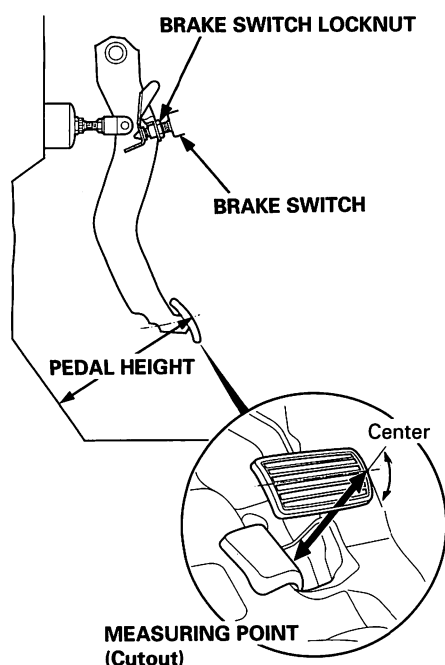




## Brake Pedal

### Pedal Height

1. Disconnect the brake switch connector, loosen the brake switch locknut, and back off the brake switch until it is no longer touching the brake pedal.
2. Turn up the carpet. At the insulator cutout, measure the pedal height from the middle of the left side center of the pedal pad.

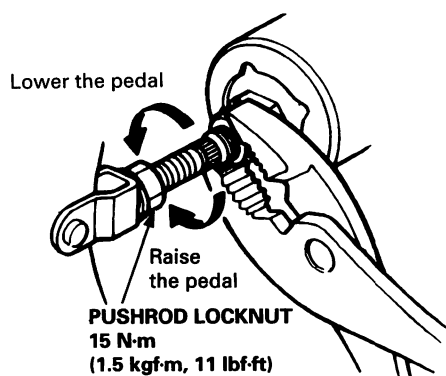


#### Standard Pedal Height (with carpet removed):

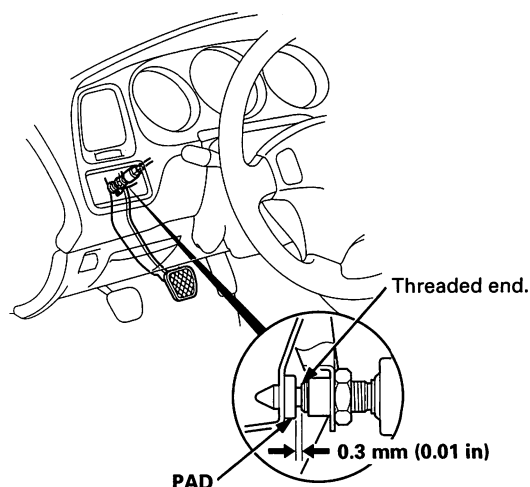
M/T model: 168.5 mm (6.63 in)

A/T model: 173.5 mm (6.83 in)

3. Loosen the pushrod locknut, and screw the pushrod in or out with pliers until the standard pedal height from the floor is reached. After adjustment, tighten the locknut firmly. Do not adjust the pedal height with the pushrod depressed.



4. Screw in the brake switch until its plunger is fully depressed (threaded end touching the pad on the pedal arm). Then back off the switch 1/4 turn to make 0.3 mm (0.01 in) of clearance between the threaded end and pad. Tighten the locknut firmly. Connect the brake switch connector. Make sure that the brake lights go off when the pedal is released.

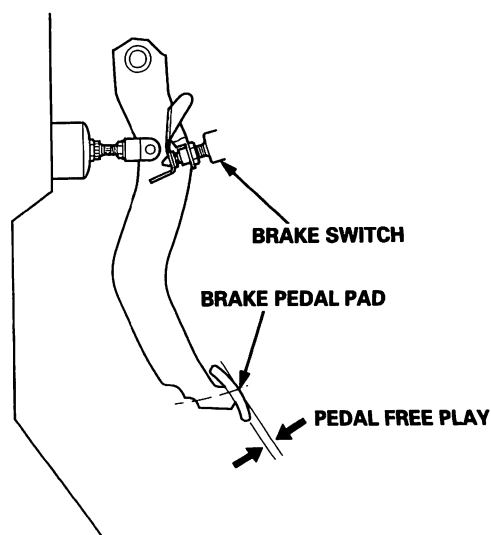


5. Check the brake pedal free play as described below.

### Pedal Free Play

1. With the engine off, inspect the play on the pedal pad by pushing the pedal by hand.

Free Play: 1 – 5 mm (0.04 – 0.20 in)



2. If the pedal free play is out of specification, adjust the brake switch. If the pedal free play is insufficient, it may result in brake drag.

# Inspection and Adjustment

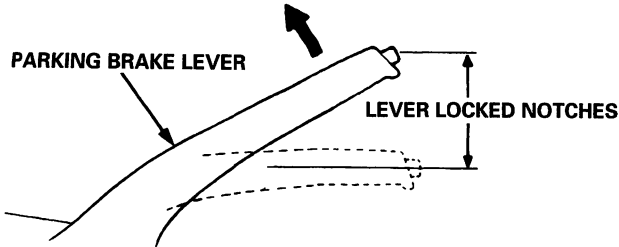
## Parking Brake

### Inspection

1. Pull the parking brake lever with 196 N (20 kgf, 44 lbf) force to fully apply the parking brake. The parking brake lever should be locked within the specified notches.

#### Lever Locked Notches: 6 – 9

Pulled up with 196 N (20 kgf, 44 lbf)



2. Adjust the parking brake if the lever notches are out of specification.

### Adjustment

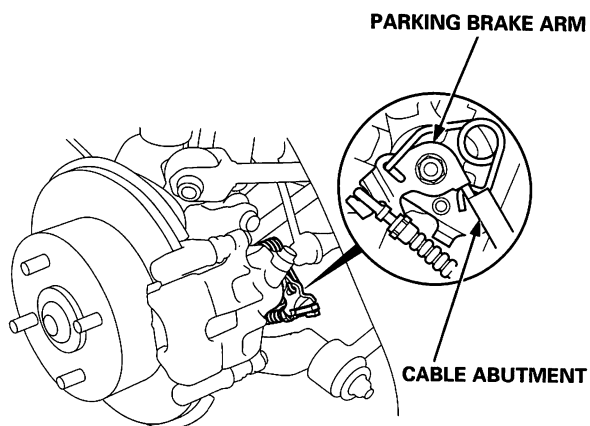
NOTE: After rear brake caliper servicing, loosen the parking brake adjusting nut, start the engine and depress the brake pedal several times to set the self-adjusting brake before adjusting the parking brake.

1. Raise the rear of the vehicle and make sure it is securely supported.

### ⚠ WARNING

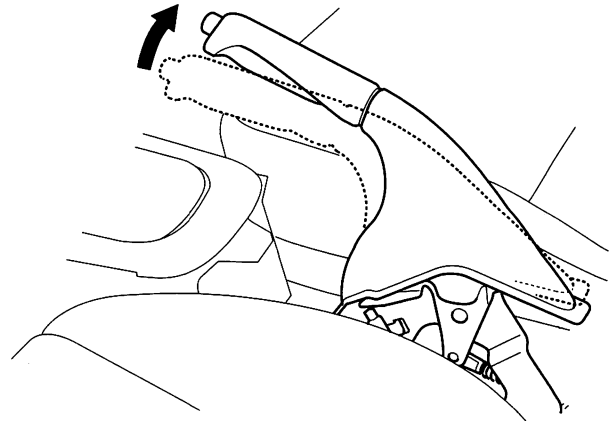
Block the front wheels before jacking up the rear of the vehicle.

2. Make sure the parking brake arm on the rear brake caliper contacts the cable abutment.

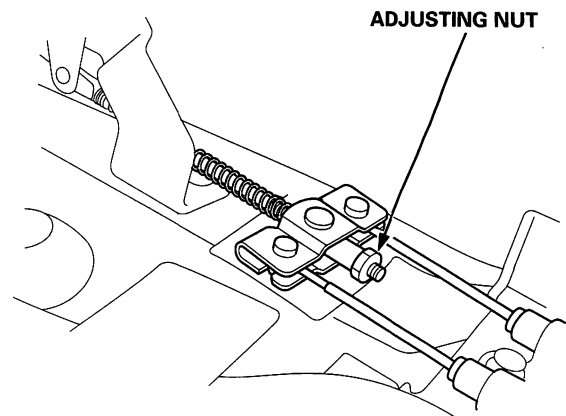


3. Remove rear console end cover (see section 20).

4. Pull the parking brake lever up one notch.



5. Tighten the adjusting nut until the parking brakes drag slightly when the rear wheels are turned.



6. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
7. Make sure the parking brakes are fully applied when the parking brake lever is pulled up fully.
8. Reinstall the rear console end cover.

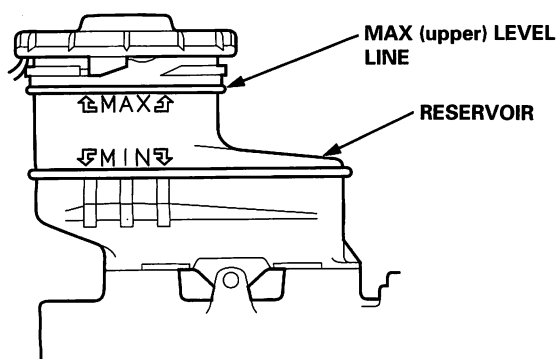


## Bleeding

### NOTE:

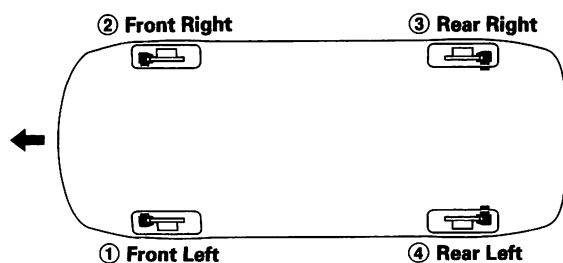
- Do not reuse the drained fluid.
- Use only clean Genuine Honda brake fluid or an equivalent DOT 3 or DOT 4 brake fluid.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not spill brake fluid on the vehicle, it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- The reservoir on the master cylinder must be at the MAX (upper) level mark at the start of bleeding procedure and checked after bleeding each brake caliper. Add fluid as required.

1. Make sure the brake fluid level in the reservoir is at the MAX (upper) level line.



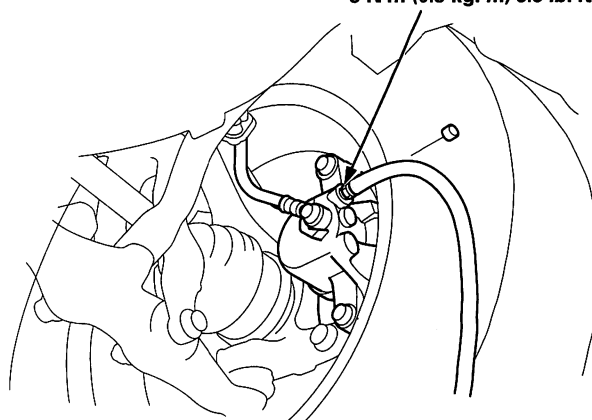
2. Have someone slowly pump the brake pedal several times, then apply steady pressure.
3. Loosen the left-front brake bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.
4. Repeat the procedure for each wheel in the sequence shown below until air bubbles no longer appear in the fluid.
5. Refill the master cylinder reservoir to the MAX (upper) level line.

### BLEEDING SEQUENCE:



### FRONT:

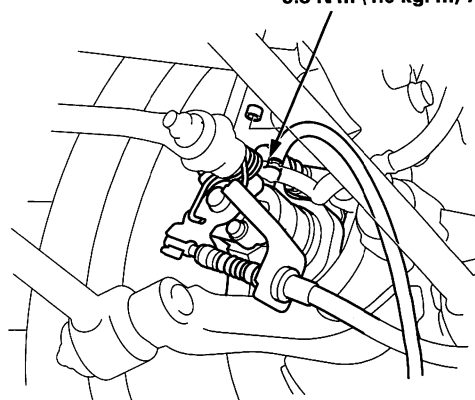
All Except Type R Model:  
9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)  
Type R Model:  
9 N·m (0.9 kgf·m, 6.5 lbf·ft)



### REAR:

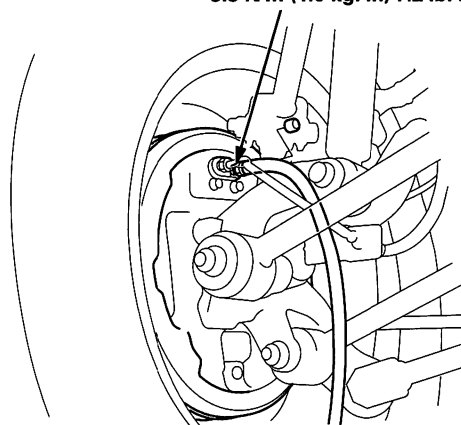
#### REAR DISC BRAKE:

9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)



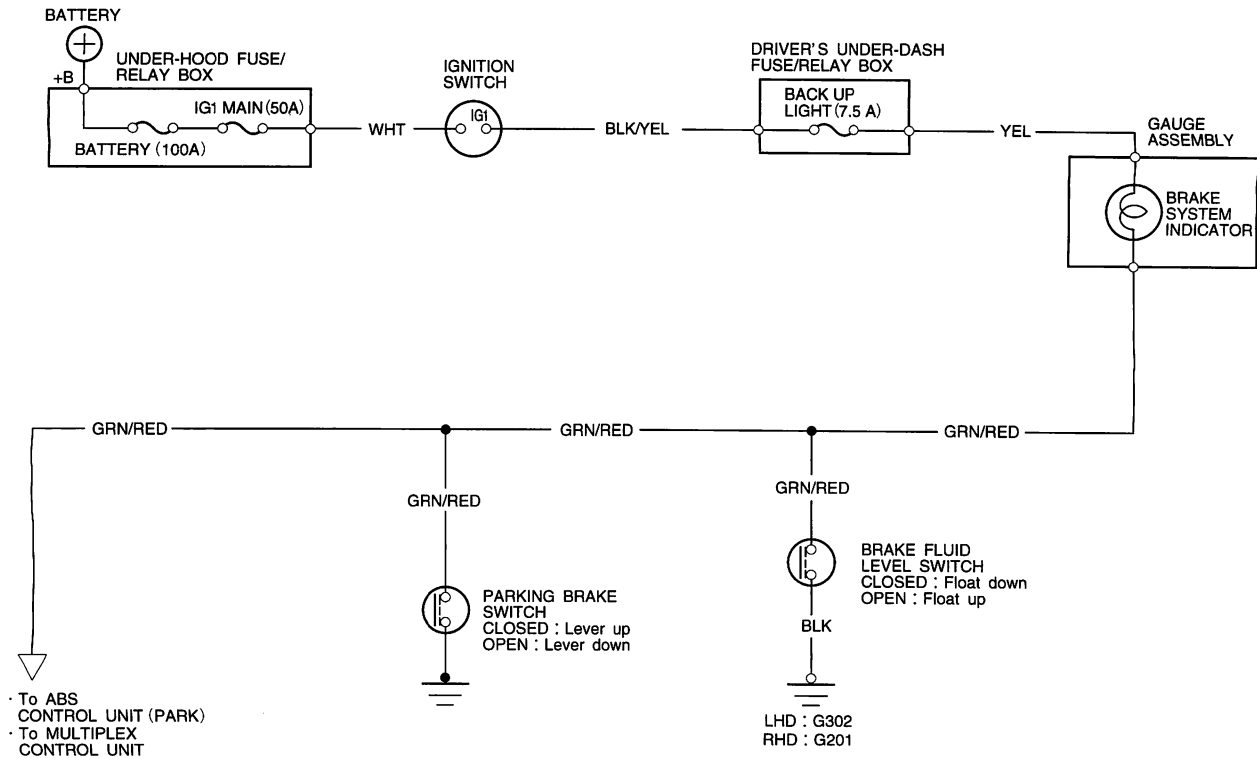
#### REAR DRUM BRAKE:

9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)



# Inspection and Adjustment

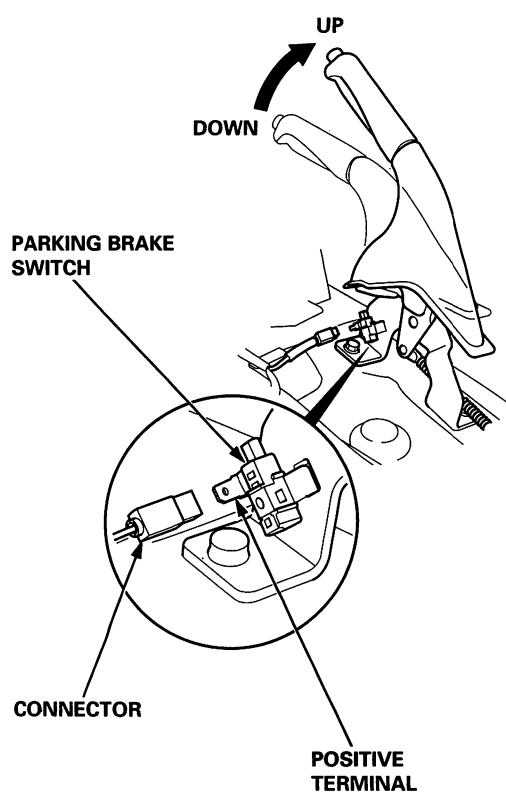
## Brake System Indicator Circuit Diagram





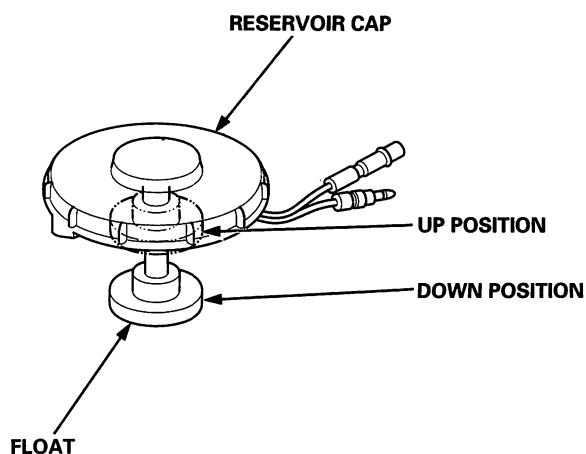
## Parking Brake Switch Test

1. Remove the rear console, and disconnect the connector from the switch.
2. Check for continuity between the positive terminal and body ground:
  - With the brake lever up, there should be continuity.
  - With the brake lever down, there should be no continuity.



## Brake Fluid Level Switch Test

1. Remove the reservoir cap. Check that the float moves up and down freely; if it doesn't, replace the reservoir cap assembly.
2. Check for continuity between the terminals with the float in the down position and the up position:
  - With the float up, there should be no continuity.
  - With the float down, there should be continuity.



# Front Brake Pads

## Inspection and Replacement

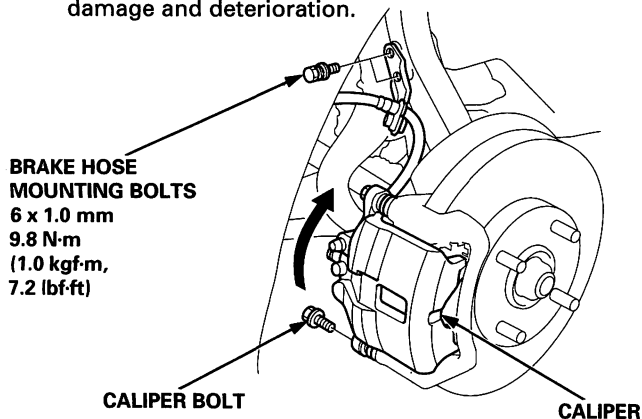
All Except Type R Model (Single-pot Caliper):

### ⚠ CAUTION

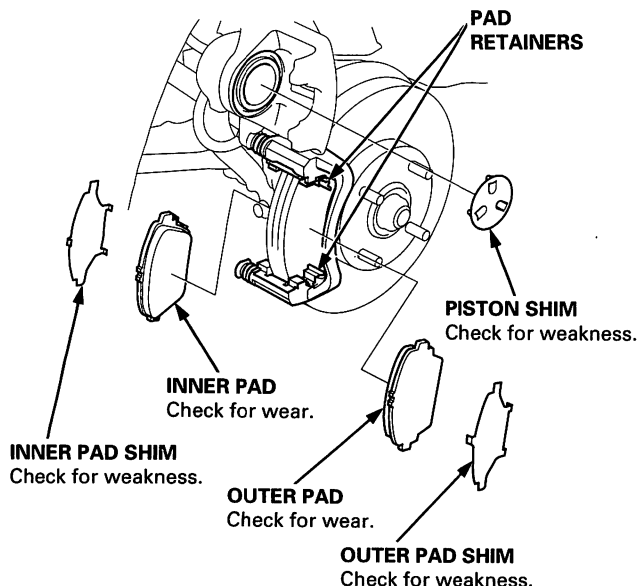
Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

1. Loosen the front wheel nuts slightly. Raise the front of the vehicle, and make sure it is securely supported. Remove the front wheels.
2. Remove the brake hose mounting bolts from the knuckle.
3. Remove the caliper bolt, and pivot the caliper up out of the way. Check the hoses and pin boots for damage and deterioration.



4. Remove the pads, shims (if equipped) and pad retainers.

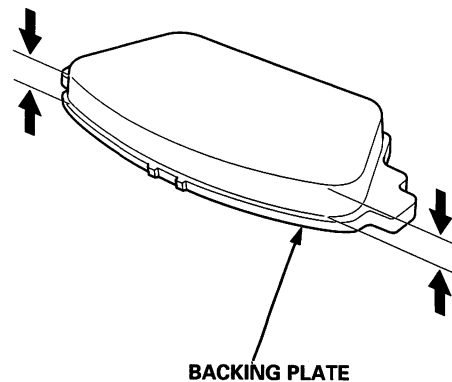


5. Using vernier calipers, measure the thickness of each brake pad lining. The measurement does not include the pad backing plate thickness.

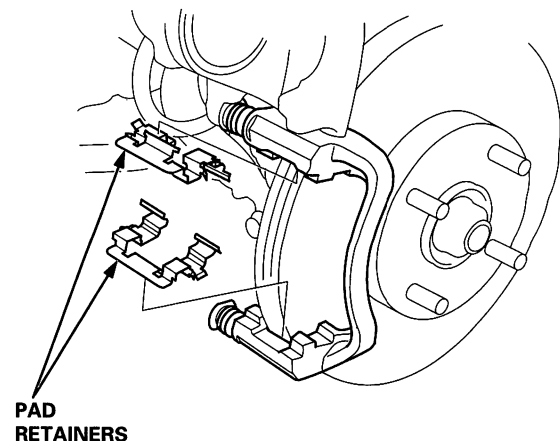
### Brake Pad Thickness:

Standard: 10.5 – 11.5 mm (0.41 – 0.45 in)

Service Limit: 1.6 mm (0.06 in)



6. If the brake pad thickness is less than service limit, replace the front pads and shims together as a set.
7. Clean the caliper thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Install the pad retainers.



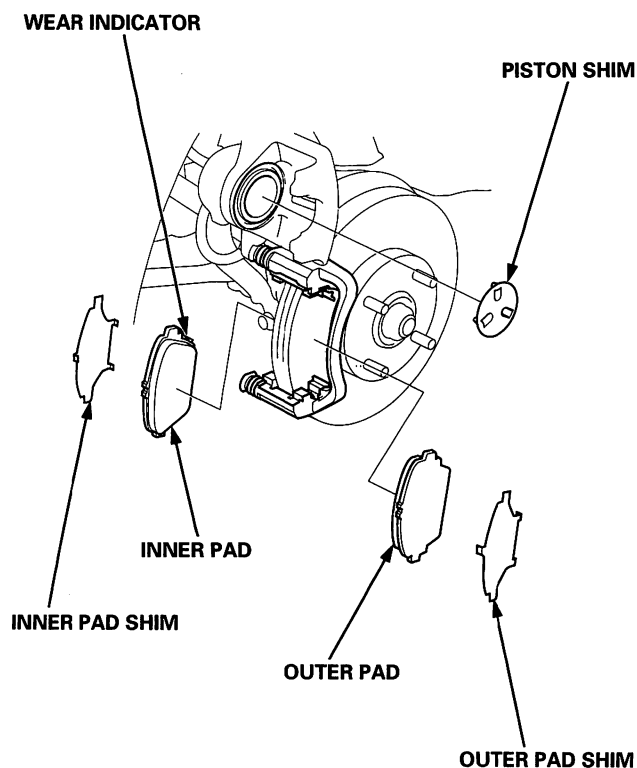




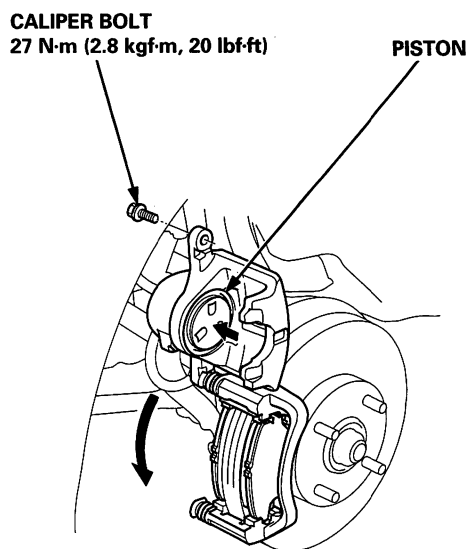
10. Install the brake pads and shims (if equipped) correctly. Install the pad with the wear indicator on the inside.

### **⚠ WARNING**

- When reusing the pads, always reinstall the brake pads in their original positions to prevent loss of braking efficiency.
- Contaminated brake discs or pads reduce stopping ability. Keep grease off the discs and pads.



11. Push in the piston so that the caliper will fit over the pads. Make sure that the piston boot is in position to prevent damaging it when pivoting the caliper down.



12. Pivot the caliper down into position, being careful not to damage the pin boot. Install the caliper bolt and torque it to proper specification.
13. Install the brake hose on to the knuckle.
14. Depress the brake pedal several times to make sure the brakes work, then road-test.

**NOTE:** Engagement of the brake may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

15. After installation, check for leaks at hose and line joints and connections, and retighten if necessary.

(cont'd)

# Front Brake Pads

## Inspection and Replacement (cont'd)

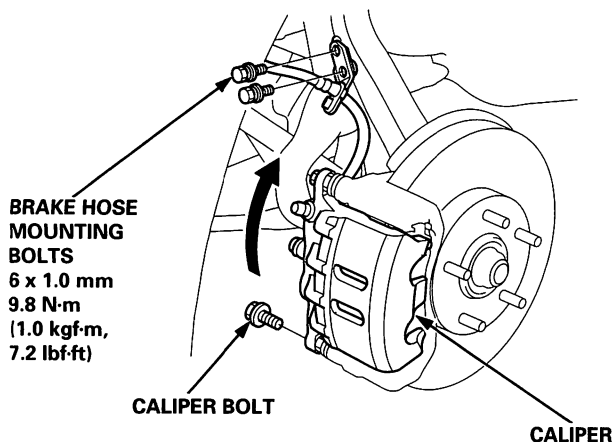
### Type R Model (Dual-pot Caliper):

#### ⚠ CAUTION

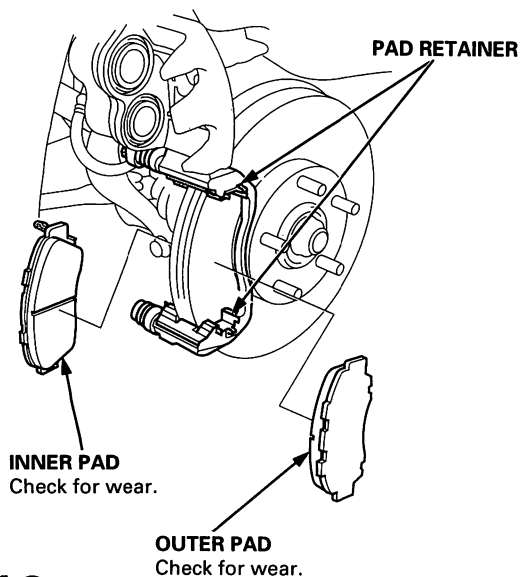
Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

1. Loosen the front wheel nuts slightly. Raise the front of the vehicle, and make sure it is securely supported. Remove the front wheels.
2. Remove the brake hose mounting bolts from the knuckle.
3. Hold the caliper pin with 2 wrench, being careful not to damage the pin boot. Remove the caliper bolt with another wrench, and pivot the caliper up out of the way. Check the hoses and pin boots for damage and deterioration.



4. Remove the pads and pad retainers.

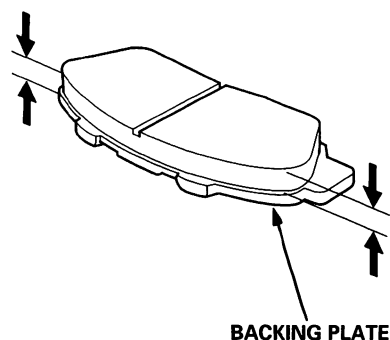


5. Using vernier calipers, measure the thickness of each brake pad lining. The measurement does not include the pad backing plate thickness.

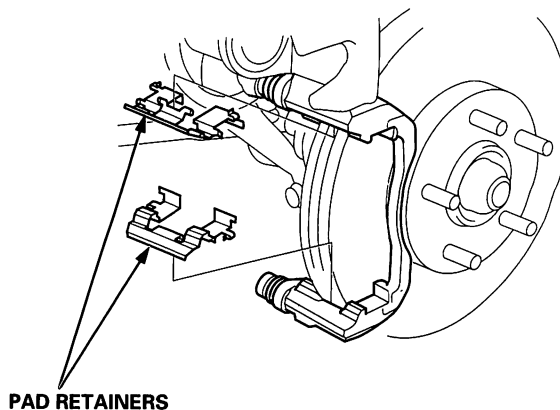
#### Brake Pad Thickness:

**Standard:** 10.5 – 11.5 mm (0.41 – 0.45 in)

**Service Limit:** 1.6 mm (0.06 in)



6. If the brake pad thickness is less than service limit, replace the front pads and shims together as a set.
7. Clean the caliper thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Install the pad retainers.

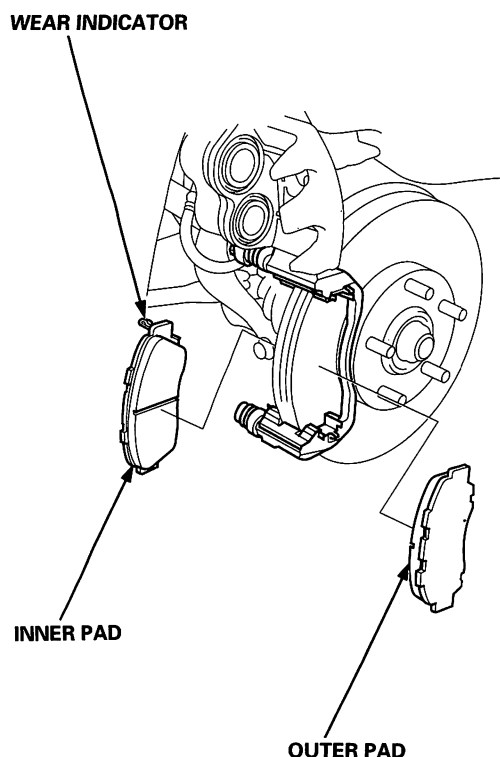




10. Install the brake pads correctly. Install the pad with the wear indicator on the inside.

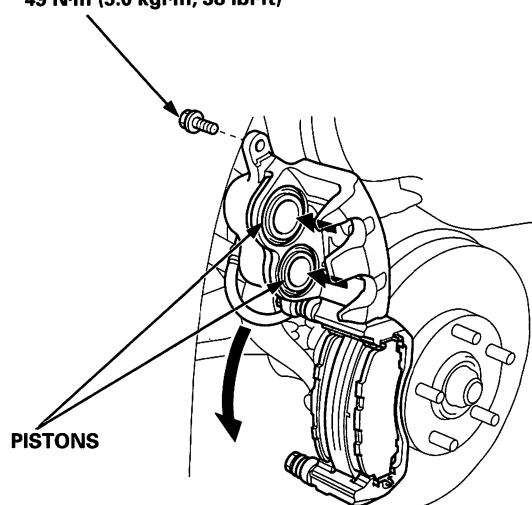
### **⚠ WARNING**

- When reusing the pads, always reinstall the brake pads in their original positions to prevent loss of braking efficiency.
- Contaminated brake discs or pads reduce stop-ping ability. Keep grease off the discs and pads.



11. Push in the piston so that the caliper will fit over the pads. Make sure that the piston boot is in position to prevent damaging it when pivoting the caliper down.

**CALIPER BOLT**  
49 N·m (5.0 kgf·m, 38 lbf·ft)



12. Pivot the caliper down into position. Hold the caliper pin with a wrench, being careful not to damage the pin boot. Install the caliper bolt with another wrench and torque it to proper specification.
13. Install the brake hose on to the knuckle.
14. Depress the brake pedal several times to make sure the brakes work, then road-test.

**NOTE:** Engagement of the brake may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

15. After installation, check for leaks at hose and line joints and connections, and retighten if necessary.

# Front Brake Disc

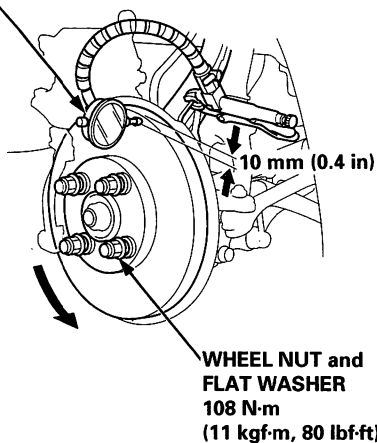
## Disc Runout Inspection

1. Loosen the front wheel nuts slightly, then raise the vehicle and support it on safety stands. Remove the front wheels.
2. Remove the brake pads (see page 19-A-10).
3. Inspect the disc surface for damage and cracks. Clean the disc thoroughly and remove all rust.
4. Use wheel nuts and suitable flat washers to hold the disc securely against the hub, then mount a dial indicator as shown, and measure the runout at 10 mm (0.4 in) from the outer edge of the disc.

### Brake Disc Runout:

**Service Limit: 0.10 mm (0.004 in)**

DIAL INDICATOR



WHEEL NUT and  
FLAT WASHER  
108 N-m  
(11 kgf-m, 80 lbf-ft)

5. If the disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-way manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation. When the vehicle is equipped with a limited slip differential (Type R), do not use an engine-driven on-car brake lathe. Use only a motor-driven on-car brake lathe.

### Max. Refinish Limit:

**D16B6 Engine Model: 21.0 mm (0.83 in)**

**F18B2, F18B3 and F20B6**

**Engine Models: 23.0 mm (0.91 in)**

**H22A7 Engine Model: 26.0 mm (1.02 in)**

### NOTE:

- See section 18 for brake disc replacement.
- A new disc should be refinished if its runout is greater than 0.10 mm (0.004 in).

## Disc Thickness and Parallelism Inspection

1. Loosen the front wheel nuts slightly, then raise the vehicle and support it on safety stands. Remove the front wheels.
2. Remove the brake pads (see page 19-A-10).
3. Using a micrometer, measure disc thickness at eight points, approximately 45° apart and 10 mm (0.4 in) in from the outer edge of the disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

### Brake Disc Thickness:

#### D16B6 Engine Model:

**Standard: 22.9 – 23.1 mm (0.90 – 0.91 in)**

**Max. Refinishing Limit: 21.0 mm (0.83 in)**

#### F18B2, F18B3 and F20B6 Engine Models:

**Standard: 24.9 – 25.1 mm (0.98 – 0.99 in)**

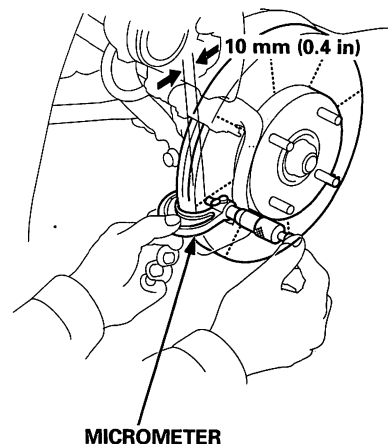
**Max. Refinishing Limit: 23.0 mm (0.91 in)**

#### H22A7 Engine Model:

**Standard: 27.9 – 28.1 mm (1.10 – 1.11 in)**

**Max. Refinishing Limit: 26.0 mm (1.02 in)**

**Brake Disc Parallelism: 0.015 mm (0.0006 in) max.**



MICROMETER

**NOTE:** This is the maximum allowable difference between the thickness measurements.

4. If the disc is beyond the service limit for *parallelism*, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation. When the vehicle is equipped with a limited slip differential (Type R), do not use an engine-driven on-car brake lathe. Use only a motor-driven on-car brake lathe.

**NOTE:** See section 18 for brake disc replacement.

# Front Brake Caliper



## Disassembly/Reassembly

### ⚠ CAUTION

Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

#### NOTE:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Contaminated brake discs or pads reduce stopping ability.
- When reusing the pads, always reinstall the brake pads in their original positions to prevent loss of braking efficiency.
- Do not reuse the drained fluid.
- Use only clean Genuine Honda brake fluid or an equivalent DOT3 or DOT4 brake fluid.
- Coat the piston, piston seal, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the front brake caliper.
  - Check for leaks at hose and line joints and connections, and retighten if necessary.
  - Check the brake hoses for interference and twisting.

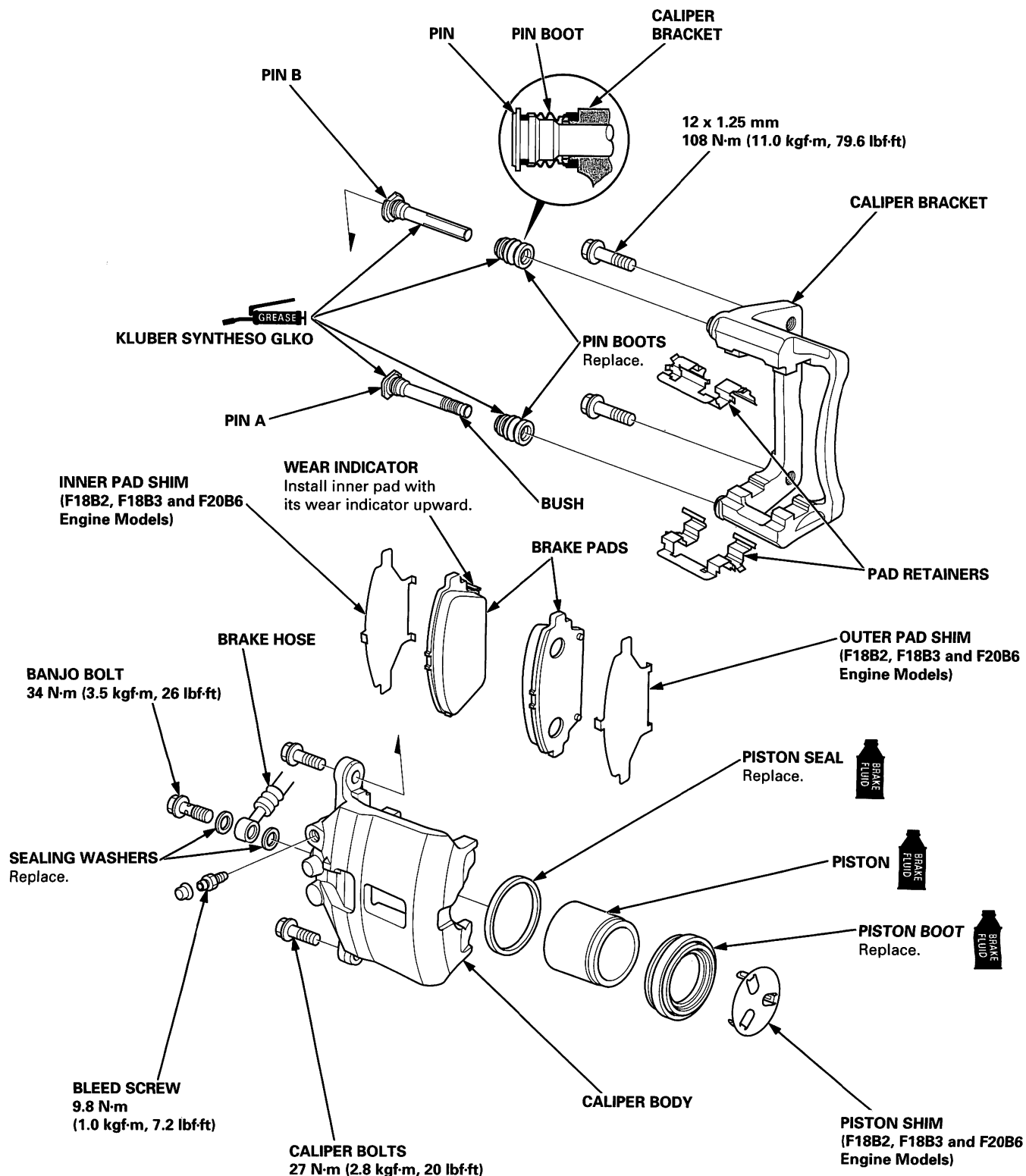
(cont'd)

## Front Brake Caliper

## Disassembly/Reassembly (cont'd)

**All Except Type R Model (Single-pot Caliper):**

 **GREASE**: Use recommended seal grease and pin grease in the caliper seal set.

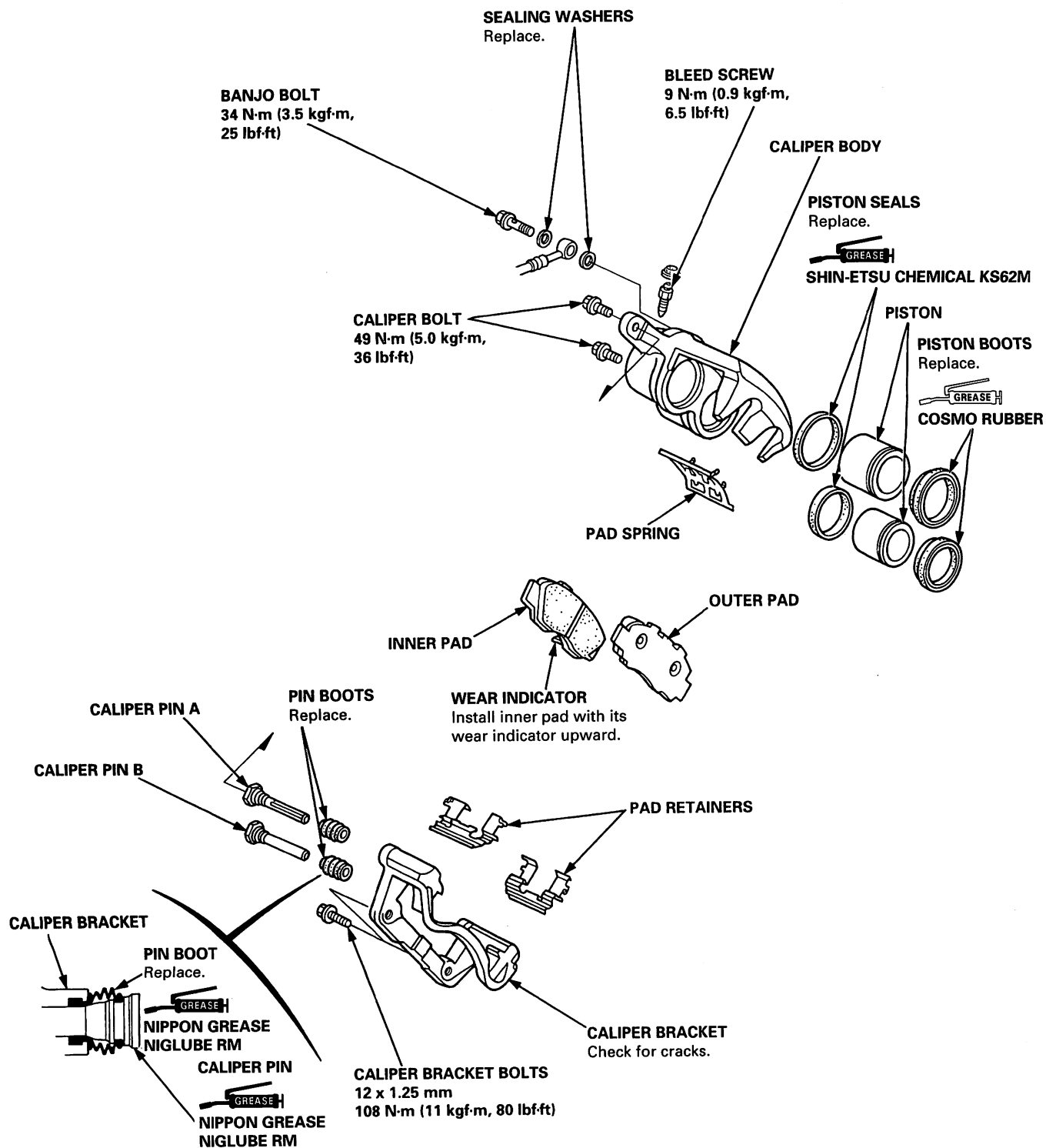




### Type R Model (Dual-pot Caliper):

: Rubber grease (Use recommended grease in the caliper set).

: Silicone grease (Use recommended seal grease and pin grease in the caliper set).



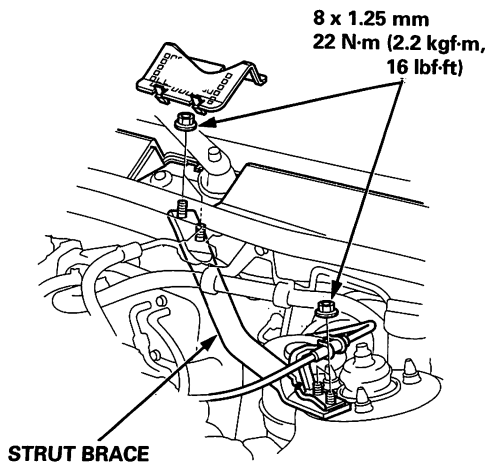
# Master Cylinder

## Removal/Installation

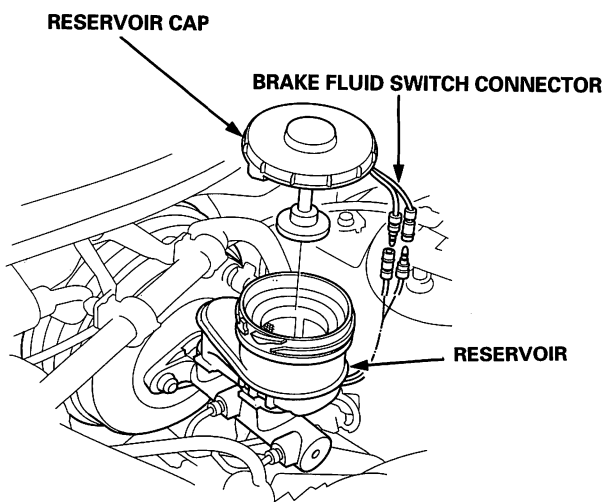
### ⚠ CAUTION

Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.

1. Remove the 8 mm flange nuts.

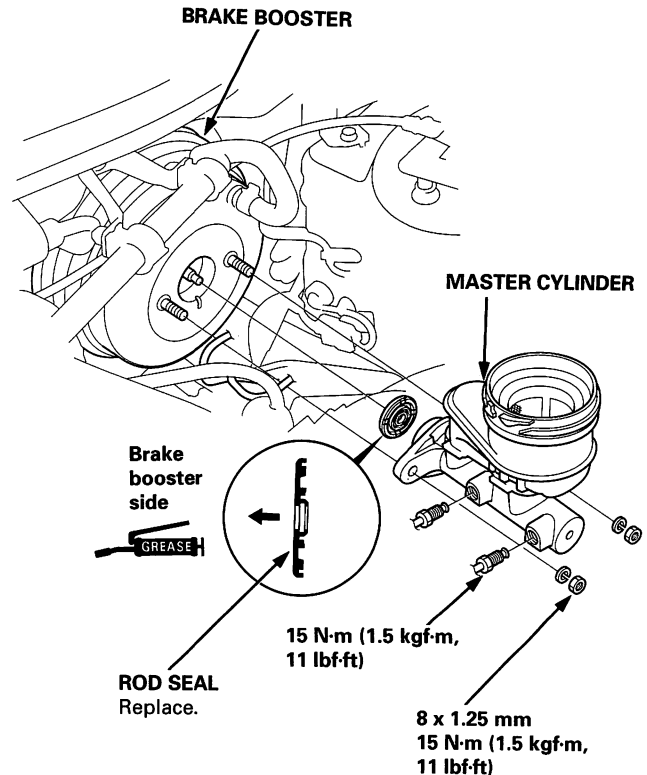


2. Remove the strut brace.
3. Disconnect the brake fluid level switch connectors, and remove the reservoir cap.



4. Remove the brake fluid from the master cylinder reservoir with a syringe.

5. Disconnect the brake lines from the master cylinder. To prevent spills, cover the hose joints with rags or shop towels.



6. Remove the master cylinder mounting nuts and washers.
7. Remove the master cylinder from the brake booster. Be careful not to bend or damage the brake lines when removing the master cylinder.
8. Remove the rod seal from the brake booster.
9. Install the master cylinder in the reverse order of removal, and note these items:
  - Replace all rubber parts with new ones whenever removed.
  - Coat the lip of the new rod seal with recommended seal grease in the master cylinder set.
  - Install the rod seal onto the brake booster with its grooved side toward the master cylinder.



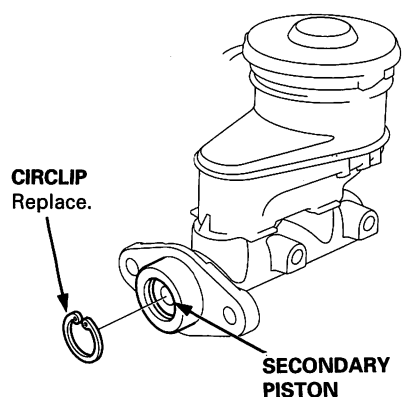


## Disassembly

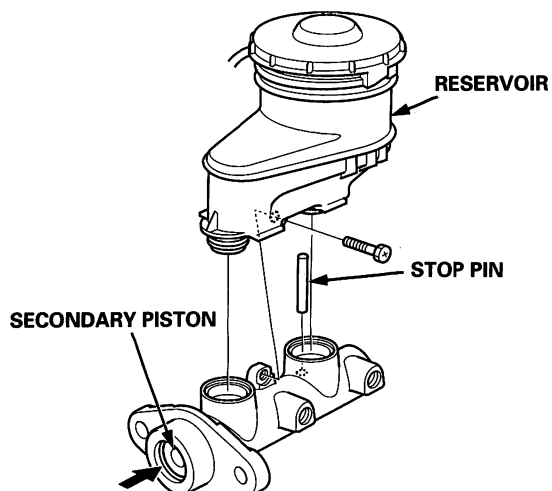
### NOTE:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.

1. Remove the master cylinder (see page 19-A-18).
2. Remove the circlip while pushing in the secondary piston.



3. Remove the reservoir.
4. Remove the stop pin while pushing in the secondary piston.



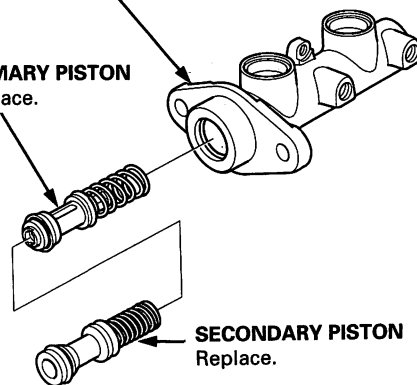
5. Remove the secondary piston and primary piston.

### MASTER CYLINDER

Check bore for wear, rust and damage.

### PRIMARY PISTON

Replace.



6. Remove the reservoir seal from the reservoir cap.
7. Remove the grommets from the reservoir.

### RESERVOIR SEAL

Check for damage and deterioration.

### RESERVOIR CAP

Check for blockage of vent holes.

### STRAINER

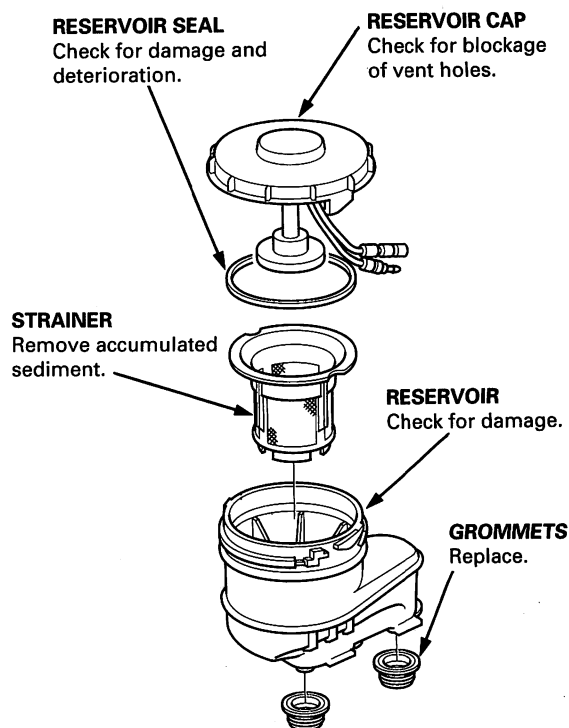
Remove accumulated sediment.

### RESERVOIR

Check for damage.

### GROMMETS

Replace.



NOTE: When the reservoir and master cylinder body are separated, replace that the grommets with new ones.

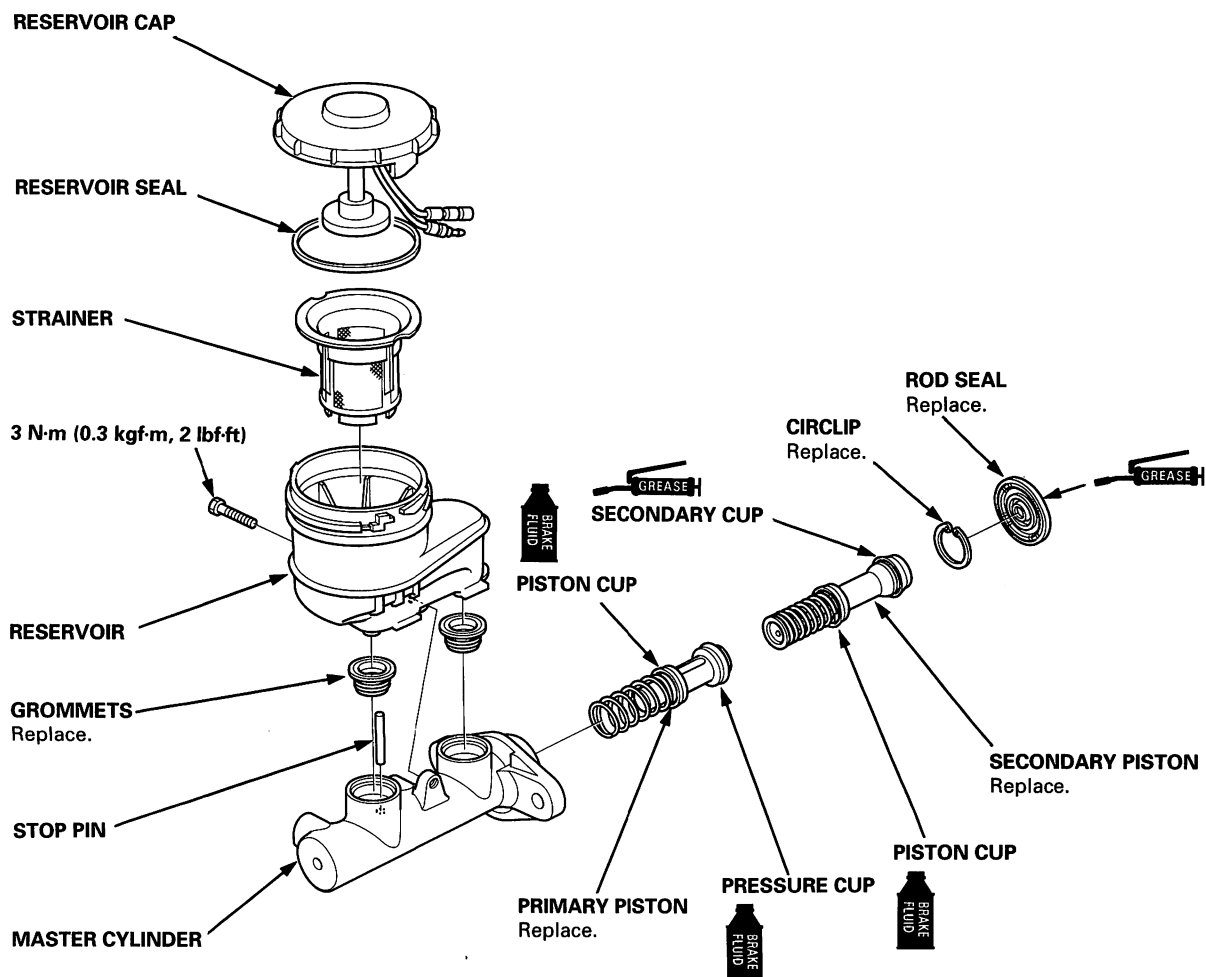
# Master Cylinder

## Reassembly

### NOTE:

- If replacing the primary piston, secondary piston or master cylinder body, check and adjust the pushrod clearance before installing the master cylinder (see page 19-A-22).
- Do not spill brake fluid on the vehicle; it may damage the paint; if brake does contact the paint, wash it off immediately with water.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean Genuine Honda brake fluid or an equivalent DOT 3 or DOT 4 brake fluid.
- Replace the master cylinder if the bore is damaged or worn. Do not hone or attempt to refinish the bore.
- Coat the piston cups, pressure cup and master cylinder bore with clean brake fluid.
- Use recommended greases in the master cylinder seal set.

1. Install the reservoir seal in the groove of the reservoir cap.
2. Install the strainer and reservoir cap on the reservoir.
3. Install the new grommets on the reservoir.

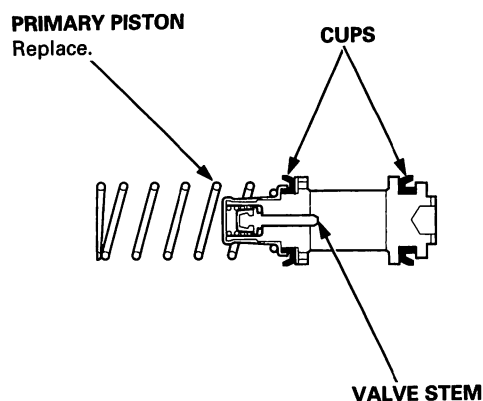




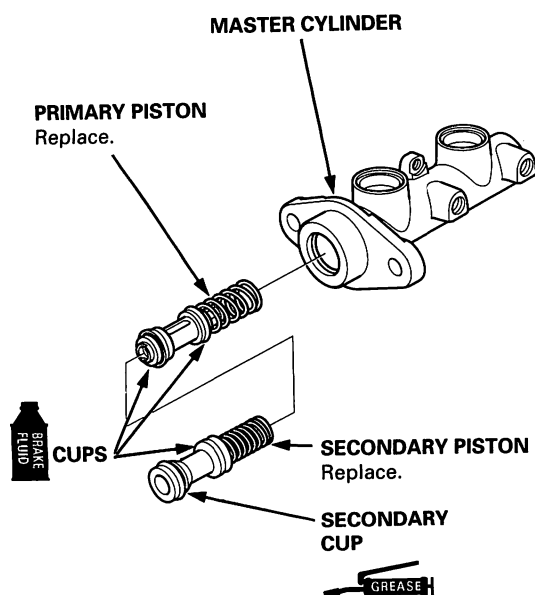
4. Coat the cups of a new primary piston with clean brake fluid, then install the primary piston into the master cylinder.

**NOTE:** Before installation, check that the valve stem moves smoothly by lightly pushing it through the slot in the piston.

Install the piston so that the slot in the piston aligns with the stop pin hole in the master cylinder.



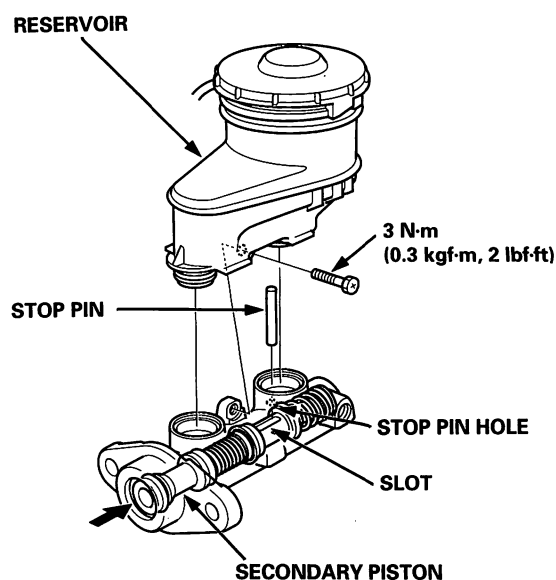
5. Apply the recommended seal grease in the master cylinder seal set to the secondary cup of a new secondary piston.



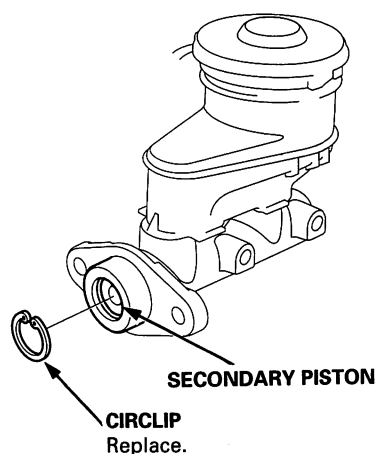
6. Coat the piston cup of a new secondary piston with clean brake fluid, then install the secondary piston into the master cylinder.

7. Align the slot in the primary piston with the stop pin hole by pushing the secondary piston in, and install the stop pin.

8. Install the reservoir to the master cylinder.



9. Install a new circlip while pushing in the secondary piston.



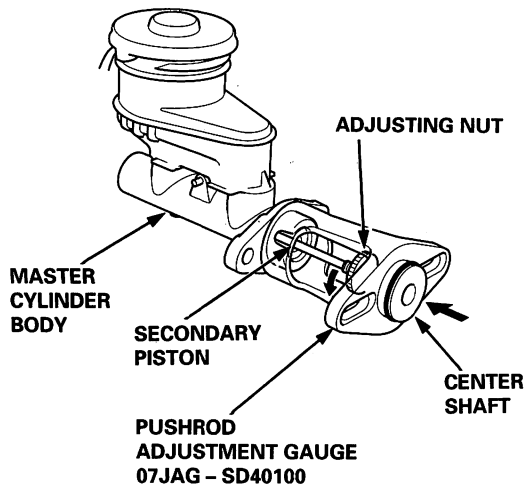
10. Adjust the pushrod clearance (see page 19-A-22).
11. Install the master cylinder (see page 19-A-18).

# Master Cylinder

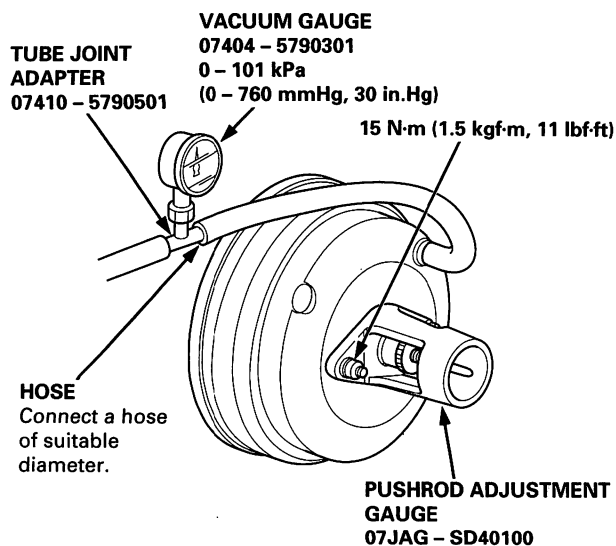
## Pushrod Clearance Adjustment

NOTE: Master cylinder pushrod-to-piston clearance must be checked and adjustments made, if necessary, before installing master cylinder.

1. Set the special tool on the master cylinder body, push in the center shaft until the top of it contacts the end of the secondary piston by turning the adjusting nut.



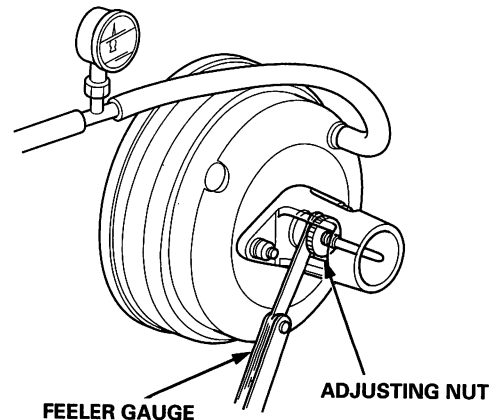
2. Without disturbing the center shaft's position, install the special tool backwards on the booster.



3. Install the master cylinder nuts and tighten to the specified torque.
4. Connect the booster in-line with a vacuum gauge 0 – 101 kPa (0 – 760 mmHg, 30 in.Hg) to the booster's engine vacuum supply, and maintain an engine speed that will deliver 66 kPa (500 mmHg, 20 in.Hg) vacuum.

5. With a feeler gauge, measure the clearance between the gauge body and the adjusting nut as shown. If the clearance between the gauge body and adjusting nut is 0.4 mm (0.02 in), the pushrod-to-piston clearance is 0 mm. However, if the clearance between the gauge body and adjusting nut is 0 mm, the pushrod-to-piston clearance is 0.4 mm (0.02 in) or more. Therefore it must be adjusted and rechecked.

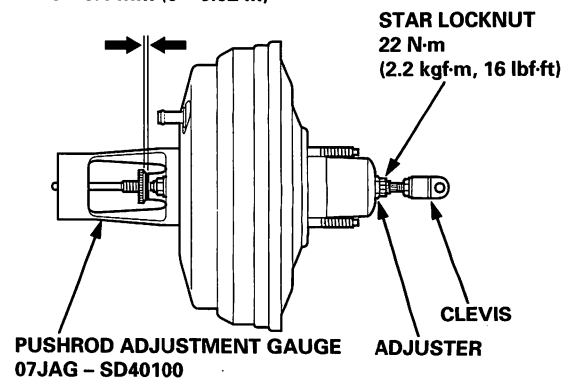
Clearance: 0 – 0.4 mm (0 – 0.02 in)



6. If clearance is incorrect, loosen the star locknut and turn the adjuster in or out to adjust.

- Adjust the clearance while the specified vacuum is applied to the booster.
- Hold the clevis while adjusting.

0 – 0.4 mm (0 – 0.02 in)

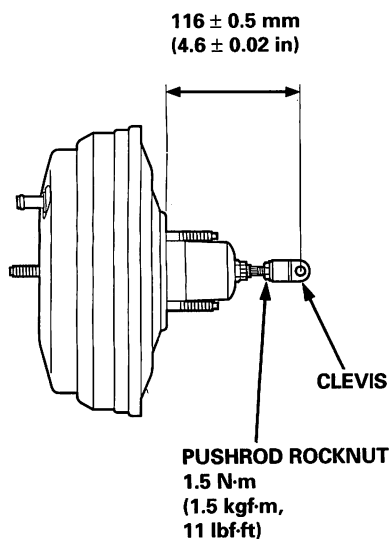


7. Tighten the star locknut securely.
8. Remove the special tool.



## Brake Booster Inspection

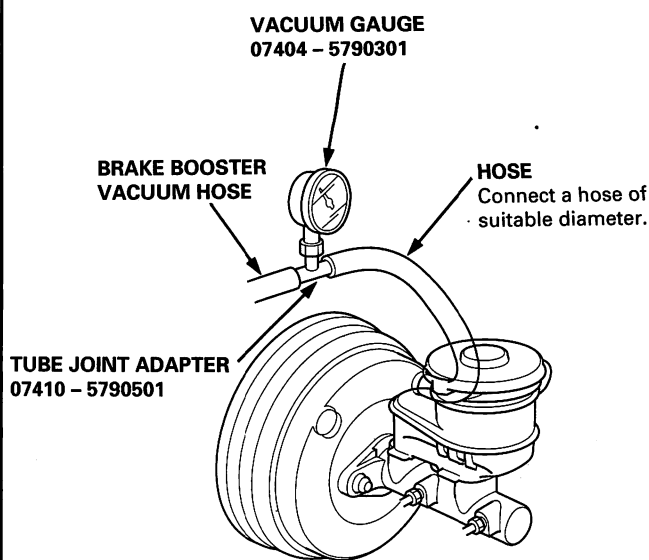
9. Check the pushrod length as shown if the booster is removed. If the length is incorrect, loosen the pushrod locknut and turn the clevis in or out to adjust.



10. Install the master cylinder (see page 19-A-18).

### Leak Test

1. Install the vacuum gauge between the brake booster and check valve.



2. Start the engine, adjust the engine speed with the accelerator pedal so that the vacuum gauge readings show 40.0 – 66.7 kPa (300 – 500 mmHg, 11.8 – 19.7 in. Hg), then stop the engine.

3. Read the vacuum gauge.

If the vacuum reading decreases 2.7 kPa (20 mmHg, 0.8 in.Hg) or more after 30 seconds, check following parts for leaks.

- Check valve
- Vacuum hose, line
- Seals
- Brake booster
- Master cylinder

**NOTE:** Do not try to disassemble the brake booster. Replace the brake booster as an assembly with new one.

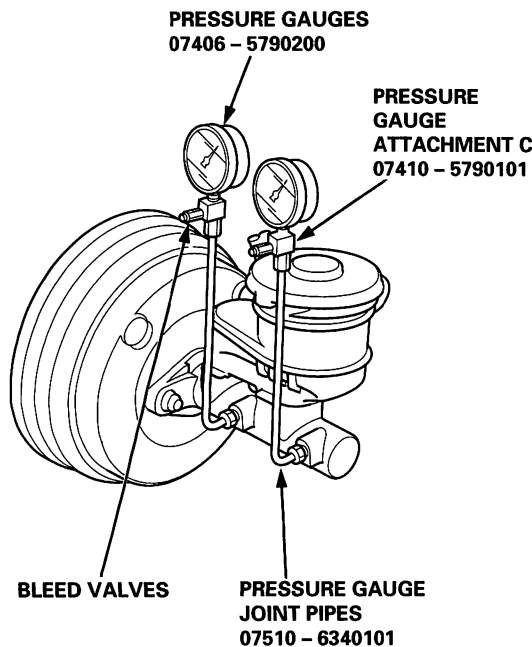
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# Brake Booster

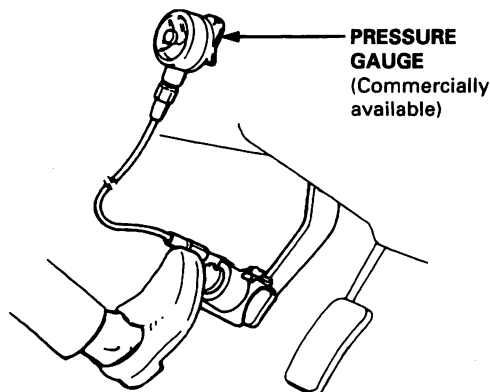
## Brake Booster Inspection (cont'd)

### Function Test

1. Install the vacuum gauge as same the leak test.
2. Connect the oil pressure gauges to the master cylinder using the attachments (special tools) as shown.
3. Bleed air through the valves.



4. Start the engine and let it idle.
5. Have an assistant depress the brake pedal with a 98 N (10 kgf, 22 lbf) and 294 N (30 kgf, 66 lbf) of pressure.



6. The following pressures should be observed at the pressure gauges in each vacuum.

### B16B6 Engine Model

Vacuum kPa (mmHg, in.Hg)	N (kgf, lbf)	kPa (kgf/cm <sup>2</sup> , psi)
0 (0, 0)	98 (10, 22)	0 (0, 0)
	294 (30, 66)	1,470 (15, 213)
66.7 (500, 19.7)	98 (10, 22)	3,040 (31, 441)
	294 (30, 66)	6,865 (70, 995)

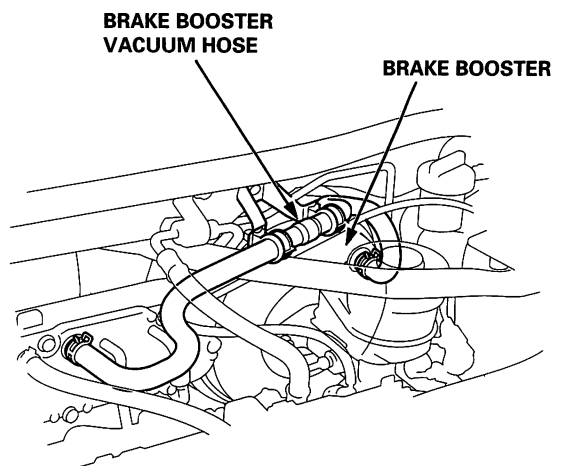
### All Except B16B6 Engine Model

Vacuum kPa (mmHg, in.Hg)	N (kgf, lbf)	kPa (kgf/cm <sup>2</sup> , psi)
0 (0, 0)	98 (10, 22)	0 (0, 0)
	294 (30, 66)	1,275 (13, 185)
66.7 (500, 19.7)	98 (10, 22)	3,825 (39, 555)
	294 (30, 66)	8,238 (84, 1,194)

7. Inspect the master cylinder for leaks if the readings do not fall within the limits shown above.

### Booster Check Valve Test

1. Disconnect the brake booster vacuum hose (check valve built in) at the booster.

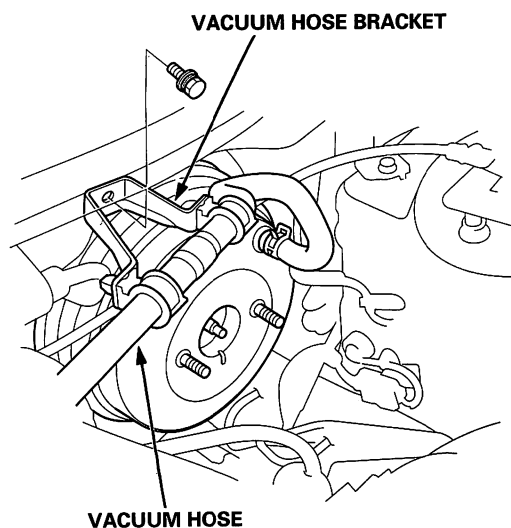


2. Start the engine and let it idle. There should be vacuum available. If no vacuum is available, the check valve is not working properly. Replace the brake booster vacuum hose and check valve and retest.

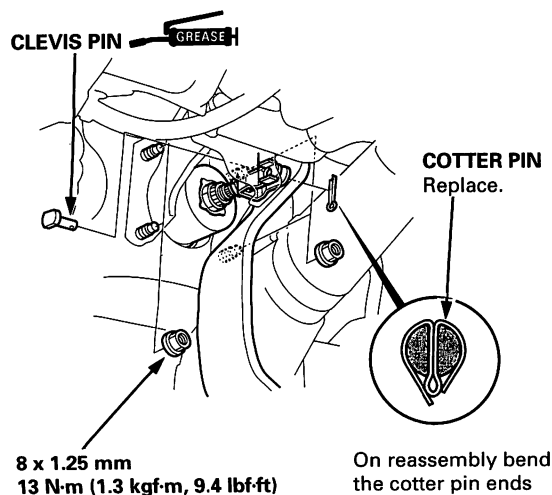


## Removal/Installation

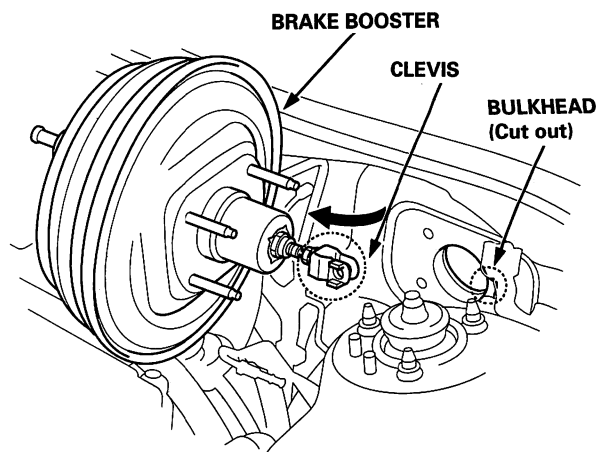
1. Remove the master cylinder (see page 19-A-18).
2. For Type R model only, remove the intake manifold (see section 9).
3. Remove the P/S feed hose clamp (LHD only).
4. Remove the power relay (LHD only).
5. For M/T model only, remove the clutch reservoir and reservoir bracket. Do not disconnect the clutch hose from the reservoir.
6. Disconnect the vacuum hose from the brake booster, then remove the vacuum hose bracket.



7. Remove the lock pin and clevis pin.



8. Remove the four booster mounting nuts.
9. Pull the brake booster forward, then turn it to the right until the clevis is clear of the bulkhead.



10. Remove the brake booster from the engine compartment.
11. Install the brake booster in the reverse order of removal, and note these items:
  - Adjust the pushrod length before installing the brake booster.
  - After installation, adjust the brake pedal height and brake pedal free play (see page 19-A-5).
  - Use a new lock pin.

# Rear Brake Pads

## Inspection and Replacement

### ⚠ CAUTION

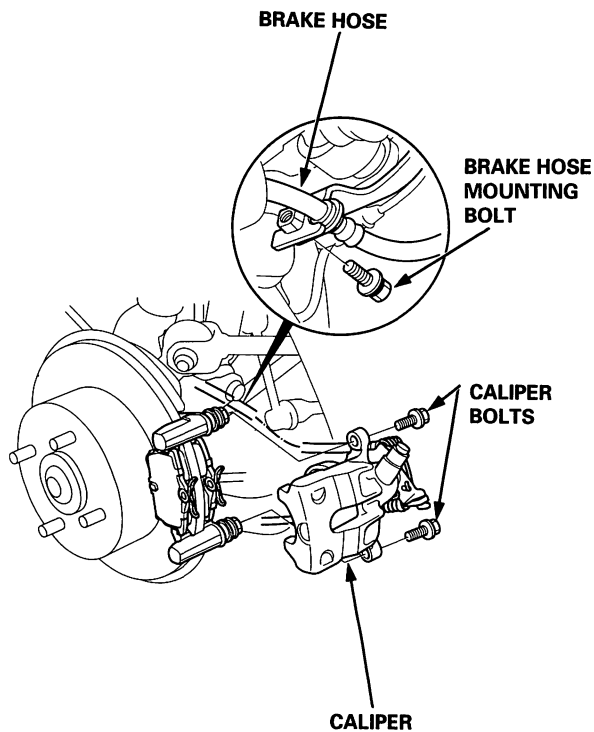
Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

1. Raise the rear of the vehicle and make sure it is securely supported. Remove the rear wheel.
2. Release the parking brake.
3. Remove the brake hose from the suspension arm by removing the mounting bolt.

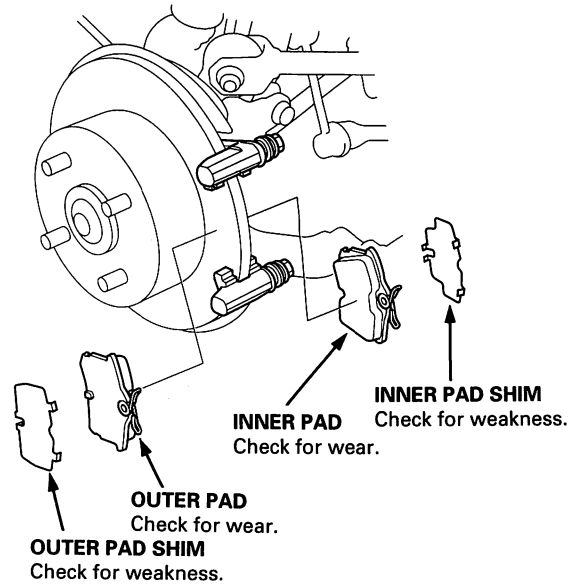
### ⚠ CAUTION

- Thoroughly clean the outside of the caliper to prevent dust and dirt from entering inside.
- Support the caliper with a piece of wire so that it does not hang from the brake hose.



4. Hold the caliper pin with a wrench, being careful not to damage the pin boot. Remove the two caliper bolts with another wrench and caliper from the bracket.

5. Remove the pad shims and brake pads.

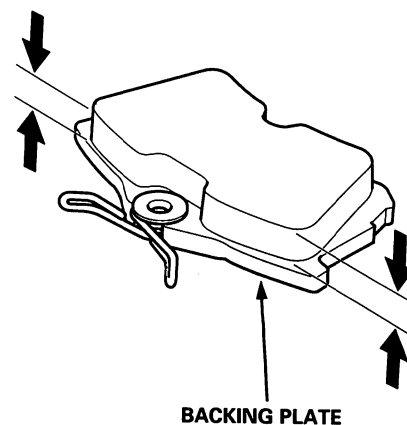


6. Using vernier calipers, measure the thickness of each brake pad lining. Measurement does not include pad backing plate thickness.

#### Brake Pad Thickness:

Standard: 8.5 – 9.5 mm (0.33 – 0.37 in)

Service Limit: 1.6 mm (0.06 in)



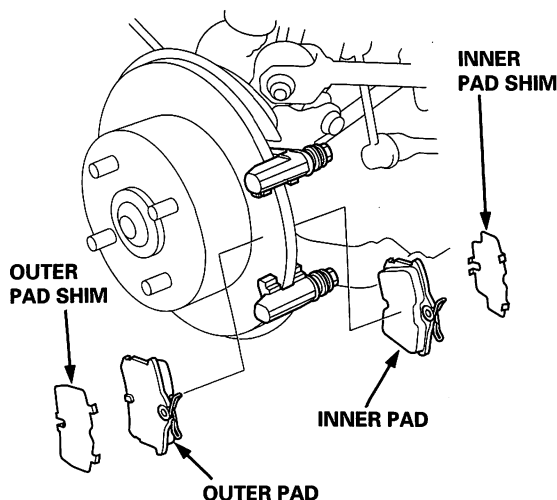




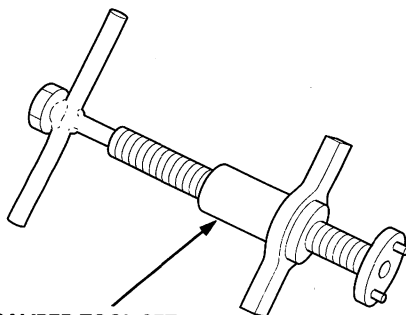
7. Clean the caliper thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Install the brake pads and pad shim on the caliper bracket. Install the inner pad with its wear indicator facing down ward.

## ⚠ WARNING

- When reusing the pads, always reinstall the brake pads in their original positions to prevent loss of braking efficiency.
- Contaminated brake discs or pads reduce stopping ability. Keep grease off the discs and pads.

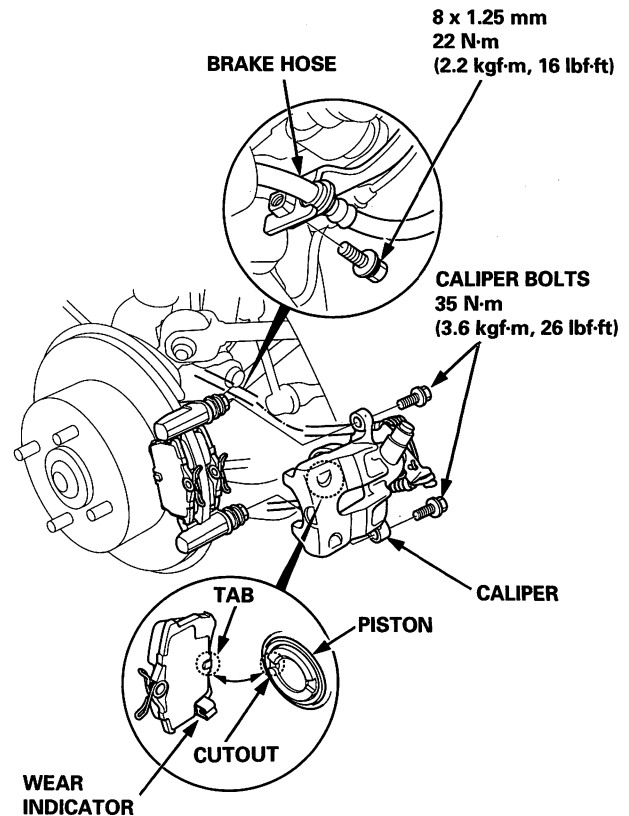


10. Push the caliper piston in to the cylinder with commercially available brake caliper tool set.



**BRAKE CALIPER TOOL SET**  
Commercially Available  
(Lucas No. YCB241 or equivalent)

11. Align the cutout in the piston with the tab of the inner pad by turning the piston back. Lubricate the boot with rubber grease to avoid twisting the piston boot. If the piston boot is twisted, back it out so it is positioned properly.



12. Install the brake caliper on the caliper bracket.
13. Hold the caliper pin with a wrench, being careful not to damage the pin boot. Install the caliper bolt with another wrench and torque the caliper bolts to proper specification.
14. Install the brake hose onto the suspension arm with the mounting bolt.
15. After installation, check for leaks at hose and line joints and connections, and retighten if necessary.
16. Depress the brake pedal several times to make sure the brakes work, then road-test.

**NOTE:** Engagement of the brake may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

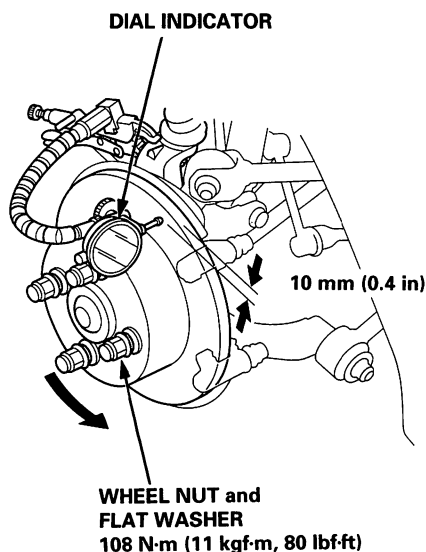
# Rear Brake Disc

## Disc Runout Inspection

1. Loosen the rear wheel nuts slightly, then raise the rear of the vehicle, and make sure it is securely supported.
2. Remove the brake pads (see page 19-A-26).
3. Inspect the disc surface for damage and cracks. Clean the disc thoroughly and remove all rust.
4. Use wheel nuts and suitable flat washers to hold the disc securely against the hub, then mount a dial indicator as shown, and measure the runout at 10 mm (0.4 in) from the outer edge of the disc.

### Brake Disc Runout:

**Service Limit: 0.10 mm (0.004 in)**



5. If the disc is beyond the service limit, refinish the brake disc.

**Max. Refinishing Limit: 8.0 mm (0.31 in)**

**NOTE:** A new disc should be refinished if its runout is greater than 0.10 mm (0.004 in).

## Disc Thickness and Parallelism Inspection

1. Loosen the rear wheel nuts slightly, then raise the vehicle and support it on safety stands. Remove the rear wheels.
2. Remove the brake pads (see page 19-A-26).
3. Using a micrometer, measure disc thickness at eight points, approximately 45° apart and 10 mm (0.4 in) in from the outer edge of the disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

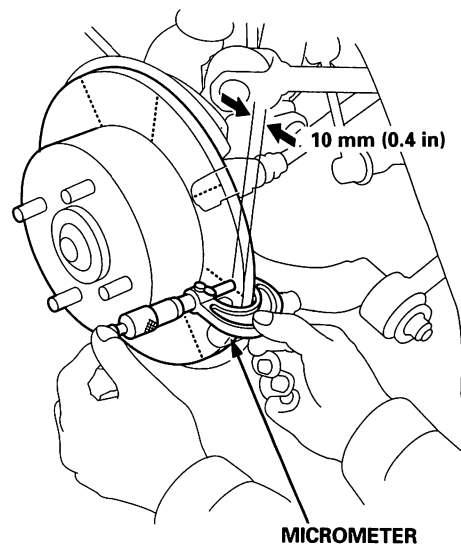
### Brake Disc Thickness:

**Standard: 9.9 – 10.1 mm (0.390 – 0.398 in)**

**Max. Refinishing Limit: 8.0 mm (0.31 in)**

**Brake Disc Parallelism: 0.015 mm (0.0006 in) max.**

**NOTE:** This is the maximum allowable difference between the thickness measurements.



4. If the disc is beyond the service limit for parallelism, refinish the brake disc.

**NOTE:** See section 18 for brake disc replacement.

# Rear Brake Caliper



## Disassembly/Reassembly

### ⚠ CAUTION

Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

#### NOTE:

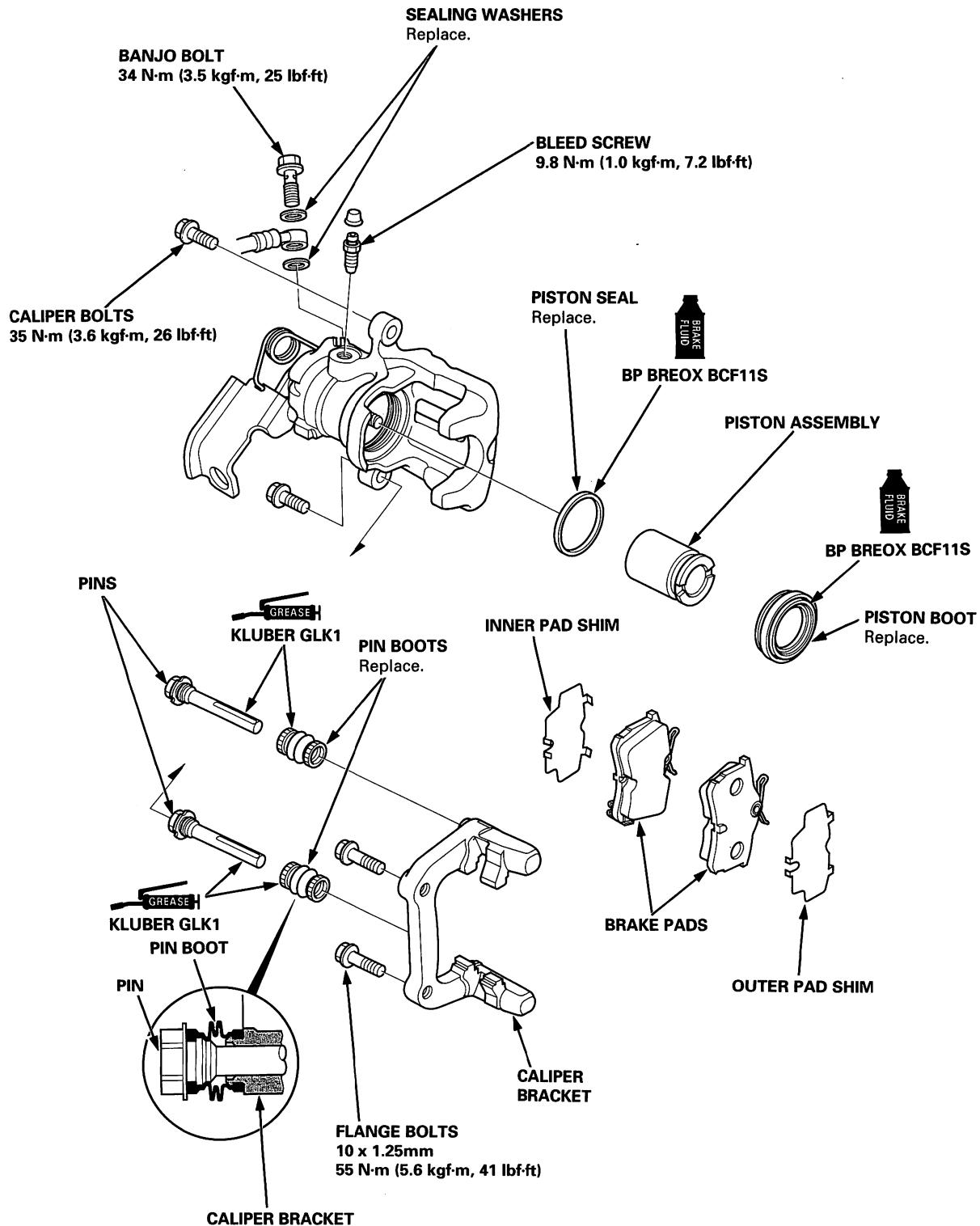
- Do not spill brake fluid on the vehicle; It may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Contaminated brake discs or pads reduce stopping ability.
- When reusing the pads, install them in their original positions to prevent loss of braking efficiency.
- Do not reuse the drained fluid.
- Use only clean Genuine Honda brake fluid or an equivalent DOT3 or DOT4 brake fluid.
- Coat the piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the rear brake caliper.
  - Check for leaks at hose and line joints and connections, and retighten if necessary.
  - Check the brake hoses for interference and twisting.

(cont'd)

# Rear Brake Caliper

## Disassembly/Reassembly (cont'd)

 **GREASE**: Use recommended pin grease in the caliper seal set.



# Rear Drum Brakes



## Inspection

### ⚠ CAUTION

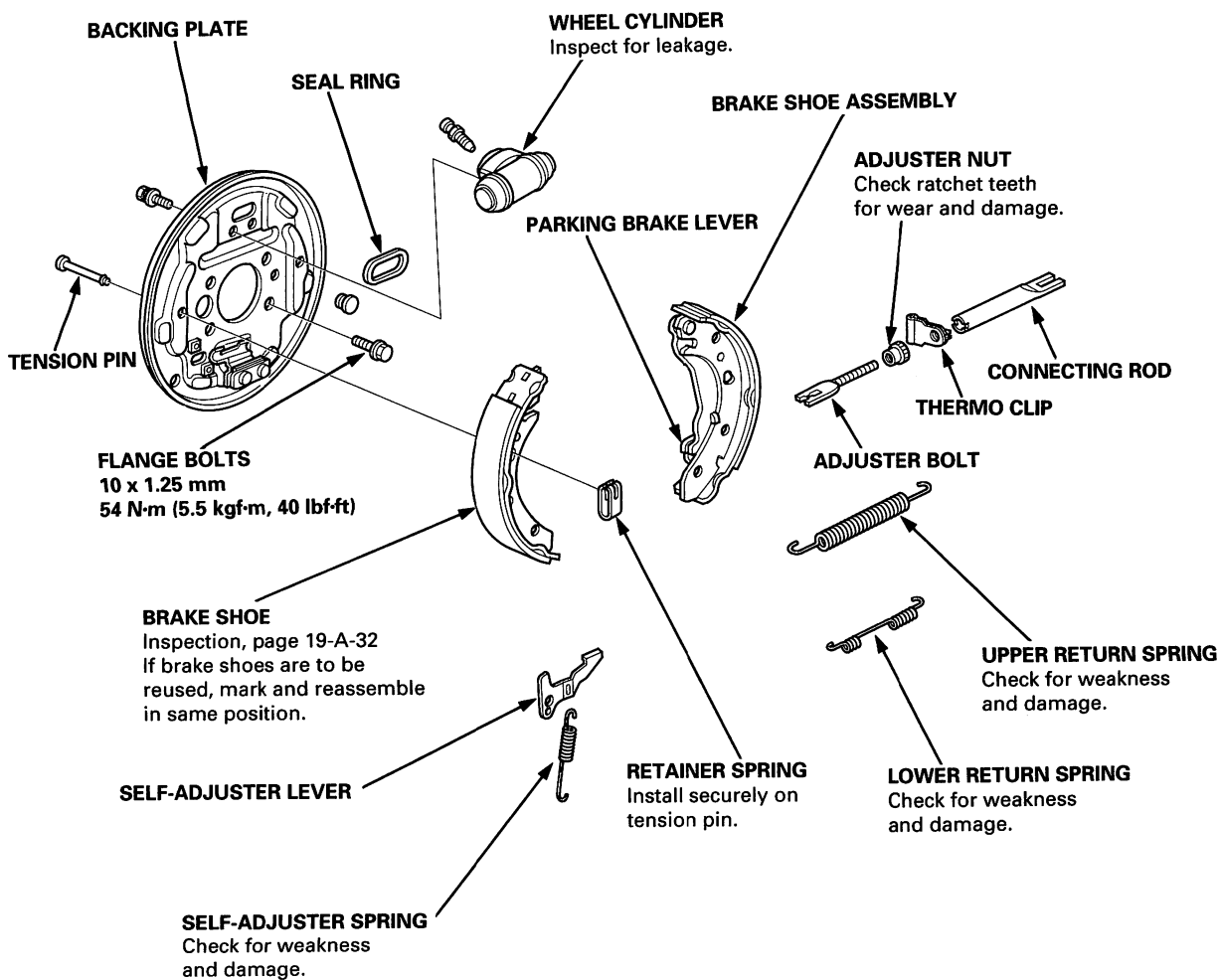
Frequent inhalation of brake shoe dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

#### NOTE:

- Contaminated brake linings or drums reduce stopping ability.
- Block the front wheels before jacking up the rear of the vehicle.

1. Raise the rear of the vehicle, and make sure it is securely supported.
2. Release the parking brake, and remove the rear brake drum (see section 18).

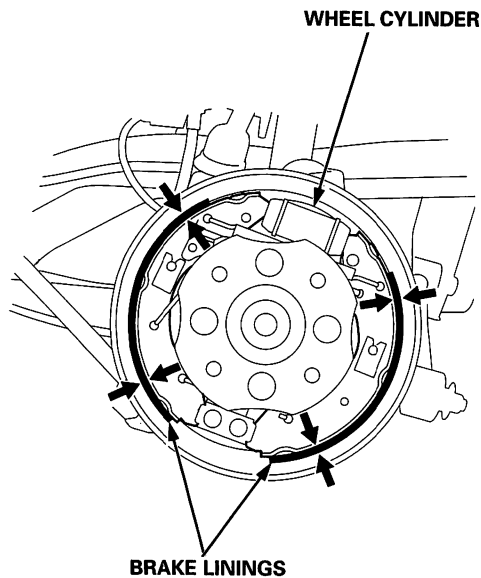


(cont'd)

# Rear Drum Brakes

## Inspection (cont'd)

3. Check the wheel cylinder for leakage.



4. Check the brake linings for cracking, glazing, wear and contamination.
5. Measure the brake lining thickness. Measurement does not include brake shoe thickness.

### Brake Lining Thickness:

**Standard:** 5.0 mm (0.20 in)

**Service Limit:** 2.0 mm (0.08 in)

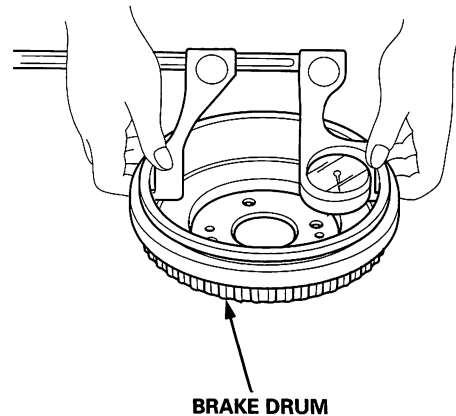
6. If the brake lining thickness is less than the service limit, replace the brake shoes as a set.
7. Check the bearings in the hub unit for smooth operation; if the bearings require servicing, see section 18.

8. Measure the inside diameter of the brake drum with inside vernier calipers.

### Drum Inside Diameter:

**Standard:** 228.6 – 228.7 mm (9.000 – 9.004 in)

**Service Limit:** 229.6 mm (9.039 in)



9. If the inside diameter of the brake drum is more than service limit, replace the brake drum.
10. Check the brake drum for scoring, grooves and cracks.



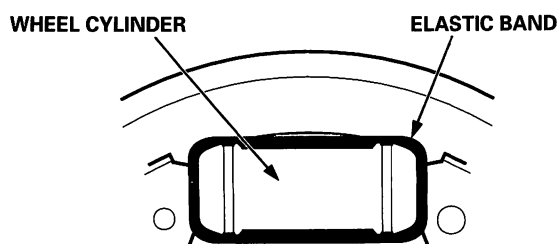
## Brake Shoes Replacement

### ⚠ CAUTION

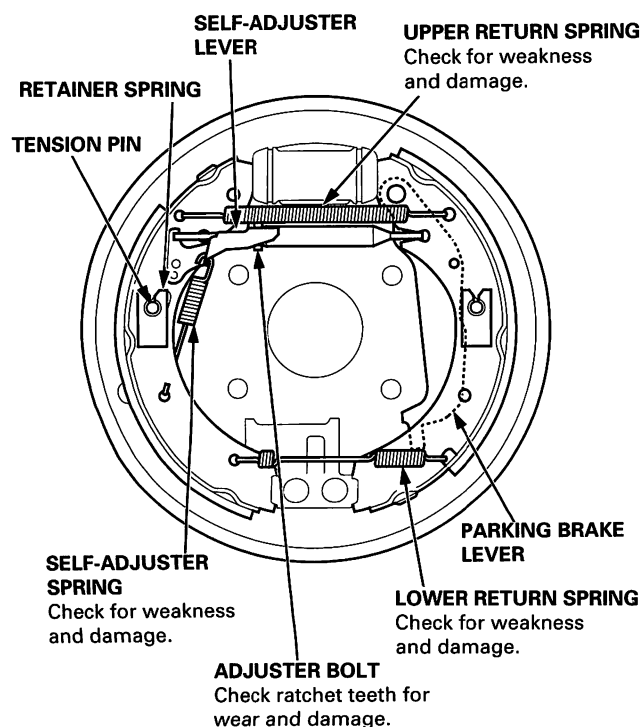
Frequent inhalation of brake shoe dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use a vacuum cleaner.

1. Remove the tension pins by pushing the retainer spring and turning them.
2. To prevent the wheel cylinder pistons from being accidentally ejected or over pushing, fit a suitable elastic band.



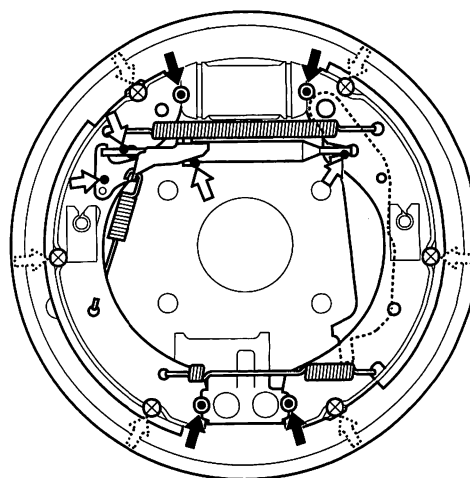
3. Remove the brake shoe lower ends from the anchor by expanding the bottom ends of the brake shoes together. Do not over pushed the wheel cylinder piston to one side, when expanding the shoes.
4. Remove the lower return spring.



5. Expand the upper ends of the brake shoes together, and remove them from the wheel cylinder pistons. Make sure not to damage the dust covers on the wheel cylinder. Do not depress the brake pedal while the shoes are removed.
6. Remove the upper return spring.
7. Remove the adjuster assembly, self-adjuster spring and lever from the shoe.
8. Disconnect the parking brake cable from the parking brake lever on the brake shoe.
9. Inspect all parts for worn, rust and damage.
10. Apply grease on each sliding surface. Keep grease or oil off the brake linings. Wipe any excess grease off the parts.

Greasing Symbols:

- ➡ ● Brake shoe ends
- ⊗ Opposite the edge of the shoe
- ➡ ● Sliding surface

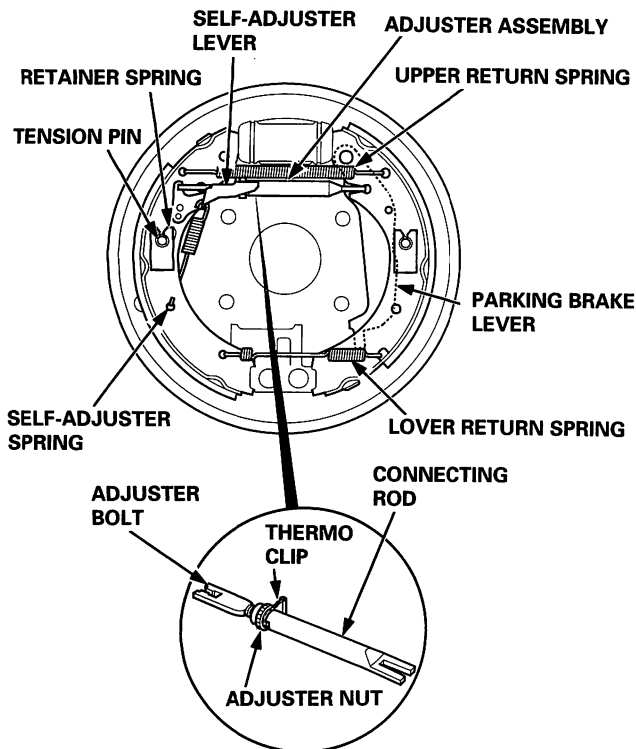


(cont'd)

# Rear Drum Brakes

## Brake Shoes Replacement (cont'd)

11. Connect the parking brake cable to the parking brake lever on the brake shoe.
12. Install the self-adjuster lever on the brake shoe.
13. Hook the self-adjuster spring to the lever first, then to the brake shoe.
14. Clean the threaded portions of adjuster bolt and nut. Coat the threads of the adjuster bolt with grease. Install the adjuster nut, thermo clip and connecting rod on the adjuster bolt. To shorten the adjuster bolt, turn the adjuster nut. Install the adjuster assembly between the shoe and parking brake lever. Note the installation direction.



15. Set the upper ends of the brake shoes on the wheel cylinder pistons. Connect the upper return spring on the brake shoes. Do not over pushed the wheel cylinder piston to one side.
16. Connect the lower return spring on the brake shoes, note the installation direction.
17. Position the brake shoe lower ends on the anchor by expanding the bottom ends of the brake shoes together. Do not over pushed the wheel cylinder piston to one side, when expanding the shoes.
18. Install the tension pins and the retainer springs.

19. After installing the brake shoes, be sure remove the elastic band from the wheel cylinder. Carefully pull lower edges of wheel cylinder boots away from cylinders to see. If the interior of the cylinder is wet with brake fluid, wipe it off.
20. Install brake drum.
21. If the wheel cylinder has been removed, bleed the brake system (see page 19-A-7).
22. Depress the brake pedal several times to set the self-adjusting brake.
23. Adjust the parking brake (see page 19-A-6).

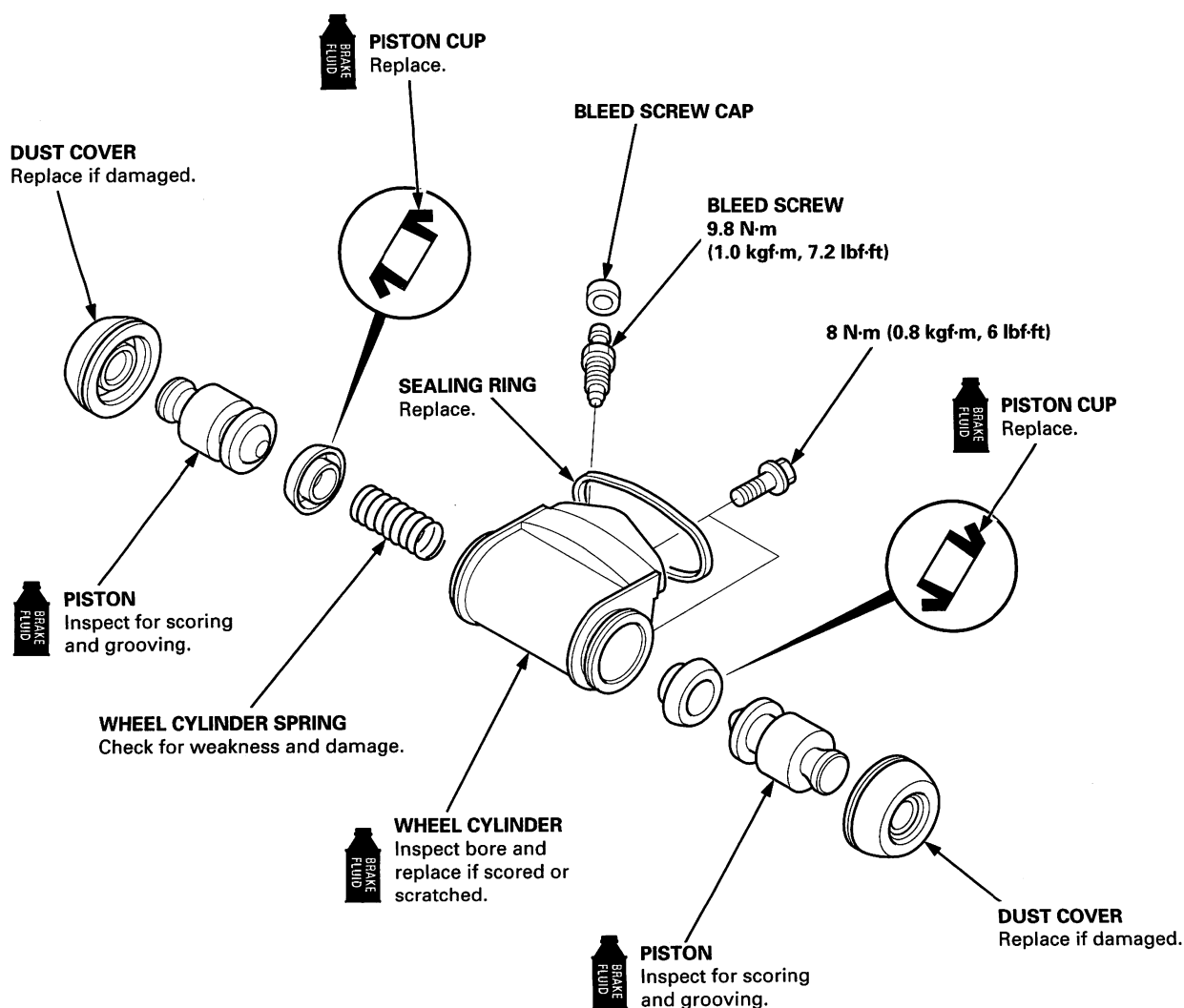


## Wheel Cylinder

## Disassembly/Inspection

**NOTE:**

- NOTE:**
- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
  - Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
  - Before reassembling, check that all parts are free of dust and other foreign particles.
  - Replace parts with new ones whenever specified to do so.
  - Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
  - Do not reuse the drained fluid.
  - Use only clean Genuine Honda brake fluid or an equivalent DOT 3 or DOT 4 brake fluid.
  - Coat the piston, piston cup, and wheel cylinder bore with clean brake fluid.
  - Replace all rubber parts with new ones whenever disassembled.



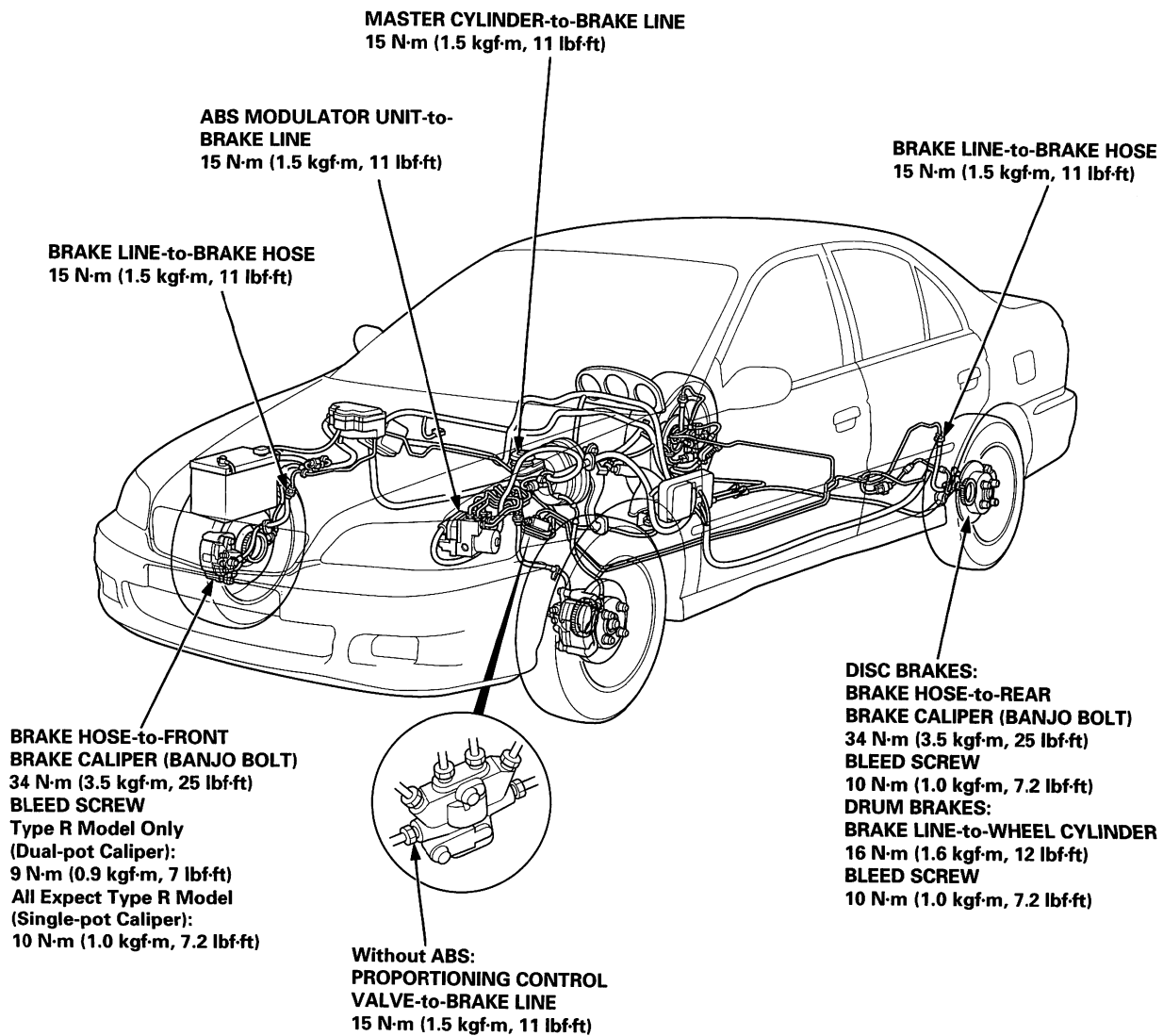
# Brake Hose/Lines

## Inspection/Torque Specifications

1. Inspect the brake hoses for damage, deterioration, leaks, interference and twisting.
2. Check the brake lines for damage, rusting and leakage. Also check for bent brake lines.
3. Check for leaks at hose and line joints or connections, and retighten if necessary.
4. Check the master cylinder, proportioning control valve and ABS modulator unit for damage and leakage.

### NOTE:

- Replace the brake hose clip whenever the brake hose is serviced.
- LHD type is shown, RHD type is symmetrical.

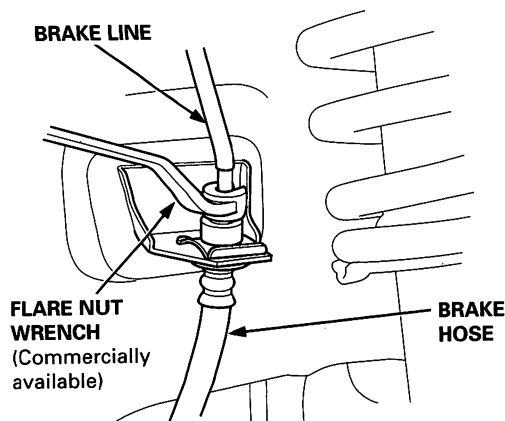




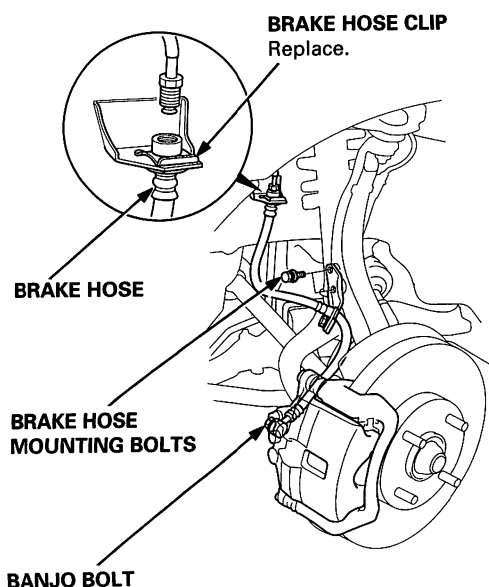
## Brake Hose Replacement

### NOTE:

- Before reassembling, check that all parts are free of dust and other foreign particles.
  - Replace parts with new ones whenever specified to do so.
  - Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
1. Replace the brake hose if the hose is twisted, cracked, or if it leaks.
  2. Disconnect the brake hose from the brake line using a 10 mm flare-nut wrench.

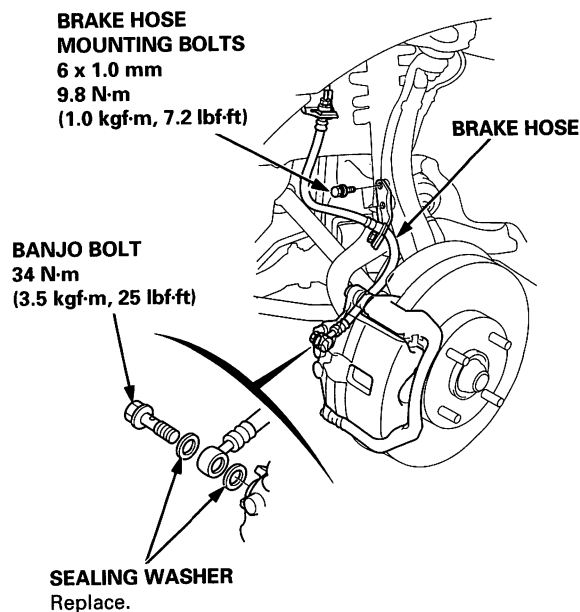


3. Remove and discard the brake hose clip from the brake hose.

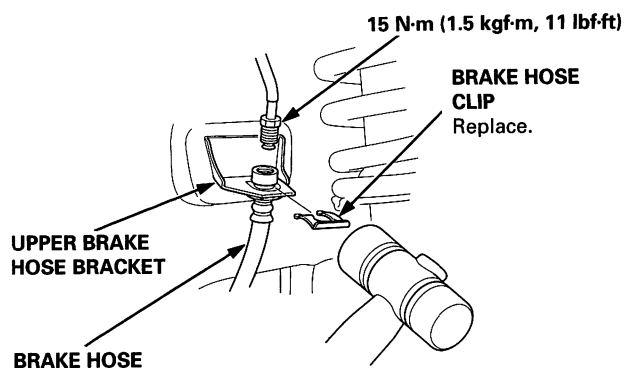


4. Remove the banjo bolt, and disconnect the brake hose from the caliper.
5. Remove the brake hose from the knuckle.

6. Install the brake hose on the knuckle with two 6 mm brake hose mounting bolts first, then connect the brake hose to the caliper with the banjo bolt and new sealing washers.



7. Install the brake hose on the upper brake hose bracket with a new brake hose clip.



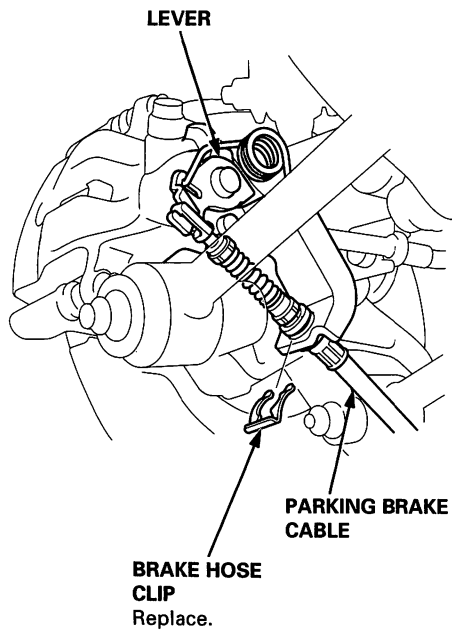
8. Connect the brake line to the brake hose.
9. After installing the brake hose, bleed the brake system (see page 19-A-7).
10. Perform the following checks.
  - Check the brake hose and line joint for leaks, and tighten if necessary.
  - Check the brake hoses for interference and twisting.

# Parking Brake Cable

## Inspection/Replacement

### Rear Disc Brake:

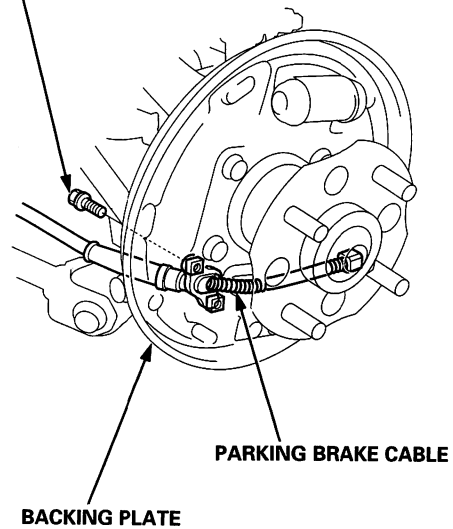
1. Release the parking brake lever fully, and remove the brake hose clip from the parking brake cable.
2. Disconnect the parking brake cable from the lever.



### Rear Drum Brake:

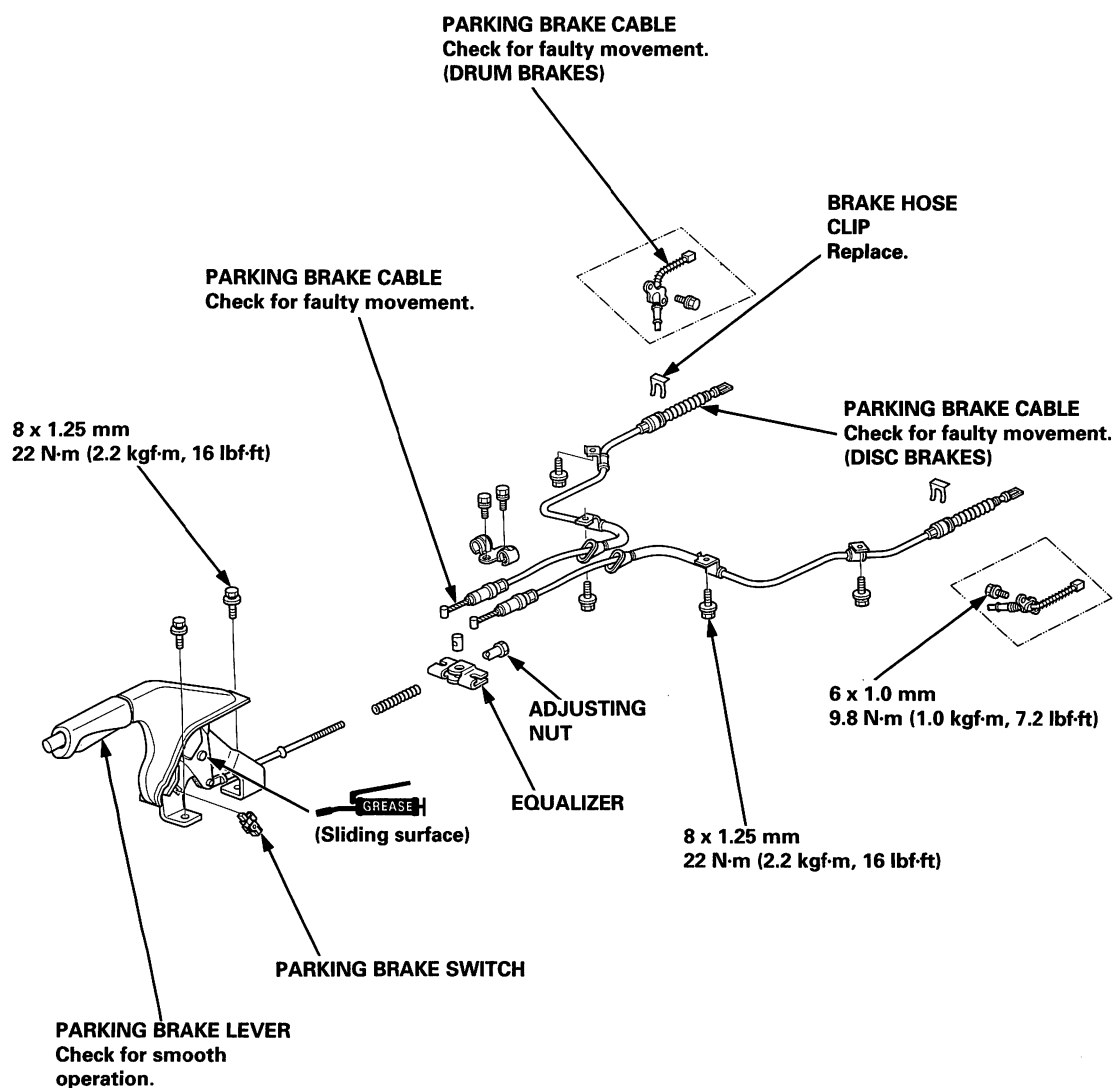
1. Remove the brake shoe assembly (see page 19-A-33).
2. Remove the parking brake cable mounting bolts from the backing plate.
3. Remove the parking brake cable.

6 x 1.0 mm  
9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)





NOTE: The parking brake cables must not be bent or distorted. This will lead to stiff operation and premature cable failure.



## Anti-lock Brake System (ABS)

Special Tools .....	19-B-1	ABS Indicator Does Not Come On .....	19-B-14
Component Locations .....	19-B-2	ABS Indicator Does Not Go Off .....	19-B-16
Anti-lock Brake System (ABS)		DTC: 11, 12, 13, 14, 15, 16, 17, 18, 21 .....	19-B-18
Features/Construction .....	19-B-3	DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 61, 81 .....	19-B-20
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Terminal Arrangement .....	19-B-8	Modulator Assembly	
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Troubleshooting Index .....	19-B-12	Wheel Sensor Replacement .....	19-B-24
Troubleshooting			
Brake System Indicator Does Not Go Off .....	19-B-13		

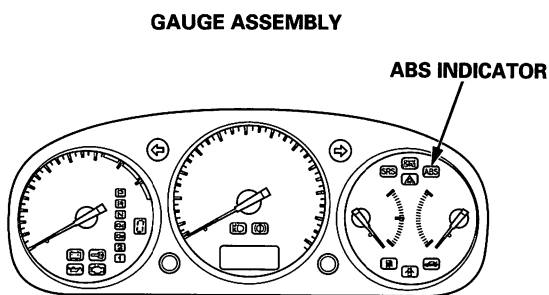
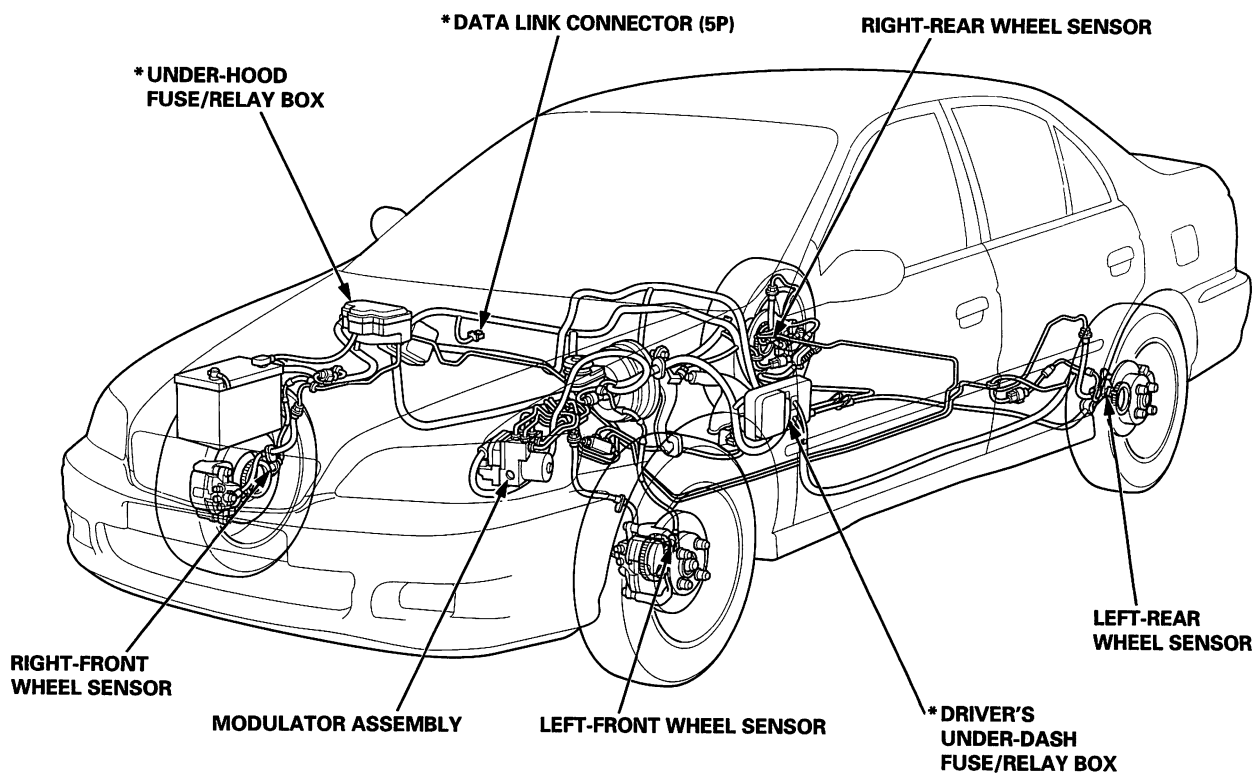
## Special Tools



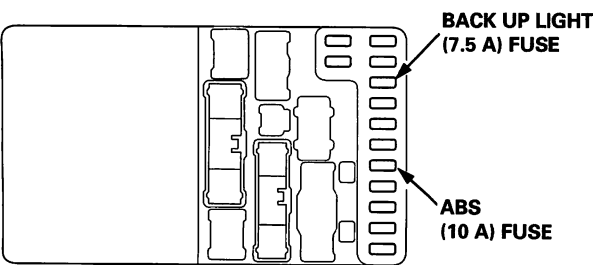
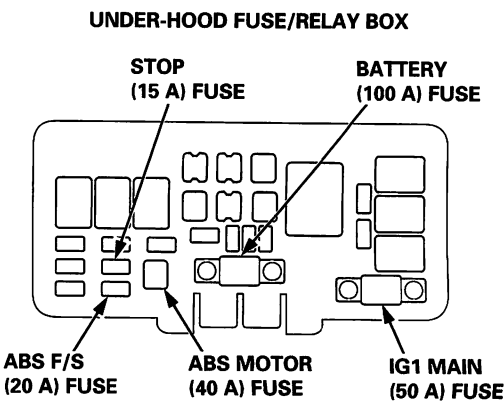
Ref. No.	Tool Number	Description	Qty	Remark
①	07TAZ – ST30100	ABS Short Connector	1	

# Component Locations

The parts with asterisk (\*): LHD type is shown, RHD type is symmetrical.



DRIVER'S UNDER-DASH FUSE/RELAY BOX



# Anti-lock Brake System (ABS)



## Features/Construction

When the brake pedal is depressed during driving, the wheels can lock before the vehicle comes to a stop. In such an event, the maneuverability of the vehicle is reduced if the front wheels are locked, and the stability of the vehicle is reduced (tail slide) if the rear wheels are locked, creating an extremely unstable condition. The ABS precisely controls the slip rate of the wheels to ensure maximum grip force from the tires, and it thereby ensures maneuverability and stability of the vehicle.

### ABS Control Unit

#### Main Control

The ABS control unit detects the wheel speed based on the wheel sensor signal it received, then it calculates the vehicle speed based on the detected wheel speed. The ABS control unit detects the vehicle speed at deceleration by slowing down from the vehicle speed before deceleration at a certain rate.

The ABS control unit calculates the slip rate of each wheel and it transmits the control signal to the modulator unit solenoid valve when the slip rate is high.

The pressure reduction circuit is the three control channels system of each front wheel and both rear wheels.

The pressure reduction control has three modes: pressure reduction, pressure retaining, and pressure intensifying.

The wheel sensor signal is four channels system from each wheel.

#### Self-diagnosis Function

The ABS control unit equips the watch dog timer.

The ABS control unit equips the main CPU and sub CPU, that check each other for problems.

The CPUs check the circuit of the system.

#### On-board Diagnosis Function

The ABS control unit equips the data link connector (5P).

The ABS can be diagnosed with HONDA PGM TESTER.

### ABS Modulator Unit

The ABS modulator unit consists of the inlet solenoid valve, outlet solenoid valve, accumulator, pump, pump motor and the damping chamber.

The direct pressure reducing control type that reduces the caliper fluid pressure directly is adopted for the modulator, which is also referred as the circulating type because the brake fluid circulates through the caliper, reservoir and the master cylinder.

The hydraulic control has the three modes of pressure reduction, pressure retaining and pressure intensifying modes.

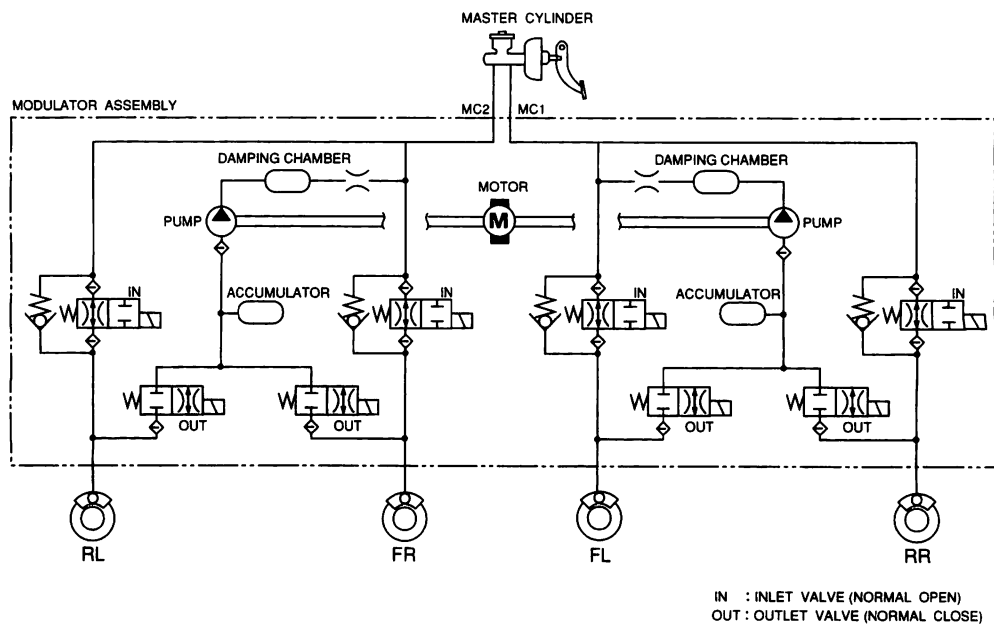
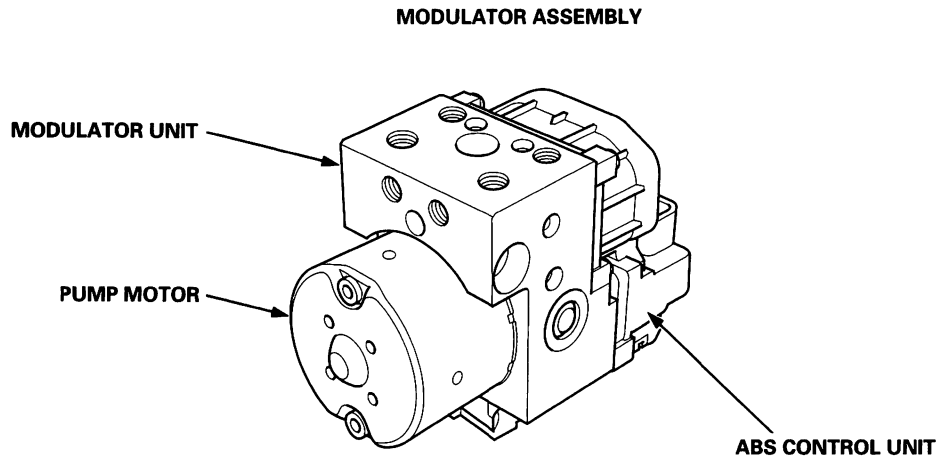
The hydraulic circuit is the independent four channel from each wheel.

(cont'd)



# Anti-lock Brake System (ABS)

## Features/Construction (cont'd)



### Wheel Sensor

The four wheel sensors are the magnetic contactless type.

As the gear pulser teeth rotate past the wheel sensor's magnetic coil, AC current is generated. The AC frequency changes in accordance with the wheel speed. The ABS control unit detects the wheel sensor signal frequency and thereby detects the wheel speed.



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## Electronic Brake Distribution (EBD)

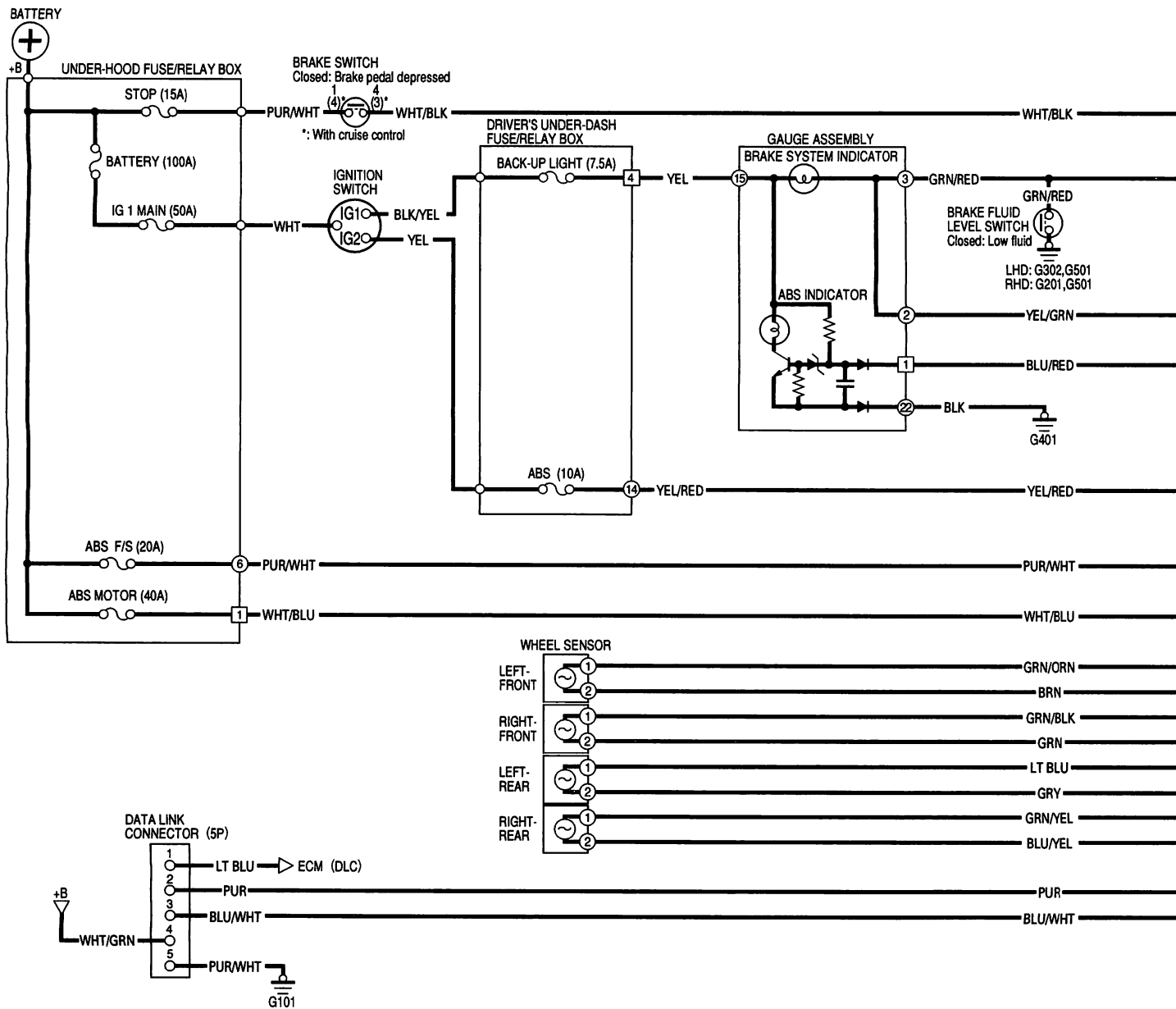
The EBD is a function that distributes the brake force best to adjust the rear brake force before ABS operated.

The EBD functions by the ABS control unit controls the modulator based on the wheel sensor signal. The ABS control unit hold the brake fluid pressure by closing the inlet valve when rear wheel speed is down less than front wheel speed, then the ABS control unit decreases the brake fluid pressure by opening the outlet valve for a moment if the rear wheel speed is down more. When the rear wheel speed returns, the ABS control unit increases the brake fluid pressure by opening the inlet valve for a moment. The ABS control unit repeats this control quickly, and the ABS control unit controls the rear brake fluid pressure individually. During these EBD function, brake pedal kickback is occurred.

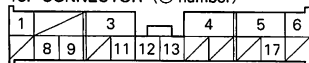
### Self-diagnosis function

The ABS control unit turns the brake system indicator on, when the ABS control unit detects the problem that affects to the EBD during self-diagnosis. That time, the ABS control unit turns the ABS indicator too.

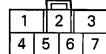
# Circuit Diagram



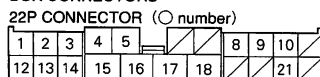
UNDER-HOOD FUSE/RELAY BOX CONNECTORS  
18P CONNECTOR (○ number)



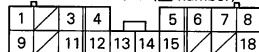
7P CONNECTOR (□ number)



UNDER-DASH FUSE/RELAY BOX CONNECTORS  
22P CONNECTOR (○ number)



18P CONNECTOR (□ number)



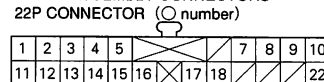
Wire side of female terminals

BRAKE SWITCH CONNECTOR

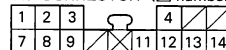
With cruise control



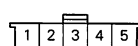
GAUGE ASSEMBLY CONNECTORS  
22P CONNECTOR (○ number)



14P CONNECTOR (□ number)



DATA LINK CONNECTOR (5P)

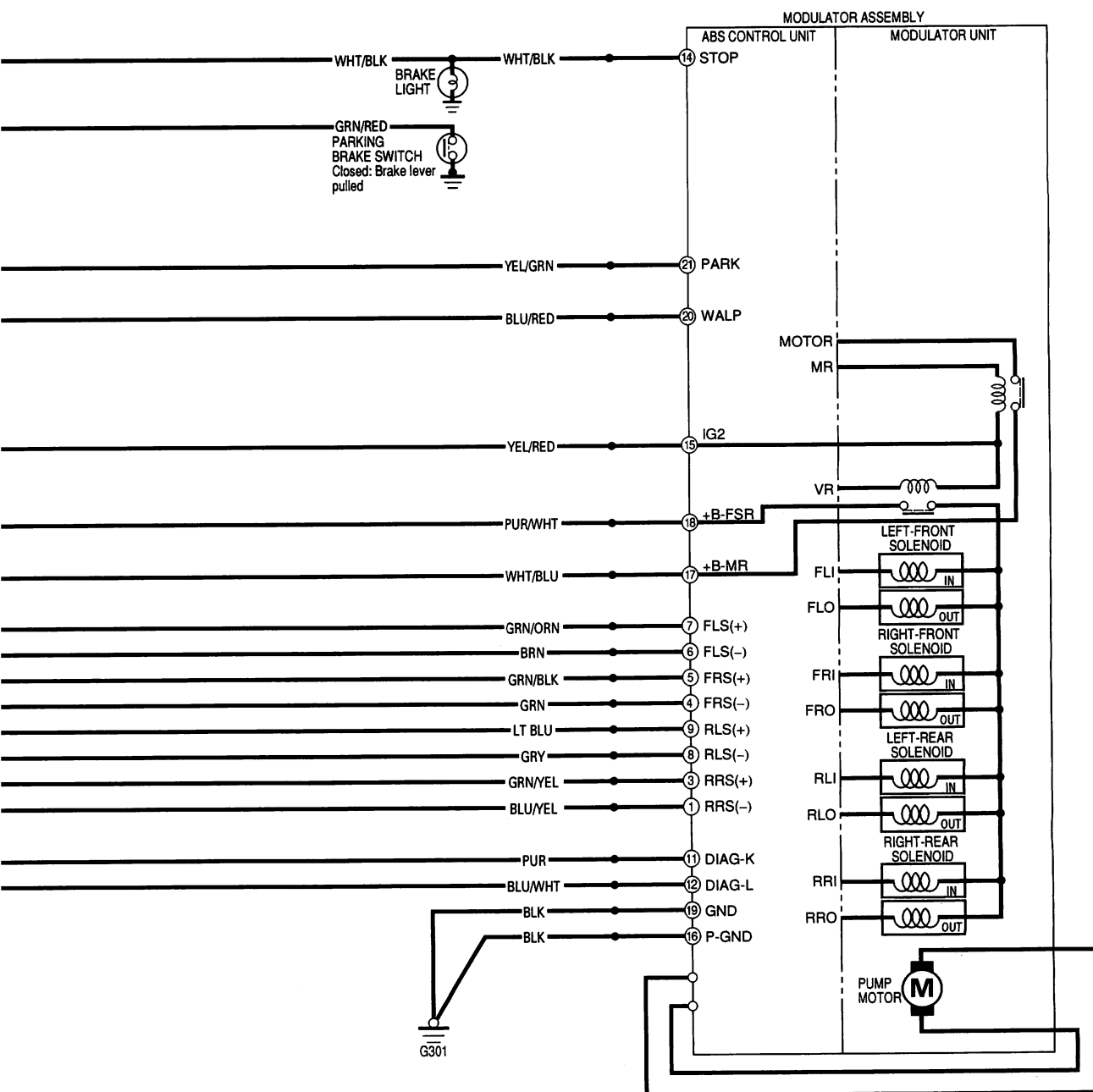


WHEEL SENSOR CONNECTOR

FRONT / REAR



Terminal side of male terminals



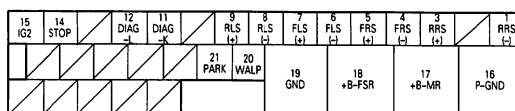
MODULATOR ASSEMBLY CONNECTOR

15	14	12	11	9	8	7	6	5	4	3	1
					21	20					
							19	18	17	16	

Terminal side of female terminals

# Terminal Arrangement

## MODULATOR ASSEMBLY CONNECTOR



Terminal side of female terminals

Terminal number	Wire color	Terminal sign (Terminal name)	Description	Measurement			
				Terminal	Conditions (Ignition switch ON (II))		Voltage
1	BLU/YEL	RRS (–) (Rear-right signal negative)	Detects right-rear wheel sensor signal	1-3	Wheel	Turn wheel at 1 turn/second	AC: 0.053 V or above  Oscilloscope: 0.15 Vp-p or above
3	GRN/YEL	RRS (+) (Rear-right signal positive)					
4	GRN	FRS (–) (Front-right signal negative)	Detects right-front wheel sensor signal	4-5			
5	GRN/BLK	FRS (+) (Front-right signal positive)					
6	BRN	FLS (–) (Front-left signal negative)	Detects left-front wheel sensor signal	6-7			
7	GRN/ORN	FLS (+) (Front-left signal positive)					
8	GRY	RLS (–) (Rear-left signal negative)	Detects left-rear wheel sensor signal	8-9	Stops	Approx. 2.5 V	
9	LT BLU	RLS (+) (Rear-left signal positive)					
11	PUR	DIAG-K (Diagnosis K terminal)	Communicate with Honda PGM Tester	——	——		——
12	BLU/WHT	DIAG-L (Diagnosis L terminal)	Diagnostic trouble code indication	12-GND	ABS short connector	Connected	0 V
						Disconnected	Approx. 5 V
14	WHT/BLK	STOP	Detects brake switch signal	14-GND	Brake pedal	Depressed	Battery voltage
						Released	0 V
15	YEL/RED	IG2 (Ignition 2)	Detects ignition switch 2 signal (System activate signal)	15-GND	——		Battery voltage
16	BLK	P-GND (Pump ground)	Ground for the pump motor	16-GND			Below 0.3 V
17	WHT/BLU	+B-MR (+B motor relay)	Power source for the pump motor	17-GND	Every time		Battery voltage
18	PUR/WHT	+B-FSR (+B fail-safe relay)	Power source for the solenoid valve and motor relay coil	18-GND	Every time		Battery voltage
19	BLK	GND (Ground)	Ground for the modulator assembly	19-GND	——		Below 0.3 V
20	BLU/RED	WALP (Warning lamp)	Drives ABS indicator	20-GND	ABS indicator	ON	Approx. 11 V
						OFF	Below 1 V
21	YEL/GRN	PARK (Parking)	Drives brake system indicator	21-GND	Engine running, parking brake	Pulled	Below 0.3 V
						Released	Battery voltage



## ABS Indicator

1. The ABS indicator comes on when the ABS control unit detects a problem in the system. However, even though the system is operate properly, the ABS indicator will come on, under the following conditions.
  - Disturbance signal
  - Wheel spin
  - Only drive wheels rotate
  - Battery voltage fluctuates
  - Disconnected modulator assembly connector.To determine the actual cause of problem, question the customer about the problem, taking these conditions into consideration.
2. When a problem is detected and the ABS indicator comes on, the indicator can stay on until the ignition switch is turned off and it can automatically goes off depending on the mode.
  - Light stays on until the ignition switch is turned off: When the system is in the system down mode.
  - Light automatically goes off: When the system is in the control inhibition mode.
3. In certain mode, the ABS indicator stays on when the system is reactivated without erasing the DTC after correcting the problem, but it goes off after starting the vehicle.  
When the wheel sensor system is faulty and the ABS indicator comes on, the algorithm of the system automatically turns off the ABS indicator after the wheel speed signal returns to the normal speed. While, when the DTC is erased, the CPU is reset and the ABS indicator goes off when the system checked out normal by the initial diagnosis.  
Therefore, test-drive the vehicle after servicing the wheel sensor system and be sure that the ABS indicator does not come on.
4. When the ABS control unit outputs battery voltage to gauge assembly, the ABS indicator goes off.
5. When both the brake system indicator and ABS indicator are ON, do the troubleshooting the ABS first.

## Diagnostic Trouble Code (DTC)

1. The diagnostic trouble code (DTC) is memorized when a problem is detected and the ABS indicator does not go off or when the ABS indicator comes on.  
Therefore, the DTC can not be memorized when the ABS indicator come on unless the CPU is activated.
2. The DTCs can be memorized until three DTC. However, when the same DTC is detected twice or more, the later one is written over the old one.  
Therefore, when the same problem is detected repeatedly, it is recorded as the one DTC.
3. The DTCs are indicated from last memorized DTC.
4. The DTCs are memorized in the EEPROM (non-volatile memory).  
Therefore, the memorized DTCs cannot be canceled with the battery. Perform the specified procedures to erase.

## Self-diagnosis

Self-diagnosis can be classifield into the four categories as listed below.

- Initial diagnosis: Performed right after the engine starts and until the ABS indicator goes off.
- Except ABS control: Performed when the ABS is not functioning.
- During ABS control: Performed when the ABS is functioning.
- During warning: Performed when the ABS indicator is ON.

# Troubleshooting Precautions

---

## **Kickback**

1. The motor operates when the ABS is functioning, and the fluid in the reservoir is forced out to the master cylinder, causing kickback.  
Therefore, the brake pedal must be kept depressed when the kickback occurs as it is performed during the ordinary brake operation.
2. The ABS control unit operates the solenoid valve when the brake pedal is released after the initial diagnosis. You can hear the faint solenoid valve operation sound this time, but it is normal.
3. Pedal kickback also occurs during EBD functioning, before ABS operates.

## **Pump Motor**

1. The pump motor operates when the ABS is functioning.
2. The ABS control unit checks the pump motor operation when starting the vehicle at first time. You can hear the faint operation sound this time, but it is normal.
3. The pump motor operates for a moment when you release the brake pedal, after EBD function stopped.

## **Brake Fluid Replacement/Air Bleeding**

1. Brake fluid replacement and air bleeding procedure are same as vehicles without ABS. To ease bleeding, start with the front wheels.

## **Troubleshooting**

1. The troubleshooting flowcharts explain the procedures on the assumption that the cause of the problem lasts and the ABS indicator does not go off or it stays on.  
Note that the troubleshooting following the flow chart when the ABS indicator does not come on can result in incorrect judgment.
2. Question the condition when the problem occurred and produce the same conditions as much as possible for troubleshooting.  
Self-diagnosis is made at various times such as the initial diagnosis, except ABS control, during ABS control, during acceleration, during the specified vehicle speed, etc. Therefore, the symptom cannot be checked unless the check conditions match with the problem conditions.
3. When the ABS indicator does not come on during the test-drive but the troubleshooting is performed with the DTC, check for the loose connector, poor contact of the terminal, etc. before troubleshooting.
4. After troubleshooting, erase the DTC and test-drive the vehicle. Be sure that the ABS indicator does not come on.
5. The connector symbol shown in the connector illustration represents the female terminals with the single outline and the male terminals with the double outlines.

# Diagnostic Trouble Code (DTC)



## DTC Indication

NOTE: You can also read and reset DTCs with Honda PGM Tester connected to data link connector (5P).

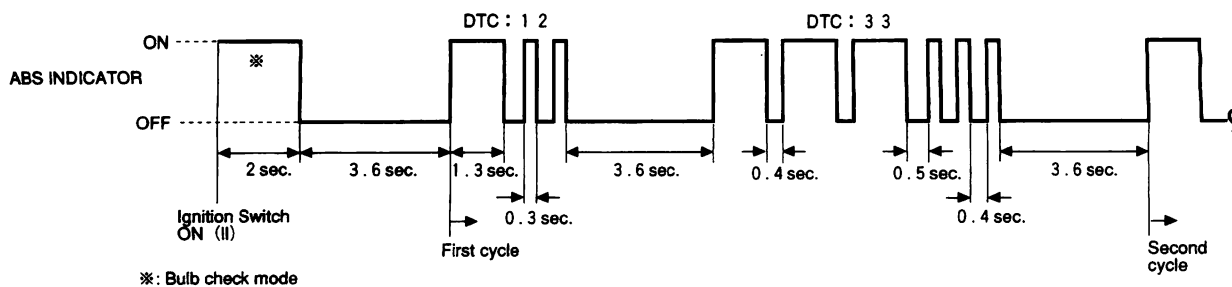
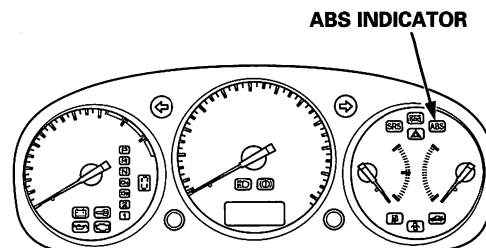
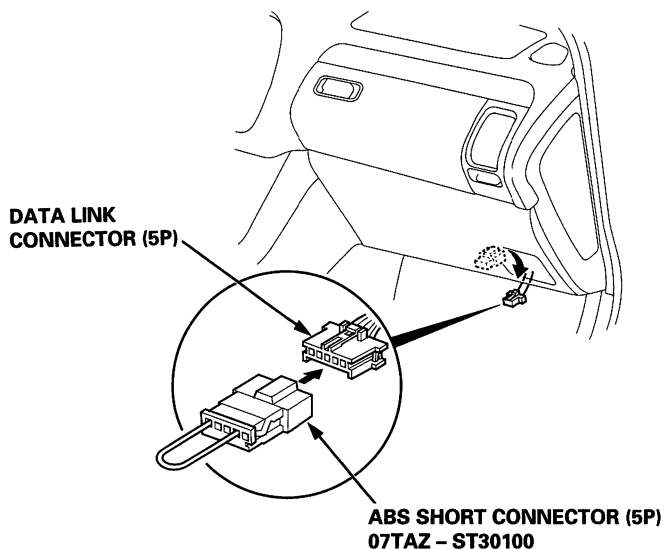
1. Connect the ABS short connector to the data link connector under dash of passenger's side.
2. Turn the ignition switch ON (II), but do not start the engine.  
NOTE: Do not depress the brake pedal when turning the ignition switch.
3. Record the blinking frequency of the ABS indicator. The blinking frequency indicates DTC.
4. Turn the ignition switch OFF, and remove the ABS short connector.
5. Erase the DTC by cycling the ignition switch for 20 times or more.

### Condition for DTC indication

- The vehicle is stopped.
- The ABS short connector is connected before the ignition switch is turned ON (II).
- The brake pedal is not depressed.
- The ABS short connector is not disconnected during this service.

The DTC indication is finished and ABS control unit execute the software function if at least one of the following conditions is satisfied.

- The vehicle is not stopped.
- The ABS short connector is disconnected during this service.



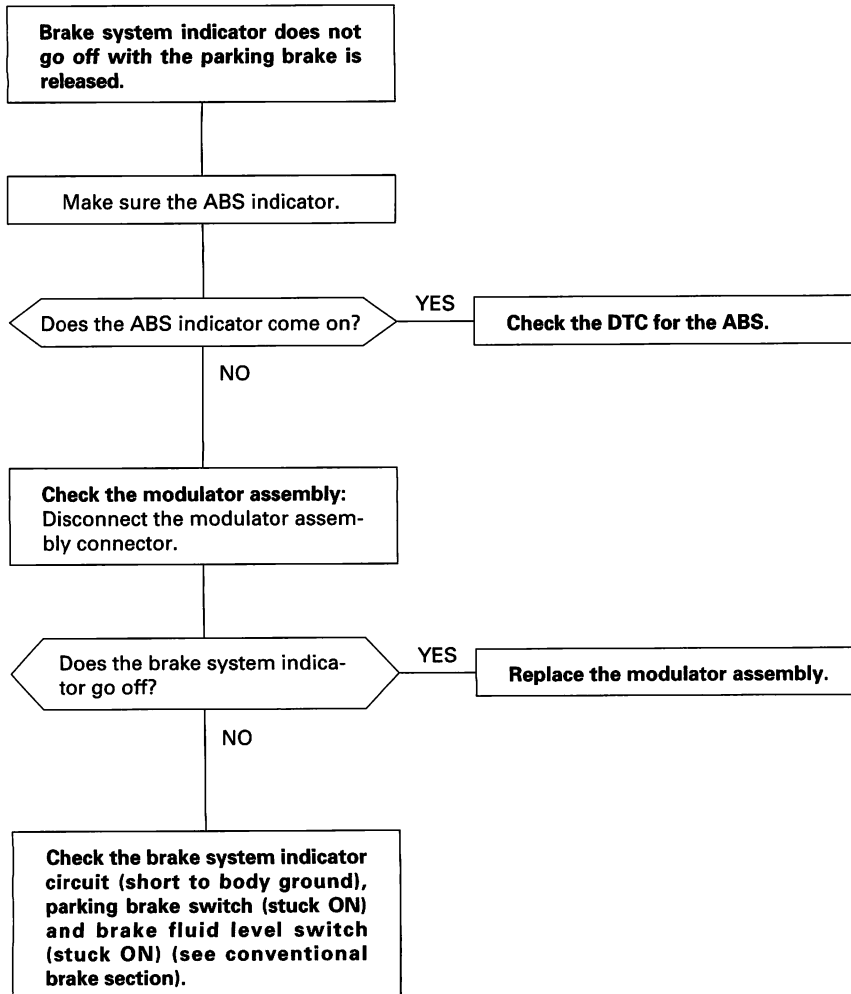


# Diagnostic Trouble Code (DTC)

## Troubleshooting Index

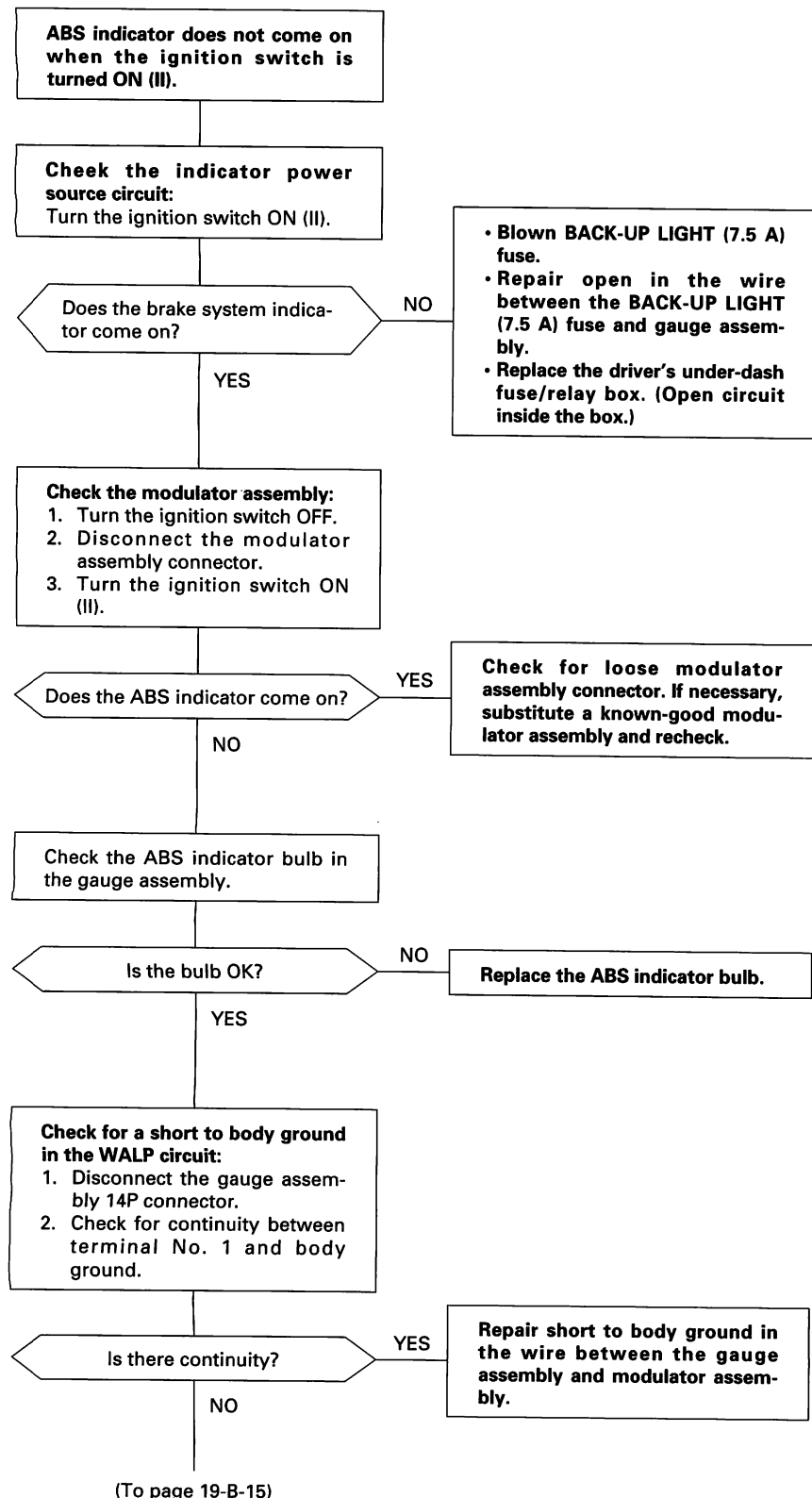
DTC	ABS INDICATOR	BRAKE SYSTEM INDICATOR	DIAGNOSIS/SYMPTOM		PROBLEM LOCATION	REFER TO PAGE
NO DTC	—	ON	Brake system indicator does not go off			19-B-13
	ON	—	ABS indicator does not come on			19-B-14
	ON	—	ABS indicator does not go off (no DTC)			19-B-16
11	ON	OFF	Wheel sensor (open/short to power)		FR	19-B-18
13					FL	
15					RR	
17					RL	
12	ON	OFF	Faulty wheel sensor pulse		FR	19-B-18
14					FL	
16					RR	
18					RL	
21	ON	ON	Continuously operation (chipped pulser)			19-B-18
31	ON	ON	Solenoid (open/short to body ground/short to power/stuck)		FRI	19-B-20
32					FRO	
33					FLI	
34					FLO	
35					RRI	
36					RRO	
37					RLI	
38					RLO	
51	ON	OFF	Motor lock			19-B-20
52	ON	OFF	Motor stuck off			19-B-21
53	ON	OFF	Motor stuck on			19-B-21
54	ON	ON	Main relay stuck off			19-B-22
61	ON	OFF	Ignition voltage (low voltage)	Above 7 V		19-B-20
		ON		Below 7 V		
81	ON	ON	CPU	Problem occurs except valve relay (VR) stuck ON		19-B-20
		OFF		Valve relay (VR) stuck ON		

## Brake System Indicator Does Not Go Off (EU model: With EBD)

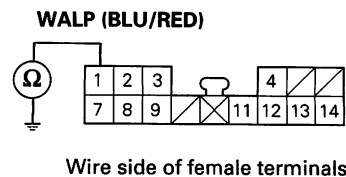


# Troubleshooting

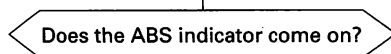
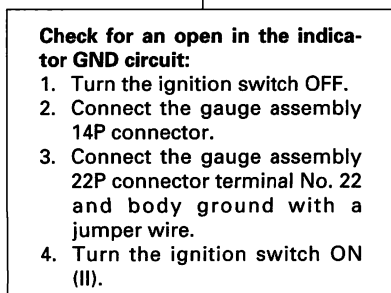
## ABS Indicator Does Not Come On



GAUGE ASSEMBLY 14P CONNECTOR



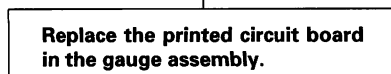
(From page 19-B-14)



YES

- Repair open in the wire between the gauge assembly and body ground.
- Repair poor ground (G401).

NO



#### GAUGE ASSEMBLY 22P CONNECTOR

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

GND (BLK)

JUMPER  
WIRE

Wire side of female terminals



# Troubleshooting

## ABS Indicator Does Not Go Off (No DTC)

- With engine running, the ABS indicator is ON.
- With the ABS short connector connected (see page 19-B-11), no DTC is indicated.

Check the ABS (10 A) fuse in the driver's under-dash fuse relay box and reinstall the fuse if it is OK.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

### Check the gauge assembly:

1. Connect the gauge assembly 14P connector terminal No. 1 and body ground with a jumper wire.
2. Turn the ignition switch ON (II).

Does the ABS indicator go off?

NO

Replace the printed circuit board in the gauge assembly.

YES

### Check for an open in the WALP circuit:

1. Turn the ignition switch OFF.
2. Disconnect the modulator assembly connector.
3. Connect the terminal No. 20 and body ground with a jumper wire.
4. Turn the ignition switch ON (II).

Does the ABS indicator go off?

NO

Repair open in the wire between the gauge assembly and modulator assembly.

YES

### Check for an open in the IG2 circuit:

Measure the voltage between the modulator assembly connector terminal No. 15 and body ground.

Is there battery voltage?

NO

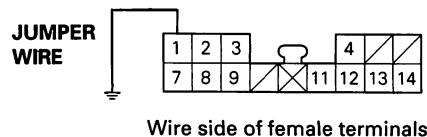
Repair open in the wire between the ABS (10 A) fuse and the modulator assembly.

YES

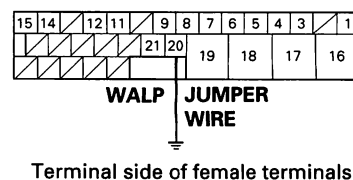
(To page 19-B-17)

### GAUGE ASSEMBLY 14P CONNECTOR

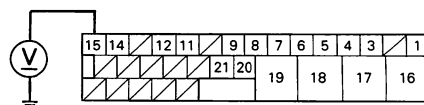
#### WALP (BLU/RED)



### MODULATOR ASSEMBLY CONNECTOR



#### IG2



(From page 19-B-16)

**Check for an open in the GND circuit:**

1. Turn the ignition switch OFF.
2. Connect the modulator assembly connector terminals No. 20 and No. 19 with a jumper wire.
3. Turn the ignition switch ON (II).

Does the ABS indicator go off?

NO

- Repair open in the wire between the modulator assembly and body ground.
- Repair poor ground (G301).

YES

**Check for loose modulator assembly connector. If necessary, substitute a known-good modulator assembly and recheck.**

#### MODULATOR ASSEMBLY CONNECTOR

15	14	12	11	9	8	7	6	5	4	3	1
				21	20						
						19	18	17	16		

WALP

GND

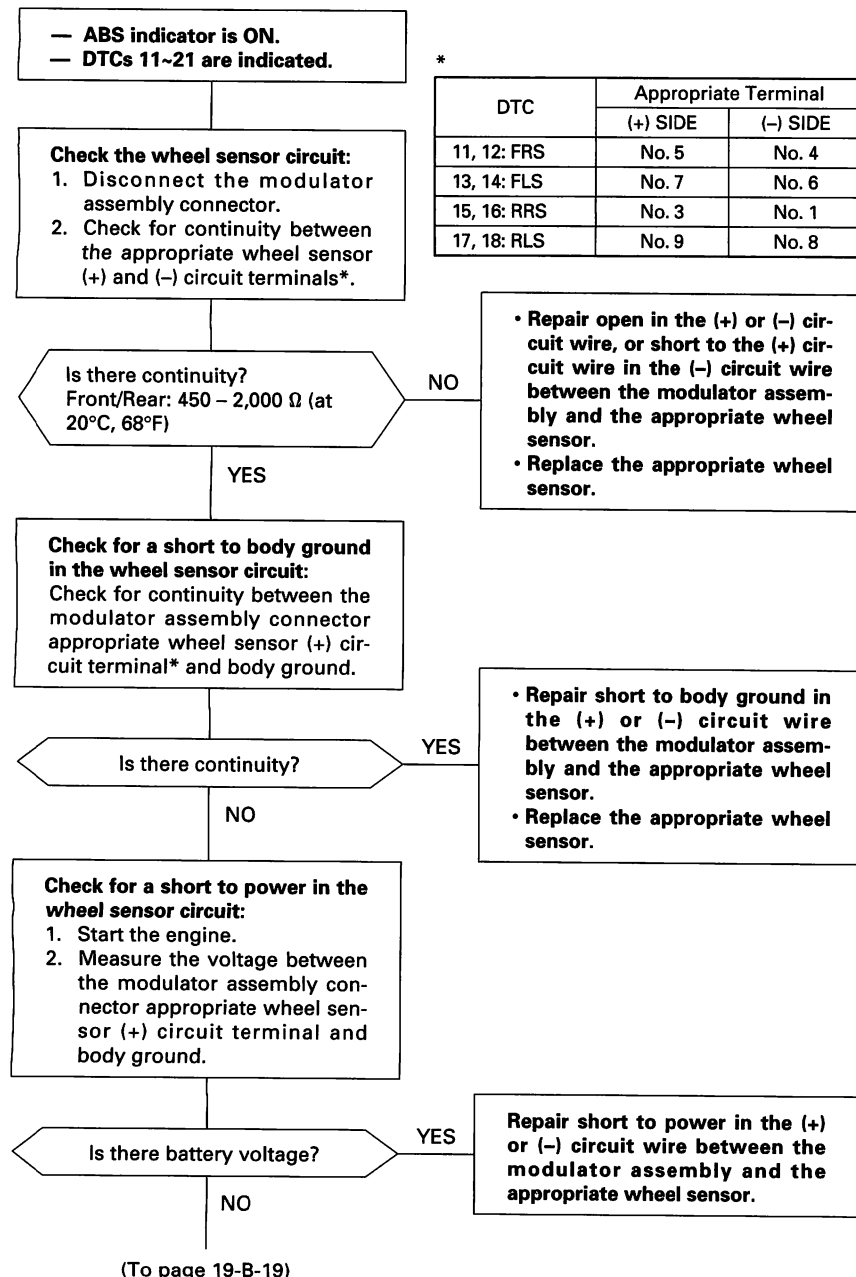
JUMPER WIRE

Terminal side of female terminals

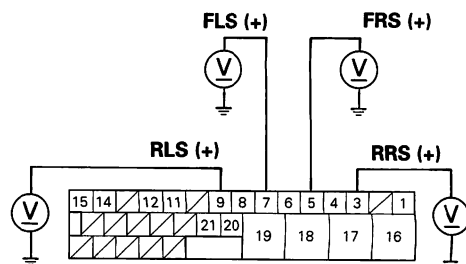
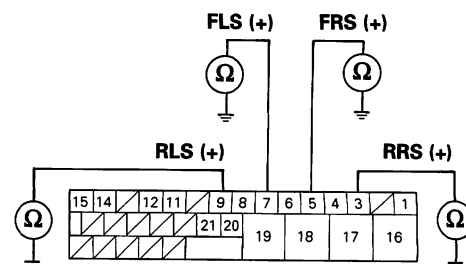
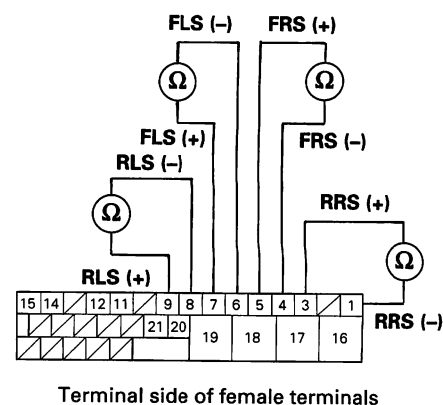
# Troubleshooting

## DTC: 11, 12, 13, 14, 15, 16, 17, 18, 21

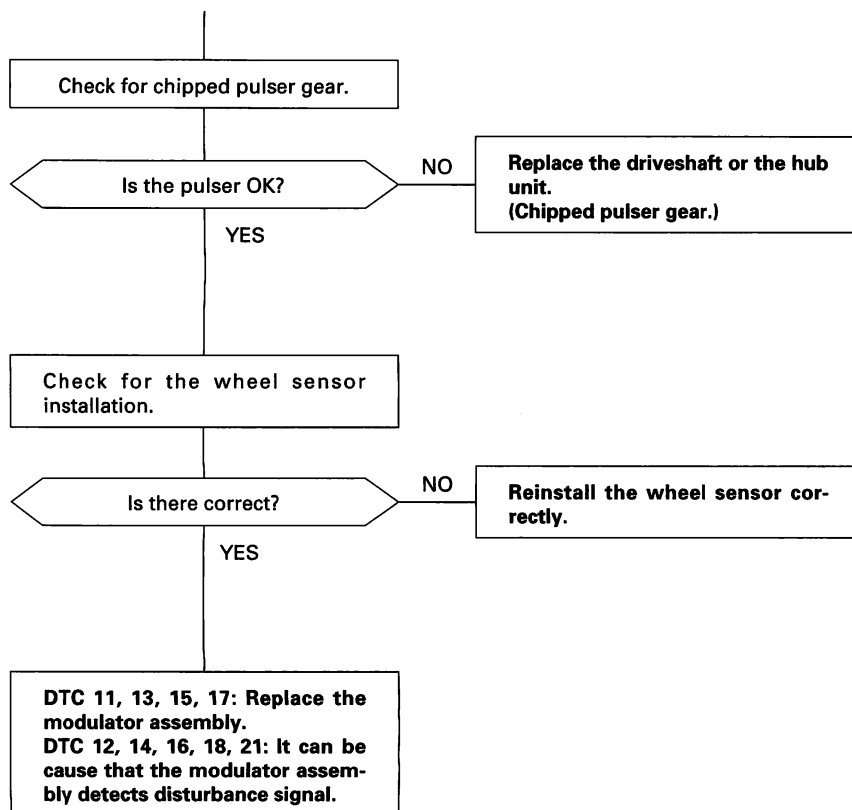
NOTE: The ABS indicator comes on when only drive wheel is turning, and detects disturbance signal, etc. Therefore, test-drive the vehicle at speed of 31 mph (50 km/h) or more after turning the ignition switch OFF to ON (II) and if the ABS indicator does not come on, the system is OK.



### MODULATOR ASSEMBLY CONNECTOR



(From page 19-B-18)





# Troubleshooting

## DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 61, 81

DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 81

- ABS indicator is ON.
- DTCs 31~38, 51 and/or 81 are indicated.

### Problem verification:

1. Erase the DTC.
2. Test-drive the vehicle.
3. Make sure that the ABS indicator comes on and DTCs 31~38, 51 and/or 81 are indicated.

Are DTCs indicated?

NO

The system is OK at this time.

YES

Replace the modulator assembly.

DTC: 61

- ABS indicator is ON.
- DTC 61 is indicated.

### Problem verification:

1. Erase the DTC.
2. Test-drive the vehicle.
3. Make sure that the ABS indicator comes on and DTC 61 is indicated.

Is DTC 61 indicated?

NO

The system is OK at this time.

YES

### Check for an open in the IG2 circuit:

1. Turn the ignition switch ON (II).
2. Measure the voltage between the modulator assembly connector terminal No. 15 and body ground.

Is there battery voltage?

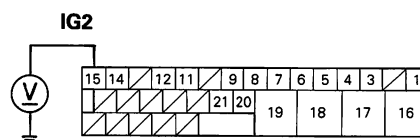
NO

Repair open in the wire between the ABS (10 A) fuse and the modulator assembly.

YES

Replace the modulator assembly.

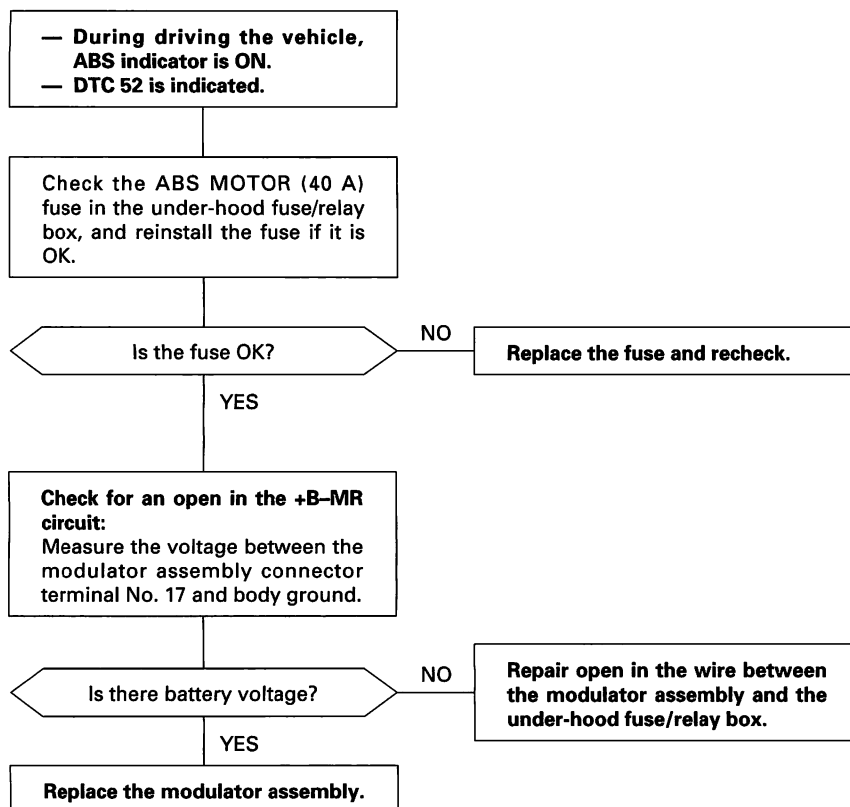
### MODULATOR ASSEMBLY CONNECTOR



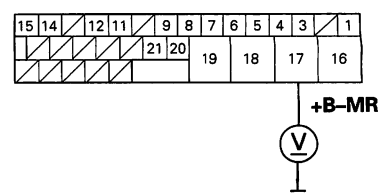
Terminal side of female terminals

## DTC: 52, 53

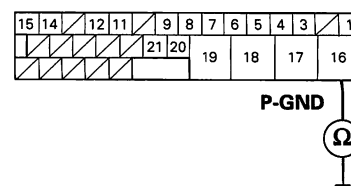
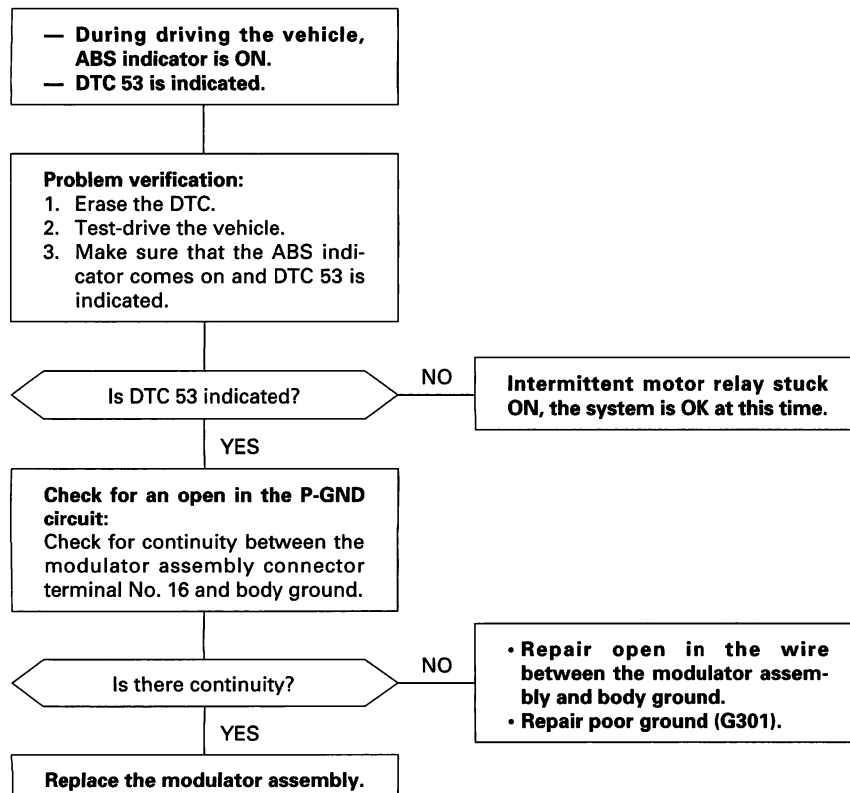
### DTC: 52



#### MODULATOR ASSEMBLY CONNECTOR

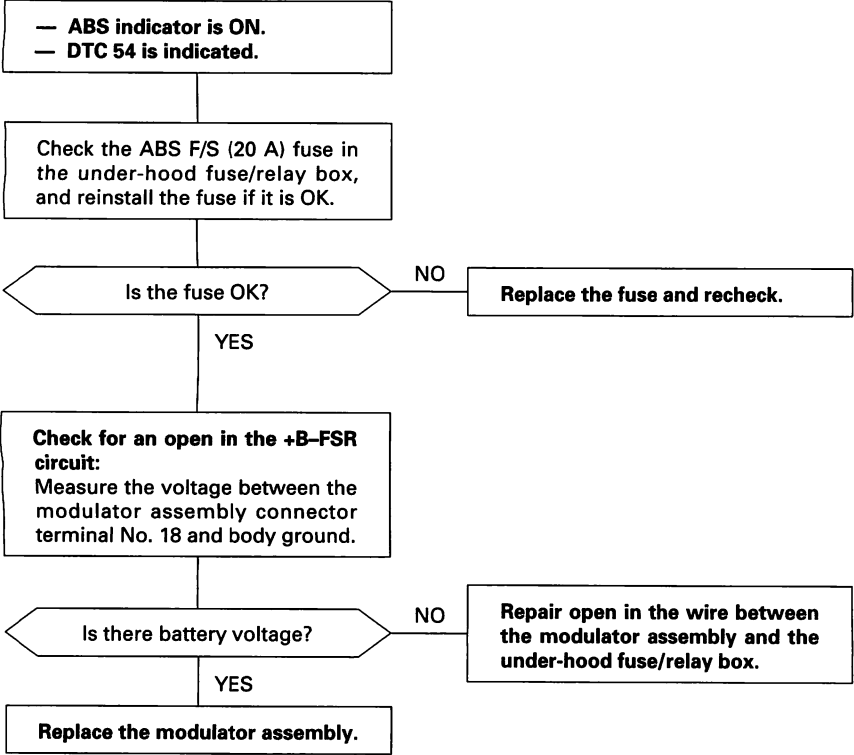


### DTC: 53

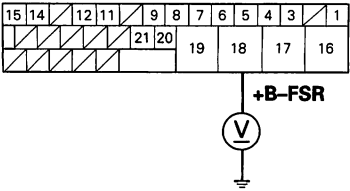


# Troubleshooting

## DTC: 54



MODULATOR ASSEMBLY CONNECTOR



# Modulator Assembly



## Removal/Installation

### NOTE:

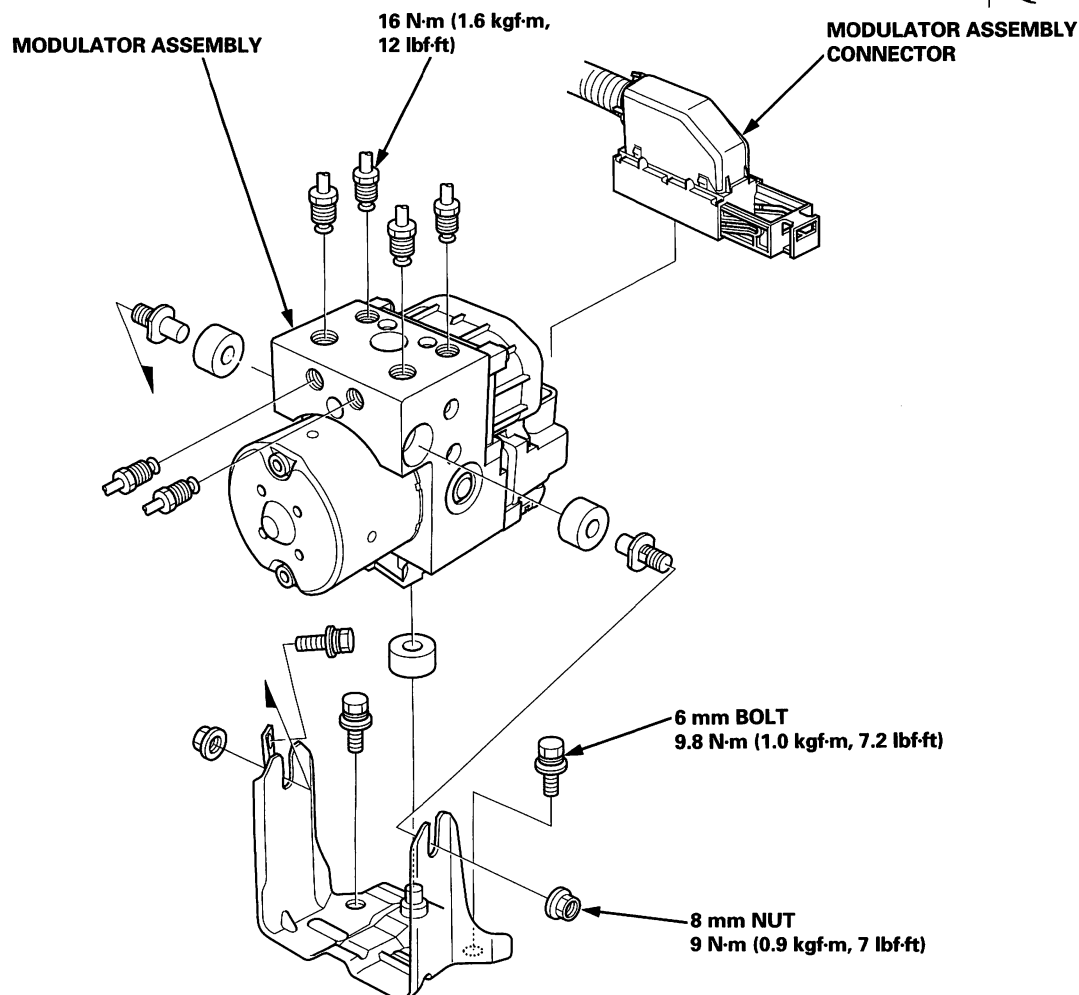
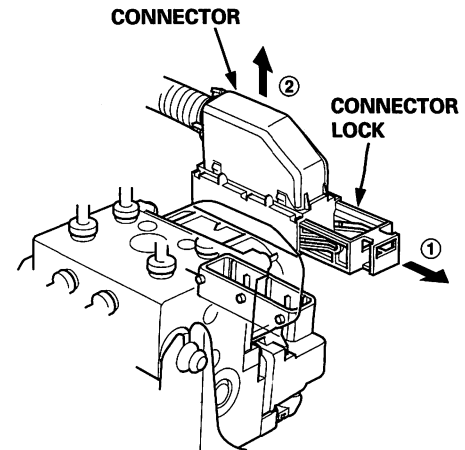
- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Take care not to damage or deform the brake lines during removal and installation.
- To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.

### Removal

1. Disconnect the modulator assembly connector as described below.
  - ① Pull the connector lock.
  - ② Disconnect the connector.
2. Disconnect the brake pipes, then remove the modulator assembly.

### Installation

1. Install the modulator assembly, then connect the brake pipes.
2. Connect the modulator assembly connector in the reverse order of disconnection.
3. Bleed the brake system, starting with the front wheels.
4. Start the engine, and check that the ABS indicator goes off.
5. Test-drive the vehicle, and check that the ABS indicator does not come on.



# Pulsers/Wheel Sensors

## Inspection

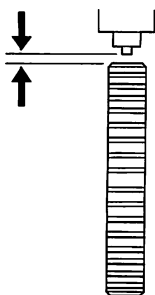
1. Check the front and rear pulser for chipped or damaged teeth.
2. Measure the air gap between the wheel sensor and pulser all the way around while rotating the pulser. If the air gap exceeds 1.0 mm (0.04 in), check for a bent suspension arm.

### Standard:

**Front:** 0.4 – 1.2 mm (0.02 – 0.05 in)

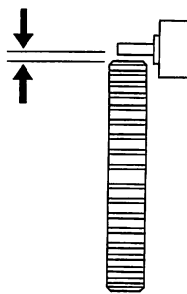
**Rear:** 0.19 – 1.14 mm (0.01 – 0.04 in)

### Front



### Rear

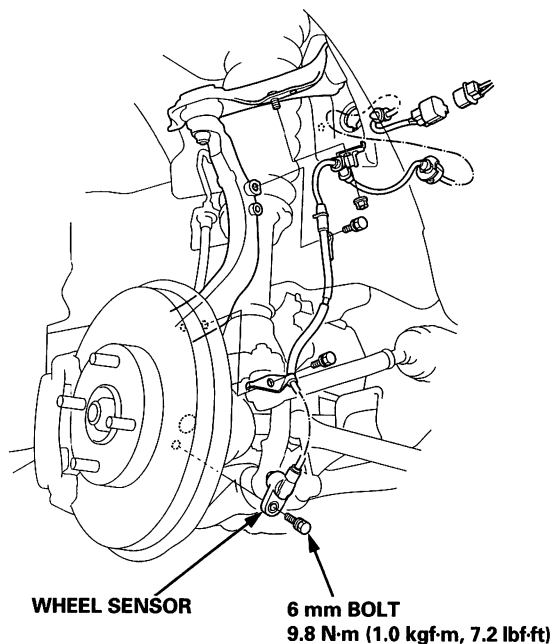
Remove the rear brake disc to inspect the rear wheel sensor air gap.



## Wheel Sensor Replacement

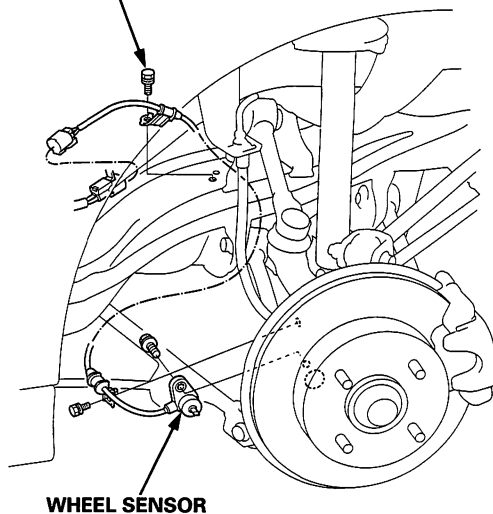
Install the sensors carefully to avoid twisting the wires.

### Front



### Rear

**6 mm BOLT**  
**9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)**



## **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If body maintenance is required)**

This Accord Sedan SRS includes a driver's airbag located in the steering wheel hub, and a passenger's airbag located in the dashboard above the glove box, and some types include seat belt tensioners located in the front seat belt retractors, and some types include side airbags located in the front seat-backs.

Information necessary to safely service the SRS is included in this Shop Manual.

Items marked with an asterisk (\*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

### **⚠ WARNING**

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags, side airbags and seat belt tensioners.
- SRS electrical wiring harnesses are indicated with yellow color. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, front seats and around the floor. Do not use electrical test equipment on these circuits.

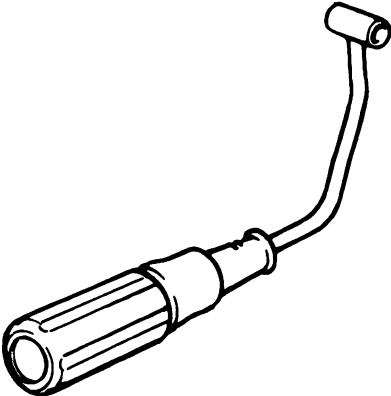
# Body

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# Special Tool

Ref. No.	Tool Number	Description	Qty	Remark
①	07GAZ – SE30100	Torsion Bar Assembly Tool	1	



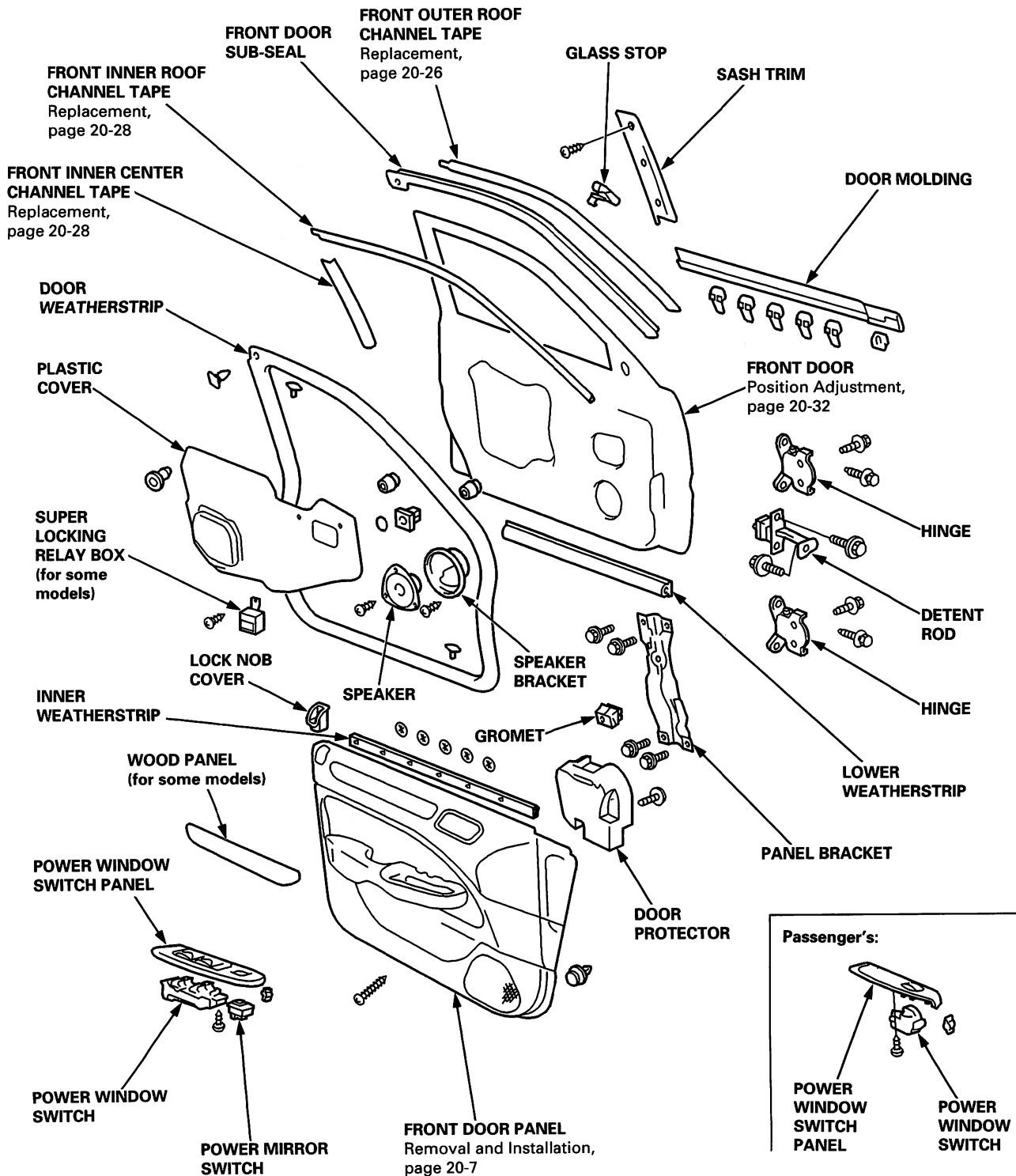
①





## Component Location Index

### Front Door:

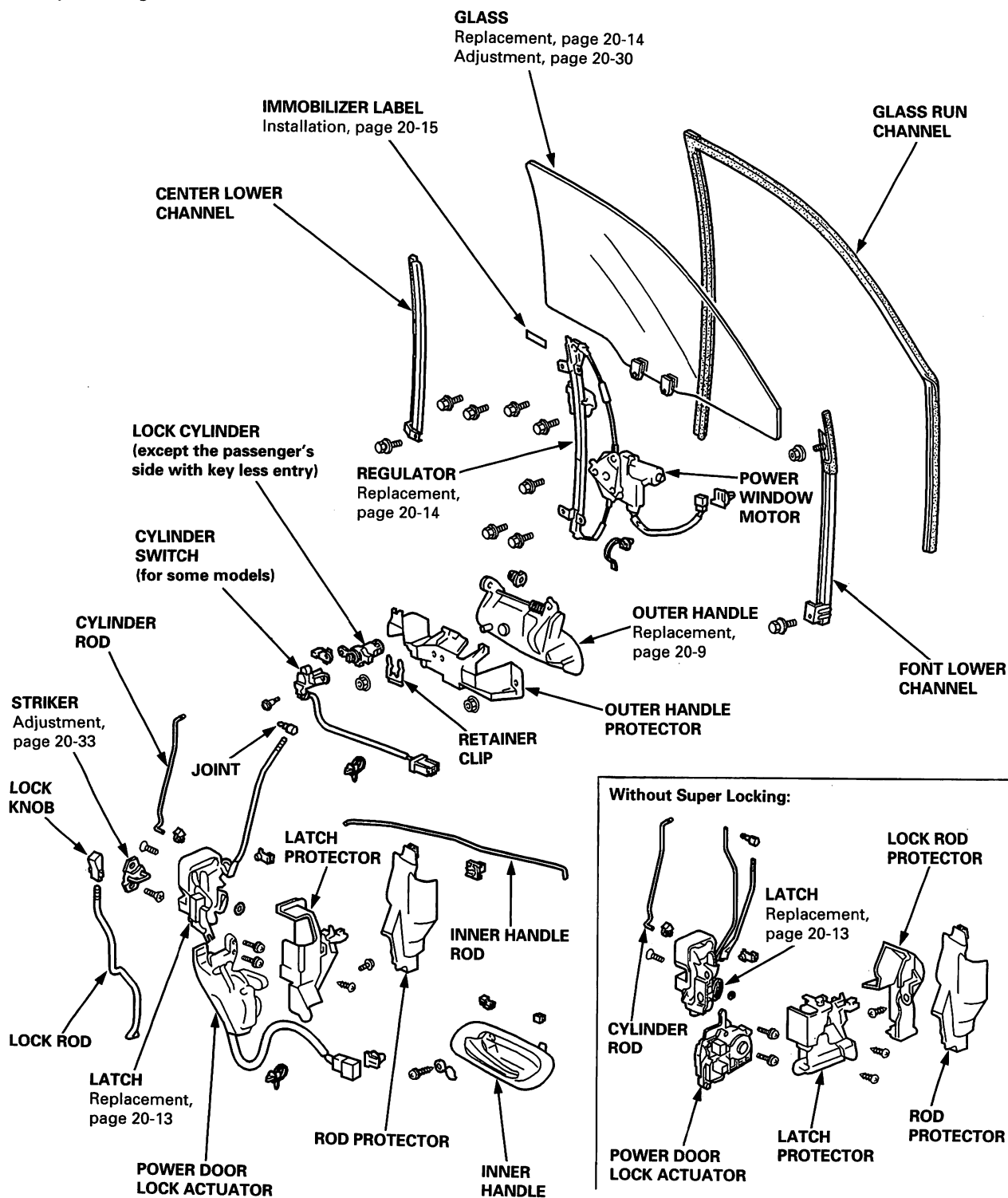


(cont'd)

# Doors

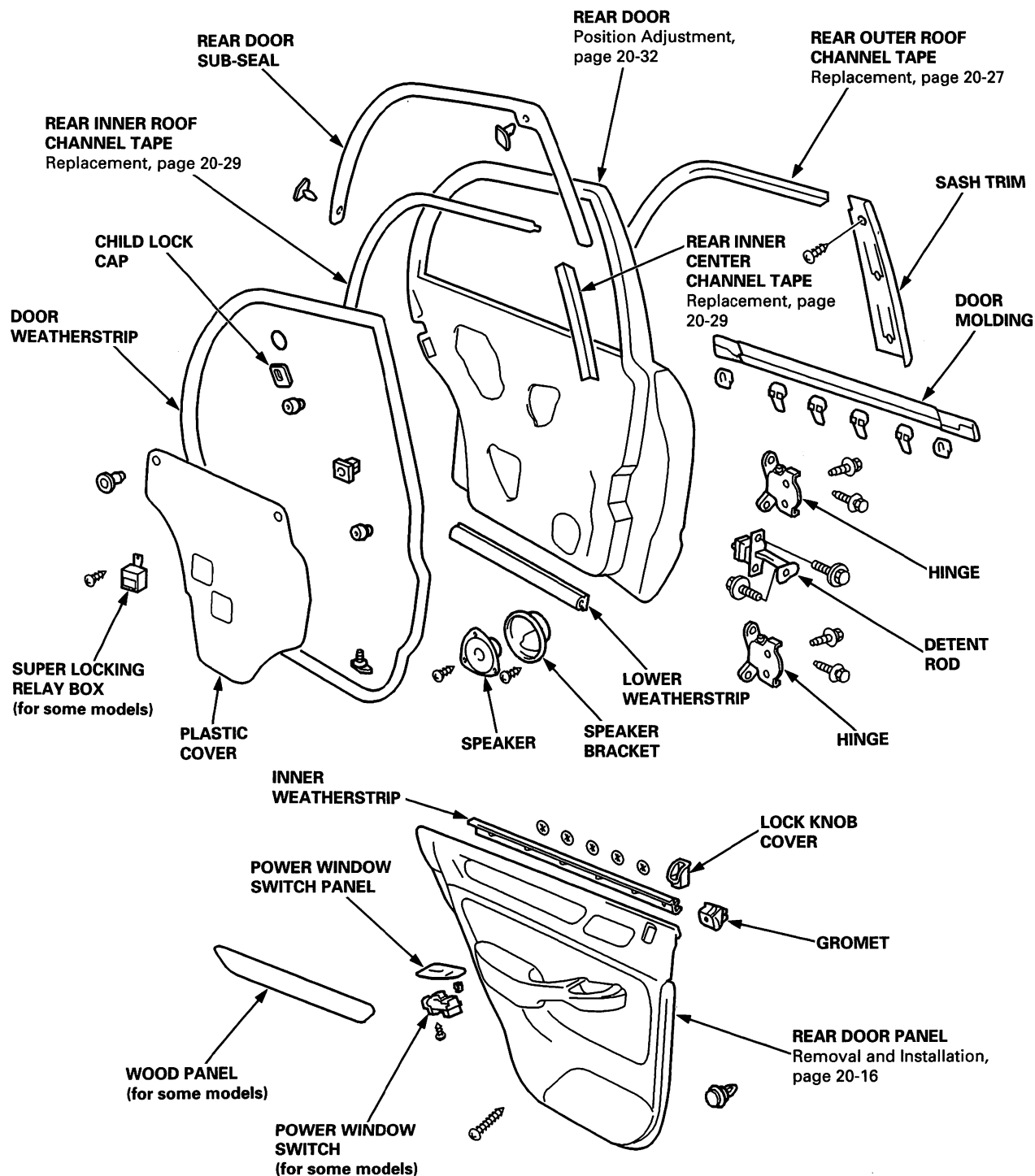
## Component Location Index (cont'd)

Front Door:  
With Super Locking:





## Rear Door:

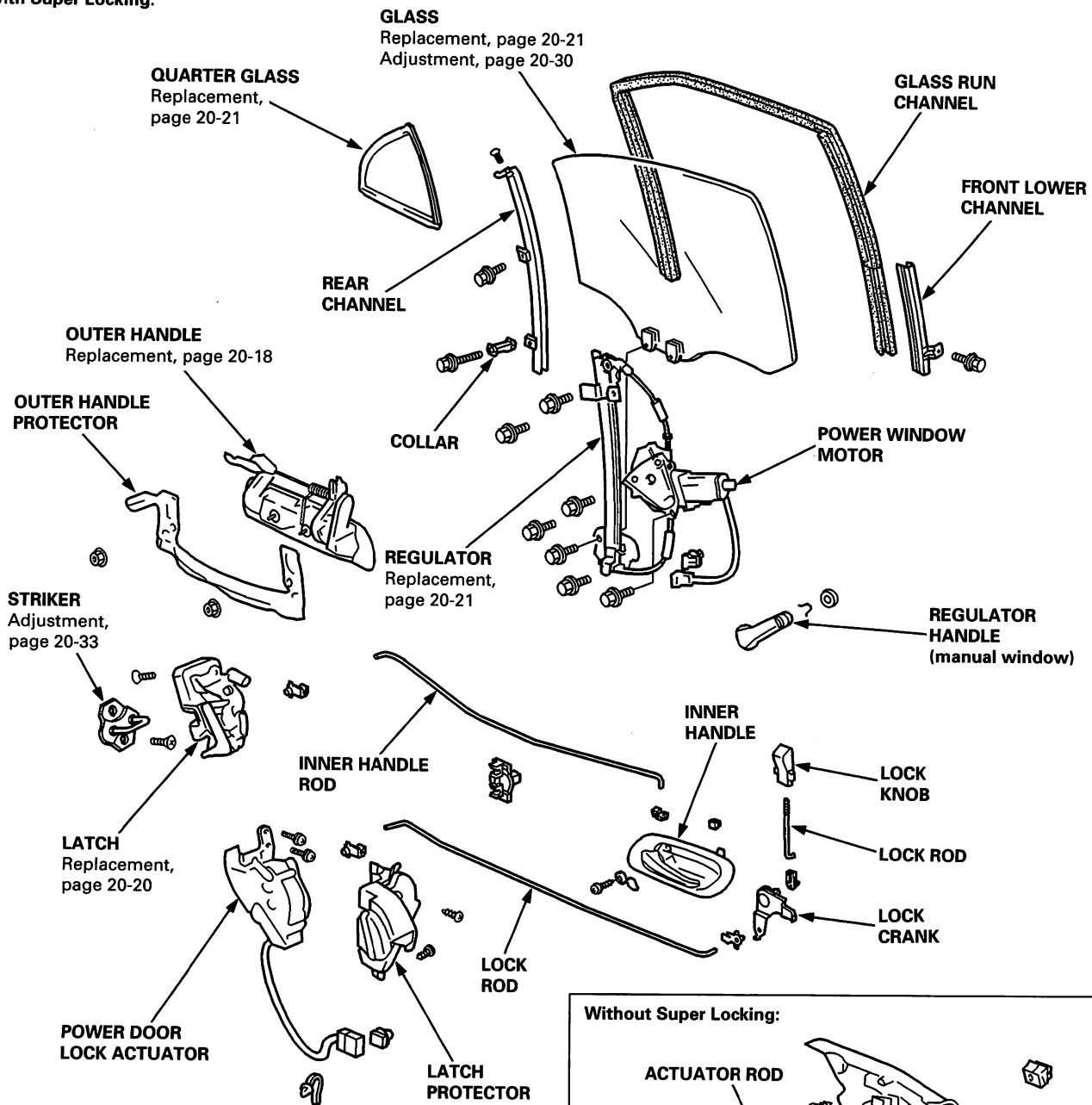


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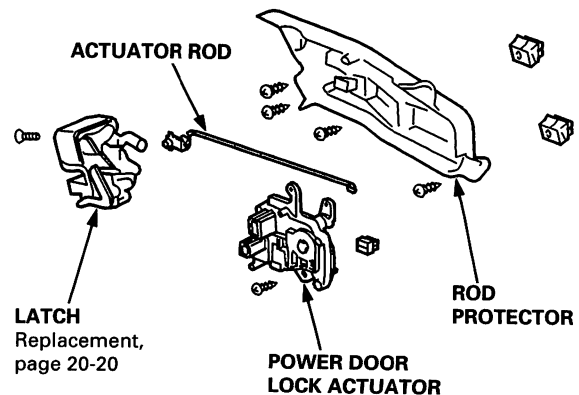
# Doors

## Component Location Index (cont'd)

**Rear Door:**  
**With Super Locking:**



**Without Super Locking:**

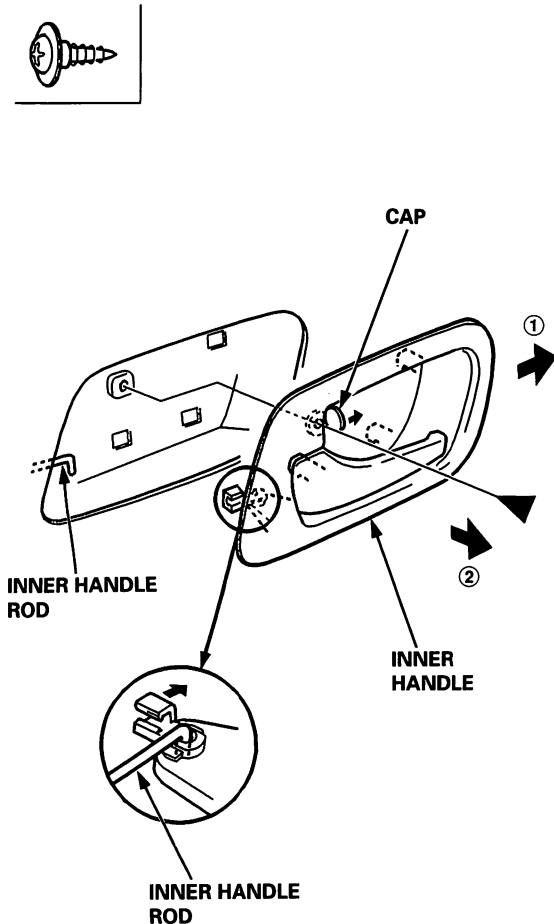




## Front Door Panel Removal and Installation

1. Lower the glass fully.
2. Remove the mirror mount cover (see page 20-35). Take care not to scratch the door panel.
3. Remove the inner handle. Take care not to scratch the door panel.
  - 1. Pry out the cap, and remove the screw.
  - 2. Pull the inner handle forward and out half-way.
  - 3. Disconnect the inner handle rod.

►: Screw location, 1

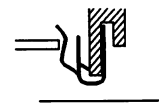


4. Remove the power window switch panel. Take care not to scratch the door panel.
  - 1. Pull the power window switch panel out half-way.
  - 2. Disconnect the power window switch connector, and the power mirror switch connector, driver's side only.
5. Remove the screws from lower portion of the armrest.

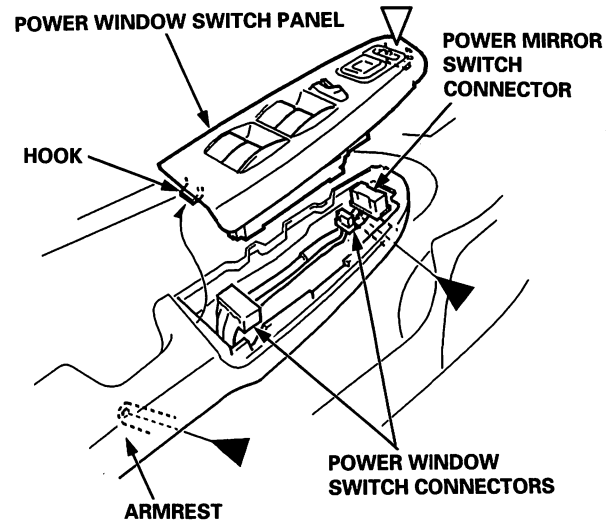
►: Screw locations, 2



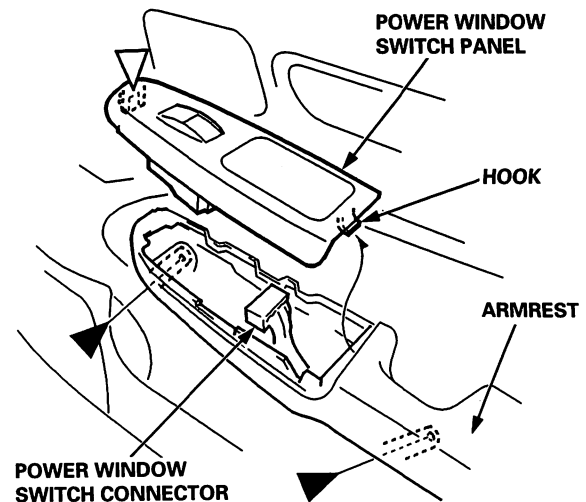
▷: Clip location, 1



Driver's:



Passenger's:

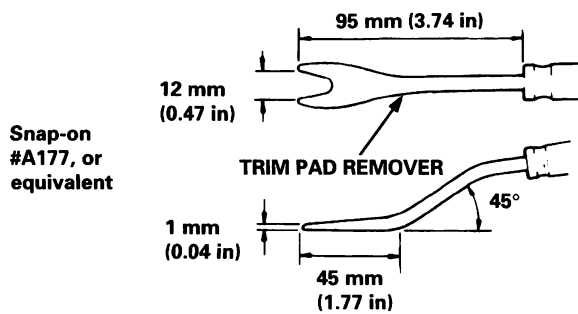


(cont'd)

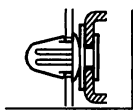
# Doors

## Front Door Panel Removal and Installation (cont'd)

6. Release the clips that hold the door panel with a trim pad remover (commercially available), then remove the door panel by pulling it upward. Remove the door panel with as little bending as possible to avoid creasing or breaking it.

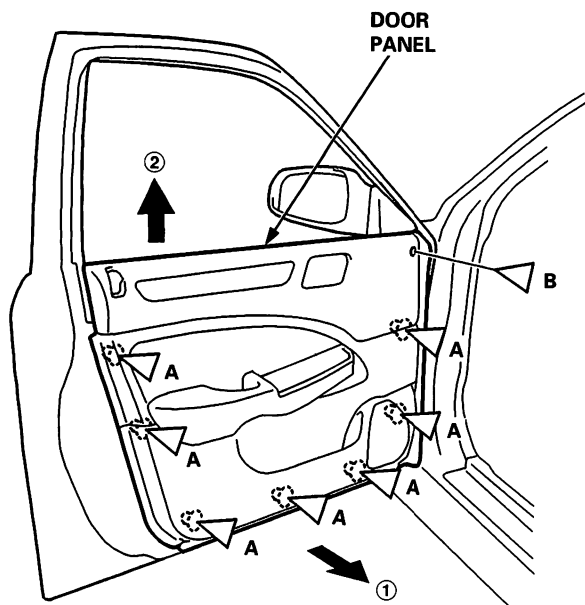
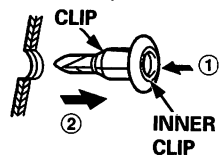


▷: Clip locations  
A ▷, 7



B ▷, 1

NOTE: Do not push  
the inner clip in too far.



7. Install in the reverse order of removal, and make sure the connectors are plugged in properly, and the rod is connected properly.



## Front Door Outer Handle Replacement

1. Raise the glass fully.
2. Remove:
  - Door panel (see page 20-7)
  - Plastic cover, as necessary (see page 20-3)
3. Detach the connectors from the panel bracket. Remove the bolts and loosen a bolt, then remove the panel bracket through the hole in the door. Wear gloves to protect your hands.

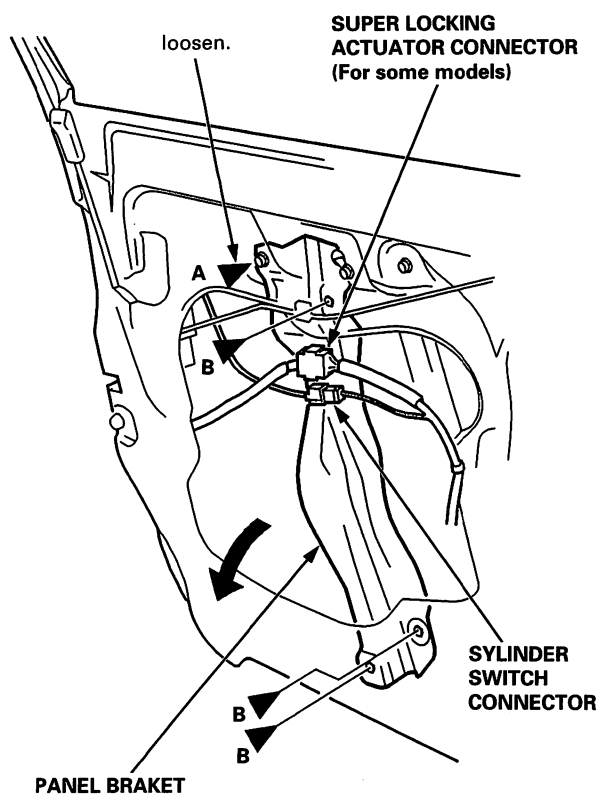
### ►: Bolt locations

A ►, 1

B ►, 3

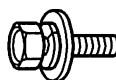


6 x 1.0 mm  
8 N·m (0.8 kgf·m,  
6 lbf·ft)

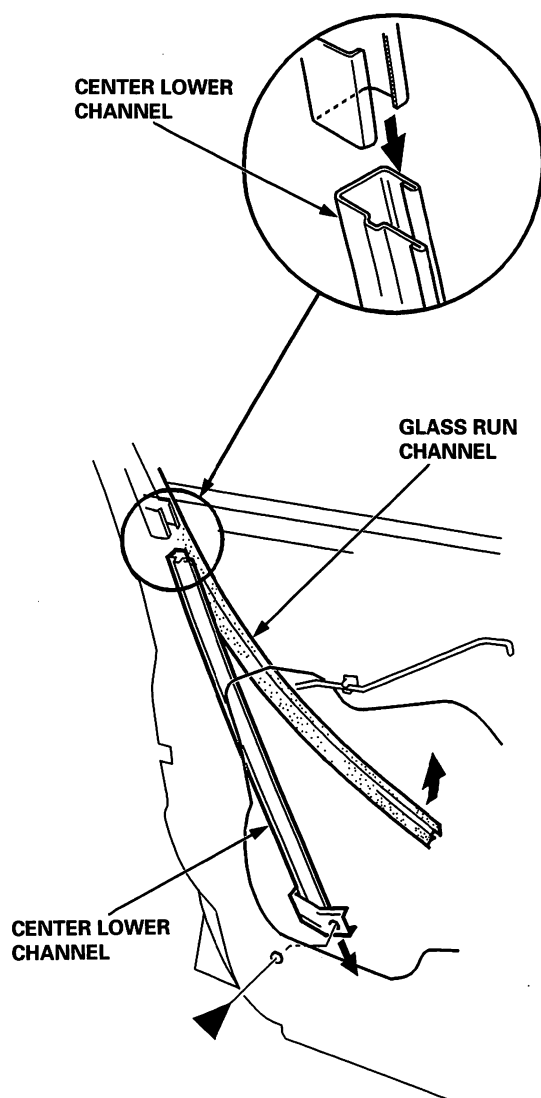


4. Remove the bolt. Pull the glass run channel away as needed from the center lower channel, then remove the center lower channel by pulling it downward. Wear gloves to protect your hands.

### ►: Bolt location, 1



6 x 1.0 mm  
8 N·m (0.8 kgf·m,  
6 lbf·ft)

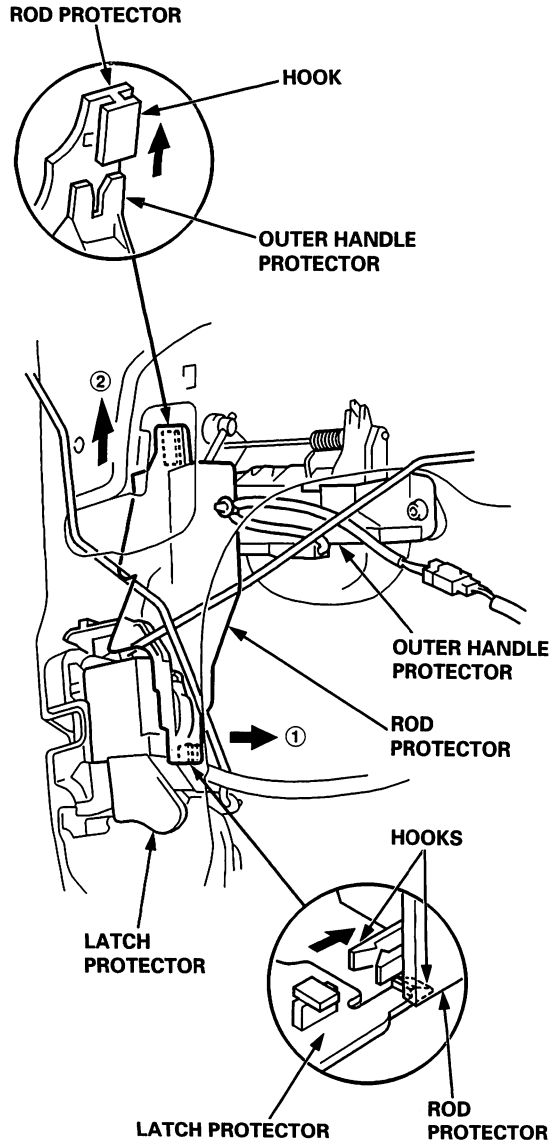


(cont'd)

# Doors

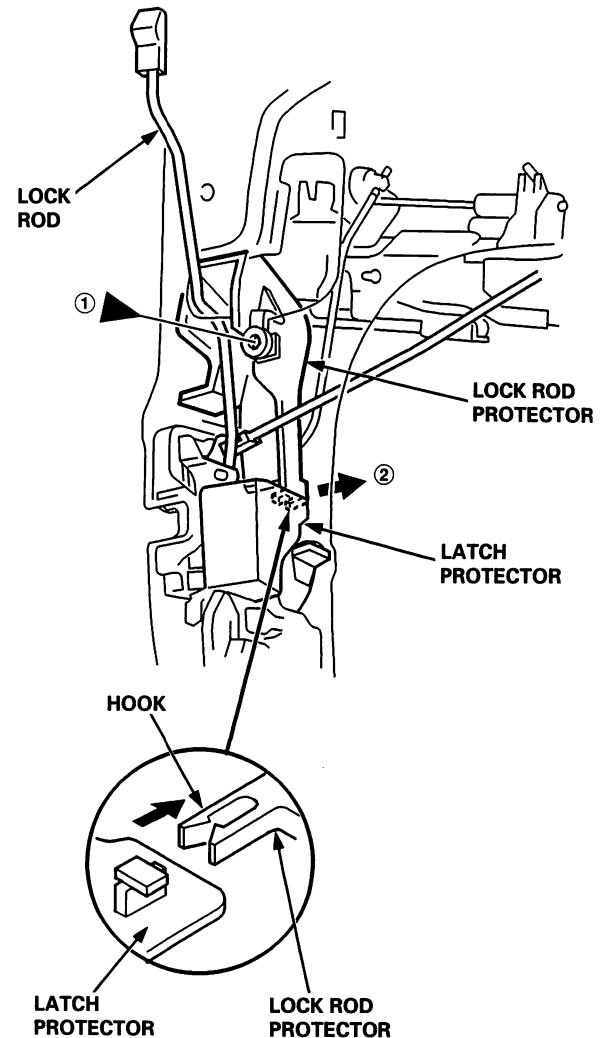
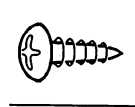
## Front Door Outer Handle Replacement (cont'd)

5. Remove the rod protector.
- 1. Release the hooks by pulling the lower portion of the rod protector forward.
  - 2. Slide the rod protector upward to release it from the outer handle protector.



6. Without Super Locking: Remove the lock rod protector.
- 1. Remove a screw securing the lock rod protector to the door.
  - 2. Release the hook by pulling the lock rod protector forward.

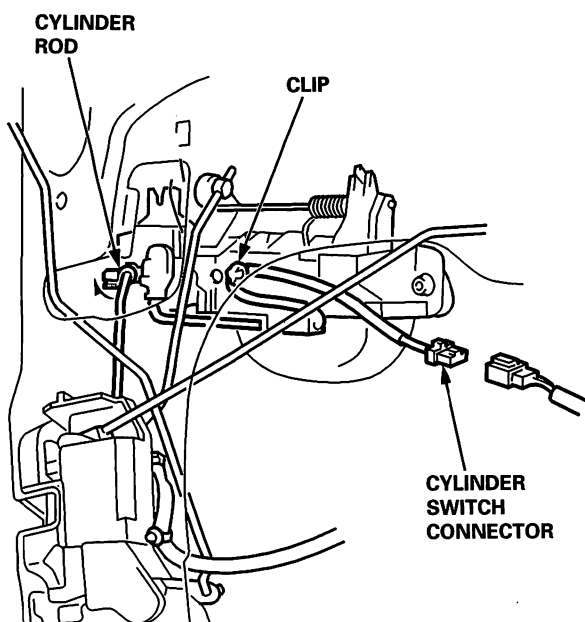
►: Screw location, 1







7. Disconnect the cylinder rod, the cylinder switch connector, and detach the harness dip.

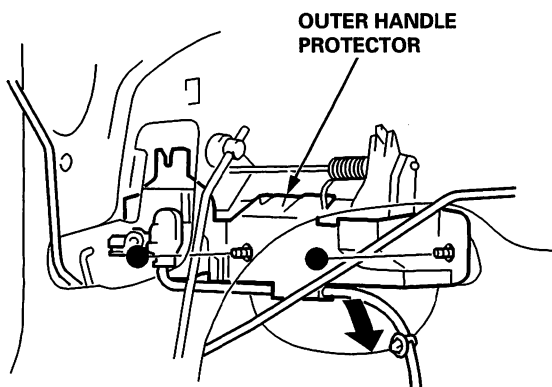


8. Remove the nuts securing the outer handle, then remove the outer handle protector.

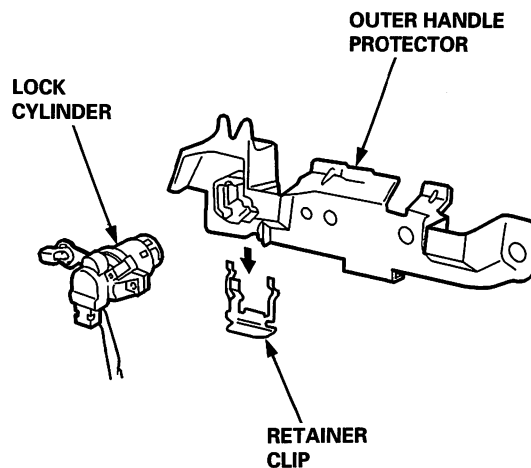
●: Nut locations, 2



6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)

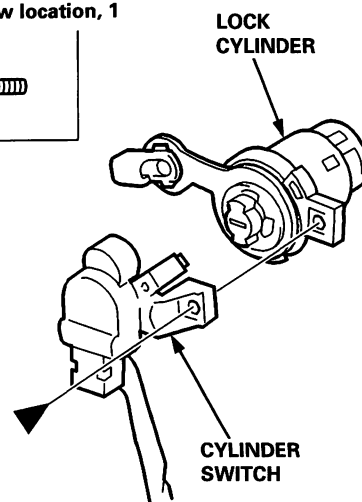


9. If necessary, release the retainer clip, then remove the lock cylinder.



10. If necessary, remove the screw, then separate the lock cylinder and cylinder switch.

►: Screw location, 1



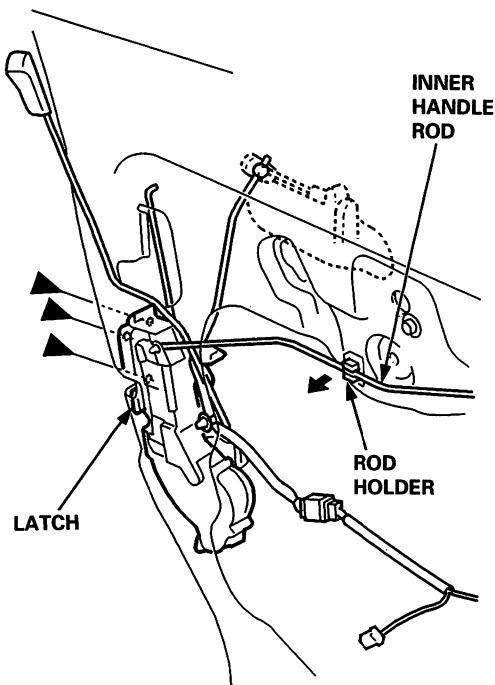
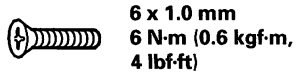
(cont'd)

# Doors

## Front Door Outer Handle Replacement (cont'd)

11. Release the inner handle rod from the rod holder. And remove the screws.

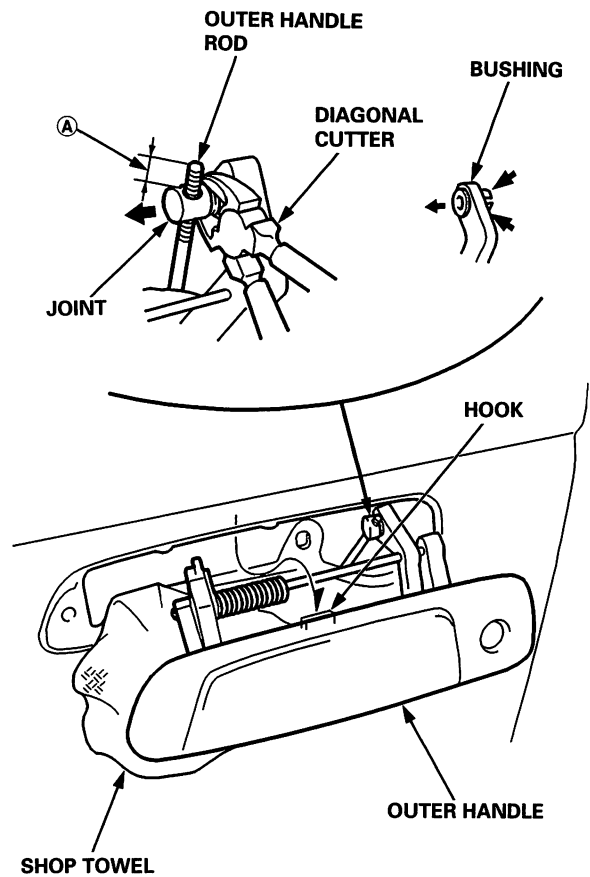
►: Screw locations, 3



12. Pull out the outer handle by releasing the hook. Pry the outer handle rod out of its joint using diagonal cutter.

NOTE:

- To ease reassembly, note the distance (A) of the outer handle rod on the joint before disconnecting it.
- Take care not to bend the outer handle rod.
- Use a shop towel to protect the opening in the door.



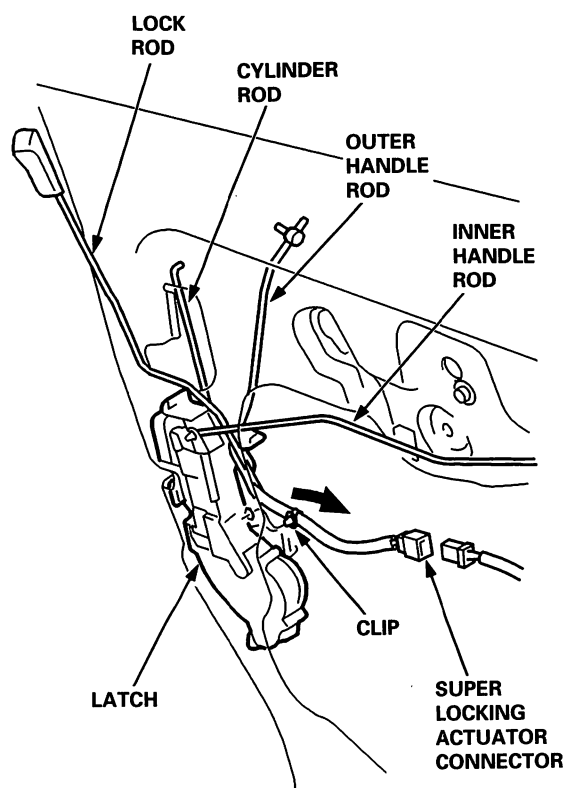
13. Replace the bushing on the outer handle.
14. Install in the reverse order of removal, and note these items:
- Make sure the cylinder switch harness is routed properly.
  - Make sure the connector is plugged in properly, and each rod is connected securely.
  - Make sure the door locks and opens properly.



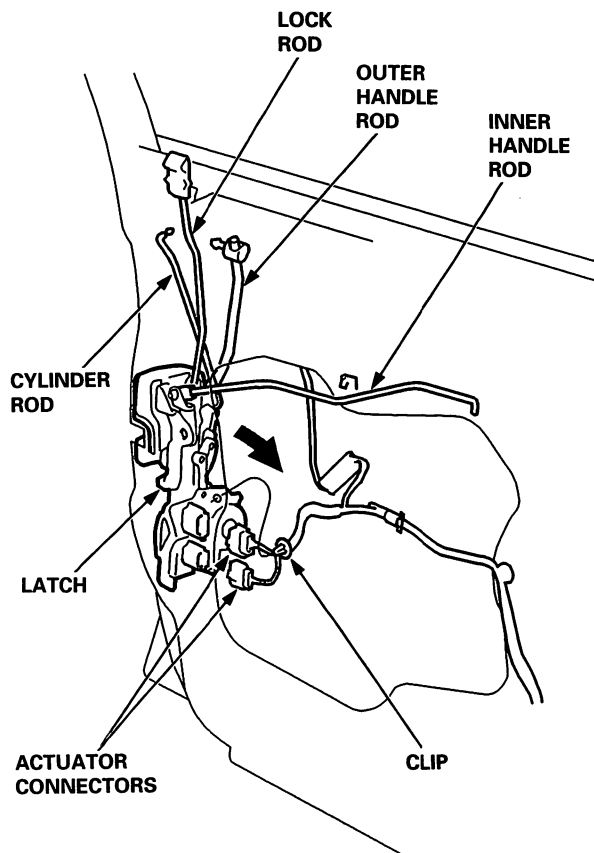
## Front Door Latch Replacement

1. Raise the glass fully.
2. Remove:
  - Door panel (see page 20-7)
  - Plastic cover, as necessary (see page 20-3)
  - Outer handle (see page 20-9)
3. Detach the clip and disconnect the actuator connector(s).

### With Super Locking:



### Without Super Locking:



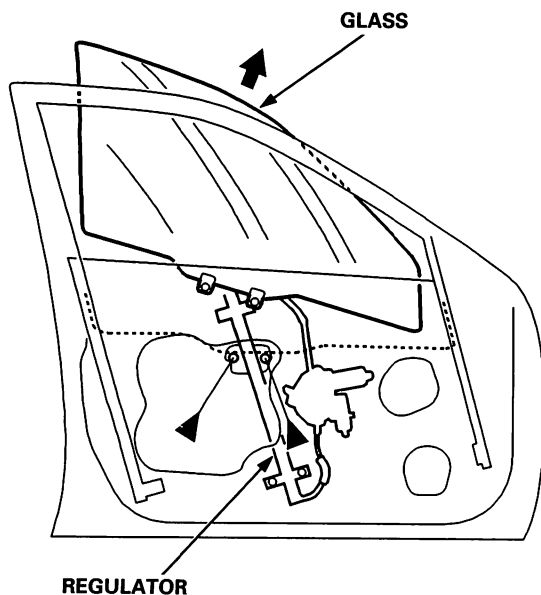
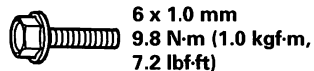
4. Remove the latch through the hole in the door. Take care not to bend the outer handle rod, cylinder rod, lock rod and inner handle rod. Wear gloves to protect your hands.
5. Install in the reverse order of removal, and note these items:
  - Make sure the actuator connector(s) are plugged in properly, and each rod is connected securely.
  - Make sure the door locks and opens properly.

# Doors

## Front Door Glass and Regulator Replacement

1. Remove:
  - Door panel (see page 20-7)
  - Plastic cover, as necessary (see page 20-3)
  - Panel bracket (see page 20-9)
2. Carefully move the glass down until you can see the bolts, then remove them. Carefully pull the glass out through the window slot. Take care not to drop the glass inside the door.

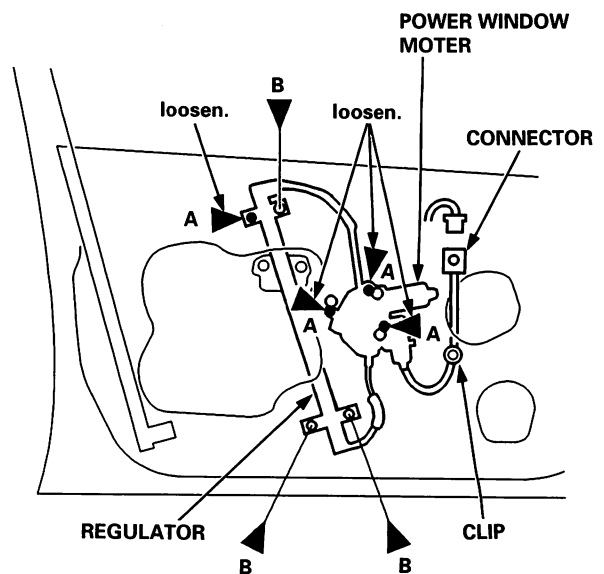
►: Bolt locations, 2



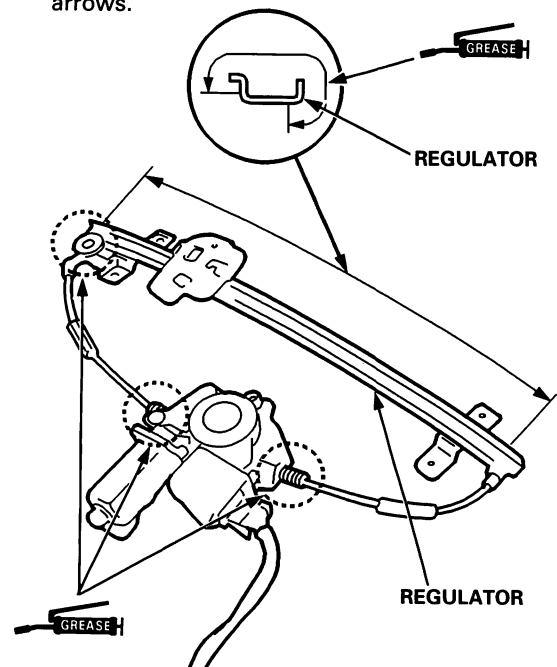
3. Disconnect and detach the connector and clip from the door. Remove the bolts and loosen the bolts, then remove the regulator through the hole in the door.

►: Bolt locations

A ►, 4    B ►, 3



4. Grease the area and the points indicated by the arrows.





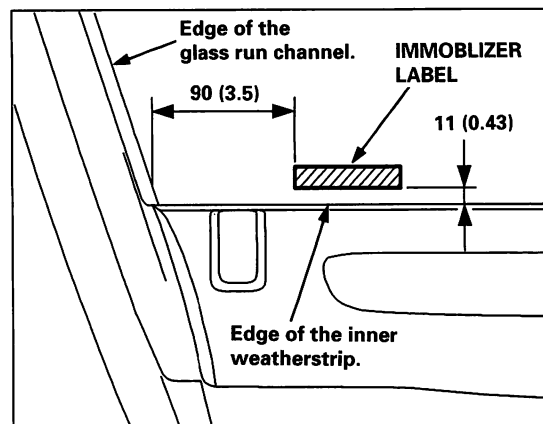
## Label Replacement

5. Install in the reverse order of removal, and note these items:
  - Roll the glass up and down to see if it moves freely without binding.
  - Make sure that there is no clearance between the glass and glass run channel when the glass is closed.
  - Adjust the position of the glass as necessary (see page 20-30).

### For some models:

1. Raise the glass fully.
2. Apply the immobilizer label on the inside face of the front door glass where shown.

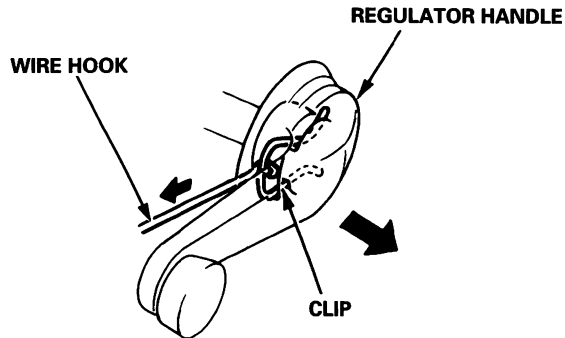
Unit: mm (in)



# Doors

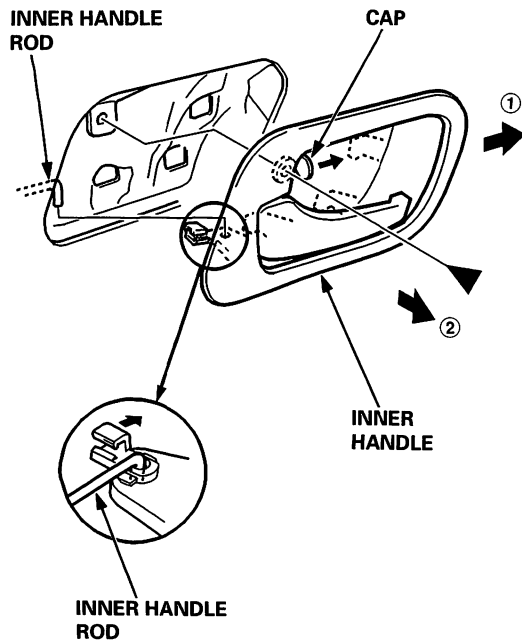
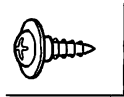
## Rear Door Panel Removal and Installation

1. If applicable, remove the regulator handle by pulling the clip out a wire hook.



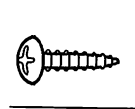
2. Remove the inner handle. Take care not to scratch the door panel.
  - 1. Pry out the cap, and remove the screw.
  - 2. Move the inner handle forward and half-way out, then disconnect the inner handle rod.

►: Screw location, 1

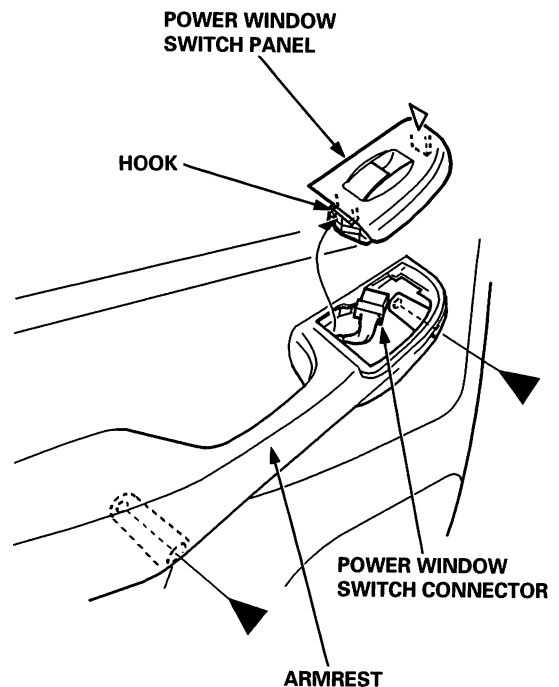
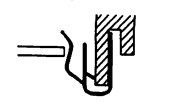


3. With power window: Remove the power window switch panel. Take care not to scratch the door panel.
  - 1. Pull the power window switch panel out half-way.
  - 2. Disconnect the power window switch connector.
4. Remove the screw from lower portion of the armrest.

►: Screw location, 2

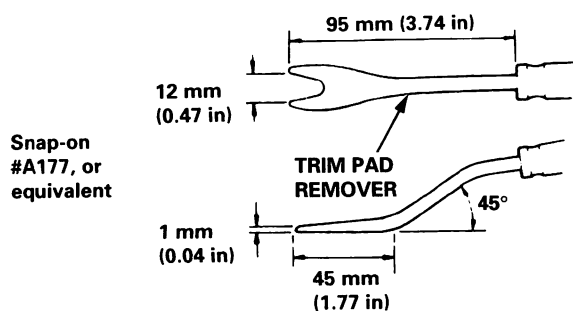


▷: Clip location, 1

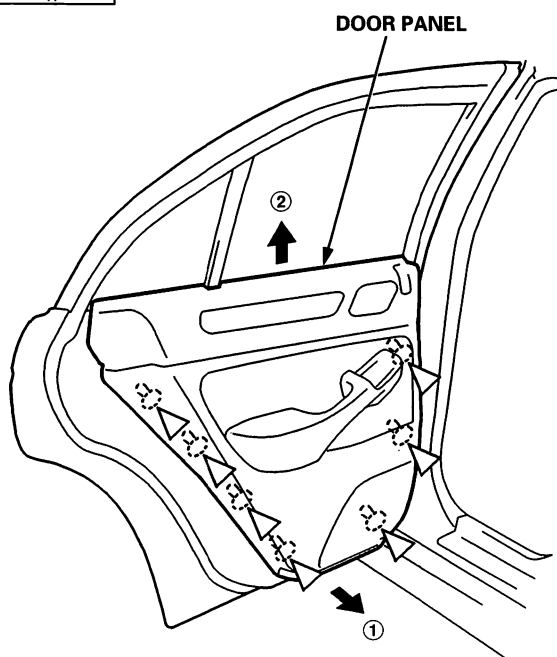
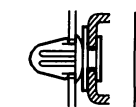




5. Release the clips that hold the door panel with a trim pad remover (commercially available), then remove the door panel by pulling it upward. Remove the door panel with as little bending as possible to avoid creasing or breaking it.

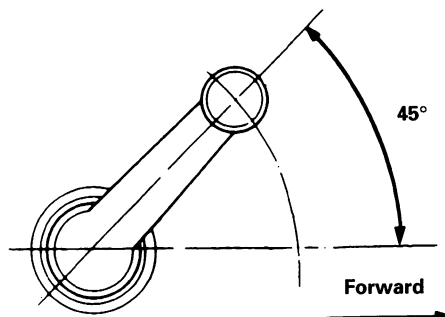


▷: Clip locations, 7



6. Install in the reverse order of removal, and note these items:

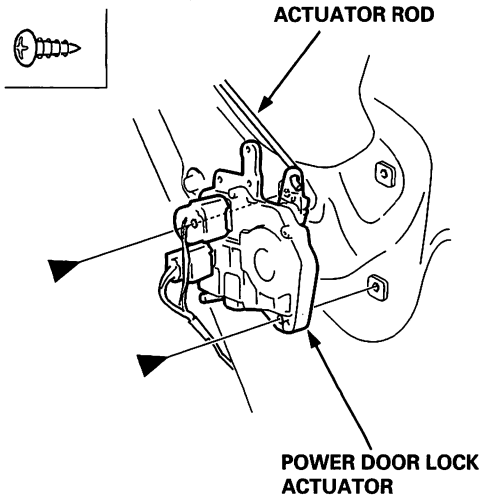
- If applicable, make sure the connector is plugged in properly. And the rod is connected properly.
- If applicable, install the regulator handle so it points forward and up at a 45 degree angle with the glass fully closed.



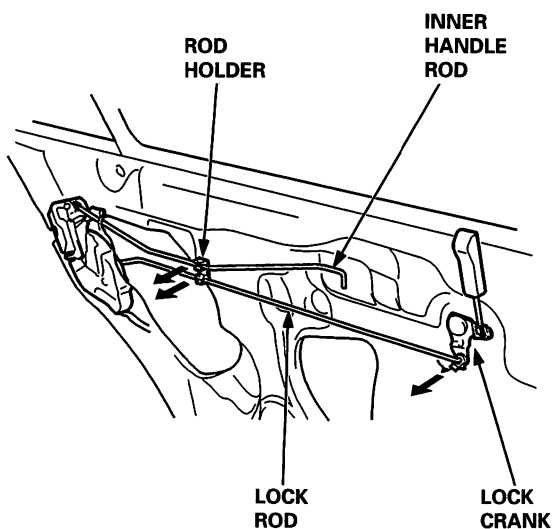
## Rear Door Outer Handle Replacement

1. Remove:
  - Door panel (see page 20-16)
  - Plastic cover, as necessary (see page 20-5)
2. Raise the glass fully.
3. Without Super Locking: Remove the screws, then remove the power door lock actuator from the door. Take care not to bend the actuator rod.

►: Screw locations, 2

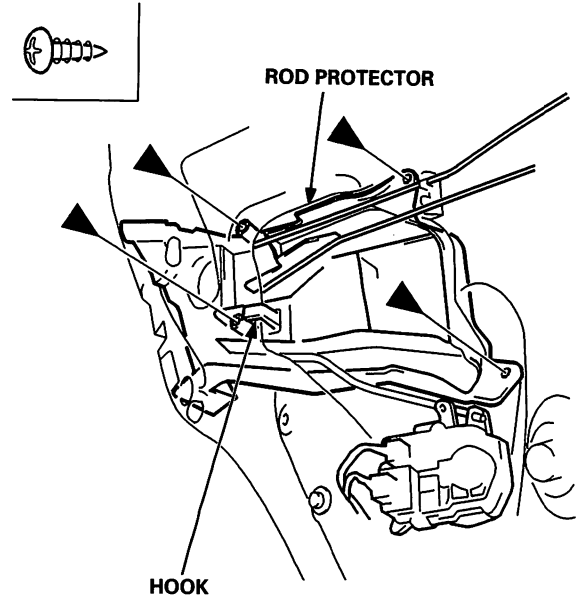


4. Disconnect the lock rod from the lock crank, and release the inner handle rod and lock rod from the rod holder.



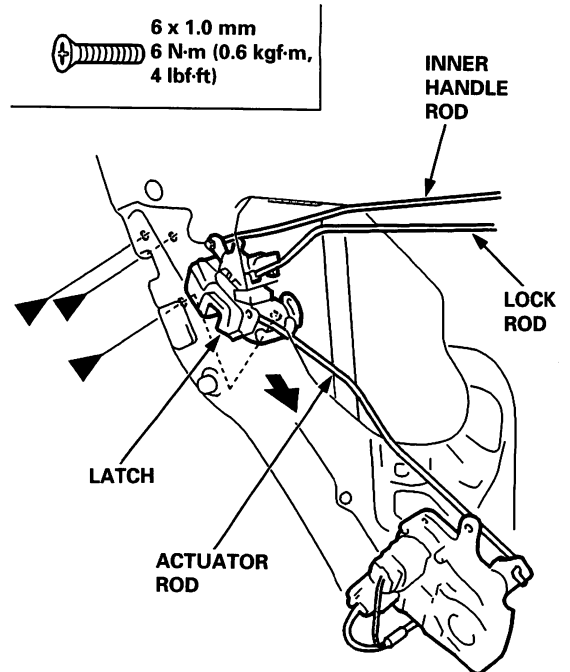
5. Without Super Locking: Remove the screws, then remove the rod protector.

►: Screw locations, 4



6. Remove the screws, then move the latch down. Take care not to bend the inner handle rod, lock rod and actuator rod. Without Super Locking model is shown. The other model is similar.

►: Screw locations, 3

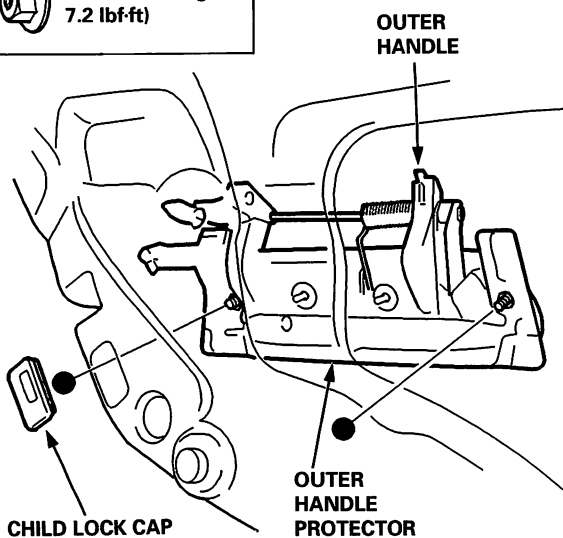
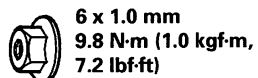




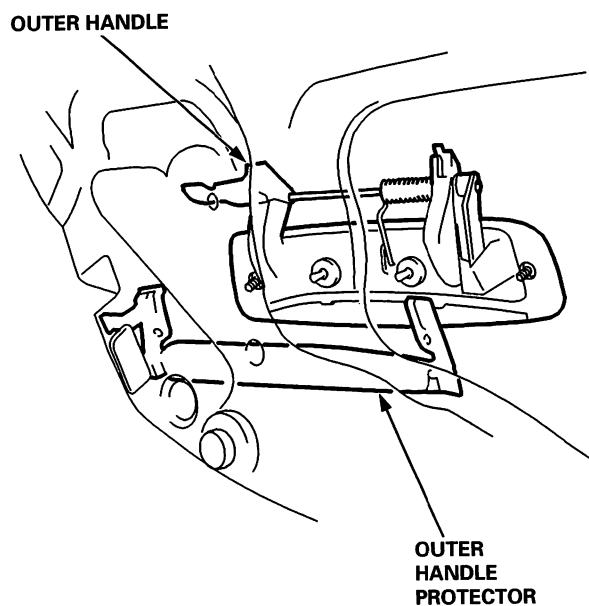


7. Remove the child lock cap, and remove the bolts securing the outer handle protector and outer handle.

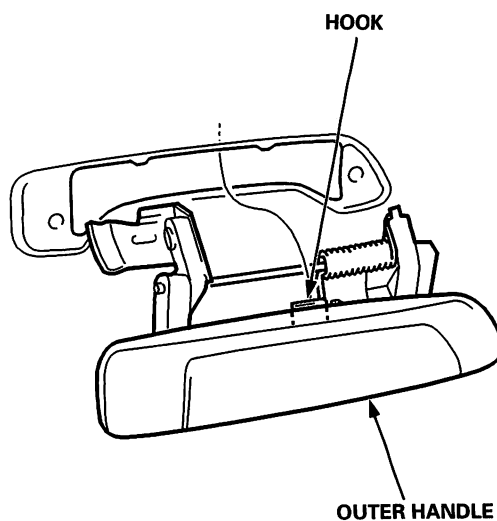
●: Nut locations, 2



8. Remove the outer handle protector from the outer handle.



9. Pull out the outer handle by releasing the hook.

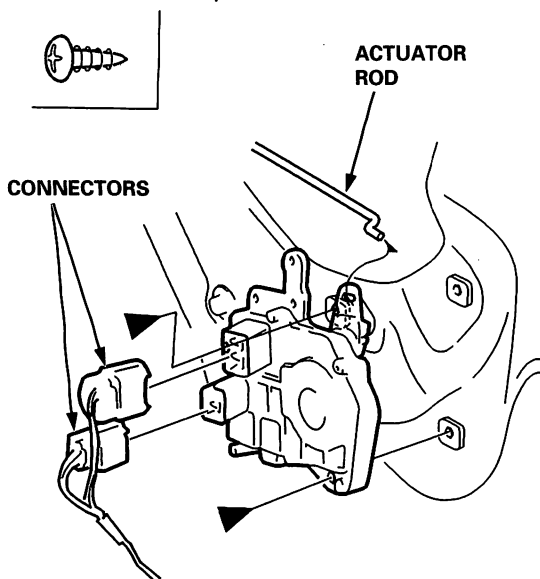


10. Install in the reverse order of removal, and make sure the door locks and opens properly.

## Rear Door Latch Replacement

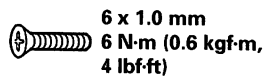
1. Remove:
  - Door panel (see page 20-16)
  - Plastic cover, as necessary (see page 20-5)
2. Raise the glass fully.
3. Disconnect the lock rod from the lock crank, and release the inner handle rod and lock rod from the rod holder (see page 20-18).
4. Without Super Locking: Remove the rod protector (see page 20-18).
5. Without Super Locking: Disconnect the connectors and actuator rod, remove the screws, then remove the power door lock actuator.

### ►: Screw locations, 2

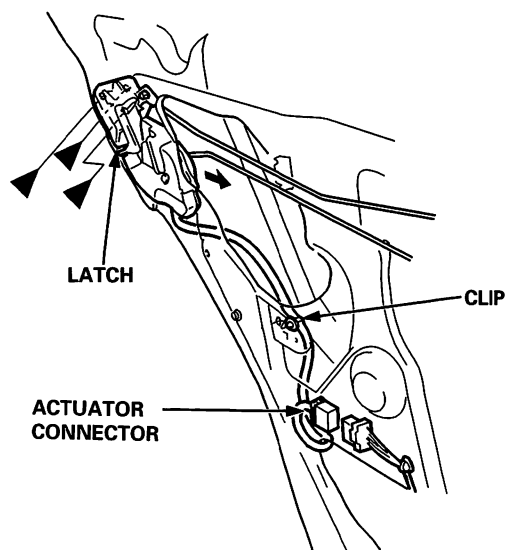


6. With Super Locking: Detach the clip and disconnect the actuator connector.
7. Remove the screws, then remove the latch through the hole in the door. Take care not to bend the lock rod, inner handle rod and actuator rod. Wear gloves to protect your hands.

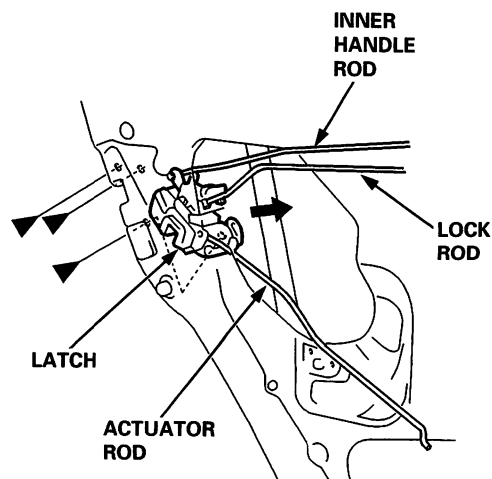
### ►: Screw locations, 3



### With Super Locking:



### Without Super Locking:



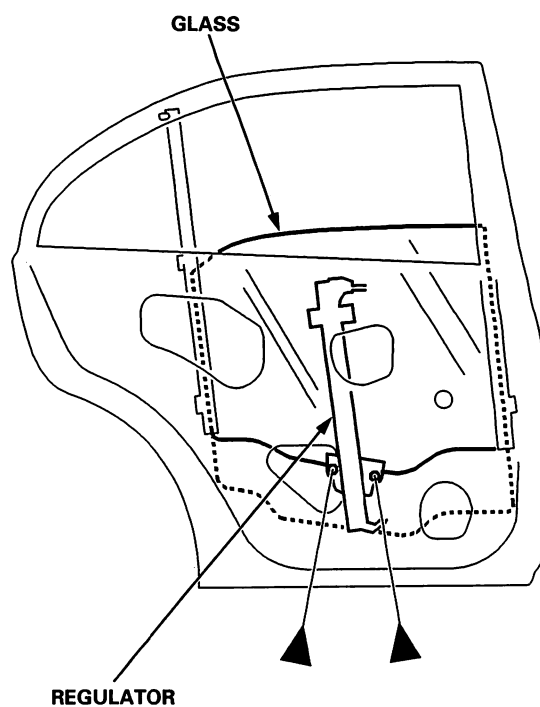
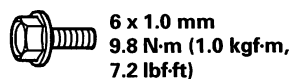


8. Install in the reverse order of removal, and note these items:
  - Make sure the connector(s) are plugged in properly, and each rod is connected securely.
  - Make sure the door locks and opens properly.

## Rear Door Glass, Quarter Glass and Regulator Replacement

1. Remove:
  - Door panel (see page 20-16)
  - Plastic cover, as necessary (see page 20-5)
  - Rod Protector (see page 20-18)
2. Carefully move the glass until you can see the bolts, then loosen them, and carefully lower the glass. Wear gloves to protect your hands. Take care not to drop the glass inside the door.

### ►: Bolt locations, 2



(cont'd)

# Doors

## Rear Door Glass, Quarter Glass and Regulator Replacement (cont'd)

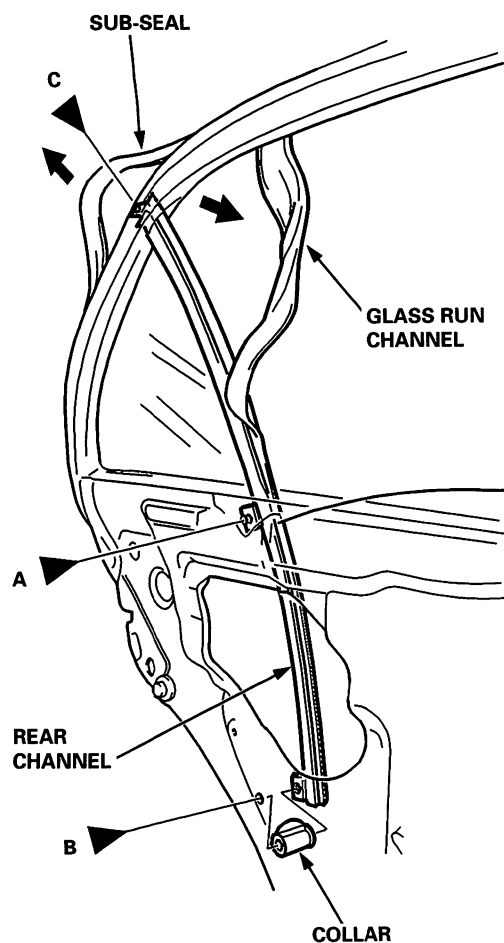
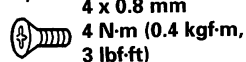
3. Remove the bolts and collar from the rear channel. Pull the sub-seal away as needed, and remove the screw. Pull the glass run channel away as needed from the rear channel.

►: Bolt locations

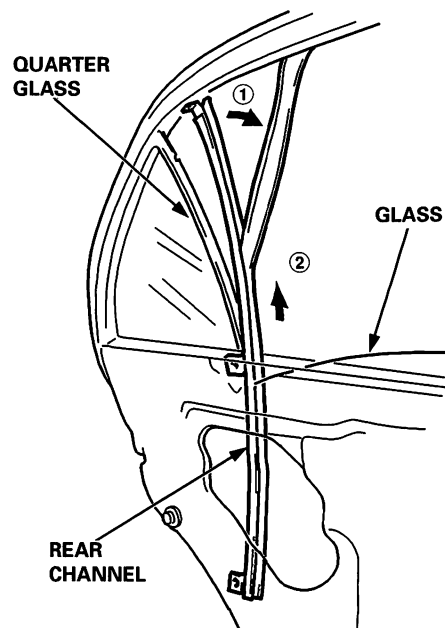
A ►, 1    B ►, 1



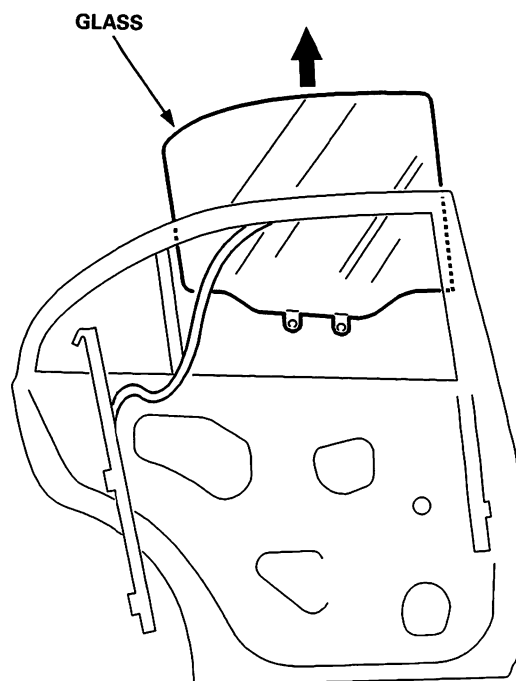
C ►, 1



4. Move the rear channel away from the quarter glass and the rear door glass, then carefully remove the rear channel out through the window slot.

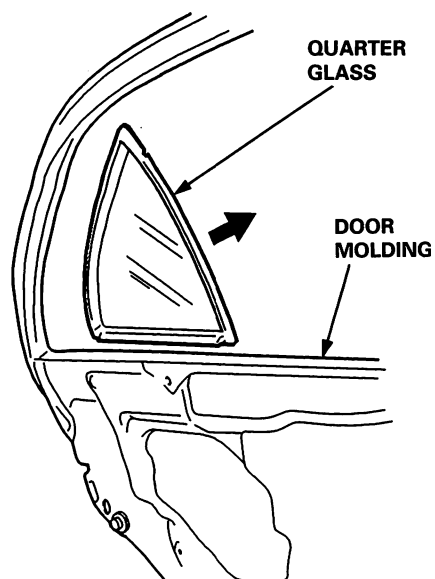


5. Carefully remove the glass out through the window slot. Take care not to drop the glass inside the door.





6. Remove the quarter glass. Take care not to damage the door molding.

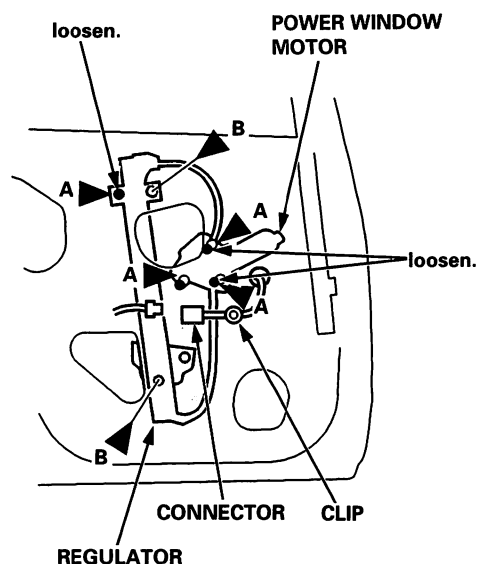


7. If applicable, disconnect and detach the connector and clip from the door. Remove the bolts, and loosen the bolts, then remove the regulator through the hole in the door.

**With power window:**

►: Bolt locations

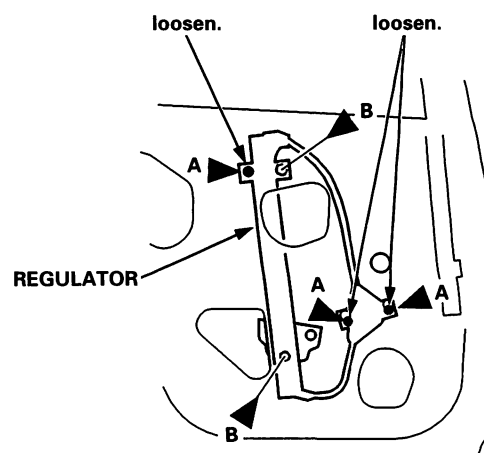
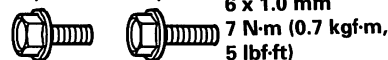
A ►, 4    B ►, 2



**Without power window:**

►: Bolt locations

A ►, 3    B ►, 2

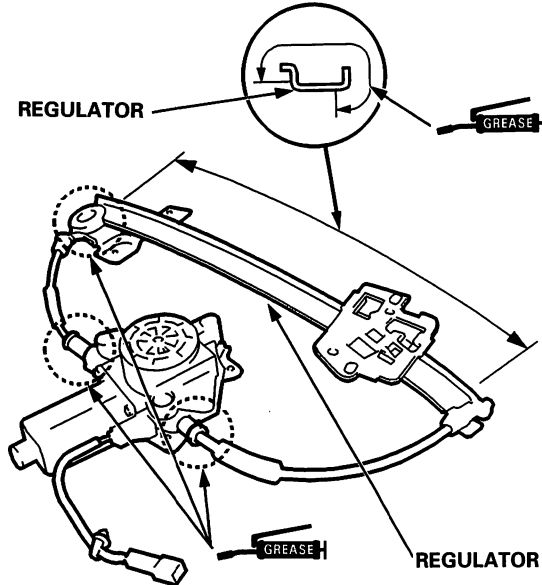


(cont'd)

# Doors

## Rear Door Glass, Quarter Glass and Regulator Replacement (cont'd)

8. Grease the area and the points indicated by the arrows.

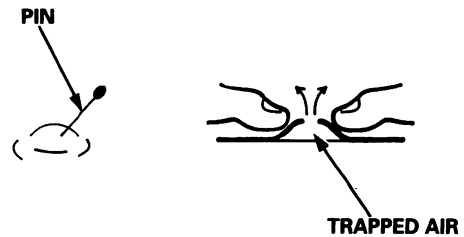


9. Install in the reverse order of removal, and note these items:
- Roll the glass up and down to see if it moves freely without binding.
  - Make sure that there is no clearance between the glass and glass run channel when the glass is closed.
  - Adjust the position of the glass as necessary (see page 20-30).

## Front and Rear Door Channel Tape Replacement

### NOTE:

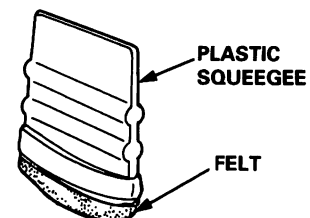
- Keep dust away from the working area.
- When working at lower temperatures, heat the door channel and door channel tape with a hair dryer.  
Door channel: about 15°C (59°F).  
Door channel tape: about 30°C (86°F).
- When heating the door channel tape, heat it evenly and gradually to prevent deformation.
- When pressing the door channel tape, slowly press it from the corner to prevent air bubbles and wrinkles.
- If there are air bubbles in the door channel tape, prick them with a pin, then release the air with your finger or a plastic squeegee.



- If the air bubble is more than 10 mm (0.4 in) in diameter, peel up the door channel tape, then reapply it.

1. The following tools are required to replace the door channel tape.

- Plastic squeegee
- Alcohol
- Sponge or Shop towel
- Hair dryer
- Pin





2. Remove the following parts.

**Front door outer roof channel tape replacement:**

- Power mirror (see page 20-35)
- Glass run channel, as necessary (see page 20-4)
- Glass stop (see page 20-3)
- Sash trim (see page 20-3)
- Sub-seal (see page 20-4)

**Front door inner roof channel tape replacement:**

- Mirror mount cover (see page 20-35)
- Door weatherstrip, as necessary (see page 20-3)
- Glass run channel, as necessary (see page 20-4)

**Front door inner center channel tape replacement:**

- Door panel (see page 20-7)
- Door weatherstrip, as necessary (see page 20-3)
- Glass run channel, as necessary (see page 20-4)

**Rear door outer roof channel tape replacement:**

- Door molding (see page 20-5)
- Quarter glass (see page 20-21)
- Glass run channel, as necessary (see page 20-6)
- Sash trim (see page 20-5)
- Sub-seal (see page 20-5)

**Rear door inner roof and center channel tape replacement:**

- Quarter glass (see page 20-21)
- Door weatherstrip, as necessary (see page 20-5)
- Glass run channel, as necessary (see page 20-6)

3. Slowly peel up the old door channel tape while heating it with a hair dryer.
4. Clean the door channel bonding surface with a sponge dampened in alcohol.

NOTE: After cleaning, keep oil, grease and water from getting on the surface.

5. Attach the door channel tape:
  - 1. Peel the edge of the adhesive backing from the channel tape.
  - 2. Fit the door channel tape to the door channel.
  - 3. Apply the door channel tape to the door channel while peeling the adhesive backing from it a little at a time. Check that the channel tape is parallel with the door channel.
  - 4. Push firmly on the door channel tape with a plastic squeegee (felt side).

NOTE: To prevent air bubbles, slowly press the door channel tape around the door frame corner.

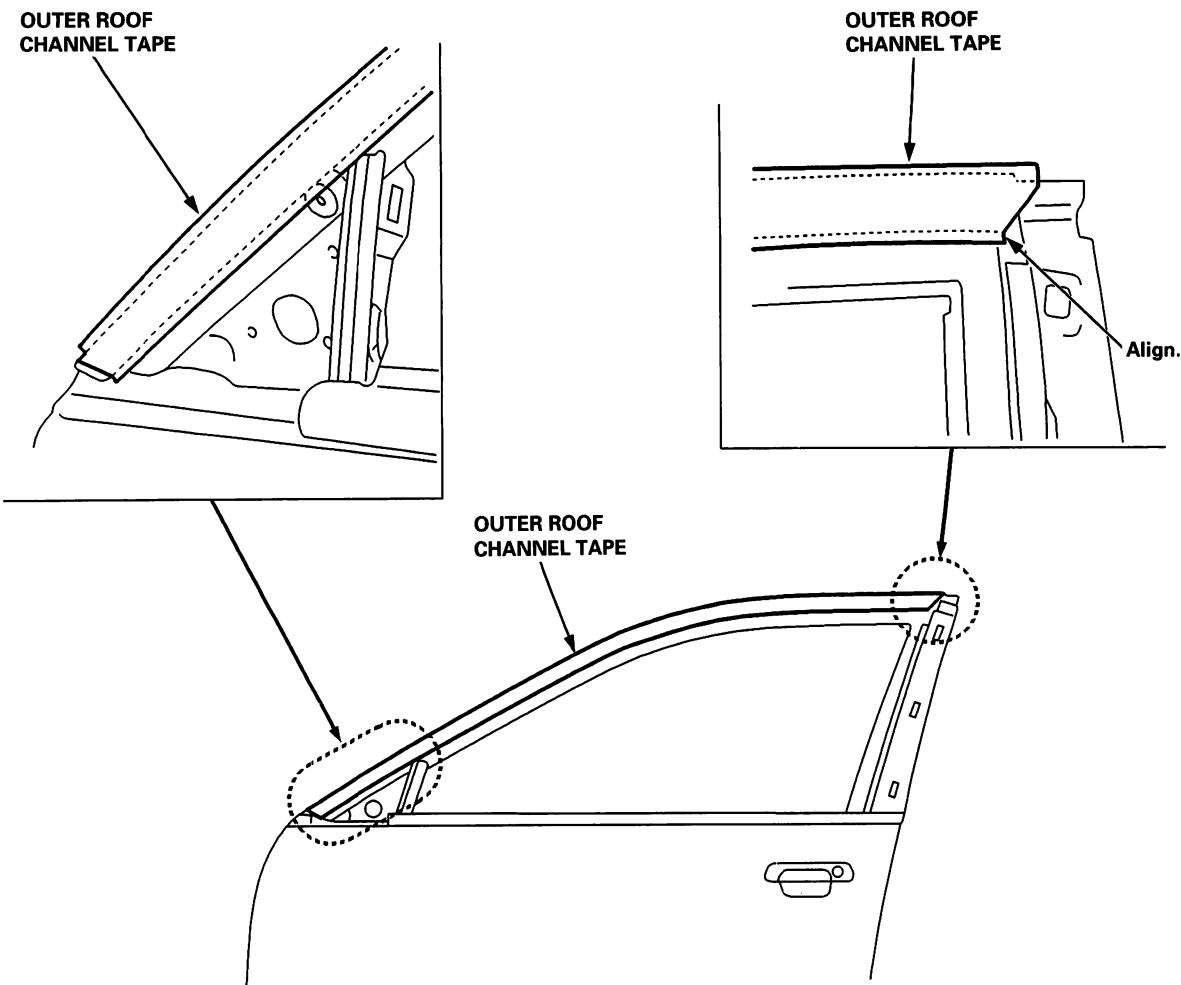
6. As necessary, repeat the preceding steps.
7. Reinstall all remaining removed parts.
8. Check that the body color on the door channel is covered by the door channel tape.
9. Check for water leaks. Do not squeeze the tip of the hose.

(cont'd)

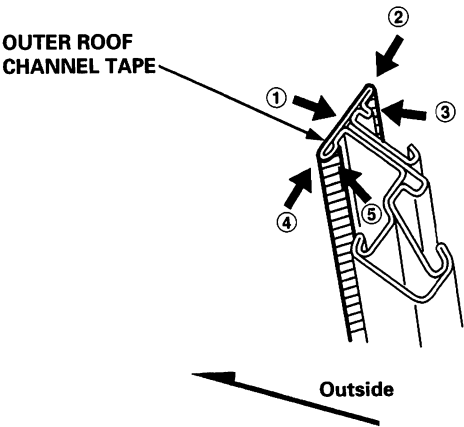
# Doors

## Front and Rear Door Channel Tape Replacement (cont'd)

Front door outer roof channel tape:



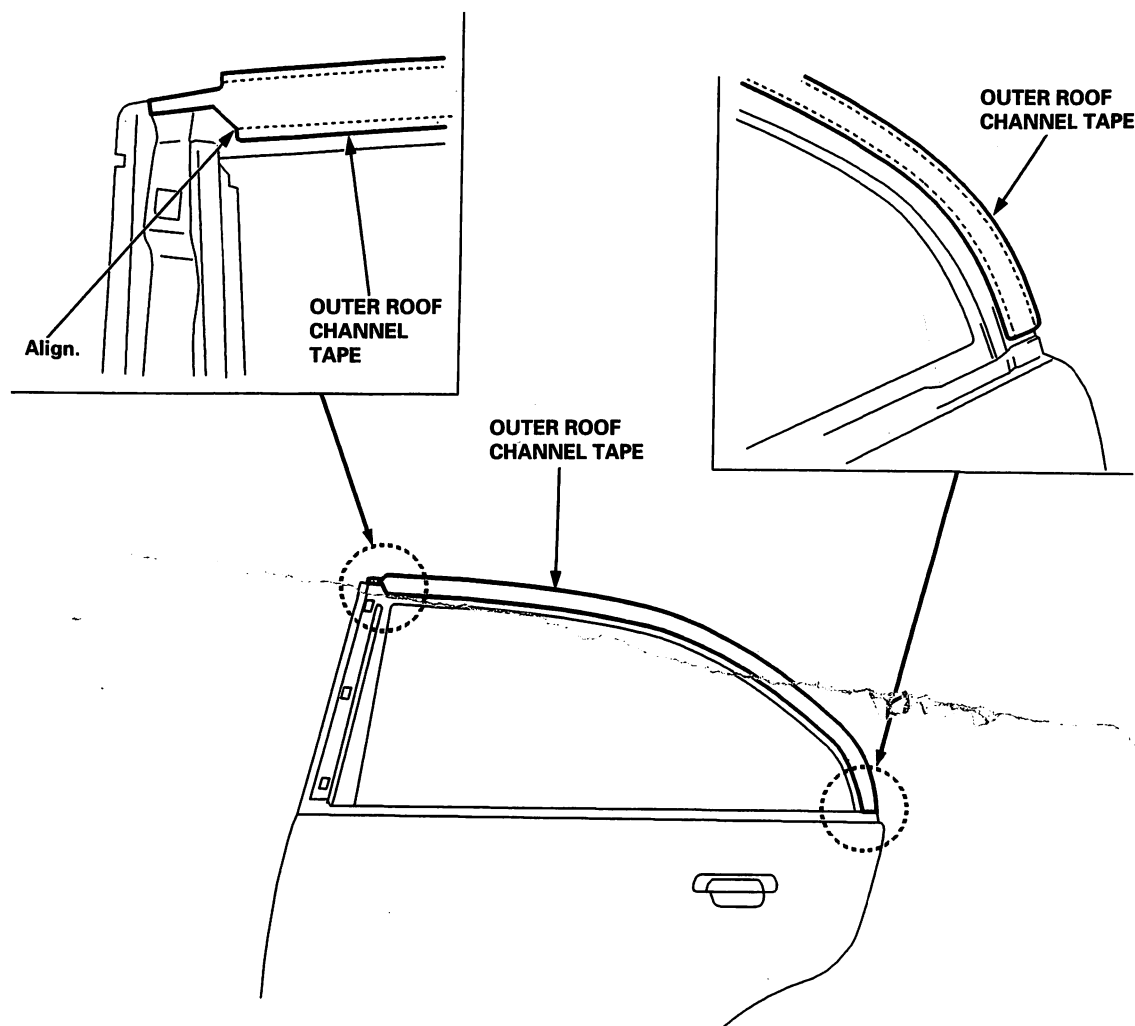
NOTE: Press in numbered sequence.



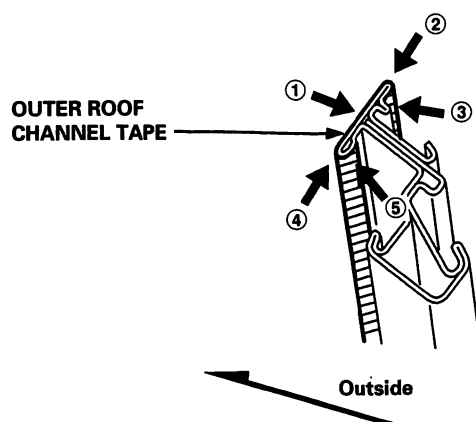




**Rear door outer roof channel tape:**



**NOTE:** Press in numbered sequence.



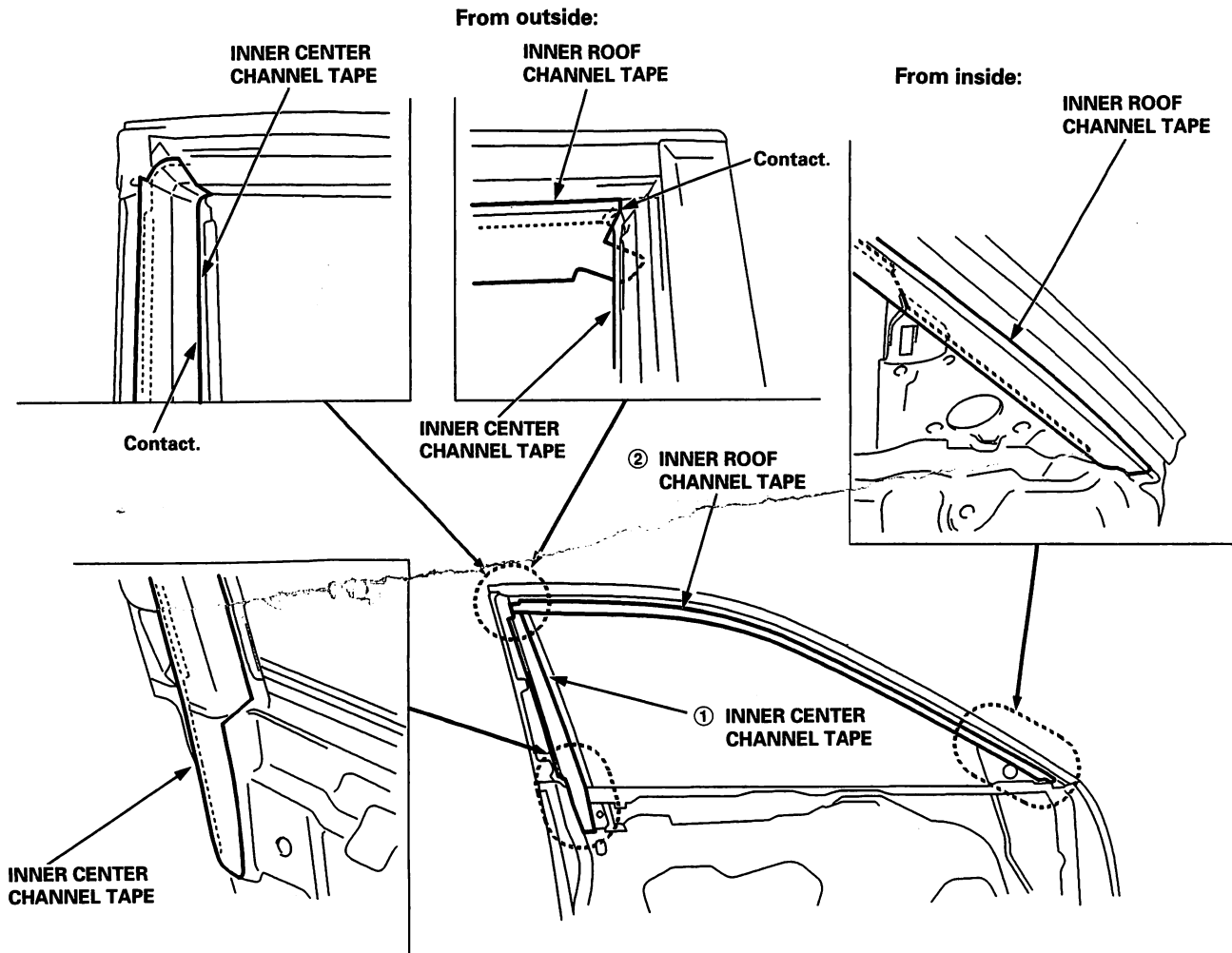
(cont'd)

# Doors

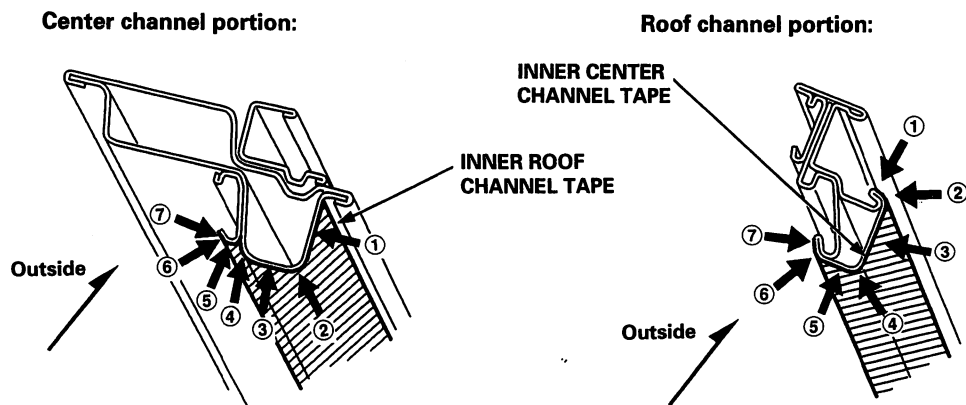
## Front and Rear Door Channel Tape Replacement (cont'd)

Front door inner roof and center channel tape:

Apply in numbered sequence.



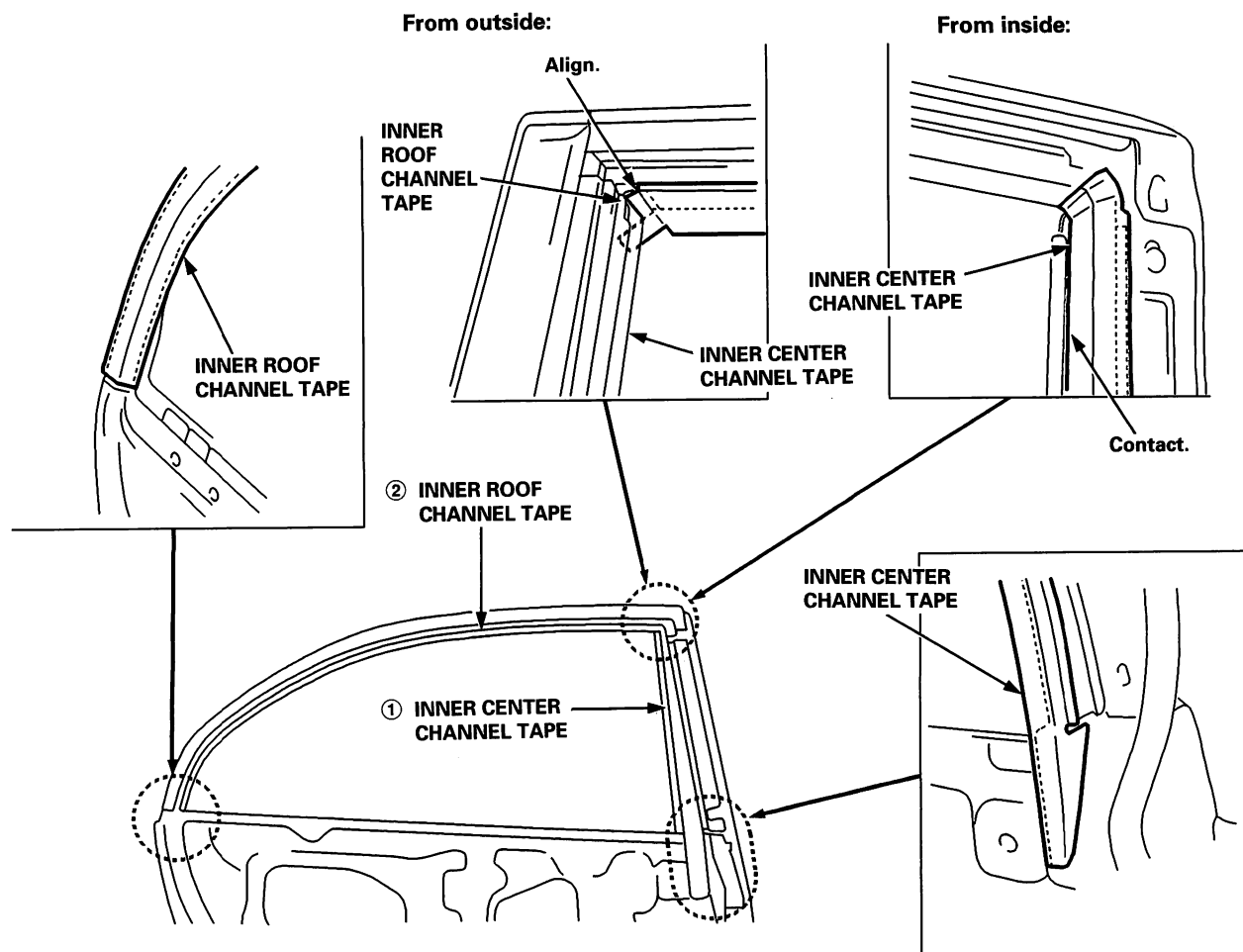
NOTE: Press in numbered sequence.





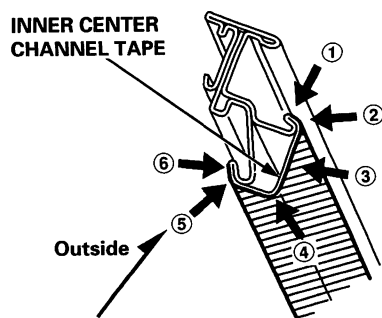
### Rear door inner roof and center channel tape:

Apply in numbered sequence.

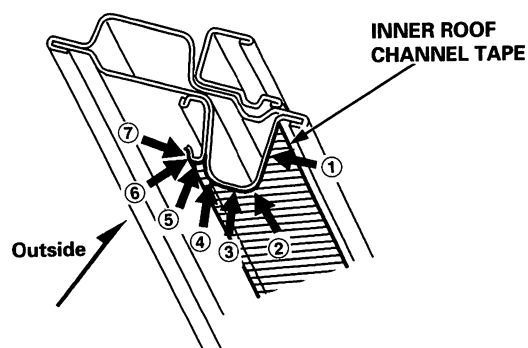


NOTE: Press in numbered sequence.

### Roof channel portion:



### Center channel portion:



# Doors

## Sticker Replacement

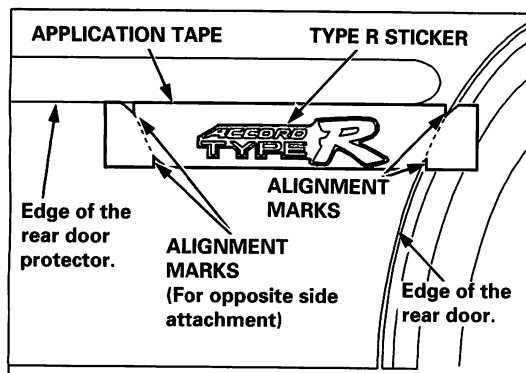
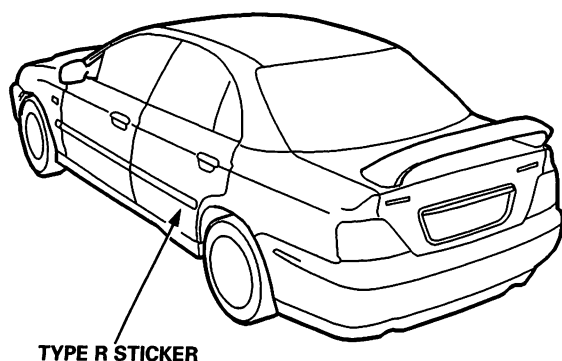
### TYPE R:

Apply the sticker where shown.

### NOTE:

- Before applying, clean the rear door surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.
- This drawing shows left side. Right side is similar.

### Attachment Point (Reference):

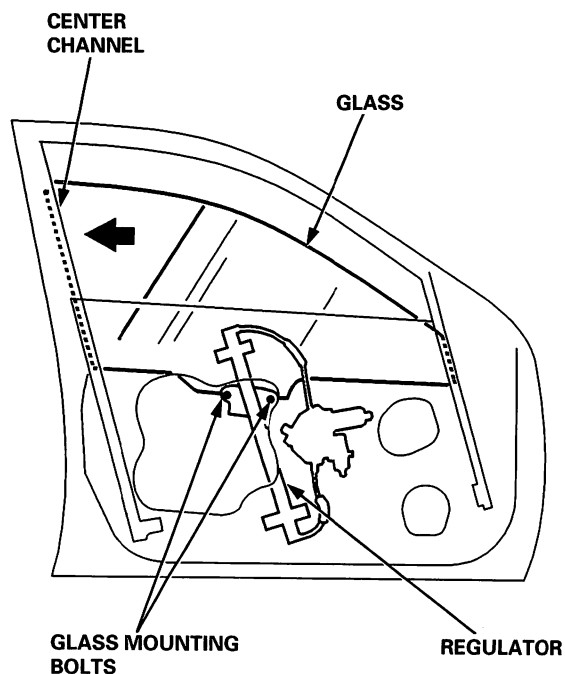


## Front and Rear Door Glass Adjustment

NOTE: Check the weatherstrips and glass run channel for damage or deterioration, and replace them if necessary.

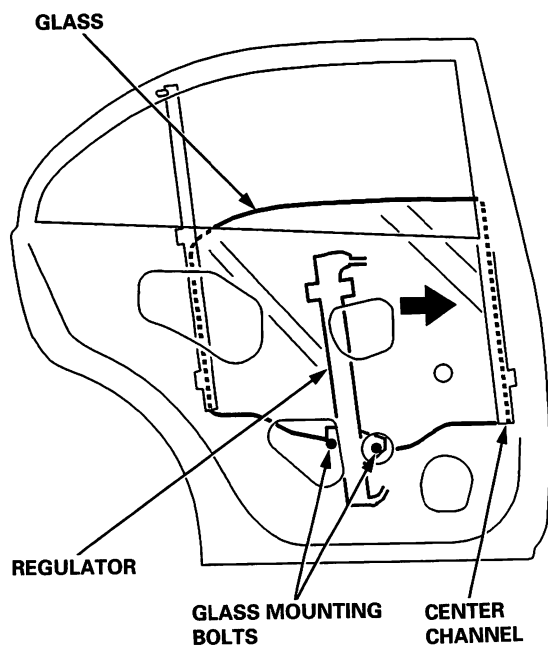
- 1 Place the vehicle on a firm, level surface.
- 2 Remove:
  - Door panel (see pages 20-7, 16)
  - Plastic cover, as necessary (see pages 20-3, 5)
- 3 Carefully move the glass until you can see the glass mounting bolts, then loosen them.

### Front:

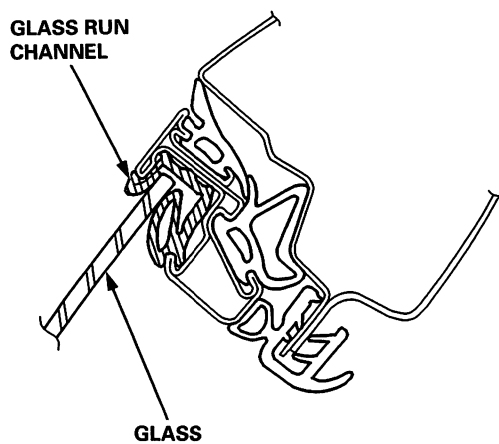




**Rear:**

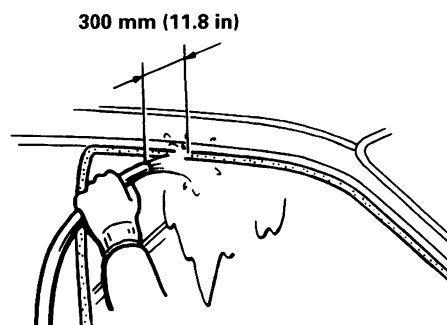
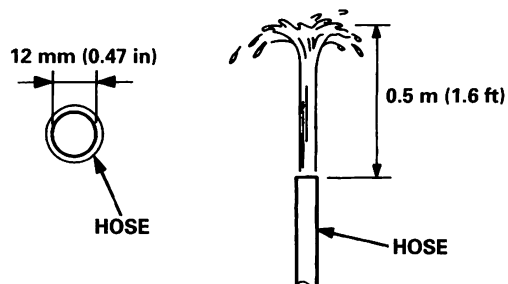


4. Push the glass against the center channel, then tighten the glass mounting bolts.
5. Check that the glass moves smoothly.
6. Raise the glass fully, and check for gaps. Check that the glass contacts the glass run channel evenly.



7. Check for water leaks. Spray water over the roof and on the sealing area as shown, and note these items:

- Adjust the water pressure as shown.
- Do not squeeze the tip of the hose.



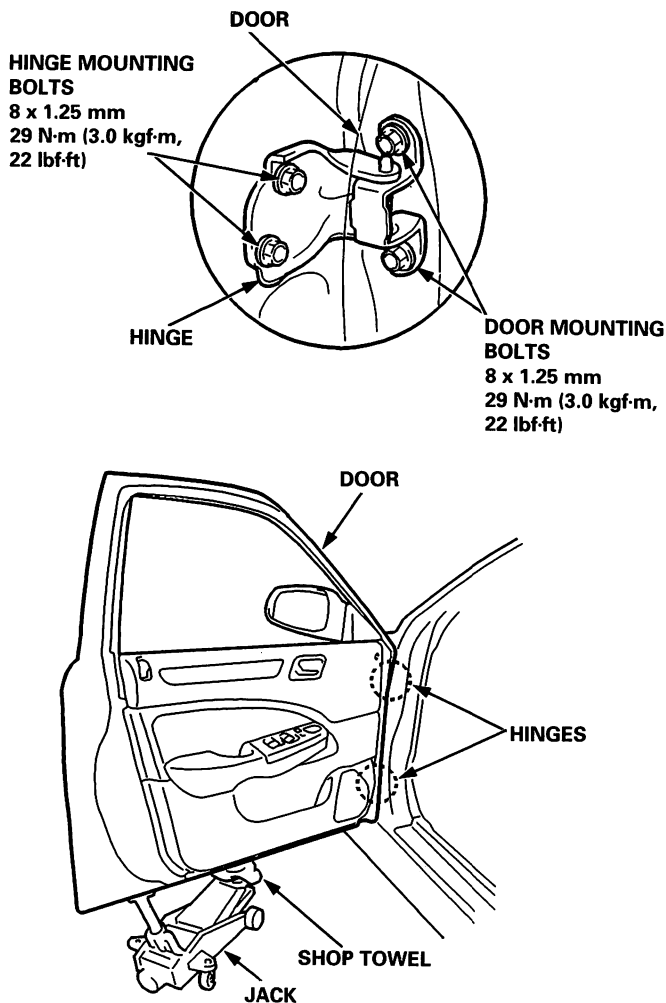
8. Attach the plastic cover, and install the door panel (see pages 20-7, 16).

# Doors

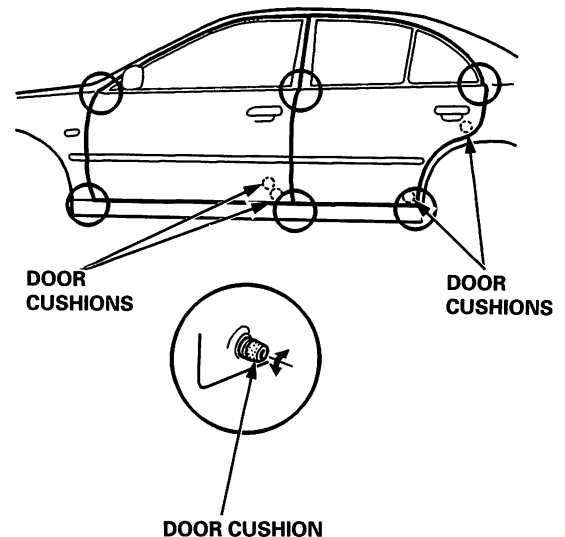
## Front and Rear Door Position Adjustment

**NOTE:** After installing the door, check for a flush fit with the body, then check for equal gaps between the front, rear, and bottom door edges and the body. Check that the door and body edges are parallel. Before adjusting, replace the mounting bolts.

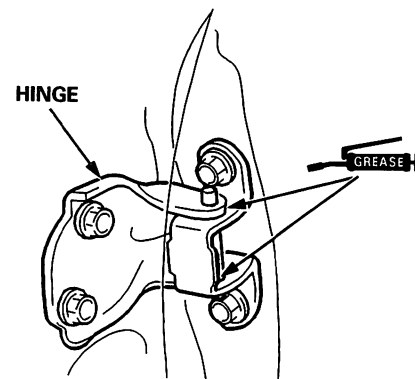
1. Place the vehicle on a firm, level surface when adjusting the doors.
2. Adjust at the hinges:
  - Loosen the door mounting bolts slightly, and move the door IN or OUT until it's flush with the body.
  - Remove the inner fender (see page 20-147), loosen the hinge mounting bolts slightly, and move the door BACKWARD or FORWARD, UP or DOWN as necessary to equalize the gaps.
  - Place a shop towel on the jack to prevent damage to the door when adjusting the door.



3. Check that the door and body edges should be parallel. If necessary, adjust the door cushions.



4. Grease the pivot portions of the hinges indicated by the arrows.



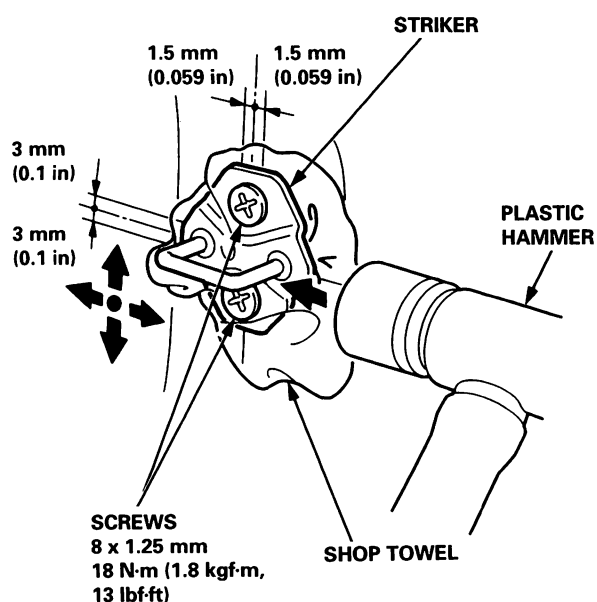
5. Check for water leaks. Do not squeeze the tip of the hose.



## Front and Rear Door Striker Adjustment

Make sure the door latches securely without slamming it. If necessary, adjust the striker: The striker nuts are fixed. The striker can be adjusted 3 mm (0.1 in) up or down, and 1.5 mm (0.059 in) in or out.

1. Loosen the screws, then insert a shop towel between the body and striker.

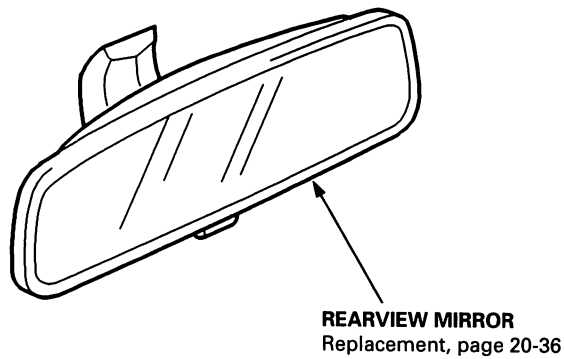
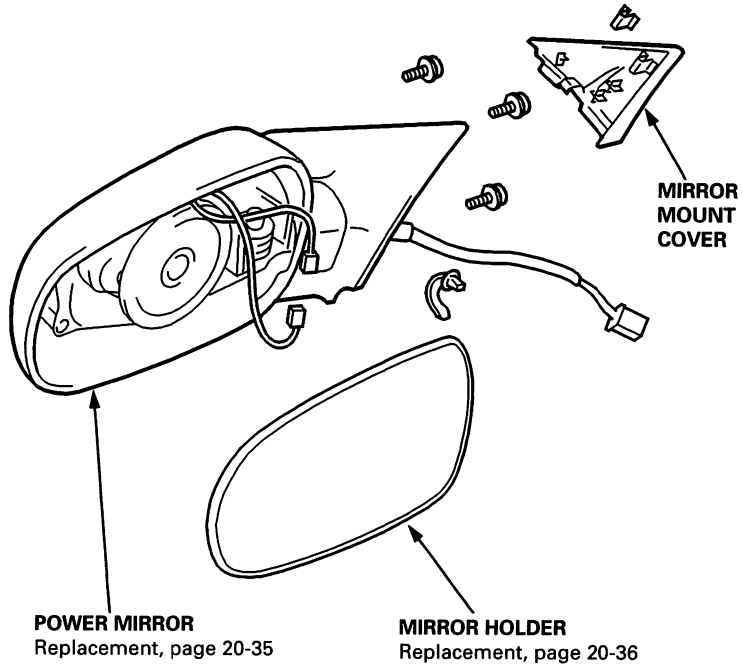


2. Lightly tighten the screws.
3. Wrap the striker with a shop towel, then adjust the striker by tapping it with a plastic hammer. Do not tap the striker too hard.
4. Hold the outer handle out, and push the door against the body to be sure the striker allows a flush fit. If the door latches properly, loosen the screws, then remove the shop towel. Tighten the screws and recheck.

# Mirrors

## Component Location Index

Refer to section 23 for the power mirror actuator replacement.



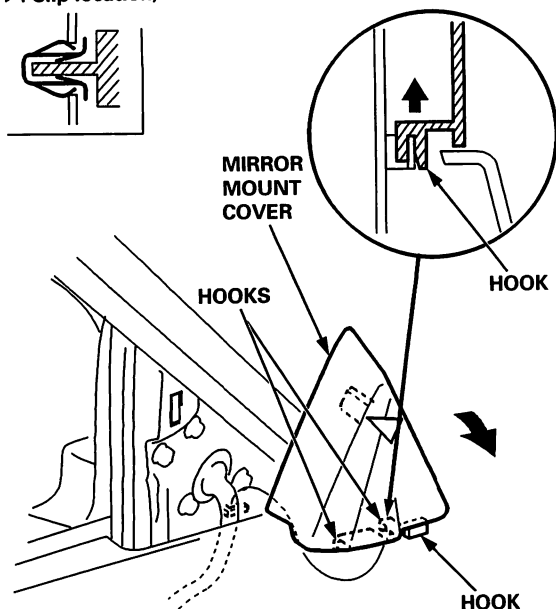




## Power Mirror Replacement

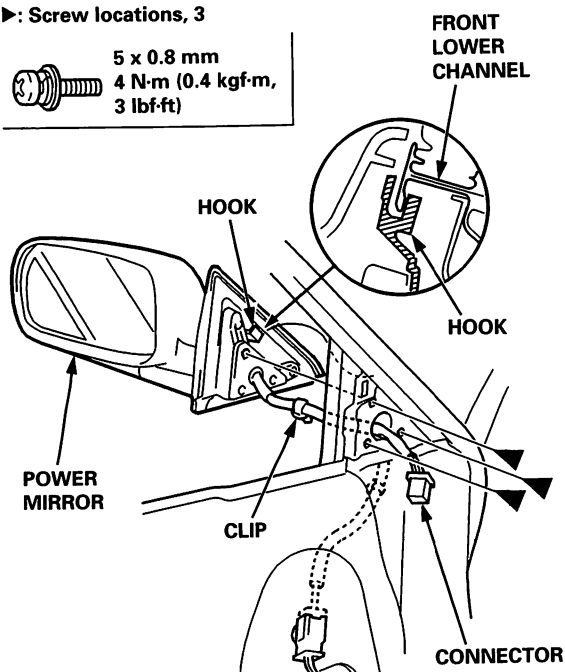
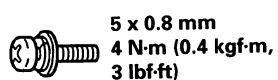
1. Lower the door glass fully.
2. Carefully pry out the mirror mount cover by hand.

►: Clip location, 1



3. Remove the door panel (see page 20-7).
4. Disconnect the connector, detach the harness clip, and remove the screws securing the power mirror, then remove the power mirror while holding it. Take care not to scratch the door.

►: Screw locations, 3



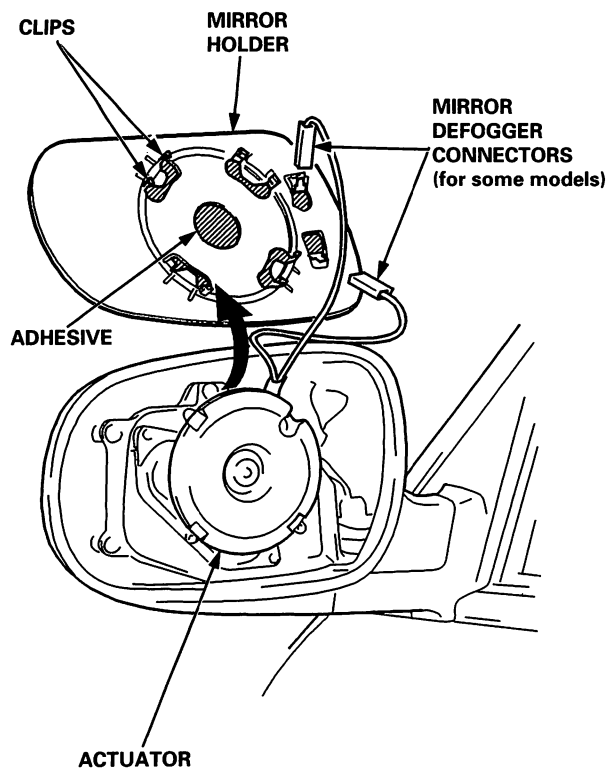
5. Install in the reverse order of removal, and note these items:

- Make sure the connector is plugged in properly.
- Attach the harness clip.

# Mirrors

## Mirror Holder Replacement

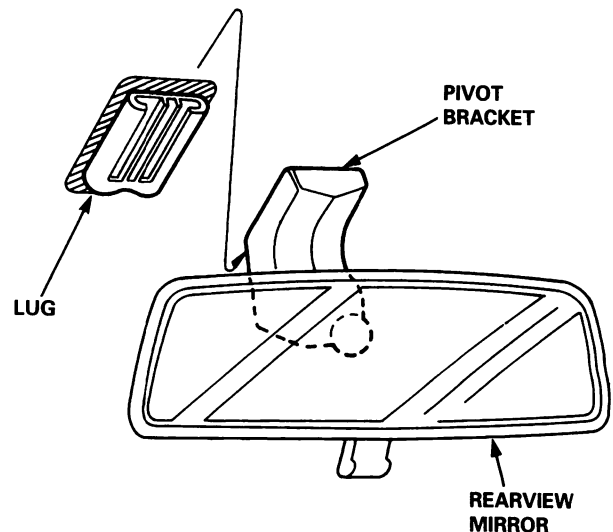
1. Carefully pull out the bottom edge of the mirror holder by hand. Take care not to scratch the mirror.



2. Separate the mirror holder from the actuator by slowly pulling them apart while removing the adhesive, and detaching the clips. If so equipped, disconnect the mirror defogger connectors from the heater pad terminals.
3. If so equipped, reconnect the mirror defogger connectors.
4. Reattach the clips of the mirror holder to the actuator, then position the mirror holder on the actuator. Carefully push the clip portions of the mirror holder until the mirror holder locks into place.
5. Check the operation of the actuator.

## Rearview Mirror Replacement

1. Slide the pivot bracket up toward the upper of the windshield, then remove the rearview mirror from the lug. Take care not to scratch the pivot bracket.

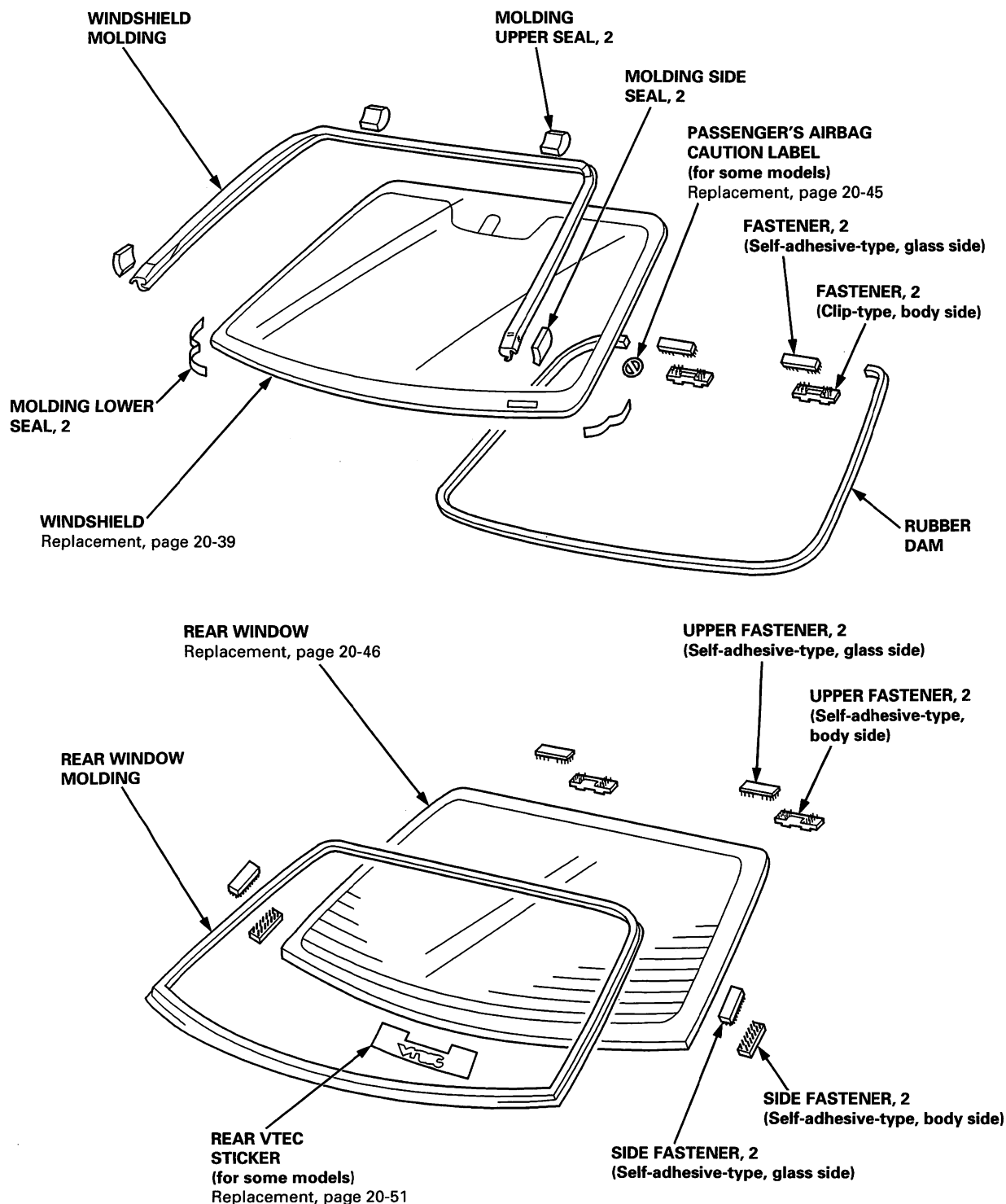


2. Install in the reverse order of removal.



## Component Location Index

The numbers after the part names show the quantities of the parts used.



# Glass

## Parts/Tools

### Parts:

Part Number	Contents	Comment
Adhesive kit — Low temperature 08718 – 99960 High temperature 08718 – 99961	Adhesive sealant 500 g (17.6 oz) Hardener 75 g (2.6 oz) Glass primer 20 g (0.7 oz) Body primer 20 g (0.7 oz) Piano wire Length: 1 m (3 ft), Diameter: 0.6 mm (0.02 in)  Gauze Cartridge Sponge	       For adhesive For applying primers

### NOTE:

- Both kits have two types of adhesive primer: one for the body (metal), and one for glass.
- Always use new genuine Honda adhesive, or equivalent.
- Do not use the adhesive if six months have elapsed since date of manufacture.
- Store adhesive in a cool, dry place.
- Open only immediately before you are going to use it.

### Tools:

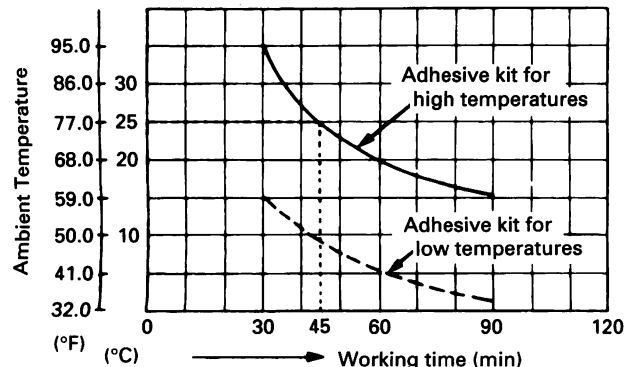
Tool/Material	Remarks
Glass or steel plate Putty knife Caulking gun Suction cups	To mix adhesive and hardener on To mix adhesive and remove excess To apply adhesive to windshield To install windshield
Knife Awl Two wood sticks Toluene or alcohol	To scrape bonding surface around window opening To make hole through existing adhesive for piano wire To hold piano wire To clean bonding surfaces

### Workable Time:

Adhesive workable time varies widely according to temperature, so choose the correct adhesive kit for the temperature range you will be working in.

After mixing and applying adhesive, you should install the windshield within the time shown on the chart.

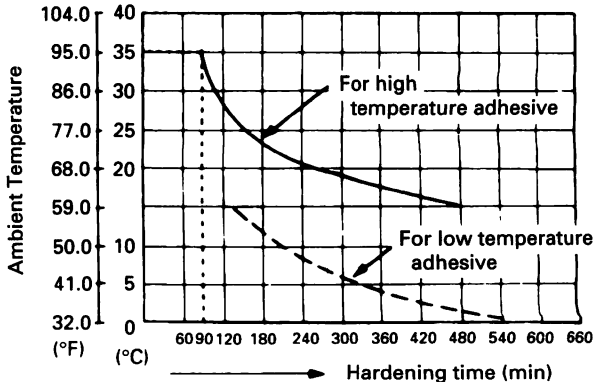
For example, when the ambient temperature is 25°C (77°F), the glass should be installed within 45 minutes using the high temperature type adhesive. Kit part numbers and contents are listed on the page before.



### Hardening Time:

Hardening time can be shortened by heating with infrared light.

For example, the adhesive will start to harden within 270 minutes mixing at 20°C (63°F). If however, it is heated to 35°C (95°F), it will start to harden within 90 minutes.





## Windshield Replacement

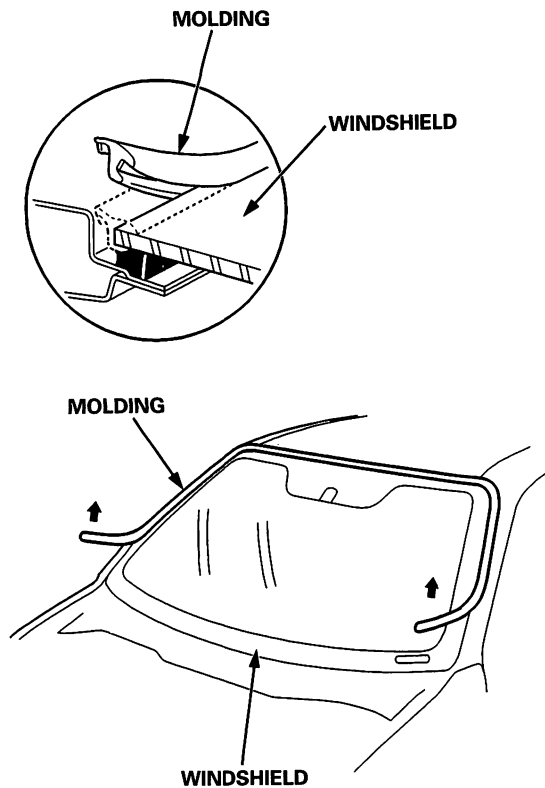
### NOTE:

- Wear gloves to remove and install the windshield.
- Use seat covers to avoid damaging any surfaces.

#### 1. Remove:

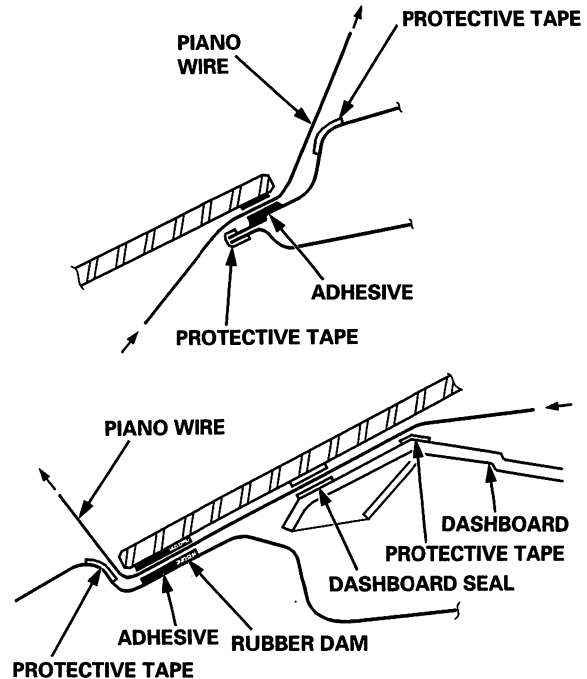
- Rearview mirror (see page 20-36)
- Sunvisors and holders, both sides (see page 20-70)
- Front ceiling light/spotlight (see section 23)
- Grab handles, both sides (see page 20-70)
- Front door trim, both sides as necessary (see page 20-66)
- Front pillar trim, both sides (see page 20-66)
- Windshield wiper arms and cowl cover (see section 23)

- #### 2. Remove the molding from the edge of the windshield. If necessary, cut the molding with a utility knife.

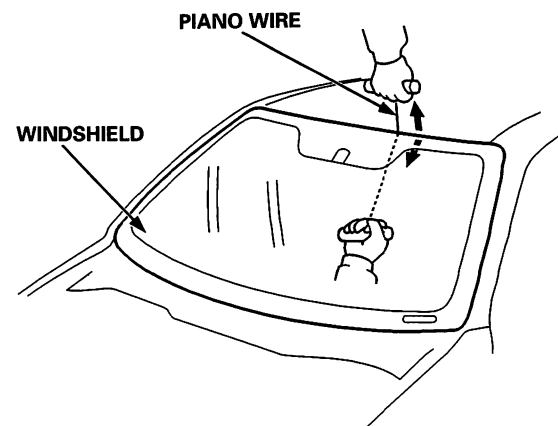


- #### 3. Pull down the front portion of the headliner (see page 20-70). Take care not to bend the headliner excessively, or you may crease or break it.

- #### 4. Apply protective tape to along the edge of the dashboard and body as shown. Using an awl, make a hole through the rubber dam adhesive and dashboard seal from inside the vehicle. Push piano wire through the hole, and wrap each end around a piece of wood.



- #### 5. With a helper on the outside, pull the piano wire back and forth in a sawing motion. Hold the piano wire as close to the windshield as possible to prevent damage to the body and dashboard. Carefully cut through the rubber dam and adhesive around the entire windshield.



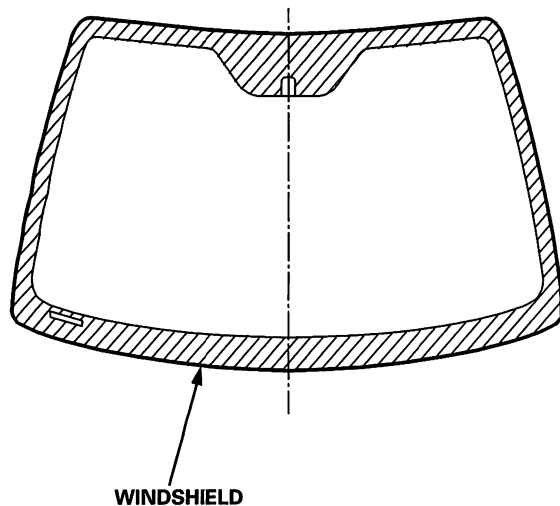
- #### 6. Carefully remove the windshield.

(cont'd)

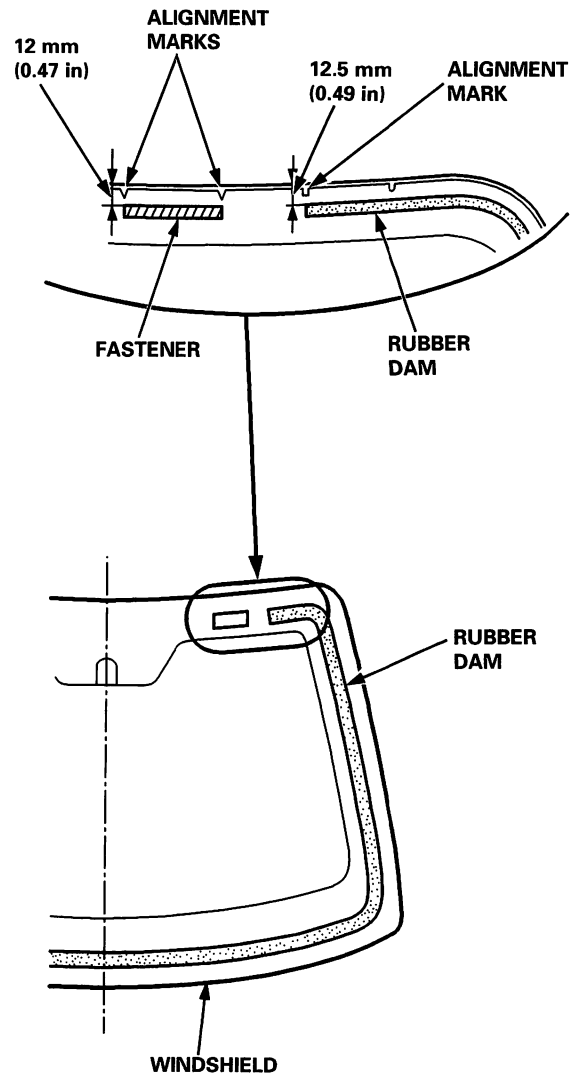
# Glass

## Windshield Replacement (cont'd)

7. With a knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in) on the bonding surface around the entire windshield opening flange:
  - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
  - Remove the rubber dam and fasteners from the body.
  - Mask off surrounding surfaces before painting.
8. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease and water from getting on the clean surface.
9. If the old windshield is to be reinstalled, use a putty knife to scrape off all traces of old adhesive and if necessary, removed molding lower seal from the windshield, the rubber dam and the dashboard seal, then clean the windshield surface and edge with alcohol where new adhesive is to be applied. Make sure the bonding surface is kept free of water, oil and grease.

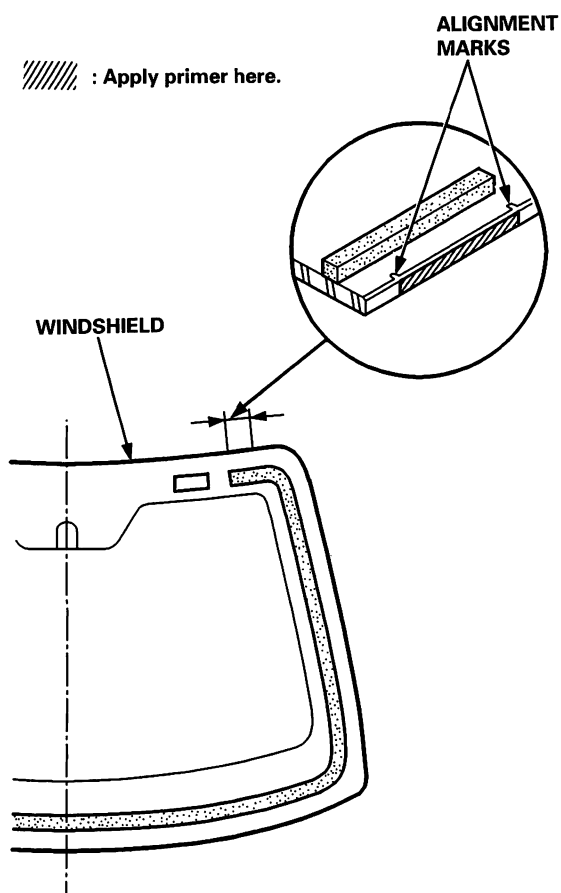


10. Glue the rubber dam and fasteners to the inside face of the windshield as shown:
  - Be sure the rubber dam and fasteners line up with the alignment marks.
  - Be careful not to touch the windshield where adhesive will be applied.



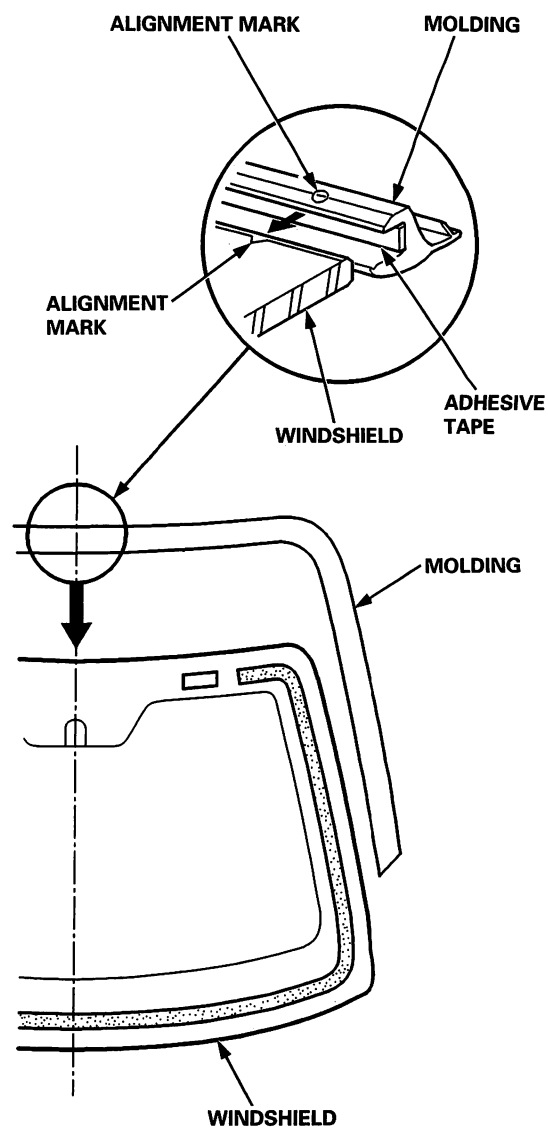


11. Apply primer (3M N-200, or equivalent) to the areas between the alignment marks, and glue the adhesive tape (NITTO 501, or equivalent) to the edge of the windshield. Be careful not to touch the windshield where adhesive will be applied.



12. Glue the molding with adhesive tape to the edge of the windshield:

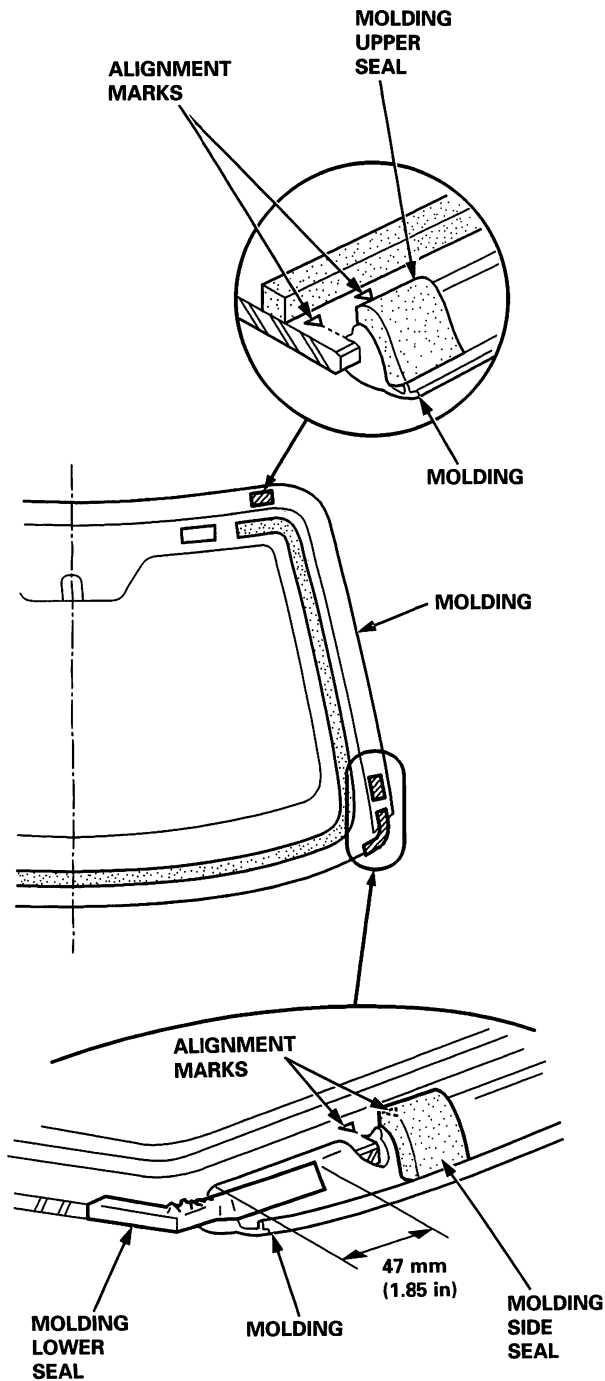
- Be sure the alignment mark of the molding line up with the alignment mark of the windshield.
- Be careful not to touch the windshield where adhesive will be applied.



(cont'd)

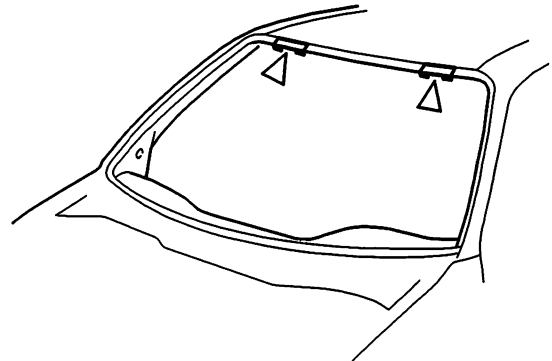
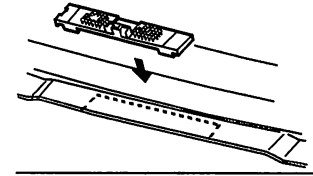
## Windshield Replacement (cont'd)

13. Glue the molding upper seal, molding side seal and molding lower seal to the molding. Be careful not to touch the windshield where adhesive will be applied.

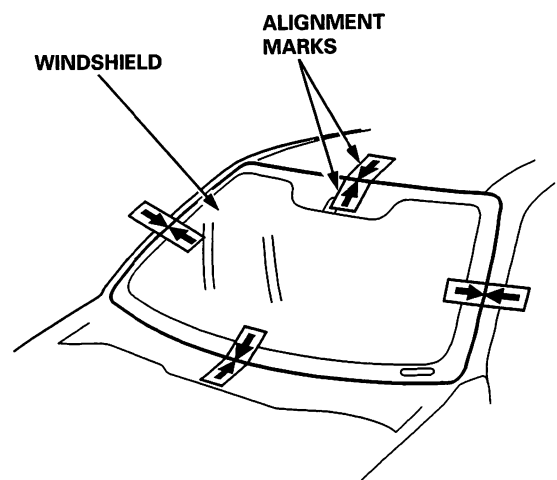


14. Install the fasteners to the body.

▷: Fastener locations, 2



15. Set the windshield in the opening, and center it. Make alignment marks across the windshield and body with a grease pencil at the four points shown. Be careful not to touch the windshield where adhesive will be applied.

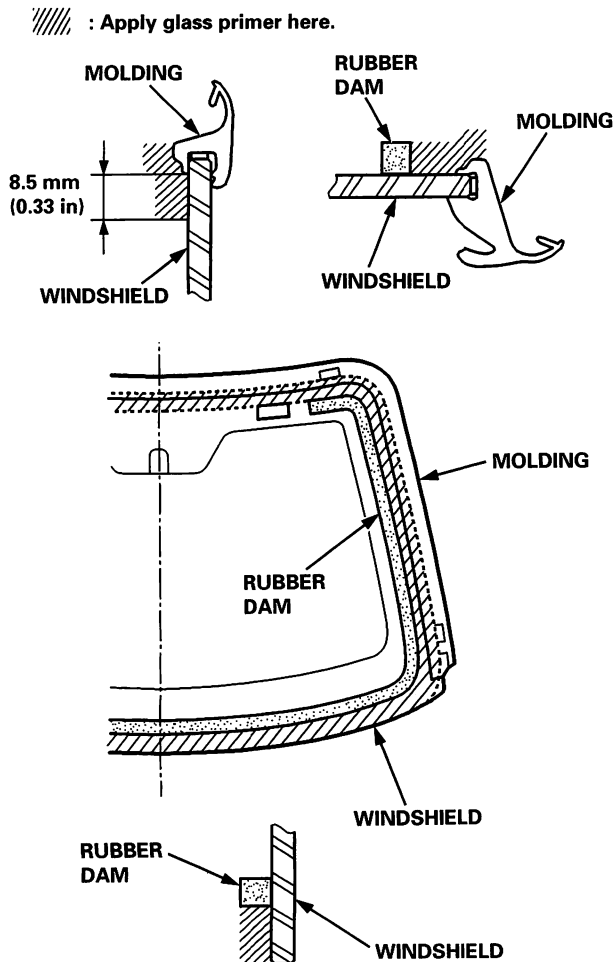


16. Remove the windshield.



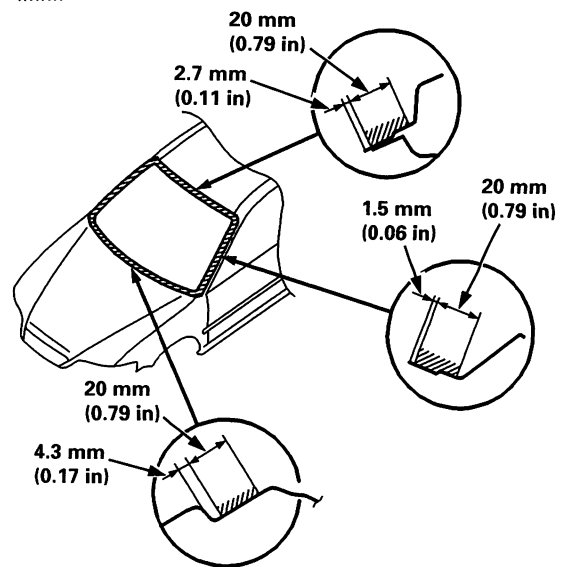


17. With a sponge, apply a light coat of glass primer around the edge of the windshield between the rubber dam and molding as shown, then lightly wipe it off with gauze or cheesecloth:
- Apply glass primer to the molding.
  - Do not apply body primer to the windshield, and do not get body and glass primer sponges mixed up.
  - Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the windshield properly, causing a leak after the windshield is installed.
  - Keep water, dust, and abrasive materials away from the primed surface.

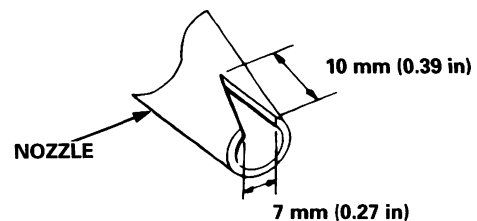


18. With a sponge, apply a light coat of body primer to the original adhesive remaining around the windshield opening flange. Let the body primer dry for at least 10 minutes:
- Do not apply glass primer to the body, and be careful not to mix up glass and body primer sponges.
  - Never touch the primed surfaces with your hands.
  - Mask off the dashboard before painting the flange.

//// : Apply body primer here.



19. Thoroughly mix the adhesive and hardener together on a clean glass or metal plate with a putty knife. Follow the instructions that came with the adhesive.
20. Before filling a cartridge, cut a "V" in the end of the nozzle as shown.

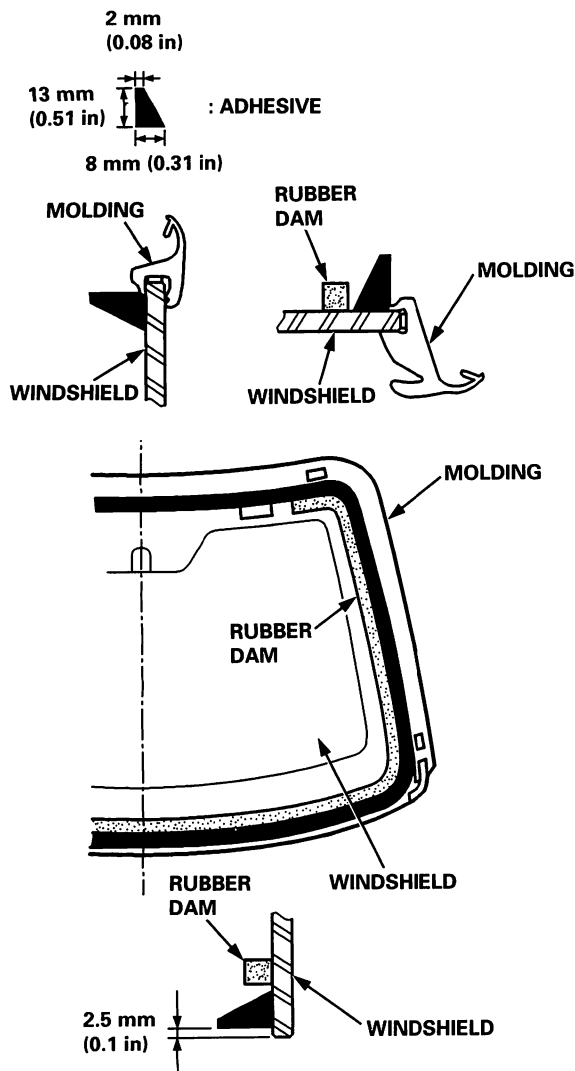


(cont'd)

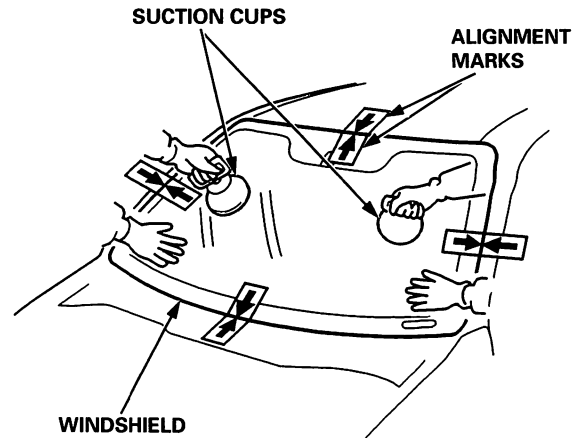
# Glass

## Windshield Replacement (cont'd)

21. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive around the edge of the windshield between the rubber dam and molding as shown. Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.



22. Use suction cups to hold the windshield over the opening, align it with the alignment marks made in step 15, and set it down on the adhesive. Lightly push on the windshield until its edges are fully seated on the adhesive all the way around. Do not open or close the doors until adhesive is dry.



23. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the windshield, wipe with a soft shop towel dampened with alcohol.
24. Let the adhesive dry for at least one hour, then spray water over the windshield and check for leaks. Mark leaking areas, and let the windshield dry, then seal with sealant:
- Let the vehicle stand for at least four hours after windshield installation. If the vehicle has to be used within the first four hours, it must be driven slowly.
  - Keep the windshield dry for the first hour after installation.
25. Reinstall all remaining removed parts. Install the rearview mirror after the adhesive has dried thoroughly. Advise the customer not to do the following things for two to three days:
- Slam the doors with all the windows rolled up.
  - Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).



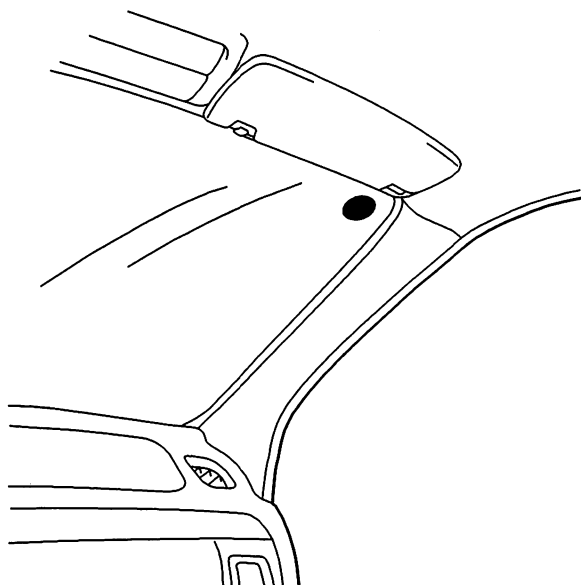
## Label Replacement

Apply the label in the area on inside face of the windshield.

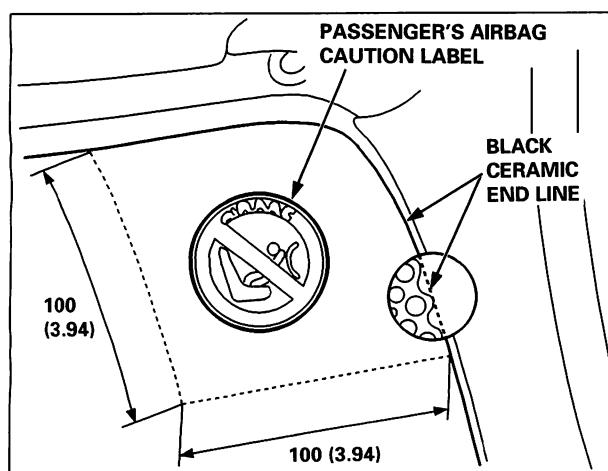
### NOTE:

- Before applying, clean the windshield surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.

### Attachment Area (Reference):



Unit: mm (in)

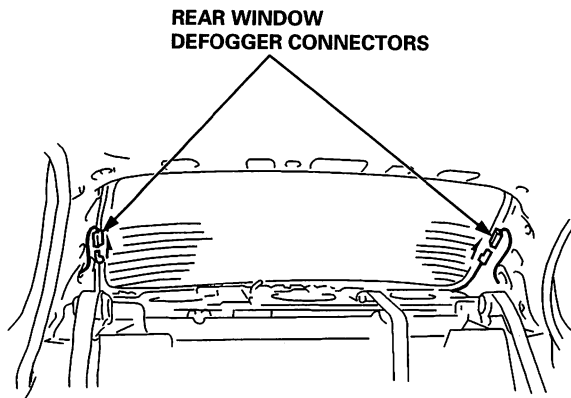


## Rear Window Replacement

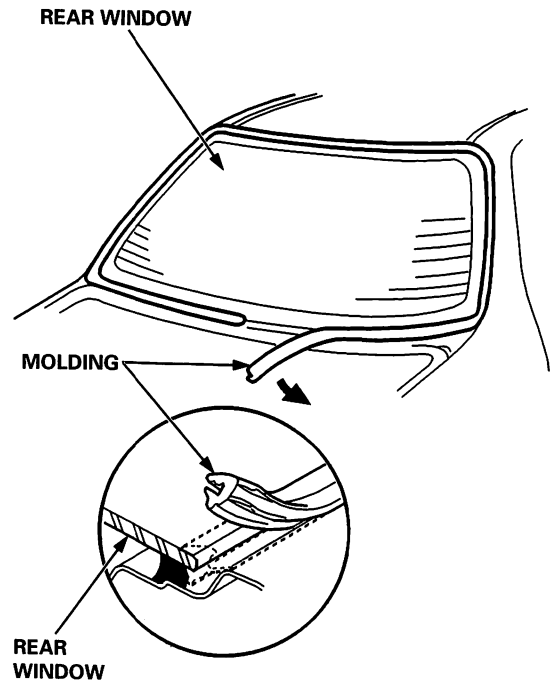
### NOTE:

- Wear gloves to remove and install the rear window.
- Use seat covers to avoid damaging any surfaces.
- Do not damage the rear window defogger grid lines, window antenna grid lines, and terminals.

1. Remove:
  - Trunk lid (see page 20-135)
  - Rear seat-back, for fixed rear seat (see page 20-117)
  - Rear bulkhead cover, for fold down rear seat (see page 20-67)
  - Rear shelf (see page 20-67)
  - Headliner (see page 20-70)
2. Disconnect the rear window defogger connectors.

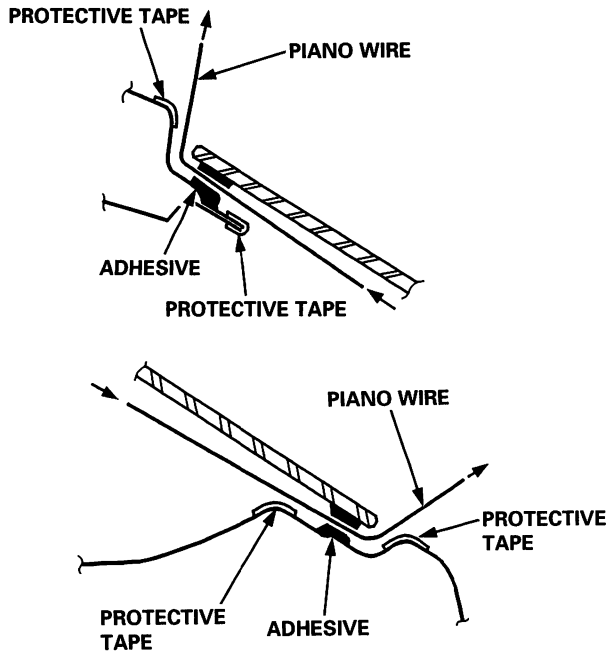


3. Remove the molding from the edge of the rear window. If necessary, cut the molding with a utility knife.

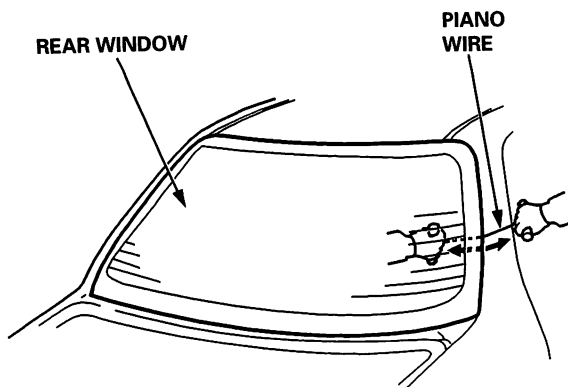




4. Apply protective tape to along the edge of the body as shown. Using an awl, make a hole through the adhesive from inside the vehicle. Push piano wire through the hole, and wrap each end around a piece of wood.

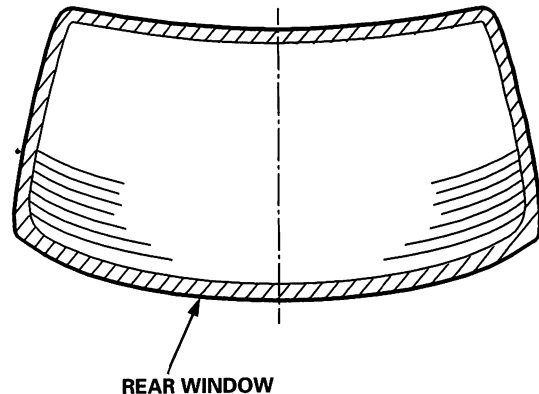


5. With a helper on the outside, pull the piano wire back and forth in a sawing motion. Hold the piano wire as close to the rear window as possible to prevent damage to the body, and carefully cut through the adhesive around the entire rear window.



6. Carefully remove the rear window.

7. With a putty knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in) on the bonding surface around the entire rear window opening flange:
- Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
  - Mask off surrounding surfaces before painting.
  - Remove the fasteners from the body.
8. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease and water from getting on the clean surface.
9. If the old rear window is to be reinstalled, use a putty knife to scrape off all traces of old adhesive, then clean the rear window surface and edge with alcohol where new adhesive is to be applied. Make sure the bonding surface is kept free of water, oil and grease.

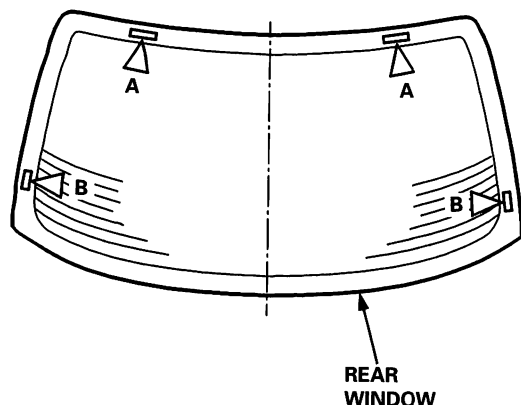
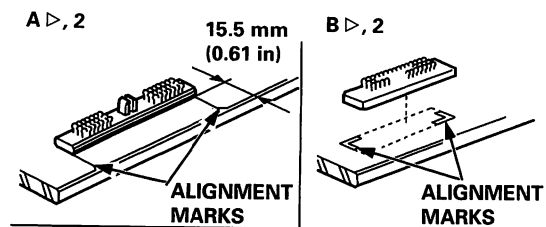


(cont'd)

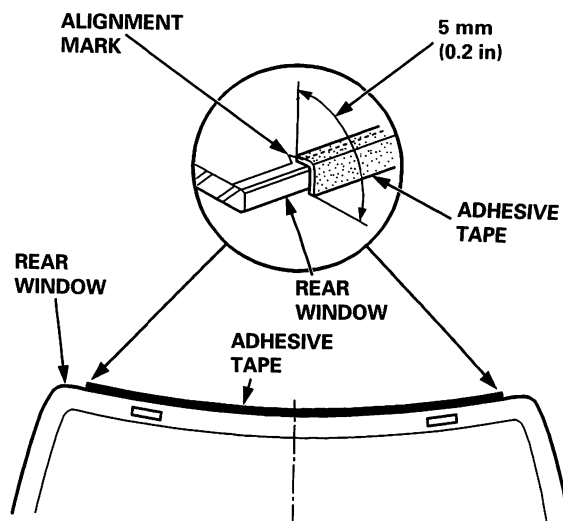
## Rear Window Replacement (cont'd)

10. Glue the fasteners to the inside face of the rear window as shown.
  - Be sure the fasteners line up with the alignment marks.
  - Be careful not to touch the rear window where adhesive will be applied.

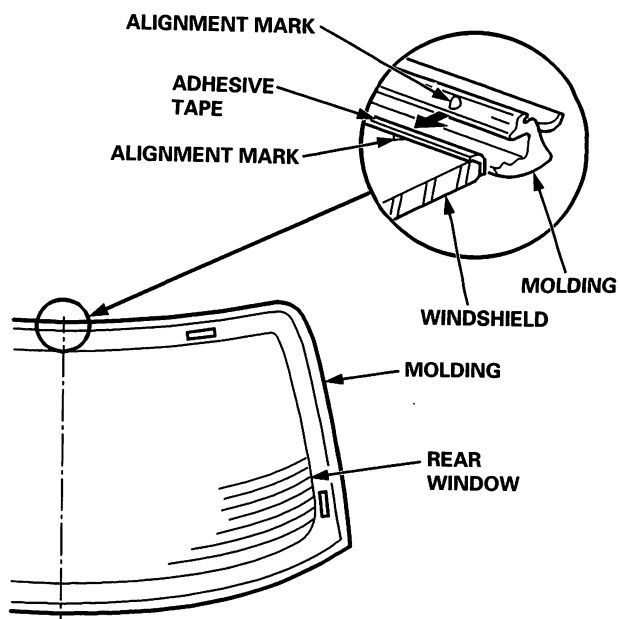
### ▷: Fastener locations



11. Apply the adhesive tape (3M 4216, or equivalent) to the edge of the rear window:
  - Be sure the adhesive tape lines up with the alignment marks.
  - Be careful not to touch the rear window where adhesive will be applied.



12. Glue the molding around the edge of the rear window:
  - Be sure the alignment mark of the molding lines up with the alignment mark of the rear window.
  - Be careful not to touch the rear window where adhesive will be applied.

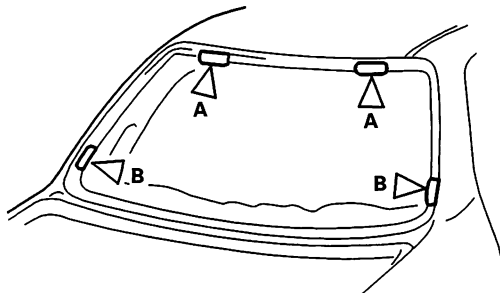
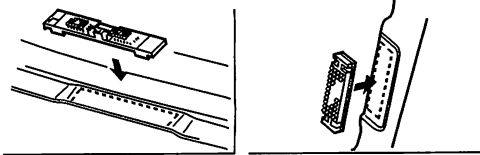




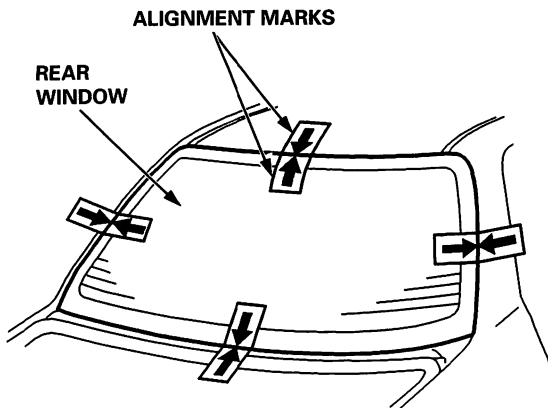
13. Install the upper fasteners, and glue the side fasteners to the body as shown.

▷: Fastener locations

A ▷, 2 (Upper Fastener) B ▷, 2 (Side Fastener)



14. Set the rear window in the opening, and center it. Make alignment marks across the rear window and body with a grease pencil at the four points shown. Be careful not to touch the rear window where adhesive will be applied.

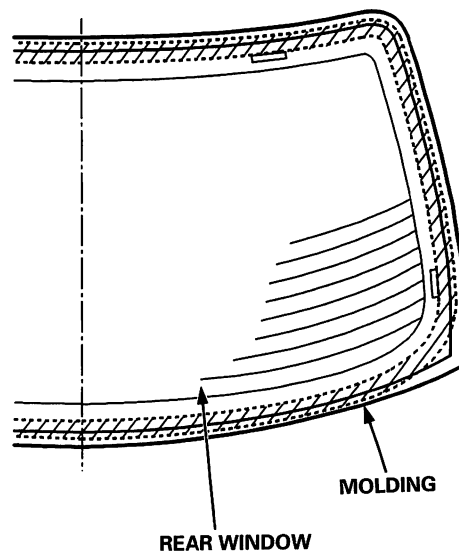
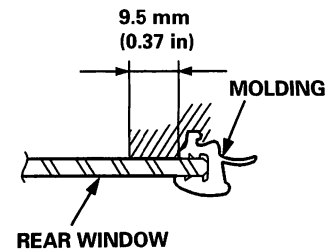


15. Remove the rear window.

16. With a sponge, apply a light coat of glass primer around the edge of the rear window and molding as shown, then lightly wipe it off with gauze or cheesecloth:

- Apply glass primer to the molding.
- Do not apply body primer to the rear window, and do not get body and glass primer sponges mixed up.
- Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the rear window properly, causing a leak after the rear window is installed.
- Keep water, dust, and abrasive materials away from the primed surface.

/// : Apply glass primer here.



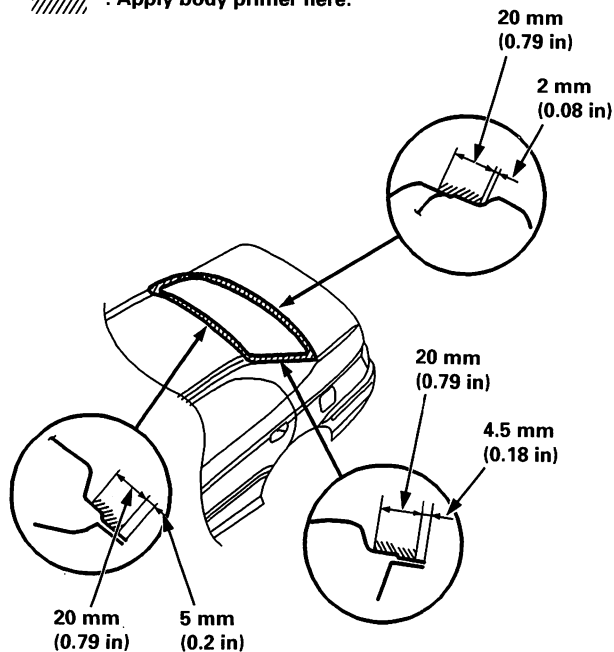
(cont'd)

## Rear Window Replacement (cont'd)

17. With a sponge, apply a light coat of body primer to the original adhesive remaining around the rear window opening flange. Let the body primer dry for at least 10 minutes:

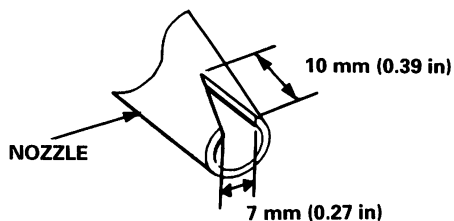
- Do not apply glass primer to the body, and be careful not to mix up glass and body primer sponges.
- Never touch the primed surfaces with your hands.

//// : Apply body primer here.

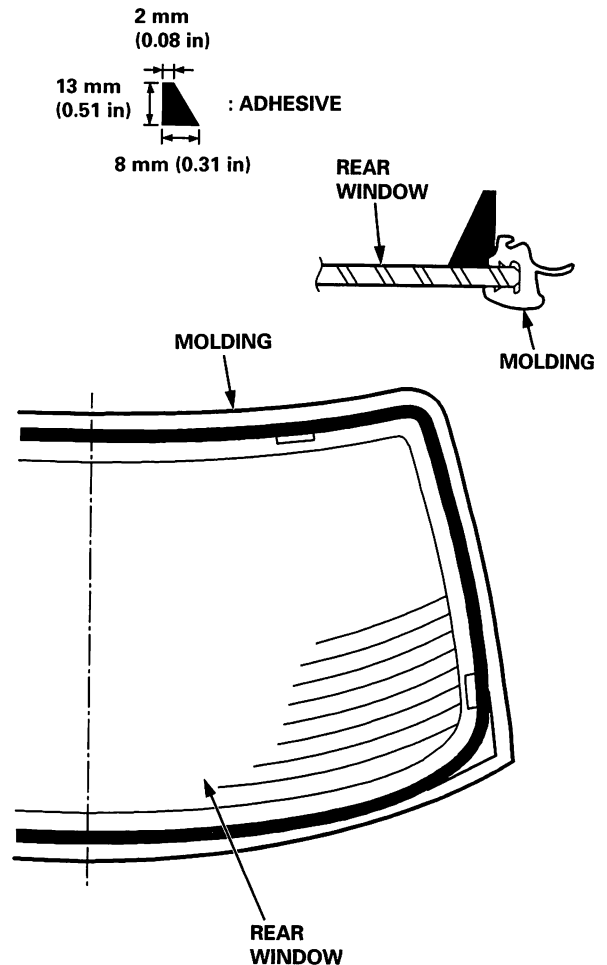


18. Thoroughly mix the adhesive and hardener together on a clean glass or metal plate with a putty knife. Follow the instructions that came with the adhesive.

19. Before filling a cartridge, cut a "V" in the end of the nozzle as shown.



20. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive around the edge of the rear window as shown. Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.

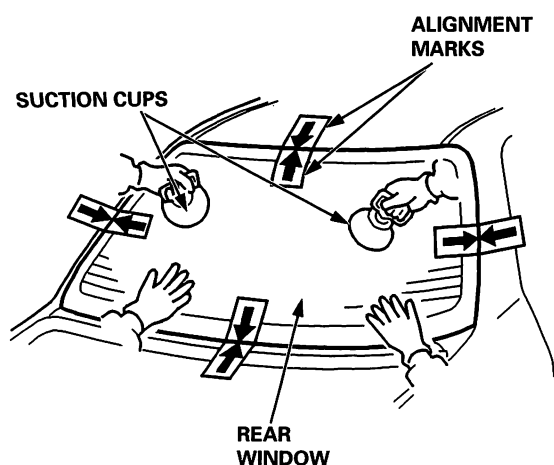






## Sticker Replacement

21. Use suction cups to hold the rear window over the opening, align it with the alignment marks you made in step 14, and set it down on the adhesive. Lightly push on the rear window until its edges are fully seated on the adhesive all the way around. Do not open or close the doors until the adhesive is dry.



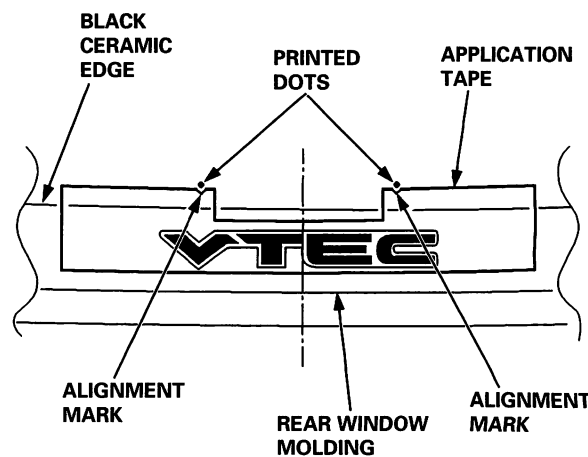
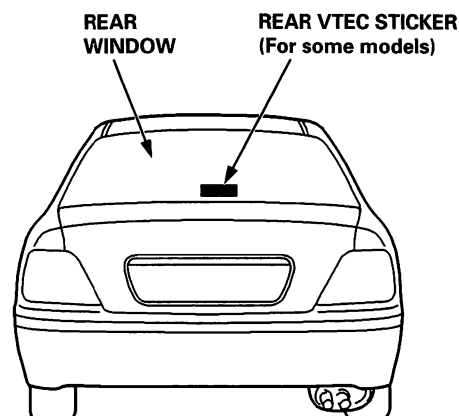
22. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the rear window, use a soft shop towel dampened with alcohol.
23. Let the adhesive dry for at least one hour, then spray water over the rear window and check for leaks. Mark the leaking areas, let the rear window dry, then seal with sealant. Let the vehicle stand for at least four hours after rear window installation. If the vehicle has to be used within the first four hours, it must be driven slowly.
24. Reinstall all remaining removed parts. Advise the customer not to do the following things for two to three days:
- Slam the doors with all the windows rolled up.
  - Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).

Apply the sticker where shown.

### NOTE:

- Before applying, clean the rear window surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.

### Attachment Point (Reference):



## Component Location Index

### GLASS

Height Adjustment, page 20-54  
Replacement, page 20-55  
Closing Force and Opening Drag  
Check, page 20-64

### DRAIN CHANNEL

Replacement, page 20-56

### SUNSHADE

Replacement,  
page 20-57

### BRACKET COVER

### CABLE TUBE REAR BRACKET

### SWITCH PLATE

Adjustment, page 20-63

### WIND DEFLECTOR

Replacement,  
page 20-54

### SHIM

### DRAIN CHANNEL SLIDER

Replacement, page 20-61

### SLIDE STOP

### FRAME SEALS

### CABLE ASSEMBLY

Replacement,  
page 20-61

### MOTOR

Replacement, page 20-58

### FRONT DRAIN TUBE

Replacement, page 20-59

### REAR DRAIN TUBE

Replacement, page 20-59

### FRONT DRAIN VALVE

### FRAME

Replacement,  
page 20-59

### REAR DRAIN VALVE

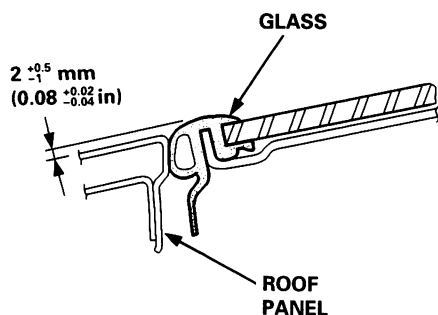


## Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Water leaks	<ol style="list-style-type: none"><li>1. Check for a clogged drain tube</li><li>2. Check for a gap between the glass weatherstrip and the roof panel.</li><li>3. Check for a defective or an improperly installed glass weatherstrip.</li><li>4. Check for a gap between the drain seal and the roof panel.</li></ol>	
Wind noise	<ol style="list-style-type: none"><li>1. Check for excessive clearance between the glass weatherstrip and the roof panel.</li></ol>	
Deflector noise	<ol style="list-style-type: none"><li>1. Check for a improper clearance between deflector seal and frame seal.</li><li>2. Check for a insufficient deflector extension.</li><li>3. Check for a deformed deflector.</li></ol>	
Motor noise	<ol style="list-style-type: none"><li>1. Check for a loose motor.</li><li>2. Check for a worn gear or bearing.</li><li>3. Check for a deformed cable assembly.</li></ol>	
Glass does not move, but motor turns	<ol style="list-style-type: none"><li>1. Check for a defective gear or inner cable.</li><li>2. Check for foreign matter stuck between the guide rail and the slider.</li><li>3. Check for a loose inner cable.</li><li>4. Make sure the cable assembly is attached properly.</li><li>5. Check clutch adjustment.</li></ol>	
Glass does not move and motor does not turn (glass can be moved with sunroof wrench)	<ol style="list-style-type: none"><li>1. Check for a blown fuse.</li><li>2. Check for a faulty sunroof switch.</li><li>3. Check the open/close-tilt/close switches</li><li>4. Check for a run down battery.</li><li>5. Check for a defective motor.</li><li>6. Check for a faulty relay.</li></ol>	

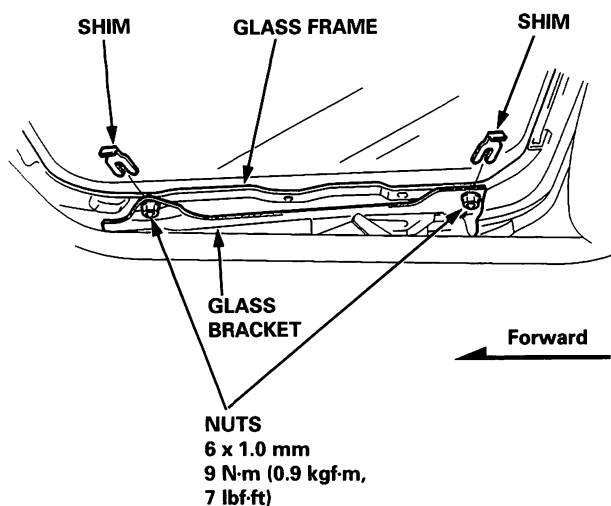
## Glass Height Adjustment

The roof panel should be even with the glass weatherstrip, to within  $2 \pm 0.5$  mm ( $0.08 \pm 0.02$  in) all the way around. If not, open the glass fully, and:



1. Remove the bracket cover.
2. Loosen the nuts, and install the shims between the glass frame and glass bracket on each side.

**Shim thickness: Front and rear max. 2 mm (0.08 in)**



3. Repeat on opposite side if necessary.

## Wind Deflector Replacement

1. Open the glass fully.
2. Remove the screws, then remove the wind deflector.

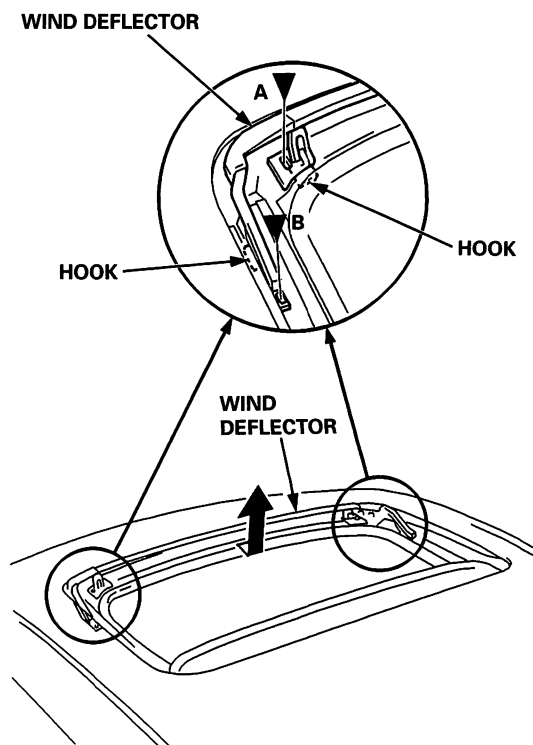
### ►: Screw locations

A ►, 1



5 x 0.8 mm  
4 N·m (0.4 kgf·m,  
3 lbf·ft)

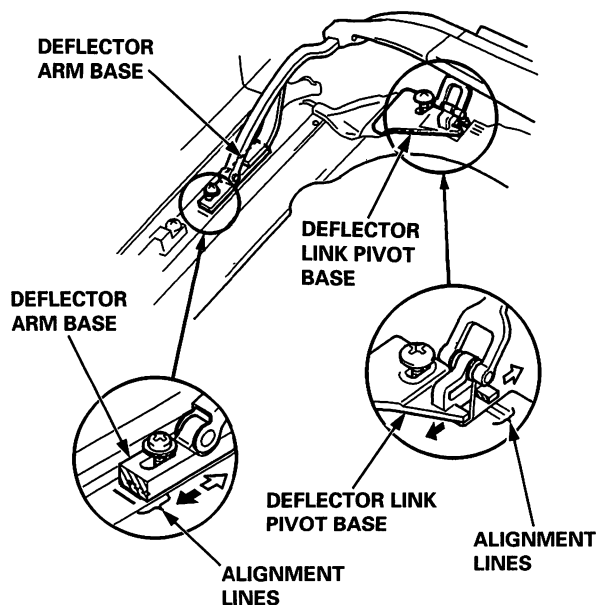
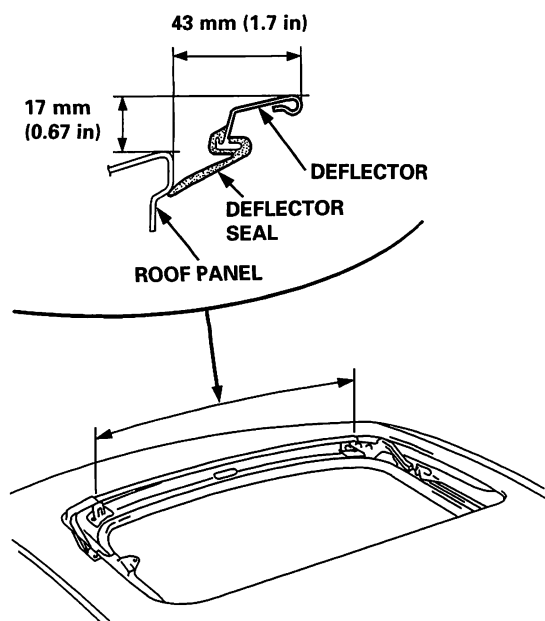
B ►, 1





## Glass Replacement

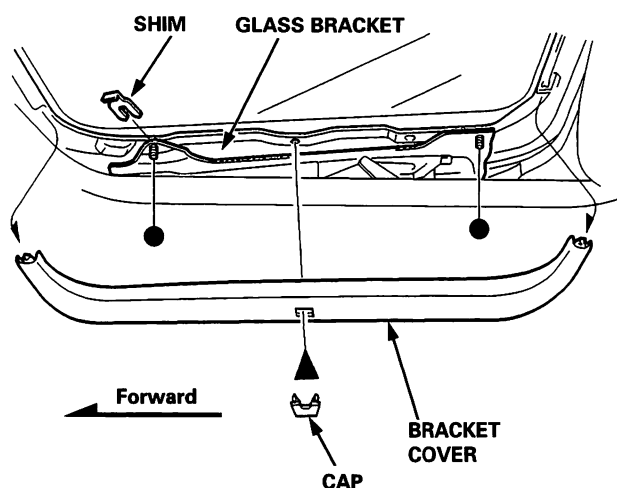
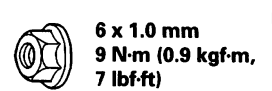
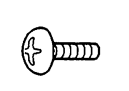
3. Install in the reverse order of removal, and check that each base of wind deflector lines up with same position of alignment lines. If necessary, adjust them forward or backward so the edge of the wind deflector touches the roof panel evenly. The bases must be moved same amount for adjustment.



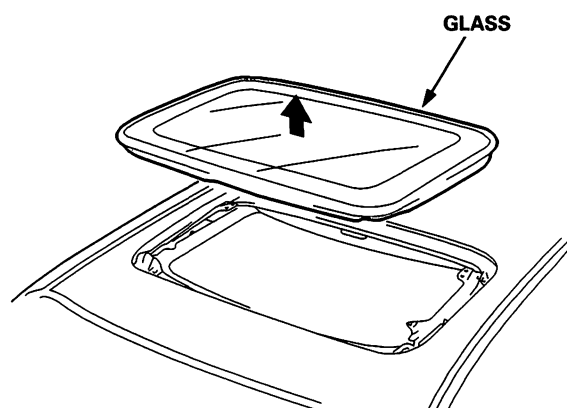
1. Close the glass fully.
2. Slide the sunshade all the way back.
3. Remove the caps and screws, then remove both bracket covers. Remove the nuts and shims from both glass brackets.

►: Screw locations, 2

●: Nut locations, 4



4. Remove the glass by lifting it up. Do not damage the roof panel.

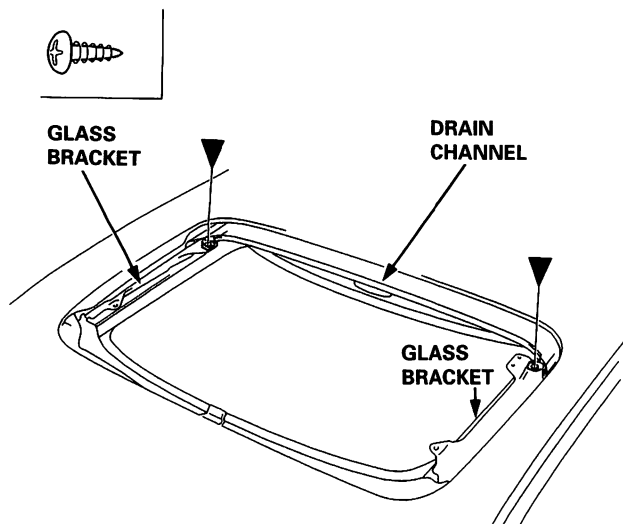


5. Install in the reverse order of removal, and adjust the glass height alignment.
6. Check for water leaks. Do not use high-pressure water.

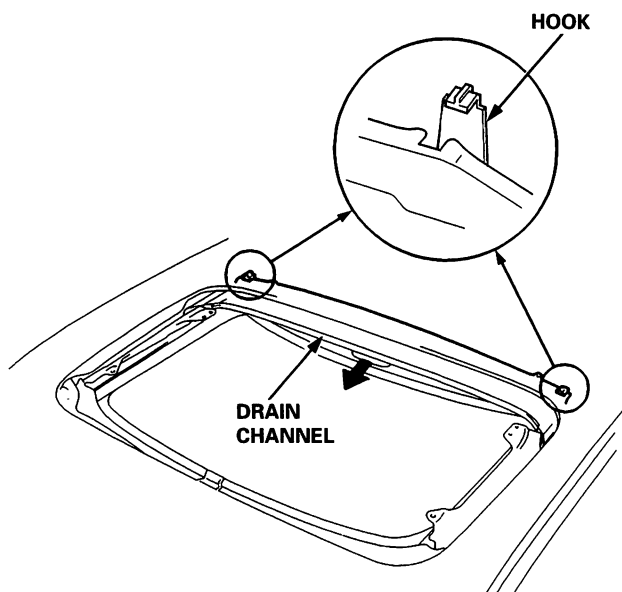
## Drain Channel Replacement

1. Remove the glass.
2. With the sunroof wrench, move both glass brackets to the position where the sunroof normally pivots down, and remove the screws securing the drain channel.

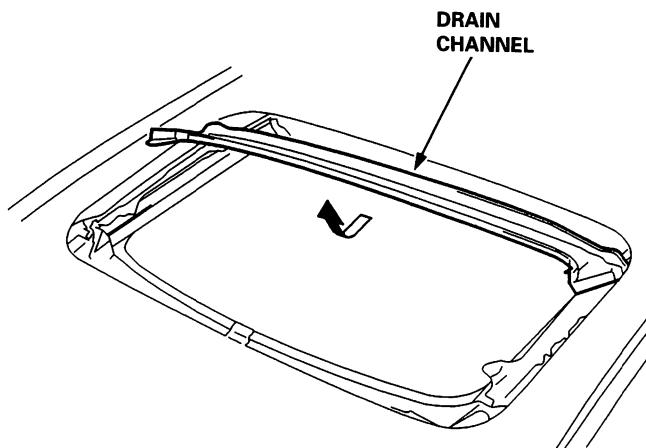
►: Screw locations, 2



3. Release the drain channel from both hooks of the drain channel slider by pulling the drain channel forward.



4. Remove the drain channel.



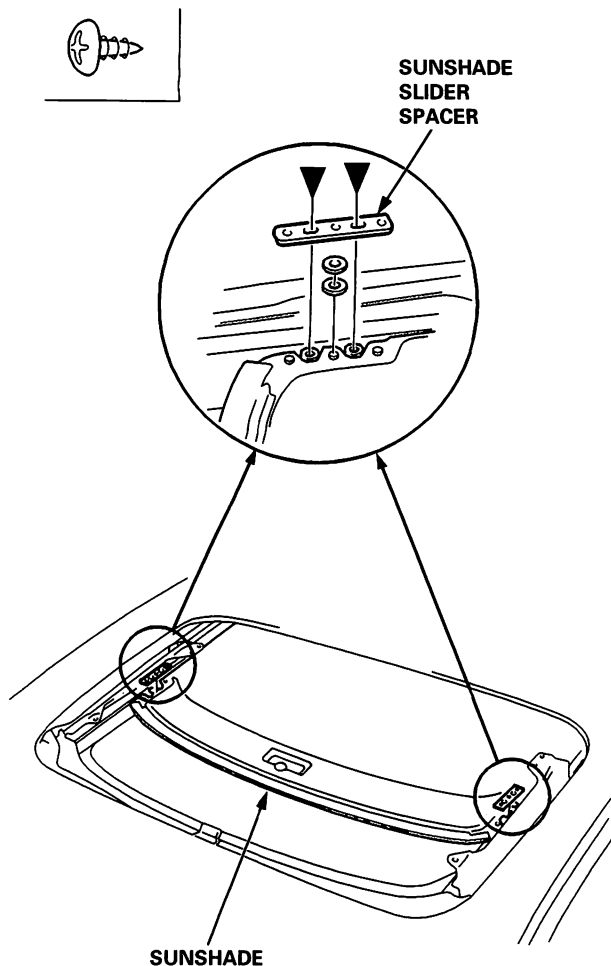
5. Install in the reverse order of removal, and note these items:
  - Push the drain channel to the hooks until a faint click is heard.
  - Check the glass height alignment.
6. Check for water leaks. Do not use high-pressure water.



## Sunshade Replacement

1. Remove:
  - Glass (see page 20-55)
  - Drain channel (see page 20-56)
2. Slide the sunshade until you can remove both sunshade slider spacers.

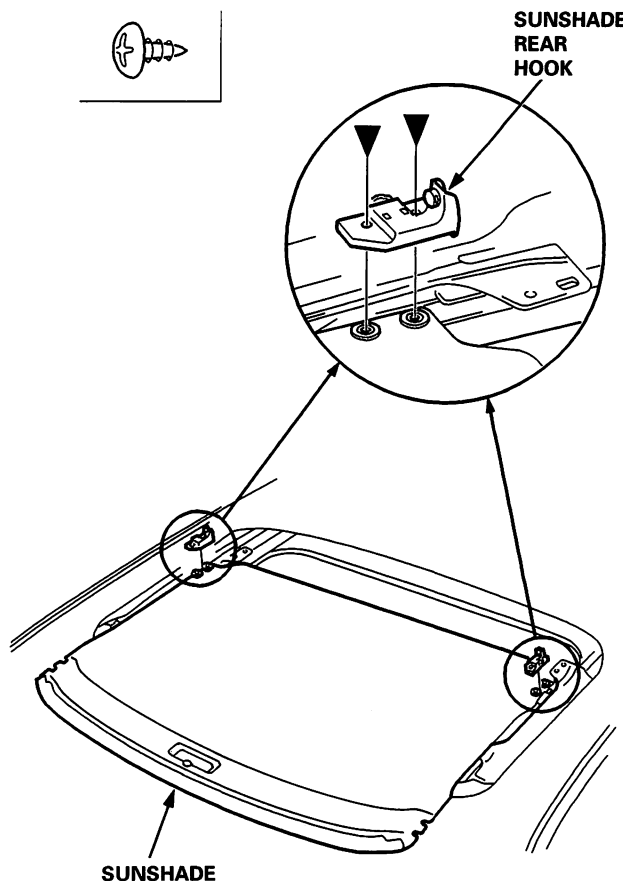
►: Screw locations, 4



3. Remove the screws, then remove both sunshade slider spacers.

4. While lifting the front portion of the sunshade, move the sunshade forward until you can remove both sunshade rear hooks. Do not damage the sunshade and rear hooks.

►: Screw locations, 4

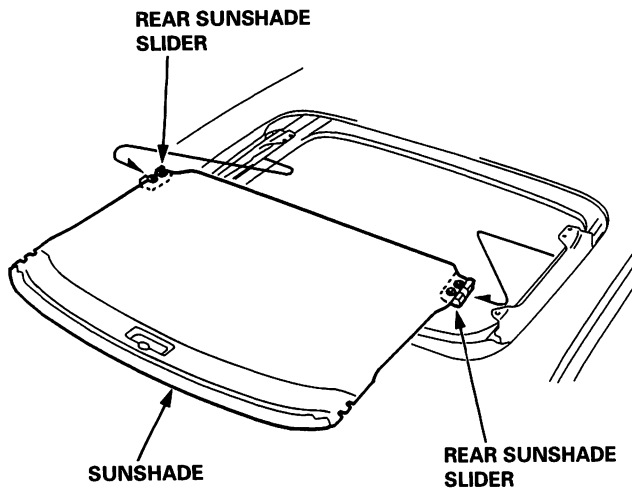


5. Remove the screws, then remove both sunshade rear hooks.

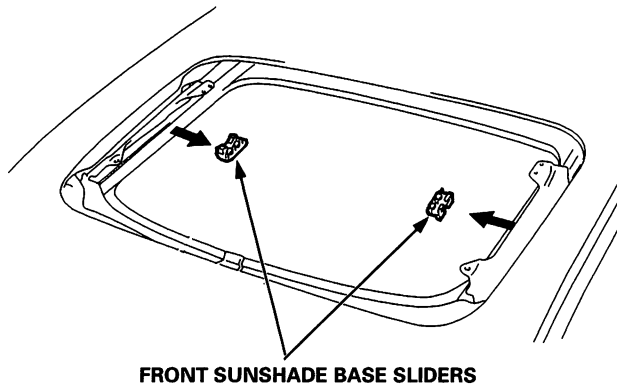
(cont'd)

## Sunshade Replacement (cont'd)

- Release both rear sunshade base sliders from the guide rail portions of the frame, then remove the sunshade.



- Remove both front sunshade base sliders.

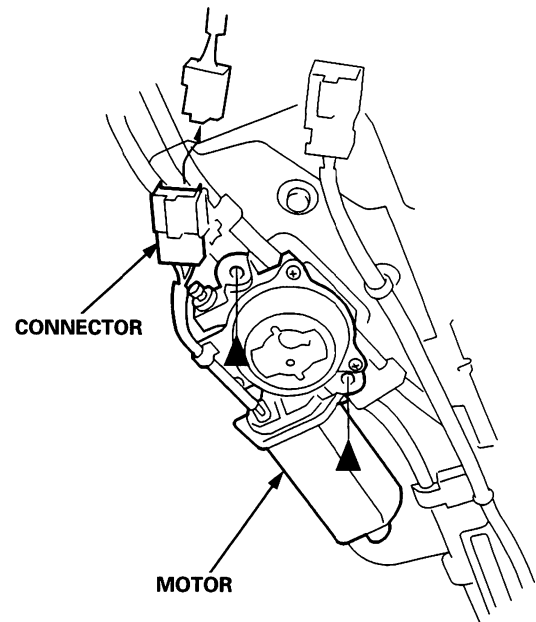
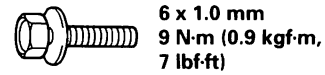


- Install in the reverse order of removal, and check the glass height alignment (see page 20-54).
- Check for water leaks. Do not use high-pressure water.

## Motor Replacement

- Remove the headliner (see page 20-70).
- Disconnect and detach the connector, and remove the bolts, then remove the motor. Wear gloves to protect your hands.

►: Bolt locations, 2



- Install in the reverse order of removal, and note these items:
  - Make sure the connector is plugged in properly.
  - Check the motor operation.

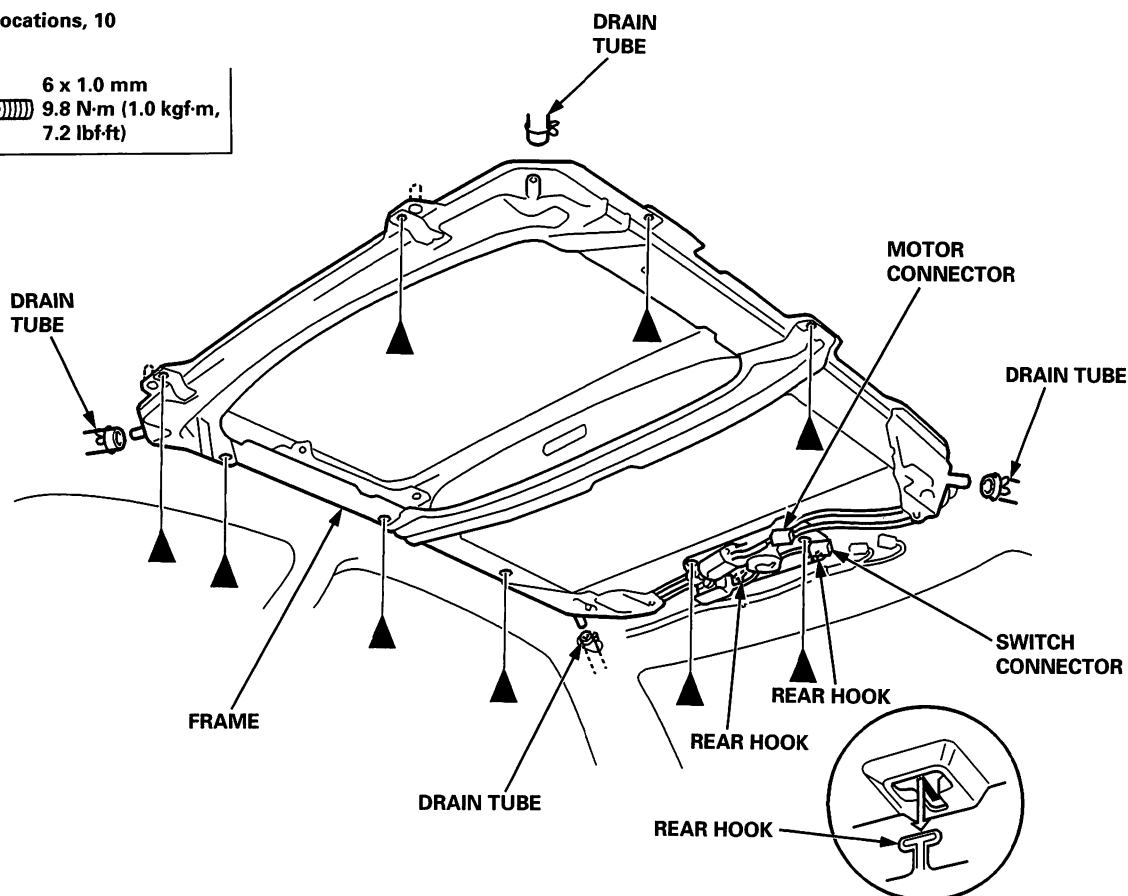
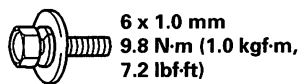




## Frame and Drain Tube Replacement

1. Remove:
  - Headliner (see page 20-70)
  - Glass (see page 20-55)
2. Disconnect the motor connector, open/close-tilt/close switch connector, and the drain tubes. Wear gloves to protect your hands.

►: Bolt locations, 10



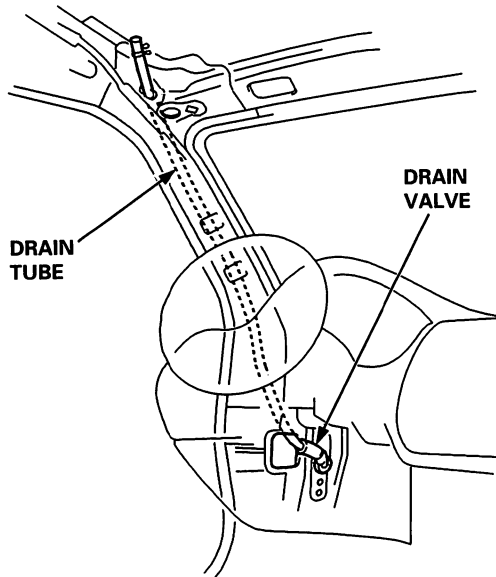
3. Remove the ceiling light harness by detaching the harness clips, and remove the harness cushion.
4. With an assistant holding the frame, remove the bolts, and release the rear hooks by moving the frame forward, then remove the frame. Remove the front bolts last.
5. With the help of an assistant, carefully remove the frame through the door opening. Take care not to scratch the interior trim and body, or tear the seat covers.

(cont'd)

## Frame and Drain Tube Replacement (cont'd)

6. Remove each drain valve from the body, and pull the drain tubes out the front and rear pillars. Before pulling out the drain tube, tie a string to the end of it so it can be reinstalled.

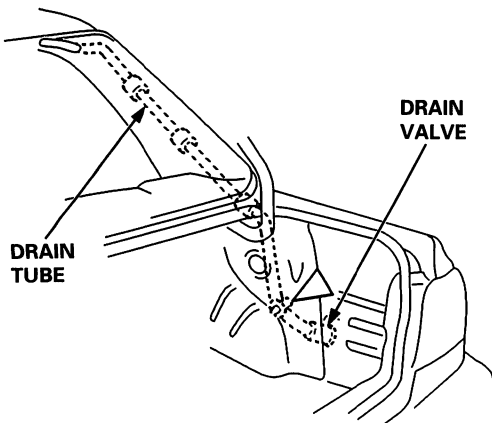
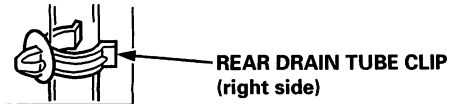
### Front drain tube:



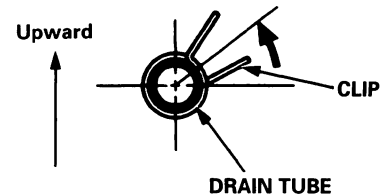
### Rear drain tube:

Pull the trunk side trim, both side as necessary (see pages 20-68, 69).

#### ▷: Clip location, 1



7. Install in the reverse order of removal, and note these items:
  - Before installing the frame, clear the drain tubes and drain valves using compressed air.
  - Check the frame seal.
  - Clean the surface of the frame.
  - When installing the frame, first attach the rear hooks into the body holes.
  - Make sure the connectors are plugged in properly.
  - When connecting the drain tube, slide it over the frame nozzle at least 10 mm (0.39 in).
  - Install the tube clip to the drain tube as shown.



8. Check for water leaks. Do not use high-pressure water.

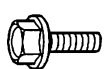


## Drain Channel Slider and Cable Assembly Replacement

1. Remove the frame (see page 20-59).
2. Remove the following parts from the frame:
  - Drain channel (see page 20-56)
  - Sunshade (see page 20-57)
  - Motor (see page 20-58)
3. Remove the slide stops, cable tube rear brackets, cable tube side bracket mounting bolts and the cable tube mounting screws from both sides of the frame. Wear gloves to protect your hands.

### ►: Bolt, screw locations

A ►, 2



6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)

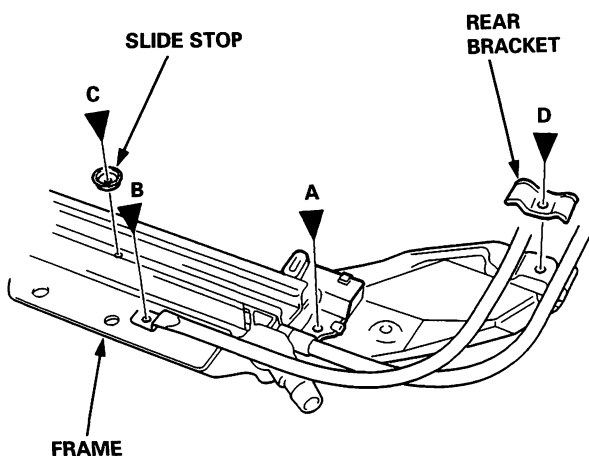
B ►, 2



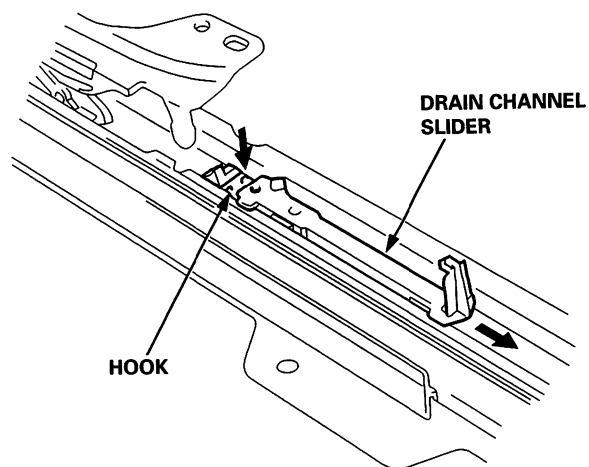
C ►, 2



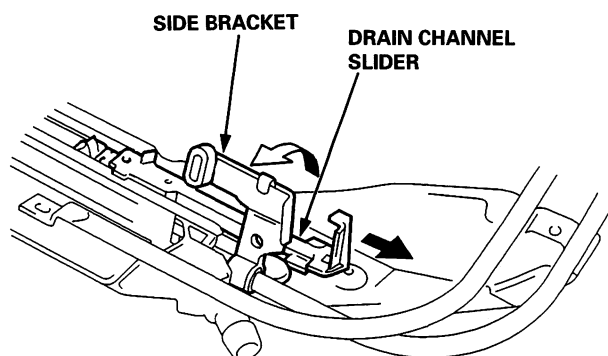
D ►, 2



4. While pushing down on the hook, slide the drain channel sliders back on both sides.



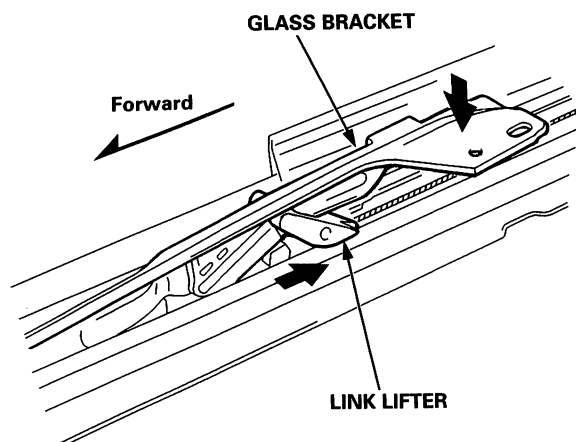
5. Turn both cable tube side brackets up, and remove the drain channel sliders.



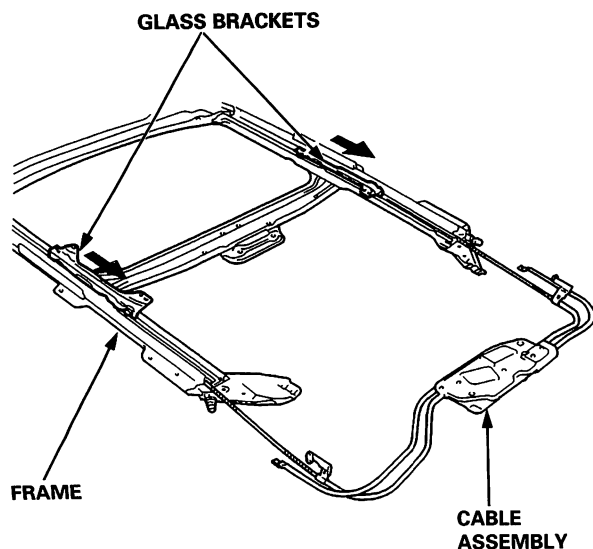
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## Drain Channel Slider and Cable Assembly Replacement (cont'd)

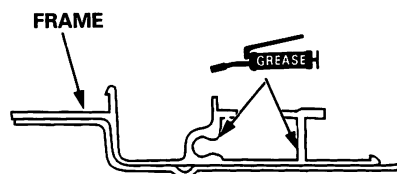
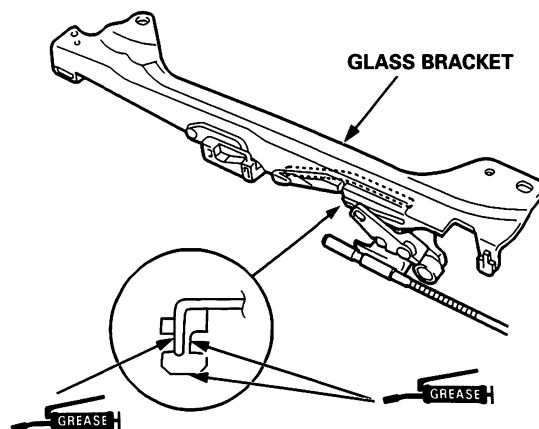
6. Pivot the glass bracket down by sliding the link lifter back, then slide both glass brackets back with the link lifter.



7. Slide the cable assembly and both glass brackets back, then remove them from the frame.



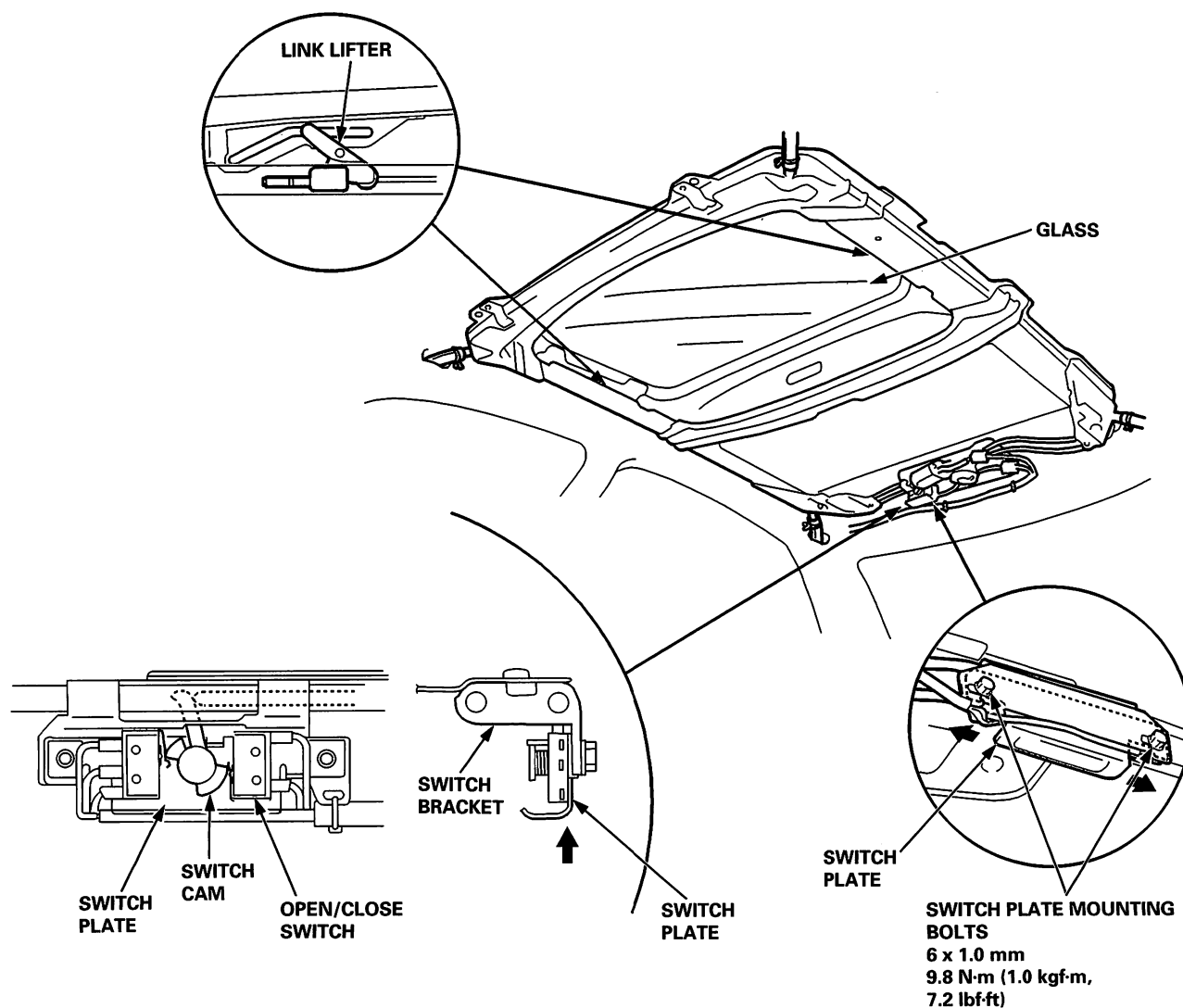
8. Install in the reverse order of removal, and note these items:
- Damaged parts should be replaced.
  - Apply multipurpose grease to the glass bracket and guide rail portion of the frame indicated by the arrows.
  - Before reinstalling the motor, make sure both link lifters are parallel, and in the fully closed position.
  - Before reinstalling the motor, install the frame and glass, then check the opening drag (see page 20-64).





## Switch Plate Adjustment

1. Remove the headliner (see page 20-70).
2. With the sunroof wrench, close the glass fully:
  - Make sure both link lifters are parallel, and in the position shown.
  - Check the glass fit to the roof panel and the glass height (see page 20-54).



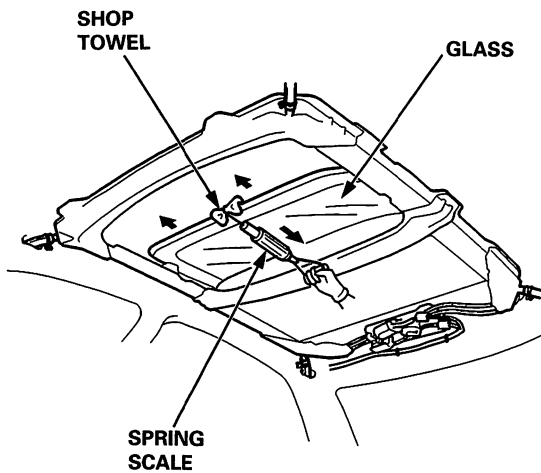
3. With an open-end wrench, loosen the switch plate mounting bolts.
4. Adjust the switch plate position:
  - Move the switch plate a little at a time, then secure the switch plate at the position where the switch cam contacts the open/close switch; a faint click is heard.
  - Check that the switch plate contacts the switch bracket.
5. Check the operation of the glass (from the tilt-up position to the fully closed position, from the fully open position to the fully closed position) by operating the sunroof switch.

# Sunroof

## Closing Force and Opening Drag Check

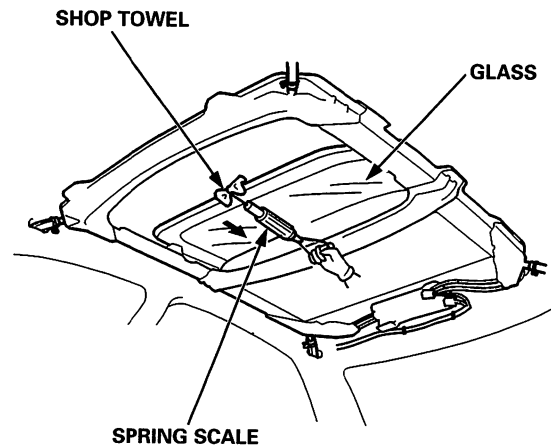
1. Remove the headliner (see page 20-70).
2. Closing force check:
  - With a shop towel on the leading edge of the glass, attach a spring scale as shown.
  - Have an assistant hold the switch to close the glass while you measure the force required to stop it.
  - Read the force as soon as the glass stops moving, then immediately release the switch and spring scale.

**Closing Force: 200 – 290 N**  
(20 – 30 kgf, 44 – 66 lbf)



3. If the force is not within specification, remove the sunroof motor (see page 20-58), then check:
  - The gear portion and the inner cable for breakage and damage. If the gear portion is broken, replace the motor. If the inner cable is damaged, remove the frame (see page 20-59), and replace the cable assembly (see page 20-61).
  - The sunroof motor (see section 23). If the motor fails to run or doesn't turn smoothly, replace it.
  - The opening drag.

4. Opening drag check: Protect the leading edge of the glass with a shop towel. Measure the effort required to open the glass using a spring scale as shown.

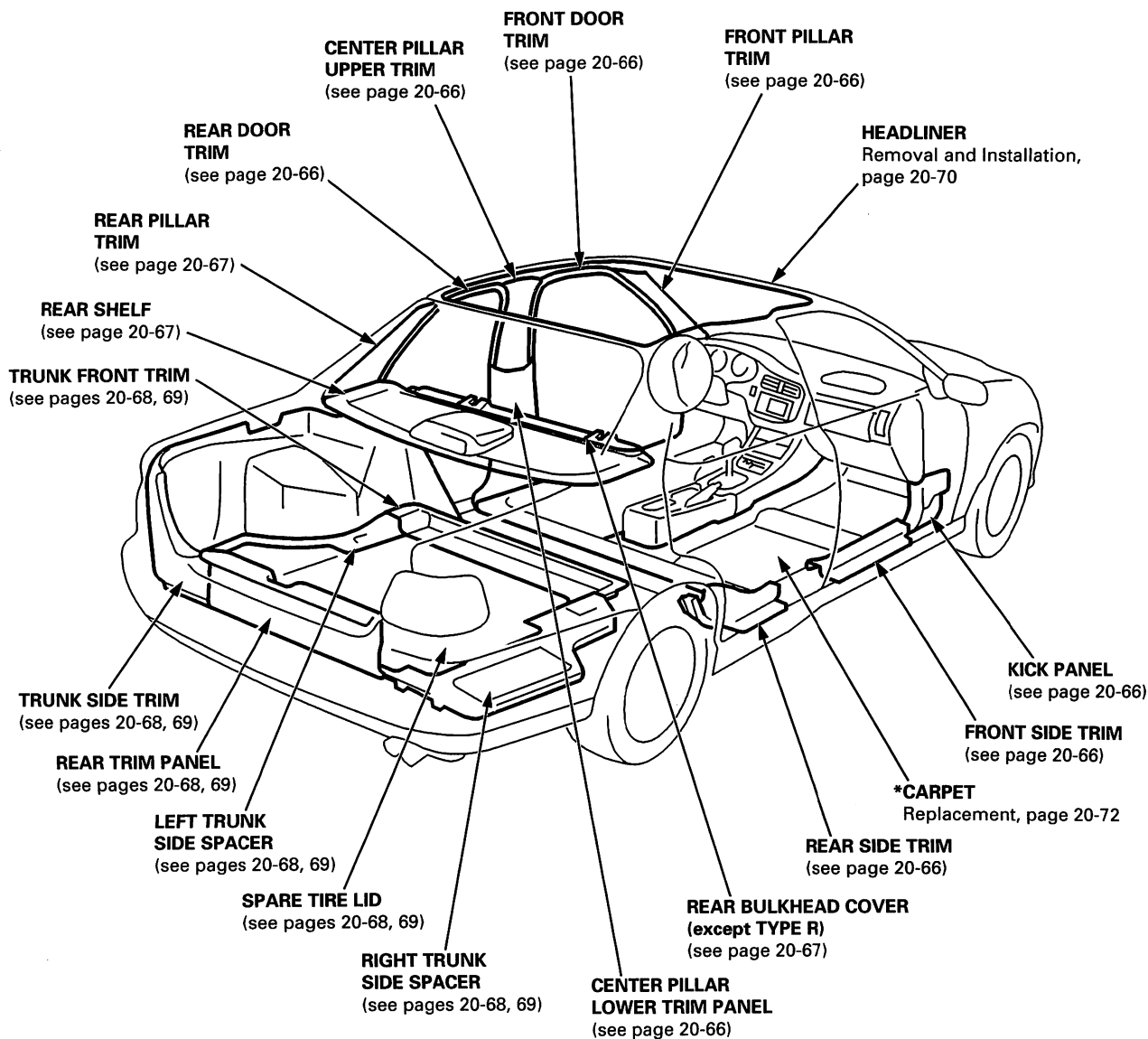


5. If the load is over 40 N (4 kgf, 9 lbf), check:
  - The side clearance and glass height adjustment (see page 20-54).
  - For broken or damaged sliding parts. If any sliding parts are damaged, replace them.



## Component Location Index

SRS components are located in the areas marked with an asterisk (\*). Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.



# Interior Trim

## Trim Removal and Installation

### NOTE:

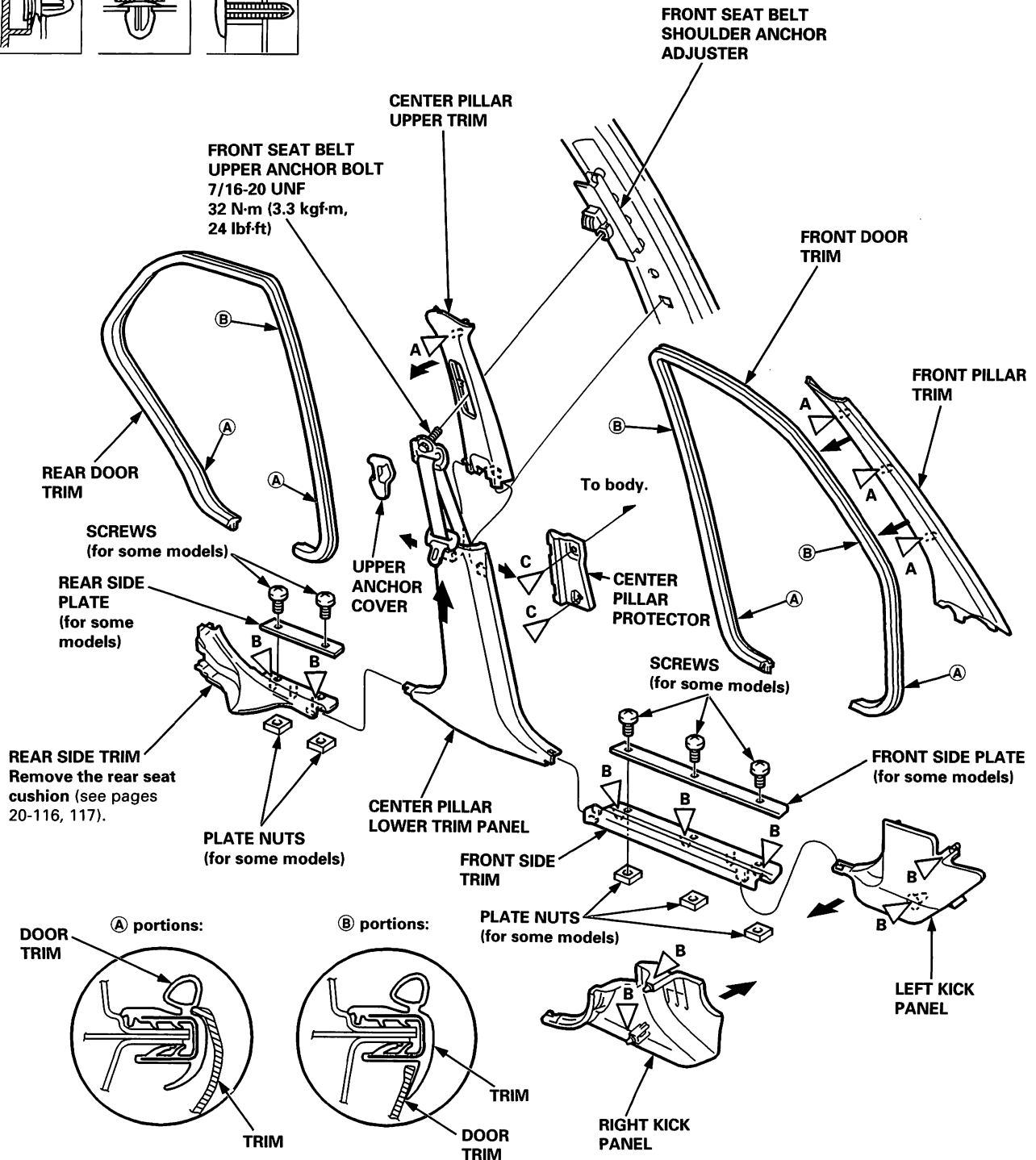
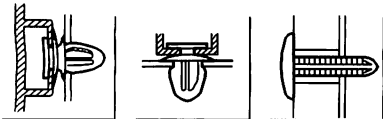
- When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.
- Take care not to bend or scratch the trim and panels.
- Wear gloves to protect your hands.

### ▷: Clip locations

A ▷, 4

B ▷, 9

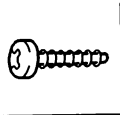
C ▷, 2





**With BOSE sound system:**

►: Screw locations, 4



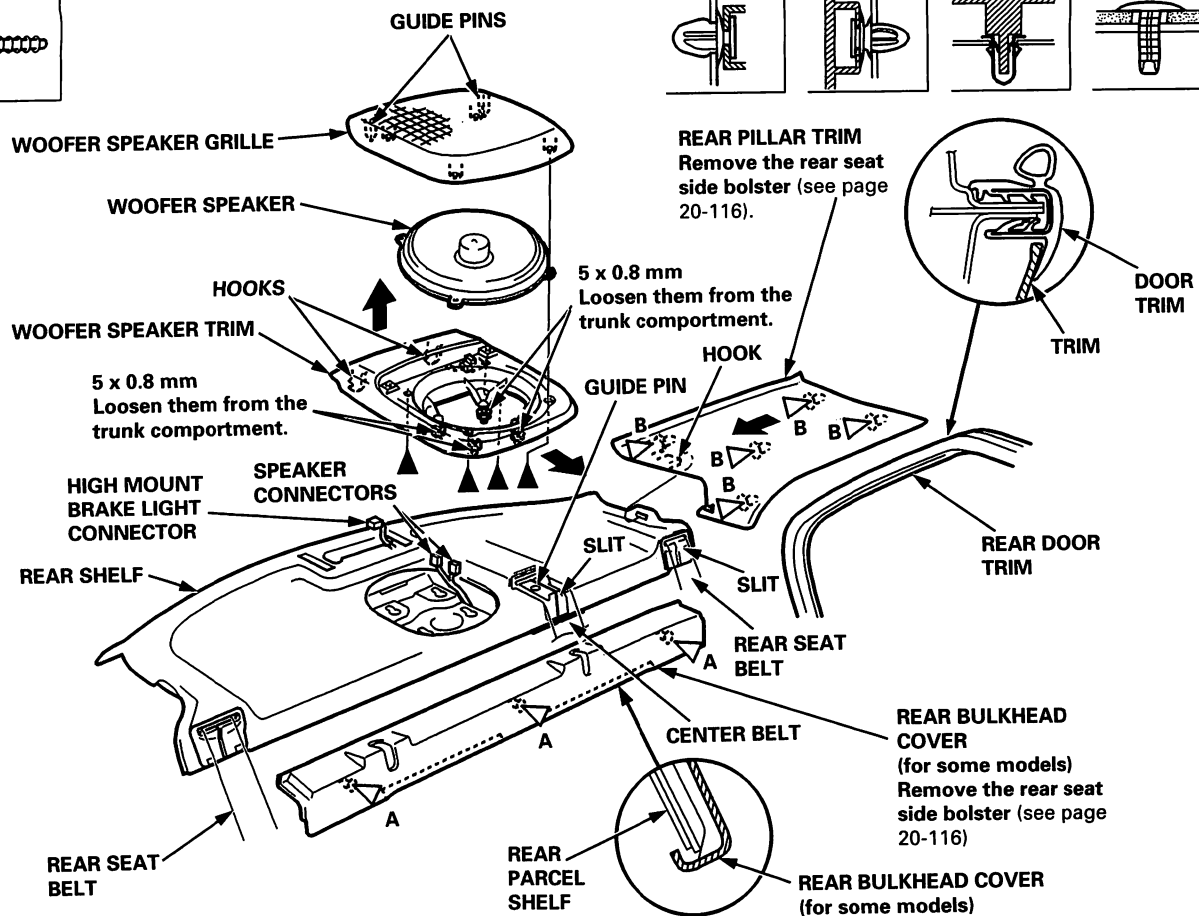
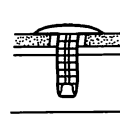
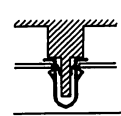
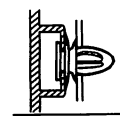
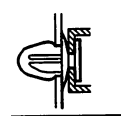
▷: **Clip locations**

**A▷, 3**

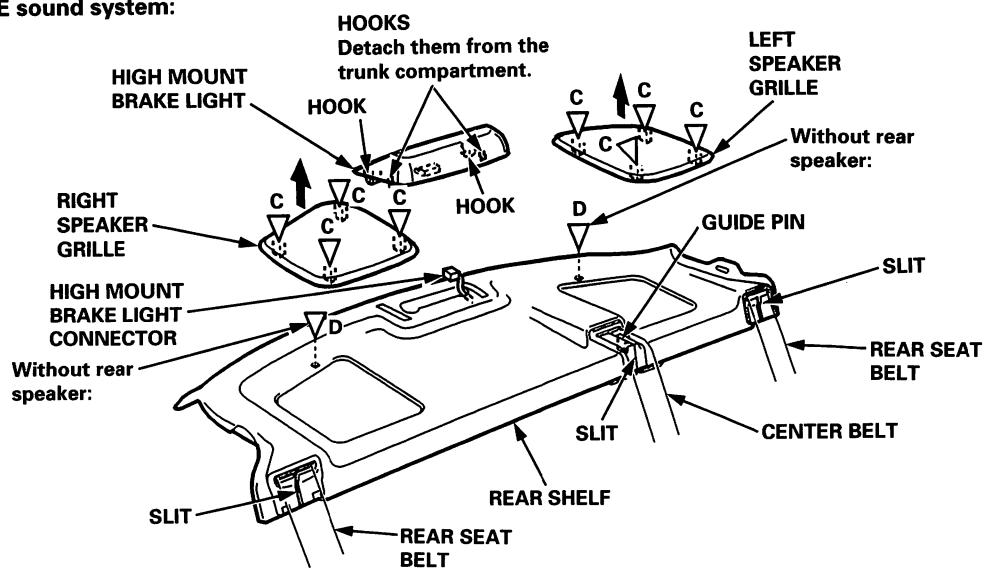
**B▷, 5**

**C▷, 8**

**D▷, 2**



**Without BOSE sound system:**



(cont'd)

# Interior Trim

## Trim Removal and Installation (cont'd)

With fold down rear seat:

►: Screw locations, 2

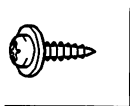
▷: Clip locations

A ▷, 2

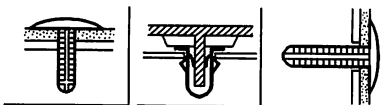
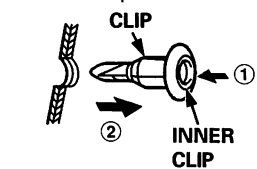
B ▷, 10

C ▷, 4

D ▷, 4



NOTE: Do not push the inner clip in too far.



REAR CENTER PIVOT COVER

### LEFT TRUNK SIDE TRIM

Remove the following parts:

- Rear bulkhead cover (see page 20-67)
- Rear seat-back (see page 20-116)

8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)  
(for some  
models)  
Use a Torx  
T40 bit.

TIE DOWN  
HOOK  
(for some  
models)

TIE DOWN  
HOOK TRIM  
(for some models)

REAR TRIM  
PANEL

LEFT TRUNK  
SIDE SPACER

TIE DOWN HOOKS  
(for some models)

TOOL BOX

TIE DOWN HOOK  
(for some models)

8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)  
(for some models)  
Use a Torx  
T40 bit.

HOOKS

TIE DOWN  
HOOK TRIMS  
(for some models)

8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)  
(for some models)  
Use a Torx T40 bit.

RIGHT TRUNK  
SIDE SPACER

### TRUNK FRONT TRIM

Remove the rear seat-back  
(see page 20-116)

HOOKS

Install them with  
rear seat-back  
(see page 20-116)

### RIGHT TRUNK SIDE TRIM

Remove the following parts:

- Rear bulkhead cover (see page 20-67)
- Rear seat-back (see page 20-116)

TIE DOWN  
HOOK TRIM  
(for some  
models)



**With fixed rear seat:**

►: Screw locations, 2

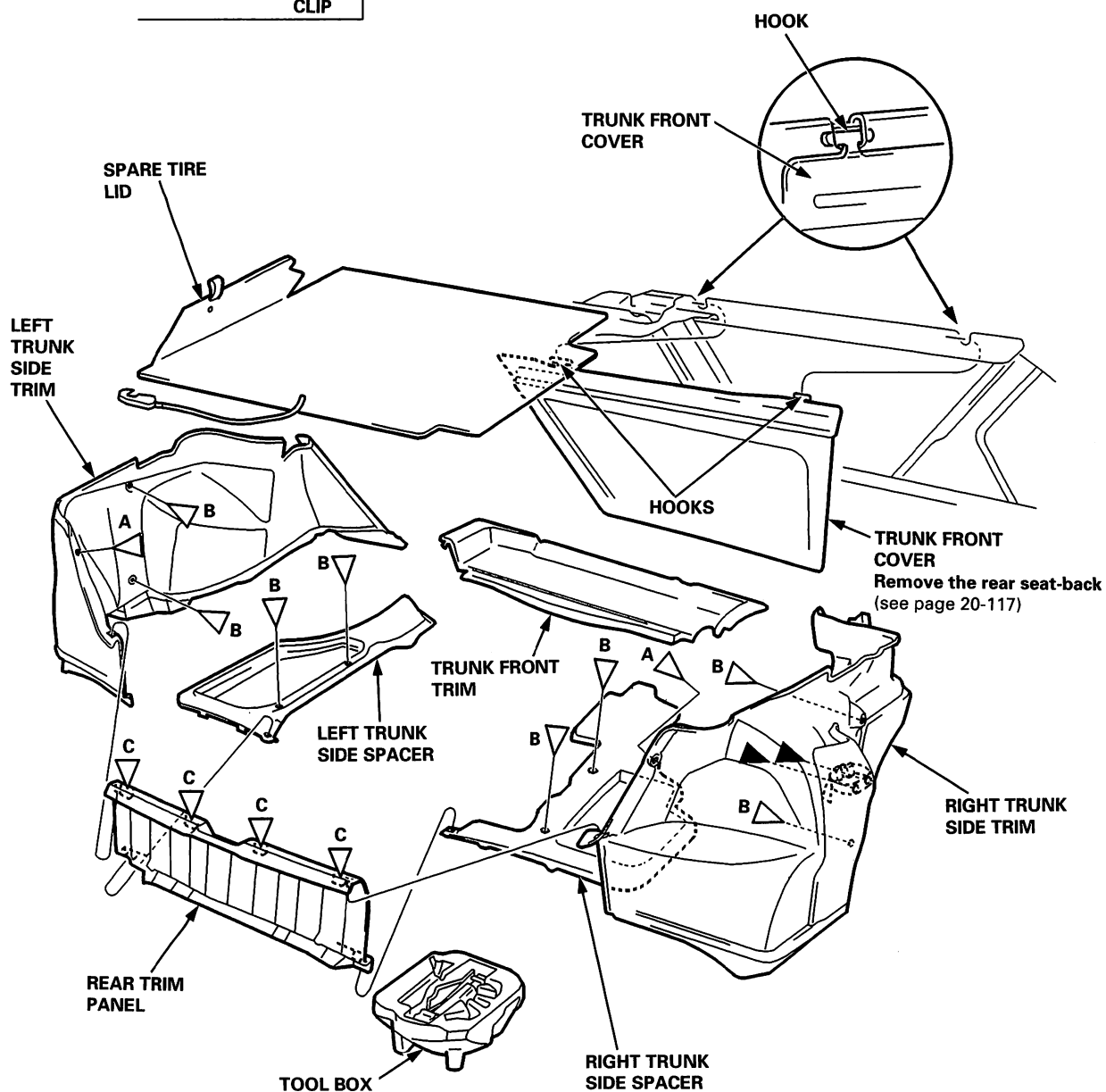
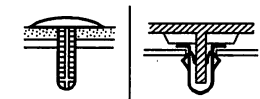
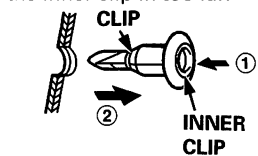
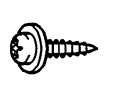
▷: Clip locations

A ▷, 2

B ▷, 8

C ▷, 4

NOTE: Do not push the inner clip in too far.



Install in the reverse order of removal, and note these items:

- Replace any damaged clips.
- Apply liquid thread lock to the front seat belt upper anchor bolt before reinstallation.
- Before installing the anchor bolts, make sure there are no twists or kinks in the seat belts.

# Interior Trim

## Headliner Removal and Installation

### NOTE:

- When prying with a flat tip screwdriver, wrap it with protective tape to prevent damage.
- Take care not to bend and scratch the headliner.
- Be careful not to damage the dashboard and other interior trim.

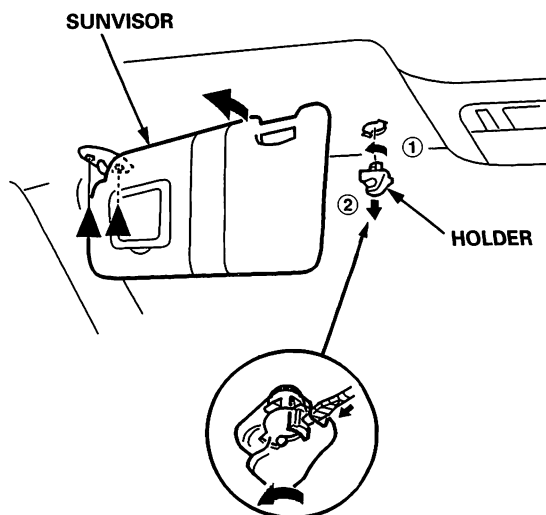
### 1. Remove:

- Front door trim, both sides as necessary (see page 20-66)
- Front pillar trim, both sides (see page 20-66)
- Rear door trim, both sides as necessary (see page 20-66)
- Front seat belt upper anchor bolt, both sides (see page 20-66)
- Center pillar upper trim, both sides (see page 20-66)
- Front ceiling light/spot light (see section 23)
- Rear ceiling light (see section 23)

### 2. Remove the sunvisor and holder from each side.

#### ►: ET screw locations, 4

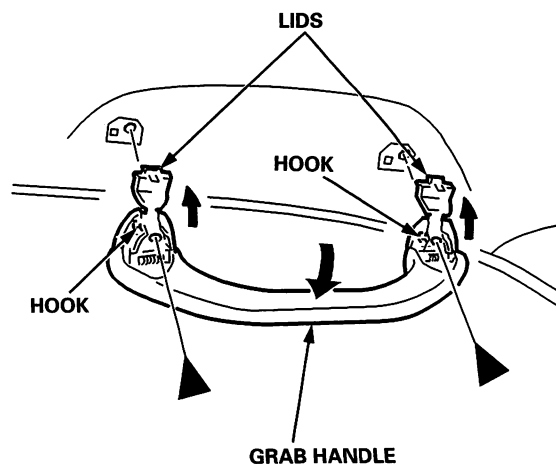
5 x 0.8 mm  
4 N·m (0.4 kgf·m,  
3 lbf·ft)



### 3. Open the lids, remove the ET screws and release the hooks, then remove the grab handles (front and rear passenger's).

#### ►: ET screw locations, 6

5 x 0.8 mm  
4 N·m (0.4 kgf·m,  
3 lbf·ft)





4. Remove the headliner.
  - 1. Remove the upper portion of the rear pillar trim from each side (see page 20-67).
  - 2. With help of an assistant, detach the clip(s), and slide the headliner forward to remove the rear clips from the roof panel, then lower the headliner.
  - 3. Remove the headliner through the passenger's door opening.

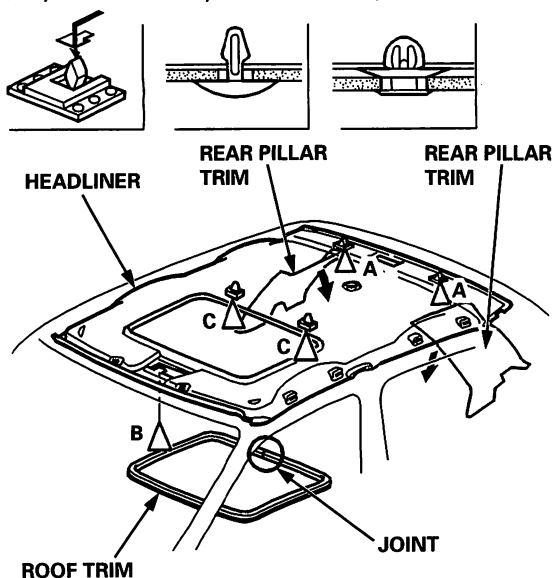
**With sunroof:**

▷: Clip locations, 3

A ▷, 2

B ▷, 1

C ▷, 2

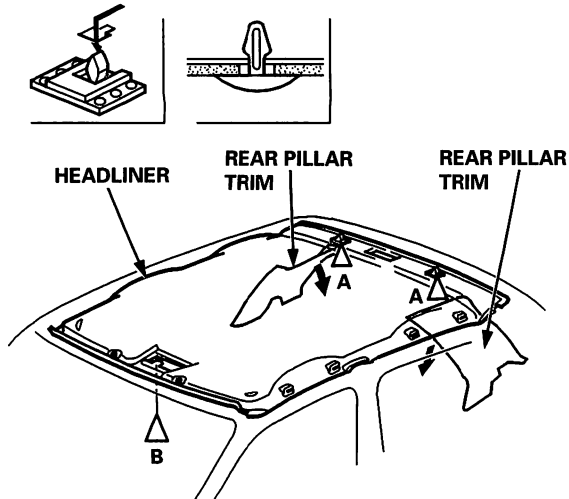


**Without sunroof:**

▷: Clip locations, 3

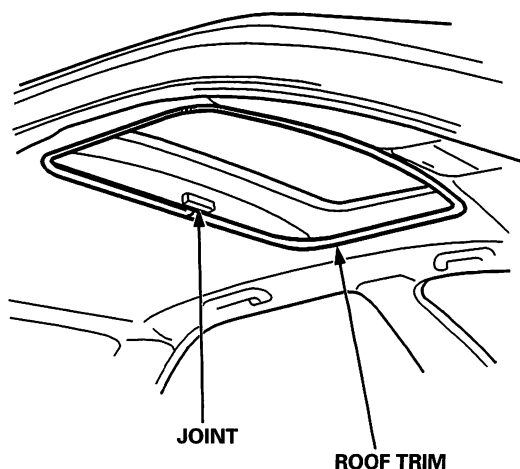
A ▷, 2

B ▷, 1



5. Install in the reverse order of removal, and note these items:

- When reinstalling the headliner through the door opening, be careful not to fold or bend it. Also, be careful not to scratch the body.
- With sunroof: When reinstalling the roof trim, install the joint toward the rear center.
- If the thread in the ET screw is worn out, use an oversized ET screw made specifically for this application.
- Check that both sides of the headliner are securely attached to the trim.



# Interior Trim

## Carpet Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

### NOTE:

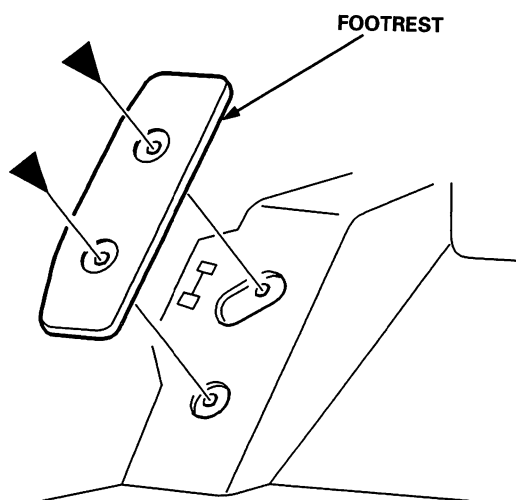
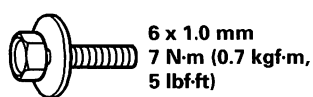
- Take care not to damage, wrinkle or twist the carpet.
- Be careful not to damage the dashboard or other interior trim pieces.
- LHD is shown, RHD is symmetrical.

### 1. Remove:

- Front seats, both sides (see page 20-93)
- Driver's dashboard lower cover (see page 20-78)
- Passenger's dashboard lower cover (see page 20-79)
- Front console (see page 20-74)
- Rear seat cushion (see pages 20-116, 117)
- Front side trim, both sides (see page 20-66)
- Rear side trim, both sides (see page 20-66)
- Center pillar lower trim panel, both sides (see page 20-66)
- Kick panel, both sides (see page 20-66)
- Front seat belt lower anchor bolt, both sides (see section 24)
- Trunk lid/fuel lid opener (see page 20-156)

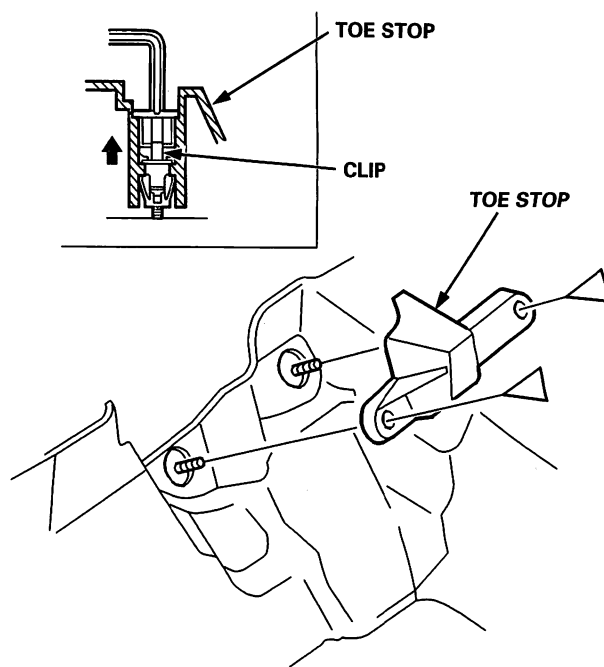
### 2. Remove the footrest.

#### ►: Bolt locations, 2



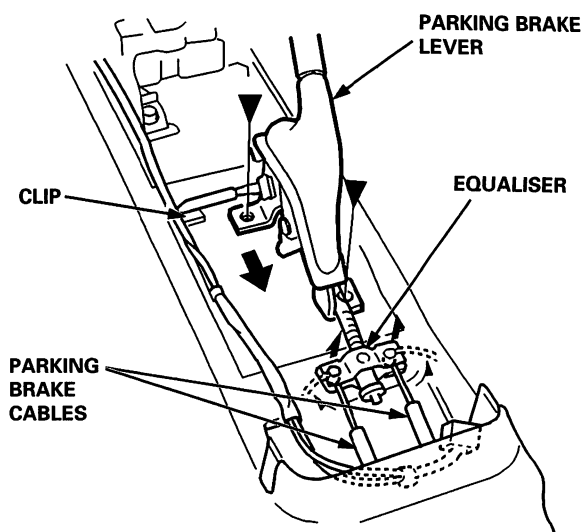
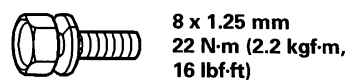
### 3. If so equipped, remove the toe stop.

#### ►: Clip locations, 2



### 4. Remove the bolts from the parking brake lever, then disconnect the parking brake cables. And detach the harness clip.

#### ►: Bolt locations, 2

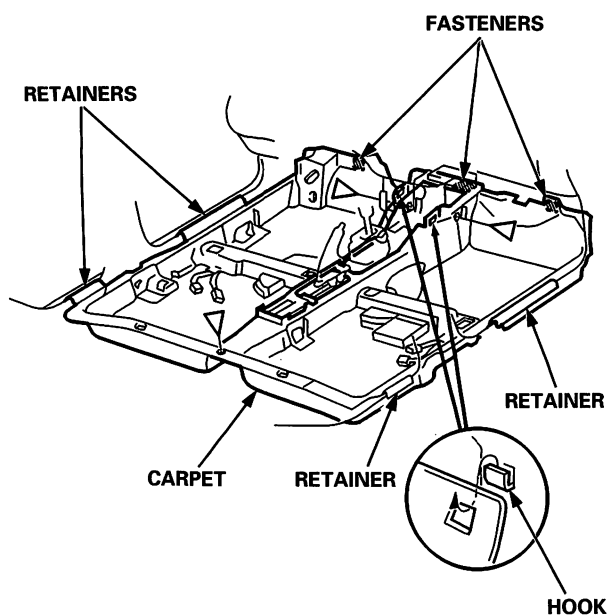
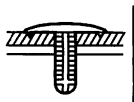




5. Remove the clips, and release the retainers, hooks and fasteners, then remove the carpet. Wear gloves to protect your hands.

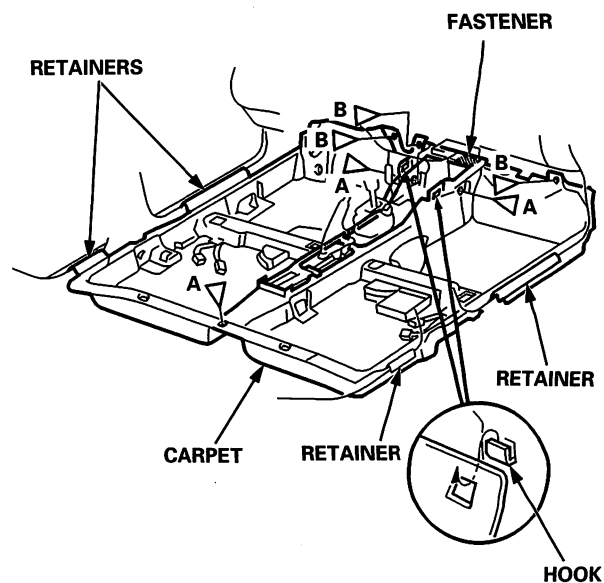
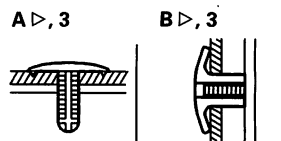
**Except Type R:**

▷: Clip locations, 3



**Type R:**

▷: Clip locations



6. Install in the reverse order of removal, and note these items:
- Take care not to damage, wrinkle or twist the carpet.
  - Make sure the seat harness is routed correctly.
  - Make sure the parking brake cables are connected properly. If necessary, adjust the parking brake cables (see section 19).
  - Slip the slits in the carpet over the hooks.
  - Replace any damaged clips.

# Console

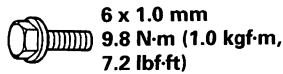
## Front and Rear Console Removal and Installation

### NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.
- Take care not to scratch the front seat, dashboard and related parts.
- Take care not to bend the parking brake cables.
- LHD is shown, RHD is symmetrical.

#### ► Bolt and screw locations

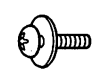
A ►, 2



B ►, 13



C ►, 4

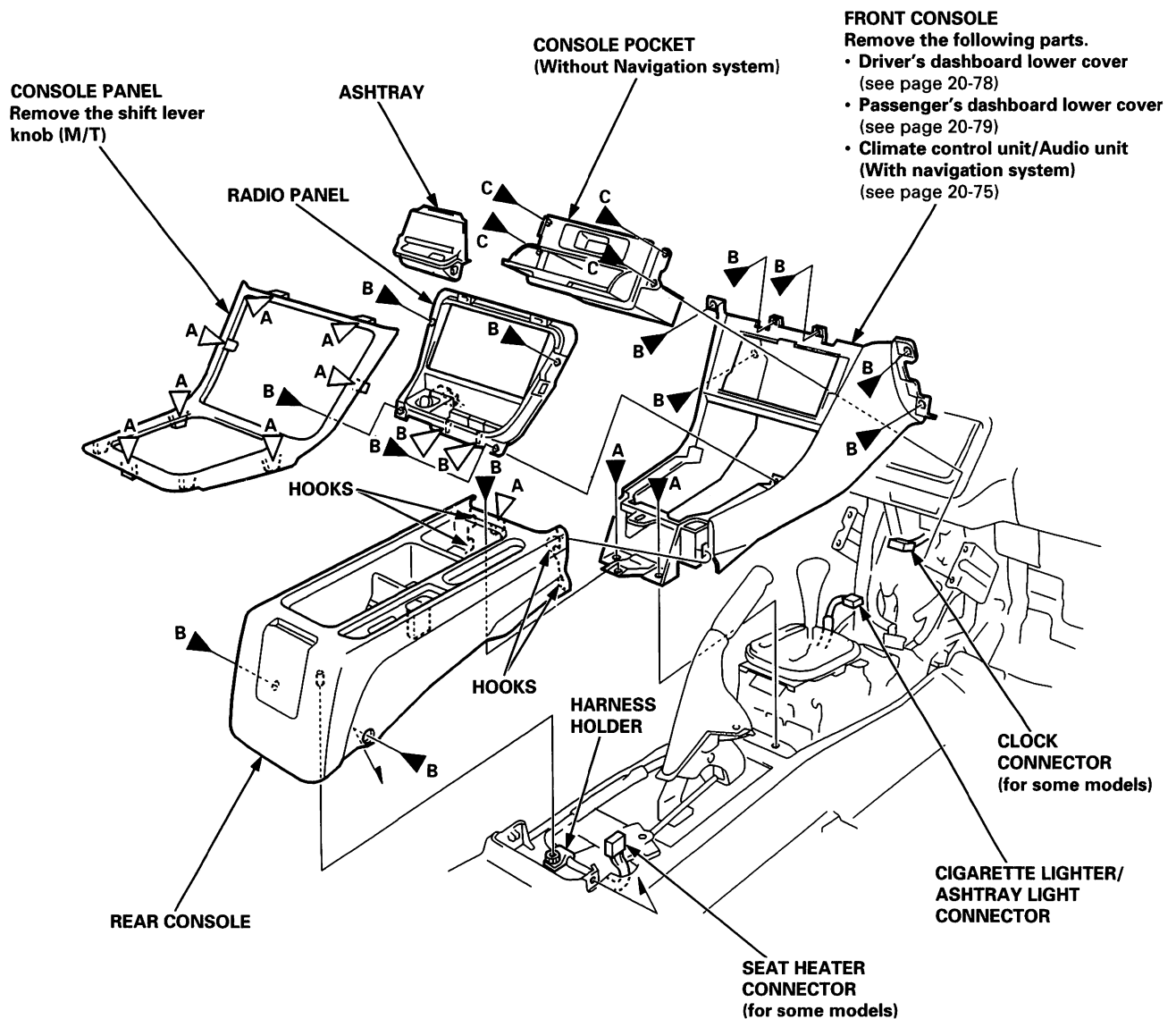
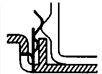


#### ▷ Clip locations

A ▷, 8



B ▷, 2



Install in the reverse order of removal, and note these items:

- Replace any damaged clips.
- Make sure the connectors are plugged in properly.





## Unit Removal and Installation

SRS components are located in this area. Review the SRS component locations, precautions and procedures in the SRS section (24) before performing repairs or service.

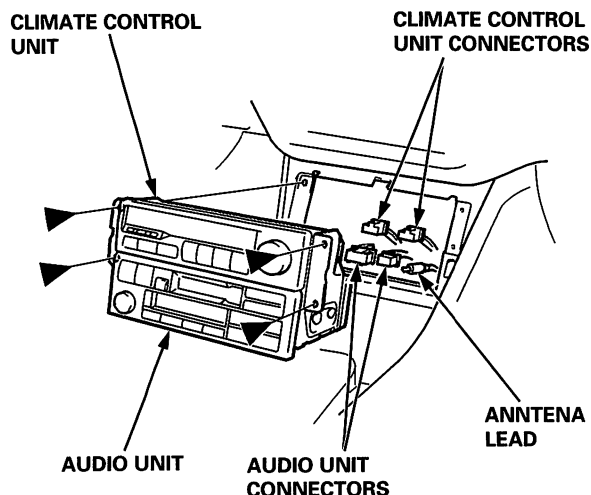
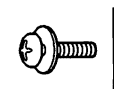
### NOTE:

- Take care not to scratch the dashboard and related parts.
- Wear gloves to protect your hands.
- LHD is shown, RHD is symmetrical.

### With navigation system:

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. Remove the radio panel (see page 20-74).
4. Remove the screws, disconnect the connectors and the antenna lead, then remove the unit. Wear gloves to protect your hands.

#### ►: Screw locations, 4

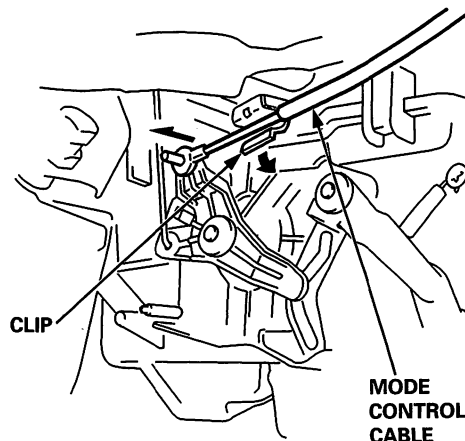


5. Install in the reverse order of removal, and note these items:
  - Make sure the connectors are plugged in properly, and the antenna lead is connected properly.
  - Enter the anti-theft code for the radio, then enter the customer's radio station presets.

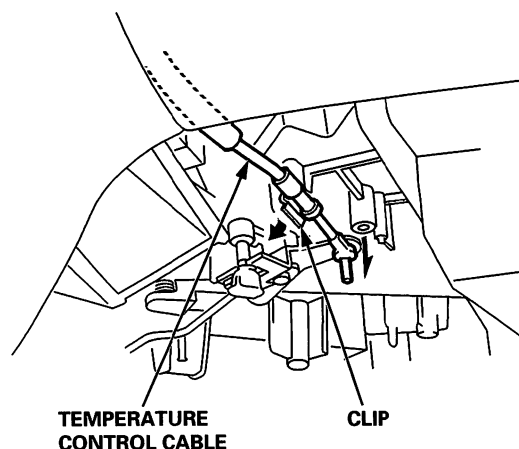
### Without navigation system:

1. If so equipped, make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. Remove the following parts:
  - Driver's dashboard lower cover, with heater control unit (see page 20-78).
  - Instrument panel (see page 20-77).
4. With heater control unit: From under the dash, disconnect the mode control cable and the temperature control cable from the heater unit.

### Driver's side:



### Passenger's side:



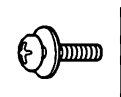
(cont'd)

# Heater Control Unit • Climate Control Unit/Audio Unit

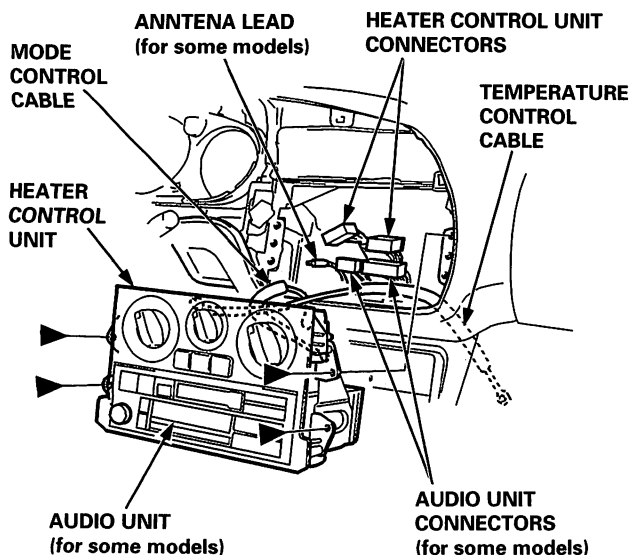
## Unit Removal and Installation (cont'd)

5. Remove the screw, disconnect the connectors, and if so equipped, the antenna lead, then remove the unit. Wear gloves to protect your hands.

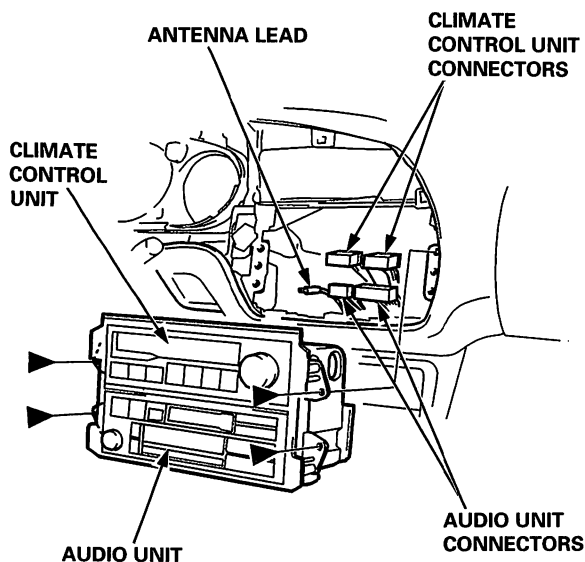
►: Screw locations, 4



With heater control unit:



With climate control unit:



6. Install in the reverse order of removal, and note these items:
  - Make sure the connectors are plugged in properly the antenna lead is connected properly, the mode control cable and the temperature control cable are connected properly (with heater control unit).
  - If so equipped, enter the anti-theft code for the radio, then enter the customer's radio station presets.



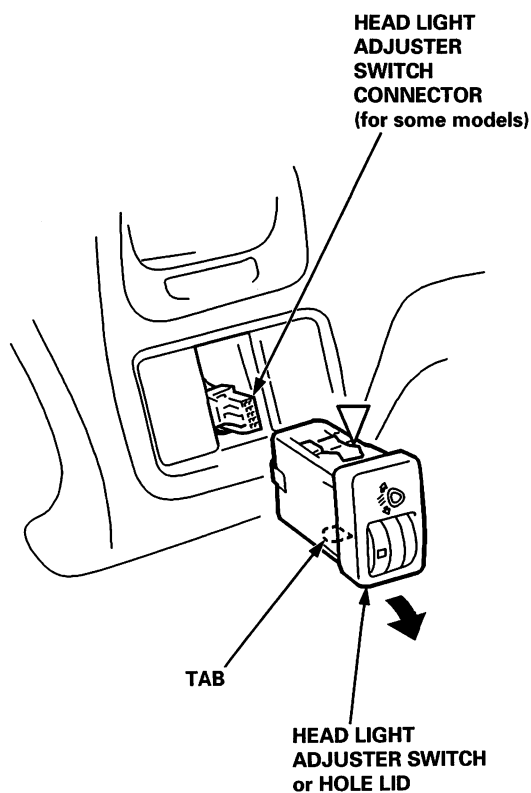
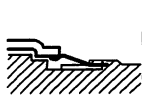
## Instrument Panel Removal and Installation

### NOTE:

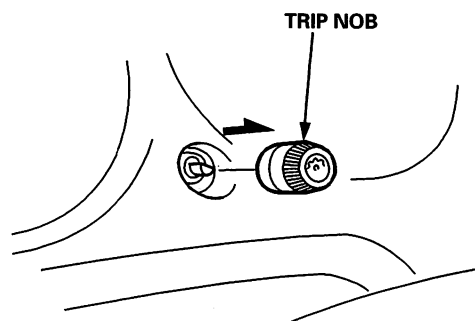
- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Tilt the steering column down.
2. Remove the headlight adjuster switch or hole lid from the instrument panel, and if so equipped, disconnect the connector.

▷: Clip location



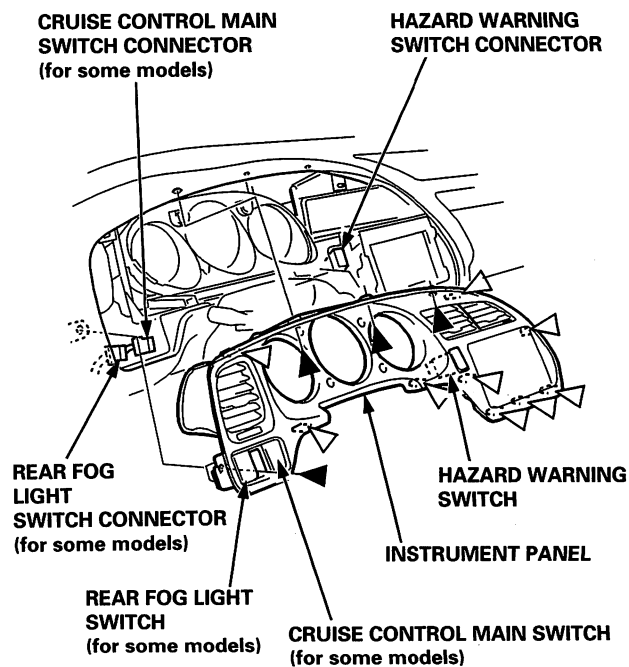
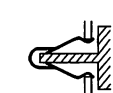
3. Remove the trip nob.



4. Remove the screws, detach the clips and disconnect the connectors, then carefully remove the instrument panel.

▷: Screw locations, 4

▷: Clip locations, 9



5. Install in the reverse order of removal, and make sure the connectors are plugged in properly.

# Dashboard

## Navigation Unit Removal and Installation

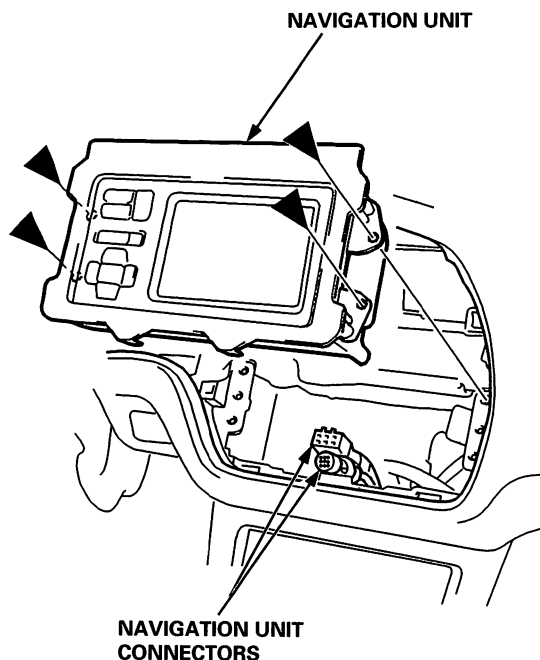
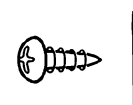
For some models:

NOTE:

- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Remove the instrument panel (see page 20-77).
2. Remove the screws and disconnect the connectors, then remove the navigation unit.

►: Screw locations, 4



3. Install in the reverse order of removal, and make sure the connectors are plugged in properly.

## Driver's Dashboard Lower Cover Removal and Installation

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

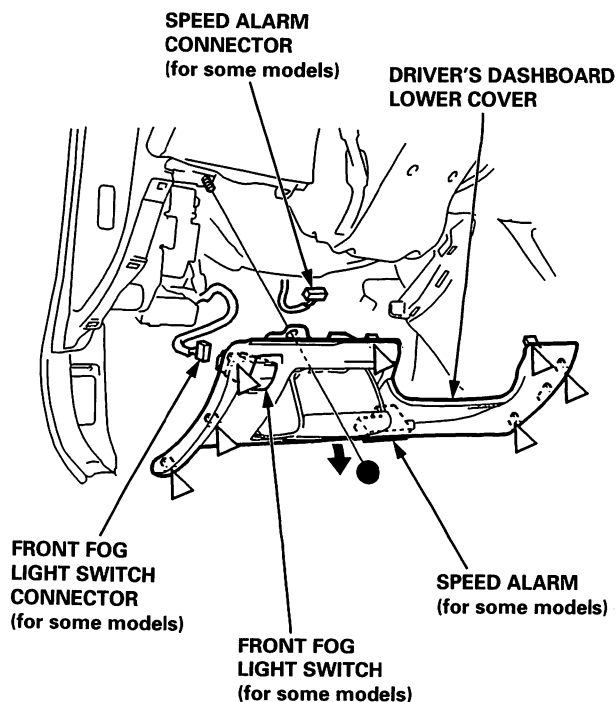
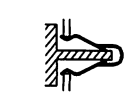
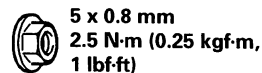
NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Remove the nut, detach the clips, and if so equipped, disconnect the connector(s), then remove the driver's dashboard lower cover.

●: Nut location, 1

►: Clip locations, 7



2. Install in the reverse order of removal, and if so equipped, make sure the connector(s) are plugged in properly.



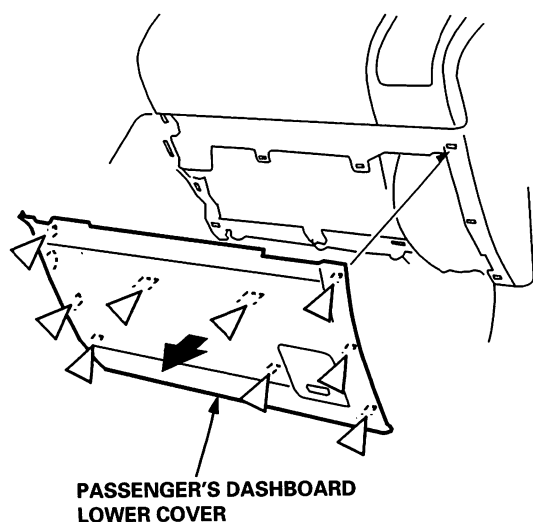
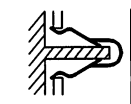
## Passenger's Dashboard Lower Cover Removal and Installation

### NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Detach the clips, then remove the passenger's dashboard lower cover.

### ▷: Clip locations, 7



2. Install in the reverse order of removal.

## Glove Box Removal and Installation

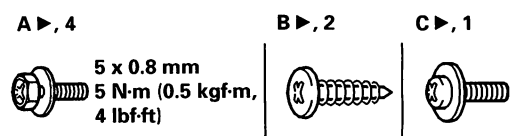
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

### NOTE:

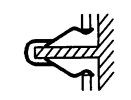
- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Remove passenger's dashboard lower cover.
2. Remove the bolts, screws, detach the clips and remove the glove box light bulb socket, then remove the glove box.

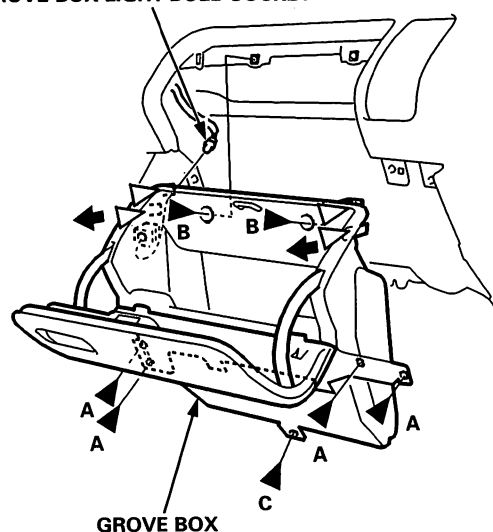
### ▷: Bolt screw locations



### ▷: Clip locations, 4



### GLOVE BOX LIGHT BULB SOCKET



3. Install in the reverse order of removal, and make sure the glove box light connector is plugged in properly and glove box light bulb socket is connected properly.

# Dashboard

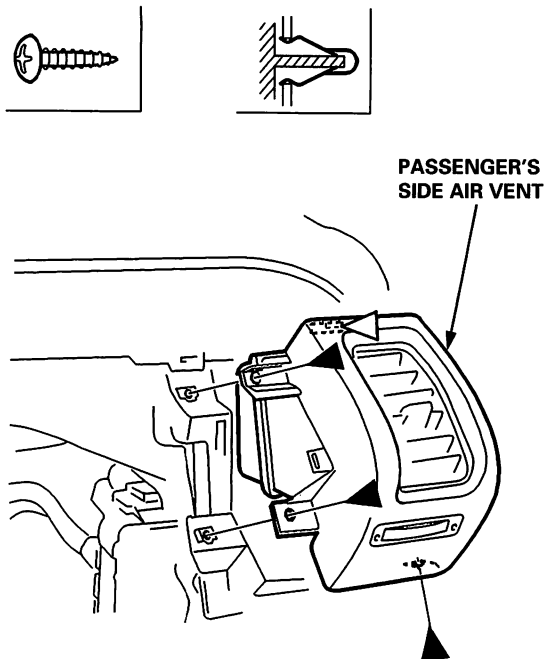
## Passenger's Side Air Vent Removal and Installation

### NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Remove the glove box (see page 20-79).
2. Remove the screws and detach the clip, then remove the passenger's side air vent.

►: Screw locations, 3    ▷: Clip location, 1



3. Install in the reverse order of removal.

## Passenger's Dashboard Panel Removal and Installation

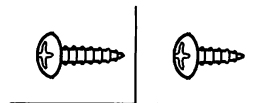
### NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- Take care not to scratch the dashboard and related parts.
- LHD is shown, RHD is symmetrical.

1. Remove the passenger's side air vent.
2. Remove the screws and detach the clips, then remove the passenger's dashboard panel.

►: Screw locations

A ►, 2    B ►, 3



3. Install in the reverse order of removal.

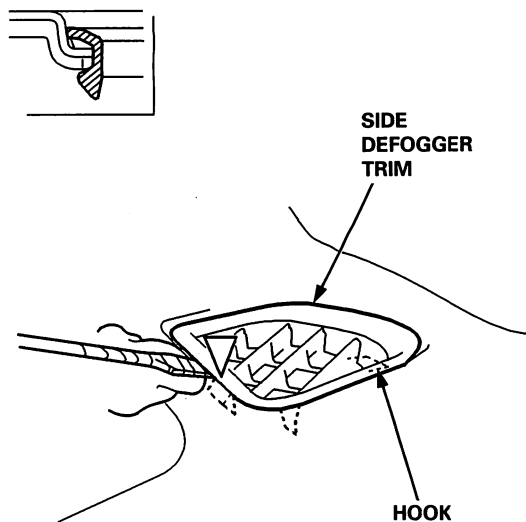


## Side Defogger Trim Removal and Installation

NOTE: LHD is shown, RHD is symmetrical.

1. Wrap a flat-tip screwdriver with protective tape, and apply protective tape around the related parts, to prevent damage. Carefully insert a flat-tip screwdriver next to the clip, and detach the clip by prying on the side defogger trim. Take care not to scratch the dashboard and related parts.

▷: Clip location, 1



2. Pull the side defogger trim out by releasing the hooks.
3. Install the hook portions of the side defogger trim, and securely push the clips into place.

# Dashboard

## Dashboard Removal and Installation

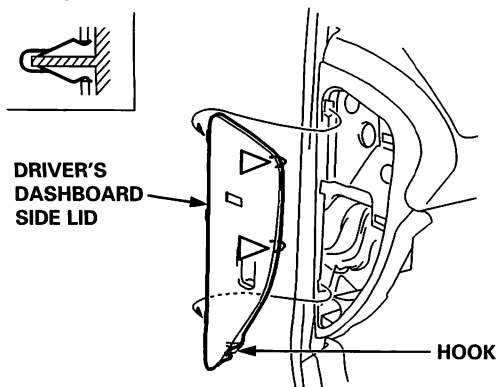
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

### NOTE:

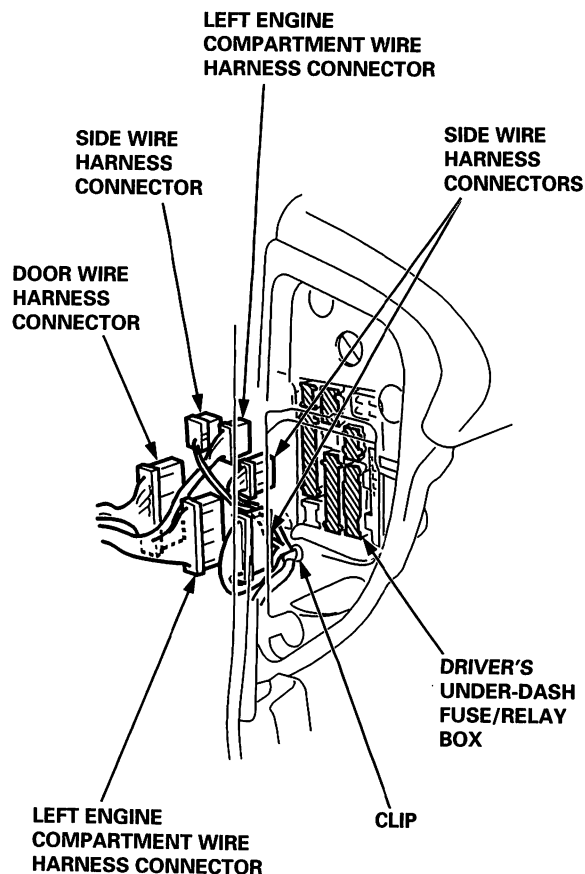
- When prying with a flat-tip screwdriver, wrap it with protective tape, and apply protective tape around the related parts, to prevent damage.
- An assistant is helpful when removing and installing the dashboard.
- Take care not to scratch the dashboard, body and other related parts.
- Wear gloves to protect your hands.
- LHD is shown, RHD is symmetrical.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. Remove:
  - Front console (see page 20-74)
  - Climate control unit/audio unit, with navigation system (see page 20-75)
  - Glove box (see page 20-79)
  - Front door trim, both sides as necessary (see page 20-66)
  - Front pillar trim, both sides (see page 20-66)
  - Front side trim, both sides (see page 20-66)
  - Kick panel, both sides (see page 20-66)
4. Disconnect the combination switch connectors, ignition switch connector, driver's airbag connector. If so equipped, disconnect the cable reel connector and immobilizer unit connector. And lower the steering column (see section 17). To prevent damage to the steering column, wrap it with a shop towel.
5. Remove the driver's dashboard side lid.

### ▷: Clip locations, 2



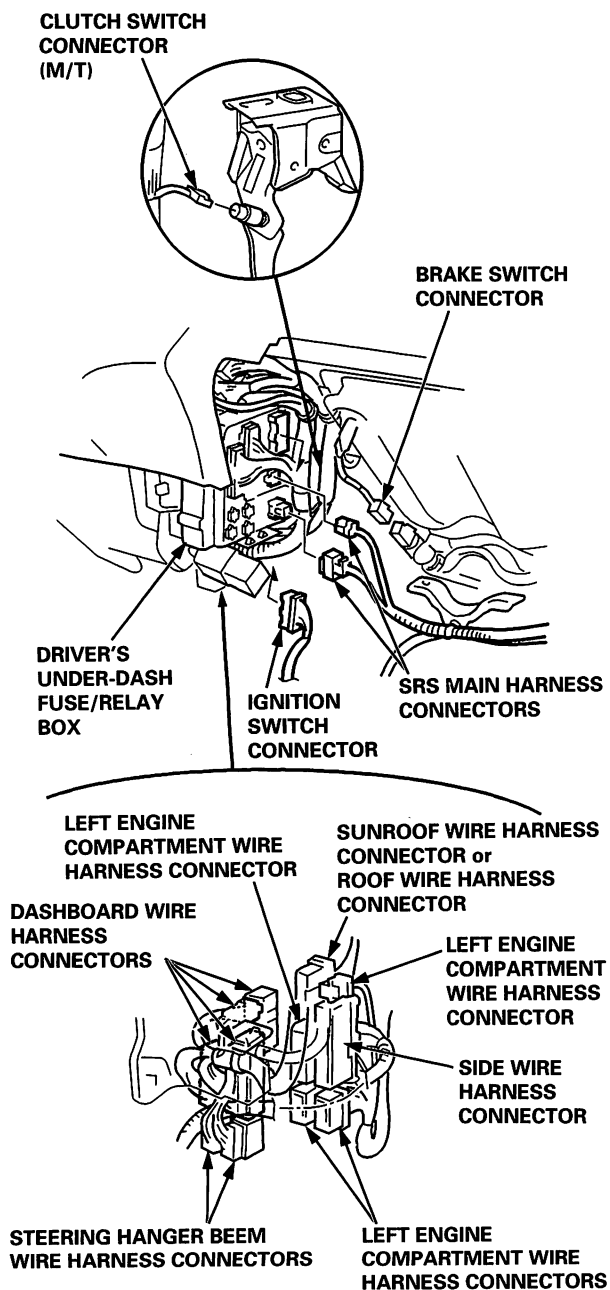
6. Driver's side:
  - 1. From outside the driver's door, disconnect the connectors.





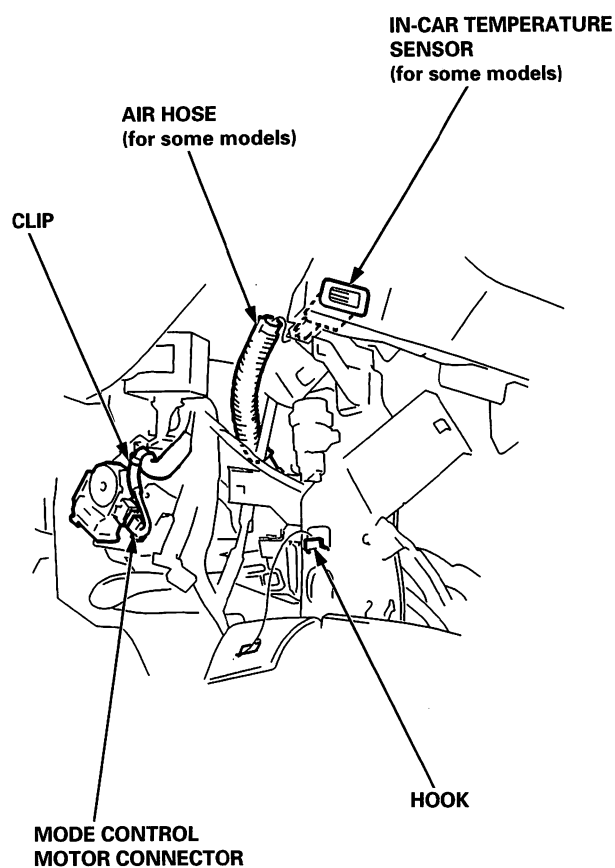


- 2. From under the dash, disconnect the connectors and detach the harness clip.



7. Center portion:

- 1. From the driver side, pull the carpet back as necessary, and disconnect the connector(s) and detach the harness clip. If so equipped, disconnect the air hose from the in-car temperature sensor.

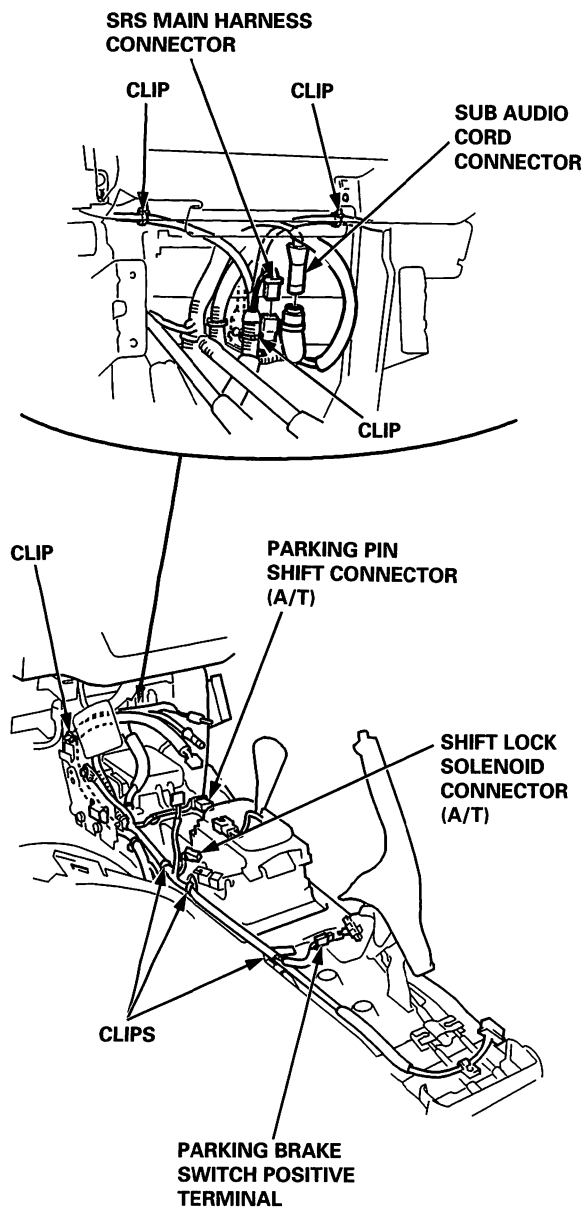


(cont'd)

# Dashboard

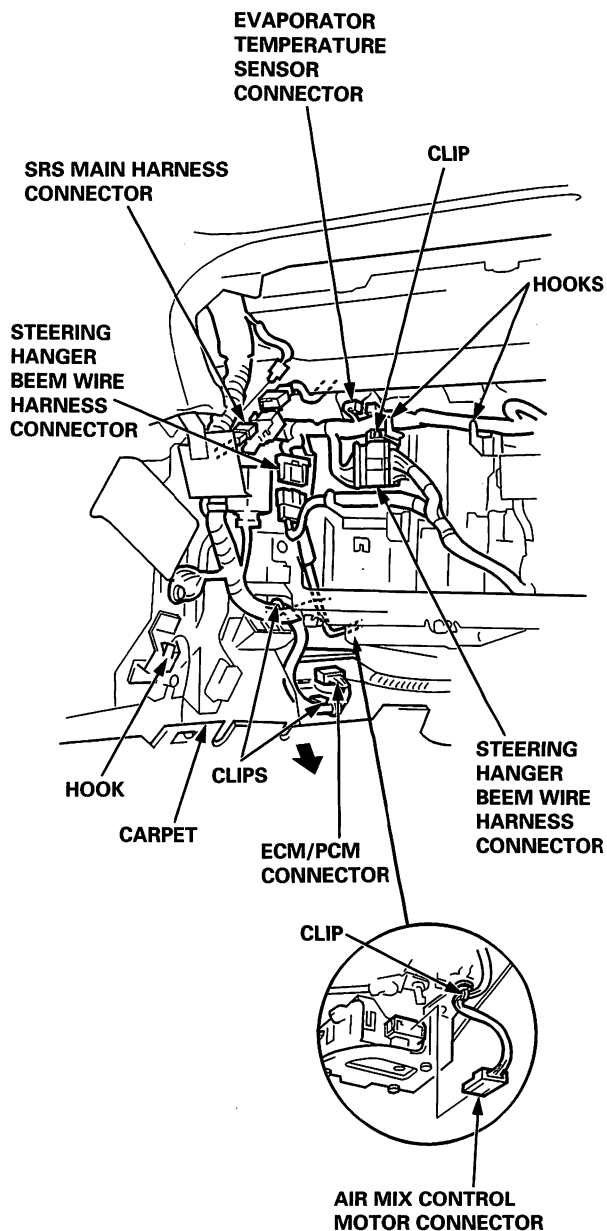
## Dashboard Removal and Installation (cont'd)

- 2. Disconnect the terminal, the connectors and detach the harness clips.



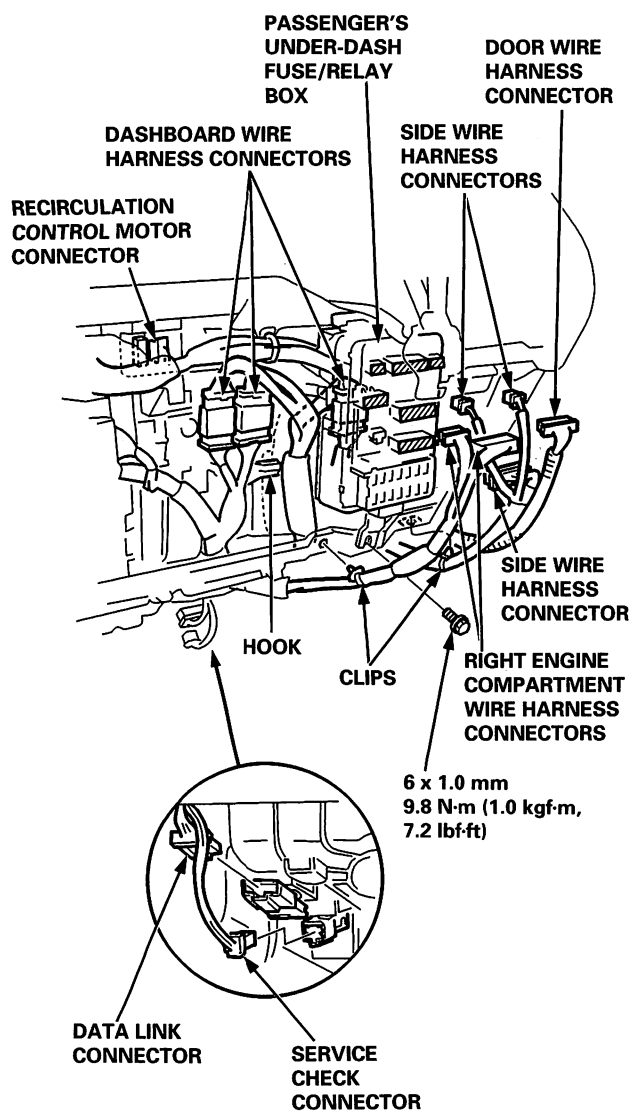
8. Passenger's side:

- 1. From under the dash, pull the carpet back as necessary, and disconnect the connectors and harness clips.





- 2. From under the dash, remove the mounting bolt and pull the passenger's under-dash fuse/relay box away as necessary. Then disconnect the connectors and detach the harness clips.



(cont'd)

# Dashboard

## Dashboard Removal and Installation (cont'd)

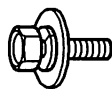
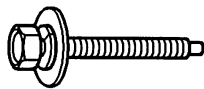
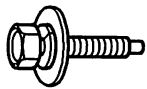
9. From outside the driver's door, remove the caps, then remove the bolts, and lift up on the dashboard to release from the guide pins.

►: Bolt locations

A ►, 3

B ►, 3

C ►, 3

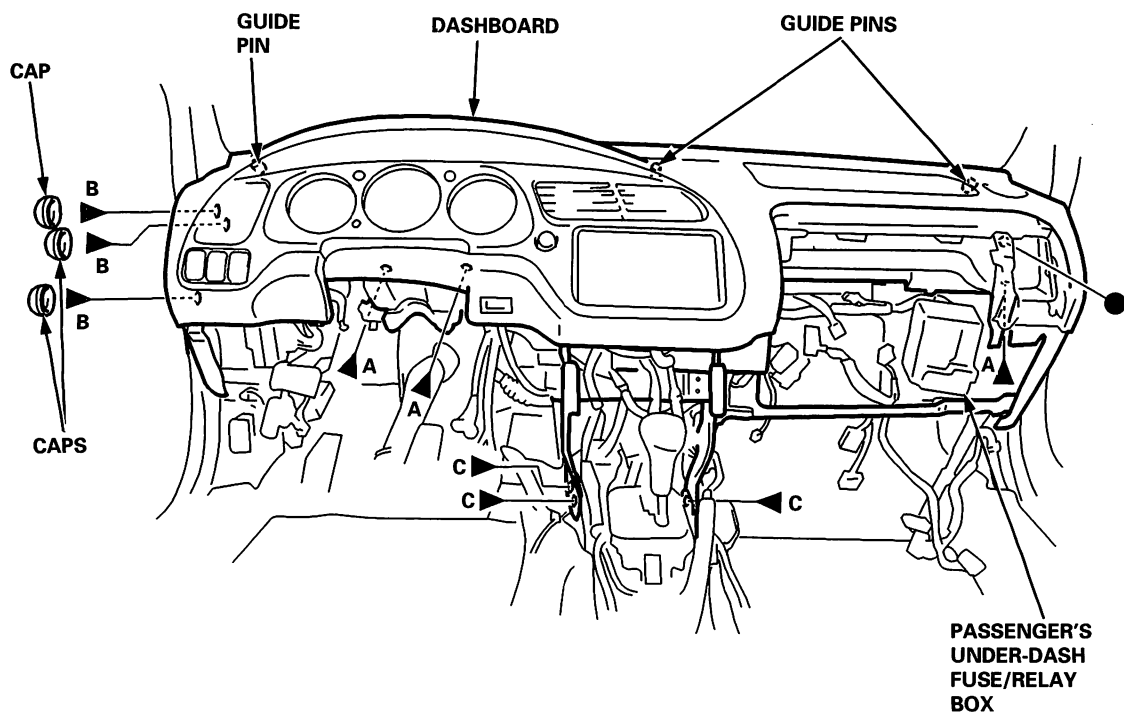


8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)

●: Nut location, 1



8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)



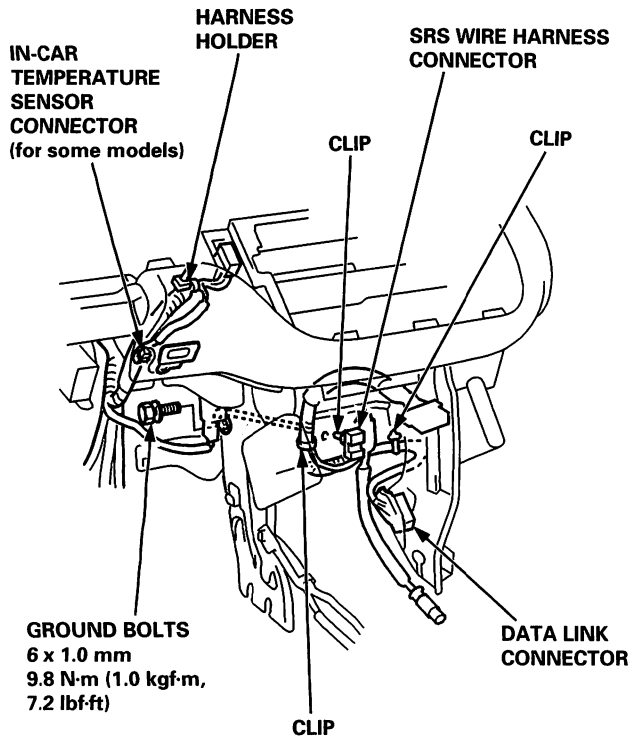
10. Carefully remove the dashboard through the door opening.
11. Install in the reverse order of removal, and note these items:
- Apply liquid thread lock to bolt c before installation.
  - Make sure the dashboard fits onto the guide pins correctly.
  - Before tightening the bolts, make sure the dashboard wire harnesses are not pinched.
  - Make sure the connectors are plugged in properly, and the antenna lead is connected properly.
  - If so equipped, enter the anti-theft code for the radio, then enter the customer's radio station presets.



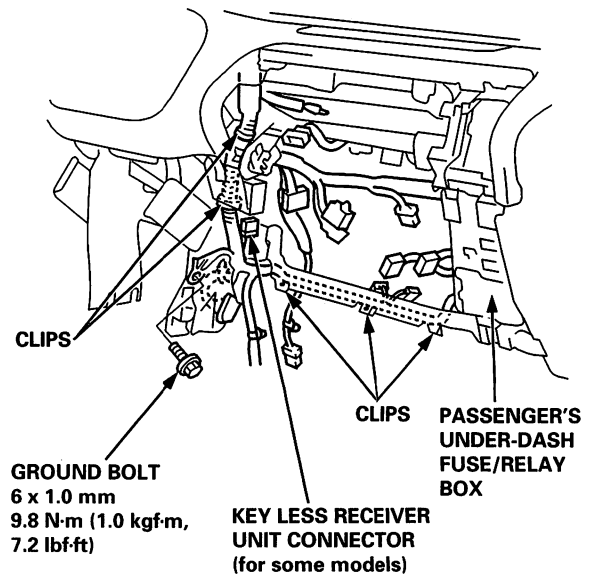
# Dashboard

## Steering Hanger Beam Replacement (cont'd)

6. Center portion from driver's side: If so equipped, disconnect the in-car temperature sensor connector. Detach the connectors, the harness clips and the harness holder. And remove the ground bolt.



7. Passenger's side: If so equipped, disconnect the key less receiver unit connector. Detach the harness clips and remove the ground bolt.





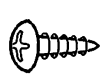
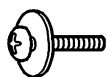
8. Remove the screws and the front passenger's airbag mounting nuts from the dashboard.

►: Screw locations

●: Nut locations, 3

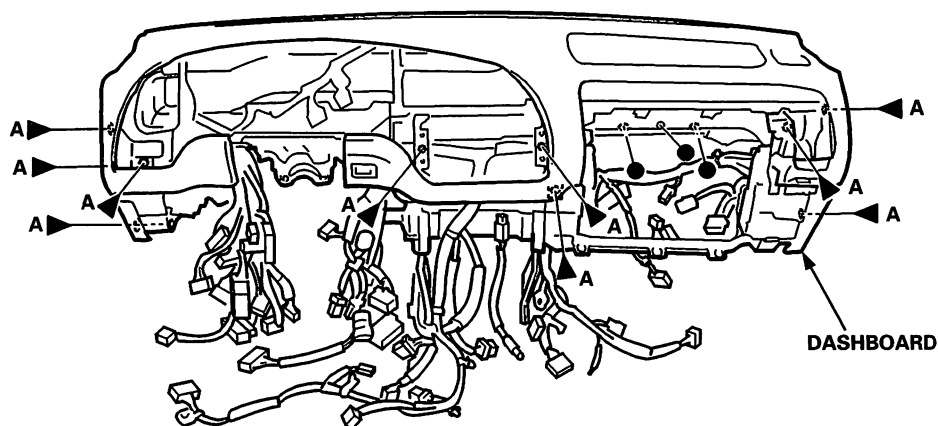
A ►, 10

B ►, 4

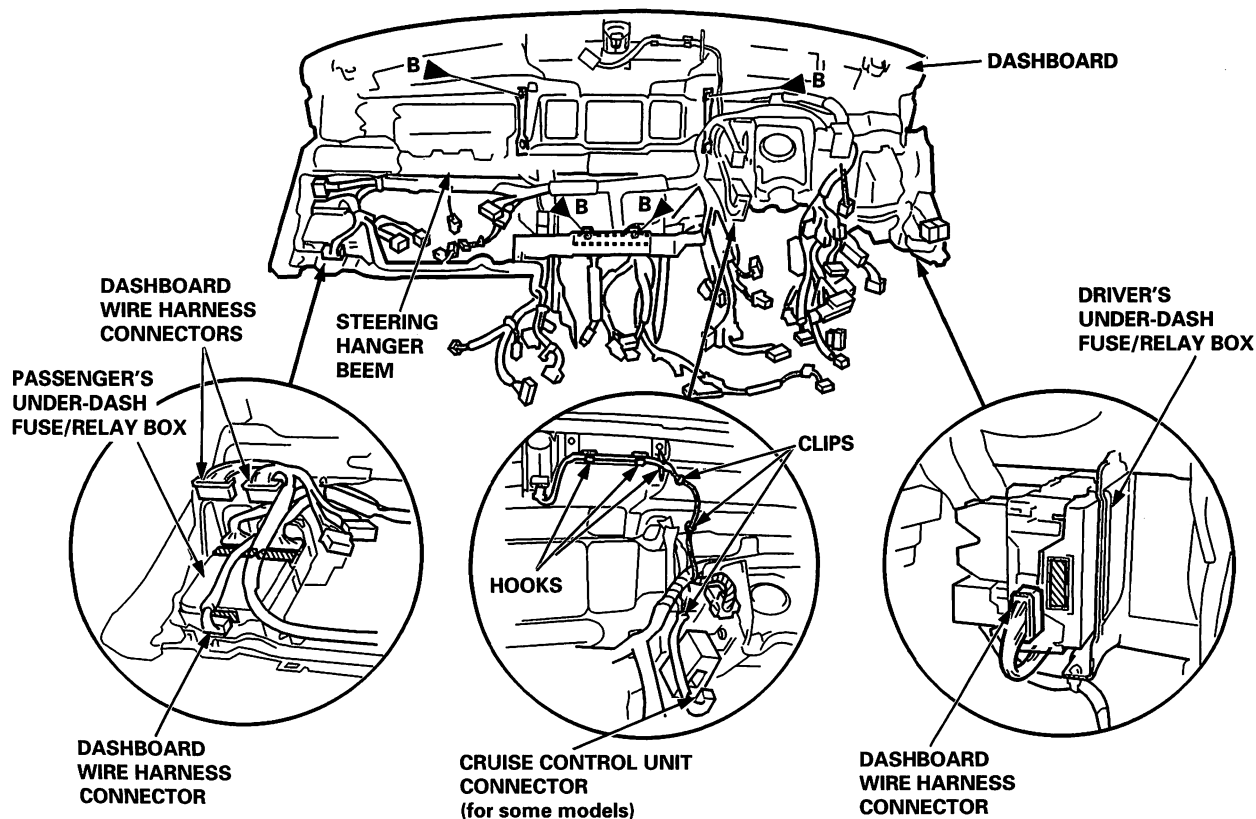


6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)

From in front of the dashboard:



From behind the dashboard:

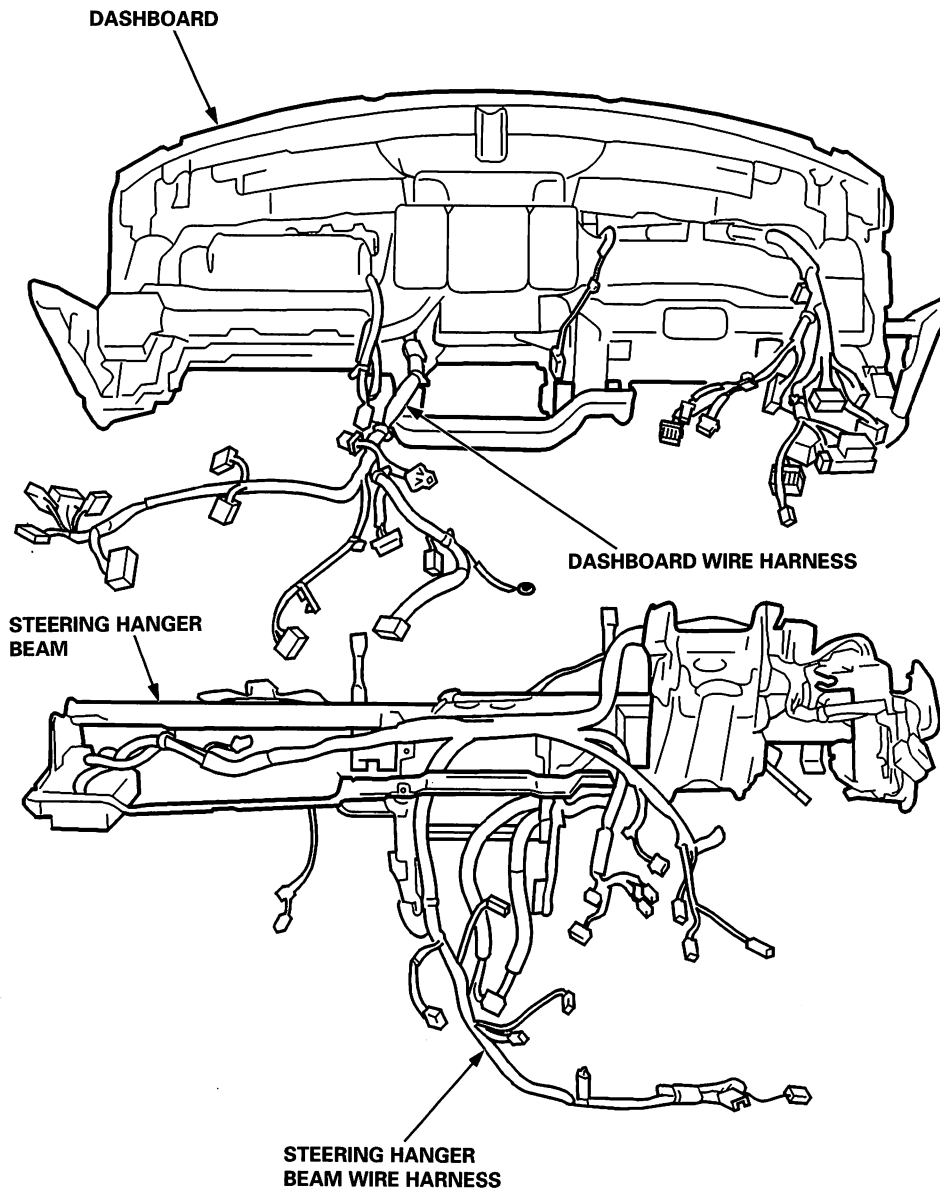


(cont'd)

# Dashboard

## Steering Hanger Beam Replacement (cont'd)

9. Separate the dashboard and steering hanger beam.



10. Install in the reverse order of removal, and note these items:
- Make sure the dashboard wire harness and steering hanger beam wire harness are not pinched.
  - Make sure the connectors are plugged in properly.

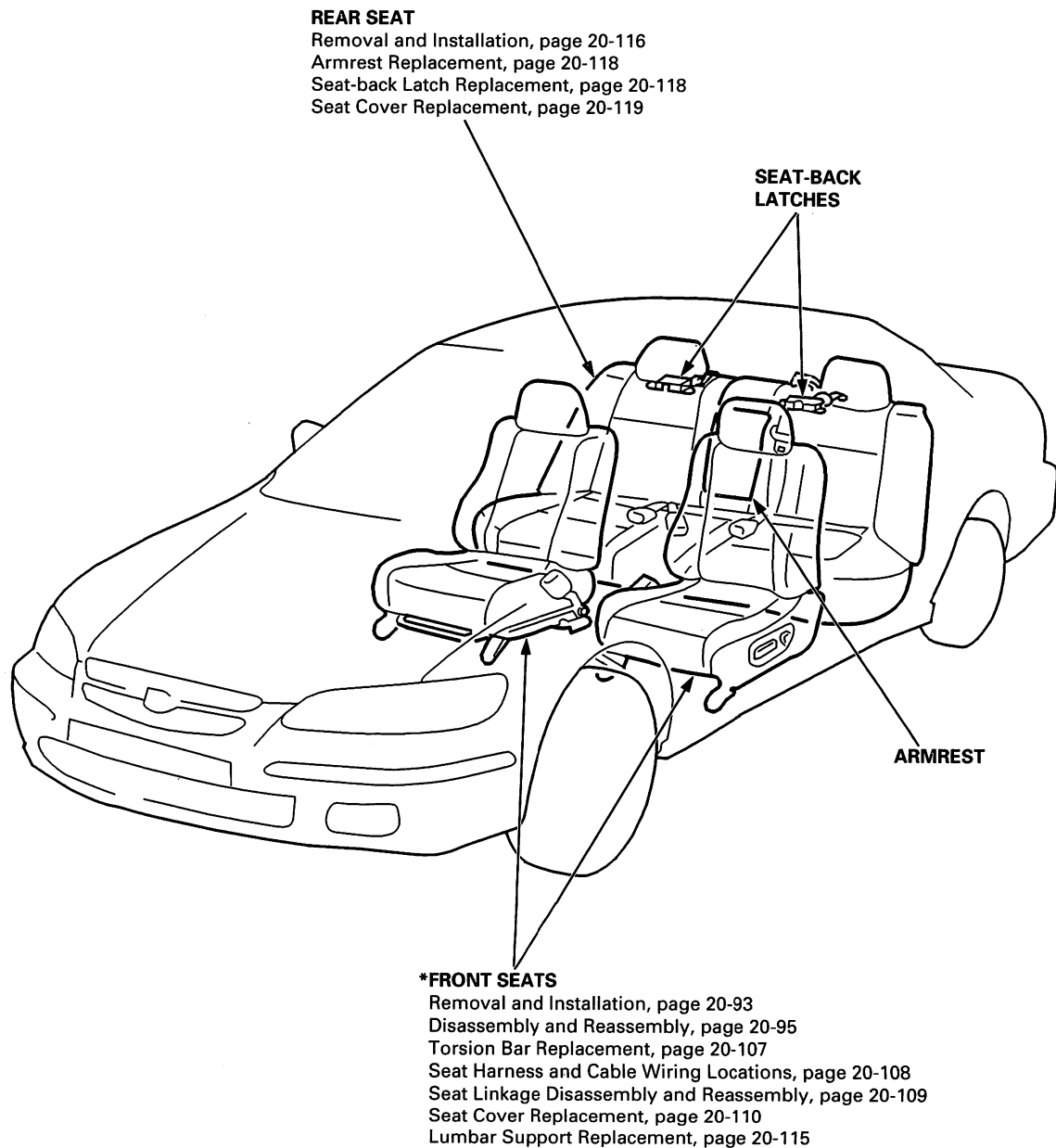




# Seats

## Component Location Index

SRS components are located in the areas marked with an asterisk (\*). Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.



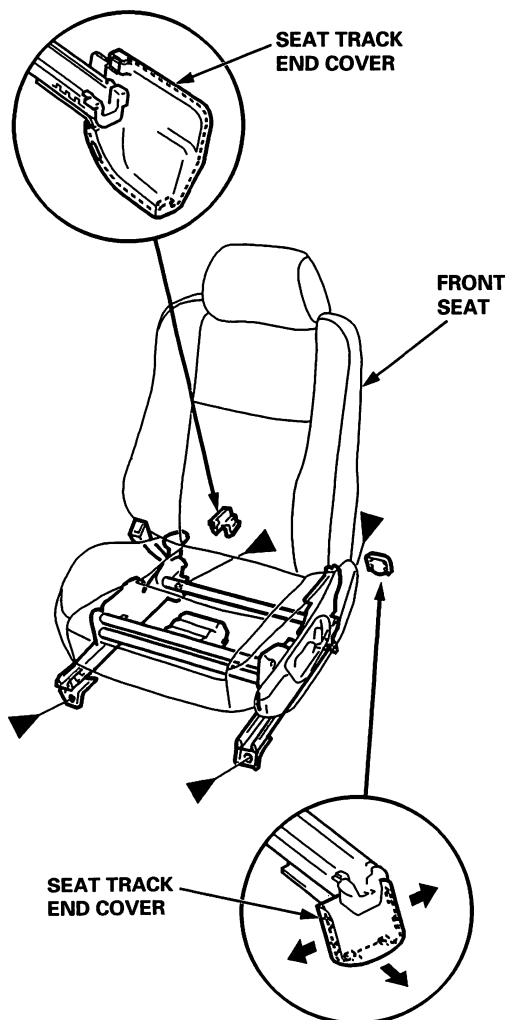
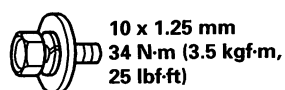


## Front Seat Removal and Installation

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

1. Remove the seat track end covers, and remove the bolts securing the front seat. When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage. Take care not to scratch the body or tear the seat covers.

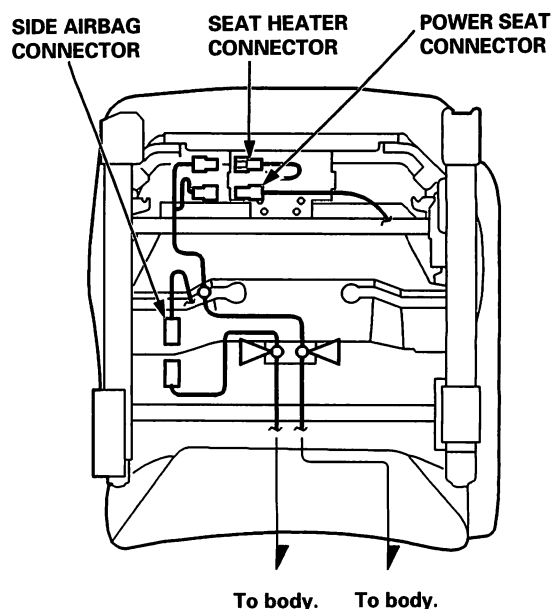
►: Bolt locations, 4



2. Lift up the front seat, then disconnect and detach the seat harness connector(s) and harness clip(s).

►: Harness clip locations

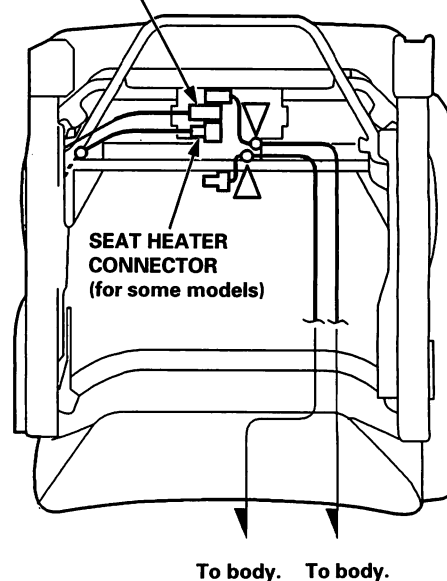
8-way power seat:



With side airbag or heated seat:

NOTE: The driver's seat is shown, the passenger's seat is symmetrical.

SIDE AIRBAG CONNECTOR  
(for some models)



(cont'd)

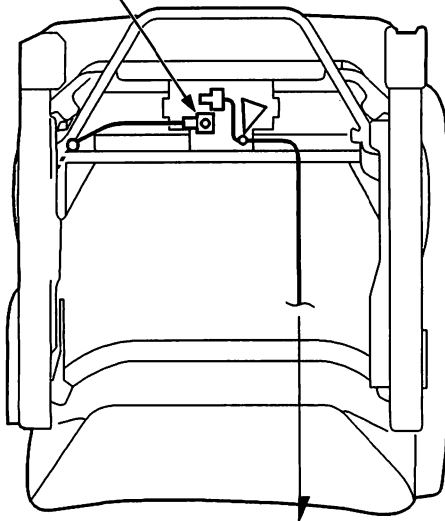
# Seats

---

## Front Seat Removal and Installation (cont'd)

With seat belt switch:

SEAT BELT SWITCH  
CONNECTOR



To body.

3. With the help of an assistant, carefully remove the front seat through the door opening.
4. Install in the reverse order of removal, and make sure the seat harness connector is plugged in properly.



## Front Seat Disassembly and Reassembly

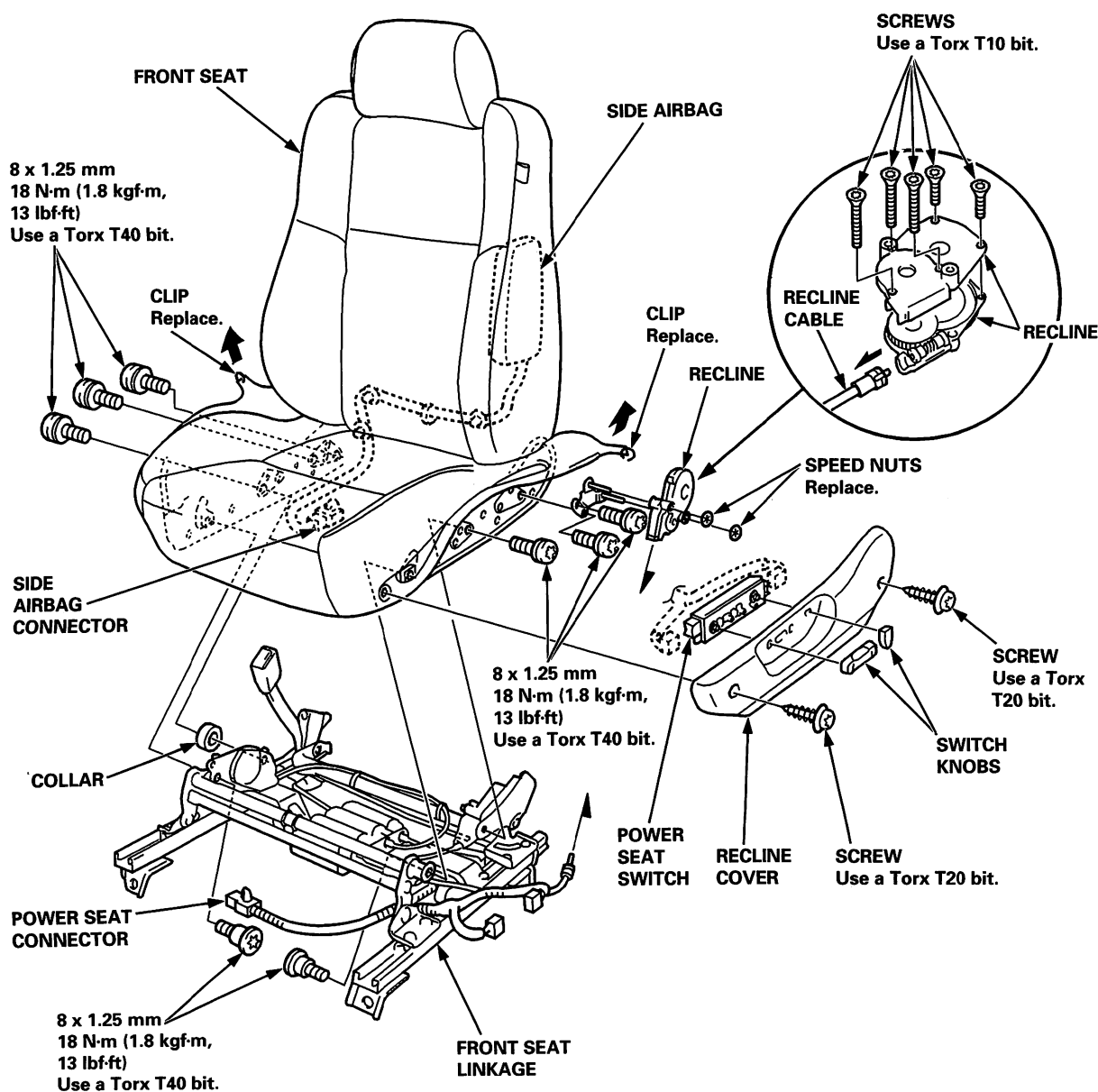
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

### NOTE:

- Take care not to scratch the body or tear the seat covers.
- When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.

### 8-way power seat:

NOTE: Refer to page 20-108 for the side airbag harness and power seat harness wiring locations.



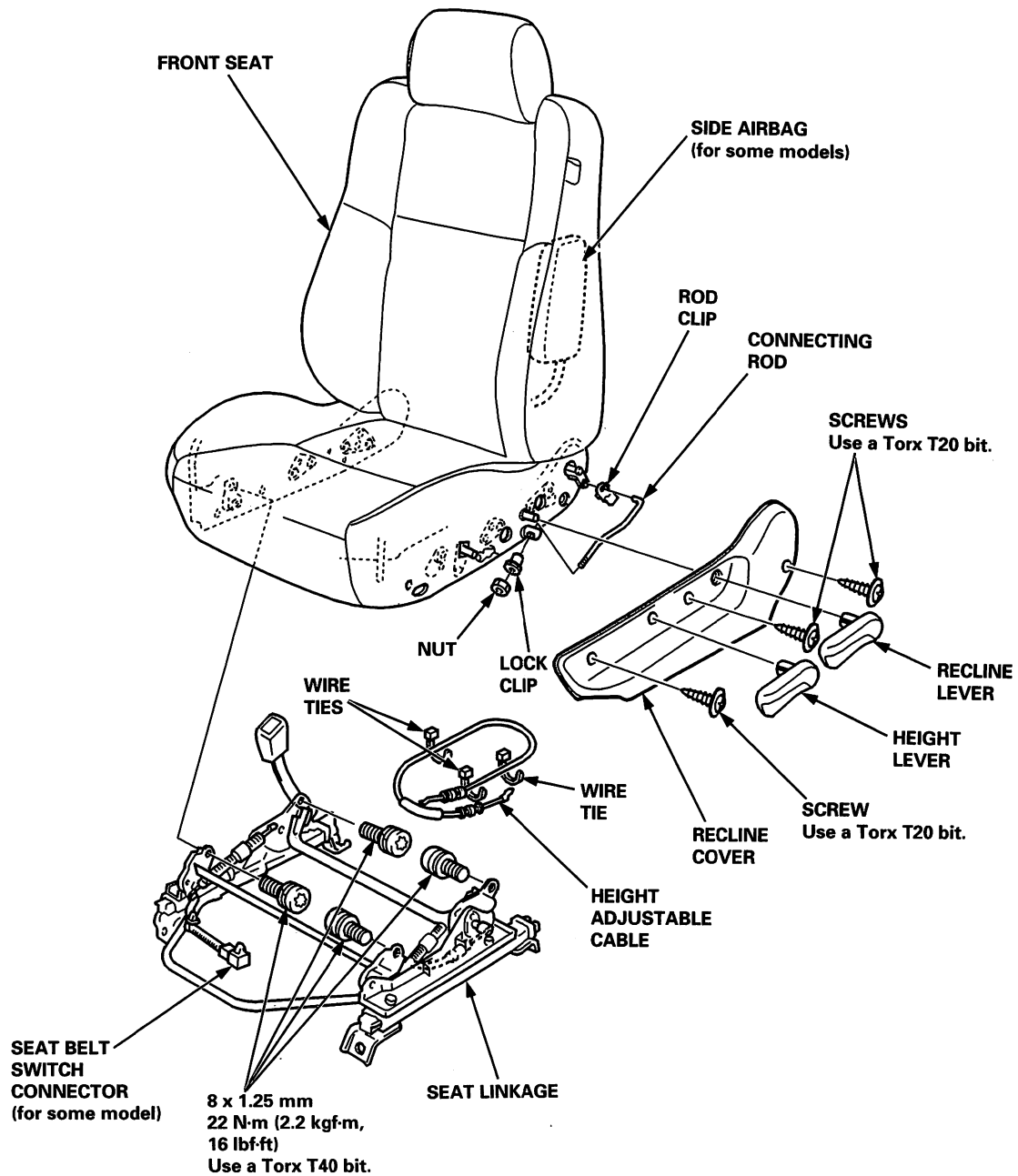
(cont'd)

# Seats

## Front Seat Disassembly and Reassembly (cont'd)

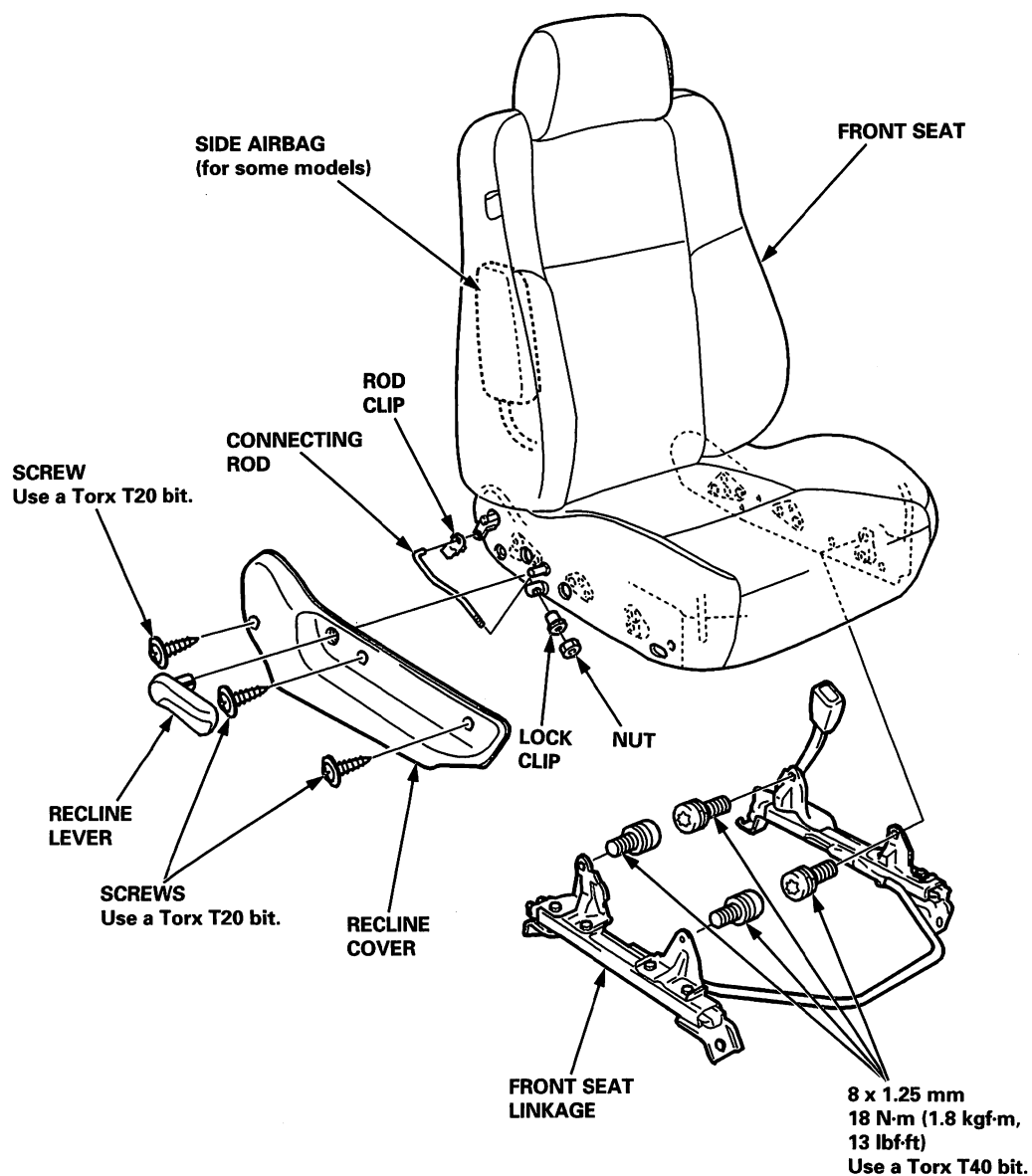
### Manual height adjustable seat:

NOTE: Refer to page 20-108 for the seat belt switch harness (for some model) and height adjustable cable wiring locations.





**Manual seat:**

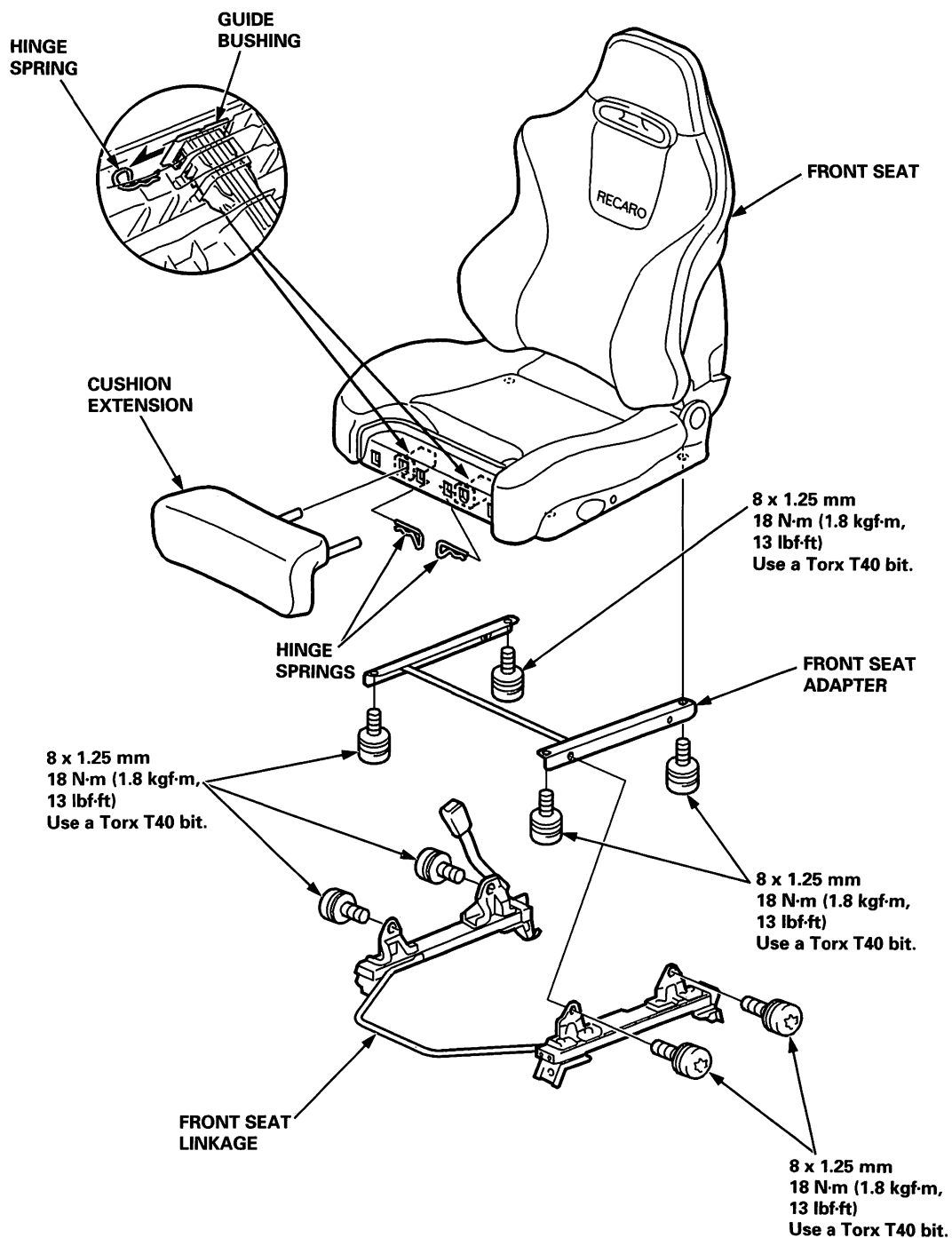


(cont'd)

# Seats

## Front Seat Disassembly and Reassembly (cont'd)

RECARO seat:

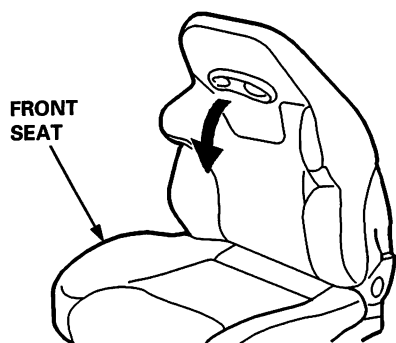






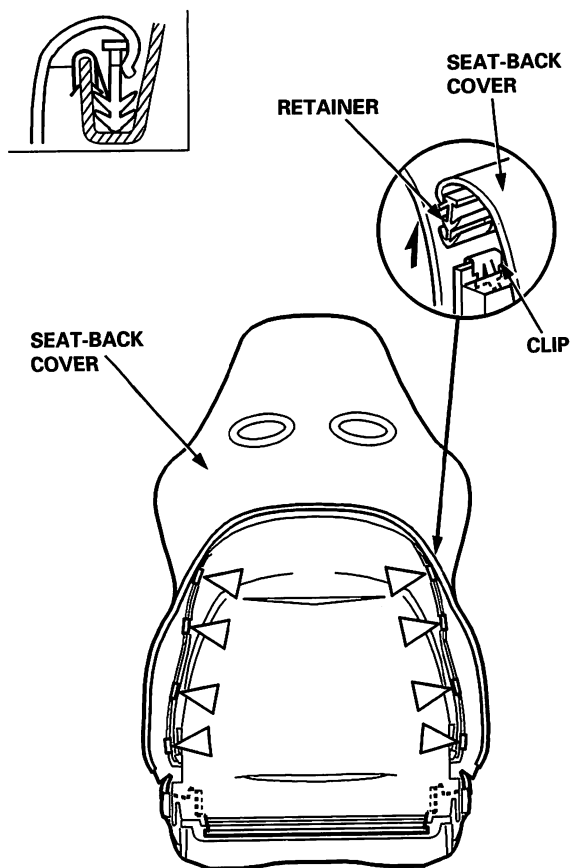
### Seat-back (RECARO):

1. Fold the seat-back forward.



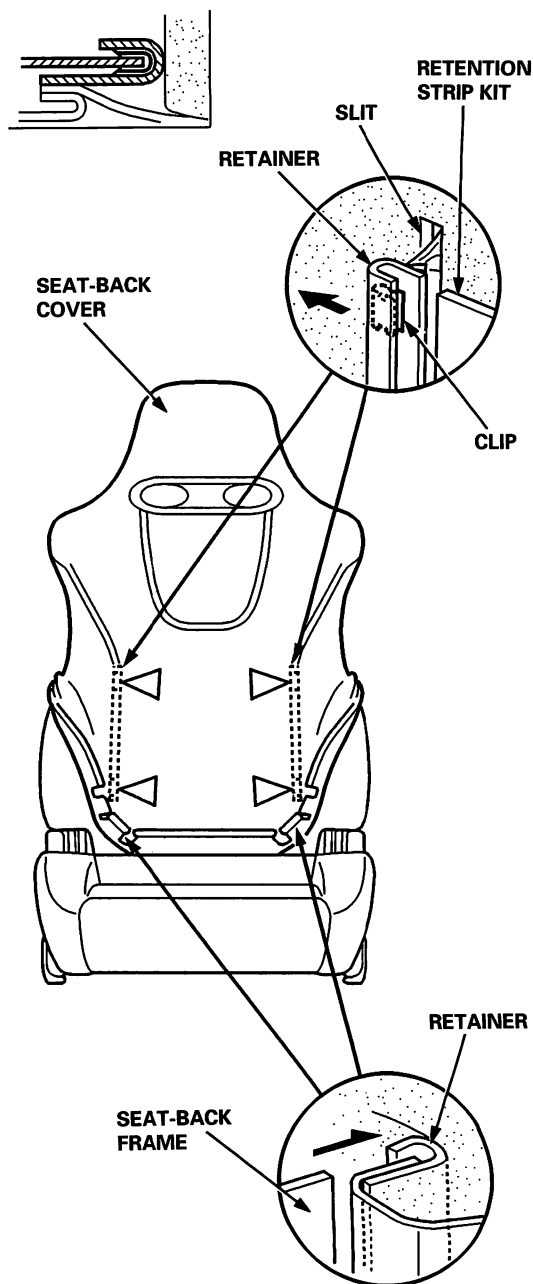
2. From behind the seat-back, pull back the edge of the seat back cover all the way around.

▷: Clip locations, 8



3. Raise the seat-back and pull back the edge of the seat-back cover as necessary, then release the retainers.

▷: Clip locations, 4



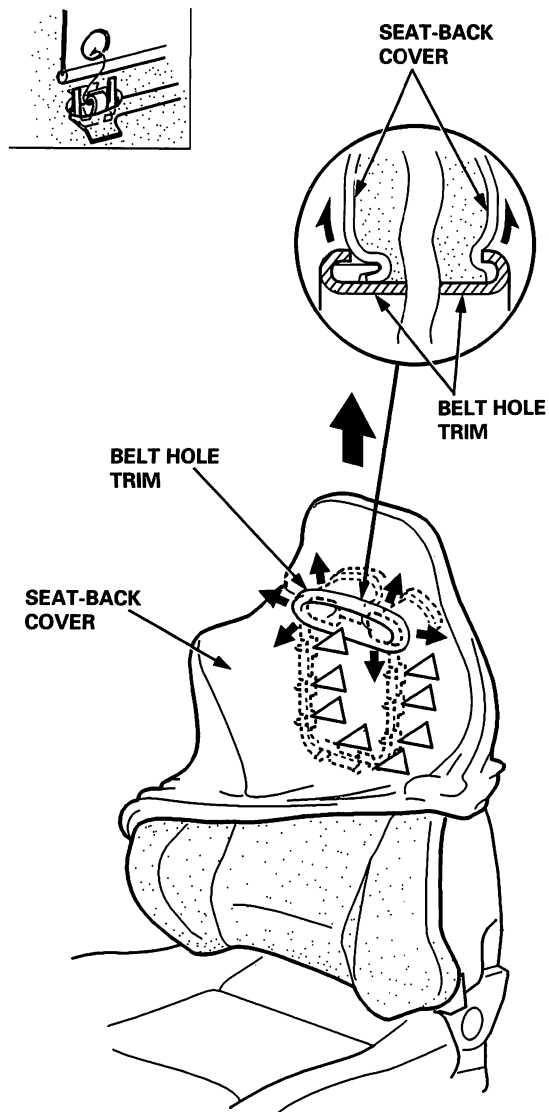
(cont'd)

# Seats

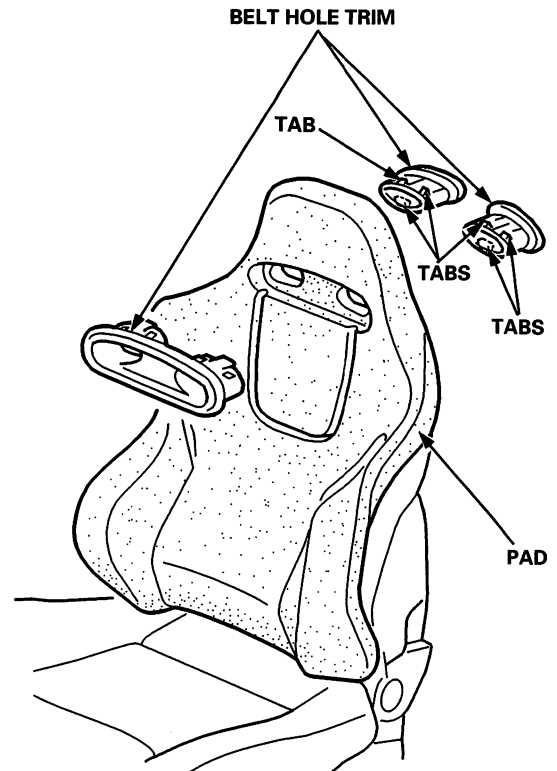
## Front Seat Disassembly and Reassembly (cont'd)

4. Pull back the edge of the seat-back cover all the way around, release the clips, and pull the seat-back cover out of the belt hole trim, then remove the seat-back cover.

▷: Clip locations, 8



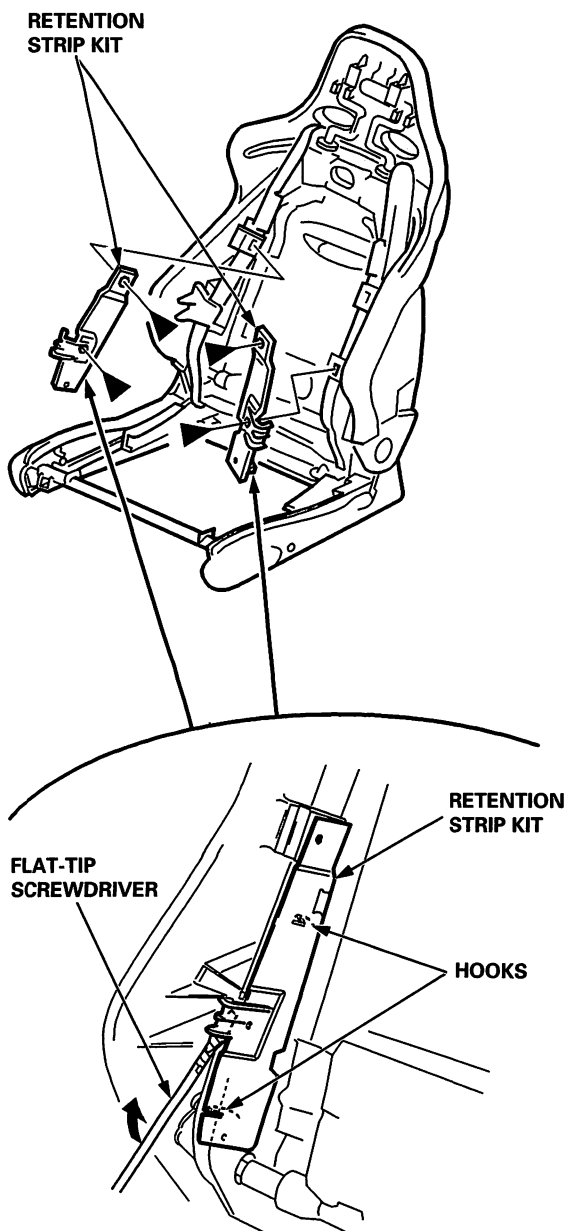
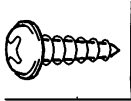
5. Remove the belt hole trim, then remove the pad.



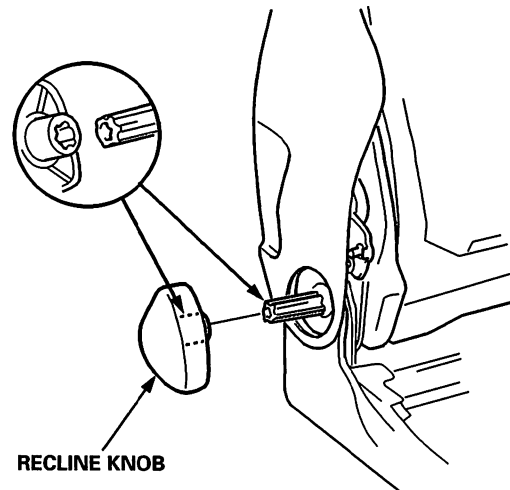


6. Remove the screws and release the hooks, then remove the retention strip kit.

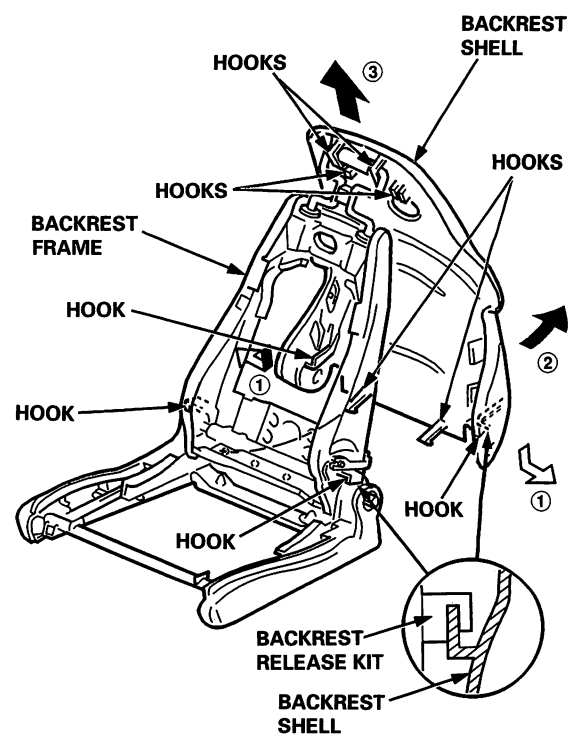
►: Screw locations, 4



7. Remove the recline knob.



8. Release the hooks as shown and remove the backrest shell from the backrest frame.

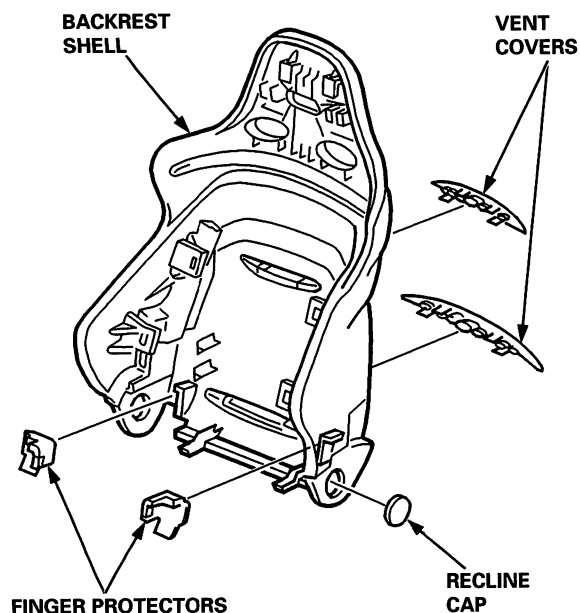


(cont'd)

# Seats

## Front Seat Disassembly and Reassembly (cont'd)

9. Remove the vent covers, the finger protectors and the recline cap front the backrest shell.

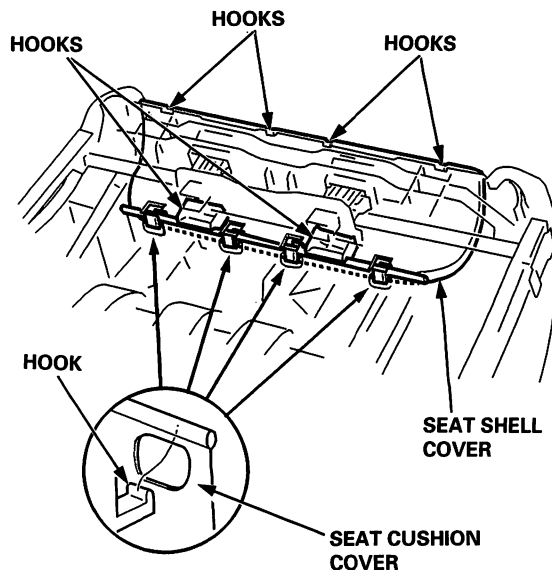


10. Reassembly is in the reverse order of disassembly except the following: reassemble the seat-back cover before the belt hole trim reinstallation.

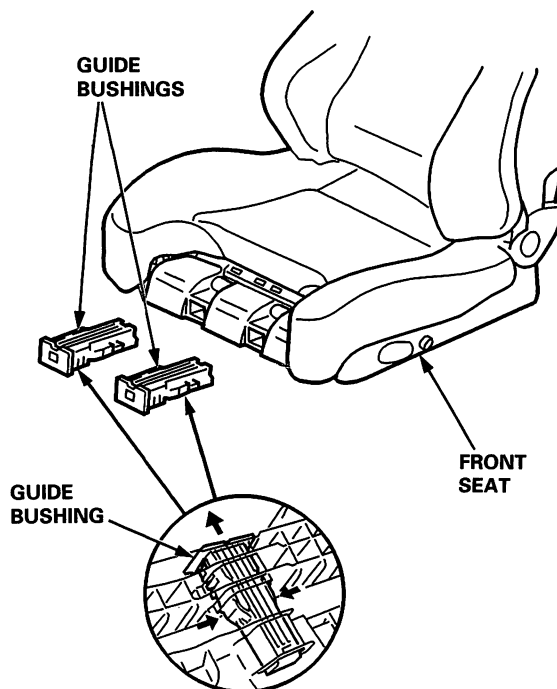
NOTE: To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips and retainers.

### Seat cushion (RECARO):

1. Release the hooks from under the seat cushion, then remove the seat shell cover.

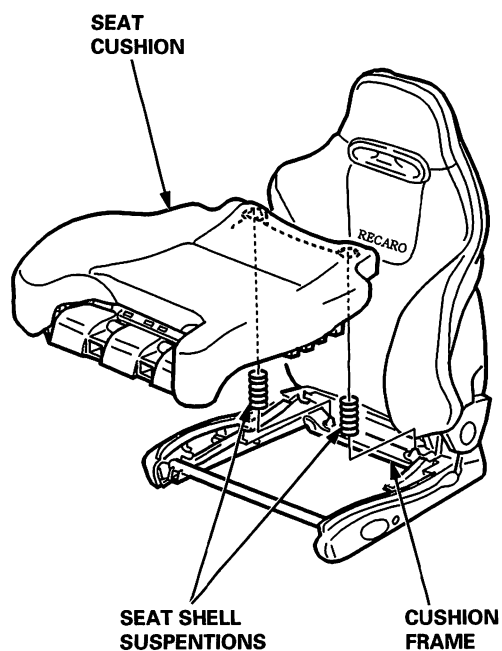


2. Remove the guide bushings.

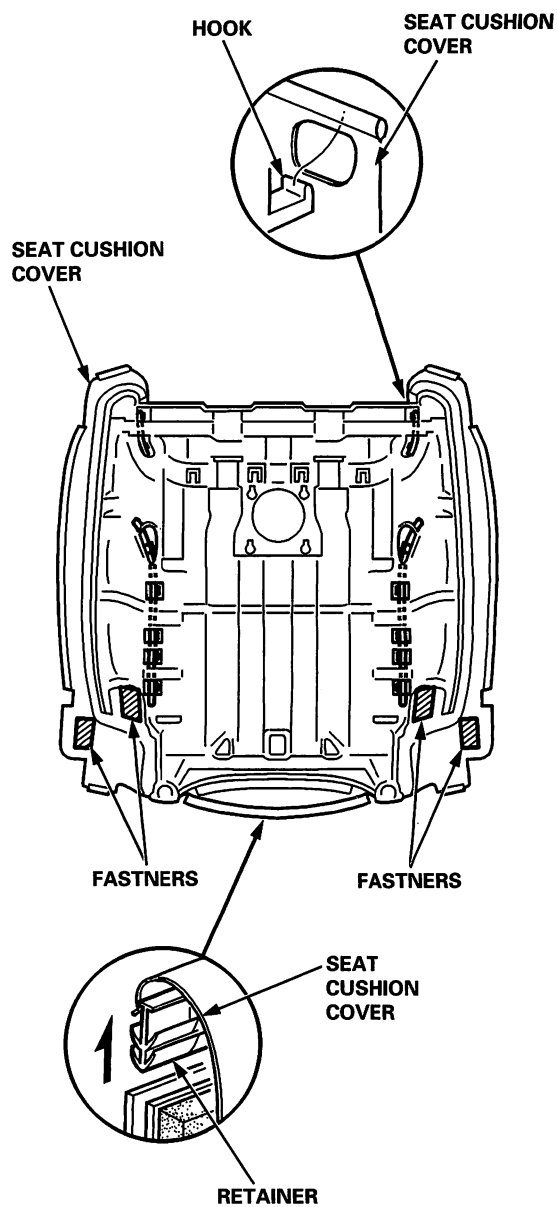




3. Remove the seat cushion and the seat shell suspensions from the cushion frame.



4. From under the seat cushion, release the hooks, the fasteners and pull back the edge of the seat cushion cover all the way around.

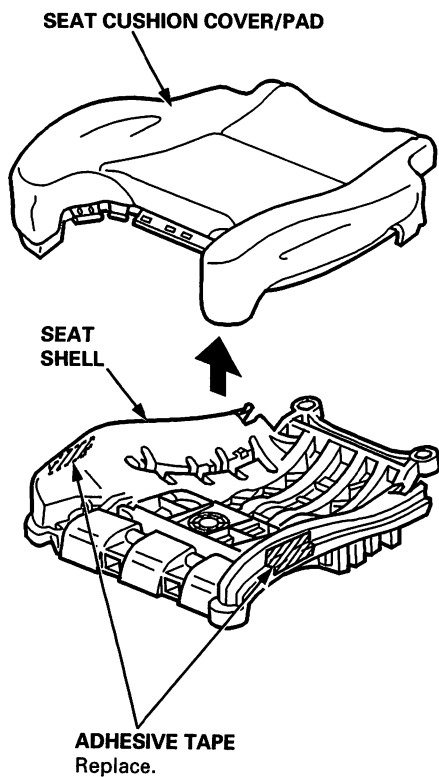


(cont'd)

# Seats

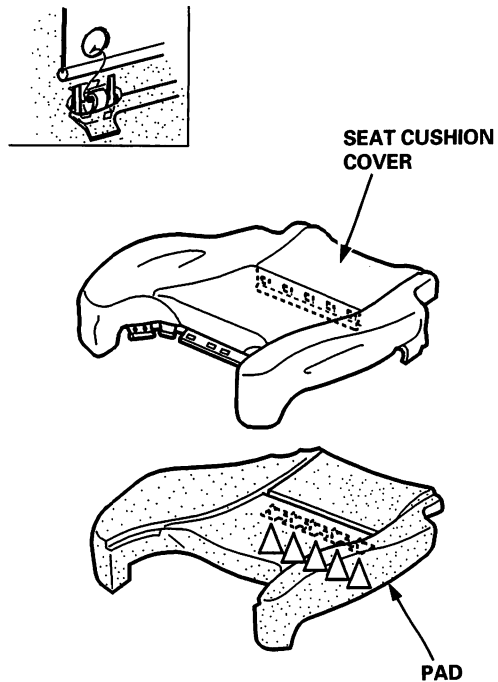
## Front Seat Disassembly and Reassembly (cont'd)

5. Remove the seat cushion cover/pad from the seat shell.



6. Separate the seat cushion cover and the pad by releasing the clips.

▷: Clip locations, 5

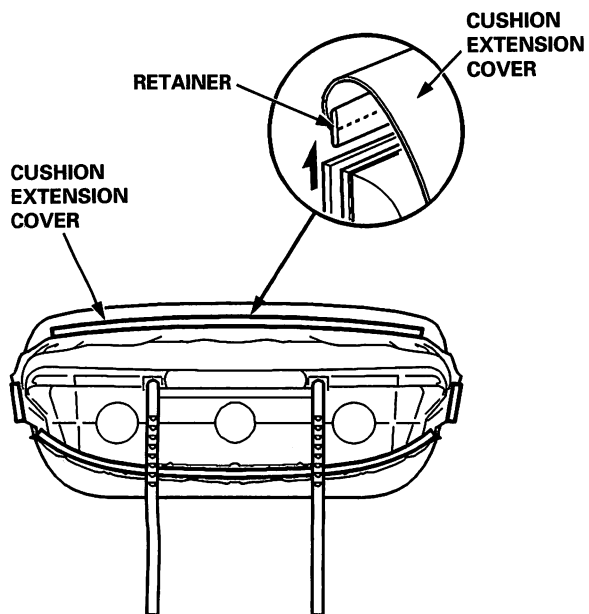


7. Reassembly is in the reverse order of disassembly and note these items:
  - To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the fasteners clips, hooks and retainers.
  - Replace the adhesive tapes adhering the pad and the seat shell.

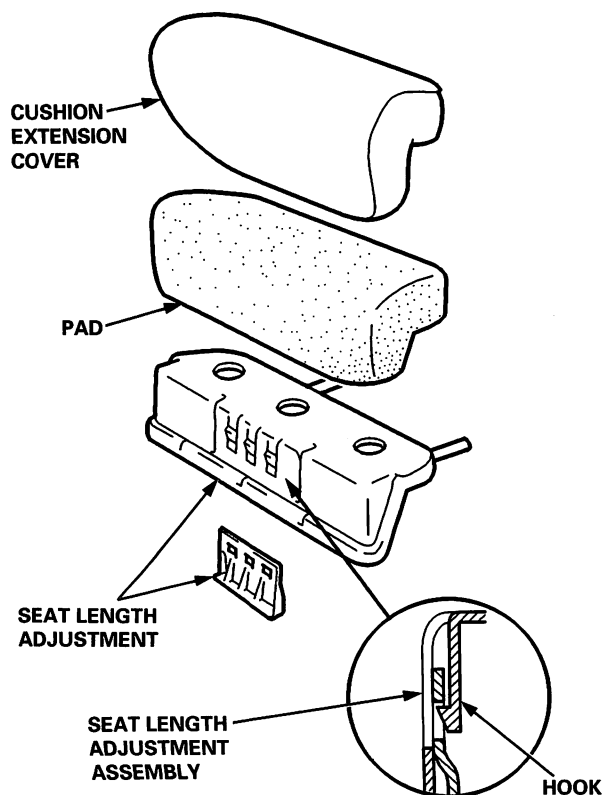


### Cushion extension (RECARO):

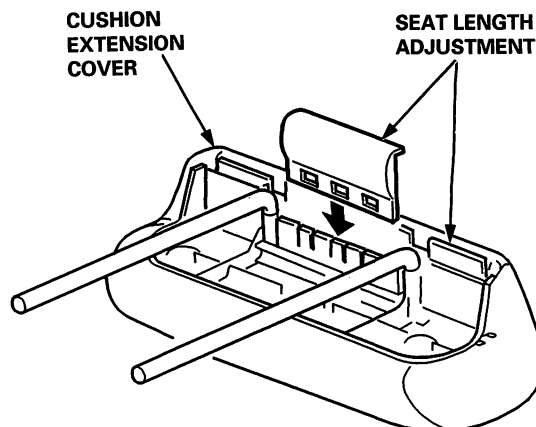
1. Pull back the cushion extension cover all the way around.



2. Disassemble the cushion extension.



3. Reassembly is in the reverse order of disassembly except the following: reassemble the cushion extension cover before the seat length adjustment reassembly.

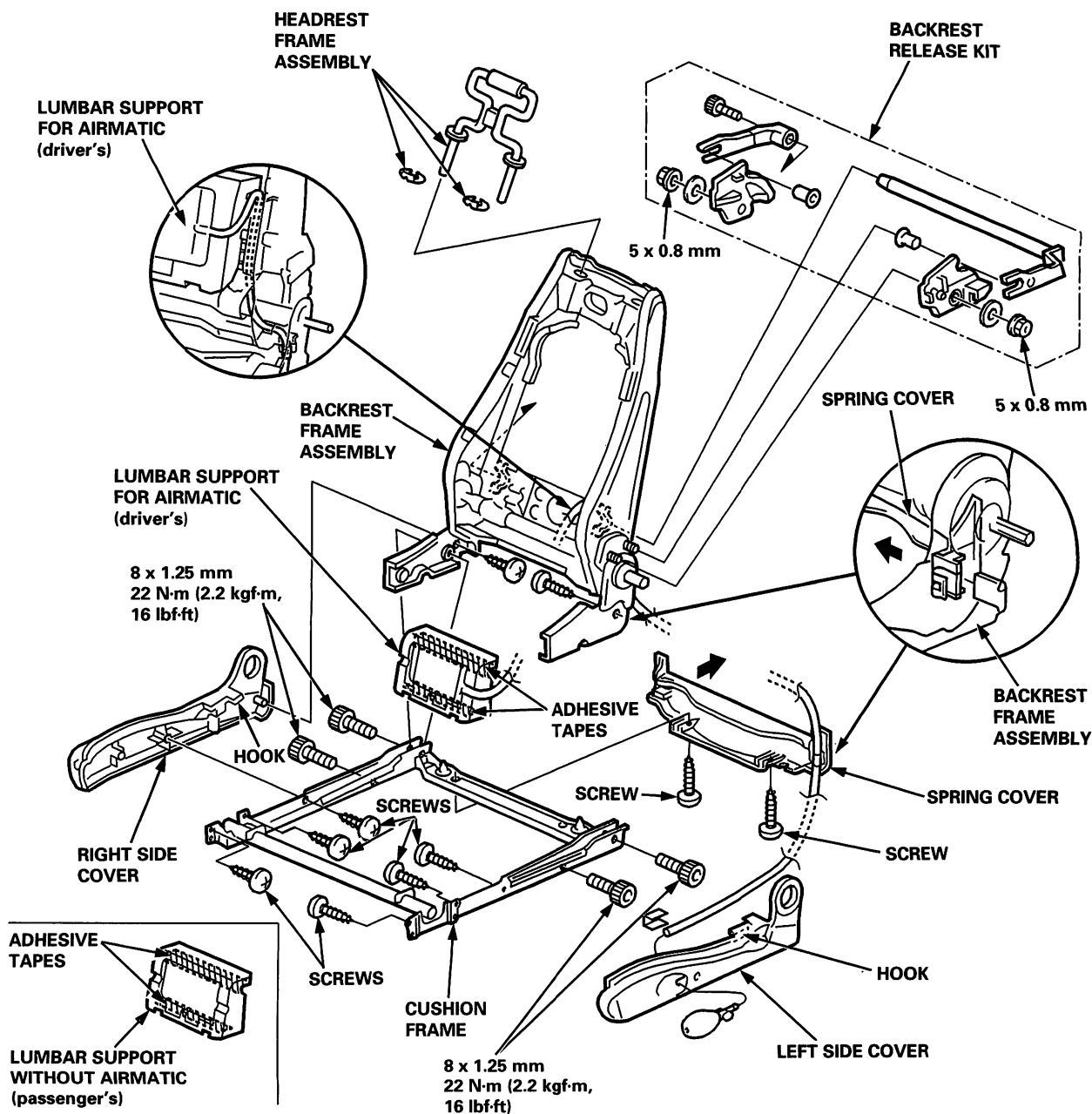


NOTE: To prevent wrinkles when installing the cushion extension cover, make sure the material is stretched over the pad before securing the retainers.

(cont'd)

## Front Seat Disassembly and Reassembly (cont'd)

Seat frame (RECARO):



Reassembly is in the reverse order of disassembly, and note these items:

- Apply liquid thread locks to the bolts securing the backrest frame assembly and cushion frame.
- Apply multipurpose grease to the sliding and pivot portions.
- Make sure the tube of lumbar support for airmatic is not pinched.





Reassemble in the reverse order of disassembly, and note these items:

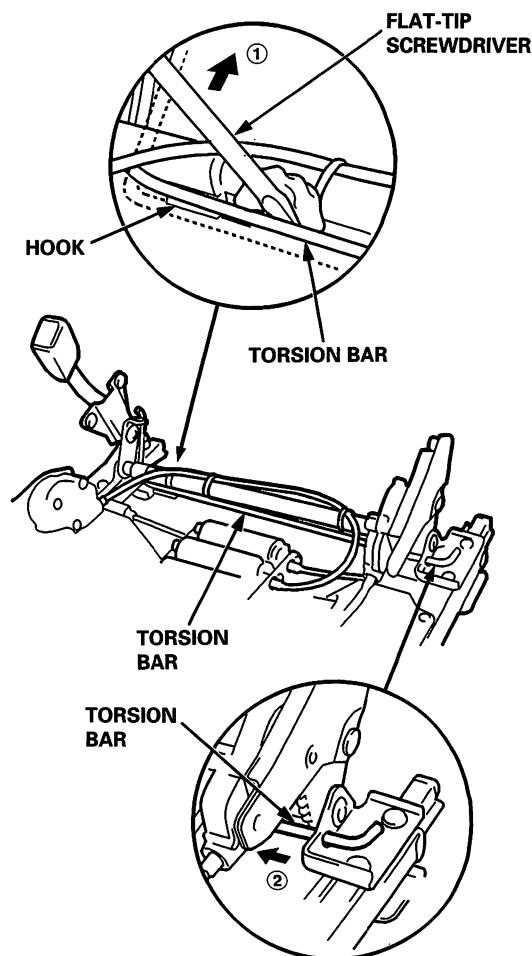
- 8-way power seat: replace the cushion cover clips and speed nuts with new ones.
- To prevent wrinkles when installing the seat-back cover, make sure the material is stretched evenly over the pad.
- Apply multipurpose grease to the moving portion of the seat track.

## Front Seat Torsion Bar Replacement

### 8-way power seat:

**NOTE:** Take care not to tear the seams or damage the seat covers.

1. Raise the seat cushion to its maximum height, then remove the front seat (see page 20-93).
2. Remove the front seat linkage (see page 20-109).
3. Remove the torsion bar from the hook with a flat-tip screwdriver, then pull out the torsion bar from the front seat linkage. Wear gloves to protect your hands.



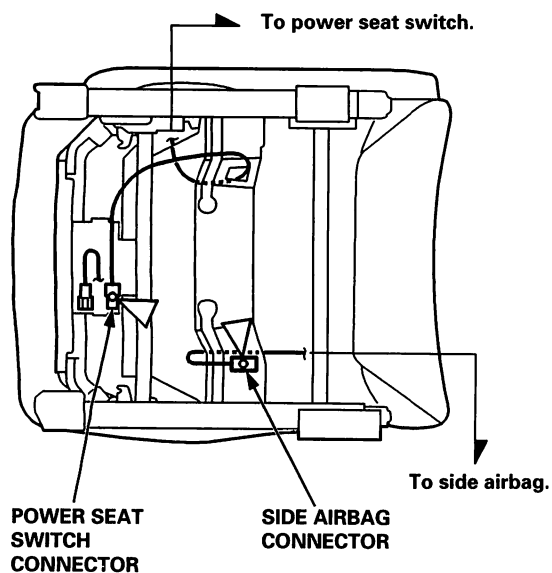
4. Install in the reverse order of removal.

# Seats

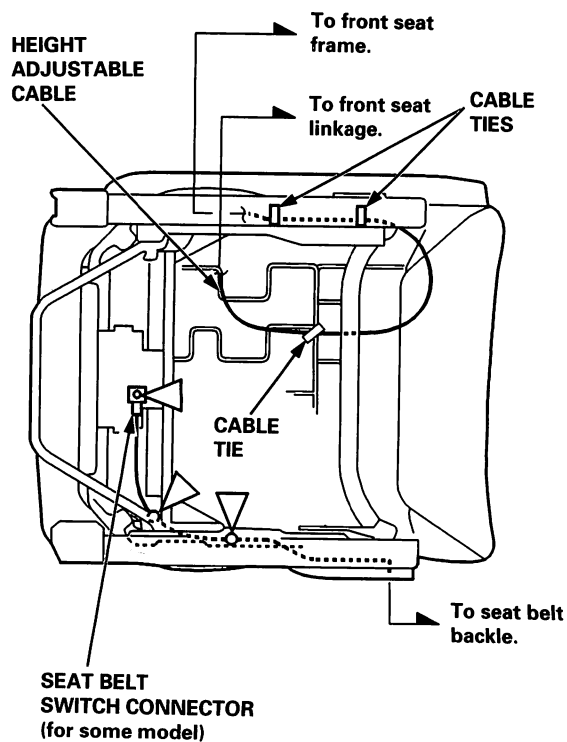
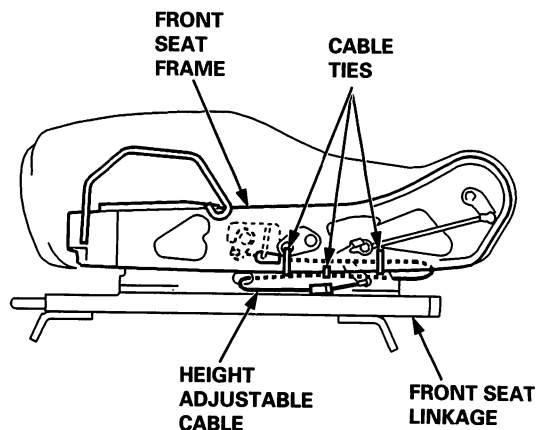
## Front Seat Harness and Cable Wiring Locations

When assembling the front seat, make sure the seat belt switch harness, power seat harness, side airbag harness, connectors and height adjustable cable are fastened correctly.

### 8-way power seat:



### Manual height adjustable seat:



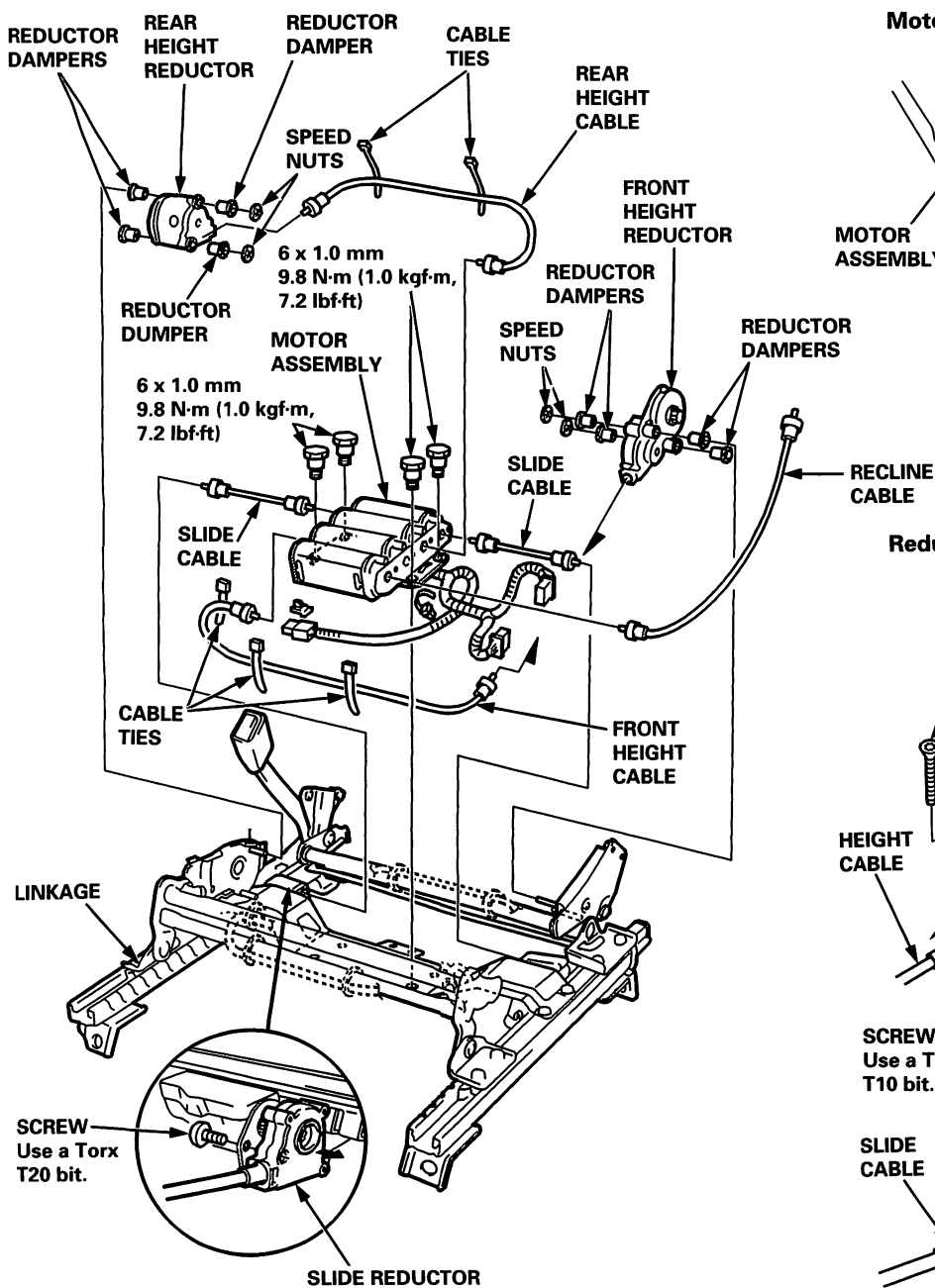


## Front Seat Linkage Disassembly and Reassembly

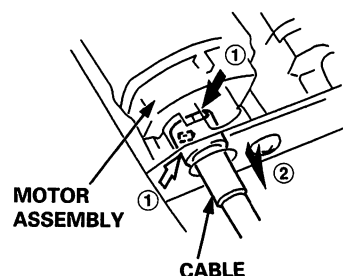
### NOTE:

- Before removing the front seat, raise the seat cushion to its maximum height.
- Wear gloves to protect your hands.

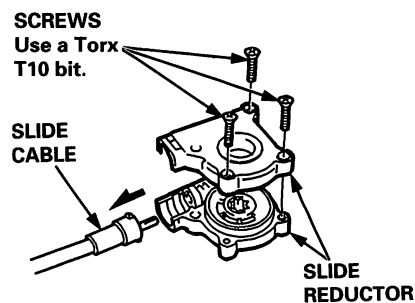
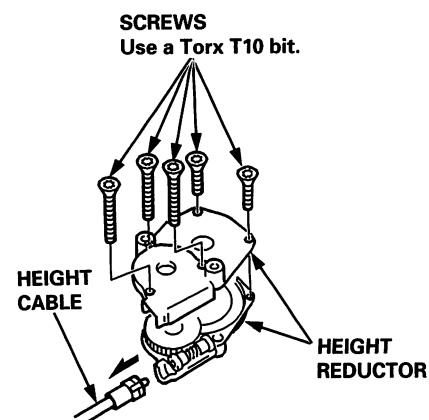
### 8-way power seat:



### Motor side cable removal:



### Reductor side cable removal:



Reassemble in the reverse order of disassembly, and note these items:

- Apply multipurpose grease to the sliding and pivot portions.
- Check the recline adjuster and slide/up-down adjuster operations.

# Seats

## Front Seat Cover Replacement

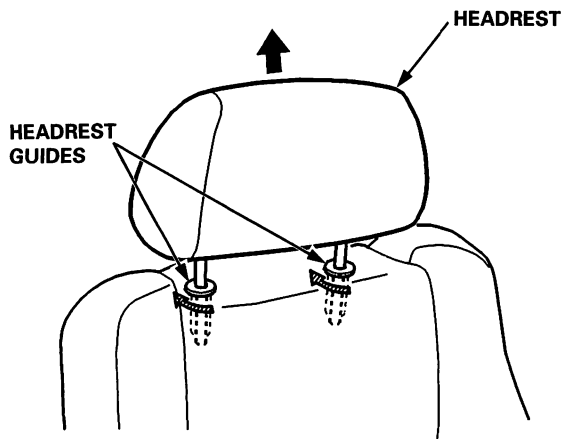
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

### NOTE:

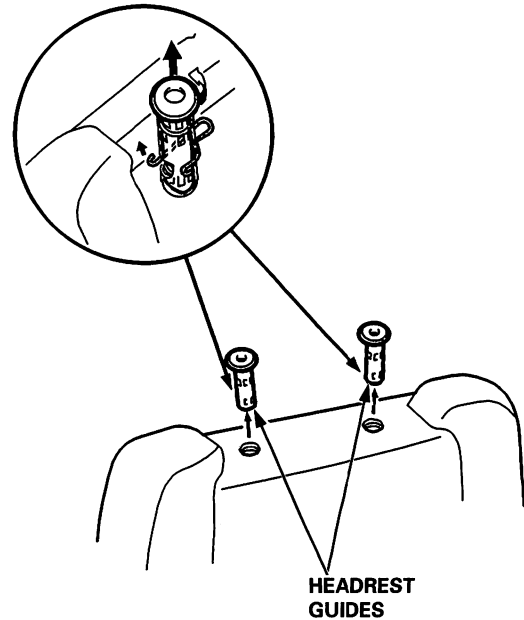
- To distinguish two type of the seats, the seat with a airbag is marked with a side airbag on the surface of the seat-back. As the component parts (a seat-back cover, etc) are different from the types with side airbag and types without side airbag, if service is necessary, be careful not to assemble the wrong parts.
- Do not repair the tear or frayed spot of the seat-back cover. If necessary, replace the seat-back cover.
- Take care not to tear the seams or damage the seat covers.
- Wear gloves to protect your hands.

### Seat-back cover:

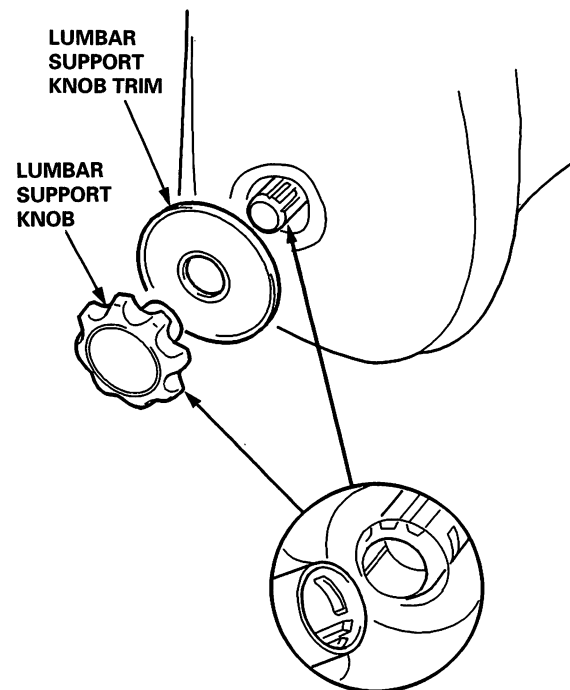
1. Remove the front seat (see page 20-93).
2. Remove the headrest by turning the headrest guides.



3. Remove the headrest guides by turning it.

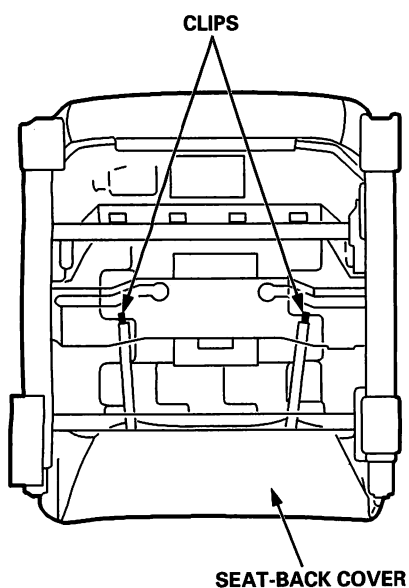


4. If so equipped, remove the lumbar support knob and lumbar support knob trim.

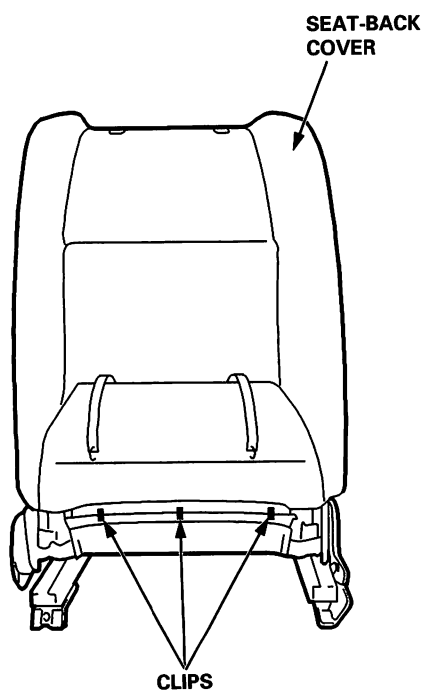




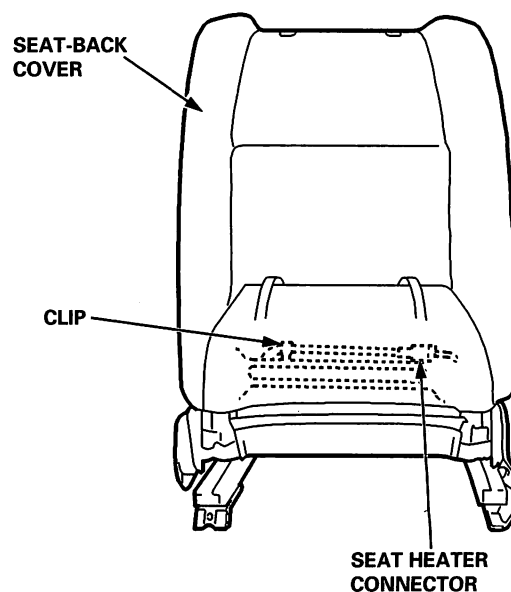
5. Release the clips from under the seat cushion.



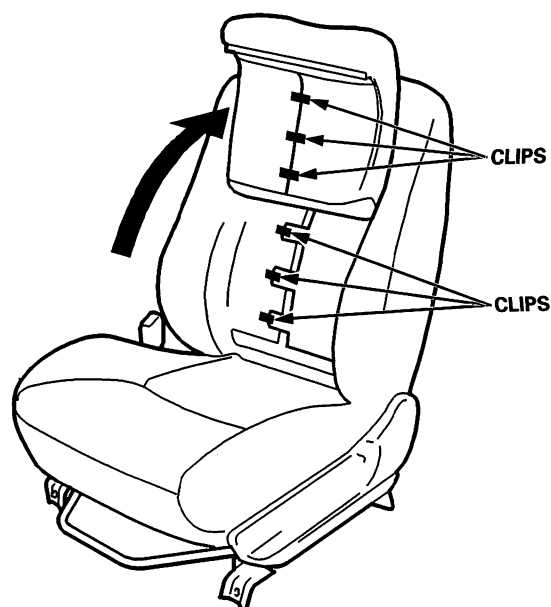
6. Release the clips from behind the seat-back.



7. With seat heater: Pull back the edge of the seat back cover as necessary to disconnect the seat heater connector and to release the harness clip.



8. Turn a center portion of the seat-back upward as shown, then release the clips.



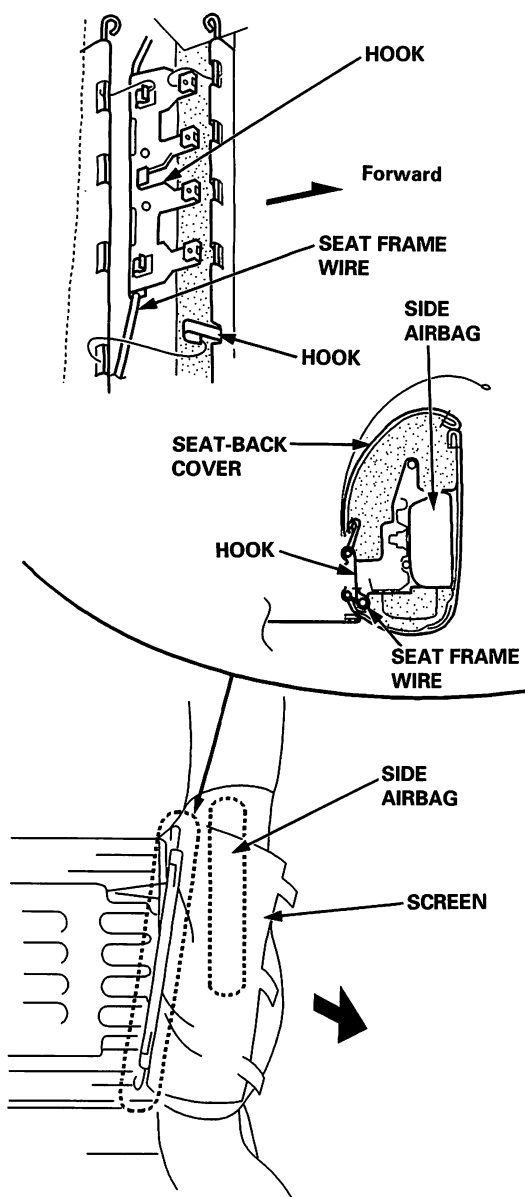
(cont'd)

# Seats

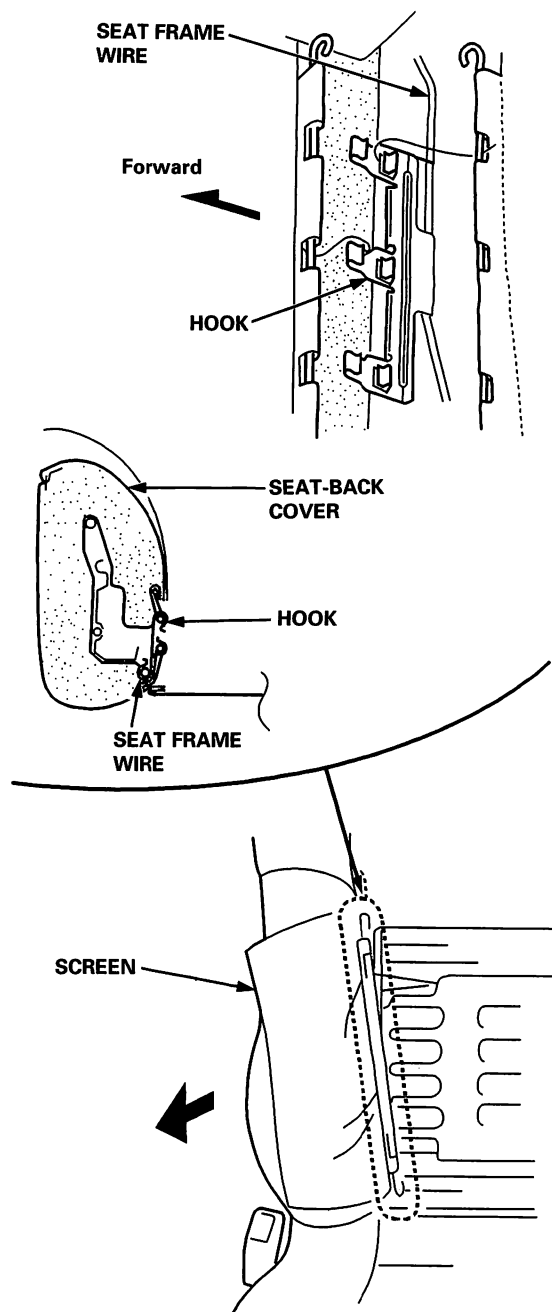
## Front Seat Cover Replacement (cont'd)

9. While lifting the center portion of the seat-back upward, open the screens and release the hooks on both sides in seat-back opening.

**Side airbag side:**



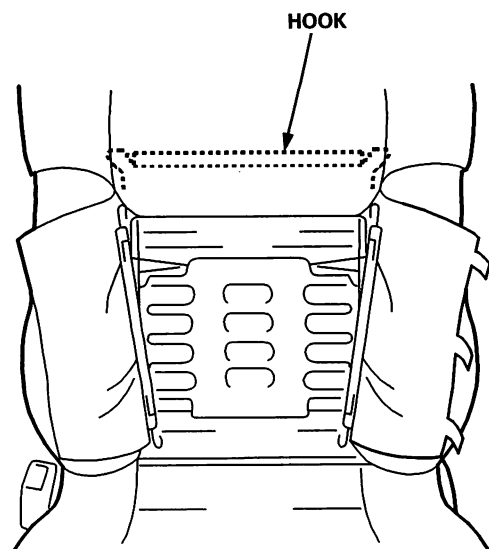
**No side airbag side:**



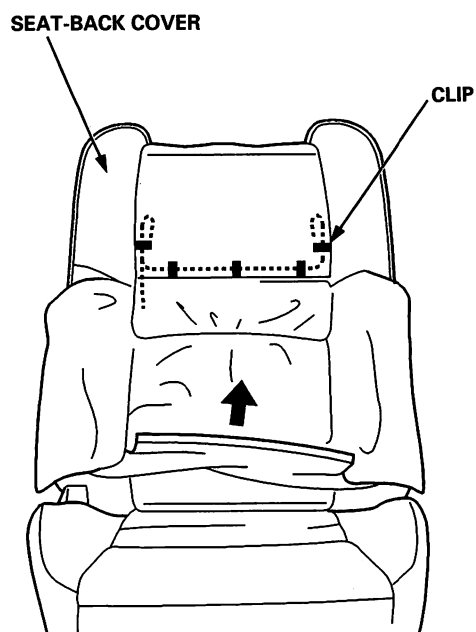
**NOTE:** If equipped with no side airbag, this side is symmetrical to no side airbag side.



10. Release the hook through the seat-back opening.

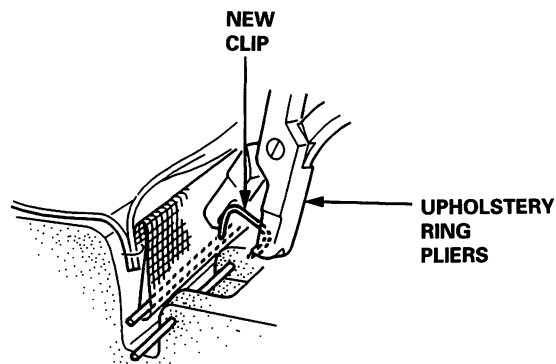


11. Pull back the edge of the seat-back all the way around, and release the clips, then remove the seat-back cover.



12. Install in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the hooks and clips.
- Replace the clips with new ones using commercially available upholstery ring pliers.



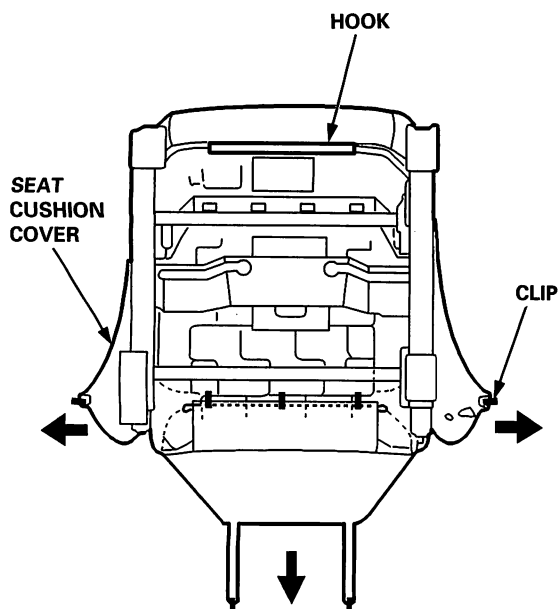
(cont'd)

# Seats

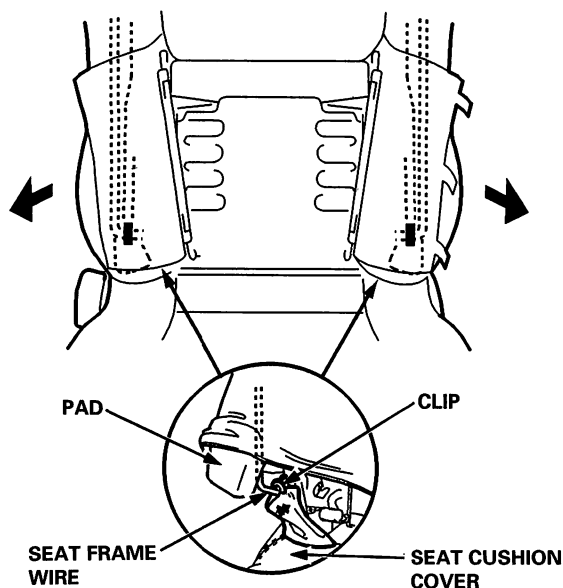
## Front Seat Cover Replacement (cont'd)

### Seat cushion cover:

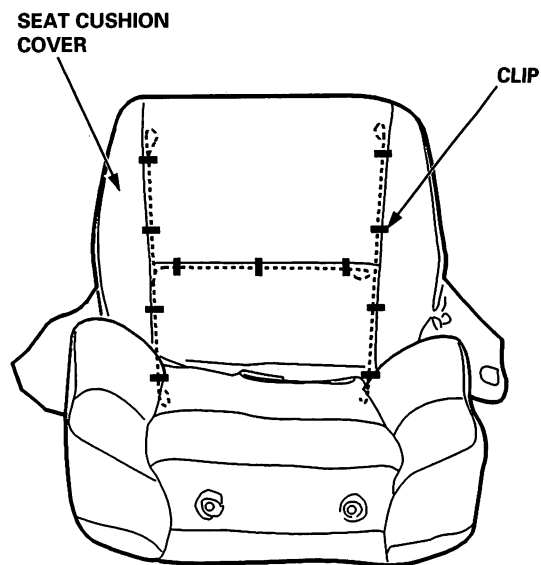
1. Remove the front seat (see page 20-93).
2. Remove the following parts:
  - Recline cover (see pages 20-95, 96, 97)
  - Seat-back cover, as necessary (see page 20-110)
3. Release the clips and hook from under the seat cushion.



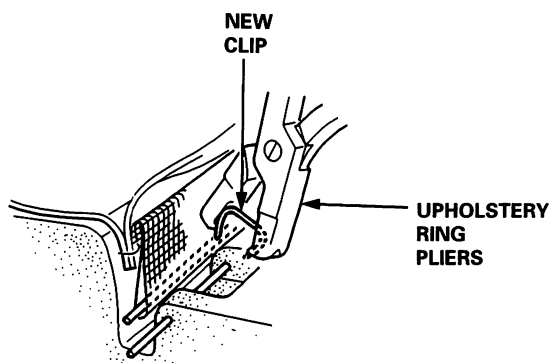
4. Release the clips from the seat frame wire.



5. Pull back the edge of the seat cushion cover all the way around, and release the clips, then remove the seat cushion cover.



6. Install in the reverse order of removal, and note these items.
  - To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips and hooks.
  - Replace the released clips with new ones using commercially available upholstery ring pliers.







## Lumbar Support Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

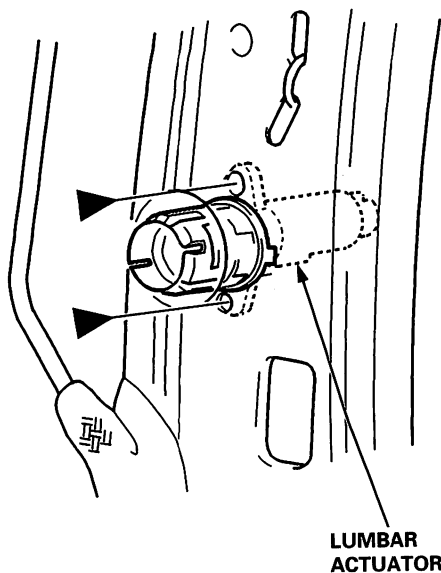
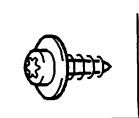
**NOTE:**

- Take care not to tear the seams or damage the seat covers.
- Wear gloves to protect your hands.

**For some models:**

1. Remove the seat-back cover and the pad (see page 20-110).
2. Using a Torx T20 bit, remove the screws.

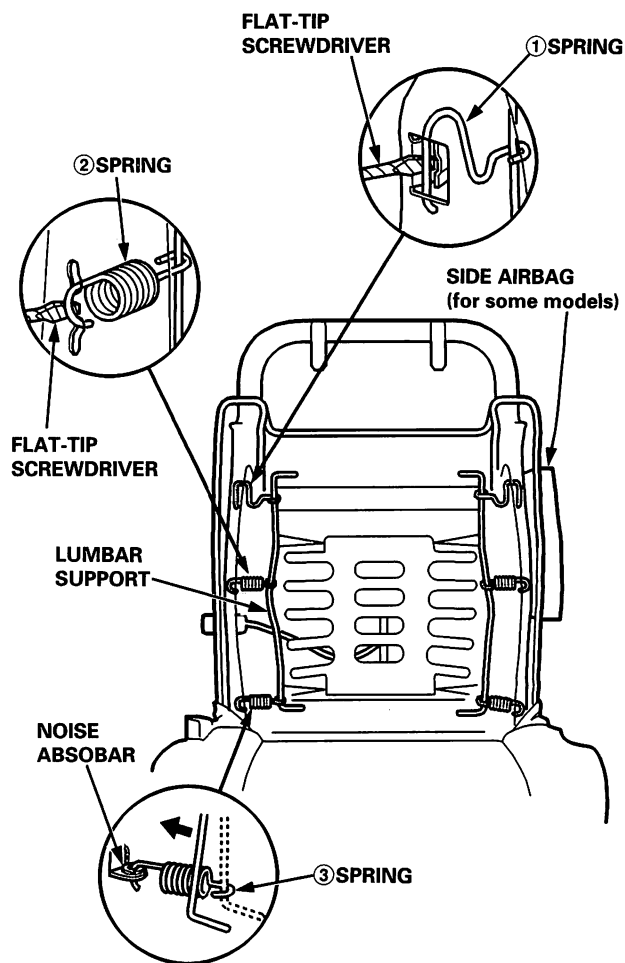
►: Screw locations, 2



3. Release the springs in numbered sequence. Then remove the lumbar support.

**NOTE:**

- If equipped with side airbag, release the springs from no side airbag side.
- Take care not to bend the lumbar cable.



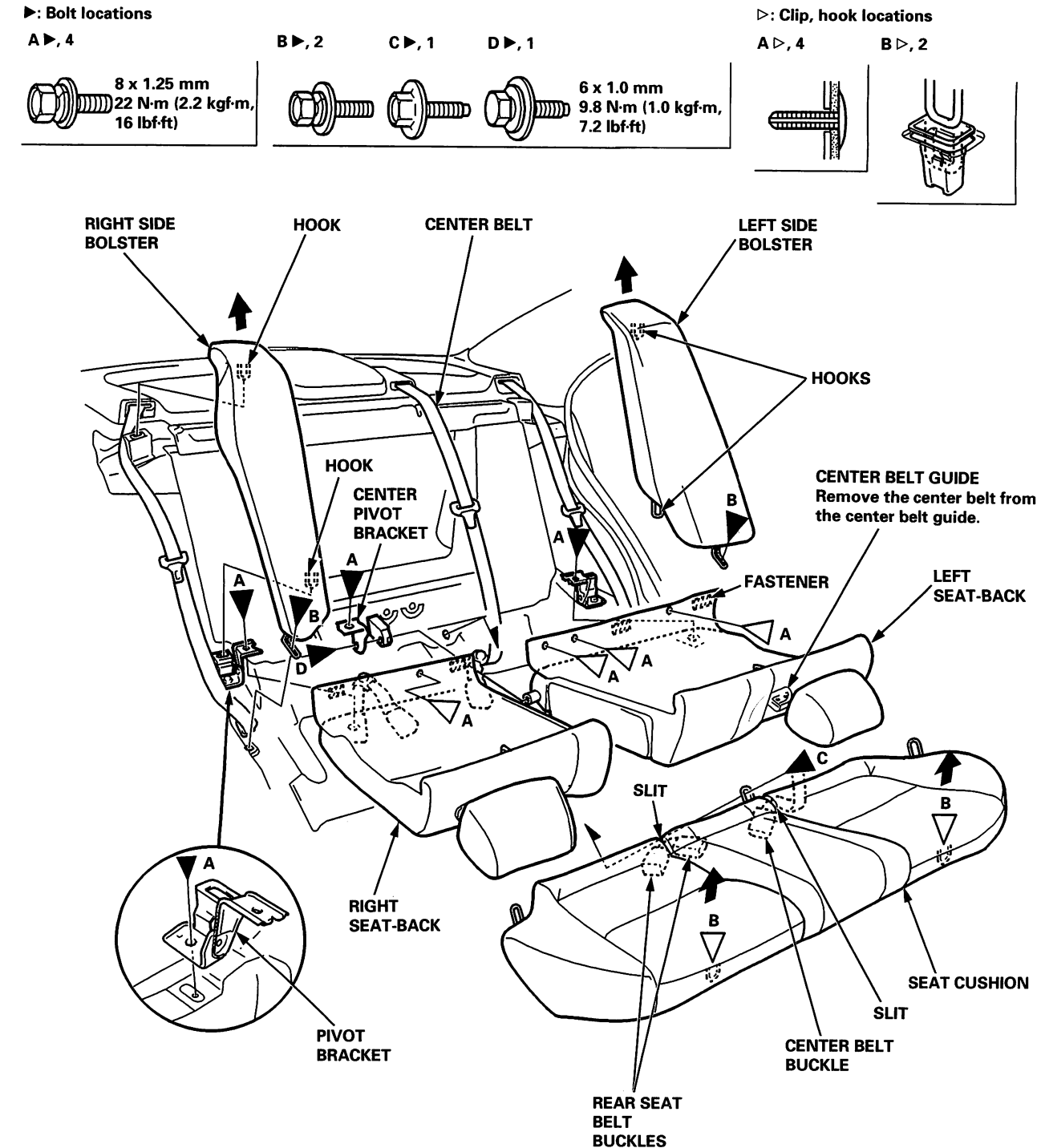
4. Install in the reverse order of removal, and check the lumbar support operation.

# Seats

## Rear Seat Removal and Installation

NOTE: Take care not to scratch the body or tear the seat covers.

Fold down rear seat:





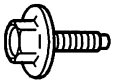
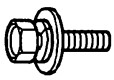
### Fixed rear seat:

#### ►: Bolt locations

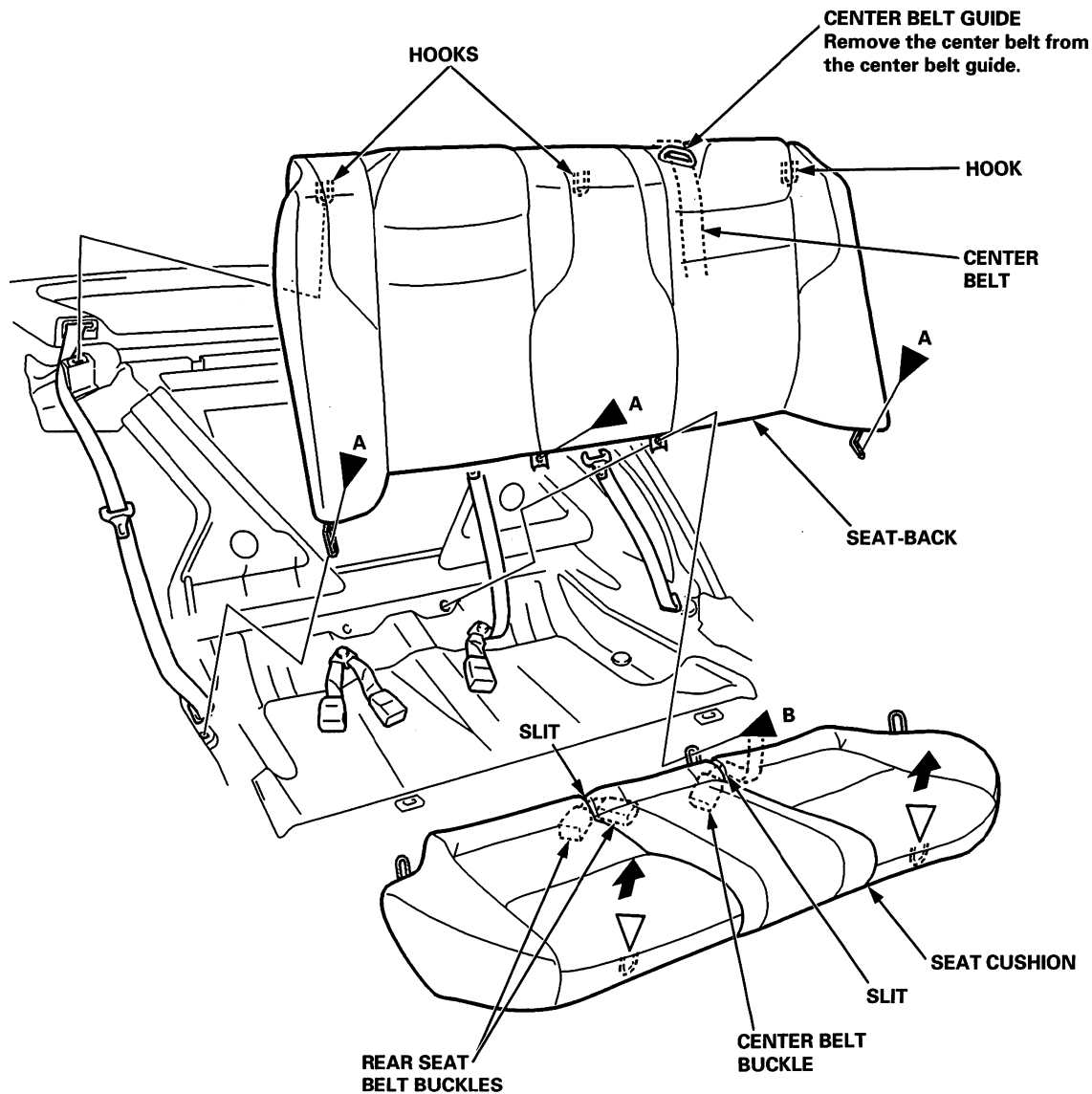
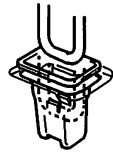
A ►, 3

B ►, 1

#### ▷: Clip, hook locations, 2



6 x 1.0 mm  
9.8 N-m (1.0 kgf-m,  
7.2 lbf-ft)



Install in the reverse order of removal, and note these items:

- Before attaching the rear seat-back and seat cushion, make sure there are no twists or kinks in the rear seat belts and center belt.
- When installing the seat cushion, slip the seat belt buckles through the slits in the seat cushion.
- Make sure the seat-back locks securely (fold down rear seat).

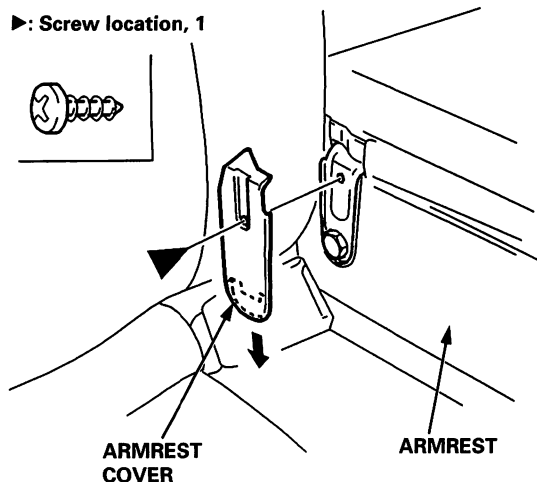
## Rear Seat Armrest Replacement

**Fold down rear seat:**

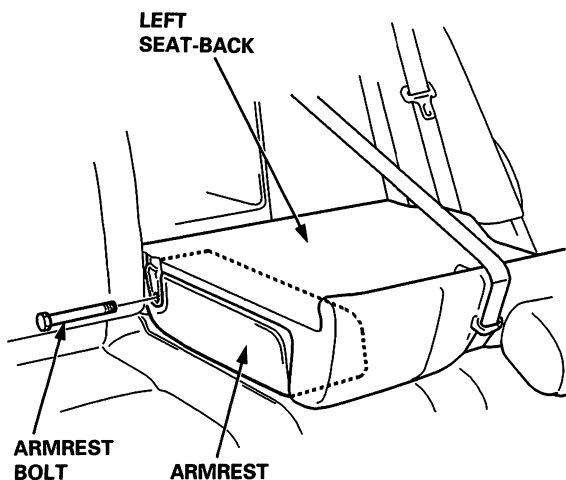
**NOTE:** Take care not to tear the seams or damage the seat covers.

1. Fold the left seat-back forward.
2. Remove the screw, then remove the armrest cover.

►: Screw location, 1



3. Remove the armrest bolt.



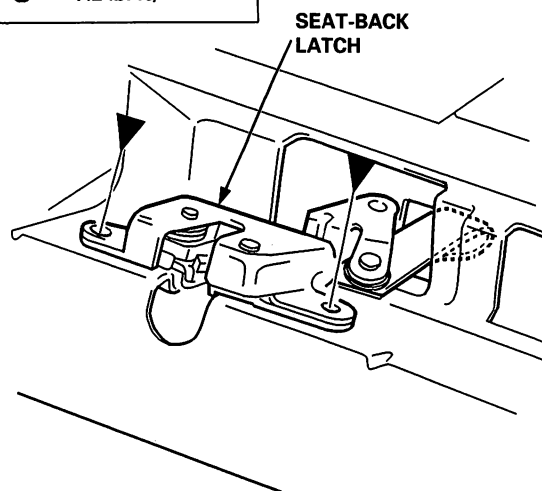
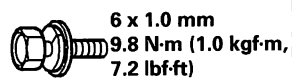
4. Raise the left seat-back and remove the armrest.
5. Install in the reverse order of removal.

## Rear Seat-back Latch Replacement

**Fold down rear seat:**

1. Remove the rear bulkhead cover (see page 20-67).
2. Remove the bolts, then remove the seat-back latch.

►: Bolt locations, 2



3. Install in the reverse order of removal, and make sure the seat-back locks securely and opens properly.



## Rear Seat Cover Replacement

### NOTE:

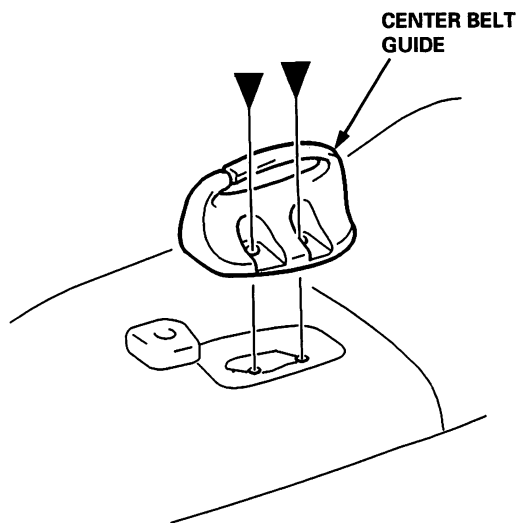
- Take care not to tear the seams or damage the seat covers.
- Wear gloves to protect your hands.

### Seat-back cover:

### Fold down rear seat:

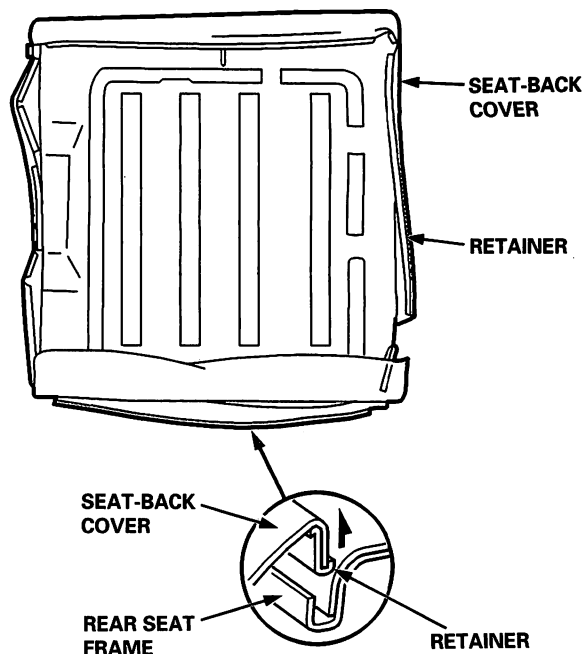
1. Remove the seat-back, both sides (see page 20-116).
2. Remove the armrest (see page 20-118).
3. Using a Torx T20 bit, remove the screws, then remove the center belt guide.

### ►: Screw locations, 2

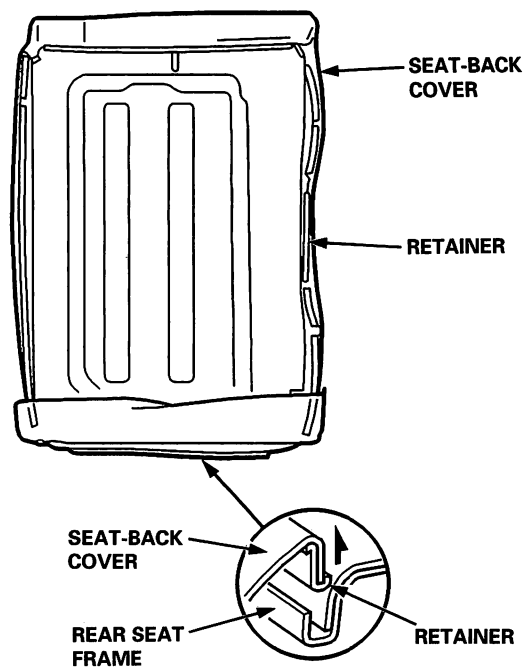


4. Pull back the edge of the seat-back cover all the way around.

### Left seat-back:



### Right seat-back:

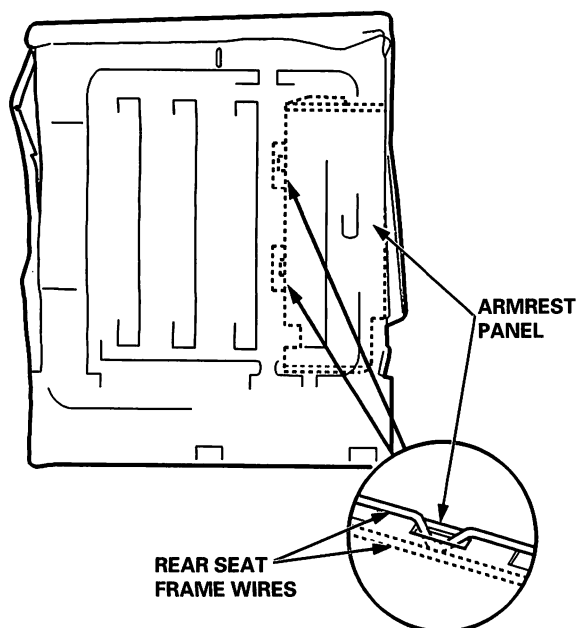


(cont'd)

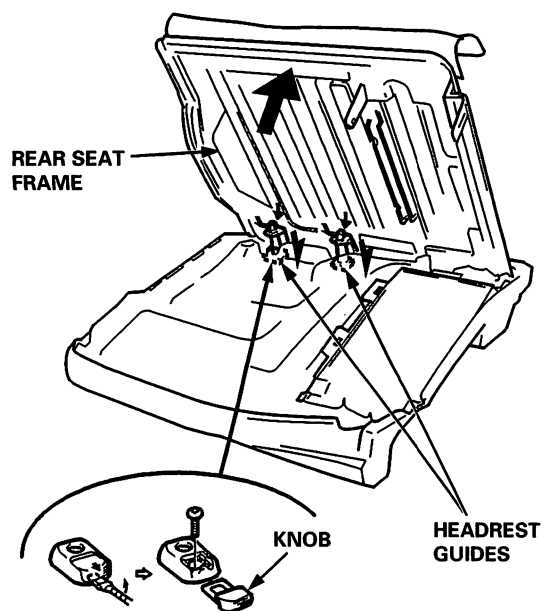
# Seats

## Rear Seat Cover Replacement (cont'd)

5. Left seat-back: Release the armrest panel from the seat frame wire.

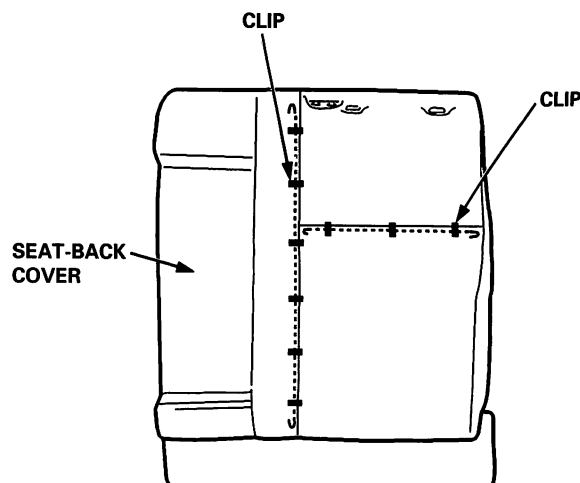


6. While lifting the bottom of the seat-back frame out of the pad, remove the headrest guides from the seat-back frame.

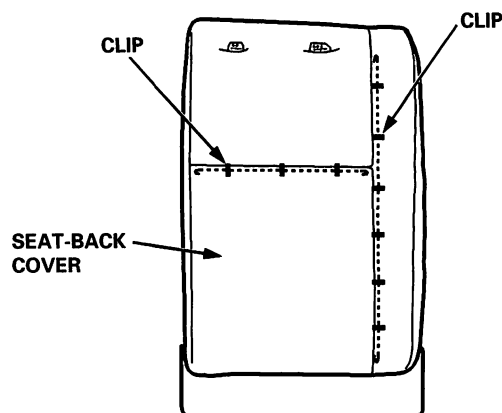


7. Pull back the edge of the seat-back cover all the way around, and release the clips, then remove the seat-back cover.

Left seat-back:



Right seat-back:



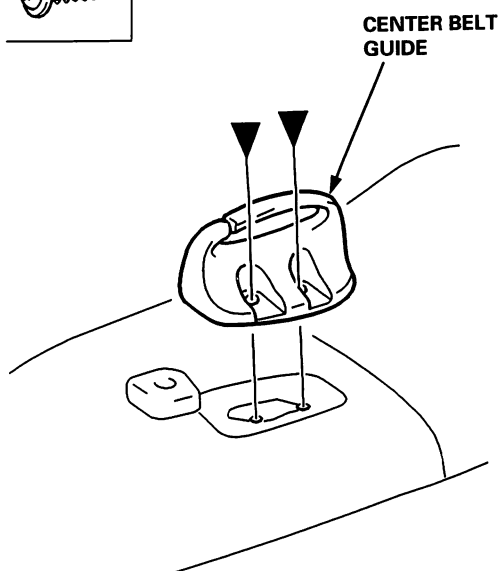
8. Install in the reverse order of removal, and note these items:
- To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before installing the armrest panel and securing the retainers and clips.
  - Replace the released clips with new ones.



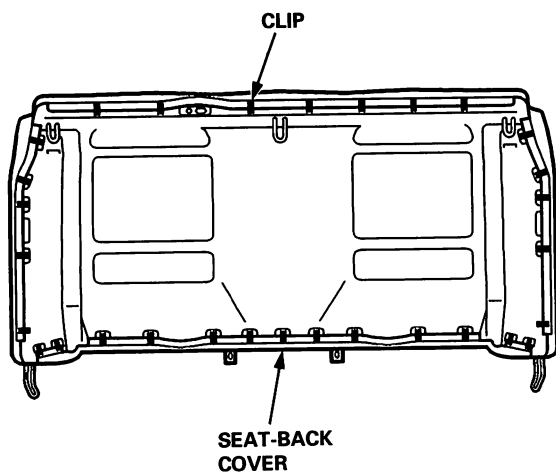
#### Fixed rear seat:

1. Remove the seat-back (see page 20-117).
2. Using a Torx T20 bit, remove the screws, then remove the center belt guide.

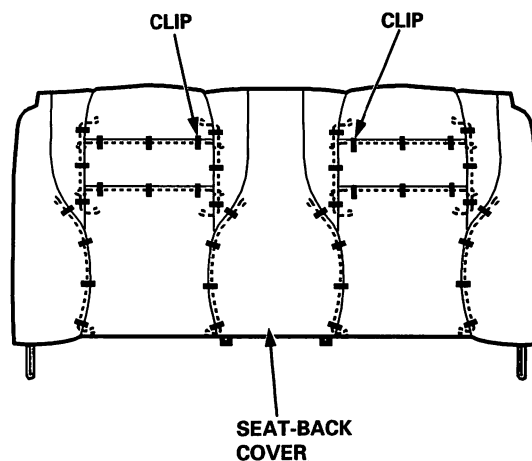
##### ►: Screw locations, 2



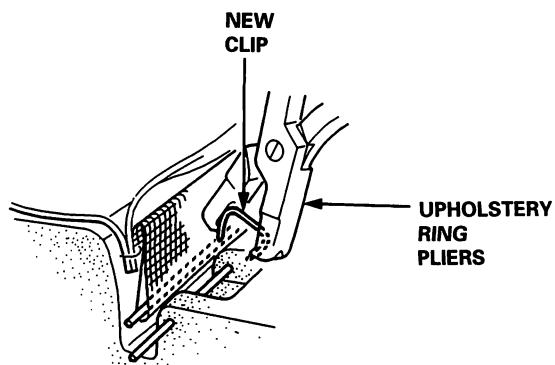
3. Release all the clips and hooks, and fold back the seat-back cover.



4. Pull back the edge of the seat-back cover all the way around, and release the clips, then remove the seat-back cover.



5. Install in the reverse order of removal, and note these items:
  - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips.
  - Replace the released clips with new ones.



(cont'd)

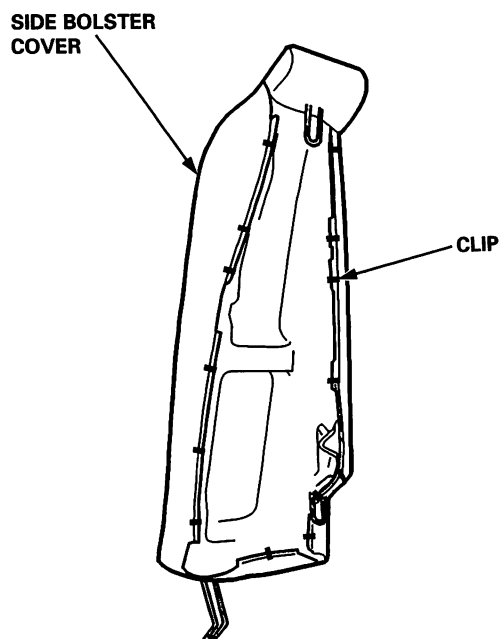
# Seats

## Rear Seat Cover Replacement (cont'd)

### Seat side bolster cover:

#### Fold down rear seat:

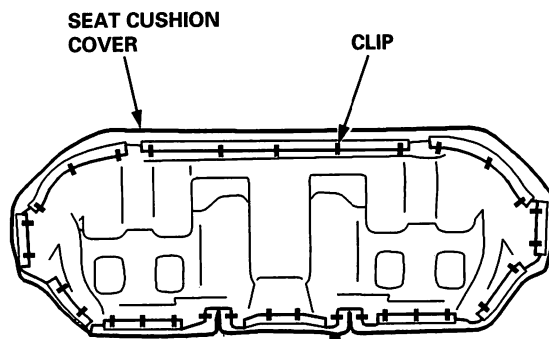
1. Remove the seat side bolster (see page 20-116).
2. Release all the clips, and fold back the seat side bolster cover, and remove it.



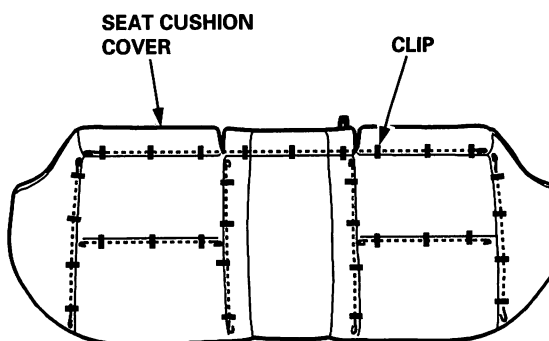
3. Install in the reverse order of removal, and note these items.
  - To prevent wrinkles when installing a side bolster cover, make sure the material is stretched evenly over the pad before securing the clips.
  - Replace the released clips with new ones using commercially available upholstery ring pliers.

### Seat cushion cover:

1. Remove the seat cushion (see pages 20-116, 117).
2. Release all the clips from under the seat cushion, and fold back the seat cushion cover.



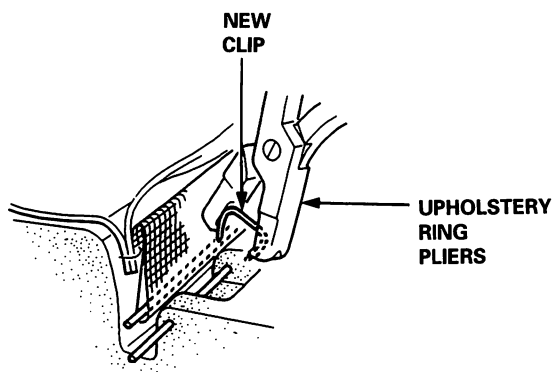
3. Pull back the edge of the seat cushion cover all the way around, and release the clips, then remove the seat cushion cover.







4. Install in the reverse order of removal, and note these items:
- To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips.
  - Replace the clips with new ones using commercially available upholstery ring pliers.



# Bumpers

## Front Bumper Removal and Installation

**NOTE:**

- An assistant is helpful when removing the front bumper.
- Take care not to scratch the front bumper and body.
- Wear gloves to protect your hands.

►: Bolt, screw locations

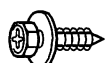
**A►.2**

B▶.2

**C▶.2**

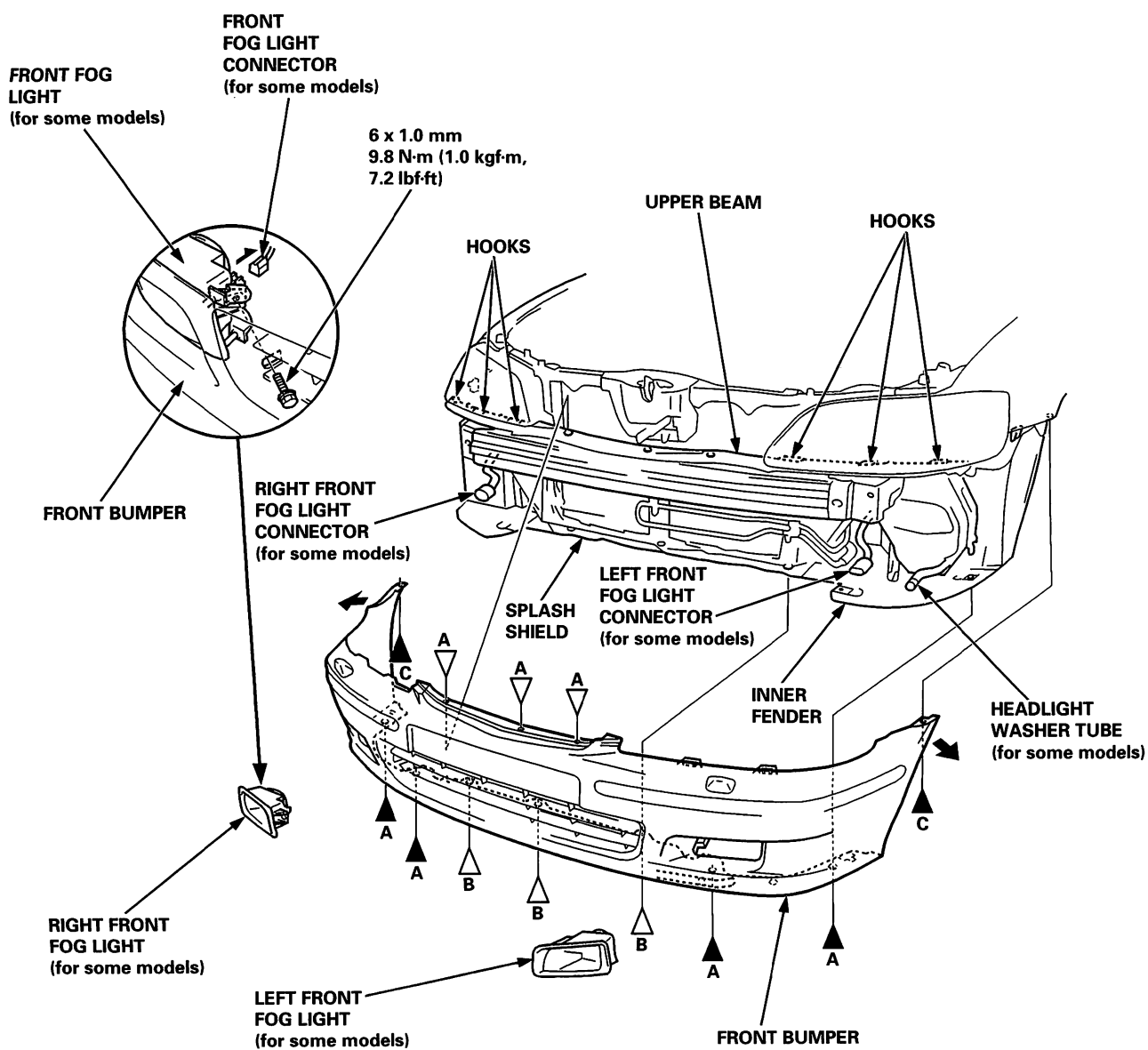
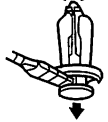
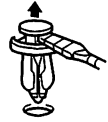


**6 x 1.0 mm**  
**9.8 N·m (1.0 kgf·m,**  
**7.2 lbf·ft)**



▷: **Clip locations**

**A▷.3**

**B ▷. 3**



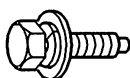
►: Bolt locations

A ►, 8



6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)

B ►, 4

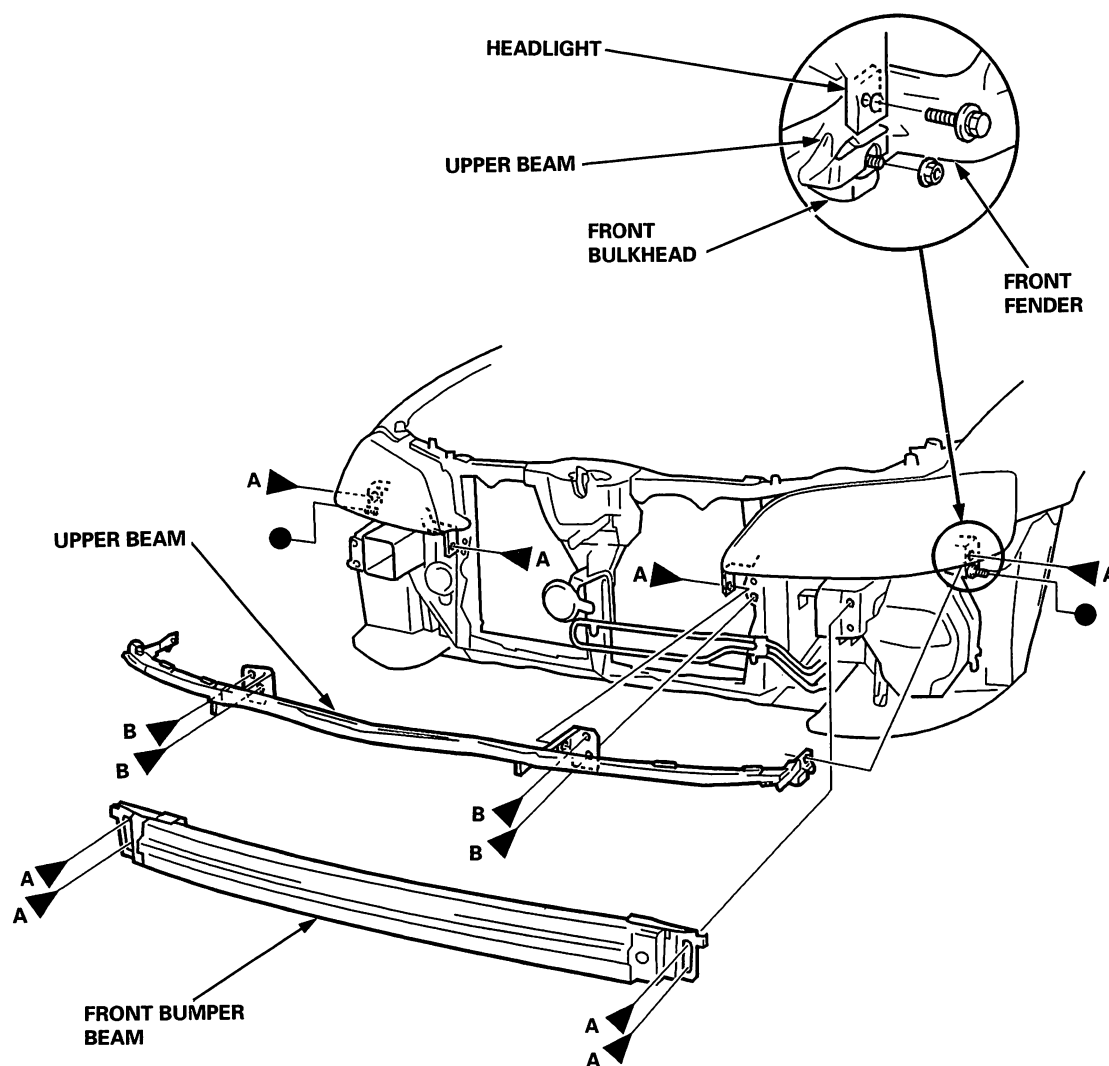


8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)

●: Nut locations, 2



6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)



Install in the reverse order of removal, and note these items:

- After reinstalling the upper beam, adjust the aim of the headlights (see section 23).
- Make sure the front bumper engages the hooks of the center and corner upper beams securely.
- Replace any damaged clips.

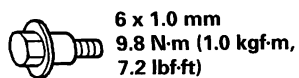
# Bumpers

## Front Air Spoiler Replacement

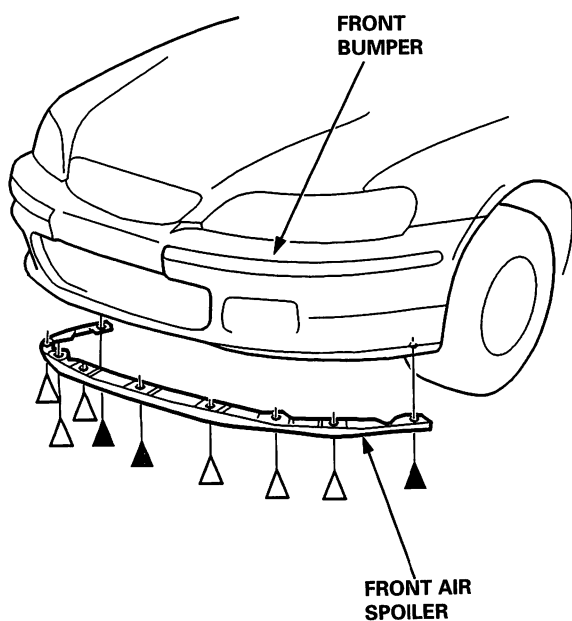
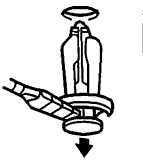
NOTE: Take care not to scratch the front bumper and front under spoiler.

For some models:

►: Bolt locations, 3



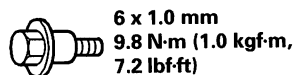
▷: Clip locations, 6



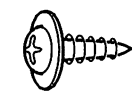
TYPE R:

►: Bolt screw locations

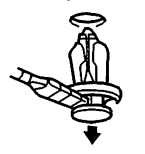
A ►, 3



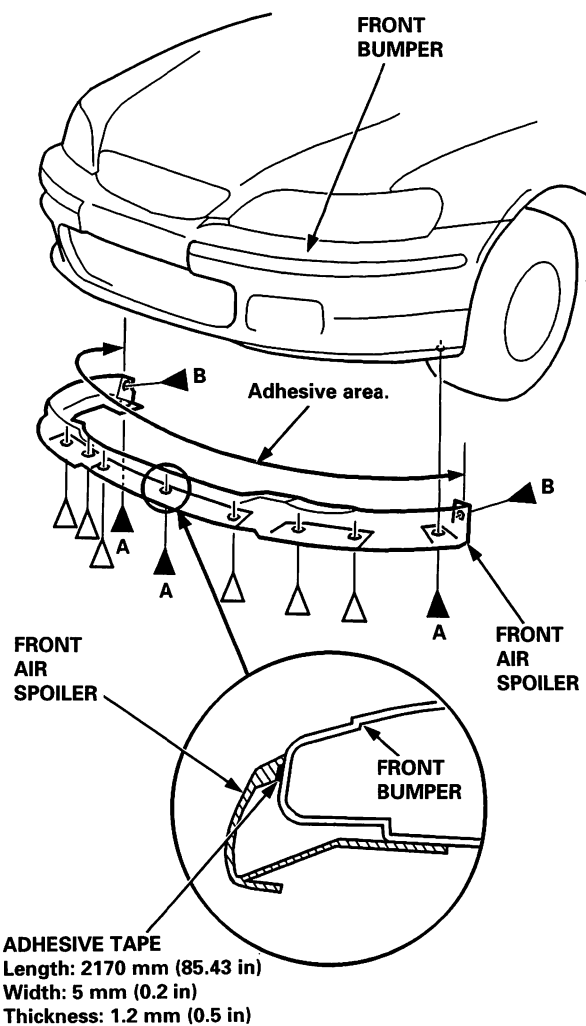
B ►, 2



▷: Clip locations, 6



Adhesive tape: 3M 4210, or equivalent



Install in the reverse order of removal.



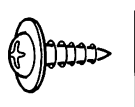
## Rear Bumper Removal and Installation

### NOTE:

- An assistant is helpful when removing the rear bumper.
- Take care not to scratch the rear bumper and body.
- Wear gloves to protect your hands.

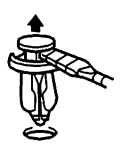
#### ►: Screw locations

A ►, 2

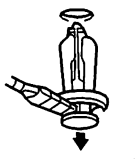


#### ▷: Clip locations

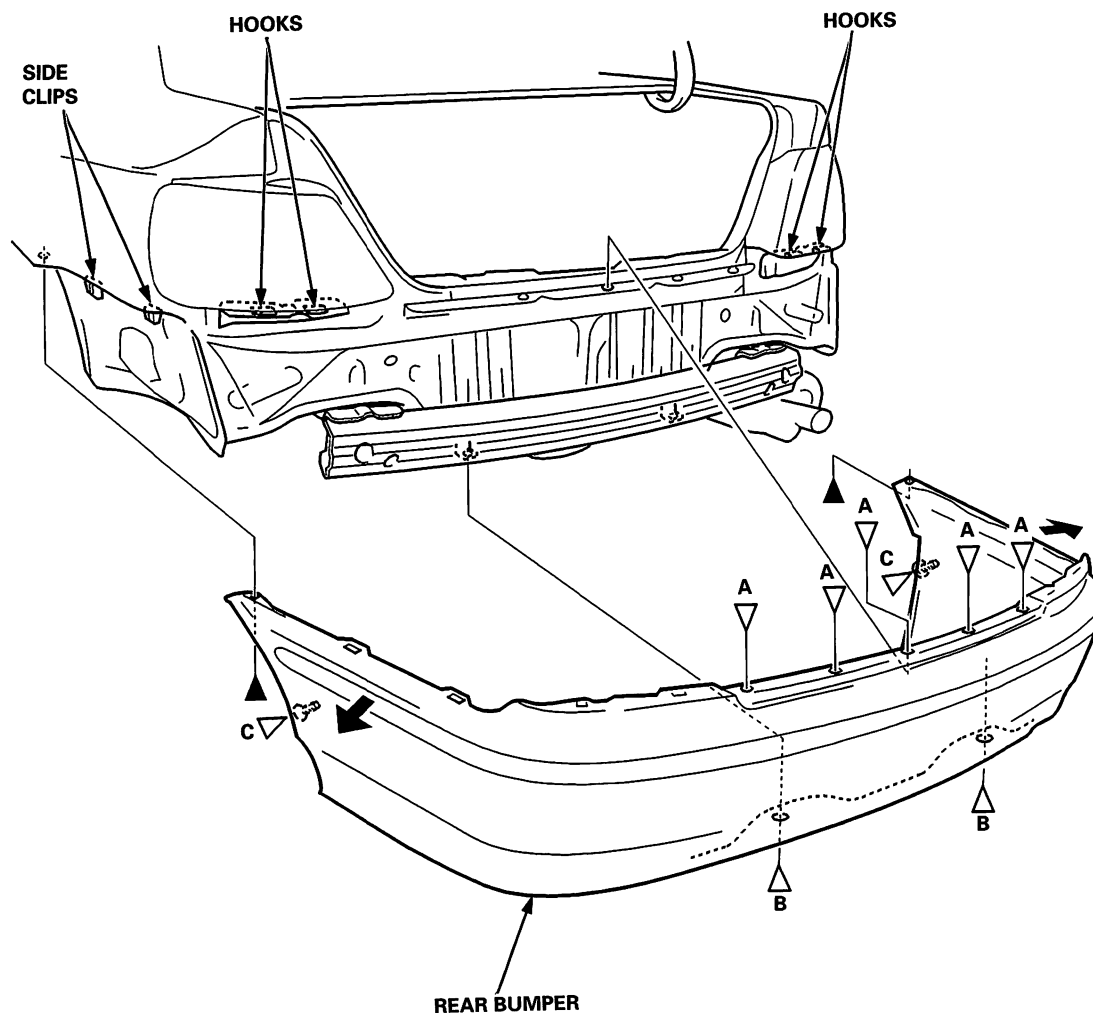
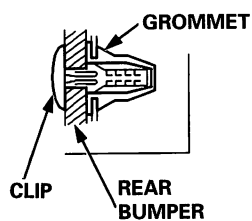
A ▷, 5



B ▷, 2



C ▷, 2



(cont'd)

# Bumpers

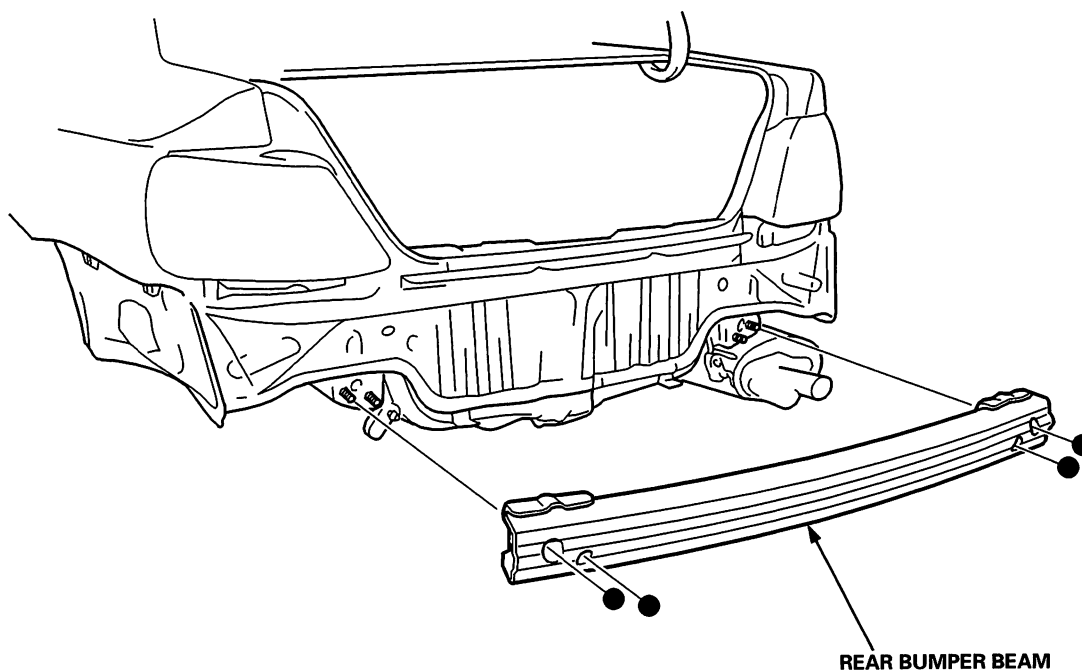
## Rear Bumper Removal and Installation (cont'd)

For some models:

●: Nut locations, 4



8 x 1.25 mm  
22 N·m (2.2 kgf·m,  
16 lbf·ft)



Install in the reverse order of removal, and note these items:

- Make sure the rear bumper engages the side spacers and the hooks of the rear panel side bracket on each side securely.
- Replace any damaged clips.



## Rear Lower Skirt Replacement

### TYPE R:

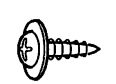
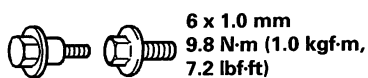
NOTE: Take care not to scratch the rear bumper and rear lower skirt.

#### ►: Bolt, screw locations

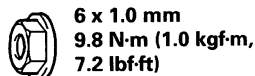
A ►, 5

B ►, 4

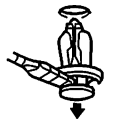
C ►, 2



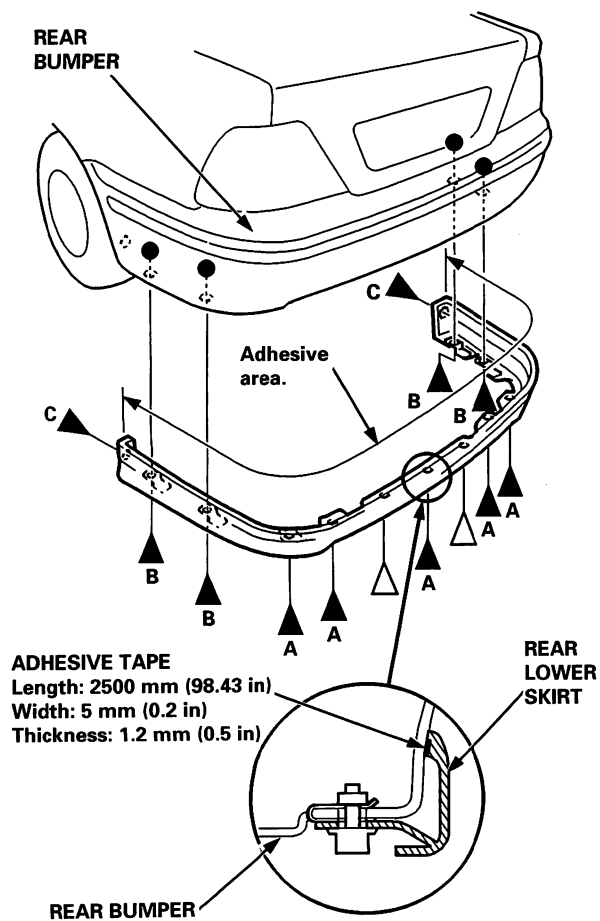
#### ●: Nut locations, 4



#### ▷: Clip locations, 2



Adhesive tape: 3M 4210, or equivalent



Install in the reverse order of removal.

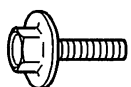
# Hood

## Replacement

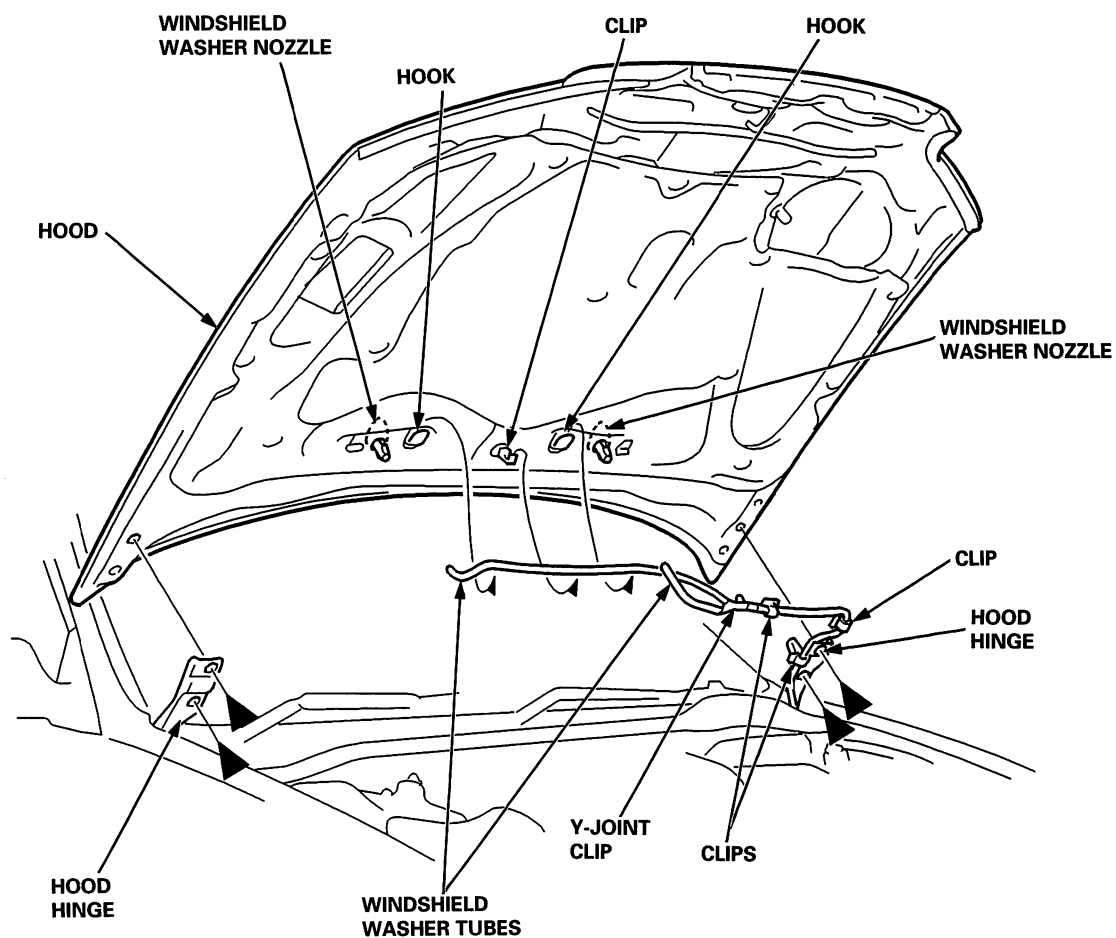
### NOTE:

- An assistant is helpful when removing and installing the hood.
- Take care not to damage the hood and body.

### ►: Bolt locations, 4



6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)



Install in the reverse order of removal, and note these items:

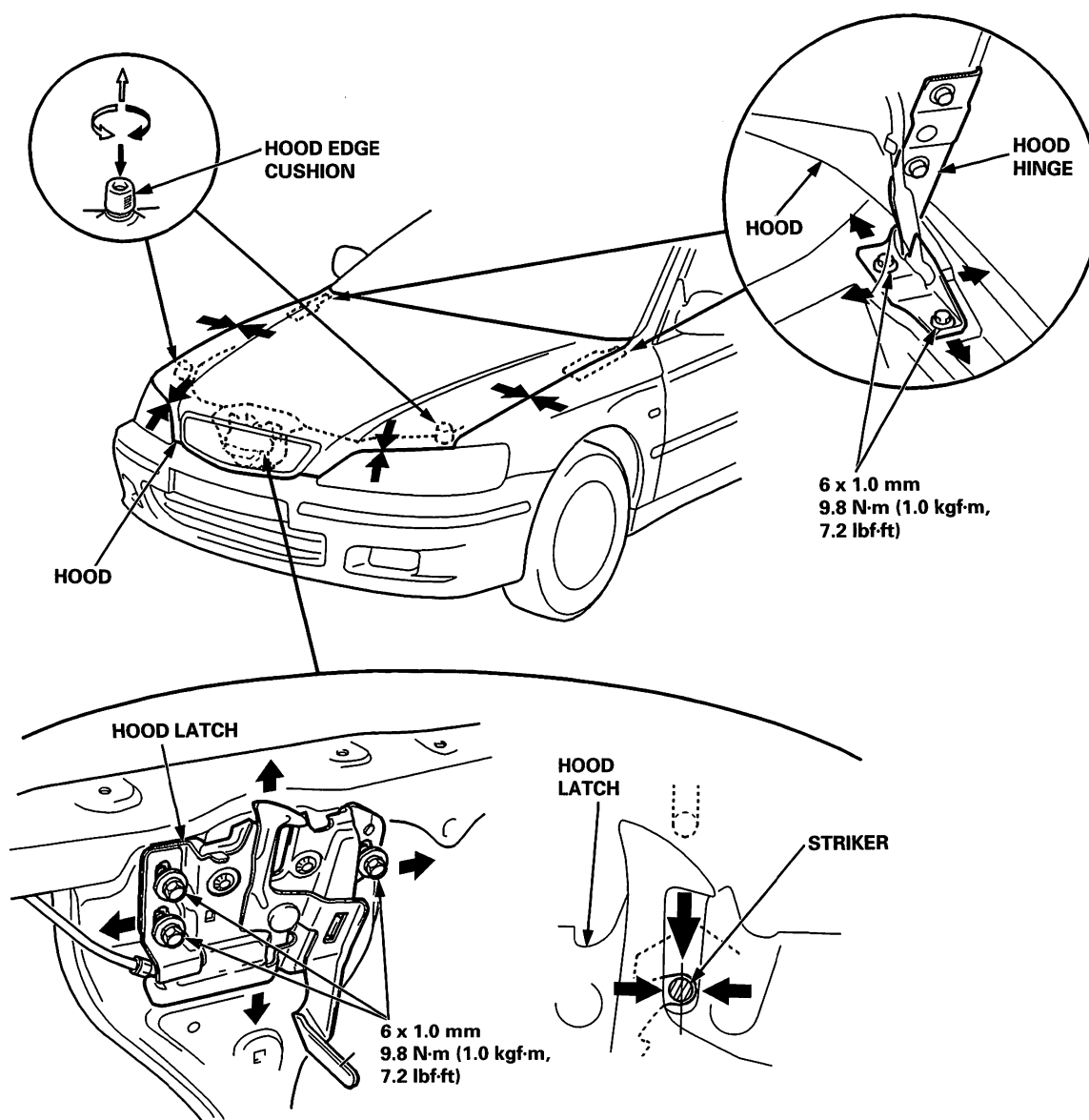
- Make sure the hood opens properly and locks securely.
- Make sure the windshield washer tubes are connected properly.
- Adjust the hood alignment (see page 20-131).





## Adjustment

1. Slightly loosen each hood hinge bolt.
2. Adjust the hood alignment in this sequence.
  - Adjust the hood right and left, as well as fore and aft, by using the elongated holes on the hood hinge.
  - Turn the hood edge cushions, as necessary, to make the hood fit flush with the body at front and side edges.
  - Remove the hood latch cover (see page 20-154), Then adjust the hood latch to obtain the proper height at the forward edge, and move the hood latch right or left until the striker is centered in the hood latch.

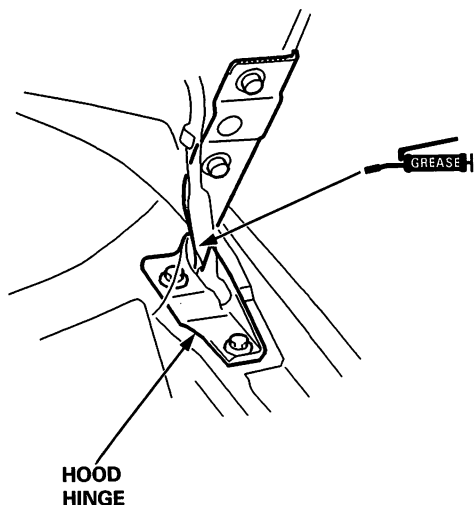
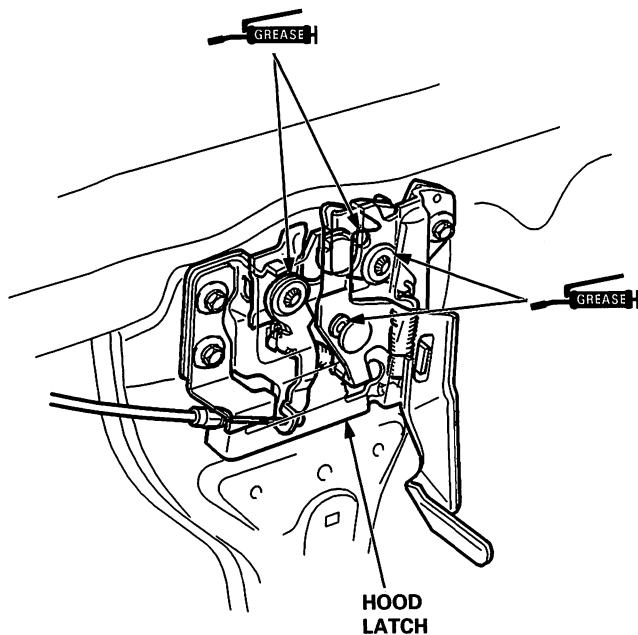


(cont'd)

# Hood

## Adjustment (cont'd)

3. Tighten each bolt securely.
4. Check that the hood opens properly and locks securely.
5. Grease each location of the hood latch and hood hinge as indicated by the arrows.



## Hood Insulator Replacement

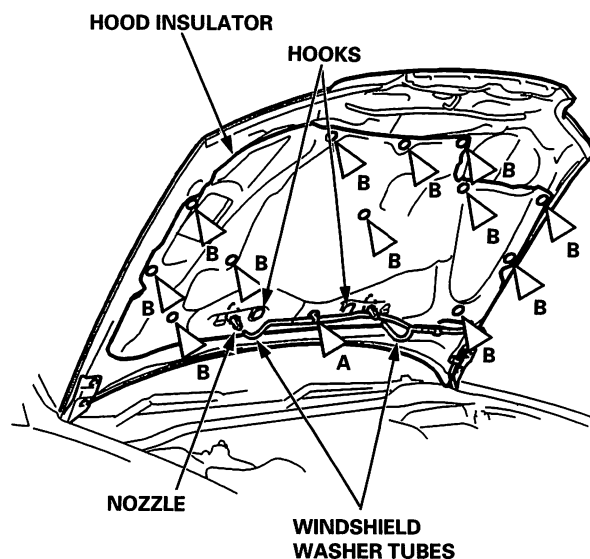
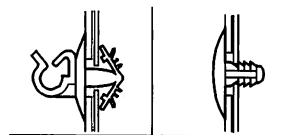
NOTE: Take care not to scratch the hood.

1. Remove the hood insulator.
  - 1. Disconnect the windshield washer tubes from the windshield washer nozzles.
  - 2. Release the windshield washer tube from the clips.
  - 3. Using a clip remover, detach the clips and release the hooks, then remove the hood insulator.

▷: Clip locations

A ▷, 1

B ▷, 12



2. Install in the reverse order of removal, and note these items:
  - Replace any damaged clips.
  - Make sure the washer tubes are connected properly.

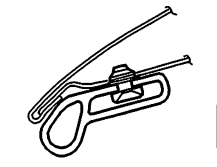


## Hood Seal Rubber Replacement

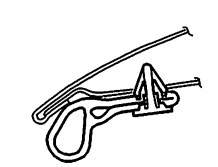
1. Using a clip remover, detach the clips, then remove the hood seal rubbers. Take care not to scratch the hood.

▷: Clip locations

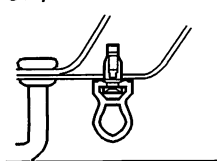
A ▷, 8



B ▷, 2

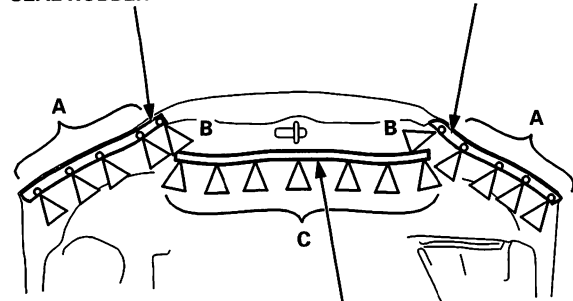


C ▷, 7



RIGHT HOOD CORNER  
SEAL RUBBER

LEFT HOOD CORNER  
SEAL RUBBER



HOOD CENTER  
SEAL RUBBER

2. Install in the reverse order of removal, and replace any damaged clips.

## Front Grille Replacement

NOTE: Take care not to scratch the hood.

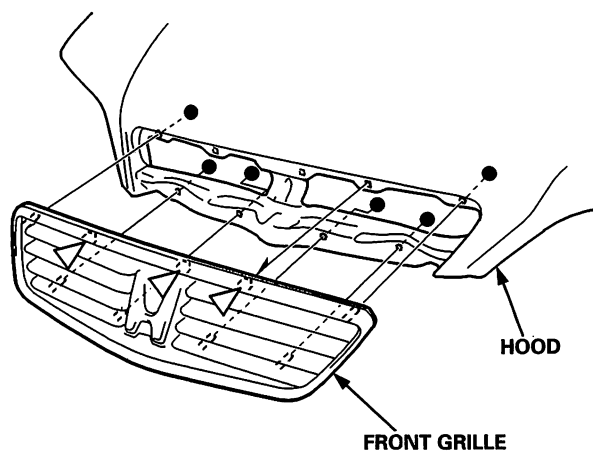
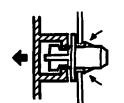
1. Remove the nuts securing the front grille.

●: Nut locations, 6



4 x 0.7 mm  
4 N·m (0.4 kgf·m,  
3 lbf·ft)

▷: Clip locations, 3



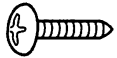
2. Detach the clips, then remove the front grille.
3. Install in the reverse order of removal, and replace any damaged clips.

# Hood

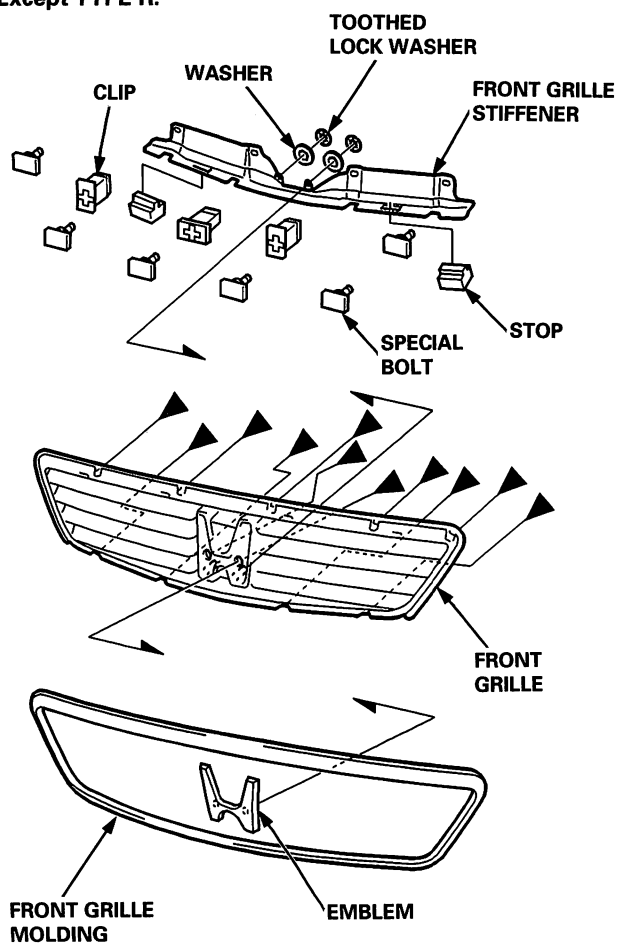
## Front Grille Disassembly and Reassembly

Take care not to scratch the front grille and front grille molding.

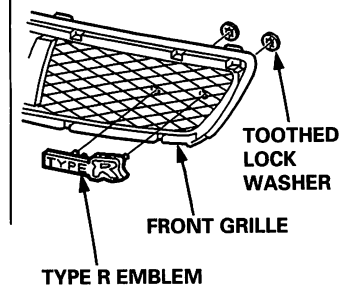
►: Screw locations, 11



Except TYPE R:



TYPE R:



Reassemble in the reverse order of disassembly.

# Trunk Lid



## Replacement

### NOTE:

- When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.
- Take care not to bend or scratch the trim.
- Wear gloves to protect your hands.

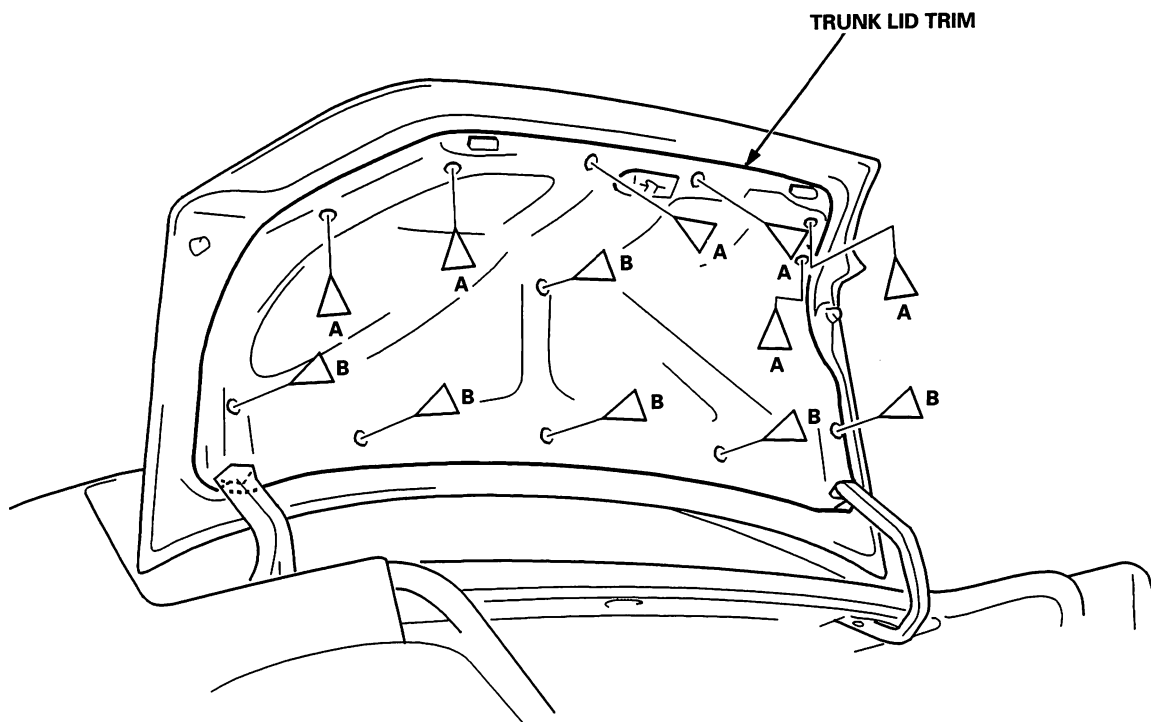
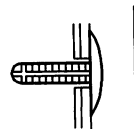
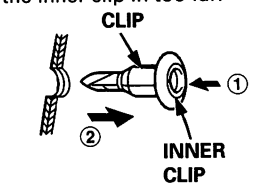
1. If so equipped, remove the trunk lid trim.

### ▷: Clip locations

A ▷, 6

B ▷, 6

NOTE: Do not push the inner clip in too far.



(cont'd)

# Trunk Lid

## Replacement (cont'd)

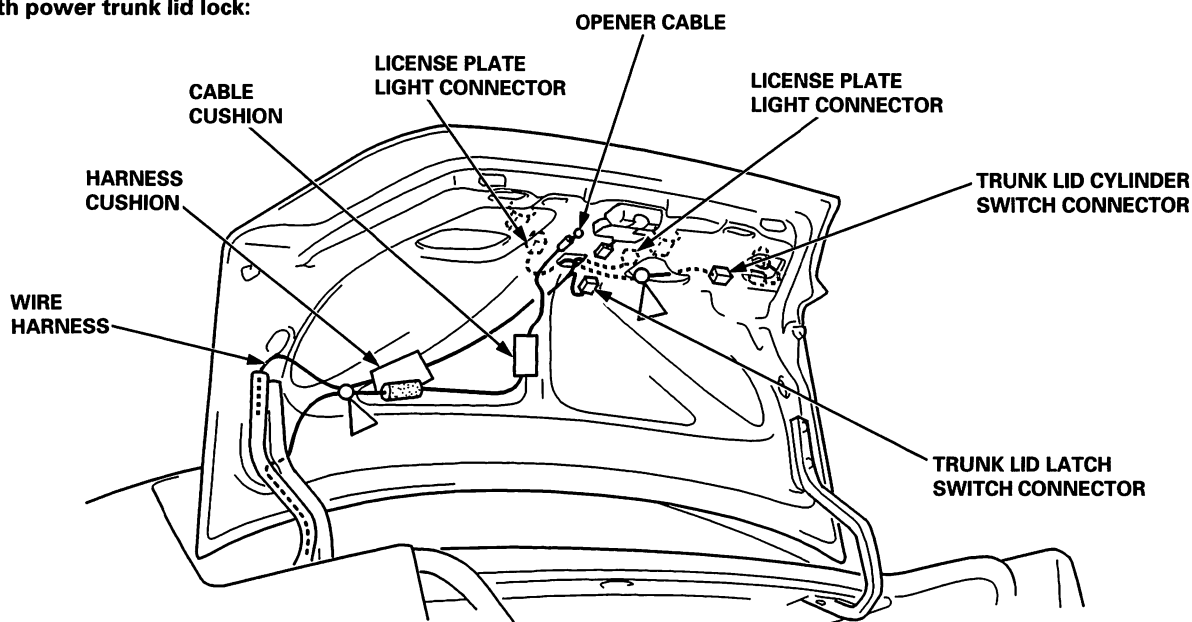
2. Disconnect the license plate light connectors, trunk lid latch switch connector, trunk lid cylinder switch connector and trunk lid opener cable. Detach the harness clips, connector clips, and if applicable, remove the harness and cable cushions, then remove the wire harness and trunk lid opener cable from the trunk lid.

### NOTE:

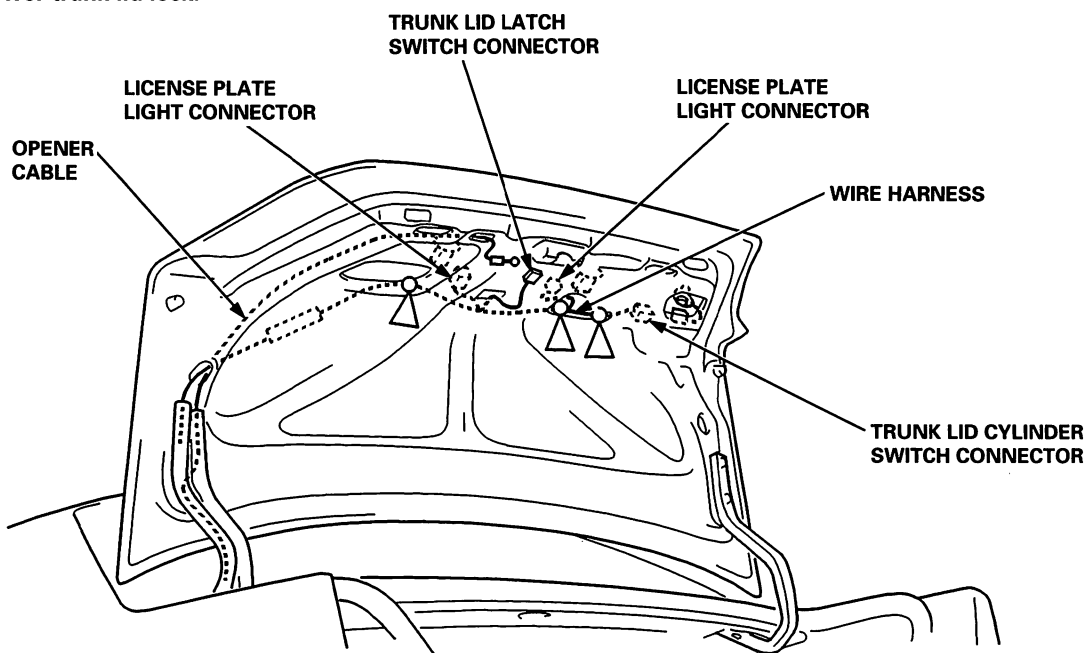
- Refer to page 20-153 for the trunk lid opener cable locations.
- LHD is shown, RHD is similar.

### ▷: Harness and connector clip locations

#### With power trunk lid lock:



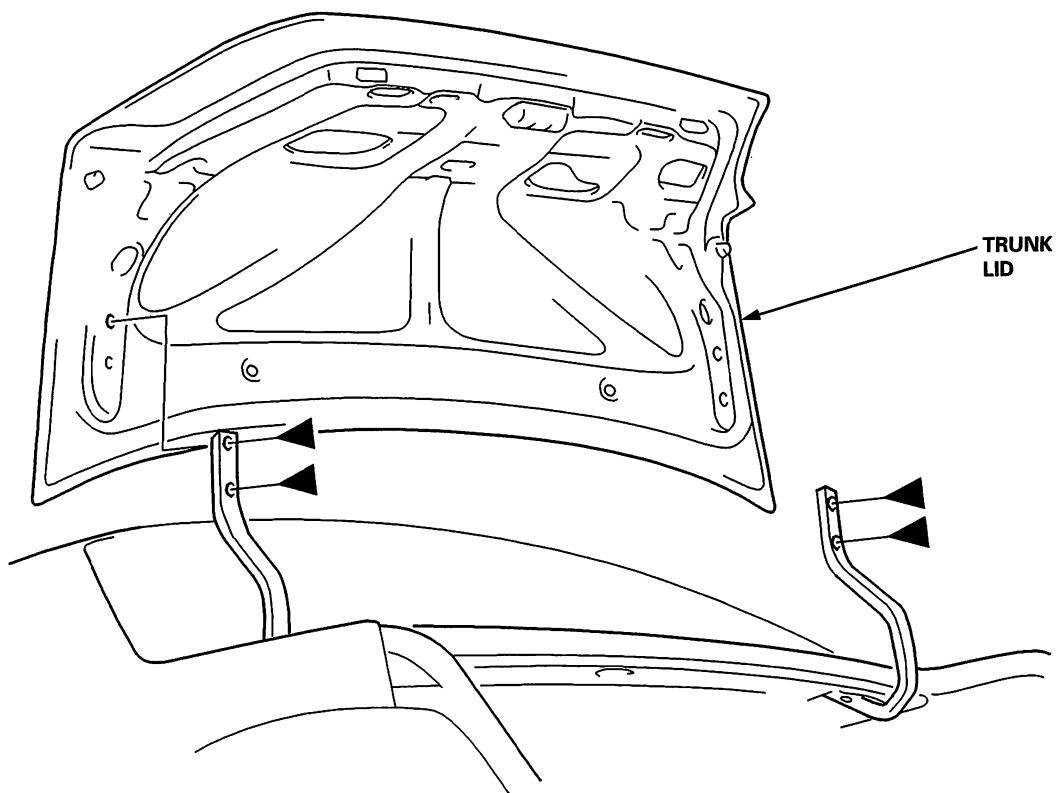
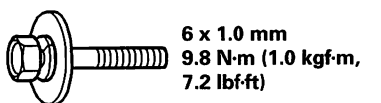
#### Without power trunk lid lock:





3. Remove the bolts, then remove the trunk lid.

►: Bolt locations, 4



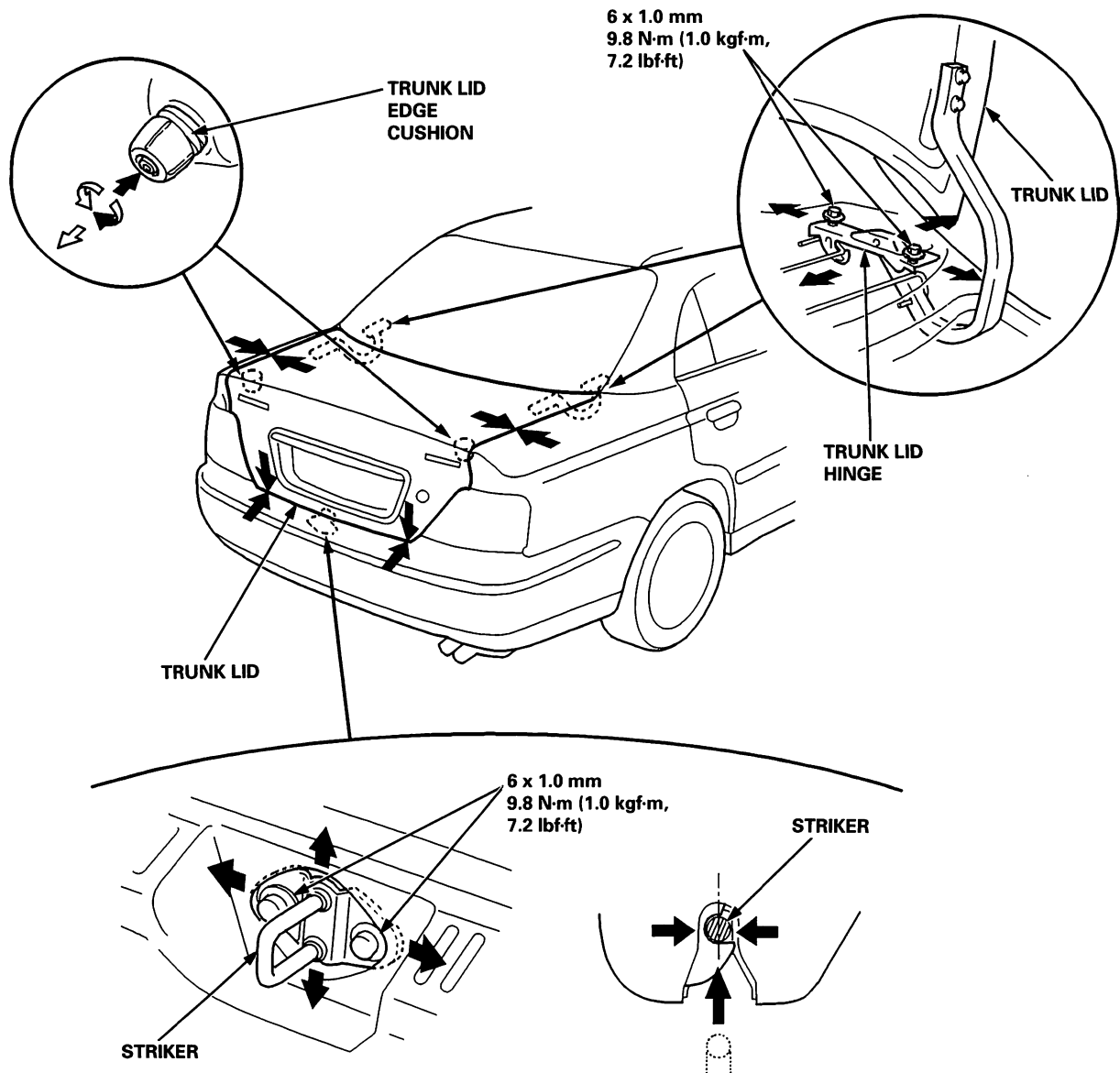
4. Install in the reverse order of removal, and note these items:

- Make sure the connectors and opener cable are connected properly, and the wire harness and opener cable are routed properly.
- Make sure the trunk lid opens properly and locks securely.
- Adjust the trunk lid alignment (see page 20-138).

# Trunk Lid

## Adjustment

1. Slightly loosen each bolt.
2. Adjust the trunk lid alignment in the following sequence.
  - Remove the rear shelf (see page 20-67), and adjust the trunk lid hinges right and left, as well as fore and aft, by using the elongated holes. Take care not to hit the rear window when loosening the bolts.
  - Turn the trunk lid edge cushions, as necessary, to make the trunk lid fit flush with the body at the rear and side edges.
  - Adjust the fit between the trunk lid and the trunk lid opening by moving the striker.



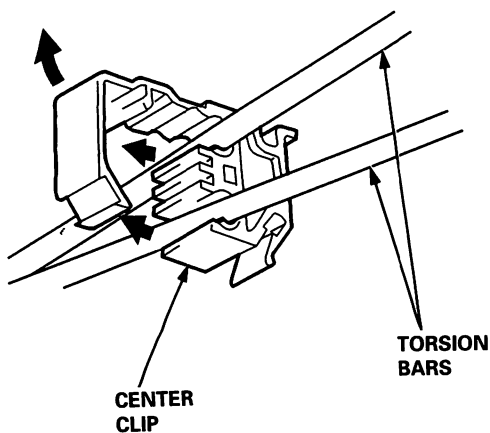
3. Tighten each bolt securely.
4. Make sure the trunk lid opens properly and locks securely.



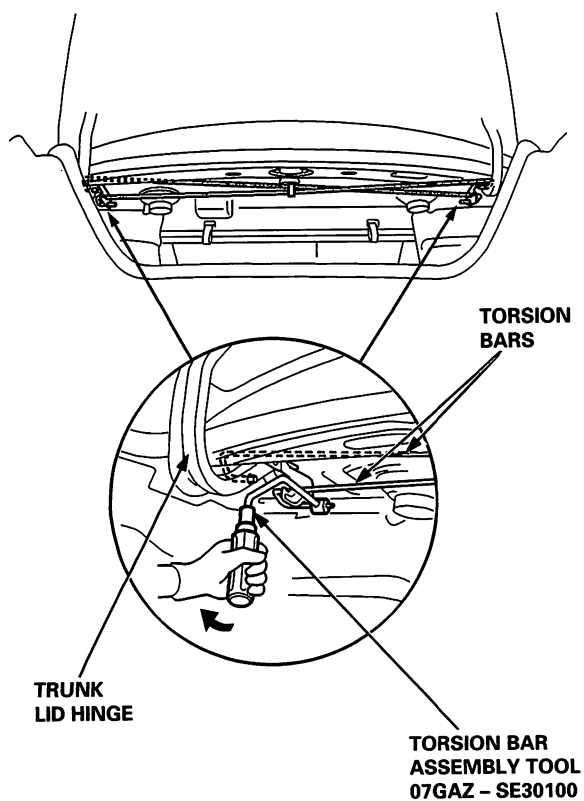


## Trunk Lid Torsion Bar Replacement

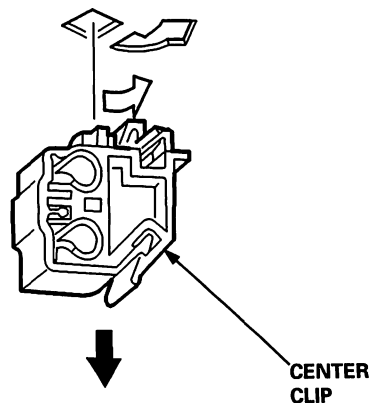
1. Remove the torsion bars from the torsion bar center clip.



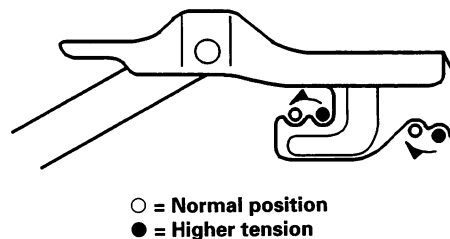
2. Remove the torsion bars with the torsion bar tool from both trunk lid hinges. Wear gloves to protect your hands.



3. Remove the torsion bar center clip from the body.



4. Install in the reverse order of removal, and note these items:
  - Adjust the torsion bars fore or aft with the torsion bar assembly tool.
  - Make sure the trunk lid opens properly and locks securely.



# Trunk Lid

## Trunk Spoiler Replacement

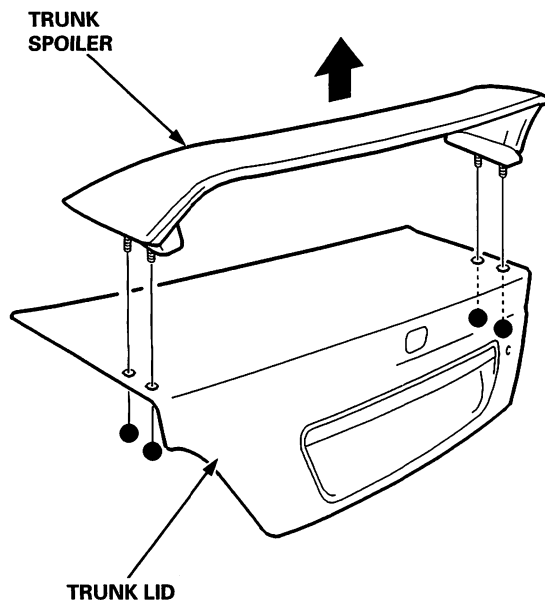
### TYPE R:

NOTE: Take care not to scratch the trunk spoiler and body.

#### ●: Nut locations, 4



6 x 1.0 mm  
5 N·m (0.5 kgf·m,  
4 lbf·ft)



Install in the reverse order of removal.

## License Plate Trim Replacement

### NOTE:

- Take care not to scratch the trunk lid.
- Wear gloves to protect your hands.

1. If so equipped, remove the trunk lid trim (see page 20-135).
2. Remove the nuts securing the license plate trim. Remove and detach the clips, then remove the license plate trim.

#### ●: Nut locations, 2

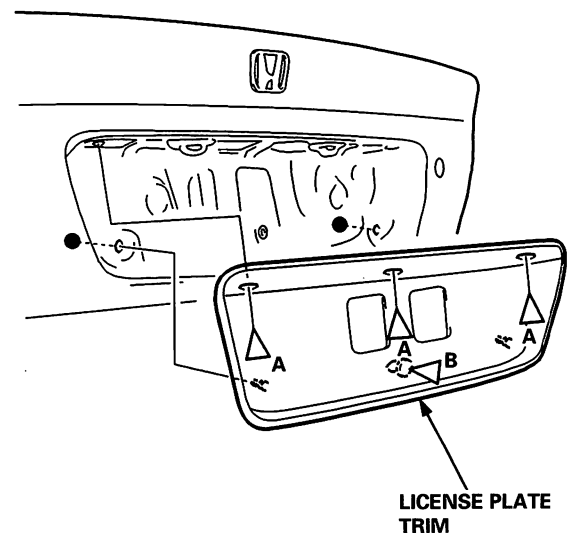
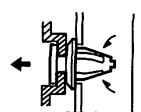


5 x 0.8 mm  
3 N·m (0.3 kgf·m,  
2 lbf·ft)

#### ▷: Clip locations

A ▷, 3

B ▷, 1



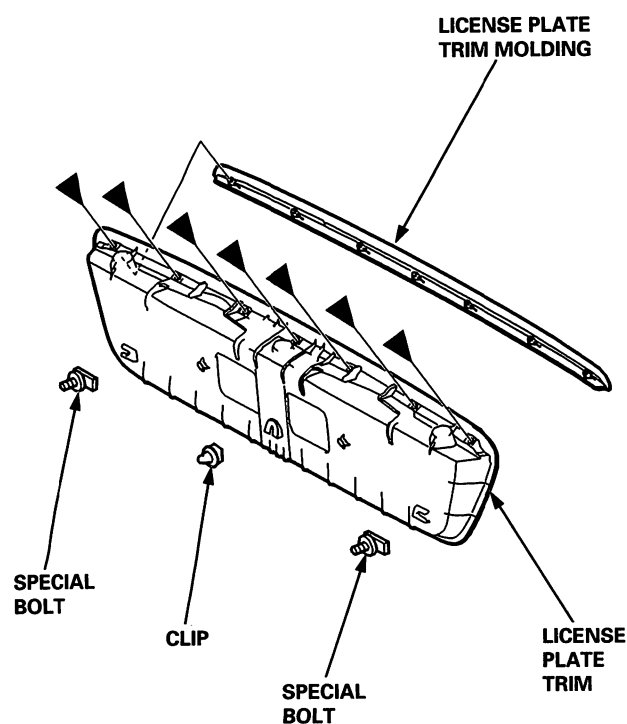
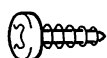
3. Install in the reverse order of removal, and replace any damaged clips.



## License Plate Trim Disassembly and Reassembly

Take care not to bend the license plate trim and License plate trim molding.

►: Screw locations, 7

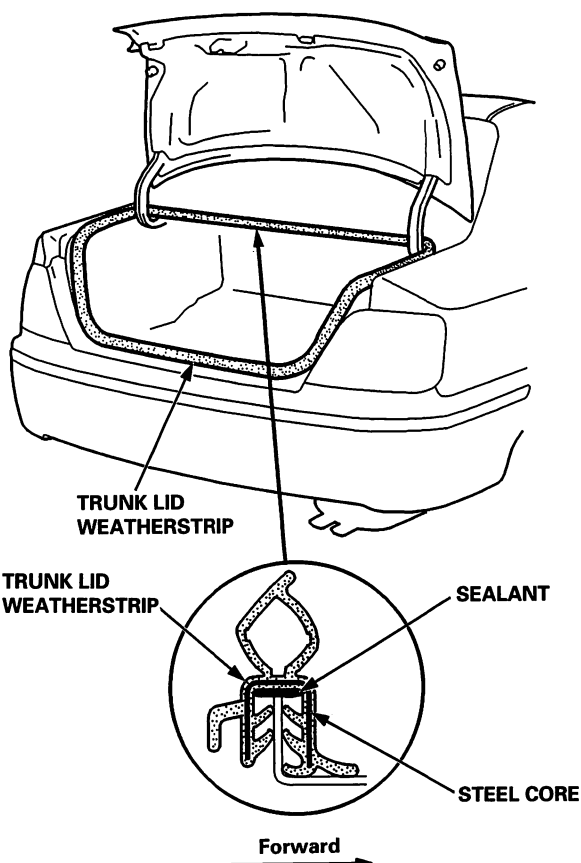


Reassemble in the reverse order of disassembly.

## Trunk Lid Weatherstrip Replacement

1. Remove the trunk lid weatherstrip by pulling it out.
2. Apply clear sealant into the channel of the trunk lid weatherstrip all the way around.
3. Locate the painted alignment mark on the trunk lid weatherstrip. Align the painted mark with the alignment tab in the center of the trunk, and install the trunk lid weatherstrip all the way around in the direction shown. Make sure there are no wrinkles in the weatherstrip.

**Sealant: Cemedine P/N 08712 – 0004, or equivalent**



3. Check for water leaks.

# Trunk Lid

## Emblem Replacement

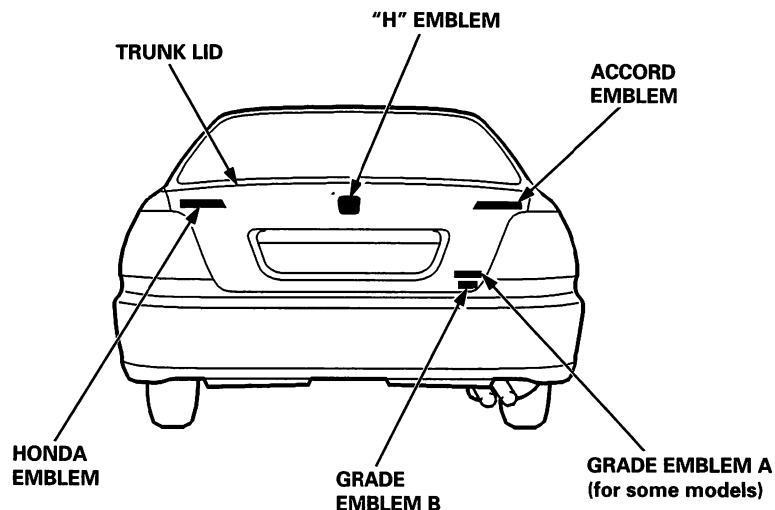
Apply the emblem where shown.

### NOTE:

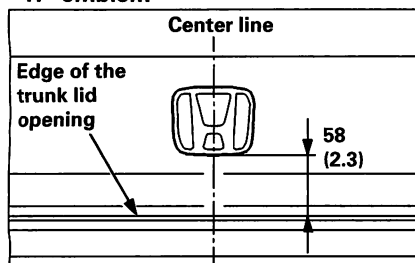
- Before applying, clean the trunk lid surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.

### Attachment Point (Reference):

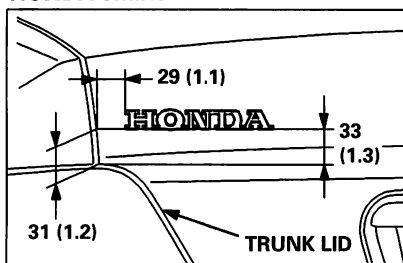
Unit: mm (in)



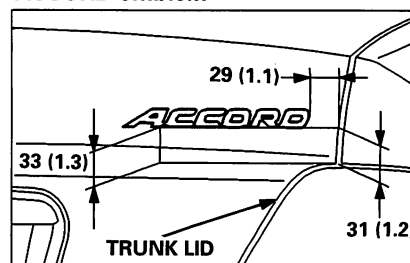
"H" emblem



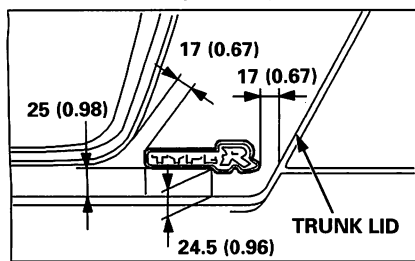
HONDA emblem



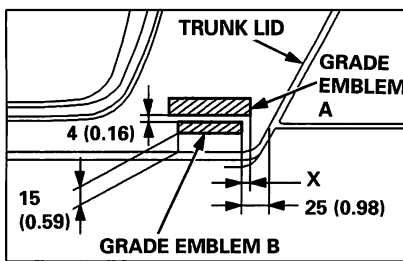
ACCORD emblem



Grade emblem (TYPE R)



Grade emblem A and B

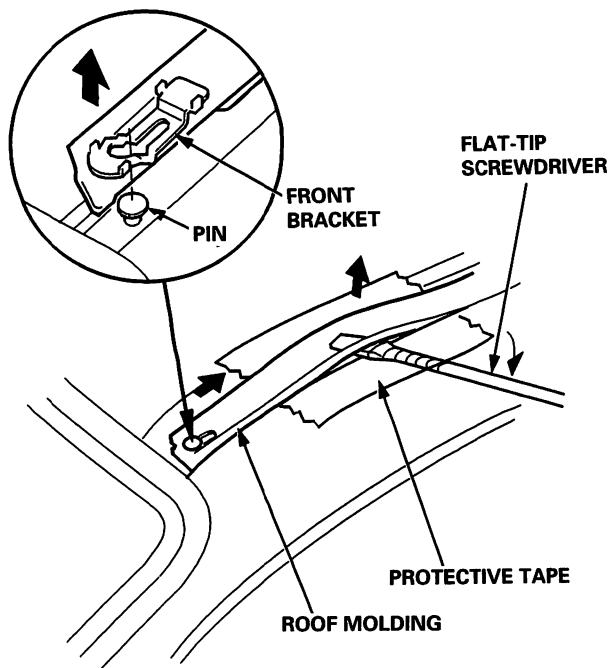


Grade emblem A	X
2.0 i	8 (0.3)
1.6 i, 1.8 i	2 (0.08)

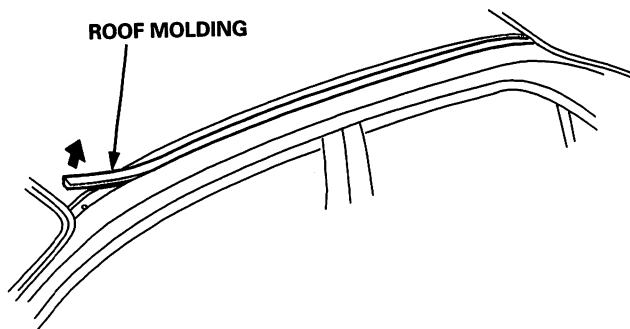


## Roof Molding Replacement

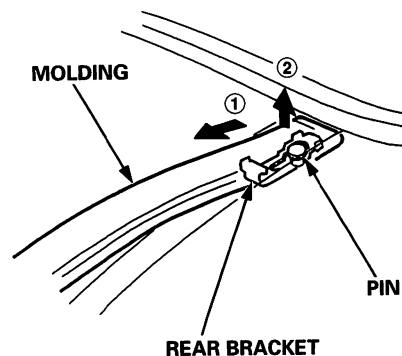
1. Using a flat-tip screwdriver wrapped with protective tape, pry up on the roof molding. Use protective tape on the body. Take care not to scratch the body.



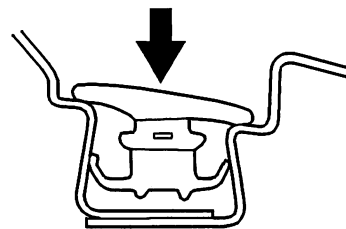
2. Pull up and slide the roof molding to release the front bracket from the pin.
3. Pull up the front portion of roof molding.



4. Pull up and release the rear bracket from the pin, then remove the roof molding.



5. Install in the reverse order of removal, and note these items:
  - Take care not to damage the windshield and rear window moldings.
  - Make sure the roof molding is installed securely.



# Moldings

## Door and Side Moldings Replacement

### NOTE:

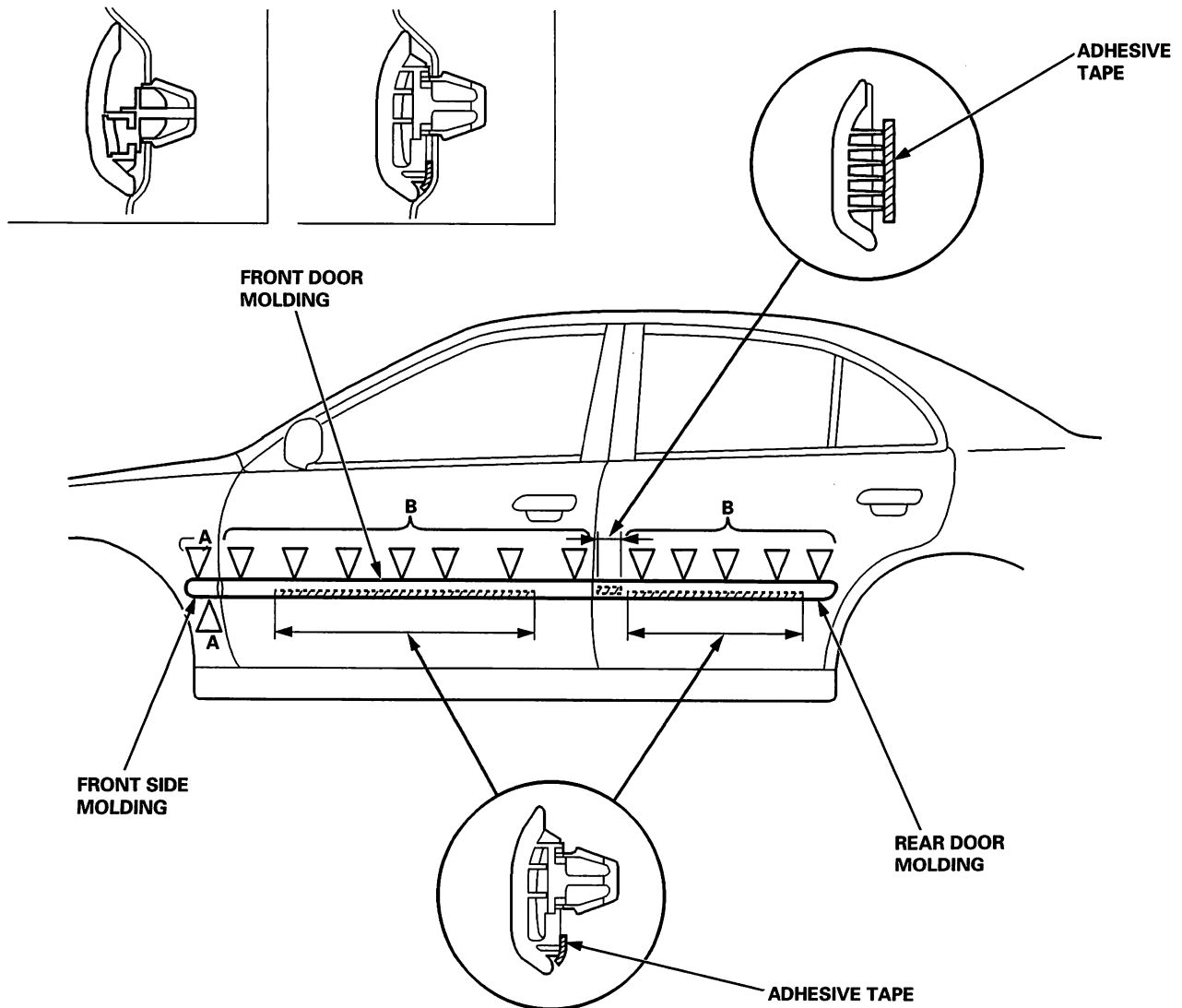
- Before prying, wrap the blade of your putty knife or flat-tip screwdriver with protective tape to prevent damage to the front fender and the door.
- Be careful not to pry too far or you may bend the molding.
- Wear gloves to protect your hands.

1. Prepare to release the molding clips from inside the vehicle.
  - To remove the front door molding, remove the front door panel (see page 20-7) and plastic cover.
  - To remove the rear door molding, remove the rear door panel (see page 20-16) and plastic cover.
2. Release the clips, and gently pry the front door molding, rear door molding or side molding away from the door while removing the adhesive tape.

▷: Clip locations, 12

A ▷, 2

B ▷, 12



3. Install in the reverse order of removal, and replace any damaged clips and adhesive tape.

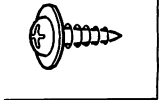
# Side Sill Panel



## Replacement

1. Remove the side sill panel.
  - 1. Pull the inner fender back as necessary, and remove the expansion clips.
  - 2. Slide the side sill panel forward and remove it. Side clips will stay in the body.
  - 3. Remove the side clips from the body.

►: Screw locations, 3

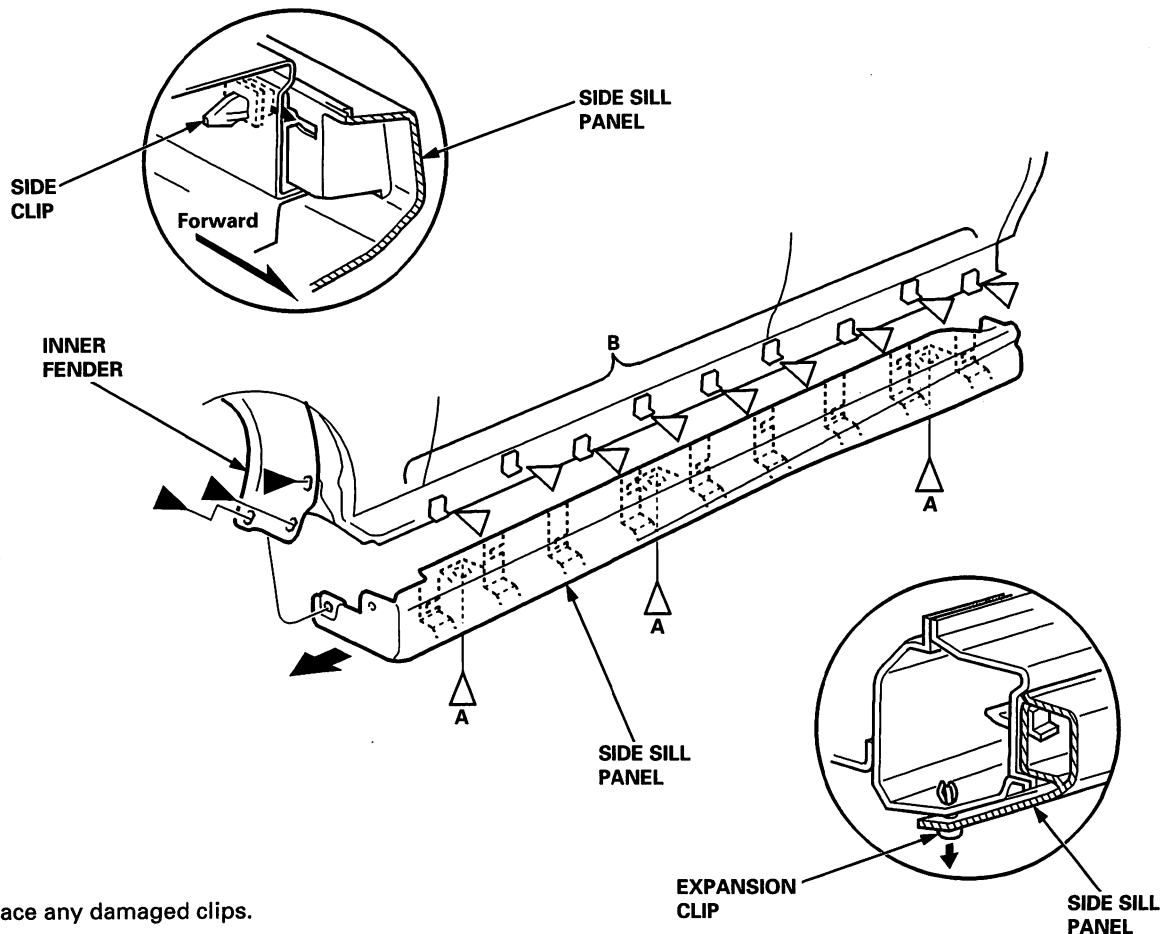
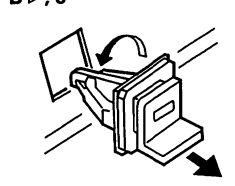


▷: Clip locations

A ▷, 3



B ▷, 9



2. Replace any damaged clips.
3. Install the side clips on the side sill panel.
4. Hold the panel up, and fit all the side clips into the holes in the body, then push on the panel until the clips snap into place.
5. Install all the expansion clips.
6. Install the inner fender.

# Fenderwell

## Inner Fender Replacement

Take care not to scratch the body.

### ►: Bolt, screw locations

A ►, 2

6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)

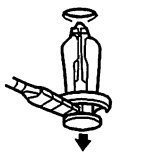
B ►, 3



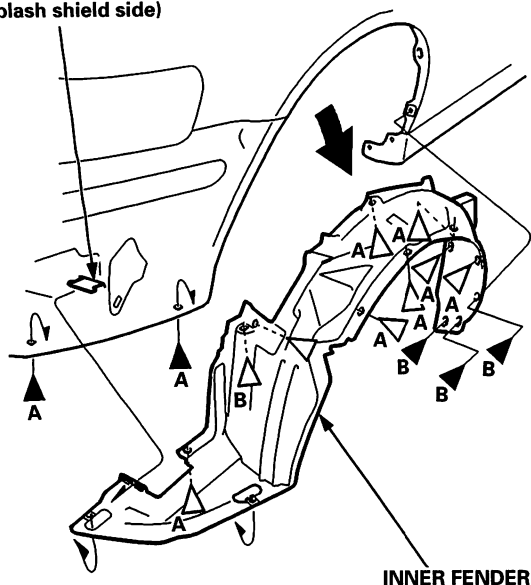
### ▷: Clip locations

A ▷, 7

B ▷, 1



HOOK  
(Splash shield side)



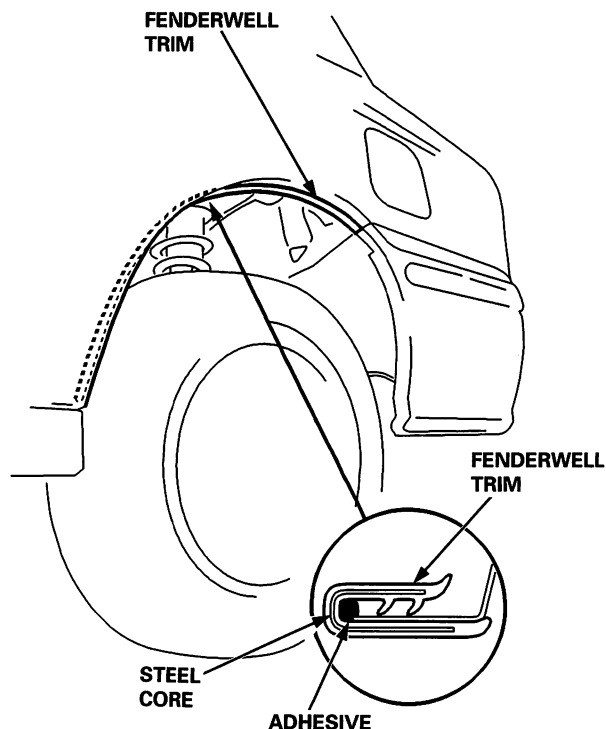
Install in the reverse order of removal, and replace any damaged clips.

## Fenderwell Trim Replacement

NOTE: The steel core in the fenderwell trim cannot be restored to its original shape once it is bent. Replace the fenderwell trim when the steel core is bent.

1. Remove the fenderwell trim by pulling it out.
2. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease and water from getting on the clean surface.
3. Apply clear sealant into the channel of the fenderwell trim from end to end.
4. Install the fenderwell trim.

Sealant: Cemedines P/N 08712 – 0004, or equivalent



5. Scrape or wipe the excess sealant off with a towel. To remove sealant from a painted surface, wipe with a soft shop towel dampened in alcohol.

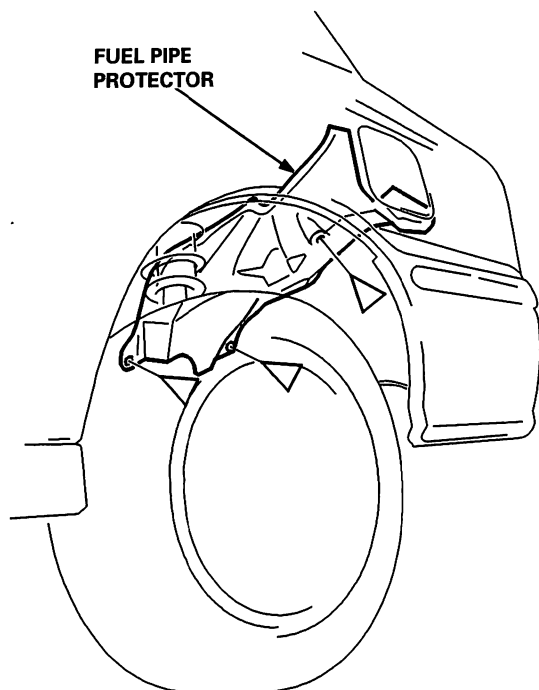
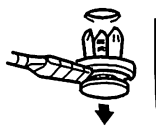




## Fuel Pipe Protector Replacement

Take care not to scratch the body.

▷: Clip locations, 3

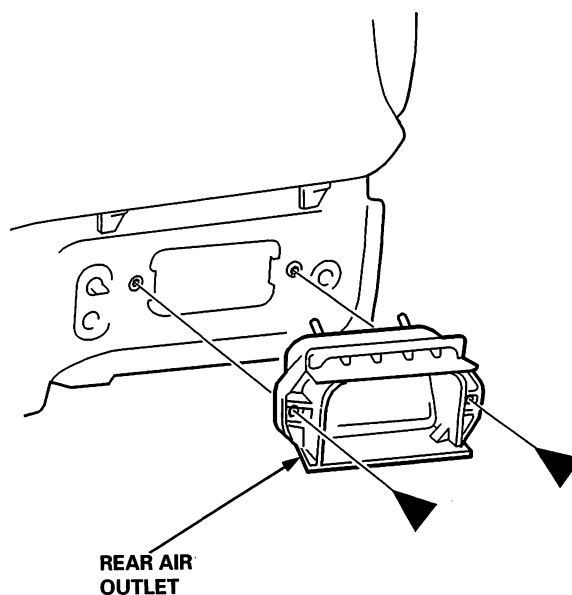
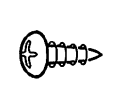


Install in the reverse order of removal, and replace any damaged clips.

## Rear Air Outlet Replacement

1. Remove the rear bumper (see page 20-127).
2. Remove the screws, then remove the rear air outlet. Take care not to scratch the body.

▷: Screw locations, 2

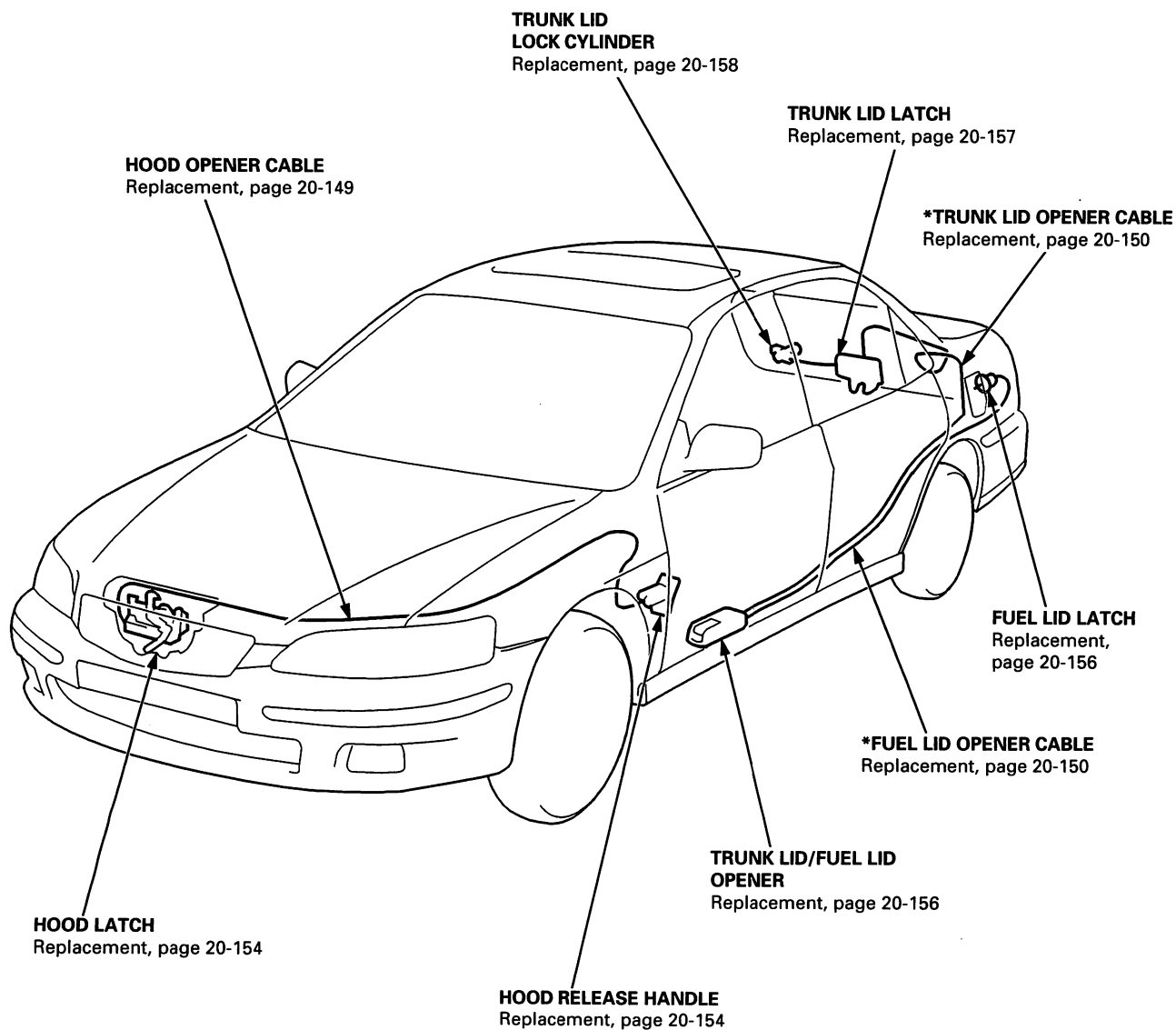


3. Install in the reverse order of removal.

# Openers

## Component Location Index

SRS components are located in the areas marked with an asterisk (\*). Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.





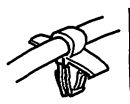
## Hood Opener Cable Replacement

1. Remove the following parts from the left or right side of the vehicle.
  - Inner fender (see page 20-146)
  - Kick panel (see page 20-66)
2. Disconnect the hood opener cable from the hood latch and hood release handle (see page 20-154).

### ▷: Clip locations

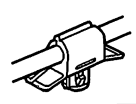
A ▷

LHD, 3  
RHD, 3



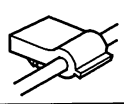
B ▷

LHD, 3  
RHD, 1

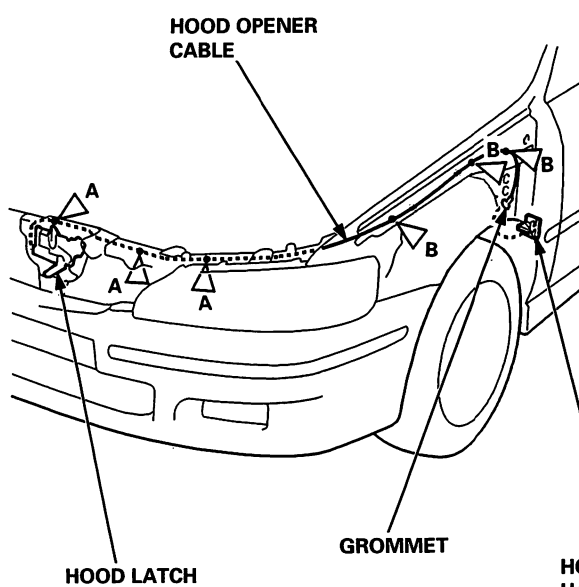


C ▷

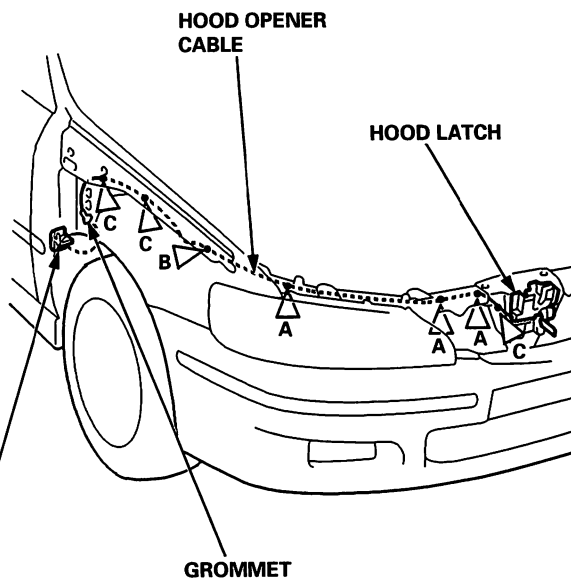
RHD, 3



LHD:



RHD:



3. Using a clip remover, detach the clips from the body, then remove the hood opener cable from the vehicle. Take care not to bend the opener cable.
4. Install in the reverse order of removal, and replace any damaged clips.

# Openers

## Trunk Lid Opener/Fuel Lid Opener Cable Replacement

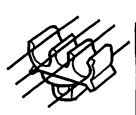
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

1. Remove the following parts.
  - Rear seat-back, for fixed rear seat (see page 20-117)
  - Rear seat side bolster, for fold down rear seat (see page 20-116)
  - Front side trim (see page 20-66)
  - Rear side trim (see page 20-66)
  - Center pillar lower trim panel (see page 20-66)
  - Front seat belt lower anchor bolt (see section 24)
  - Trunk side trim (see pages 20-68, 69)
  - Trunk lid trim, with power trunk lid lock (see page 20-135)
2. Pull the carpet back as necessary (see page 20-72).
3. Disconnect the trunk lid opener/fuel lid opener cable from the trunk lid/fuel lid opener (see page 20-157).

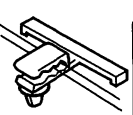
### LHD:

▷: Clip, cable cushion locations

A ▷, 1



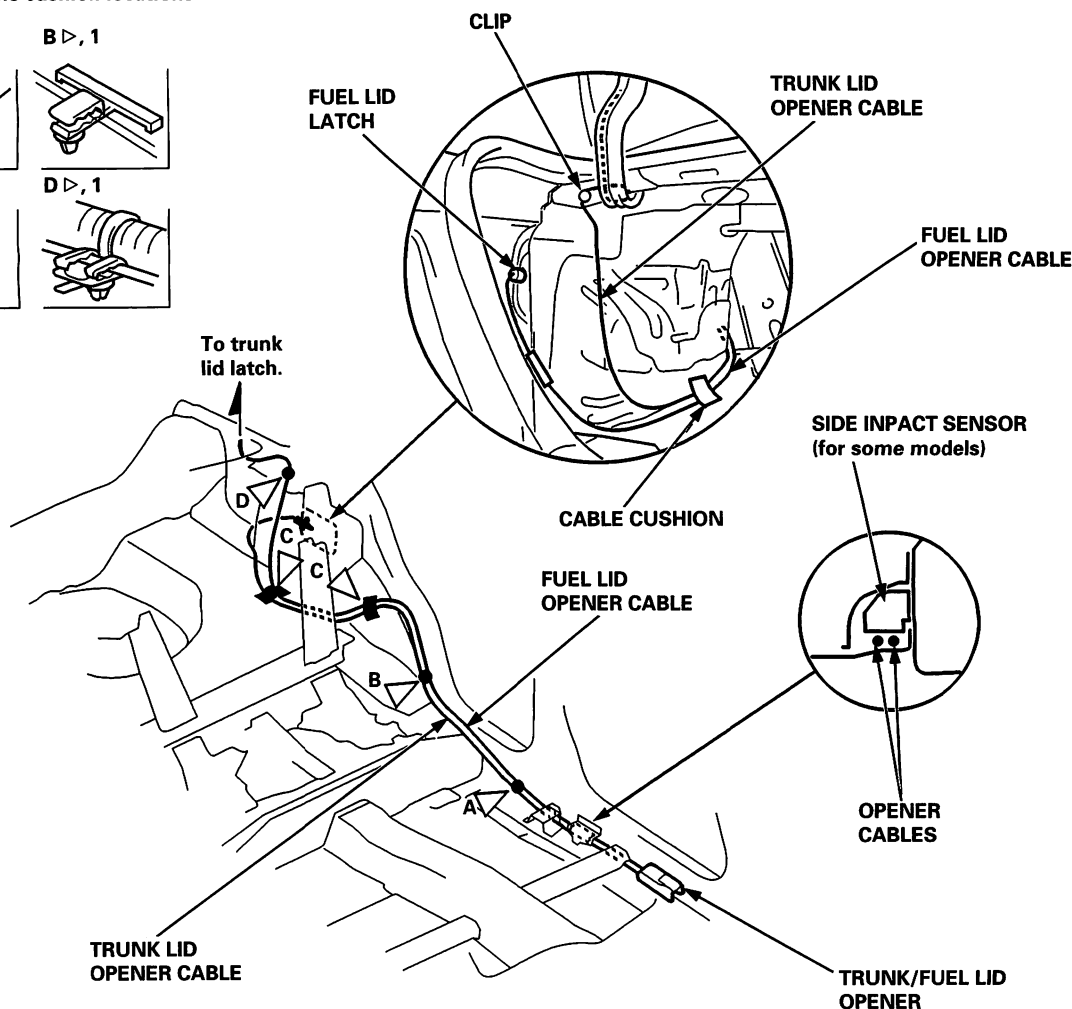
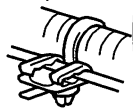
B ▷, 1



C ▷, 2



D ▷, 1

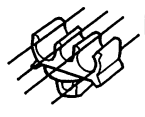




## RHD with power trunk lid lock:

▷: Clip, cable cushion locations

A ▷, 1

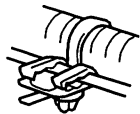


B ▷, 6



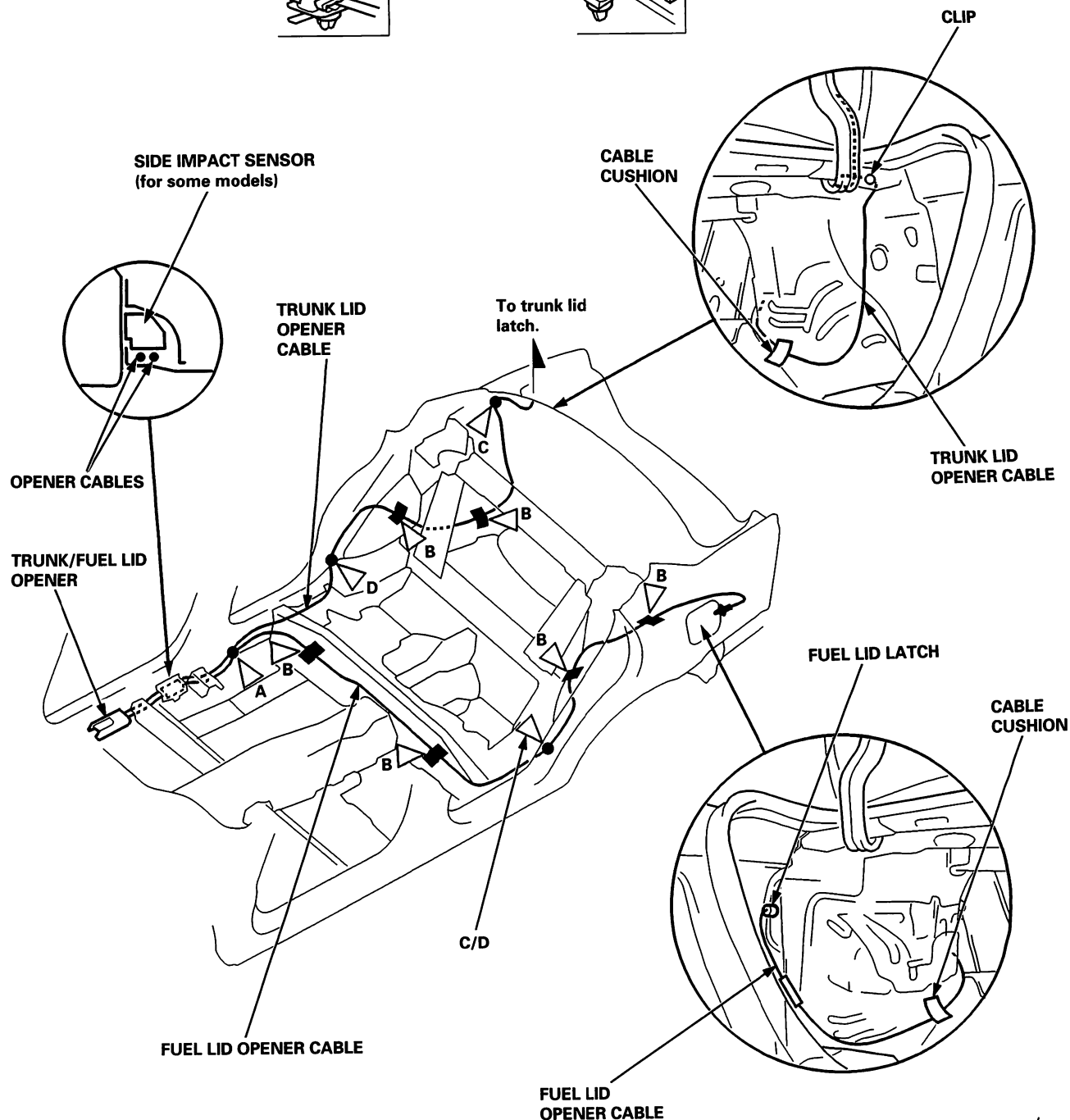
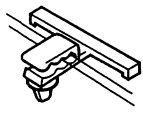
C ▷

With navigation system, 2  
Without navigation system, 1



D ▷

With navigation system, 1  
Without navigation system, 2



(cont'd)

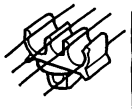
# Openers

## Trunk Lid Opener/Fuel Lid Opener Cable Replacement (cont'd)

RHD without power trunk lid lock:

▷: Clip, cable cushion locations

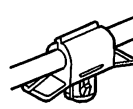
A▷, 1



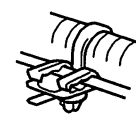
B▷, 4



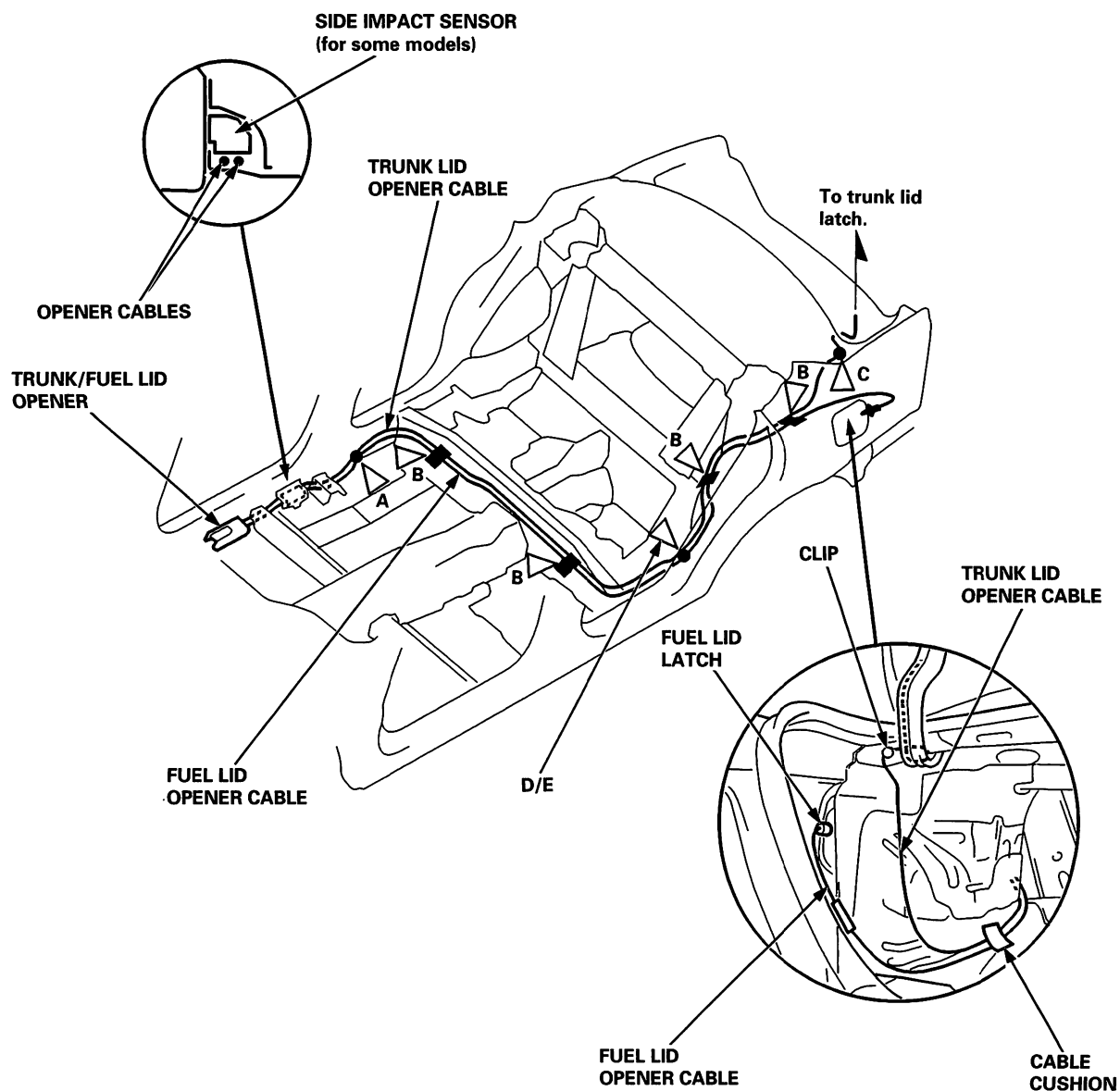
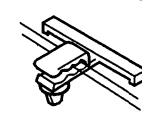
C▷, 1



D▷  
With navigation system, 1



E▷  
Without navigation system, 1



4. Release the opener cable from the clips, and remove the cable cushion, then remove the fuel lid latch from the body.



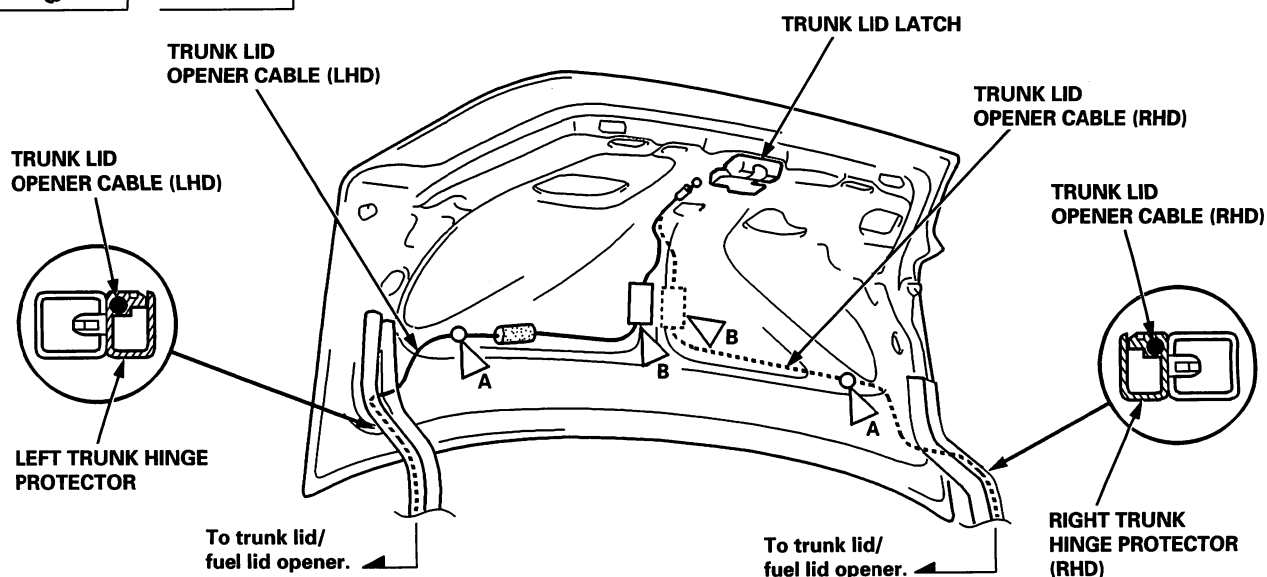
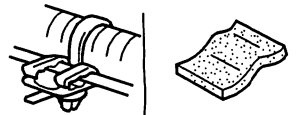
5. Disconnect the trunk lid opener cable from the trunk lid latch (see page 20-157).

**With power trunk lid lock:**

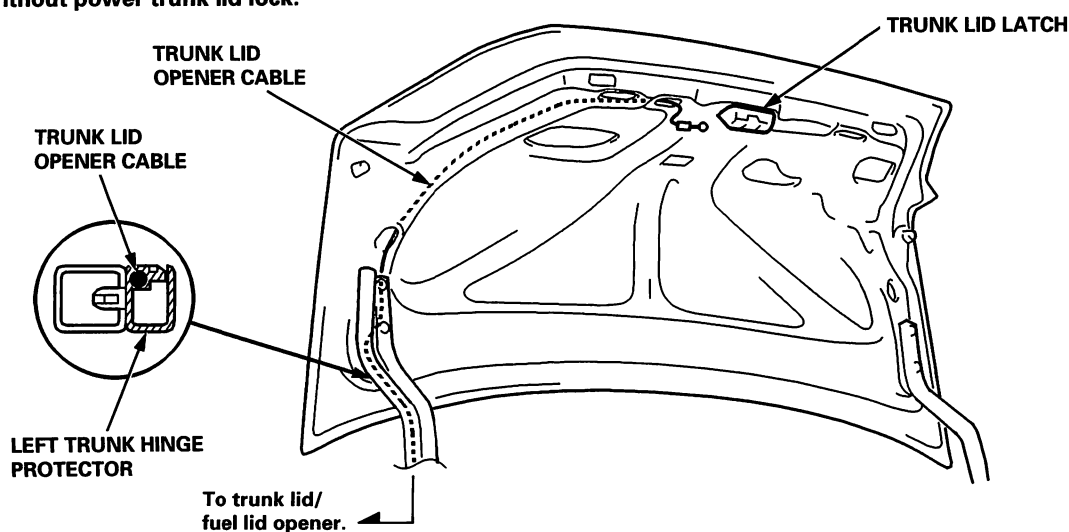
▷: Clip, cable cushion locations

A ▷, 1

B ▷, 1



**Without power trunk lid lock:**



6. Using a clip remover, detach the clips from the trunk lid, and pull the trunk lid opener cable out of the trunk lid hinge protector.
7. Remove the trunk lid opener/fuel lid opener cable from the vehicle. Take care not to bend the opener cable.
8. Install in the reverse order of removal, and replace any damaged clips.

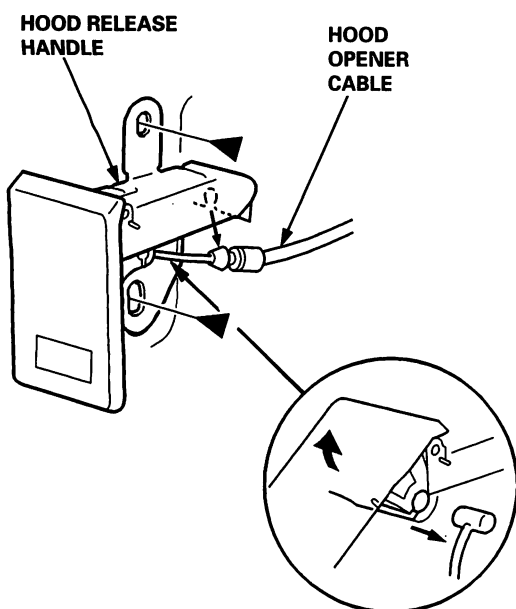
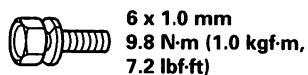
# Openers

## Hood Release Handle Replacement

NOTE: LHD is shown, RHD is symmetrical.

1. Remove the left kick panel (see page 20-66).
2. Disconnect the hood opener cable from the hood release handle. Take care not to bend the hood opener cable.

►: Bolt locations, 2

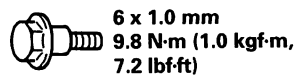


3. Remove the bolts, then remove the hood release handle.
4. Install in the reverse order of removal, and note these items:
  - Make sure the hood opener cable is connected properly.
  - Make sure the hood opens properly.

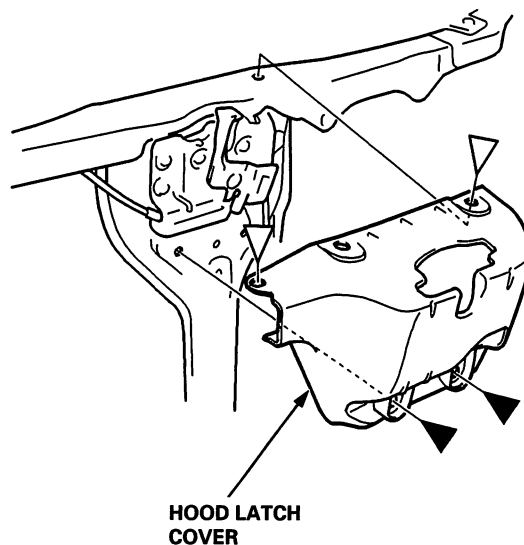
## Hood Latch Replacement

1. Remove the bolts and clips, then remove the hood latch cover.

►: Bolt locations, 2



▷: Clip location, 2




2. Move the condenser to disconnect the hood latch switch connector (see section 22).

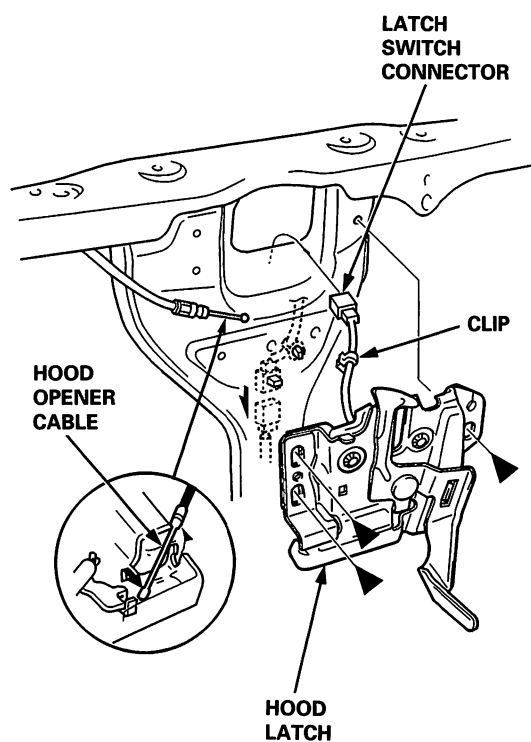




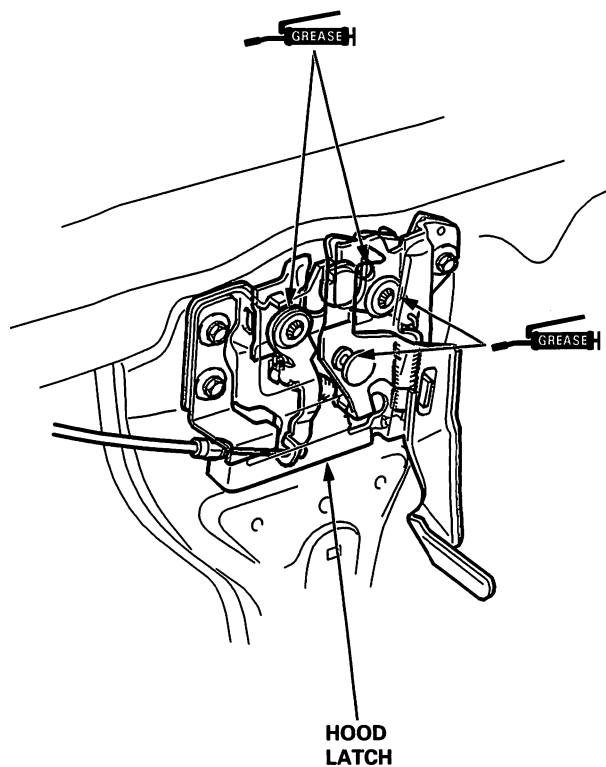
3. Remove the bolts, then remove the hood latch from the body.
4. Disconnect the hood opener cable and hood latch switch connector, then detach the hood latch switch connector and harness clip from the body. Take care not to bend the hood opener cable.

►: Bolt locations, 3

 6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)



5. Install in the reverse order of removal, and note these items:
  - Grease each location of the hood latch indicated by the arrows.
  - Make sure the hood opener cable is connected properly and hood latch switch connector is plugged in properly.
  - Adjust the hood latch alignment (see page 20-131).
  - Make sure the hood locks securely.



# Openers

## Trunk Lid/Fuel Lid Opener Replacement

### NOTE:

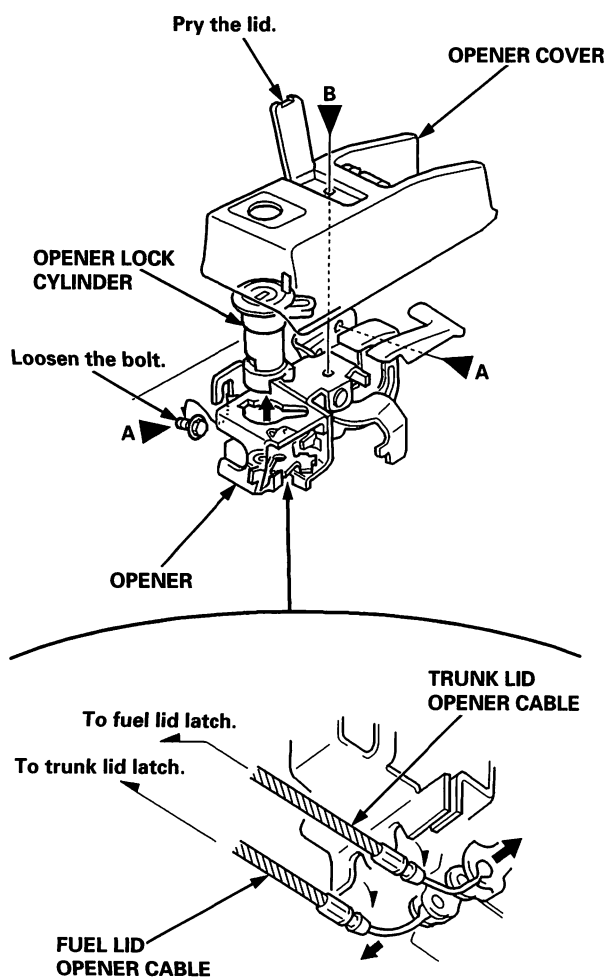
- Take care not to bend the opener cables.
- When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.
- LHD is shown, RHD is symmetrical.

### ►: Bolt, screw locations

A ►, 2

B ►, 1

6 x 1.0 mm  
9.8 N·m (1.0 kgf·m,  
7.2 lbf·ft)



Install in the reverse order of removal, and note these items:

- Make sure the opener cable is connected properly.
- Make sure the trunk lid and fuel lid open properly.

## Fuel Lid Latch Replacement

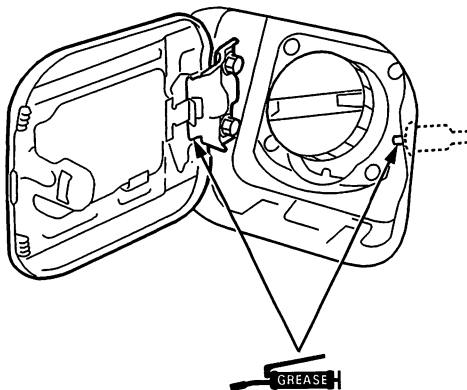
1. Remove the left trunk side spacer (see pages 20-68, 69).
2. Pull the rear edge of the left trunk side trim back (see pages 20-68, 69).
3. Turn the fuel lid latch 90°, and remove it.





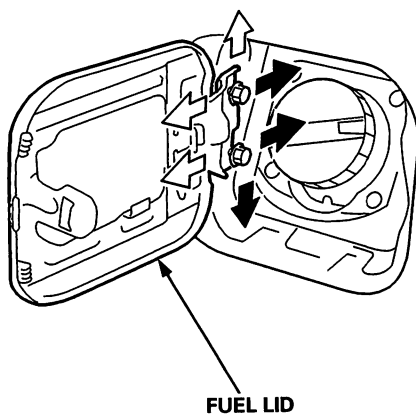
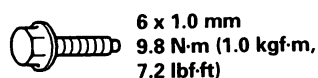
## Trunk Lid Latch Replacement

4. Install in the reverse order of removal, and note these items:
  - Grease each location indicated by the arrows.
  - Make sure the fuel lid opens properly and locks securely.



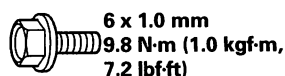
5. Check that the fuel lid fits flush against the body. If necessary, adjust it.

►: Bolt locations, 2

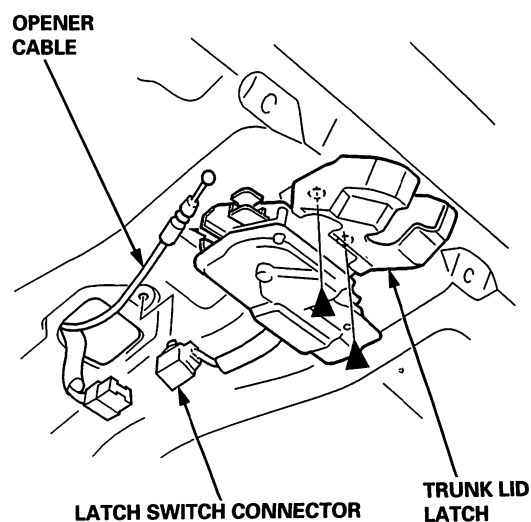


1. Disconnect the cylinder rod from the lock cylinder (see page 20-158).
2. Disconnect the trunk lid opener cable and trunk lid latch switch connector. If equipped with a power trunk lid lock, detach the trunk lid latch switch connector from the trunk lid. Take care not to bend the opener cable.

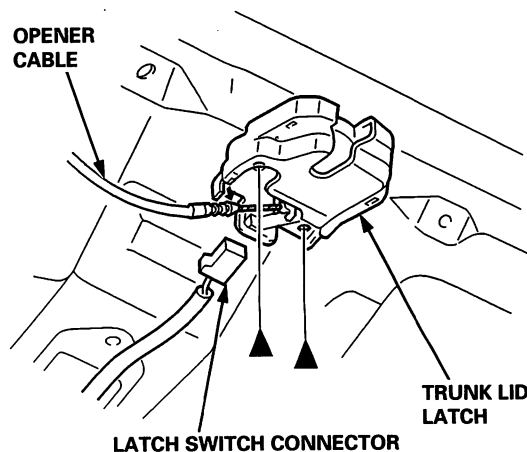
►: Bolt locations, 2



With power trunk lid lock:



Without power trunk lid lock:



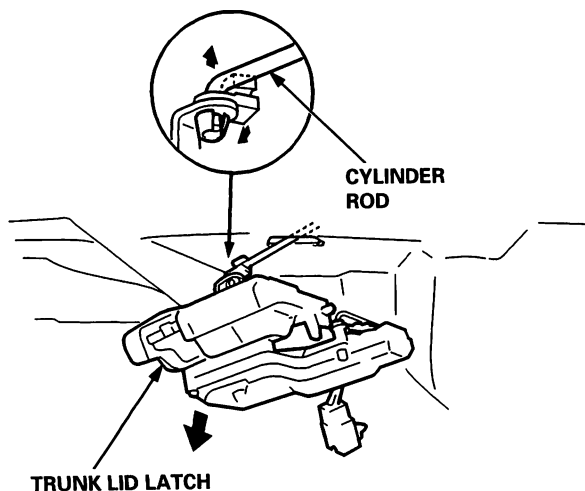
3. Remove the bolts from the trunk lid latch.

(cont'd)

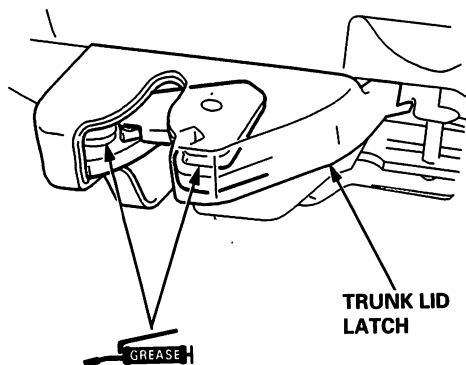
# Openers

## Trunk Lid Latch Replacement (cont'd)

4. Pull the trunk lid latch out with the cylinder rod. Take care not to bend the cylinder rod.

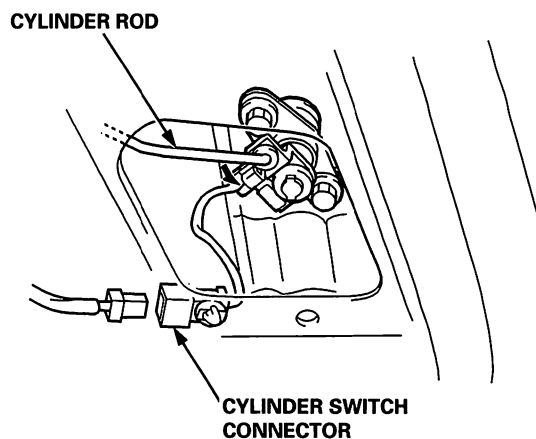


5. Disconnect the cylinder rod from the trunk lid latch.
6. Install in the reverse order of removal, and note these items:
  - Grease the location of the trunk lid latch indicated by the arrow.
  - Make sure the connector is plugged in properly and the cylinder rod is connected properly.
  - Make sure the trunk lid opens properly and locks securely.



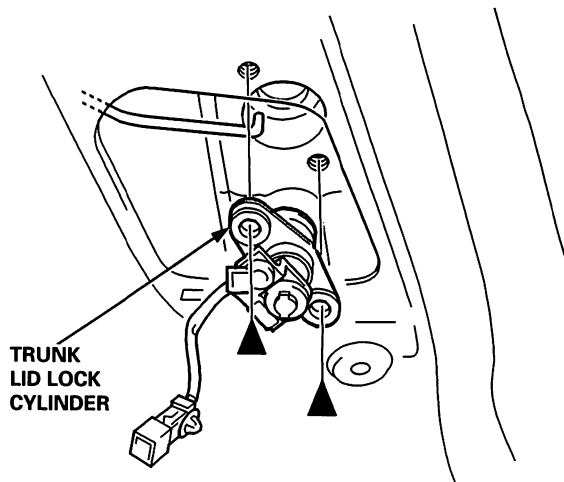
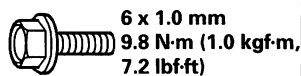
## Trunk Lid Lock Cylinder Replacement

1. Disconnect the cylinder rod and cylinder switch connector, then detach the cylinder switch connector from the trunk lid.



2. Remove the bolt securing the lock cylinder, and remove the trunk lid lock cylinder.

►: Bolt location, 2



3. Install in the reverse order of removal, and note these items:
  - Make sure the connector is plugged in properly and the cylinder rod is connected properly.
  - Make sure the trunk lid opens properly and locks securely.

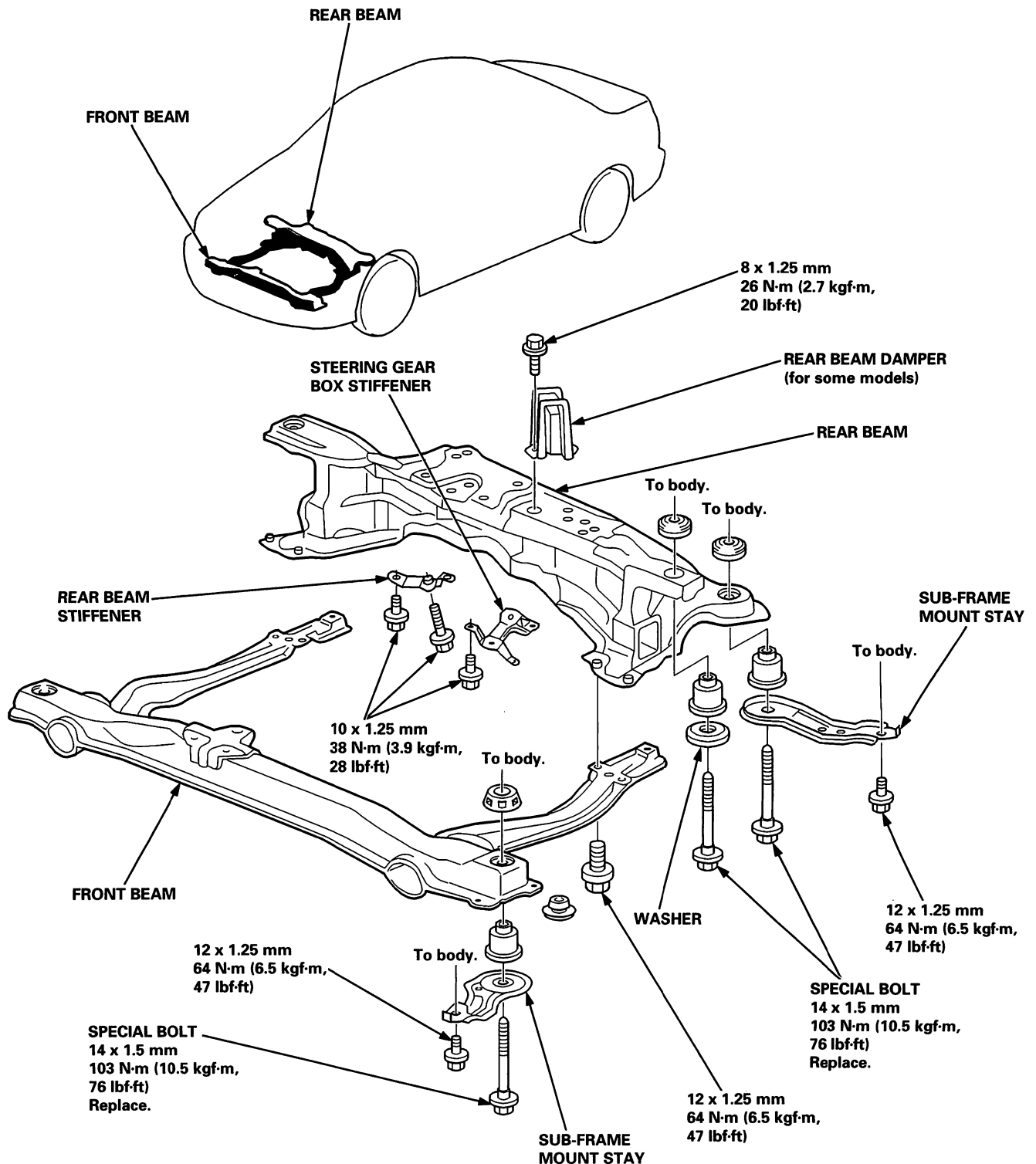


# Sub-frame

## Replacement

### Sub-frame Torque:

After loosening the sub-frame mounting bolts, be sure to replace them with new ones.



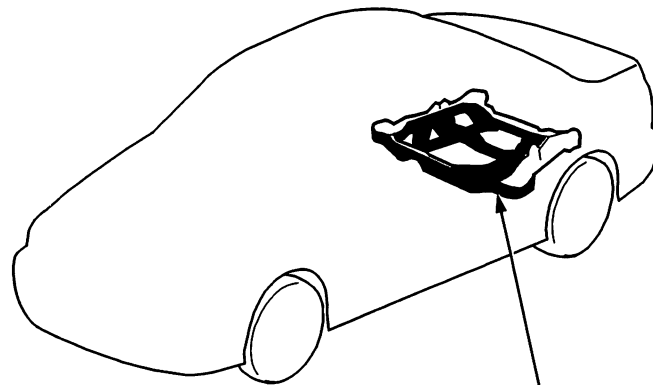


Diagram illustrating the rear suspension sub-frame assembly. The sub-frame is shown with various mounting points and components. Labels indicate connections to the body:

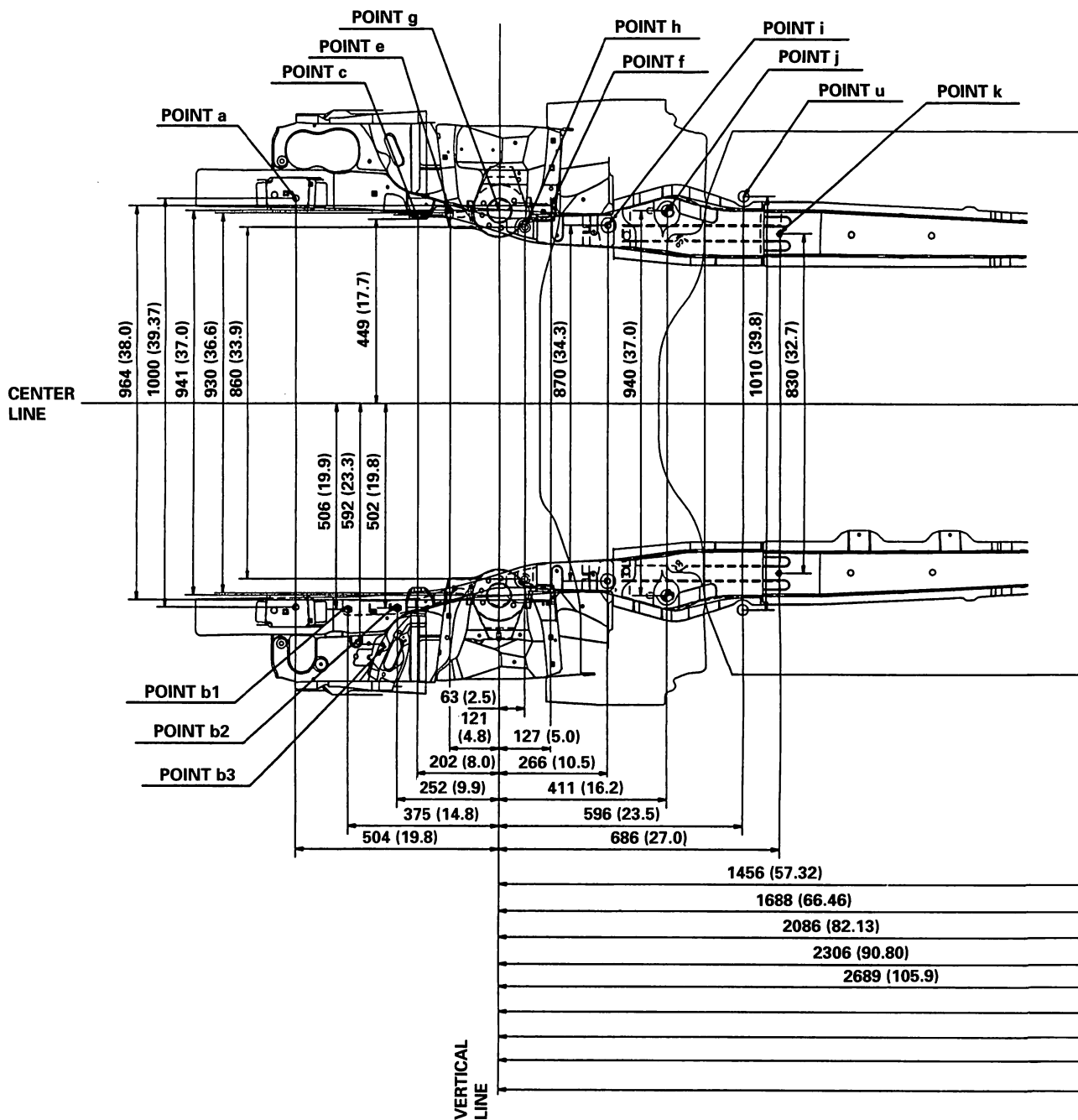
- REAR SUSPENSION SUB-FRAME**: Points to the main sub-frame structure.
- To body.**: Points to the upper right mounting point.
- To body.**: Points to the lower right mounting point.

**20-161**

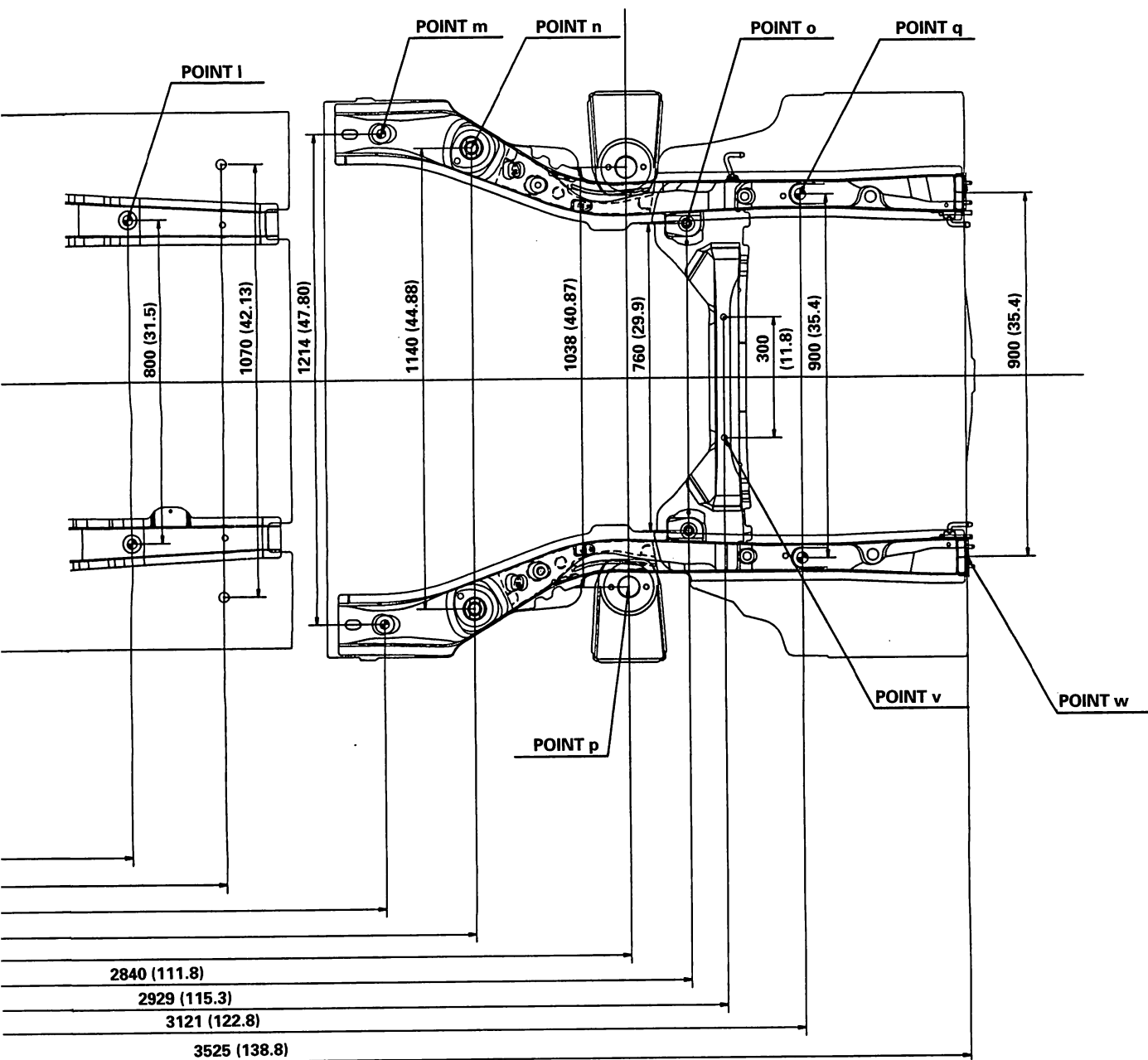
# Frame Repair Chart

Top view:

Unit: mm (in)  
ø: Inner diameter







(cont'd)

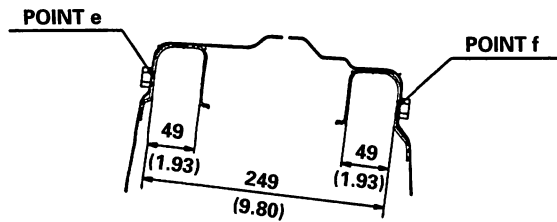
# Frame Repair Chart

(cont'd)

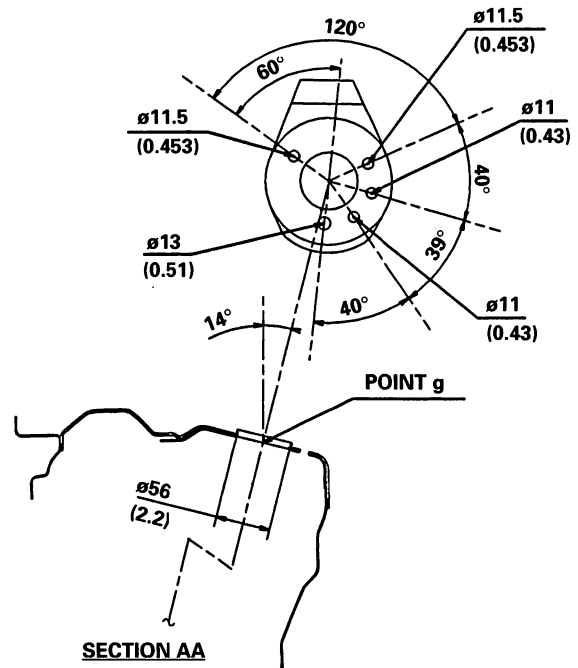
Side view:

Unit: mm (in)

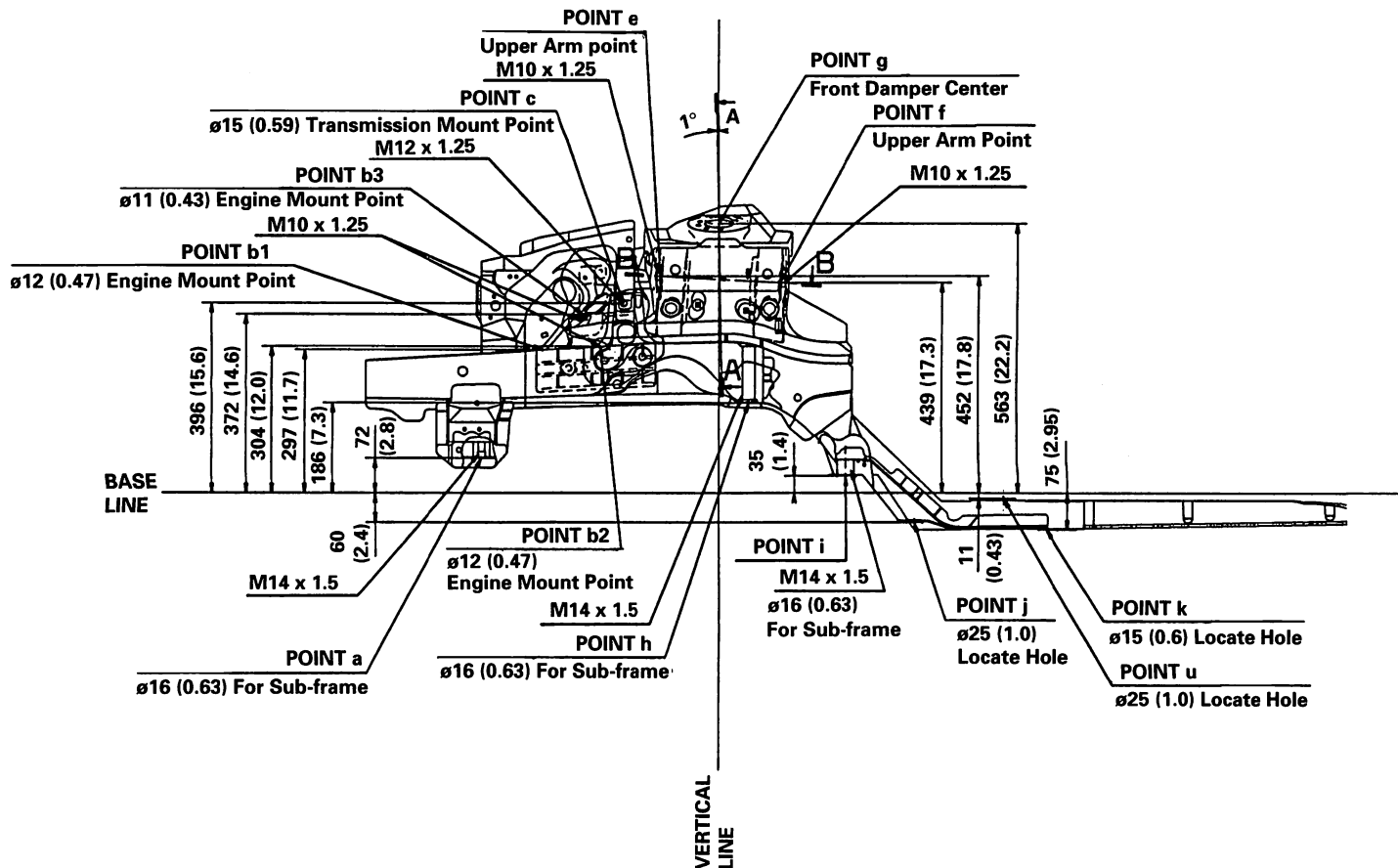
ø: Inner diameter

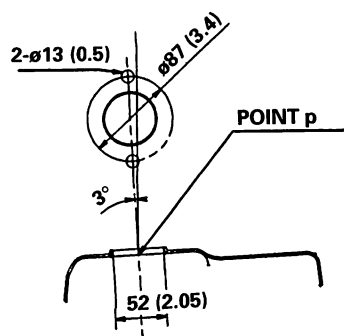


SECTION BB

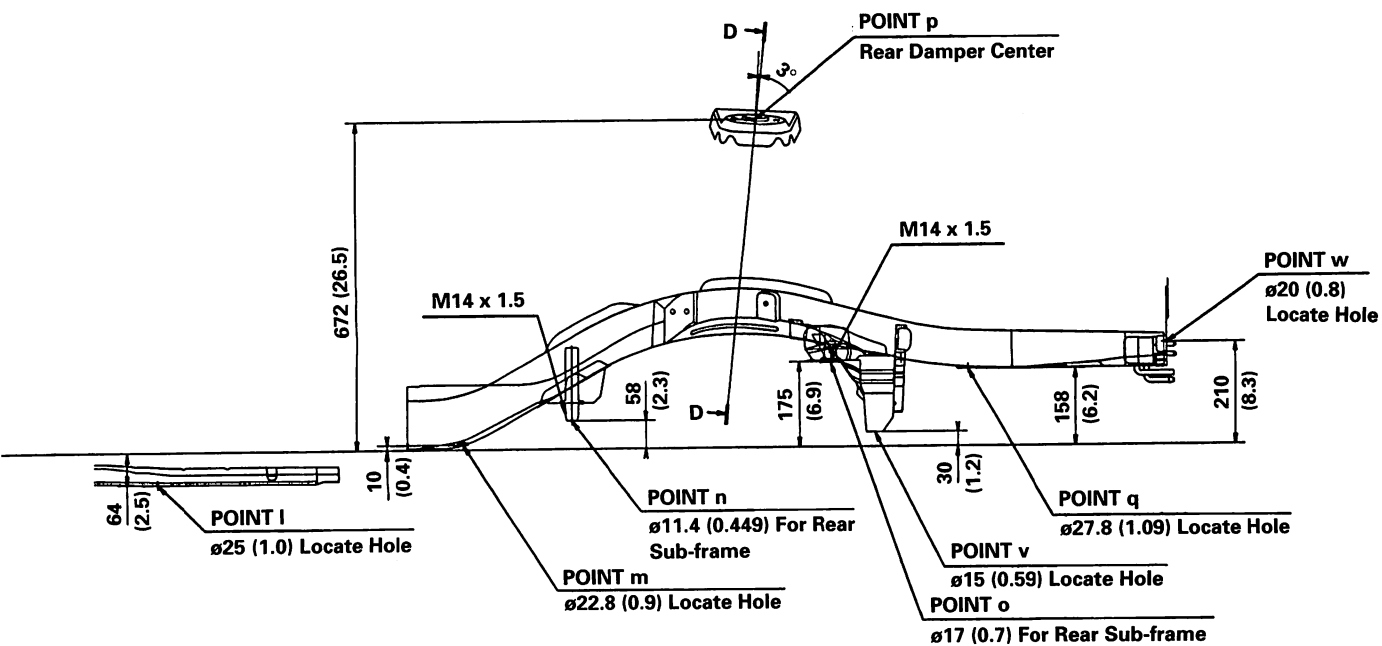


SECTION AA





**SECTION DD**



## Heater and Air Conditioning

<b>Heater .....</b>	<b>21-1</b>
<b>Air Conditioning .....</b>	<b>22-1</b>
<b>Automatic Climate Control .....</b>	<b>22-61</b>

### SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

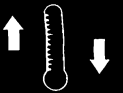
This Accord Sedan SRS includes a driver's airbag located in the steering wheel hub, and a passenger's airbag located in the dashboard above the glove box, and some types include seat belt tensioners located in the front seat belt retractors, and some types include side airbags located in the front seat-backs.

Information necessary to safely service the SRS is included in this Shop Manual.

Items marked with an asterisk (\*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

#### **WARNING**

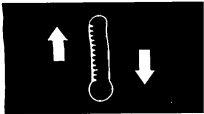
- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags, side airbags and seat belt tensioners.
- SRS electrical wiring harnesses are indicated with yellow color. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, front seats and around the floor. Do not use electrical test equipment on these circuits.



# Heater

<b>Component Location</b>		<b>Heater Control Panel</b>	
Index .....	21-2	Replacement .....	21-15
<b>Circuit Diagram</b> .....	21-3	Overhaul .....	21-15
<b>Troubleshooting</b>		<b>*Blower Unit</b>	
Symptom Chart .....	21-4	Replacement .....	21-16
Flowcharts		Overhaul .....	21-17
Blower Motor Speed .....	21-5	<b>*Heater Unit/Core</b>	
Blower Motor .....	21-7	Replacement .....	21-18
Recirculation Control Motor .....	21-10	<b>Temperature Control</b>	
Heater Control Panel Input/ Output Signals .....	21-12	Adjustment .....	21-20
<b>Heater Fan Switch</b>		<b>Mode Control</b>	
Test .....	21-13	Adjustment .....	21-21
<b>Relay</b>			
Test .....	21-13		
<b>Recirculation Control Motor</b>			
Test .....	21-14		
Replacement .....	21-14		

\*: Read SRS precautions before working in these area.

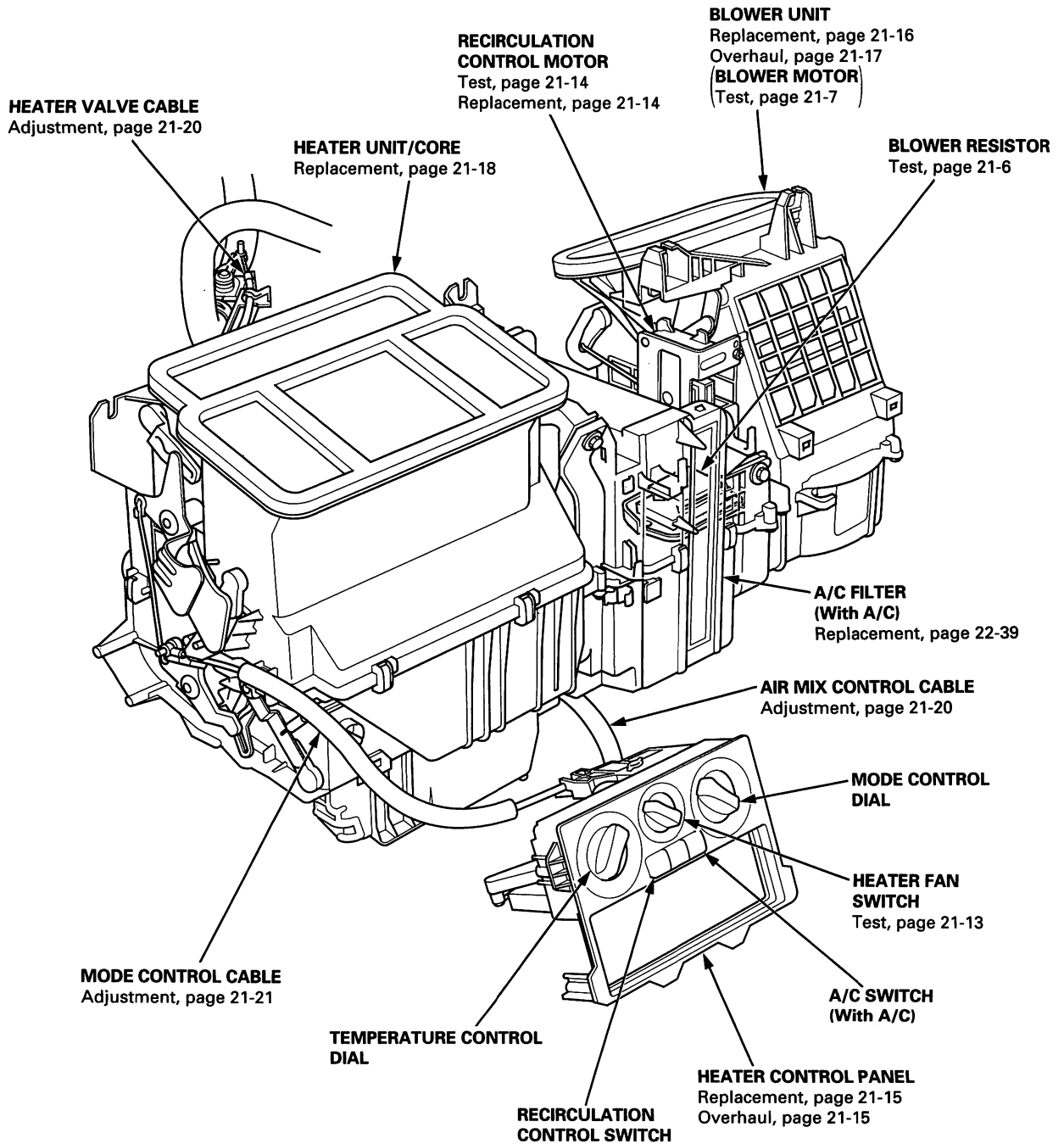


# Component Location

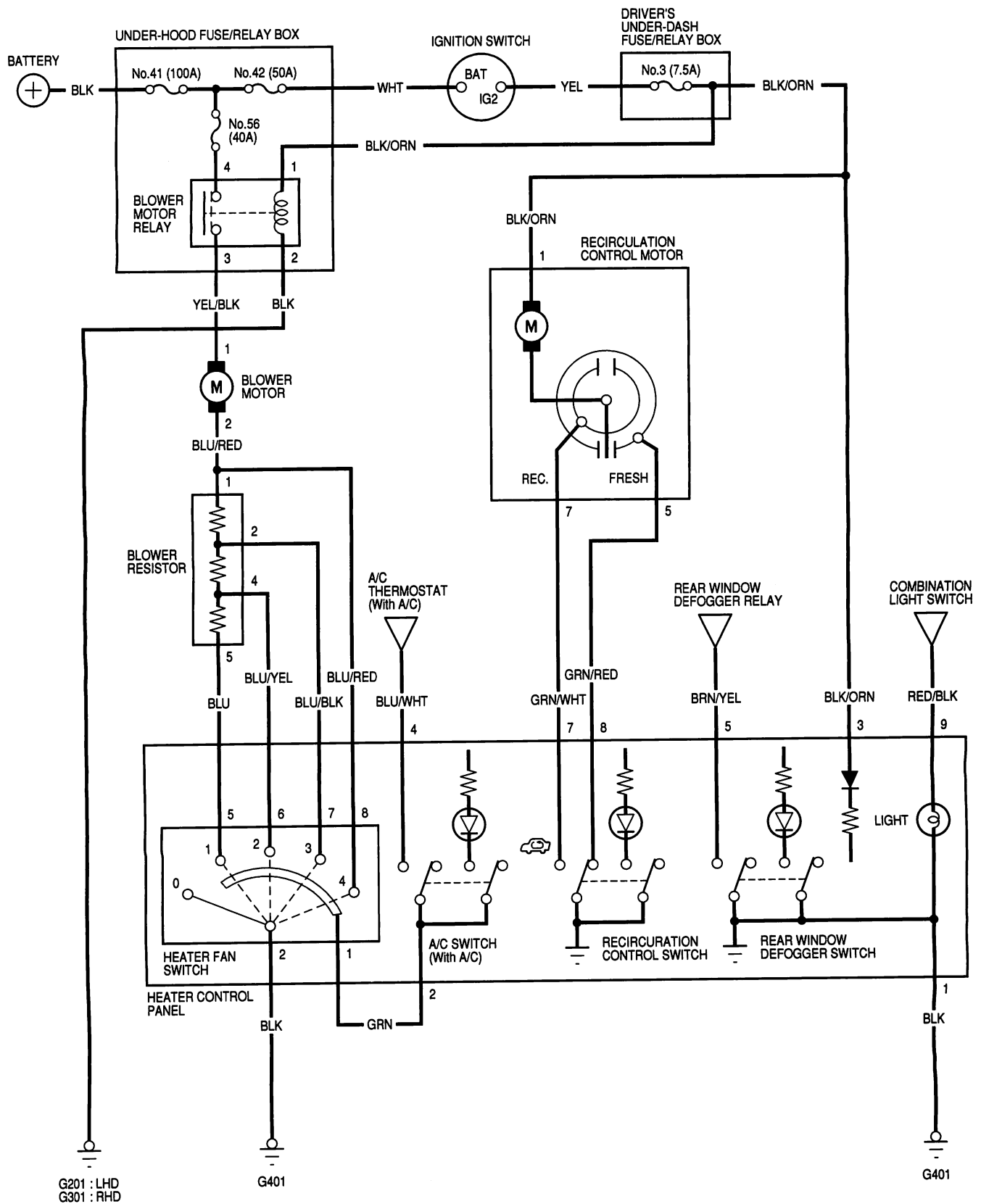
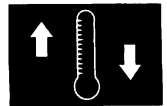
## Index

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

NOTE: LHD type is shown, RHD type is symmetrical.



# Circuit Diagram



# Troubleshooting

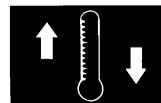
## Symptom Chart

Note these items before troubleshooting a symptom:

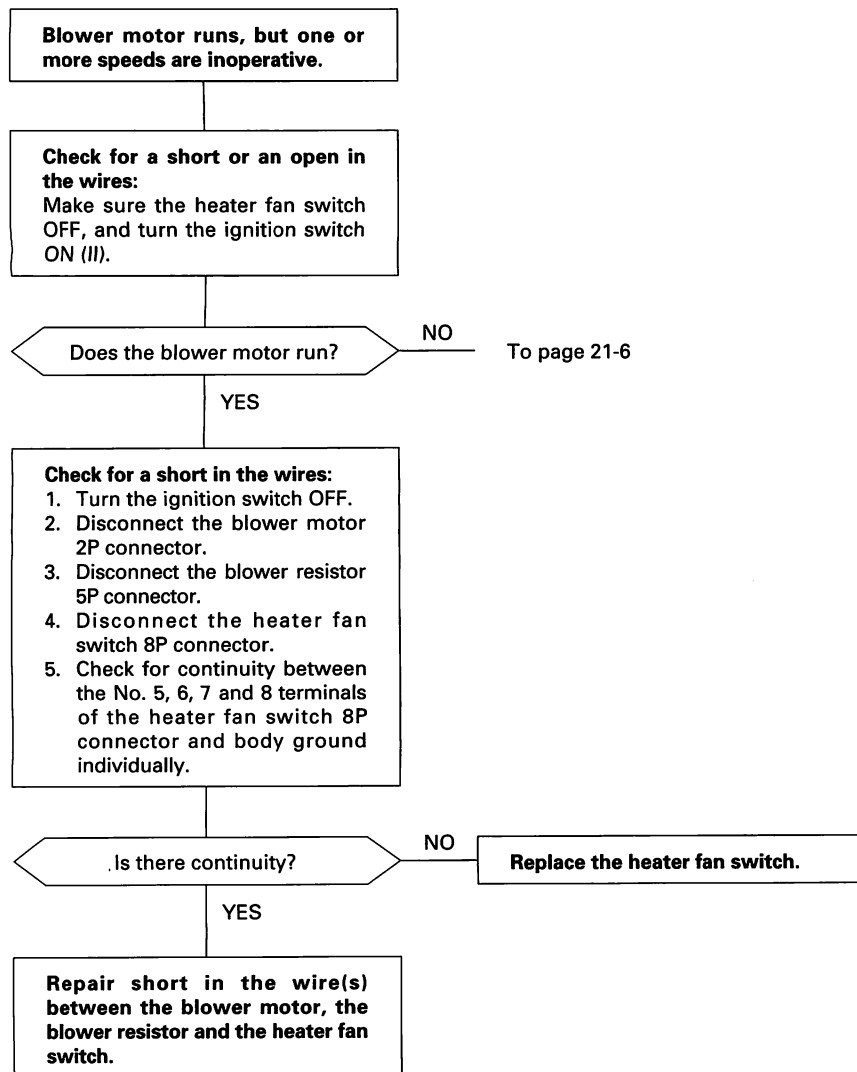
- Check the engine coolant level, and allow the engine to warm up before troubleshooting.
- Any abnormality must be corrected before continuing the test.
- Because of the precise measurements needed, use a digital circuit tester when testing.
- Before performing any troubleshooting procedures check:
  - Fuse No. 56 (40 A) in the under-hood fuse/relay box, and No. 3 (7.5 A) in the driver's under-dash fuse/relay box.
  - Grounds No. G201 (LHD), G301 (RHD), G401
  - Cleanliness and tightness of all connectors

Symptom		Remedy
Hot air flow is low.	Blower motor runs, but one or more speeds are inoperative.	Perform the procedures in the flowchart (see page 21-5).
	Blower runs properly.	Check for the following: <ul style="list-style-type: none"><li>• Clogged heater duct</li><li>• Clogged heater outlet</li><li>• Incorrect door position</li></ul>
No hot air flow.	Blower motor does not run at all.	Perform the procedures in the flowchart (see page 21-7).
	Blower motor runs.	Check for the following: <ul style="list-style-type: none"><li>• Clogged heater duct</li><li>• Clogged blower outlet</li><li>• Clogged heater valve</li><li>• Faulty air mix door</li><li>• Heater valve cable adjustment (see page 21-20)</li><li>• Air mix control cable adjustment (see page 21-20)</li><li>• Faulty cooling system thermostat (see section 10)</li><li>• Clogged evaporator (with air conditioning)</li><li>• Frozen evaporator (with air conditioning)</li></ul>
Recirculation control doors do not change between Fresh and Recirculate.		Perform the procedures in the flowchart (see page 21-10).

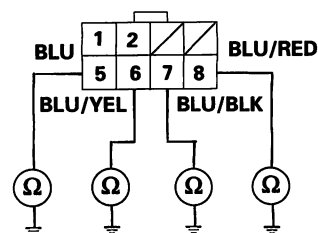




## Blower Motor Speed



HEATER FAN SWITCH 8P CONNECTOR



Wire side of female terminals

(cont'd)

# Troubleshooting

## Blower Motor Speed (cont'd)

From page 21-5

### Check the blower resistor:

1. Turn the ignition switch OFF.
2. Disconnect the blower resistor 5P connector.
3. Measure the resistance between the No. 1 and No. 5 terminals of the blower resistor.

Is there approx. 2 – 3 ohms?

NO

Replace the blower resistor.

YES

### Check for an open in the wires:

1. Reconnect the blower resistor 5P connector.
2. Disconnect the heater fan switch 8P connector.
3. Turn the ignition switch ON (II).
4. Ground each of the heater fan switch 8P connector terminals individually in the following order: No. 5, 6, 7 and 8.

Does the blower motor run at progressively higher speeds?

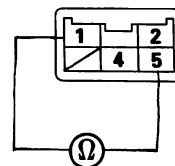
NO

Repair open or cause of excessive resistance in the appropriate wire(s) between the blower resistor and the heater fan switch.

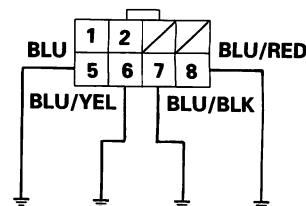
YES

Replace the heater fan switch.

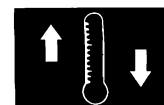
BLOWER RESISTOR



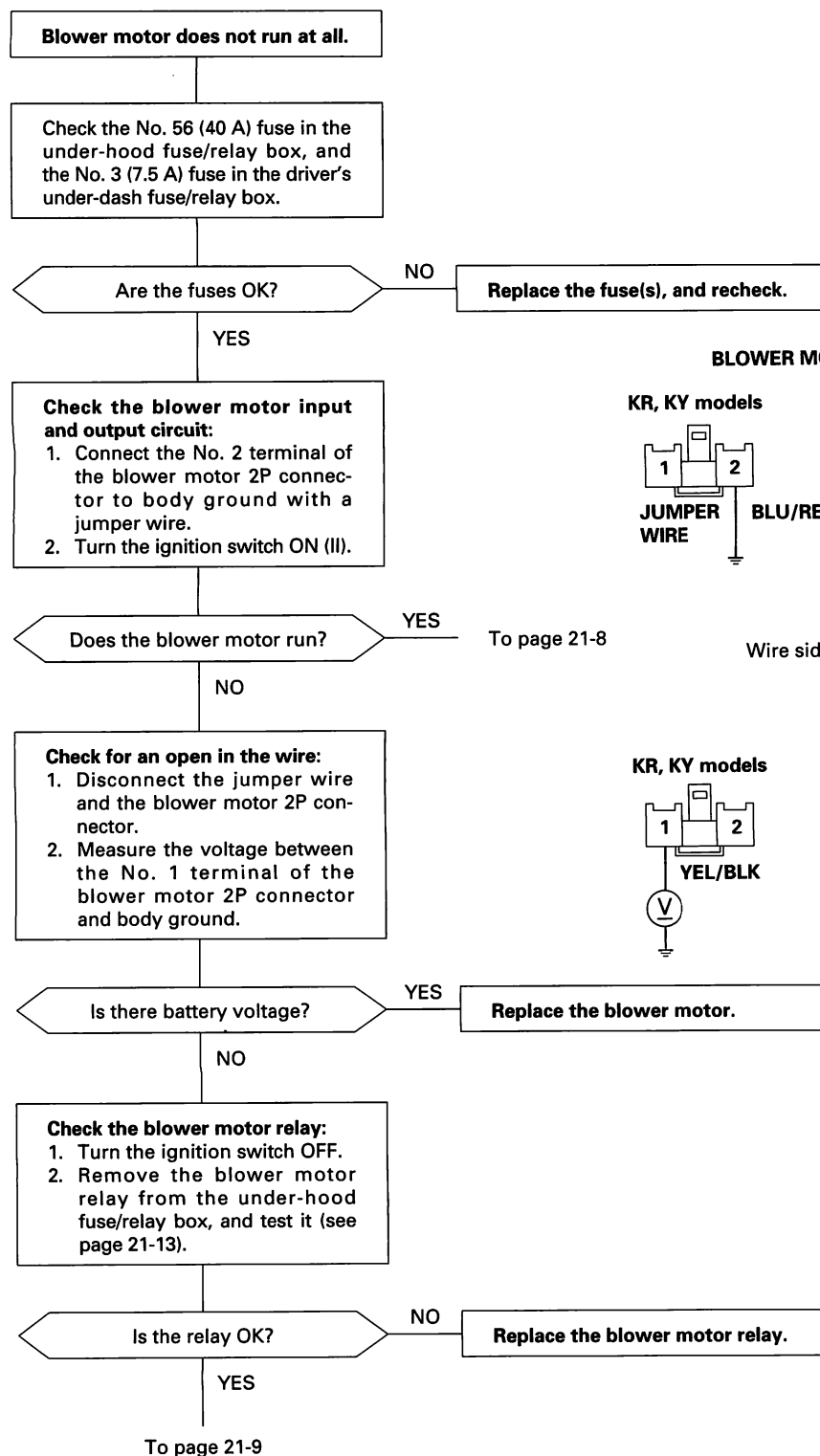
HEATER FAN SWITCH 8P CONNECTOR



Wire side of female terminals

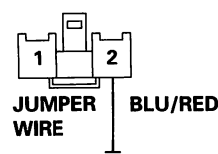


## Blower Motor

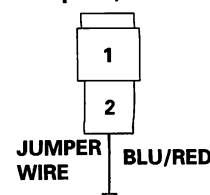


### BLOWER MOTOR 2P CONNECTOR

KR, KY models

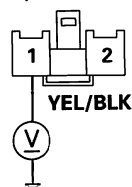


Except KR, KY models

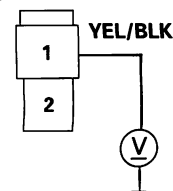


Wire side of female terminals

KR, KY models



Except KR, KY models

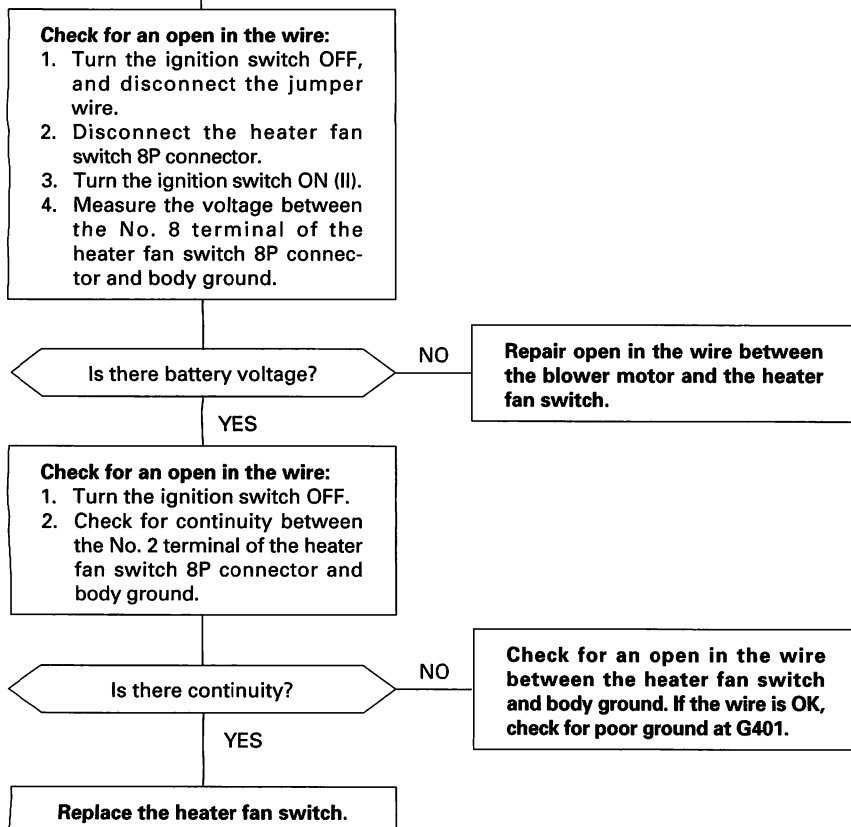


(cont'd)

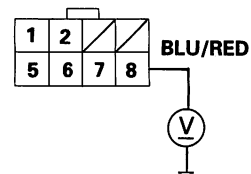
# Troubleshooting

## Blower Motor (cont'd)

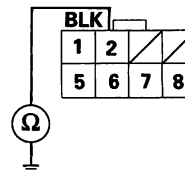
From page 21-7

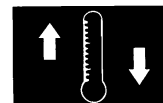


HEATER FAN SWITCH 8P CONNECTOR

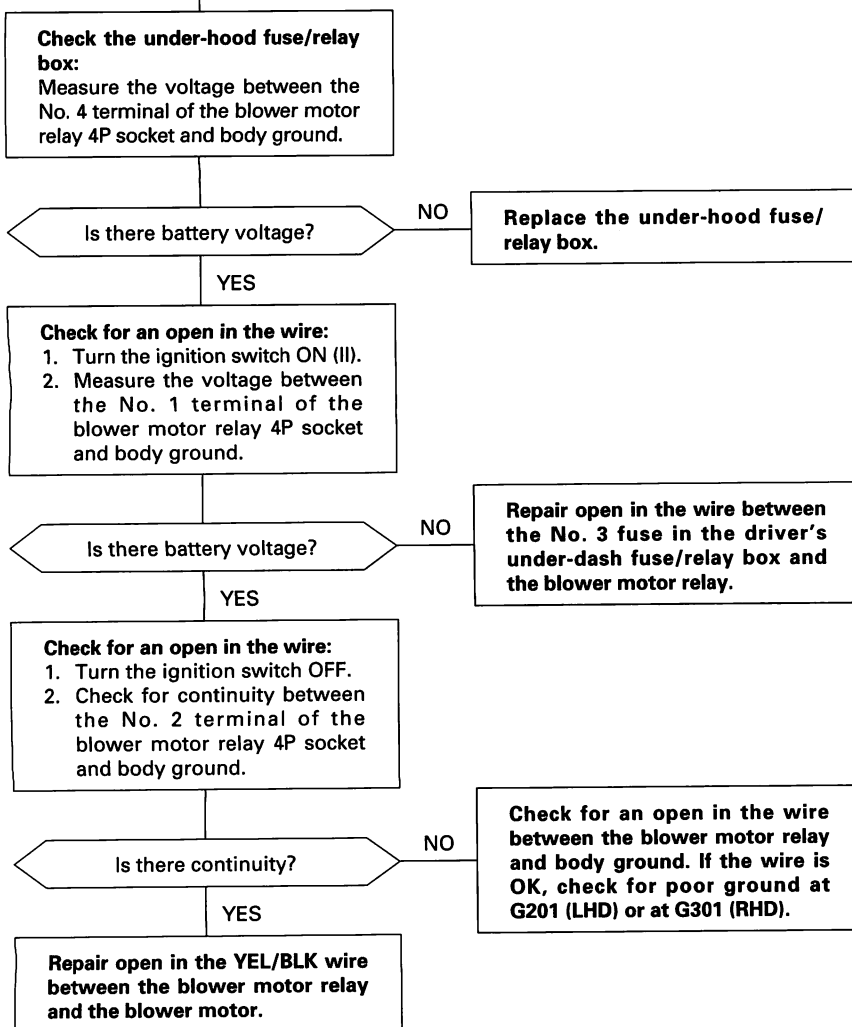


Wire side of female terminals

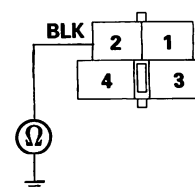
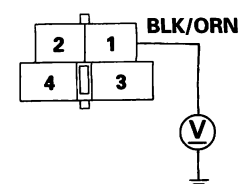
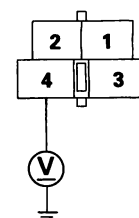




From page 21-7

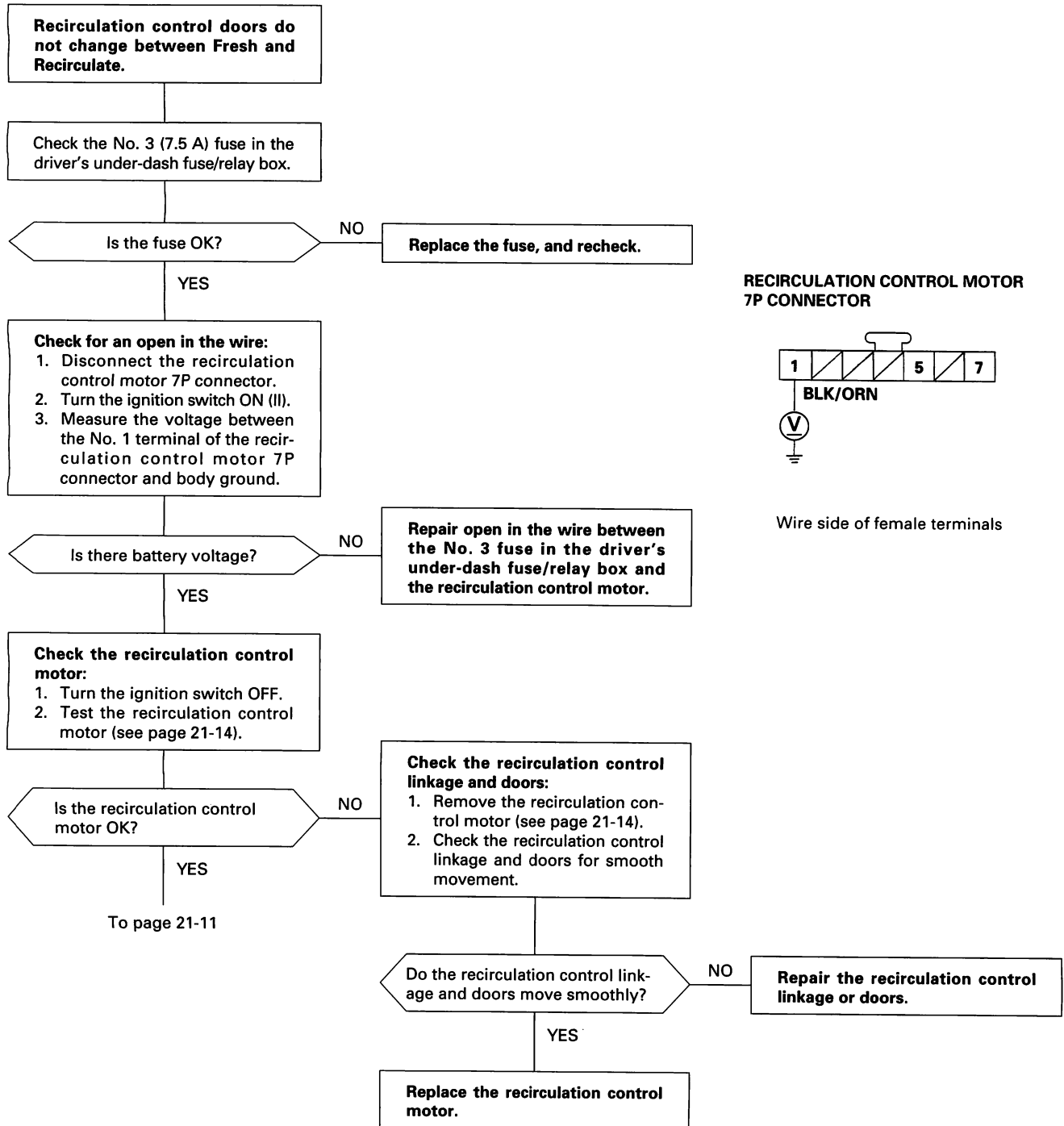


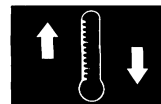
#### BLOWER MOTOR RELAY 4P SOCKET



# Troubleshooting

## Recirculation Control Motor





From page 21-10

**Check for a short in the wires:**  
1. Disconnect the heater control panel 10P connector.  
2. Check for continuity between the No. 7 and No. 8 terminals of the heater control panel 10P connector and body ground individually.

Is there continuity? YES

**Repair short in the wire(s) between the heater control panel and the recirculation control motor.**

**Check for a short to power:**  
Check the same wires for voltage.

Is there any voltage? YES

**Repair short to power in the wire between the heater control panel and the recirculation control motor. This also damages the heater control panel. Repair the short to power before replacing the heater control panel.**

**Check for an open in the wires:**  
Check for continuity between the following terminals of the heater control panel 10P connector and the recirculation control motor 7P connector.  
10P: 7P:  
No. 7 — No. 7  
No. 8 — No. 5

Is there continuity? NO

**Repair open in the wire(s) between the heater control panel and the recirculation control motor.**

YES

**Check for an open in the wire:**  
Check for continuity between the No. 1 terminal of the heater control panel 10P connector and body ground.

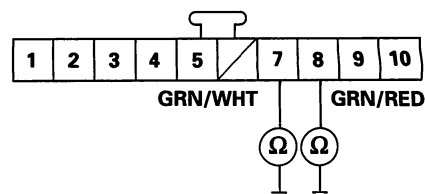
Is there continuity? NO

**Check for an open in the wire between the heater control panel and body ground. If the wire is OK, check for poor ground at G401.**

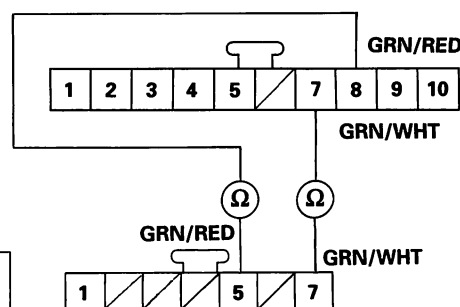
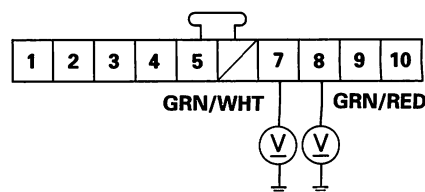
YES

**Check for loose wires or poor connections at the heater control panel 10P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.**

## HEATER CONTROL PANEL 10P CONNECTOR

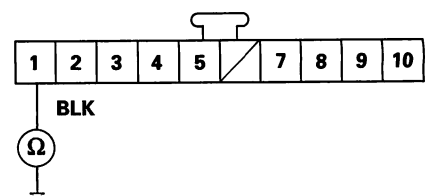


Wire side of female terminals



## RECIRCULATION CONTROL MOTOR 7P CONNECTOR

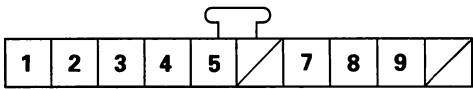
Wire side of female terminals



# Troubleshooting

## Heater Control Panel Input/Output Signals

HEATER CONTROL PANEL 10P CONNECTOR



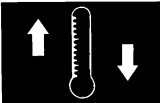
Wire side of female terminals

Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1	BLK	GROUND	OUTPUT	6			
2	GRN	HEATER FAN SWITCH	OUTPUT	7	GRN/WHT	RECIRCULATE	INPUT
3	BLK/ORN	IG2 (Power)	INPUT	8	GRN/RED	FRESH	INPUT
4	BLU/WHT	A/C THERMOSTAT (With A/C)	INPUT	9	RED/BLK	COMBINATION LIGHT SWITCH	INPUT
5	BRN/YEL	REAR WINDOW DEFOGGER RELAY	INPUT	10			



# Heater Fan Switch

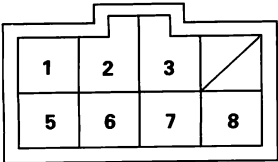
# Relay



## Test

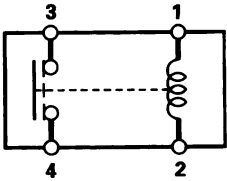
Check for continuity between the terminals in each switch position according to the table.

Terminal Position	1	2	3	5	6	7	8
0							
1	○	○		○			
2	○	○			○		
3	○	○				○	
4	○	○					○

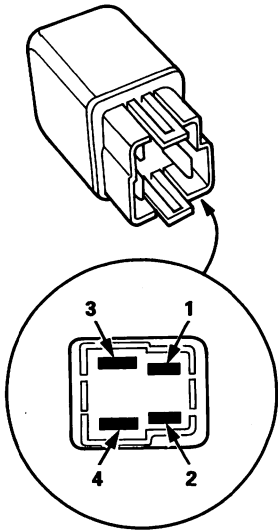


## Test

There should be continuity between the No. 3 and No. 4 terminals when power and ground are connected to the No. 1 and No. 2 terminals, and there should be no continuity when power is disconnected.



- Blower motor relay

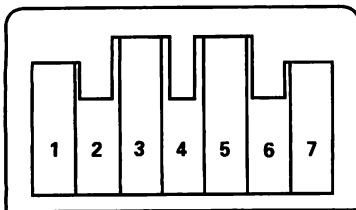


# Recirculation Control Motor

## Test

1. Disconnect the 7P connector from the recirculation control motor.
2. Connect battery power to the No. 1 terminal, and ground the No. 5 and No. 7 terminals; the recirculation control motor should run smoothly. To avoid damaging the recirculation control motor, do not reverse power and ground.

RECIRCULATION CONTROL MOTOR

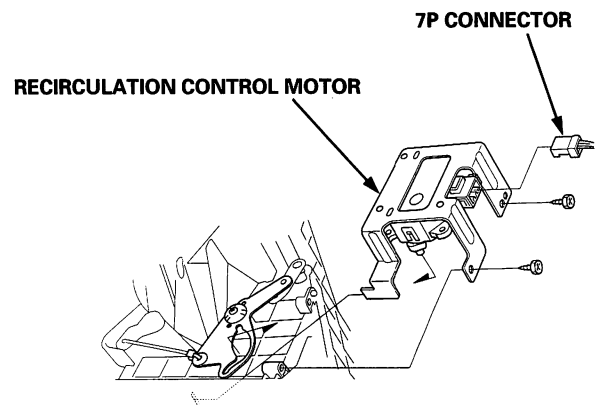


3. Disconnect the No. 5 and No. 7 terminals from ground; the recirculation control motor should stop at Fresh or Recirculate. Don't cycle the recirculation control motor for a long time.
4. If the recirculation control motor does not run in step 2, remove it, then check the recirculation control linkage and doors for smooth movement. If they move smoothly, replace the recirculation control motor.

## Replacement

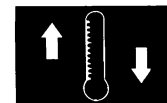
NOTE: LHD type is shown, RHD type is symmetrical.

1. Disconnect the 7P connector from the recirculation control motor. Remove the self-tapping screws and the recirculation control motor from the blower unit.



2. Install in the reverse order of removal. After installation, make sure the recirculation control motor runs smoothly.

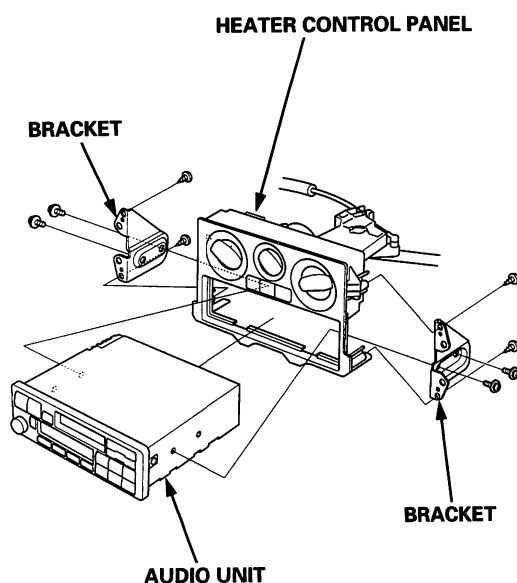
# Heater Control Panel



## Replacement

NOTE: LHD type is shown, RHD type is symmetrical.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the heater control pane together with the audio unit from the dashboard (see section 20).
3. Remove the self-tapping screws, brackets and the audio unit from the heater control panel.

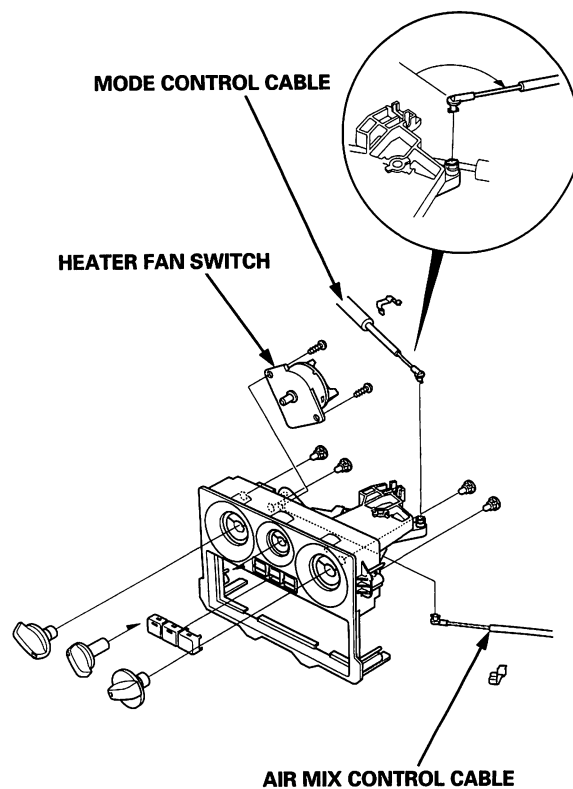


4. Install in the reverse order of removal, and note these items:
  - Adjust the mode control cable (see page 21-21) and the air mix control cable (see page 21-20). If necessary, adjust the heater valve cable (see page 21-20).
  - After installation, operate the heater control panel to see whether it works properly.
  - Enter the anti-theft code for the radio, then enter the customer's radio station presets.

## Overhaul

NOTE: LHD type is shown, RHD type is symmetrical.

After installation, make sure that the temperature control dial and the mode control dial move smoothly without binding.



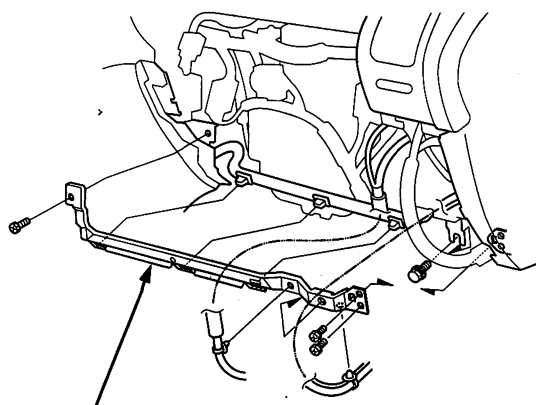
# Blower Unit

## Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

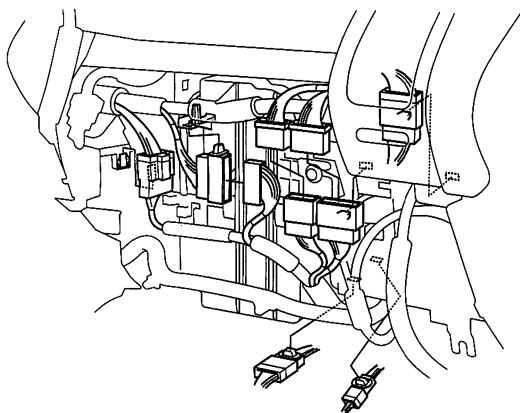
NOTE: LHD type is shown, RHD type is symmetrical.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the glove box (see section 20).
3. Remove the wire harness clips, the bolts and the glove box frame.

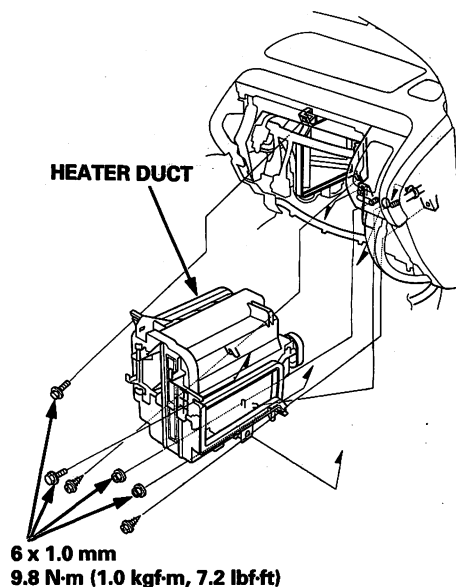


GLOVE BOX FRAME

4. Disconnect the wire harness connectors, then remove the wire harness clips.

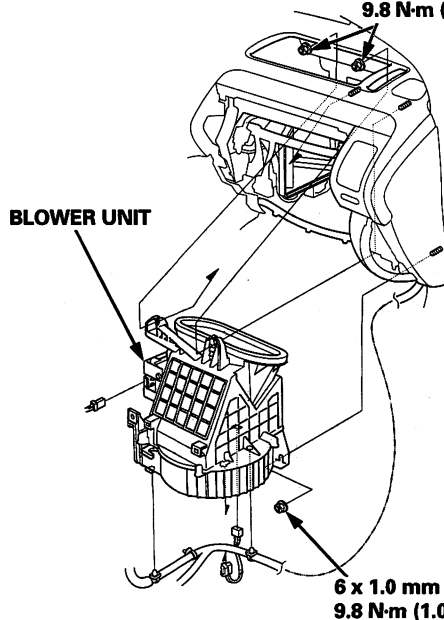


5. With air conditioning; remove the evaporator (see page 22-36).
6. Without air conditioning; remove the self-tapping screws, the mounting nuts, the mounting bolts and the heater duct.

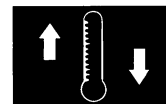


7. Remove the front passenger's airbag (see section 24).
8. Disconnect the connectors from the blower motor, the blower resistor and the recirculation control motor, then remove the wire harness clips. Remove the mounting nuts and the blower unit.

6 x 1.0 mm  
9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)



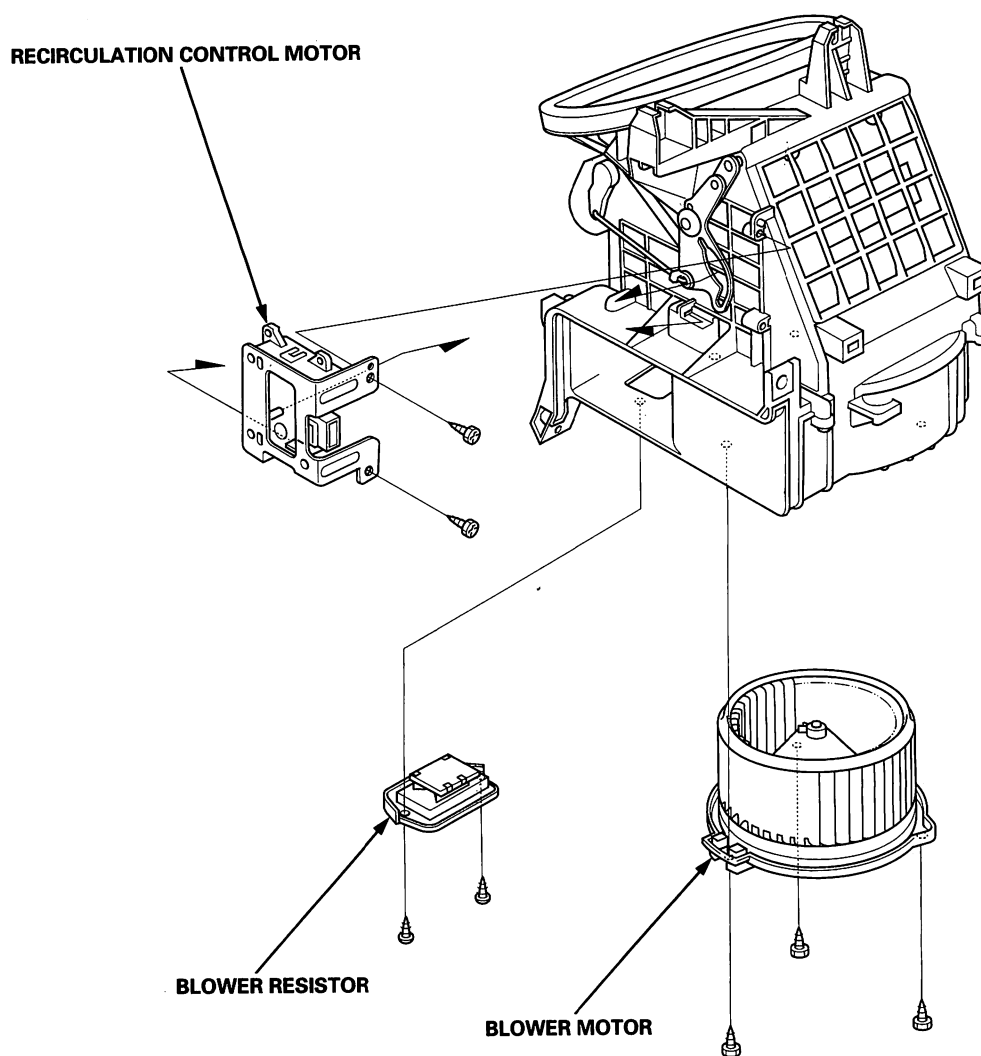
9. Install in the reverse order of removal. And note these items:
  - Make sure that there is no air leakage.
  - Enter the anti-theft code for the radio, then enter the customer's radio station presets.



## Overhaul

Note these items when overhauling the blower unit:

- LHD type is shown, RHD type is symmetrical.
- The recirculation control motor, the blower resistor and the blower motor can be replaced without removing the blower unit.
- Before reassembly, make sure that the recirculation control doors and linkage move smoothly without binding.
- After reassembly, make sure the recirculation control motor runs smoothly (see page 21-14).
- Make sure that there is no air leakage.



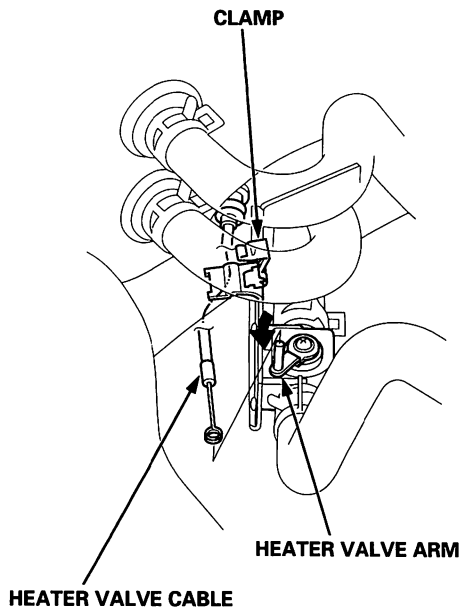
# Heater Unit/Core

## Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

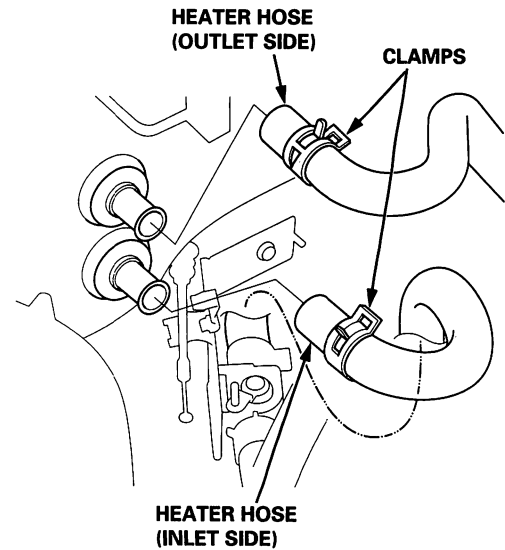
NOTE: LHD type is shown, RHD type is similar.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. From under the hood, open the cable clamp, then disconnect the heater valve cable from the heater valve arm. Turn the heater valve arm to the fully opened position as shown.

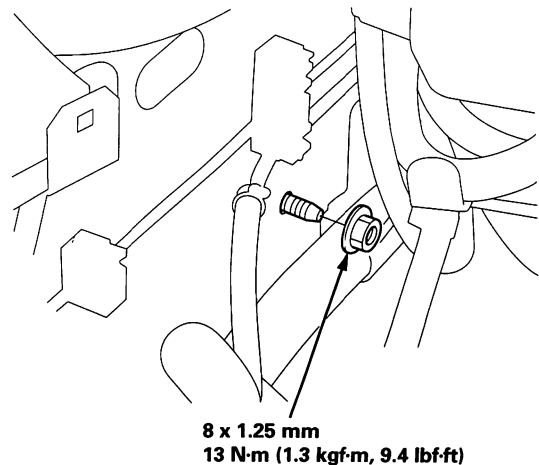


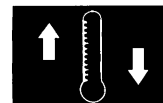
4. When the engine is cool, drain the engine coolant from the radiator (see section 10).

5. Slide the hose clamps back, then disconnect the inlet and outlet heater hoses from the heater unit. Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan. Be sure not to let coolant spill on the electrical parts or the painted surfaces. If any coolant spills, rinse it off immediately.



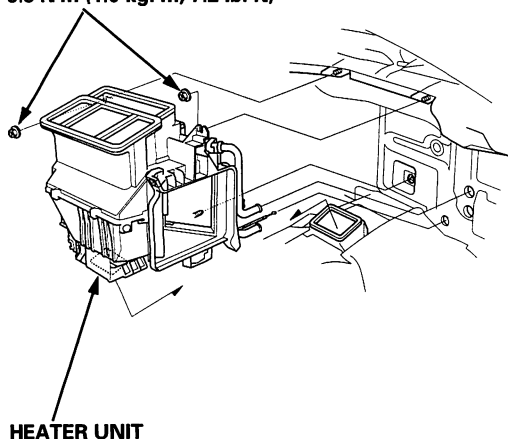
6. Remove the mounting nut from the heater unit. Take care not to damage or bend the fuel lines. The brake lines, etc.



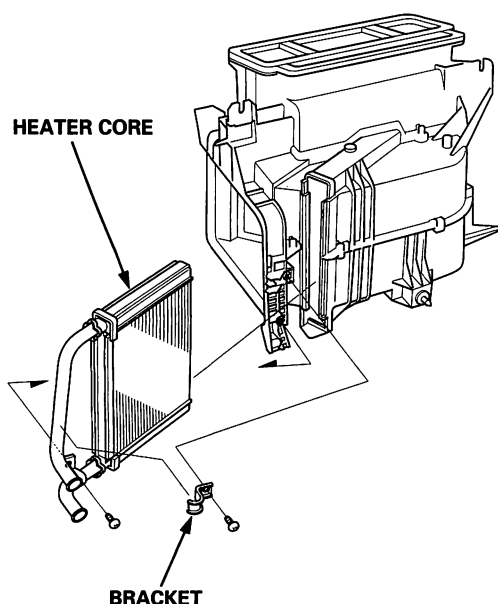


7. Remove the dashboard (see section 20).
8. Remove the heater duct (see page 21-16) or evaporator (see page 22-36).
9. Remove the mounting nuts and the heater unit.

6 x 1.0 mm  
9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)



10. Remove the self-tapping screws and the bracket. Be careful not to bend the inlet and outlet pipes during heater core removal, and pull out the heater core.



11. Install the heater core in the reverse order of removal.

12. Install the heater unit in the reverse order of removal, and note these items:

- Apply sealant to the grommets.
- Do not interchange the inlet and outlet heater hoses, and install the hose clamps securely.
- Refill the cooling system with engine coolant (see section 10).
- Adjust the air mix control cable and the heater valve cable (see page 21-20), and adjust the mode control cable (see page 21-21).
- Make sure that there is no air leakage.
- Enter the anti-theft code for the radio, then enter the customer's radio station presets.

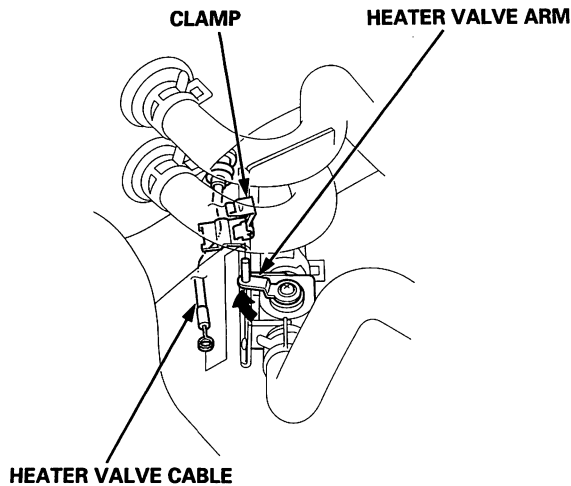
# Temperature Control

## Adjustment

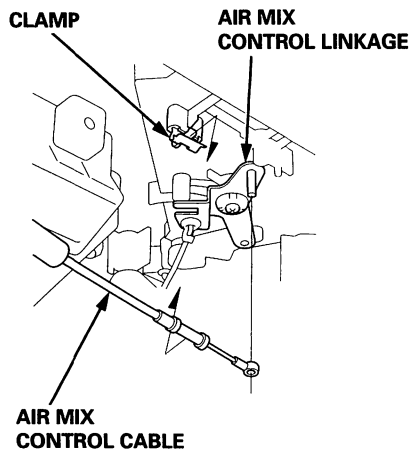
### Air Mix Control Cable

NOTE: LHD type is shown, RHD type is symmetrical.

1. From under the hood, open the clamp, then disconnect the heater valve cable from the heater valve arm.



2. From under the dash, disconnect the air mix control cable housing from the clamp, and disconnect the air mix control cable from the air mix control linkage.

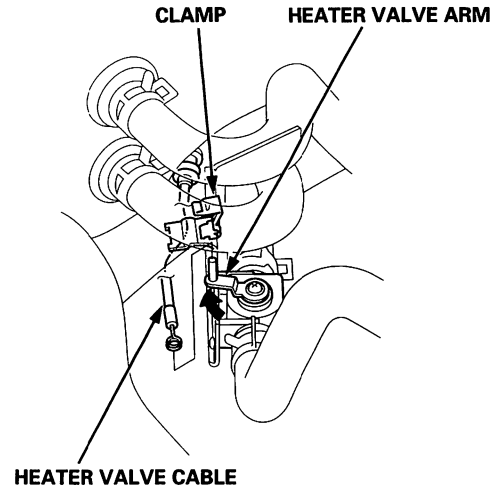


3. Set the temperature control dial to MAX COOL.
4. Turn the air mix control linkage fully counterclockwise as shown above, and hold it. Attach the air mix control cable to the air mix control linkage, then snap the air mix control cable housing into the clamp.
5. From under the hood, turn the heater valve arm to the fully closed position as shown above, and hold it. Attach the heater valve cable to the heater valve arm, and gently pull on the heater valve cable housing to take up any slack, then install the heater valve cable housing into the clamp.

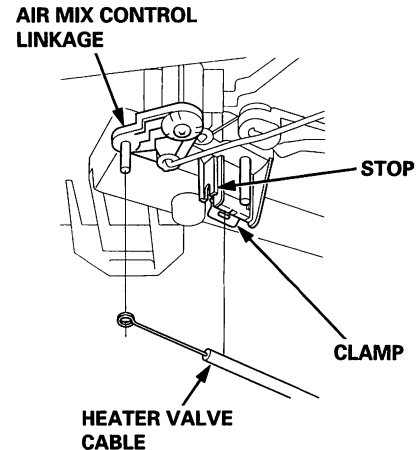
### Heater Valve Cable

NOTE: LHD type is shown, RHD type is symmetrical.

1. From under the hood, open the clamp, then disconnect the heater valve cable from the heater valve arm.

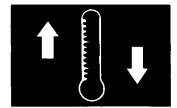


2. From under the dash, disconnect the heater valve cable housing from the clamp, and disconnect the heater valve cable from the air mix control linkage.



3. Set the temperature control dial to MAX COOL.
4. Turn the air mix control linkage fully clockwise as shown above, and hold it. Attach the heater valve cable to the air mix control linkage. Hold the end of the heater valve cable housing against the stop, then snap the heater valve cable housing into the clamp.
5. From under the hood, turn the heater valve arm to the fully closed position as shown above, and hold it. Attach the heater valve cable to the heater valve arm, and gently pull on the heater valve cable housing to take up any slack, then install the heater valve cable housing into the clamp.

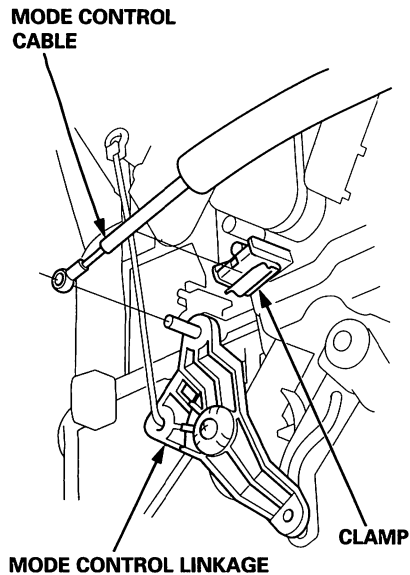




## Adjustment

NOTE: LHD type is shown, RHD type is symmetrical.

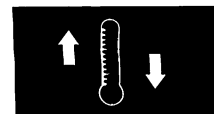
1. From under the dash, disconnect the mode control cable housing from the clamp, and disconnect the mode control cable from the mode control linkage.



2. Set the mode control dial to VENT.
3. Turn the mode control linkage fully clockwise as shown above, and hold it. Attach the mode control cable to the mode control linkage, then snap the mode control cable housing into the clamp.

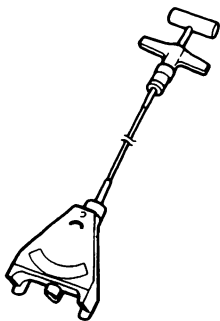
# Air Conditioning

Special Tools .....	22-2	Evaporator	
Component Location		Replacement .....	22-36
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Description .....	22-5	A/C Filter	
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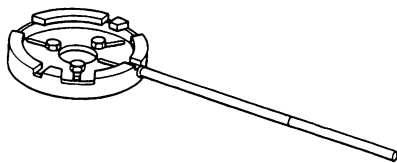


# Special Tools

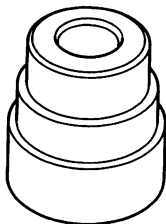
Ref. No.	Tool Number	Description	Qty	Remark
①	07JGG - 0010101	Belt Tension Gauge	1	
②	07NAB - HAC0101	A/C Clutch Holder	1	
③	07947 - 6340300	Driver Attachment	1	
④	07965 - 6920500	Hub Assembly Guide Attachment	1	
⑤	07XAZ - SIA0300	ECM Test Harness	1	
⑥	07XAZ - 0010100	Test Pin Box (Pin Box 130 Seem)	1	



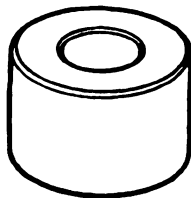
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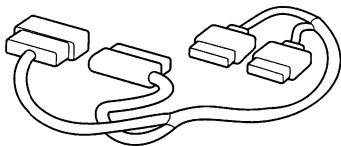
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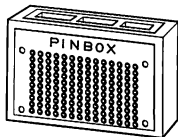
③



④

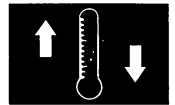


⑤



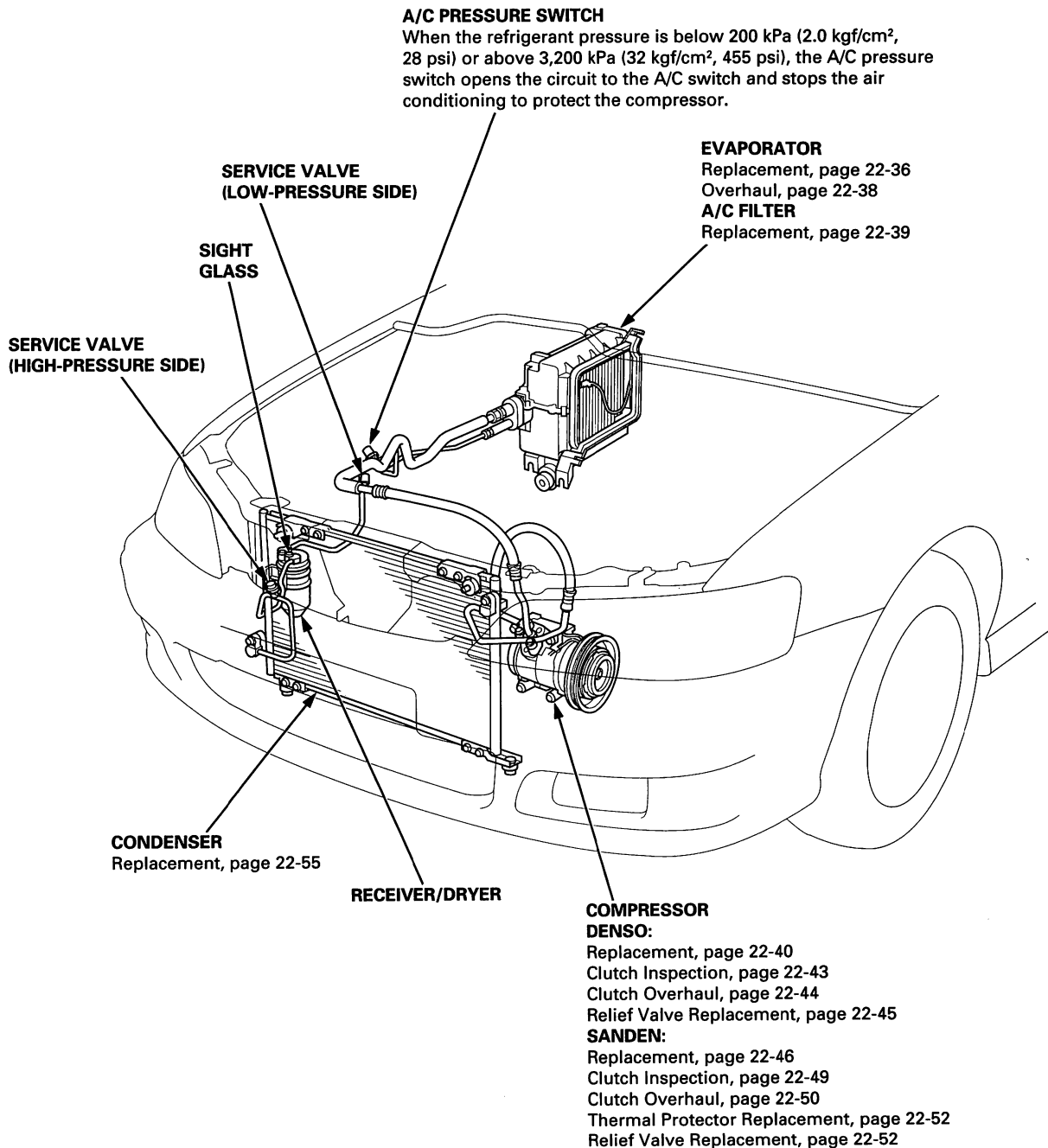
⑥

# Component Location



## Index

NOTE: LHD type is shown, RHD type is symmetrical.



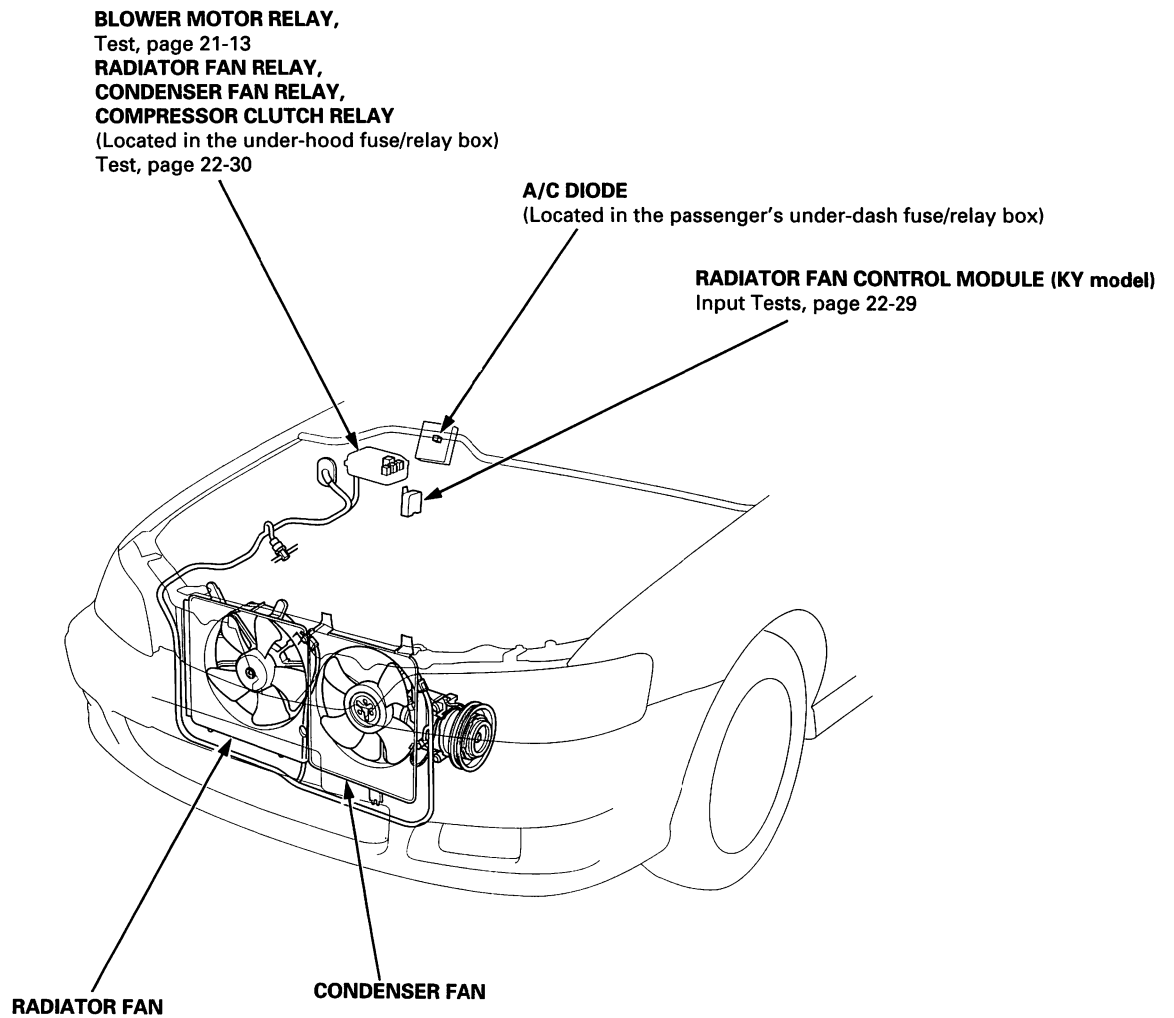
(cont'd)

# Component Location

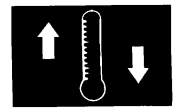
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## Index (cont'd)

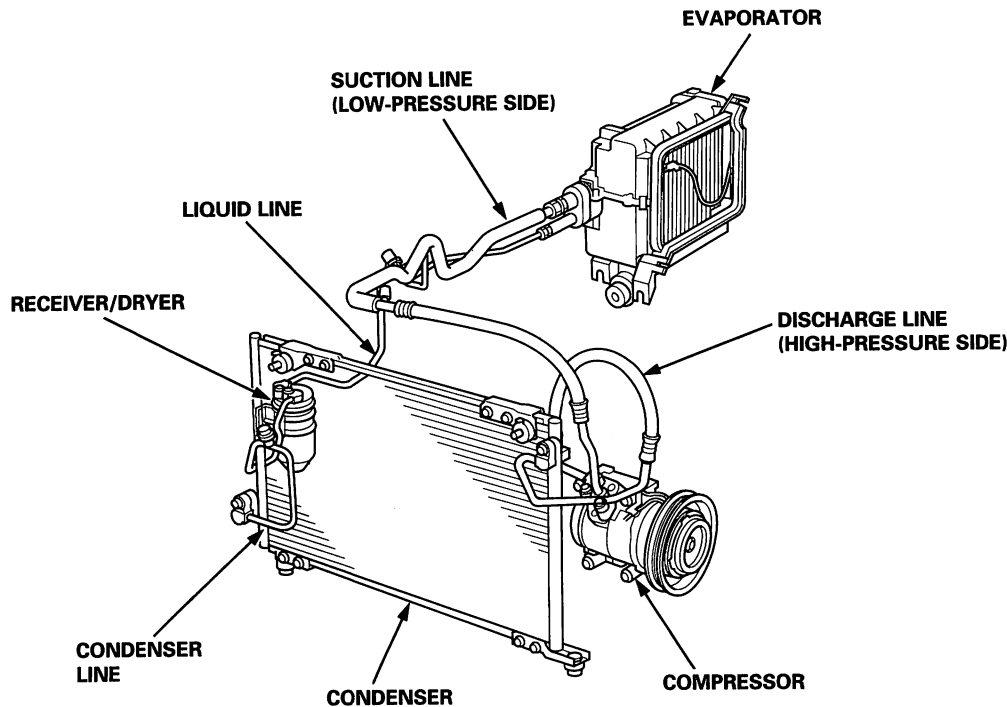
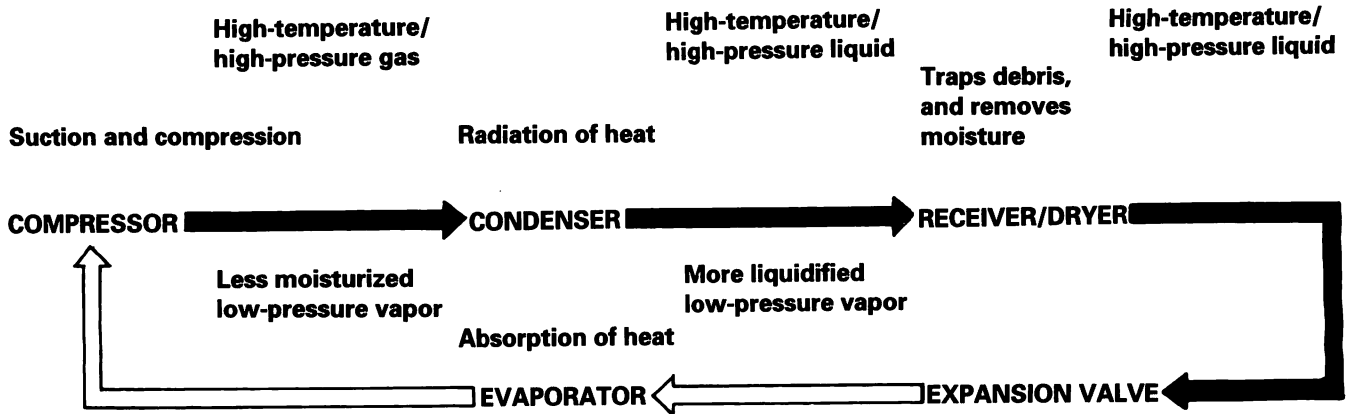
NOTE: LHD type is shown, RHD type is symmetrical.



# Description



The air conditioner system removes heat from the passenger compartment by circulating refrigerant through the system as shown below.

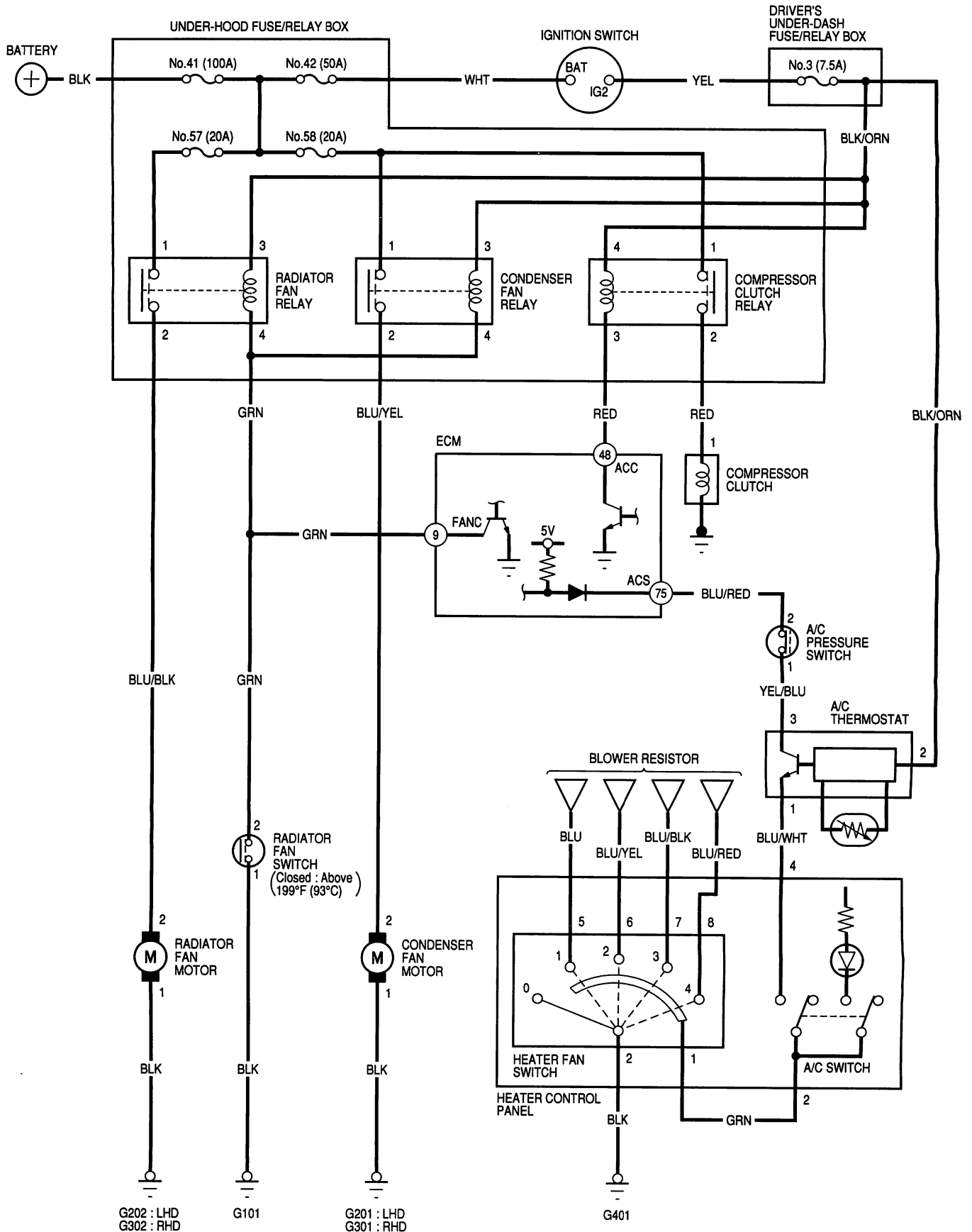


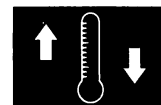
This vehicle uses HFC-134a (R-134a) refrigerant which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (DENSO, ND-OIL 8 or SANDEN, SP-10) designed for the R-134a compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in compressor failure.
- All A/C system parts (compressor, discharge line, suction line, evaporator, condenser, receiver/dryer, expansion valve, O-rings for joints) have to be proper for refrigerant R-134a. Do not confuse with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- Use a vacuum pump adapter which is equipped with a check valve to prevent the backflow of the vacuum pump oil.
- Separate the manifold gauge sets (pressure gauges, hoses, joints) for refrigerants R-12 and R-134a. Do not confuse them.

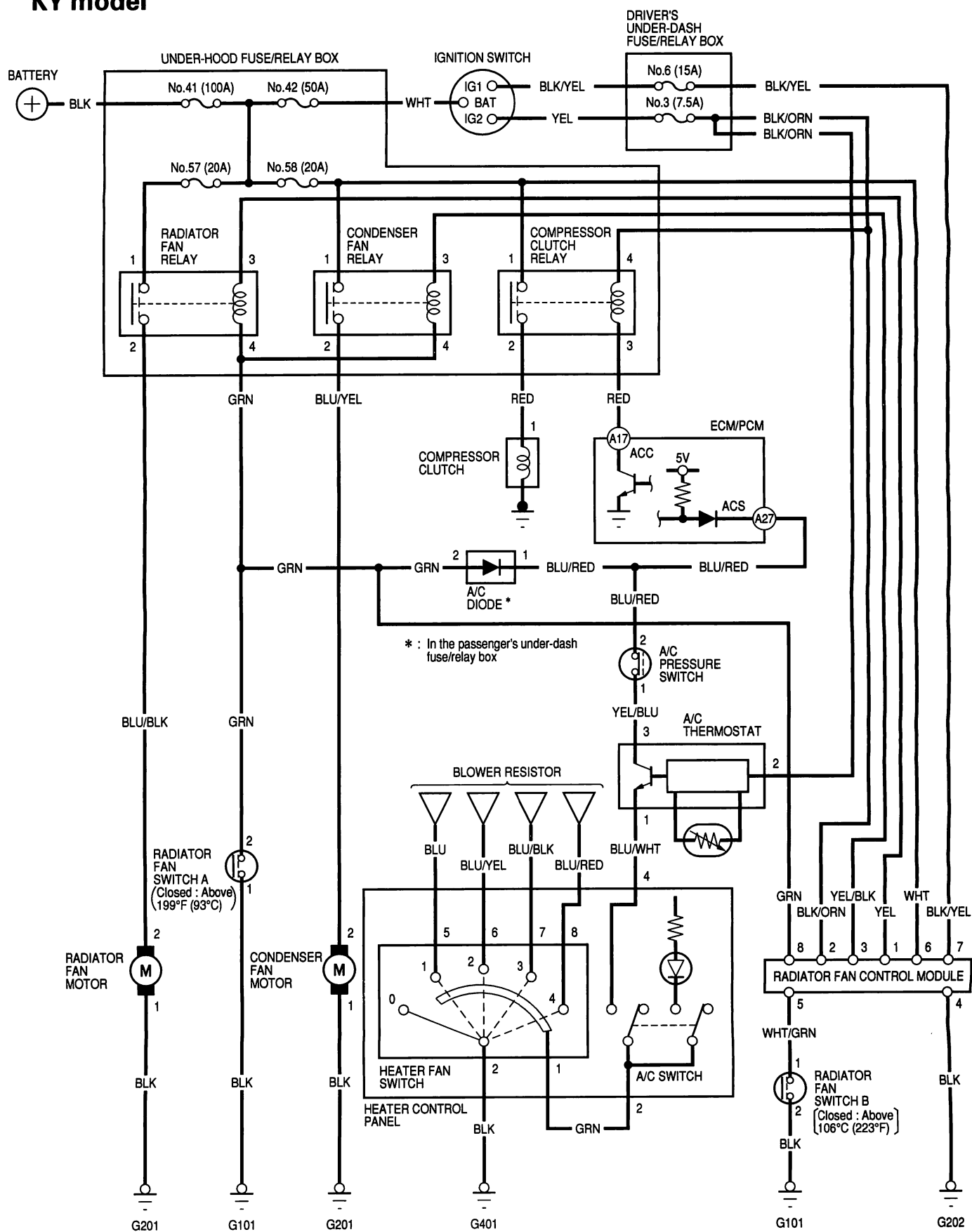
# Circuit Diagram

## D16B6 engine model





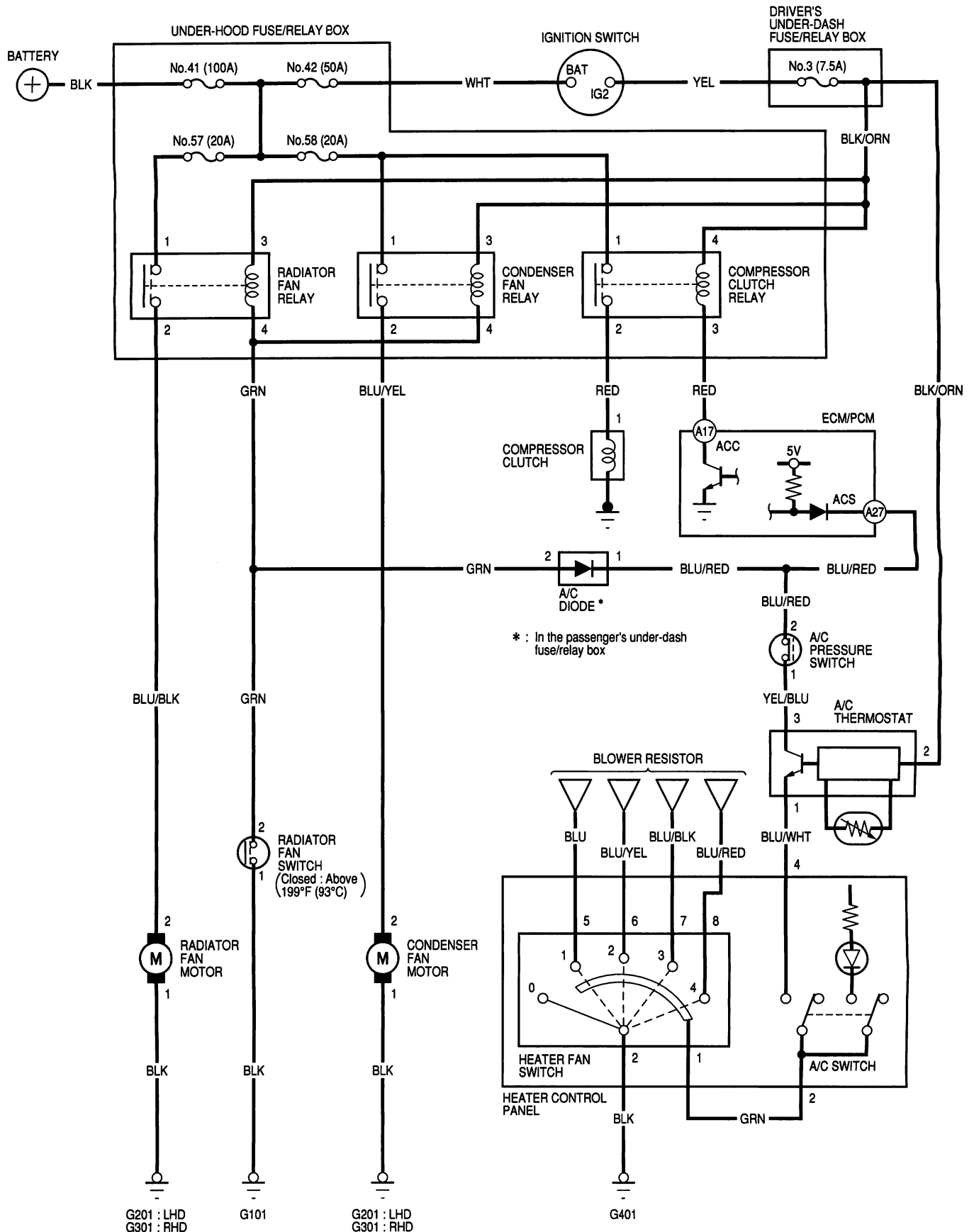
## KY model

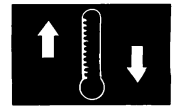




# Circuit Diagram

Except D16B6 engine and KY models





## Symptom Chart

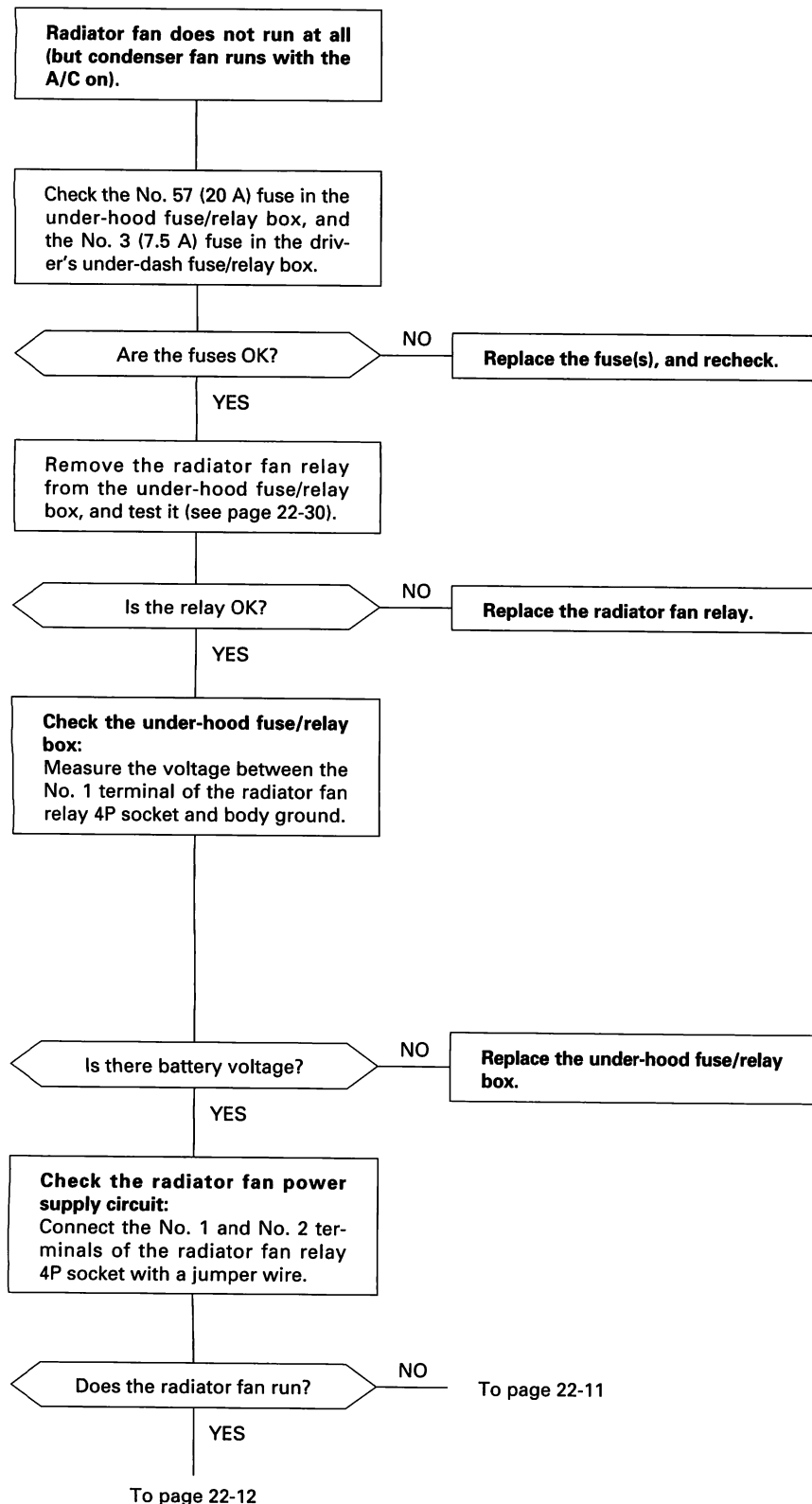
Note these items before troubleshooting a symptom.

- Check the engine coolant level, and allow the engine to warm up before troubleshooting.
- Any abnormality must be corrected before continuing the test.
- Because of the precise measurements needed, use a digital circuit tester when testing.
- Before performing any troubleshooting procedures check:
  - Fuses No. 57 (20 A), No. 58 (20 A) in the under-hood fuse/relay box, No. 3 (7.5 A) in the driver's under-dash fuse/relay box.
  - Grounds No. G101, G201 (LHD), G202 (LHD), G301 (RHD), G302 (RHD), G401
  - Cleanliness and tightness of all connectors

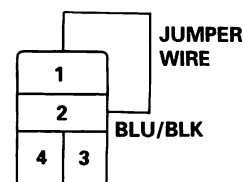
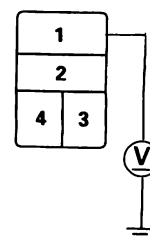
Symptom	See page
Radiator fan does not run at all (but condenser fan runs with the A/C on).	22-10
Condenser fan does not run at all (but radiator fan runs with the A/C on).	22-13
Both fans (radiator and condenser) do not run for engine cooling, but they both run with the A/C on.	22-16
Both fans do not run with the A/C on.	22-17
Compressor clutch does not engage.	22-21
A/C system does not come on (both fans and compressor).	22-25

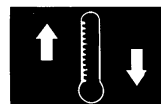
# Troubleshooting

## Radiator Fan



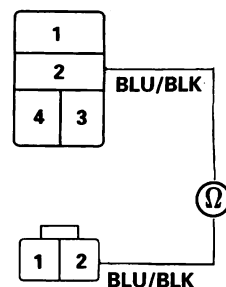
RADIATOR FAN RELAY 4P SOCKET





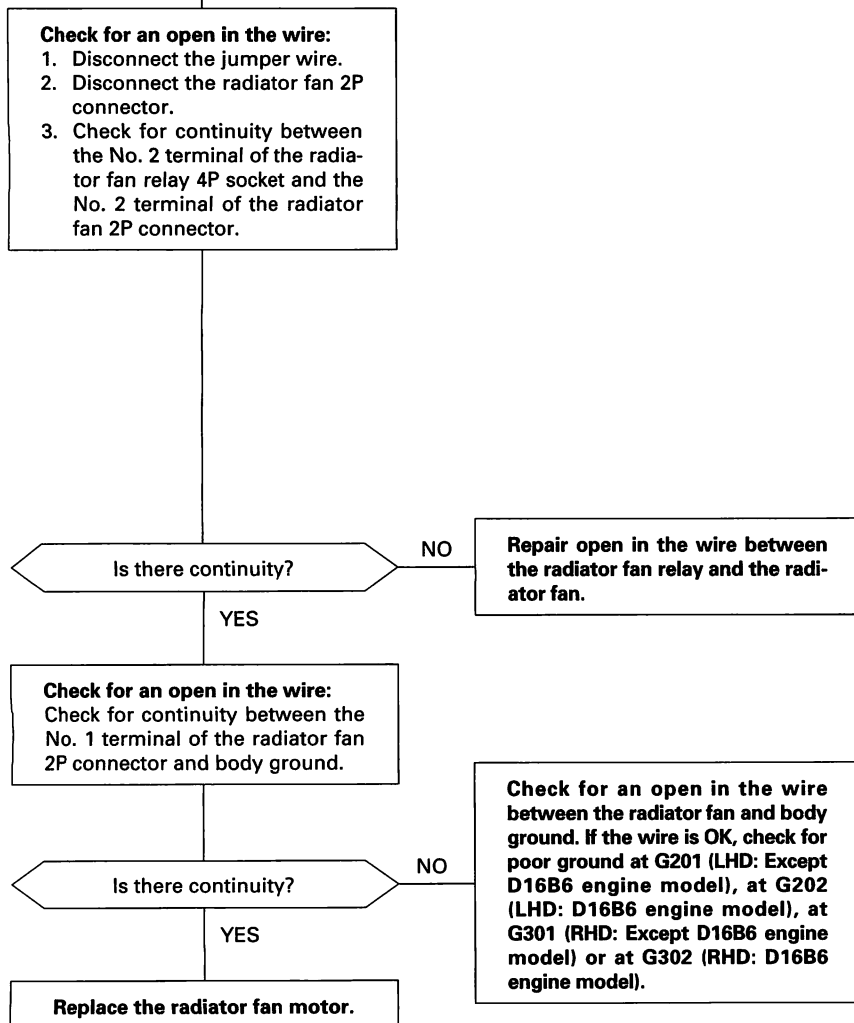
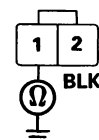
From page 22-10

#### RADIATOR FAN RELAY 4P SOCKET



#### RADIATOR FAN 2P CONNECTOR

Wire side of female terminals



(cont'd)

# Troubleshooting

## Radiator Fan (cont'd)

From page 22-10

**Check for an open in the wire:**  
1. Disconnect the jumper wire.  
2. Turn the ignition switch ON (II).  
3. Measure the voltage between the No. 3 terminal of the radiator fan relay 4P socket and body ground.

Is there battery voltage?

YES

**Replace the under-hood fuse/relay box.**

NO

Except KY model

**Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the radiator fan relay.**

KY model

**Check for an open in the wire:**  
Measure the voltage between the No. 1 terminal of the radiator fan control module 8P connector and body ground with the 8P connector connected.

Is there battery voltage?

NO

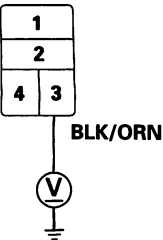
**Perform the radiator fan control module input tests (see page 22-29).**

YES

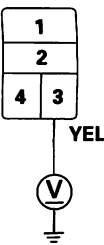
**Repair open in the wire between the radiator fan relay and the radiator fan control module.**

### RADIATOR FAN RELAY 4P SOCKET

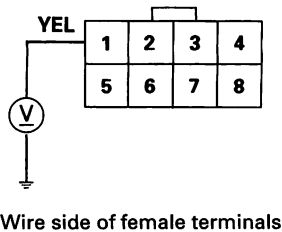
Except KY model

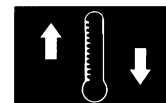


KY model

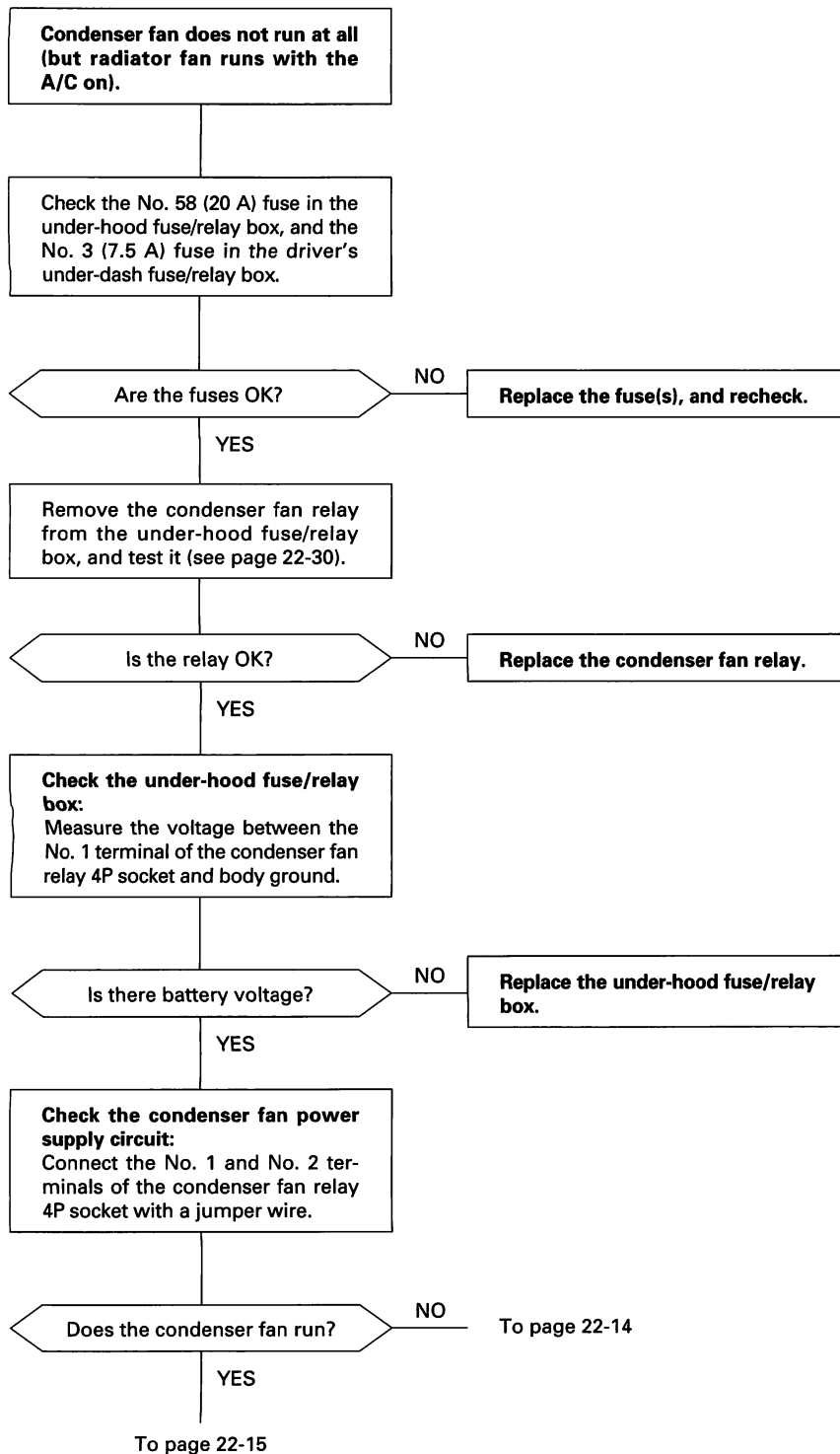


### RADIATOR FAN CONTROL MODULE 8P CONNECTOR

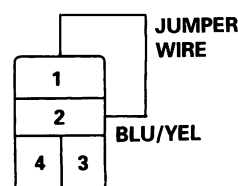
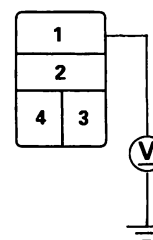




## Condenser Fan



CONDENSER FAN RELAY 4P SOCKET

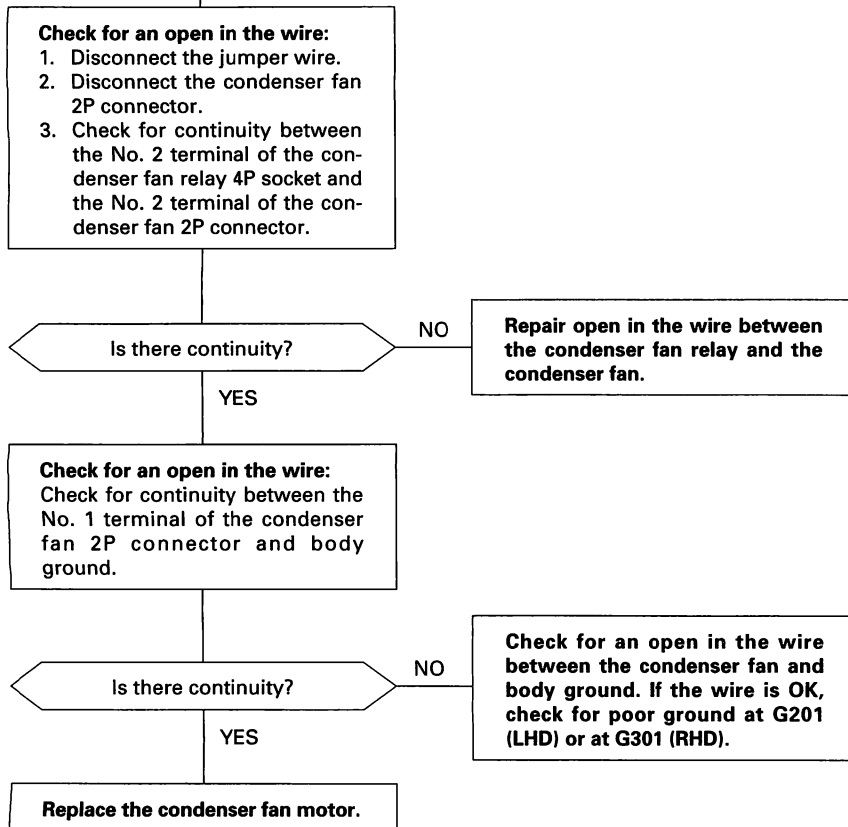


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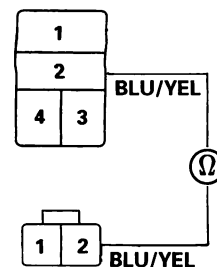
# Troubleshooting

## Condenser Fan (cont'd)

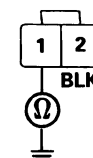
From page 22-13

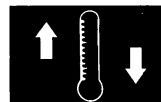


CONDENSER FAN RELAY 4P SOCKET



CONDENSER FAN 2P CONNECTOR  
Wire side of female terminals

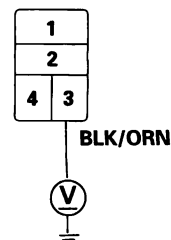




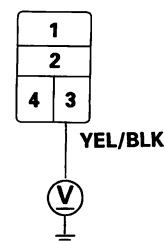
From page 22-13

#### CONDENSER FAN RELAY 4P SOCKET

Except KY model



KY model

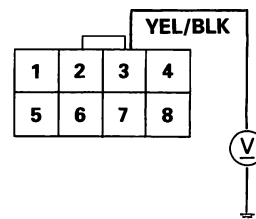


Except KY model

Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the condenser fan relay.

KY model

#### RADIATOR FAN CONTROL MODULE 8P CONNECTOR



Wire side of female terminals

#### Check for an open in the wire:

1. Disconnect the jumper wire.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 3 terminal of the condenser fan relay 4P connector and body ground.

Is there battery voltage?

YES

Replace the under-hood fuse/relay box.

NO

#### Check for an open in the wire:

Measure the voltage between the No. 3 terminal of the radiator fan control module 8P connector and body ground with the 8P connector connected.

Is there battery voltage?

NO

Perform the radiator fan control module input tests (see page 22-29).

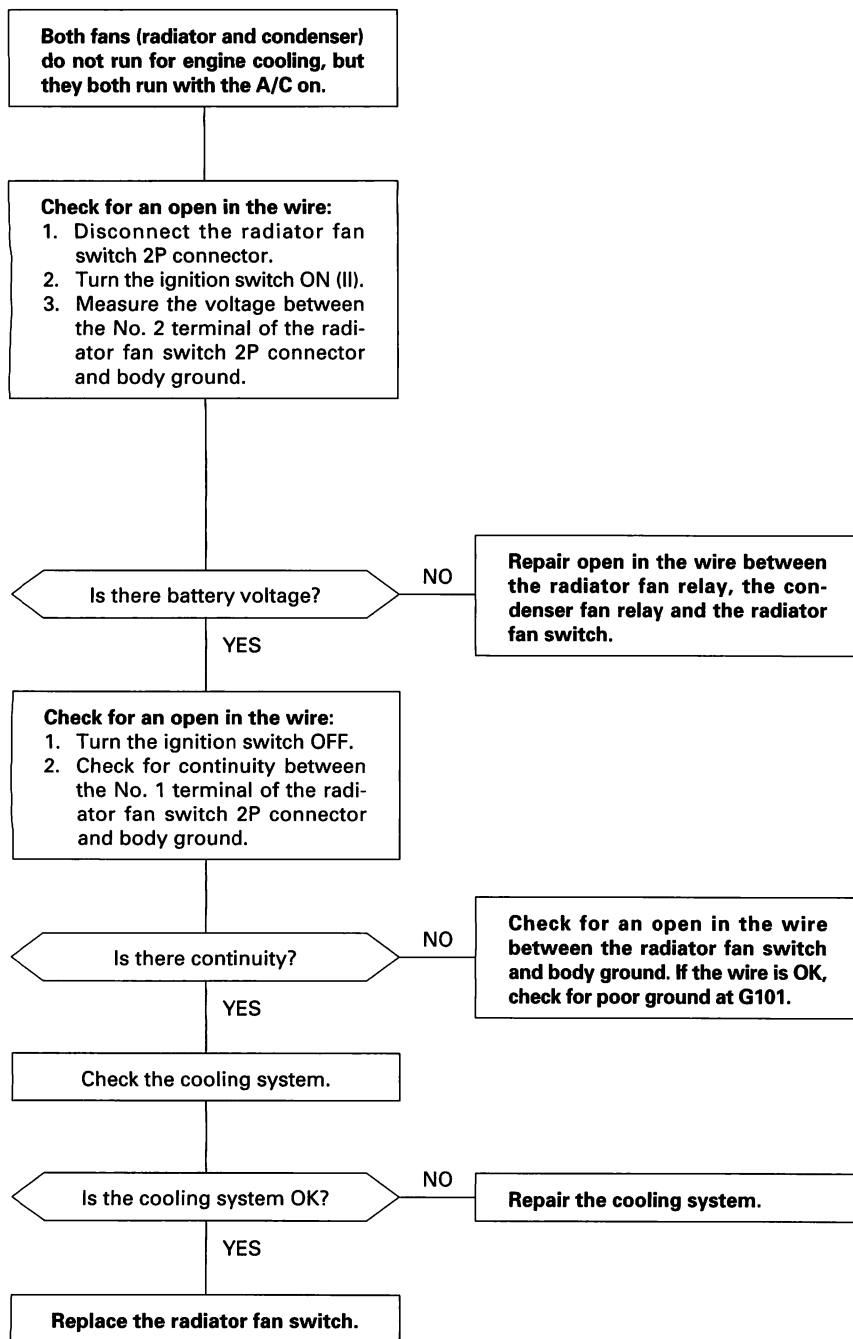
YES

Repair open in the wire between the condenser fan relay and the radiator fan control module.

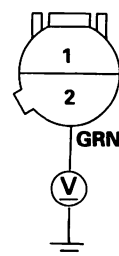


# Troubleshooting

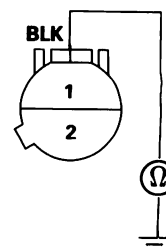
## Radiator Fan Switch

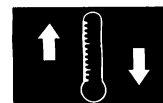


RADIATOR FAN SWITCH 2P CONNECTOR

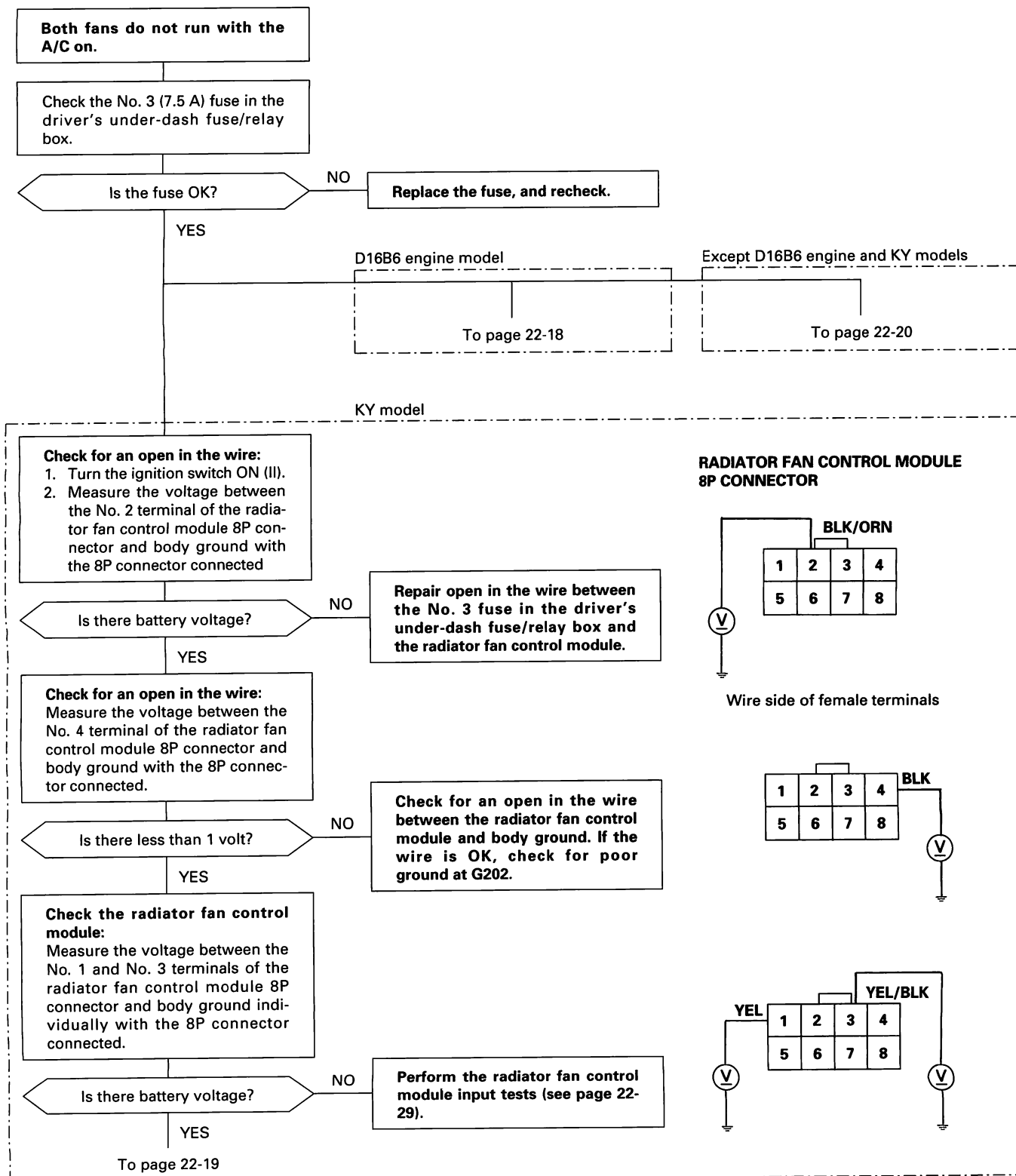


Wire side of female terminals





## Both Fans



(cont'd)

# Troubleshooting

## Both Fans (cont'd)

From page 22-17

### Check for an open in the wire:

1. Remove the radiator fan relay from the under-hood fuse/relay box.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 3 terminal of the radiator fan relay 4P socket and body ground.

Is there battery voltage?

NO

Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the radiator fan relay.

YES

### Check for an open in the wire:

1. Turn the ignition switch OFF, then reinstall the radiator fan relay.
2. Connect the ECM test harness and test pin box between the ECM and ECM connector (see section 11).
3. Make sure the A/C switch is OFF, then turn the ignition switch ON (II).
4. Measure the voltage between the No. 9 terminal of the test pin box and body ground.

Is there battery voltage?

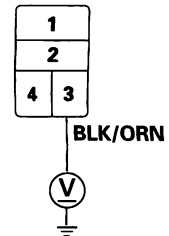
NO

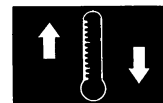
Repair open in the wire between the radiator fan relay, the condenser fan relay and the ECM.

YES

Check for loose wires or poor connections at the ECM connector. If the connections are good, substitute a known-good ECM, and recheck. If the symptom/indication goes away, replace the original ECM.

RADIATOR FAN RELAY 4P SOCKET





From page 22-17

**Check the A/C diode:**

1. Turn the ignition switch OFF.
2. Remove the A/C diode from the passenger's under-dash fuse/relay box.
3. Check for current flow in both directions between the A and B terminals.

NOTE: Use a circuit tester with diode checking capabilities.

Is there current flow in only one direction?

NO

**Replace the A/C diode.**

YES

**Check for an open in the wire:**

1. Turn the ignition switch ON (II).
2. Measure the voltage between the No. 2 terminal of the A/C diode 2P socket and body ground.

Is there battery voltage?

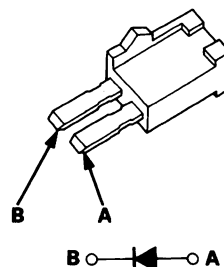
NO

**Repair open in the wire between the radiator fan relay, the condenser fan relay and the A/C diode.**

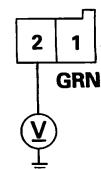
YES

**Repair open in the BLU/RED wire between the A/C diode and the A/C pressure switch.**

**A/C DIODE**



**A/C DIODE 2P SOCKET**



(cont'd)

# Troubleshooting

## Both Fans (cont'd)

From page 22-17

### Check for an open in the wire:

1. Remove the radiator fan relay from the under-hood fuse/relay box.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 3 terminal of the radiator fan relay 4P socket and body ground.

Is there battery voltage?

NO

**Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the radiator fan relay.**

YES

### Check the A/C diode:

1. Turn the ignition switch OFF, then reinstall the radiator fan relay.
2. Remove the A/C diode from the passenger's under-dash fuse/relay box.
3. Check for current flow in both directions between the A and B terminals.

NOTE: Use a circuit tester with diode checking capabilities.

Is there current flow in only one direction?

NO

**Replace the A/C diode.**

YES

### Check for an open in the wire:

1. Turn the ignition switch ON (II).
2. Measure the voltage between the No. 2 terminal of the A/C diode 2P socket and body ground.

Is there battery voltage?

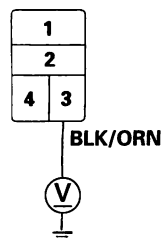
NO

**Repair open in the wire between the radiator fan relay, the condenser fan relay and the A/C diode.**

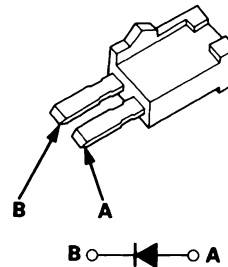
YES

**Repair open in the BLU/RED wire between the A/C diode and the A/C pressure switch.**

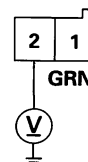
RADIATOR FAN RELAY 4P SOCKET

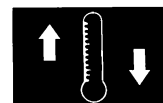


A/C DIODE

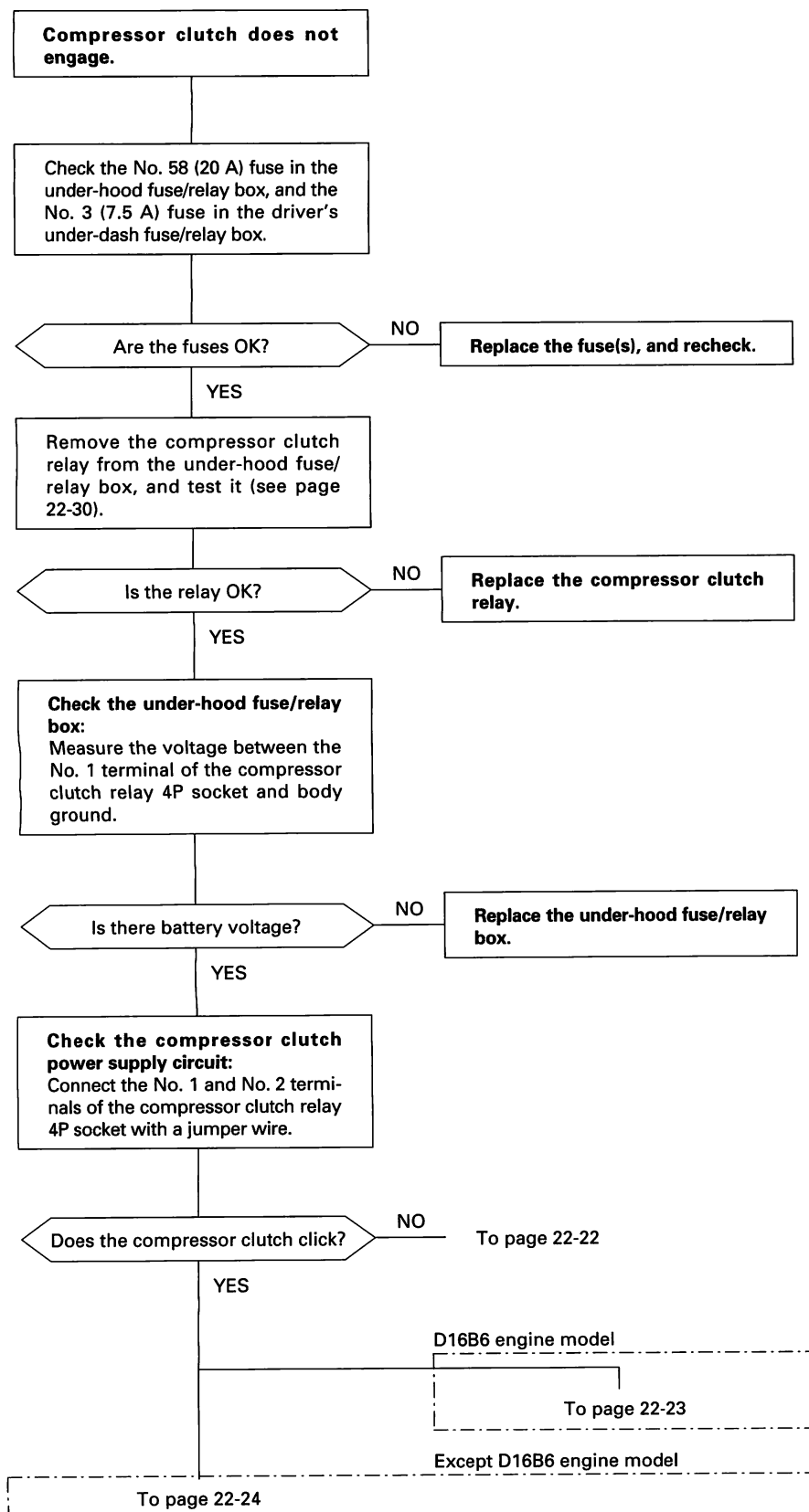


A/C DIODE 2P SOCKET

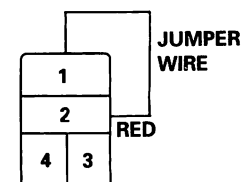
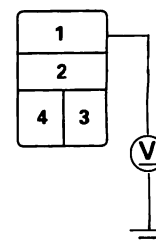




## Compressor



**COMPRESSOR CLUTCH RELAY  
4P SOCKET**



(cont'd)

# Troubleshooting

## Compressor (cont'd)

From page 22-21

**Check for an open in the wire:**

1. Disconnect the jumper wire.
2. Disconnect the compressor clutch 1P connector.
3. Check for continuity between the No. 2 terminal of the compressor clutch relay 4P socket and the terminal of the compressor clutch 1P connector.

Is there continuity?

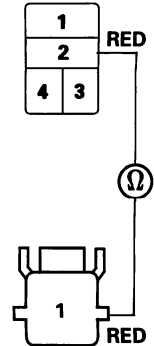
NO

**Repair open in the wire between the compressor clutch relay and the compressor clutch.**

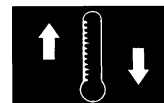
YES

**Inspect the compressor clutch clearance, the thermal protector (SAN DEN) and the compressor clutch field coil (see page 22-43) (DEN SO) or 22-49 (SAN DEN).**

**COMPRESSOR CLUTCH RELAY  
4P SOCKET**

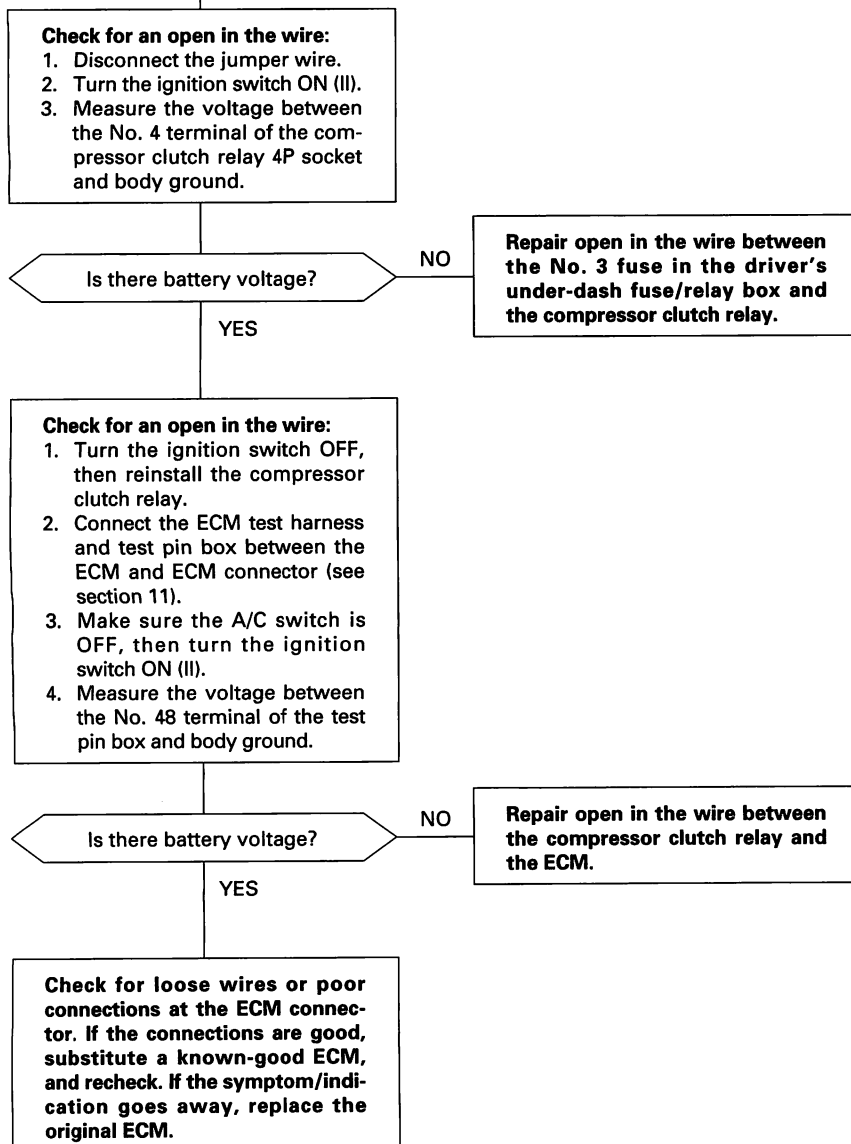
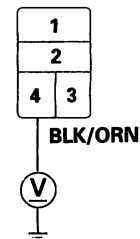


**COMPRESSOR CLUTCH 1P CONNECTOR**  
Wire side of female terminals



From page 22-21

#### COMPRESSOR CLUTCH RELAY 4P SOCKET



(cont'd)



# Troubleshooting

## Compressor (cont'd)

From page 22-21

### Check for an open in the wire:

1. Disconnect the jumper wire.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 4 terminal of the compressor clutch relay 4P socket and body ground.

Is there battery voltage?

NO

Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the compressor clutch relay.

YES

### Check for an open in the wire:

1. Turn the ignition switch OFF, then reinstall the compressor clutch relay.
2. Make sure the A/C switch is OFF, then turn the ignition switch ON (II).
3. Measure the voltage between the No. 17 terminal of the ECM/PCM connector A (32P) and body ground with the ECM/PCM connectors connected.

Is there battery voltage?

NO

Repair open in the wire between the compressor clutch relay and the ECM/PCM.

YES

### Check for an open in the wire:

1. Turn the A/C and heater fan switches ON.
2. Measure the voltage between the No. 27 terminal of the ECM/PCM connector A (32P) and body ground with the ECM/PCM connectors connected.

Is there less than 1 volt?

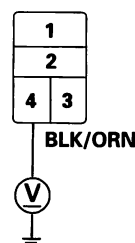
NO

Repair open in the wire between the ECM/PCM and the A/C pressure switch.

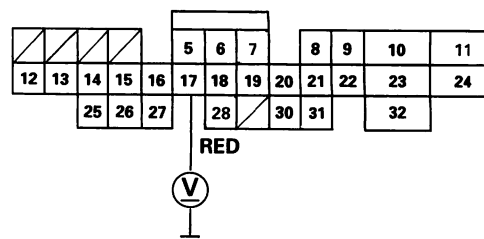
YES

Check for loose wires or poor connections at the ECM/PCM connectors A (32P). If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM.

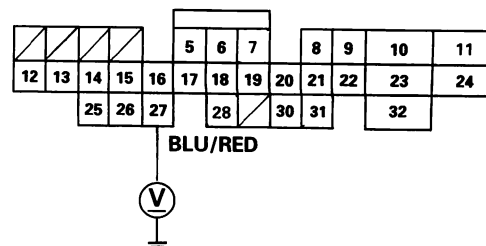
COMPRESSOR CLUTCH RELAY  
4P SOCKET

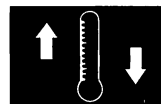


ECM/PCM CONNECTOR A (32P)

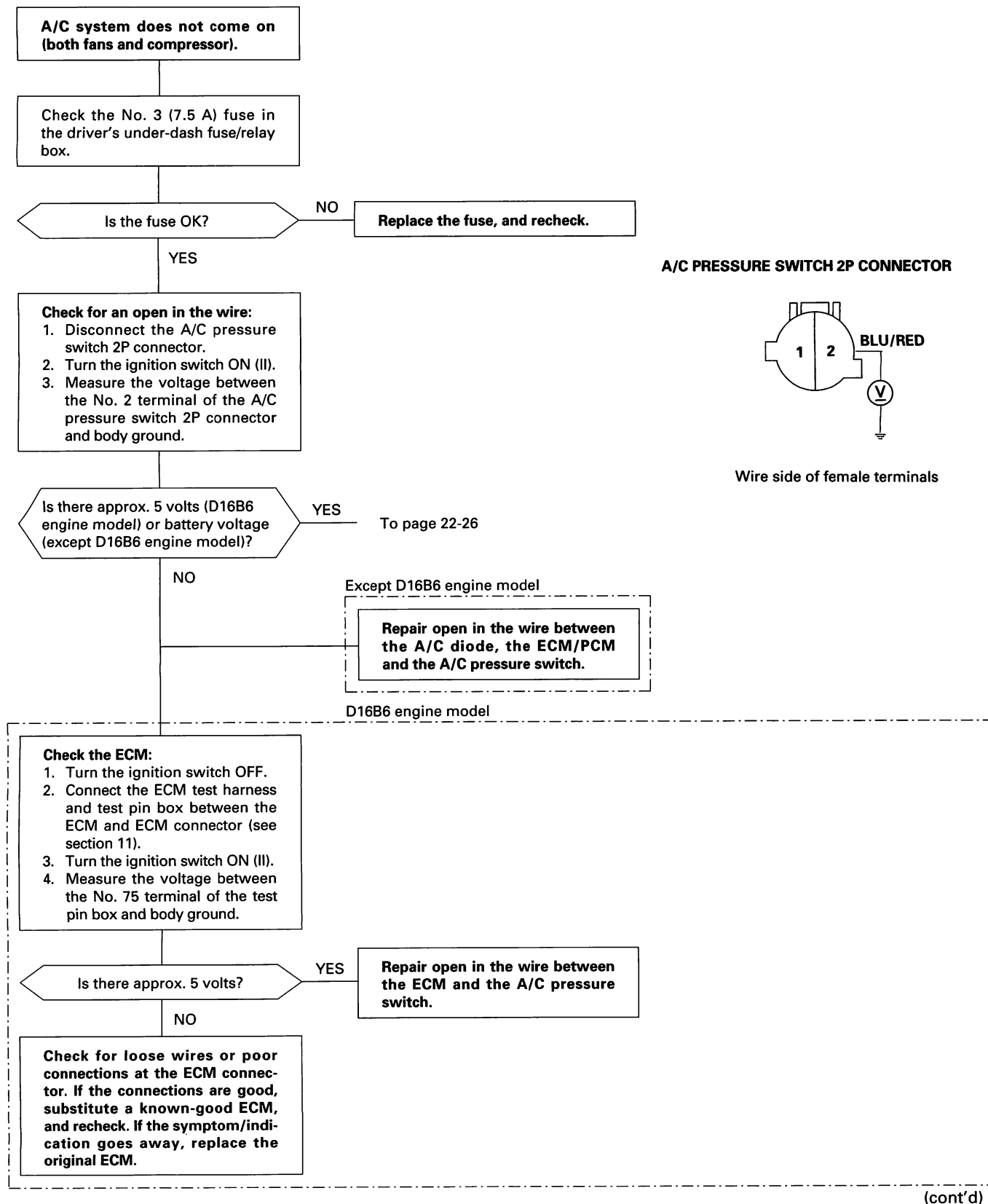


Wire side of female terminals





## A/C system



# Troubleshooting

## A/C System (cont'd)

From page 22-25

**Check the A/C pressure switch:**  
1. Turn the ignition switch OFF.  
2. Check for continuity between the No. 1 and No. 2 terminals of the A/C pressure switch.

Is there continuity?

YES

To page 22-27

NO

Check for A/C system pressure.

Is the pressure within specifications? (see page 22-3)

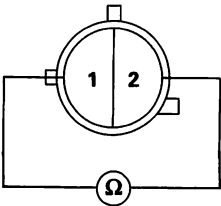
NO

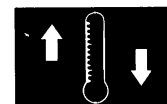
**Repair the A/C pressure problem.**

YES

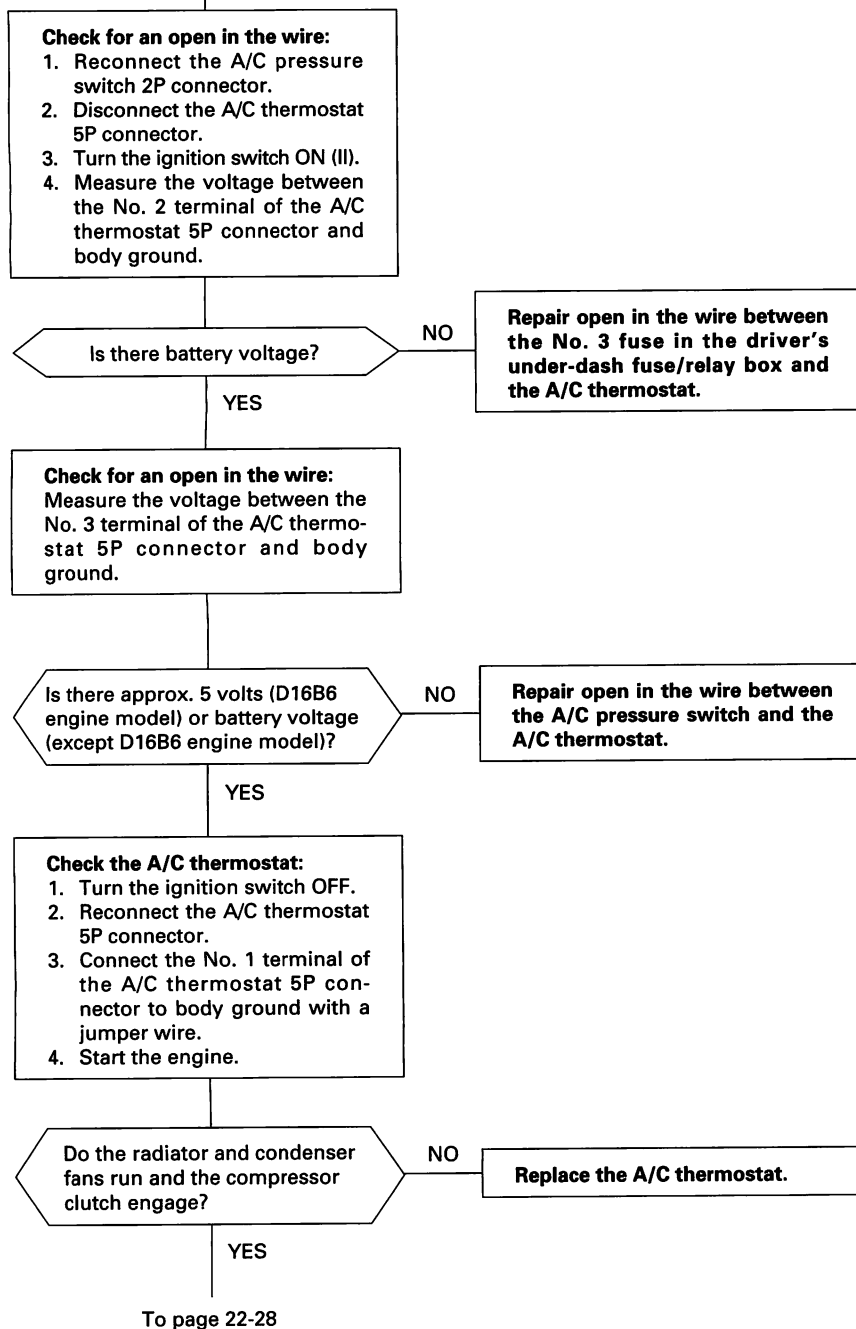
**Replace the A/C pressure switch.**

**A/C PRESSURE SWITCH**

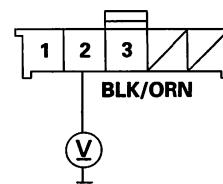




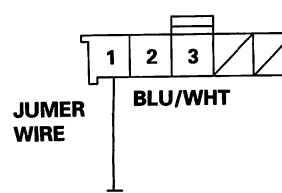
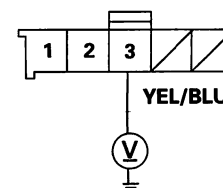
From page 22-26



#### A/C THERMOSTAT 5P CONNECTOR



Wire side of female terminals

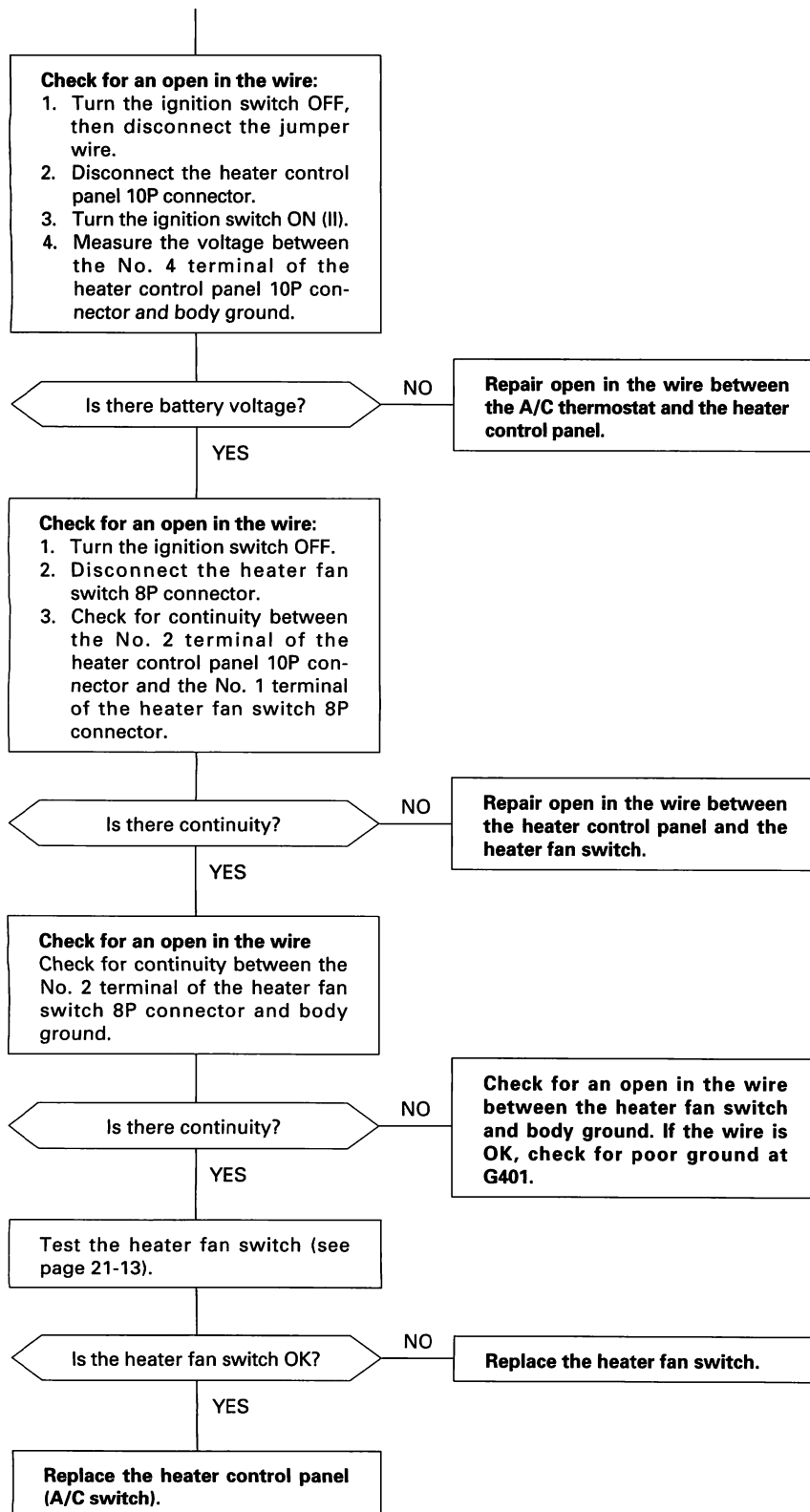


(cont'd)

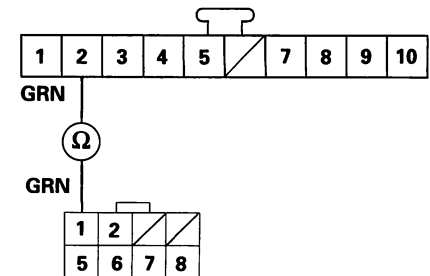
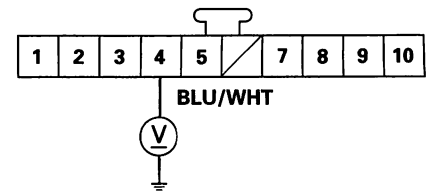
# Troubleshooting

## A/C System (cont'd)

From page 22-27

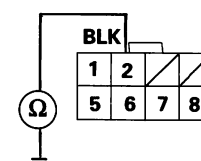


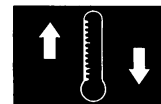
HEATER CONTROL PANEL 10P CONNECTOR



HEATER FAN SWITCH 8P CONNECTOR

Wire side of female terminals

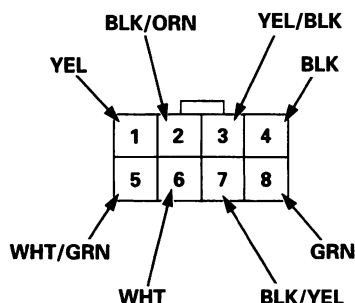




## Radiator Fan Control Module Input Tests (KY model)

NOTE: Perform the following tests with the radiator fan control module 8P connector connected, the ignition switch ON (II), and the A/C switch OFF. If you find the cause of a problem, correct it before you continue.

RADIATOR FAN CONTROL MODULE 8P CONNECTOR



Wire side of female terminals

Cavity	Wire color	Test condition	Desired results	Corrective action if desired results are not obtained
4	BLK	Check for voltage to body ground.	There should be less than one volt.	Repair open to body ground.
6	WHT	Check for battery voltage.	There should be battery voltage.	Check No. 58 (20 A) fuse in the under-hood fuse/relay box; if OK, repair open in the WHT wire.
7	BLK/YEL	Check for battery voltage: Ignition switch ON (II)		Check No. 6 (15 A) fuse in the driver's under-dash fuse/relay box; if OK, repair open in the BLK/YEL wire.
2	BLK/ORN			Check No. 3 (7.5 A) fuse in the driver's under-dash fuse/relay box; if OK, repair open in the BLK/ORN wire.
3	YEL/BLK			Replace the radiator fan control module. Before you connect the new radiator fan control module, disconnect both fan relays. Check for continuity between the YEL/BLK (or YEL) wire and ground, using the 20 kΩ scale on your ohmmeter. There should be no continuity. If there is continuity, the new radiator fan control module will be damaged when you connect it.
1	YEL			
8	GRN	Connect to body ground: Ignition switch ON (II)	Condenser fan and radiator fan should come on.	Check for an open in the GRN wire between the radiator fan control module and the condenser fan relay, the radiator fan relay. If OK, check for an open in the YEL/BLK wire between the radiator fan control module and the condenser fan relay (or the YEL wire between the radiator fan control module and the radiator fan relay). If OK, test the condenser fan relay or the radiator fan relay.
5	WHT/GRN	Check for voltage.	Approx. 11 V (engine coolant temperature below 106°C [223°F])	Faulty radiator fan switch B, short to body ground, or faulty radiator fan control module.

# A/C Thermostat

## Test

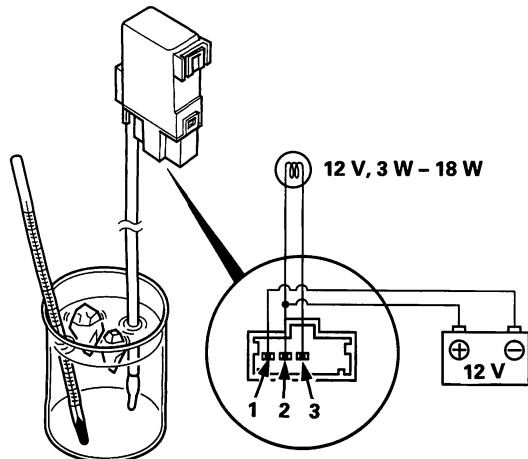
Connect battery power to the No. 2 terminal, ground the No. 1 terminal, and connect a test light between the No. 2 and No. 3 terminals.

NOTE: Use a 12 V, 3 W – 18 W test light.

Dip the A/C thermostat into a cup filled with ice water, and check the test light.

The light should go off at 3°C (37°F) or less, and should come on at 4°C (39°F) or more.

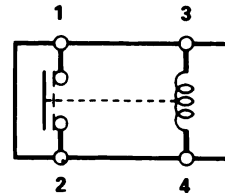
If the light doesn't come on and go off as specified, replace the A/C thermostat.



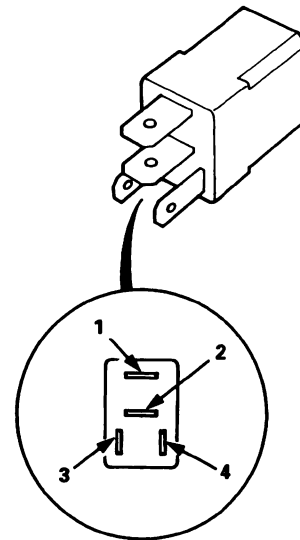
# Relays

## Test

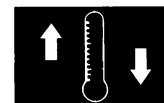
There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 4 terminals, and there should be no continuity when power is disconnected.



- Radiator fan relay
- Condenser fan relay
- Compressor clutch relay



# A/C Service Tips and Precautions



The air conditioning system uses HFC-134a (R-134a) refrigerant and polyalkyleneglycol (PAG) refrigerant oil\*, which are not compatible with CFC-12 (R-12) refrigerant and mineral oil. Do not use R-12 refrigerant or mineral oil in this system, and do not attempt to use R-12 servicing equipment; damage to the air conditioning system or your servicing equipment will result.

\*DENSO, ND-OIL 8:

- P/N 38897-PR7-003: 120 ml (4 fl-oz, 4.2 Imp-oz)
- P/N 38898-PR7-003: 250 ml (8 1/3 fl-oz, 8.8 Imp-oz)
- P/N 38899-PR7-A01: 40 ml (1 1/3 fl-oz, 1.4 Imp-oz)

\*SANDEN, SP-10:

- P/N 38897-P13-003: 120 ml (4 fl-oz, 4.2 Imp-oz)
- P/N 38898-P13-003: 250 ml (8 1/3 fl-oz, 8.8 Imp-oz)
- P/N 38899-P13-A01: 40 ml (1 1/3 fl-oz, 1.4 Imp-oz)

Separate the manifold gauge sets (pressure gauges, hoses, joints) for refrigerants R-12 and R-134a. Do not confuse them.

## ⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

## ⚠ WARNING

- Compressed air mixed with R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Always disconnect the negative cable from the battery whenever replacing air conditioning parts.
2. Keep moisture and dust out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
3. Before connecting any hose or line, apply a few drops of refrigerant oil to the O-ring.
4. When tightening or loosening a fitting, use a second wrench to support the matching fitting.
5. When discharging the system, don't let refrigerant escape too fast; it will draw the compressor oil out of the system.
6. Add refrigerant oil after replacing the following parts:

Note these items when handling refrigerant oil:

- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, replace the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.

**Condenser** ..... 25 ml (5/6 fl-oz, 0.9 Imp-oz)

**Evaporator** ..... 40 ml (1 1/3 fl-oz, 1.4 Imp-oz)

**Line or hose** ..... 10 ml (1/3 fl-oz, 0.4 Imp-oz)

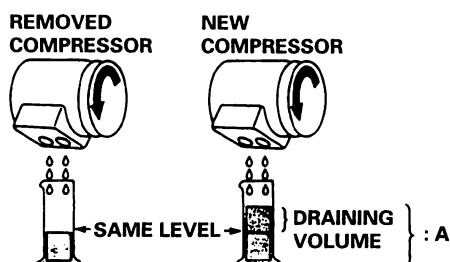
**Receiver/Dryer** ..... 10 ml (1/3 fl-oz, 0.4 Imp-oz)

**Leakage repair** ..... 25 ml (5/6 fl-oz, 0.9 Imp-oz)

**Compressor**..... For compressor replacement, subtract the volume of oil drained from the removed compressor from A, and drain the calculated volume of oil from the new compressor: **A — Volume of removed compressor = Volume to drain from new compressor.**

**A: SANDEN 130 ml (4 1/3 fl-oz, 4.6 Imp-oz), DENSO 160 ml (5 1/3 fl-oz, 5.6 Imp-oz)**

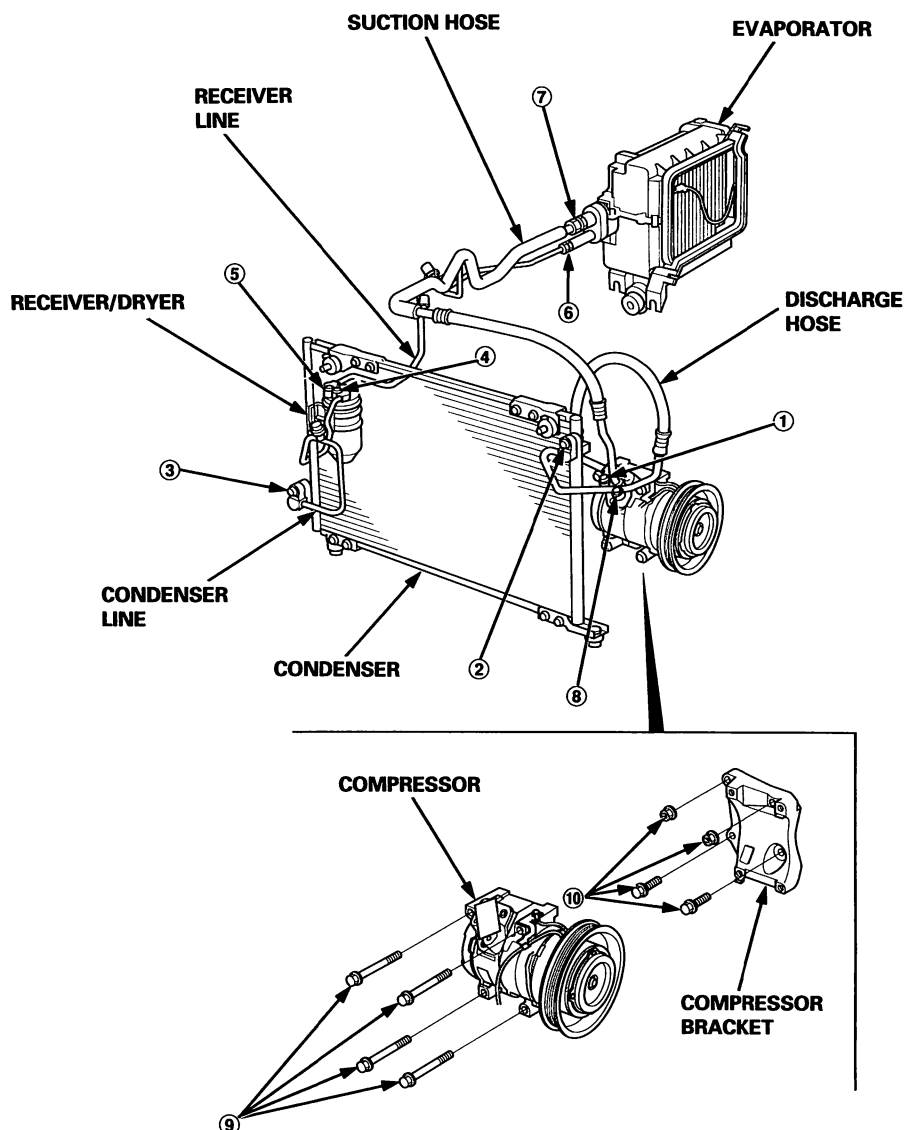
**NOTE:** Even if no oil is drained from the removed compressor, don't drain more than 50 ml (1 2/3 fl-oz, 1.8 Imp-oz) from the new compressor.



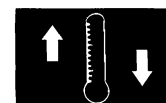


# A/C System Torque Specifications

NOTE: LHD type is shown, RHD type is similar.



① Discharge hose to the compressor (6 x 1.0 mm)	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
② Discharge hose to the condenser (6 x 1.0 mm)	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
③ Condenser line to the condenser (6 x 1.0 mm)	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
④ Condenser line to the receiver/dryer	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑤ Receiver line to the receiver/dryer	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑥ Receiver line to the evaporator	13 N·m (1.3 kgf·m, 9.4 lbf·ft)
⑦ Suction hose to the evaporator	31 N·m (3.2 kgf·m, 23 lbf·ft)
⑧ Suction hose to the compressor (6 x 1.0 mm)	9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑨ Compressor to compressor bracket (8 x 1.25 mm)	22 N·m (2.2 kgf·m, 16 lbf·ft)
⑩ Compressor bracket to cylinder block (10 x 1.25 mm)	49 N·m (5.0 kgf·m, 36 lbf·ft)



## Pressure Test Chart

NOTE: Performance Test is on page 22-34.

Test results	Related symptoms	Probable cause	Remedy
Discharge (high) pressure abnormally high	After stopping compressor, pressure drops to about 200 kPa (2.0 kgf/cm <sup>2</sup> , 28 psi) quickly, and then falls gradually.	Air in system	Discharge, evacuate, and recharge with specified amount. Evacuation: see page 22-57 Charging: see page 22-58
	No bubbles in sight glass when condenser is cooled by water	Excessive refrigerant in system	Discharge, evacuate, and recharge with specified amount.
	Reduced or no air flow through condenser	<ul style="list-style-type: none"> <li>Clogged condenser or radiator fins</li> <li>Condenser or radiator fan not working properly</li> </ul>	<ul style="list-style-type: none"> <li>Clean</li> <li>Check voltage and fan rpm.</li> <li>Check fan direction.</li> </ul>
	Line to condenser is excessively hot.	Restricted flow of refrigerant in system	Restricted lines
Discharge pressure abnormally low	Excessive bubbles in sight glass; condenser is not hot.	Insufficient refrigerant in system	<ul style="list-style-type: none"> <li>Check for leak.</li> <li>Charge system.</li> </ul>
	High and low pressures are balanced soon after stopping compressor. Low side is higher than normal.	<ul style="list-style-type: none"> <li>Faulty compressor discharge valve</li> <li>Faulty compressor seal</li> </ul>	Replace the compressor.
	Outlet of expansion valve is not frosted, low-pressure gauge indicates vacuum.	<ul style="list-style-type: none"> <li>Faulty expansion valve</li> <li>Moisture in system</li> </ul>	<ul style="list-style-type: none"> <li>Replace</li> <li>Discharge, evacuate, and recharge with specified amount.</li> </ul>
Suction (low) pressure abnormally low	Excessive bubbles in sight glass; condenser is not hot.	Insufficient refrigerant in system	<ul style="list-style-type: none"> <li>Repair the leaks.</li> <li>Discharge, evacuate, and recharge with specified amount.</li> <li>Charge as required.</li> </ul>
	Expansion valve is not frosted, and low-pressure line is not cold. Low-pressure gauge indicates vacuum.	<ul style="list-style-type: none"> <li>Frozen expansion valve (Moisture in system)</li> <li>Faulty expansion valve</li> </ul>	<ul style="list-style-type: none"> <li>Discharge, evacuate, and recharge with specified amount.</li> <li>Replace the expansion valve.</li> </ul>
	Discharge temperature is low, and the air flow from vents is restricted.	Frozen evaporator	Run the fan with compressor off, then check evaporator temperature sensor.
	Expansion valve is frosted.	Clogged expansion valve	Clean or replace.
	Receiver/dryer outlet is cool, and inlet is warm (should be warm during operation).	Clogged receiver/dryer	Replace
Suction pressure abnormally high	Low-pressure hose and check joint are cooler than the temperature around evaporator.	<ul style="list-style-type: none"> <li>Expansion valve open too long</li> <li>Loose expansion capillary tube</li> </ul>	Repair or replace.
	Suction pressure is lowered when condenser is cooled by water.	Excessive refrigerant in system	Discharge, evacuate, and recharge with specified amount.
	High and low-pressure are equalized as soon as the compressor is stopped, and both gauges fluctuate while running.	<ul style="list-style-type: none"> <li>Faulty gasket</li> <li>Faulty high-pressure valve</li> <li>Foreign particle stuck in high-pressure valve</li> </ul>	Replace the compressor.
Suction and discharge pressures abnormally high	Reduced air flow through condenser.	<ul style="list-style-type: none"> <li>Clogged condenser or radiator fins</li> <li>Condenser or radiator fan not working properly</li> </ul>	<ul style="list-style-type: none"> <li>Clean</li> <li>Check voltage and fan rpm.</li> <li>Check fan direction.</li> </ul>
	No bubbles in sight glass when condenser is cooled by water	Excessive refrigerant in system	Discharge, evacuate, and recharge with specified amount.
Suction and discharge pressure abnormally low	Low-pressure hose and metal end areas are cooler than evaporator.	Clogged or kinked low-pressure hose parts	Repair or replace.
	Temperature around expansion valve is too low compared with that around receiver/dryer.	Clogged high-pressure line	Repair or replace.
Refrigerant leaks	Compressor clutch is dirty.	Compressor shaft seal leaking	Replace the compressor.
	Compressor bolt(s) are dirty.	Leaking around bolt(s)	Tighten bolt(s) or replace compressor.
	Compressor gasket is wet with oil.	Gasket leaking	Replace the compressor.

# A/C System Service

## Performance Test

The performance test will help determine if the air conditioning system is operating within specifications.

**NOTE:**

- Use only a gauge set for refrigerant HFC-134a (R-134a).
- Use a vacuum pump adapter which is equipped with a check valve to prevent the backflow of the vacuum pump oil.

### CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

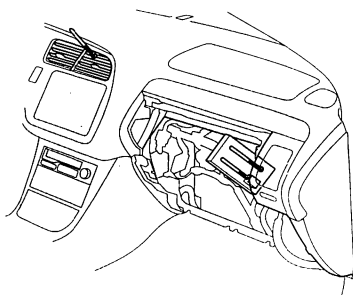
### WARNING

- Compressed air mixed with R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

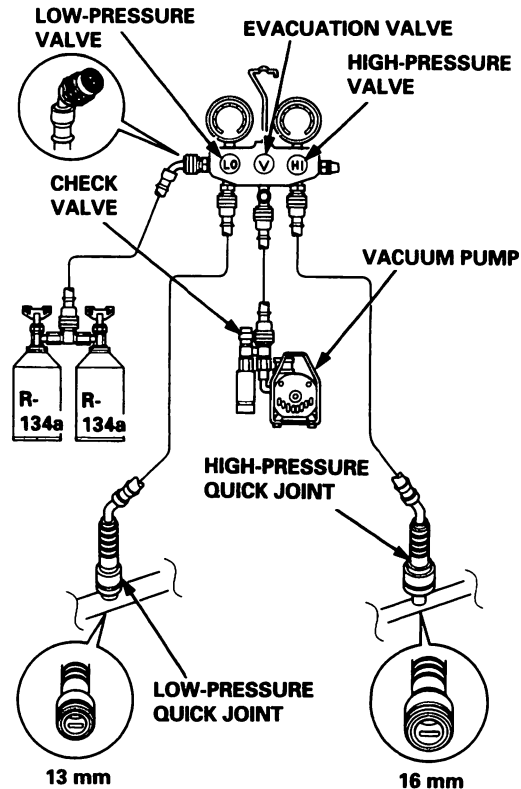
Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect the R-134a gauge set as shown.
2. Insert a thermometer in the center air vent. Determine the relative humidity and air temperature.
3. Test conditions:
  - Avoid direct sunlight.
  - Open hood.
  - Open front doors.
  - Set the temperature control dial to MAX COOL, the mode control dial to VENT and the recirculation control switch to RECIRCULATE.
  - Turn the A/C switch on and the fan switch to MAX.
  - Run the engine at 1,500 rpm (min<sup>-1</sup>).
  - No driver or passengers in vehicle
4. After running the air conditioning for 10 minutes under the above test conditions, read the delivery temperature from the thermometer in the center air vent, the intake temperature near the blower unit behind the glove box and the high and low system pressure from the A/C gauges.

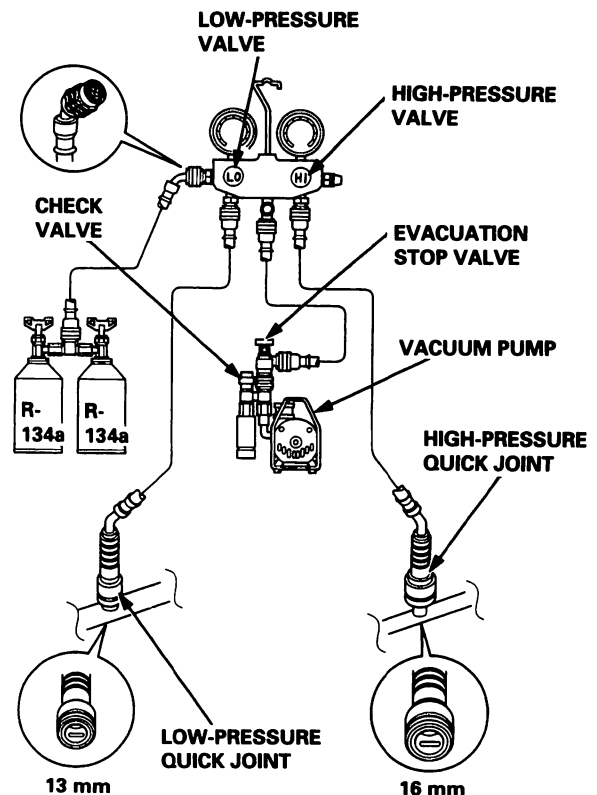
NOTE: LHD type is shown, RHD type is symmetrical.

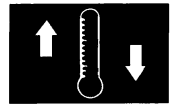


#### THREE VALVE GAUGE:



#### TWO VALVE GAUGE:

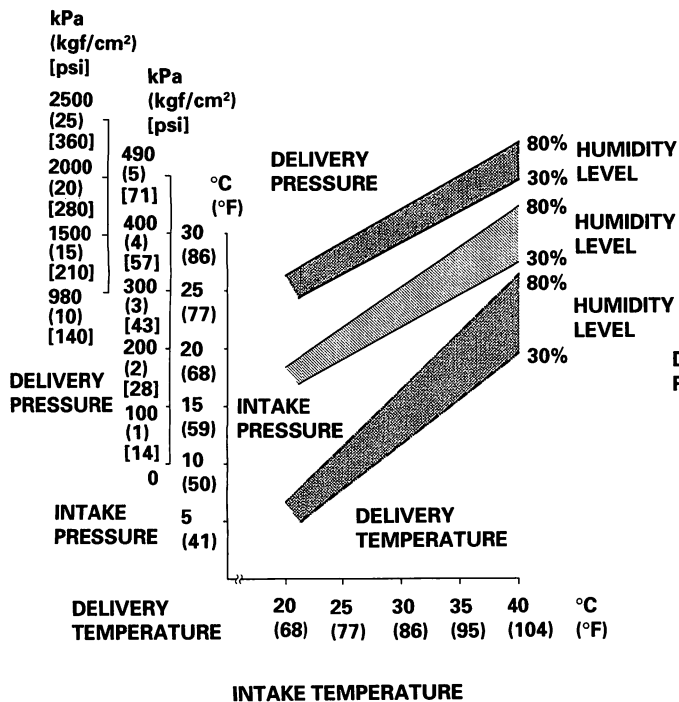




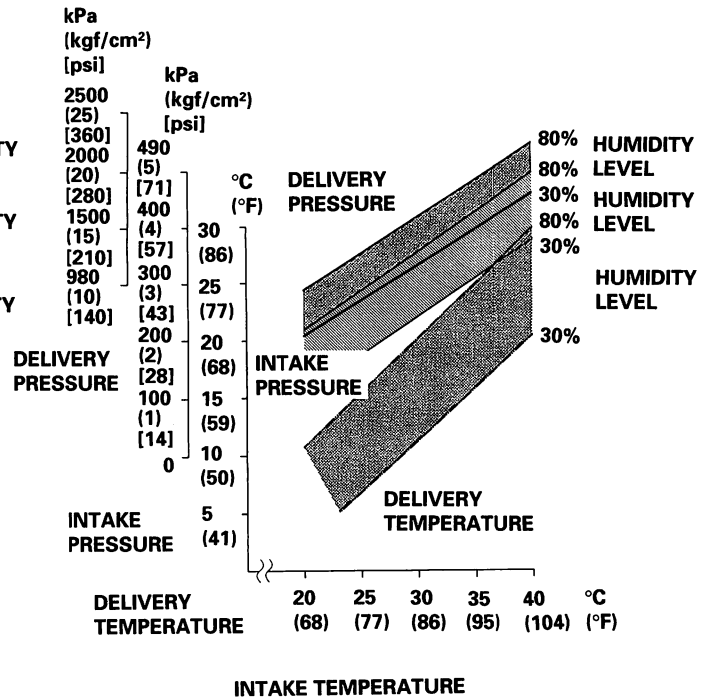
5. To complete the charts:

- Mark the delivery temperature along the vertical line.
- Mark the intake temperature (ambient air temperature) along the bottom line.
- Draw a line straight up from the air temperature to the humidity.
- Mark a point 10% above and 10% below the humidity level.
- From each point, draw a horizontal line across the delivery temperature.
- The delivery temperature should fall between the two lines.
- Complete the low-side pressure test and high-side pressure test in the same way.
- Any measurements outside the line may indicate the need for further inspection.

With DENSO compressor:



With SANDEN compressor:

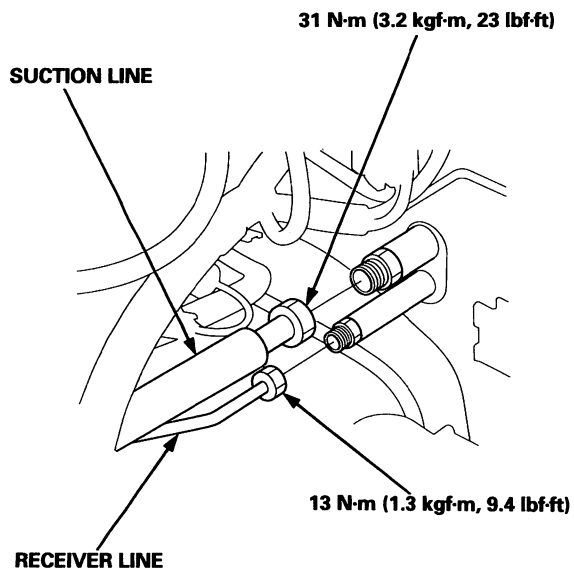


# Evaporator

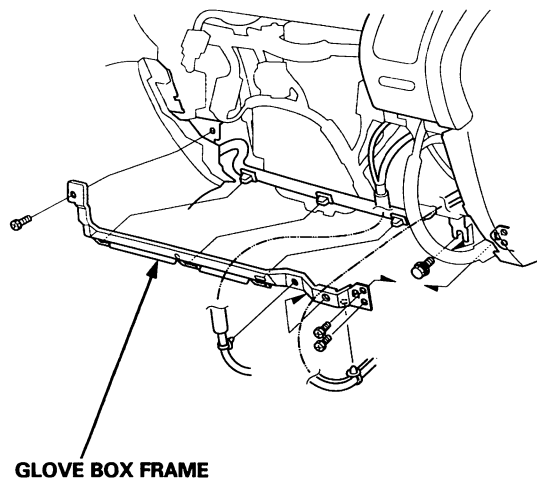
## Replacement

NOTE: LHD type is shown, RHD type is symmetrical.

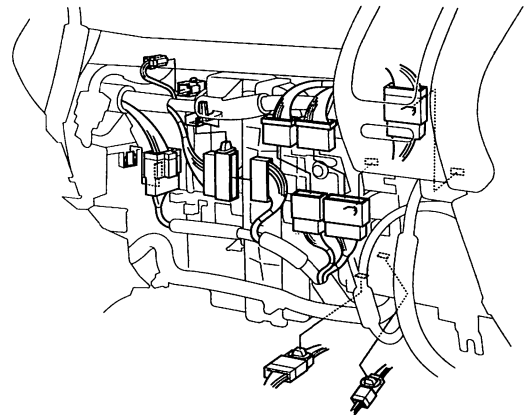
1. Discharge the refrigerant (see page 22-56).
2. Remove the under-hood fuse/relay box, but do not disconnect the connectors from it.
3. Disconnect the suction and receiver lines from the evaporator. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.



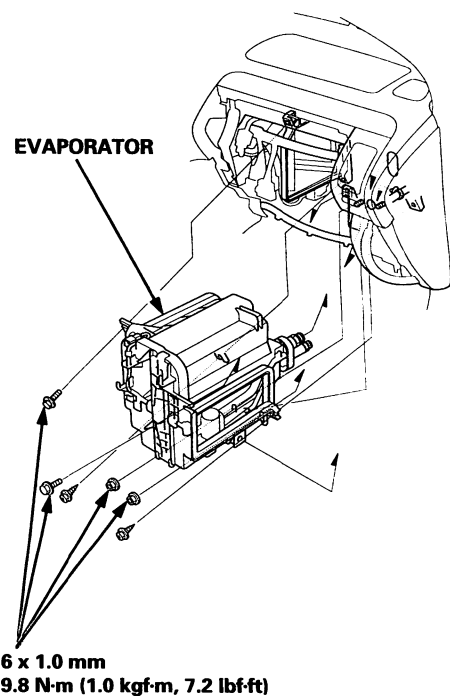
4. Remove the glove box (see section 20).
5. Remove the wire harness clips, the bolts and the glove box frame.

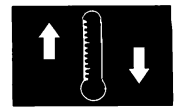


6. Disconnect the wire harness connectors and the A/C thermostat connector, then remove the wire harness clips.



7. Remove the self-tapping screws, the mounting nuts, the mounting bolts and the evaporator.





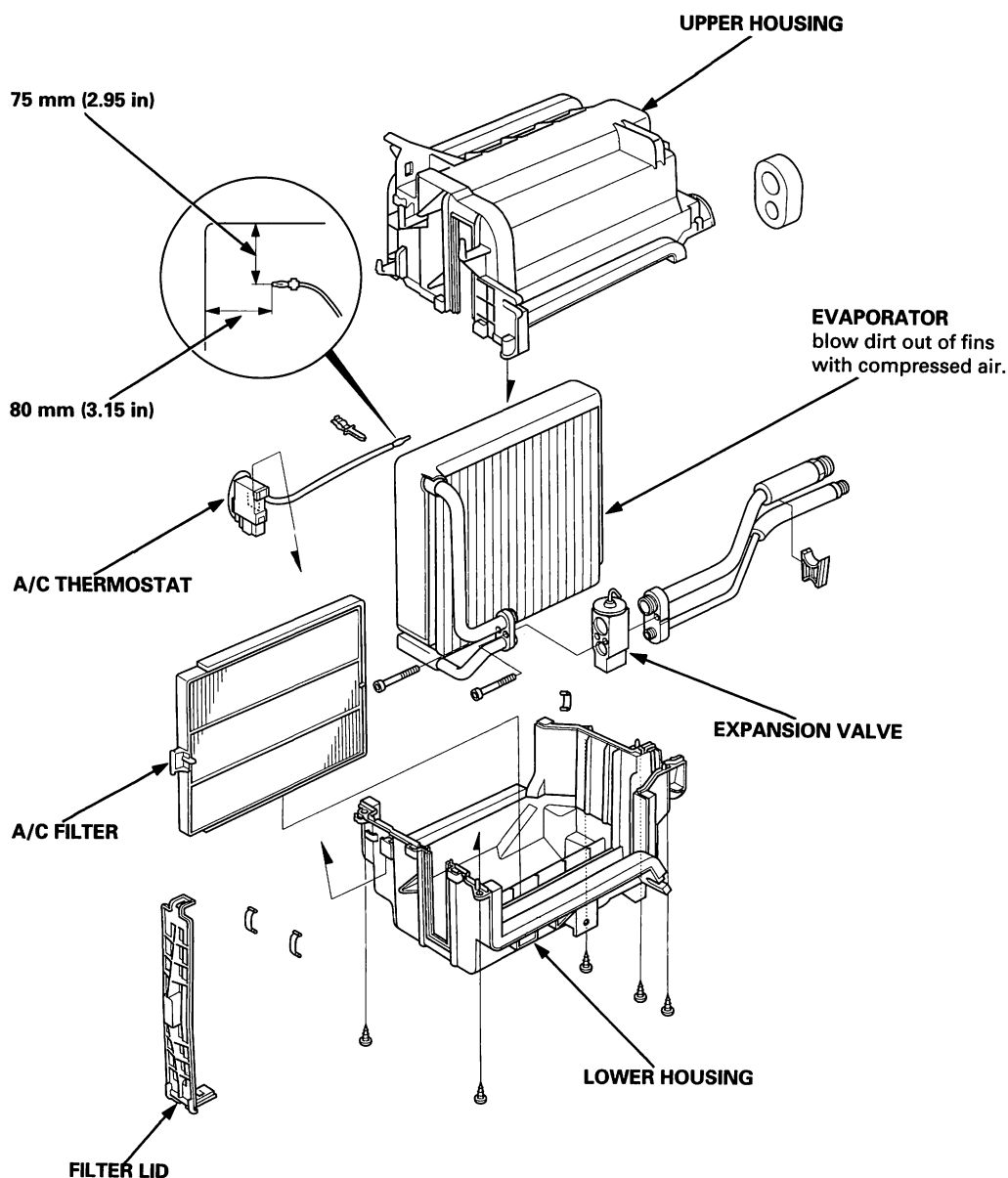
8. Install in the reverse order of removal, and note these items:
- If you're installing a new evaporator, add refrigerant oil (DENSO ND-OIL 8 or SANDEN SP-10) (see page 22-31).
  - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.
  - Immediately after using the oil, replace the cap on the container, and seal it to avoid moisture absorption.
  - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
  - Apply sealant to the grommets.
  - Make sure that there is no air leakage.
  - Charge the system (see page 22-58), and test its performance (see page 22-34).

# Evaporator

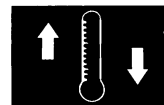
## Overhaul

NOTE: LHD type is shown, RHD type is symmetrical.

1. Remove the filter lid, then pull out the A/C filter.
2. Pull out the A/C thermostat sensor from the evaporator fins.
3. Remove the self-tapping screws and the clamps. Carefully separate the upper and the lower housings, then remove the evaporator.
4. If necessary, remove the two bolts and the expansion valve.
5. Reassemble the evaporator in the reverse order of disassembly, and note these items:
  - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.
  - Reinstall the A/C thermostat sensor to its original location.
  - Make sure that there is no air leakage.



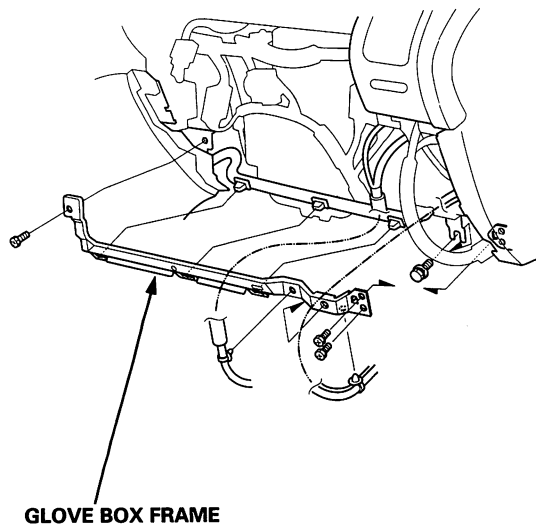
# A/C Filter



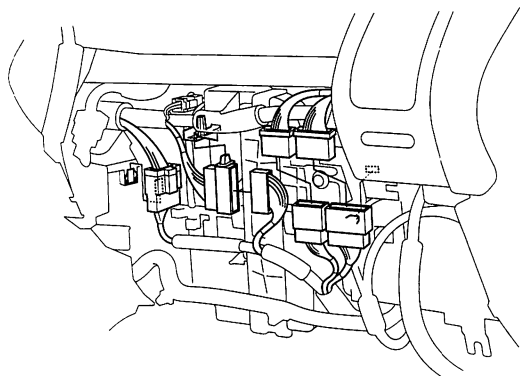
## Replacement

NOTE: LHD type is shown, RHD type is symmetrical.

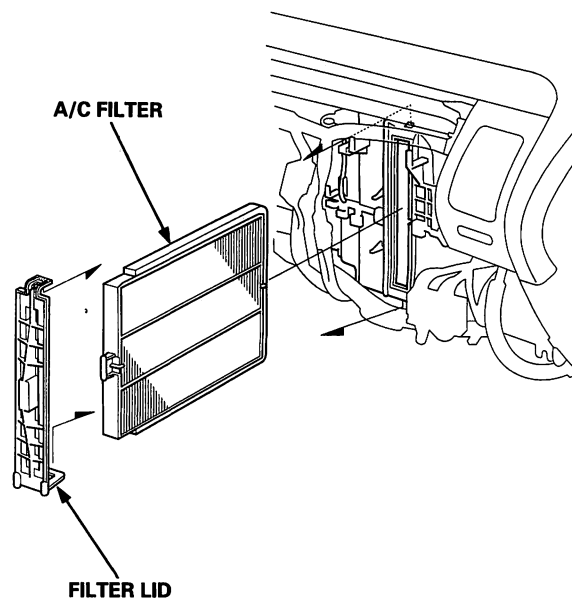
1. Remove the glove box (see section 20).
2. Remove the wire harness clips, the bolts and the glove box frame.



3. Disconnect the wire harness connectors.



4. Remove the filter lid from the evaporator, then pull out the A/C filter. Replace the A/C filter according to the maintenance schedule (see section 3).



5. Install in the reverse order of removal. Make sure that there is no air leakage.

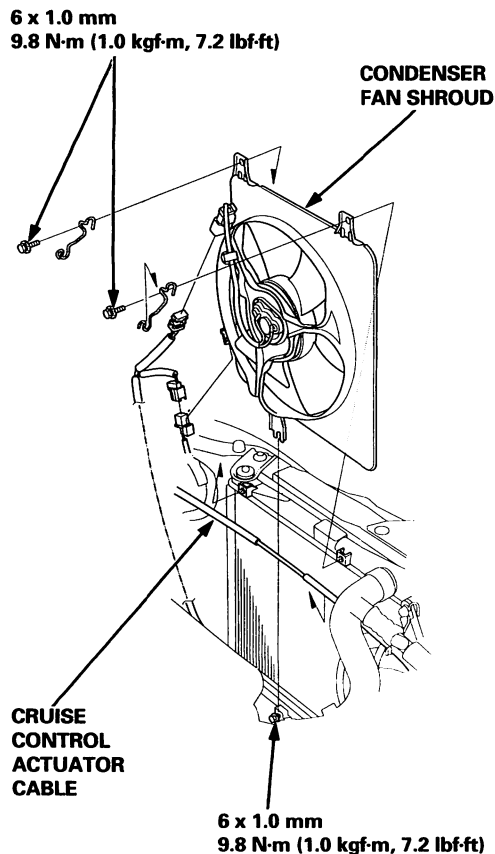


# Compressor (DENSO)

## Replacement

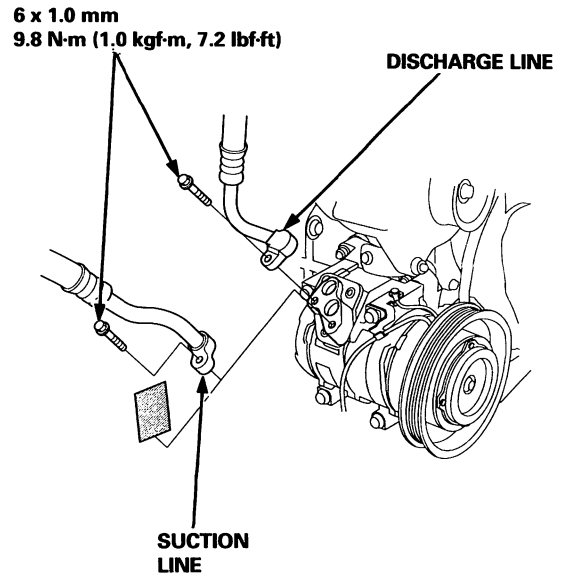
NOTE: LHD type is shown, RHD type is similar.

1. If the compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
3. Disconnect the negative cable from the battery.
4. Discharge the refrigerant. (see page 22-56).
5. Remove the compressor clutch connector from the condenser fan shroud, then disconnect the compressor clutch connector. Disconnect the condenser fan connector. Remove the cruise control actuator cable from the clamp. Loosen the lower mounting bolt, then remove the upper mounting bolts and the condenser fan shroud. Be careful not to damage the radiator fins when removing the condenser fan shroud.

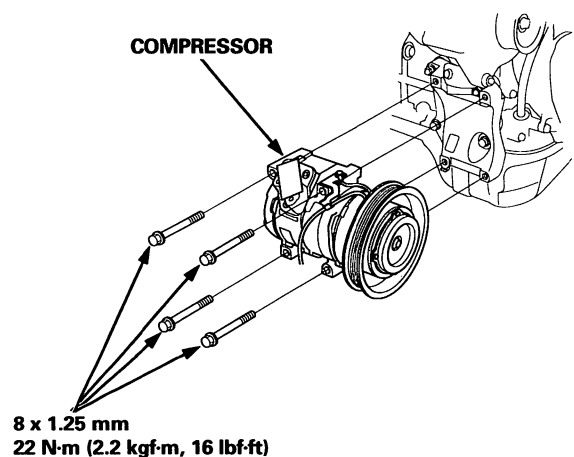


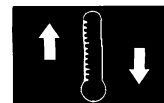
6. Loosen the A/C compressor belt (see page 22-54).

7. Remove the each bolt, then disconnect the suction and discharge lines from the compressor. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.

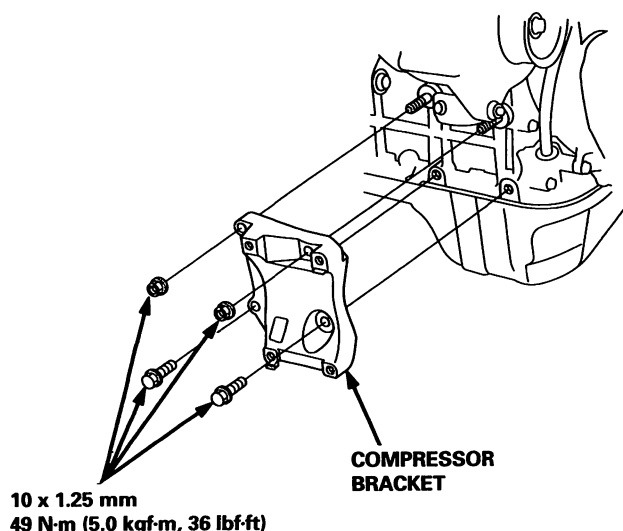


8. Remove the mounting bolts and the compressor. Be careful not to damage the radiator fins when removing the compressor.





9. If necessary, remove the mounting bolts, mounting nuts and the compressor bracket.

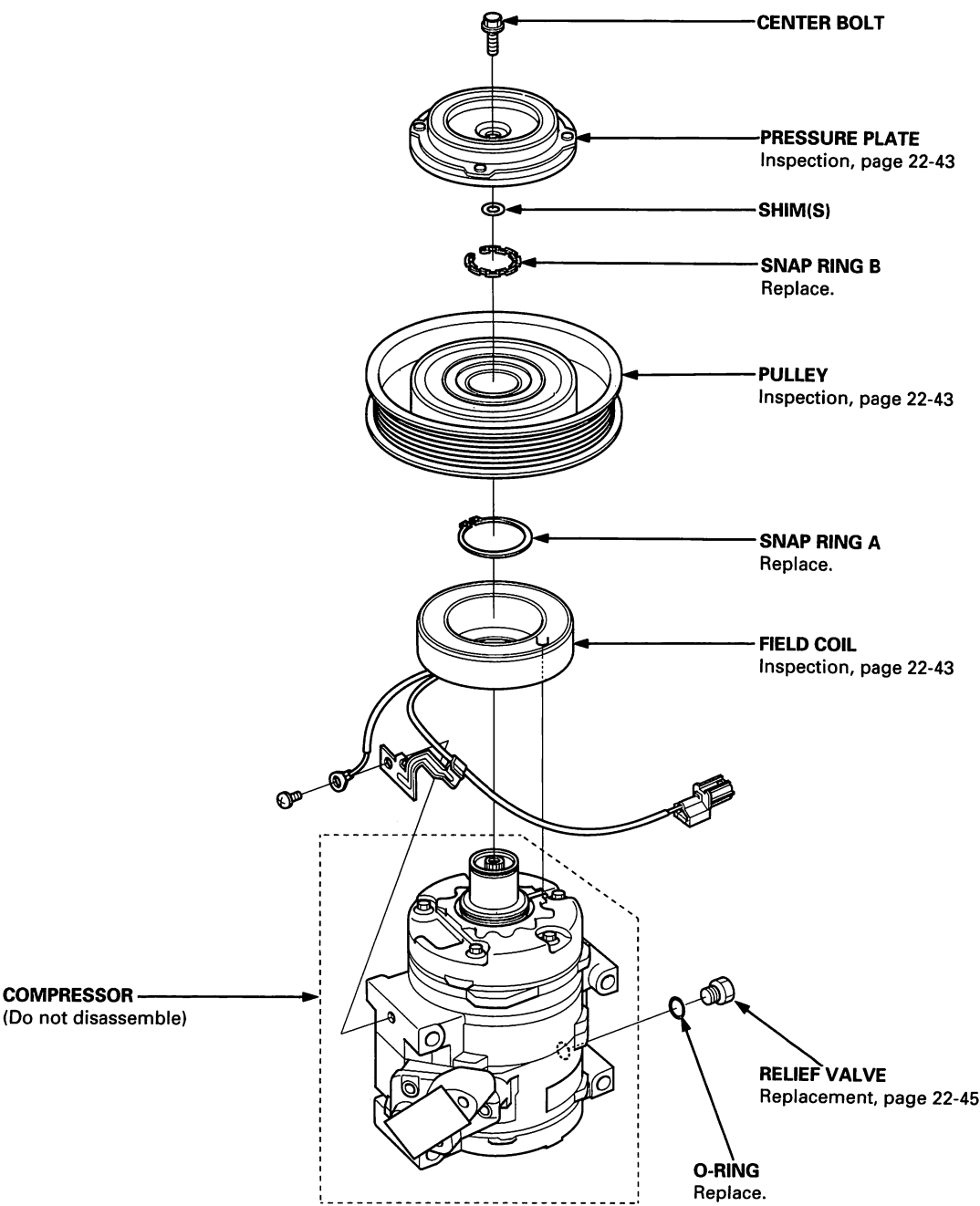


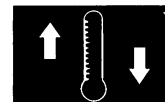
10. Install in the reverse order of removal, and note these items:

- If you're installing a new compressor, drain all the refrigerant oil from the removed compressor, and measure its volume. Subtract the volume of drained oil from 160 ml (5 1/3 fl-oz, 5.6 Imp-oz); the result is the amount of oil you should drain from the new compressor (through the suction fitting).
- Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.
- Use refrigerant oil (DENSO ND-OIL 8) for HFC-134a DENSO piston type compressor only.
- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, replace the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
- Be careful not to damage the radiator fins when installing the compressor and the condenser fan shroud.
- Adjust the A/C compressor belt (see page 22-54).
- Charge the system (see page 22-58), and test its performance (see page 22-34).
- Enter the anti-theft code for the radio, then enter the customer's radio station presets.

# Compressor (DENSO)

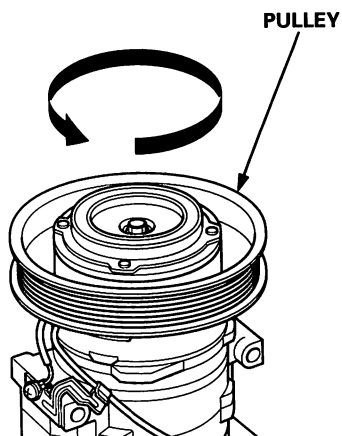
## Illustrated Index





## Clutch Inspection

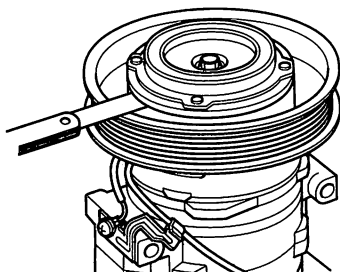
- Check the plated parts of the pressure plate for color changes, peeling or other damage. If there is damage, replace the clutch set.
- Check the pulley bearing play and drag by rotating the pulley by hand. Replace the clutch set with a new one if it is noisy or has excessive play/drag.



- Measure the clearance between the pulley and the pressure plate all the way around. If the clearance is not within specified limits, the pressure plate must be removed and shim(s) added or removed as required, following the procedure on page 22-44.

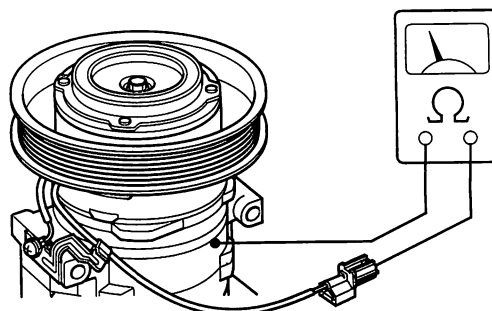
**Clearance:  $0.45 \pm 0.15$  mm ( $0.018 \pm 0.006$  in)**

**NOTE:** The shims are available in three thicknesses: 0.1 mm, 0.3 mm and 0.5 mm.



- Check resistance of the field coil. If resistance is not within specifications, replace the field coil.

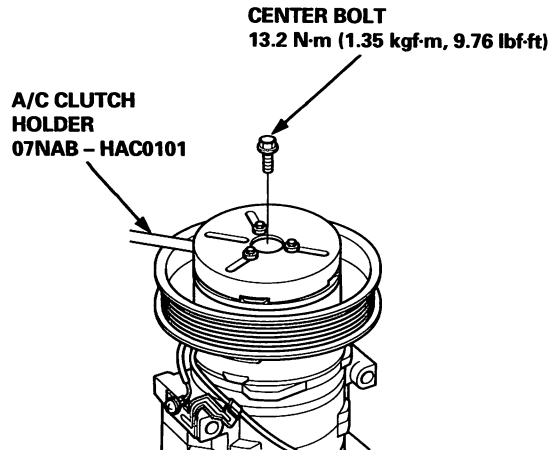
**Field Coil Resistance:  $4.1 \pm 0.2$  ohms at 20°C (68°F)**



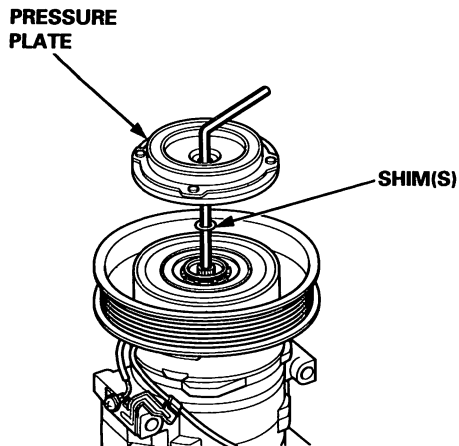
# Compressor (DENSO)

## Clutch Overhaul

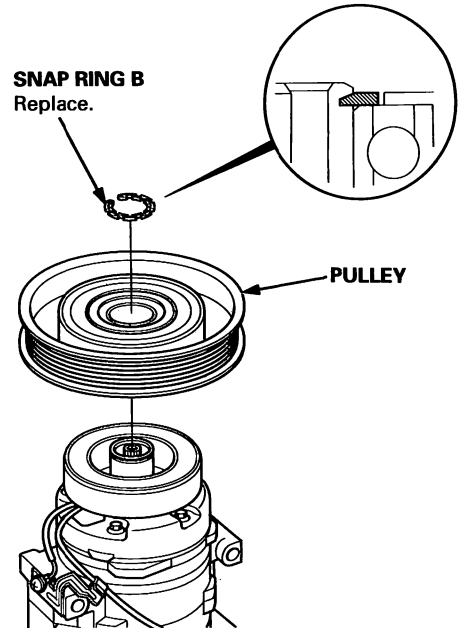
1. Remove the center bolt while holding the pressure plate with the special tool.



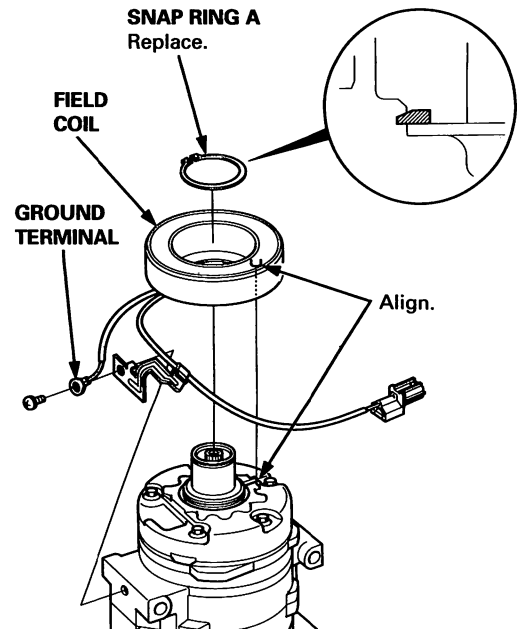
2. Remove the pressure plate and shim(s), taking care not to lose the shim(s).

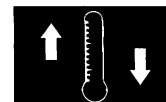


3. Remove the snap ring B with snap ring pliers, then remove the pulley. Be careful not to damage the pulley and compressor.



4. Remove the screw from the field coil ground terminal. Remove the snap ring A with snap ring pliers, then remove the field coil. Be careful not to damage the field coil and compressor.



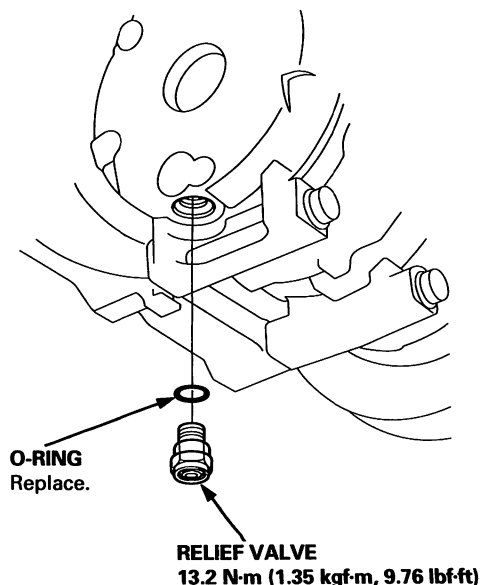


## Relief Valve Replacement

5. Reassemble the compressor clutch in the reverse order of disassembly, and note these items:

- Install the field coil with the wire side facing down, and align the boss on the field coil with the hole in the compressor.
- Clean the pulley and compressor sliding surfaces with non-petroleum solvent.
- Install new snap rings, and make sure they are fully seated in the groove.
- Make sure that the pulley turns smoothly after it's reassembled.
- Route and clamp the wires properly or they can be damaged by the pulley.

1. Discharge the refrigerant (see page 22-56).
2. Remove the relief valve and the O-ring. Plug the opening to keep foreign matter from entering the system and the compressor oil from running out.



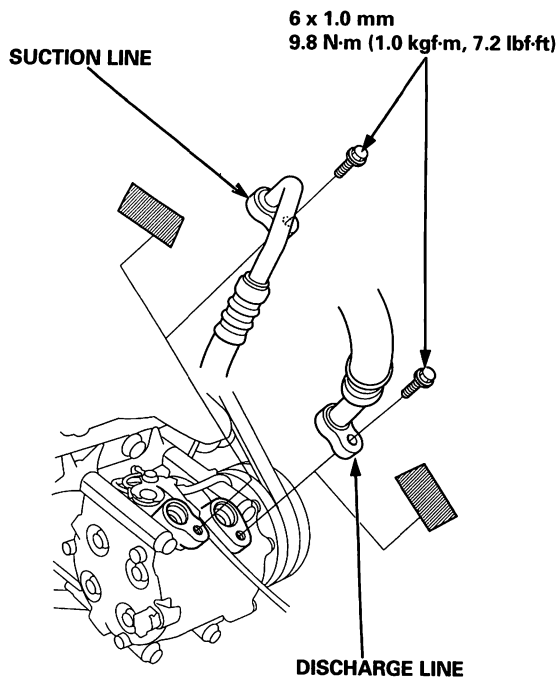
3. Clean the mating surfaces.
4. Replace the O-ring with a new one at the relief valve, and apply a thin coat of refrigerant oil before installing it.
5. Remove the plug, and install and tighten the relief valve.
6. Charge the system (see page 22-58), and test its performance (see page 22-34).

# Compressor (SANDEN)

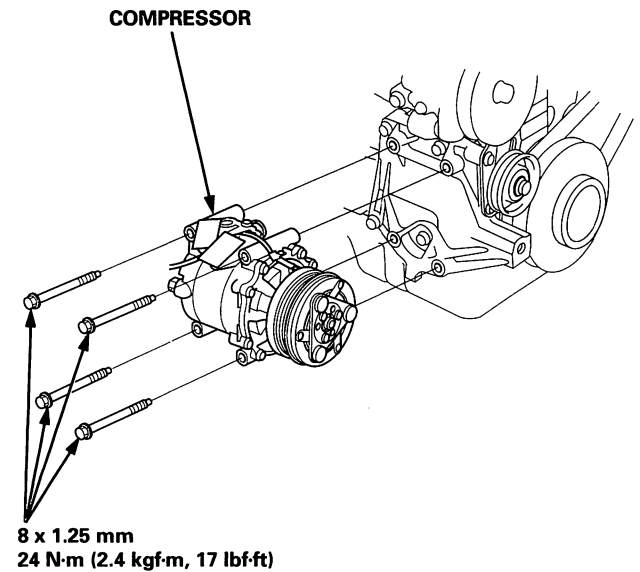
## Replacement

NOTE: LHD type is shown, RHD type is similar.

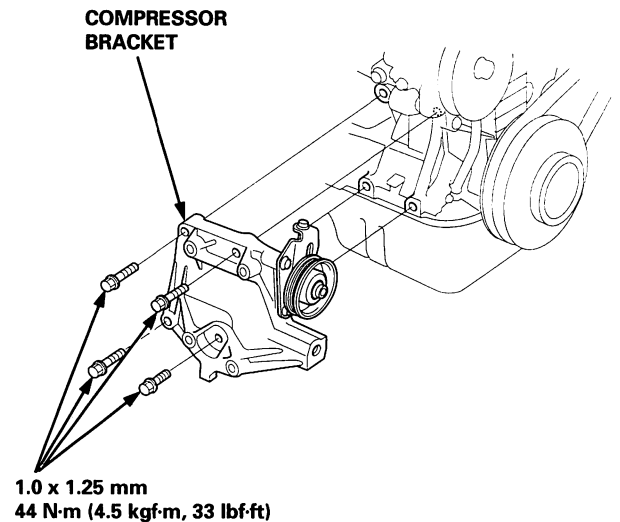
1. If the compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Disconnect the negative cable from the battery.
3. Discharge the refrigerant (see page 22-56).
4. Remove the each bolt, then disconnect the suction and discharge lines from the compressor. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.

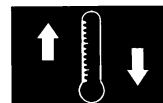


5. Loosen the A/C compressor belt (see page 22-53). If necessary, remove the power steering pump belt (see section 17).
6. Disconnect the compressor clutch connector, then remove the mounting bolts and the compressor.



7. If necessary, remove the mounting bolts and the compressor bracket.





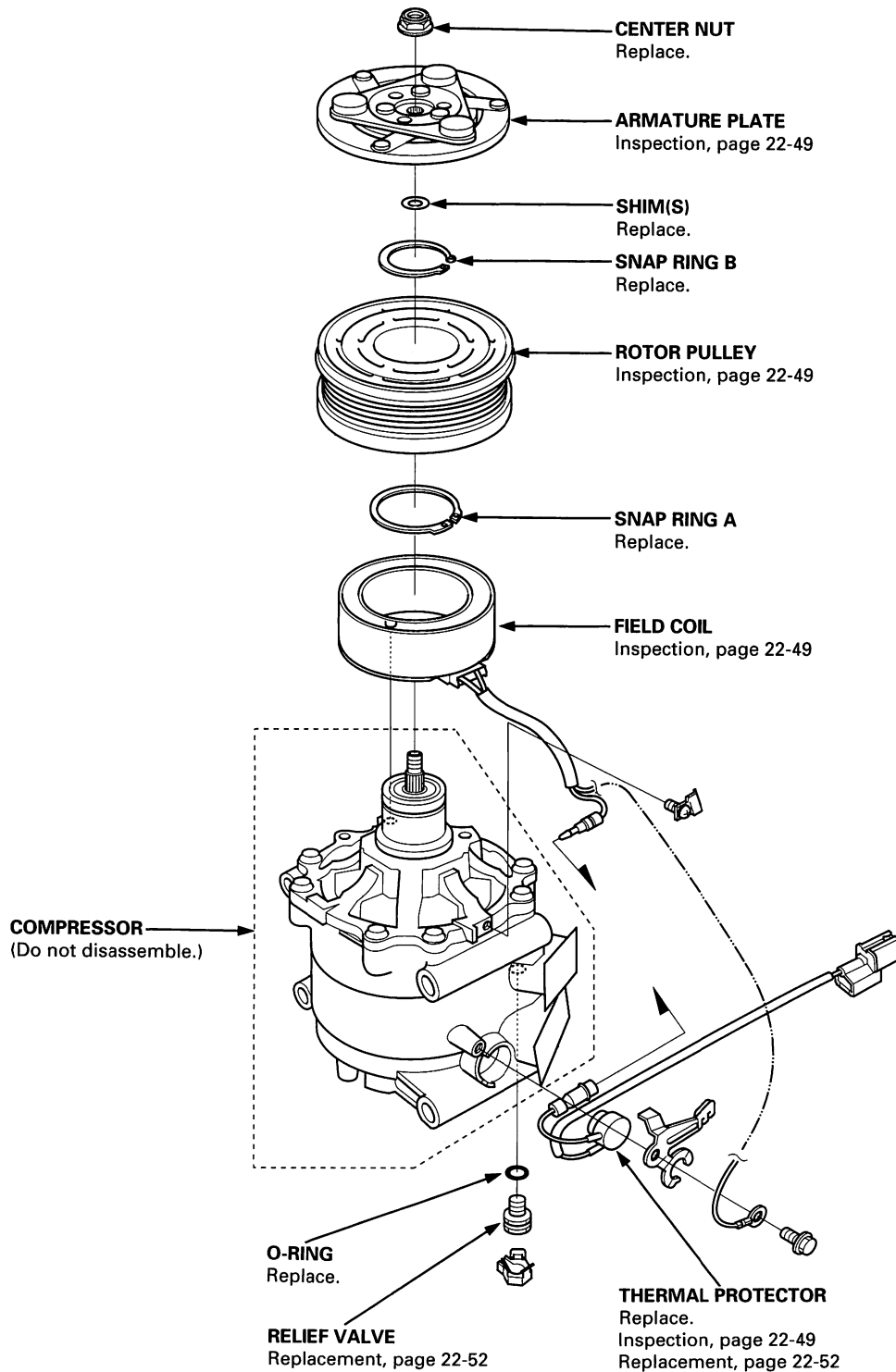
8. Install in the reverse order of removal, and note these items:

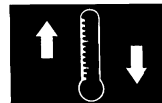
- If you're installing a new compressor, drain all the refrigerant oil from the removed compressor, and measure its volume. Subtract the volume of drained oil from 130ml (4 1/3 fl-oz, 4.6 Imp-oz); the result is the amount of oil you should drain from the new compressor (through the suction fitting).
- Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.
- Use refrigerant oil (SANDEN, SP-10) for HFC-134a SANDEN spiral type compressors only.
- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, replace the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
- Adjust the A/C compressor belt (see page 22-53) and the power steering pump belt (see section 17).
- Charge the system (see page 22-58), and test its performance (see page 22-34).



# Compressor (SANDEN)

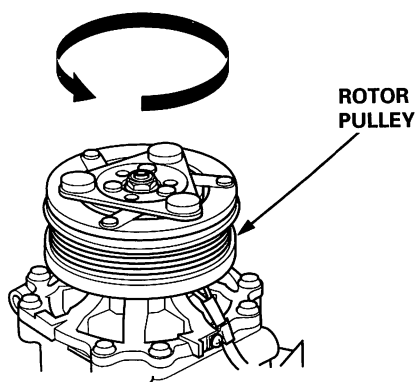
## Illustrated Index





## Clutch Inspection

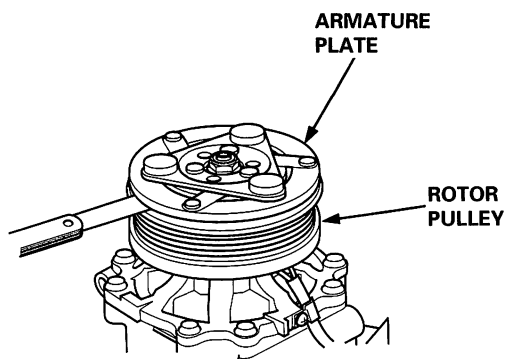
- Check the plated parts of the armature plate for color changes, peeling or other damage. If there is damage, replace the clutch set.
- Check the rotor pulley bearing play and drag by rotating the rotor pulley by hand. Replace the clutch set with a new one if it is noisy or has excessive play/drag.



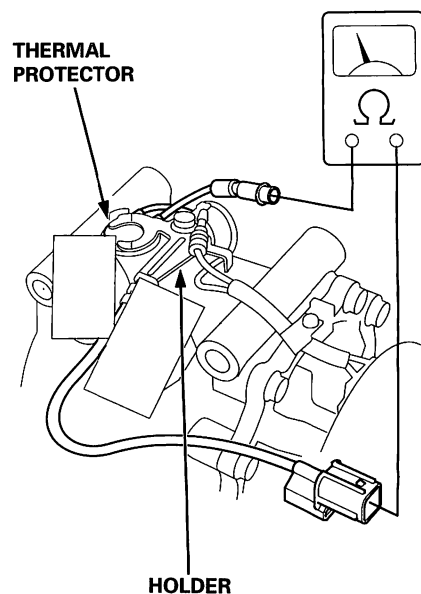
- Measure the clearance between the rotor pulley and the armature plate all the way around. If the clearance is not within specified limits, the armature plate must be removed and shim(s) added or removed as required, following the procedure on page 22-50.

**Clearance:  $0.5 \pm 0.15$  mm ( $0.020 \pm 0.006$  in)**

**NOTE:** The shims are available in four thicknesses: 0.1 mm, 0.2 mm, 0.4 mm and 0.5 mm

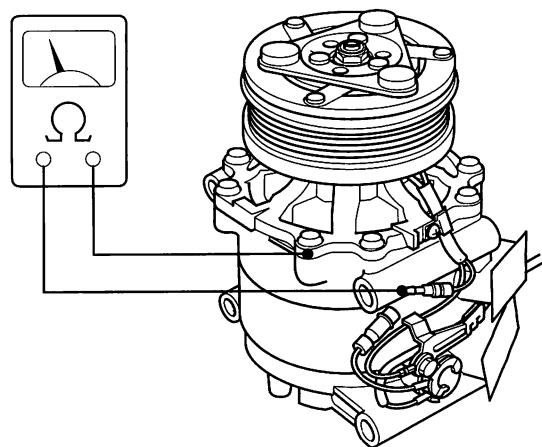


- Release the field coil connector from the holder, then disconnect it. Check the thermal protector for continuity. If there is no continuity, replace the thermal protector.



- Check resistance of the field coil. If resistance is not within specifications, replace the field coil.

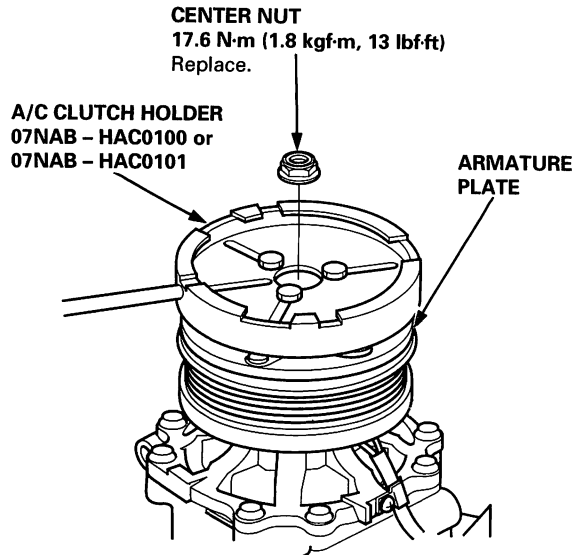
**Field Coil Resistance:  $3.2 \pm 0.15$  ohms at 20°C (68°F)**



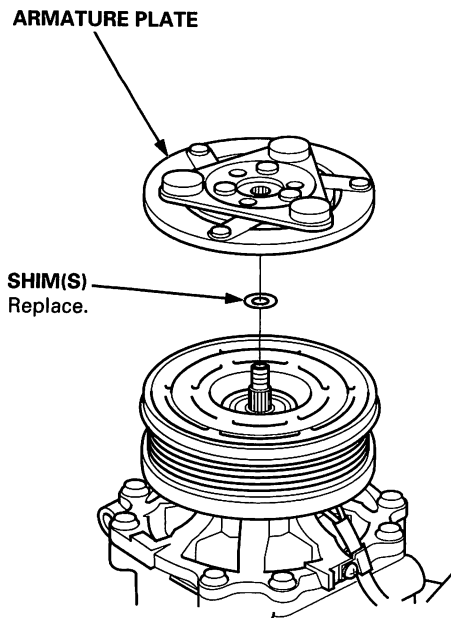
# Compressor (SANDEN)

## Clutch Overhaul

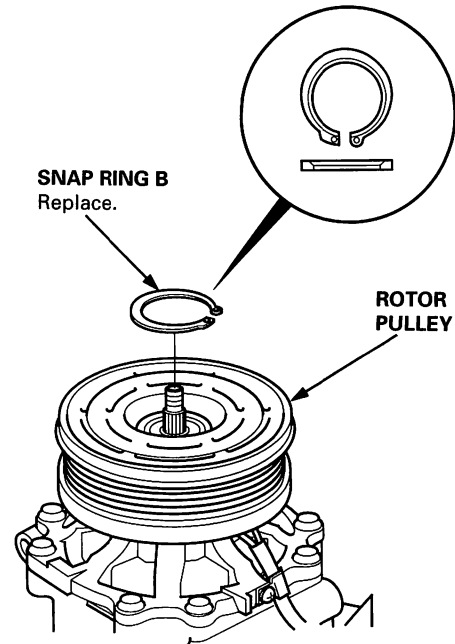
1. Remove the center nut while holding the armature plate with the special tool.



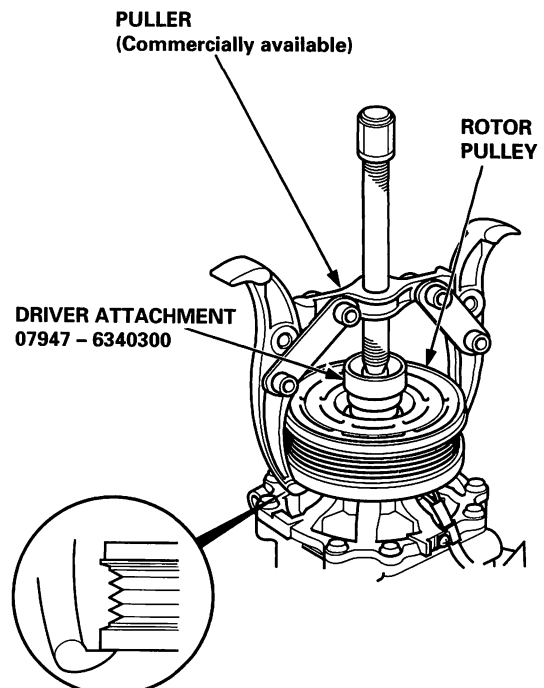
2. Remove the armature plate by pulling it up by hand.

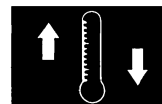


3. Remove the snap ring B with snap ring pliers. Be careful not to damage the rotor pulley and compressor.

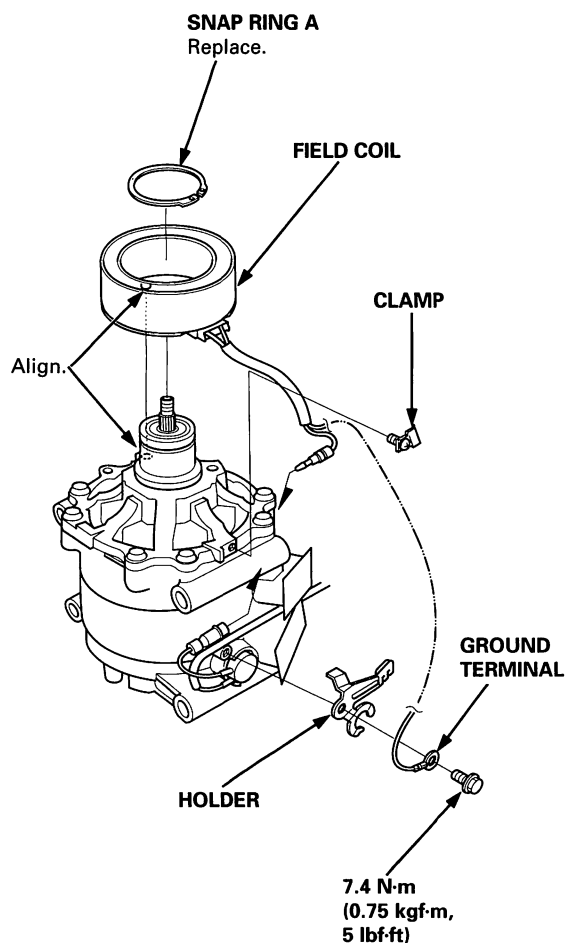


4. Remove the rotor pulley from the shaft with the tools. Be sure the claws of the puller are on the back of the rotor pulley, not on the belt area; otherwise the rotor pulley can be damaged.



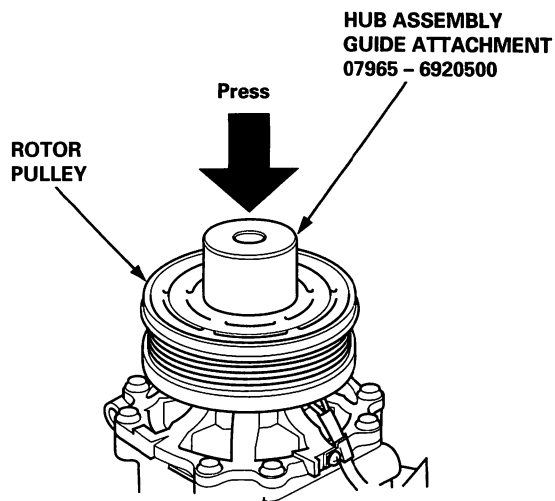


5. Remove the bolt and holder, and screw and clamp, then disconnect the field coil connector. Remove the snap ring A with snap ring pliers, then remove the field coil. Be careful not to damage the field coil and compressor.



6. Position the rotor pulley squarely over the field coil. Press the rotor pulley onto the compressor boss with the special tool. If the rotor pulley does not press on straight, remove it, and check the rotor pulley and compressor boss for burrs or damage.

**Maximum press load: 39,200 kPa (400 kgf/cm<sup>2</sup>, 5,690 psi)**



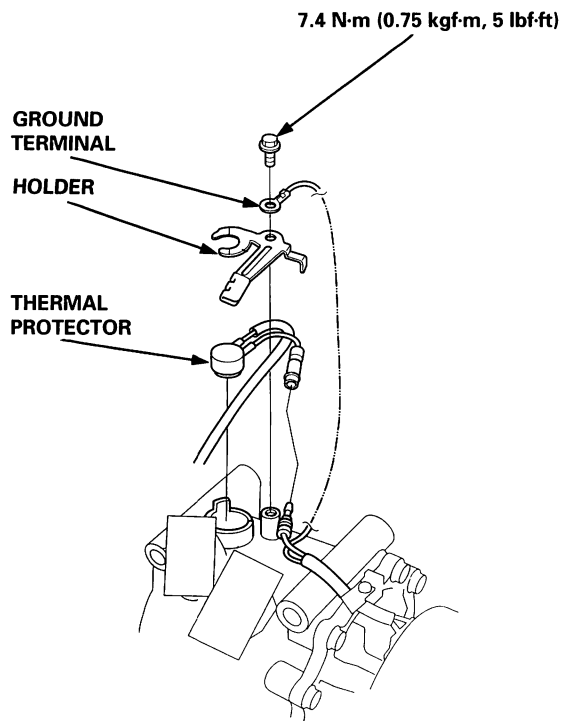
7. Reassemble the compressor clutch in the reverse order of disassembly, and note these items:

- Install the field coil with the wire side facing down, and align the boss on the field coil with the hole in the compressor.
- Clean the rotor pulley and compressor sliding surfaces with non-petroleum solvent.
- Install new snap rings, and make sure they are fully seated in the groove.
- Make sure that the rotor pulley turns *smoothly* after it's reassembled.
- Route and clamp the wires properly or they can be damaged by the rotor pulley.

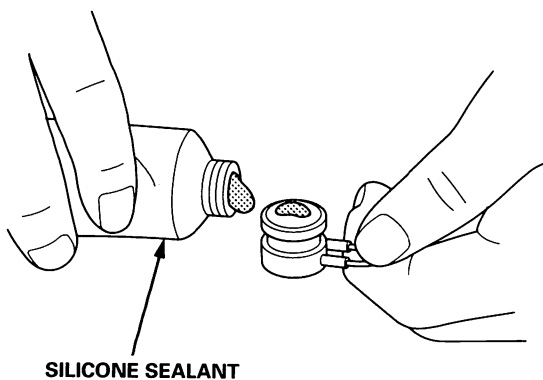
# Compressor (SANDEN)

## Thermal Protector Replacement

1. Remove the bolt, the ground terminal and the holder. Disconnect the field coil connector, then remove the thermal protector.



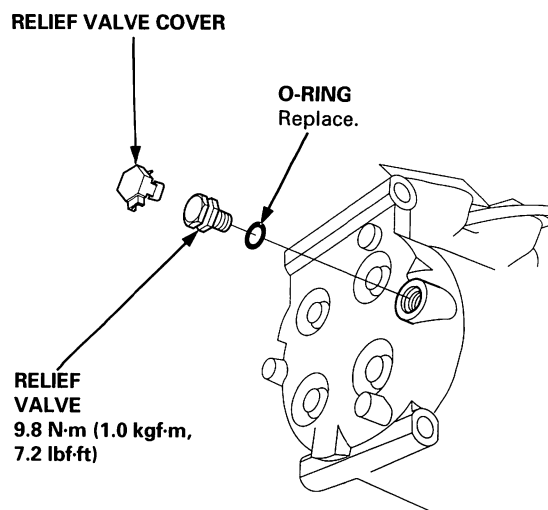
2. Replace the thermal protector with a new one, and apply silicone sealant to the bottom of the thermal protector.



3. Install in the reverse order of removal.

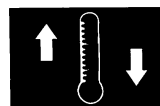
## Relief Valve Replacement

1. Discharge the refrigerant (see page 22-56).
2. Remove the relief valve cover, the relief valve and the O-ring. Plug the opening to keep foreign matter from entering the system and the compressor oil from running out.



3. Clean the mating surfaces.
4. Replace the O-ring with a new one at the relief valve, and apply a thin coat of refrigerant oil before installing it.
5. Remove the plug, and install and tighten the relief valve.
6. Put the cover on the relief valve.
7. Charge the system (see page 22-58), and test its performance (see page 22-34).

# A/C Compressor Belt



## Adjustment (D16B6 engine model)

### Deflection Method

1. Apply a force of 98 N (10 kgf, 22 lbf), and measure the deflection between the A/C compressor and the crankshaft pulley.

#### A/C Compressor Belt

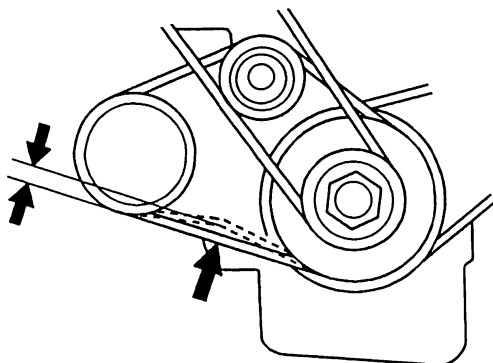
**Used Belt:** 7.5 – 9.5 mm (0.30 – 0.37 in)

**New Belt:** 5.0 – 6.5 mm (0.20 – 0.26 in)

Note these items when adjusting belt tension:

- If there are cracks or any damage evident on the belt, replace it with a new one.
- “Used belt” means a belt which has been used for five minutes or more.
- “New belt” means a belt which has been used for less than five minutes.

2. Loosen the center nut of the idler pulley.
3. Turn the adjusting bolt to get proper belt tension.
4. Retighten the center nut of the idler pulley.
5. Recheck the deflection of the A/C compressor belt.



### Tension Gauge Method

1. Attach the special tool to the A/C compressor belt as shown below, and measure the tension of the belt.

#### A/C Compressor Belt

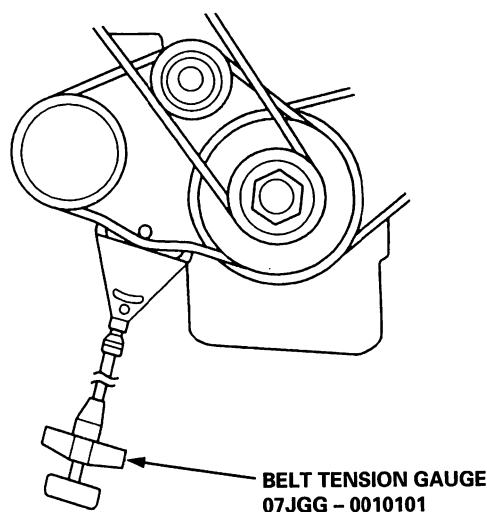
**Used Belt:** 340 – 490 N (35 – 50 kgf, 77 – 110 lbf)

**New Belt:** 690 – 830 N (70 – 85 kgf, 150 – 190 lbf)

Note these items when adjusting belt tension:

- Follow the manufacturer's instructions for the belt tension gauge.
- If there are cracks or any damage evident on the belt, replace it with a new one.
- “Used belt” means a belt which has been used for five minutes or more.
- “New belt” means a belt which has been used for less than five minutes.

2. Loosen the center nut of the idler pulley.
3. Turn the adjusting bolt to get proper belt tension.
4. Retighten the center nut of the idler pulley.
5. Recheck the tension of the A/C compressor belt.



# A/C Compressor Belt

## Adjustment (Except D16B6 engine model)

**NOTE:** When using a new belt, first adjust the deflection or tension to the values for the new belt, then readjust the deflection or tension to the values for the used belt after running engine for five minutes.

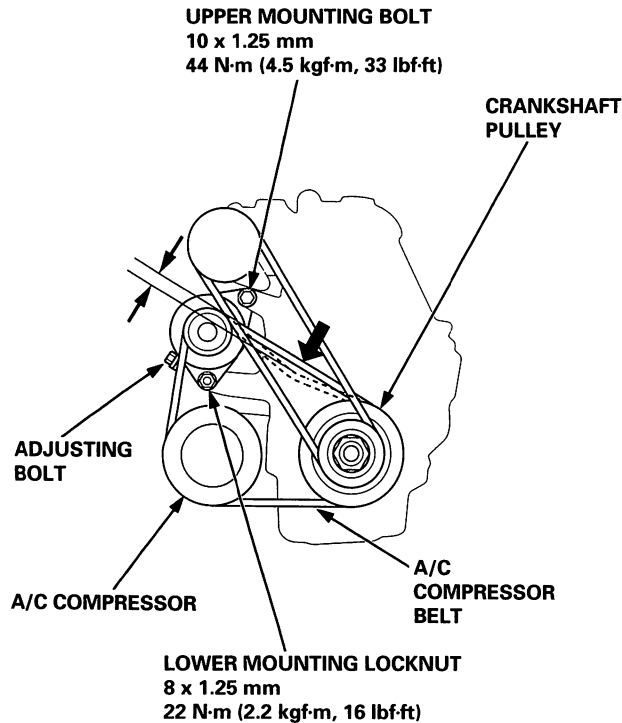
### Inspection with Deflection Method

1. Apply a force of 98 N (10 kgf, 22 lbf), and measure the deflection at the mid point between the alternator and crankshaft pulley. If the belt is worn or damaged, replace it.

### Deflection:

**Used Belt:** 10.0 – 12.0 mm (0.39 – 0.47 in)

**New Belt:** 5.5 – 7.5 mm (0.22 – 0.30 in)



### Adjustment

1. Loosen the upper mounting bolt and the lower mounting locknut.
2. Turn the adjusting bolt to obtain the proper belt tension, then retighten the locknut and mounting bolt.
3. Recheck the belt tension.

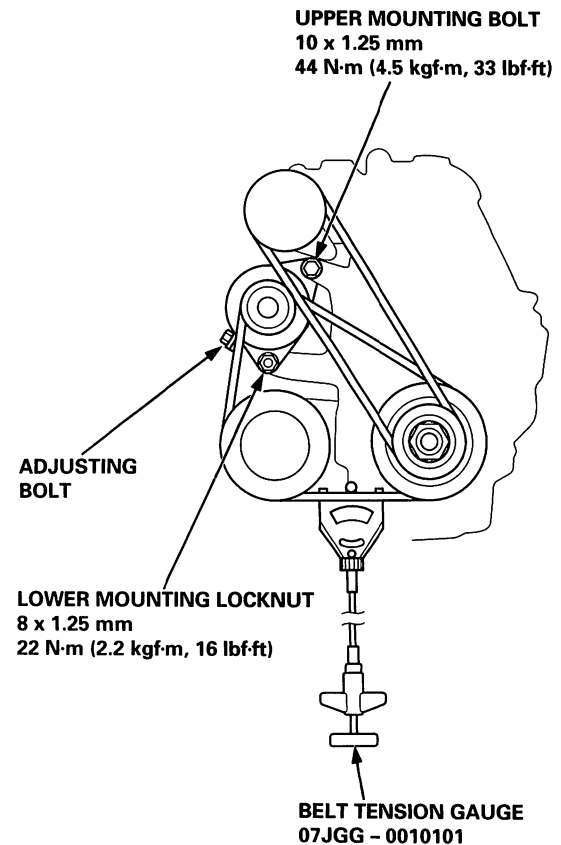
### Inspection with Belt tension gauge method

1. Attach the belt tension gauge to the belt and measure the tension. Follow the gauge manufacturer's instructions. If the belt is worn or damaged, replace it.

### Tension:

**Used Belt:** 390 – 540 N (40 – 55 kgf, 88 – 120 lbf)

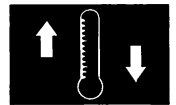
**New Belt:** 880 – 1,030 N (90 – 105 kgf, 200 – 231 lbf)



### Adjustment

1. Loosen the upper mounting bolt and the lower mounting locknut.
2. Turn the adjusting bolt to obtain the proper belt tension, then retighten the locknut and mounting bolt.
3. Recheck the belt tension.

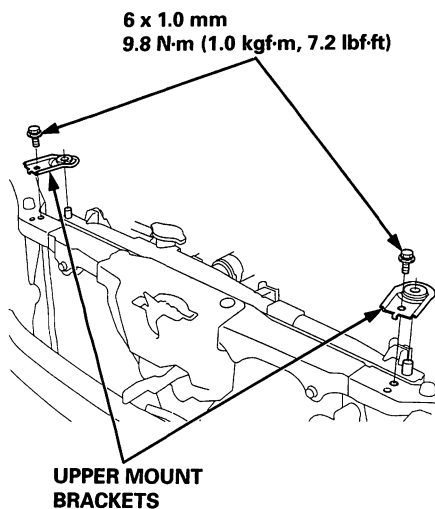
# Condenser



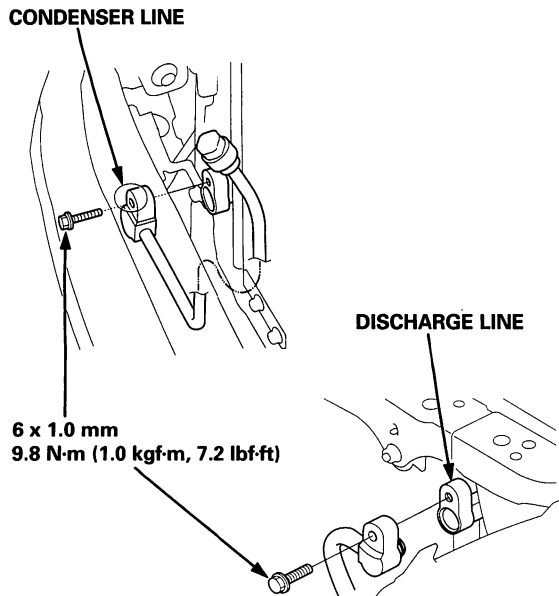
## Replacement

NOTE: LHD type is shown, RHD type is similar.

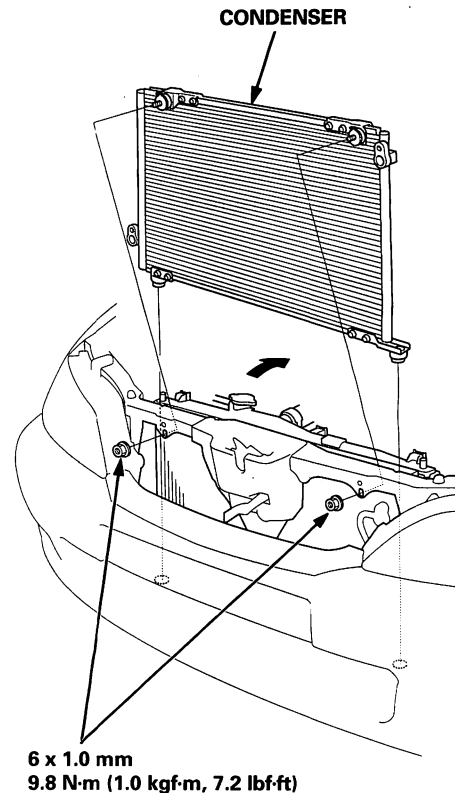
1. Discharge the refrigerant (see page 22-56).
2. Remove the coolant reservoir, but do not disconnect the reservoir hose from the coolant reservoir and the radiator.
3. Remove the bolts, then remove the upper mount brackets from the radiator.



4. Remove each bolt, then disconnect the discharge and condenser lines from the condenser. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.



5. Remove the mounting nuts, then remove the condenser by lifting it up. Be careful not to damage the radiator and condenser fins when removing the condenser.



6. Install in the reverse order of removal, and note these items:

- If you're installing a new condenser, add refrigerant oil (DENSO ND-OIL 8 or SANDEN SP-10) (see page 22-31).
- Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the right O-rings for HFC-134a (R-134a) to avoid leakage.
- Be careful not to damage the radiator and condenser fins when installing the condenser.
- Be sure to install the lower mount cushions of condenser securely into the holes.
- Charge the system (see page 22-58), and test its performance (see page 22-34).



# A/C System Service

## Discharge

### ⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

### ⚠ WARNING

- Compressed air mixed with R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

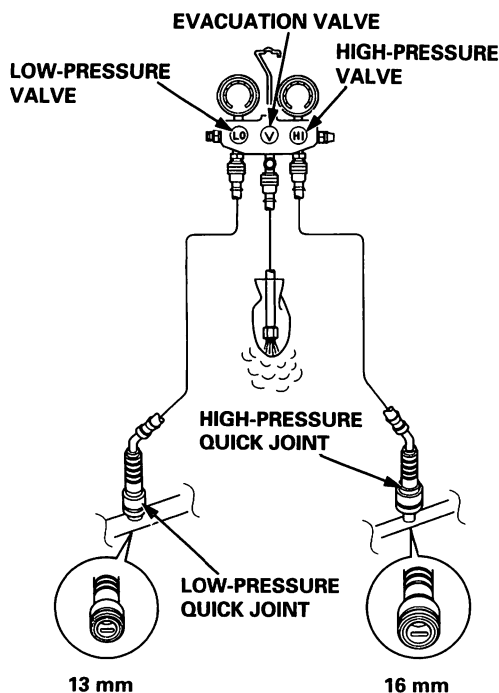
NOTE: Use only a gauge set for refrigerant HFC-134a (R-134a).

1. Connect the R-134a gauge set as shown.
2. Disconnect the center hose of the gauge set, and place the free end in a shop towel.
3. Open the evacuation valve (two valve gauge: evacuate stop valve).
4. Slowly open the high-pressure valve slightly to let refrigerant flow from the center hose only. Do not open the valve too wide. Check the shop towel to make sure no oil is being discharged with the refrigerant.

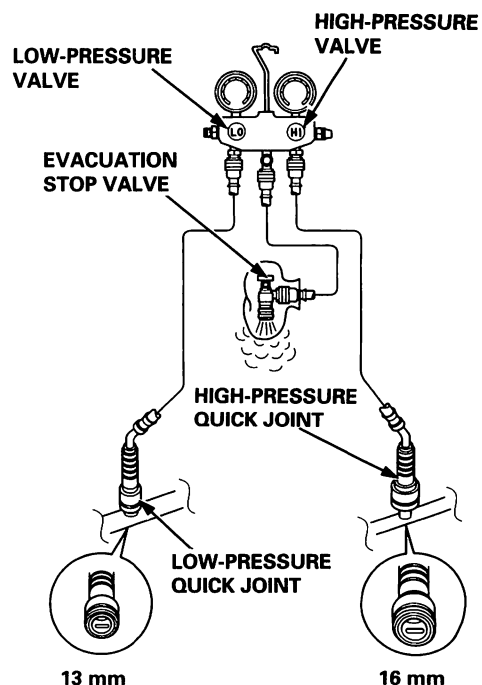
**NOTICE** If refrigerant is allowed to escape too fast, compressor oil will be drawn out of the system.

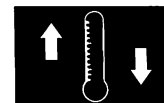
5. After the high-pressure gauge reading has dropped below 980 kPa (10 kgf/cm<sup>2</sup>, 140 psi), open the low side valve to discharge both high and low sides of the system.
6. Note the gauge reading, and as system pressure drops, gradually open both high and low side valves fully until both gauges indicate 0 kPa (0 kgf/cm<sup>2</sup>, 0 psi).

THREE VALVE GAUGE:



TWO VALVE GAUGE:





## Evacuation

### NOTE:

- Use only a gauge set for refrigerant HFC-134a (R-134a).
- Use a vacuum pump adapter which is equipped with a check valve to prevent the backflow of the vacuum pump oil.

### CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service. Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. When an A/C System has been opened to the atmosphere, such as during installation or repair, it must be evacuated using a R-134a refrigerant vacuum pump. (If the system has been open for several days, the receiver/dryer should be replaced.)

2. Connect the R-134a gauge set, pump and refrigerant containers (cans of R-134a) as shown.

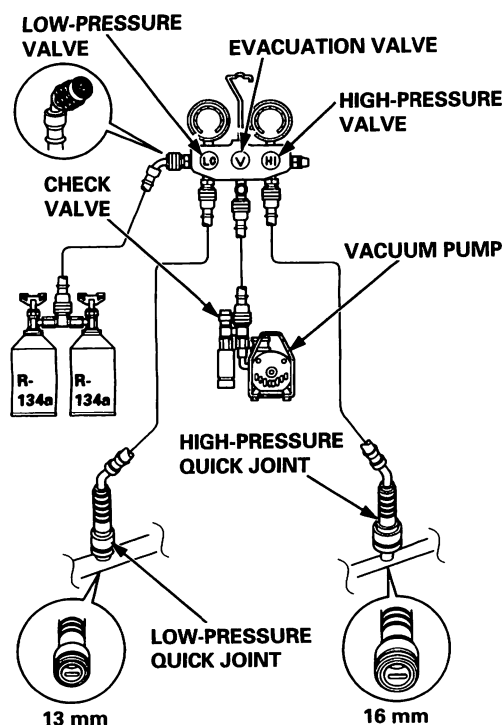
NOTE: Do not open the cans.

3. Start the pump, then open both pressure valves and the evacuation valve (two valve gauge: evacuation stop valve). Run the pump for about 15 minutes.
4. Close both pressure valves and the evacuation valve (two valve gauge: evacuation stop valve), and stop the pump. The low-pressure gauge should indicate above 93.3 kPa (700 mmHg, 27.6 in-Hg), and remain steady with the valves closed.

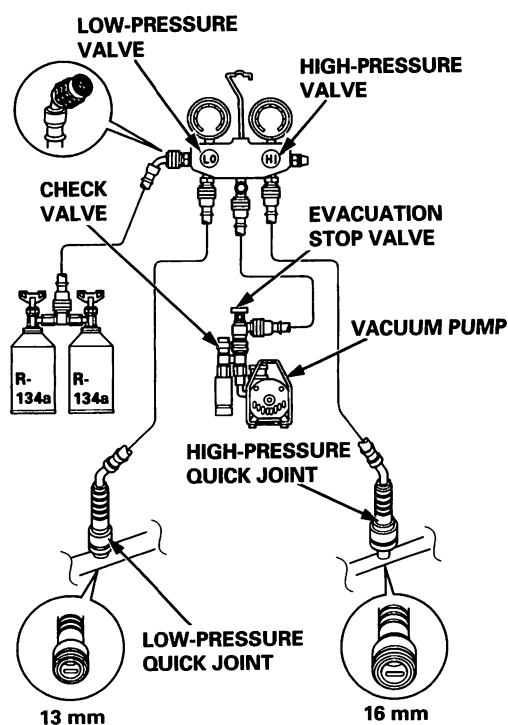
NOTE: If the low pressure does not reach more than 93.3 kPa (700 mmHg, 27.6 in-Hg) in 15 minutes, there is probably a leak in the system. Check for leaks, and repair (see Leak Test).

5. If there are no leaks, open the valves and continue pumping for at least another 15 minutes. Then close both valves, and stop the pump.

THREE VALVE GAUGE:



TWO VALVE GAUGE:



# A/C System Service

## Charging

### NOTE:

- Use only a gauge set for refrigerant HFC-134a (R-134a).
- Use a vacuum pump adapter which is equipped with a check valve to prevent the backflow of the vacuum pump oil.

### ⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

### ⚠ WARNING

- Compressed air mixed with R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

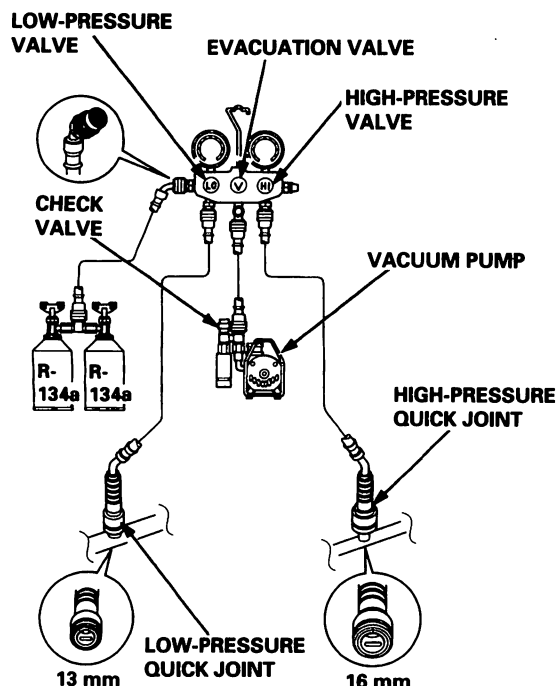
1. After the leak test, check that the high-pressure valve is closed, and start the engine.  
NOTE: Run the engine below 1,500 rpm (min<sup>-1</sup>).
2. Open the front door.  
Turn the A/C switch ON.  
Set the temperature control dial to MAX COOL.  
Set the mode control dial to VENT.  
Turn the fan switch to MAX.
3. Open the low-pressure valve, and charge with R-134a refrigerant.

### ⚠ WARNING

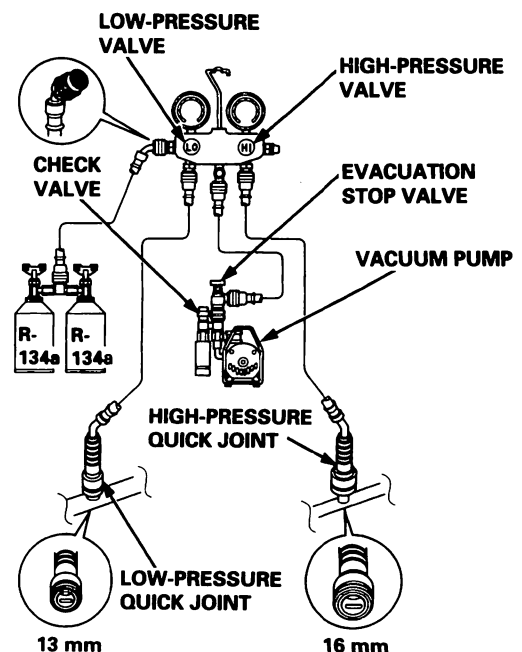
- Do not open the high-pressure valve.
- Do not turn the cans upside down.

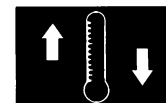
4. Charge the system with refrigerant capacity. Do not overcharge the system; the compressor will be damaged.  
**Refrigerant capacity: 550  $\pm$  50 g (19.4  $\pm$  1.8 oz)**
5. When fully charged, close the low-pressure valve and the refrigerant cans. Check the system.
6. Stop the engine, and disconnect the charge hose quickly.
7. Check the system for leaks using a leak detector proper to refrigerant R-134a.  
NOTE: Particularly check for leaks around the compressor, condenser and receiver/dryer.

THREE VALVE GAUGE:



TWO VALVE GAUGE:





## Leak Test

### ⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

### ⚠ WARNING

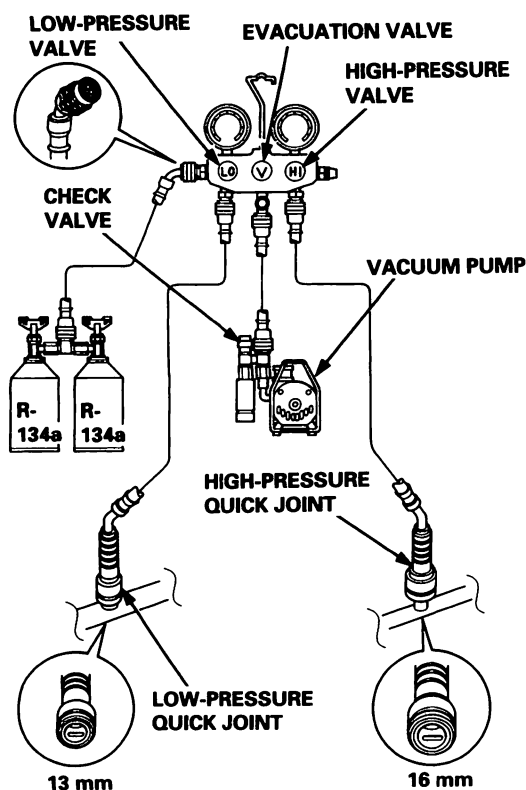
- Compressed air mixed with R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

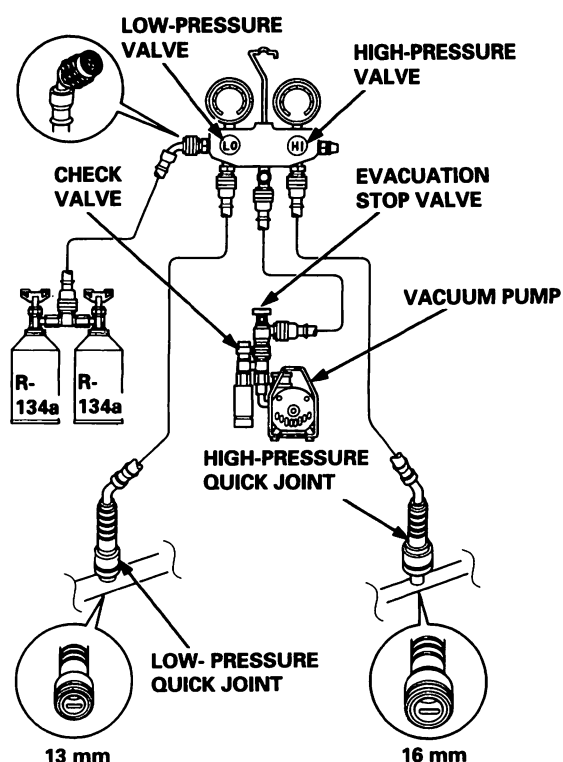
#### NOTE:

- Use only a gauge set for refrigerant HFC-134a (R-134a).
  - Use a vacuum pump adapter which is equipped with a check valve to prevent the backflow of the vacuum pump oil.
1. Close the evacuation valve (two valve gauge: evacuation stop valve).
  2. Open the cans.
  3. Open the high-pressure valve to charge the system to about 98 kPa (1.0 kgf/cm<sup>2</sup>, 14 psi), then close it.  
NOTE: Close the low-pressure valve.
  4. Check the system for leaks using a leak detector proper to refrigerant R-134a.  
NOTE: Particularly check for leaks around the compressor, condenser and receiver/dryer.
  5. If you find any leaks, tighten the joint nuts and bolts to the specified torque.
  6. Recheck the system for leaks using a leak detector.
  7. If you find leaks that require the system to be opened (to repair or replace hoses, fittings, etc.), release any charge in the system.
  8. After checking and repairing leaks, the system must be evacuated (see System Evacuation on page 22-57).

THREE VALVE GAUGE:



TWO VALVE GAUGE:





# Automatic Climate Control

## Component Location

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## Evaporator Temperature Sensor

Test ..... 22-103

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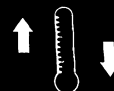
## Air Mix Control Motor

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## Climate Control Unit

Replacement ..... 22-106

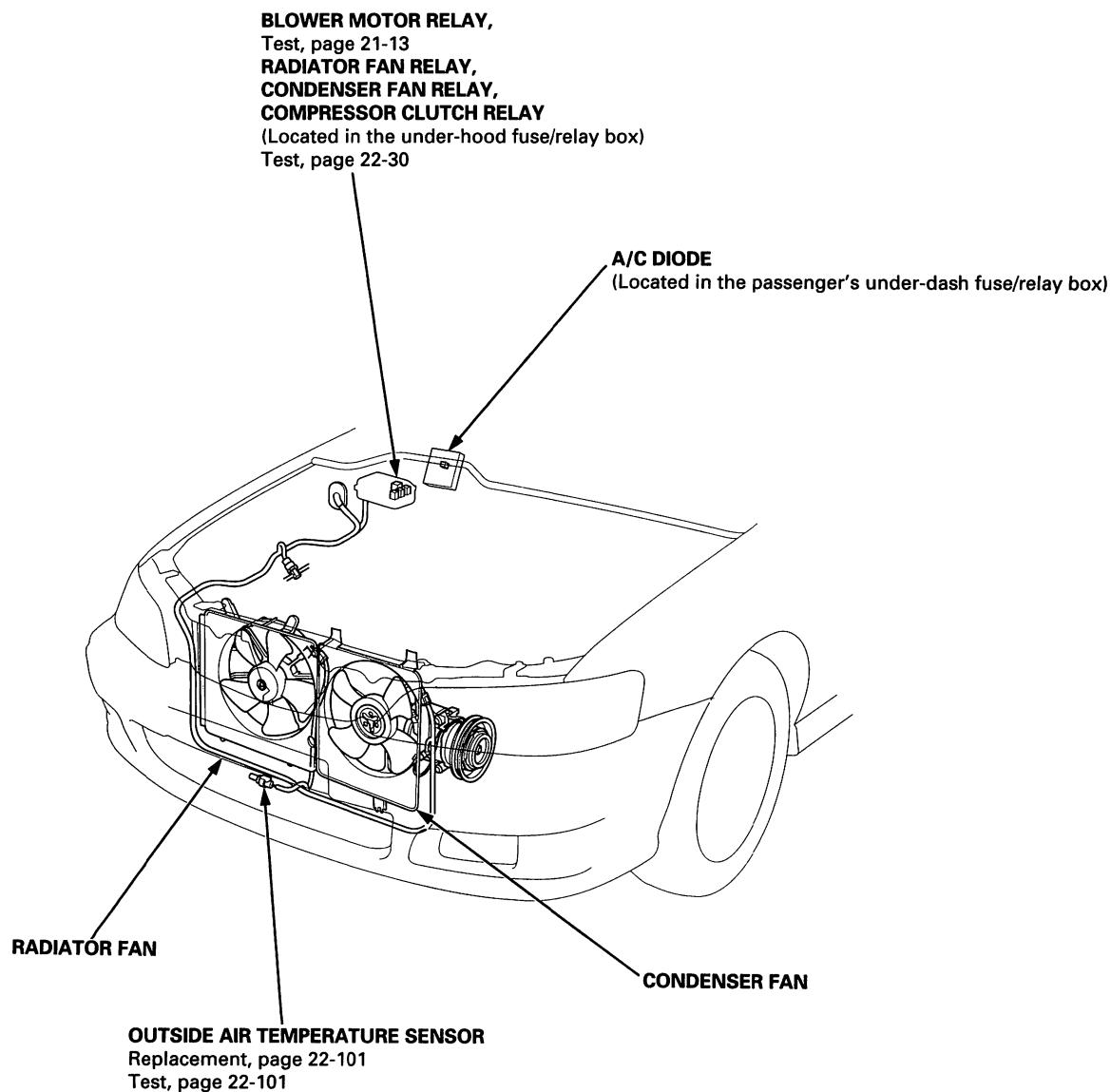


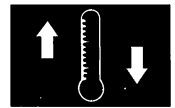
# Component Location

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## Index

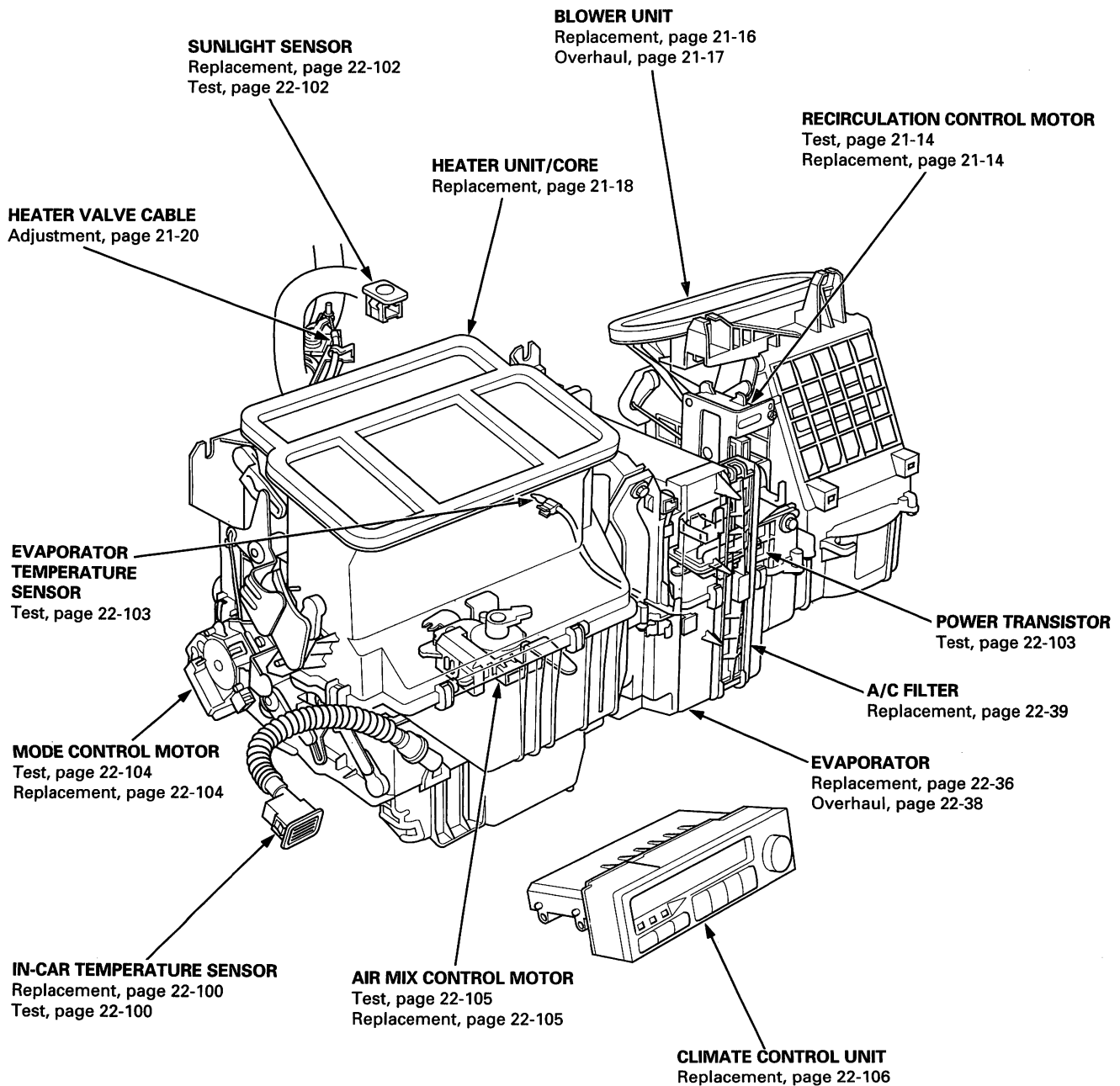
NOTE: LHD type is shown, RHD type is symmetrical.





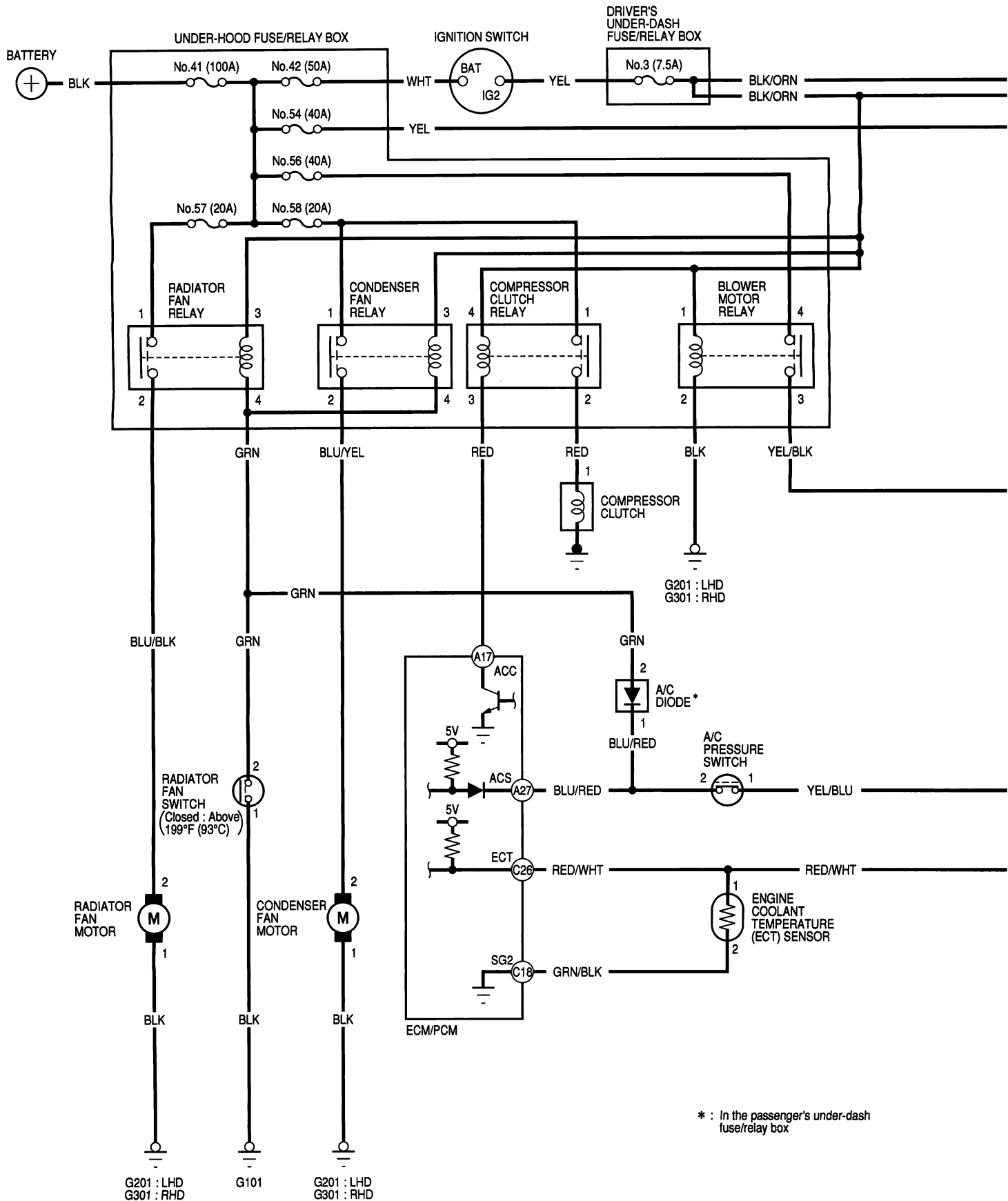
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

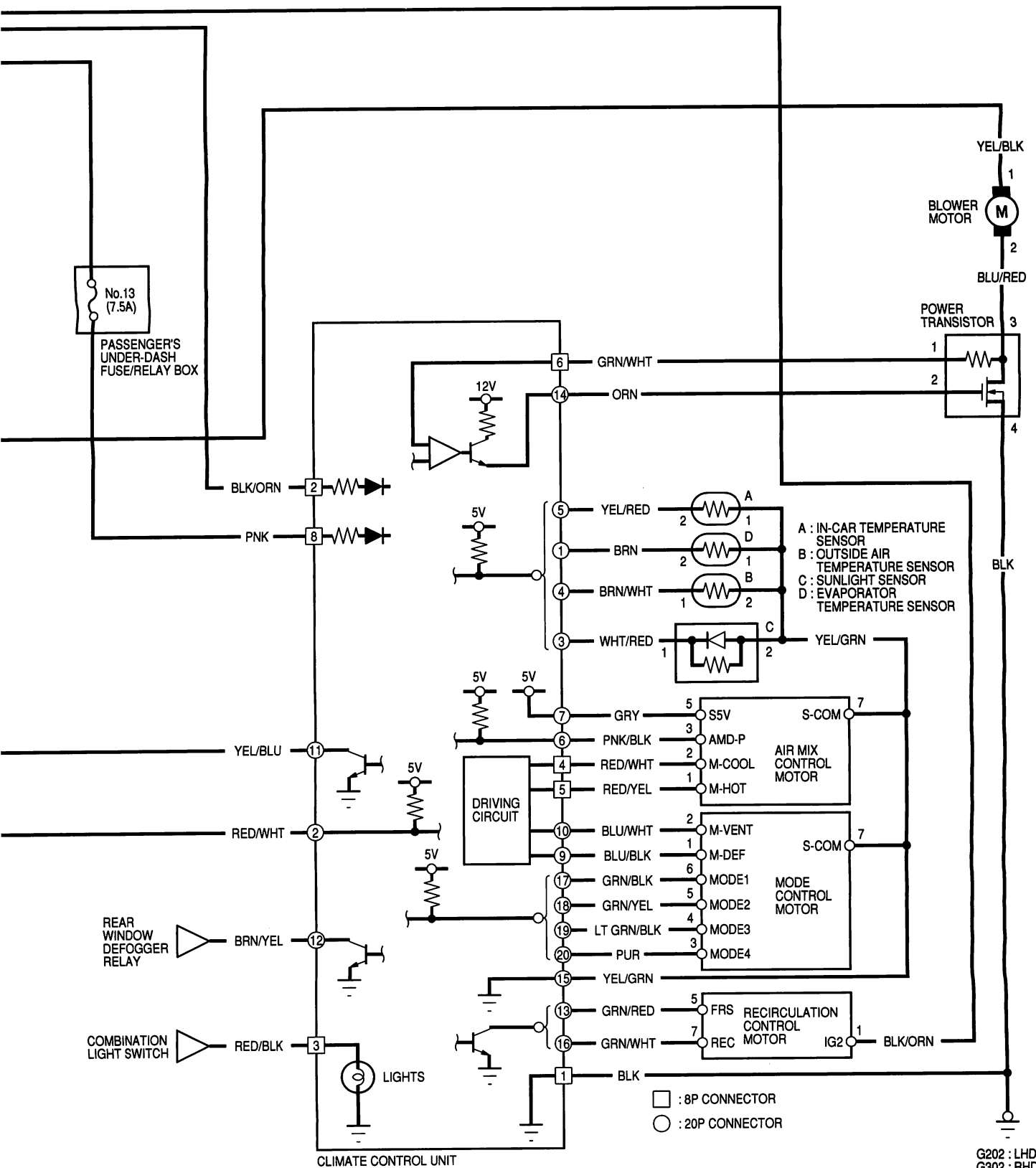
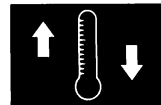
NOTE: LHD type is shown, RHD type is symmetrical.





# Circuit Diagram





# Troubleshooting

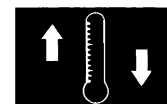
## Symptom Chart

For electrical malfunctions which are indicated by the self-diagnostic system, refer to self-diagnosis function (see next page).

Note these items before troubleshooting a symptom.

- Check the engine coolant level, and allow the engine to warm up before troubleshooting.
- Any abnormality must be corrected before continuing the test.
- Because of the precise measurements needed, use a digital circuit tester with an output of 1 mA or less at the 20 k $\Omega$  range when testing.
- Before performing any troubleshooting procedures check:
  - Fuses No. 56 (40 A), No. 57 (20 A), No. 58 (20 A) in the under-hood fuse/relay box, and No. 3 (7.5 A) in the driver's under-dash fuse/relay box, and No. 13 (7.5 A) in the passenger's under-dash fuse/relay box.
  - Grounds No. G101, G201 (LHD), G202 (LHD), G301 (RHD), G302 (RHD)
  - Cleanliness and tightness of all connectors

Symptom	See page
Recirculation control doors do not change between Fresh and Recirculate.	22-92
The blower motor does not run immediately even though the engine is fully warmed up (NOTE: The temperature control dial must be set between 18°C (61°F) and 32°C (89°F)).	22-98
Both heater and A/C do not work.	22-94
Radiator fan does not run at all (but condenser fan runs with the A/C on).	22-10
Condenser fan does not run at all (but radiator fan runs with the A/C on).	22-13
Both fans (radiator and condenser) do not run for engine cooling, but they both run with the A/C on.	22-16
Both fans do not run with the A/C on.	22-17
Compressor clutch does not engage.	22-21
A/C system does not come on (both fans and compressor).	22-96

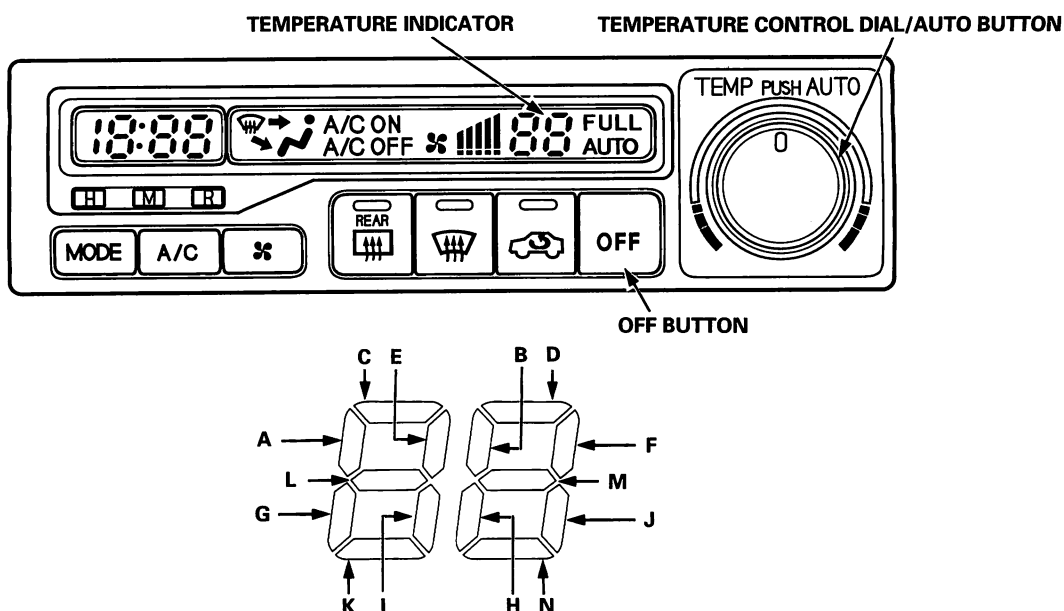


## Self-diagnosis Function

The climate control unit has a self-diagnosis function.

### Running the Self-diagnosis Function

Turn the ignition switch ON (II), press the AUTO button and then the OFF button, Continue to hold both buttons down. If there is any abnormality in the system when both buttons are pressed, the temperature indicator will light up the segment (A to N) corresponding to the error. The temperature indicator will then alternate every second between displaying "88" (all segments lit) and the error segment. If there is no abnormality, the segments will not light up.



Indicator segment	Component with problem	Possible cause	See page
A	In-car temperature sensor	Open circuit, faulty sensor	22-68
B	In-car temperature sensor	Short circuit, faulty sensor	22-70
C	Outside air temperature sensor	Open circuit, faulty sensor	22-71
D	Outside air temperature sensor	Short circuit, faulty sensor	22-73
E	Sunlight sensor	Open circuit, faulty sensor	22-74
F	Sunlight sensor	Short circuit, faulty sensor	22-75
G	Evaporator temperature sensor	Open circuit, faulty sensor	22-76
H	Evaporator temperature sensor	Short circuit, faulty sensor	22-78
I	Air mix control motor	Open circuit	22-79
J	Air mix control motor	Short circuit	22-80
K	Air mix control motor	Obstructed door, faulty motor	22-82
L	Mode control motor	Open or short circuit	22-84
M	Mode control motor	Obstructed door, faulty motor	22-86
N	Blower motor	Open or short circuit, faulty motor	22-88

In case of multiple problems, the respective indicator segments will come on. If indicator segments A, C, E, G, I and L come on at the same time, there may be an open in the common ground wire of the sensors.

### Resetting the Self-diagnosis Function

Turning the ignition switch OFF will cancel the self-diagnosis function. After completing repair work, run the self-diagnosis function again to make sure that there are no other malfunctions.

# Troubleshooting

## In-car Temperature Sensor

Self-diagnosis indicator light A comes on: A problem in the in-car temperature sensor circuit open.

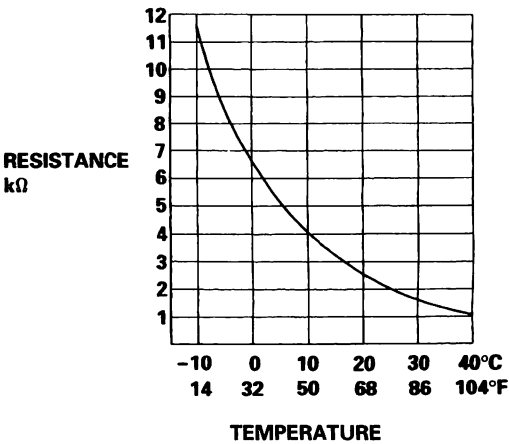
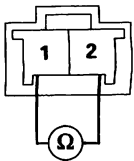
The in-car temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the temperature inside the vehicle increases.

Self-diagnosis circuit check indicates a problem in the in-car temperature sensor circuit.

Check the in-car temperature sensor:

1. Remove the in-car temperature sensor (see page 22-100).
2. Measure the resistance between the No. 1 and No. 2 terminals of the in-car temperature sensor.

IN-CAR TEMPERATURE SENSOR



\* Check for change in resistance by heating or cooling the sensor with a hair drier.

\* Is the resistance within the specifications shown on the graph?

NO

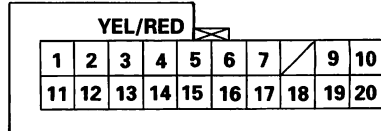
Replace the in-car temperature sensor.

YES

Check for an open in the wire:

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 5 terminal of the climate control unit 20P connector and the No. 2 terminal of the in-car temperature sensor 2P connector.

CLIMATE CONTROL UNIT 20P CONNECTOR  
Wire side of female terminals



IN-CAR TEMPERATURE SENSOR 2P CONNECTOR  
Wire side of female terminals

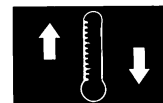
Is there continuity?

No

Repair open in the wire between the climate control unit and the in-car temperature sensor.

YES

To page 22-69



From page 22-68

**Check for an open in the wire:**

Check for continuity between the No. 15 terminal of the climate control unit 20P connector and the No. 1 terminal of the in-car temperature sensor 2P connector.

Is there continuity?

NO

**Repair open in the wire between the climate control unit and the in-car temperature sensor.**

YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the in-car temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

**CLIMATE CONTROL UNIT 20P CONNECTOR**

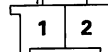
Wire side of female terminals

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

YEL/GRN



YEL/GRN



**IN-CAR TEMPERATURE SENSOR 2P CONNECTOR**

Wire side of female terminals

# Troubleshooting

## In-car Temperature Sensor

Self-diagnosis indicator light B comes on: A problem in the in-car temperature sensor circuit short.

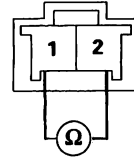
The in-car temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the temperature inside the vehicle increases.

Self-diagnosis circuit check indicates a problem in the in-car temperature sensor circuit.

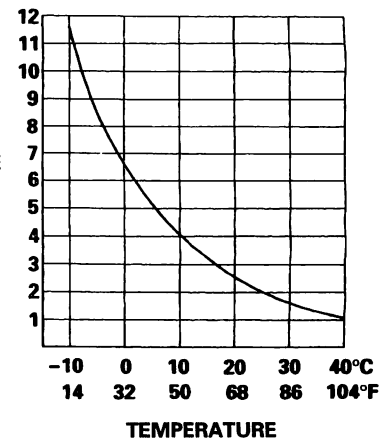
### Check the in-car temperature sensor:

1. Remove the in-car temperature sensor (see page 22-100).
2. Measure the resistance between the No. 1 and No. 2 terminals of the in-car temperature sensor.

IN-CAR TEMPERATURE SENSOR



RESISTANCE  
kΩ



\* Check for change in resistance by heating or cooling the sensor with a hair drier.

\* Is the resistance within the specifications shown on the graph?

NO

Replace the in-car temperature sensor.

YES

### Check for a short in the wire:

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 5 terminal of the climate control unit 20P connector and body ground.

Is there continuity?

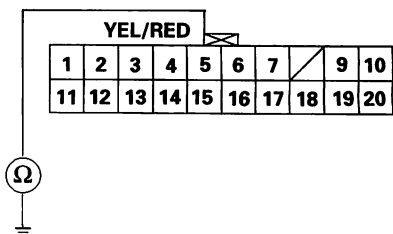
YES

Repair short in the wire between the climate control unit and the in-car temperature sensor.

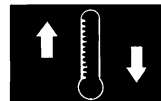
NO

Check for loose wires or poor connections at the climate control unit 20P connector and at the in-car temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.

CLIMATE CONTROL UNIT 20P CONNECTOR



Wire side of female terminals



## Outside Air Temperature Sensor

Self-diagnosis indicator light C comes on: A problem in the outside air temperature sensor circuit open.

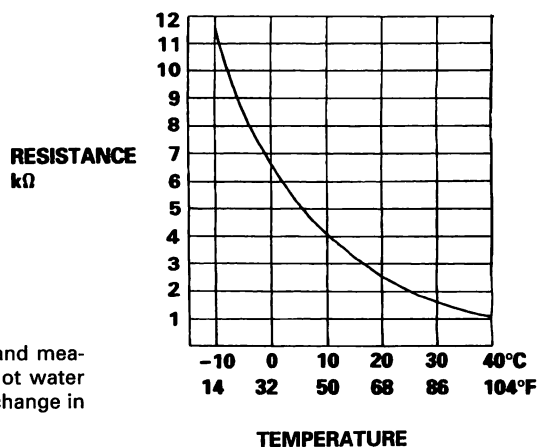
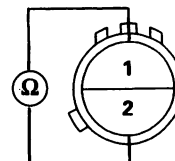
The outside air temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the temperature outside the vehicle increases.

Self-diagnosis circuit check indicates a problem in the outside air temperature sensor circuit.

**Check the outside air temperature sensor:**

1. Remove the outside air temperature sensor (see page 22-101).
2. Measure the resistance between the No. 1 and No. 2 terminals of the outside air temperature sensor.

**OUTSIDE AIR TEMPERATURE SENSOR**



\* Dip the sensor in ice water, and measure resistance. Then pour hot water on the sensor, and check for change in resistance.

\* Is the resistance within the specifications shown on the graph?

NO

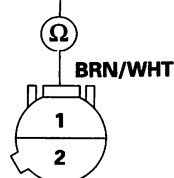
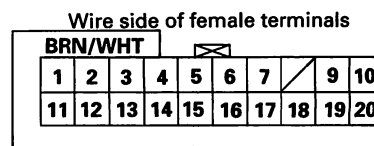
**Replace the outside air temperature sensor.**

YES

**Check for an open in the wire:**

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 4 terminal of the climate control unit 20P connector and the No. 1 terminal of the outside air temperature sensor 2P connector.

**CLIMATE CONTROL UNIT 20P CONNECTOR**



**OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR**

Wire side of female terminals

Is there continuity?

NO

**Repair open in the wire between the climate control unit and the outside air temperature sensor.**

YES

To page 22-72

(cont'd)



# Troubleshooting

## Outside Air Temperature Sensor (cont'd)

From page 22-71

**Check for an open in the wire:**

Check for continuity between the No. 15 terminal of the climate control unit 20P connector and the No. 2 terminal of the outside air temperature sensor 2P connector.

Is there continuity?

NO

**Repair open in the wire between the climate control unit and the outside air temperature sensor.**

YES

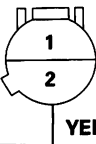
**Check for loose wires or poor connections at the climate control unit 20P connector and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

**CLIMATE CONTROL UNIT 20P CONNECTOR**

Wire side of female terminals

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

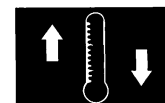
YEL/GRN



YEL/GRN

**OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR**

Wire side of female terminals



## Outside Air Temperature Sensor

Self-diagnosis indicator light D comes on: A problem in the outside air temperature sensor circuit short.

The outside air temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the temperature outside the vehicle increases.

Self-diagnosis circuit check indicates a problem in the outside air temperature sensor circuit.

**Check the outside air temperature sensor:**

1. Remove the outside air temperature sensor (see page 22-101).
2. Measure the resistance between the No. 1 and No. 2 terminals of the outside air temperature sensor.

\* Is the resistance within the specifications shown on the graph?

NO

**Replace the outside air temperature sensor.**

YES

**Check for a short in the wire:**

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 4 terminal of the climate control unit 20P connector and body ground.

Is there continuity?

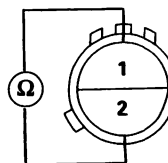
YES

**Repair short in the wire between the climate control unit and the outside air temperature sensor.**

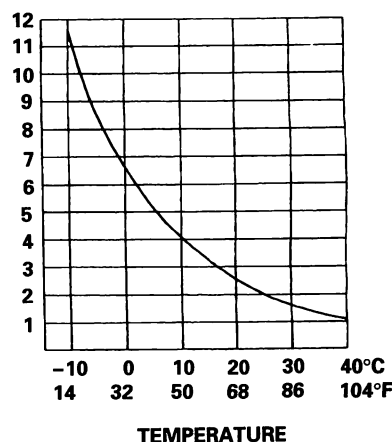
NO

**Check for loose wires or poor connections at the climate control unit 20P connector and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

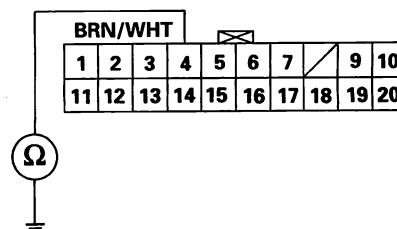
**OUTSIDE AIR TEMPERATURE SENSOR**



**RESISTANCE**  
k $\Omega$



**CLIMATE CONTROL UNIT 20P CONNECTOR**



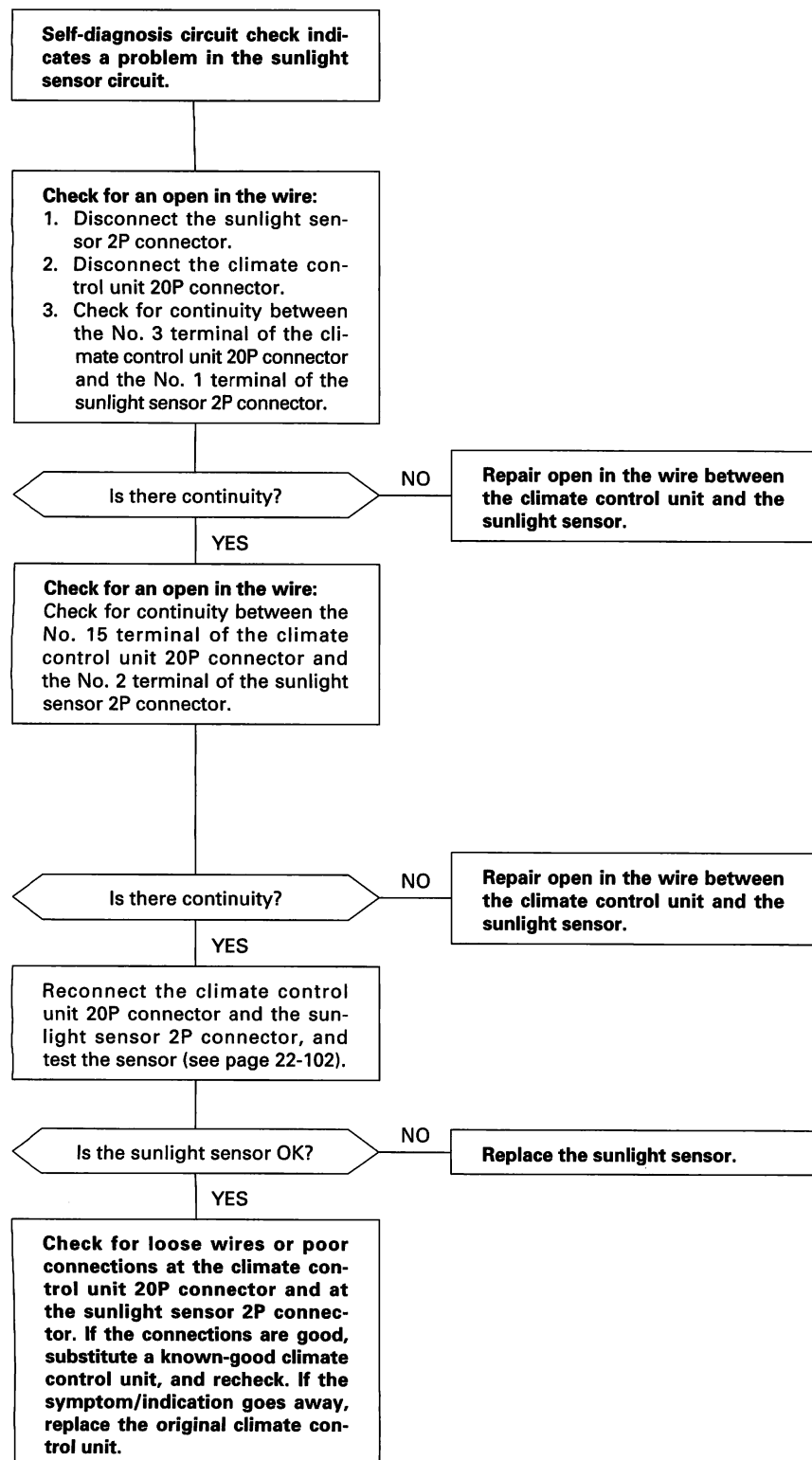
Wire side of female terminals

# Troubleshooting

## Sunlight Sensor

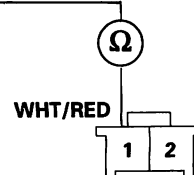
Self-diagnosis indicator light E comes on: A problem in the sunlight sensor circuit open.

The sunlight sensor is a light sensitive, variable resistance diode. The resistance of the diode increases as the intensity of the light increases.



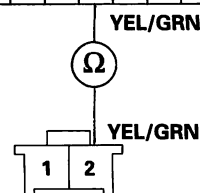
**CLIMATE CONTROL UNIT 20P CONNECTOR**  
Wire side of female terminals

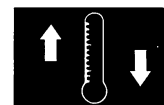
WHT/RED									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20



**SUNLIGHT SENSOR 2P CONNECTOR**  
Wire side of female terminals

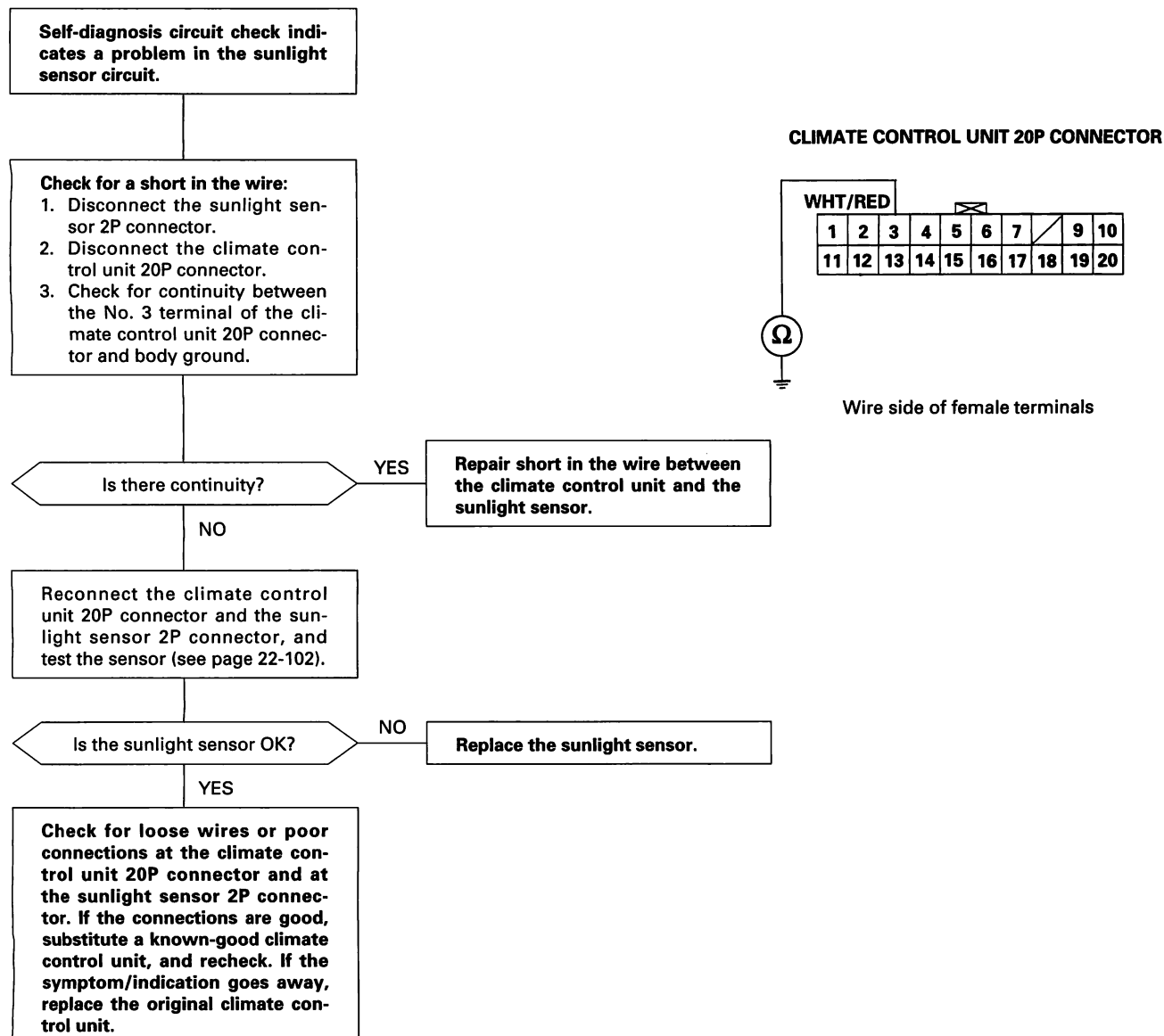
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20





Self-diagnosis indicator light F comes on: A problem in the sunlight sensor circuit short.

The sunlight sensor is a light sensitive, variable resistance diode. The resistance of the diode increases as the intensity of the light increases.



# Troubleshooting

## Evaporator Temperature Sensor

Self-diagnosis indicator light G comes on: A problem in the evaporator temperature sensor circuit open.

The evaporator temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the evaporator outlet air temperature increases.

Self-diagnosis circuit check indicates a problem in the evaporator temperature sensor circuit.

### Check the evaporator temperature sensor:

1. Disconnect the evaporator temperature sensor 2P connector.
2. Measure the resistance between the No. 1 and No. 2 terminals of the evaporator temperature sensor.

Is the resistance within the specifications shown on the graph?

NO

Replace the evaporator temperature sensor.

YES

### Check for an open in the wire:

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 1 terminal of the climate control unit 20P connector and the No. 2 terminal of the evaporator temperature sensor 2P connector.

Is there continuity?

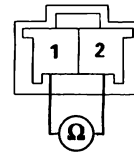
NO

Repair open in the wire between the climate control unit and the evaporator temperature sensor.

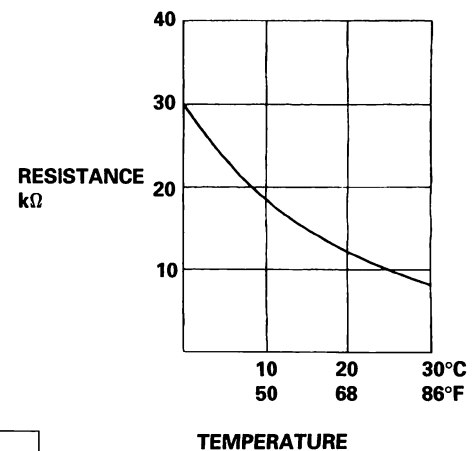
YES

To page 22-77

### EVAPORATOR TEMPERATURE SENSOR

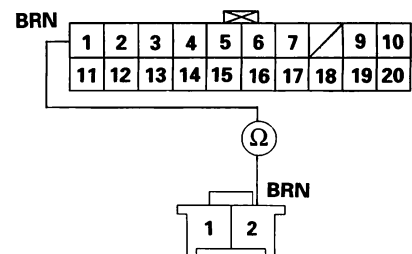


Terminal side of male terminals



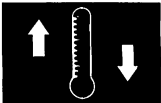
### CLIMATE CONTROL UNIT 20P CONNECTOR

Wire side of female terminals



### EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR

Wire side of female terminals



From page 22-76

**Check for an open in the wire:**  
Check for continuity between the No. 15 terminal of the climate control unit 20P connector and the No. 1 terminal of the evaporator temperature sensor 2P connector.

Is there continuity?

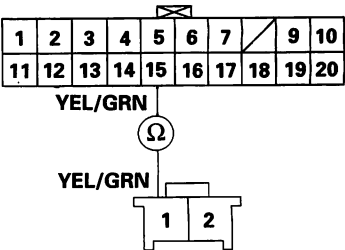
NO

**Repair open in the wire between the climate control unit and the evaporator temperature sensor.**

YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

**CLIMATE CONTROL UNIT 20P CONNECTOR**  
Wire side of female terminals



**EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR**  
Wire side of female terminals

# Troubleshooting

## Evaporator Temperature Sensor

Self-diagnosis indicator light H comes on: A problem in the evaporator temperature sensor circuit short.

The evaporator temperature sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the evaporator outlet air temperature increases.

Self-diagnosis circuit check indicates a problem in the evaporator temperature sensor circuit.

### Check the evaporator temperature sensor:

1. Disconnect the evaporator temperature sensor 2P connector.
2. Measure the resistance between the No. 1 and No. 2 terminals of the evaporator temperature sensor.

Is the resistance within the specifications shown on the graph?

NO

Replace the evaporator temperature sensor.

YES

### Check for a short in the wire:

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 1 terminal of the climate control unit 20P connector and body ground.

Is there continuity?

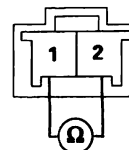
YES

Repair short in the wire between the climate control unit and the evaporator temperature sensor.

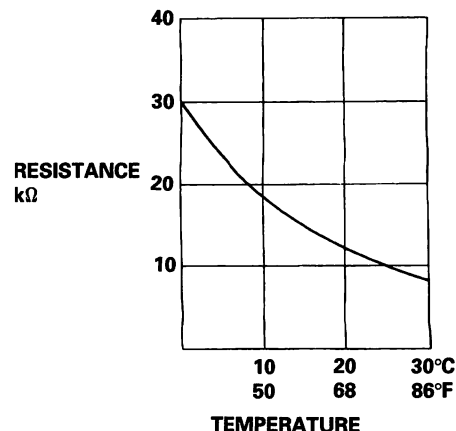
NO

Check for loose wires or poor connections at the climate control unit 20P connector and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.

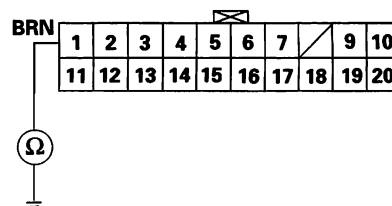
### EVAPORATOR TEMPERATURE SENSOR



Terminal side of male terminals



### CLIMATE CONTROL UNIT 20P CONNECTOR



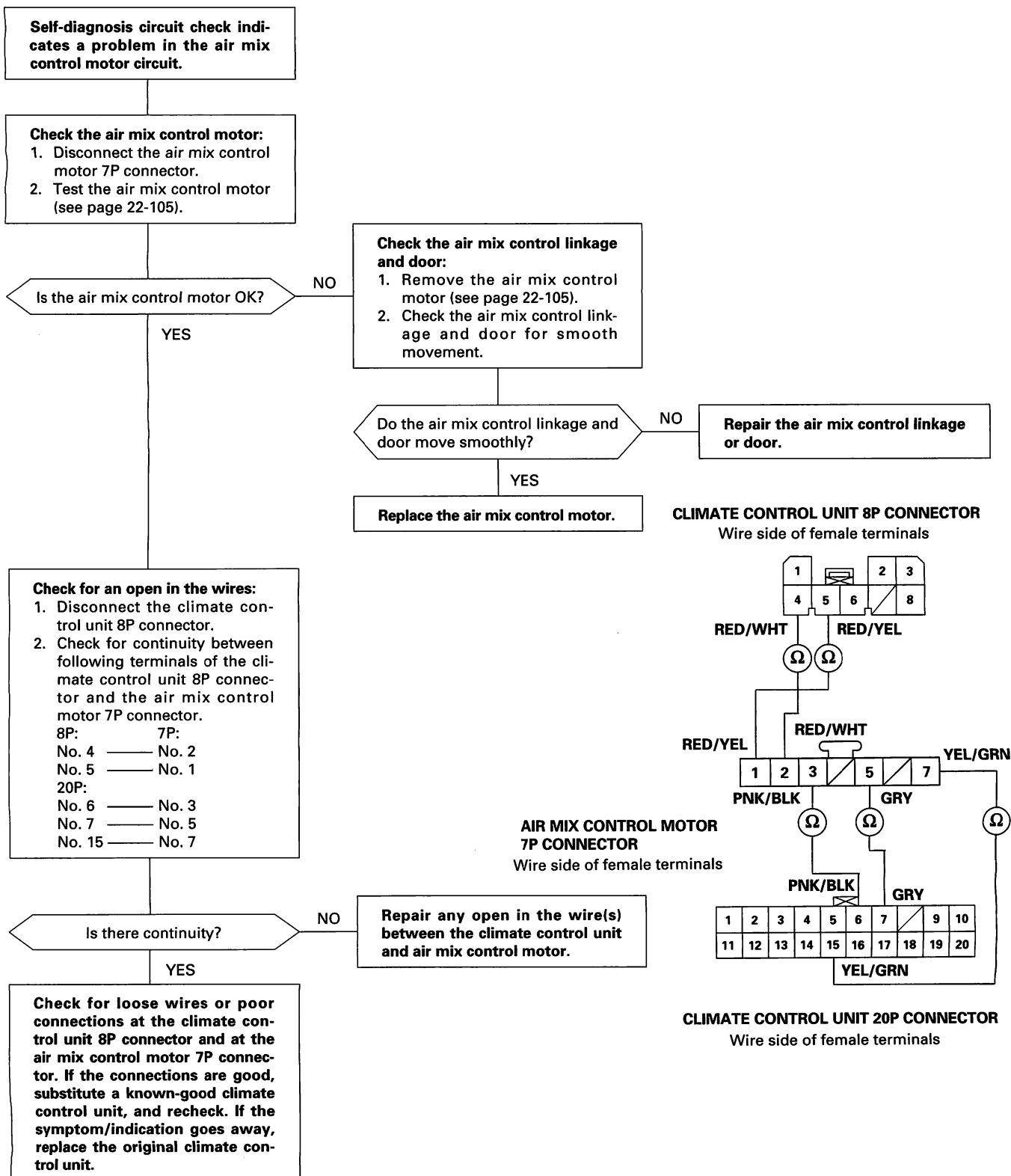
Wire side of female terminals



## Air Mix Control Motor

Self-diagnosis indicator light I comes on: A problem in the air mix control motor circuit open.

The air mix control motor regulates the mixture of cool/hot air according to output from the climate control unit.



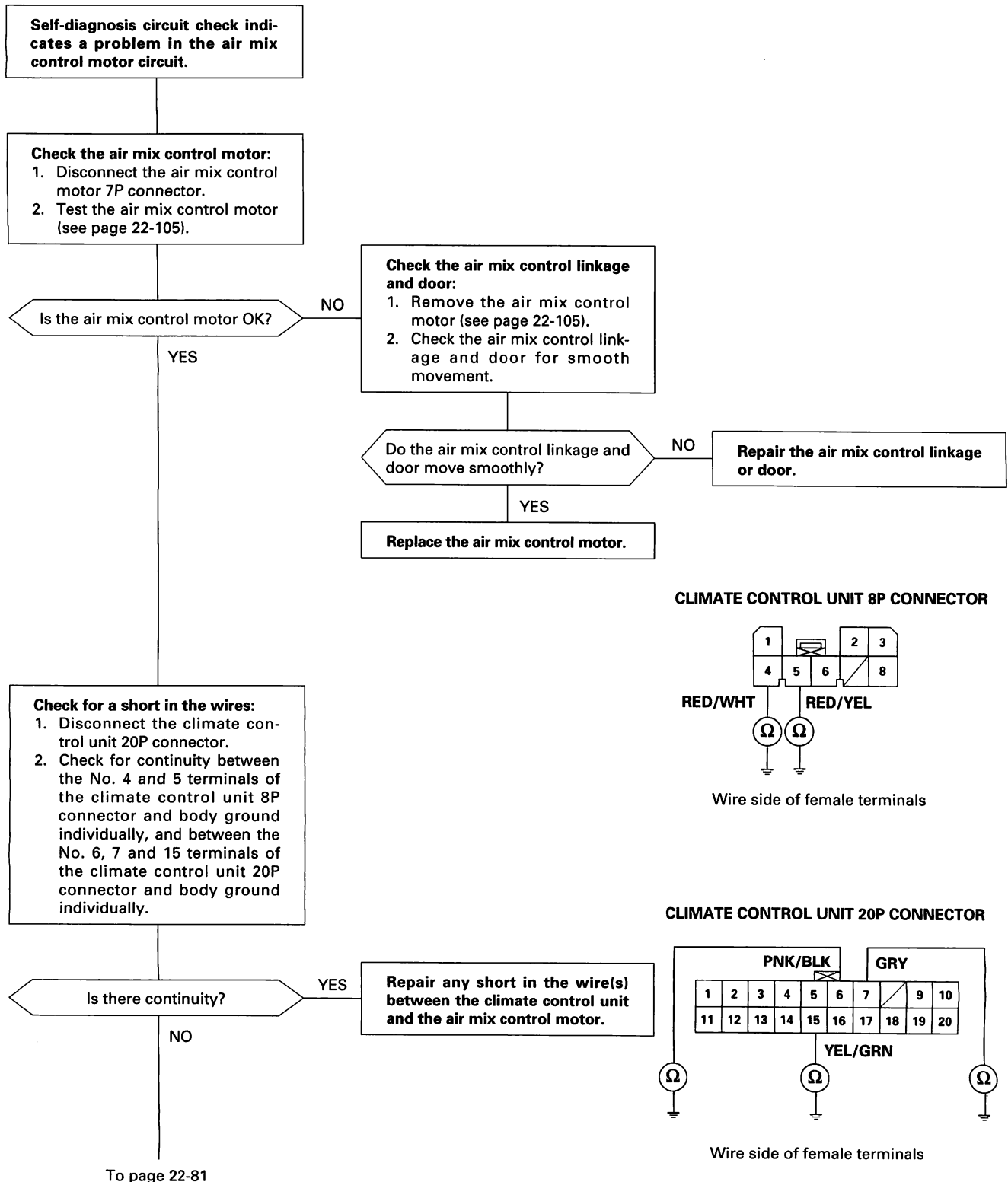


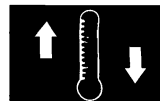
# Troubleshooting

## Air Mix Control Motor

Self-diagnosis indicator light J comes on: A problem in the air mix control motor circuit short.

The air mix control motor regulates the mixture of cool/hot air according to output from the climate control unit.





From page 22-80

**Check for a short to power:**  
Check the same terminals for voltage.

Is there any voltage?

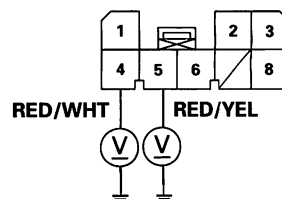
YES

Repair short to power in the wire(s) between the climate control unit and the air mix control motor. This also damages the climate control unit. Repair the short to power before replacing the climate control unit.

NO

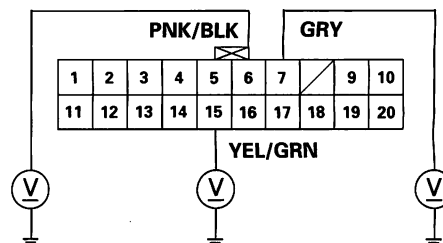
Check for loose wires or poor connections at the climate control unit 8P and 20P connectors and at the air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.

#### CLIMATE CONTROL UNIT 8P CONNECTOR



Wire side of female terminals

#### CLIMATE CONTROL UNIT 20P CONNECTOR



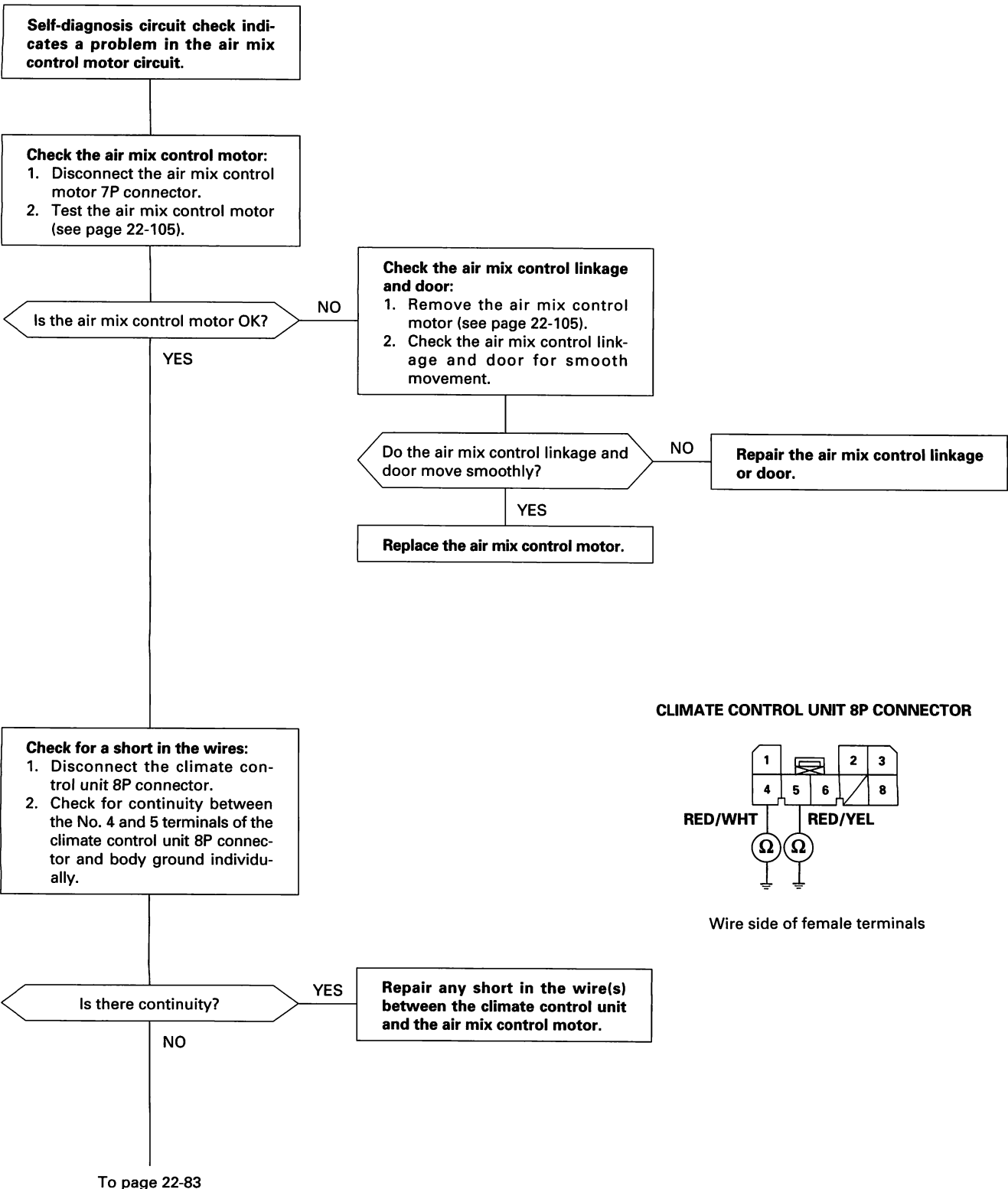
Wire side of female terminals

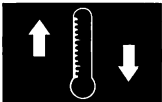
# Troubleshooting

## Air Mix Control Motor

Self-diagnosis indicator light K comes on: A problem in the air mix control linkage, door and motor.

The air mix control motor regulates the mixture of cool/hot air according to output from the climate control unit.





From page 22-82

**Check for an open in the wires:**

Check for continuity between following terminals of the climate control unit 8P connector and the air mix control motor 7P connector.

8P:                      7P:  
No. 4 ——— No. 2  
No. 5 ——— No. 1

Is there continuity?

NO

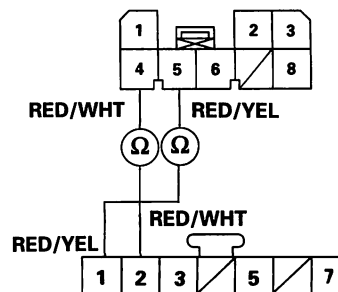
**Repair any open in the wire(s) between the climate control unit and air mix control motor.**

YES

**Check for loose wires or poor connections at the climate control unit 8P connector and at the air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

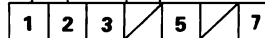
**CLIMATE CONTROL UNIT 8P CONNECTOR**

Wire side of female terminals



**AIR MIX CONTROL MOTOR 7P CONNECTOR**

Wire side of female terminals

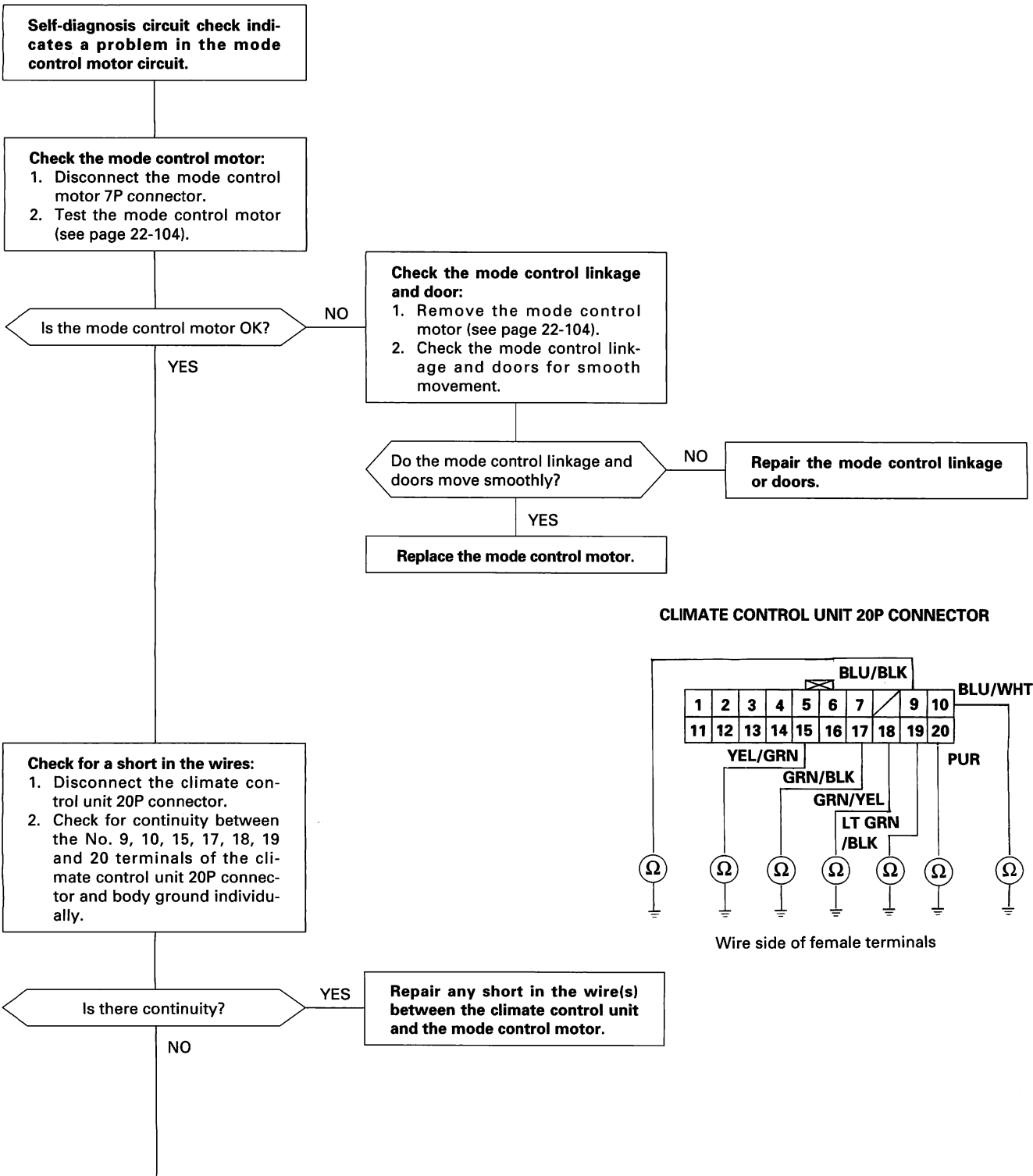


# Troubleshooting

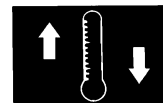
## Mode Control Motor

Self-diagnosis indicator light L comes on: A problem in the mode control motor circuit open or short.

The mode control motor controls the outlet air direction and volume according to output from the climate control unit.



To page 22-85



From page 22-84

**Check for a short to power:**  
Check the same terminals for voltage.

Is there any voltage?

YES

**Repair short to power in the wire(s) between the climate control unit and the mode control motor. This also damages the climate control unit. Repair the short to power before replacing the climate control unit.**

NO

**Check for an open in the wires:**  
Check for continuity between following terminals of the climate control unit 20P connector and the mode control motor 7P connector.

20P:            7P:  
No. 9        No. 1  
No. 10      No. 2  
No. 15      No. 7  
No. 17      No. 6  
No. 18      No. 5  
No. 19      No. 4  
No. 20      No. 3

Is there continuity?

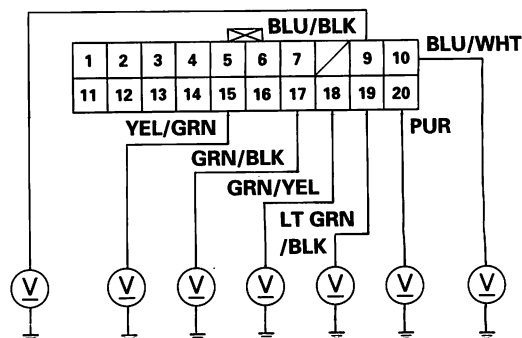
NO

**Repair any open in the wire(s) between the climate control unit and mode control motor.**

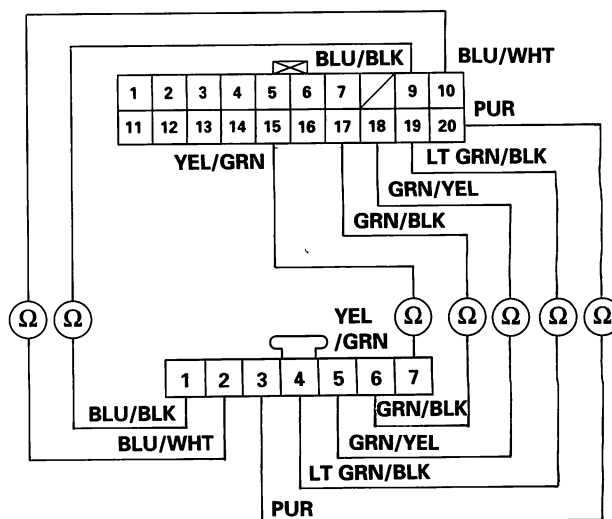
YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

#### CLIMATE CONTROL UNIT 20P CONNECTOR



Wire side of female terminals



#### MODE CONTROL MOTOR 7P CONNECTOR

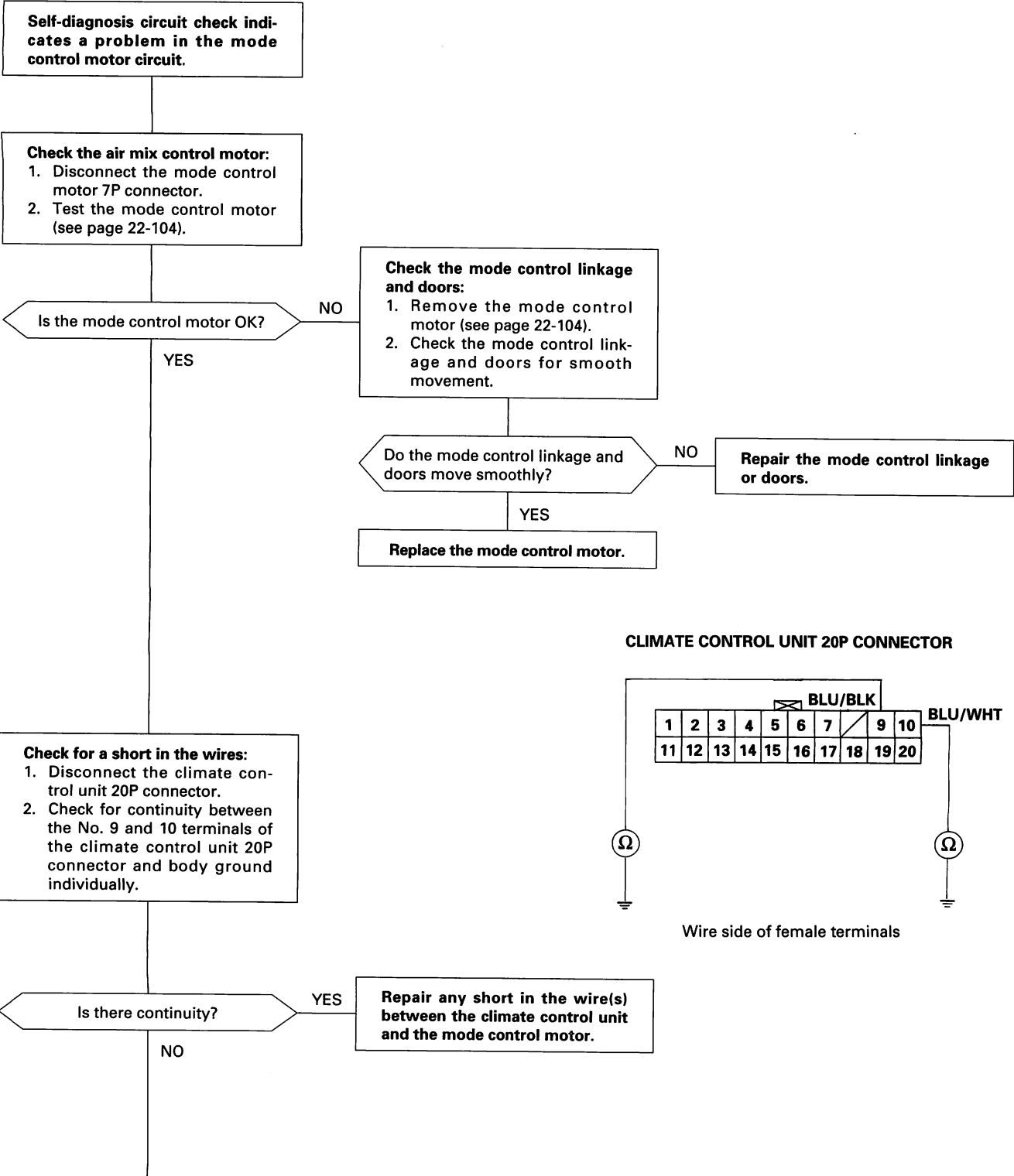
Wire side of female terminals

# Troubleshooting

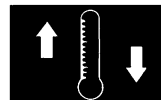
## Mode Control Motor

Self-diagnosis indicator light M comes on: A problem in the mode control linkage, doors and motor.

The mode control motor controls the outlet air direction and volume according to output from the climate control unit.



To page 22-87



From page 22-86

**Check for an open in the wires:**  
Check for continuity between following terminals of the climate control unit 20P connector and the mode control motor 7P connector.

20P:                7P:  
No. 9 ——— No. 1  
No. 10 ——— No. 2

Is there continuity?

NO

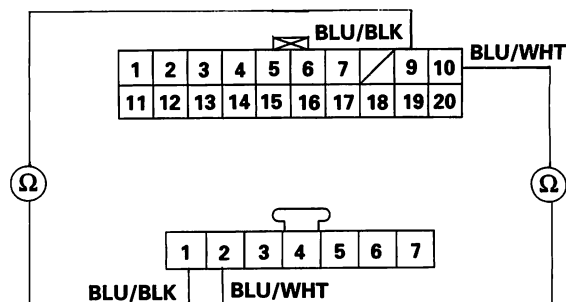
**Repair any open in the wire(s) between the climate control unit and mode control motor.**

YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

#### CLIMATE CONTROL UNIT 20P CONNECTOR

Wire side of female terminals



#### MODE CONTROL MOTOR 7P CONNECTOR

Wire side of female terminals

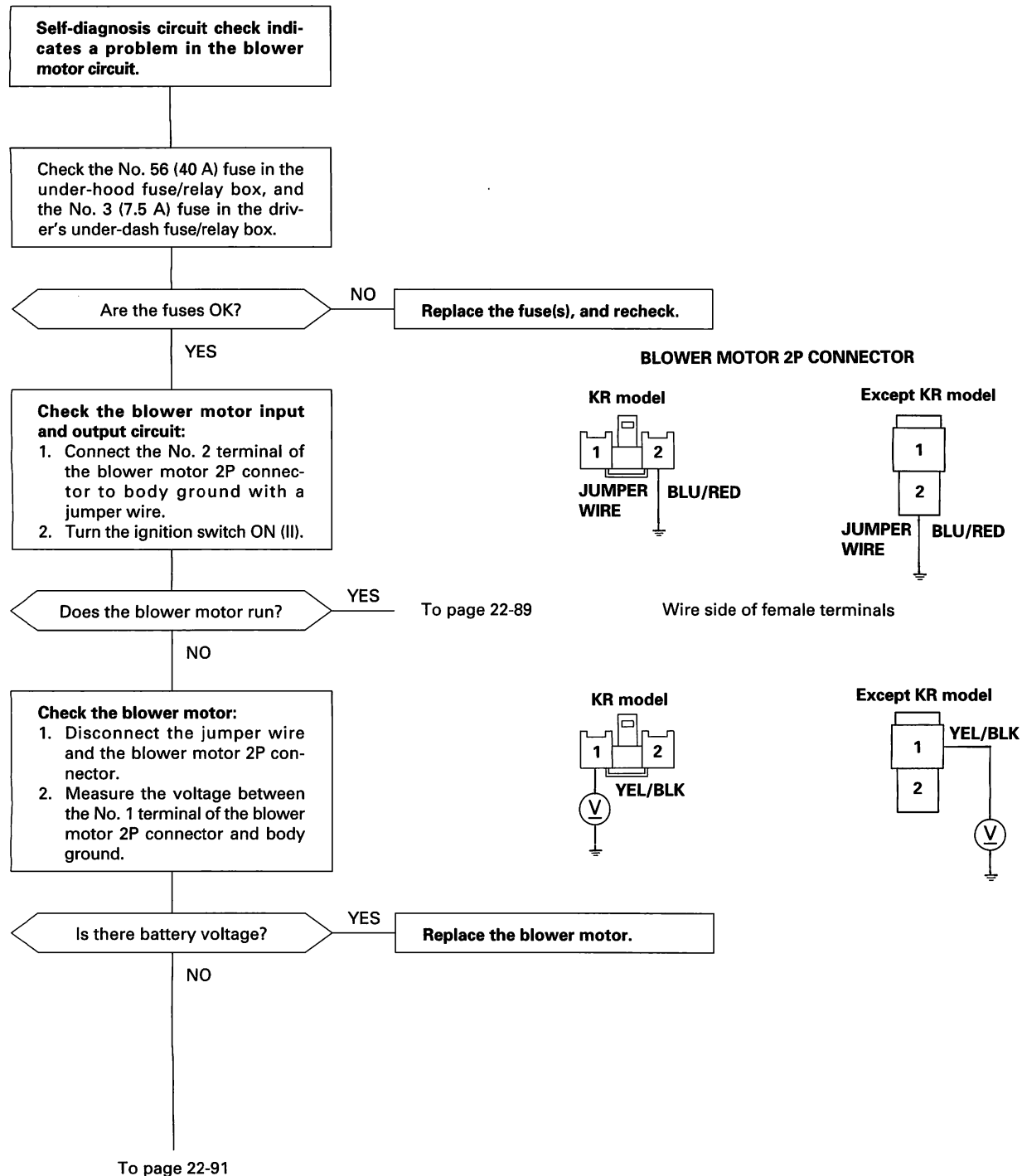


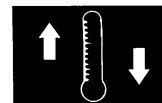
# Troubleshooting

## Blower Motor

Self-diagnosis indicator light N comes on: A problem in the blower motor circuit.

The speed of the blower motor is controlled by signals sent from the climate control unit.





From page 22-88

**Check for an open in the wire:**

1. Turn the ignition switch OFF, and disconnect the jumper wire.
2. Disconnect the power transistor 4P connector.
3. Check for continuity between the No. 4 terminal of the power transistor 4P connector and body ground.

Is there continuity?

NO

YES

**Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G202 (LHD) or at G302 (RHD).**

**Check for an open in the wire:**

1. Connect the No. 3 and No. 4 terminals of the power transistor 4P connector with a jumper wire.
2. Turn the ignition switch ON (II).

Does the blower motor run at high speed?

NO

YES

**Repair open in the wire between the power transistor and the blower motor.**

**Check for an open in the wire:**

1. Turn the ignition switch OFF, and disconnect the jumper wire.
2. Disconnect the climate control unit 20P connector.
3. Check for continuity between the No. 14 terminal of the climate control unit 20P connector and the No. 2 terminal of the power transistor 4P connector.

Is there continuity?

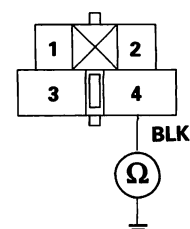
NO

YES

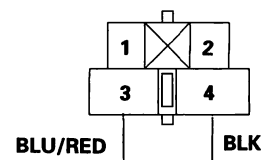
**Repair open in the wire between the climate control unit and the power transistor.**

To page 22-90

## POWER TRANSISTOR 4P CONNECTOR



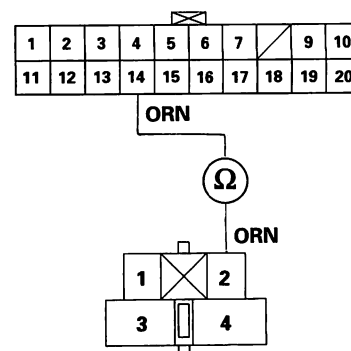
Wire side of female terminals



JUMPER WIRE

## CLIMATE CONTROL UNIT 20P CONNECTOR

Wire side of female terminals



(cont'd)

# Troubleshooting

## Blower Motor (cont'd)

From page 22-89

**Check for a short in the wire:**  
Check for continuity between the No. 14 terminal of the climate control unit 20P connector and body ground.

Is there continuity?

YES

**Repair short in the wire between the climate control unit and the power transistor.**

NO

**Check for an open in the wire:**  
1. Disconnect the climate control unit 8P connector.  
2. Check for continuity between the No. 6 terminal of the climate control unit 8P connector and the No. 1 terminal of the power transistor 4P connector.

Is there continuity?

NO

**Repair open in the wire between the climate control unit and the power transistor.**

YES

**Check the power transistor:**  
1. Reconnect the climate control unit 8P and 20P connectors.  
2. Test the power transistor (see page 22-103).

Is the power transistor OK?

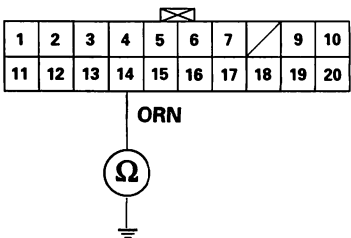
NO

**Replace the power transistor.**

YES

**Check for loose wires or poor connections at the climate control unit 8P and 20P connectors and at the power transistor 4P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

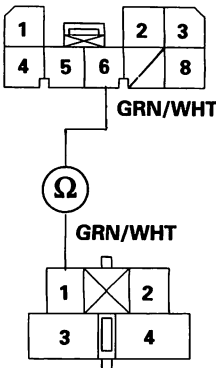
**CLIMATE CONTROL UNIT 20P CONNECTOR**



Wire side of female terminals

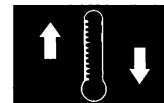
**CLIMATE CONTROL UNIT 8P CONNECTOR**

Wire side of female terminals



**POWER TRANSISTOR 4P CONNECTOR**

Wire side of female terminals



From page 22-88

**Check the blower motor relay:**  
1. Turn the ignition switch OFF.  
2. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see page 21-13).

Is the relay OK?

NO

**Replace the blower motor relay.**

YES

**Check the under-hood fuse/relay box:**

Measure the voltage between the No. 4 terminal of the blower motor relay 4P socket and body ground.

Is there battery voltage?

NO

**Replace the under-hood fuse/relay box.**

YES

**Check for an open in the wire:**

1. Turn the ignition switch ON (II).  
2. Measure the voltage between the No. 1 terminal of the blower motor relay 4P socket and body ground.

Is there battery voltage?

NO

**Repair open in the wire between the No. 3 fuse in the driver's under-dash fuse/relay box and the blower motor relay.**

YES

**Check for an open in the wire:**

1. Turn the ignition switch OFF.  
2. Check for continuity between the No. 2 terminal of the blower motor relay 4P socket and body ground.

Is there continuity?

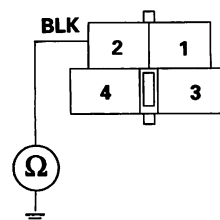
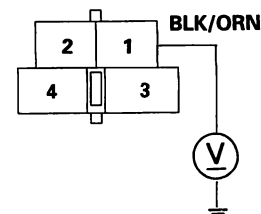
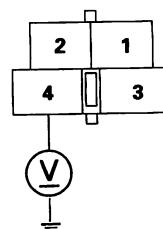
NO

**Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G201 (LHD) or at G301 (RHD).**

YES

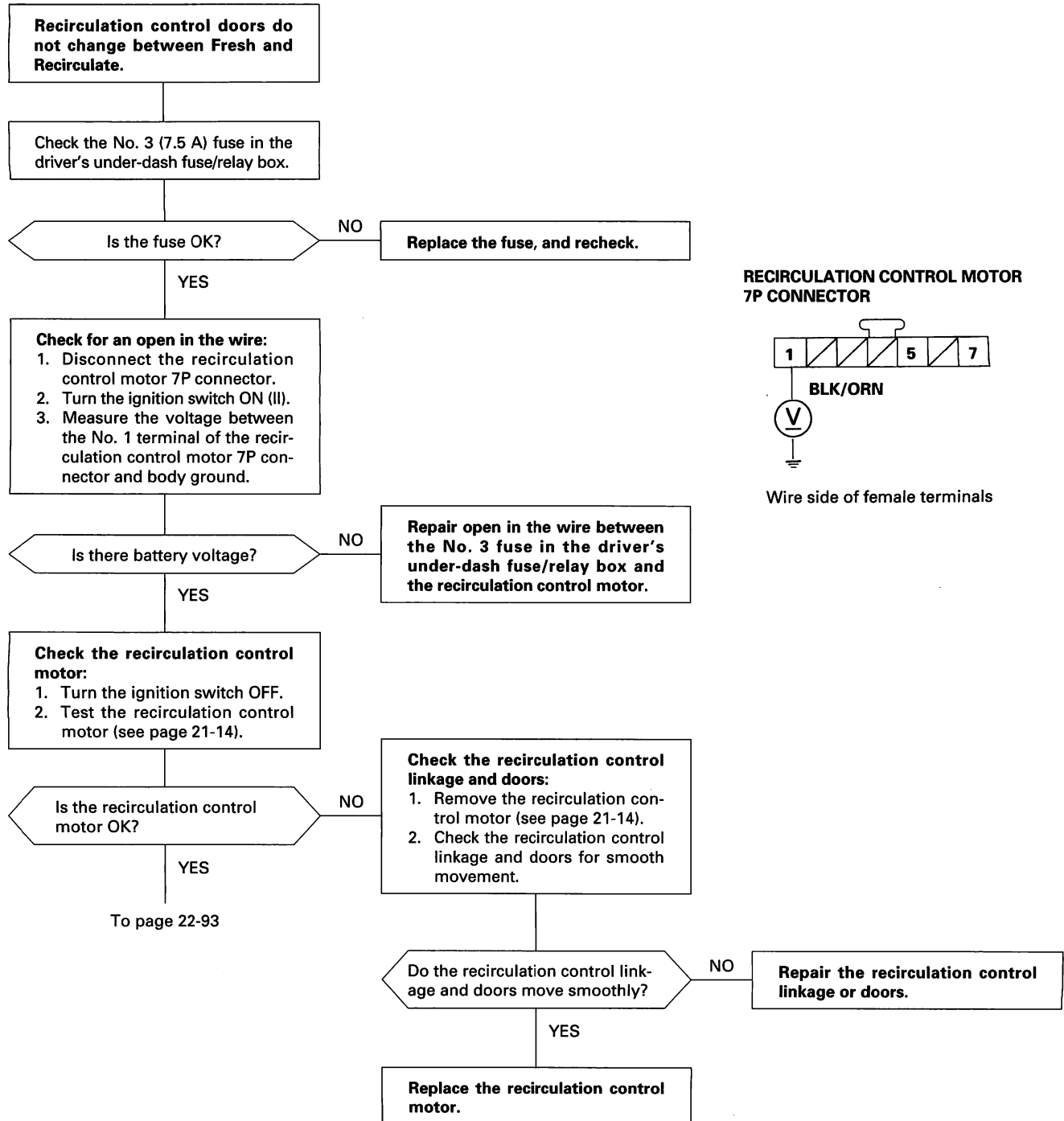
**Repair open in the YEL/BLK wire between the blower motor relay and the blower motor.**

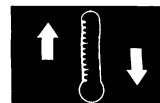
**BLOWER MOTOR RELAY 4P SOCKET**



# Troubleshooting

## Recirculation Control Motor





From page 22-92

**Check for a short in the wires:**

1. Disconnect the climate control unit 20P connector.
2. Check for continuity between the No. 13 and No. 16 terminals of the climate control unit 20P connector and body ground individually.

Is there continuity?

YES

**Repair short in the wire(s) between the climate control unit and the recirculation control motor.**

NO

**Check for a short to power:**

Check the same wires for voltage.

Is there any voltage?

YES

**Repair short to power in the wire between the climate control unit and the recirculation control motor. This also damages the climate control unit. Repair the short to power before replacing the climate control unit.**

NO

**Check for an open in the wires:**

Check for continuity between the following terminals of the recirculation control motor 7P connector and the climate control unit 20P connector.

20P: 7P:  
No. 13 — No. 5  
No. 16 — No. 7

Is there continuity?

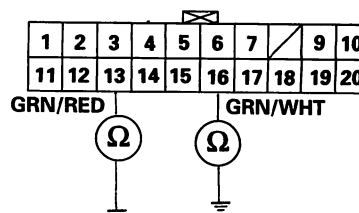
NO

**Repair open in the wire(s) between the climate control unit and the recirculation control motor.**

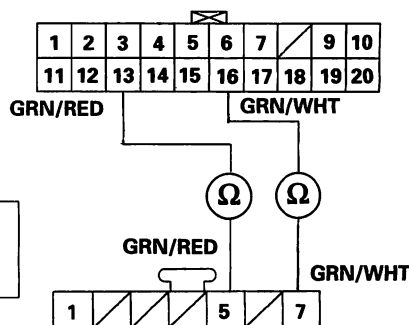
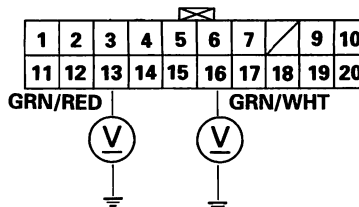
YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

**CLIMATE CONTROL UNIT 20P CONNECTOR**



Wire side of female terminals

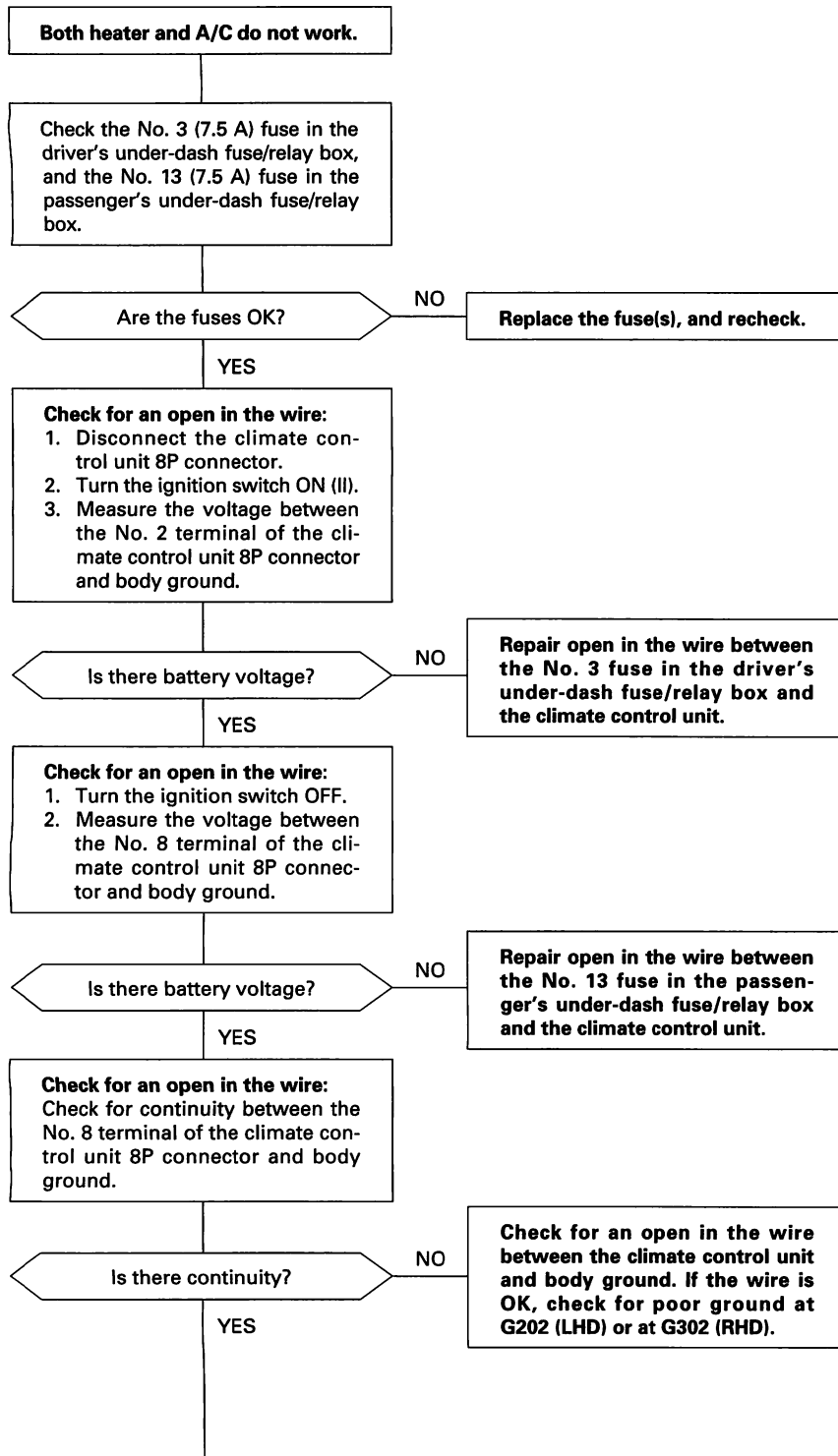


**RECIRCULATION CONTROL MOTOR 7P CONNECTOR**

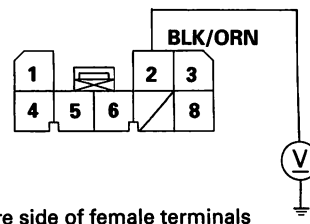
Wire side of female terminals

# Troubleshooting

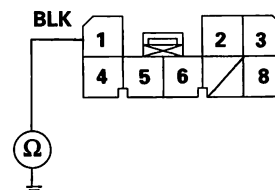
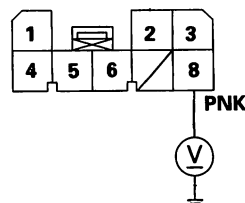
## Climate Control Unit

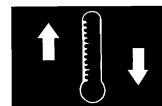


CLIMATE CONTROL UNIT 8P CONNECTOR



Wire side of female terminals





From page 22-94

**Check for a short in the wire:**

1. Disconnect the air mix control motor 7P connector.
2. Disconnect the climate control unit 20P connector.
3. Check for continuity between the No. 7 terminal of the climate control unit 20P connector and body ground.

Is there continuity?

YES

**Repair any short in the wire between the climate control unit and the air mix control motor.**

NO

**Check for loose wires or poor connections at the climate control unit 8P and 20P connectors. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

**CLIMATE CONTROL UNIT 20P CONNECTOR**

							GRY		
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

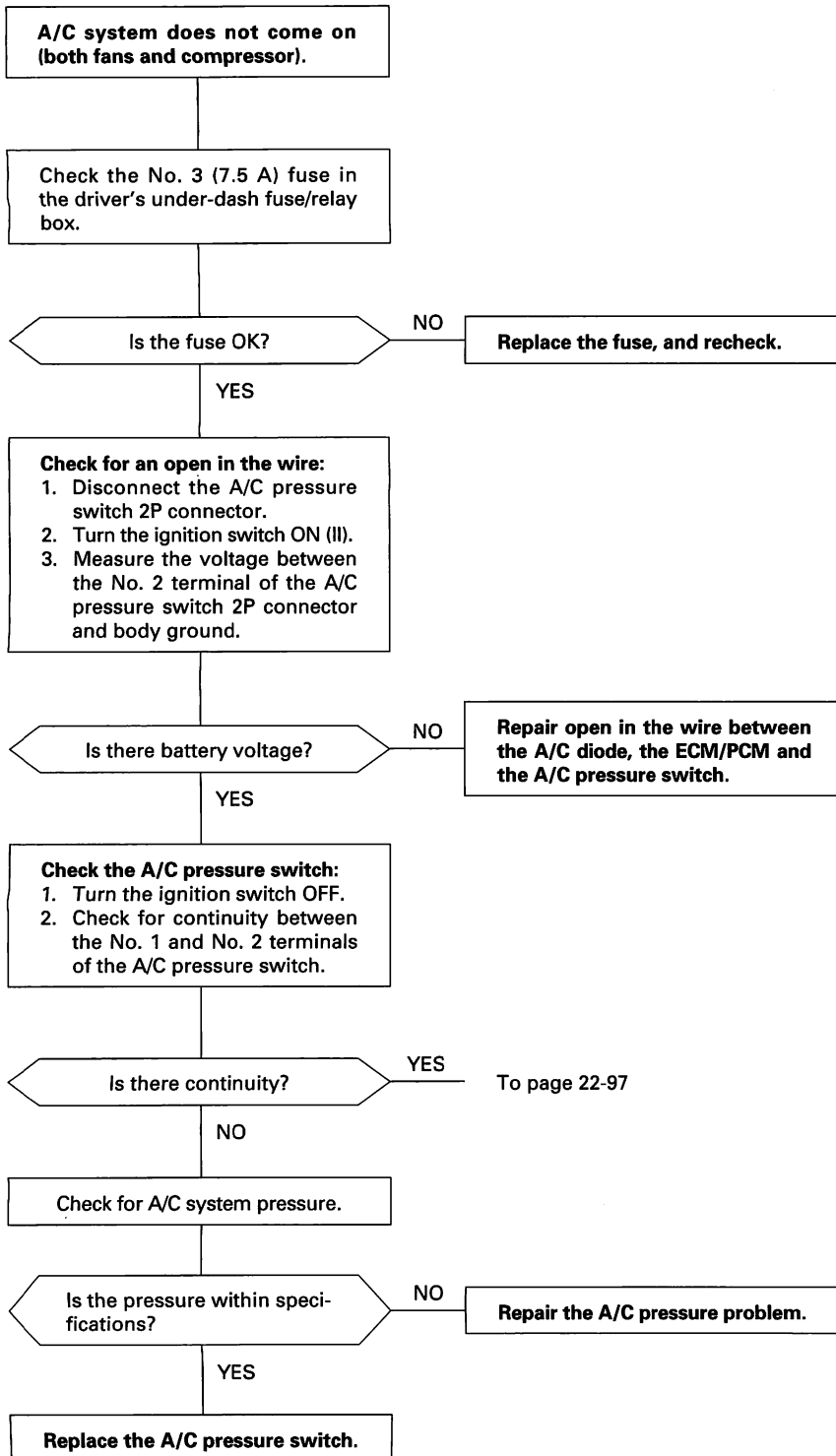


Wire side of female terminals

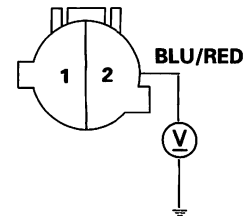


# Troubleshooting

## A/C System

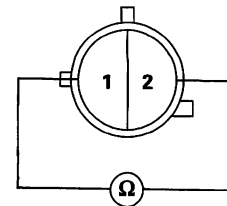


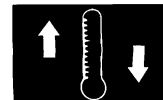
A/C PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

A/C PRESSURE SWITCH





From page 22-96

#### CLIMATE CONTROL UNIT 20P CONNECTOR

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

VEL/BLU



Wire side of female terminals

**Check for an open in the wire:**

1. Reconnect the A/C pressure switch 2P connector.
2. Disconnect the climate control unit 20P connector.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the No. 11 terminal of the climate control unit 20P connector and body ground.

Is there battery voltage?

NO

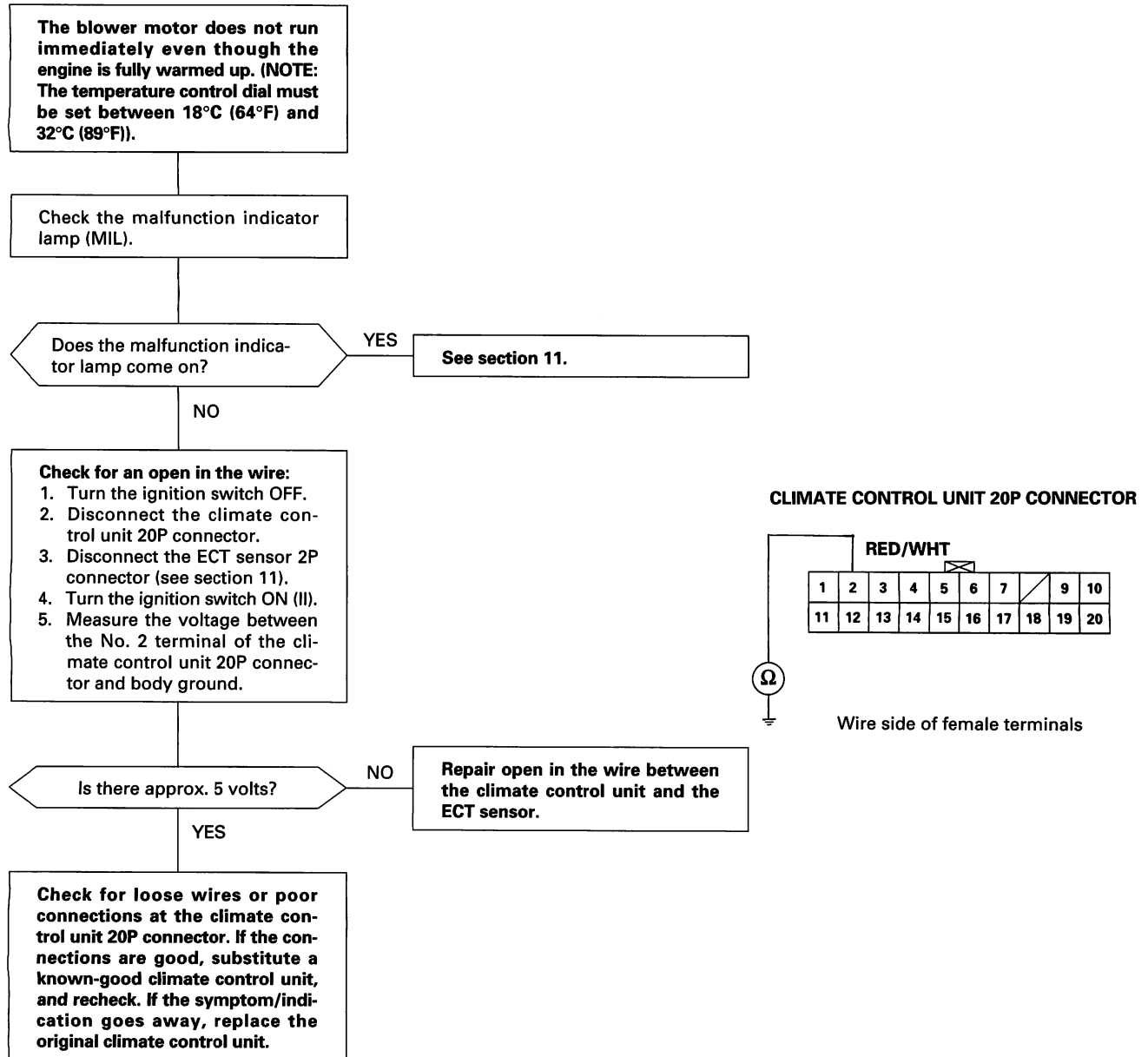
**Repair open in the wire between the climate control unit and the A/C pressure switch.**

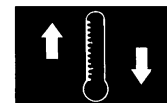
YES

**Check for loose wires or poor connections at the climate control unit 20P connector and at the A/C pressure switch 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.**

# Troubleshooting

## Blower Motor Delays With Warm Engine

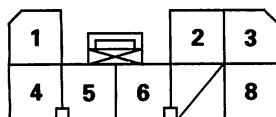




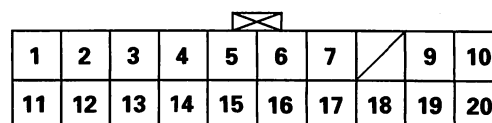
## Climate Control Unit Input/Output Signals

### CLIMATE CONTROL UNIT CONNECTORS

#### 8P CONNECTOR



#### 20P CONNECTOR



Wire side of female terminals

#### 8P CONNECTOR

Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1	BLK	GROUND	OUTPUT	5	RED/YEL	AIR MIX HOT	OUTPUT
2	BLK/ORN	IG2 (Power)	INPUT	6	GRN/WHT	BLOWER FEEDBACK	INPUT
3	RED/BLK	COMBINATION LIGHT SWITCH	INPUT	7			
4	RED/WHT	AIR MIX COOL	OUTPUT	8	PNK	+B (Power)	INPUT

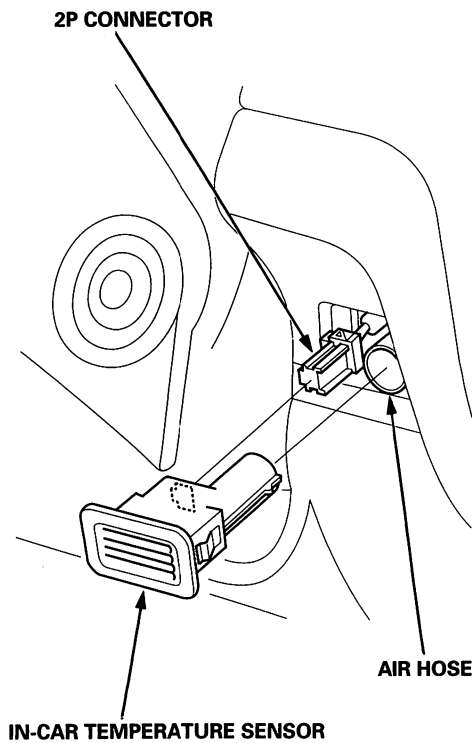
#### 20P CONNECTOR

Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1	BRN	EVAPORATOR TEMPERATURE SENSOR	OUTPUT	11	YEL/BLU	A/C PRESSURE SWITCH	INPUT
2	RED/WHT	ENGINE COOLANT TEMPERATURE (ECT) SENSOR	OUTPUT	12	BRN/YEL	REAR WINDOW DEFOGGER RELAY	INPUT
3	WHT/RED	SUNLIGHT SENSOR	OUTPUT	13	GRN/RED	FRESH	INPUT
4	BRN/WHT	OUTSIDE AIR TEMPERATURE SENSOR	OUTPUT	14	ORN	POWER TRANSISTOR BASE	OUTPUT
5	YEL/RED	IN-CAR TEMPERATURE SENSOR	OUTPUT	15	YEL/GRN	SENSOR GROUND	INPUT
6	PNK/BLK	AIR MIX POTENTIAL	OUTPUT	16	GRN/WHT	RECIRCULATE	INPUT
7	GRY	AIR MIX POTENTIAL +5V	OUTPUT	17	GRN/BLK	MODE 1	OUTPUT
8				18	GRN/YEL	MODE 2	OUTPUT
9	BLU/BLK	MODE DEF	OUTPUT	19	LT GRN/BLK	MODE 3	OUTPUT
10	BLU/WHT	MODE VENT	OUTPUT	20	PUR	MODE 4	OUTPUT

# In-car Temperature Sensor

## Replacement

1. Remove the in-car temperature sensor from the dashboard, then disconnect the 2P connector and the air hose. Be careful not to damage the sensor and the dashboard.



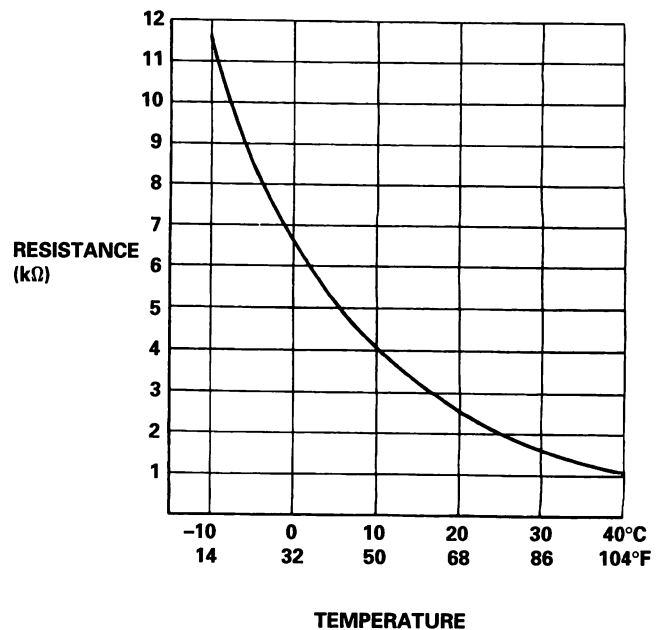
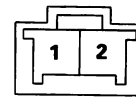
2. Install in the reverse order of removal. Be sure to connect the air hose securely.

## Test

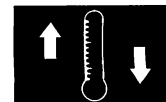
Check for change in resistance by heating or cooling the sensor with a hair drier.

Compare the resistance reading between the No. 1 and No. 2 terminals of the in-car temperature sensor with the specifications shown in the following graph; the resistance should be within the specifications.

IN-CAR TEMPERATURE SENSOR

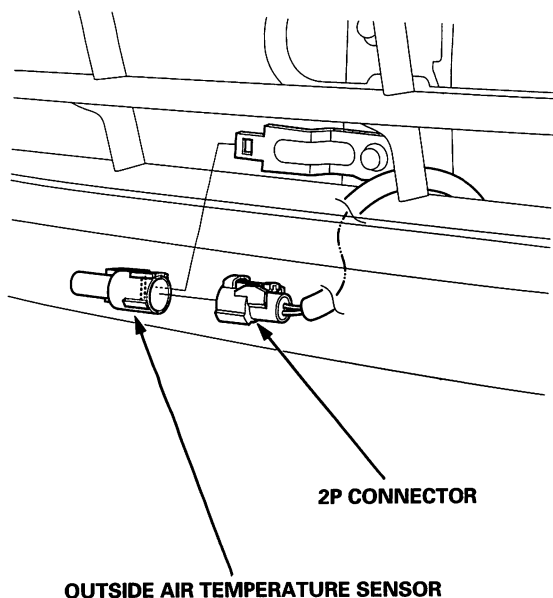


# Outside Air Temperature Sensor



## Replacement

1. Disconnect the 2P connector from the outside air temperature sensor. Release the lock, and remove the outside air temperature sensor.



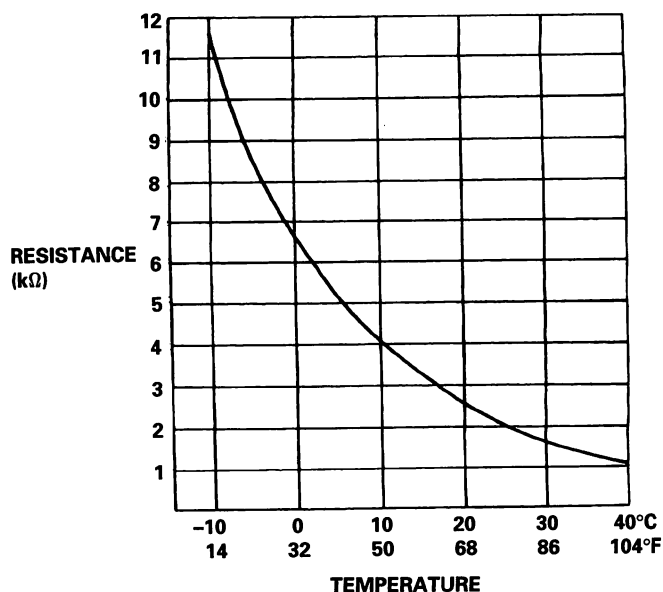
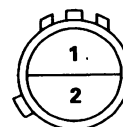
2. Install in the reverse order of removal.

## Test

Dip the sensor in ice water, and measure the resistance. Then pour hot water on the sensor, and check for change in resistance.

Compare the resistance reading between the No. 1 and No. 2 terminals of the outside air temperature sensor with the specifications shown in the following graph; the resistance should be within the specifications.

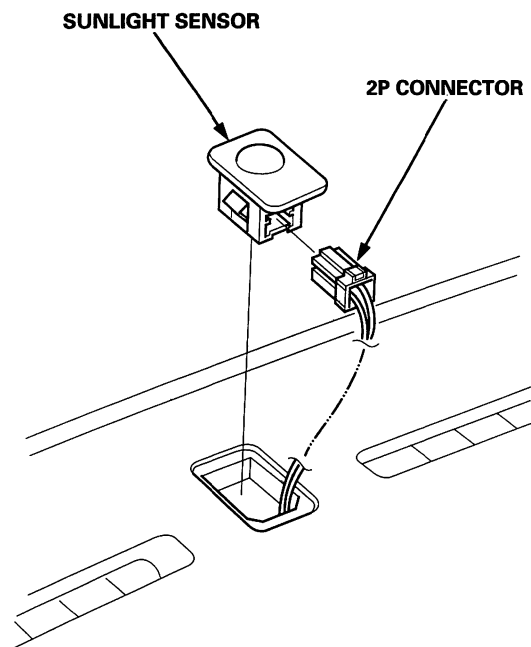
### OUTSIDE AIR TEMPERATURE SENSOR



# Sunlight Sensor

## Replacement

1. Remove the sunlight sensor from the dashboard, then disconnect the 2P connector. Be careful not to damage the sensor and the dashboard.

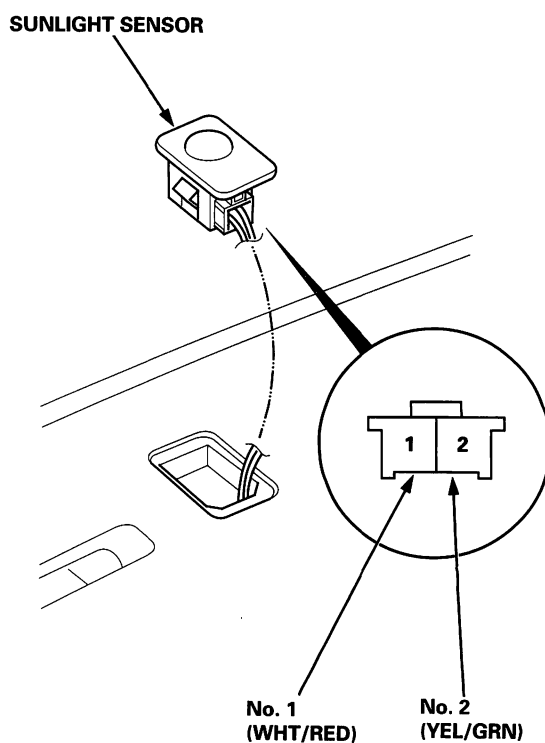


2. Install in the reverse order of removal.

## Test

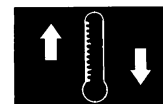
Turn the ignition switch ON (II). Measure the voltage between the terminals with the (+) probe on the No. 1 terminal and the (-) probe on the No. 2 terminal with the 2P connector connected. The voltage will not change under the light of a flashlight or a fluorescent lamp. Voltage should be:

- $3.7 \pm 0.2$  V or more with the sensor out of direct sunlight.
- $3.6 \pm 0.2$  V or less with the sensor in direct sunlight.



# Evaporator Temperature Sensor

# Power Transistor

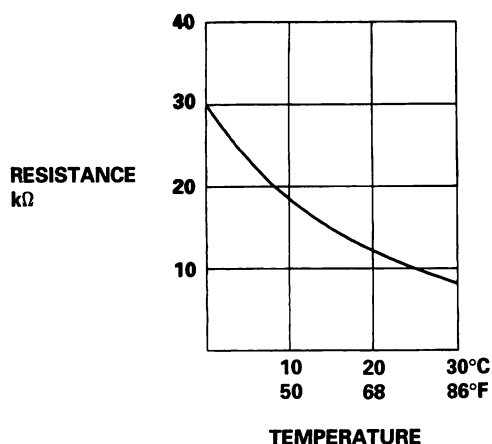
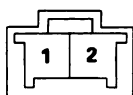


## Test

Dip the sensor in ice water, and measure the resistance. Then pour hot water on the sensor, and check for change in resistance.

Compare the resistance reading between the No. 1 and No. 2 terminals of the evaporator temperature sensor with the specifications shown in the following graph; the resistance should be within the specifications.

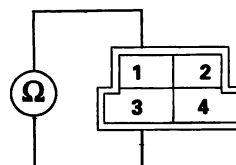
**EVAPORATOR TEMPERATURE SENSOR**  
Terminal side of male terminals



## Test

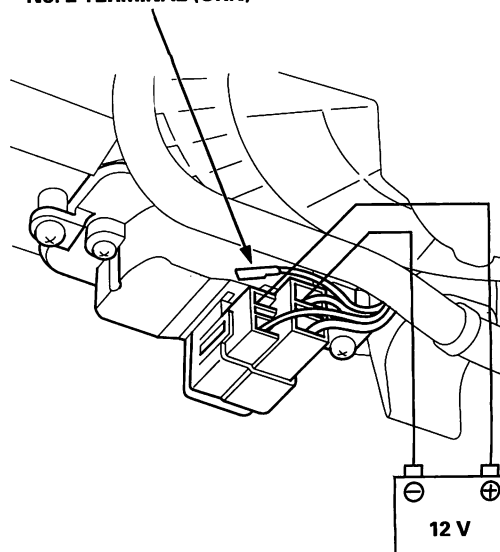
1. Disconnect the 4P connector from the power transistor.
2. Measure the resistance between the No. 1 and No. 3 terminals of the power transistor. It should be approximately  $1.5 \text{ k}\Omega \pm 1\%$ .

**POWER TRANSISTOR**



3. Carefully release the lock tab on the No. 2 terminal (ORN) in the 4P connector, then remove the terminal and insulate it from body ground.

**No. 2 TERMINAL (ORN)**



4. Reconnect the 4P connector to the power transistor.
5. Connect battery power to the No. 2 cavity, ground the No. 4 cavity as shown.
6. Turn the ignition switch ON (II), and check that the blower motor runs.

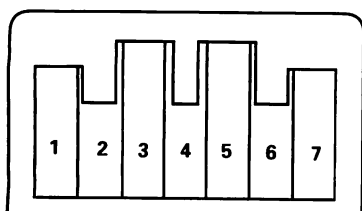


# Mode Control Motor

## Test

1. Disconnect the 7P connector from the mode control motor.
2. Connect battery power to the No. 2 terminal, and ground the No. 1 terminal; the mode control motor should run smoothly, and stop at Vent. If it doesn't, reverse the connections; the mode control motor should run smoothly, and stop at Defrost. When the mode control motor stops running, disconnect battery power immediately.

MODE CONTROL MOTOR

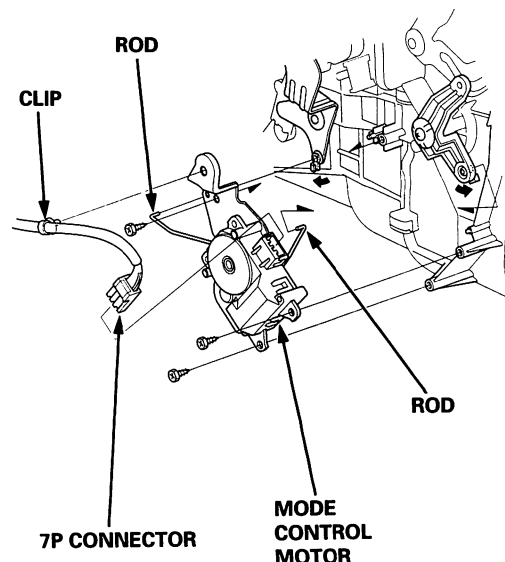


3. Using a digital circuit tester with an output of 1 mA or less at the 20 k $\Omega$  range. When the mode control motor running in step 2, check for continuity between the No. 3, 4, 5, 6 terminals and the No. 7 terminal individually. There should be continuity for a moment.
4. If the mode control motor does not run in step 2, remove it, then check the mode control linkage and doors for smooth movement. If they move smoothly, replace the move control motor.

## Replacement

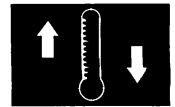
NOTE: LHD type is shown, RHD type is symmetrical.

1. Remove the wire harness clip, then disconnect the 7P connector from the mode control motor. Remove the rods of the mode control motor from the mode control linkage. Remove the self-tapping screws and the mode control motor from the heater unit.



2. Install in the reverse order of removal. After installation, make sure the mode control motor runs smoothly.

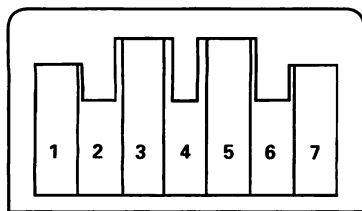
# Air Mix Control Motor



## Test

1. Disconnect the 7P connector from the air mix control motor.
  2. Connect battery power to the No. 1 terminal of the air mix control motor, and ground the No. 2 terminal; the air mix control motor should run, and stop at MAX HOT. If it doesn't, reverse the connections; the air mix control motor should run, and stop at MAX COOL.
- If the air mix control motor dose not run, remove it, then check the air mix control linkage and door for smooth movement.
  - If they move smoothly, replace the air mix control motor.

AIR MIX CONTROL MOTOR

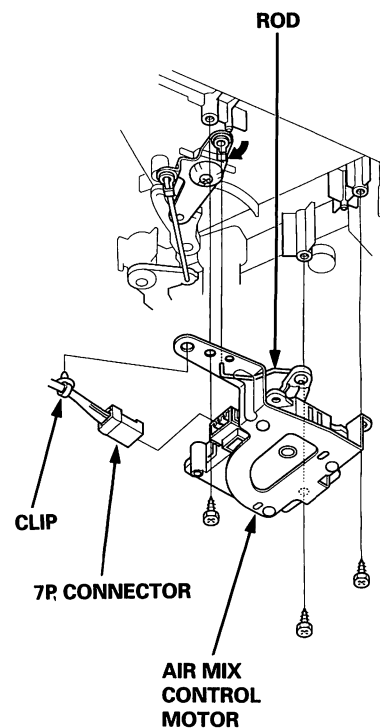


3. Measure the resistance between the No. 5 and No. 7 terminals. It should be approximately  $6\text{ k}\Omega \pm 30\%$ .
4. Measure the resistance between the No. 3 and No. 7 terminals. It should be approximately  $0.84\text{ k}\Omega \pm 30\%$  at MAX HOT and approximately  $5.04\text{ k}\Omega \pm 30\%$  at MAX COOL.

## Replacement

NOTE: LHD type is shown, RHD type is similar.

1. Remove the wire harness clip, then disconnect the 7P connector from the air mix control motor. Remove the rod of the air mix control motor from the air mix control linkage. Remove the self-tapping screws and the air mix control motor from the heater unit.



2. Install in the reверes order of removal. After installation, make sure the air mix control motor rune smoothly.

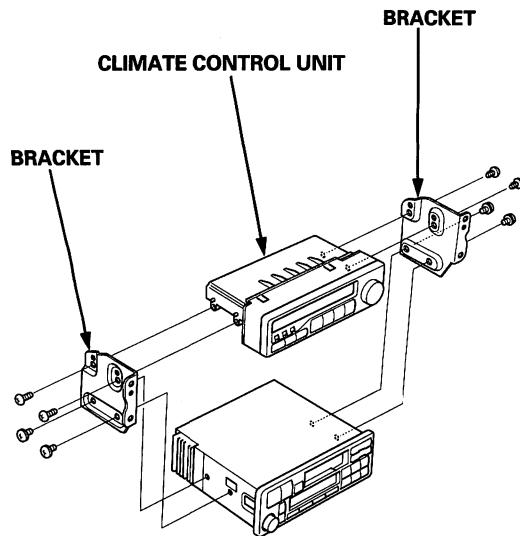
# Climate Control Unit

## Replacement

### With Navigation System:

NOTE: LHD type is shown, RHD type is similar.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the climate control unit together with the audio unit from the center console (see section 20).
3. Remove the self-tapping screws, the brackets and the climate control unit.

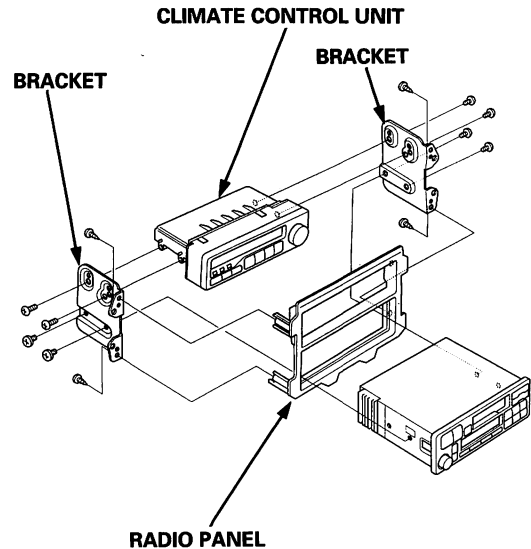


4. Install in the reverse order of removal, and note these items:
  - After installation, operate the climate control unit to see whether it works properly.
  - Enter the anti-theft code for the radio, then enter the customer's radio station presets.

### Without Navigation System:

NOTE: LHD type is shown, RHD type is similar.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the climate control unit together with the audio unit from the dashboard (see section 20).
3. Remove the self-tapping screws, the brackets, the radio panel and the climate control unit.



4. Install in the reverse order of removal, and note these items:
  - After installation, operate the climate control unit to see whether it works properly.
  - Enter the anti-theft code for the radio, then enter the customer's radio station presets.

## **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If electrical maintenance is required)**

This Accord Sedan SRS includes a driver's airbag located in the steering wheel hub, and a passenger's airbag located in the dashboard above the glove box, and some types include seat belt tensioners located in the front seat belt retractors, and some types include side airbags located in the front seat-backs.

Information necessary to safely service the SRS is included in this Shop Manual.

Items marked with an asterisk (\*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

### **⚠ WARNING**

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags, side airbags and seat belt tensioners.
- SRS electrical wiring harnesses are indicated with yellow color. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, front seats and around the floor. Do not use electrical test equipment on these circuits.

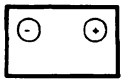







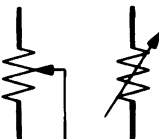

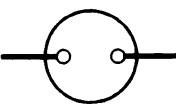










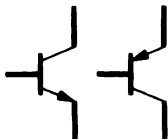


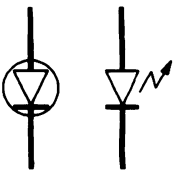
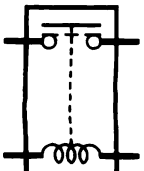
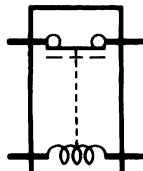



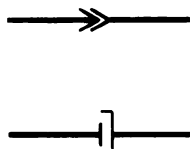

## Body Electrical

<b>Locations .....</b>	<b>23-A-1</b>
<b>Power and Ground Distributions .....</b>	<b>23-B-1</b>
<b>Gauges .....</b>	<b>23-C-1</b>
<b>Lighting System .....</b>	<b>23-D-1</b>
<b>Controls .....</b>	<b>23-E-1</b>
<b>Instruments .....</b>	<b>23-F-1</b>
<b>Security .....</b>	<b>23-G-1</b>
<b>Navigation .....</b>	<b>23-H-1</b>



# Troubleshooting

## Schematic Symbols

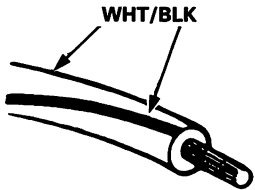
<b>BATTERY</b>  	<b>GROUND</b> Ground terminal  Component ground 		<b>FUSE</b> 	<b>COIL, SOLENOID</b> 	<b>CIGARETTE LIGHTER</b> 
<b>RESISTOR</b> 	<b>VARIABLE RESISTOR</b> 	<b>THERMISTOR</b> 	<b>IGNITION SWITCH</b> 	<b>BULB</b> 	<b>HEATER</b> 
<b>MOTOR</b> 	<b>PUMP</b> 	<b>CIRCUIT BREAKER</b> 	<b>HORN</b> 	<b>DIODE</b> 	<b>SPEAKER, BUZZER</b> 
<b>ANTENNA</b> Mast  Window 		<b>TRANSISTOR (Tr)</b> 	<b>SWITCH (In normal position)</b> Normally open switch  Normally closed switch 		<b>LIGHT EMITTING DIODE (LED)</b> 
<b>RELAY (In normal position)</b> Normally open relay  Normally closed relay 		<b>CONDENSER</b> 	<b>CONNECTION</b> Input  Output 	<b>CONNECTOR</b> 	<b>REED SWITCH</b> 

## Wire Color Codes

The following abbreviations are used to identify wire colors in the circuit schematics:

WHT .....	White	PNK .....	Pink
YEL .....	Yellow	BRN .....	Brown
BLK .....	Black	GRY .....	Gray
BLU .....	Blue	PUR .....	Purple
GRN .....	Green	LT BLU .....	Light Blue
RED .....	Red	LT GRN .....	Light Green
ORN .....	Orange		

The wire insulation has one color or one color with another color stripe. The second color is the stripe.



NOTE: Different wires with the same color in the same system have been given number suffixes to distinguish them (for example, YEL<sup>1</sup> and YEL<sup>2</sup> are not the same).

## Locations

### Relay and Control Unit Locations

Engine Compartment .....	23-A-2
Dashboard .....	23-A-3
Door and Roof .....	23-A-6
Floor and Rear .....	23-A-7

### Wire Harness and Ground Locations

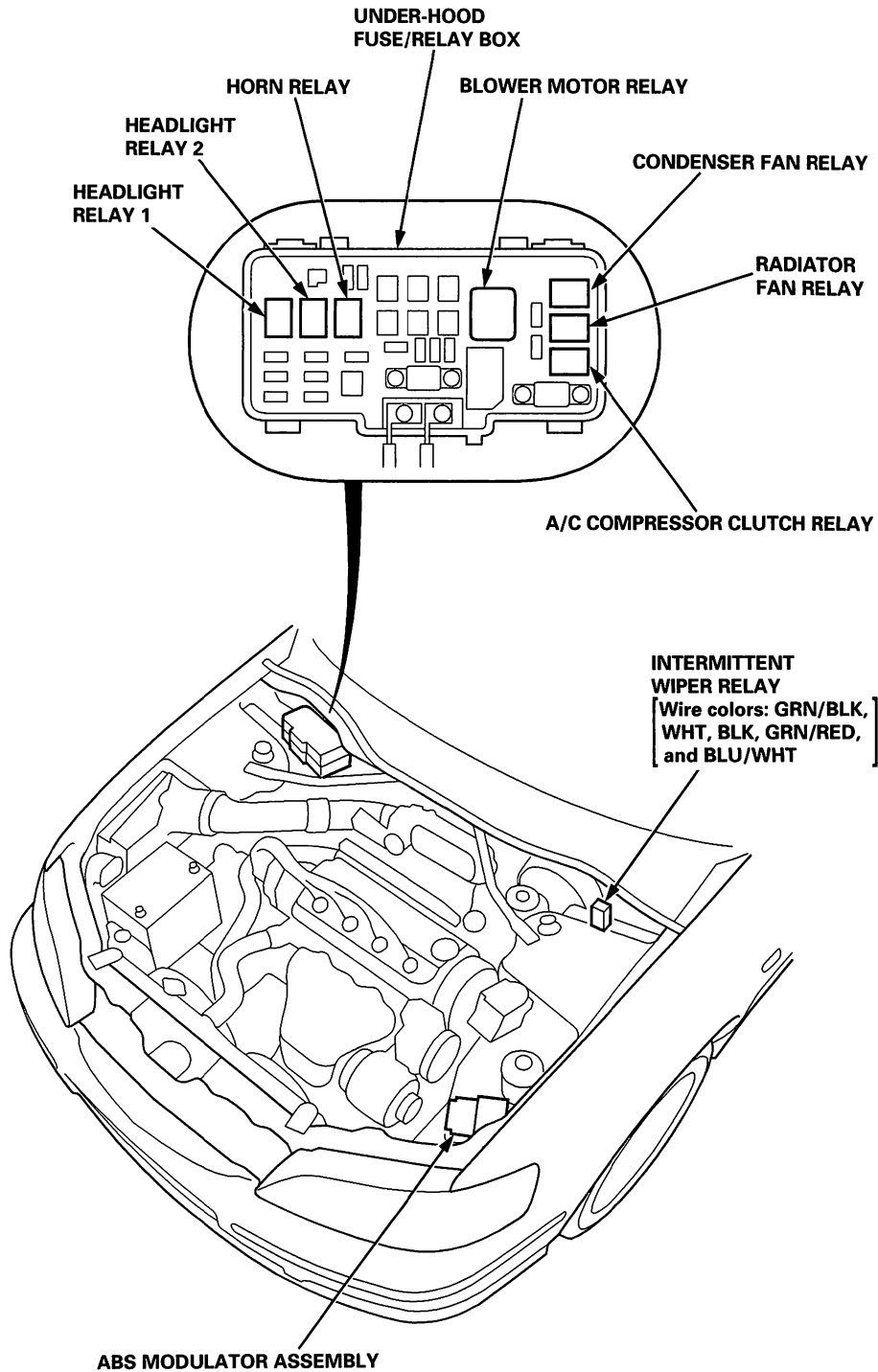
Engine Compartment .....	23-A-8
Dashboard .....	23-A-12
Dashboard and Floor .....	23-A-15
Floor .....	23-A-16
Rear .....	23-A-18
Roof .....	23-A-19
Door .....	23-A-20



# Relay and Control Unit Locations

## Engine Compartment

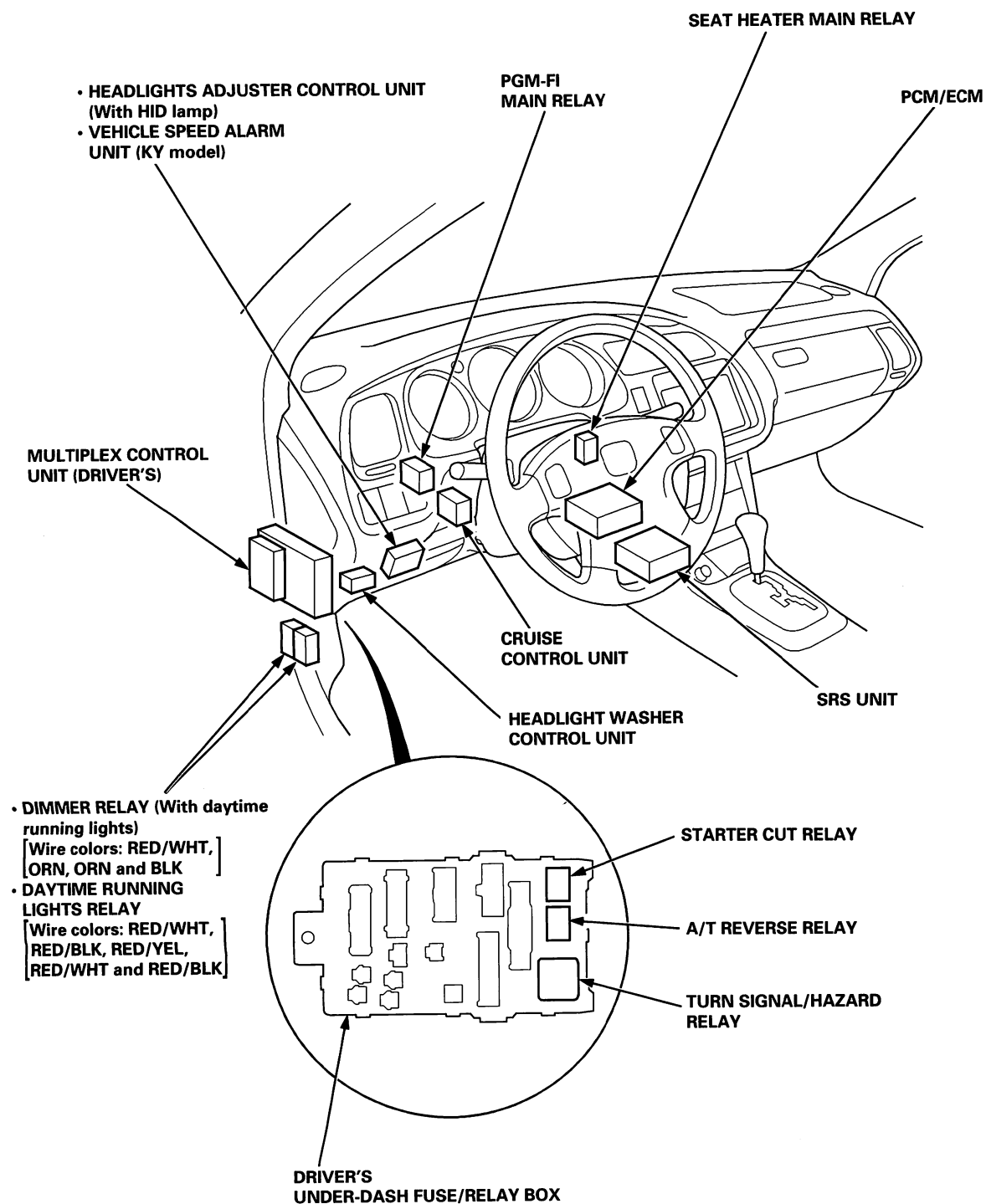
NOTE: LHD type is shown, RHD type is similar.





## DashBoard

NOTE: LHD type is shown, RHD type is similar.



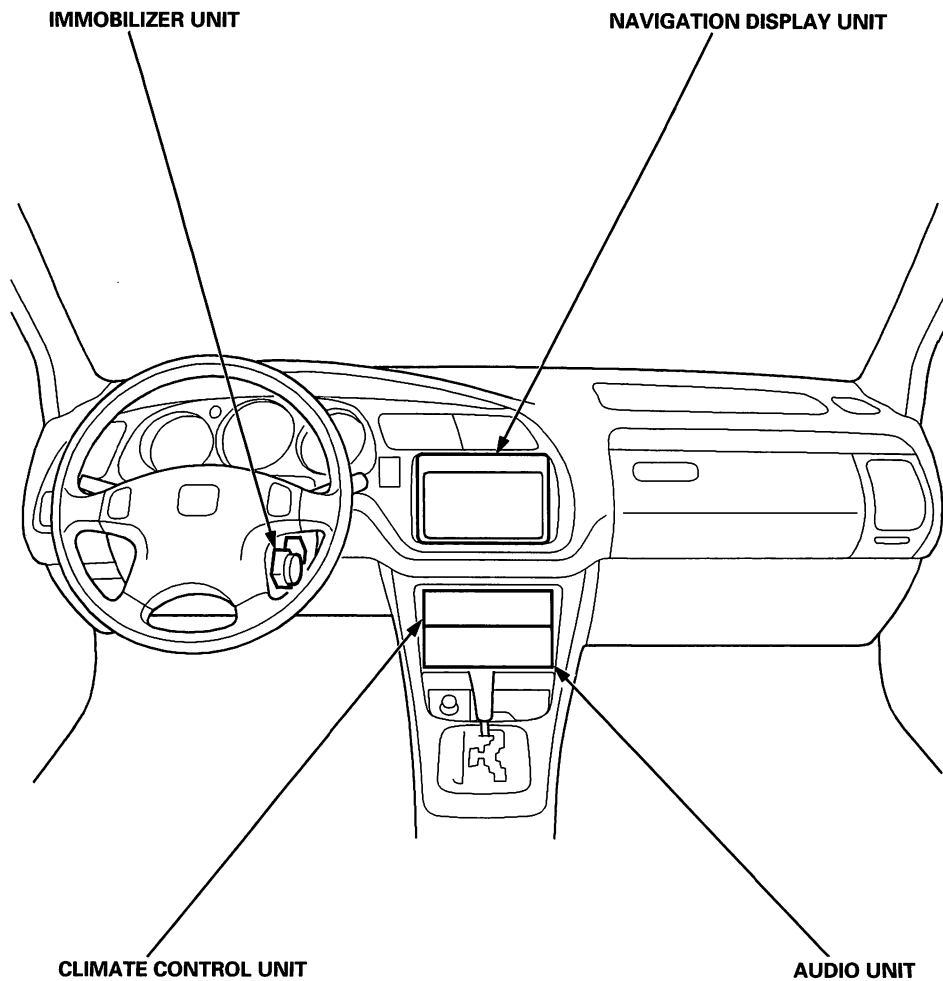
(cont'd)

# Relay and Control Unit Locations

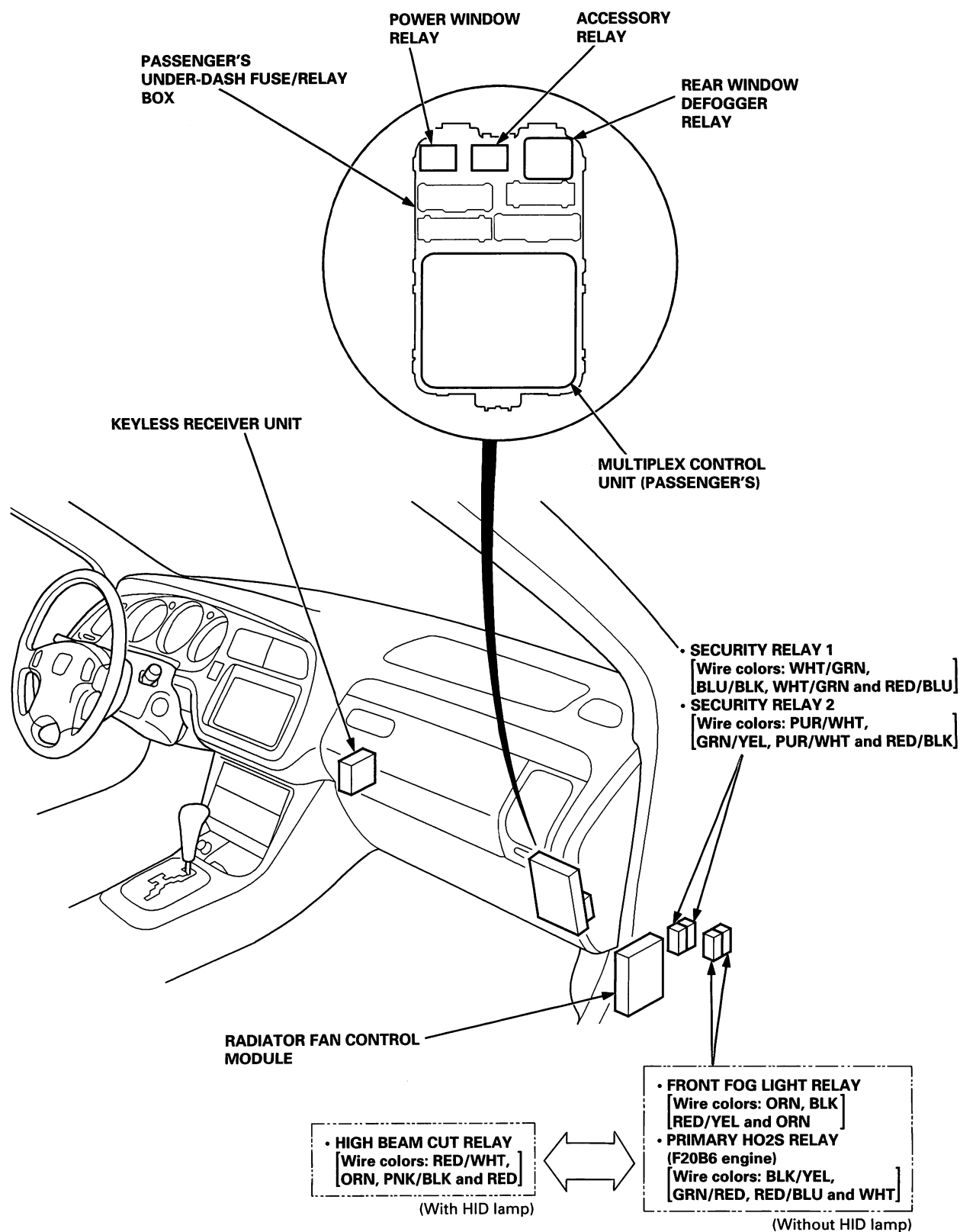
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## Dashboard (cont'd)

NOTE: LHD type is shown, RHD type is similar.



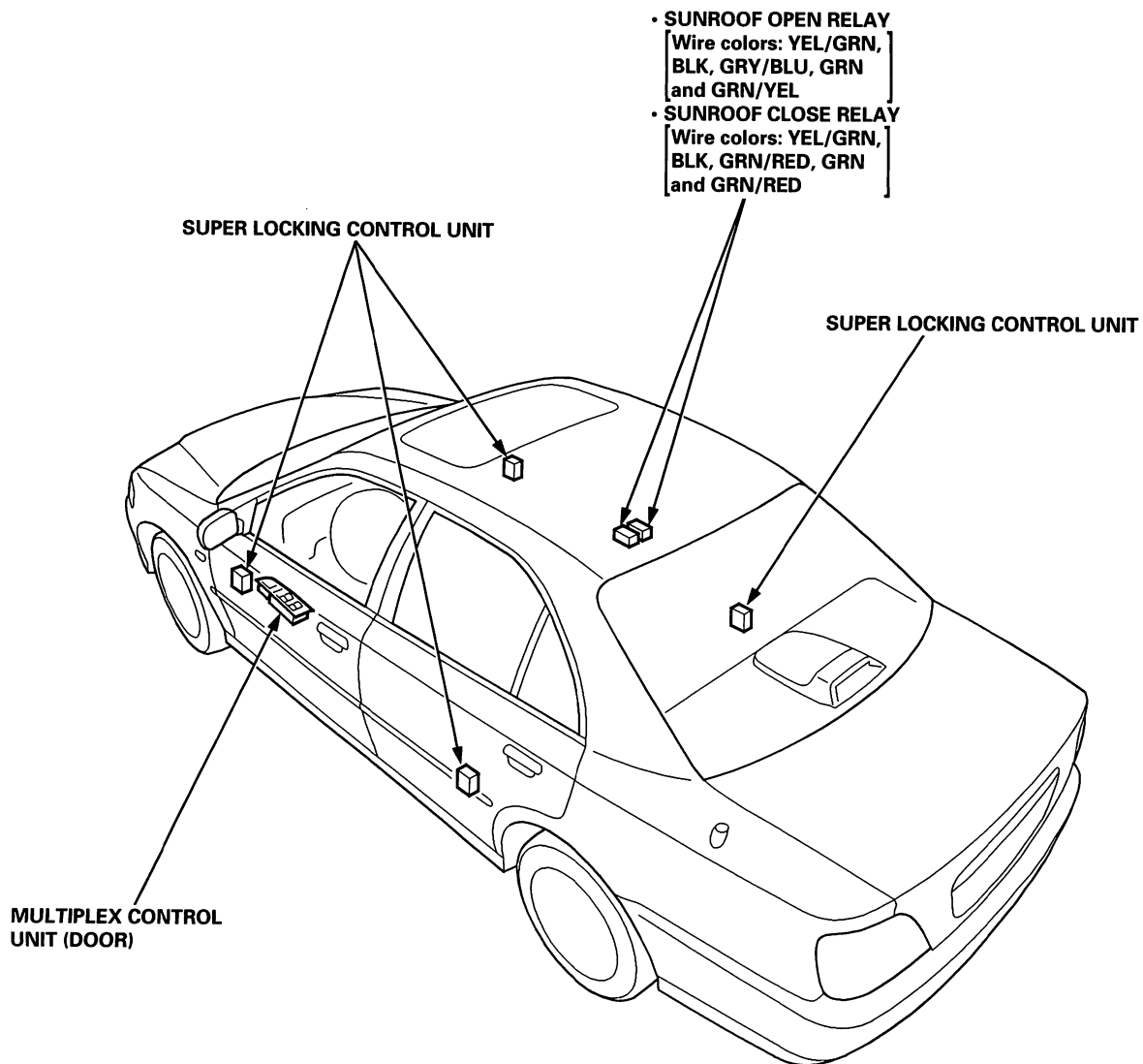
NOTE: LHD type is shown, RHD type is similar.



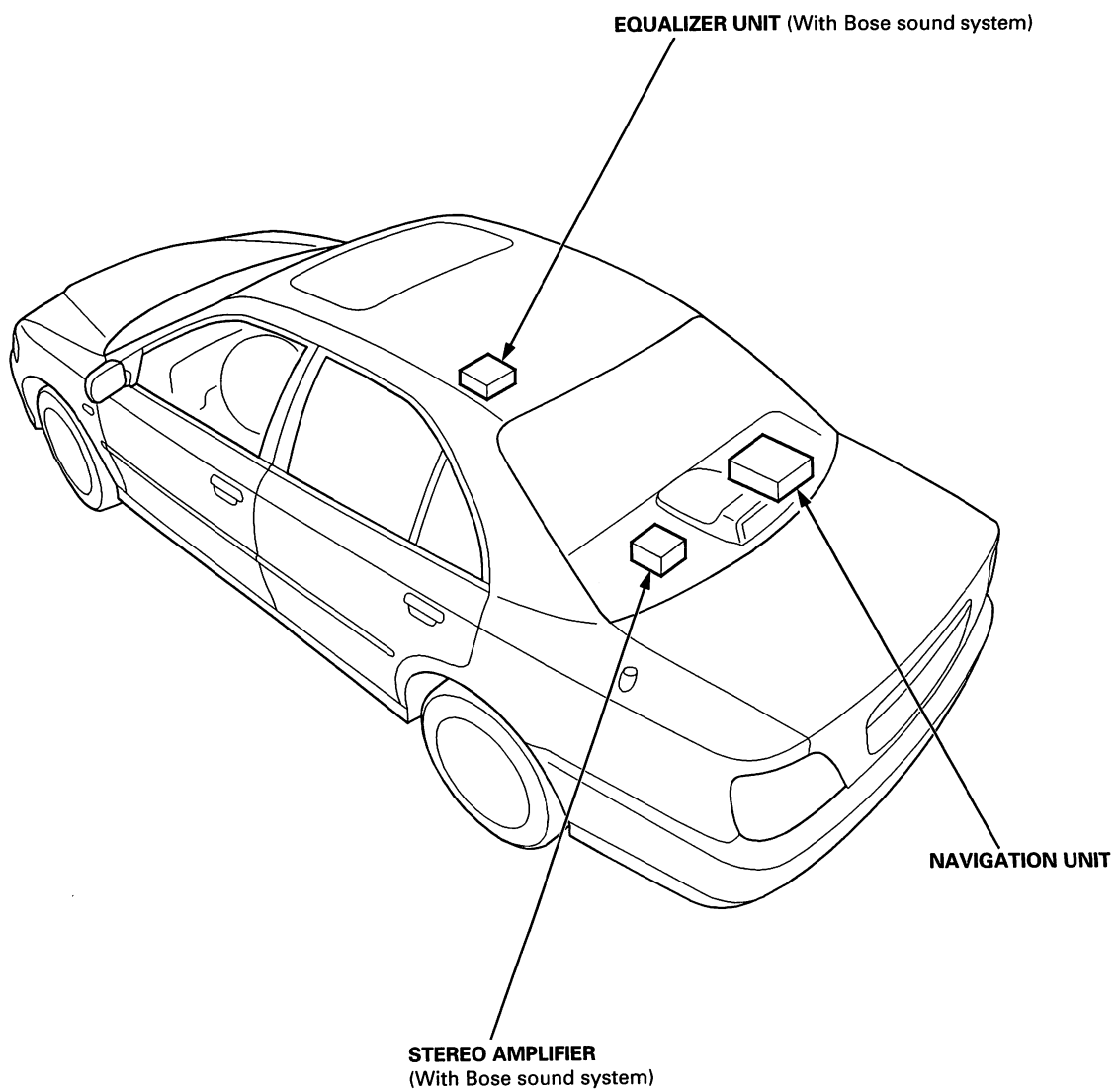
# Relay and Control Unit Locations

## Door and Roof

NOTE: LHD type is shown, RHD type is similar.



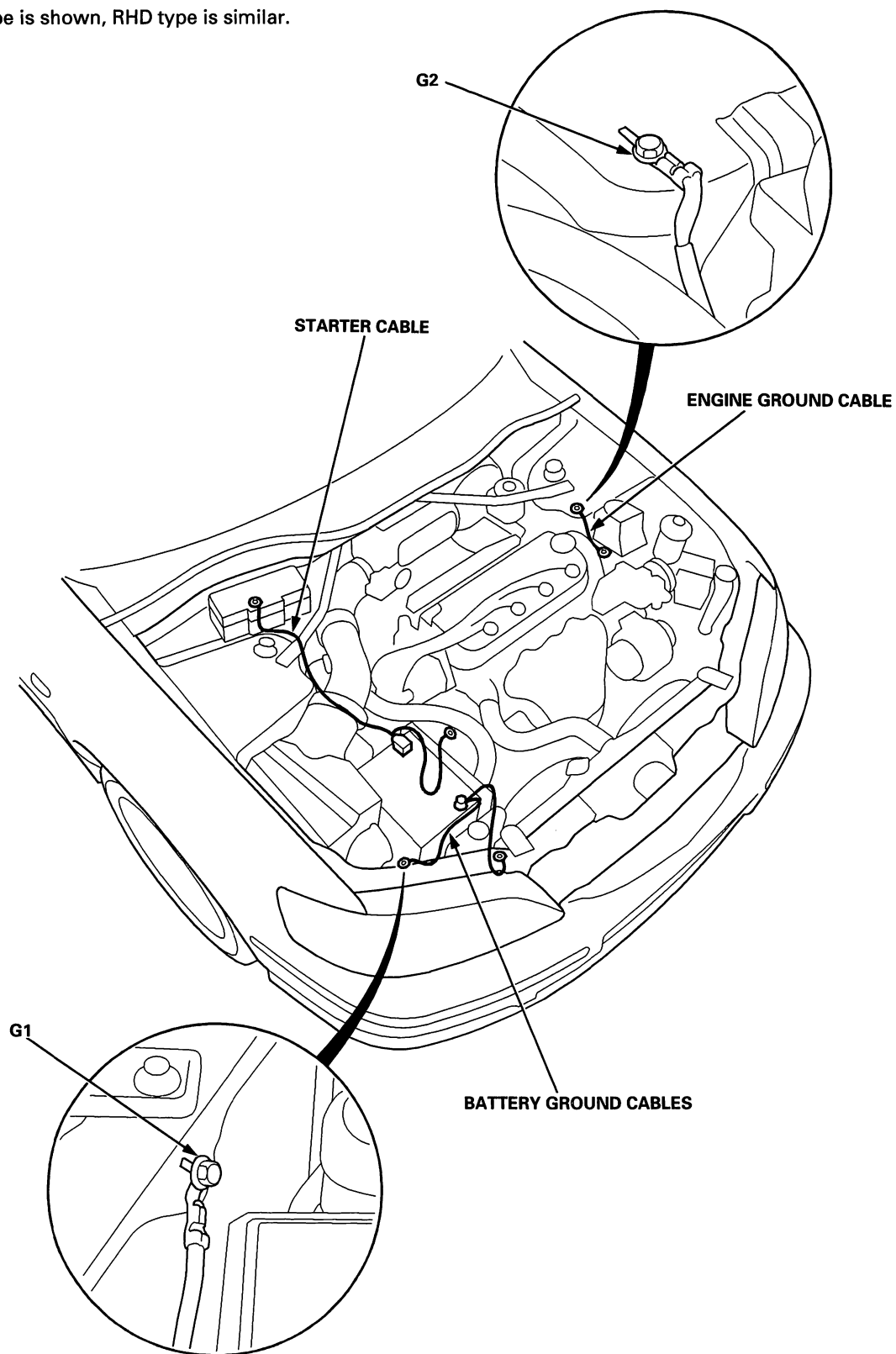
## Floor and Rear



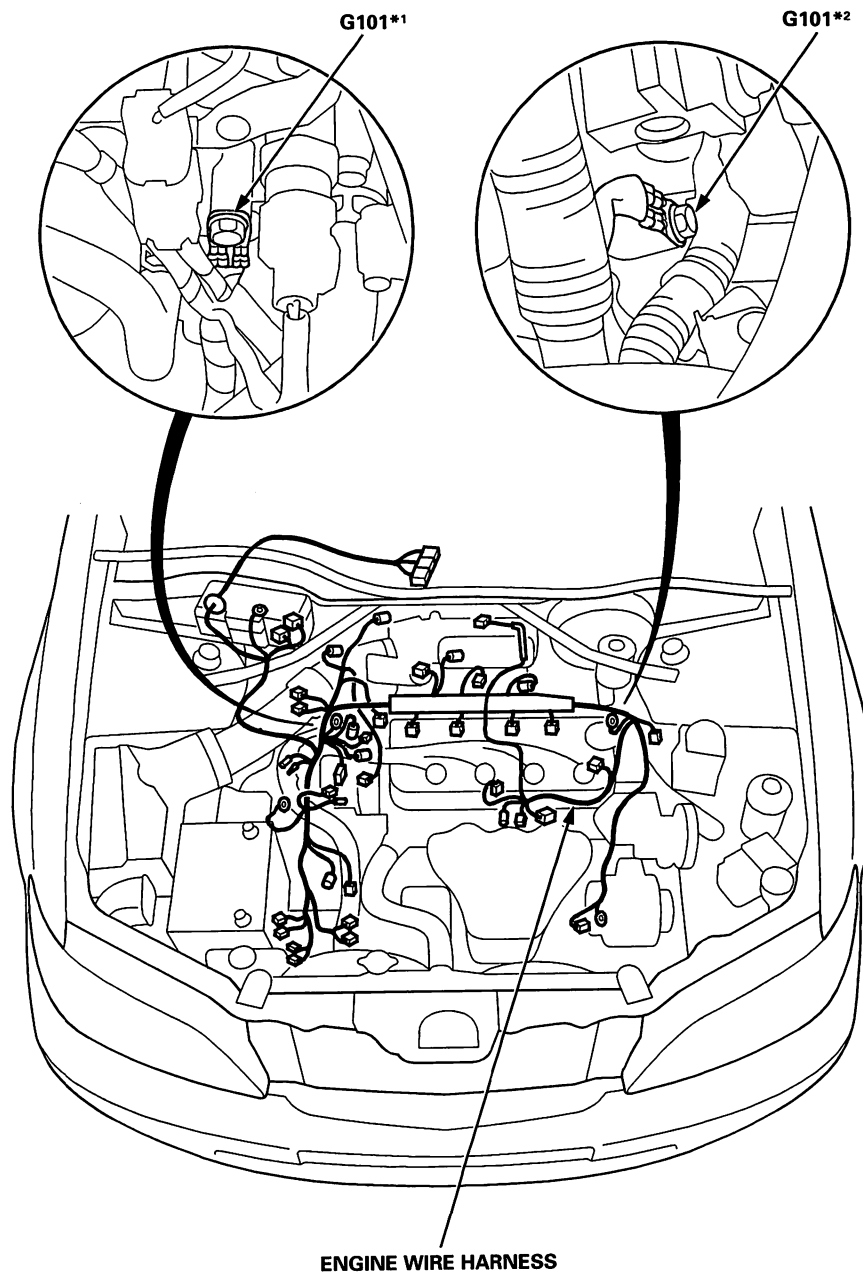
# Wire Harness and Ground Locations

## Engine Compartment

NOTE: LHD type is shown, RHD type is similar.



NOTE: LHD type is shown, RHD type is similar.



\*1: H22A7 engine

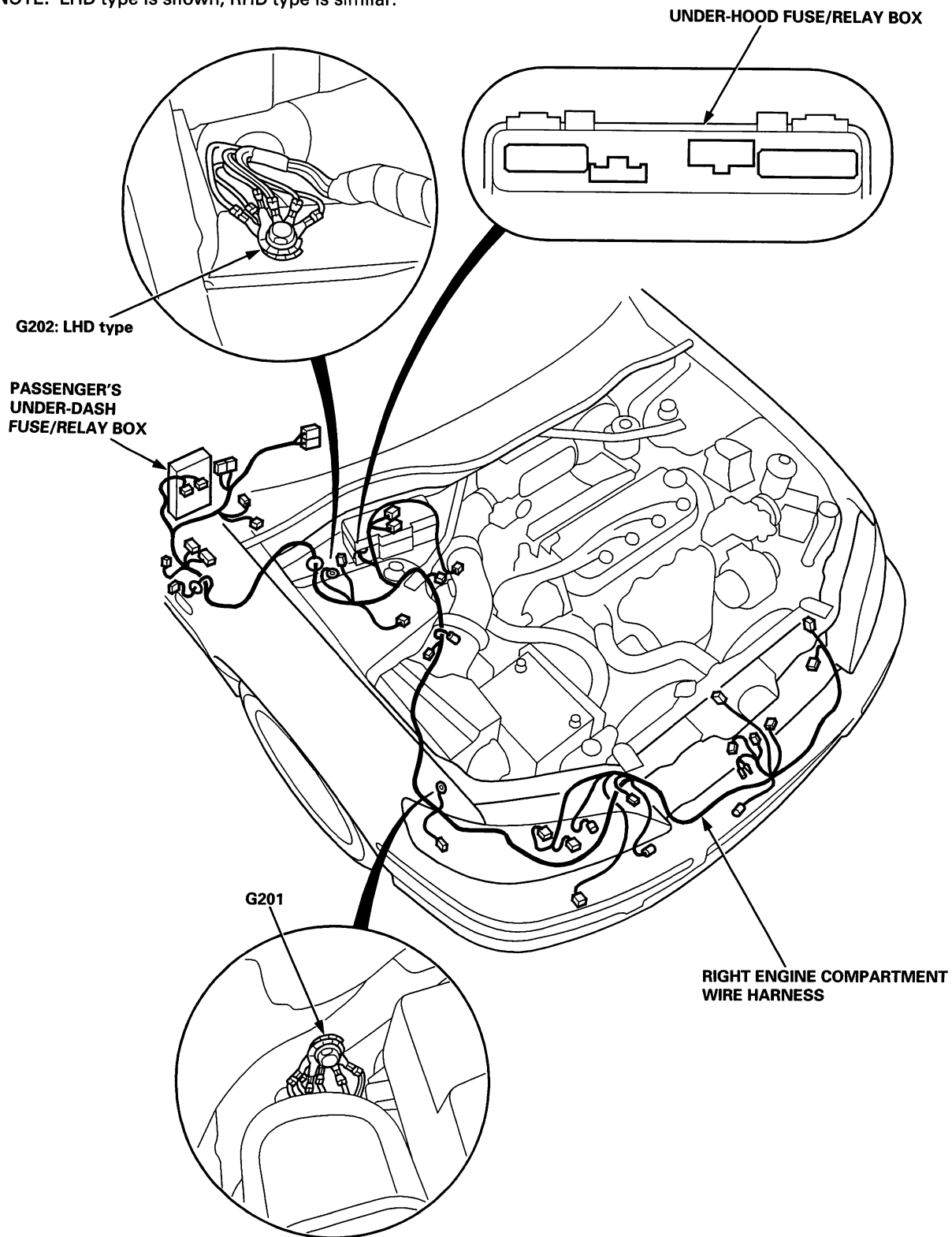
\*2: F18B2, F18B3, F20B6 engine

(cont'd)

# Wire Harness and Ground Locations

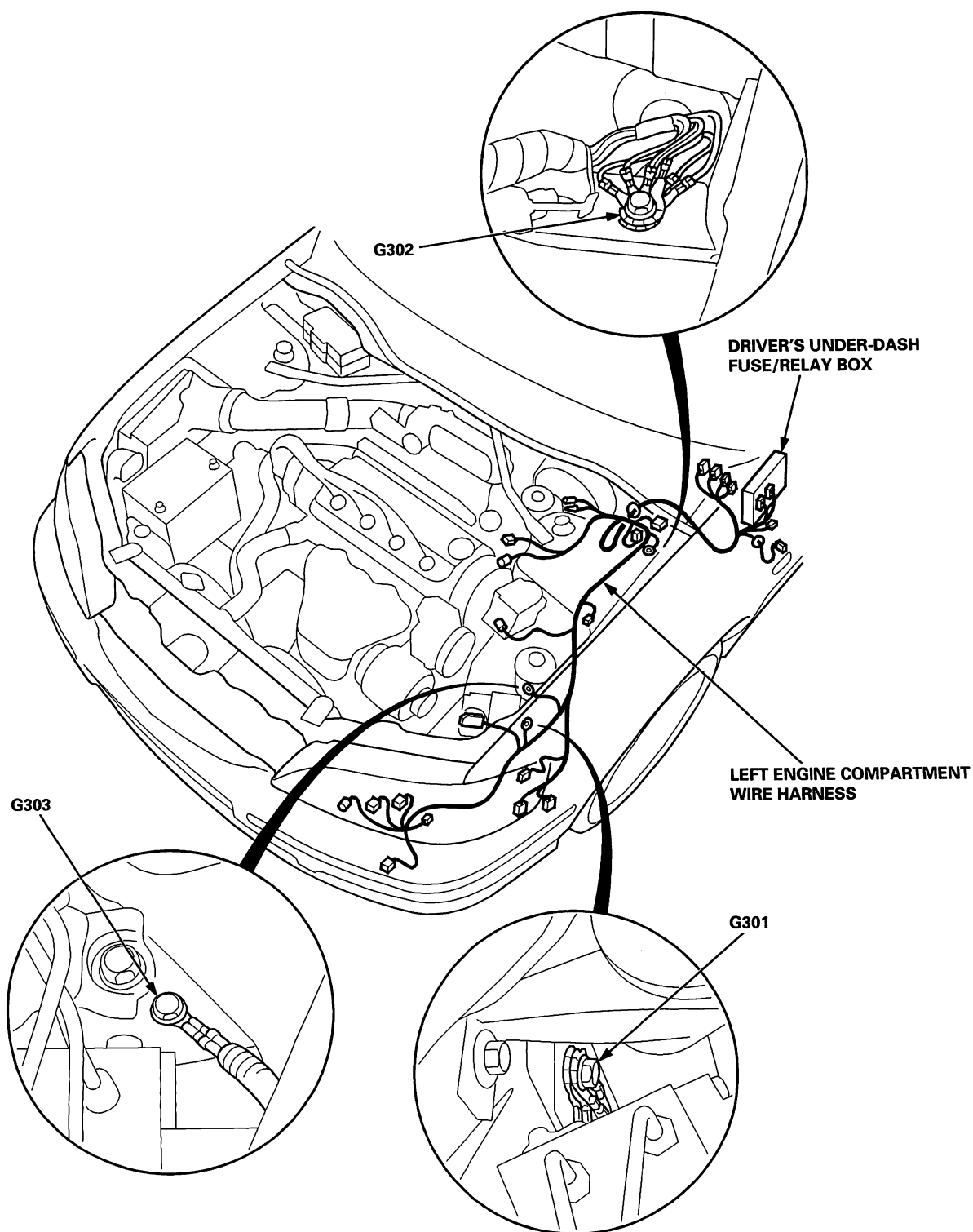
## Engine Compartment (cont'd)

NOTE: LHD type is shown, RHD type is similar.





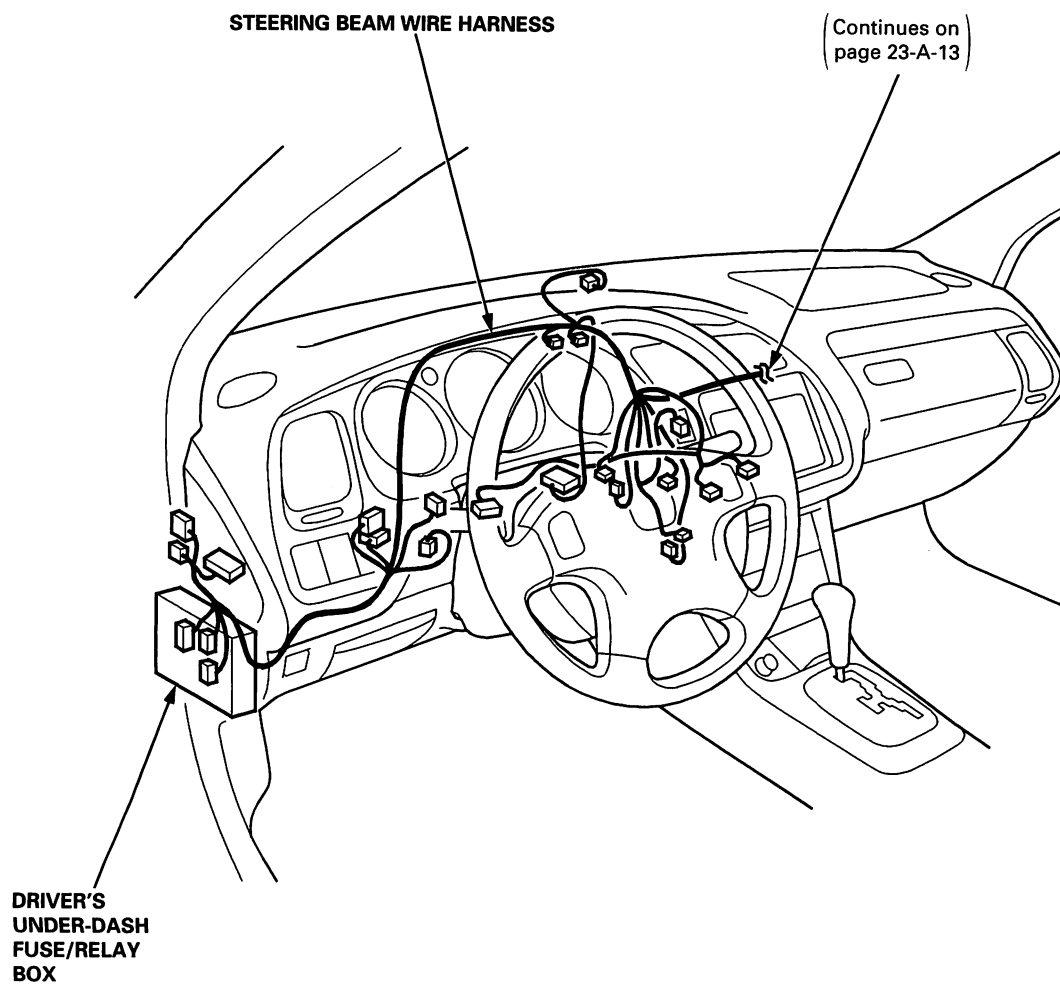
NOTE: LHD type is shown, RHD type is similar.



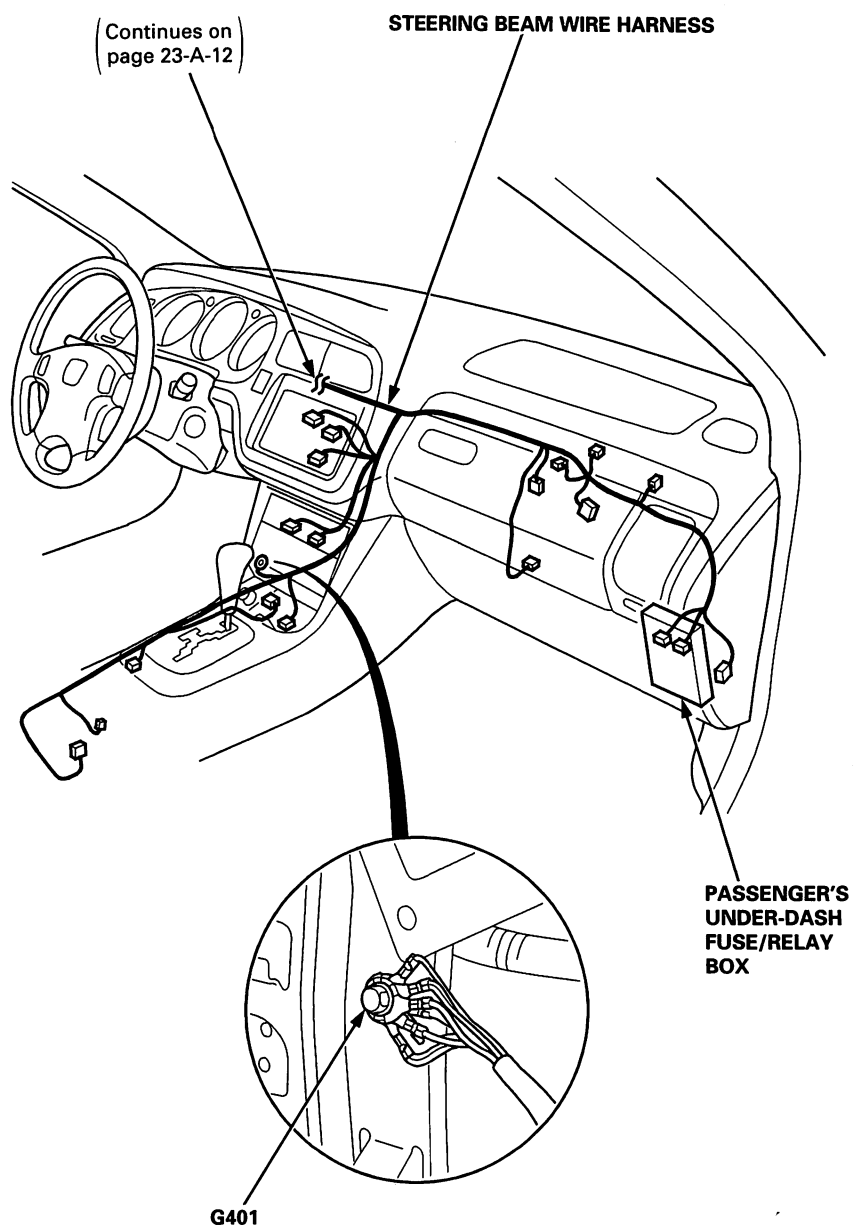
# Wire Harness and Ground Locations

## Dashboard

NOTE: LHD type is shown, RHD type is similar.



NOTE: LHD type is shown, RHD type is similar.

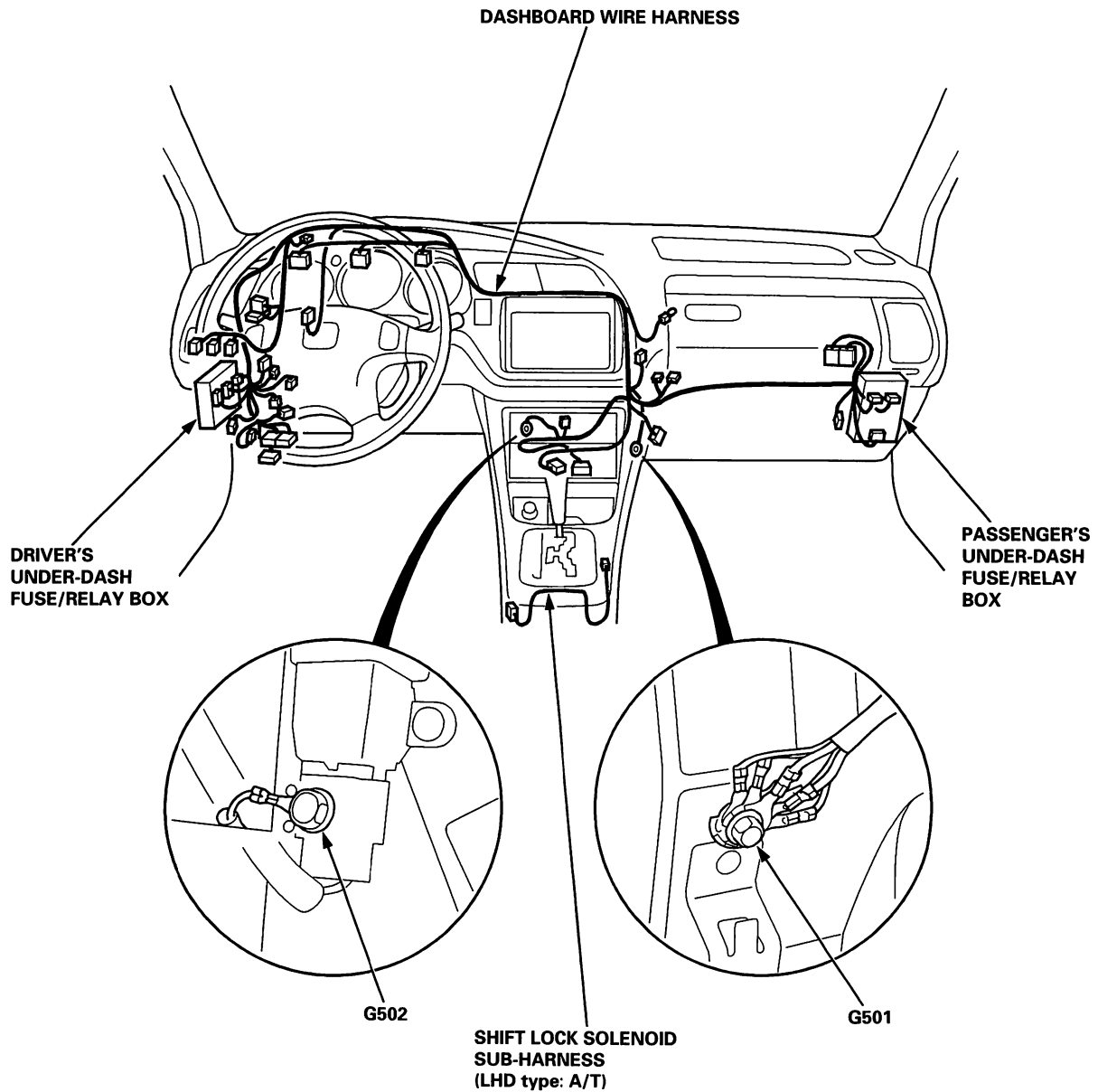


(cont'd)

# Wire Harness and Ground Locations

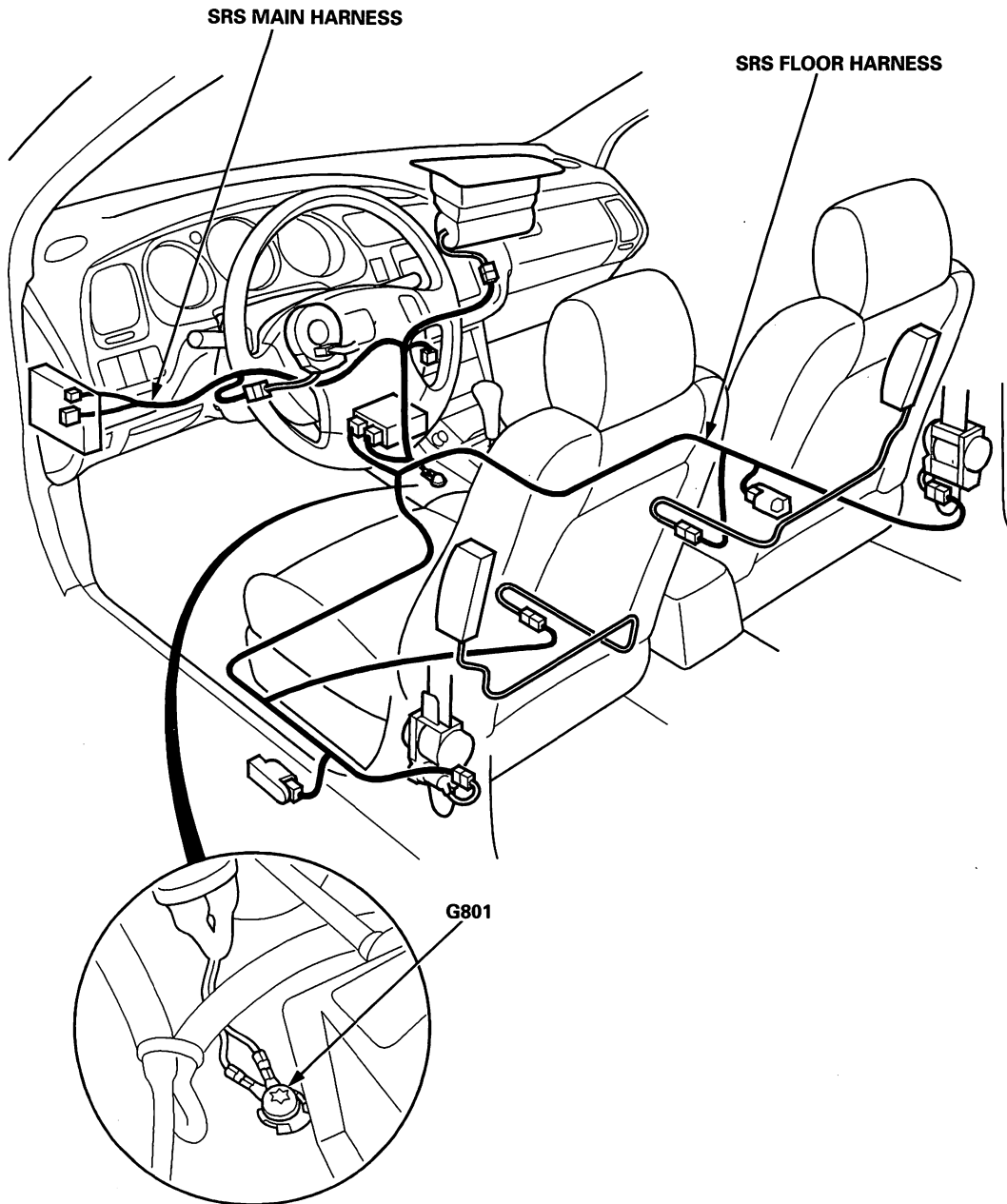
## Dashboard (cont'd)

NOTE: LHD type is shown, RHD type is similar.



## Dashboard and Floor

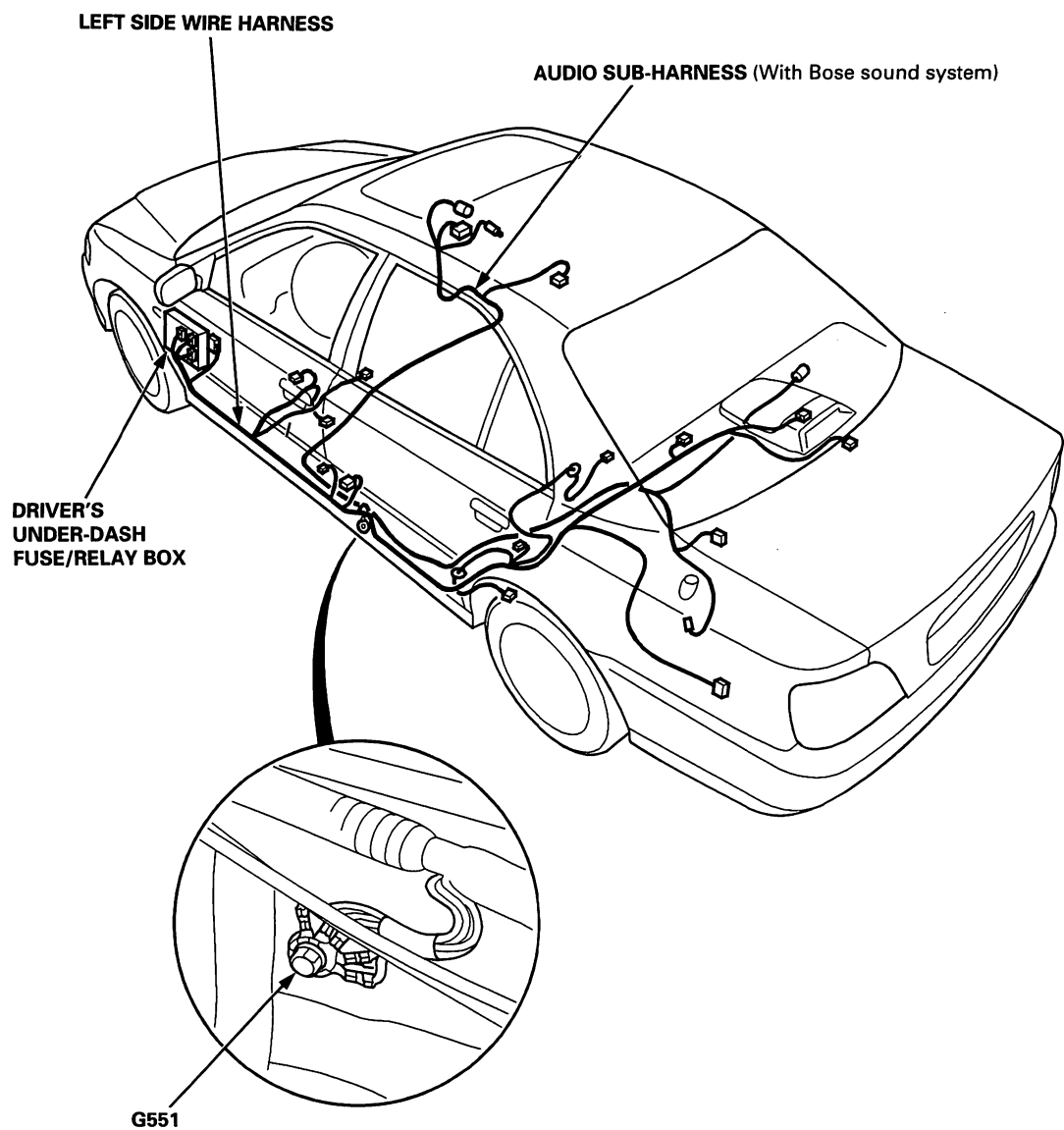
NOTE: LHD type is shown, RHD type is similar.

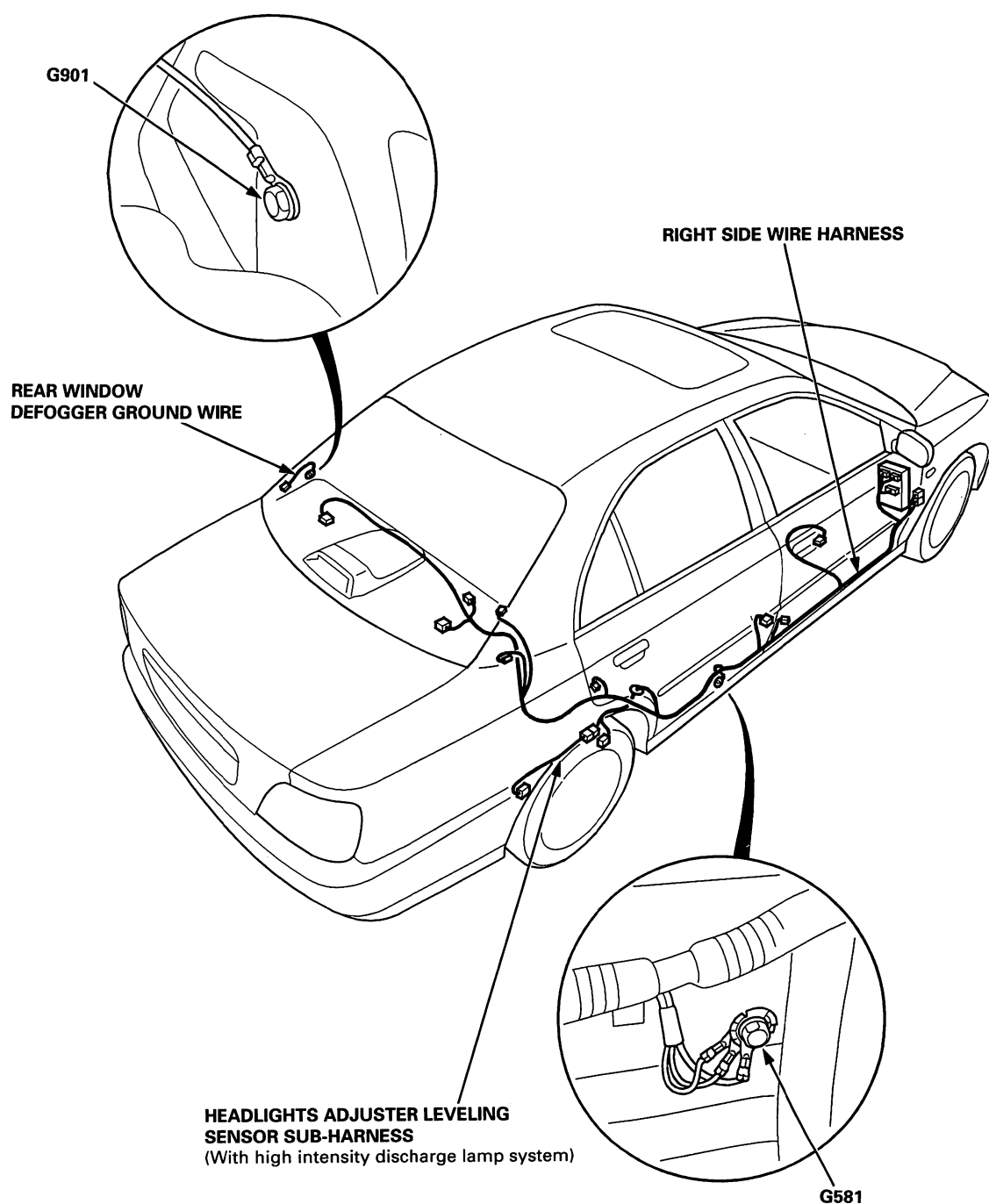


# Wire Harness and Ground Locations

## Floor

NOTE: LHD type is shown, RHD type is similar.



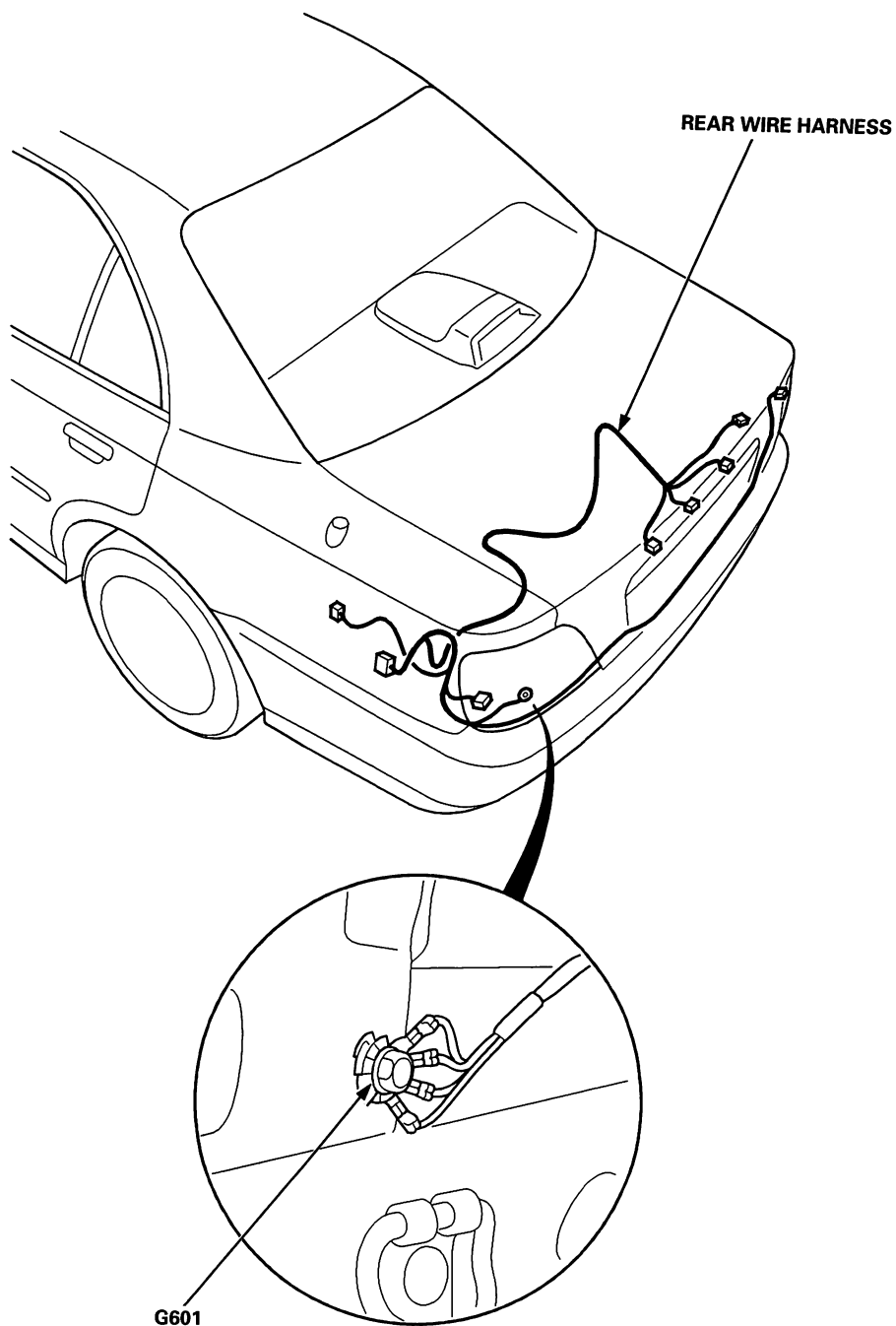


# Wire Harness and Ground Locations

---

## Rear

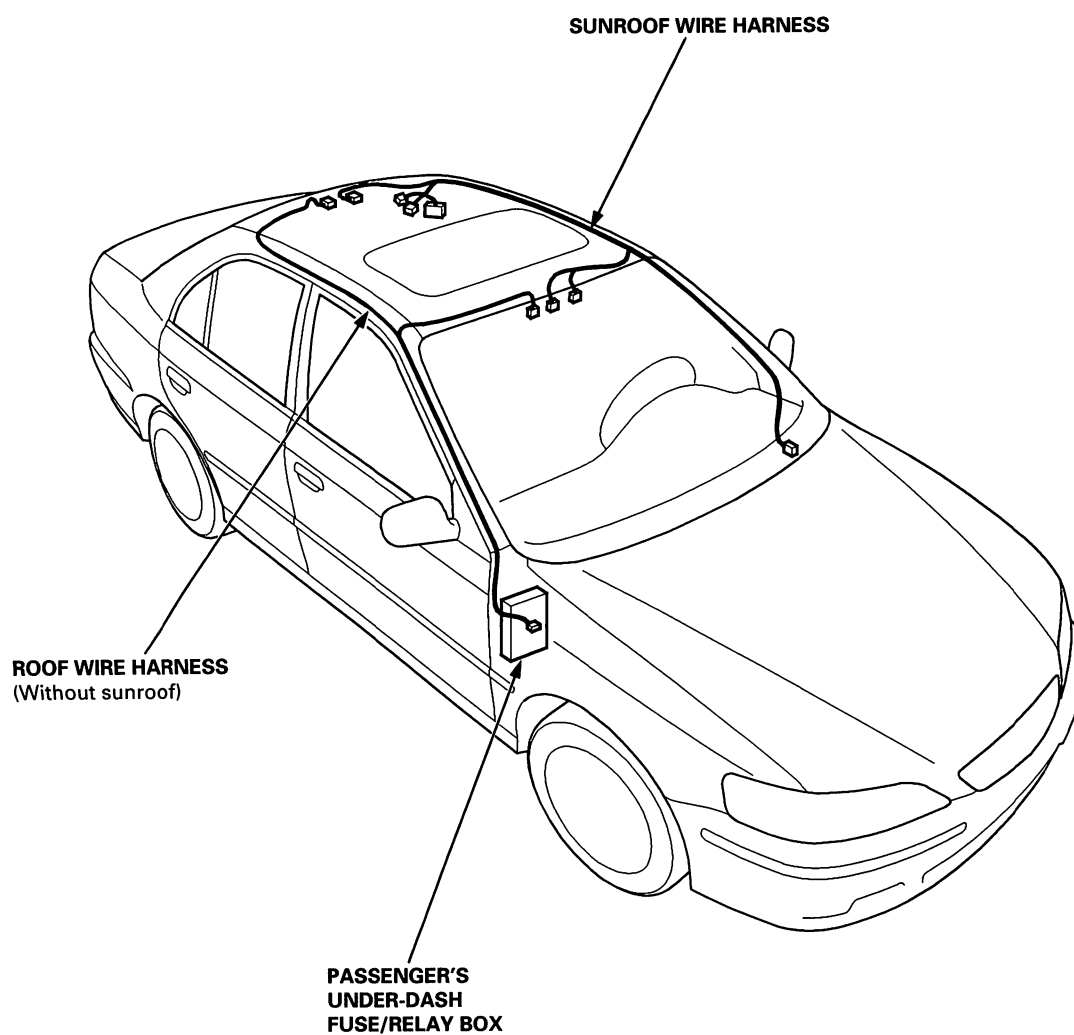
NOTE: LHD type is shown, RHD type is similar.





## Roof

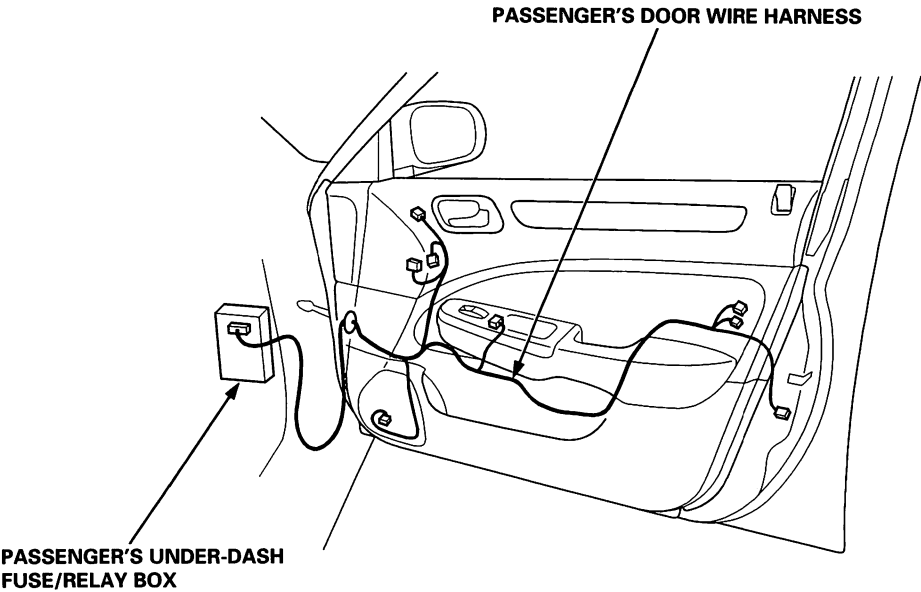
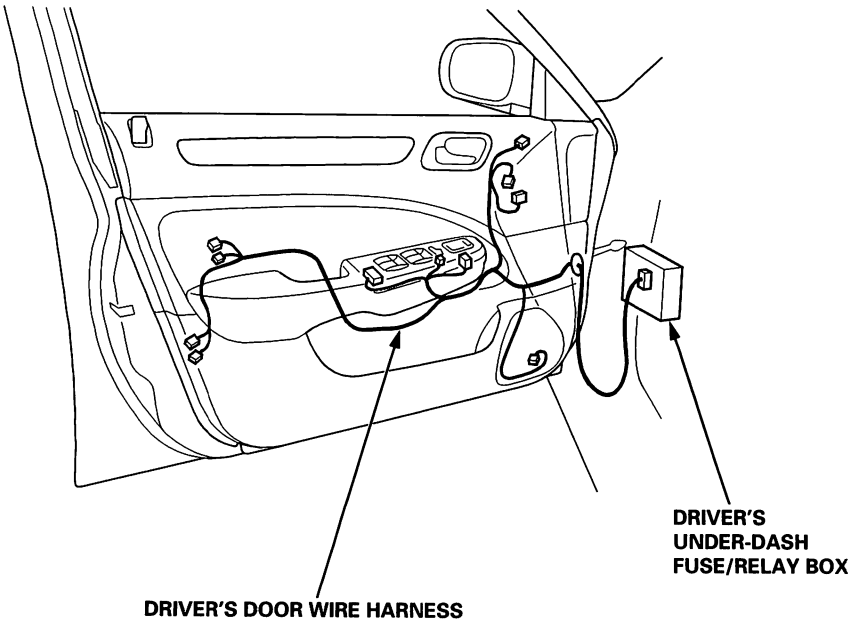
NOTE: LHD type is shown, RHD type is similar.

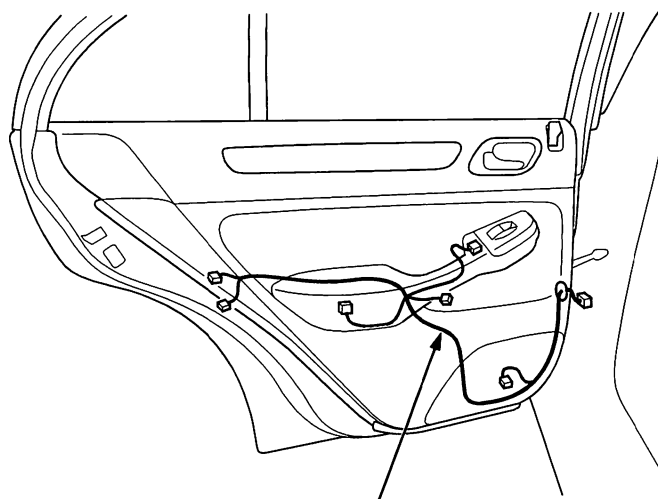


# Wire Harness and Ground Locations

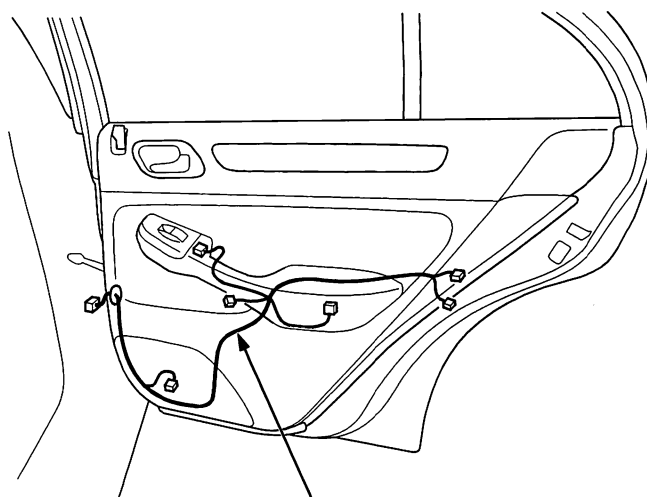
## Door

NOTE: LHD type is shown, RHD type is symmetrical.





**LEFT REAR DOOR WIRE HARNESS**



**RIGHT REAR DOOR WIRE HARNESS**

## **Power and Ground Distributions**

### **Battery**

**Test ..... 23-B-2**

### **Relays**

**Power Relay Test ..... 23-B-3**

### **Ignition Switch**

**Test ..... 23-B-6**

**Electrical Switch Replacement ..... 23-B-6**

### **Under-dash Fuse/Relay Box**

**Removal/Installation ..... 23-B-7**

### **Fuses**

**Under-hood Fuse/Relay Box ..... 23-B-8**

**Driver's Under-dash Fuse/  
Relay Box ..... 23-B-10**

**Passenger's Under-dash Fuse/  
Relay Box ..... 23-B-12**

### **Power Distribution**

**Circuit Identification ..... 23-B-14**

### **Ground Distribution**

**Circuit Identification ..... 23-B-32**



# Battery

## Test

### Battery Test

#### ⚠ WARNING

A battery can explode if you do not follow the proper procedure, causing serious injury to anyone nearby. Follow all procedures carefully and keep sparks and open flames away from the battery.

#### NOTE:

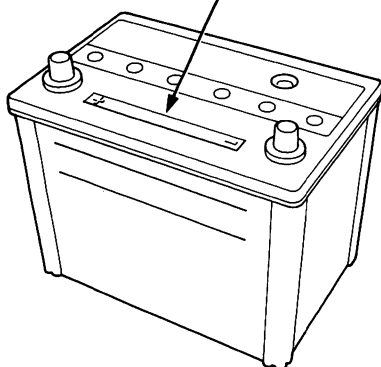
- To get accurate results, the temperature of the electrolyte must be between 21 and 38°C (70 and 100°F) before testing.
- The ECM/PCM memory must be reset after reconnecting the battery (see section 11).

#### Test Equipment Required:

- Battery Tester with:  
Voltmeter with 0 – 18 V scale, ammeter with 0 – 100 A and 0 – 500 A scales, and a carbon pile with 0 – 300 W
- 12 V Battery Charger:  
Fast charge capability of 50 A and slow charge capability of 5 A

55 B24L (S) – MF: D16B6 engine  
70 D23L – MF: Except D16B6 engine

↑  
BATTERY CODE



#### Test Procedure:

1. Check for damage: If the case is cracked or the terminals are loose, replace the battery.
2. Check indicator (for basic charge condition): Blue or Green is OK. If the indicator is red, peel the tape off, remove the caps, and add distilled water; then reinstall the caps and tape. If the indicator is clear, go to step 3.
3. Test battery load capacity by connecting a battery tester, and applying a load of three times the battery ampere hour rating.  
When the load has been applied for exactly 15 seconds, the battery voltage reading should stay above 9.6 V.
  - If the reading stays above 9.6 V, the battery is OK; clean its terminals and case, and reinstall it.
  - If the reading is between 6.5 and 9.6 V, connect a battery charger and charge the battery for three minutes at an initial rate of 40 amps.

#### ⚠ CAUTION

Amperage will drop as voltage increases; do not increase the amperage to compensate or you may damage the battery.

- Watch the battery voltage during the entire three minutes; the highest reading should stay below 15.5 V.
  - If the reading stays below 15.5 V, the battery is OK; clean its terminals and case, and reinstall it.
  - If the reading exceeds 15.5 V any time during the three minutes of fast charge, the battery is not good; replace it.
- If the reading drops below 6.5 V, slow-charge the battery by connecting a battery, and charge at five amps for no more than 24 hours (or until the indicator shows full charge, or the specific gravity of the electrolyte is at least 1.270). Then test load capacity again.
  - If the voltage stays above 9.6 V, the battery is OK; clean its terminals and case, and reinstall it.
  - If the voltage still drops below 6.5 V, the battery is not good; replace it.

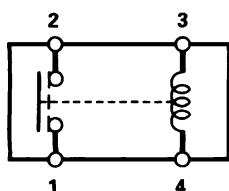
## Power Relay Test

NOTE: See page 23-D-36 for turn signal/hazard relay input test.

### Normally-open type A:

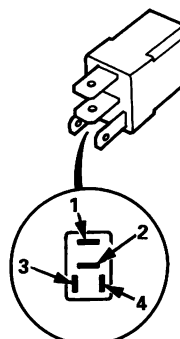
1. Check for continuity between the terminals.
  - There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 4 terminals.
  - There should be no continuity between the No. 1 and No. 2 terminals when power is disconnected.

Terminal	1	2
Power (No. 3 – No. 4)		
Disconnected		
Connected		

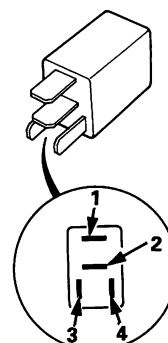


- Headlight relay 1
- Headlight relay 2
- Radiator fan relay
- Condenser fan relay
- A/C compressor clutch relay
- Horn relay
- Power window relay
- Cigarette lighter relay
- Starter cut relay
- Reverse relay
- Front fog light relay
- Seat heater main relay
- High beam cut relay
- Security relay 1
- Security relay 2
- Primary heated oxygen sensor relay

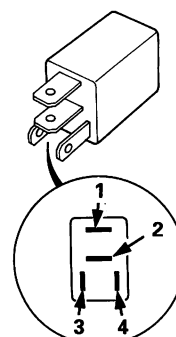
### Type 1:



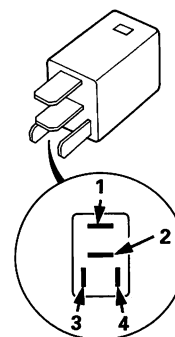
### Type 2:



### Type 3:



### Type 4:



(cont'd)

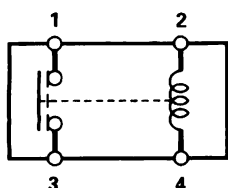
# Relays

## Power Relay Test (cont'd)

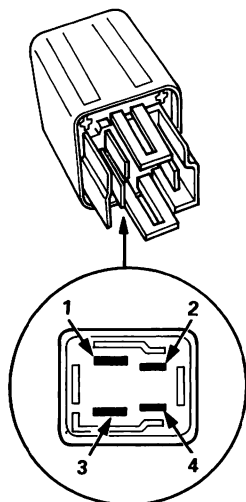
### Normally-open type B:

- Check for continuity between the terminals.
  - There should be continuity between the No. 1 and No. 3 terminals when power and ground are connected to the No. 2 and No. 4 terminals.
  - There should be no continuity between the No. 1 and No. 3 terminals when power is disconnected.

Terminal	1	3
Power (No. 2 – No. 4)		
Disconnected		
Connected		



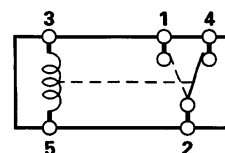
- Blower motor relay
- Rear window defogger relay



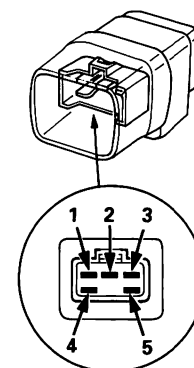
### Five-terminal type A:

- Check for continuity between the terminals.
  - There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 5 terminals.
  - There should be no continuity between the No. 2 and No. 4 terminals when power is disconnected.

Terminal	1	2	4
Power (No. 3 – No. 5)			
Disconnected			
Connected			



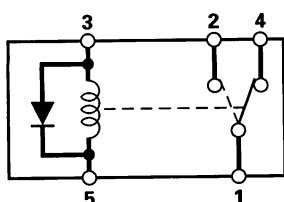
- Windshield wiper intermittent relay



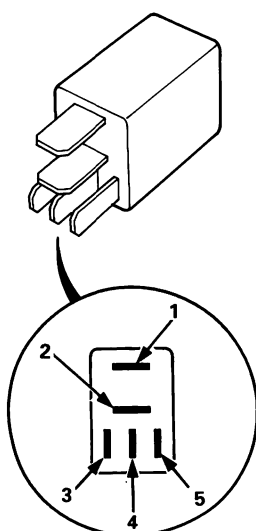
### Five-terminal type:

1. Check for continuity between the terminals.
  - There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 5 terminals.
  - There should be continuity between the No. 1 and No. 4 terminals when power is disconnected.

Terminal	1	2	4
Power (No. 3 – No. 5)			
Disconnected	○	○	○
Connected	○	○	



- Sunroof open relay
- Sunroof close relay
- Daytime running lights relay



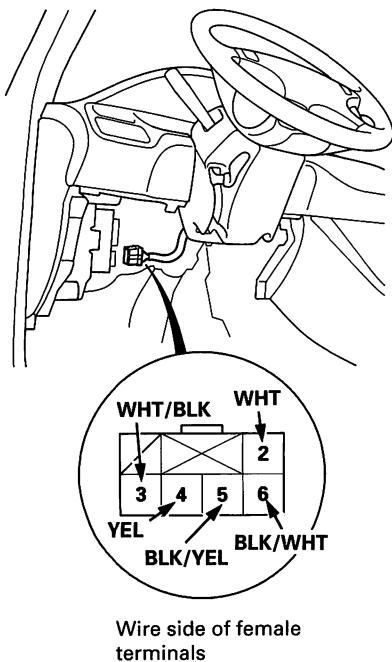


# Ignition Switch

## Test

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons (Except KY model).
  2. Disconnect the battery negative cable.
  3. Remove the dashboard lower cover (see section 20).
  4. Disconnect the 6P connector from the driver's under-dash fuse/relay box.
- NOTE: LHD type is shown, RHD type is similar.



5. Check for continuity between the terminals in each switch position according to the table.

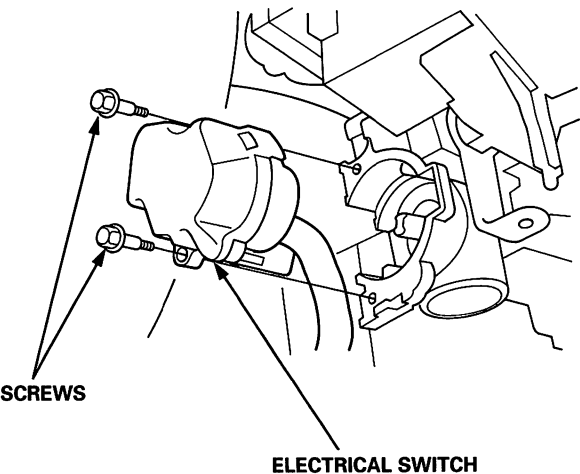
Terminal	WHT/BLK (ACC)	WHT (BAT)	BLK/YEL (IG1)	YEL (IG2)	BLK/WHT (ST)
Position					
O (LOCK)					
I (ACC)	○	○			
II (ON)	○	○	○	○	
III (START)		○	○	○	○

6. If the continuity checks do not agree with the table, replace the electrical switch.
7. After reconnecting the battery, enter the anti-theft code for the radio, then enter the customer's radio station presets (Except KY model).

## Electrical Switch Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons (Except KY model).
2. Disconnect the battery negative cable.
3. Remove the steering column covers (see section 17).
4. Insert the ignition key, and turn it to "0".
5. Remove the two screws, and replace the electrical switch.



6. Install in the reverse order of removal.
7. After reconnecting the battery, enter the anti-theft code for the radio, then enter the customer's radio station presets (Except KY model).

# Under-dash Fuse/Relay Box



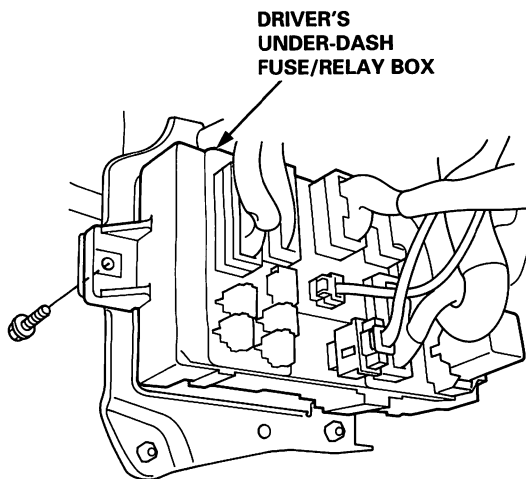
## Removal/Installation

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

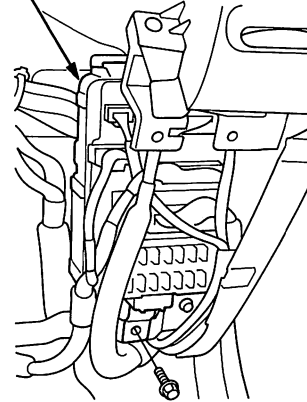
### Removal:

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons (Except KY model).
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.
3. Remove the dashboard lower cover (see section 20).
4. Remove the door sill molding, left or right kick panel and access panel (see section 20).
5. Remove the mounting bolt, and pull the driver's or passenger's under-dash fuse/relay box away from the body.

NOTE: LHD type is shown, RHD type is symmetrical.



PASSENGER'S  
UNDER-DASH  
FUSE/RELAY BOX



6. Disconnect the driver's or passenger's under-dash fuse/relay box connectors, and remove the driver's or passenger's under-dash fuse/relay box.

NOTE: The SRS main harness connector is a springloaded lock type (see section 24).

### Installation:

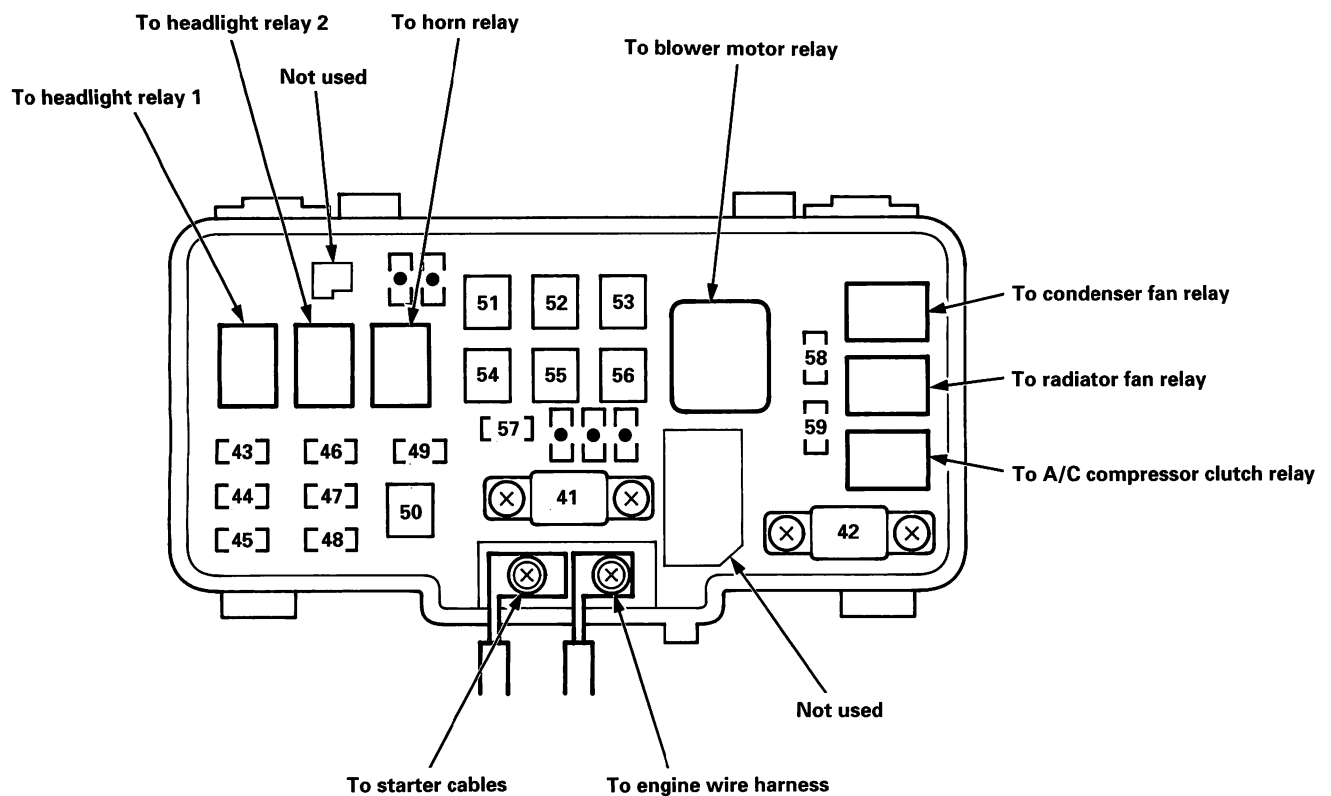
1. Connect the connectors to the driver's or passenger's under-dash fuse/relay box, then install the driver's or passenger's under-dash fuse/relay box in the reverse order of removal.

NOTE: The SRS main harness connector is a springloaded lock type (see section 24).

2. Install the left or right kick panel and access panel, and the door sill molding.
3. Install the dashboard lower cover.
4. Connect both the negative cable and positive cable to the battery, enter the anti-theft code for the radio, then enter the customer's radio station presets.
5. Confirm that all systems work properly.

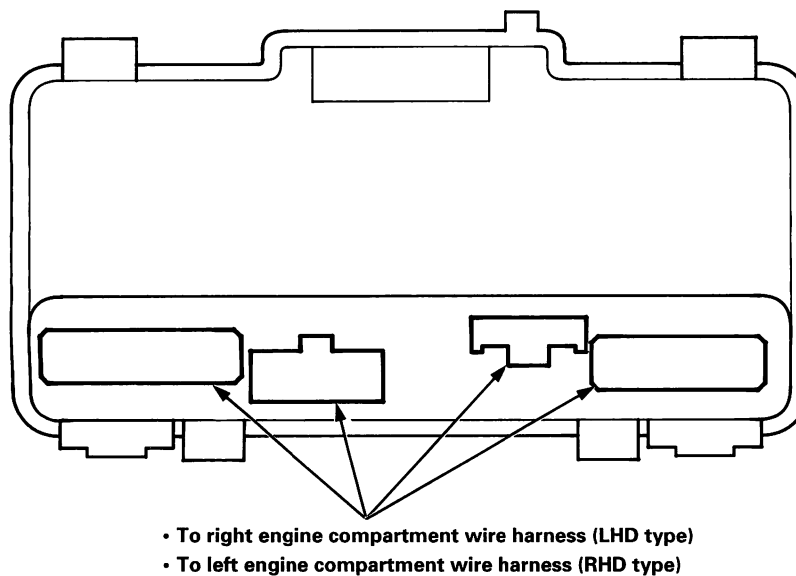
# Fuses

## Under-hood Fuse/Relay Box



●: Spare fuse

NOTE: View from the backside of under-hood fuse/relay box.





## Under-hood Fuse/Relay Box

Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
41	100 A	—	Battery, Power distribution
42	50 A	WHT	Ignition switch (BAT)
43	20 A	RED/WHT	Right headlight, High beam indicator light, Headlight adjuster control unit (RHD)* <sup>1</sup> , Headlight washer control unit
44	7.5 A	RED/WHT [RED/GRN]	High beam cut relays* <sup>1</sup> , Dimmer relay* <sup>2</sup>
45	20 A	RED/YEL	Left headlight, High beam indicator light, Headlight adjuster control unit (LHD)* <sup>1</sup> , Headlight washer control unit
46	15 A	WHT/GRN	PGM-FI main relay, Data link connector (DLC)
47	15 A	PUR/WHT	ABS modulator unit, Brake lights, Cruise control unit, ECM/PCM, Horns, Ignition key light, Key interlock solenoid (A/T), Security horn
48	20 A	PUR/WHT	ABS modulator unit (FSR)
49	10 A	WHT/GRN	Hazard warning lights, Turn signal/hazard lights (via relay)
50	40 A	WHT/BLU	ABS modulator unit (+B MR)
51	40 A	GRN [WHT/BLU]	No. 1, 7, 8, 15 and 16 fuses (in passenger's under-dash fuse/relay box)
52	30 A	YEL/RED	No. 6 and 14 fuses (in passenger's under-dash fuse/relay box)
53	30 A	WHT/GRN	Rear window defogger, Noise condenser
54	40 A	YEL	No. 9, 10, 11, 12 and 13 fuses (in passenger's under-dash fuse/relay box)
55	30 A	YEL/GRN	No. 2, 3, 4 and 5 fuses (in passenger's under-dash fuse/relay box)
56	40 A	YEL/BLK	Blower motor
57	20 A	BLU/BLK	Radiator fan motor
58	20 A	WHT [RED]	Radiator fan control module (KY)
		BLU/YEL	Condenser fan motor
		RED	A/C compressor clutch
59	15 A	RED/WHT	Ashtray lights, Cigarette lighter, Climate control lights, Hazard warning switch light, Mode switch light (A/T), Daytime running lights relay* <sup>2</sup>

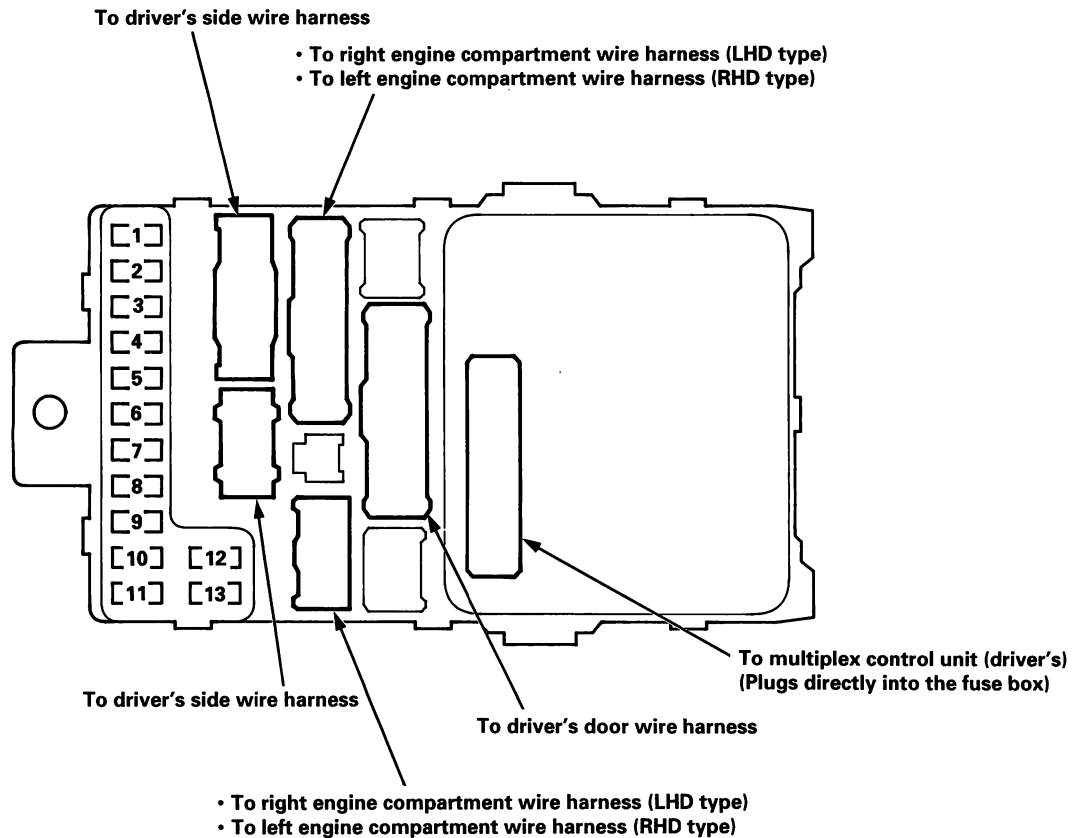
[ ]: RHD type

\*1: With high intensity discharge lamp system

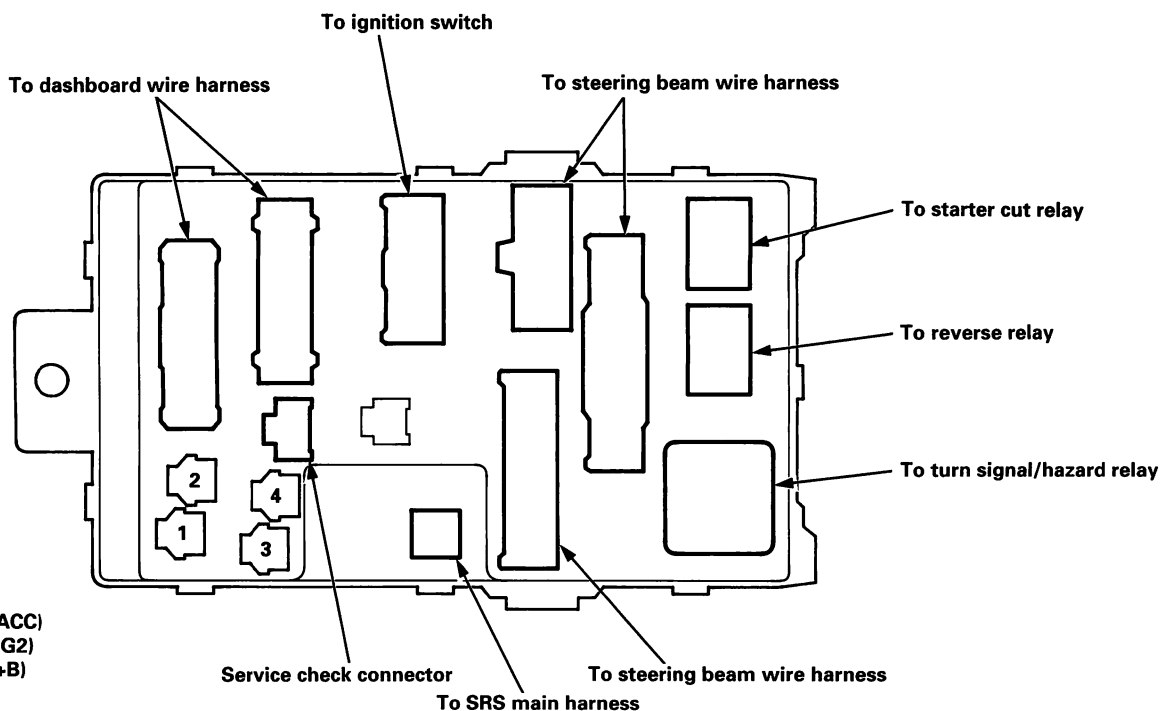
\*2: KG with daytime running lights system

# Fuses

## Driver's Under-dash Fuse/Relay Box



NOTE: View from the backside of driver's under-dash fuse/relay box.



- 1: Option connector (ACC)
- 2: Option connector (IG2)
- 3: Option connector (+B)
- 4: Option connector



# Driver's Under-dash Fuse/Relay Box

Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
1	15 A	RED/WHT	PGM-FI main relay, Inertia switch
		GRN (RED/WHT)	SRS unit (VA)
2	10 A	GRN (BLK/RED)	SRS unit (VB)
3	7.5 A	BLK/ORN	Climate control unit, Heater control panel, A/C thermostat, Recirculation control motor, Blower motor relay, Condenser fan motor, Radiator fan motor, Radiator fan control module (KY)
4	7.5 A	YEL	Power mirror actuators, Power mirror defoggers, Seat heater main relay, [Right power mirror defogger]
		[YEL/BLK]	Left power mirror defogger, Seat heater main relay
		Fuse/relay box socket	Optional connector
5	10 A	YEL/RED	ABS modulator unit (IG2)
6	15 A	BLK/YEL	Alternator, Cruise control unit, Charging system light, Engine mount control solenoid valve (A/T), EVAP purge control solenoid valve, HO2S, Primary HO2S, Secondary HO2S, ECM/PCM, VSS (M/T), IAB control solenoid valve* <sup>3</sup> , Radiator fan control module (KY)
7	7.5 A	YEL/GRN	Headlight adjuster control unit* <sup>1</sup> , Headlight adjuster units* <sup>2</sup> , Headlight adjuster switch, Sunroof relays, Multiplex control unit (driver's)
8	7.5 A	YEL/BLK	Navigation unit, Shift lock solenoid (A/T), Multiplex control unit (driver's) (A/T).
		Fuse/relay box socket	Optional connector
9	7.5 A	YEL	Back-up lights (M/T), Clock, Gauge assembly, Keyless door lock control unit, Vehicle speed alarm unit (KY)
		Fuse/relay box socket	Multiplex control unit (driver's), Reverse relay (A/T)
10	7.5 A	YEL/RED	Turn signal/hazard relay
11	15 A	BLK/YEL	Ignition coil
12	30 A	GRN/BLK	Windshield wiper intermittent relay, Windshield wiper motor, Multiplex control unit (driver's)
13	7.5 A	BLU/ORN	ECM/PCM* <sup>3</sup> , PGM-FI main relay* <sup>3</sup>

[ ]: RHD

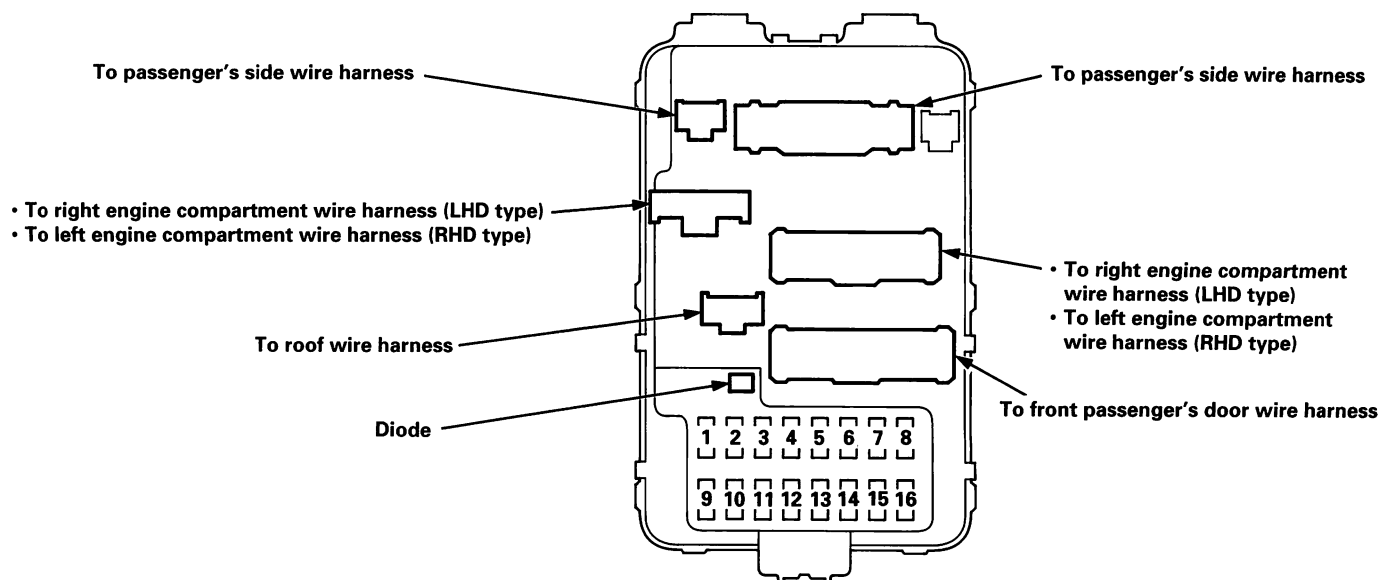
\*1: With high intensity discharge lamp system

\*2: Without high intensity discharge lamp system

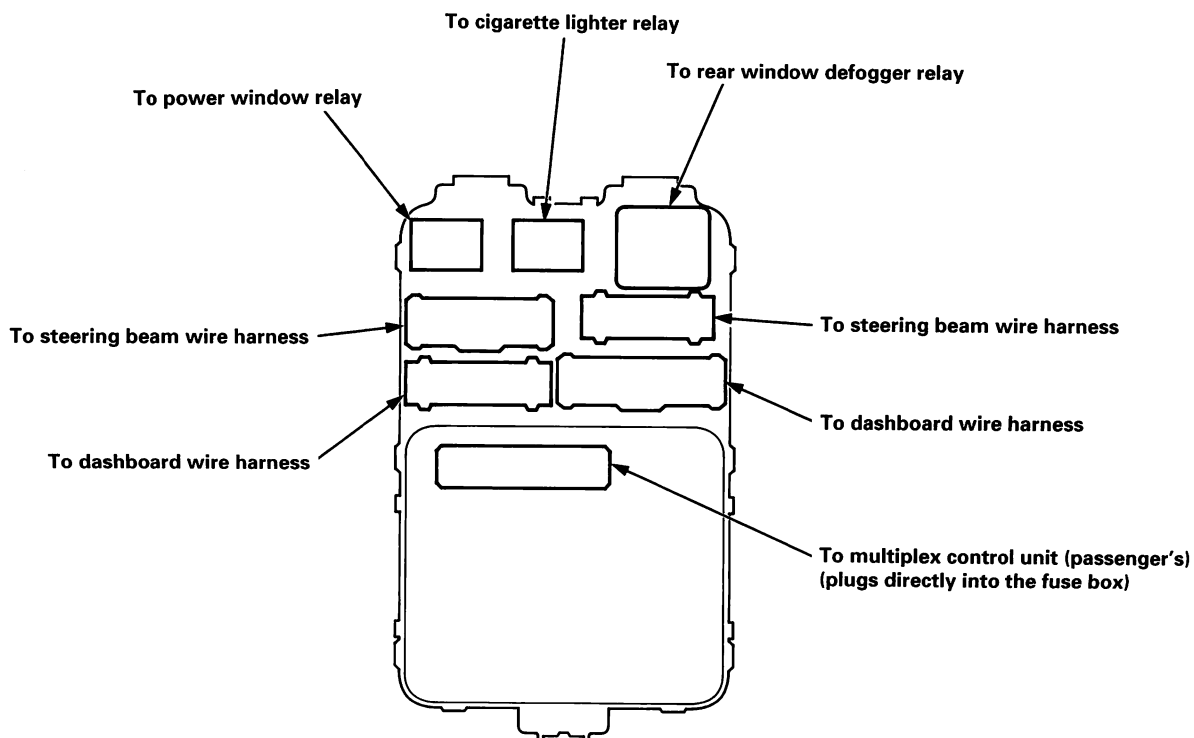
\*3: Except D16B6 engine

# Fuses

## Passenger's Under-dash Fuse/Relay Box



NOTE: View from the backside of passenger's under-dash fuse/relay box.





# **Passenger's Under-dash Fuse/Relay Box**

Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
1	20 A	GRN/WHT	Power window control unit, Driver's power window motor
2	20 A	RED	Power seat recline and rear up-down motors
3	30 A	WHT/BLK	Headlight washer control unit
4	20 A	BLU	Power seat slide and front up-down motors
5	20 A	RED/YEL	Front fog lights
		Fuse/relay box socket	Multiplex control unit (passenger's)
6	7.5 A*1	WHT/RED	ECM
	20 A*2	RED/BLU	Primary HO2S
7	20 A	WHT/GRN	Left [right] rear power window motor
8	20 A	BLU/BLK	Front passenger's power window motor
9	15 A	WHT/GRN	Audio unit
		Fuse/relay box socket	Cigarette lighter
10	20 A	WHT/BLU	BOSE amplifier
11	7.5 A	WHT/BLU	Front ceiling light, Rear ceiling light, Spotlights, Trunk light, Power antenna motor
12	20 A	WHT	Keyless door lock control unit
		Fuse/relay box socket	Multiplex control unit (passenger's)
13	7.5 A	PNK	Climate control unit, Clock, ECM/PCM, Navigation display and unit, Immobilizer indicator light, Security indicator light
		Fuse/relay box socket	Multiplex control unit (passenger's)
14	20 A	WHT/BLK	Seat heaters
15	30 A	GRN	Sunroof motor
16	20 A	WHT/BLK	Right [left] rear power window motor

[ ]: RHD

\*1: D16B6 engine

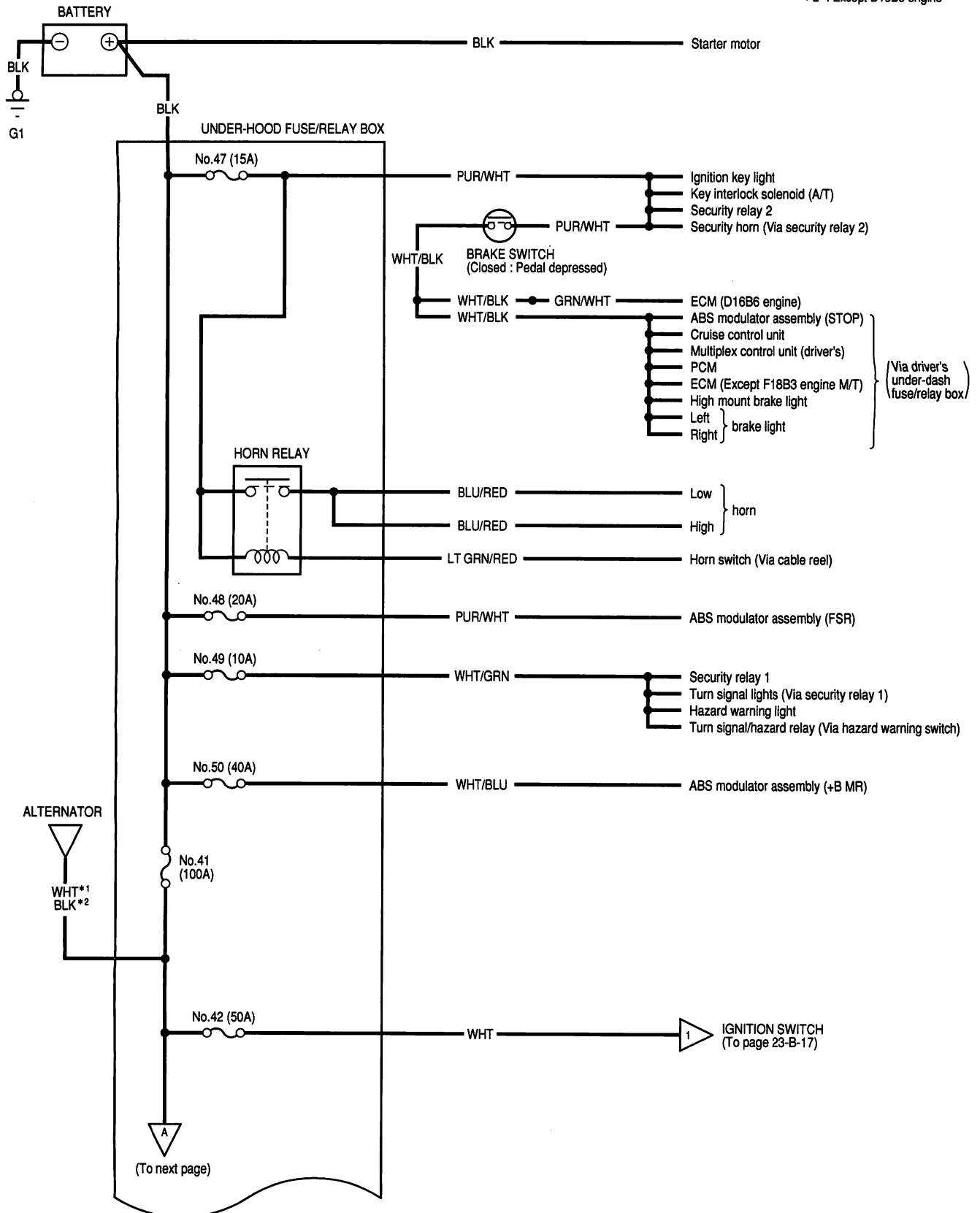
\*2: F20B6 engine



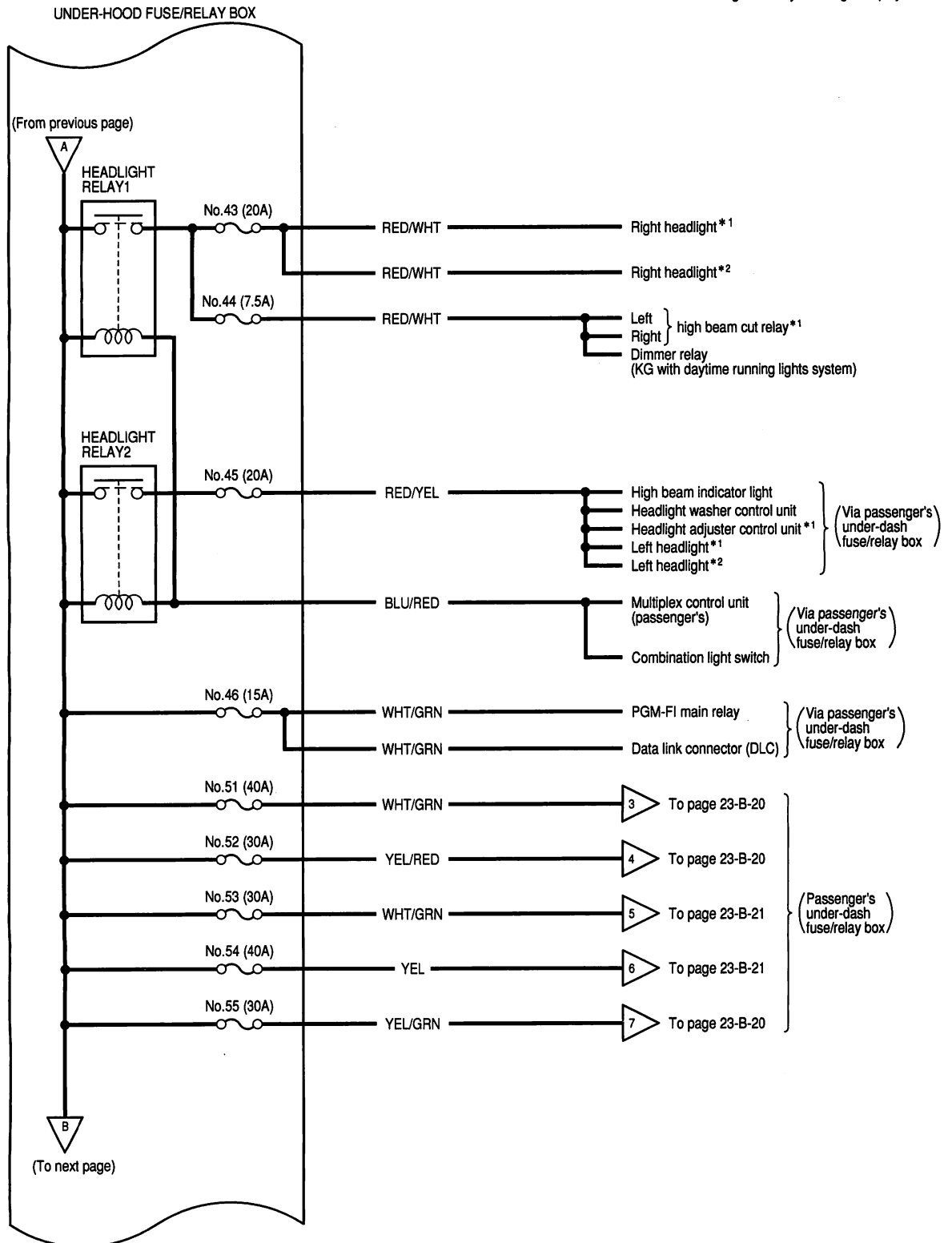
# Power Distribution

## Circuit Identification (LHD type)

\*1 : D16B6 engine  
\*2 : Except D16B6 engine



\* 1 : With high intensity discharge lamp system  
 \* 2 : Without high intensity discharge lamp system



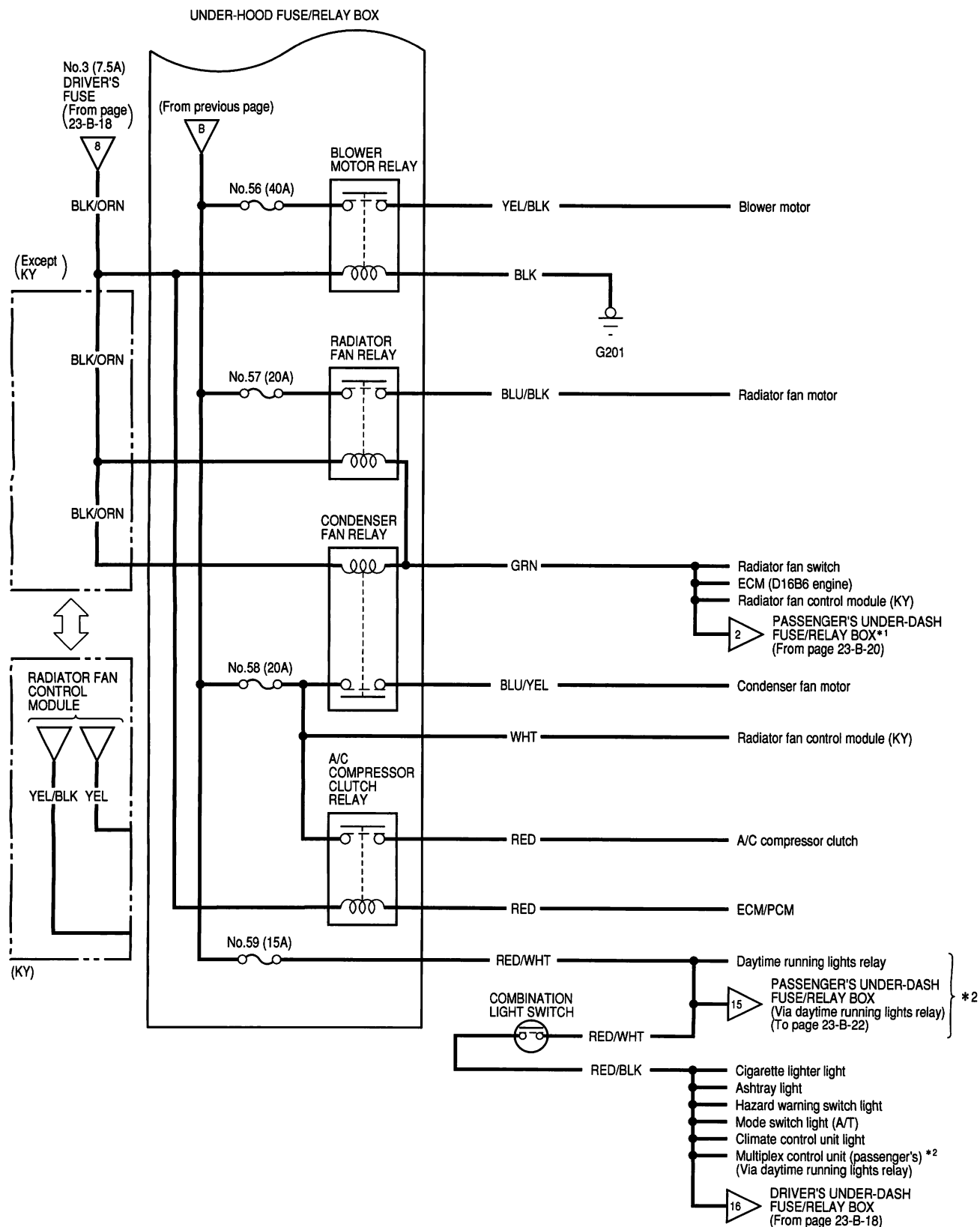
(cont'd)

# Power Distribution

## Circuit Identification (LHD type) (cont'd)

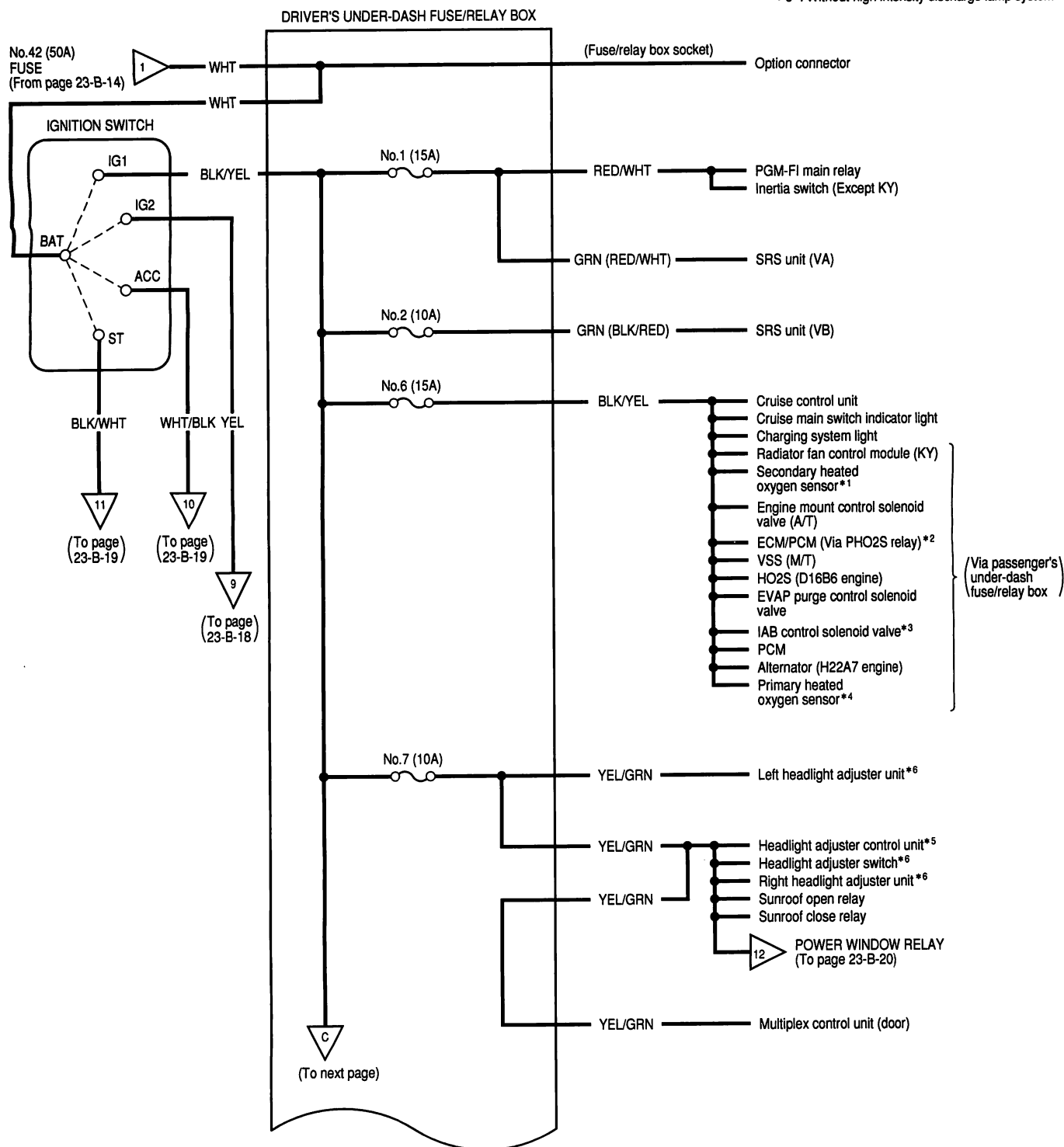
\* 1 : Except D16B6 engine

\* 2 : KG with daytime running lights system





- \*1 : F18B2 engine A/T, F20B6 engine
- \*2 : F20B6 engine
- \*3 : Except D16B6 engine
- \*4 : F18B2 engine, H22A7 engine
- \*5 : With high intensity discharge lamp system
- \*6 : Without high intensity discharge lamp system

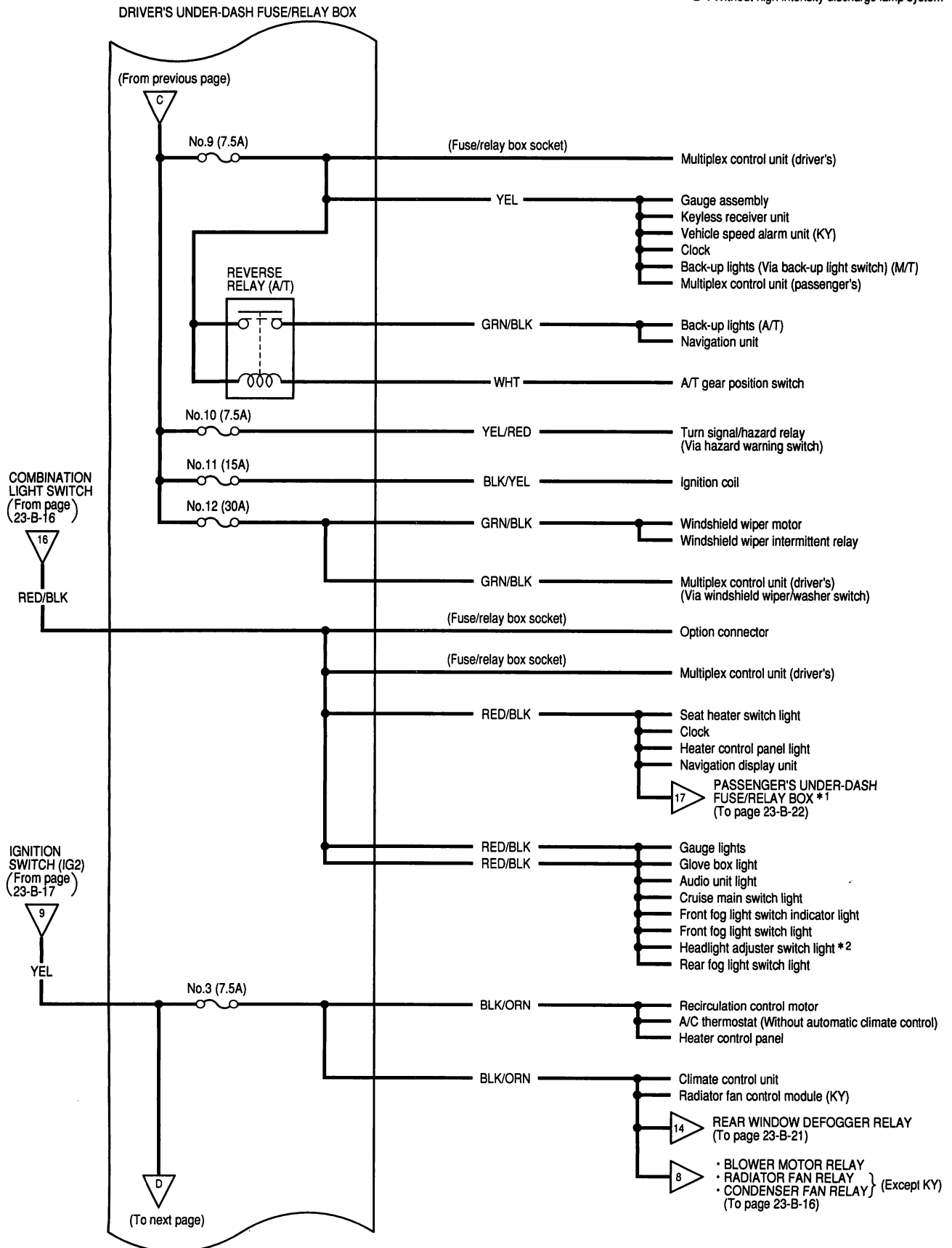


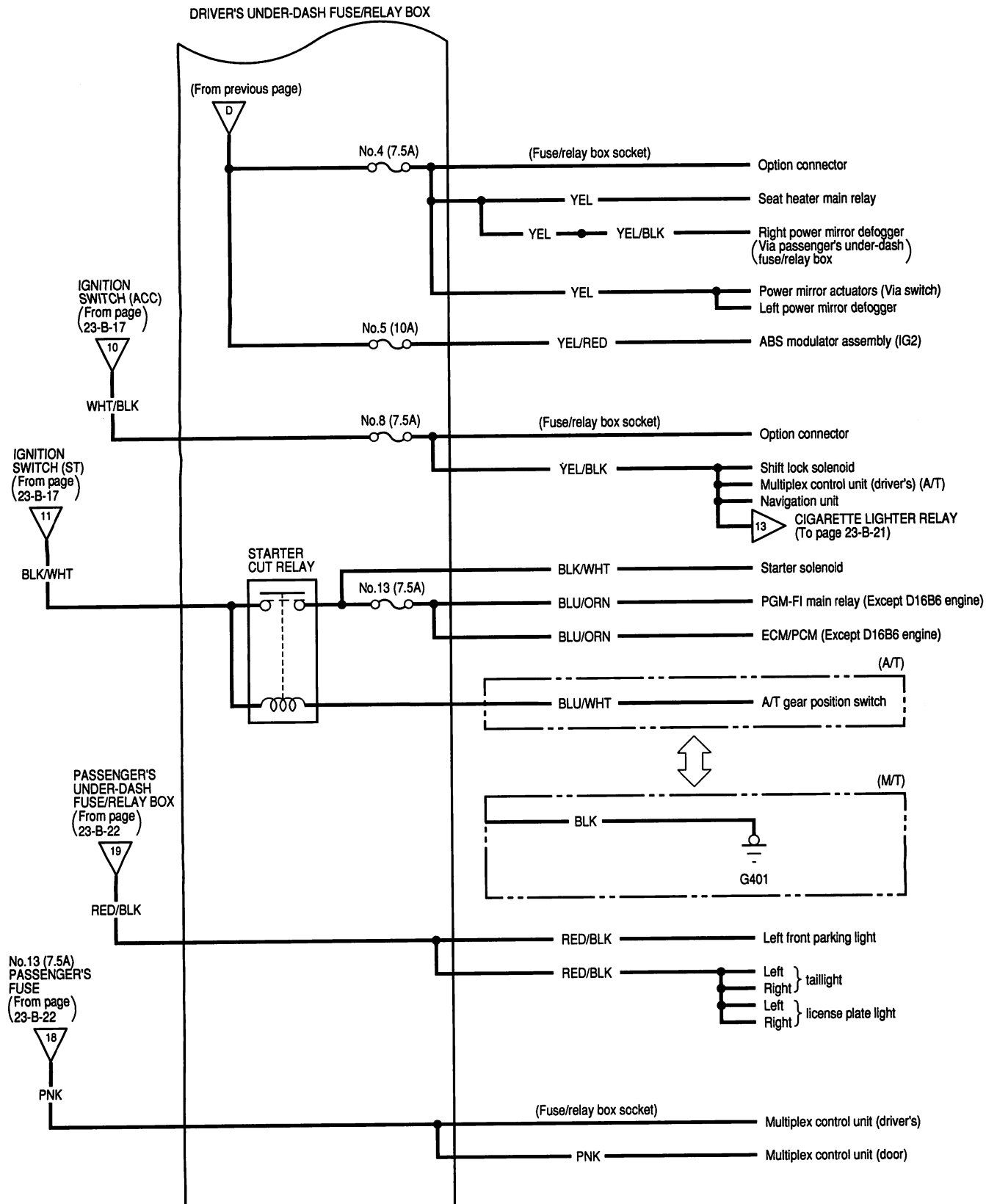
(cont'd)

# Power Distribution

## Circuit Identification (LHD type) (cont'd)

- \* 1 : Except KG with daytime running lights system  
\* 2 : Without high intensity discharge lamp system



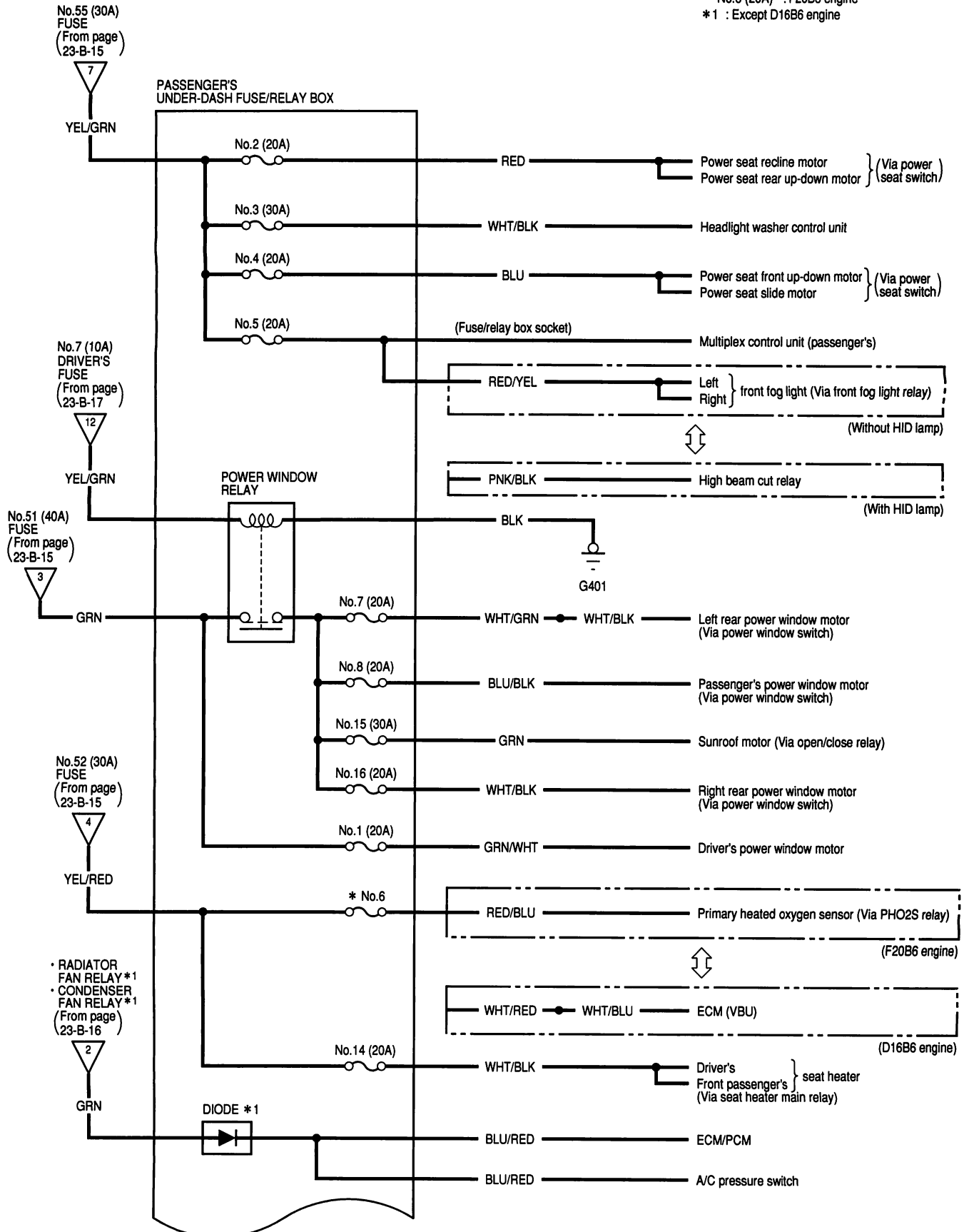


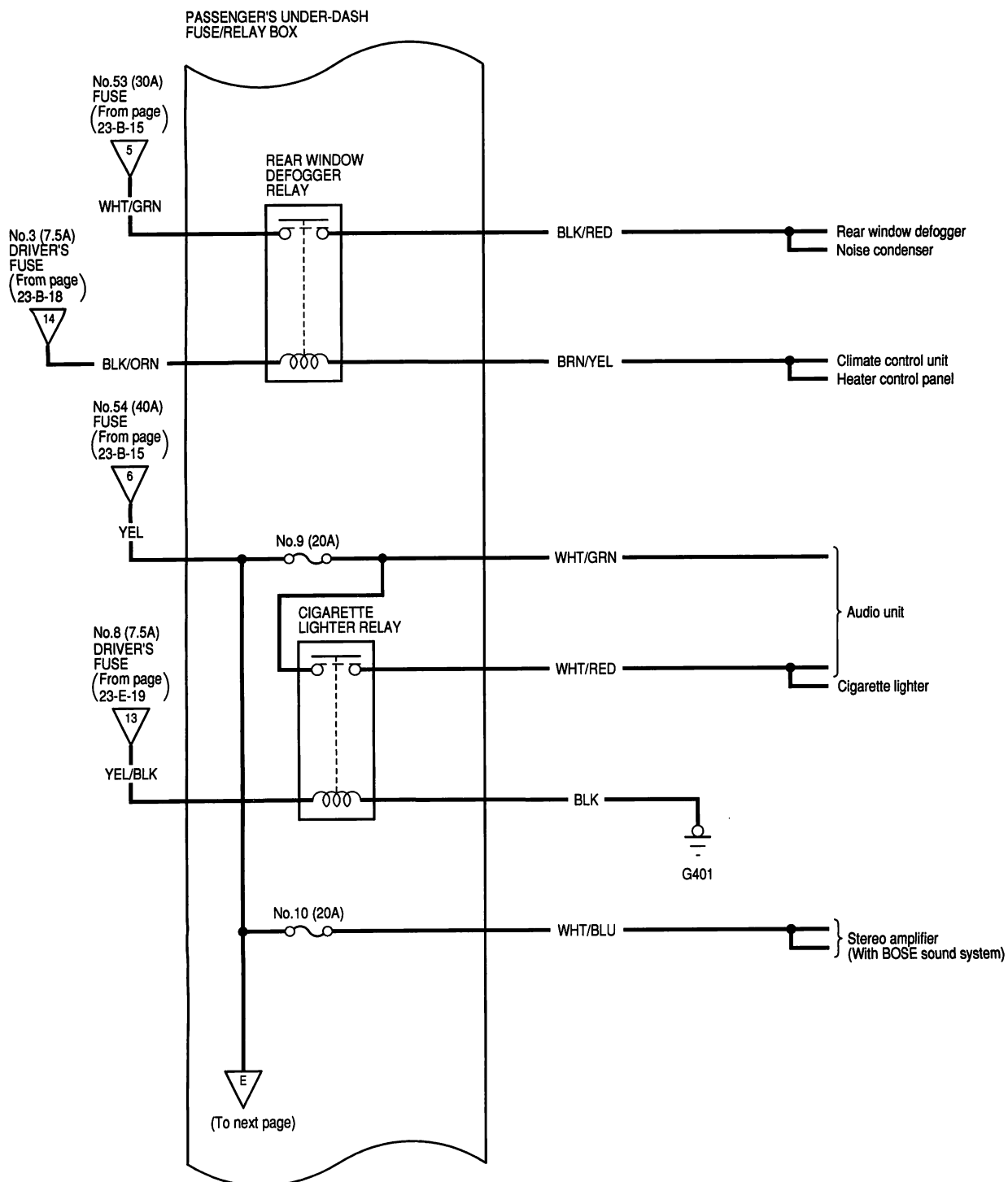
(cont'd)

# Power Distribution

## Circuit Identification (LHD type) (cont'd)

- \* No.6 (7.5A) : D16B6 engine
- No.6 (20A) : F20B6 engine
- \* 1 : Except D16B6 engine





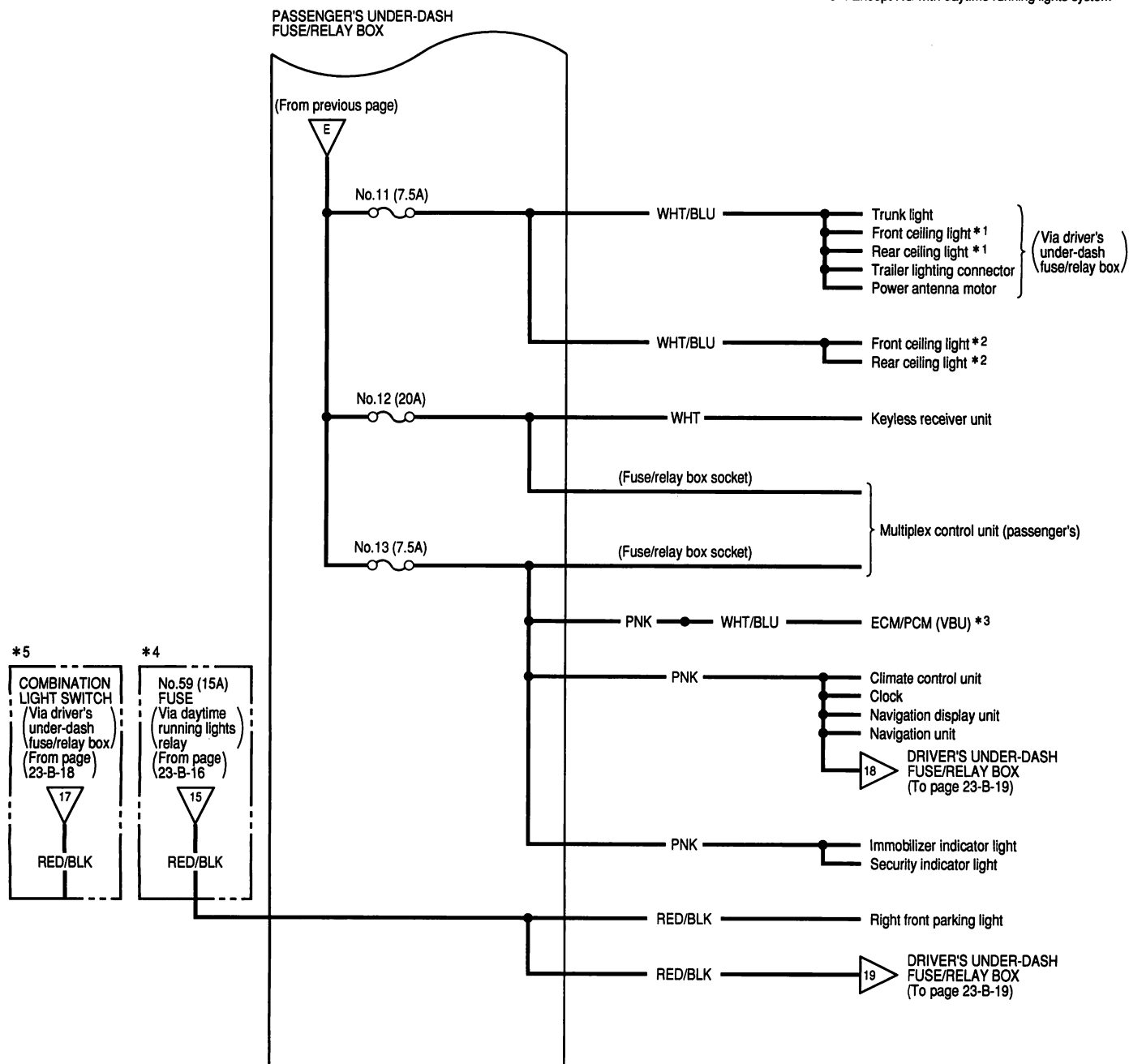
(cont'd)



# Power Distribution

## Circuit Identification (LHD type) (cont'd)

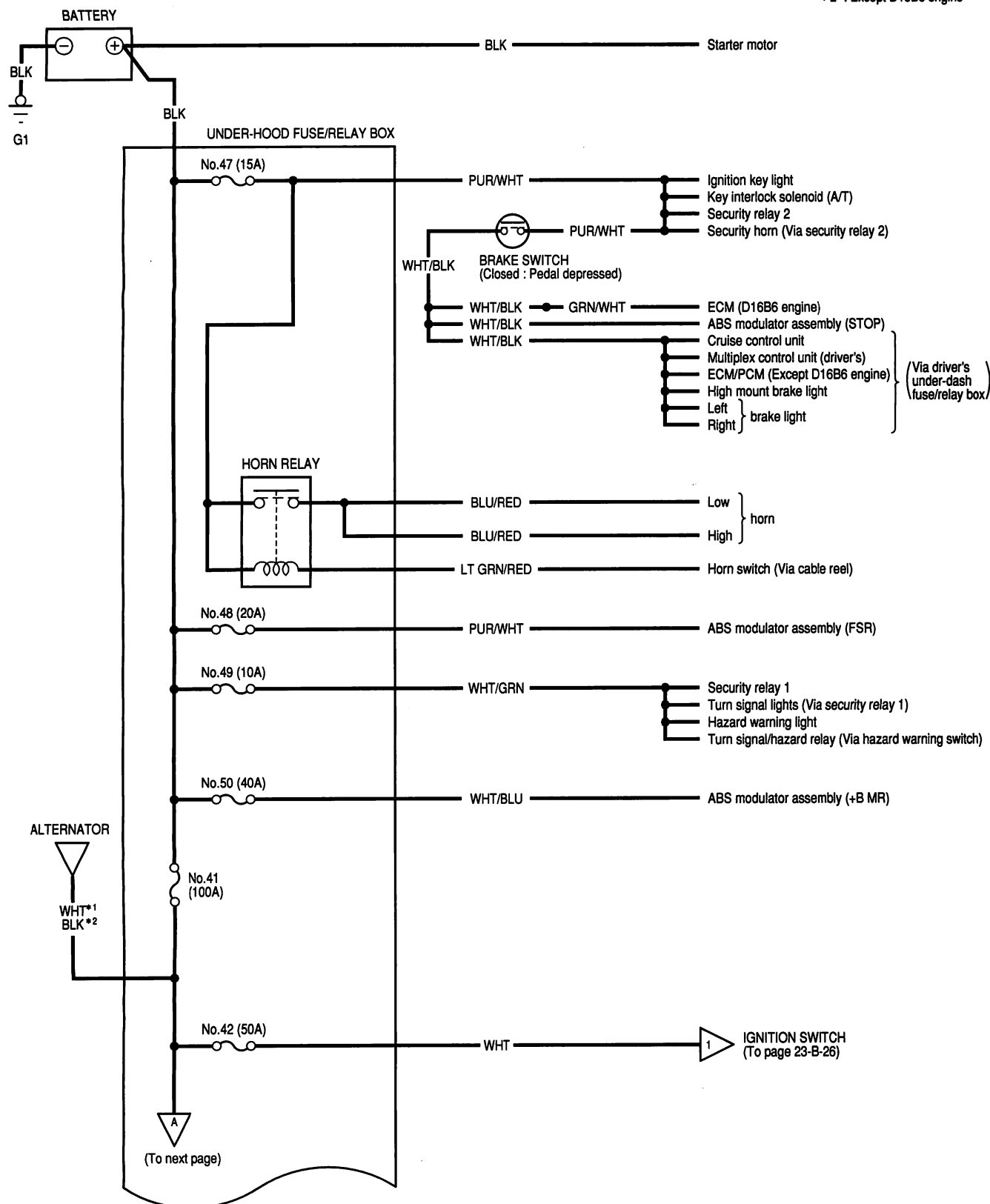
- \*1 : With sunroof
- \*2 : Without sunroof
- \*3 : Except D16B6 engine
- \*4 : KG with daytime running lights system
- \*5 : Except KG with daytime running lights system





## Circuit Identification (RHD type)

\*1 : D16B6 engine  
\*2 : Except D16B6 engine

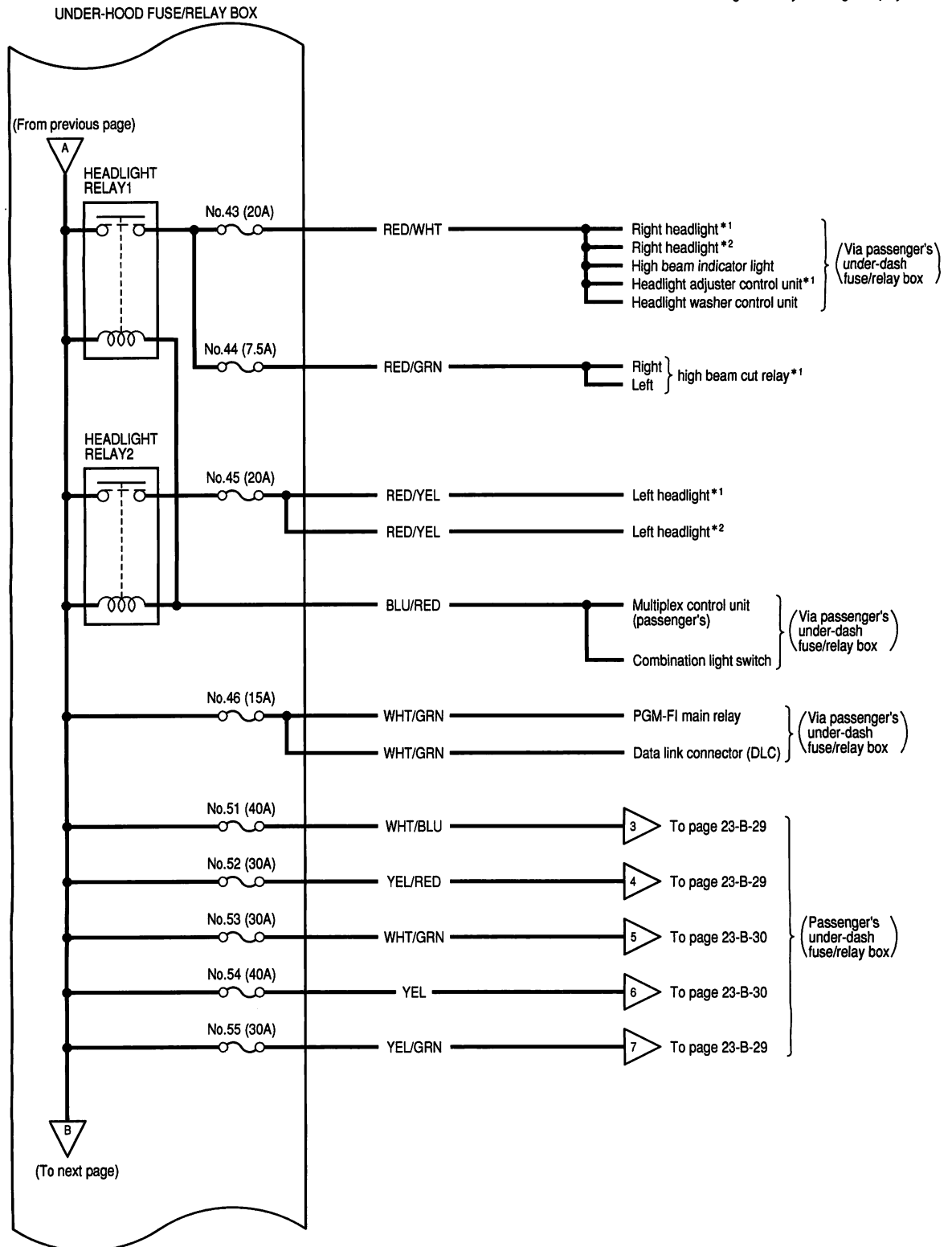


(cont'd)

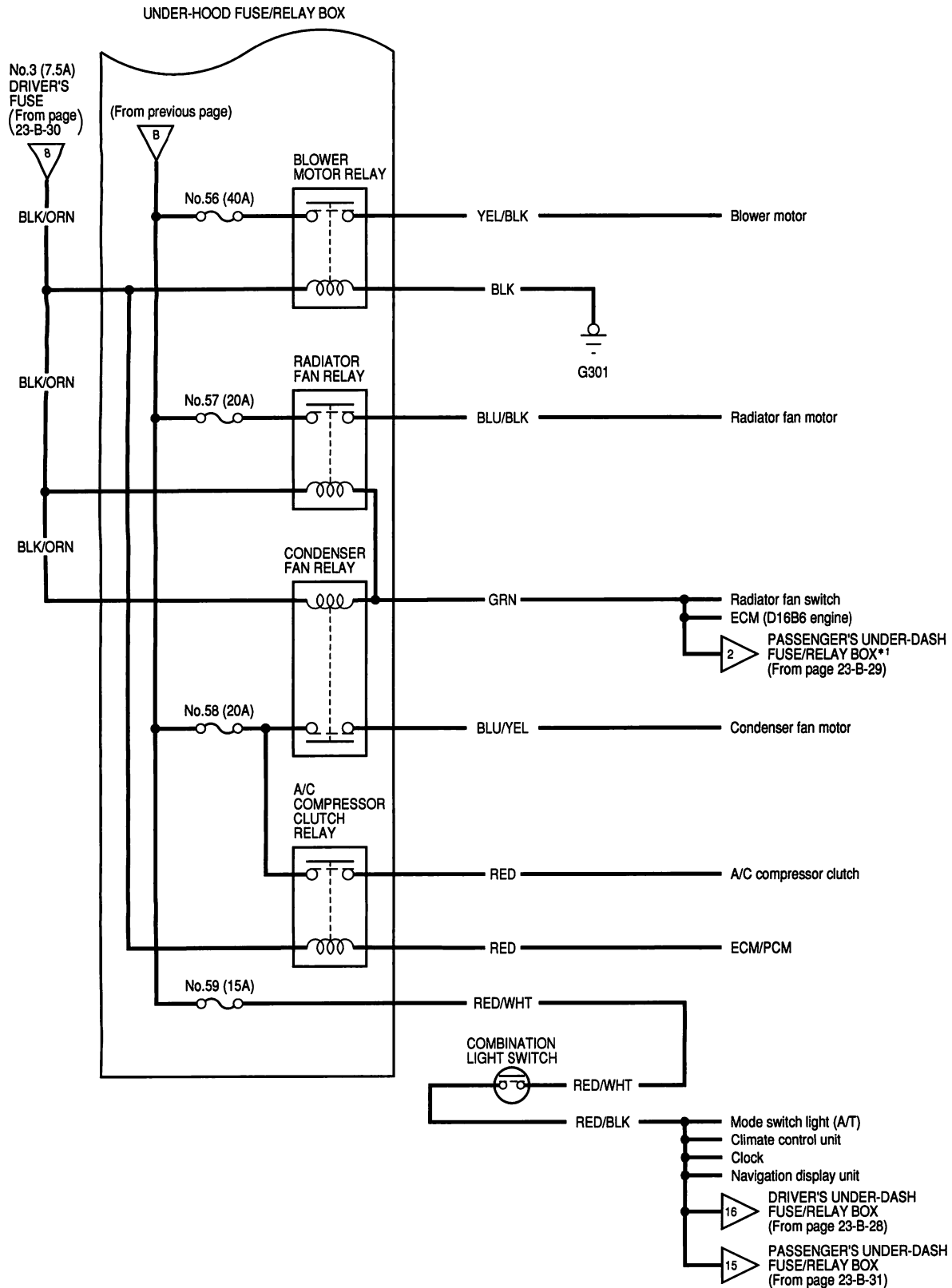
# Power Distribution

## Circuit Identification (RHD type) (cont'd)

- \*1 : With high intensity discharge lamp system  
\*2 : Without high intensity discharge lamp system



\*1 : Except D16B6 engine

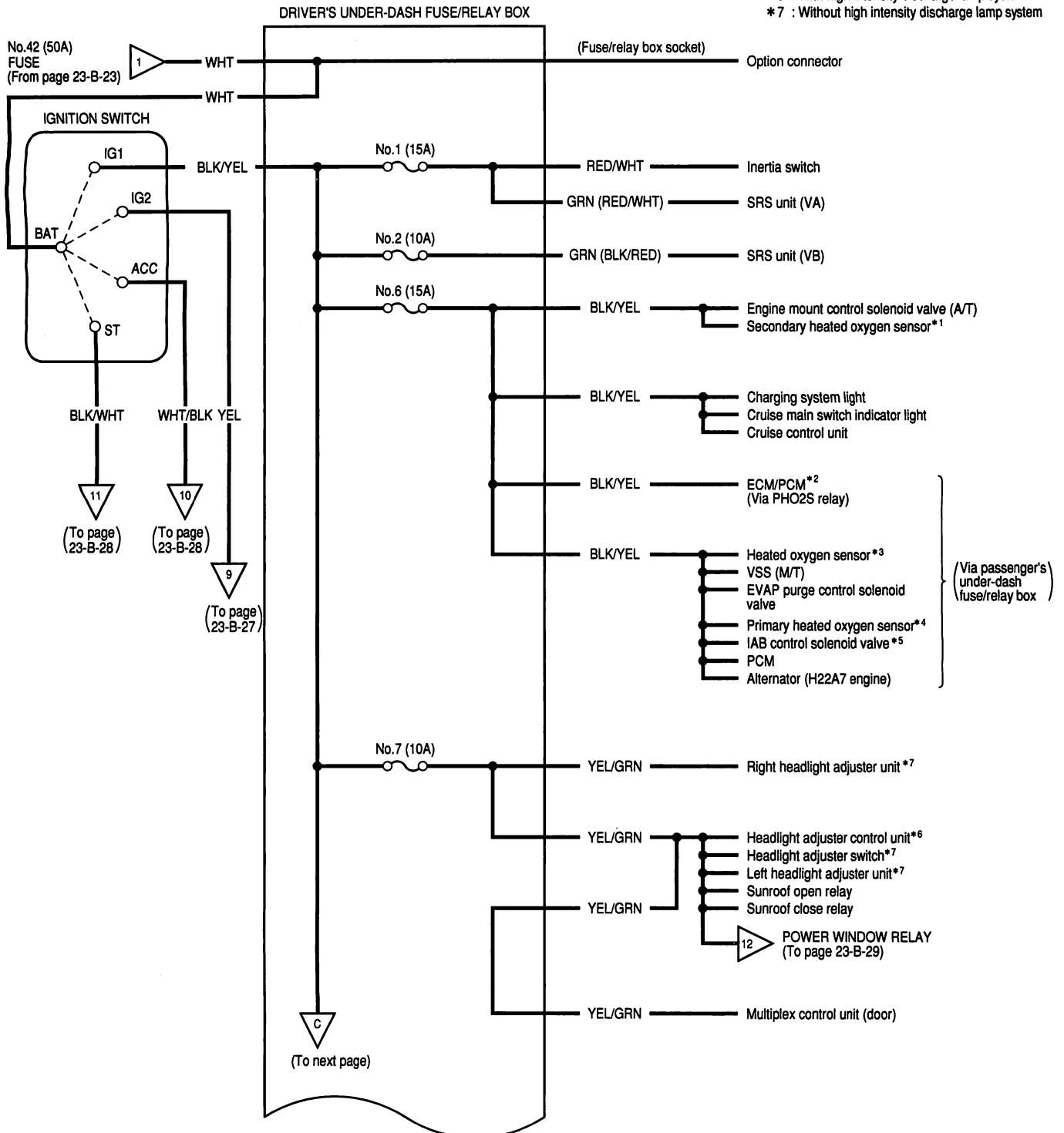


(cont'd)

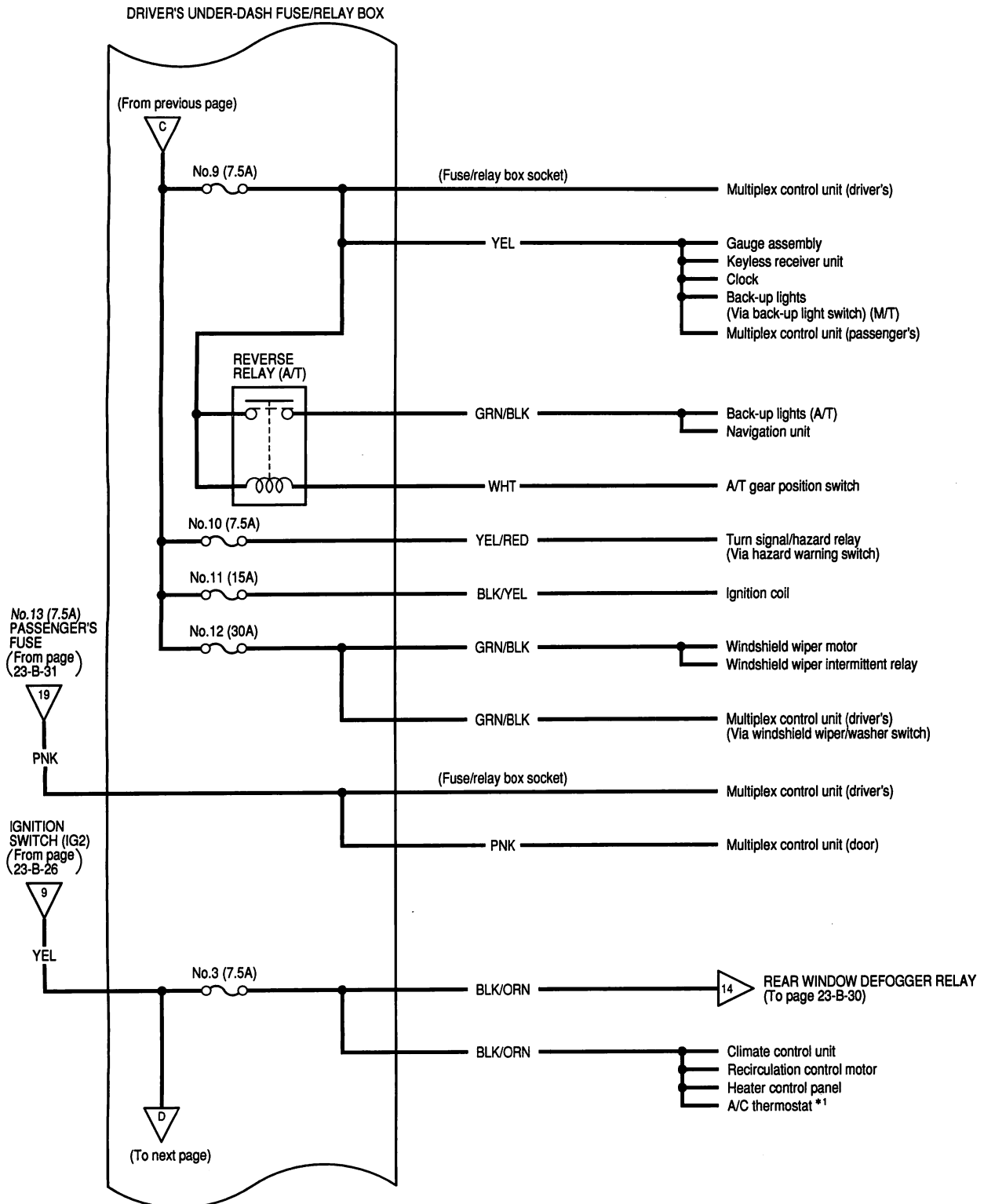
# Power Distribution

## Circuit Identification (RHD type) (cont'd)

- \*1 : F20B6 engine, H22A7 engine
- \*2 : F20B6 engine
- \*3 : D16B6 engine
- \*4 : F18B2 engine, H22A7 engine
- \*5 : Except D16B6 engine
- \*6 : With high intensity discharge lamp system
- \*7 : Without high intensity discharge lamp system



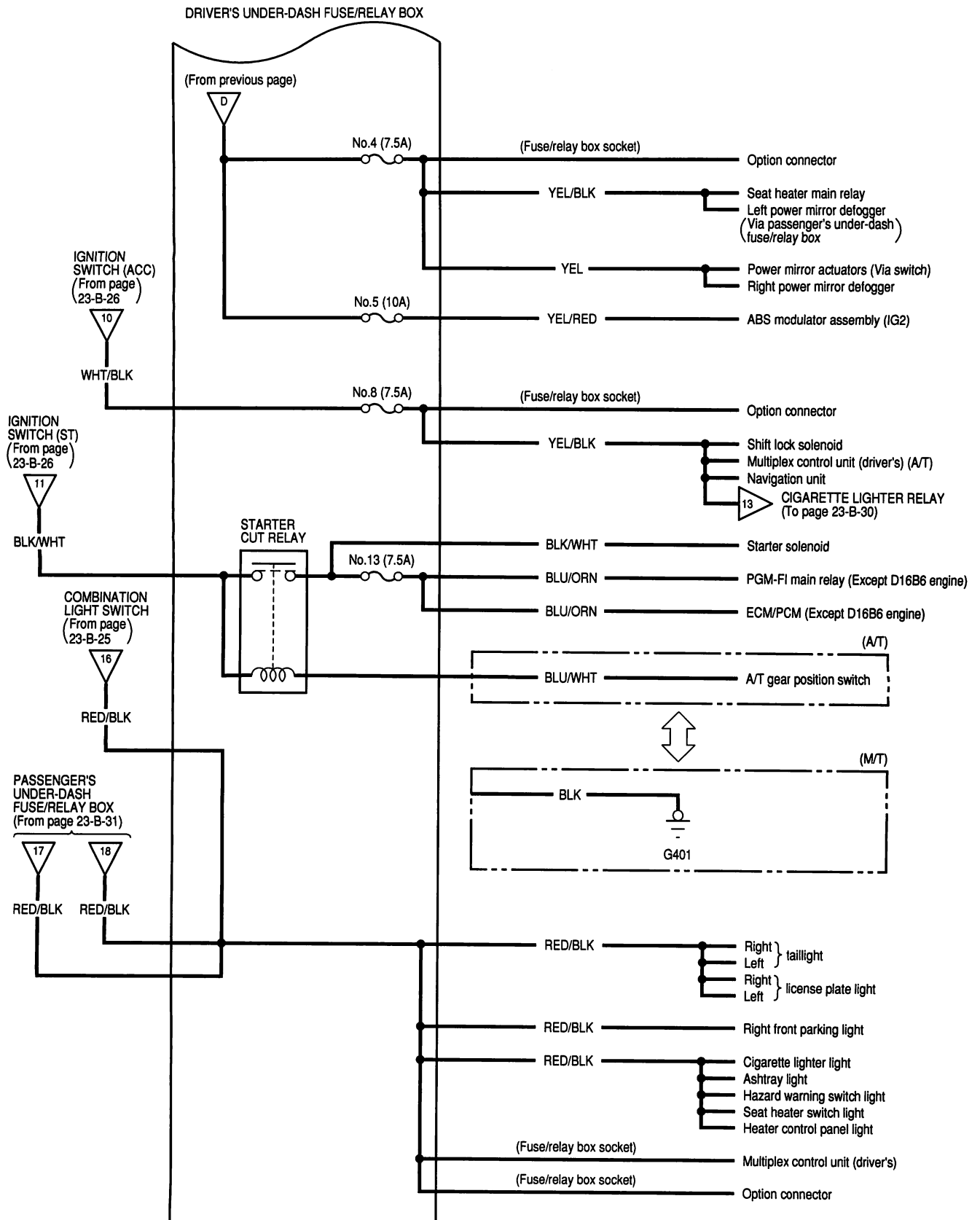
\* 1 : Without climate control unit

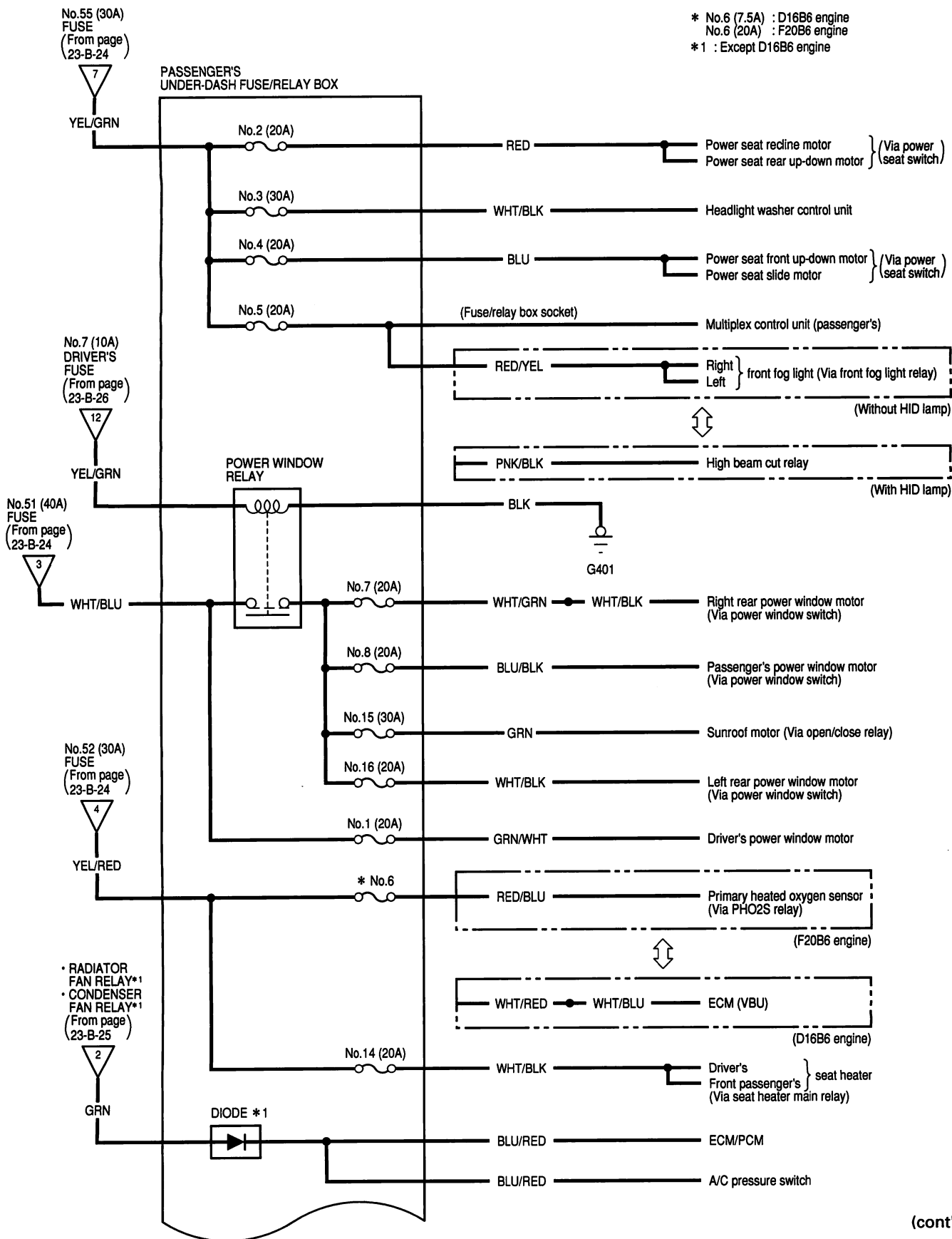


(cont'd)

# Power Distribution

## Circuit Identification (RHD type) (cont'd)



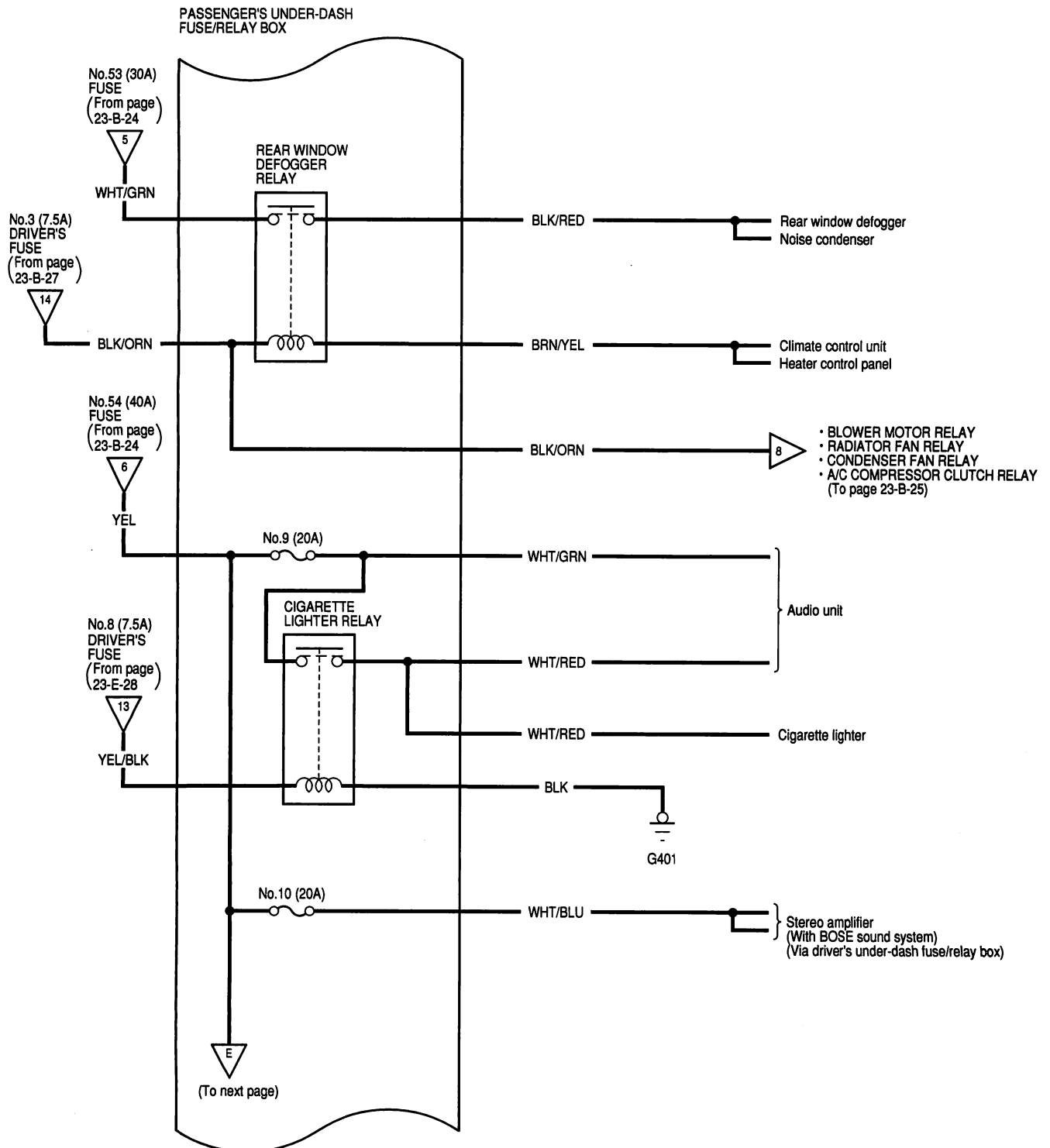


(cont'd)



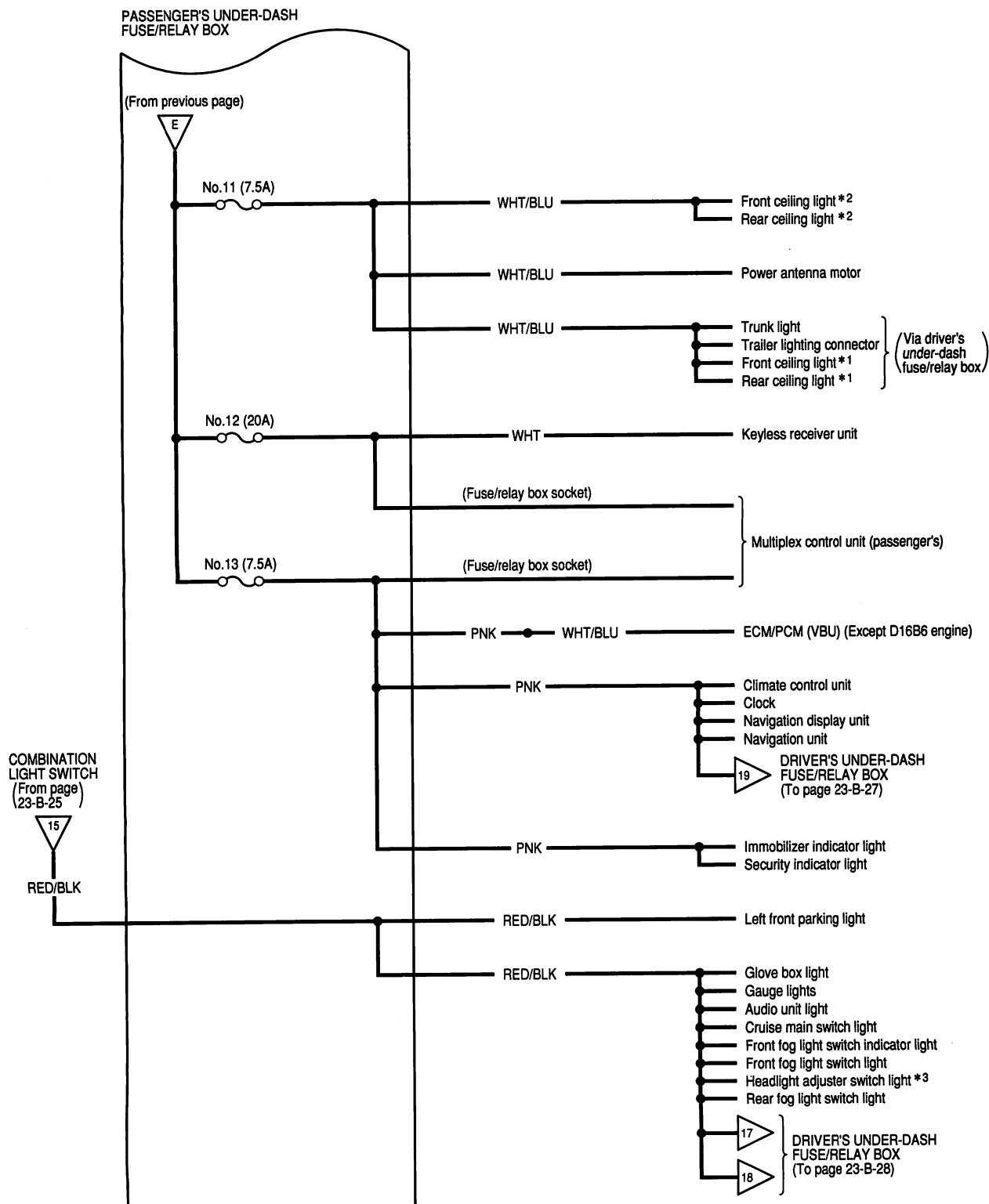
# Power Distribution

## Circuit Identification (RHD type) (cont'd)



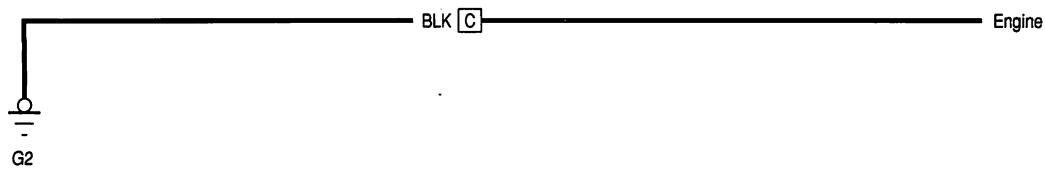


- \* 1 : With sunroof
- \* 2 : Without sunroof
- \* 3 : Without high intensity discharge lamp system



# Ground Distribution

## Circuit Identification

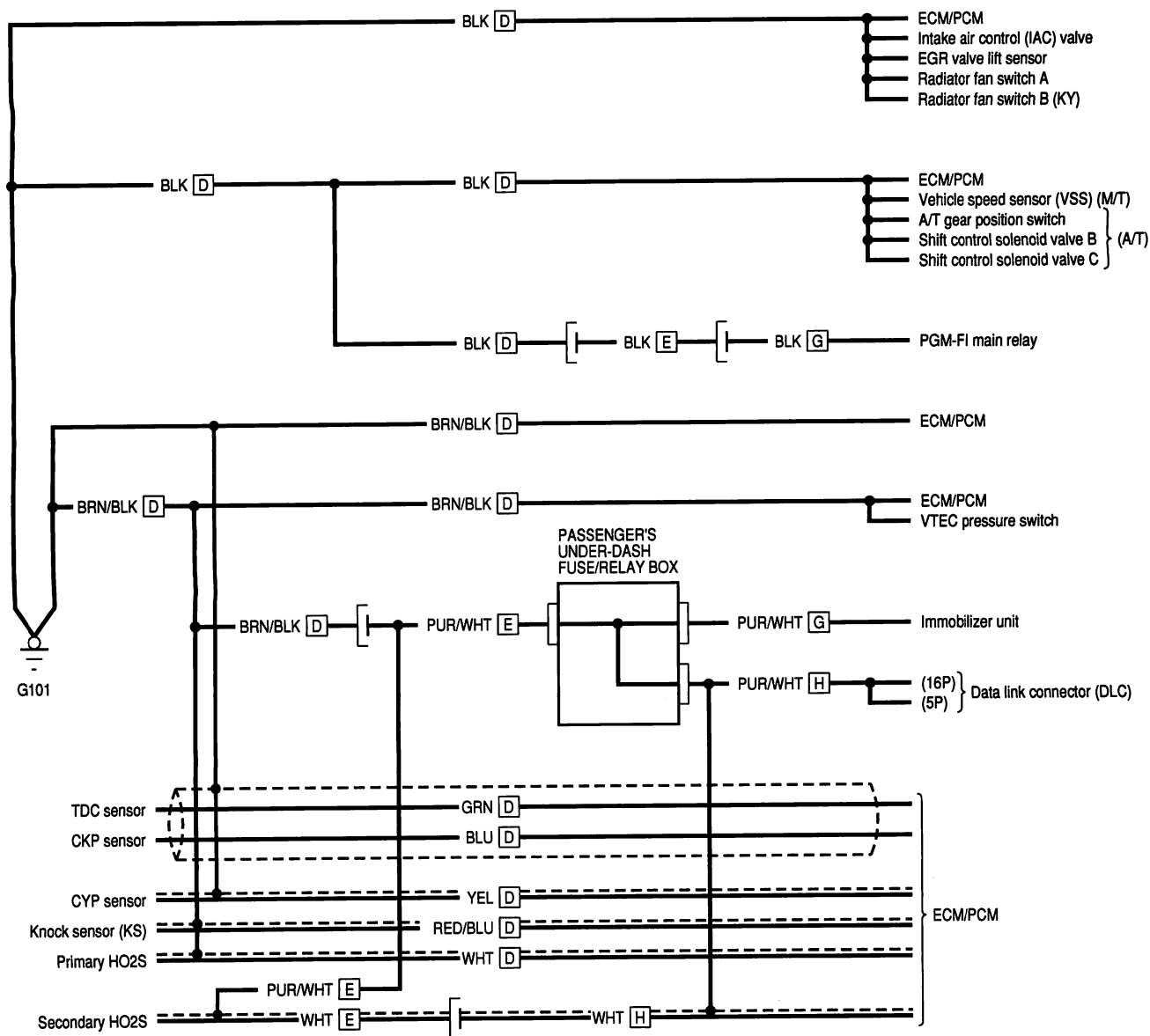


- B** : Battery ground cables
- C** : Engine ground cable



## Circuit Identification (LHD type)

F18B2, F18B3, F20B6, H22A7 engines:



[D] : Engine wire harness

[E] : Right engine compartment wire harness

[G] : Steering beam wire harness

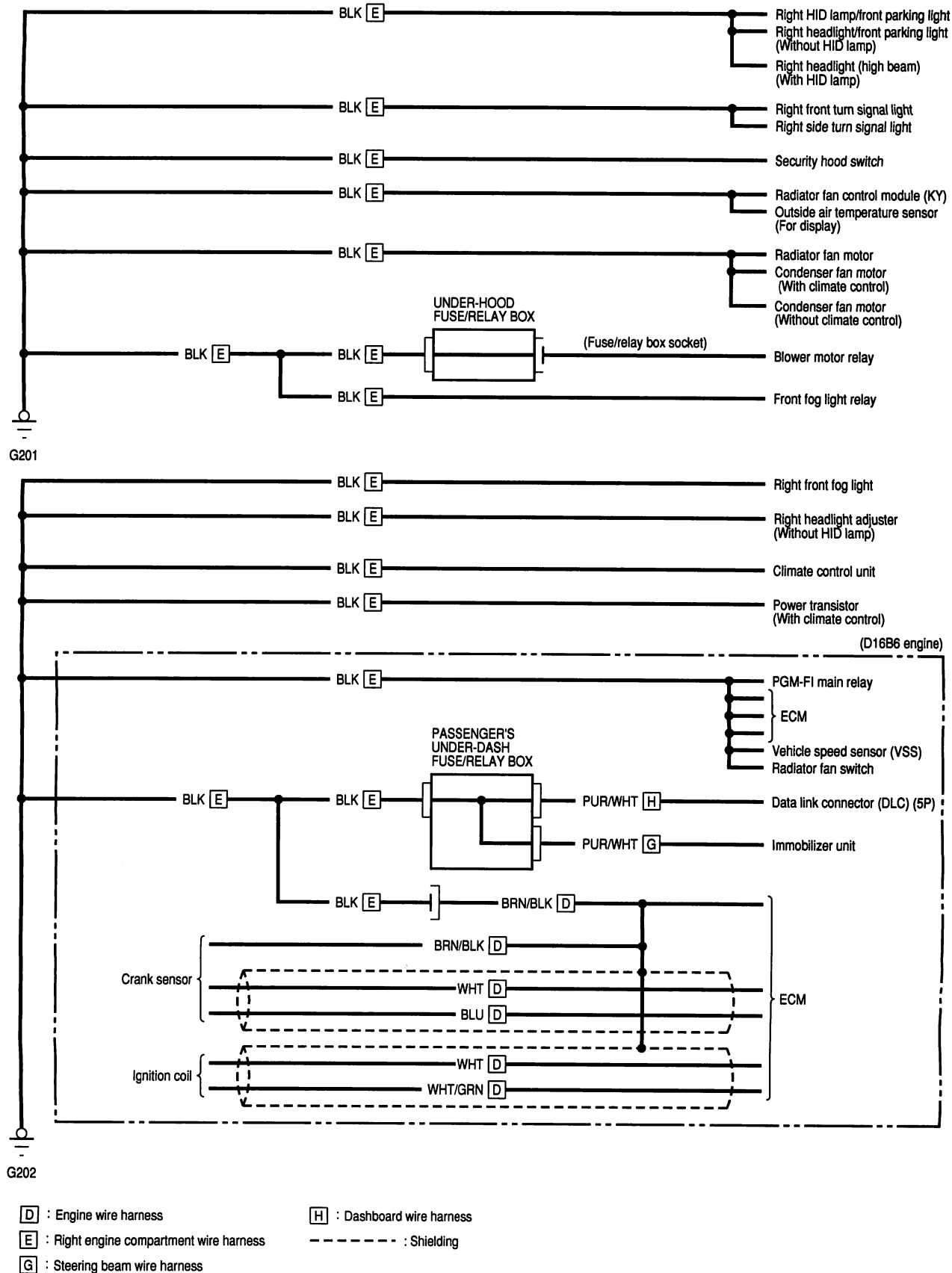
[H] : Dashboard wire harness

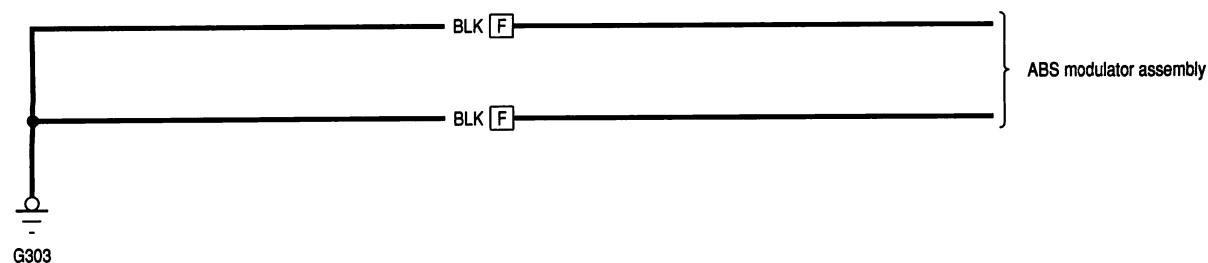
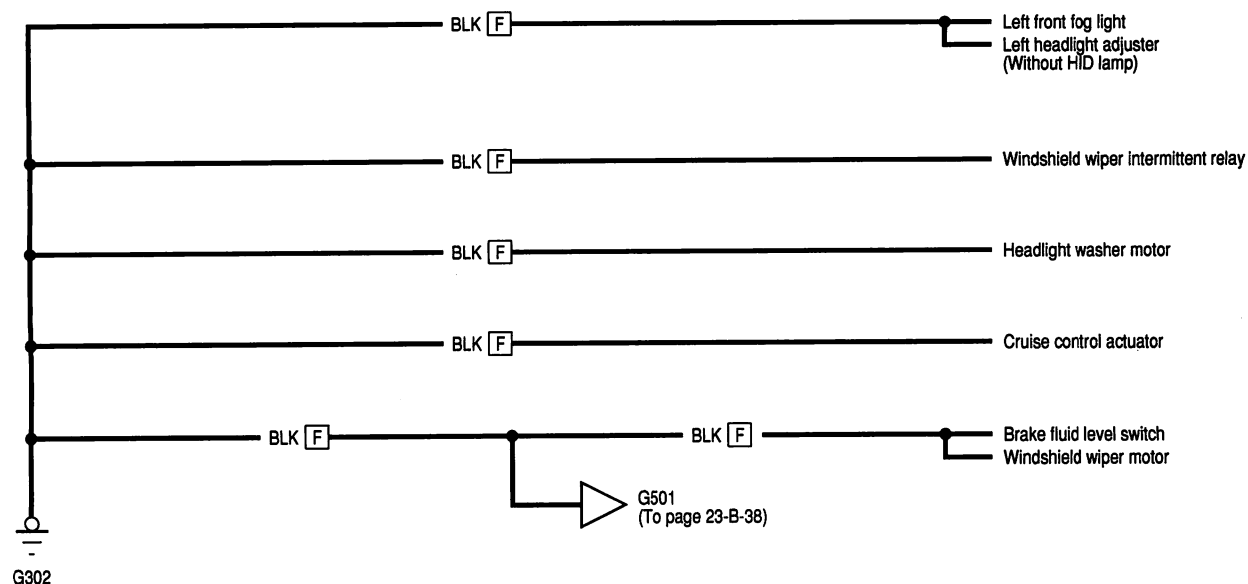
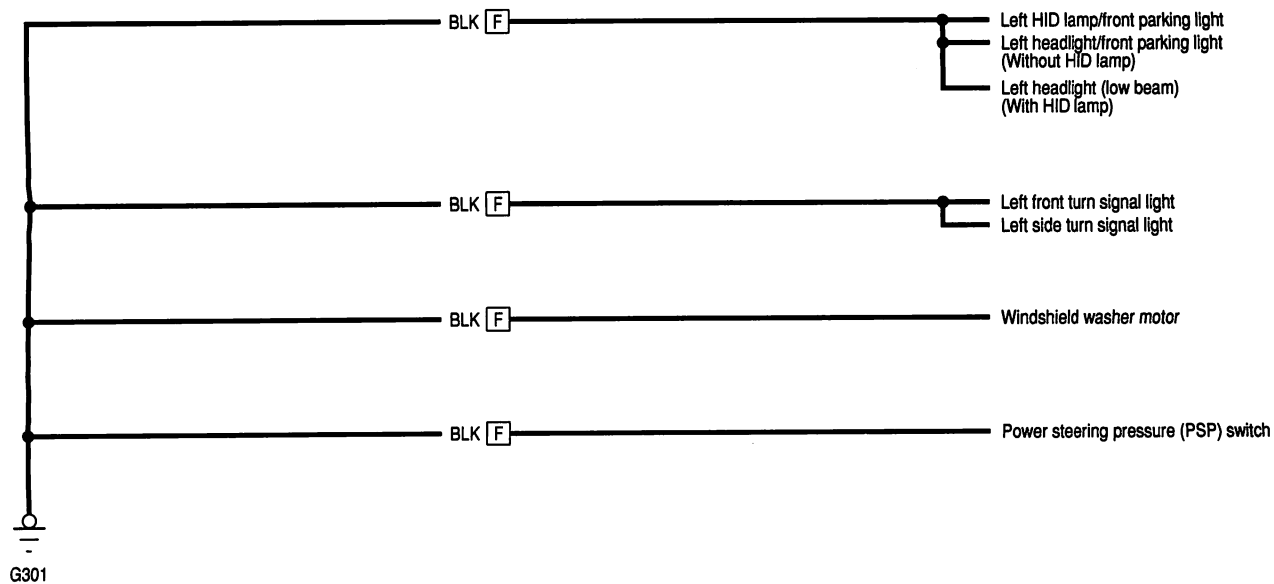
----- : Shielding

(cont'd)

# Ground Distribution

## Circuit Identification (LHD type) (cont'd)



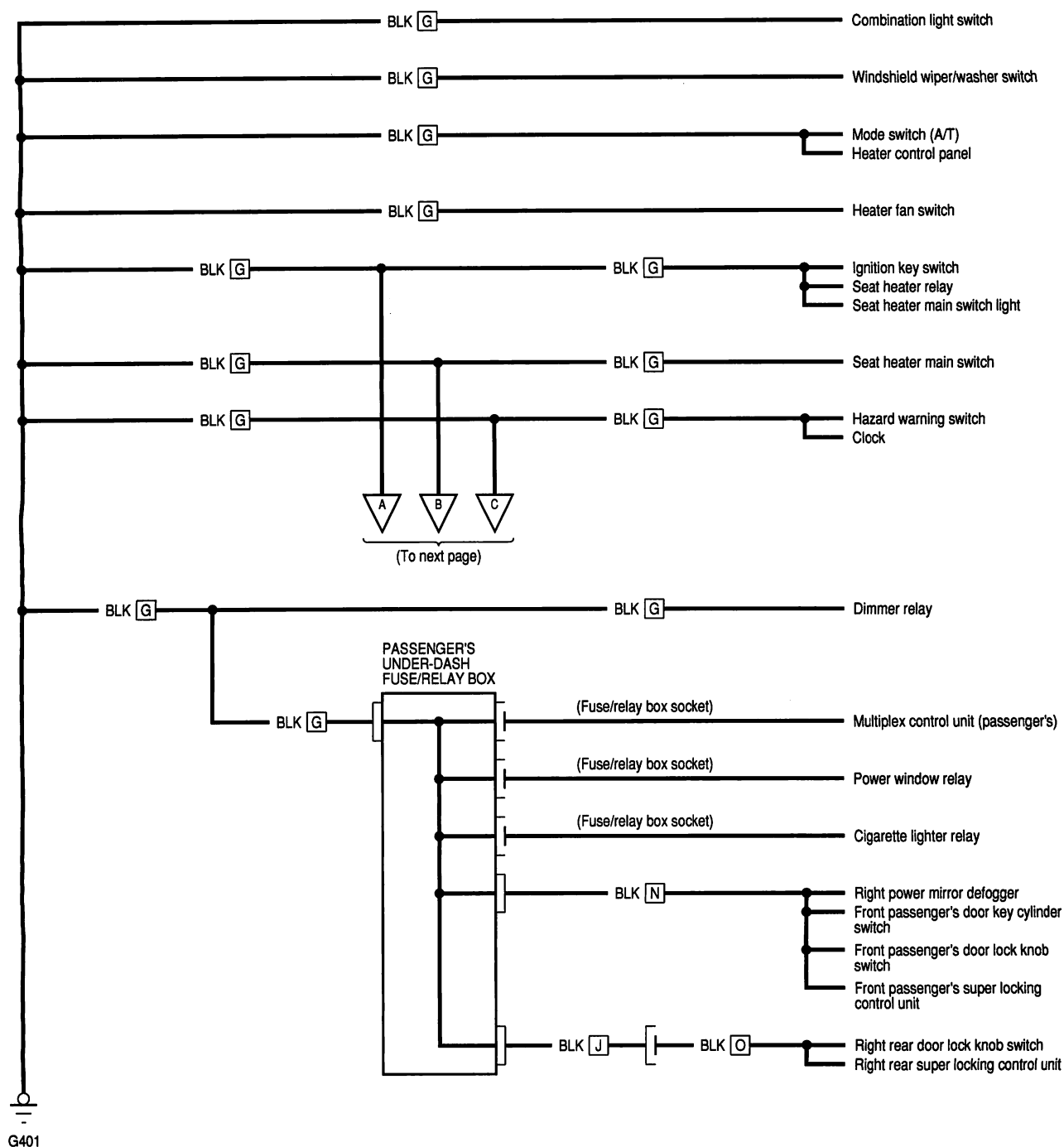


[F] : Left engine compartment wire harness

(cont'd)

# Ground Distribution

## Circuit Identification (LHD type) (cont'd)

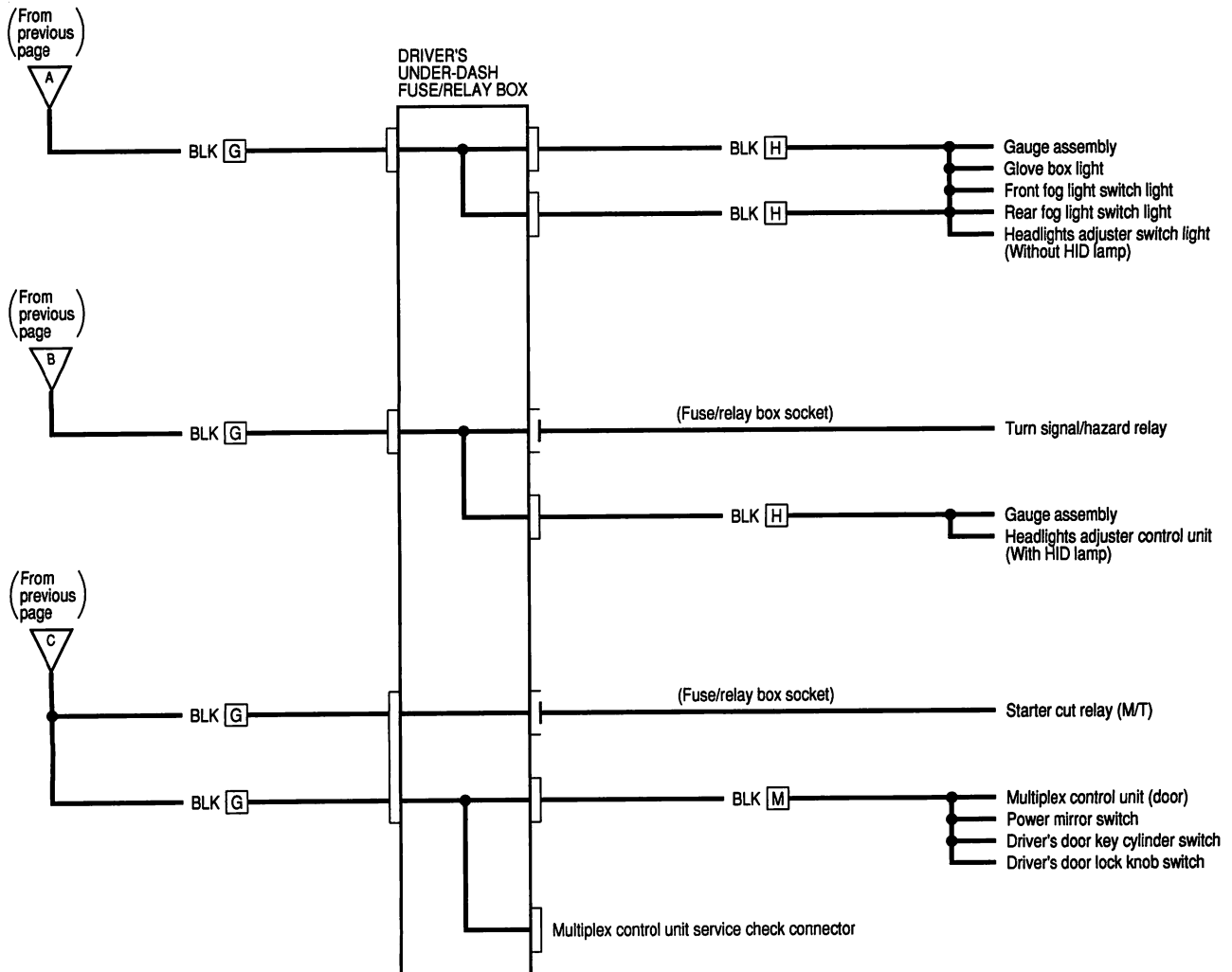
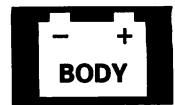


[G] : Steering beam wire harness

[J] : Front passenger's side wire harness

[N] : Front passenger's door wire harness

[O] : Right rear door wire harness



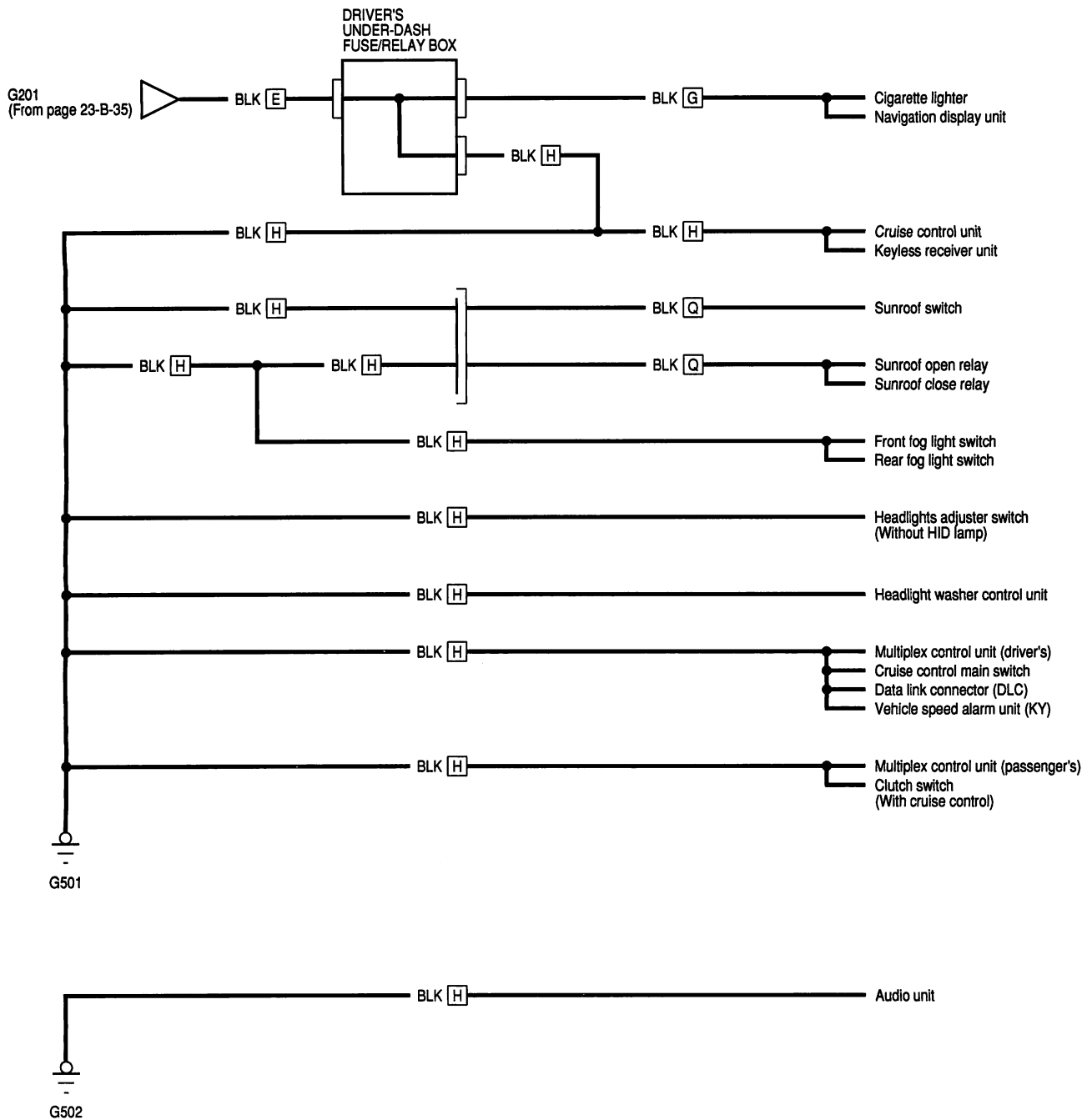
- [G] : Steering beam wire harness  
[H] : Dashboard wire harness  
[M] : Driver's door wire harness

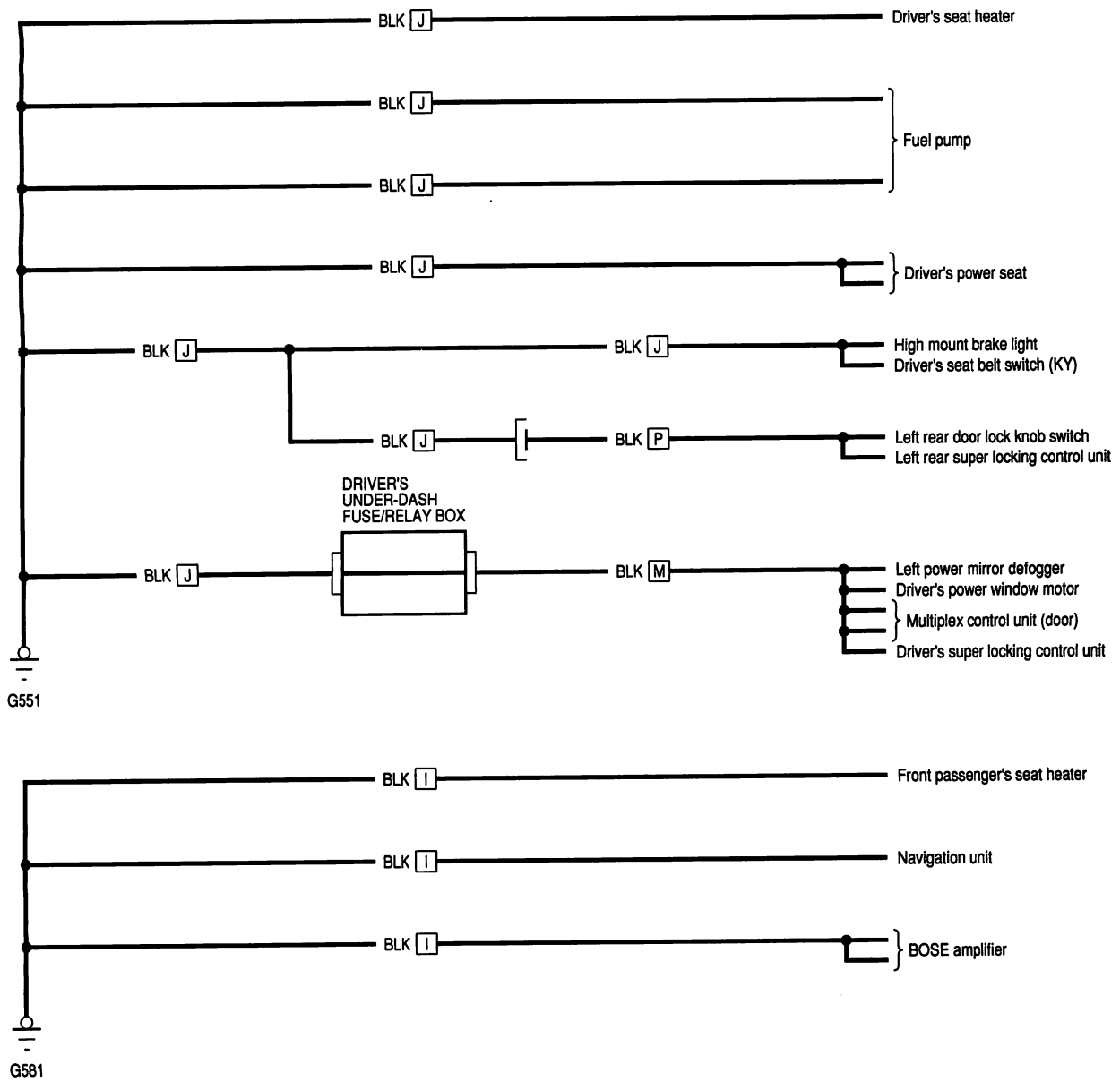
(cont'd)



# Ground Distribution

## Circuit Identification (LHD type) (cont'd)

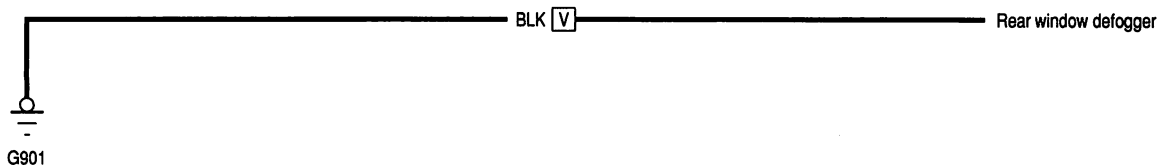
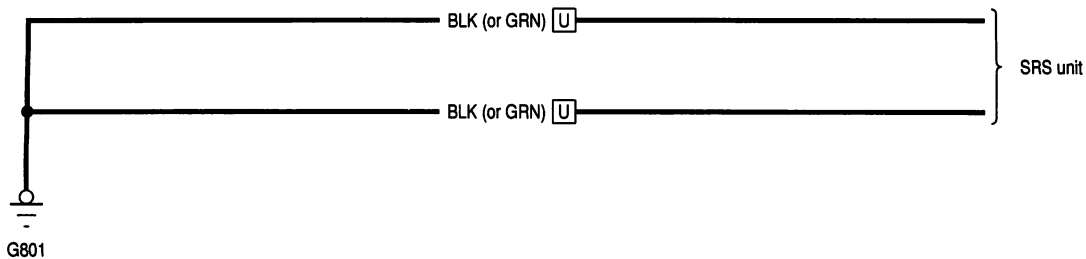




(cont'd)

# Ground Distribution

## Circuit Identification (LHD type) (cont'd)

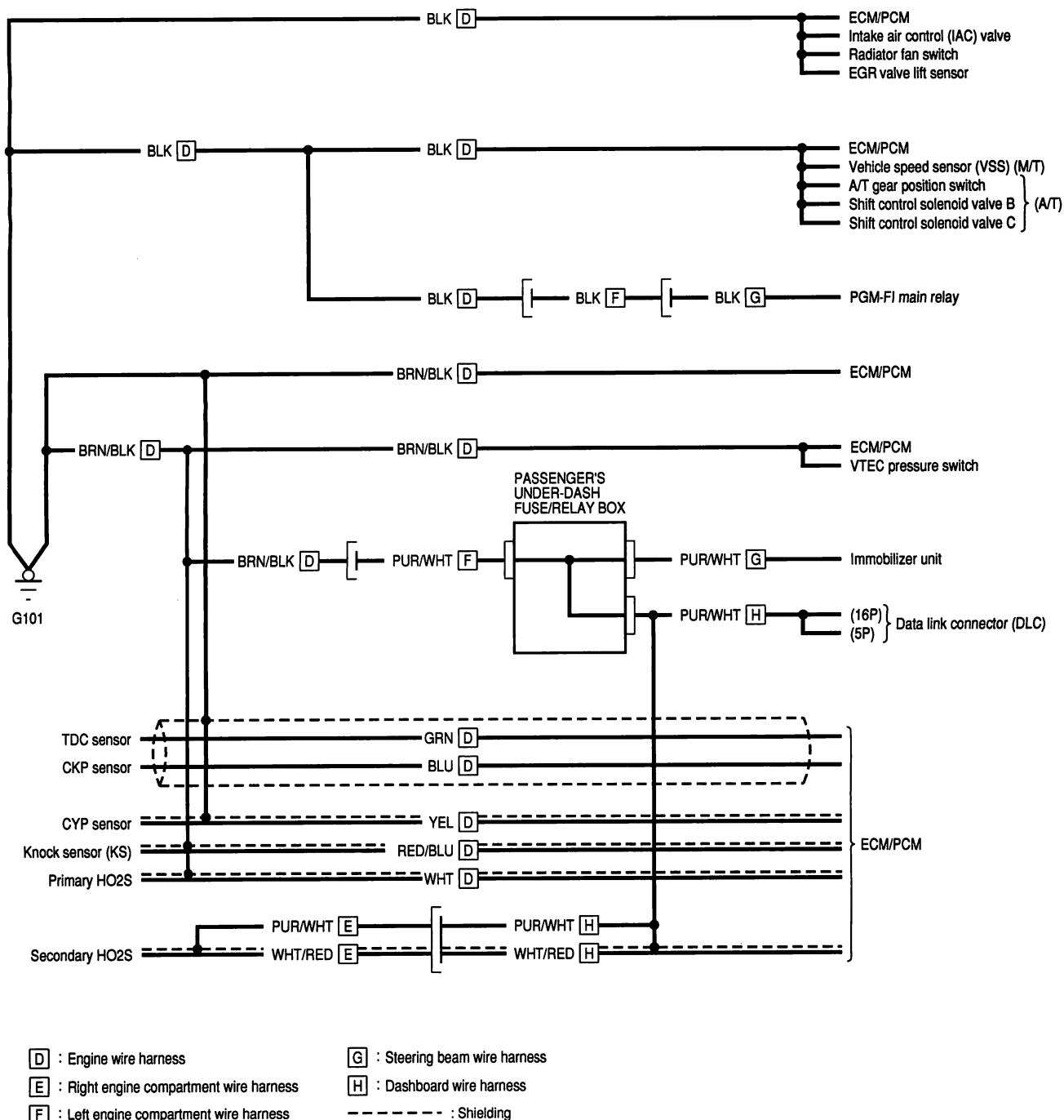


- K : Rear wire harness
- U : SRS main harness
- V : Rear window defogger ground wire



## Circuit Identification (RHD type)

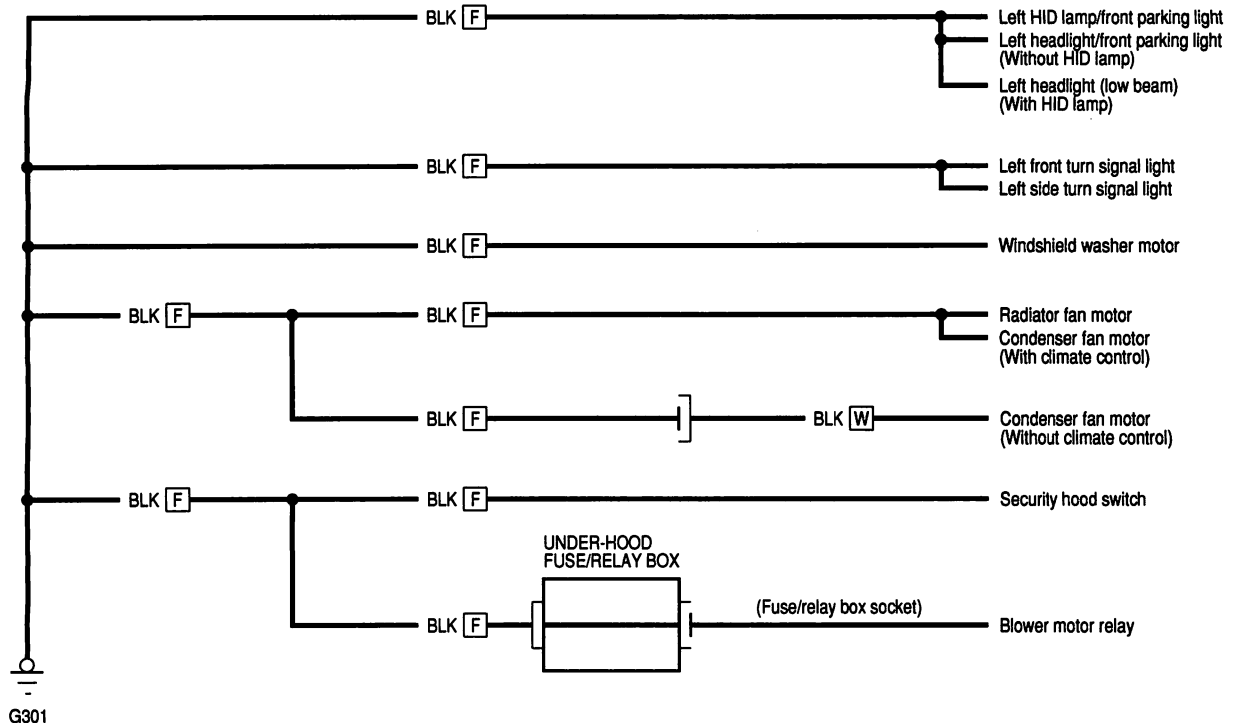
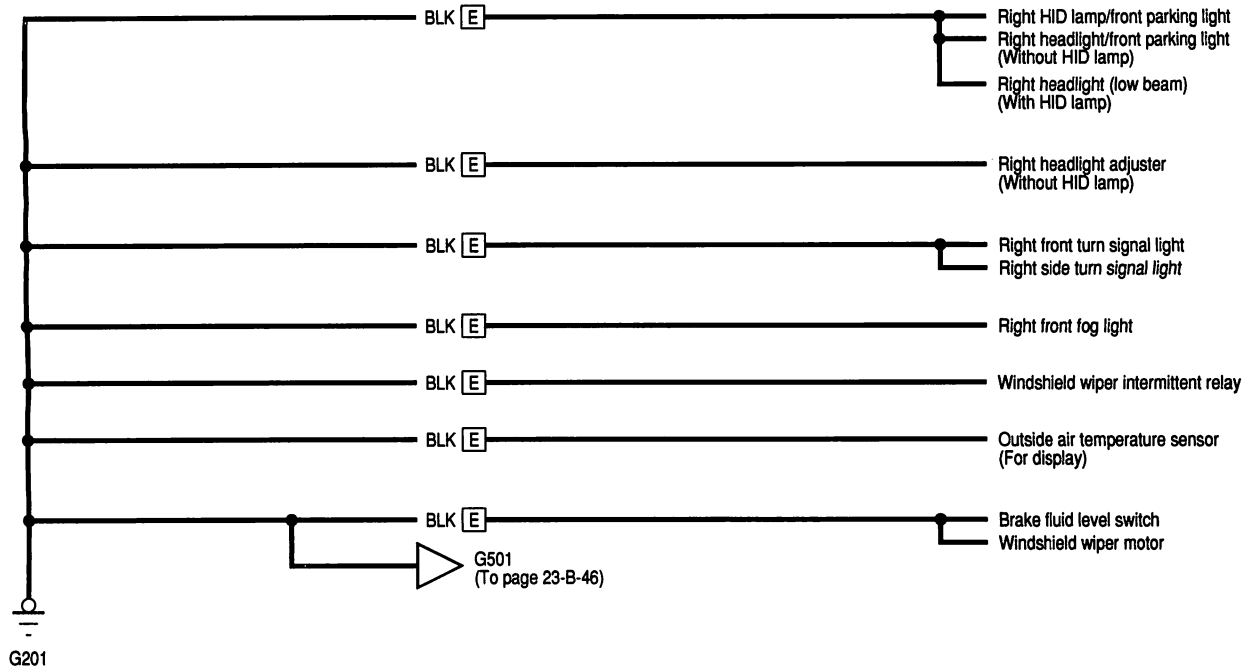
F18B2, F20B6, H22A7 engines:



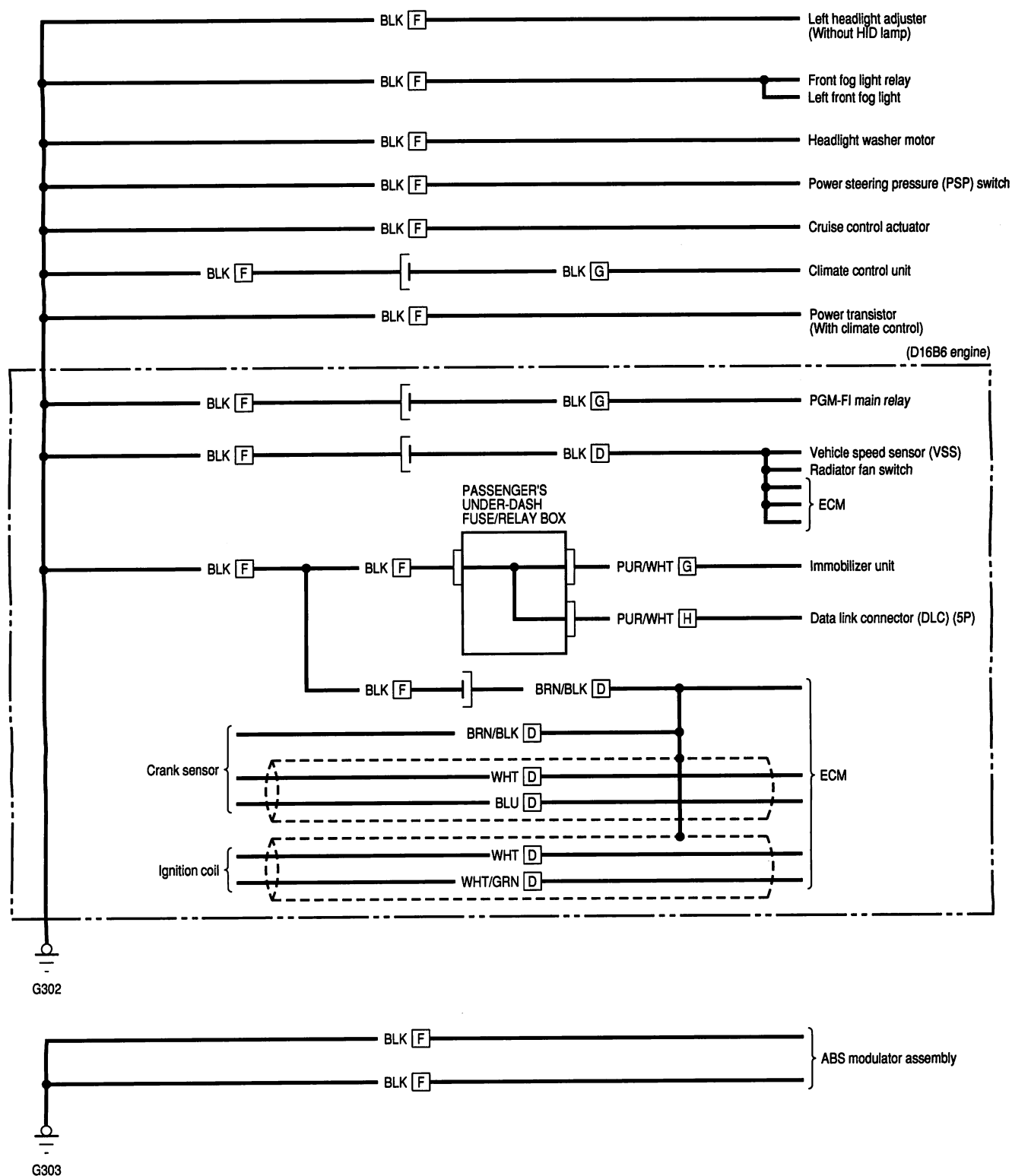
(cont'd)

# Ground Distribution

## Circuit Identification (RHD type) (cont'd)



- [E] : Right engine compartment wire harness  
[F] : Left engine compartment wire harness  
[W] : A/C sub-harness

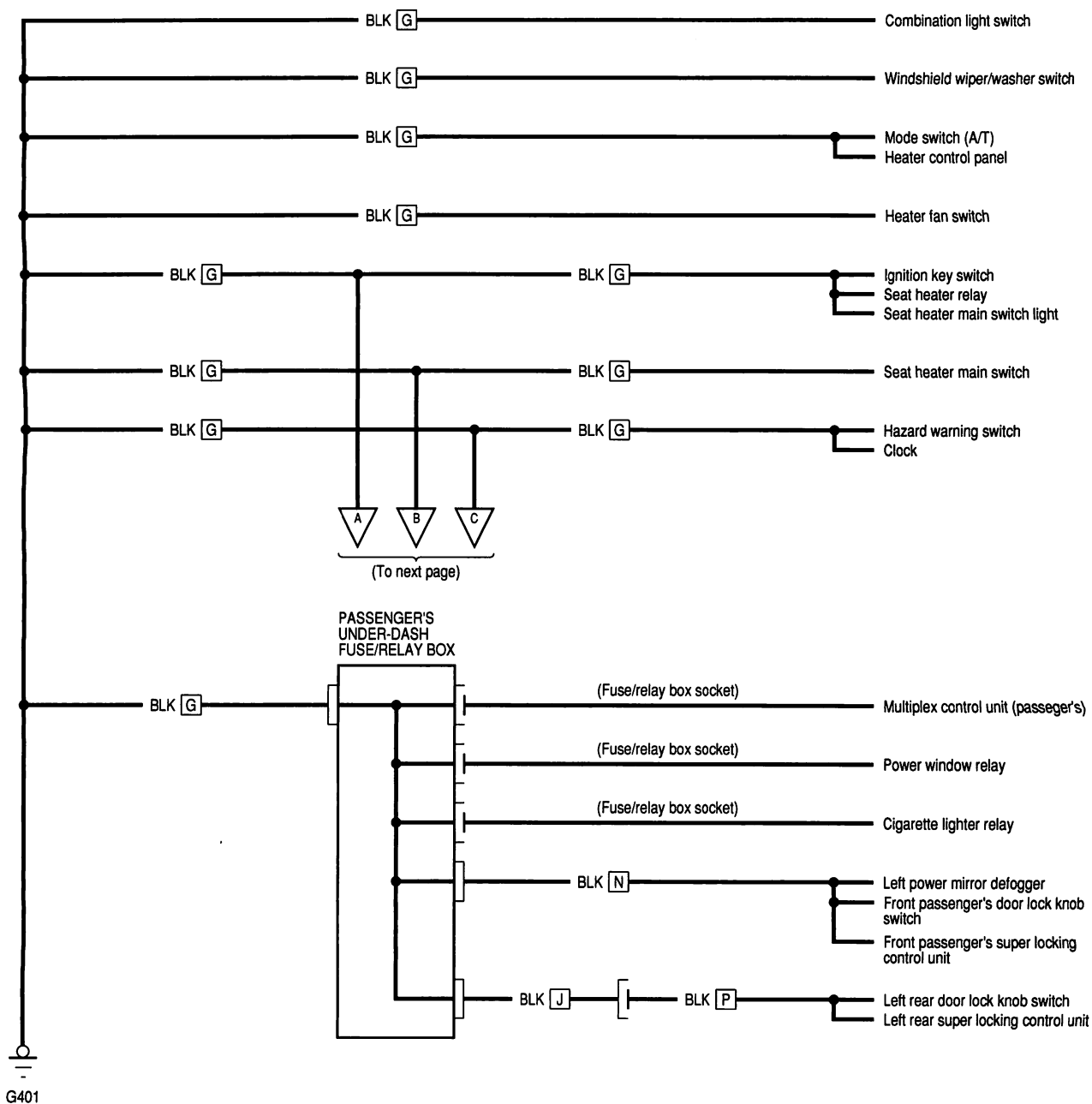


- |  |                              |
|--|------------------------------|
| [D] : Engine wire harness                  | [H] : Dashboard wire harness |
| [F] : Left engine compartment wire harness | ----- : Shielding            |
| [G] : Steering beam wire harness           |                              |

(cont'd)

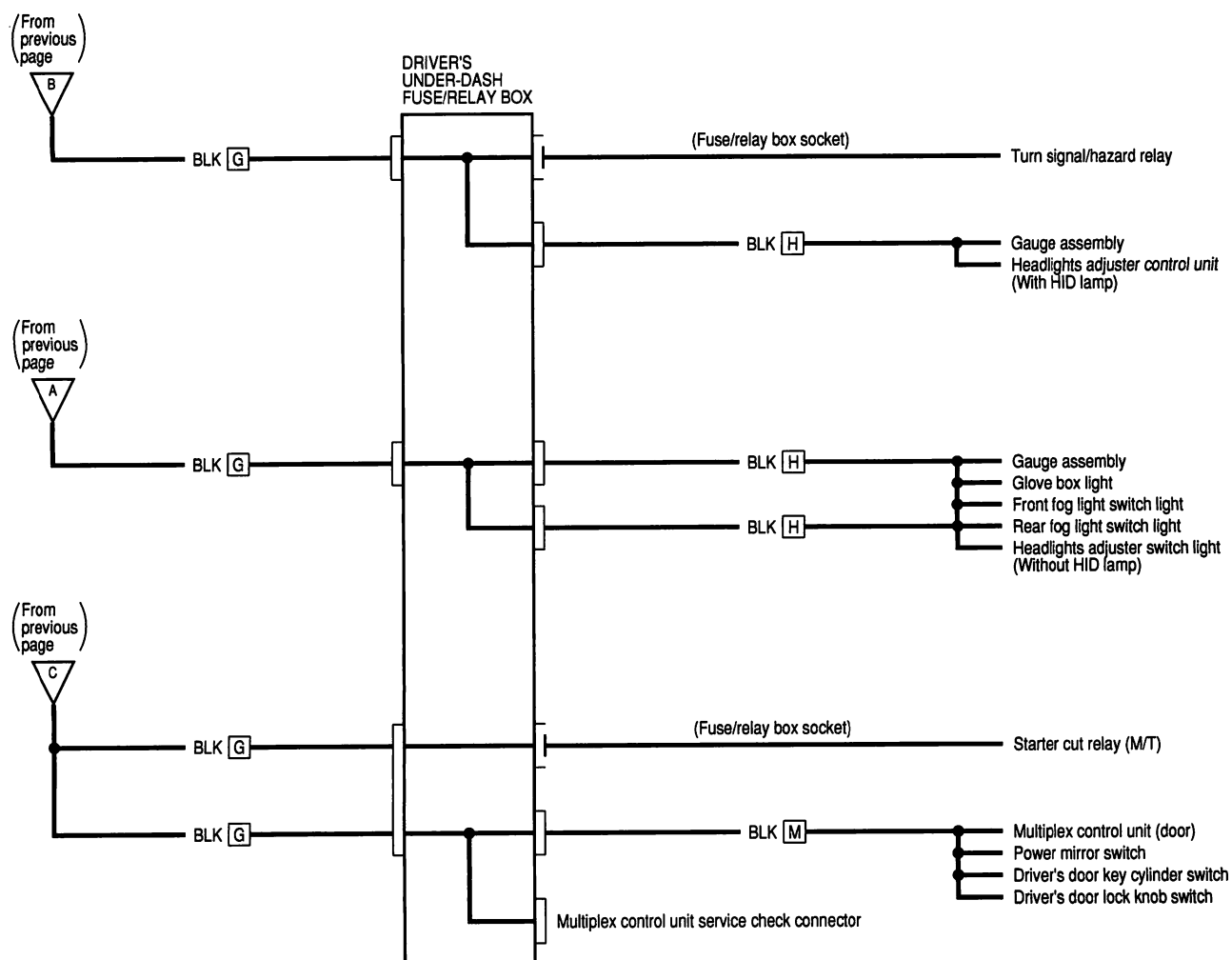
# Ground Distribution

## Circuit Identification (RHD type) (cont'd)



[G] : Steering beam wire harness  
 [J] : Front passenger's side wire harness  
 [N] : Front passenger's door wire harness

[P] : Left rear door wire harness



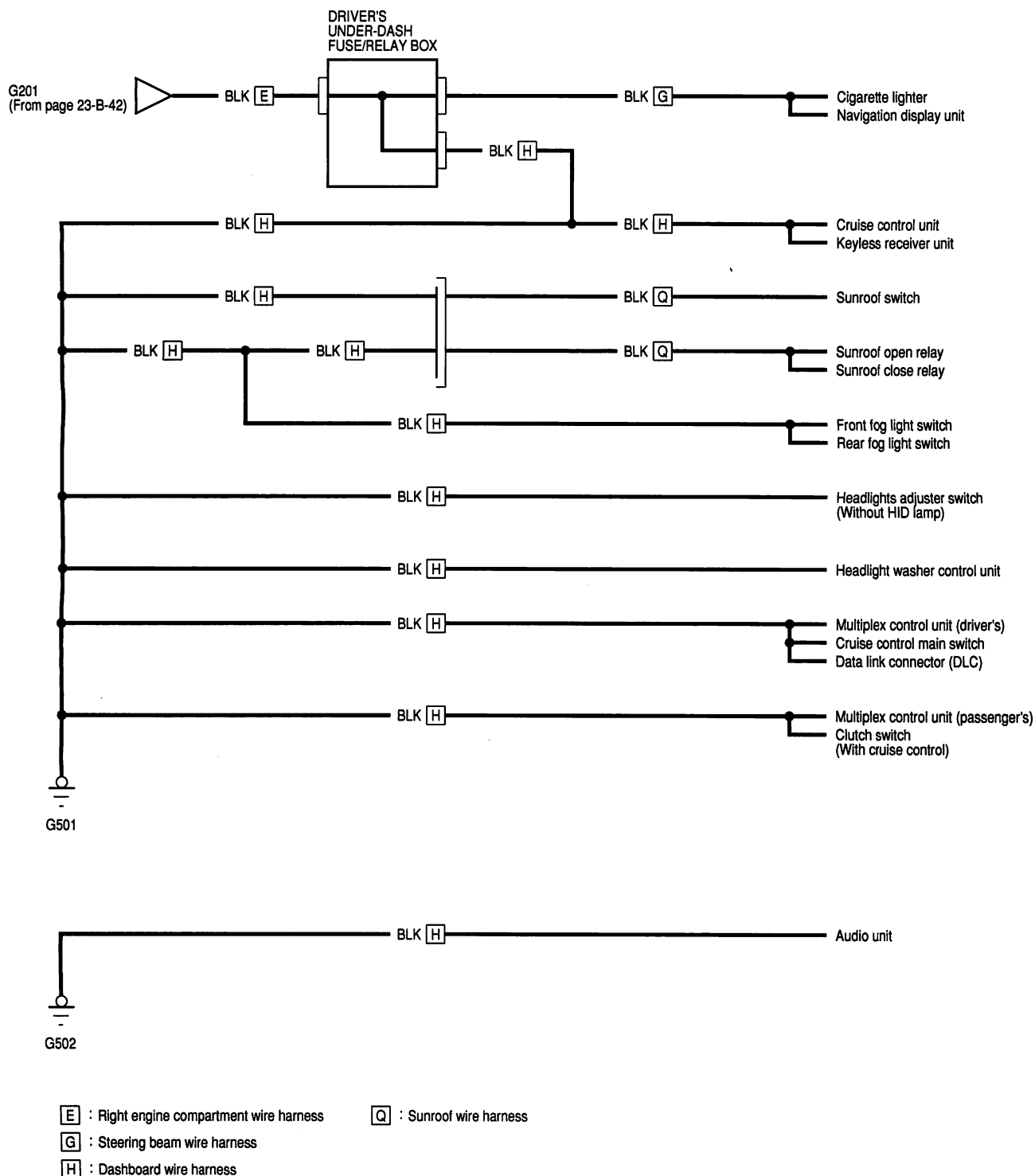
- [G] : Steering beam wire harness  
[H] : Dashboard wire harness  
[M] : Driver's door wire harness

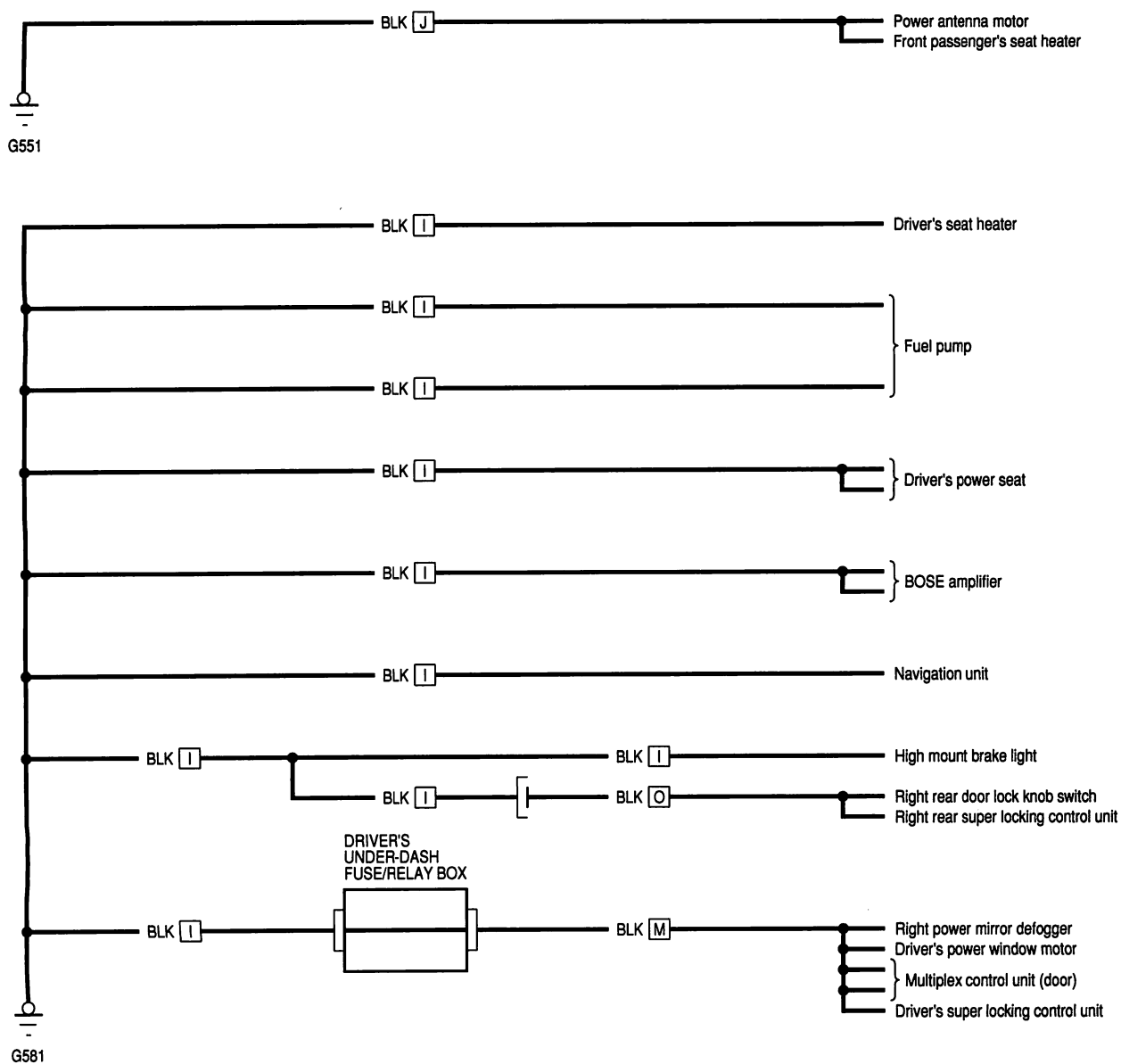
(cont'd)



# Ground Distribution

## Circuit Identification (RHD type) (cont'd)

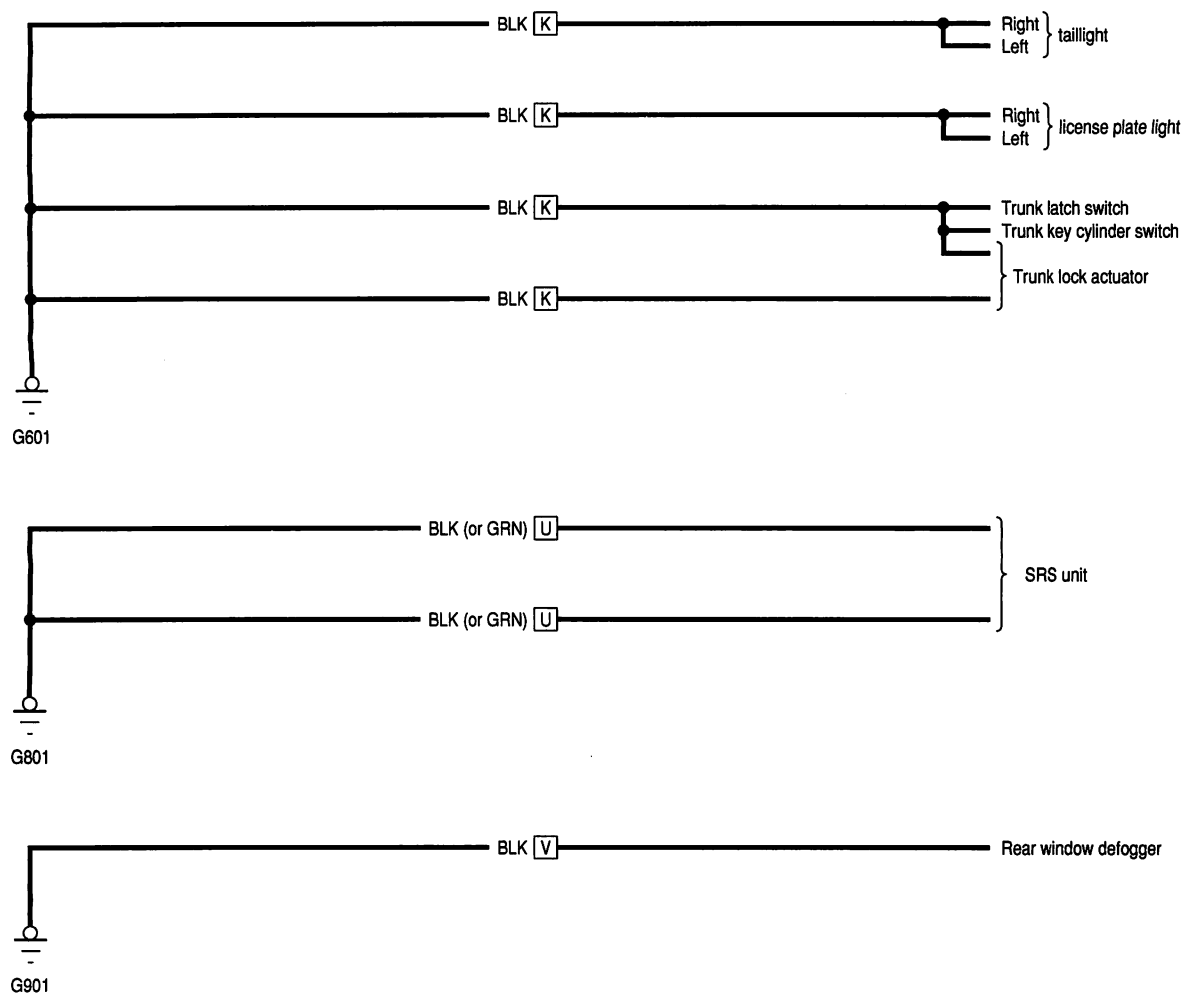




(cont'd)

# Ground Distribution

## Circuit Identification (RHD type) (cont'd)



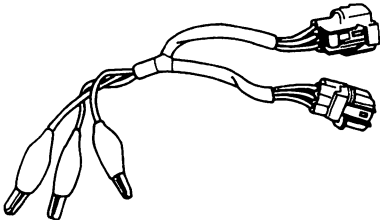
- [K] : Rear wire harness
- [U] : SRS main harness
- [V] : Rear window defogger ground wire

## **Gauges**

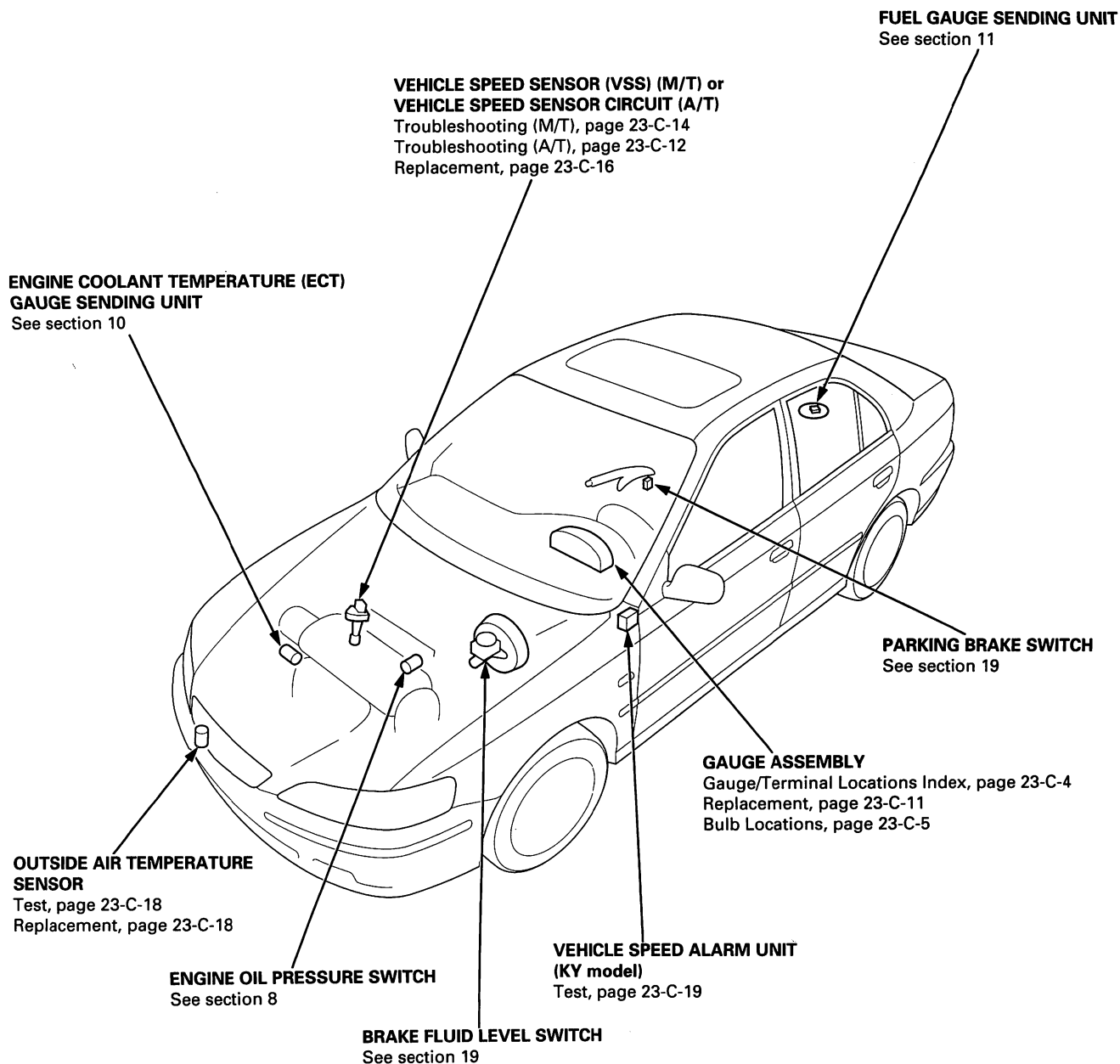
<b>Special Tool .....</b>	<b>23-C-2</b>
<b>Gauges</b>	
<b>Component Location Index .....</b>	<b>23-C-3</b>
<b>Gauge/Indicator/Terminal Location</b>	
<b>Index .....</b>	<b>23-C-4</b>
<b>Bulb Locations .....</b>	<b>23-C-5</b>
<b>Circuit Diagram .....</b>	<b>23-C-6</b>
<b>Replacement .....</b>	<b>23-C-11</b>
<b>Outside Air Temperature Indicator ...</b>	<b>23-C-11</b>
<b>Vehicle Speed Sensor Circuit</b>	
<b>Troubleshooting (A/T) .....</b>	<b>23-C-12</b>
<b>Vehicle Speed Sensor Circuit</b>	
<b>Troubleshooting (M/T) .....</b>	<b>23-C-14</b>
<b>Vehicle Speed Sensor (VSS) (M/T)</b>	
<b>Replacement .....</b>	<b>23-C-16</b>
<b>Vehicle Speed Alarm System (KY model)</b>	
<b>Vehicle Speed Alarm Unit Test .....</b>	<b>23-C-17</b>
<b>Outside Air Temperature Sensor</b>	
<b>Test .....</b>	<b>23-C-18</b>



# Special Tool

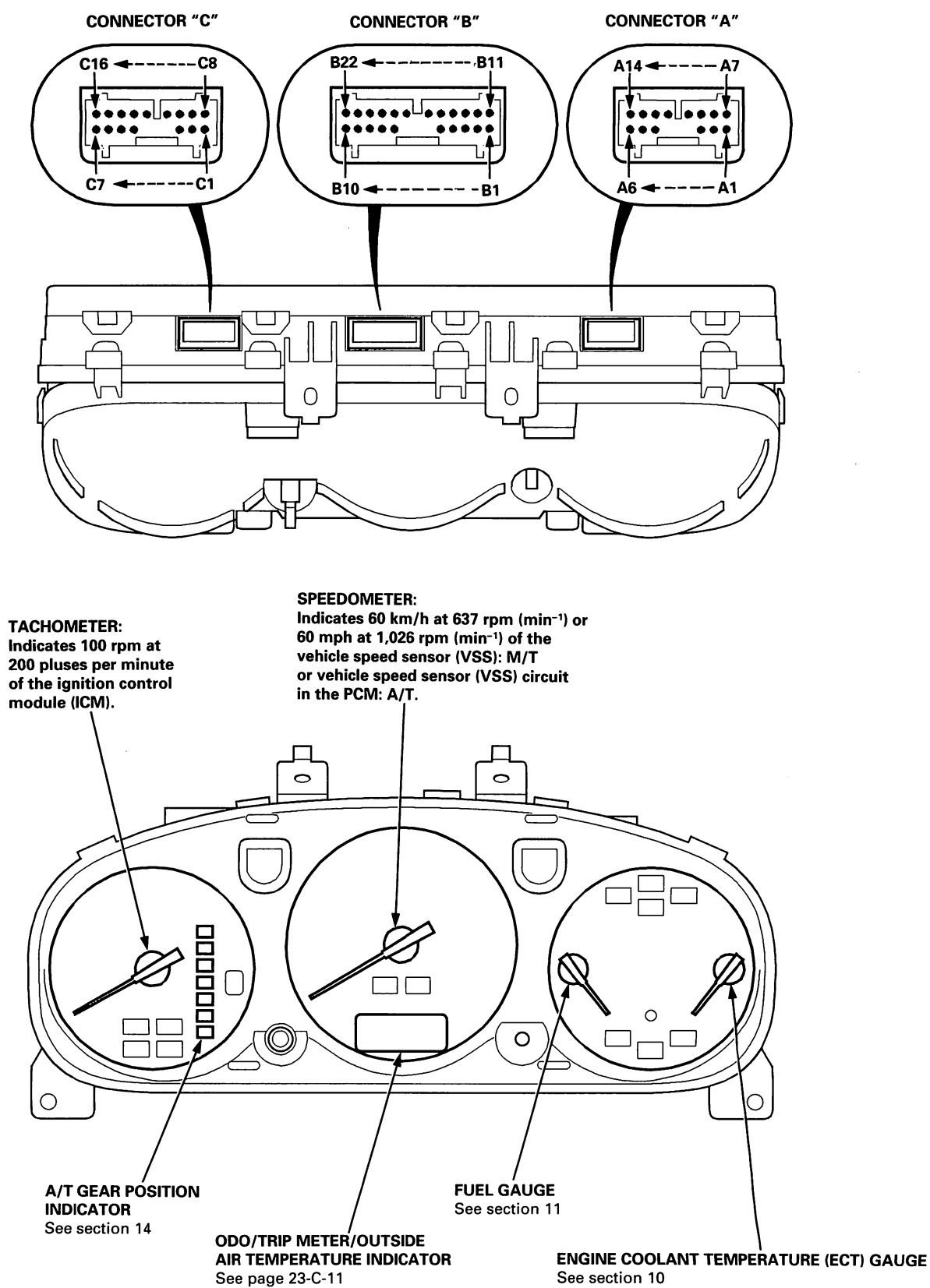
Ref. No.	Tool Number	Description	Qty	Remark
①	07LAJ – PT30200	Test Harness	1	
<div></div> <div>①</div>				

## Component Location Index

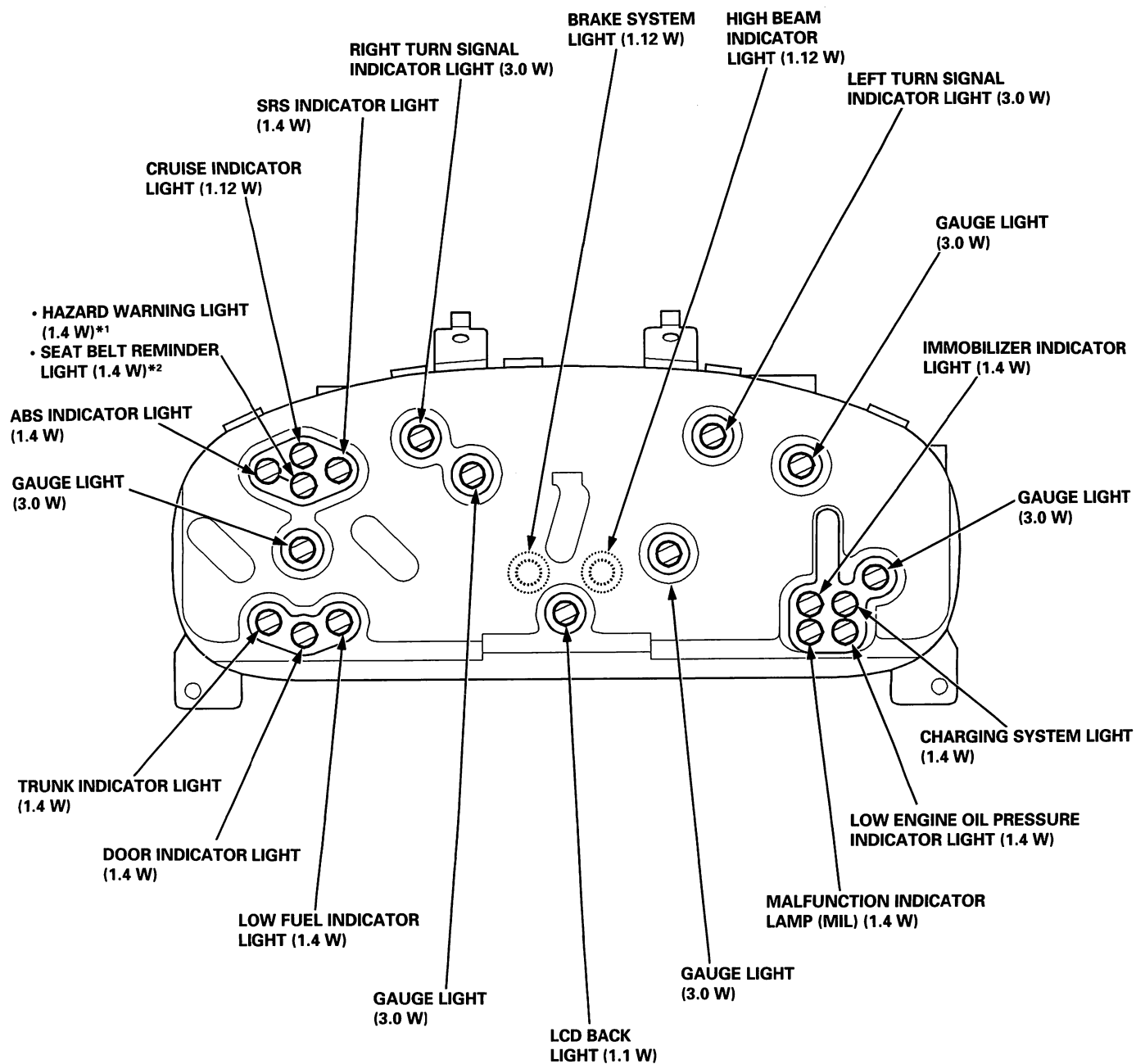


# Gauges

## Gauge/Indicator/Terminal Location Index



## Bulb Locations



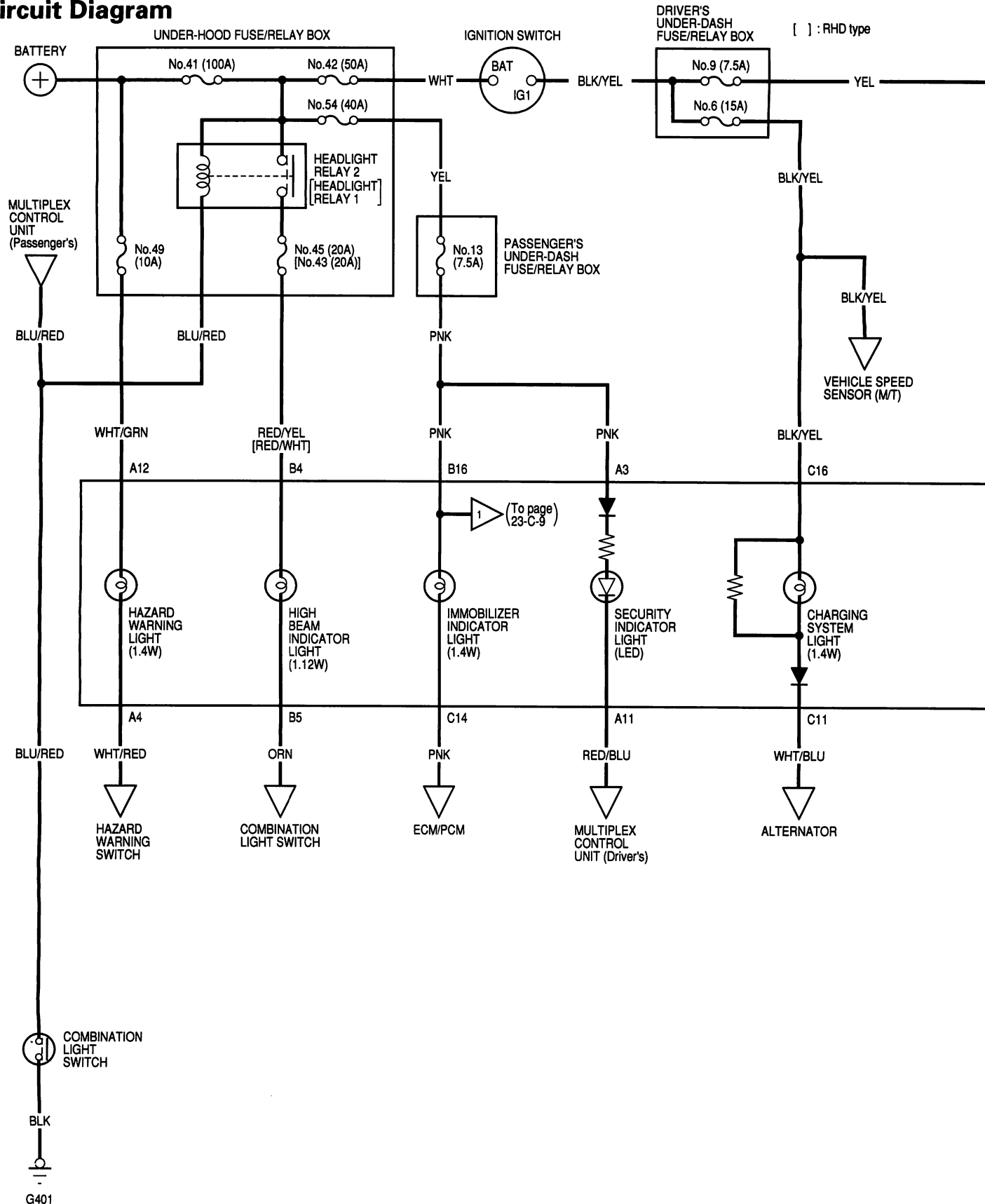
\*1: Except KY model

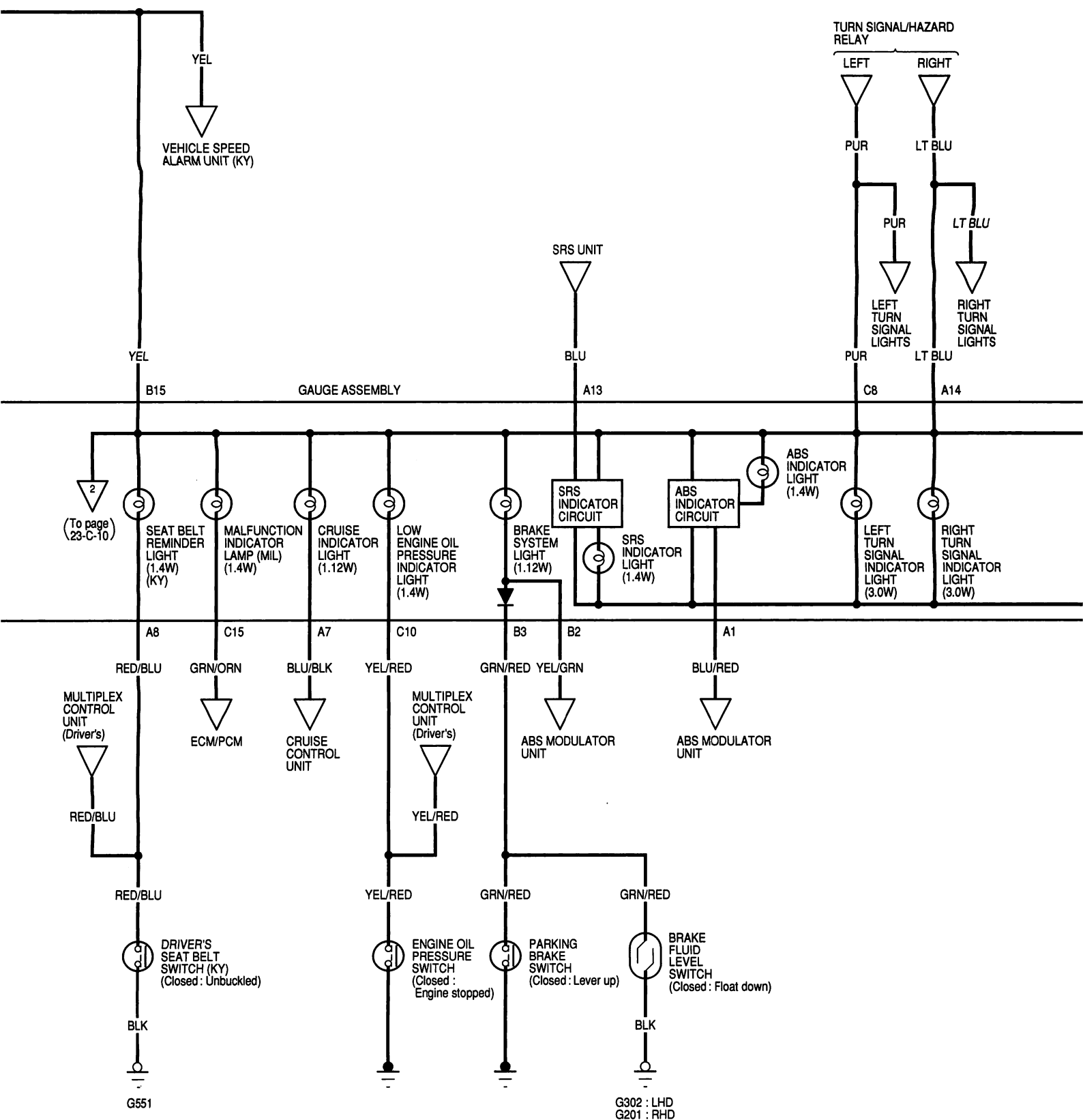
\*2: KY model

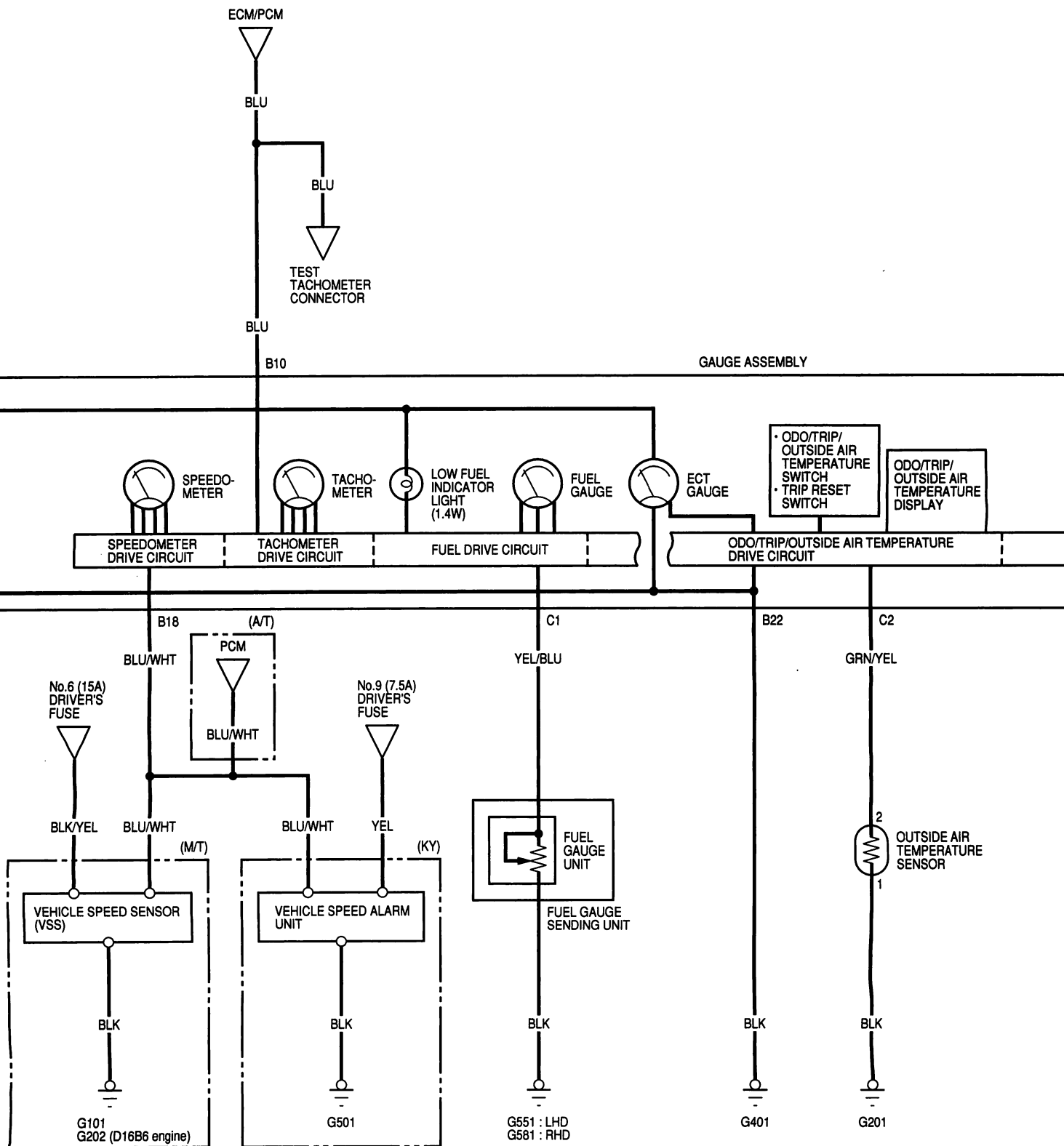


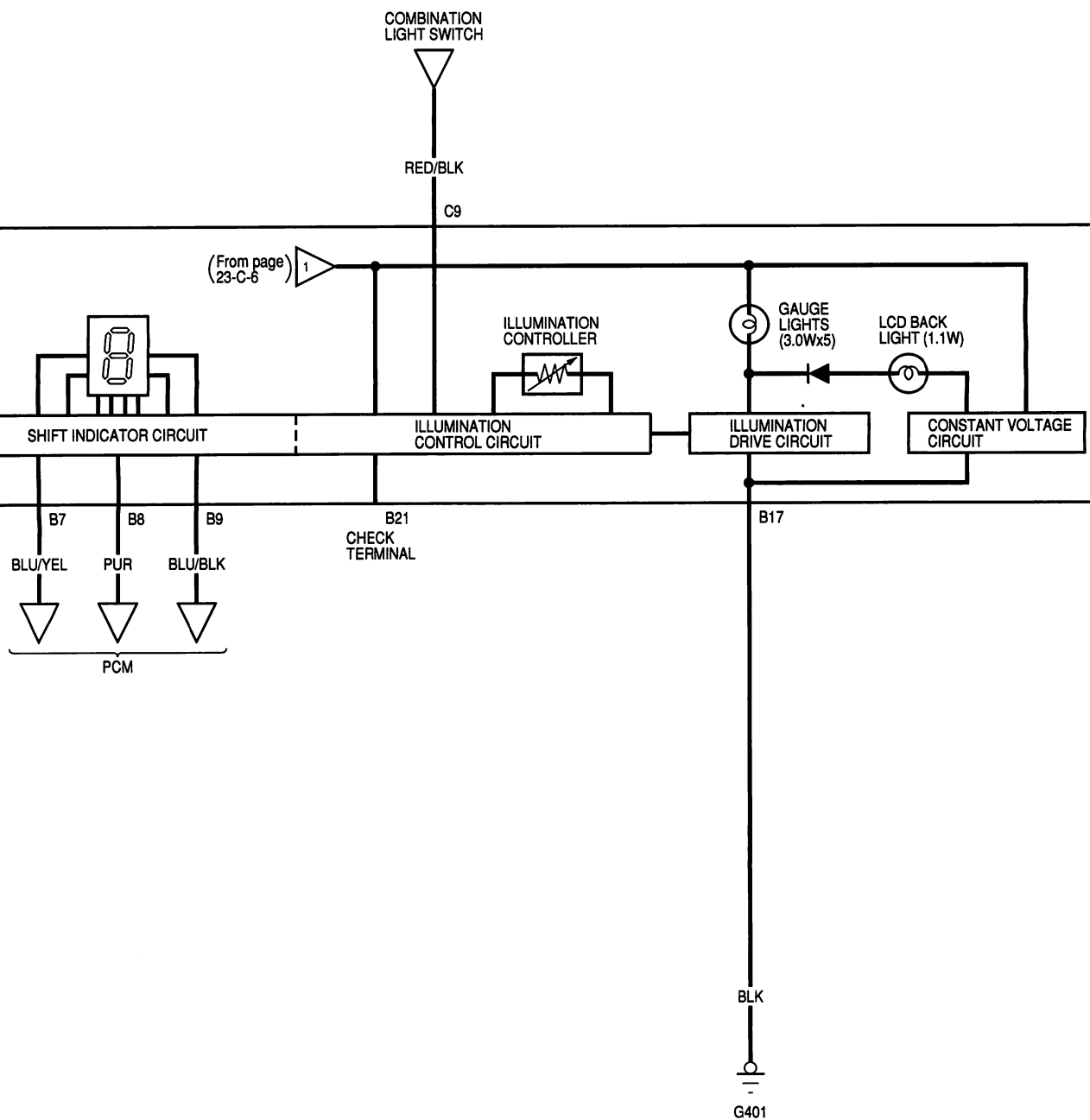
# Gauges

## Circuit Diagram

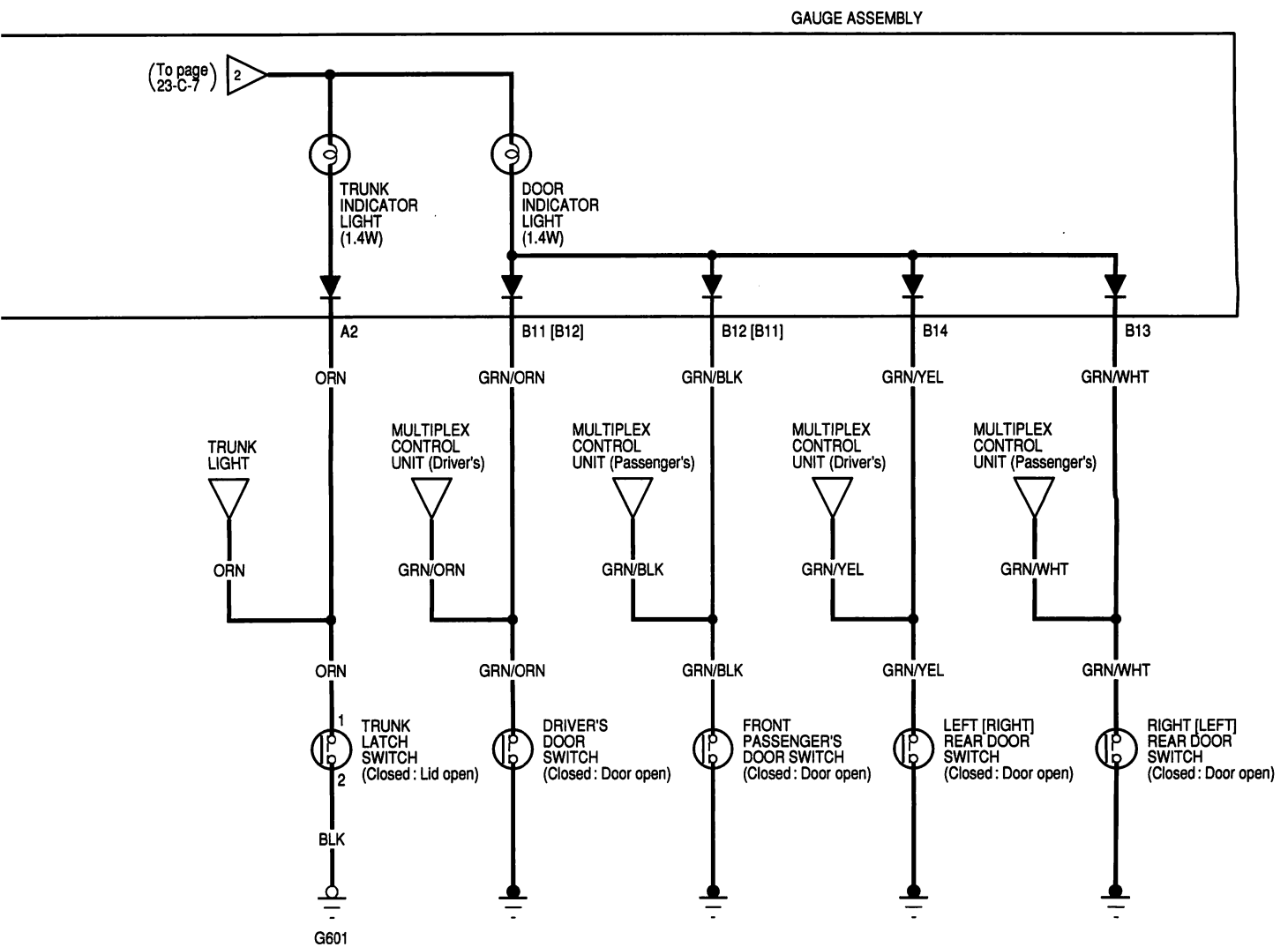








[ ] : RHD type

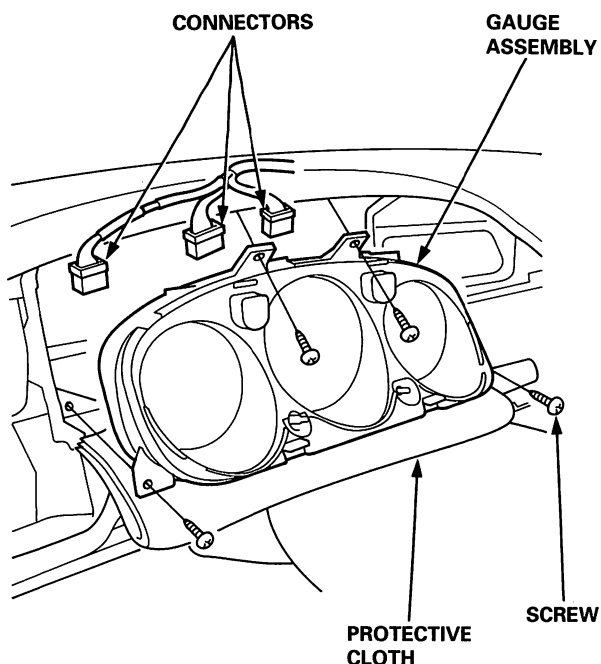


## Replacement

NOTE: Be careful not to damage the meter.

1. Remove the instrument panel (see section 20).
2. Spread a protective cloth on the upper column cover, then remove the screws from the gauge assembly.

NOTE: LHD type is shown, RHD type is similar.

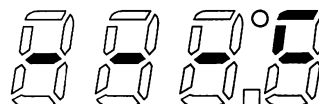


3. Disconnect the connectors, and remove the gauge assembly.
4. Install in the reverse order of removal.

## Outside Air Temperature Indicator

### Troubleshooting

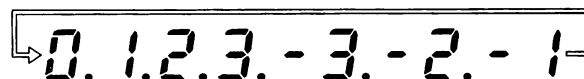
If the indicator displays "----°C", as shown, for more than two seconds after selecting the outside air temperature display mode, check for an open in the wire between the gauge and the outside air temperature sensor.



### Calibration

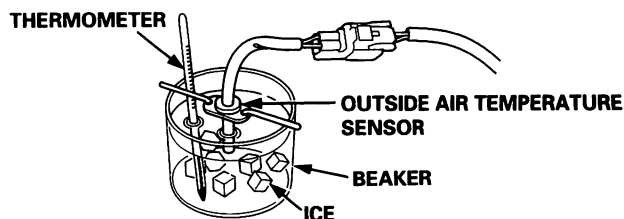
The outside air temperature indicator's displayed temperature can be recalibrated  $\pm 3^\circ$  to meet the customer's expectations.

1. Turn the ignition switch ON (II).
2. Select the outside air temperature mode, then push and hold the reset button for 10 seconds. While you continue to hold the reset button, the display will scroll through temperature settings from  $+3^\circ$  to  $-3^\circ$  as shown.



3. When the desired correction value appears on the display, release the reset button, and the recalibrated outside air temperature will be displayed.

NOTE: To recalibrate the display to the true temperature, remove the outside air temperature sensor, but leave it connected (see page 23-C-18). Submerge the sensor and a thermometer in a container of ice water. Select the calibration mode as described above, then recalibrate the display to the true temperature.



# Gauges

## Vehicle Speed Sensor Circuit Troubleshooting (A/T)

Before testing;

- check to see if diagnostic trouble code P0720 (9) is indicated.
- inspect the No. 6 (15 A) fuse in the driver's under-dash fuse/relay box.
- check for continuity between the B22 terminal and body ground (G501).

### Test the Speedometer:

1. Raise the vehicle, and make sure it is securely supported.
2. Disconnect the 22P connector from the gauge assembly.
3. Connect the B18 terminal to the positive probe of a voltmeter, and connect the negative probe to body ground. To prevent damage to the gauge assembly, lay the gauge on a shop rag.
4. Put the vehicle in neutral with the ignition switch ON (II).
5. Slowly rotate (over 2 km/h (3 mph)) one wheel with other wheels blocked.

Does voltage pulse from 0 to approx. 5 V or more?

NO

Replace the gauge assembly.

YES

### Test the BLU/WHT wire:

1. Connect the No. 9 terminal of the PCM 32P connector to the positive probe of a voltmeter, and connect the negative probe to the body ground.
2. Put the vehicle in neutral with the ignition switch ON (II).
3. Slowly rotate (over 2 km/h (3 mph)) one wheel with other wheels blocked.

Does voltage pulse from 0 to approx. 5 V or more?

NO

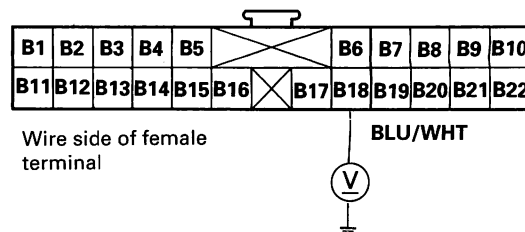
Repair open in the BLU/WHT wire between the gauge assembly and the PCM, the cruise control unit, or the multiplex control unit (driver's).

YES

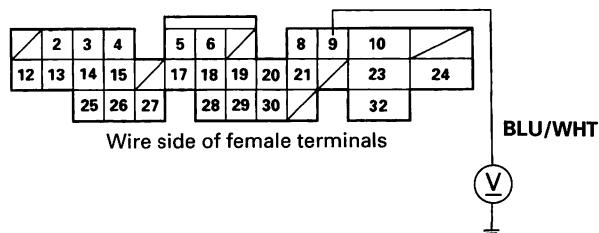


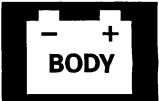
(To next page)

DASHBOARD WIRE HARNESS  
22P CONNECTOR "B"



PCM 32P CONNECTOR (Connected)





(From previous page )



**Test the BLU/WHT wire:**

1. Disconnect the 32P connector from the PCM.
2. Check for continuity between the No. 9 terminal and body ground.

Is there continuity?

NO

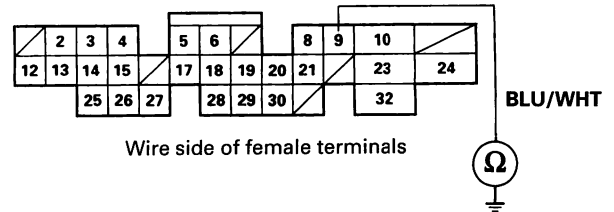
**Check for these problem:**

- Bent, loose or corroded terminals.
- A faulty PCM.

YES

**Repair short in the BLU/WHT wire between the PCM and gauge assembly, the cruise control unit, or the multiplex control unit (driver's).**

**PCM 32P CONNECTOR (Disconnected)**





# Gauges

## Vehicle Speed Sensor Circuit Troubleshooting (M/T)

Before testing, inspect the No. 6 (15 A) and No. 9 (7.5 A) fuses in the driver's under-dash fuse/relay box.

**Test the BLK wire:**

1. Disconnect the 3P connector from the vehicle speed sensor (VSS).
2. Connect the test harness (07LAJ – PT30200) only to the engine wire harness.
3. Connect the RED [WHT] test harness clip to the positive probe of an ohmmeter.
4. Check for continuity between the RED [WHT] test harness clip and body ground.

Is there continuity?

NO

YES

Repair open in the BLK wire between the VSS and G101.

**Test the BLK/YEL wire:**

1. Connect the WHT [RED] test harness clip to the positive probe of a voltmeter, and connect the RED [WHT] test harness clip to the negative probe.
2. Turn the ignition switch ON (II).

Is there battery voltage?

NO

YES

Repair open in the BLK/YEL wire between the VSS and the driver's under-dash fuse/relay box.

**Test the BLU/WHT wire:**  
Connect the GRN test harness clip to the positive probe of a voltmeter, and connect the RED [WHT] test harness clip to the negative probe.

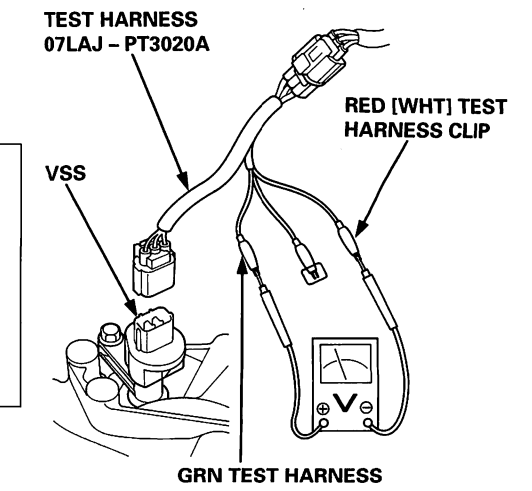
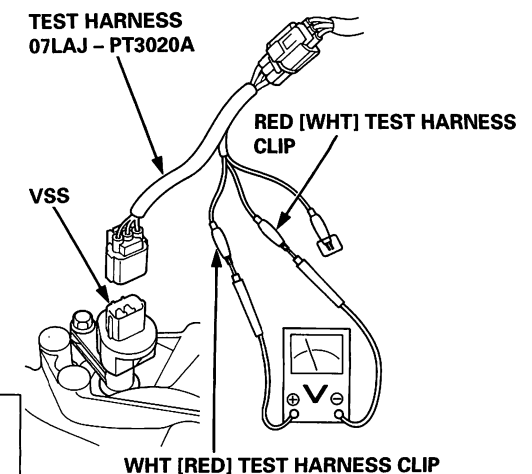
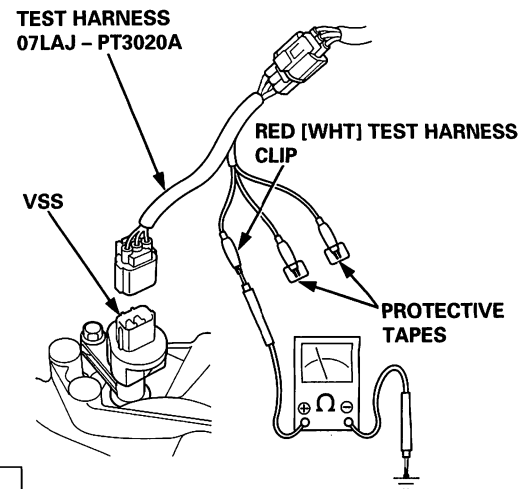
Is there about 5 V or more?

NO

YES

Repair open in the BLU/WHT wire between the VSS and  
— ECM, or  
— cruise control unit, or  
— multiplex control unit (driver's), or  
— headlight adjuster control unit, or  
— vehicle speed alarm unit (KY model).

(To next page)



[ ]: Except H22A7



(From previous page)



#### Test the VSS:

1. Turn the ignition switch OFF.
2. Connect the another test harness connector to the VSS.
3. Raise the front of the car, and support it with safety stands.
4. Put the car in neutral with the ignition switch ON (II).
5. Slowly rotate one wheel with the other wheels blocked.

Does voltage pulse from 0 to approx. 5 V or more?

NO

Replace the VSS.

YES

#### Speedometer Test:

1. Disconnect the 22P connector "B" from the gauge assembly.
2. Touch a probe to the BLU/WHT wire, and connect it to body ground through a voltmeter.
3. Slowly rotate one wheel with the other wheel blocked.

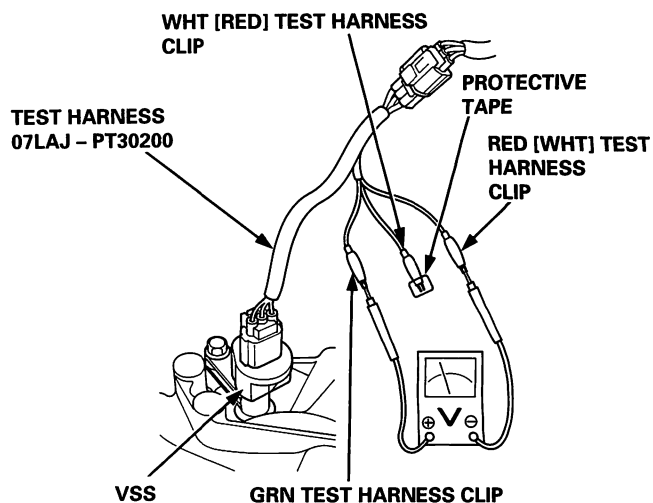
Does the meter indicate pulsing voltage?

NO

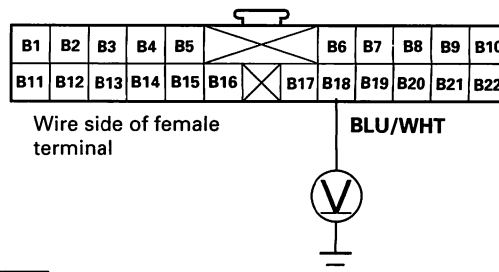
Repair open in the BLU/WHT wire between the VSS and the speedometer.

YES

Replace the speedometer.



#### GAUGE ASSEMBLY 22P CONNECTOR "B"

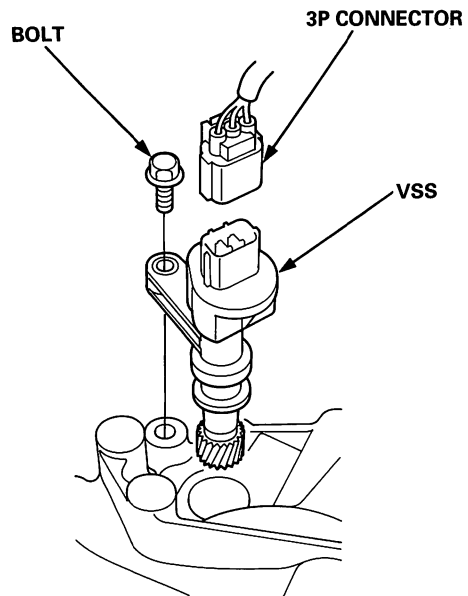


# Vehicle Speed Sensor (VSS) (M/T)

---

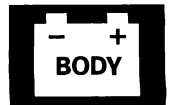
## Replacement

1. Disconnect the 3P connector from the vehicle speed sensor (VSS).
2. Remove the mounting bolt, then remove the VSS.



3. Install in the reverse order of removal.

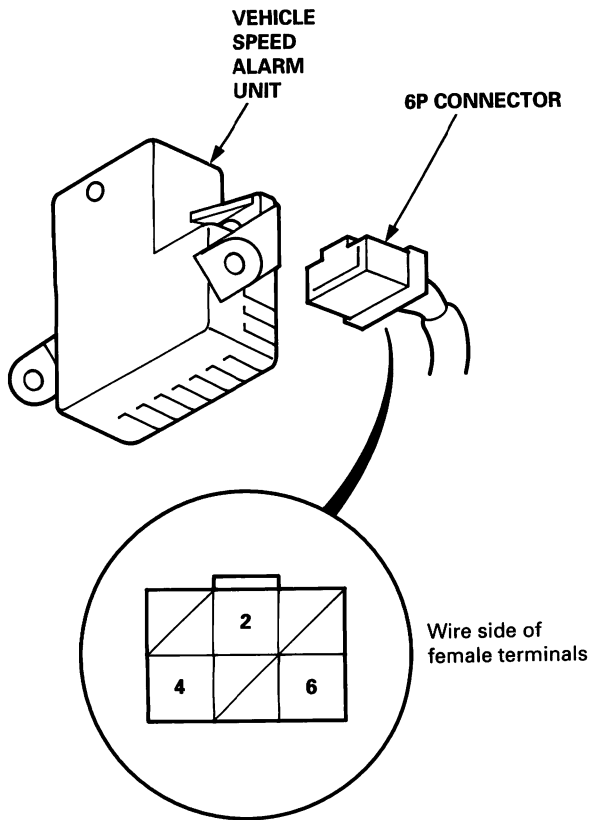
# Vehicle Speed Alarm System (KY model)



## Vehicle Speed Alarm Unit Test

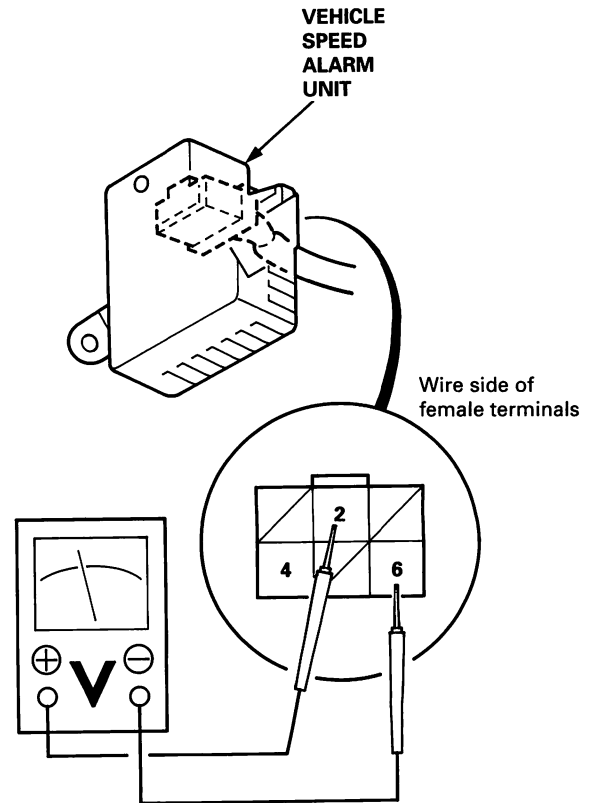
NOTE: Before testing, check the No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box.

1. Carefully remove the dashboard lower cover.



2. Check for continuity between the No. 6 terminal and the body ground.  
There should be continuity.
  - If there is no continuity, check for:
    - an open in the BLK wire.
    - poor ground (G501).
  - If there is continuity, go to step 3.
3. Check for voltage between the No. 4 terminal and the body ground with the ignition switch ON (II).  
There should be battery voltage.
  - If there is no voltage, check for an open in the YEL wire.
  - If there is battery voltage, go to step 4.

4. Ignition switch OFF, reconnect the 6P connector to the speed alarm unit, and connect the voltmeter to the No. 2 wire terminal.

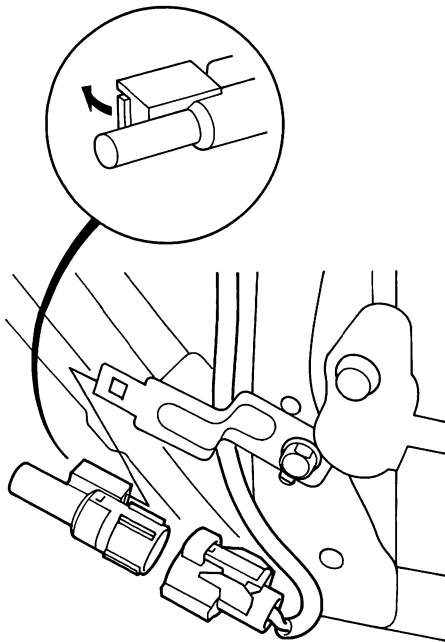


5. Raise the car and place safety stands in the proper locations (see section 1).
6. Turn the ignition switch ON (II) again and rotate the front wheel slowly, then check to see the voltmeter indicator moves from 0 V to about 5 V or more and then from about 5 V or more to 0 V alternately.
  - If there is no voltage, check for:
    - vehicle speed sensor (VSS) circuit (see pages 23-C-12, 14).
    - an open in the BLU/WHT wire.
7. Replace the speed alarm unit if the vehicle speed sensor (VSS) circuit is normal.

# Outside Air Temperature Sensor

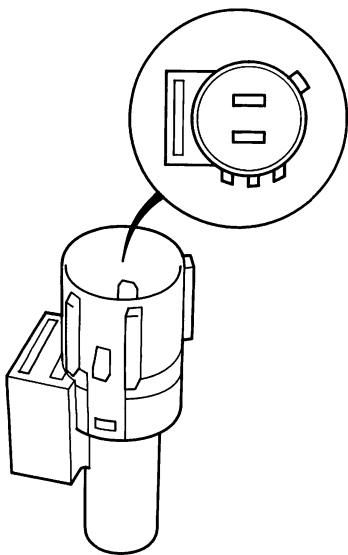
## Test

1. Disconnect the 2P connector from the outside air temperature sensor and remove the sensor.



OUTSIDE AIR TEMPERATURE SENSOR

2. Compare the resistance reading between the No. 1 and No. 2 terminals of the sensor with the specification shown in following graph; resistance should be within specifications.



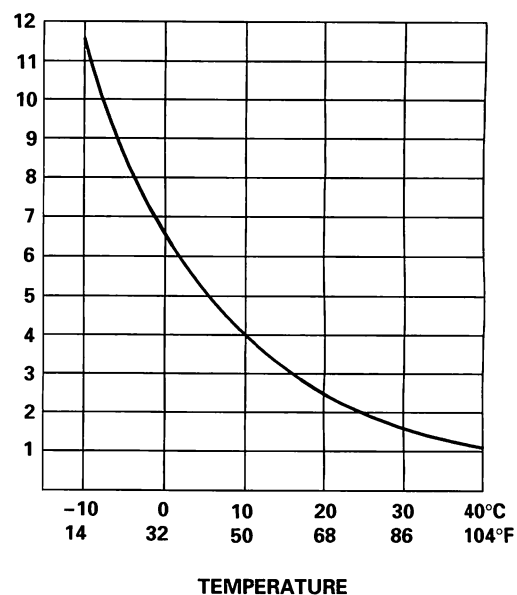
OUTSIDE AIR TEMPERATURE SENSOR  
2P CONNECTOR

## ⚠ CAUTION

The sensor uses a thermistor which can be damaged if high current is applied during testing. Therefore, use a circuit tester with an output of 1 mA or less at the 20 k $\Omega$  range.

NOTE: Dip the sensor in ice water, and measure resistance. Then pour hot water on the sensor, and check for change in resistance.

RESISTANCE  
(k $\Omega$ )



# Lighting System

## Lighting System

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HID Lamp System Troubleshooting .....	23-D-12
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## License Plate Lights

Replacement .....	23-D-30
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## Brake Lights

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## High Mount Brake Light

Replacement .....	23-D-31
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## Back-up Lights

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## Side Turn Signal Lights

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## Taillights

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## Turn Signal/Hazard Flasher System

Component Location Index .....	23-D-34
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Turn Signal/Hazard Relay Input Test .....	23-D-36
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Hazard Warning Switch Test .....	23-D-37
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## Interior Lights

Component Location Index .....	23-D-38
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Front Ceiling Light Test .....	23-D-40
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Rear Ceiling Light Replacement ....	23-D-41
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Trunk Latch Switch Test (Without Keyless Entry/ Security Alarm System) .....	23-D-42
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## Entry Light Control System

Component Location Index .....	23-D-43
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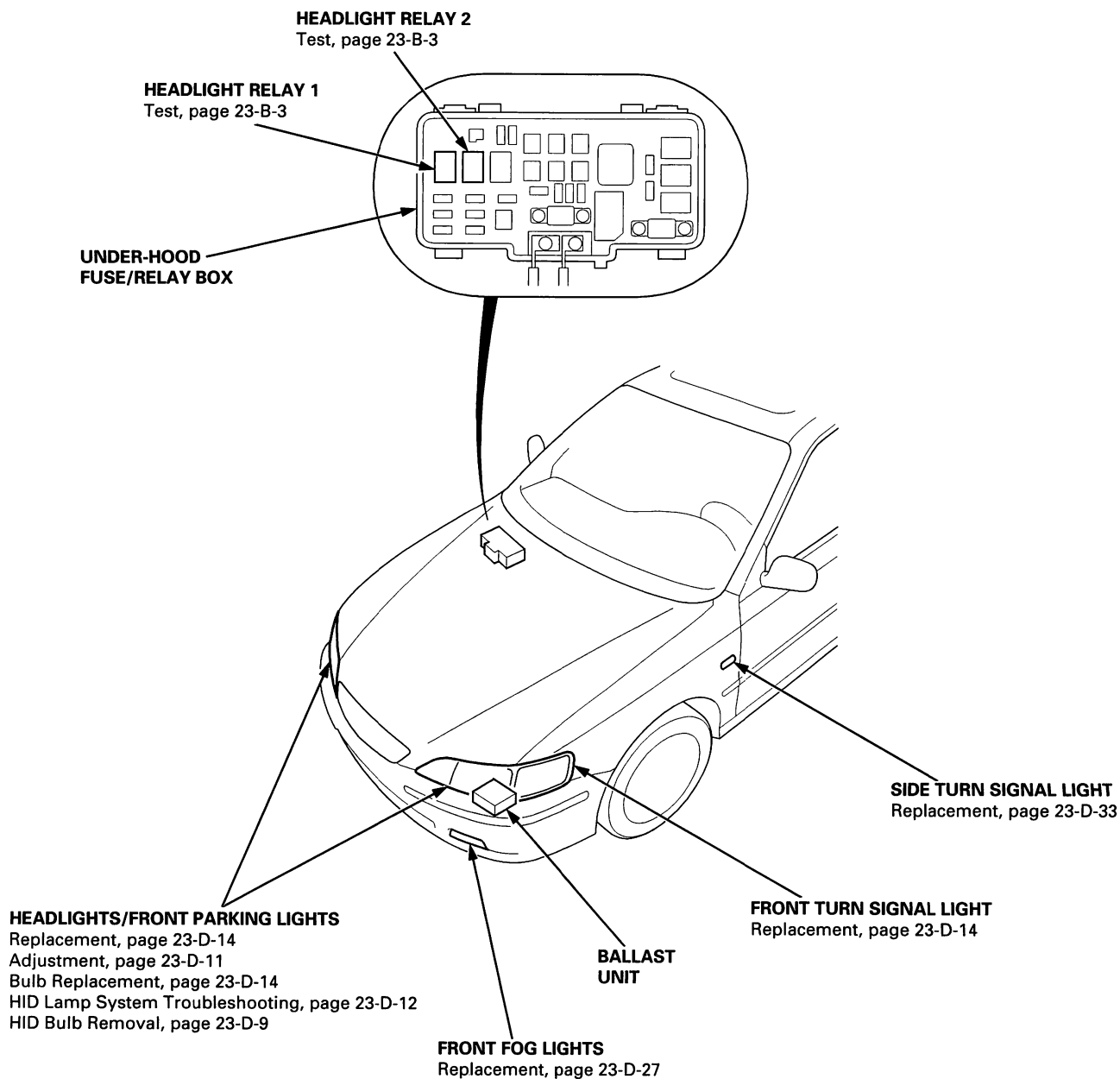
Control Unit Input Test .....	23-D-46
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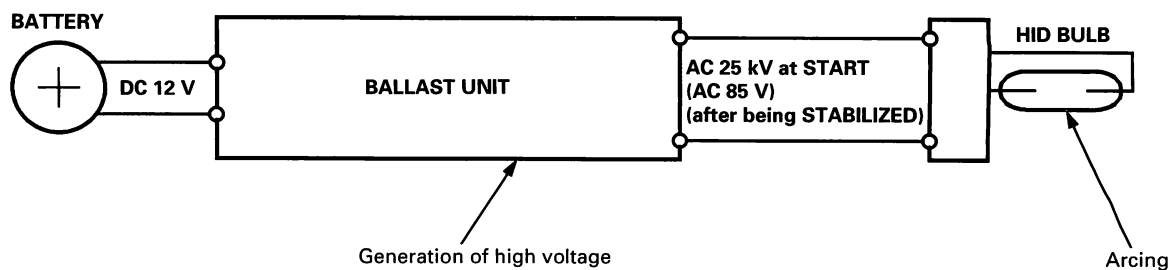
# Lighting System

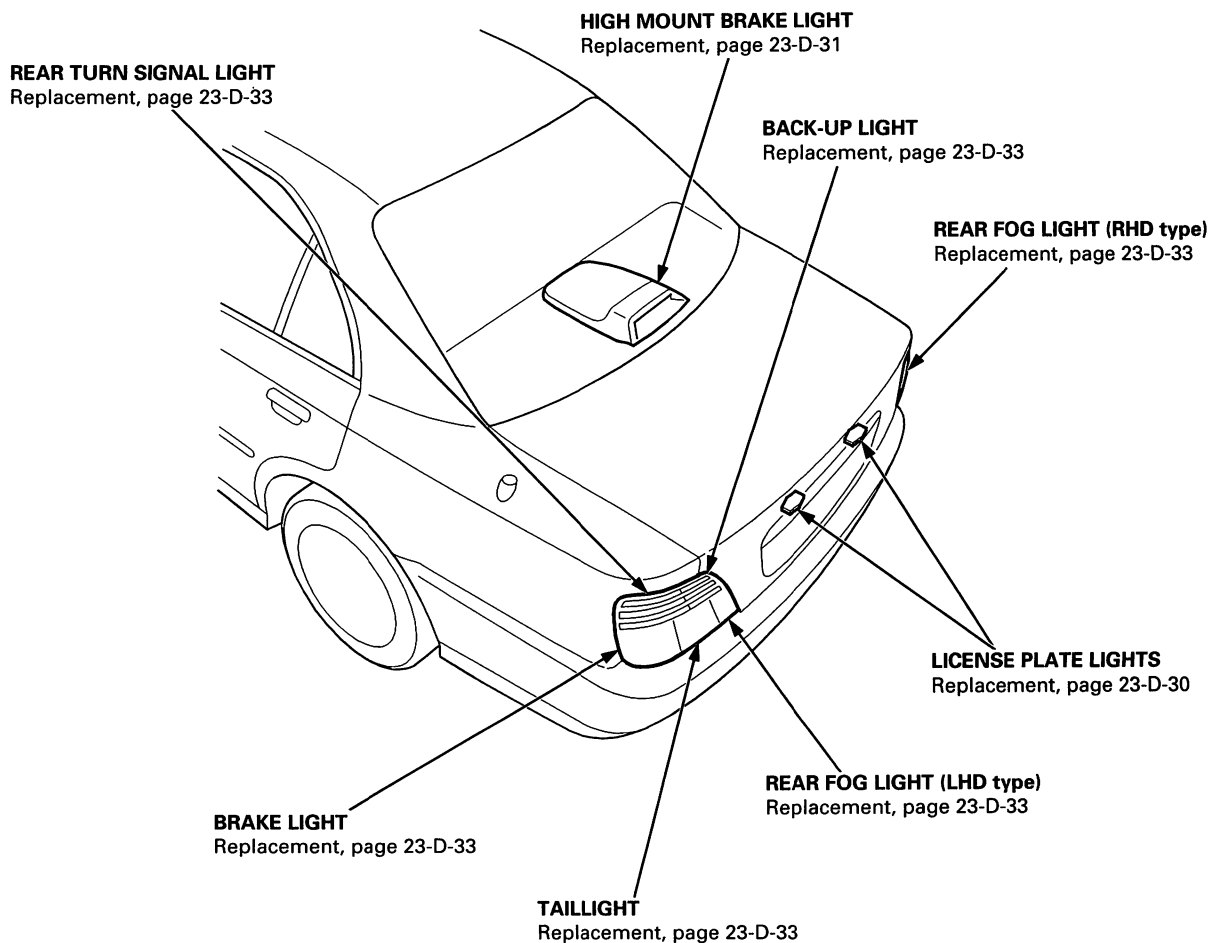
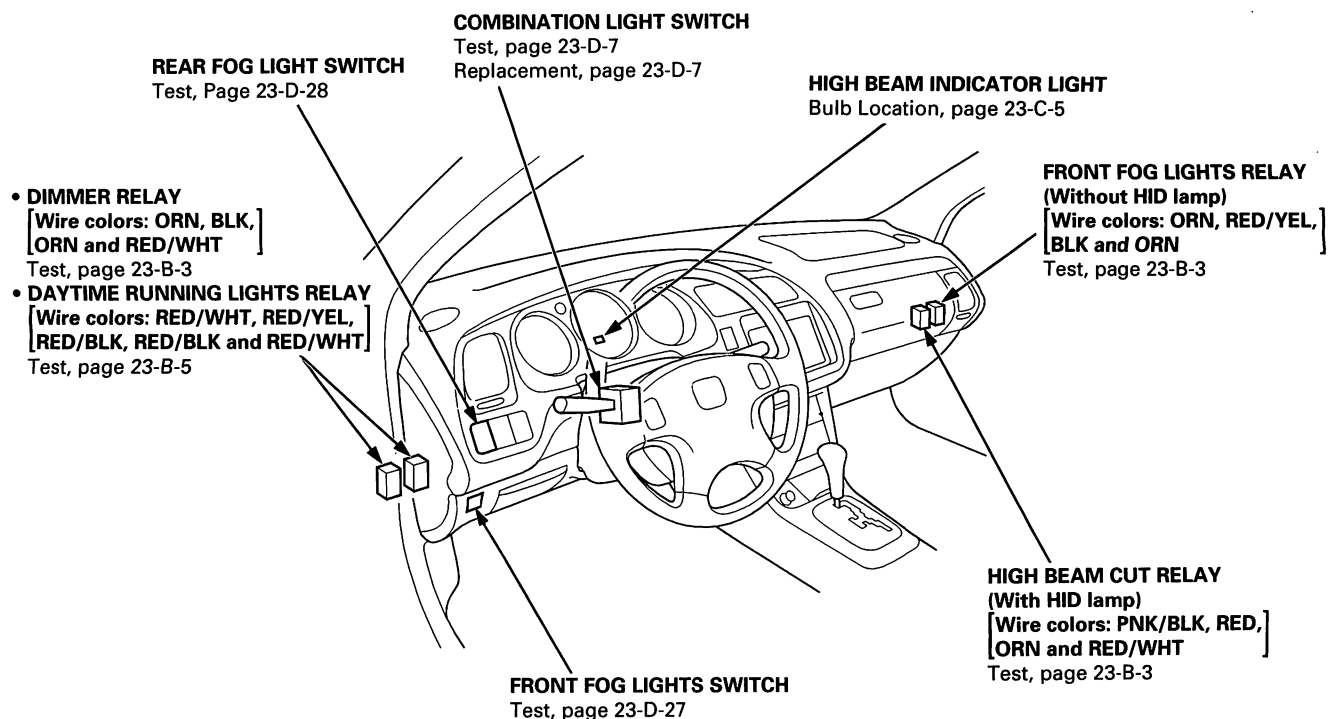
## Component Location Index

NOTE: LHD type is shown, RHD type is similar.



### High Intensity Discharge (HID) Lamp System:



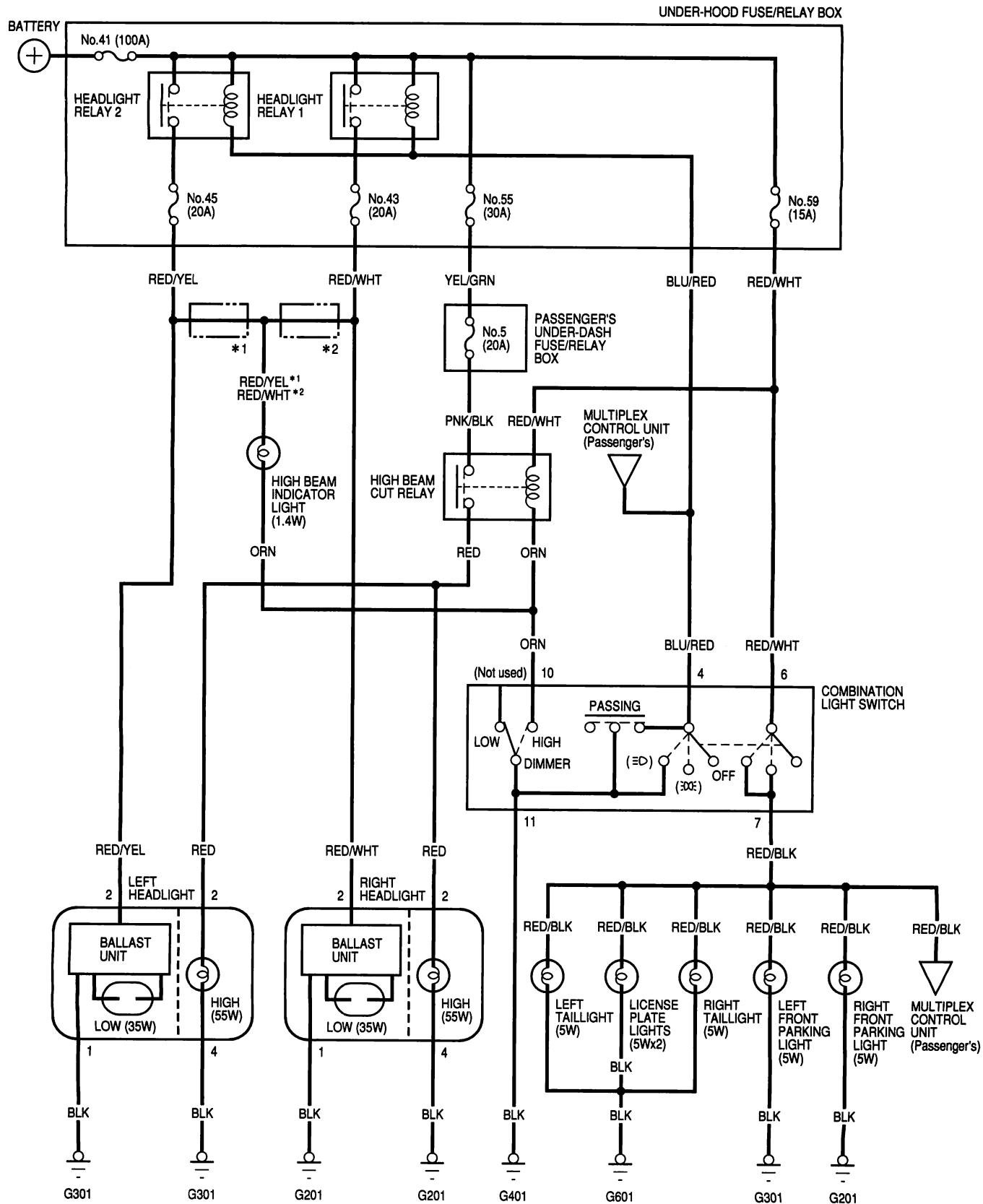




# Lighting System

## Circuit Diagram (With HID Lamp)

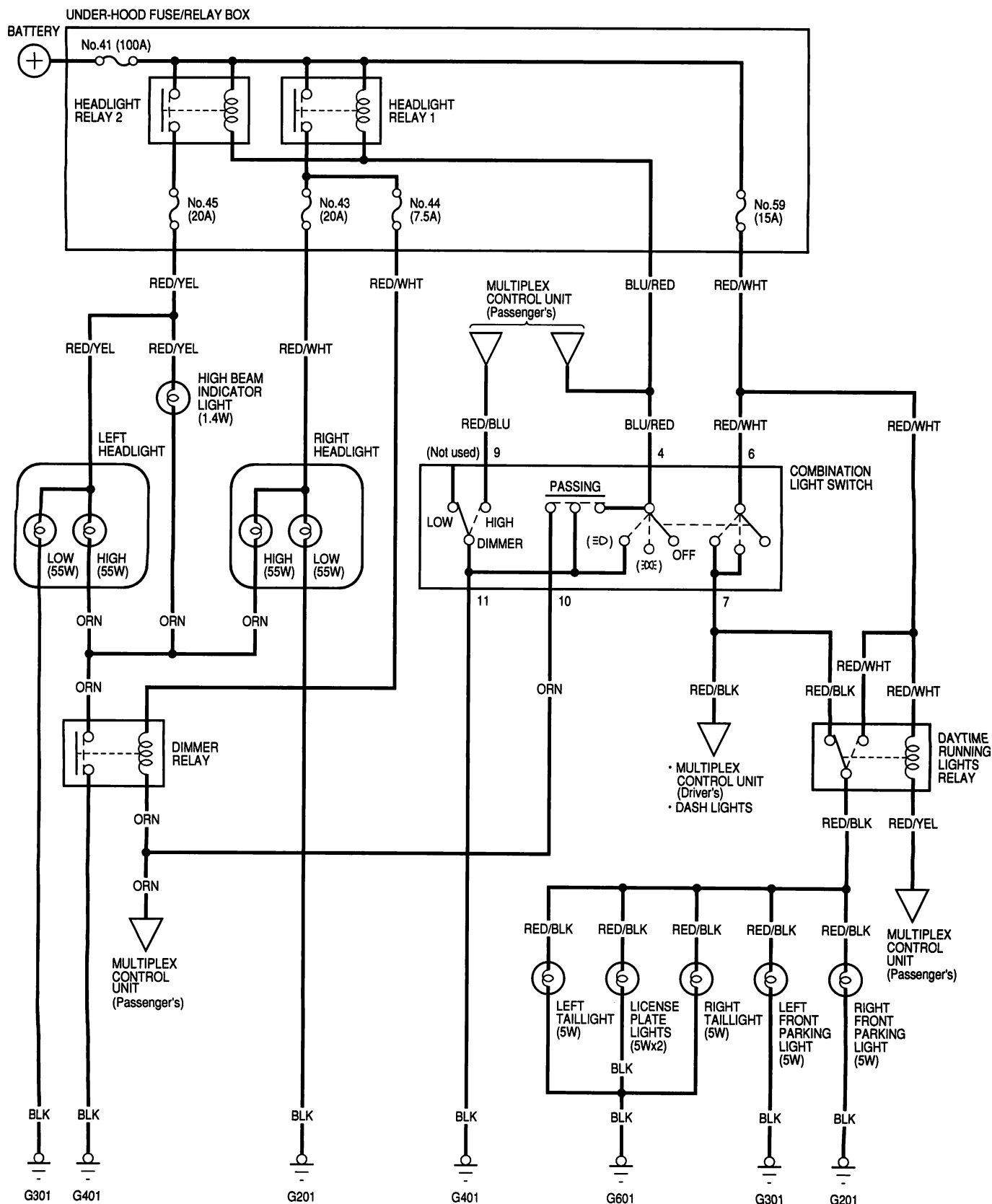
\*1 : LHD type  
\*2 : RHD type





## Lighting System

### Circuit Diagram (With Daytime Running Lights)





# Lighting System

## Combination Light Switch Test/Replacement (cont'd)

Lighting switch (With daytime running lights):

Terminal		4	9	10	11	6	7
Position							
Headlight switch	OFF						
	☒					○ — ○	
	☐ LOW	○ —			○	○ —	○
	☐ HIGH	○ —	○ —		○	○ —	○
Passing switch	OFF						
	ON	○ —		○ —	○		

Lighting switch:

Terminal		4	10	11	6	7
Position						
Headlight switch	OFF					
	☒				○ — ○	
	☐ LOW	○ —		○	○ —	○
	☐ HIGH	○ —		○	○ —	○
Passing switch	OFF					
	ON	○ —	○ —	○		

Turn signal switch:

Terminal		12	13	14
Position				
LEFT		○ —	○	
NEUTRAL				
RIGHT			○ —	○

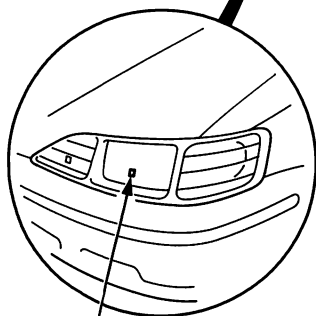
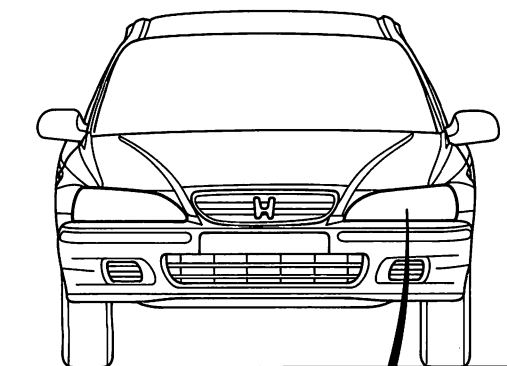
## Adjustment

### ⚠ CAUTION

Headlights become very hot in use; do not touch them or attaching hardware immediately after they have been turned off.

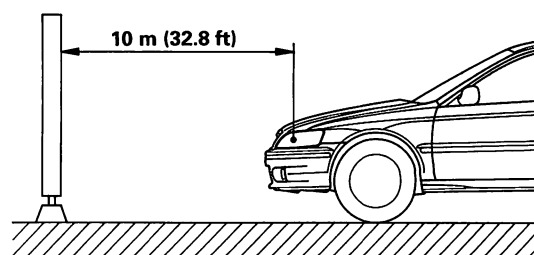
Before adjusting the headlights:

- Park the vehicle on level ground.
- Make sure the tyre air pressure is correct.
- The driver or someone who weighs the same should sit in the driver's seat.

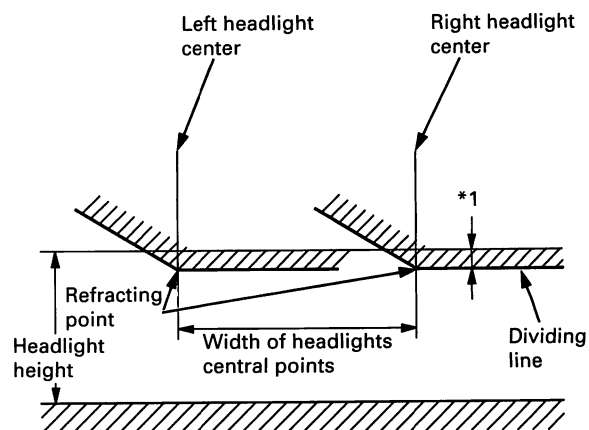


**HEADLIGHT (LOW BEAM)  
CENTRAL POINT**

1. Set the vehicle in front of the screen as shown below.



2. Turn the headlights low beam on, and adjust the headlights by turning the adjusters.



- \*1 130 mm (5.1 in): Fuel full  
150 mm (5.9 in): Fuel empty

# Headlights

## HID Bulb Removal

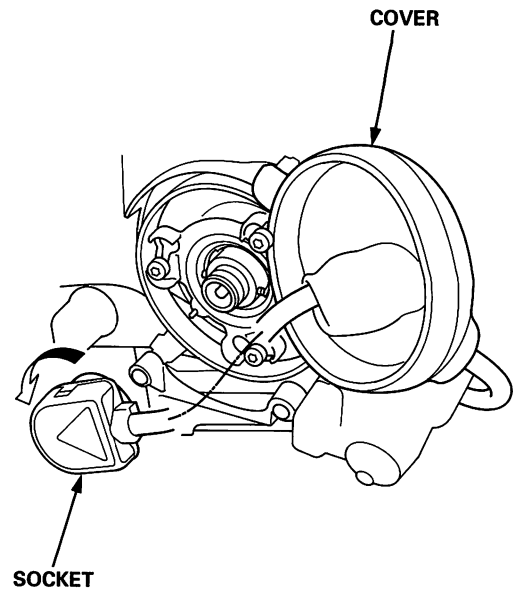
### ⚠ WARNING

A transient high tension (25,000 V) occurs at the bulb sockets of the high intensity discharged (HID) lamps when the combination light switch is turned ON. It may cause serious electrical shock or electrocution if you do not observe the cautions.

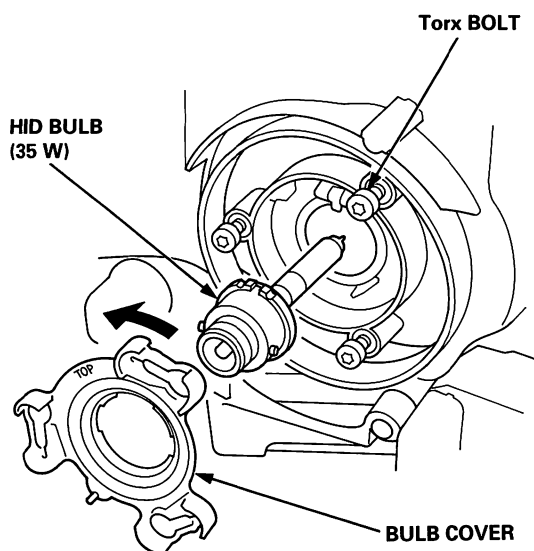
### ⚠ CAUTION

- Never turn on the combination light switch before fitting the HID bulbs to their bulb sockets and completing the reassembly of their headlight assembly.
- Do not service the headlights assembly in wet conditions, such as rain or snow, near a sprinkler system, or when your hands are wet to prevent electrocution.
- Do not touch the surface of the HID bulbs with your bare hands and do not stain it with any oils and fats.
- Do not disassemble the ballast unit.
- Do not turn on the HID bulb by using power source other than the battery mounted on your vehicle.

1. Combination light switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable.
3. Remove the screw from the caution label.
4. Remove the Torx bolt, then turn over the cover from the headlight assembly.
5. Turn the socket 45° counterclockwise to remove it from the bulb.



6. Loosen the three Torx bolts.
7. Turn the bulb cover 45° counterclockwise to remove it from the headlight assembly.
8. Remove the bulb from the headlight assembly.



9. Install the new bulb in the reverse order of removal.

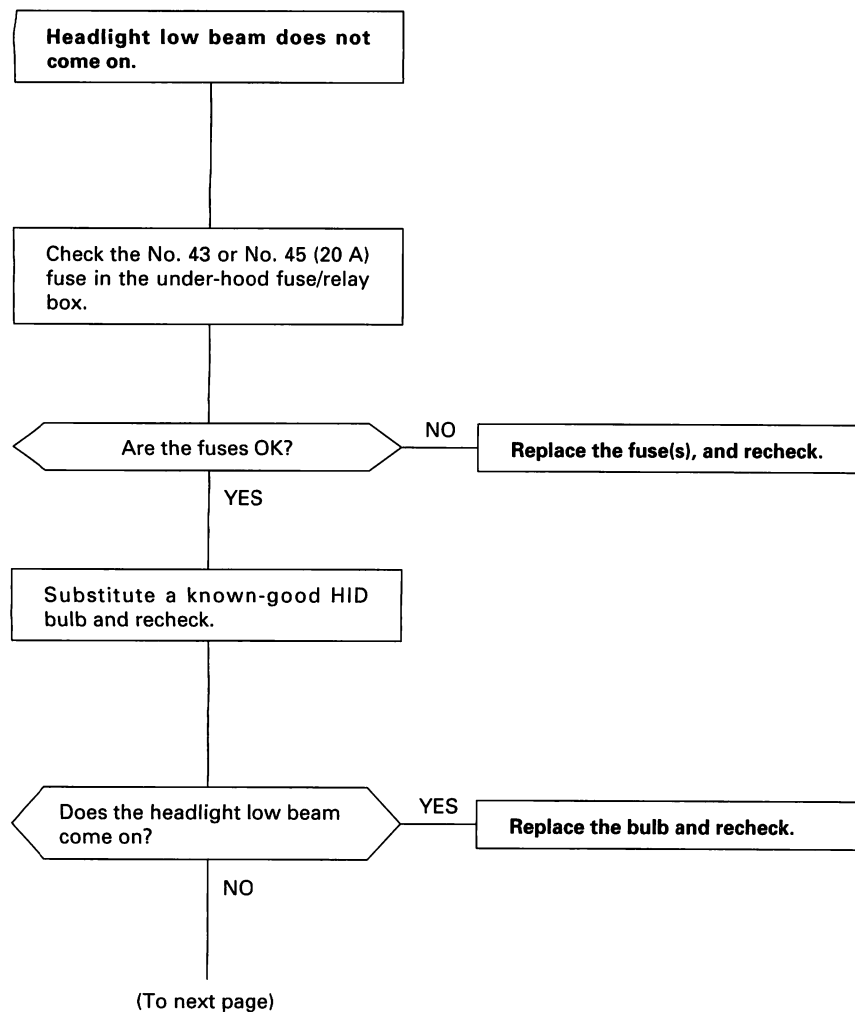


# Headlights

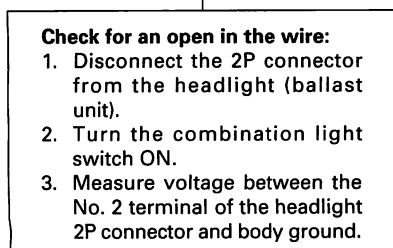
## HID Lamp System Troubleshooting

### ⚠ CAUTION

Never turn on the combination light switch before fitting the HID bulbs to their bulb sockets and completing the reassembly of their headlight assembly.



(From previous page)

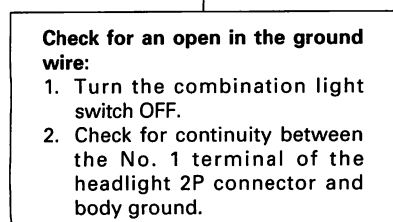


Is there battery voltage?

NO

- Faulty the headlight relays.
- An open in the wire between the headlight and under-hood fuse/relay box.

YES



Is there continuity?

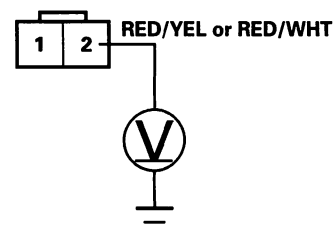
NO

- An open in the wire
- Poor ground G201 and G301.

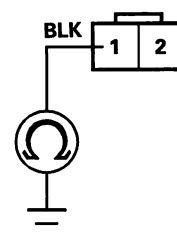
YES

**Substitute a known-good ballast unit, and recheck. If the symptom/indication goes away, replace the original ballast unit.**

#### HEADLIGHT 2P CONNECTOR



Wire side of female terminals



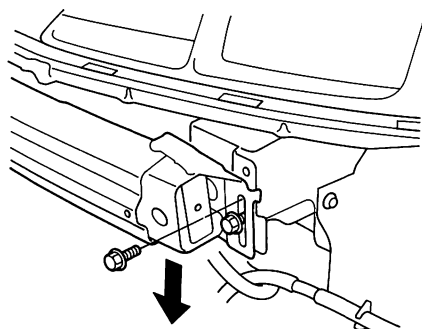
# Headlights

## Replacement

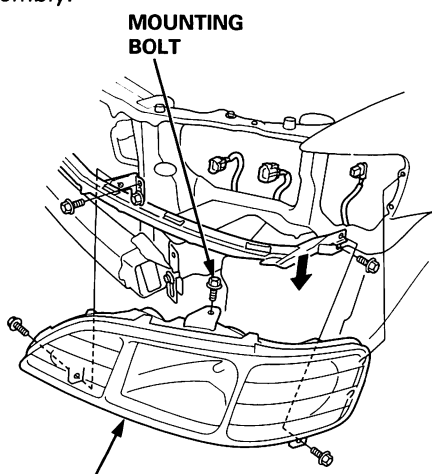
### ⚠ CAUTION

Headlights become very hot in use; do not touch them or attaching hardware immediately after they have been turned off.

1. Remove the front bumper (see section 20).
2. Remove the front bumper beam upper mounting bolt and loosen the front bumper beam lower mounting bolt (see section 20).



3. Disconnect each connector and remove the mounting bolts, then remove the headlight assembly.

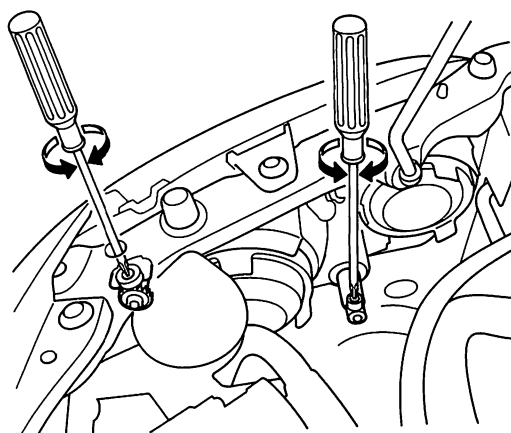


HEADLIGHT/FRONT PARKING LIGHT/  
TURN SIGNAL LIGHT ASSEMBLY

HEADLIGHT: 55/35 W (with HID lamp)  
: 55/55 W (without HID lamp)  
FRONT PARKING LIGHT: 5 W  
TURN SIGNAL LIGHT: 21 W

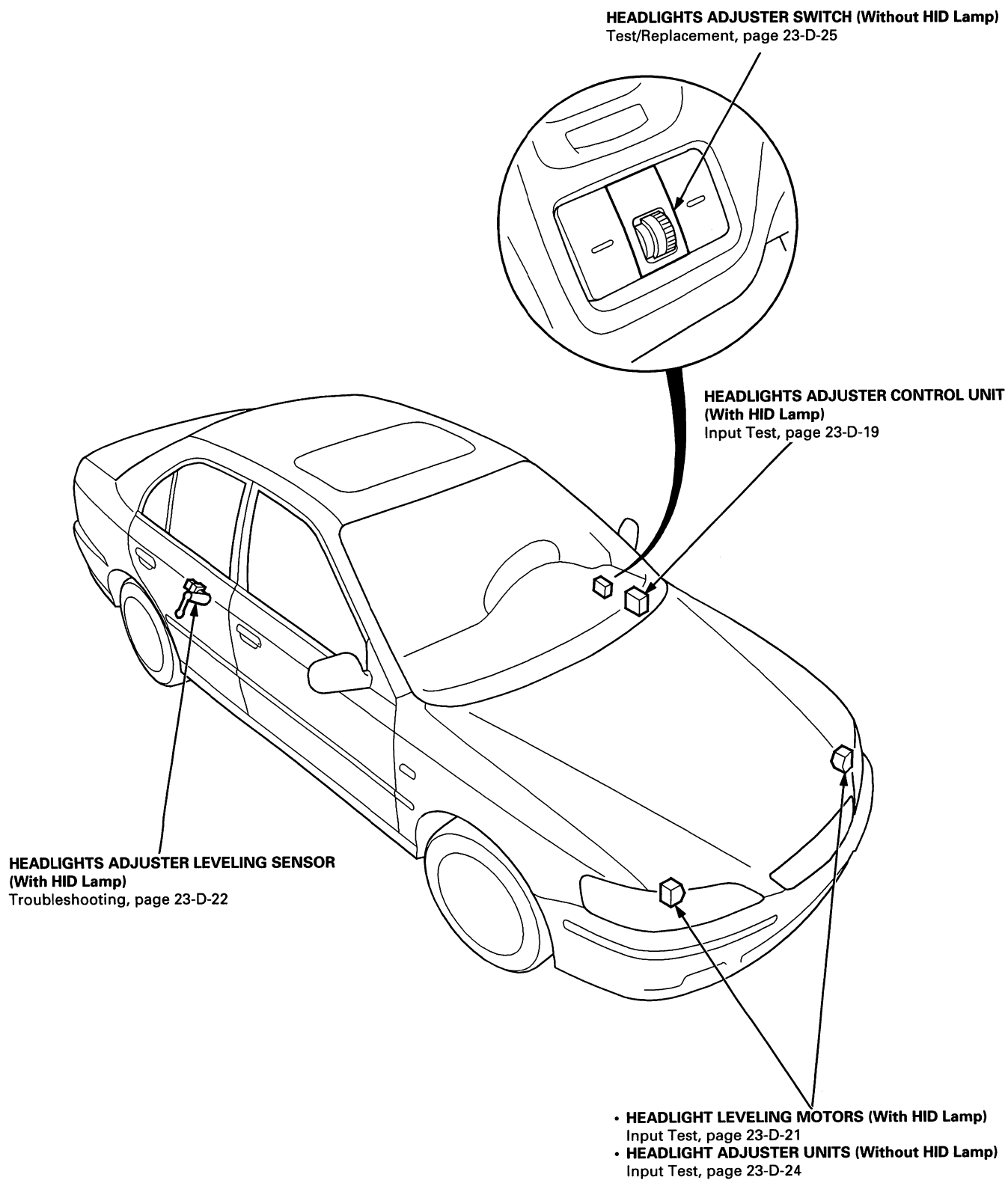
4. Install the headlight in the reverse order of removal.
5. After installing, adjust the headlights (see page 23-D-9).

NOTE: As the outer lenses are made of an acryliccoated, polycarbonated material, do not cover the headlights when they are turned on.



## Component Location Index

NOTE: LHD type is shown, RHD type is similar.



# Headlights Adjuster

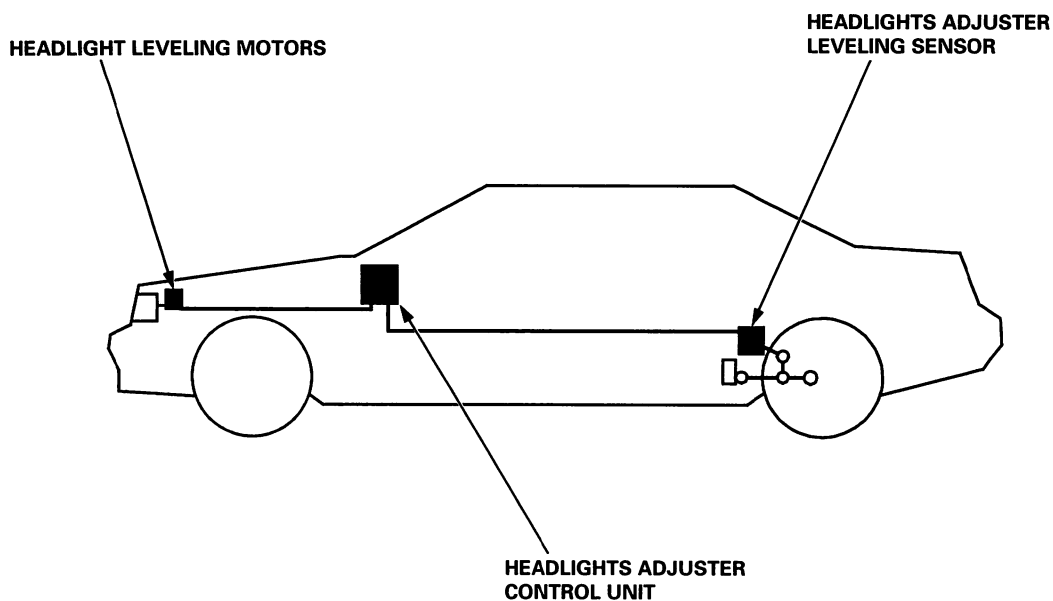
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## Description

Automatic headlights adjuster system is composed of the headlights adjuster control unit, headlights adjuster leveling sensor, and left and right headlight leveling motors.

The system detects the vehicle posture every three minutes during running constantly with the headlight switch ON, and after eight seconds when the vehicle is stopped running with the ignition switch ON (II) and headlight switch ON.

If the vehicle posture has been changed, adjust the headlight vertical position automatically.



### Headlights Adjuster Leveling Sensor:

The headlights adjuster leveling sensor is located between right rear suspension sub-frame and the right side control arm connecting by the shaft, and detects the vehicle posture and sends a voltage signal (approximately 0.4 V to 4.6 V) to the headlights adjuster control unit.

### Headlights Adjuster Control Unit:

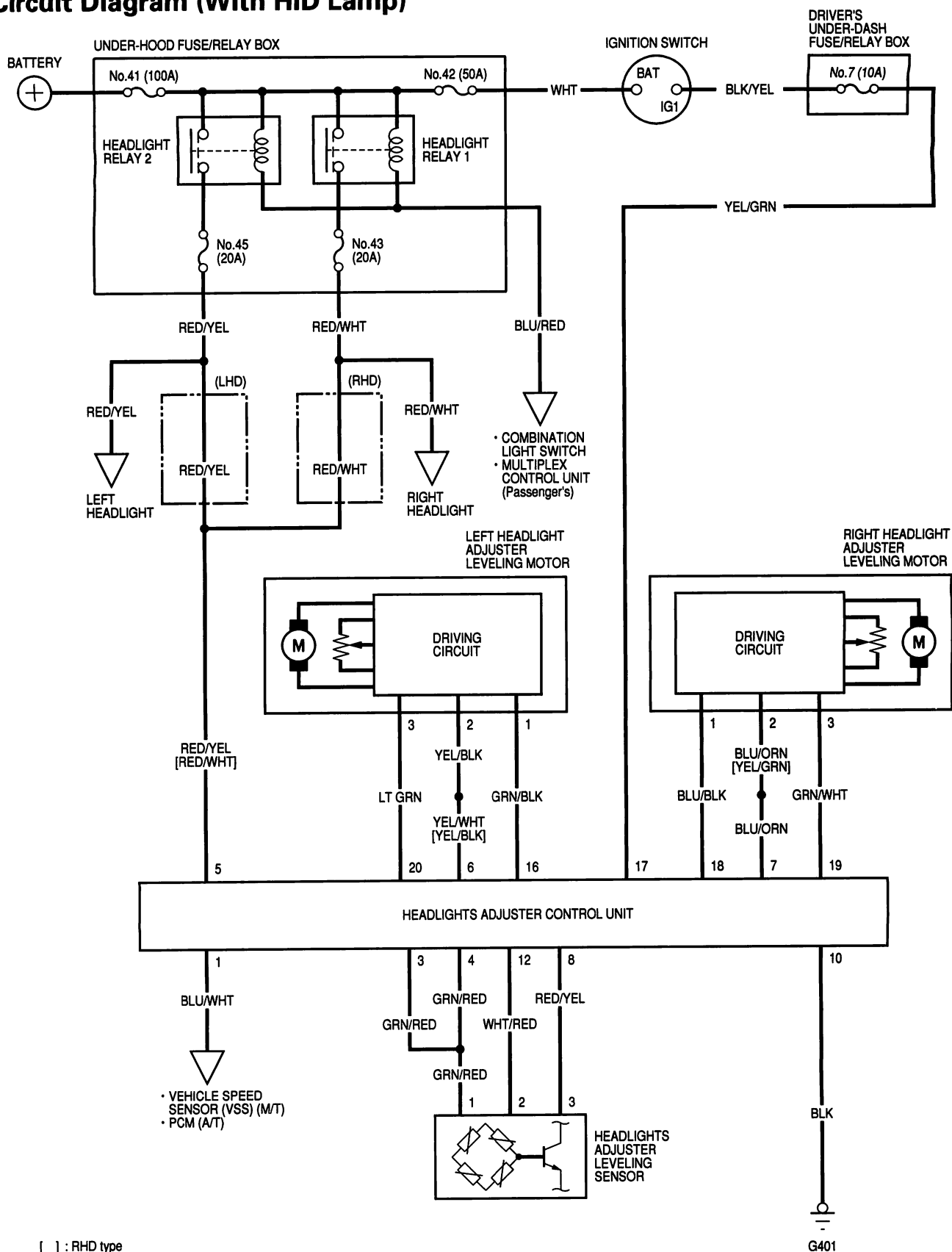
The headlights adjuster control unit is located in the driver's dashboard lower cover. The headlights adjuster control unit send a voltage signal (approximately 2 V to 11 V) that is based on the voltage signal from the sensor to the left and right headlight leveling motors.

### Headlight Leveling Motor:

The headlight leveling motor is located behind the left and right headlights and adjusts the headlights vertical position by receiving the voltage signal (approximately 2 V to 11 V) from the headlights adjuster control unit.



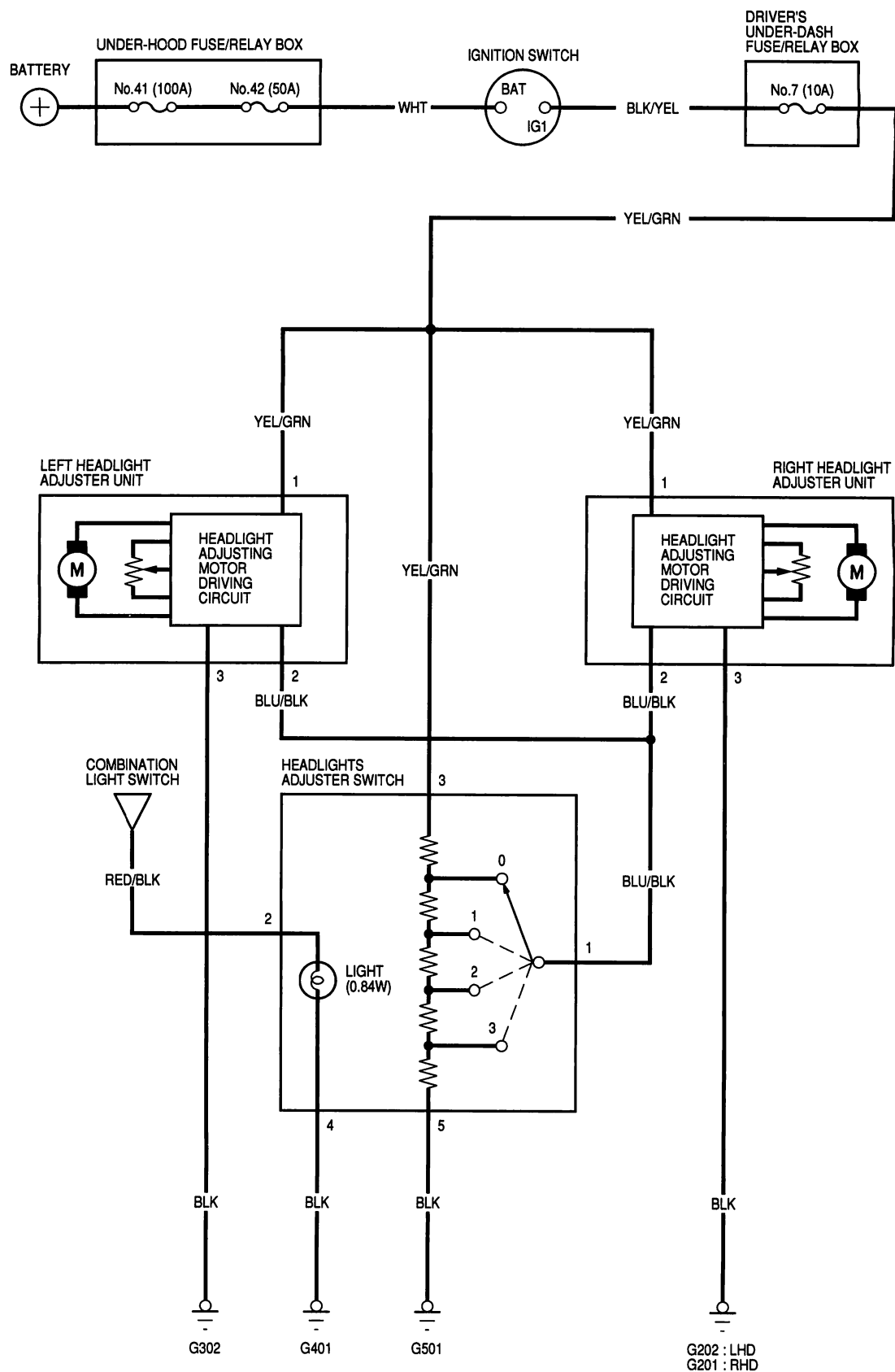
## Circuit Diagram (With HID Lamp)



[ ] : RHD type

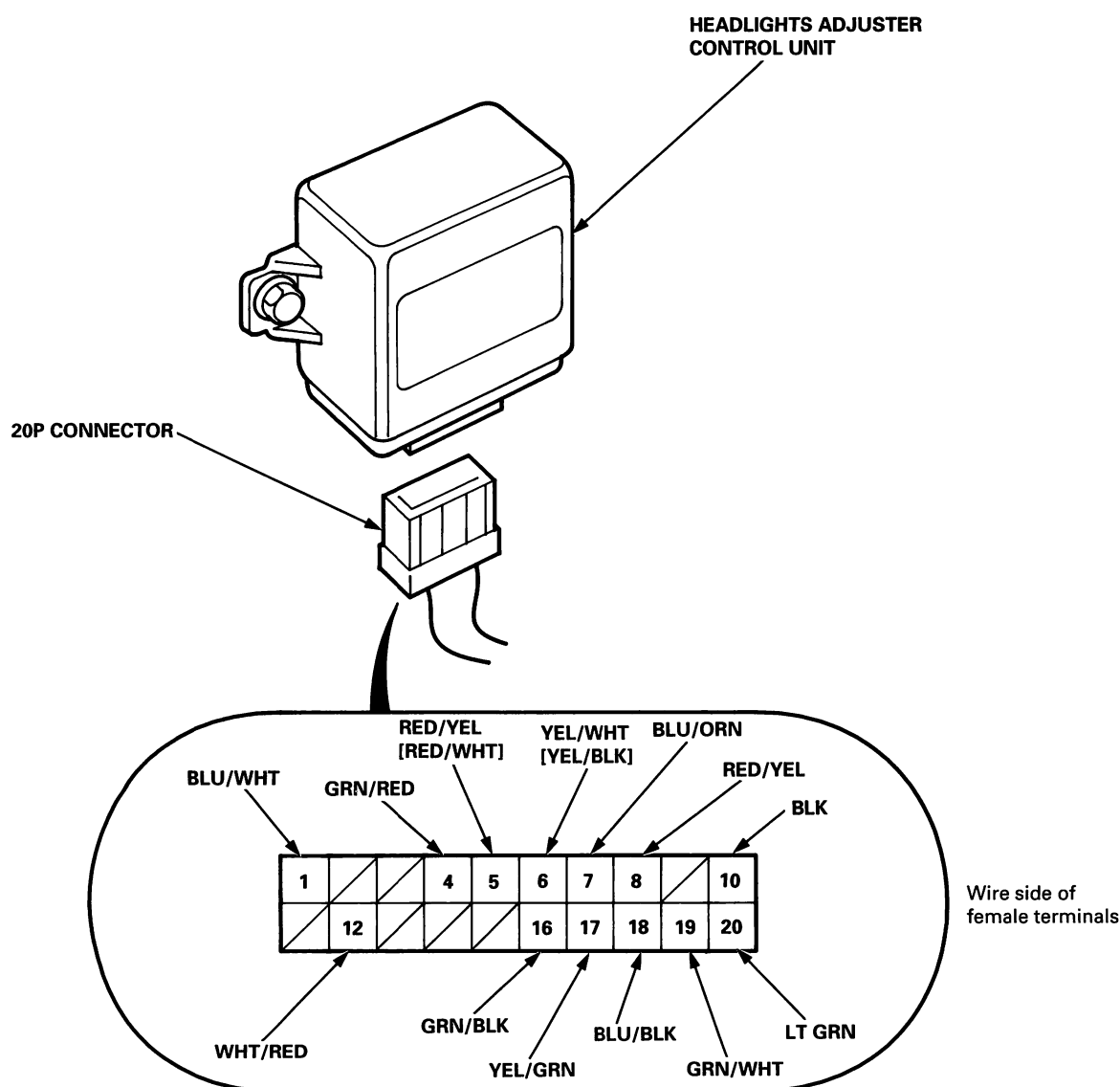
# Headlights Adjuster

## Circuit Diagram (Without HID Lamp)



## Control Unit Input Test (With HID Lamp)

1. Remove the dashboard lower cover (see section 20).
2. Disconnect the 20P connector from the control unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty, replace it.



[ ]: RHD type

(cont'd)



# Headlights Adjuster

## Control Unit Input Test (With HID Lamp) (cont'd)

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
17	YEL/GRN	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 7 (10 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
5	RED/YEL [RED/WHT]	Headlights switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 45 (20 A) [No. 43 (20 A)] fuse in the under-hood fuse/relay box</li> <li>• Faulty headlight relay 2 [1]</li> <li>• An open in the wire</li> </ul>
10	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>

Reconnect the 20P connector to the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
12	WHT/RED	Ignition switch ON (II) and headlights switch ON	Check for voltage to ground: There should be 5 V.	<ul style="list-style-type: none"> <li>• Faulty headlights adjuster control unit</li> <li>• An open in the wire</li> </ul>
8	RED/YEL	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
3	GRN/RED	Ignition switch ON (II), headlights switch ON and change the vehicle level from high to low*1.	Check for voltage to ground: Voltage should change within approx. 0.4 V to 4.5 V.	<ul style="list-style-type: none"> <li>• Faulty headlights adjuster leveling sensor</li> <li>• An open in the wire</li> </ul>
4	GRN/RED			
16	GRN/BLK	Ignition switch ON (II) and headlights switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty left headlight leveling motor</li> <li>• An open in the wire</li> </ul>
18	BLU/BLK			<ul style="list-style-type: none"> <li>• Faulty right headlight leveling motor</li> <li>• An open in the wire</li> </ul>
19	GRN/WHT	Ignition switch ON (II)	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
20	LT GRN			
6	YEL/WHT [YEL/BLK]	Ignition switch ON (II), headlights switch ON and change the vehicle level and hold for about ten seconds in each level position*1.	Check for voltage to ground: Voltage should change in each level position within approx. 2 V to 11 V (headlights leveling motors should run.)	<ul style="list-style-type: none"> <li>• Faulty left headlight leveling motor</li> <li>• An open in the wire</li> </ul>
7	BLU/ORN			<ul style="list-style-type: none"> <li>• Faulty right headlight leveling motor</li> <li>• An open in the wire</li> </ul>

[ ]: RHD type

\*1: You can test by removing the headlights adjuster leveling sensor mounting nut from the control arm and moving the shaft.

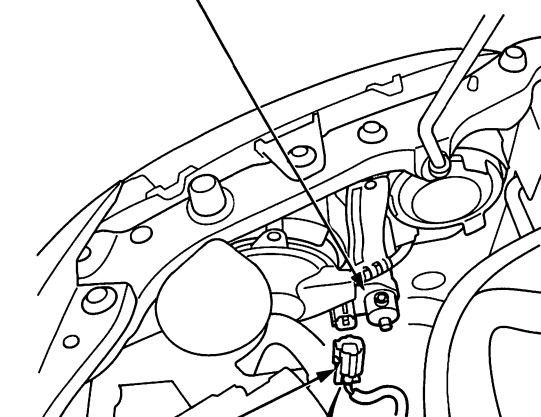
## Headlight Leveling Motor Input Test

NOTE: Before testing, check for:

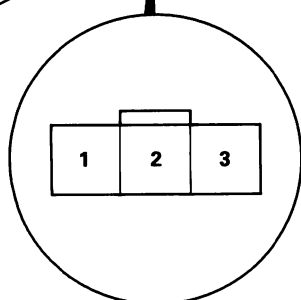
- a blown No. 43 (20 A) or No. 45 (20 A) fuse in the under-hood fuse/relay box, or
- a blown No. 7 (10 A) fuse in the driver's under-dash fuse/relay box, or
- bent, loose, or corroded terminals.

1. Disconnect the 3P connector from the each headlight leveling motor.

HEADLIGHT LEVELING MOTOR



3P CONNECTOR



Wire side of female terminals

2. Check for voltage between the No. 1 terminal and body ground with the ignition switch ON (II). There should be battery voltage.
  - If there is no voltage, check for an open in the GRN/BLK [BLU/BLK] wire.
  - If there is battery voltage, go to step 3.

3. Check for continuity between the No. 3 terminal and body ground.

There should be continuity.

- If there is no continuity, check for:
  - an open in the LT GRN [GRN/WHT] wire, or
  - a faulty headlights leveling motor.
- If there is continuity, go to step 4.

4. Disconnect the 20P connector from the headlights adjuster control unit.

5. Check for continuity between the No. 2 terminal of the left [right] headlight leveling motor and No. 6 [No. 7] terminal of the headlights adjuster control unit 20P connector.

There should be continuity.

- If there is no continuity, check for an open in the wire.
- If there is continuity, go to step 6.

6. If all tests are normal, but the headlight leveling motor does not work, check for frozen, stuck or improperly installed headlight leveling motor. If the mechanical check is OK, replace the headlight leveling motor and housing assembly.

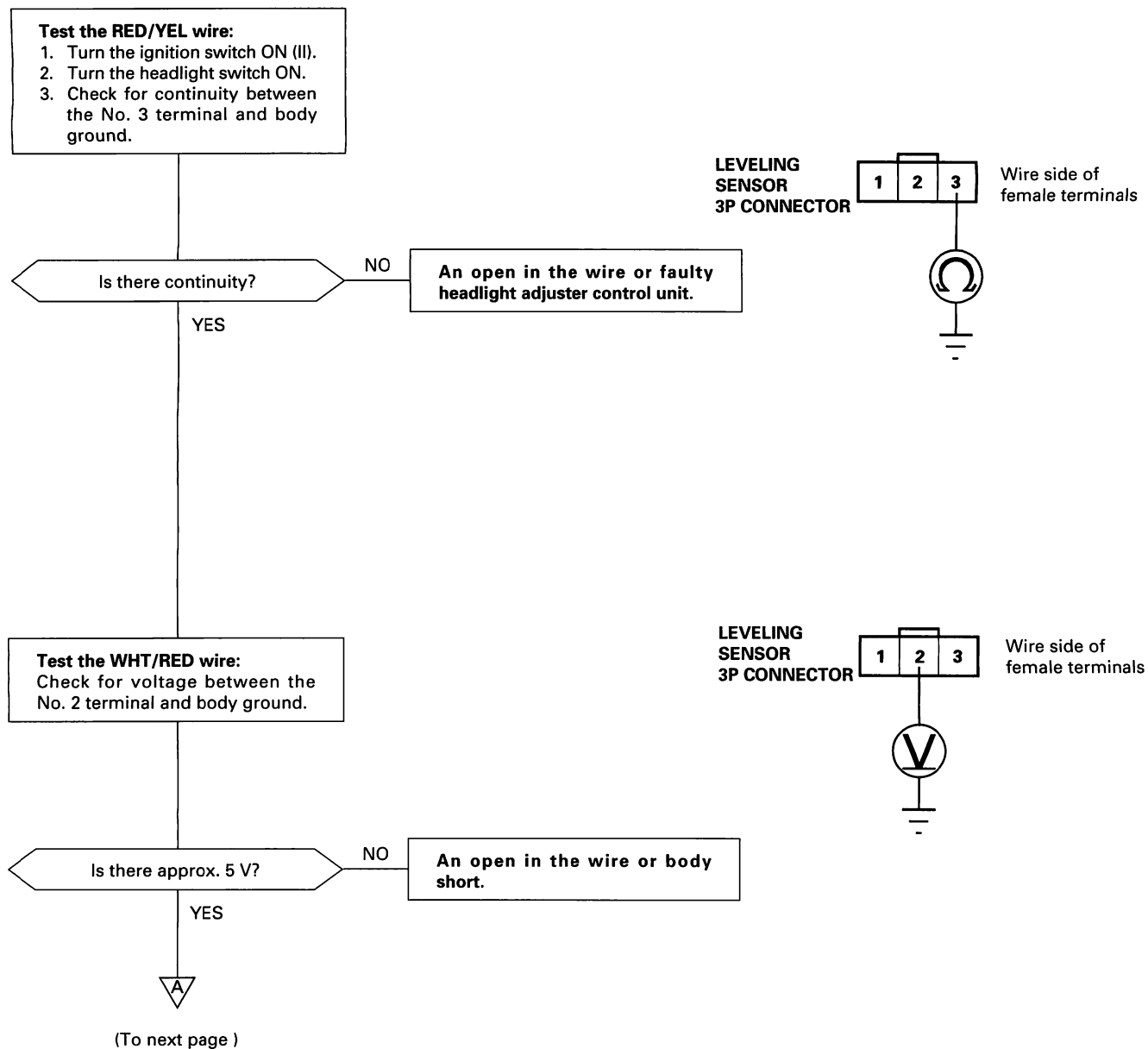
7. After installing, recheck the system.

[ ]: Right headlight leveling motor

# Headlights Adjuster

## Headlights Adjuster Leveling Sensor Troubleshooting (With HID Lamp)

Before testing, inspect the No. 45 (20 A) [No. 43 (20 A)] fuse in the under-hood fuse/relay box and No. 7 (10 A) fuse in the driver's under-dash fuse/relay box.



[ ]: RHD type

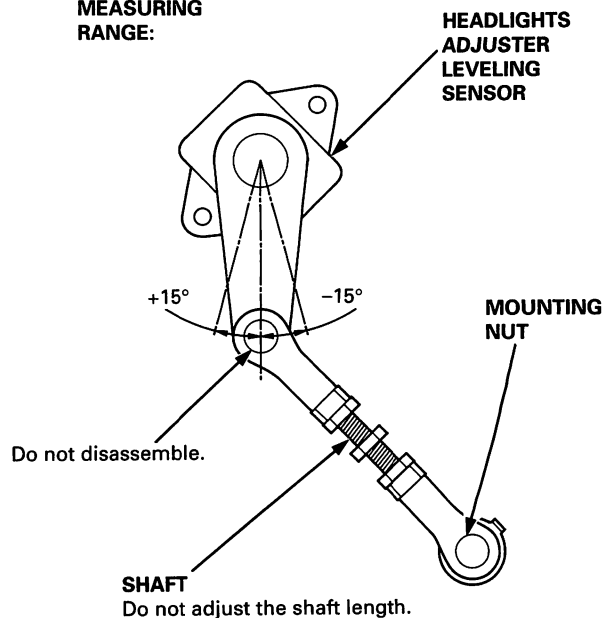
(From previous page)



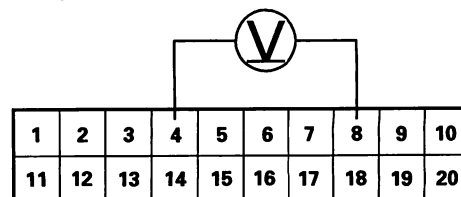
**Test the GRN/RED wire:**

1. Raise the vehicle, and make sure it is securely supported.
2. Remove the headlights adjuster leveling sensor mounting nut from the control arm, and make the shaft move free.
3. Measure the voltage between the No. 4 and No. 8 terminals by moving the shaft slowly.

**MEASURING RANGE:**



**HEADLIGHTS ADJUSTER CONTROL UNIT  
20P CONNECTOR**



Wire side of female terminals

Is the voltage within the specifications shown on the graph?

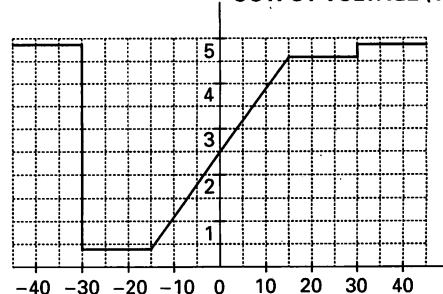
NO

**Faulty headlights adjuster leveling sensor.**

YES

**Check the headlights adjuster control unit.**

**OUTPUT VOLTAGE (V)**



**ANGLE [°]**

# Headlights Adjuster

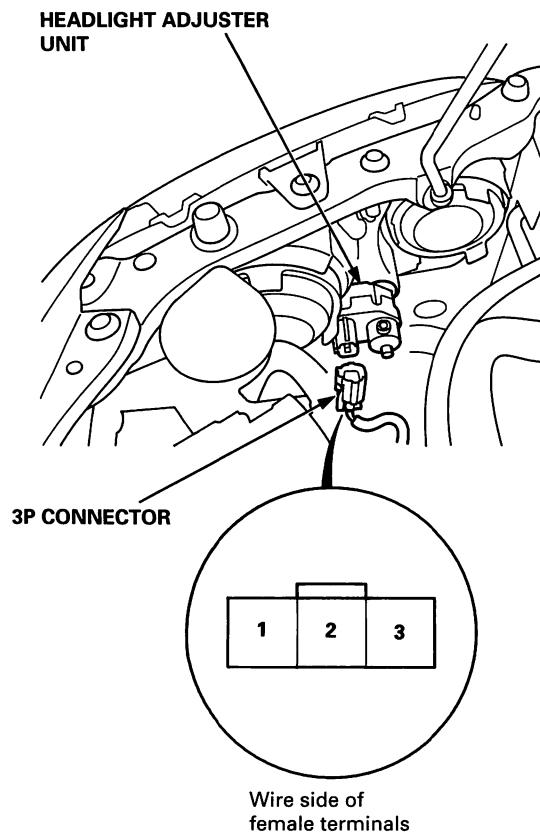
## Headlights Adjuster Unit Input Test

**Without HID lamp:**

**NOTE:** Before testing, check for:

- a blown No. 7 (10 A) fuse in the driver's under-dash fuse/relay box, or
- bent, loose, or corroded terminals.

1. Disconnect the 3P connector from the each headlight adjuster unit.

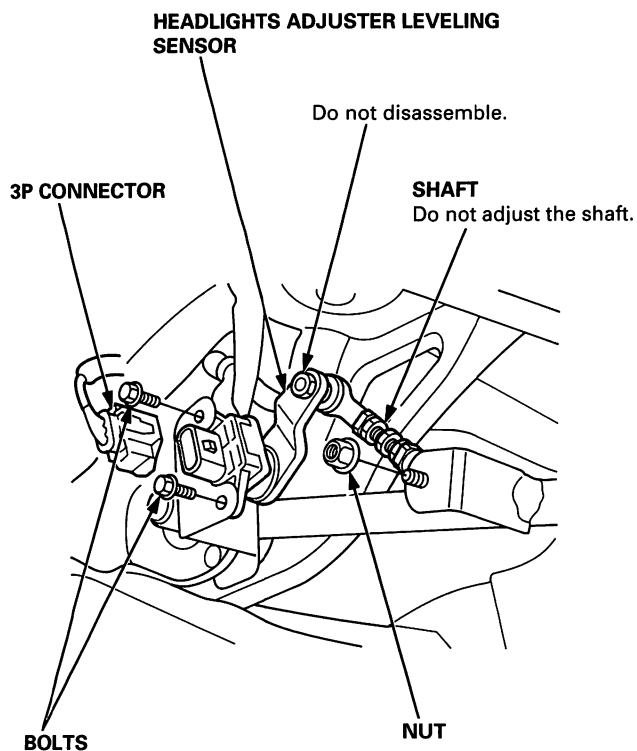


2. Check for voltage between the No. 1 terminal and body ground with the ignition switch ON (II). There should be battery voltage.
  - If there is no voltage, check for an open in the YEL/GRN wire.
  - If there is battery voltage, go to step 3.

3. Check for continuity between the No. 3 terminal and body ground. There should be continuity.
  - If there is no continuity, check for:
    - an open in the BLK wire, or
    - poor ground (G202, G302 [G201, G302]).
  - If there is continuity, go to step 4.
4. Using an ohmmeter, measure resistance between the No. 2 terminal and body ground in position "0" of the headlight adjuster switch. There should be approximately 4,000 ohms.
  - If resistance is not within specification, check for:
    - an open in the BLU/BLK wire, or
    - faulty headlights adjuster switch.
  - If resistance is within specification, go to step 5.
5. If all tests are normal, but the headlight adjuster unit does not work, check for frozen, stuck or improperly installed headlight adjuster unit. If the mechanical check is OK, replace the headlight adjuster unit and housing assembly.
6. After installing, recheck the system.  
[ ]: RHD type

## Headlights Adjuster Leveling Sensor Replacement (With HID Lamp)

1. Raise the vehicle and support it with safety stands in proper location (see section 1).
2. Disconnect the 3P connector from the headlights adjuster leveling sensor.

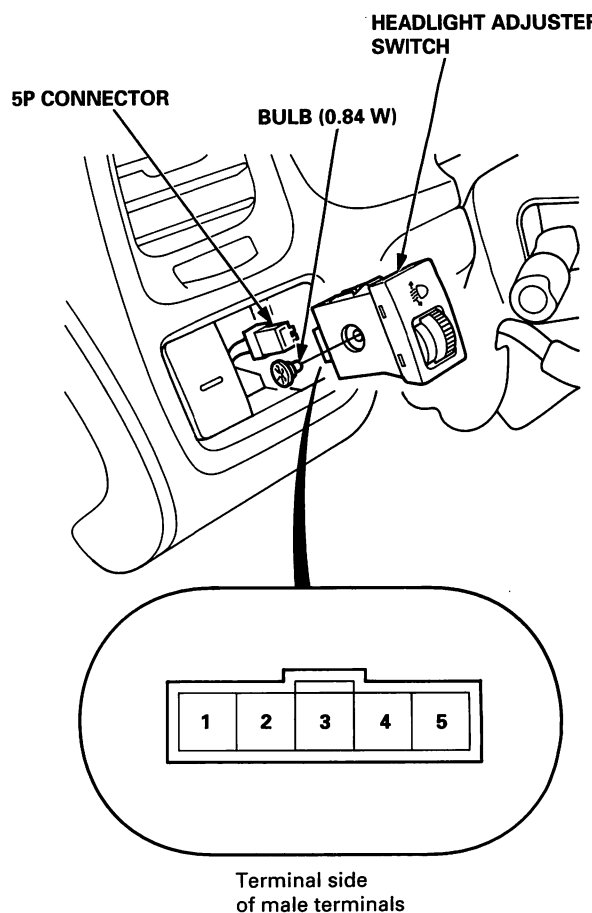


3. Remove the two mounting bolts and nut from the sensor.
4. Install in the reverse order of removal.

**NOTE:** When installing, do not adjust the shaft.

## Switch Test/Replacement (Without HID Lamp)

1. Remove the dashboard lower cover (see section 20).
2. Carefully push the switch out from behind the dashboard.



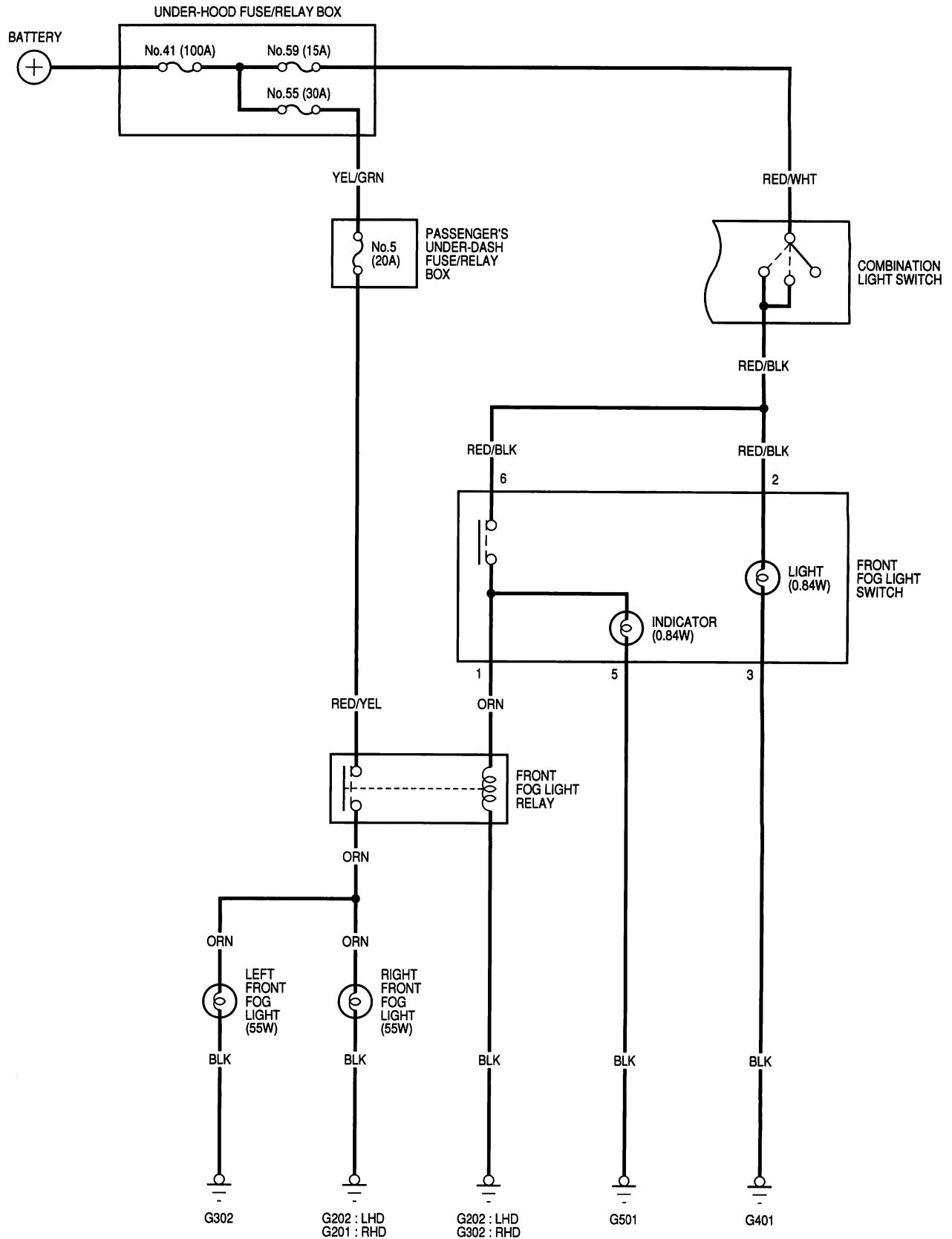
3. Disconnect the 6P connector from the switch.
4. Measure resistance between the No. 3 and No. 5 terminals and No. 1 and No. 3 terminals at positions 0, 1, 2 and 3 by moving the knob.

**Between No. 3 and No. 5 terminals: Approx. 4.7 kΩ**  
**Between No. 1 and No. 3 terminals:**

Knob position	0	1	2	3
Resistance [Approx. (kΩ)]	0.7	1.4	1.7	2.2

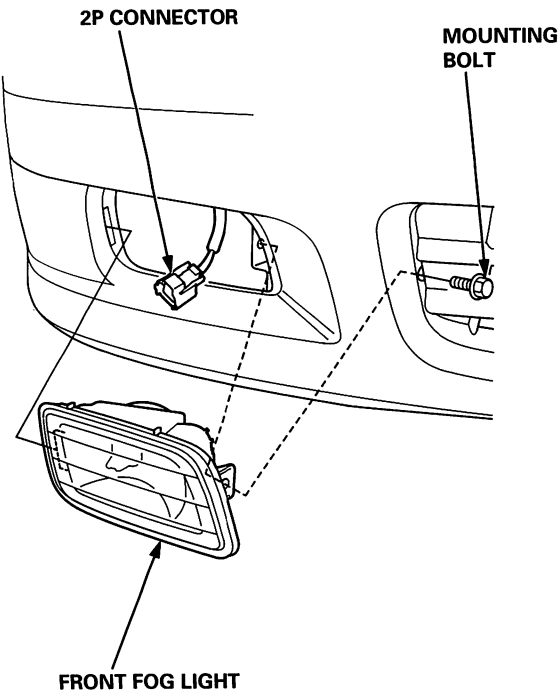
# Front Fog Lights

## Circuit Diagram

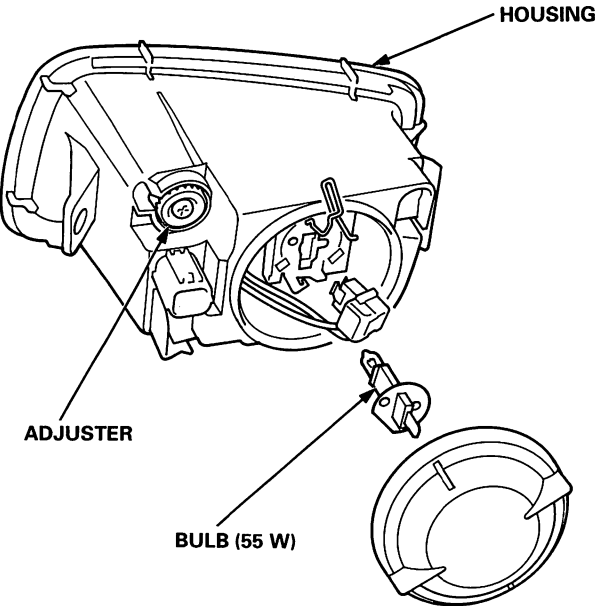


Replacement

1. Remove the mounting bolt.
2. Disconnect the 2P connector, and remove the front fog light.

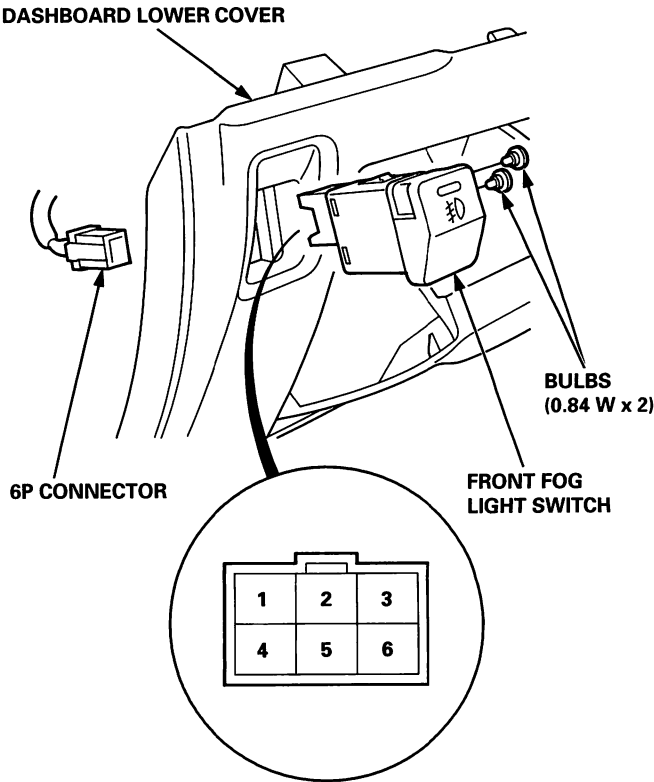


3. Adjust the fog lights to local requirements by turning the adjusters.



Switch Test

1. Carefully push the switch out from behind the dashboard lower cover.



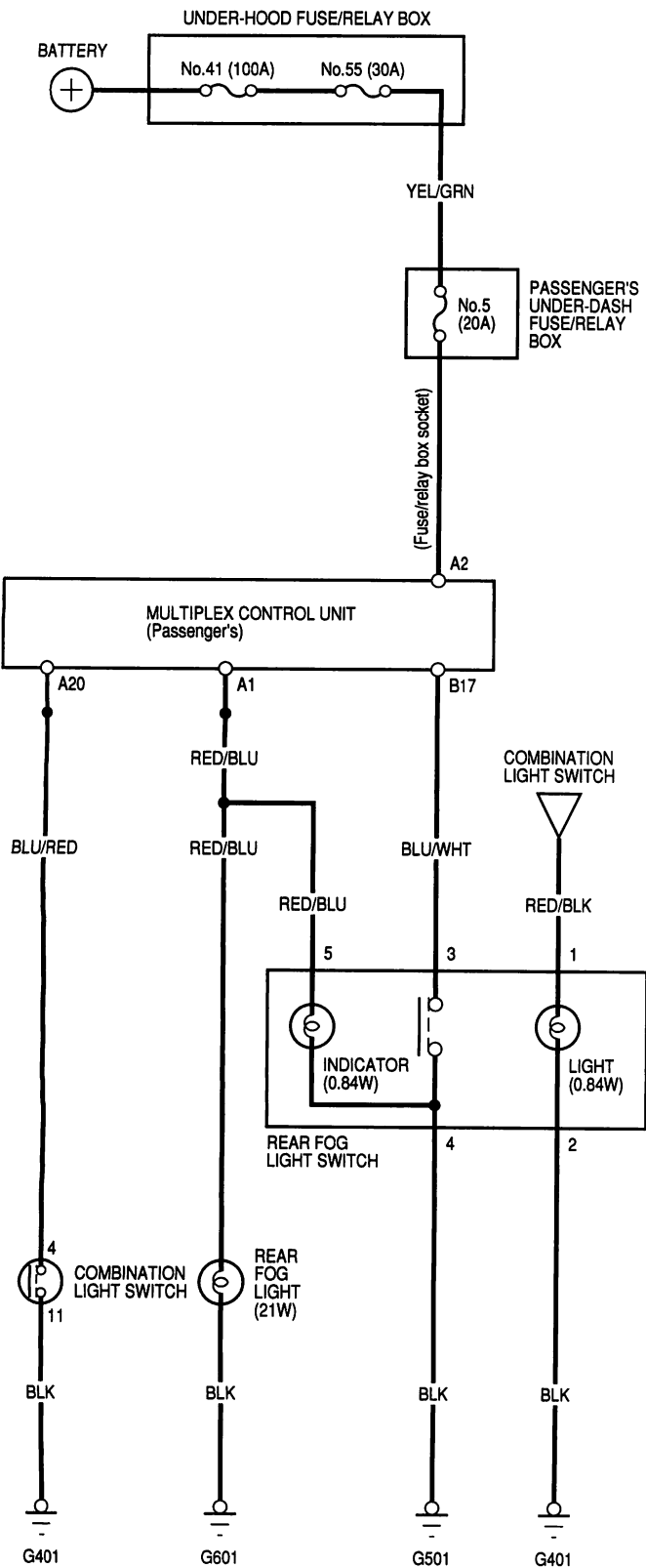
2. Disconnect the 6P connector from the switch.
3. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	5	6	2	3
Position					
OFF					
ON					



# Rear Fog Light

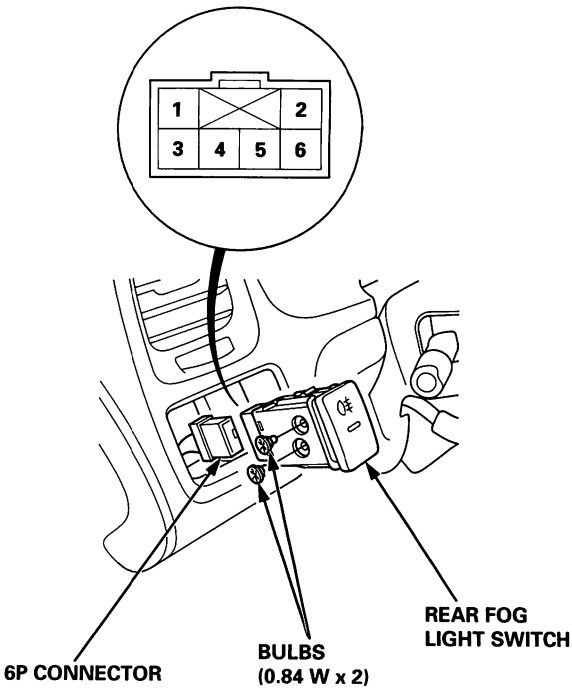
## Circuit Diagram



## Switch Test

1. Remove the dashboard lower cover (see section 20).
2. Carefully push the switch out from behind the dashboard.

NOTE: LHD type is shown, RHD type is similar.



3. Disconnect the 6P connector from the switch.
4. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	2	3	4	5
Position					
OFF					
ON					

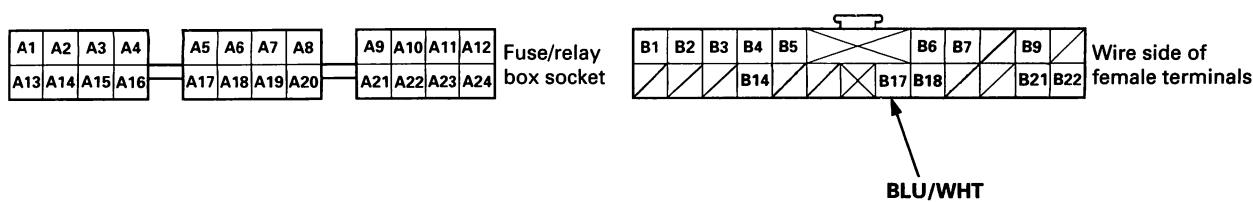


## Control Unit Input Test

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Passenger's):

1. Remove the passenger's under-dash fuse/relay box (23-B-7).
2. Remove the passenger's unit from the passenger's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Disconnect the connectors from the unit.

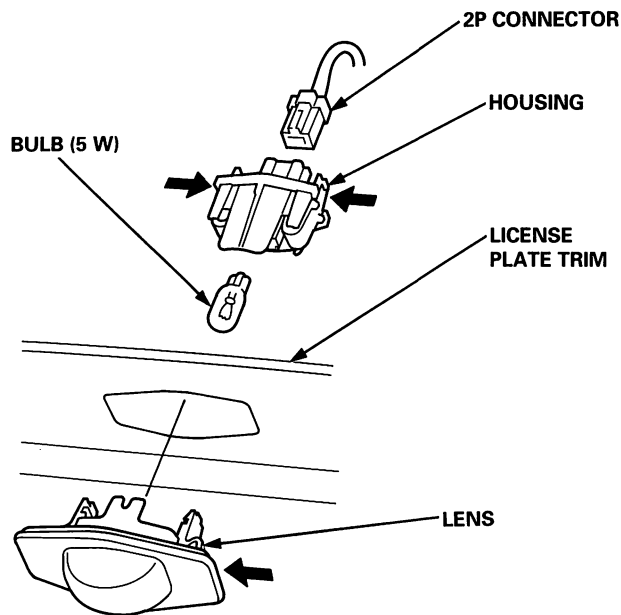
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	Fuse/relay box socket	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Blown bulb</li> <li>• Poor ground (G601)</li> <li>• An open in the wire</li> </ul>
A2		Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 5 (20 A) fuse in the passenger's fuse/relay box</li> </ul>
A20		Combination light switch ON	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Faulty lighting switch</li> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
B17	BLU/WHT	Rear fog light switch ON	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Faulty rear fog light switch</li> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>

## License Plate Lights

## Brake Lights

## Replacement

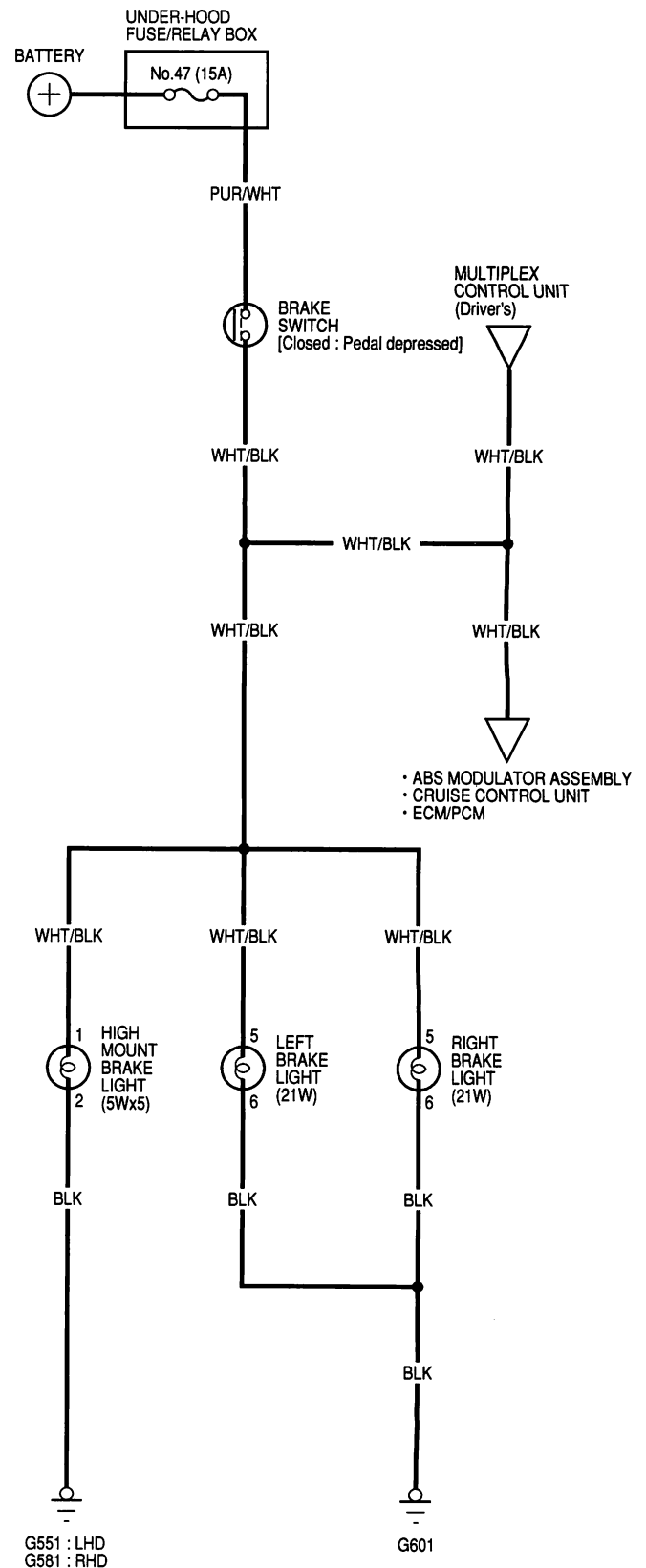
1. Remove the license plate trim (see section 20).
2. Disconnect the 2P connector from the license plate light.



- 3. Separate the lens and housing.**

**NOTE:** The bulb alone can be replaced by removing the light housing from inside of the trunk lid without removing the license plate trim.

### Circuit Diagram

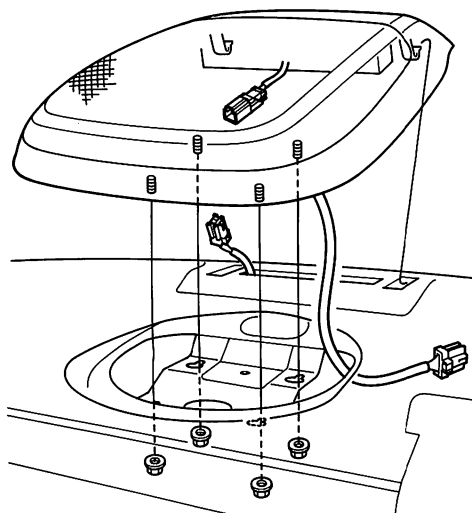


# High Mount Brake Light

## Replacement

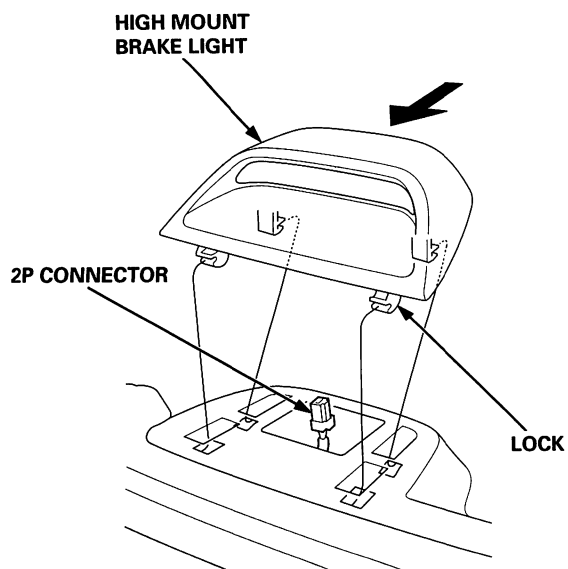
### With BOSE sound system:

1. Remove the woofer speaker (see page 23-F-15).
2. Disconnect the 2P connector and remove the high mount brake light from the rear shelf.

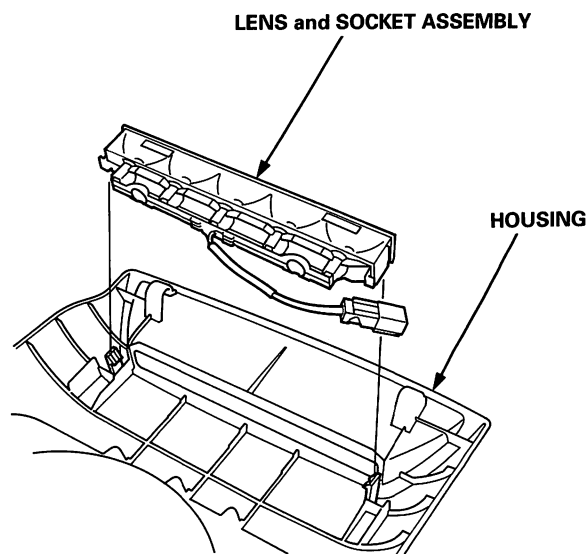


### Without BOSE sound system:

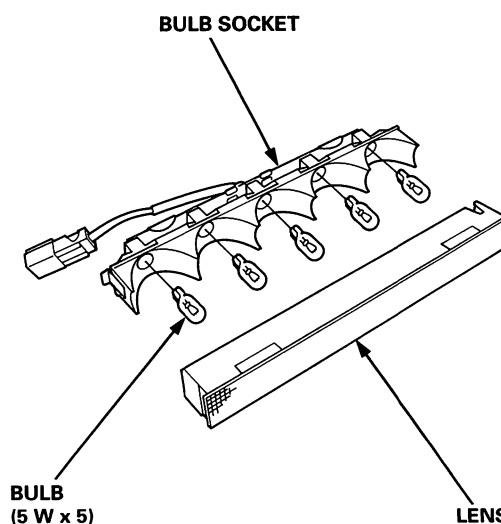
1. Push the light to take off the lock.
2. Pull the high mount brake light out, then disconnect the 2P connector from the light.



3. Remove the lens and socket assembly from the housing.



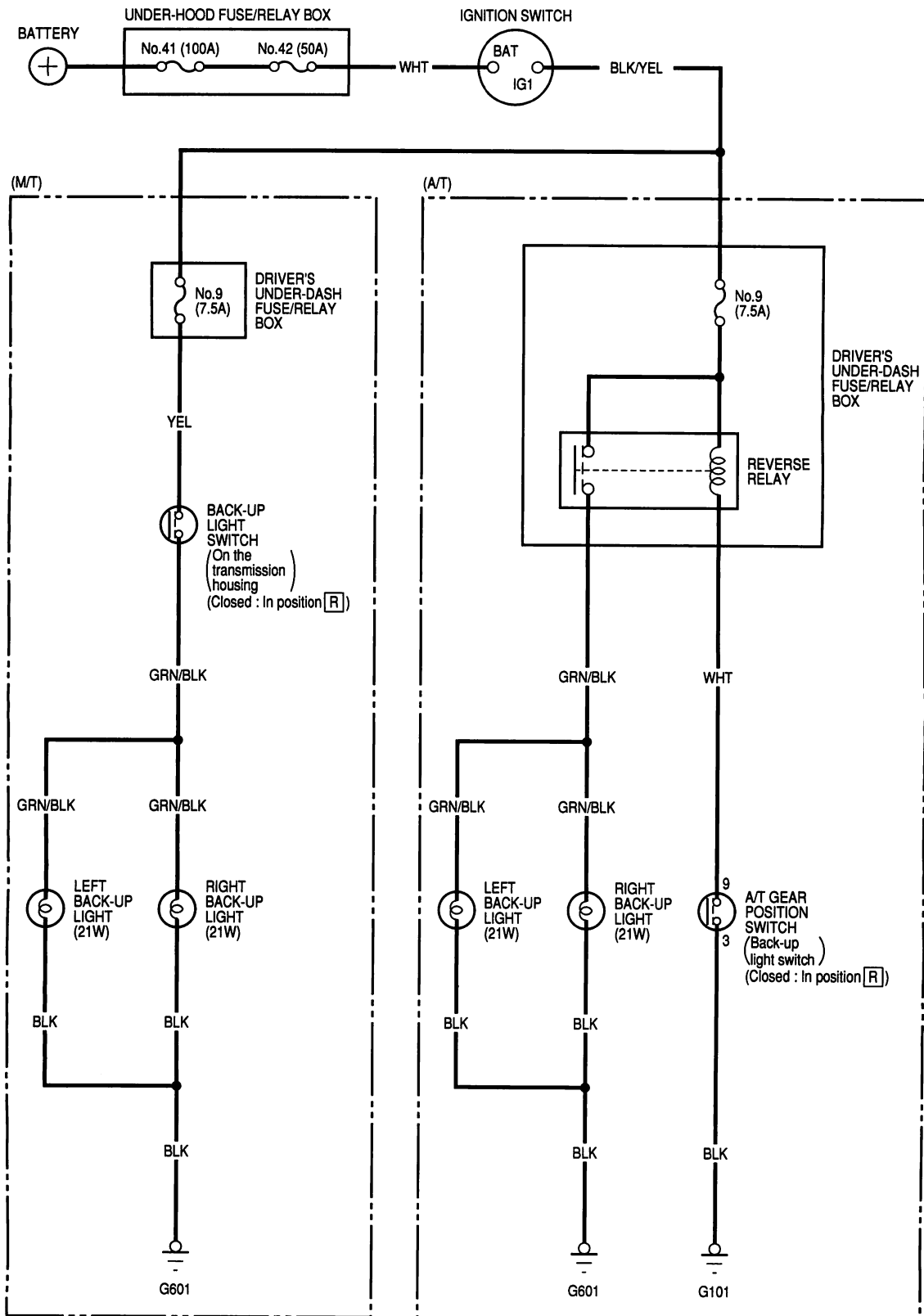
4. Separate the bulb socket and lens, and replace the bulb.



5. Clean the rear window glass, and install the light in the reverse order of removal.

# Back-up Lights

## Circuit Diagram

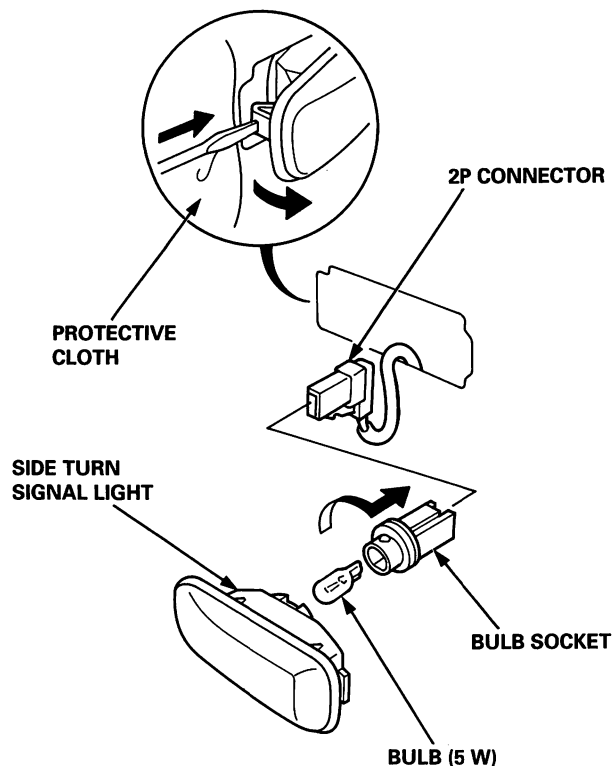




## Replacement

**CAUTION:** Be careful not to damage the front fender.

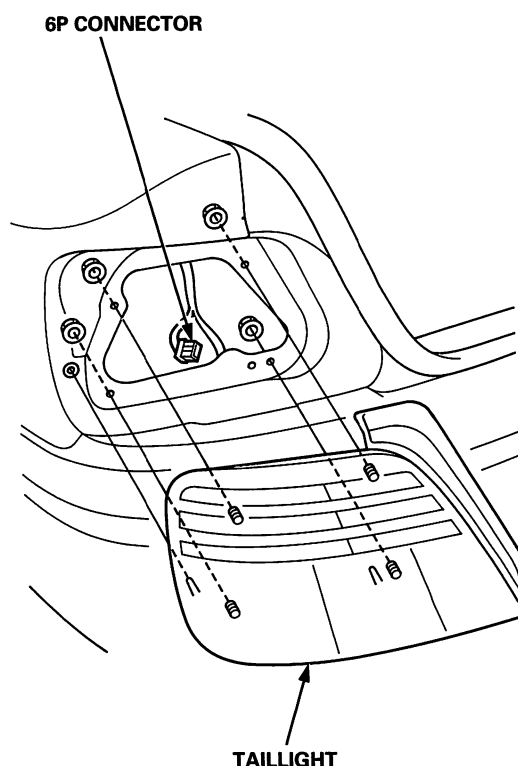
1. Carefully remove the side turn signal light.



2. Disconnect the 2P connector from the bulb socket.
3. Turn the bulb socket 45° counterclockwise to remove it from its housing.
4. Remove the bulb from the bulb socket.

## Replacement

1. Open the trunk lid and pull back the trunk side trim (see section 20).
2. Disconnect the 6P connector from the taillight.



3. Remove the four mounting nuts, then pull out the taillight.

### NOTE:

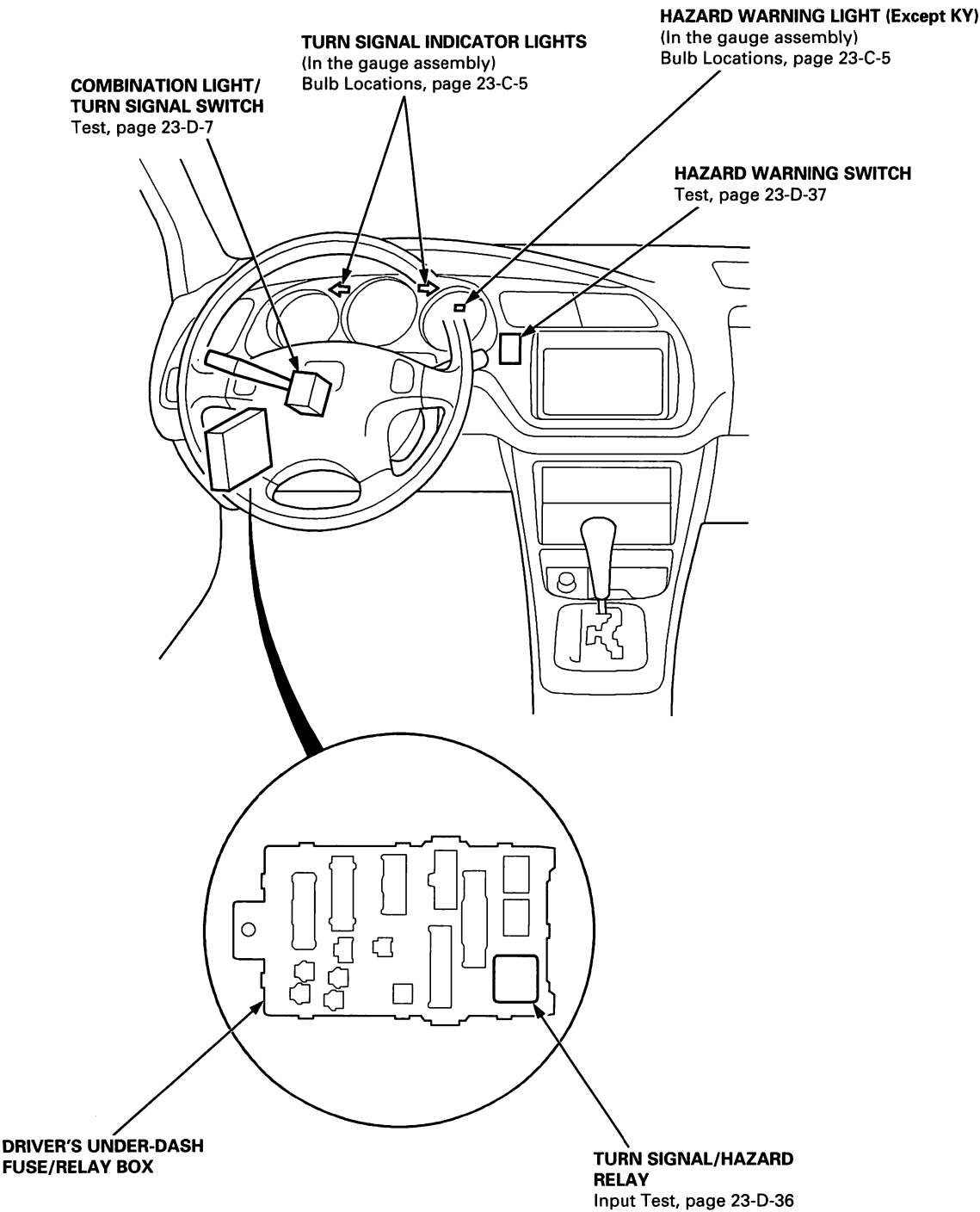
- Inspect the gasket; replace it if it is distorted or stays compressed.
- After installing the taillights, run water over them to make sure they do not leak.

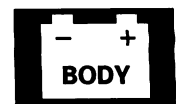
<b>BRAKE LIGHT:</b>	<b>21 W</b>
<b>TURN SIGNAL LIGHT:</b>	<b>21 W</b>
<b>BACK-UP LIGHT:</b>	<b>21 W</b>
<b>REAR FOG LIGHT:</b>	<b>21 W</b>
<b>PARKING LIGHT:</b>	<b>5 W</b>

# Turn Signal/Hazard Flasher System

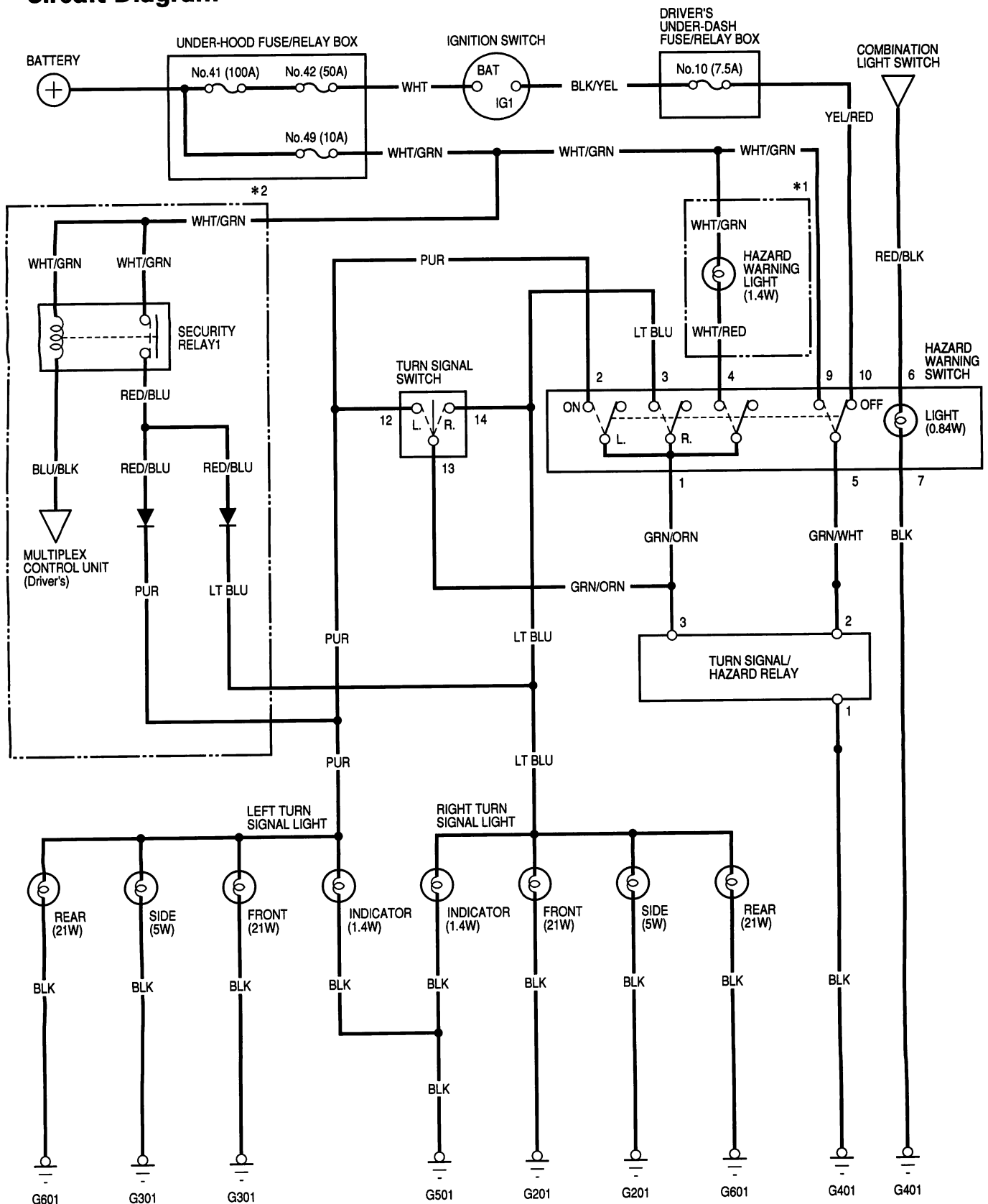
## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.





## Circuit Diagram



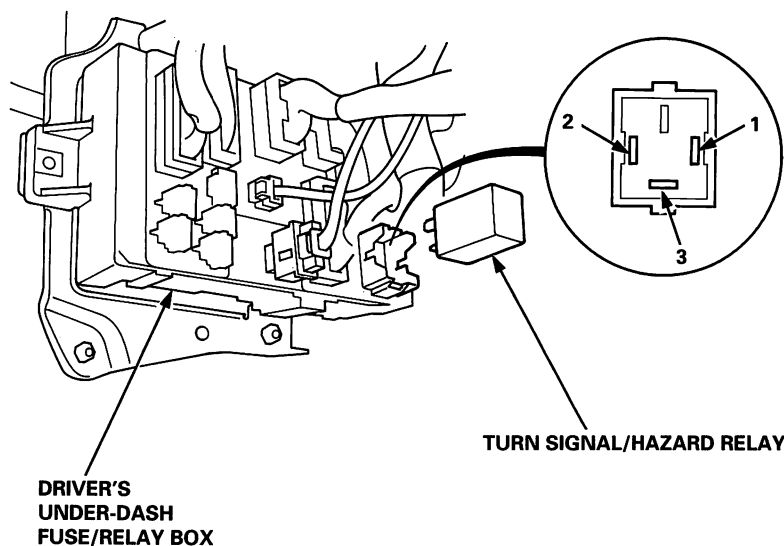


# Turn Signal/Hazard Flasher System

## Turn Signal/Hazard Relay Input Test

1. Remove the turn signal/hazard relay from the driver's under-dash fuse/relay box.
2. Inspect the relay and fuse/relay box socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the turn signal/hazard relay must be faulty; replace it.

NOTE: LHD type is shown, RHD type is symmetrical.

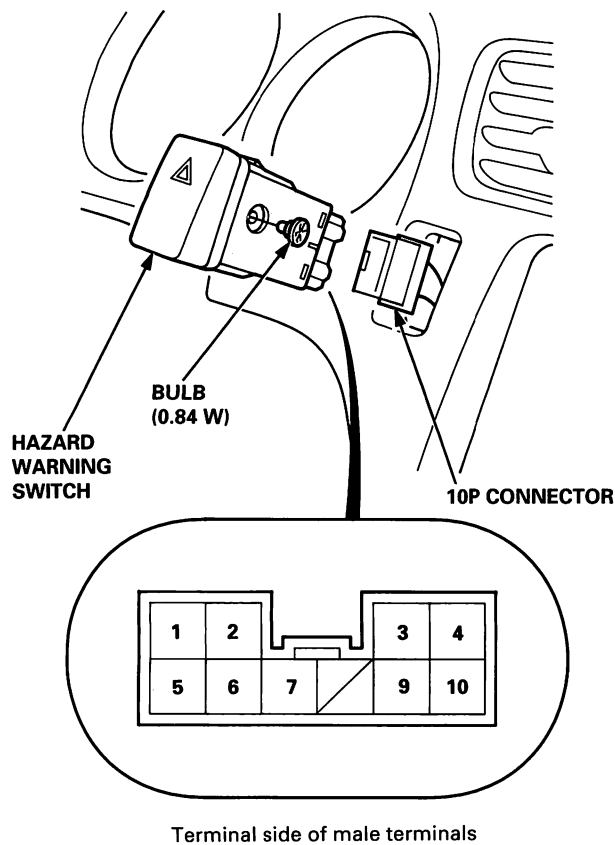


Cavity	Test condition	Test: Desired result	Possible cause if result is not obtained
1	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>
2	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 10 (7.5 A) fuse in the driver's under-dash fuse/relay box</li><li>• An open in the wire</li><li>• Faulty hazard warning switch</li></ul>
	Hazard warning switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 49 (10 A) fuse in the under-hood fuse/relay box</li><li>• An open in the wire</li><li>• Faulty hazard warning switch</li></ul>
3	Hazard warning switch ON; connect the No. 2 terminal to the No. 3 terminal.	Hazard lights should come on.	<ul style="list-style-type: none"><li>• Poor ground (G201, G301, G501, G601)</li><li>• Faulty hazard warning switch</li><li>• An open in the wire</li></ul>
	Ignition switch ON (II) and turn signal switch in Right or Left; connect the No. 2 terminal to the No. 3 terminal.	Right or left turn signal lights should come on.	<ul style="list-style-type: none"><li>• Faulty turn signal switch</li><li>• An open in the wire</li></ul>

## Hazard Warning Switch Test

1. Carefully pry the hazard warning switch out of the center panel.

NOTE: LHD type is shown, RHD type is similar.



2. Disconnect the 10P connector from the hazard warning switch.
3. Check for continuity between the terminals in each switch position according to the table.

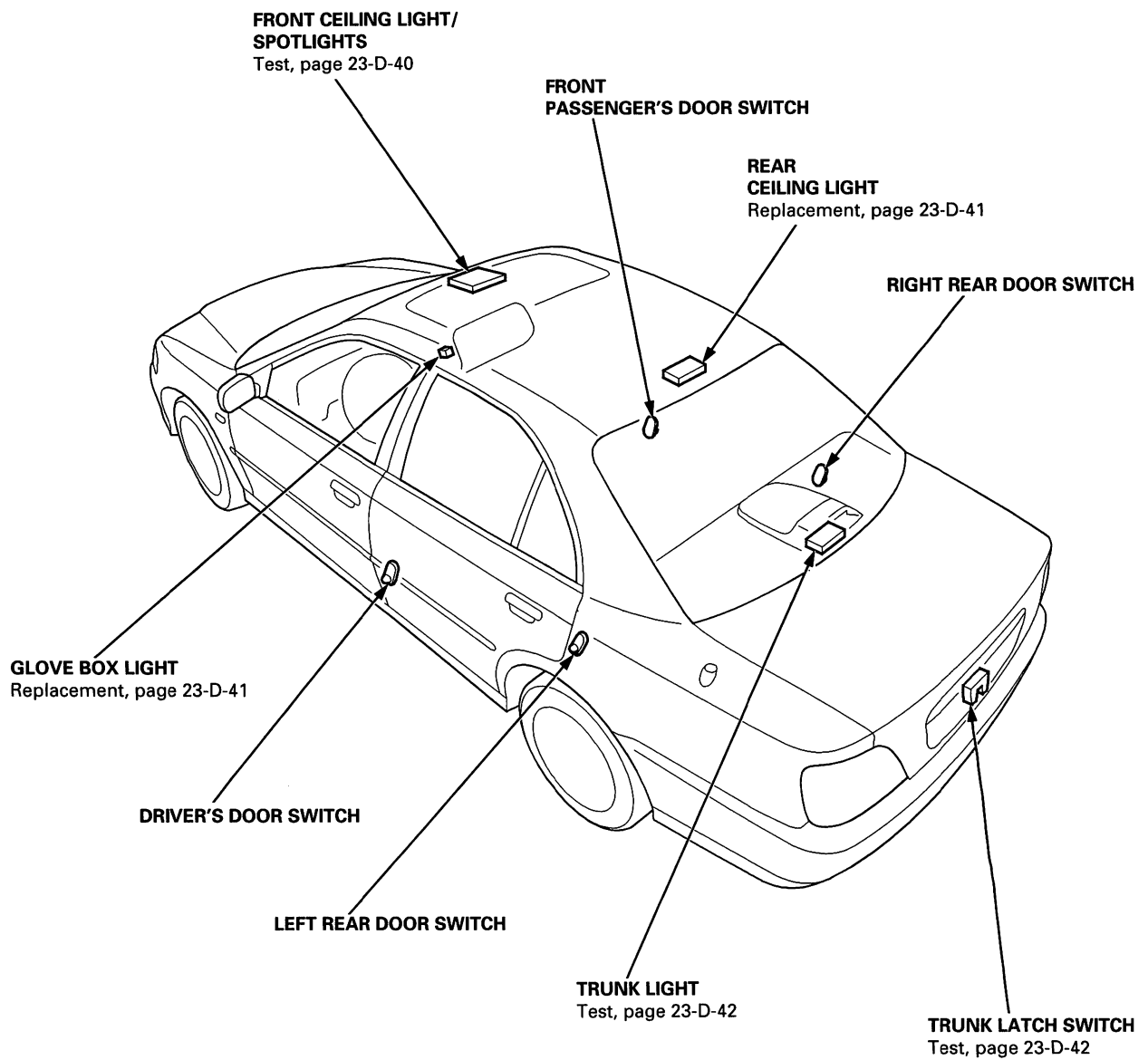
Terminal	6	7	1	2	3	4	5	9	10
Position						(*)			
OFF									
ON									

\*: Except KY

# Interior Lights

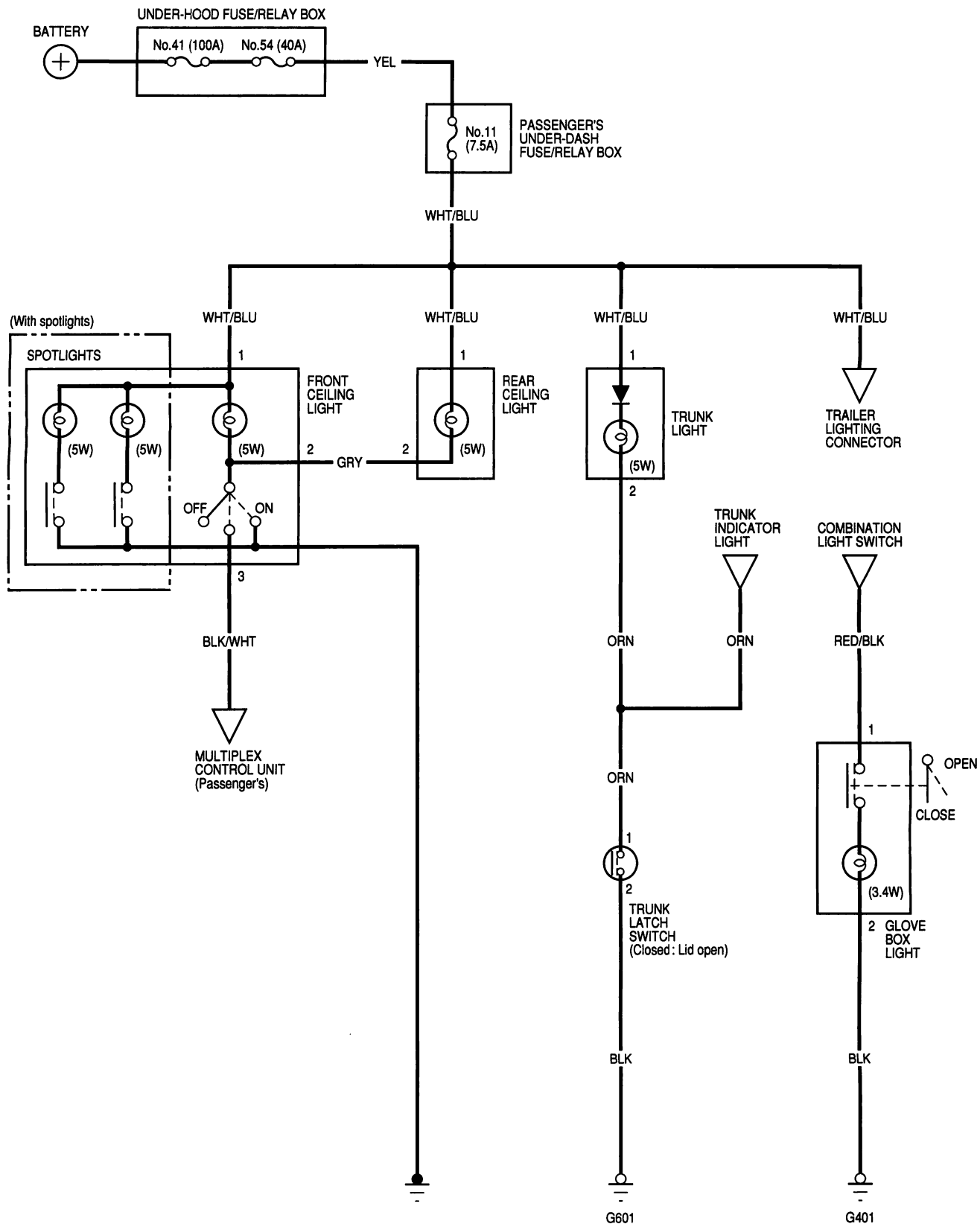
## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.





# Circuit Diagram

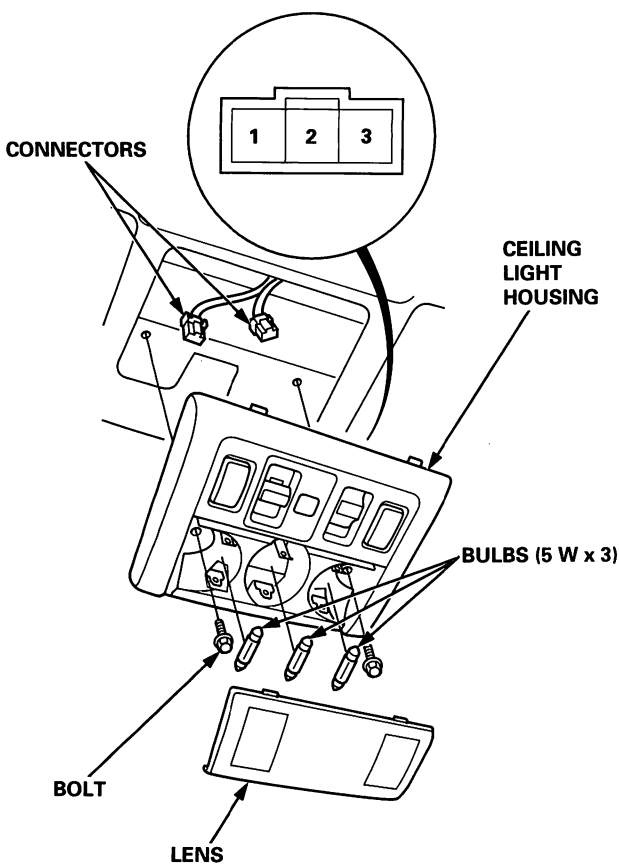


# Interior Lights

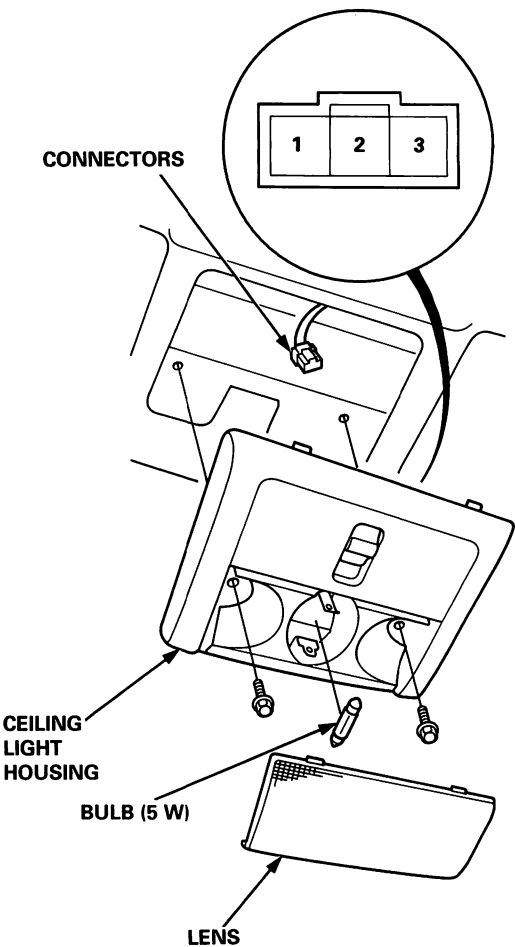
## Front Ceiling Light Test

- 1. Turn the ceiling light switch OFF.
- 2. Pry off the lens.
- 3. Remove the two mounting bolts and the ceiling light housing.
- 4. Disconnect the connectors.

With Spotlights:



Without Spotlights:

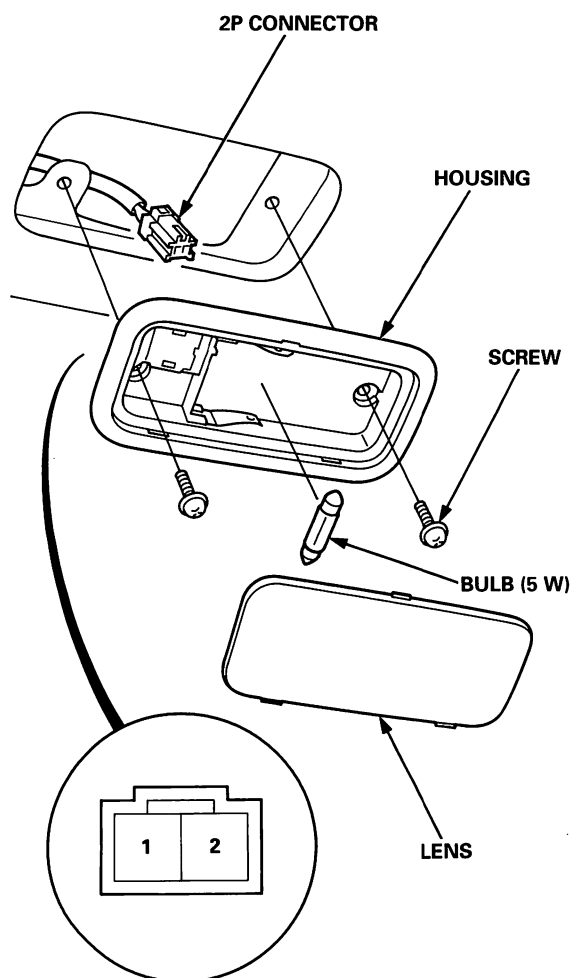


- 5. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	1		2	3	Body ground
OFF	○	⊗	○		
(Middle)	○	⊗	○	○	
ON	○	⊗	○		○

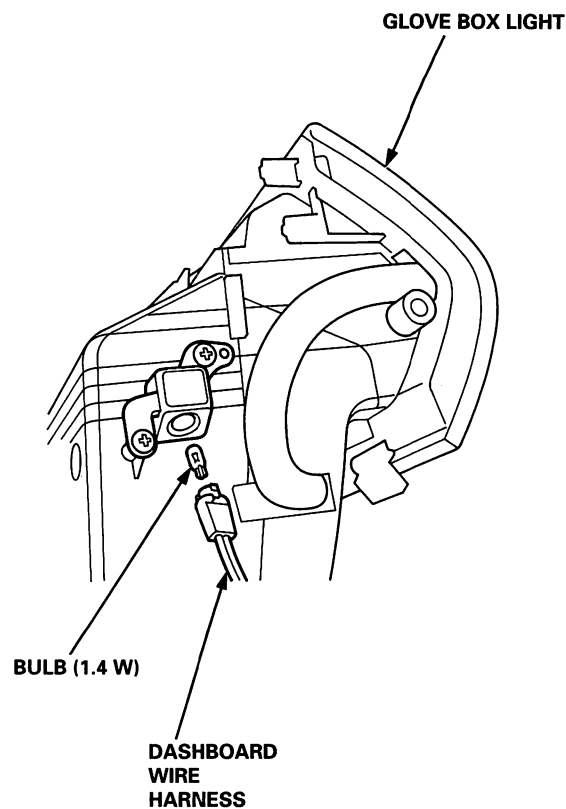
## Rear Ceiling Light Replacement

1. Pry off the lens.
2. Remove the two screws and the housing.
3. Disconnect the 2P connector from the housing.



## Glove Box Light Replacement

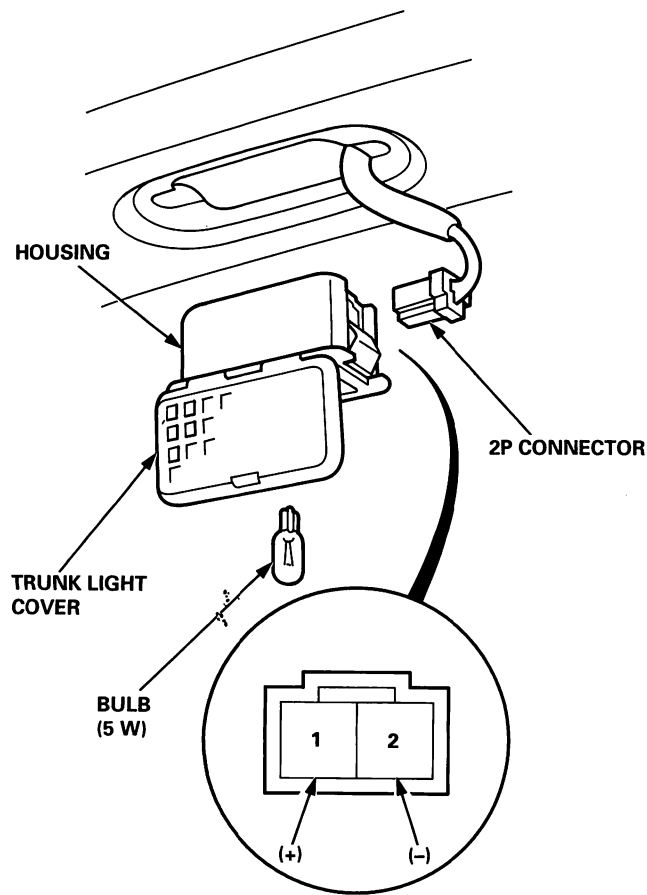
1. Remove the glove box (see section 20).
2. Turn the bulb socket, then replace the bulb.



# Interior Lights

## Trunk Light Test

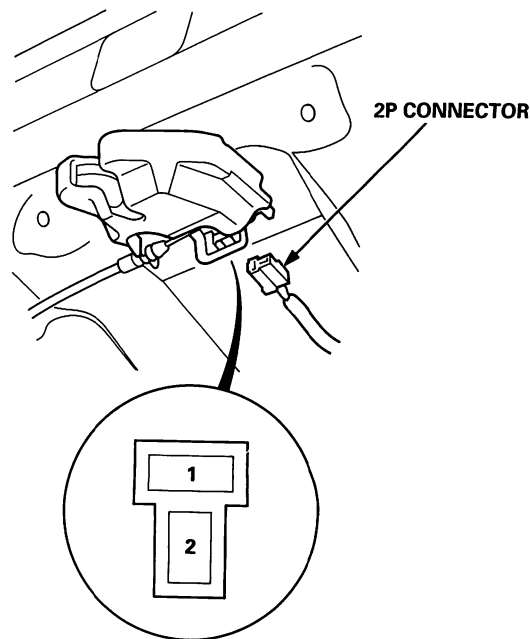
- 1. Open the trunk lid.
- 2. Pry out the trunk light assembly.
- 3. Disconnect the 2P connector from the housing.



- 4. Open the trunk light cover.
- 5. Make sure that the bulb is OK. Check for continuity between the No. 1 and No. 2 terminals.

## Trunk Latch Switch Test (Without Keyless Entry/Security Alarm System)

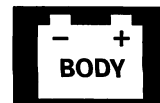
- 1. Open the trunk lid.
- 2. Disconnect the 2P connector from the trunk latch.



- 3. Check for continuity between the terminals in each switch position according to the table.

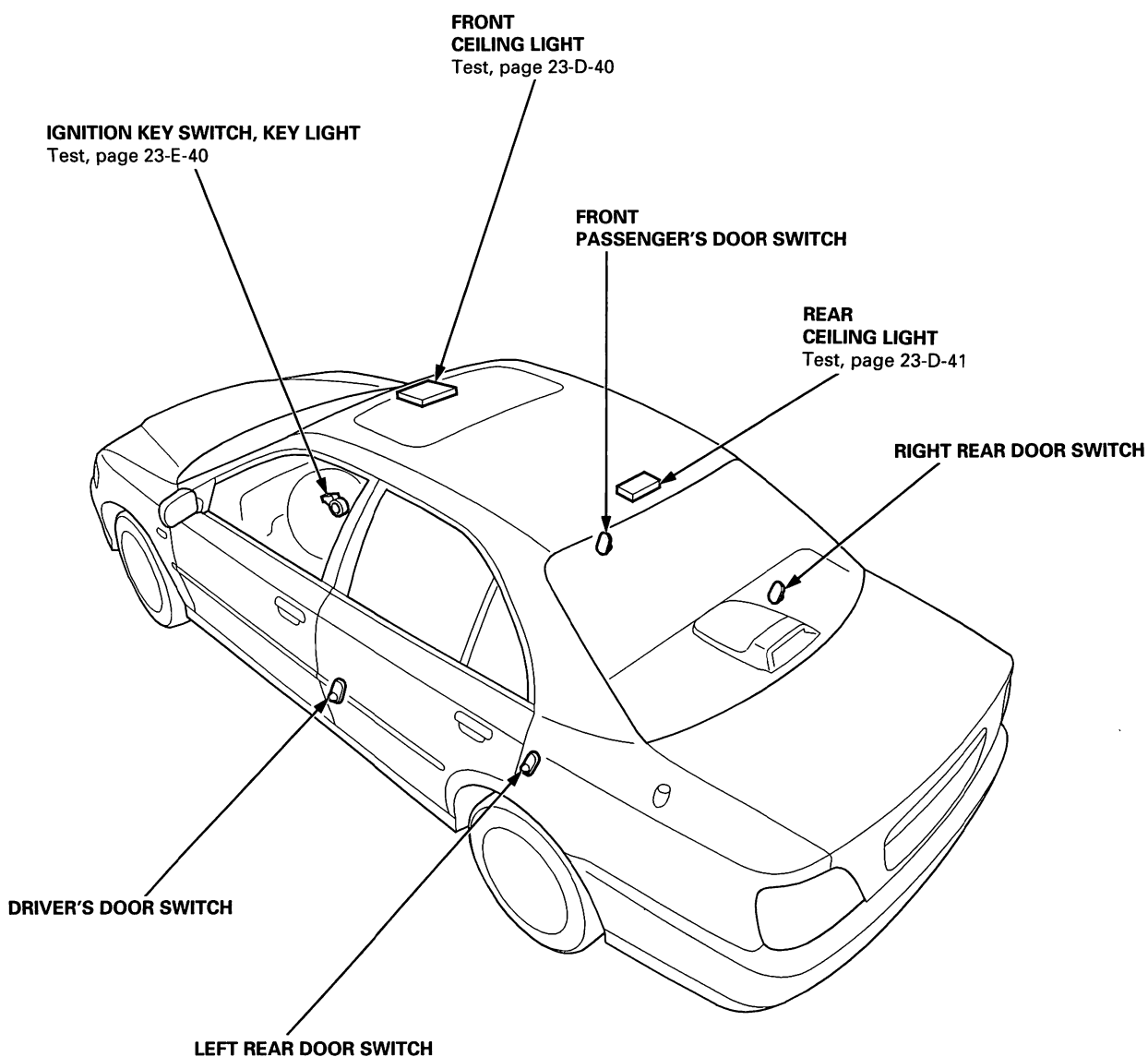
Terminal	1	2
Position		
Trunk lid open		
Trunk lid closed		

# Entry Light Control System



## Component Location Index

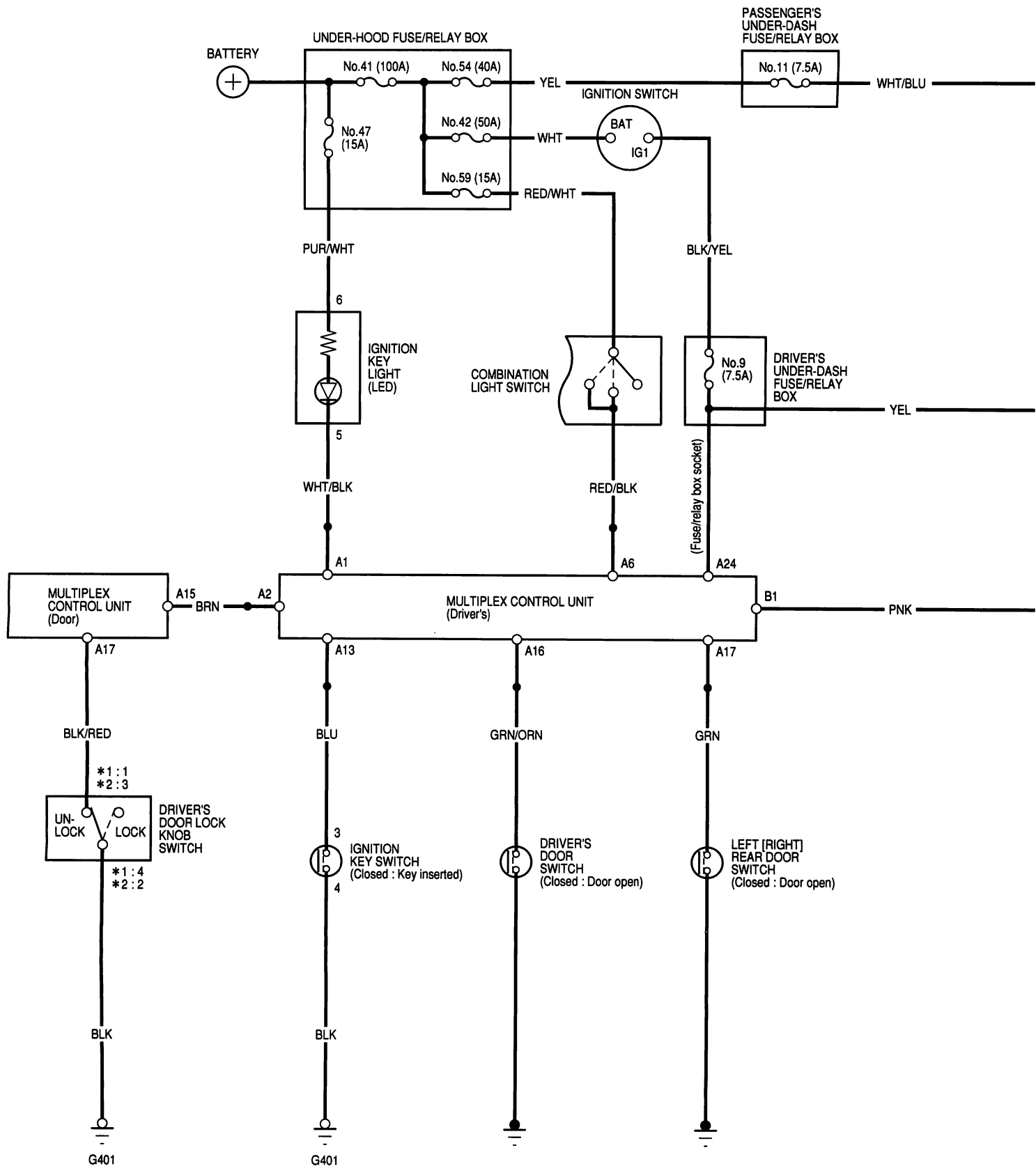
NOTE: LHD type is shown, RHD type is symmetrical.

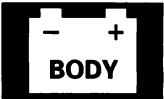




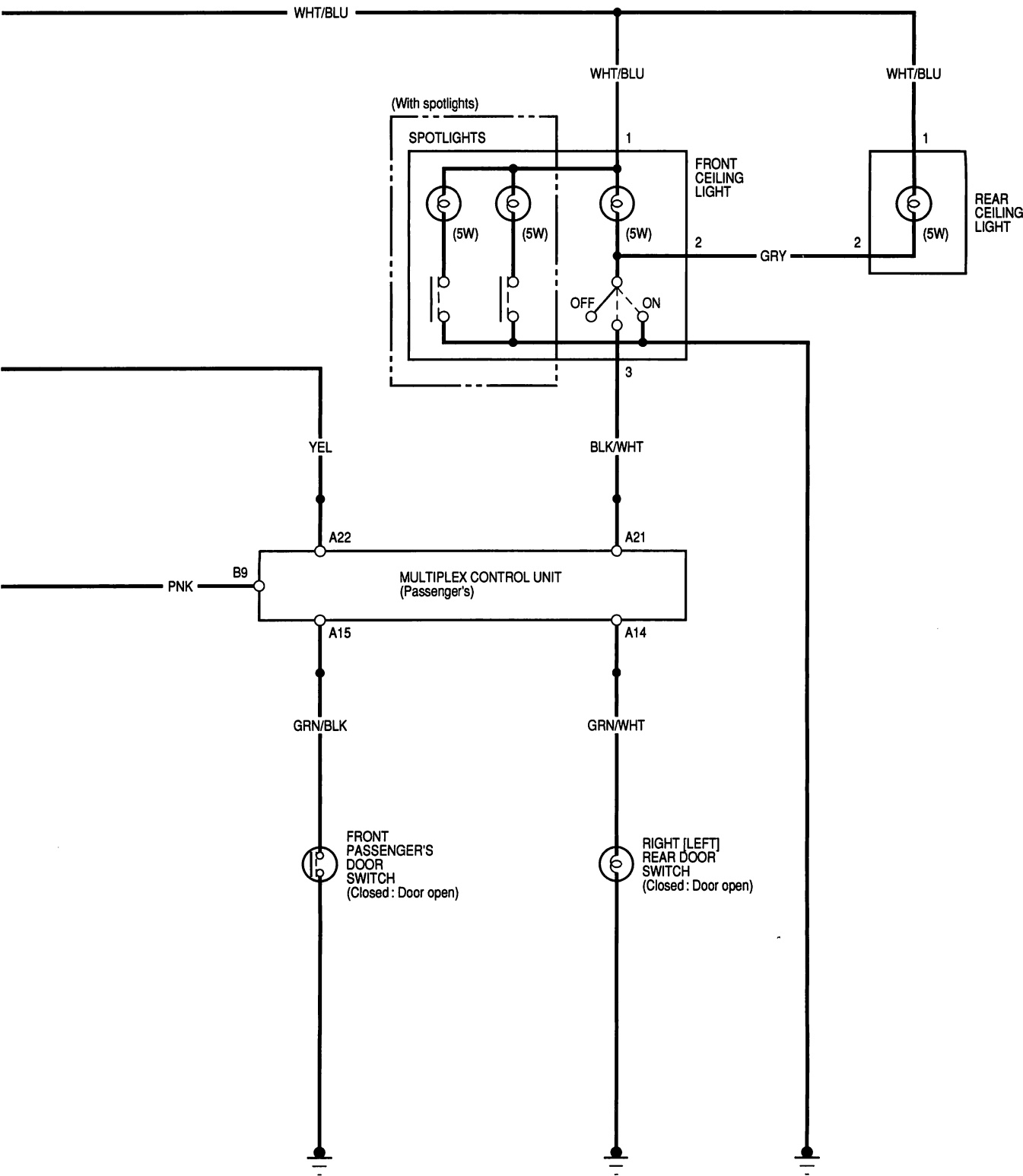
# Entry Light Control System

## Circuit Diagram





\* 1 : With super locking system  
\* 2 : Without super locking system  
[ ] : RHD type



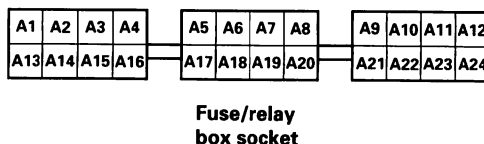
# Entry Light Control System

## Control Unit Input Test

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Driver's):

1. Remove the driver's under-dash fuse/relay box (see page 23-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	Fuse/relay box socket	Under all condition	Attach to ground: The ignition key light should come on.	<ul style="list-style-type: none"> <li>• Blown No. 47 (15 A) fuse in the under-hood fuse/relay box</li> <li>• Blown LED</li> <li>• An open in the wire</li> </ul>
A6		Combination light switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 59 (15 A) fuse in the under-hood fuse/relay box</li> <li>• An open in the wire</li> <li>• Faulty combination light switch</li> </ul>
A24		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A13		Ignition key is inserted into the ignition switch	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty ignition key switch</li> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
A16		Driver's door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty driver's door switch</li> <li>• An open in the wire</li> </ul>
A17		Left [right] rear door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty left [right] rear door switch</li> <li>• An open in the wire</li> </ul>

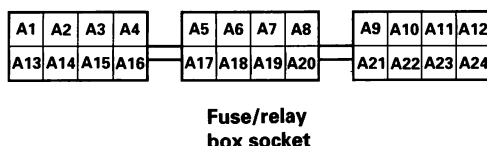
[ ]: RHD type



NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

#### Multiplex Control Unit (Passenger's):

1. Remove the passenger's under-dash fuse/relay box (see page 23-B-7).
2. Remove the passenger's unit from the passenger's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A22	Fuse/relay box socket	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A21		Front ceiling light switch in the middle position	Connect to ground: Ceiling lights should come on.	<ul style="list-style-type: none"> <li>• Blown No. 54 (40 A) fuse in the under-hood fuse/relay box</li> <li>• Blown No. 11 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Blown bulb</li> <li>• Faulty ceiling light</li> <li>• An open in the wire</li> </ul>
A15		Front passenger's door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty passenger's door switch</li> <li>• An open in the wire</li> </ul>
A14		Right [left] rear door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty right [left] rear door switch</li> <li>• An open in the wire</li> </ul>

[ ]: RHD type

(cont'd)

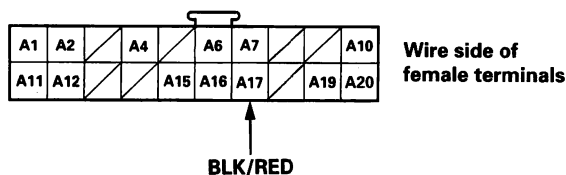
# Entry Light Control System

## Control Unit Input Test (cont'd)

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Door):

1. Remove the driver's door panel, and disconnect the 20P connector from the door unit.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the power window master switch must be faulty; replace it.

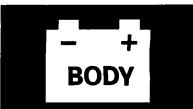


Reconnect the connectors to the unit.

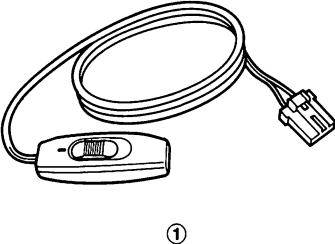
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A17	BLK/RED	Driver's door lock knob unlocked	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty driver's door lock actuator</li><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>

## Controls

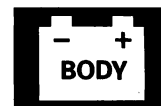
<b>Special Tool .....</b>	<b>23-E-2</b>
<b>Multiplex Control System</b>	
<b>Component Location Index .....</b>	<b>23-E-3</b>
<b>Circuit Diagram .....</b>	<b>23-E-4</b>
<b>System Functions .....</b>	<b>23-E-5</b>
<b>Multiplex Communication System .....</b>	<b>23-E-5</b>
<b>Troubleshooting Guide .....</b>	<b>23-E-6</b>
<b>Power and Ground Test .....</b>	<b>23-E-7</b>
<b>Self-diagnosis Function (Mode 1) .....</b>	<b>23-E-10</b>
<b>Wake-up Function Test .....</b>	<b>23-E-11</b>
<b>Confirming the Function .....</b>	<b>23-E-12</b>
<b>Faulty Communication Line</b>	
<b>Symptoms .....</b>	<b>23-E-12</b>
<b>Self-diagnosis Function (Mode 2) .....</b>	<b>23-E-13</b>
<b>Power Door Locks</b>	
<b>Component Location Index .....</b>	<b>23-E-14</b>
<b>Circuit Diagram .....</b>	<b>23-E-16</b>
<b>Power Windows</b>	
<b>Component Location Index .....</b>	<b>23-E-24</b>
<b>Circuit Diagram .....</b>	<b>23-E-25</b>
<b>Lights-on, Key-in, Seat Belt Reminder System</b>	
<b>Circuit Diagram .....</b>	<b>23-E-37</b>
<b>Control Unit Input Test .....</b>	<b>23-E-38</b>
<b>Ignition Key Light Test .....</b>	<b>23-E-40</b>
<b>Ignition Key Switch Test .....</b>	<b>23-E-40</b>



# Special Tool

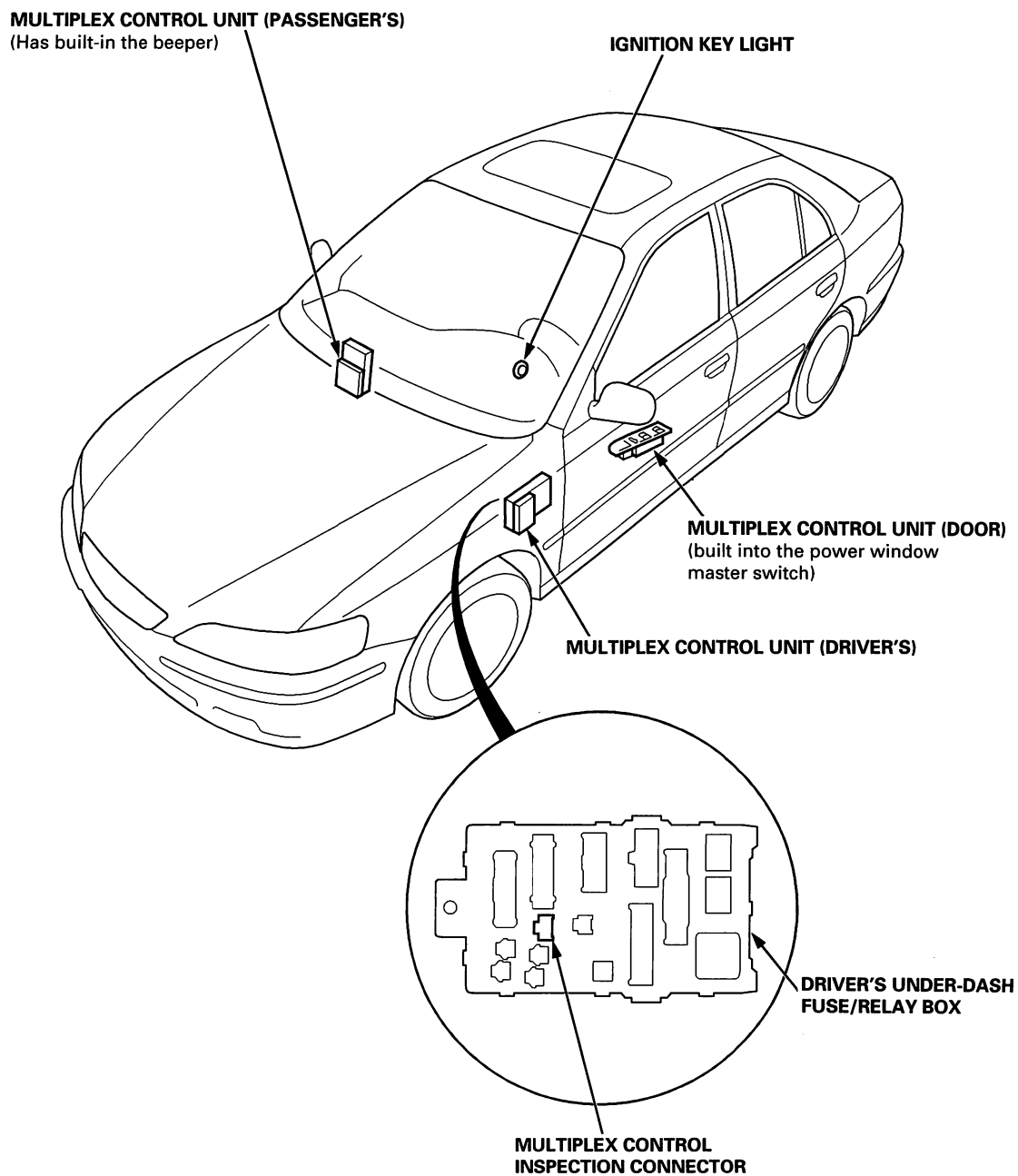
Ref. No.	Tool Number	Description	Qty	Remark
①	07WAZ – 0010100	MPCS Short Switch	1	
<div></div>				

# Multiplex Control System



## Component Location Index

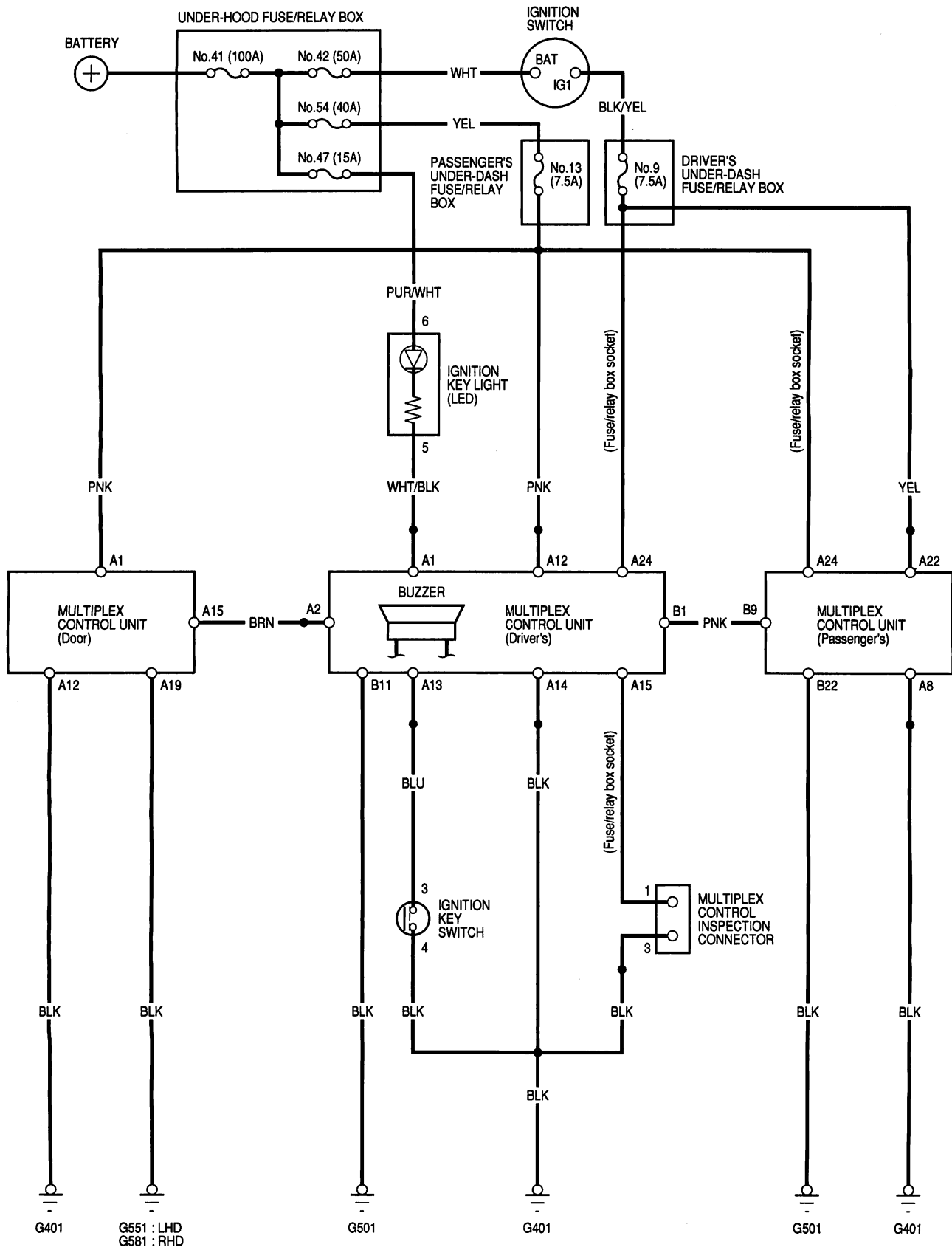
NOTE: LHD type is shown, RHD type is symmetrical.





# Multiplex Control System

## Circuit Diagram (Power, Ground, Communication Lines)





## System Functions

- Multiplex Control System
  - Multiplex function
  - Wake up/sleep function
  - Fail-safe function
  - Self-diagnosis function
    - Mode 1:  
Self-diagnosis for the multiplex control system.
    - Mode 2:  
Failure diagnosis for the input line of each system.
- Rear Fog Light Control
- Seat Belt Reminder Circuit
- Lights-on Reminder Circuit
- Key-in Reminder Circuit
- Key Light Timer Circuit
- Entry Light Control System
- Daytime Running Lights System\*<sup>1</sup>
- Power Door Locks
- Power Window
- Wiper/Washers (with speed respondent intermittent wiper)
- Keyless Entry/Security Alarm System
- Interlock System (see section 14)

\*1: KG model with daytime running lights system

## Multiplex Communication System

### Multiplex Communication Functions

- To reduce the number of wire harnesses, digital signals are sent via shared multiplex communication lines rather than sending normal electrical signals through individual wires.
- The input signals from each switch are converted to digital signals at the central processing unit (CPU). The digital signals are sent from the transmitter unit to the receiver unit as serial signals.
- The transmitted signal is converted to a switch signal at the receiver unit, and it operates the related component.
- There are exclusive communication lines between each of the multiplex control units:
  - Door ↔ Driver's (between the door and the driver's multiplex control units) Wire color: BRN
  - Driver's ↔ Passenger's (between the driver's and the passenger's multiplex control units) Wire color: PNK
- The control units always communicate via these lines when the system is operating, and they stop communicating when the system is OFF.

### Wake-up and Sleep Functions

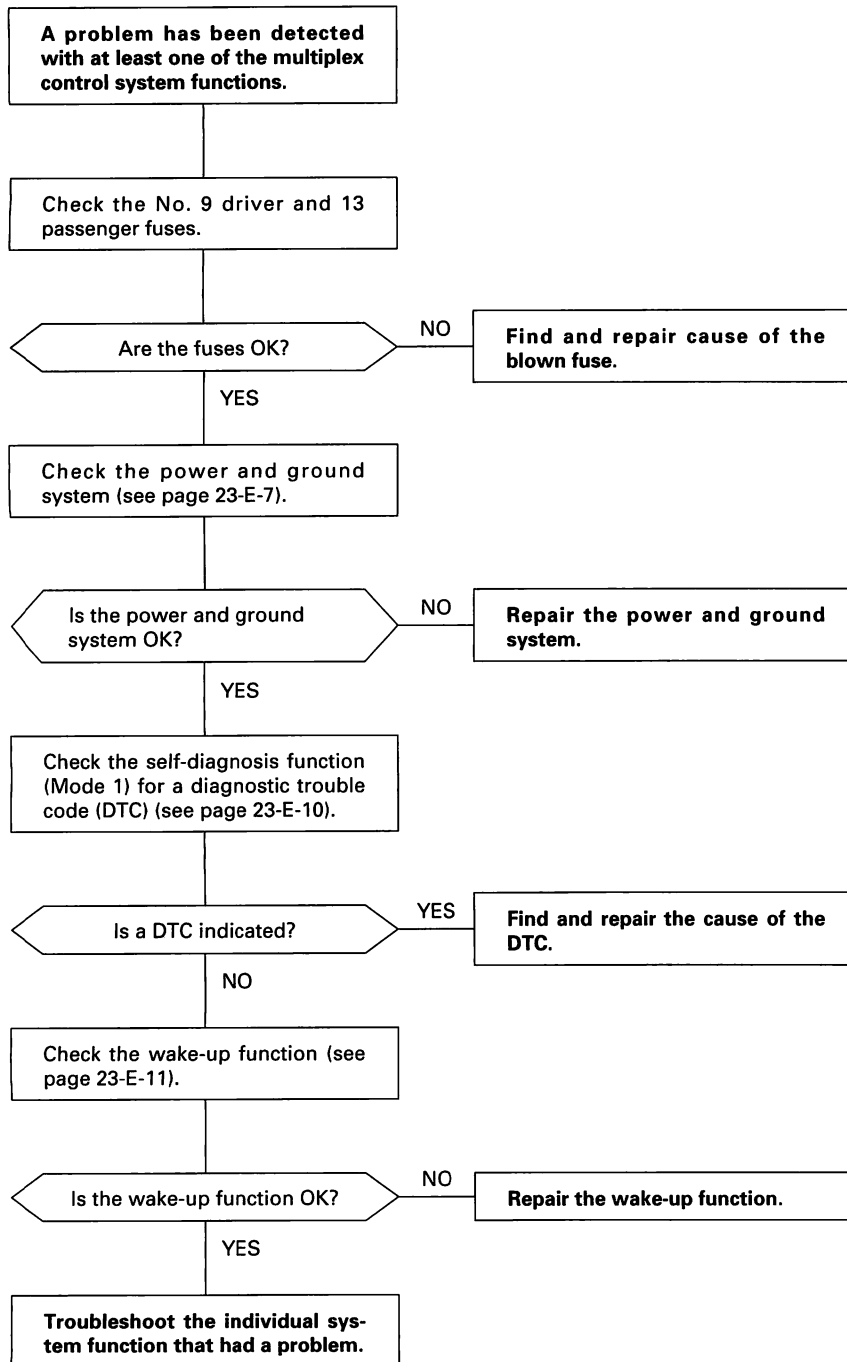
- The multiplex control system has "wake-up" and "sleep" functions to decrease parasitic draw on the battery when the ignition switch is OFF.
- In the sleep mode, the multiplex control unit stops the functions (communication and CPU control) when it is not necessary for the system to operate.
- As soon as any operation is done (for example, a door is unlocked), the related control unit in the sleep mode wakes up and begins to function at once. This control unit also sends a wake-up signal to the other control units via the communication lines.
- When the ignition switch is turned OFF, and driver's or passenger's door opened, there is about a 10 second delay before the control units go from the wake-up mode to the sleep mode.
- If any door is open, the sleep mode will not function.

### Fail-safe Functions

- To prevent improper operation, the multiplex control system has a fail-safe function. In the fail-safe mode, the output signal is fixed when any part of the system malfunctions (for example, a faulty control unit or communication line).
- Each control unit has a hardware fail-safe function that fixes the output signal when there is any CPU malfunction and a software fail-safe function that ignores the signal from the malfunctioning control unit and allows the system to operate normally.

# Multiplex Control System

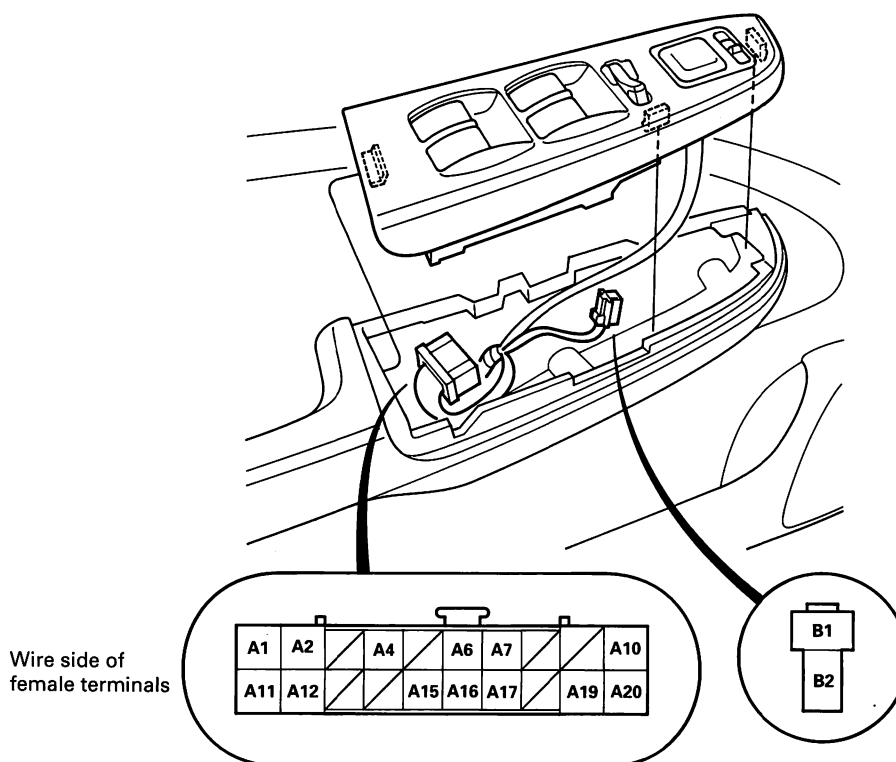
## Troubleshooting Guide



## Power and Ground Test

### Multiplex Control Unit (Door):

1. Remove the driver's door panel, and disconnect the connectors from the door unit.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the power window master switch must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	PNK	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A12	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
A19	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G551: LHD, G581: RHD)</li> <li>• An open in the wire</li> </ul>

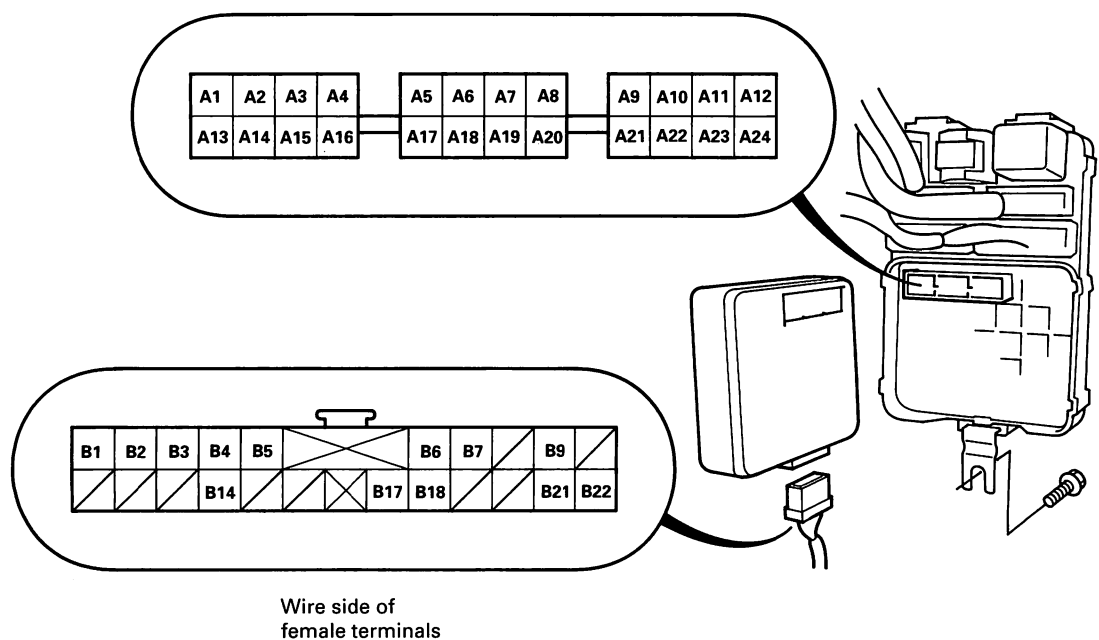
(cont'd)

# Multiplex Control System

## Power and Ground Test (cont'd)

### Multiplex Control Unit (Passenger's):

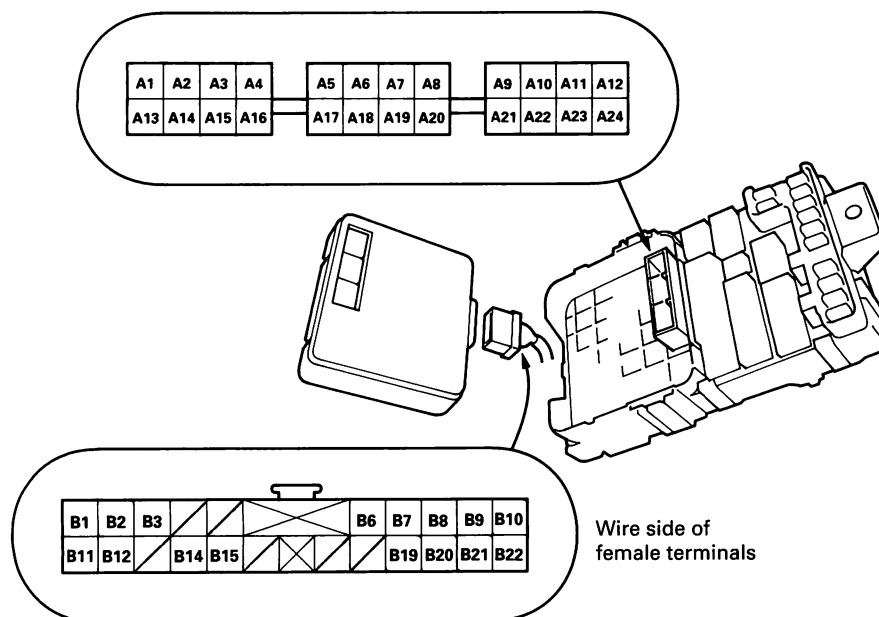
1. Remove the passenger's under-dash fuse/relay box (see section 20).
2. Remove the passenger's unit from the passenger's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A24	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
A8		Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>
A22		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
B22	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G501)</li><li>• An open in the wire</li></ul>

**Multiplex Control Unit (Driver's):**

1. Remove the driver's under-dash fuse/relay box (see page 22-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.

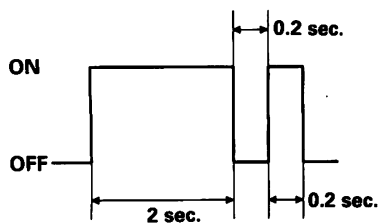
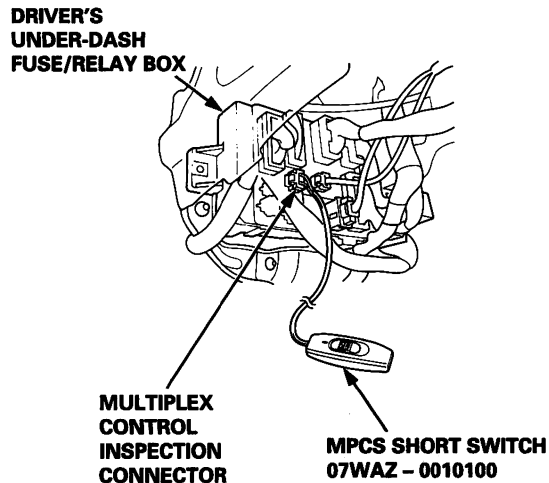


Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A12	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A14		Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
A24		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A13		Ignition key is inserted into the ignition switch.	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"> <li>• Faulty ignition key switch</li> <li>• An open in the wire</li> <li>• Poor ground (G401)</li> </ul>
A1		Under all conditions	Attach to ground: Ignition key light should come on.	<ul style="list-style-type: none"> <li>• Blown No. 47 (15 A) fuse in the under-hood fuse/relay box</li> <li>• Blown LED</li> <li>• An open in the wire</li> </ul>
A15		Short the multiplex control inspection connector terminals.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>

# Multiplex Control System

## Self-diagnosis Function (Mode 1)

1. Connect the special tool to the multiplex control inspection connector, and turn the switch on by more than five seconds.



2. Turn the ignition switch ON (II).

*Does the ignition key light and beeper come on?*

**YES** – There is a DTC. Go to the diagnostic Trouble Code (DTC) Table to retrieve the DTC.

**NO** – Go to Mode 2 (see page 23-E-13).

**NOTE:** If you know the system is abnormal, but the system does not indicate a DTC, check to see if the SCS circuit is working properly.

- Check for continuity between the No. 1 terminal of the multiplex control inspection connector and the A15 terminal of the driver's multiplex control unit. If there is no continuity, repair the open in the wire, and recheck for DTCs.
- Check for continuity between the No. 3 terminal of the multiplex control inspection connector and body ground. If there is no continuity, repair the open in the wire, and recheck for DTCs.

### Diagnostic Trouble Code (DTC) Table

One second after you go into self-diagnosis function mode 1, the ignition key light and beeper indicate the diagnostic trouble code(s) (DTC), and repeat the DTC every three seconds. If there is more than one DTC, the system will indicate them in ascending order, beginning from the DTC with the lowest numerical value.

DTC	Possible Cause
1	The driver's unit is not able to receive signals from the door unit.
2	The driver's unit is not able to receive signal from the passenger's unit.
3	Multifunction in the driver's unit.
4	Signal from each unit do not match.
5	The passenger's unit is not able to receive signals from the other units.
6	The door unit is not able to receive signal from the other units.

### Communication Line Test

1. Check for continuity according to the table.

*Is there continuity?*

**YES** – Go to step 2.

**NO** – Check for an open in the wire.

Communication Line	Wire	Continuity	Voltage
Door-Driver's	BRN	YES	3.5 – 9.5
Driver's-Passenger's	PNK	YES	3.0 – 10.0

2. Turn the ignition switch ON (II), and check for voltage between the communication line and ground.

*Does the voltage match the table?*

**YES** – Communication line is OK.

**NO** – Go to step 3.

3. Repair the line according to the following.

- If the voltage is too high:
  - Check for a short to another wire.
  - Check for poor contact at the connector on the receiver side unit.
  - Faulty circuit in the receiver side unit.
- If the voltage is too low:
  - Check for a short to ground or to another wire.
  - Check for poor contact at the connector on the transmit side unit.
  - Faulty circuit in the transmit side unit.



## Wake-up Function Test

- When the ignition switch is turned ON (II), all of the multiplex control units wake-up at the same time. In this case, the communication lines are not related for wake-up function.
- When a switch related to the multiplex control unit is operated:  
The control unit related to the operated switch wakes-up, then the control unit wakes up the other unit.

### Related Switch (Input):

The switches and input signals that can wake-up the multiplex control unit are shown below;

### Related Switch (Input) Table:

Multiplex Control Unit (Passenger's)	Multiplex Control Unit (Driver's)	Multiplex Control Unit (Door)
No. 9 (7.5 A) driver's fuse	No. 9 (7.5 A) driver's fuse	No. 13 (7.5 A) passenger's fuse
Communication lines (BRN, PNK)		
Radio switch Passenger's door switch Passenger's key cylinder switch (LOCK/UNLOCK) Ultrasonic sensor (Optional security system) Passenger's door lock knob switch (UNLOCK) Keyless transmitter (LOCK) Keyless transmitter (UNLOCK) Keyless transmitter (TRUNK) Right rear door switch (LHD type) Left rear door switch (RHD type) Right rear door lock knob switch (LHD type) (UNLOCK) Left rear door lock knob switch (RHD type) (UNLOCK)	Ignition key switch Lighting switch (SMALL) Driver's door switch Trunk latch switch Trunk key cylinder switch Engine hood switch Left rear door switch (LHD type) Right rear door switch (RHD type) Left rear door lock knob switch (LHD type) (UNLOCK) Right rear door lock knob switch (RHD type) (UNLOCK)	Driver's door key cylinder switch (LOCK/UNLOCK) Driver's door lock knob switch (LOCK/UNLOCK)



# Multiplex Control System

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## Confirming the Function

1. Shifting to the sleep mode:
  - 1) Turn the ignition switch OFF.
  - 2) Make sure that the exterior lights are off.
  - 3) If you do not operate the switches related to the multiplex control units within one minute after meeting the above conditions, the system function shifts to the sleep mode.  
(All of the switches must be turned OFF except door lock knob switches.)
2. Confirming the sleep mode:
  - 1) Check for voltage between the communication line.  
There should be no voltage with the sleep mode ON.  
There should be standard voltage with the sleep mode OFF (see the voltage test table on page 23-E-10).
  - 2) Check for voltage between each communication line and body ground while shifting to the sleep mode (see page 23-E-10).  
There should be no voltage.
  - 3) Check the parasitic draw at the battery while shifting to the sleep mode. The ampere should change from about 70 through 80 mA to less than 10 mA.
3. Confirming the wake up mode:

After confirming the sleep mode, turn the related switch (see previous table) ON, and wake up each control unit. If all of the operations works properly, the wake up mode is OK.  
(If any of the control units are faulty and cannot wake up, several parts of the system will not work at the same time.)

## Faulty Communication Line Symptoms

### Open in the line:

If there is an open in a communication line, most of the systems do will operate because one of the control units cannot wake up the other control units. But the control unit that is not awake can wake up by operating a switch related to that control unit.

All of the control units wake up by turning the ignition switch ON (II).

### Short in the line:

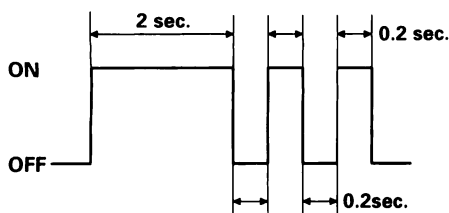
- Most of the systems do not operate because one of the control units cannot wake up the other control units.
- The control unit can wake up by a related switch operation, but the other control units cannot wake up.
- All of the control units wake up by turning the ignition switch ON (II).



## Self-diagnosis Function (Mode 2)

From mode 1, turn the MPCS short switch off by five to ten seconds, then turn the switch on, and the system goes from mode 1 to mode 2.

### Mode 2:



To cancel mode 2, turn the MPCS short switch off by more than 10 seconds or turn the ignition switch OFF.

1. Operate the switches as shown below in mode 2.
2. If the related circuit line of the switch is OK, the function indicates this by the ignition key light blinking once and the beeper sounding once. If the line is faulty, there should be no indication. Refer to the tests for each system.

### Object Input Table:

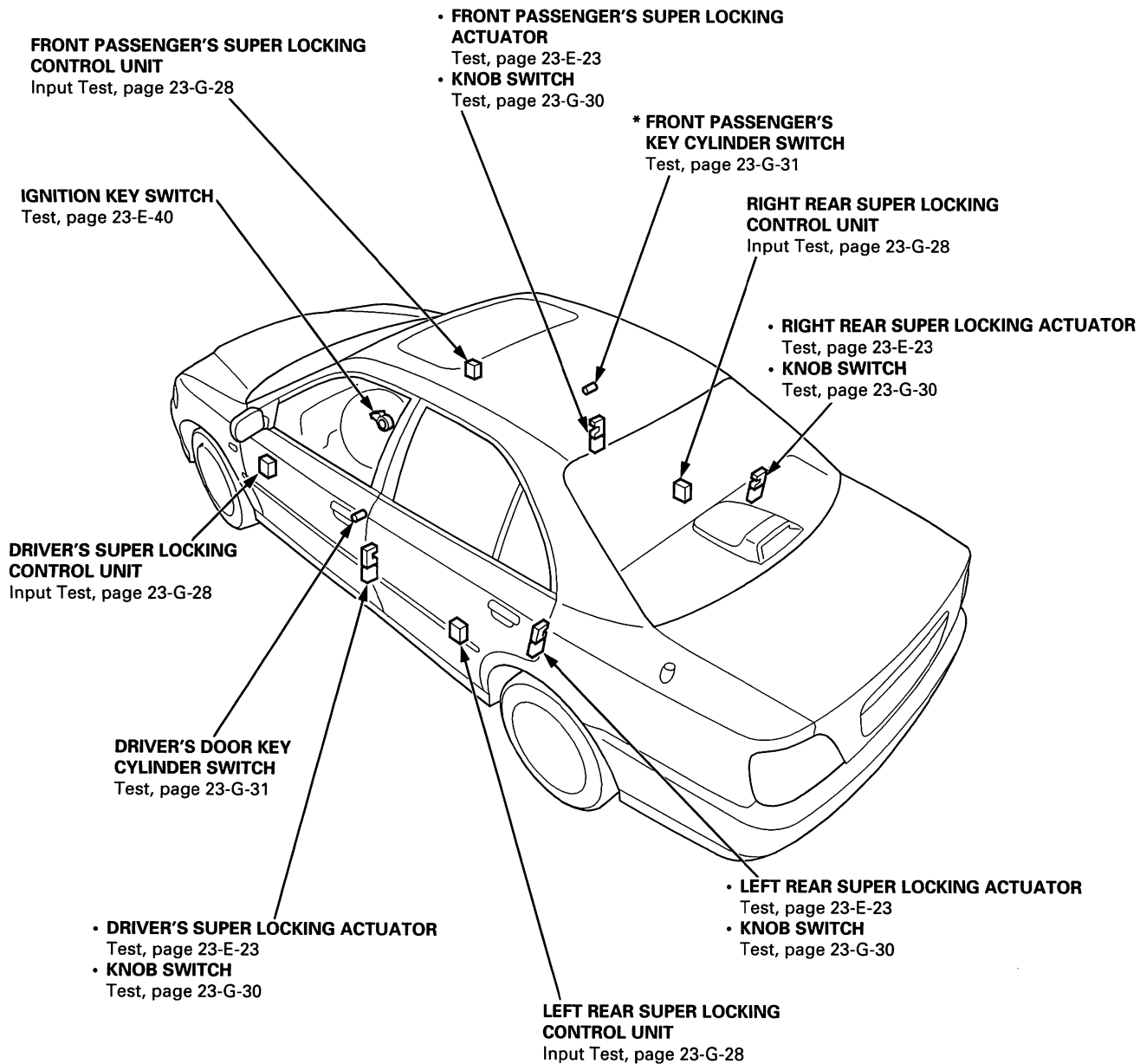
Multiplex Control Unit (Passenger's)	Multiplex Control Unit (Driver's)	Multiplex Control Unit (Door)
Lighting switch (Headlight switch) Radio switch Passenger's door switch Passenger's key cylinder switch (LOCK/UNLOCK) Front fog light switch Rear fog light switch Passenger's door lock knob switch (UNLOCK) Keyless transmitter (LOCK button) (UNLOCK button) (TRUNK button) Right rear door switch (LHD type) Left rear door switch (RHD type) Ultrasonic sensor (Optional security system) Right rear door lock knob switch (LHD type) (UNLOCK) Left rear door lock knob switch (RHD type) (UNLOCK)	Lighting switch ( 300 ) Driver's door switch Trunk key cylinder switch Trunk latch switch Driver's seat belt switch Windshield wiper/washer switch (Except MIST switch) Brake switch Vehicle speed sensor (VSS) Parking brake switch A/T gear position switch (P) Ignition key switch Engine hood switch Left rear door switch (LHD type) Right rear door switch (RHD type) Left rear door lock knob switch (LHD type) (UNLOCK) Right rear door lock knob switch (RHD type) (UNLOCK)	Driver's door key cylinder switch (LOCK/UNLOCK) Driver's door lock knob switch (LOCK/UNLOCK) Power window master switch (Passenger's switch UP/DOWN) (Left rear switch UP/DOWN) (Right rear switch UP/DOWN)

NOTE: If any control unit appears to be faulty, substitute a known-good control unit, then recheck. If the system works properly, the original control unit is faulty; replace it. If there is still a malfunction, substitute a known-good control unit for the next most likely faulty control unit, then recheck. If the system works properly, that control unit is faulty; replace it.

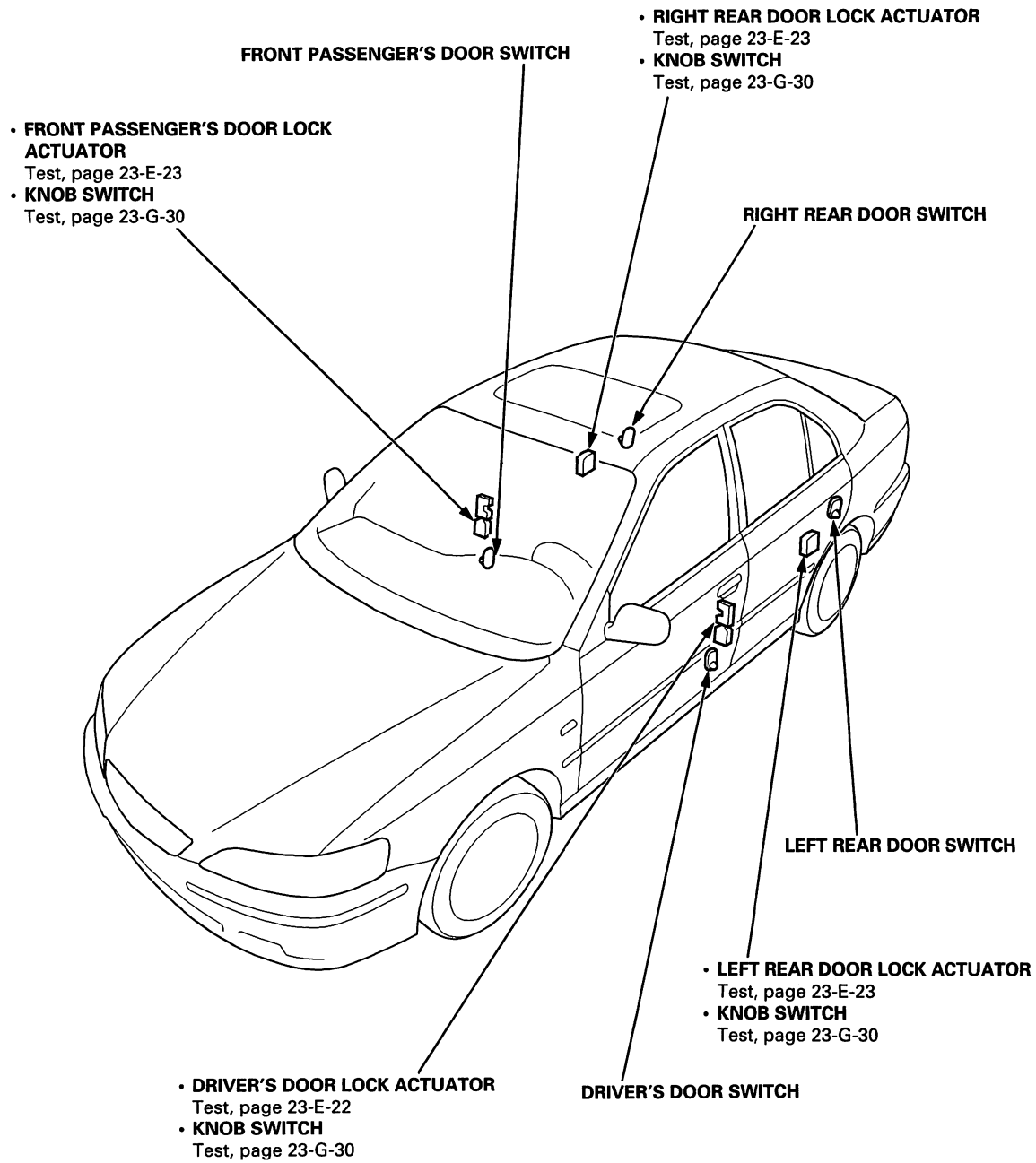
# Power Door Locks

## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.

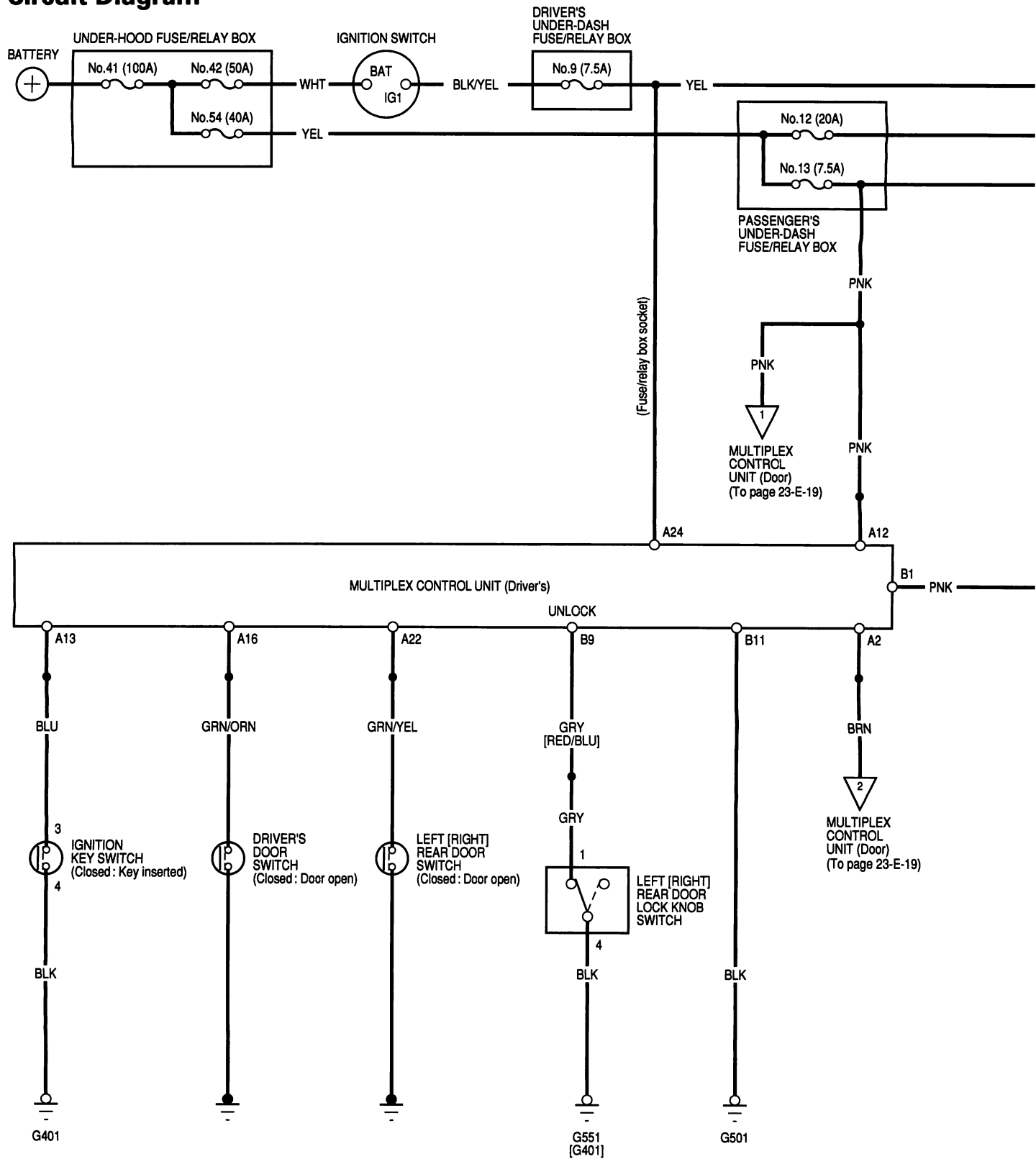


\*: Without super locking system



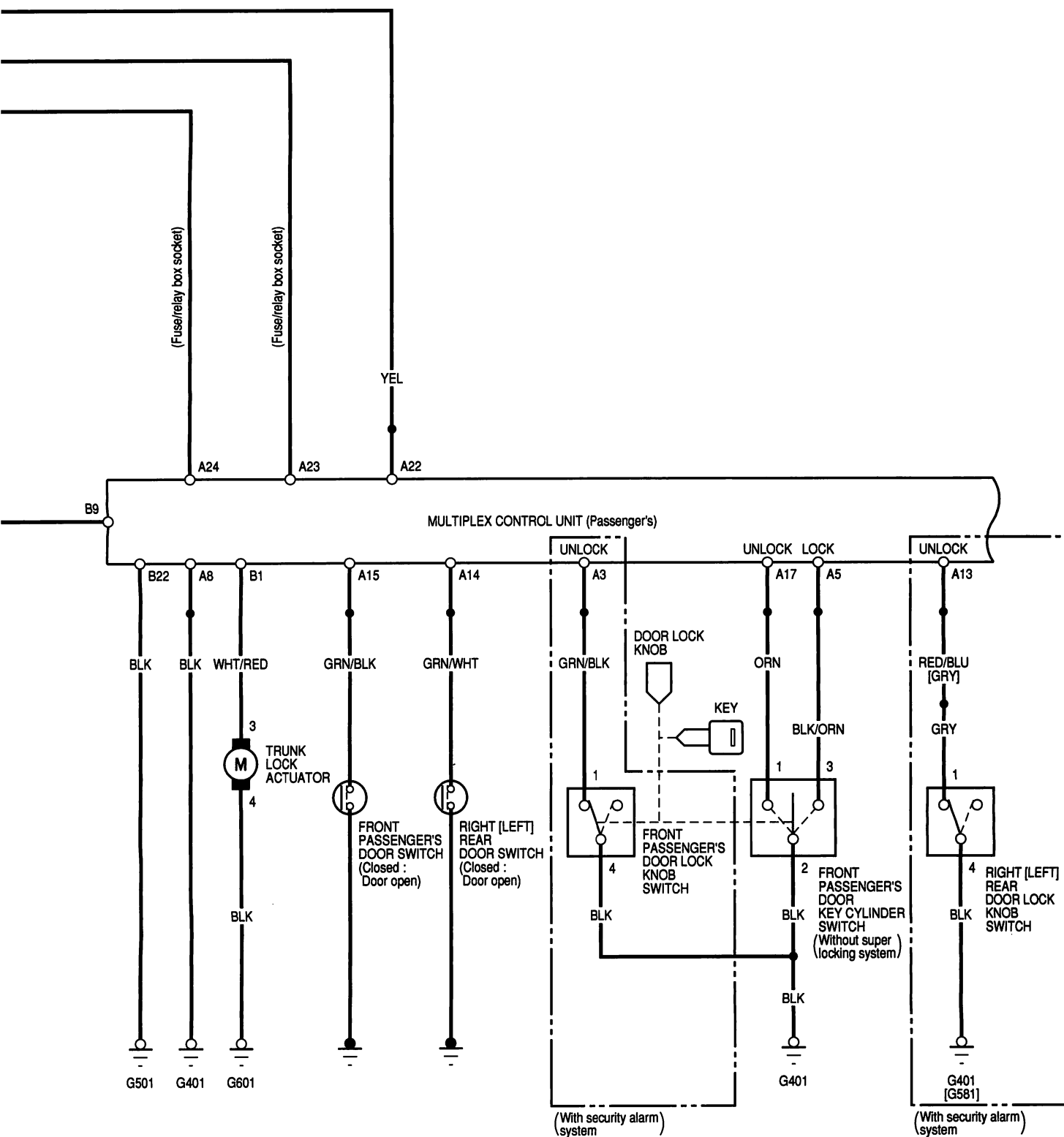
# Power Door Locks

## Circuit Diagram





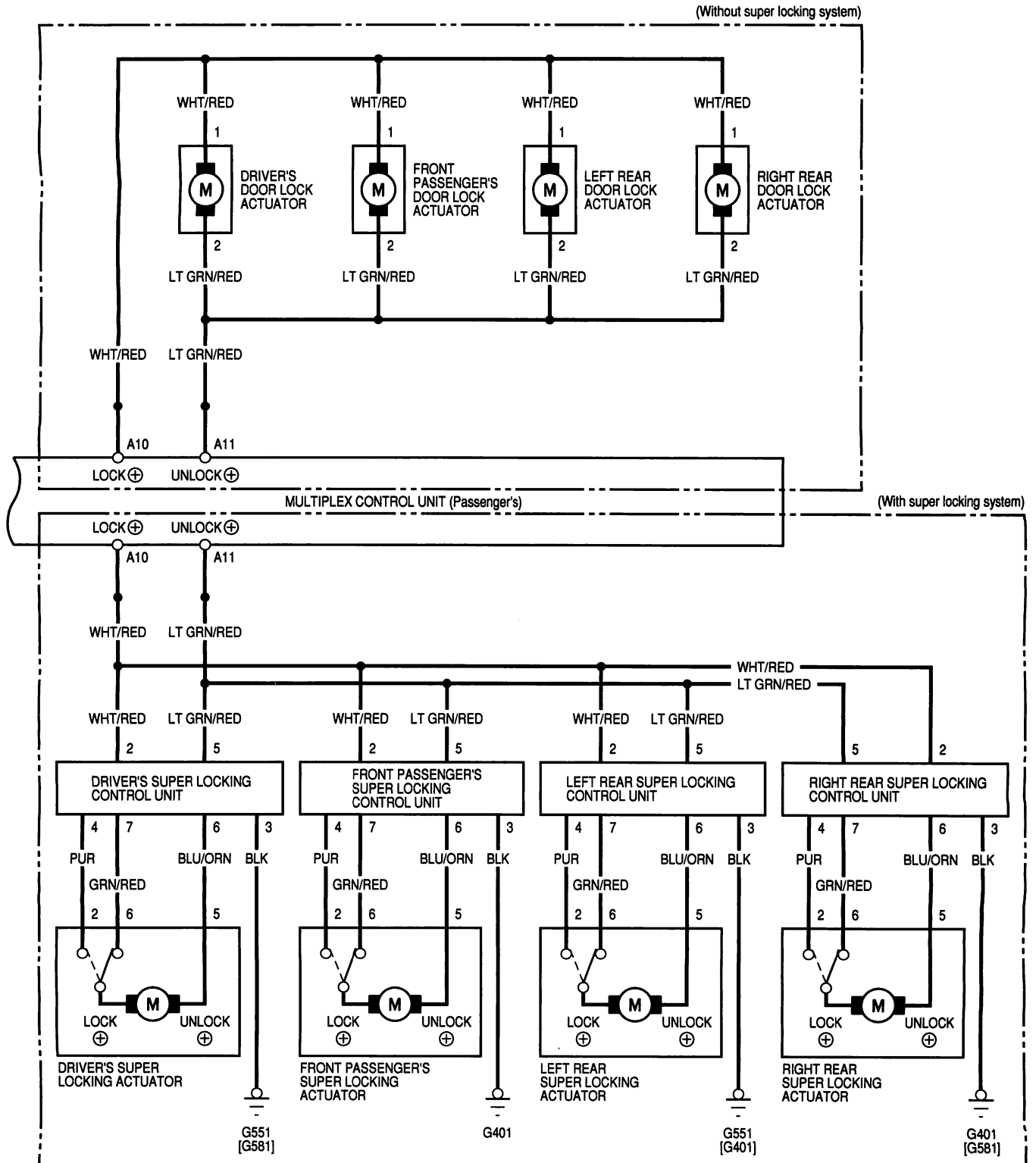
[ ] : RHD type



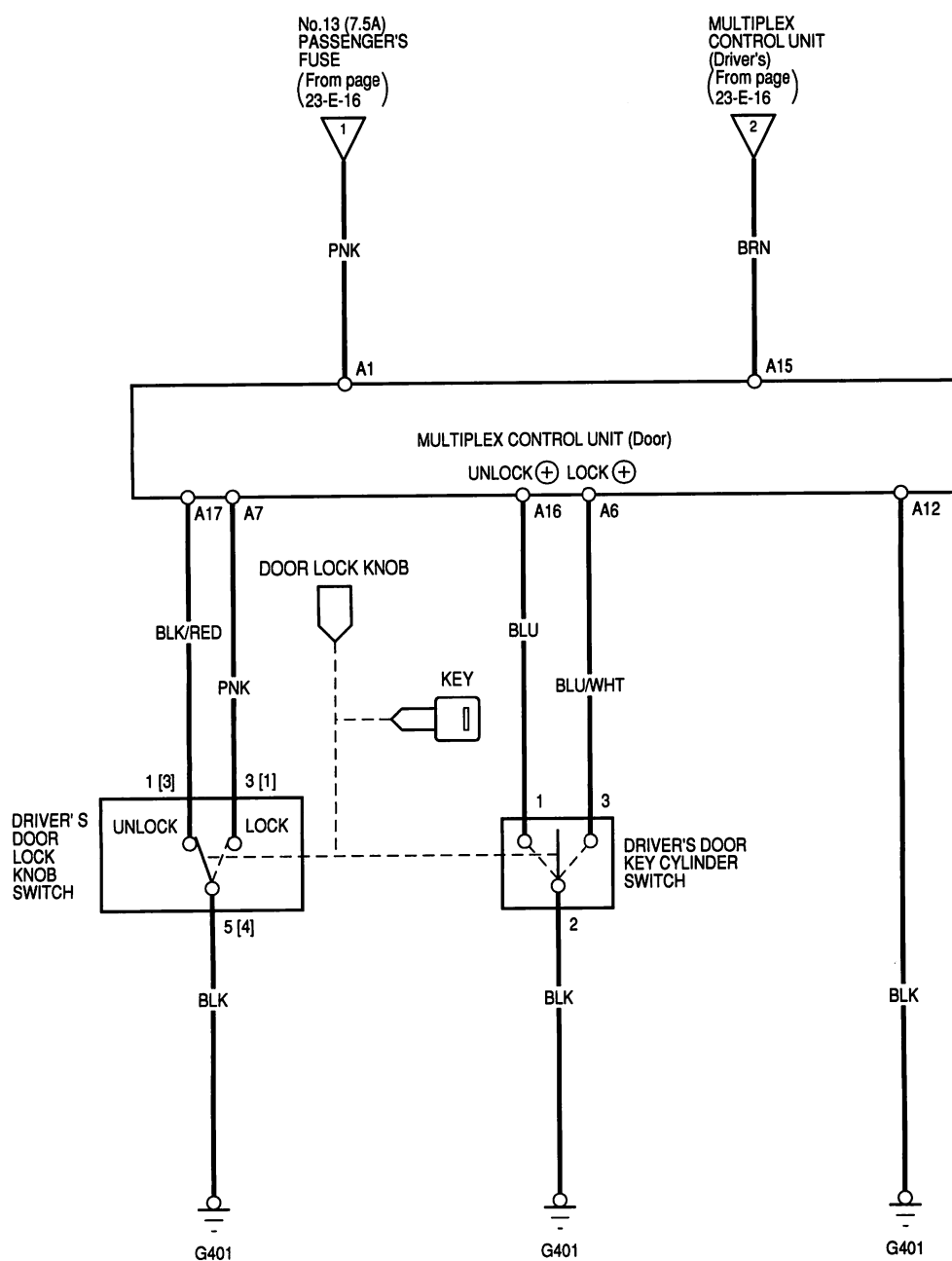
(cont'd)

# Power Door Locks

## Circuit Diagram (cont'd)



[ ] : Without super locking system





# Power Door Locks

## Troubleshooting

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

Item to be inspected		In the passenger's under-dash fuse/relay box		Driver's door lock knob switch	Ignition key switch	Driver's door switch	Passenger's door switch	Door lock actuator	Driver's door key cylinder switch	Passenger's door key cylinder switch	Control unit input	Super locking control unit (With super locking system)	Disconnected or obstructed door lock rod/linkage	Poor ground	Open circuit in wires, loose or disconnected terminals
		Blown No. 12 (20 A) fuse	Blown No. 13 (7.5 A) fuse												
Symptom															
Power door lock system does not work at all.		1	2								3	4			YEL, WHT/RED, LT GRN/RED
Doors don't lock or unlock with the driver's door lock knob.	All doors			1							2			G401	PNK, BLK/RED
	One door							2			3		1		
Doors don't lock or unlock with the driver's door key.	All doors (*)								1		2			G401	BLK/ORN, ORN
	One door							2			3		1		
Doors don't lock or unlock with the passenger's door key.	All doors									1	2				
	One door							2			3		1	G401	BLU, BLU/WHT
The door will lock when the ignition key is inserted and one of the doors is open					1	2	3				4			G401	BLU, GRN/BLK, GRN/WHT, GRN, GRN/ORN

(\*) If the system is normal, all doors will unlock when the door key is kept in the unlock position (key cylinder switch and door lock knob switch turned ON) for one second or more.



## Super Locking Description

Some types of the vehicle have a super locking system to improve anti-theft performance in normal door lock position, add a mechanism which makes the lock cannot be unlocked by manipulating the door inside lock knob.

### Operation Method:

To set the super locking, push the ignition key into the driver's key cylinder and turn the key to lock position (towards the front of the vehicle) twice within five seconds.

On some types can be set the super locking with the keyless transmitter. To set it, push the LOCK button twice within five seconds.

The super locking will be set even if any window or sunroof is open.

## Function Test

1. Open the all windows.
2. Set the super locking by following the operation method described before.
3. Pull any door lock knob from outside of the vehicle and make sure the doors cannot be unlocked by the door lock knobs.
  - If any door can be unlocked, check for:
    - door lock knob switch (see page 23-G-30), or
    - super locking control units input (see page 23-G-28).
  - If all doors can unlocked, check for:
    - driver's key cylinder switch (see page 23-G-31), or
    - multiplex control unit input (see page 23-E-3).

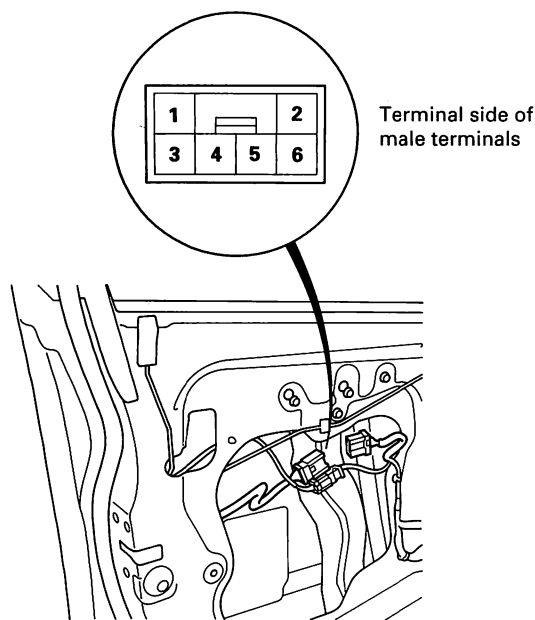
If all tests prove properly and the keyless/power door lock system works properly, replace the super locking actuator (see section 20).

# Power Door Locks

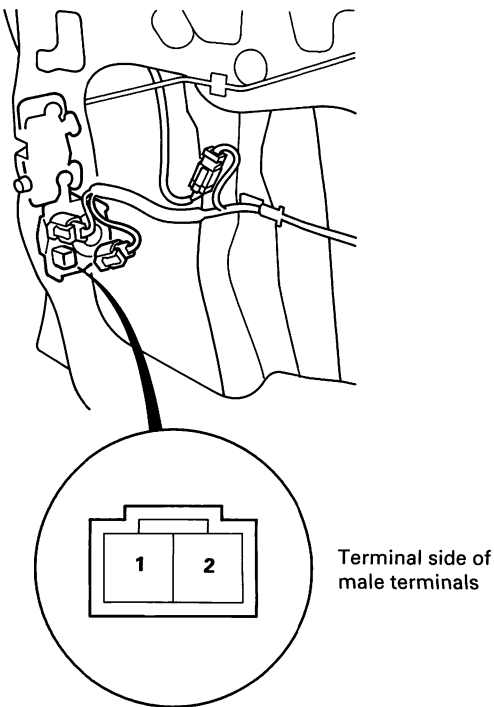
## Driver's Door Lock Actuator Test

- 1. Remove the driver's door panel (see section 20).
- 2. Disconnect the 6P or 2P connector from the actuator.

With super locking system:



Without super locking system:



- 3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

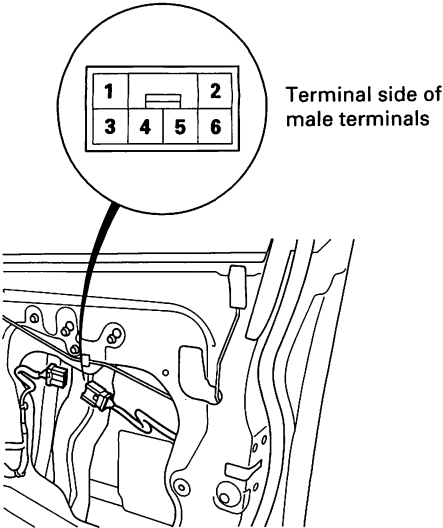
Terminal Position	6 [1]	5 [2]
LOCK	⊕	⊖
UNLOCK	⊖	⊕

[ 1 ]: Without super locking system

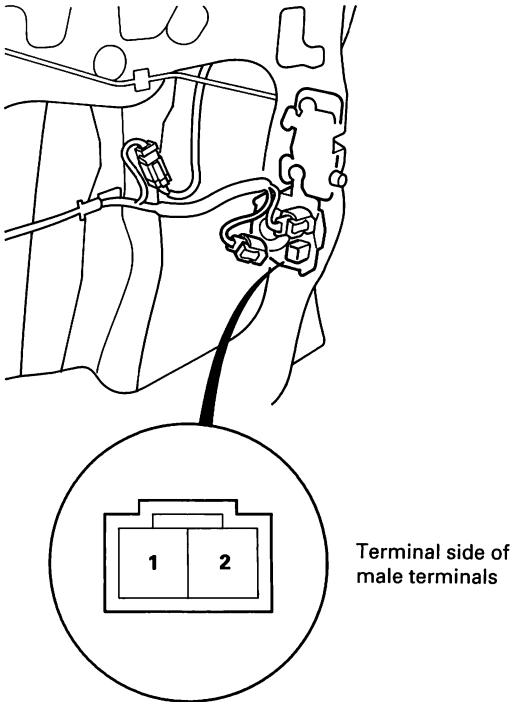
Passenger's Door Lock Actuator Test

1. Remove the driver's door panel (see section 20).
2. Disconnect the 6P or 2P connector from the actuator.

With super locking system:



Without super locking system:



3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

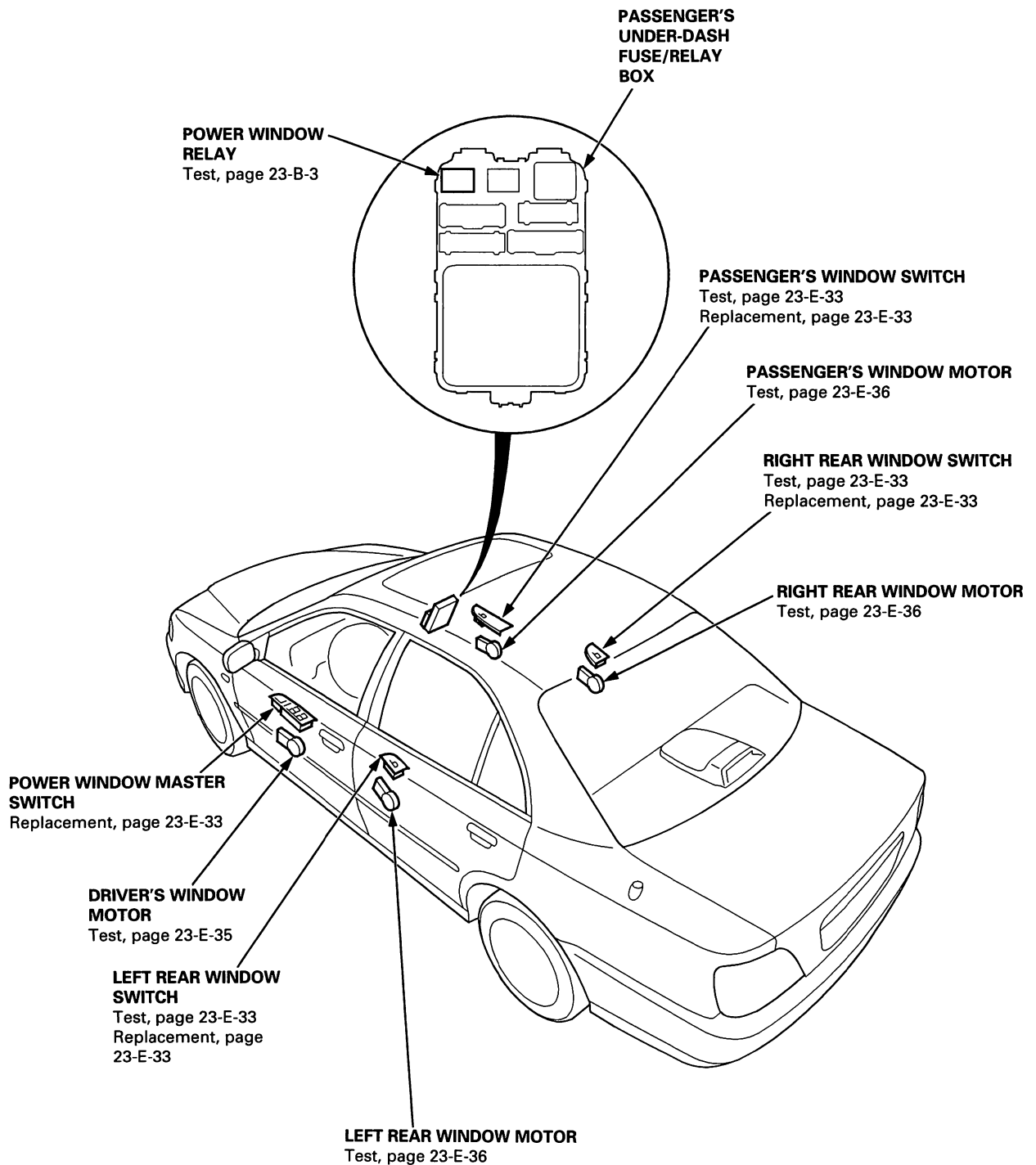
Terminal Position	6 [1]	5 [2]
LOCK	⊕	⊖
UNLOCK	⊖	⊕

[ ]: Without super locking system

# Power Windows

## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.

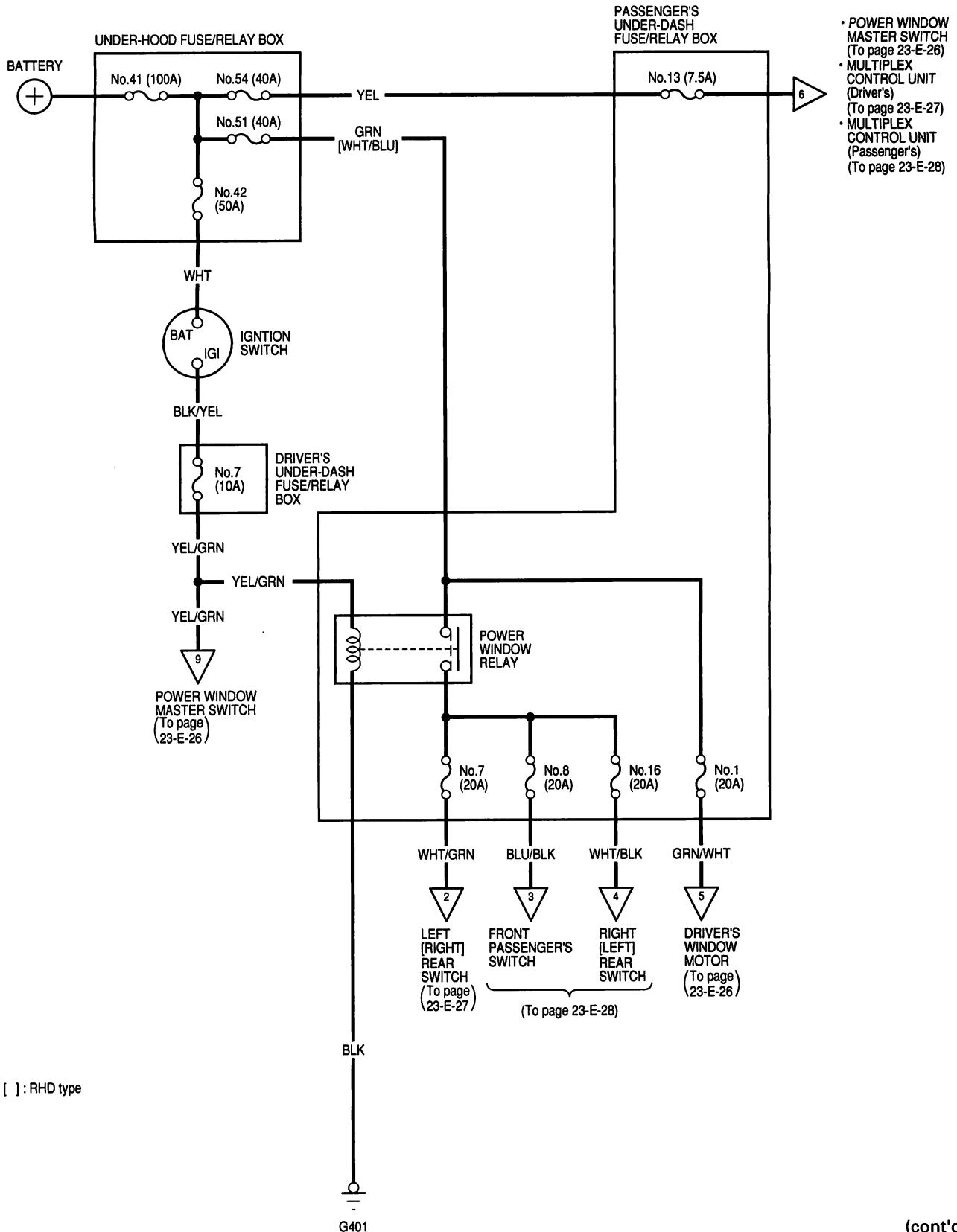


### Driver's Window Motor Description

The driver's window will stop and automatically open if you pinch your hand or something during auto-up operation.



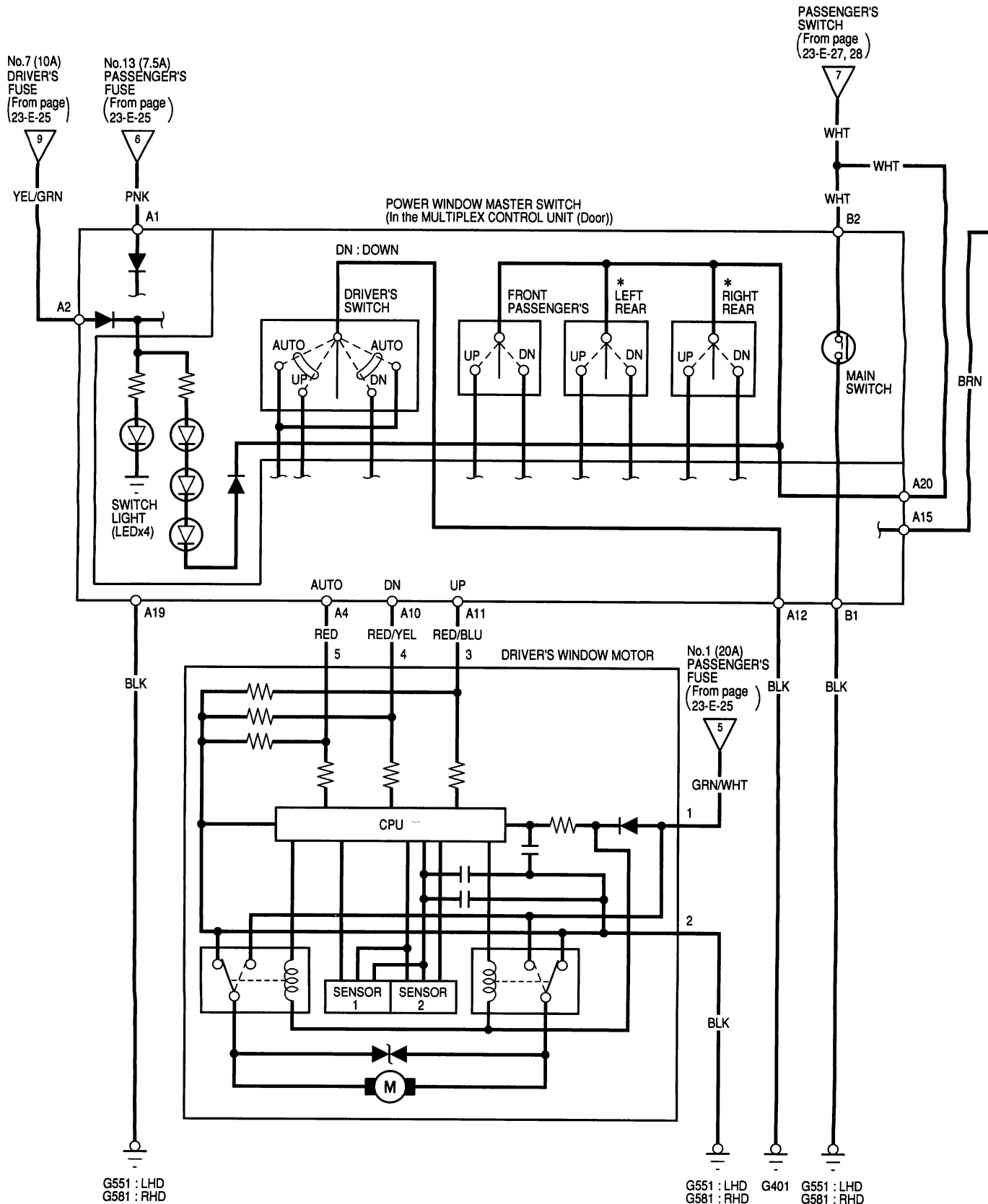
## Circuit Diagram



# Power Windows

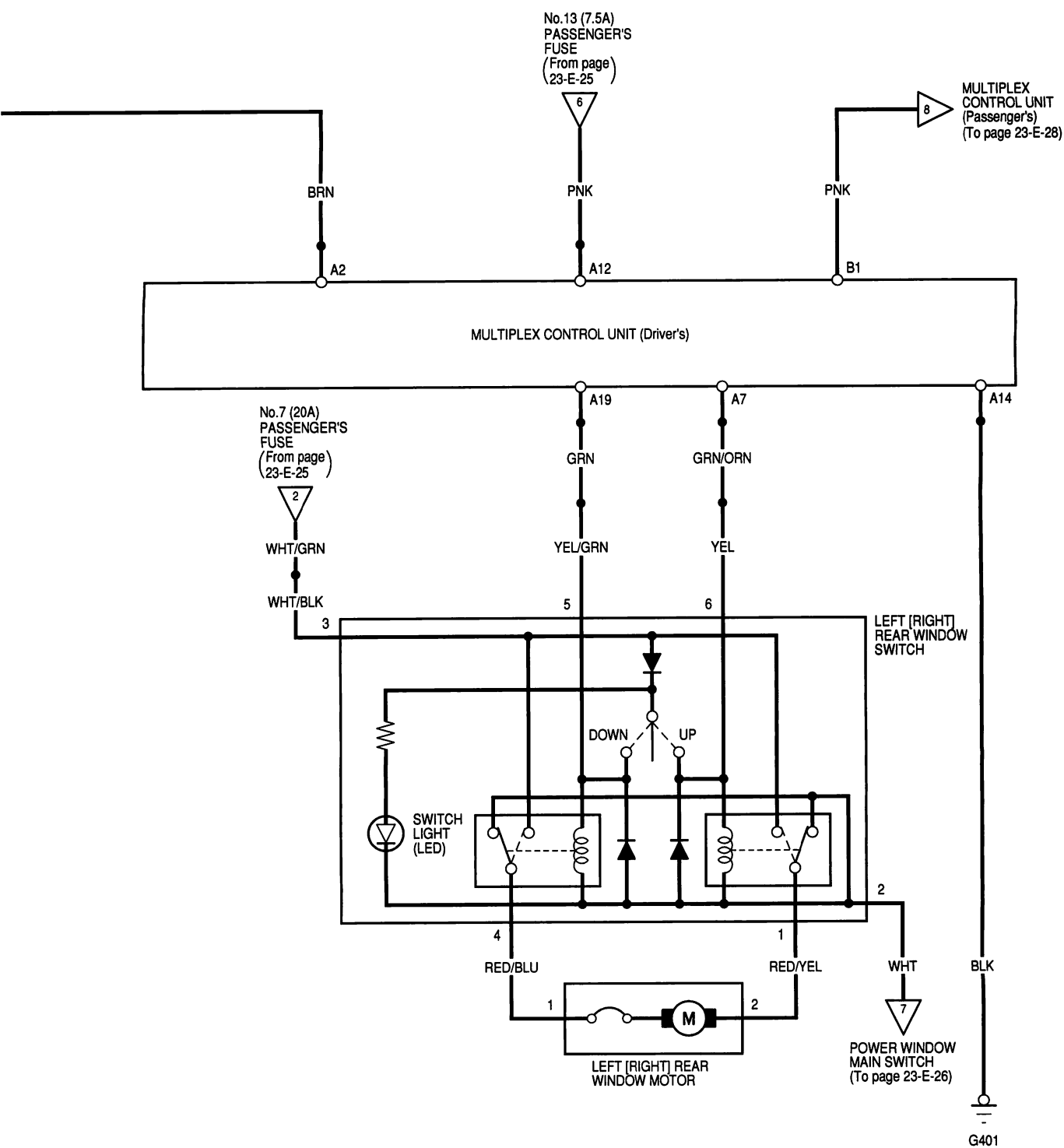
## Circuit Diagram (cont'd)

\* : With rear power window





[ ] : RHD type

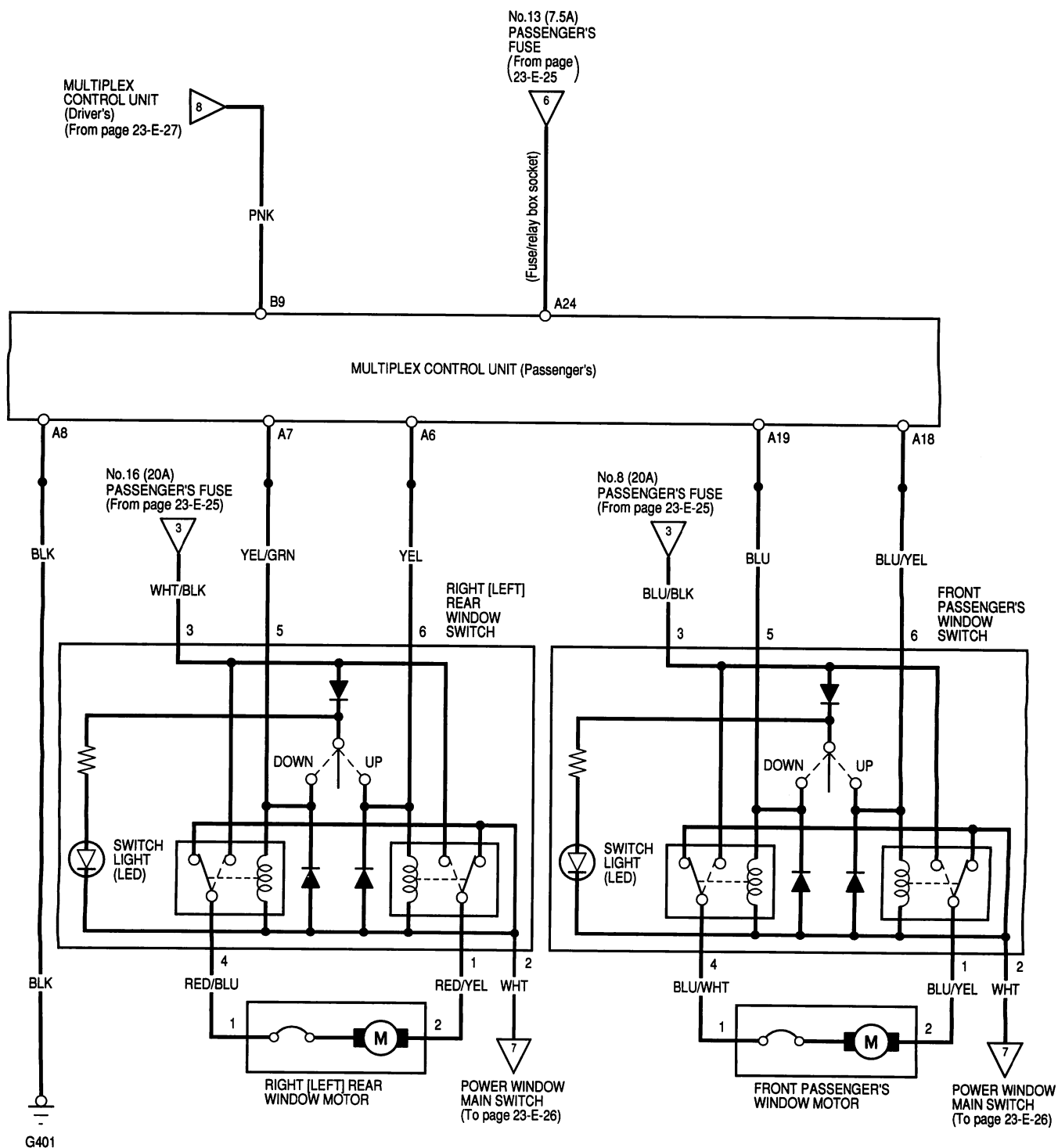




# Power Windows

## Circuit Diagram (cont'd)

[ ]: RHD type





## Troubleshooting

### NOTE:

- Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).
- The numbers in the table show the troubleshooting sequence.

Symptom		Item to be inspected		Blown No. 51 (40 A) fuse (In the under-hood fuse/relay box)		Power window relay		Passenger's under-dash fuse/relay box				Blown No. 7 (7.5 A) fuse (In the drivers under-dash fuse/relay box)		Power window master switch relay		Passenger's switch		Driver's motor		CPU (In driver's motor) or multiplex control unit (door)		Passenger's motor		Window regulator		Driver's window glass run channel		Control unit input		Poor ground		Open circuit in the wires, loose or disconnected terminals	
				Blown No. 1 (20 A) fuse		Blown No. 8 (20 A) fuse		Blown No. 16 (20 A) fuse		Blown No. 7 (20 A) fuse																							
All windows do not work.			1										2	3					2										G551		GRN, YEL/GRN [WHT/BLU]		
Driver's window does not work.					1														2					4		3		G551		GRN/WHT, RED/YEL, RED/BLU			
Driver's window does not work in AUTO.																		3	1							2				RED			
The driver's window proceeds to move automatically downward on the way during AUTO UP operation.																		3	1					2									
The driver's window neither stop nor automatically open in spite of pinching your hand or something.																		2	1														
Passenger's windows do not work.	Front passenger's			2		1									5						3	6		4		G551		BLU/BLK					
	Left [Right] rear			2				1							5						3	6		4		G551		WHT/GRN					
	Right [Left] rear			2			1								5						3	6		4		G551		WHT/BLK					

[ ]: RHD type

### Driver's Power Window Fail-safe Mode and Reset

#### Fail-safe mode

The driver's window will be in the fail-safe mode by:

- shutdown of the battery power.
- shutdown of the electric power caused by blown No. 1 (20 A) passenger's fuse or No. 51 (40 A) fuse.
- open circuit in the driver's door wire harness, loose or disconnected terminals.
- removal of the regulator, glass or glass run channel.

#### Resetting the power window unit

1. Turn the ignition switch ON (III) to crank the engine.
2. Move the driver's window all the way down by using the driver's switch of the master switch by manual down.
3. Move the driver's window all the way up by using the driver's switch of the master switch more than one second.

After resetting the power window unit, make sure the driver's window AUTO UP and AUTO DOWN operate properly.

- If the window does not work, reset the power window unit according to the above procedures again.
- If the window does not work still, proceed to the troubleshooting of the power window.

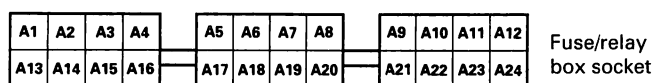
# Power Windows

## Control Unit Input Test

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Driver's):

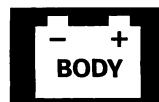
1. Remove the driver's under-dash fuse/relay box (see page 23-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



### Disconnect the connectors from the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A12	Fuse/relay box socket	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box • An open in the wire
A7		Ignition switch ON (II) and left [right] rear switch on master switch down	Check for voltage to ground: There should be battery voltage.	• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box • Faulty master switch • An open in the wire
A19		Ignition switch ON (II) and left [right] rear switch on master switch up	Check for voltage to ground: There should be battery voltage.	
A14		Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G401) • An open in the wire

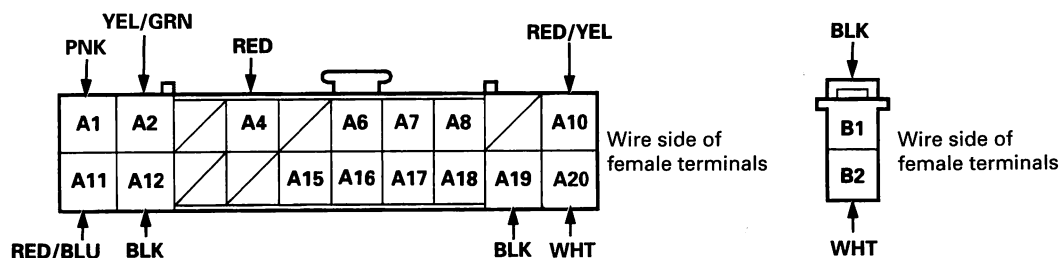
[ ]: RHD type



NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

#### Multiplex Control Unit (Door):

1. Remove the driver's door panel, and disconnect the 20P and 2P connectors from the door unit.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the power window master switch must be faulty; replace it.



Disconnect the connector from the control unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	PNK	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A2	YEL/GRN	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 7 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A11	RED/BLU	Ignition switch ON (II) and driver's window switch in UP or AUTO UP position	Check for voltage between the A12 and A11 terminals: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Faulty master switch</li> <li>• An open in the wire</li> </ul>
		Master main switch OFF	Check for voltage between the A12 and A11 terminals: There should be no voltage.	
A10	RED/YEL	Ignition switch ON (II) and driver's window switch in DOWN or AUTO DOWN position	Check for voltage between the A12 and A10 terminals: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Faulty master switch</li> <li>• An open in the wire</li> </ul>
		Master main switch OFF	Check for voltage between the A12 and A10 terminals: There should be no voltage.	
A12	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G551: LHD, G581: RHD)</li> <li>• An open in the wire</li> </ul>
A19				
B1				

Reconnect the connector to the control unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A4	RED	Ignition switch ON (II) and driver's window switch in AUTO UP position	Check for voltage between the A12 and A4 terminals: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Faulty master switch</li> <li>• An open in the wire</li> </ul>
		Ignition switch ON (II) and driver's window switch in AUTO DOWN position		
		Master main switch OFF	Check for voltage between the A12 and A4 terminals: There should be no voltage.	
B2	WHT	With master main switch ON Passenger's switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty passenger's switch</li> <li>• Poor ground (G551: LHD, G581: RHD)</li> <li>• An open in the wire</li> </ul>
A20	WHT	Ignition switch ON (II) and master switch ON	Check for voltage to ground: There should be battery voltage. Switch light should come ON.	<ul style="list-style-type: none"> <li>• Faulty master switch</li> <li>• Blown LED</li> <li>• An open in the wire</li> </ul>

(cont'd)

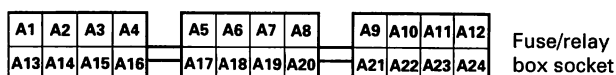
# Power Windows

## Control Unit Input Test (cont'd)

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Passenger's)

1. Remove the passenger's under-dash fuse/relay box (see page 23-B-7).
2. Remove the passenger's unit from the passenger's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Disconnect the connector from the control unit.

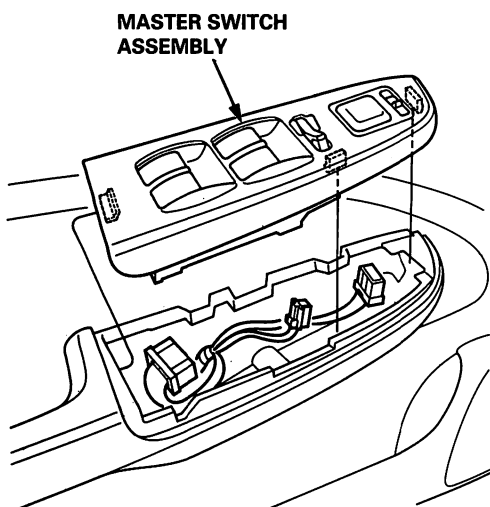
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A24	Fuse/relay box socket	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A8		Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
A19		Ignition switch ON (II) and front passenger's switch on master switch down	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 8 (20 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Faulty master switch</li> <li>• An open in the wire</li> </ul>
A18		Ignition switch ON (II) and front passenger's switch on master switch up		
*A7		Ignition switch ON (II) and right [left] rear switch on master switch down	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 16 (20 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Faulty master switch</li> <li>• An open in the wire</li> </ul>
*A6		Ignition switch ON (II) and right [left] rear switch on master switch up		

[ ]: RHD type

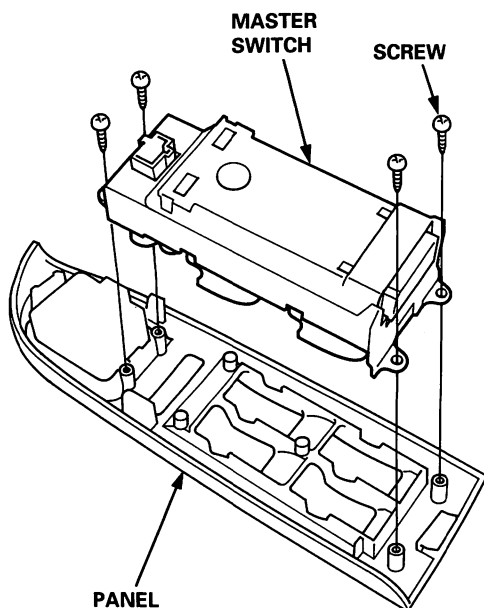
\*: with rear power window

## Master Switch Replacement

1. Remove the master switch assembly from the armrest.



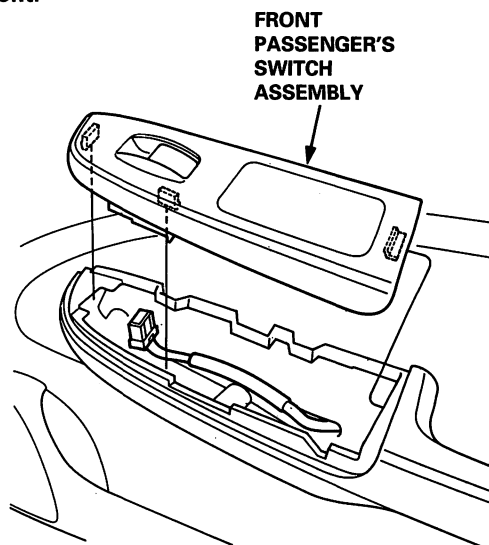
2. Remove the four mounting screws, then remove the master switch from the panel.



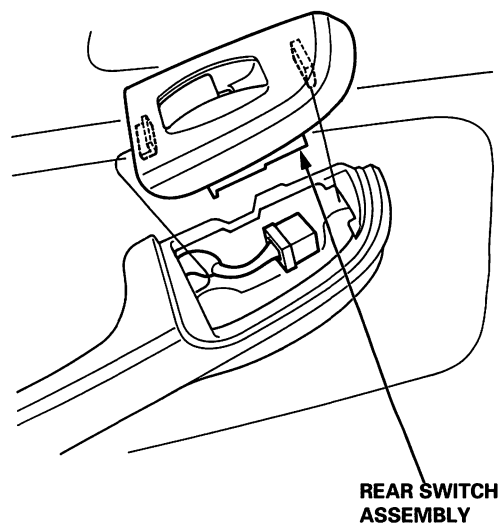
## Passenger's Window Switch Test/Replacement

1. Remove the passenger's switch assembly from the armrest.

Front:



Rear:

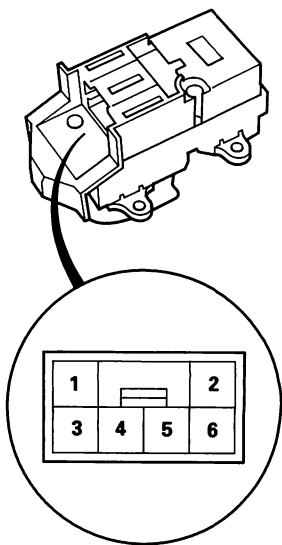
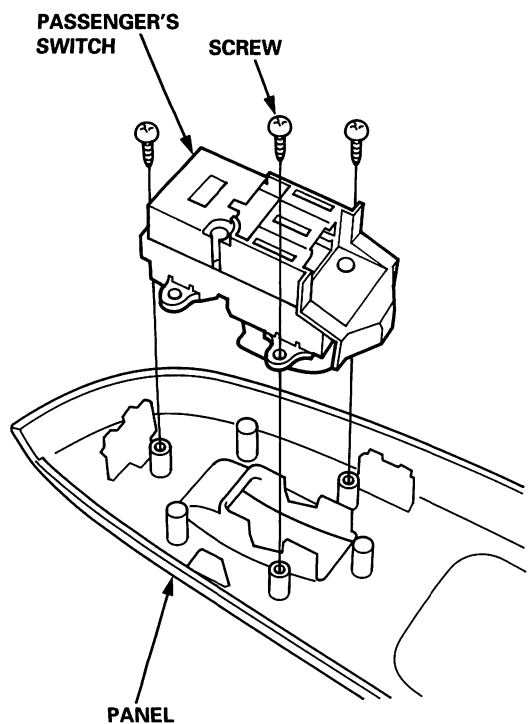


(cont'd)

# Power Windows

## Passenger's Window Switch Test/Replacement (cont'd)

2. Remove the three mounting screws, then remove the passenger's switch from the panel.



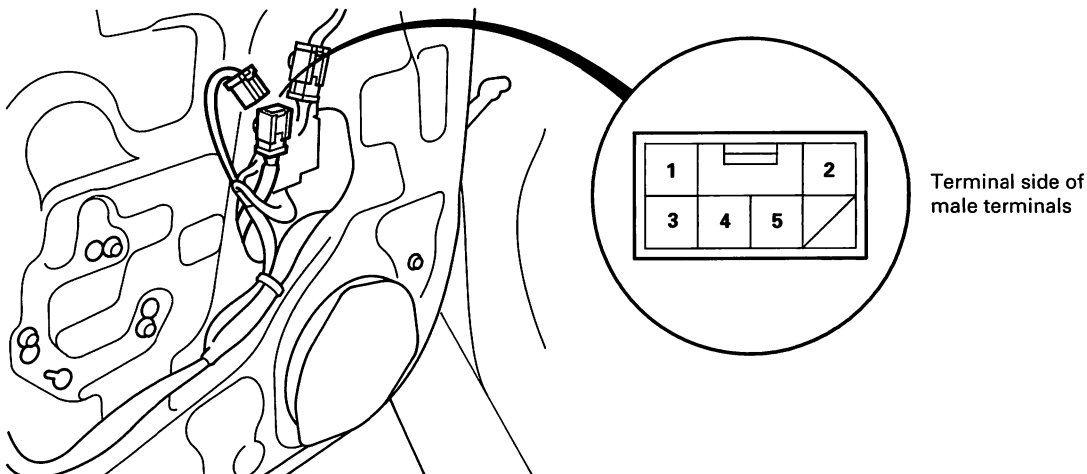
3. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	1	2	3	4	5	6
UP	○	○	○	○	○	○
OFF	○		○	○	○	○
DOWN	○	○	○	○	○	○

## Driver's Window Motor Test

### Motor Test:

1. Remove the driver's door panel (see section 20).
2. Disconnect the 6P connector from the window motor.



3. Check for voltage between the No. 1 terminal and body ground.
  - If there is no battery voltage check for:
    - blown No. 1 (20 A) fuse in the passenger's under-dash fuse/relay box.
    - an open in the GRN/WHT wire
  - If there is battery voltage, go to step 4.
4. Test the motor while connecting battery power to the No. 1 terminal and grounding to the No. 2 terminal.
  - The motor should run (UP) when the battery power is connected to the No. 3 terminal.
  - The motor should run (DOWN) when battery power is connected to the No. 4 terminal.
  - The motor should stop running when the battery power disconnected from the No. 3 or No. 4 terminal.

If the motor fails to run or doesn't run smoothly, replace it.

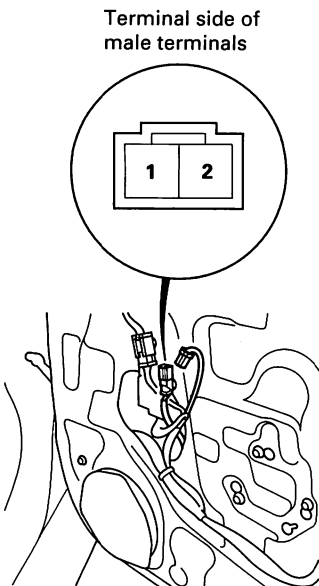


# Power Windows

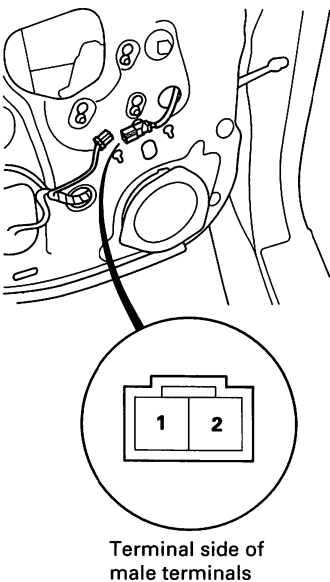
## Passenger's Window Motor Test

- 1. Remove the passenger's door panel (see section 20).
- 2. Disconnect the 2P connector from the window motor.

Front:



Rear:



- 3. Check window motor operation by connecting power and ground according to the table. When the motor stops running, disconnect one lead immediately.

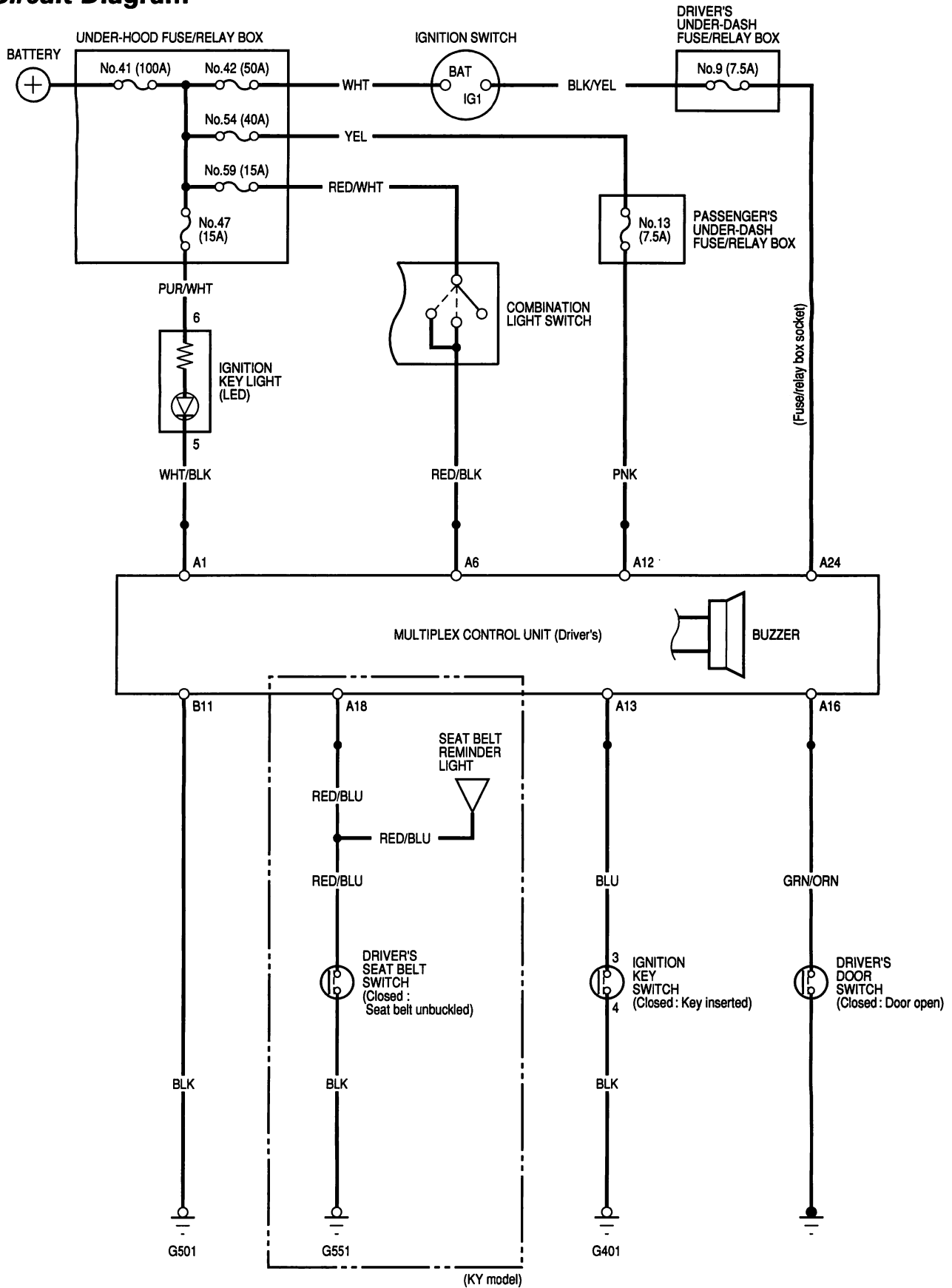
Terminal	1	2
Direction		
UP	⊖	⊕
DOWN	⊕	⊖

- 4. If the motor does not run or fails to run smoothly, replace it.

# Lights-on, Key-in, Seat Belt Reminder System



## Circuit Diagram



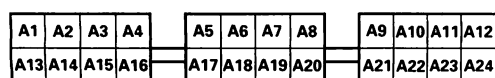
# Lights-on, Key-in, Sear Belt Reminder System

## Control Unit Input Test

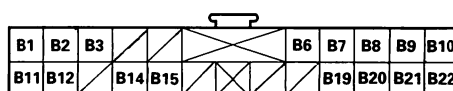
NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Driver's):

1. Remove the driver's under-dash fuse/relay box (see page 23-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals lock OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Fuse/relay box socket



Wire side of female terminals

BLK

### Key Light Timer System:

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>
A12	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A1	Fuse/relay box socket	Under all conditions	Attach to ground: Ignition key light should come on.	<ul style="list-style-type: none"> <li>• Blown No. 47 (15 A) fuse in the under-hood fuse/relay box</li> <li>• Blown LED</li> <li>• An open in the wire</li> </ul>
A16	Fuse/relay box socket	Driver's door open	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"> <li>• Faulty driver's door switch</li> <li>• An open in the wire</li> </ul>

### Lights-on Reminder System:

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>
A6	Fuse/relay box socket	Combination light switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 59 (15 A) fuse in the under-hood fuse/relay box</li> <li>• Faulty combination light switch</li> <li>• An open in the wire</li> </ul>
A16	Fuse/relay box socket	Driver's door open	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"> <li>• Faulty driver's door switch</li> <li>• An open in the wire</li> </ul>

**Key-in Reminder System:**

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G501)</li><li>• An open in the wire</li></ul>
A24	Fuse/relay box socket	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
A16	Fuse/relay box socket	Driver's door open	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"><li>• Faulty driver's door switch</li><li>• An open in the wire</li></ul>
A13	Fuse/relay box socket	Ignition key is inserted into the ignition switch.	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"><li>• Faulty ignition key switch</li><li>• An open in the wire</li><li>• Poor ground (G401)</li></ul>

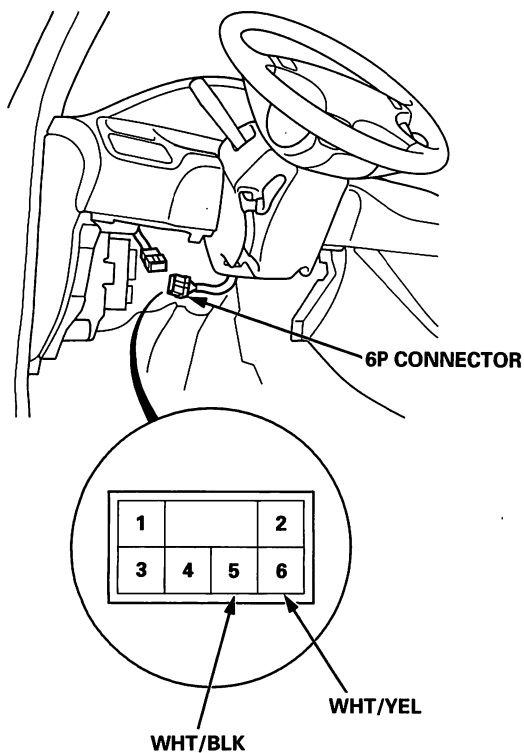
**Seat Belt Reminder System (KY model):**

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G501)</li><li>• An open in the wire</li></ul>
A24	Fuse/relay box socket	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
A18	RED/BLU	Driver's seat belt is not buckled.	Check for voltage to ground: There should be 1 V or less.	<ul style="list-style-type: none"><li>• Faulty seat belt switch</li><li>• Poor ground (G551)</li><li>• An open in the wire</li></ul>

# Lights-on, Key-in, Sear Belt Reminder System

## Ignition Key Light Test

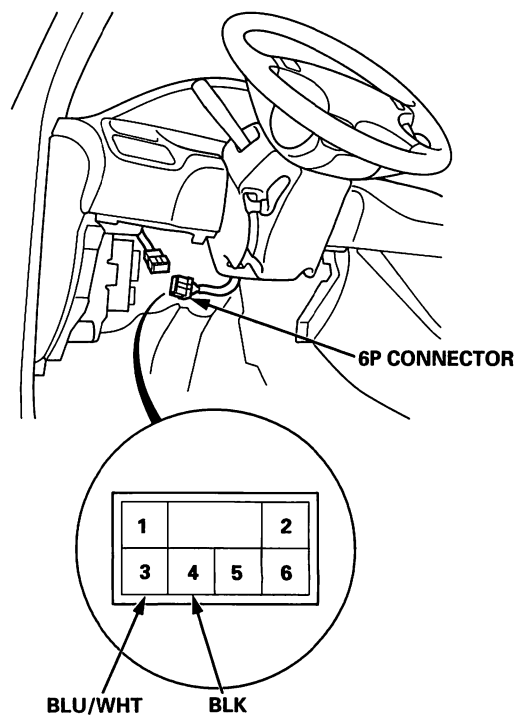
1. Remove the dashboard lower cover (see section 20).
2. Disconnect the 6P connector from the steering beam wire harness.



3. The ignition key light should come on when power is connected to terminal No. 5 (WHT/BLK) and ground is connected to terminal No. 6 (WHT/YEL).

## Ignition Key Switch Test

1. Remove the dashboard lower cover (see section 20).
2. Disconnect the 6P connector from the steering beam wire harness.



3. Check for continuity between terminal No. 3 (BLU/WHT) and No. 4 (BLK).
  - There should be continuity with the key in the ignition switch.
  - There should be no continuity with the key removed.

# Instruments

## Stereo Sound System

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## Horns

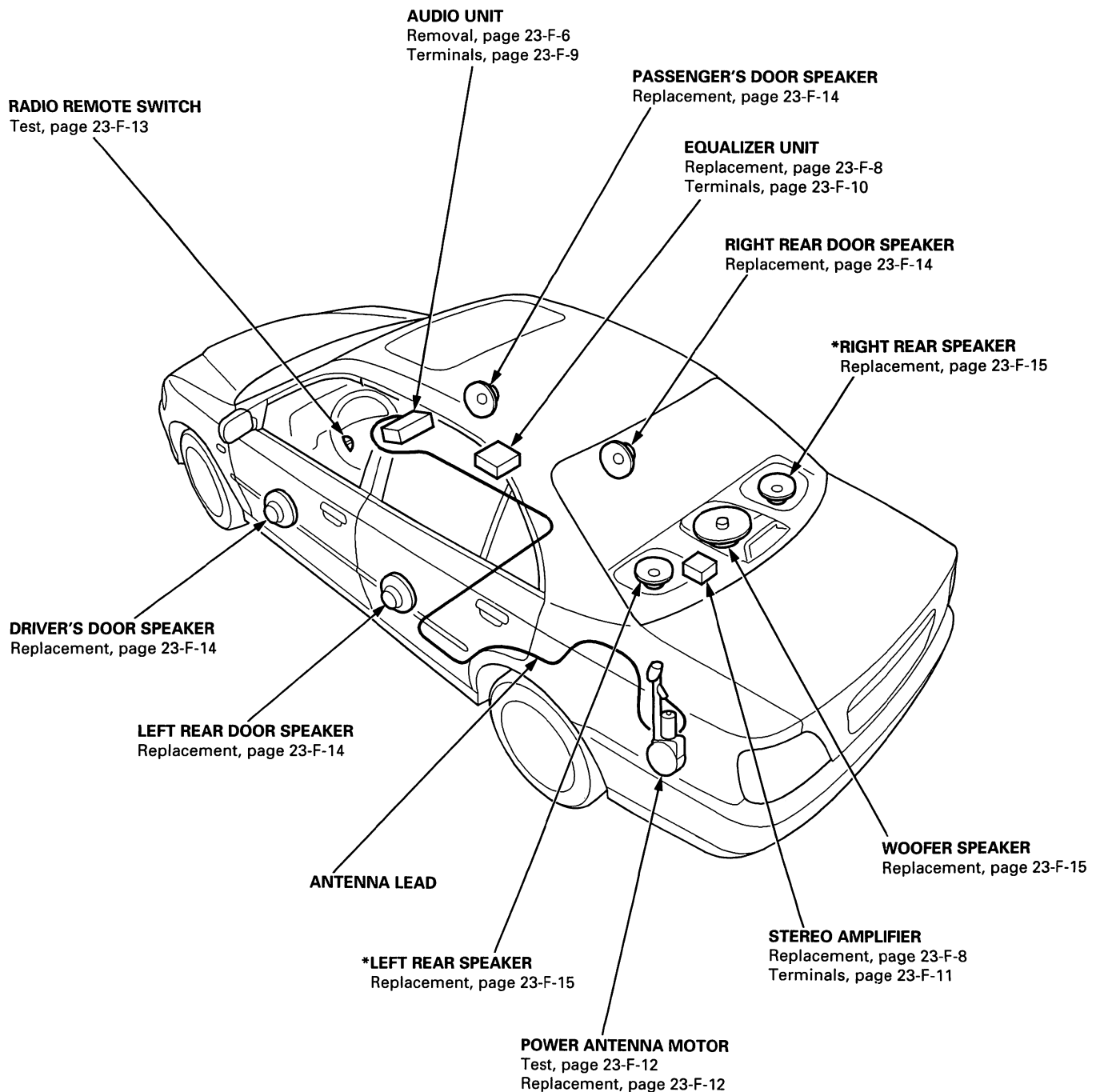
Component Location Index .....	23-F-53
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# Stereo Sound System

## Component Location Index

\*: KY model



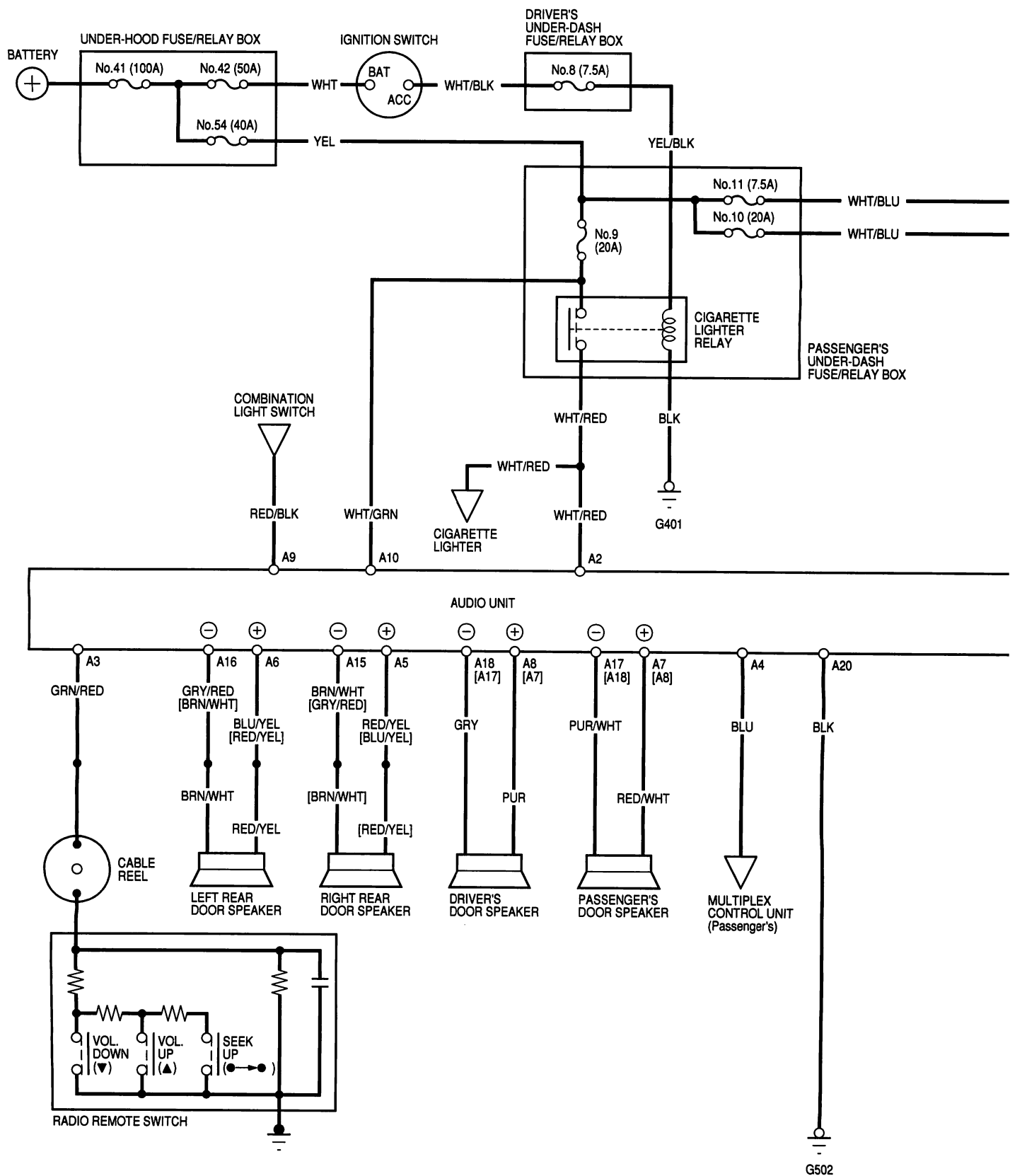




# Stereo Sound System

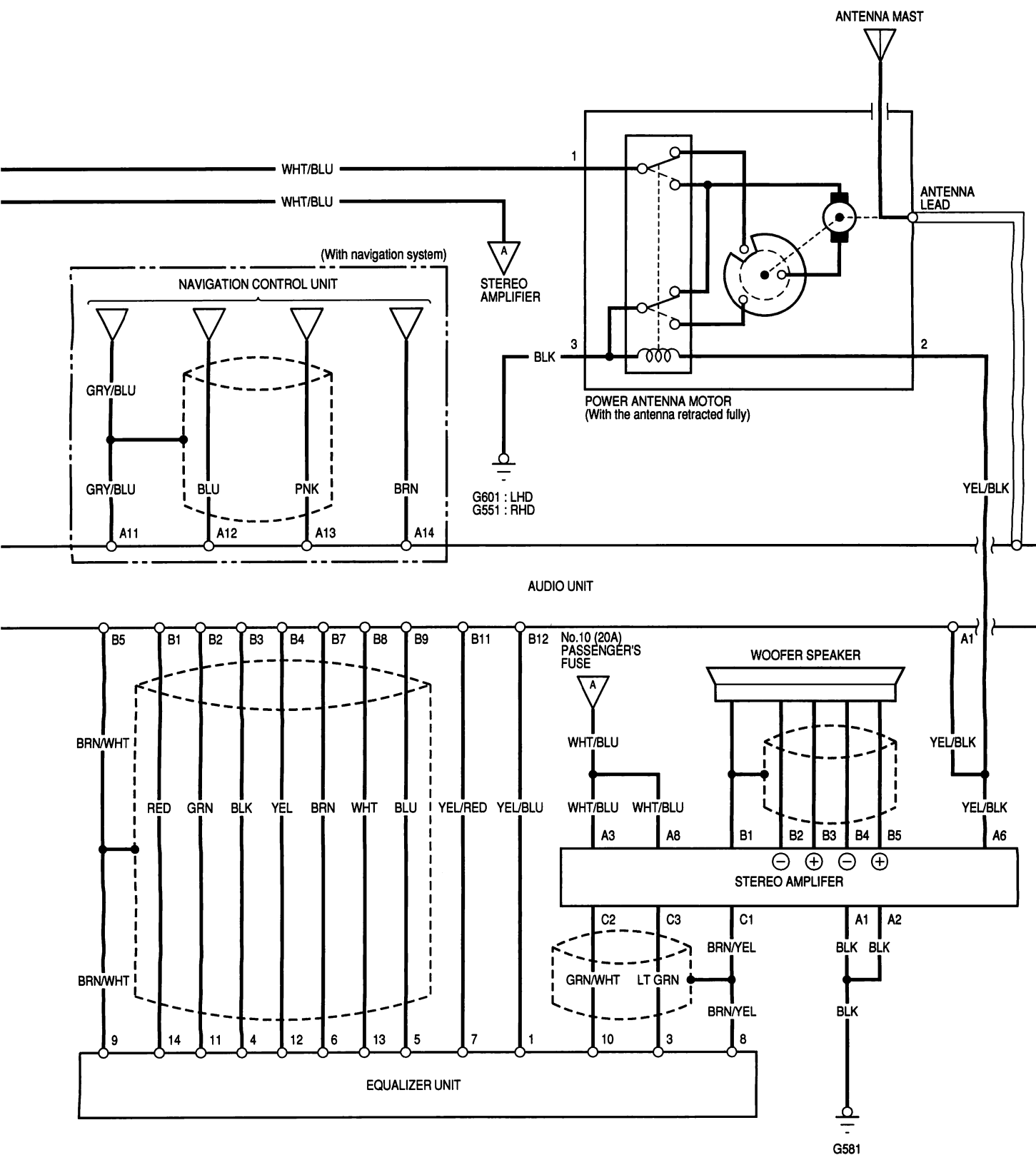
## Circuit Diagram (With Bose Sound System)

[ ] : RHD type





----- : Shielding

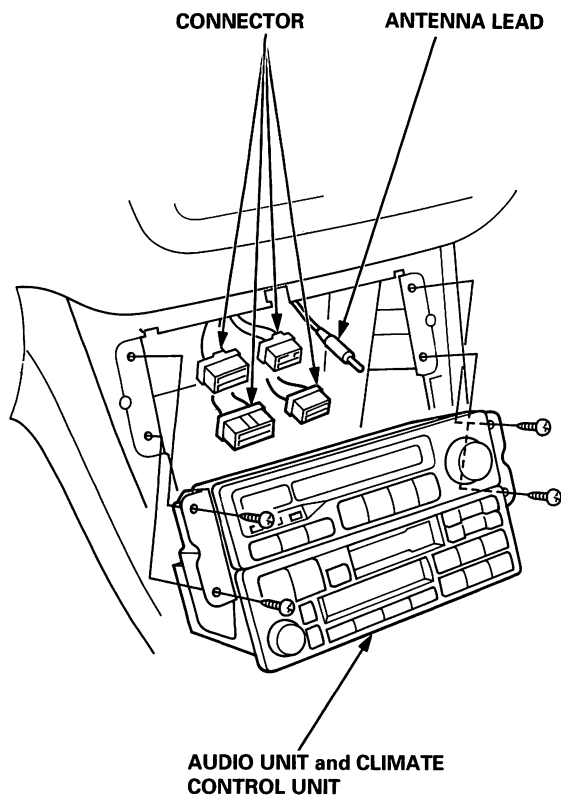


# Stereo Sound System

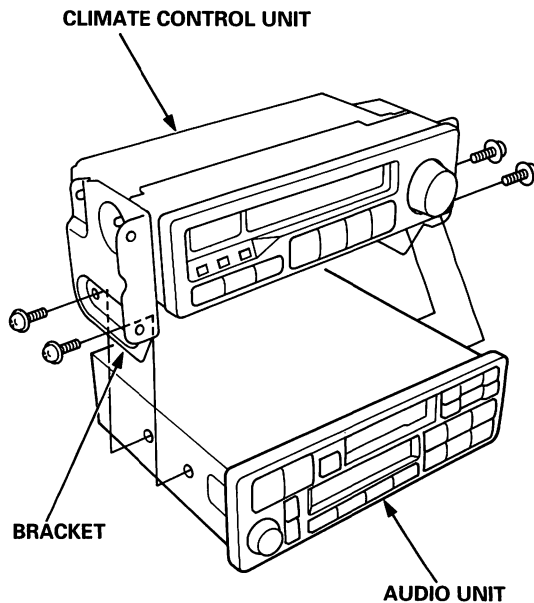
## Audio Unit Removal

### With Bose Sound System and Navigation System:

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the front console panel (see section 20).
3. Remove the radio panel (see page 23-F-19).
4. Remove the screws, and pull the audio unit and climate control unit.
5. Disconnect the connectors and antenna lead, then remove the audio unit and climate control unit.



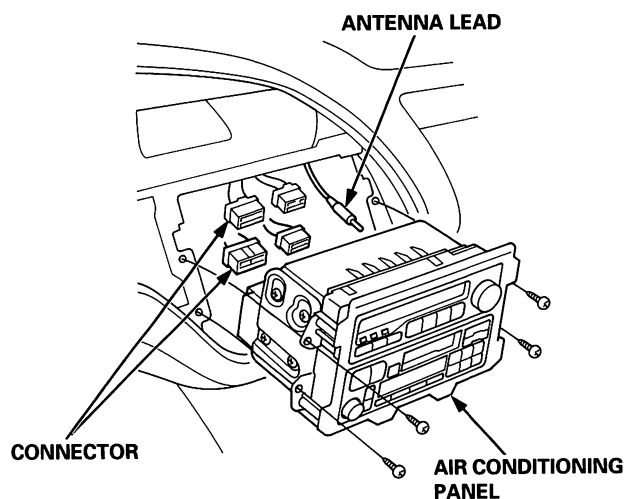
6. Remove the screws from the bracket, then remove the audio unit from the bracket.



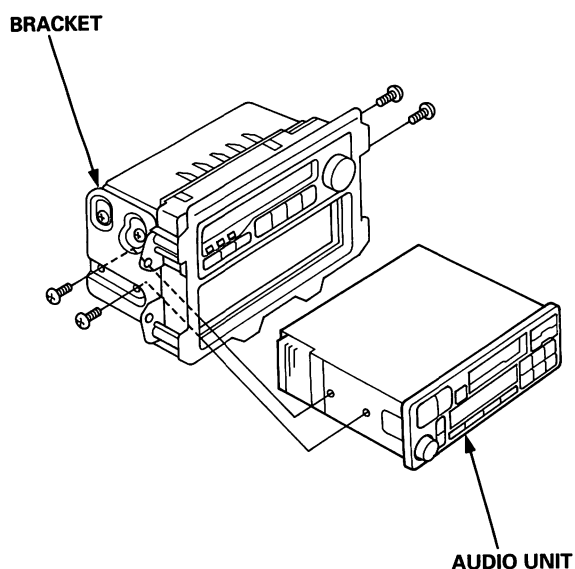
7. Install in the reverse order of removal.
8. Enter the anti-theft code for the radio, then enter the customer's radio station presets.

### With Bose Sound System:

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the instrument panel (see section 20).
3. Remove the screws from the air conditioning panel.
4. Disconnect the connectors and antenna lead, then remove the air conditioning panel.



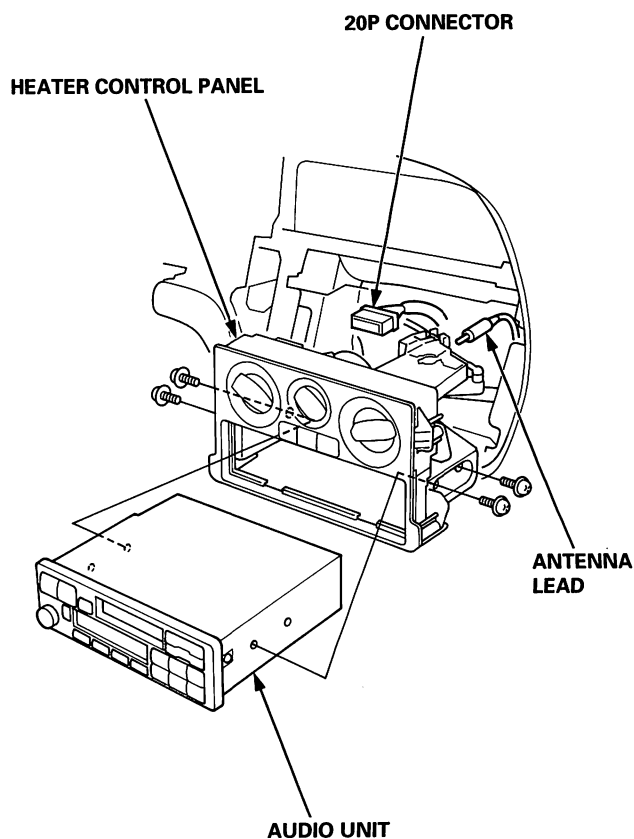
5. Remove the screws from the bracket, then remove the audio unit from the bracket.



6. Install in the reverse order of removal.
7. Enter the anti-theft code for the radio, then enter the customer's radio station presets.

#### KY model:

1. Remove the instrument panel (see section 20).
2. Remove the heater control panel (see section 20).
3. Disconnect the 20P connector and antenna lead.
4. Remove the screws, then remove the audio unit from the bracket.

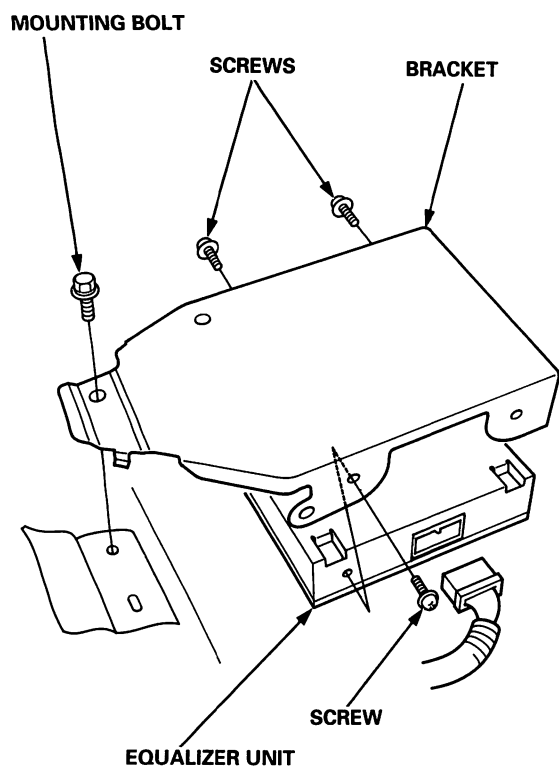


5. Install in the reverse order of removal.

# Stereo Sound System

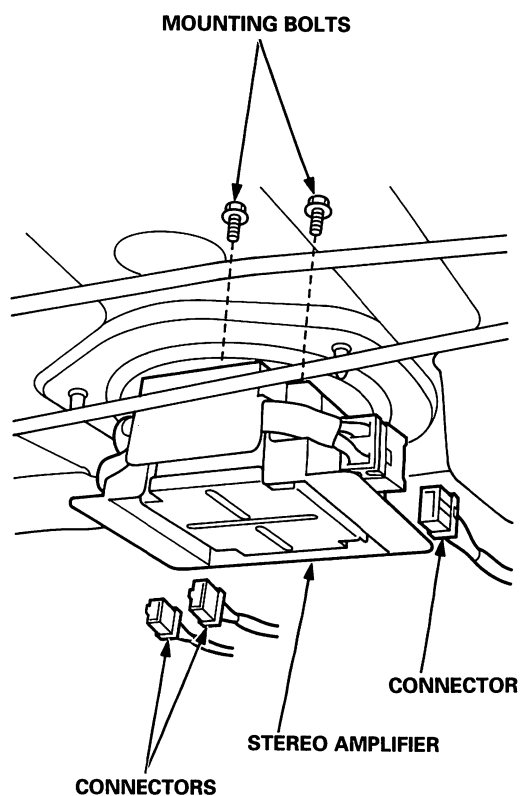
## Equalizer Unit Replacement

1. Remove the front seat (see section 20).
2. Remove the mounting bolt from the bracket.
3. Disconnect the connector from the unit.
4. Remove the screws, then remove the unit from the bracket.

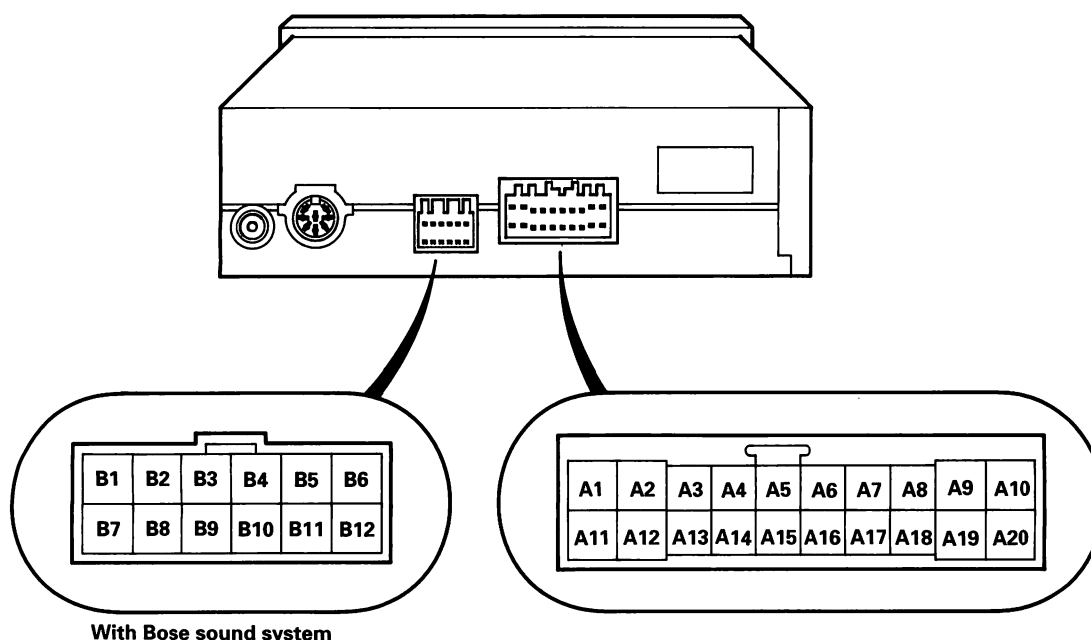


## Stereo Amplifier Replacement

1. Remove the rear shelf (see section 20).
2. Remove the mounting bolts from the amplifier.
3. Open the trunk lid.
4. Disconnect the connectors from the amplifier.
5. Remove the amplifier.



## Audio Unit Connector Terminals Identification



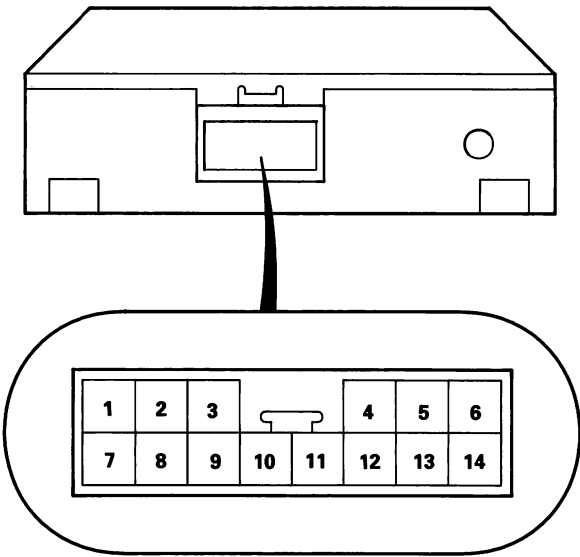
Cavity	Wire	Connect to	Cavity	Wire	Connect to
A1	YEL/BLK	Radio-switched power	A17	PUR/WHT	Passenger's door speaker ⊖
A2	WHT/RED	ACC (Main stereo power supply)	[A17]	[GRY]	Driver's door speaker ⊖
*A3	GRN/RED	Radio remote switch	A18	GRY	Driver's door speaker ⊖
*A4	BLU	Security in (Passenger's MPCS unit)	[A18]	[PUR/WHT]	Passenger's door speaker ⊖
A5	RED/YEL [BLU/YEL]	Right rear speaker ⊕	A19	—	Not used
A6	BLU/YEL [GRY/RED]	Left rear speaker ⊕	A20	BLK	Ground (G502)
A7	RED/WHT	Passenger's door speaker ⊕	*B1	RED	Equalizer unit (Left input)
[A7]	[PUR]	Driver's door speaker ⊕	*B2	GRN	Equalizer unit (SUM input)
A8	PUR	Driver's door speaker ⊕	*B3	BLK	Equalizer unit (Left output)
[A8]	[RED/WHT]	Passenger's door speaker ⊕	*B4	YEL	Equalizer unit (COMMON output)
A9	RED/BLK	Lights-on signal	*B5	BRN/WHT	Equalizer unit (Output shielding)
A10	WHT/GRN	Constant power	*B6	—	Not used
*A11	GRY/BLU	Navigation control unit (AF shielding)	*B7	BRN	Equalizer unit (Right input)
*A12	BLU	Navigation control unit (AF ⊕)	*B8	WHT	Equalizer unit (COMMON input)
*A13	PNK	Navigation control unit (AF ⊖)	*B9	BLU	Equalizer unit (Right output)
*A14	BRN	Navigation control unit (MUTE signal)	*B10	—	Not used
A15	BRN/WHT [GRY/RED]	Right rear speaker ⊖	*B11	YEL/RED	Equalizer unit (Ground)
A16	GRY/RED [BRN/WHT]	Left rear speaker ⊖	*B12	YEL/BLU	Equalizer unit (Switched +BAT)

\*: With Bose sound system

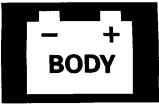
[ ]: RHD type

# Stereo Sound System

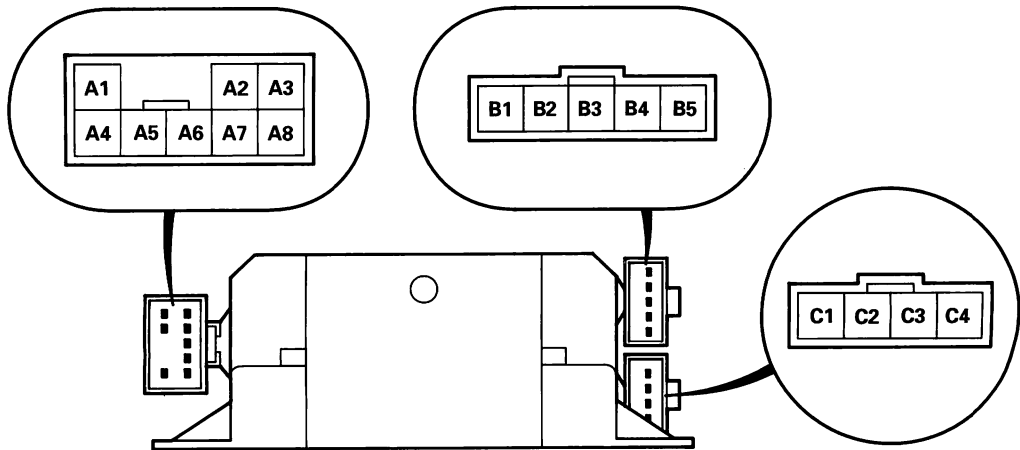
## Equalizer Unit Connector Terminals Identification



Cavity	Wire	Connect to	Cavity	Wire	Connect to
1	YEL/BLU	Audio unit (Switched +BAT)	8	BRN/YEL	Stereo amplifier (BASS shielding)
2	——	Not used	9	BRN/WHT	Audio unit (Output shielding)
3	LT GRN	Stereo amplifier (BASS ⊕)	10	GRN/WHT	Stereo amplifier (BASS ⊖)
4	BLK	Audio unit (Left output)	11	GRN	Audio unit (SUM input)
5	BLU	Audio unit (Right output)	12	YEL	Audio unit (COMMON output)
6	BRN	Audio unit (Right input)	13	WHT	Audio unit (COMMON input)
7	YEL/RED	Audio unit (Ground)	14	RED	Audio unit (Left input)



# Stereo Amplifier Connector Terminals Identification



Cavity	Wire	Connect to	Cavity	Wire	Connect to
A1	BLK	Ground (G581)	B2	——	Woofer speaker ⊖
A2	BLK	Ground (G581)	B3	——	Woofer speaker ⊕
A3	WHT/BLU	Constant power	B4	——	Woofer speaker ⊖
A4	——		B5	——	Woofer speaker ⊕
A5	——		C1	BRN/YEL	Equalizer unit (BASS shielding)
A6	YEL/BLK	Radio-switched power	C2	GRN/WHT	Equalizer unit (BASS ⊖)
A7	——		C3	LT GRN	Equalizer unit (BASS ⊕)
A8	WHT/BLU	Constant power	C4	——	Not used
B1	——	Woofer speaker (shielding)			



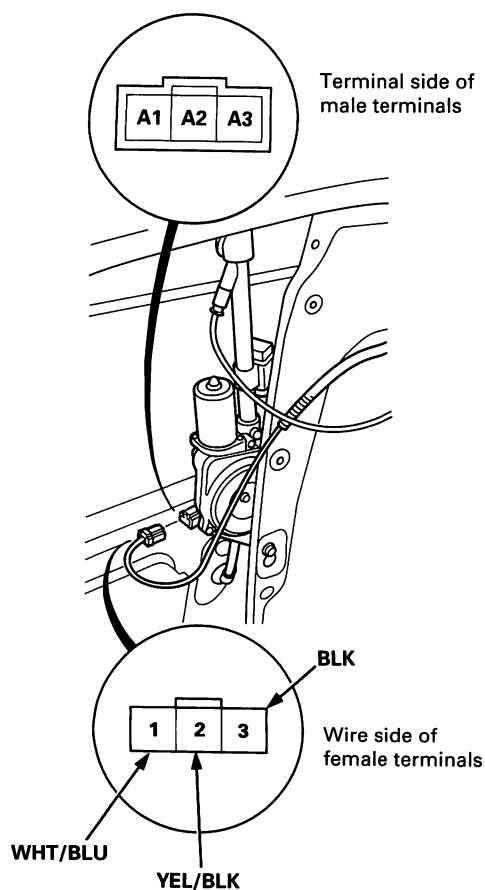
# Stereo Sound System

## Power Antenna Motor Test/Replacement

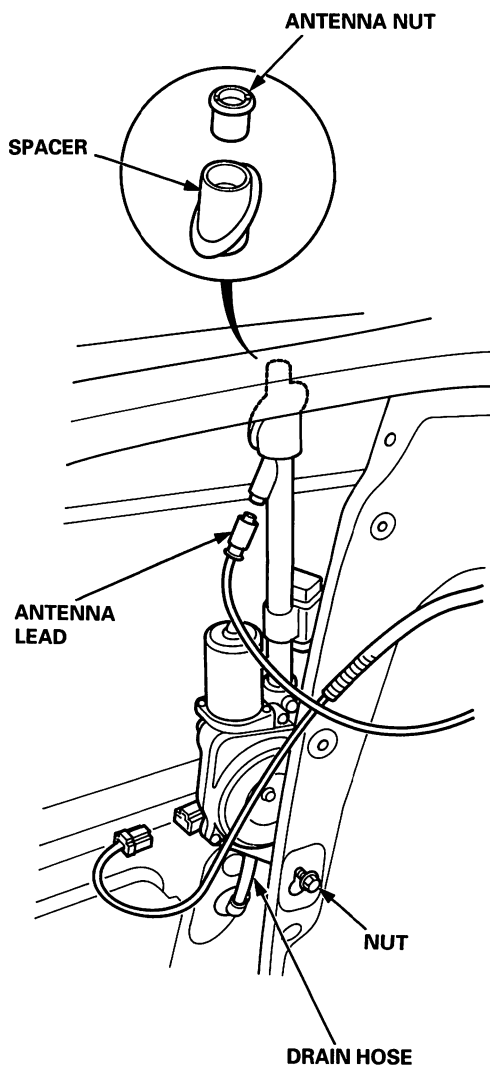
1. Remove the trunk side trim panel (see section 20).
2. Disconnect the 3P connector from the motor, and remove the connector from its clamp.
3. Check the power to the motor at the connector terminals:
  - There should be battery voltage between the No. 1 (+) and No. 3 (-) terminals with ACC (I).
  - There should be battery voltage between the No. 2 (+) and No. 3 (-) terminals with ACC (I) and radio switched ON.
4. Test motor operation:

**EXTEND:** Connect battery power to the A1 and A2 terminals and ground the A3 terminal.

**RETRACT:** Then disconnect power from the A2 terminal.

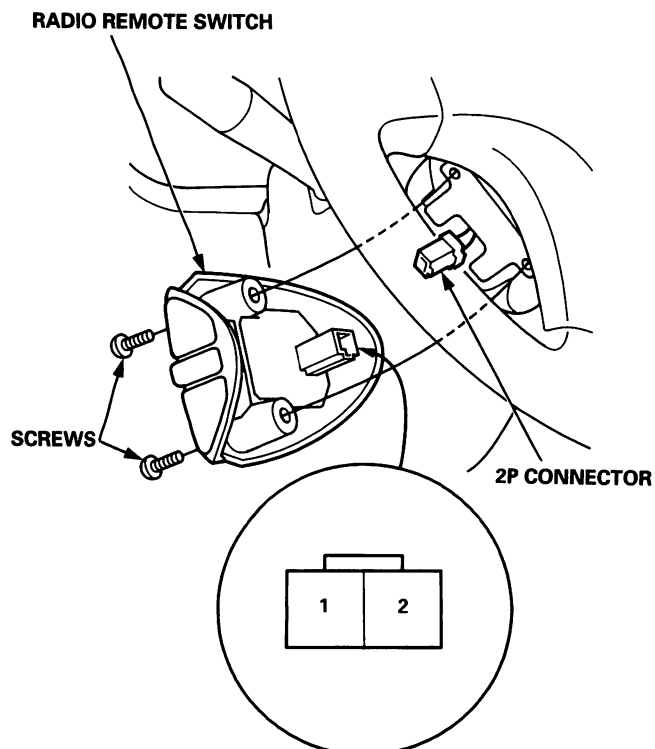


5. Disconnect the antenna lead and drain hose.
6. Remove the antenna nut and spacer.
7. Loosen the nut from motor.
8. Remove the antenna motor assembly.



## Radio Remote Switch Test

1. Remove the two screws from the radio remote switch.



2. Remove the radio remote switch from the steering wheel by removing the two screws, and disconnect the 2P connector.
3. Measure resistance between the No. 1 and No. 2 terminals in each switch position according to the table.

Position	Resistance
OFF	Approx. 3.6 k $\Omega$
● → ● (SEEK)	Approx. 990 $\Omega$
▲ (VOL UP)	Approx. 370 $\Omega$
▼ (VOL. DOWN)	Approx. 100 $\Omega$

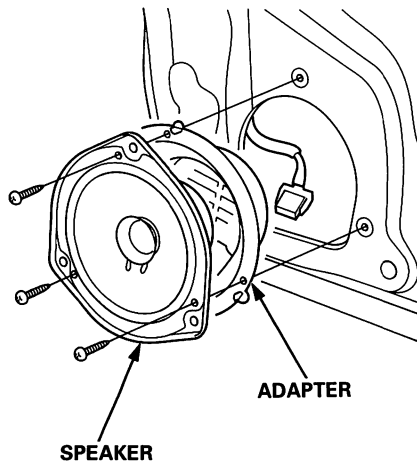
# Stereo Sound System

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## Speaker Replacement

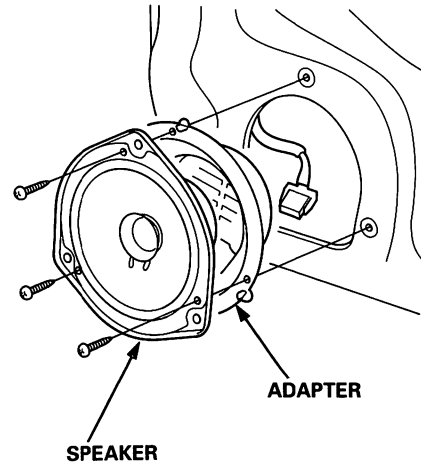
### Front:

1. Remove the door panel (see section 20).
2. Remove the screws from the speaker.
3. Disconnect the 2P connector, then remove the speaker and adapter.



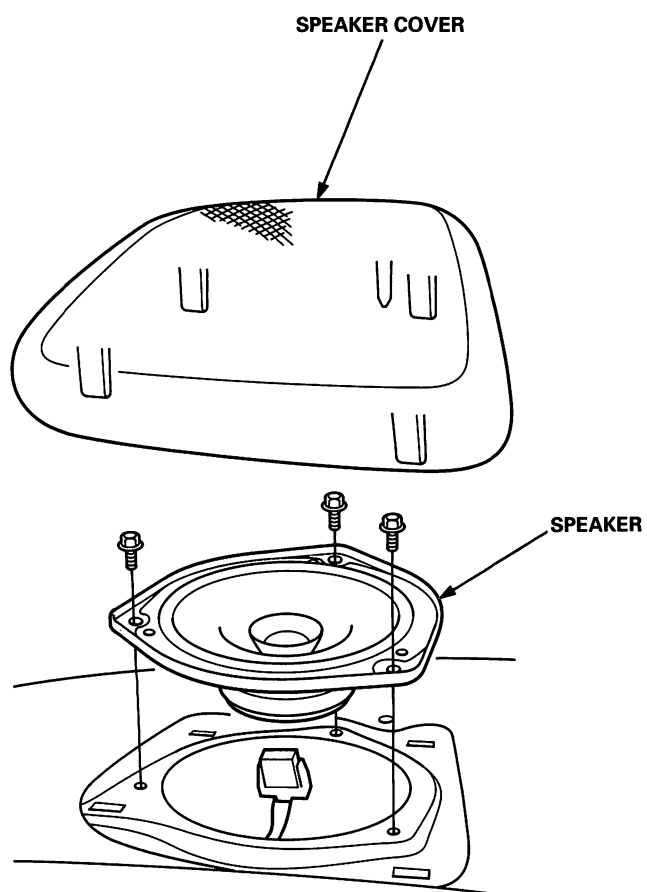
### Rear (With Bose Sound System):

1. Remove the door panel (see section 20).
2. Remove the screws from the speaker.
3. Disconnect the 2P connector, then remove the speaker and adapter.



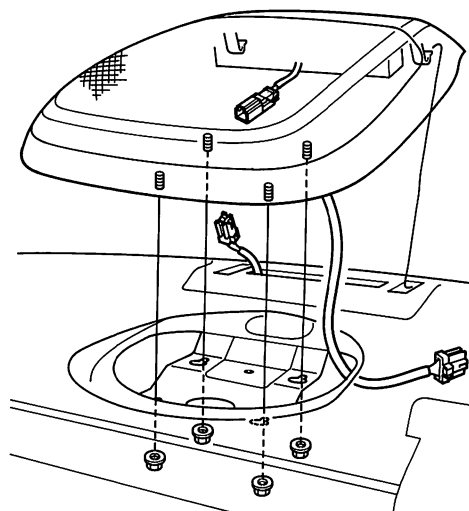
### Rear (KY model):

1. Remove the speaker cover.
2. Remove the mounting bolts from the speaker.
3. Disconnect the 2P connector, then remove the speaker.

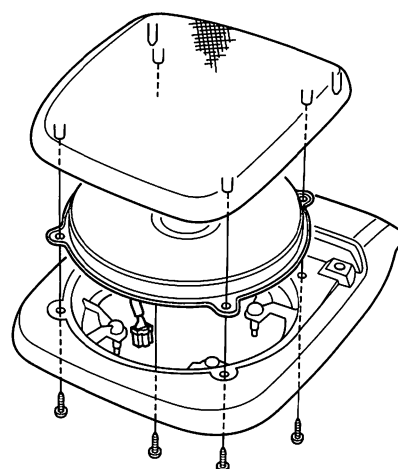


### Woofer:

1. Open the trunk lid.
2. Disconnect the high mount brake light 2P connector and woofer speaker 5P connector.
3. Remove the mounting nuts, then remove the woofer speaker.

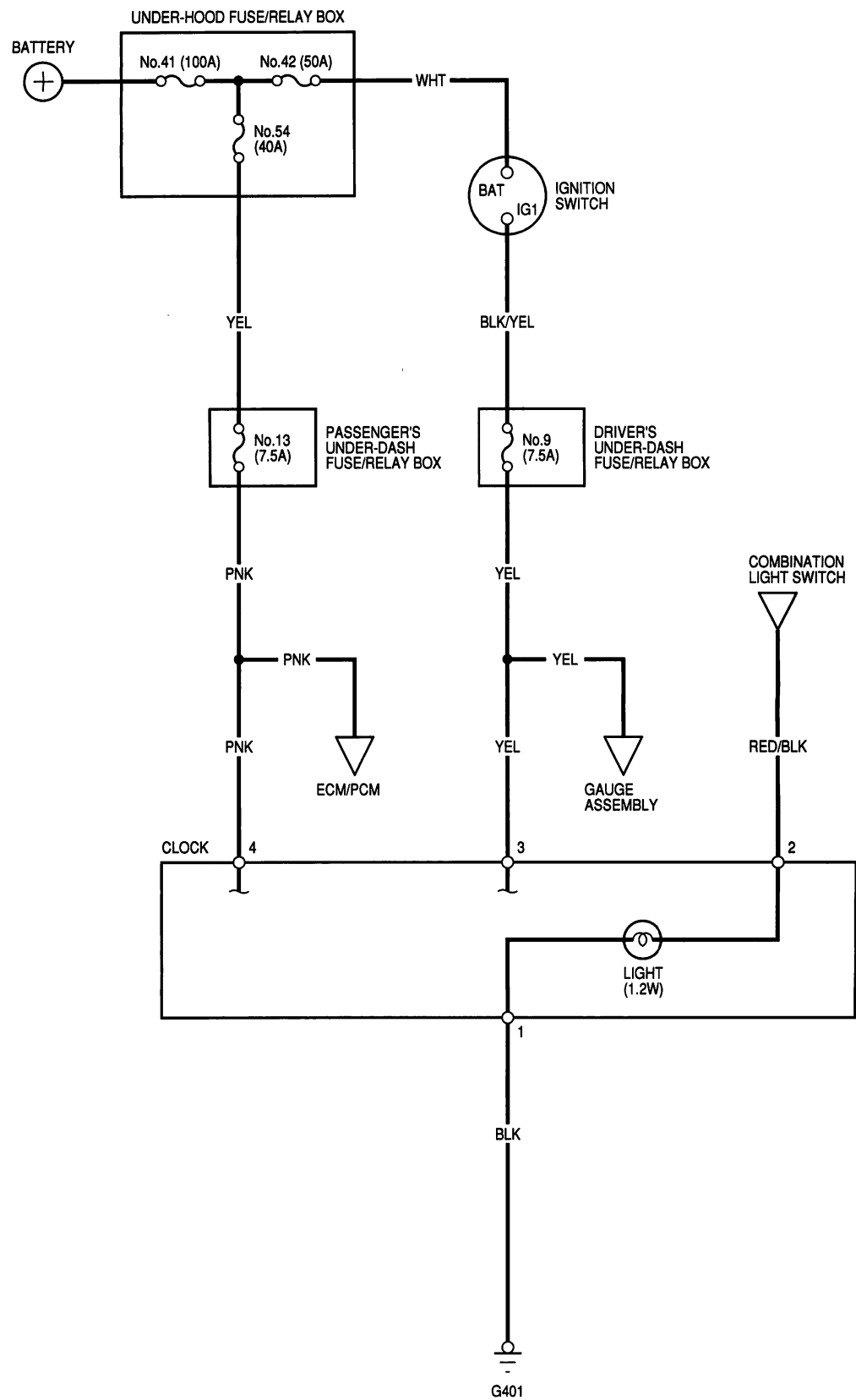


4. Remove the screws from the speaker cover, then remove the speaker cover and woofer speaker.



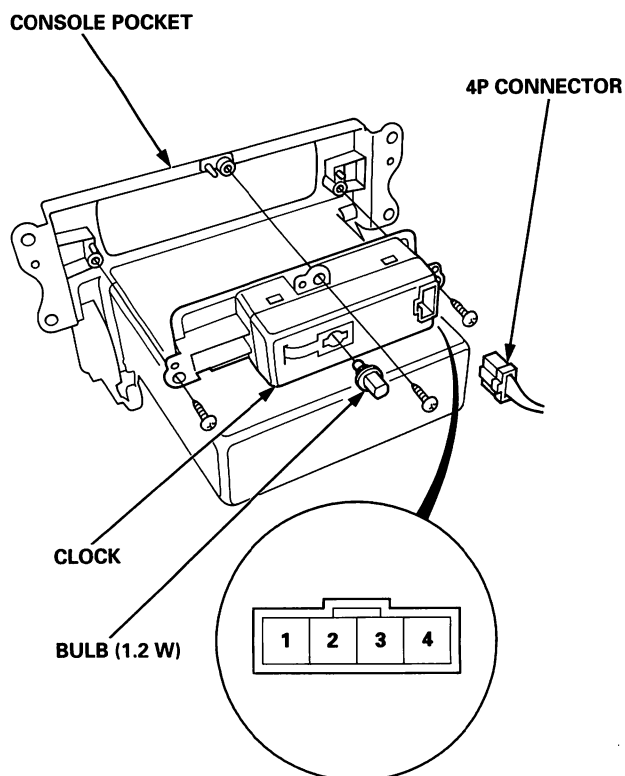
# Clock (Without Automatic Climate Control)

## Circuit Diagram



## Replacement

1. Remove the front console panel (see section 20).
2. Disconnect the 4P connector from the clock.
3. Remove the screws from the console pocket, then remove the console pocket from the front console.



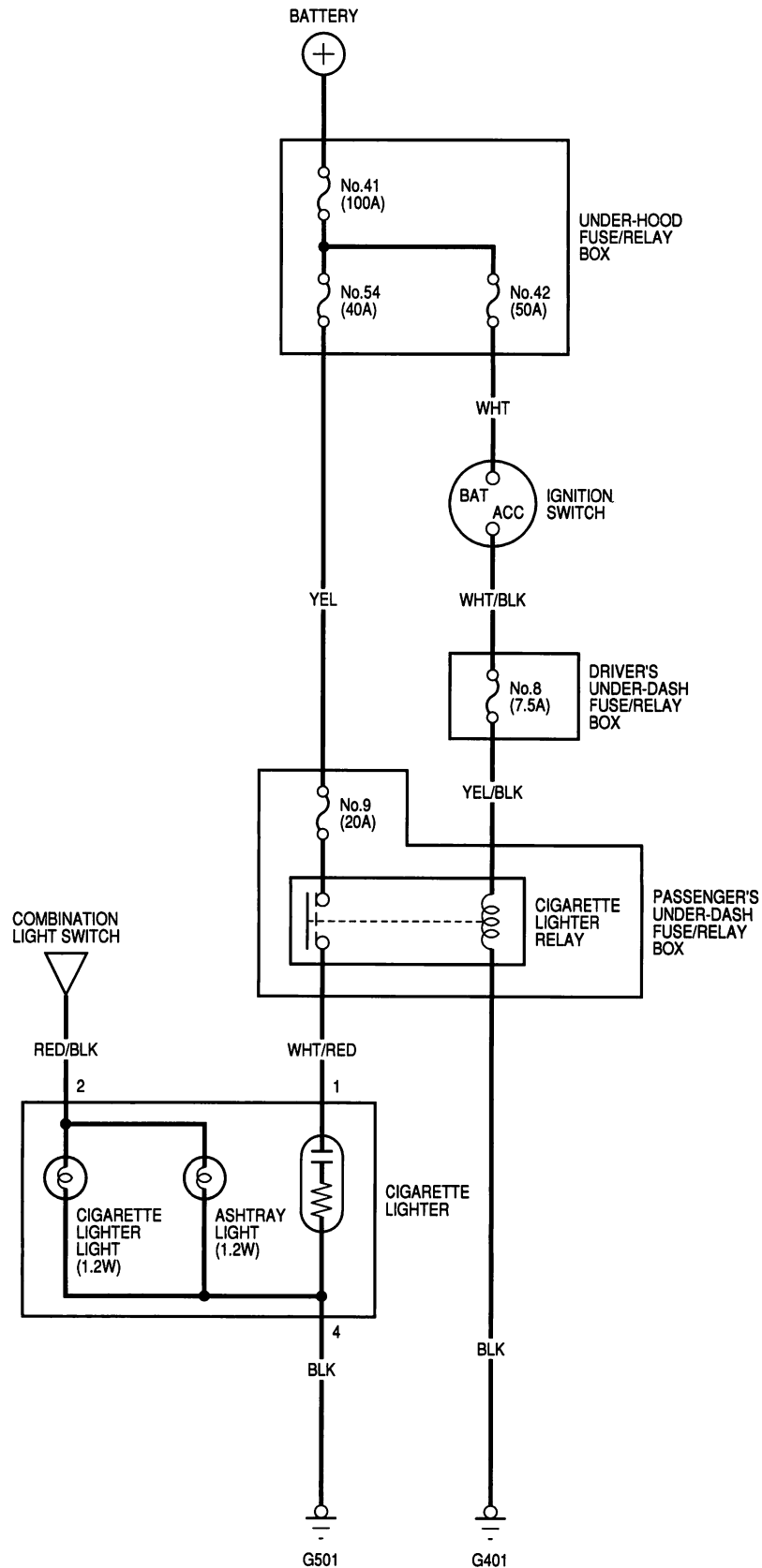
4. Remove the clock from the console pocket.

### Terminals

Cavity	Wire	Connect to
1	BLK	Ground (G401)
2	RED/BLK	Lights-on signal
3	YEL	IG1 (Main clock power supply)
4	PNK	Constant power

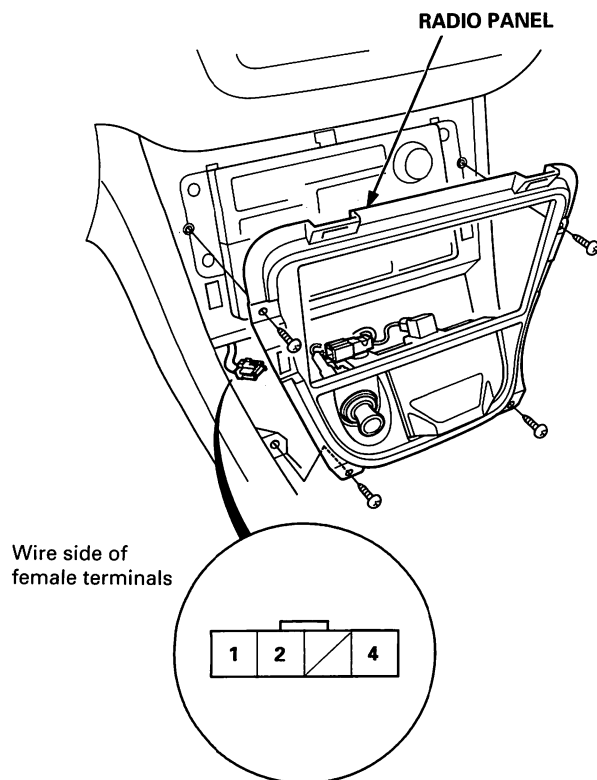
# Cigarette Lighter

## Circuit Diagram



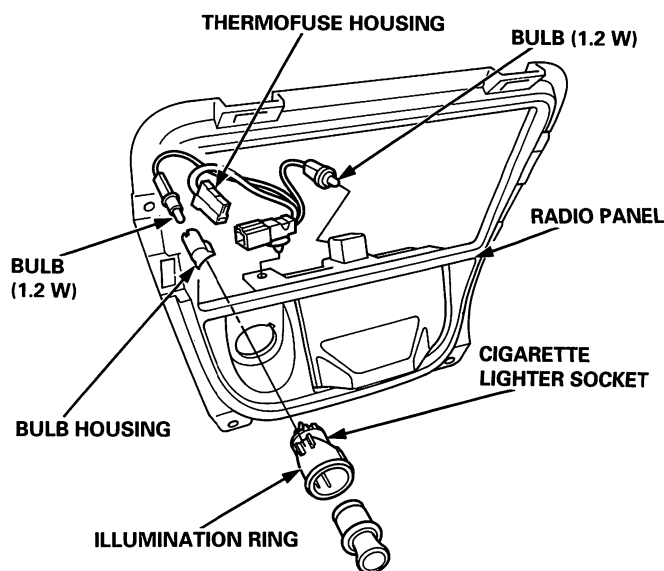
## Cigarette Lighter Test/Replacement

1. Remove the front console panel (see section 20).
2. Remove the radio panel.
3. Disconnect the 4P connector from the cigarette lighter.



4. Inspect the connector terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, go to step 4.
5. Turn the ignition switch ON (II), and check for voltage between the No. 1 and No. 4 terminals.
  - There should be battery voltage.
  - If there is no battery voltage, check for:
    - blown No. 8 (7.5 A) driver's fuse in the under-dash fuse/relay box.
    - poor ground (G401).
    - an open in the wire.

6. Turn the headlight switch ON, and check for voltage between the No. 2 and No. 4 terminals.
  - There should be battery voltage.
  - If there is no battery voltage, check voltage:
    - blown No. 59 (15 A) fuse in the under-hood fuse/relay box.
    - faulty combination light switch.
    - an open in the wire.
7. If all the tests prove OK, replace the cigarette lighter.
8. Remove the screws from the radio panel, then remove the radio panel from the front console.
9. Disconnect the thermofuse housing from the socket.



10. Remove the bulb housing, and separate the cigarette lighter socket.
11. When installing the cigarette lighter, align each lug on the face panel, illumination ring, and cigarette lighter socket with the groove in the hole, then position the bulb housing on the illumination ring between the stops in the console panel.

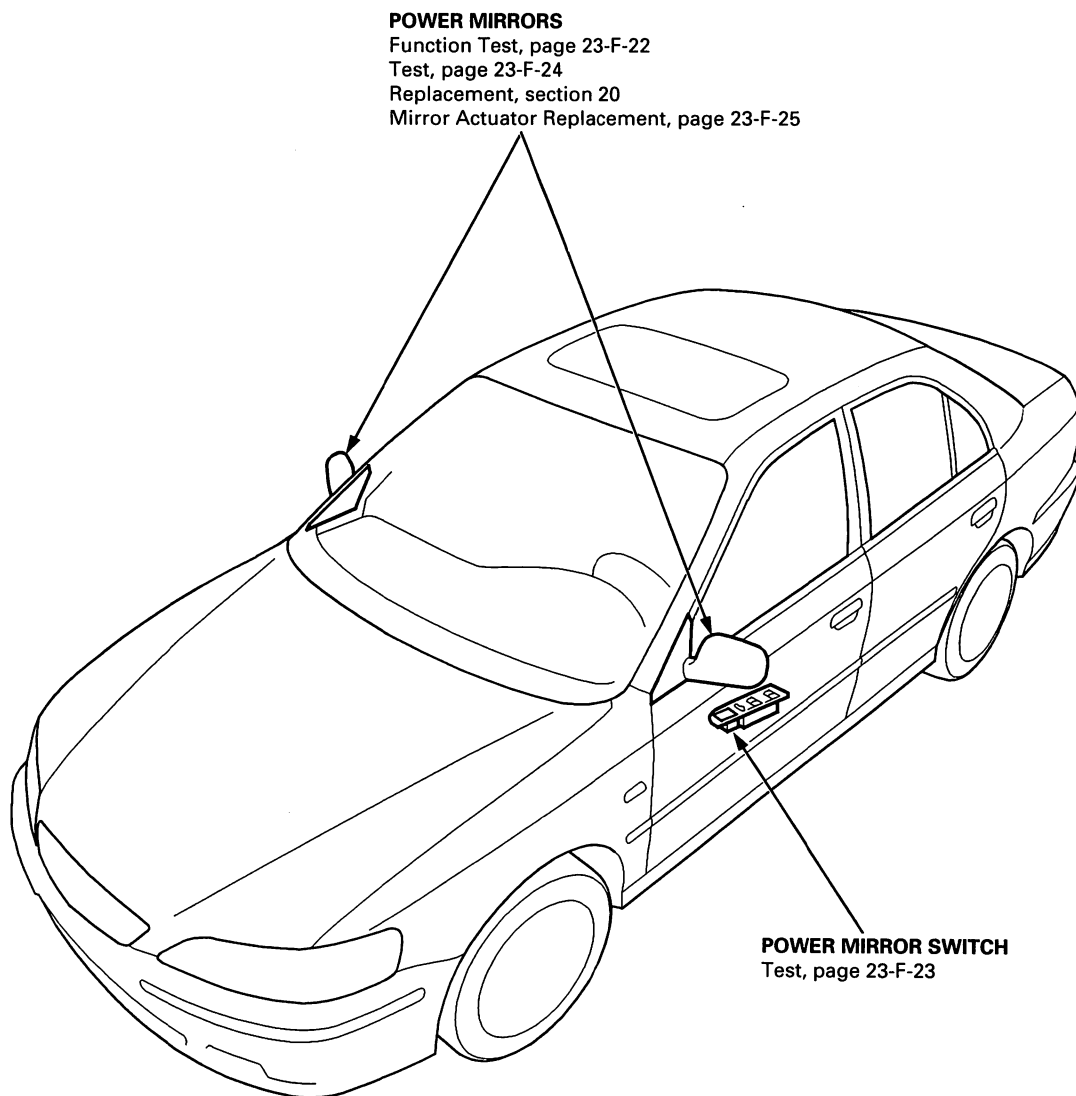


# Power Mirrors

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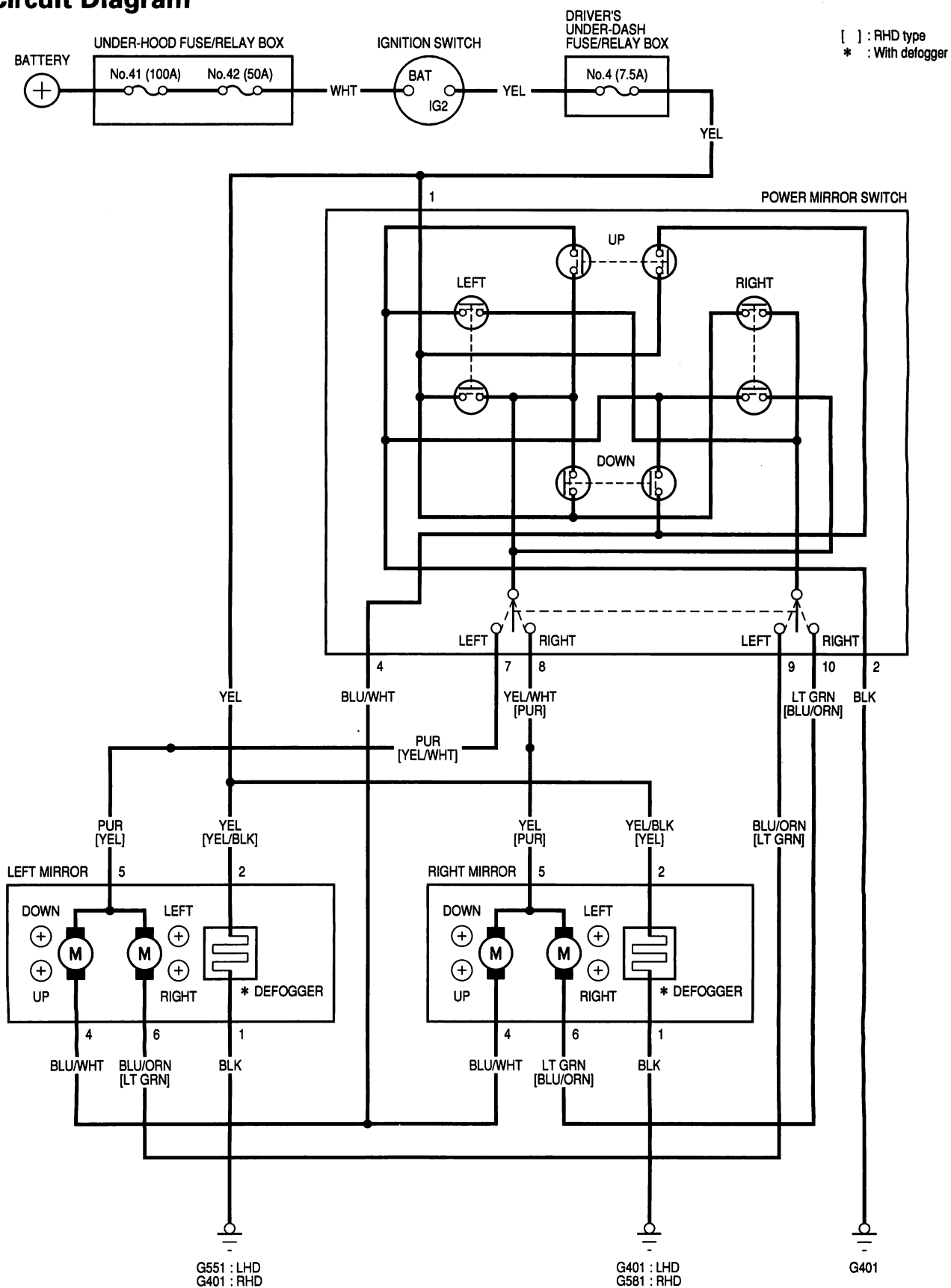
## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.





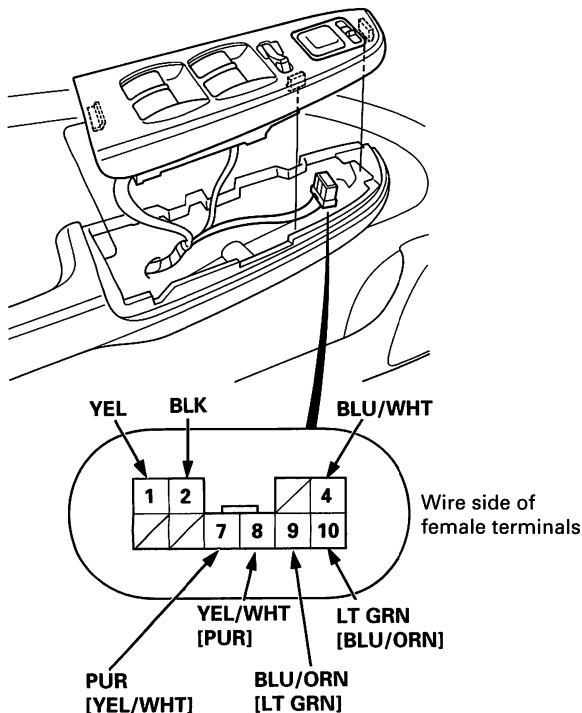
## Circuit Diagram



# Power Mirrors

## Function Test

1. Remove the driver's door switch panel (see page 23-E-23).



2. Disconnect the 10P connector from the power mirror switch.

### Mirror Test

#### Both inoperative:

1. Check for voltage between the No. 1 terminal and body ground with the ignition switch ON (II). There should be battery voltage.
  - If there is no battery voltage, check for:
    - blown No. 4 (7.5 A) fuse in the driver's under-dash fuse/relay box.
    - an open in the YEL wire.
  - If there is battery voltage, go to step 2.
2. Check for continuity between the No. 2 terminal and body ground. There should be continuity.
  - If there is no continuity, check for:
    - an open in the BLK wire.
    - poor ground (G401).
  - If there is continuity, check both mirrors individually as described in the next column.

#### Left mirror inoperative:

Connect the No. 1 terminal to the No. 7 terminal, and the No. 4 (or No. 9) terminal to body ground with jumper wires. The left mirror should tilt down (or swing left) with the ignition switch ON (II).

- If the mirror does not tilt down (or does not swing left), check for an open in the No. 4 terminal (or No. 9 terminal) wire between the left mirror and the 10P connector. If the wire is OK, check the left mirror actuator.
- If the mirror neither tilts down nor swings left, repair the No. 7 terminal wire.
- If the mirror works properly, check the mirror switch.

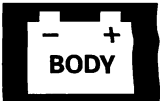
#### Right mirror inoperative:

Connect the No. 1 terminal to the No. 8 terminal, and the No. 4 (or No. 10) terminal to body ground with jumper wires. The right mirror should tilt down (or swing left) with the ignition switch ON (II).

- If the mirror does not tilt down (or does not swing left), check for an open in the No. 4 terminal (or No. 10 terminal) wire between the right mirror and the 10P connector. If the wire is OK, check the right mirror actuator.
- If the mirror neither tilts down nor swings left, repair the No. 8 terminal wire.
- If the mirror works properly, check the mirror switch.

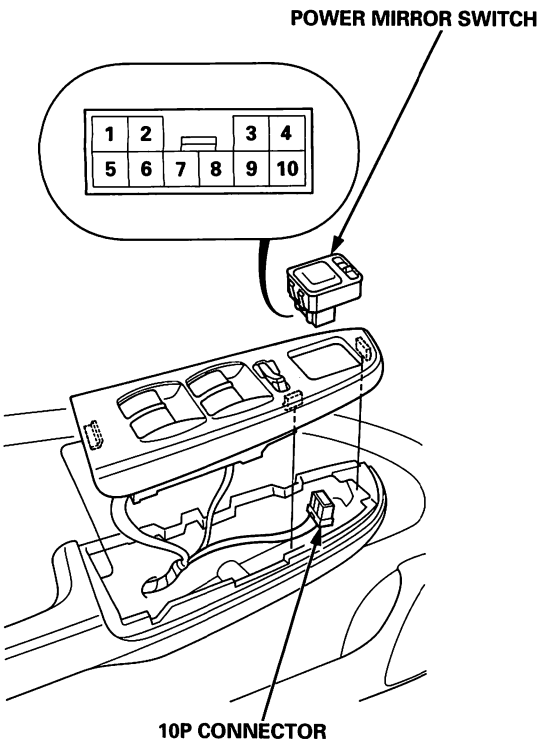
### Defogger Test (With defogger)

1. Check for voltage between the YEL/BLK or YEL wire of the power mirror 6P connector and body ground with the ignition switch ON (II). There should be battery voltage and both mirrors should warm up.
  - If there is no voltage or neither warms up, check for:
    - an open in the YEL/BLK or YEL wire.
    - blown No. 4 (7.5 A) in the driver's under-dash fuse/relay box.
    - poor ground (G401, G551, G581)
  - If only one fails to warm up, check its defogger.



# Power Mirror Switch Test

1. Remove the driver's switch panel (see page 23-E-23).
2. Disconnect the 10P connector from the power mirror switch.



3. Check for continuity between the terminals in each switch position according to the table.

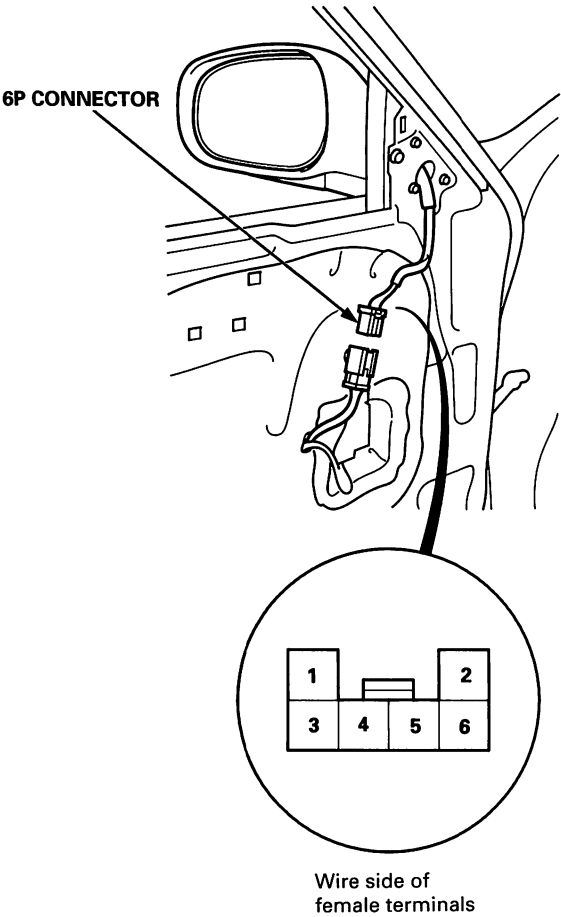
## Mirror Switch:

Terminal Position		1	2	4	7	8	9	10
L	UP	○	○	○	○			
	DOWN	○	○	○	○			
	LEFT	○	○	○	○		○	
	RIGHT	○	○	○	○		○	
R	UP	○	○	○	○	○		
	DOWN	○	○	○	○	○		
	LEFT	○	○	○	○	○		○
	RIGHT	○	○	○	○	○		○

# Power Mirrors

## Power Mirror Actuator Test

- 1. Remove the door panel (see section 20).
- 2. Disconnect the 6P connector from the power mirror.



- 3. Check actuator operation by connecting power and ground according to the table.

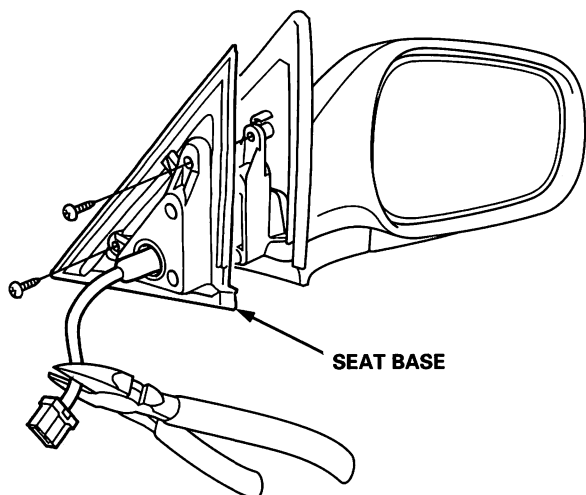
Terminal Position	4	5	6
TILT UP	⊕	⊖	
TILT DOWN	⊖	⊕	
SWING LEFT		⊕	⊖
SWING RIGHT		⊖	⊕

### Defogger Test:

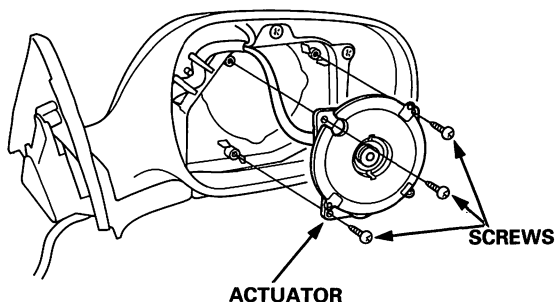
- 4. Check for continuity between the No. 1 and No. 2 terminals of the 6P connector. There should be continuity.
- 5. If the mirror fails to work properly, replace the mirror actuator.

## Power Mirror Actuator Replacement

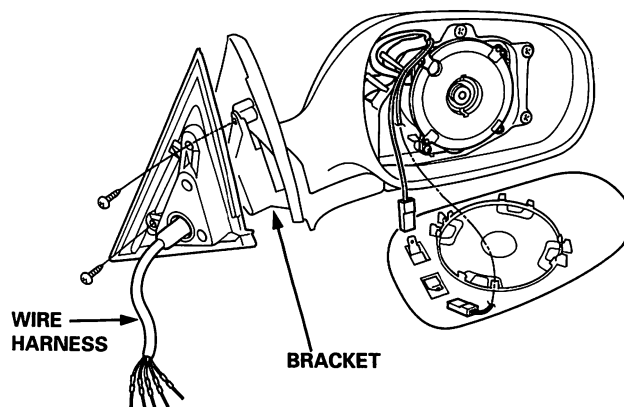
1. Remove the power mirror from the door (see section 20), and disconnect the connector.
2. Cut the wire harness with wire cutters.



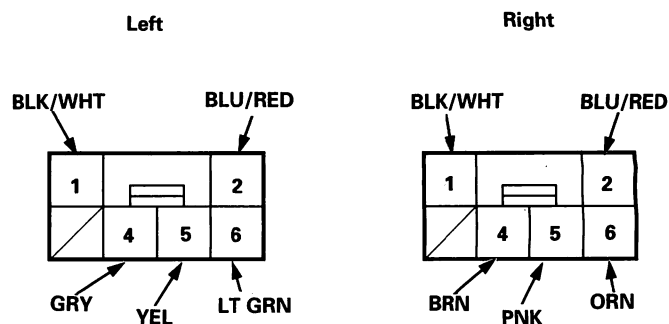
3. Remove the seat base.
4. Remove the mirror holder (see section 20).
5. Remove the screws and the actuator from the housing.



6. Route the wire harness of the new actuator through the hole in the bracket.



7. Insert the terminals into the connector in the original arrangement as shown below.

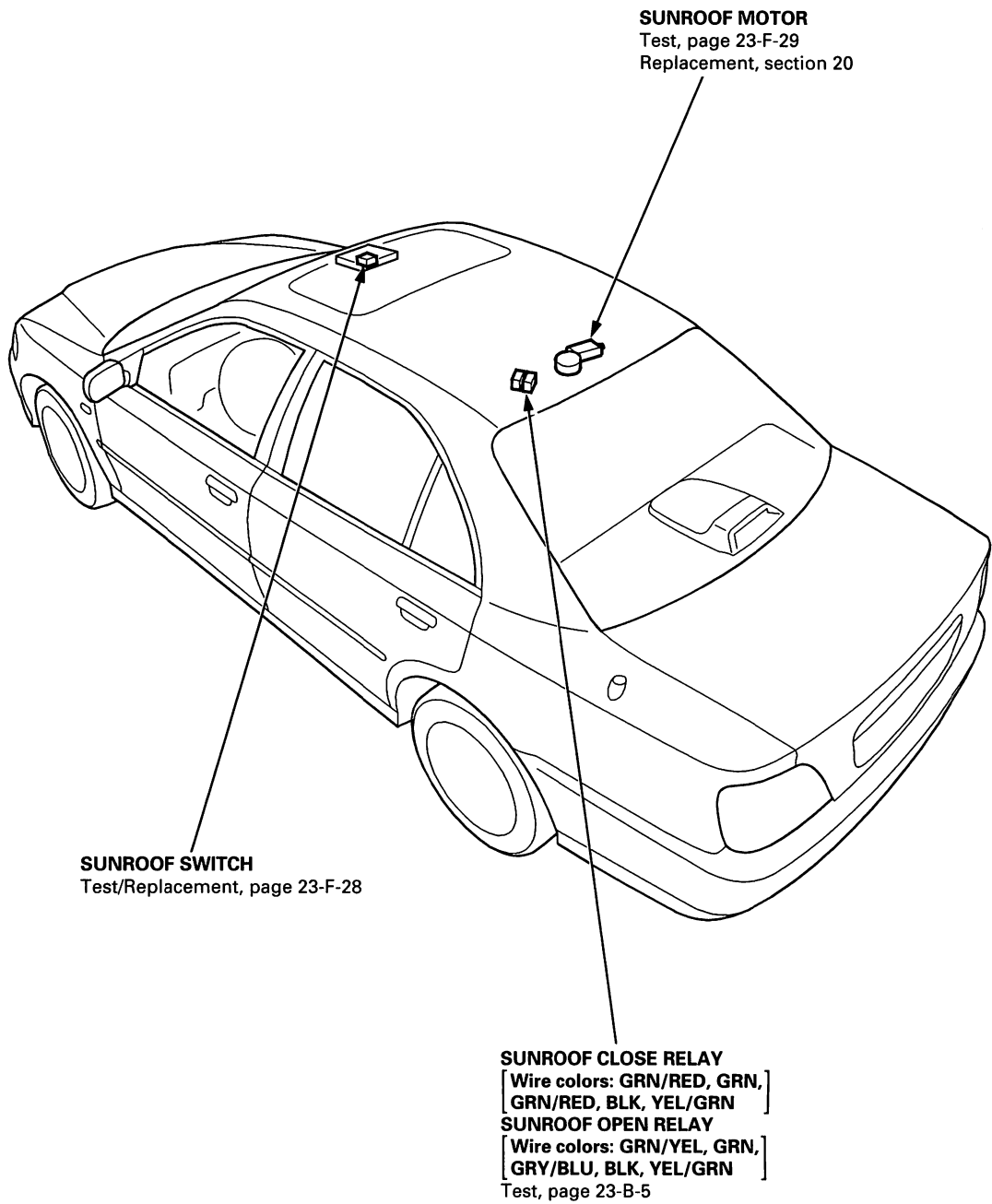


Wire side of female terminals

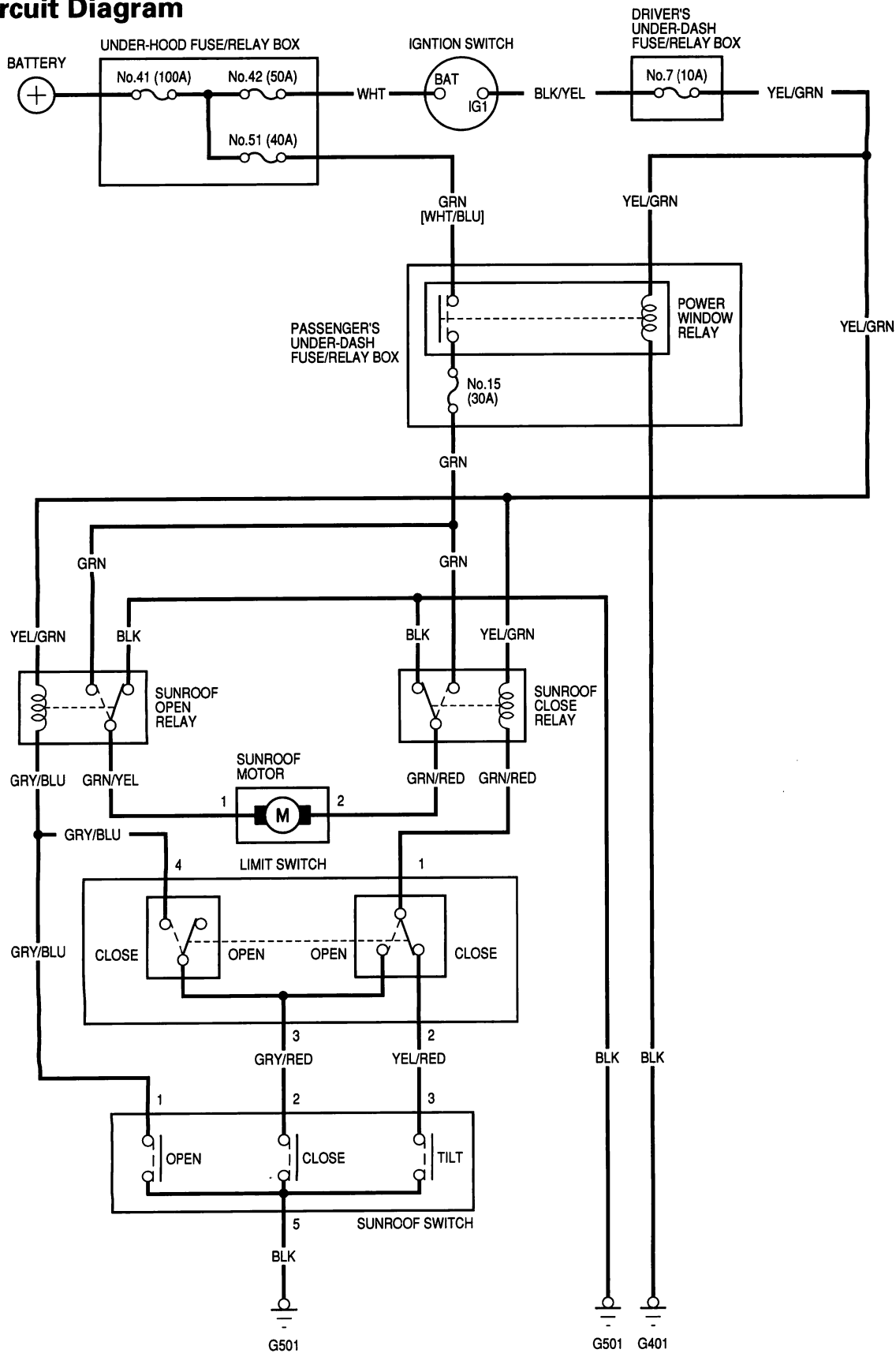
8. Apply tape to seal the intersection of the wire harness.
9. Reassemble in the reverse order of disassembly. Be careful not to break the mirror when reinstalling it to the actuator.
10. Reinstall the mirror assembly to the door.
11. Operate the power mirror to check that the actuator works smoothly.

# Sunroof

## Component Location Index



## Circuit Diagram

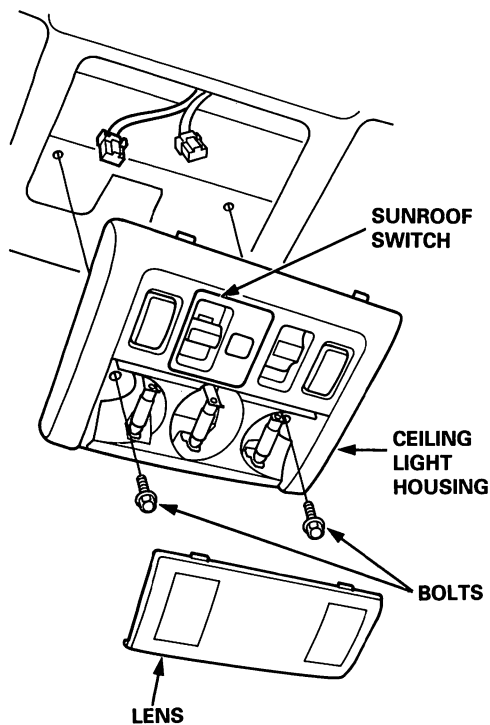




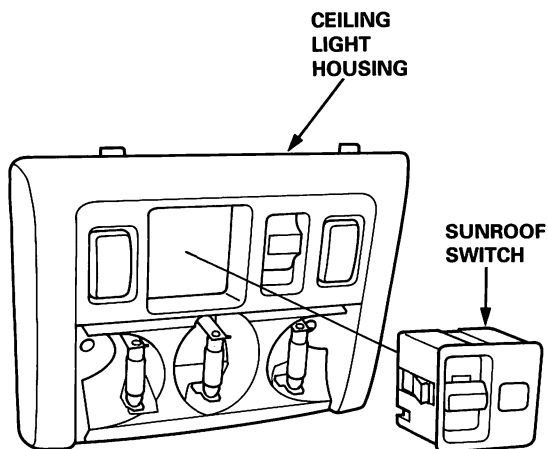
# Sunroof

## Switch Test/Replacement

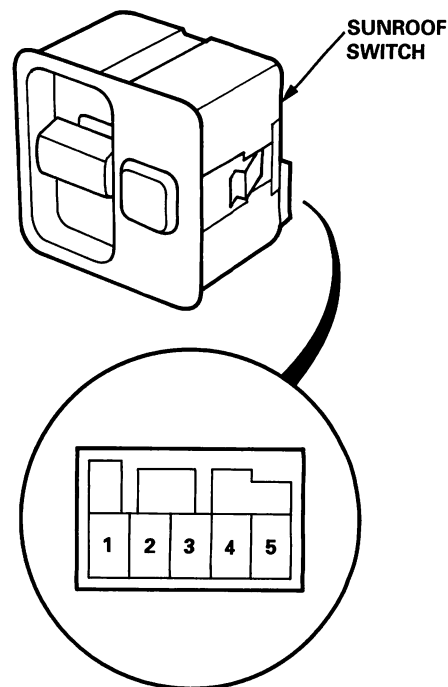
- 1. Turn the front ceiling light switch OFF.
- 2. Pry the ceiling light lens off from the light housing.
- 3. Remove the two bolts and the light housing.
- 4. Disconnect the connectors from the light housing.



- 5. Separate the sunroof switch from the ceiling light housing.



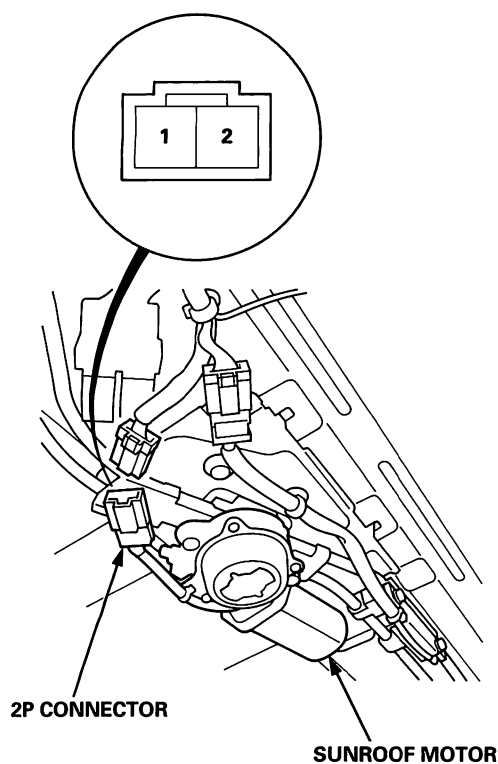
- 6. Check for continuity between the terminals in each switch position according to the table.



Terminal	1	2	3	5
Position				
TILT			○	○
CLOSE		○		○
OPEN	○			○

## Motor Test

1. Remove the headliner (see section 20).
2. Disconnect the 2P connector from the sunroof motor.



3. Check the motor by connecting power and ground according to the table.

Terminal Position	1	2
OPEN	⊕	⊖
CLOSE	⊖	⊕

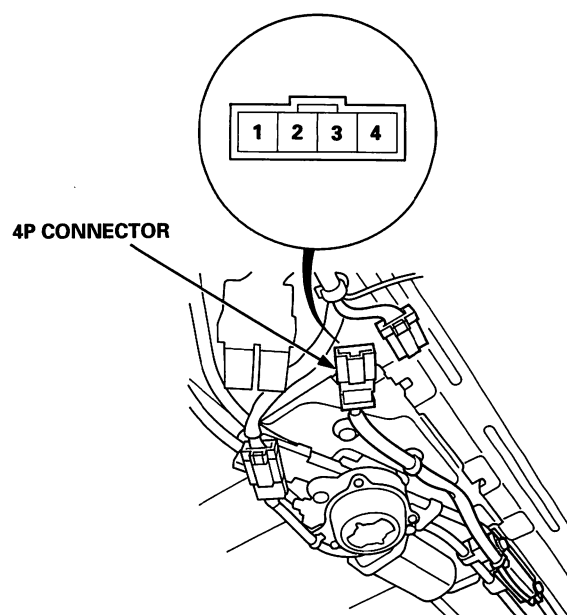
4. If the motor does not run, replace it.

NOTE: See closing force check (see section 20) for motor clutch test.

## Limit Switch Test

1. Remove the roof lining (see section 20).
2. Disconnect the 4P connector from the motor.
3. Check for continuity between the terminals in each switch position according to the table.

NOTE: Turn the motor by hand with the wrench.



Terminal	1	2	3	4
Sunroof position				
Tilted up	○—○		○—○	
Fully closed	○—○			
Fully open	○		○	

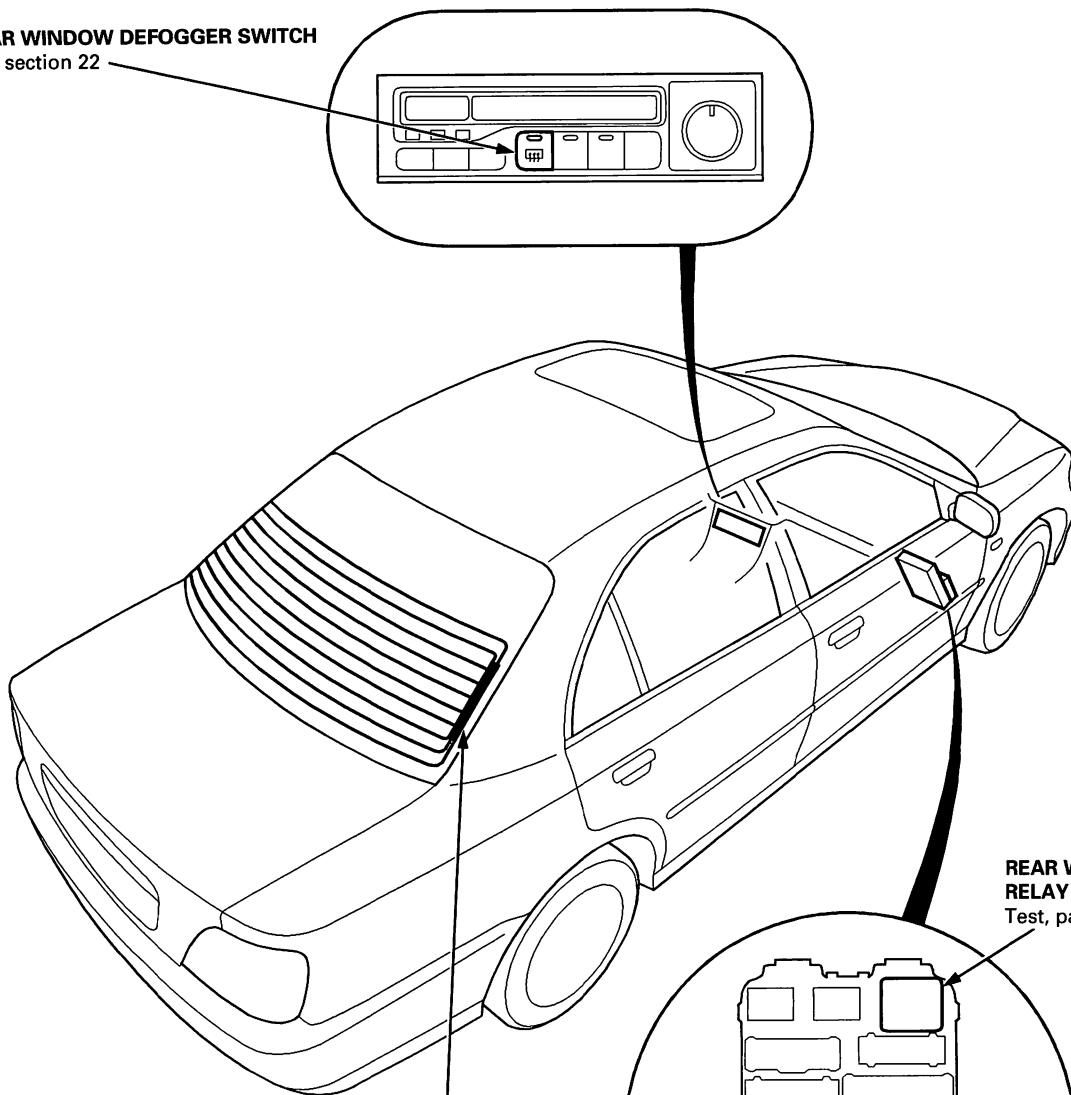
4. If there is no continuity, replace the sunroof motor assembly.

# Rear Window Defogger

## Component Location Index

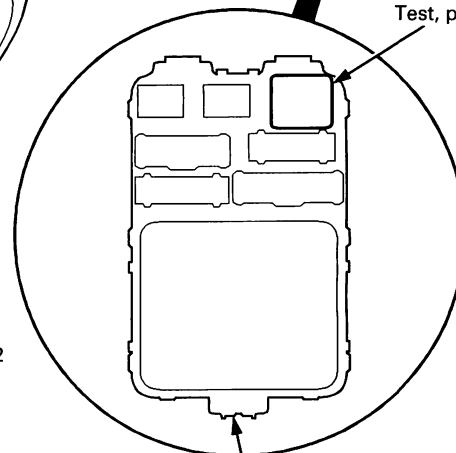
NOTE: LHD type is shown, RHD type is symmetrical.

**REAR WINDOW DEFOGGER SWITCH**  
See section 22



**REAR WINDOW DEFOGGER**  
Function Test, page 23-F-32  
Defogger Wire Repair, page 23-F-32

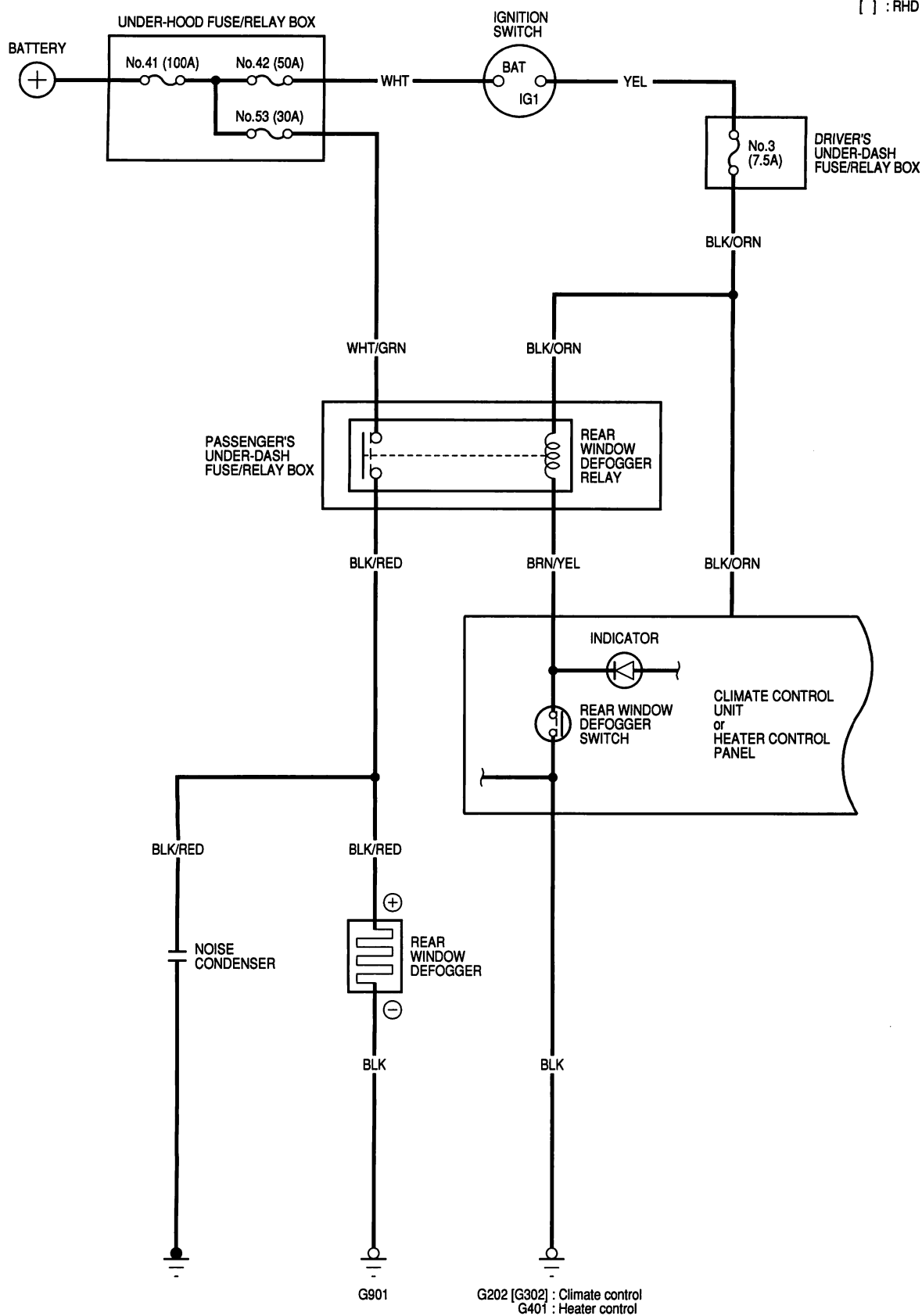
**REAR WINDOW DEFOGGER RELAY**  
Test, page 23-B-4



**PASSENGER'S UNDER-DASH FUSE/RELAY BOX**

## Circuit Diagram

[ ] : RHD type



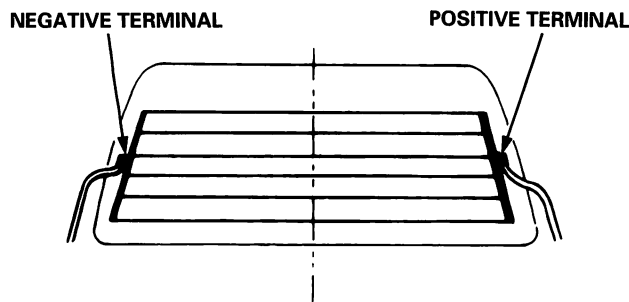
# Rear Window Defogger

## Function Test

NOTE: Be careful not to scratch or damage the defogger wires with the tester probe.

1. Check for voltage between the positive terminal and body ground with the ignition switch and defogger switch ON.  
There should be battery voltage.

- If there is no voltage, check for:
  - faulty defogger relay.
  - an open in the BLK/RED wire.
- If there is battery voltage, go to step 2.

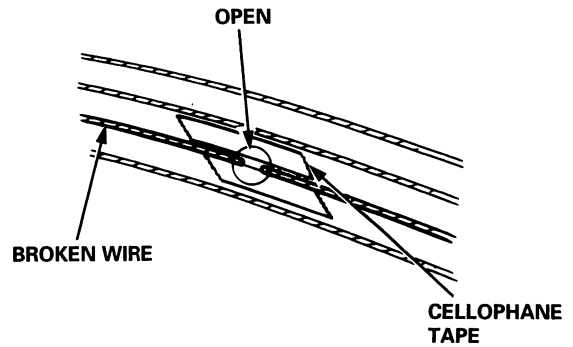


2. Check for continuity between the negative terminal and body ground.  
If there is no continuity, check for an open in the defogger ground wire.
3. Touch the voltmeter positive probe to the halfway point of each defogger wire, and the negative probe to the negative terminal.  
There should be approximately 6 V with the ignition switch and the defogger switch ON.
  - If the voltage is as specified, the defogger wire is OK.
  - If the voltage is not as specified, repair the defogger wire.
    - If it is more than 6 V, there is a break in the negative half of the wire.
    - If it is less than 6 V, there is a break in the positive half of the wire.

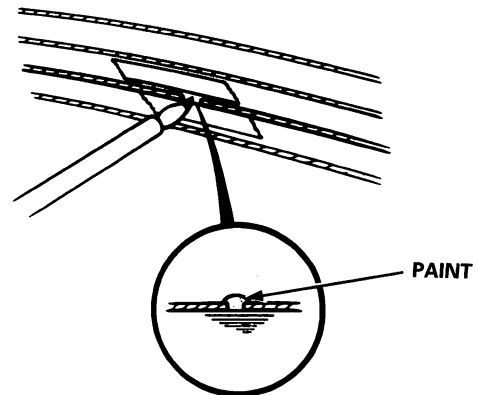
## Defogger Wire Repair

NOTE: To make an effective repair, the broken section must be no longer than one inch.

1. Lightly rub the area around the broken section with fine steel wool, then clean it with alcohol.



2. Carefully mask above and below the broken portion of the defogger wire with cellophane tape.
3. Using a small brush, apply a heavy coat of silver conductive paint extending about 1/8" on both sides of the break. Allow 25 minutes to dry. Thoroughly mix the paint before use.



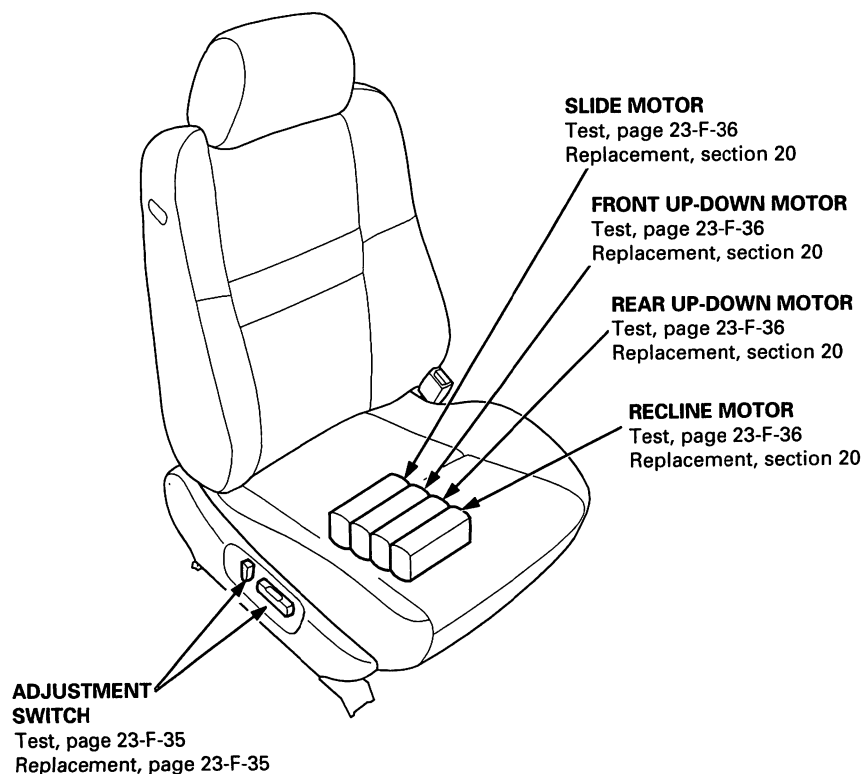
4. Check for continuity in the repaired wire.
5. Apply a second coat of paint in the same way. Let it dry three hours before removing the tape.

# Driver's Power Seat

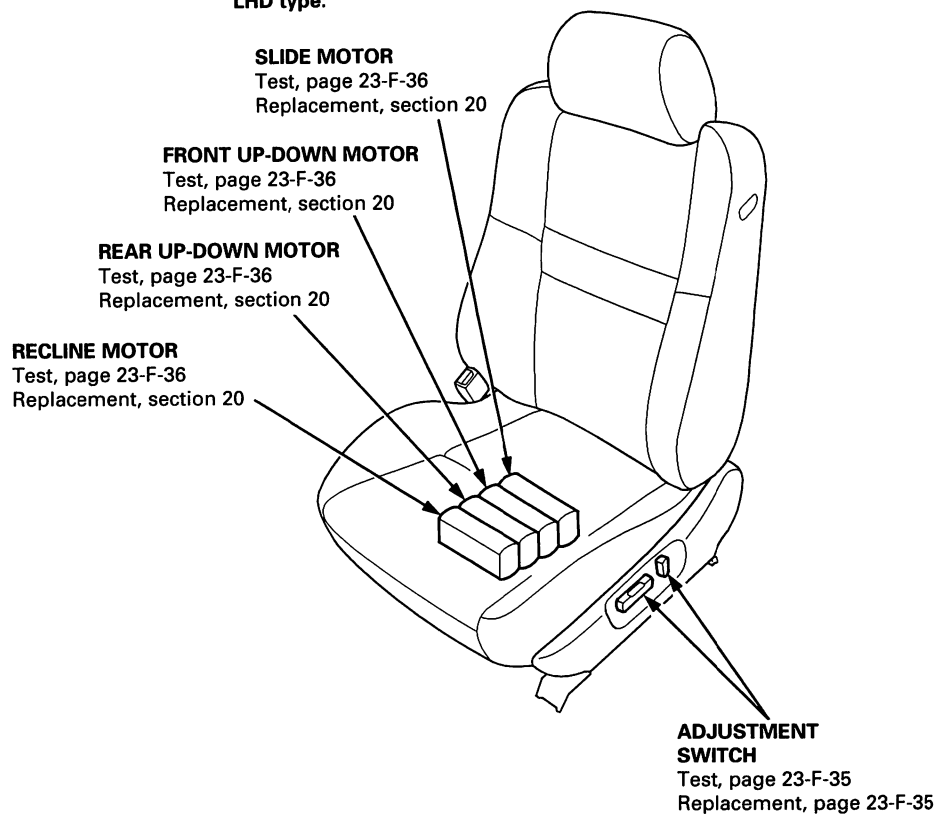


## Component Location Index

RHD type:

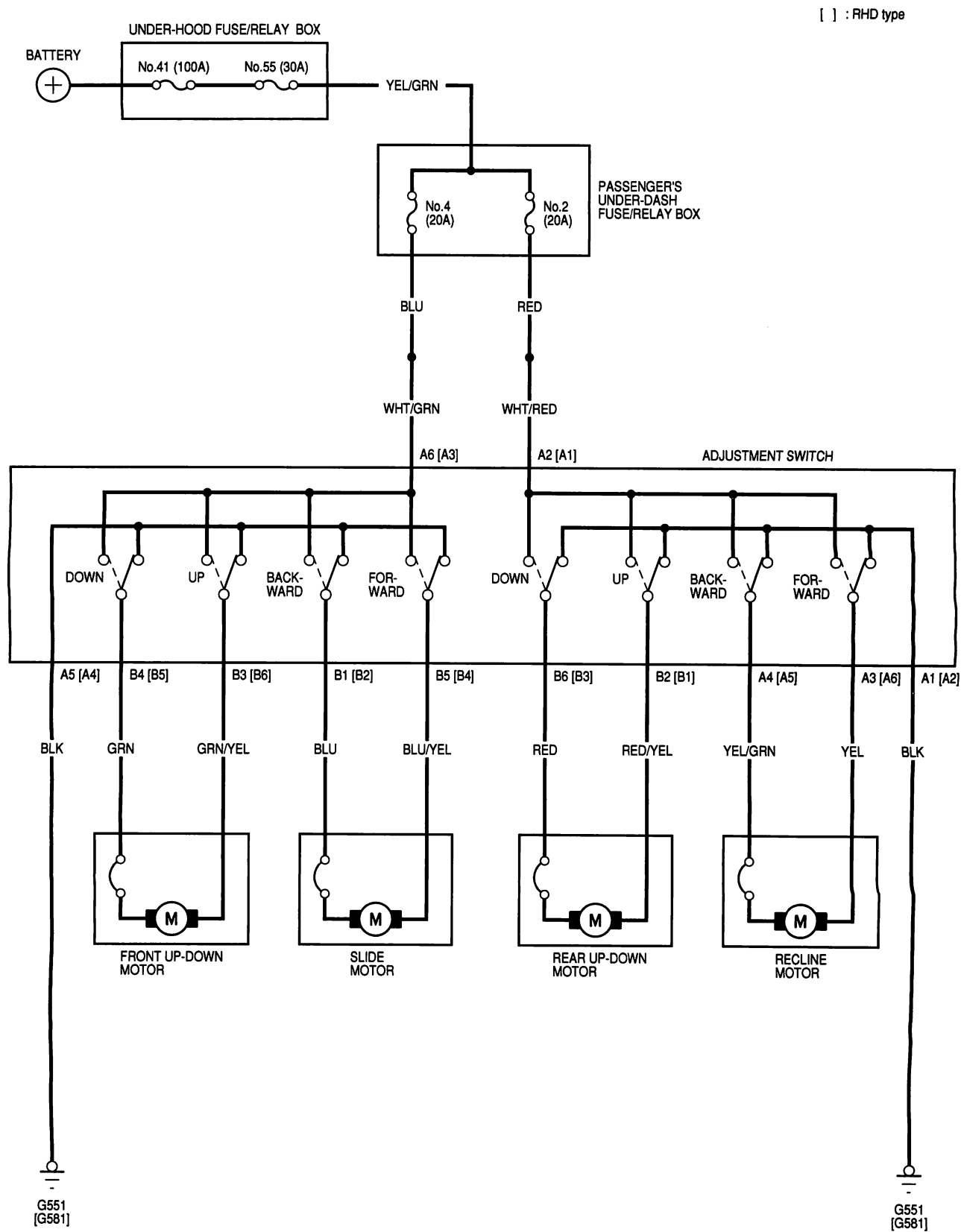


LHD type:



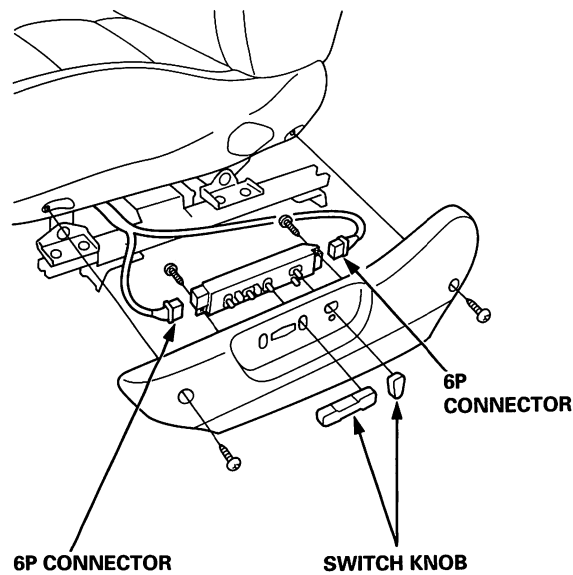
# Driver's Power Seat

## Circuit Diagram (8-way Power Adjustable)



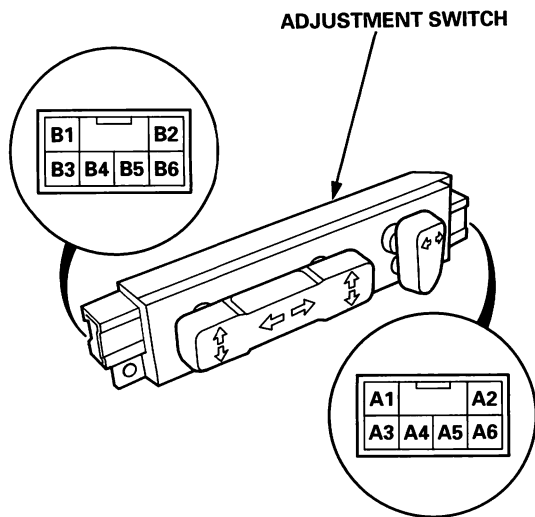
Switch Test/Replacement

1. Remove the adjustment switch cover from the driver's seat by removing the screws (see section 20), and pulling off the adjustment switch knobs.



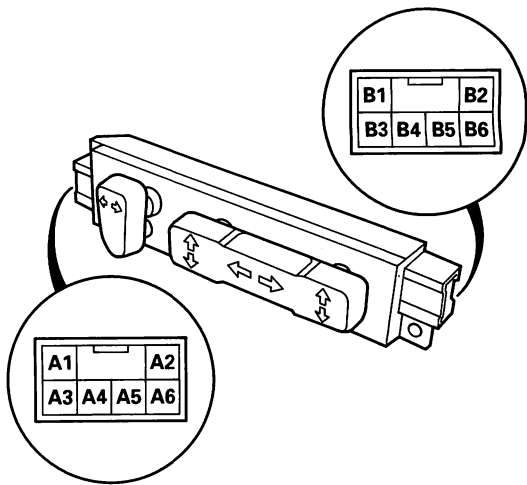
2. Disconnect the 6P connectors from the adjustment switch, then remove the switch from the cover by removing its two mounting screws.
3. Check for continuity between the terminals in each switch position according to the table.

LHD type:



Terminal		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
Position	FORWARD												
	BACKWARD												
RECLINE SWITCH	FORWARD												
	BACKWARD												
FRONT UP-DOWN SWITCH	UP												
	DOWN												
REAR UP-DOWN SWITCH	UP												
	DOWN												

RHD type:



Terminal		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
Position	FORWARD												
	BACKWARD												
RECLINE SWITCH	FORWARD												
	BACKWARD												
FRONT UP-DOWN SWITCH	UP												
	DOWN												
REAR UP-DOWN SWITCH	UP												
	DOWN												



# Driver's Power Seat

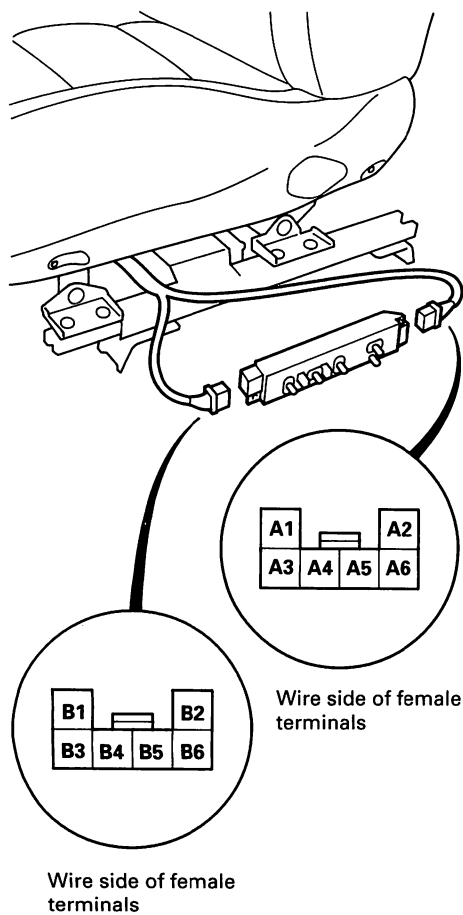
## Motor Test

### ⚠ CAUTION

Some types of this vehicle have a side airbag located in the driver's seat. See section 24 before servicing the driver's seat.

1. Remove the driver's seat (see section 20).
2. Disconnect the 6P connector from the power seat switch.

NOTE: LHD type is shown, RHD type is similar.



3. Test the motors at the harness side of the connectors by connecting power and ground as shown.

NOTE: When a motor stops running, disconnect battery power immediately.

### Recline motor:

Terminal		A4 [A5]	A3 [A6]
Position			
RECLINE MOTOR	FOR-WARD	⊖	⊕
	BACK-WARD	⊕	⊖

### Slide motor:

Terminal		B1 [B2]	B5 [B4]
Position			
SLIDE MOTOR	FOR-WARD	⊖	⊕
	BACK-WARD	⊕	⊖

### Front up-down motor:

Terminal		B4 [B5]	B3 [B6]
Position			
FRONT UP-DOWN MOTOR	UP	⊖	⊕
	DOWN	⊕	⊖

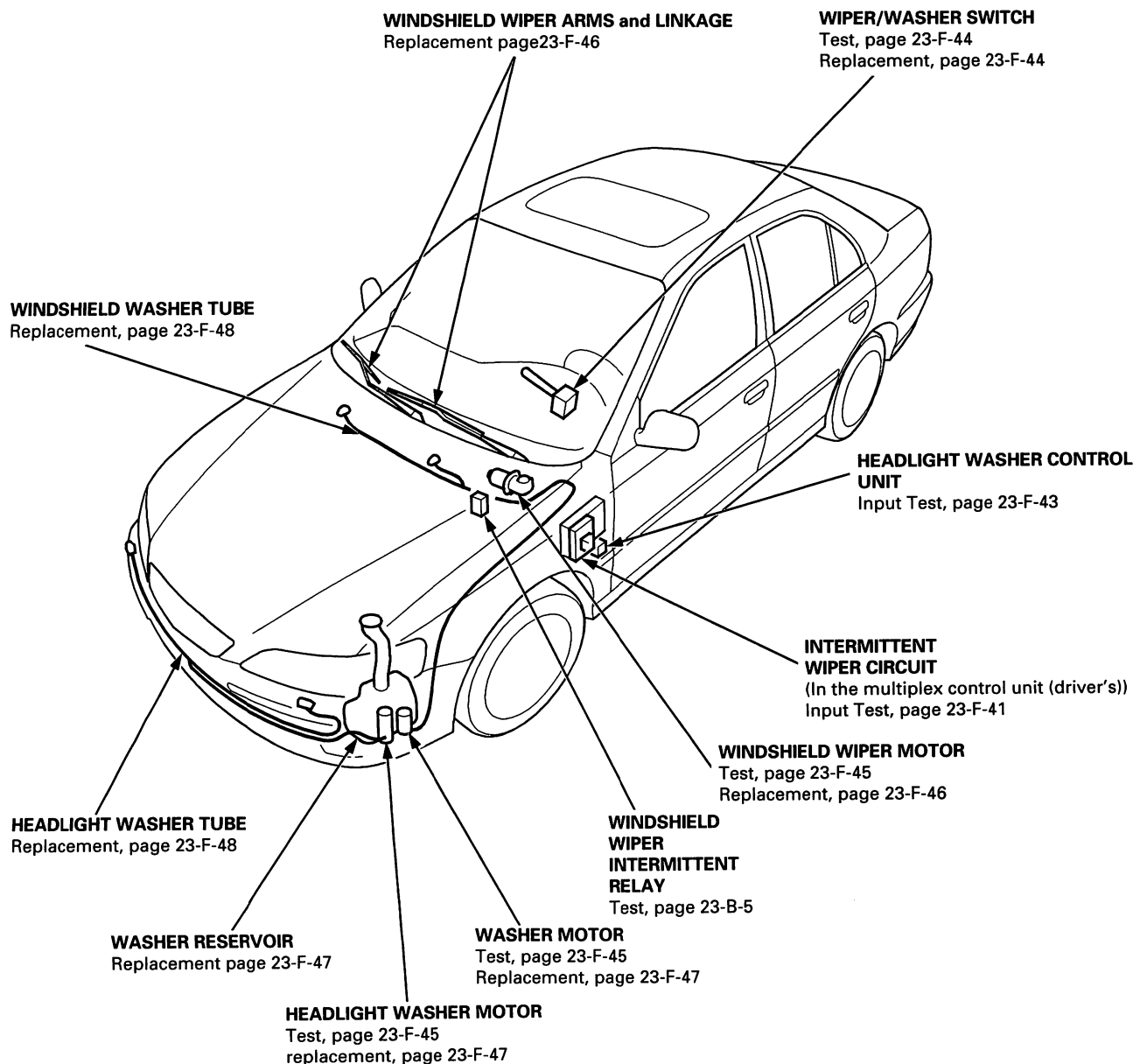
### Rear up-down motor:

Terminal		B2 [B1]	B6 [B3]
Position			
REAR UP-DOWN MOTOR	UP	⊕	⊖
	DOWN	⊖	⊕

### [ ]: RHD type

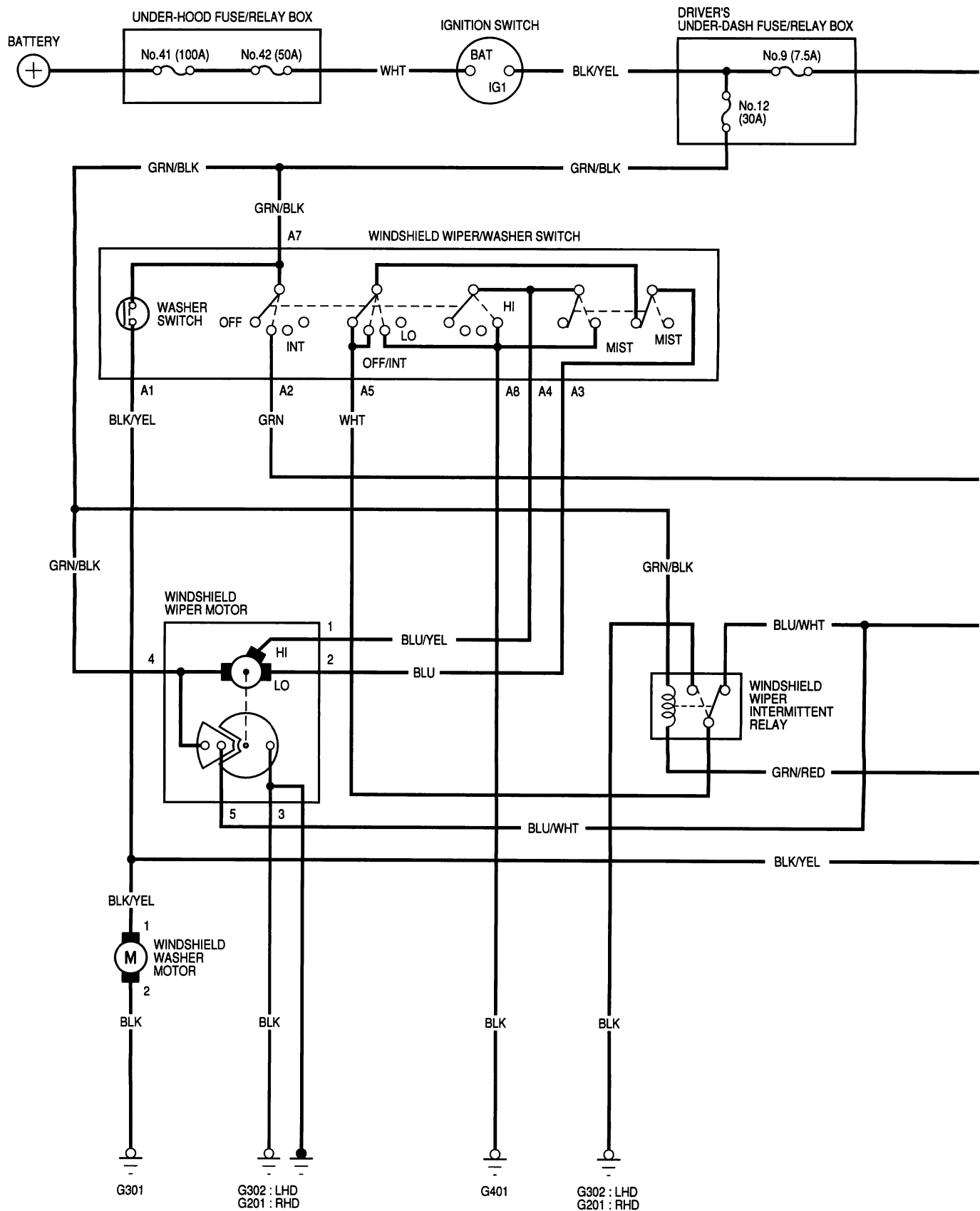
4. If the motor does not run or fails to run smoothly, check for continuity of the power seat harness between the 6P connector and each motor. If there is continuity, replace the motor (see section 20).

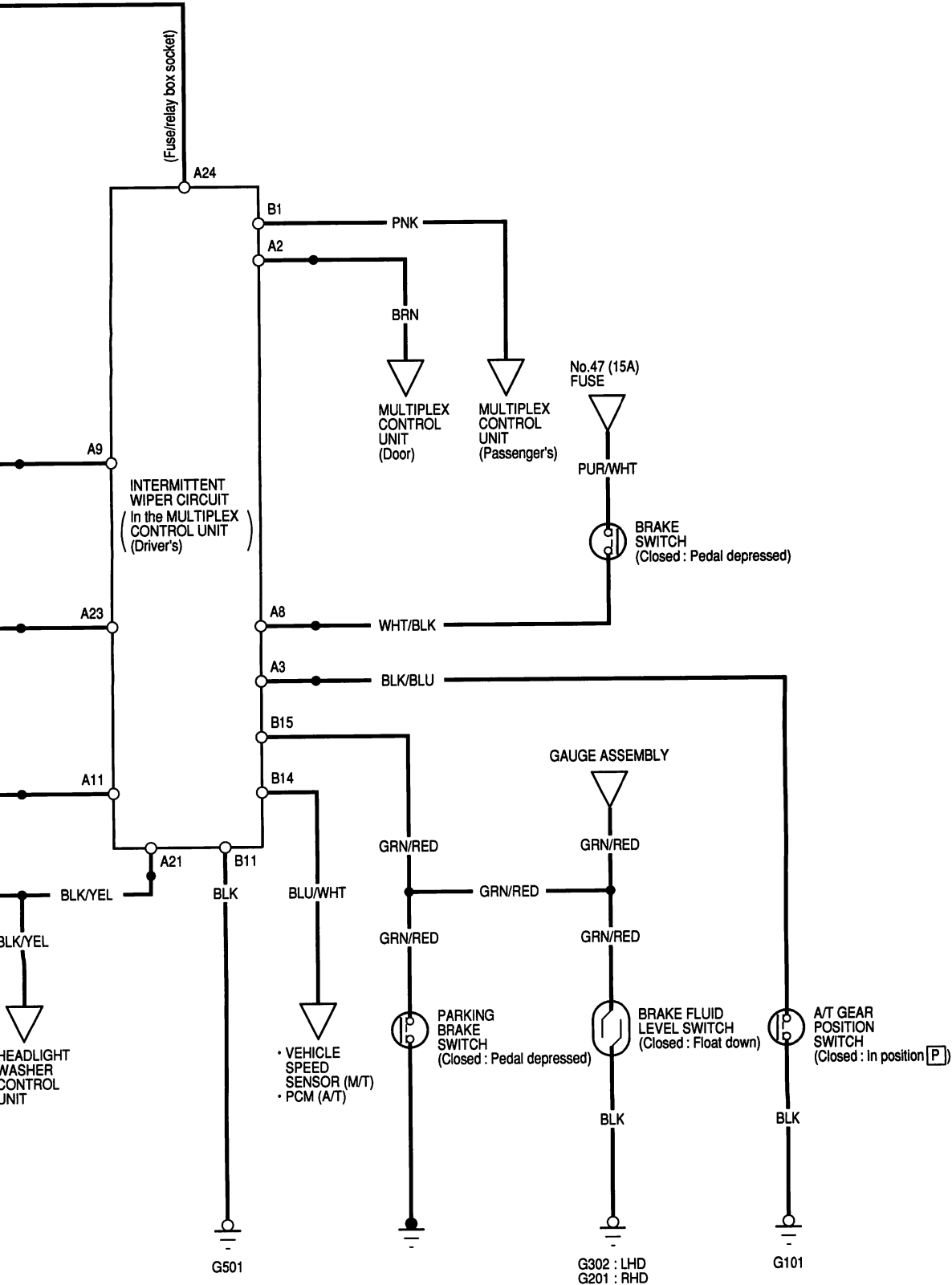
## Component Location Index



# Wiper/Washers

## Circuit Diagram

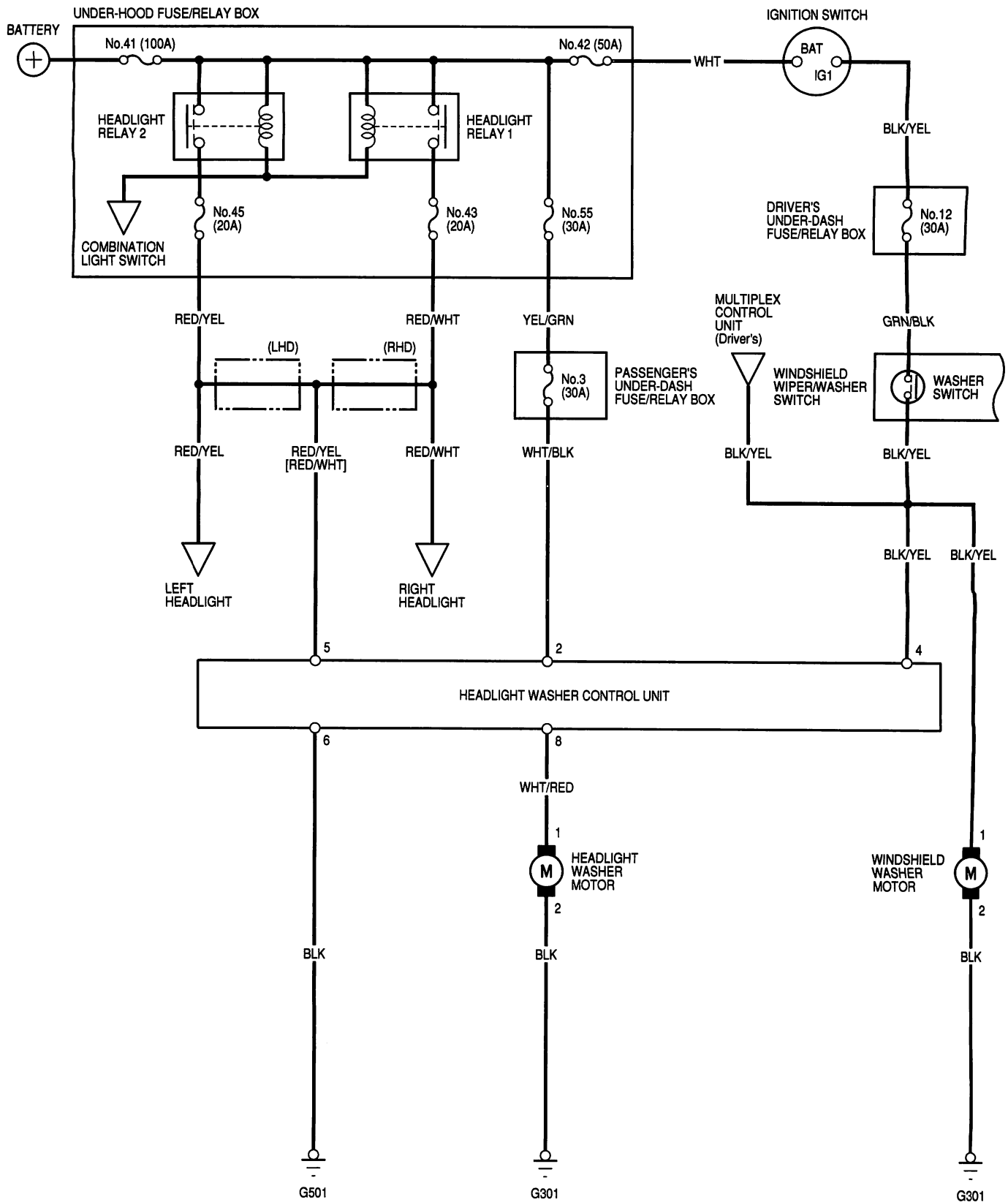




## Wiper/Washers

### Circuit Diagram (With Headlight Washer)

[ ] : RHD type



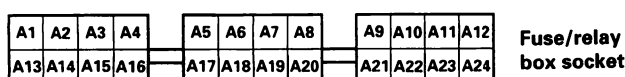


## Control Unit Input Test

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Driver's):

1. Remove the driver's under-dash fuse/relay box (see page 23-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



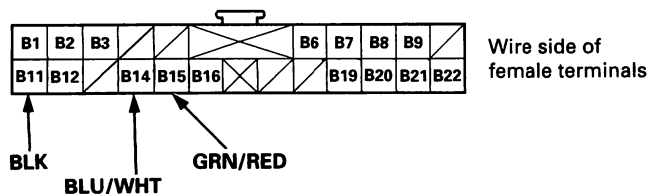
Disconnect the connector from the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A9	Fuse/relay box socket	Ignition switch ON (II) and wiper switch at INT	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (30 A) fuse in the driver's under-dash fuse/relay box</li> <li>• Faulty wiper switch</li> <li>• An open in the wire</li> </ul>
A8		Brake pedal pushed	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 47 (15 A) fuse in the under-hood fuse/relay box</li> <li>• An open in the wire</li> </ul>
A11		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (30 A) fuse in the driver's under-dash fuse/relay box</li> <li>• Faulty intermittent wiper relay</li> <li>• An open in the wire</li> </ul>
A21		Ignition switch ON (II) and washer switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (30 A) fuse in the driver's under-dash fuse/relay box</li> <li>• Faulty washer switch</li> <li>• An open in the wire</li> </ul>
A23		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (30 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A3		Shift lever in <b>P</b>	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty A/T gear position switch</li> <li>• Poor ground (G101)</li> <li>• An open in the wire</li> </ul>
A24		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>

(cont'd)

# Wiper/Washers

## Control Unit Input Test (cont'd)



Disconnect the connector to the unit.

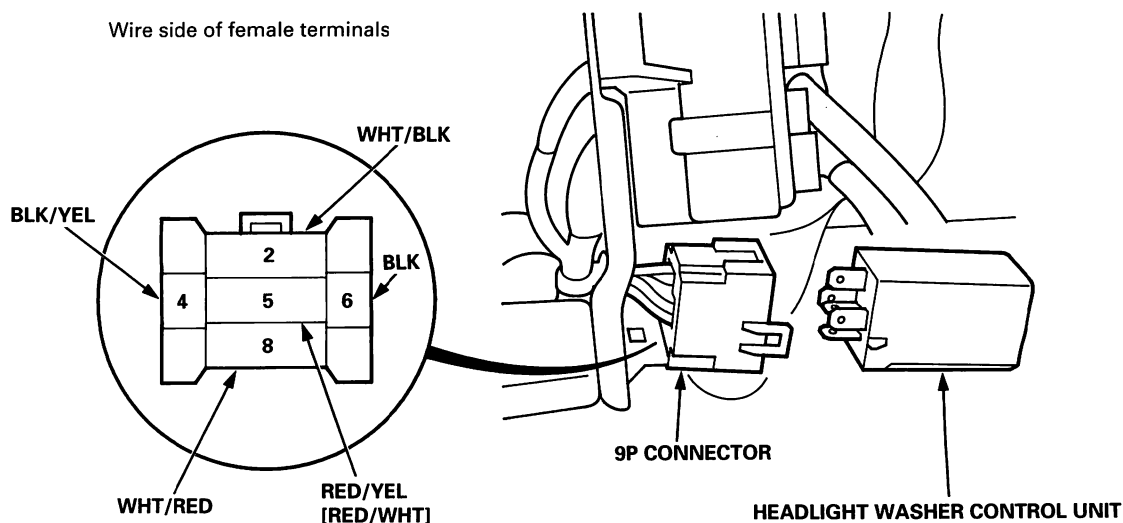
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>
B15	GRN/RED	Parking brake pedal depressed	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>• Faulty parking brake switch</li> <li>• An open in the wire</li> </ul>

Reconnect the connector to the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B14	BLU/WHT	Rotate one wheel slowly with other wheel blocked	Check for voltage to ground: There should be 0 to approx. 5 V or more repeatedly.	<ul style="list-style-type: none"> <li>• Faulty vehicle speed sensor (VSS)</li> <li>• An open in the wire</li> </ul>

## Headlight Washer Control Unit Input Test

1. Remove the driver's side kick panel (see section 20).
2. Disconnect the 9P connector from the headlight washer control unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
2	WHT/BLK	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 3 (30 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
6	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>
5	RED/YEL [RED/WHT]	Headlight switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.45 [No.43] (20 A) fuse in the under-hood fuse/relay box</li> <li>• Faulty headlight relay 2 [1]</li> <li>• An open in the wire</li> </ul>
4	BLK/YEL	Ignition switch ON (II) and washer switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.12 (30 A) fuse in the driver's under-dash fuse/relay box</li> <li>• Faulty washer switch</li> <li>• An open in the wire</li> </ul>
8	WHT/RED	Connect the WHT/BLK terminal to the WHT/RED terminal with a jumper wire.	Check the washer motor: It should run.	<ul style="list-style-type: none"> <li>• Faulty headlight washer motor</li> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>

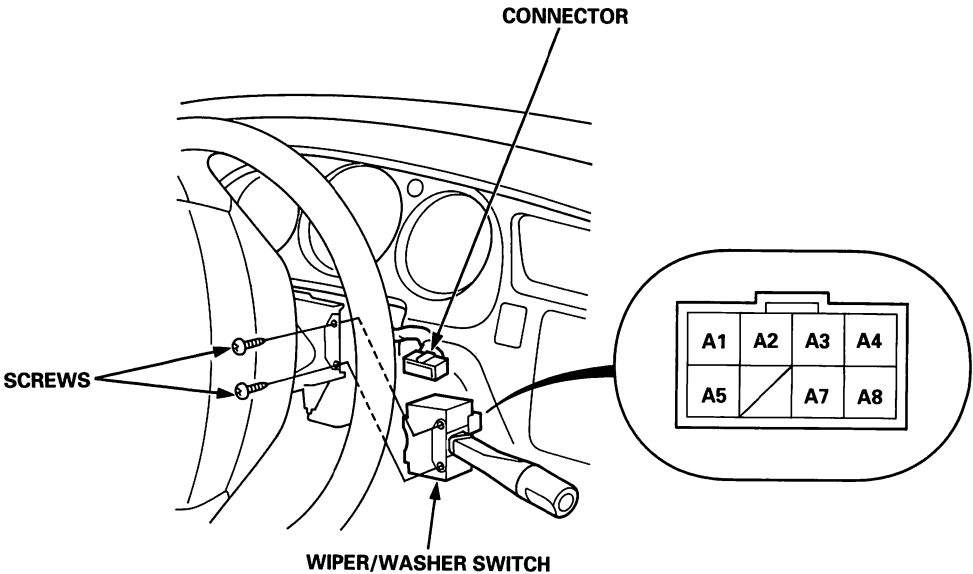
[ ]: RED type



# Wiper/Washers

## Wiper/Washer Switch Test/Replacement

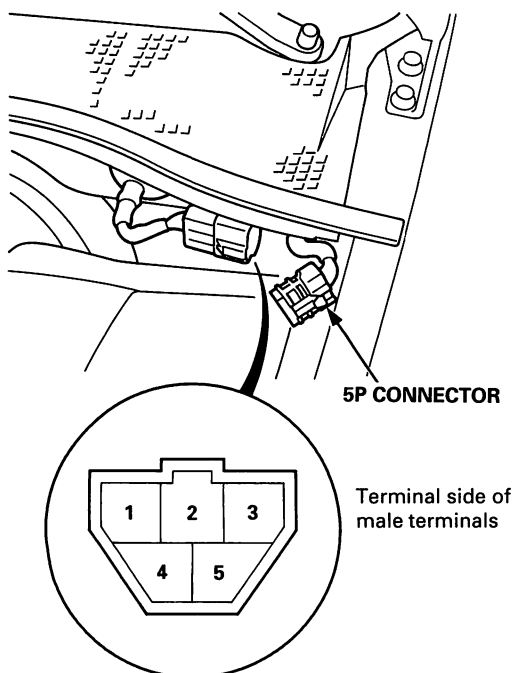
- 1. Remove the driver’s dashboard lower cover (see section 20).
- 2. Remove the steering column covers (see section 17).
- 3. Disconnect the connector from the wiper/washer switch, then remove the two screws and the switch.
- 4. Check for continuity between the terminals in each switch position according to the table.  
If there is no continuity, replace the switch.



Terminal	A1	A2	A3	A4	A5	A7	A8	B1		B2
Position										
OFF			○		○					
INT		○	○		○	○				
LO			○				○			
HI				○			○			
Mist switch "ON"				○			○			
Washer switch "ON"	○					○				

## Wiper Motor Test

1. Open the hood.
2. Disconnect the 5P connector from the wiper motor.



3. Test the motor by connecting battery power and ground according to the table.

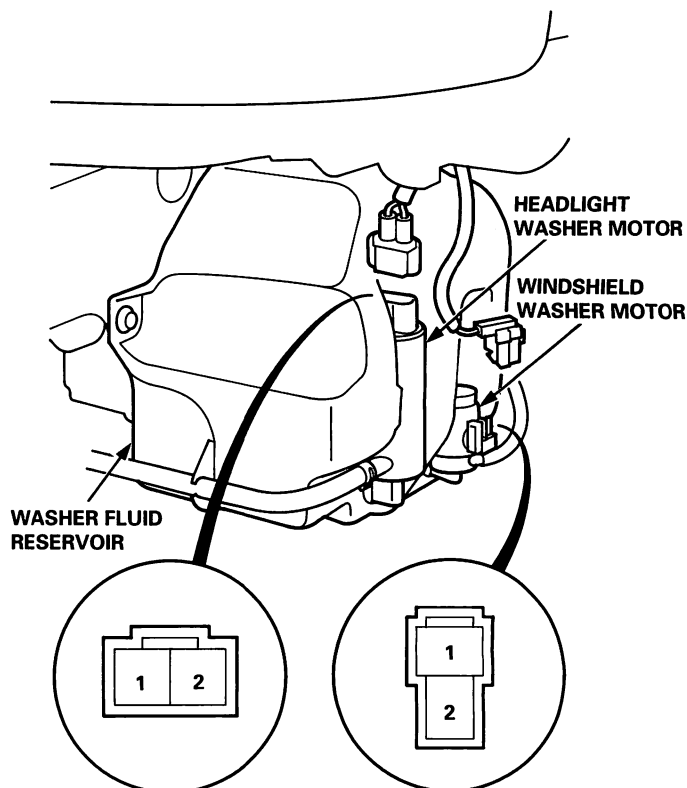
Terminal	1	2	4
Position			
LOW SPEED		⊖	⊕
HIGH SPEED	⊖		⊕

If the motor does not run or fails to run smoothly, replace it.

4. Connect an analog voltmeter between the No. 5 (+) and No. 3 (–) terminals, and run the motor at low or high speed. The voltmeter should indicate 0 V and 4 V or less alternately.

## Washer Motor Test

1. Remove the left inner fender (see section 20).
2. Disconnect the 2P connector from the washer motor.



3. Test the washer motor by connecting battery power and ground according to the table.

Terminal	1	2
Battery		
Disconnected		
Connected	⊕	⊖

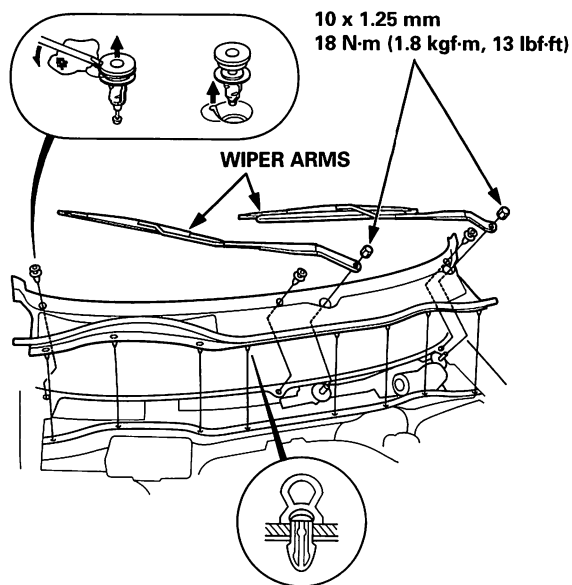
- If the motor fails to run smoothly, replace it.
- If the motor runs smoothly, but little or no washer fluid is pumped, check for a disconnected or blocked washer hose, or a clogged pump outlet in the motor.

# Wiper/Washers

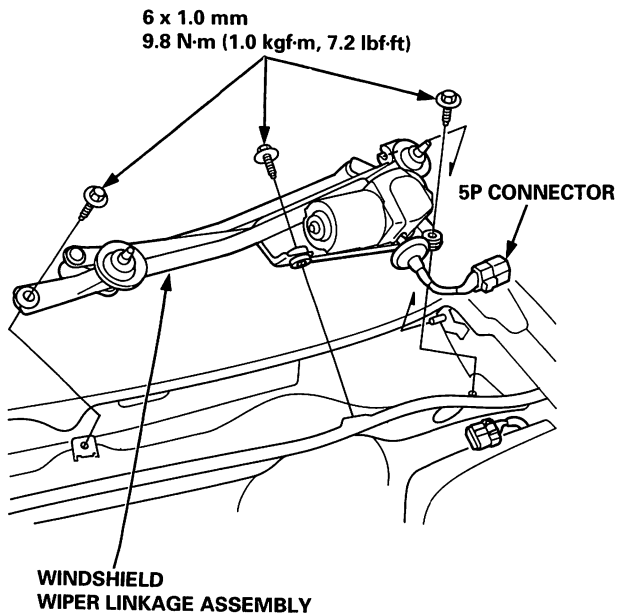
## Windshield Wiper Motor Replacement

1. Open the hood and remove the cap nuts and the wiper arms.

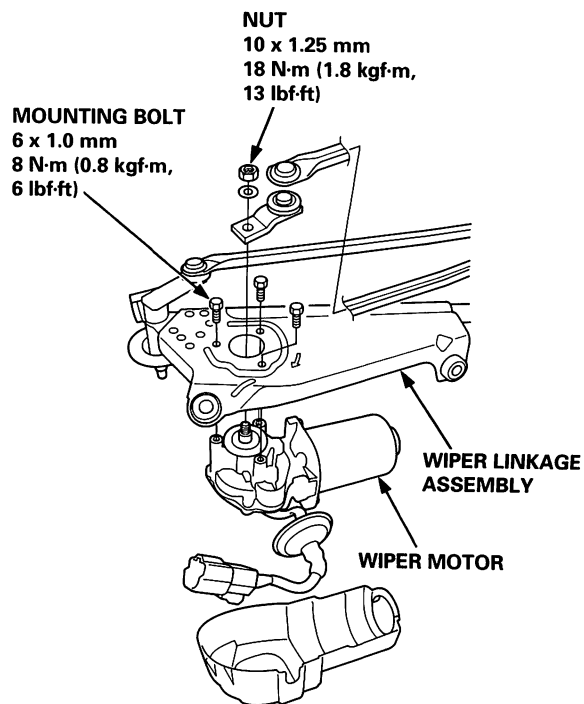
NOTE: Remove the wiper arms carefully without damaging the hood.



2. Remove the hood seal and cowl cover.
3. Remove the bolts and windshield wiper linkage assembly.



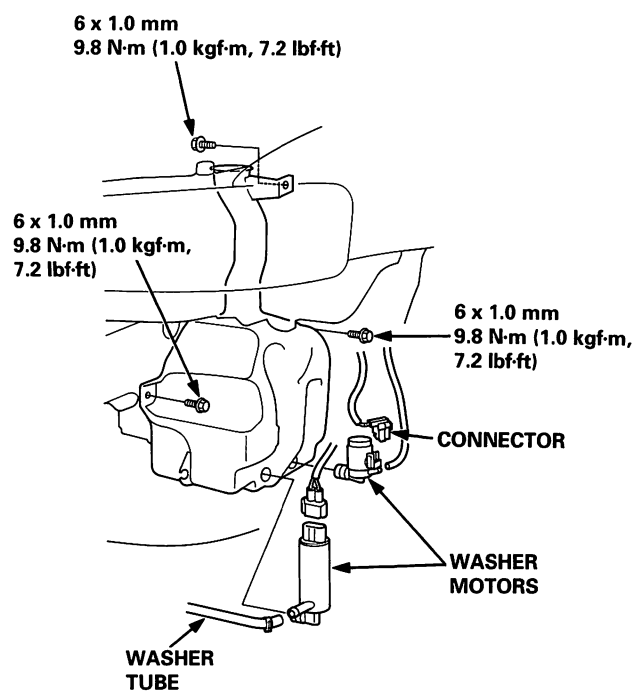
4. Remove the three mounting bolts and one nut from the wiper linkage to remove the wiper motor.



5. Install in the reverse order of removal. Grease the moving parts. If necessary, replace any damaged clips. Check the wiper motor operation.

## Washer Reservoir Replacement

1. Pull away the left inner fender (see section 20).
2. Disconnect the washer tube(s) and washer motor connector(s).

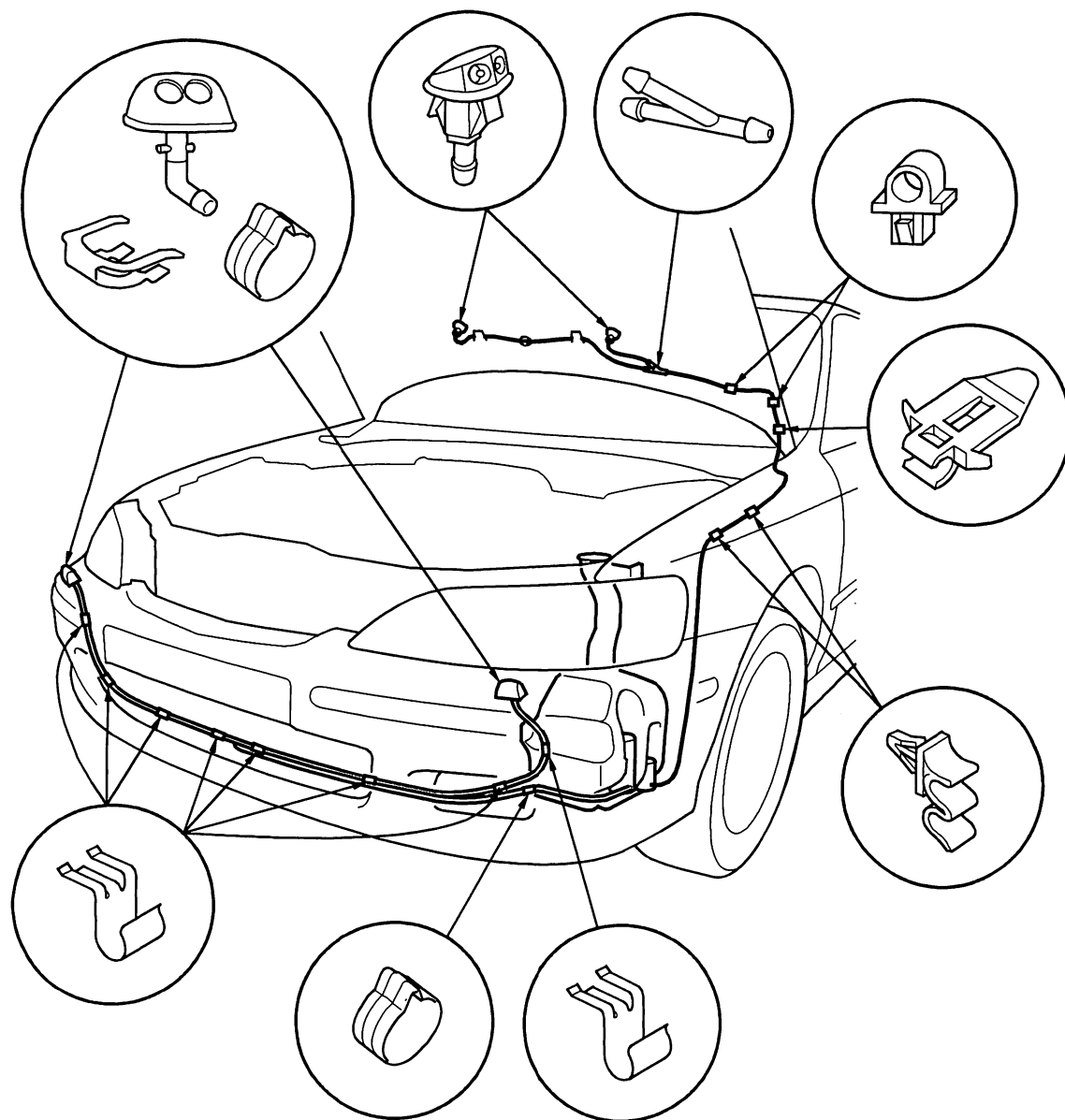


3. Remove the three bolts and washer reservoir.
4. Install in the reverse order of removal. Check the washer motor operation.

# Wiper/Washers

## Washer Tube Replacement

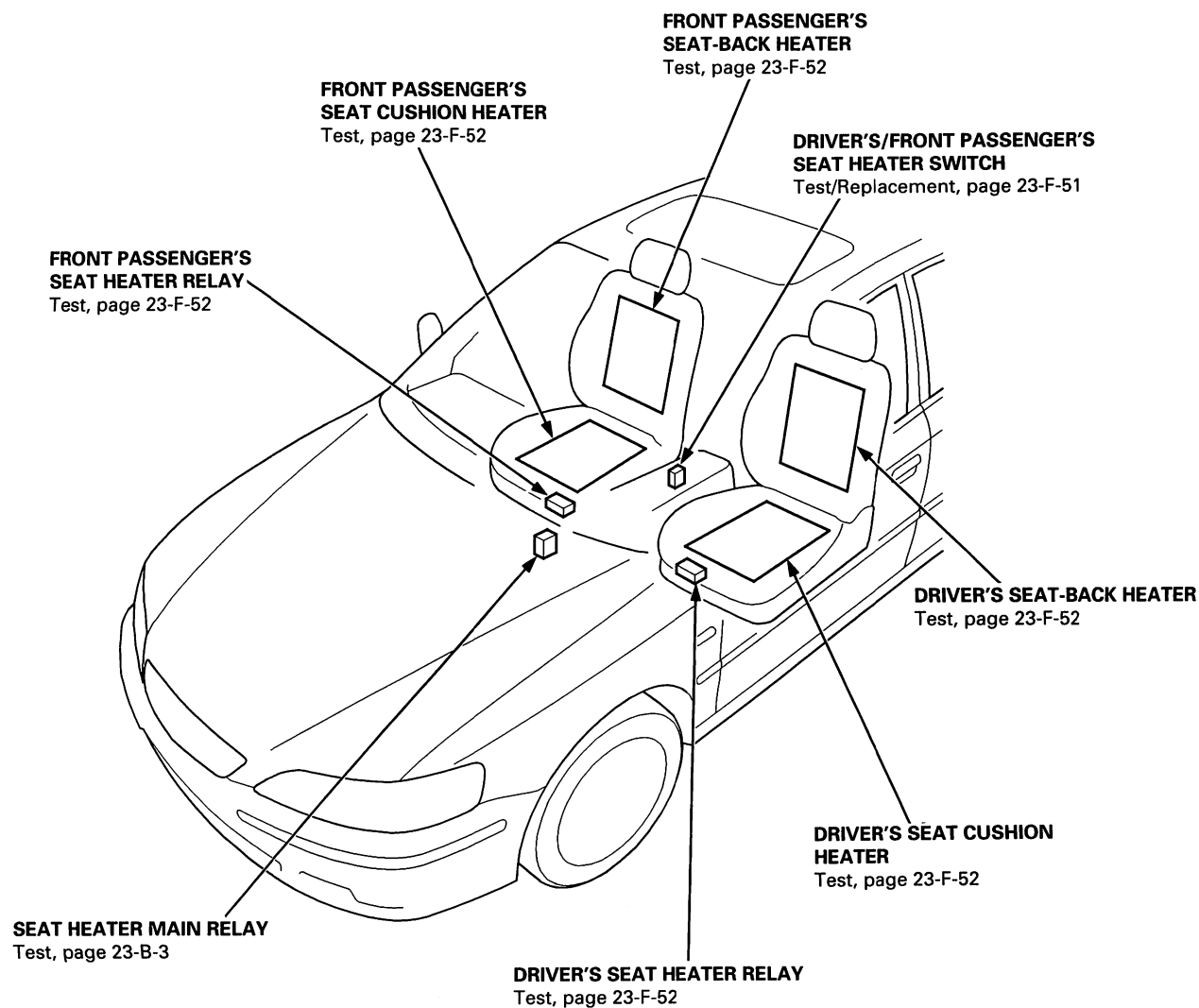
1. Remove the left inner fender (see section 20).
2. Remove the windshield washer nozzles and clips, then remove the tube.



3. Install in the reverse order of removal. Take care not to pinch the washer tube. Check the windshield washer operation.

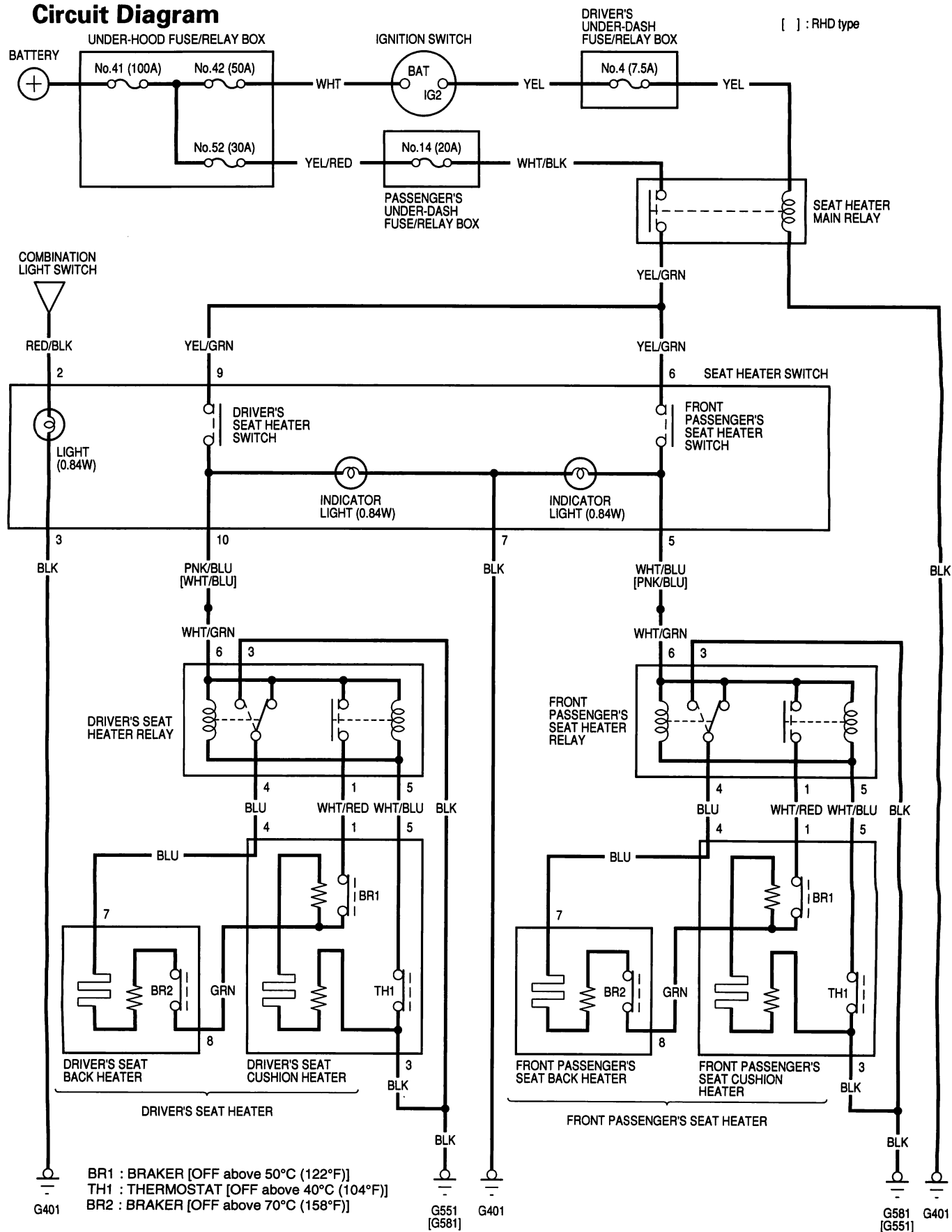
## Component Location Index

NOTE: LHD type is shown, RHD type is similar.



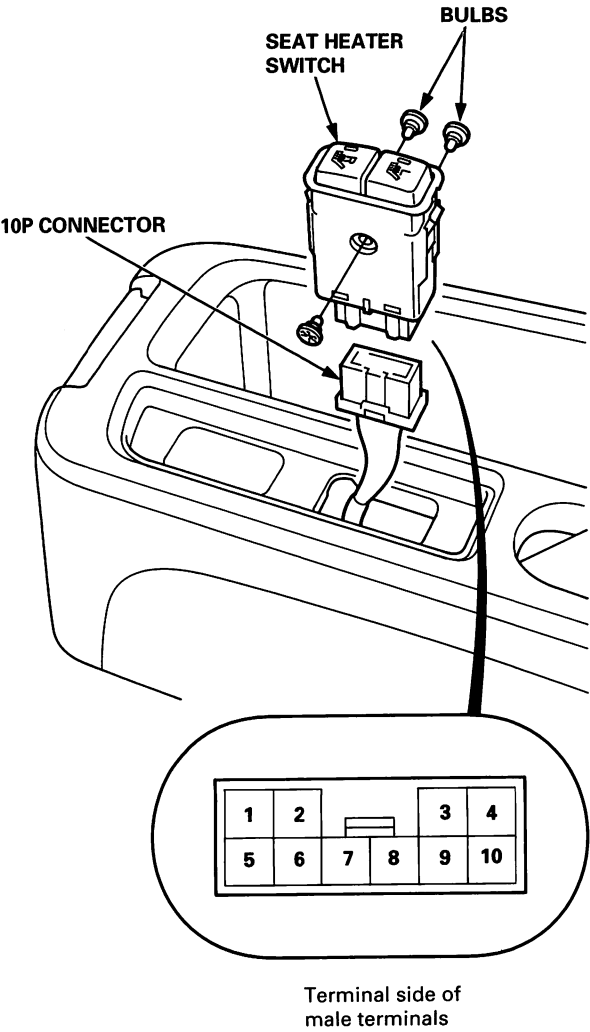
# Seat Heaters

## Circuit Diagram



## Switch Test

1. Remove the seat heater switch from the center console.
2. Disconnect the 10P connector and remove the switch.



3. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	2		3	5	6		7		9	10
ON										
OFF										



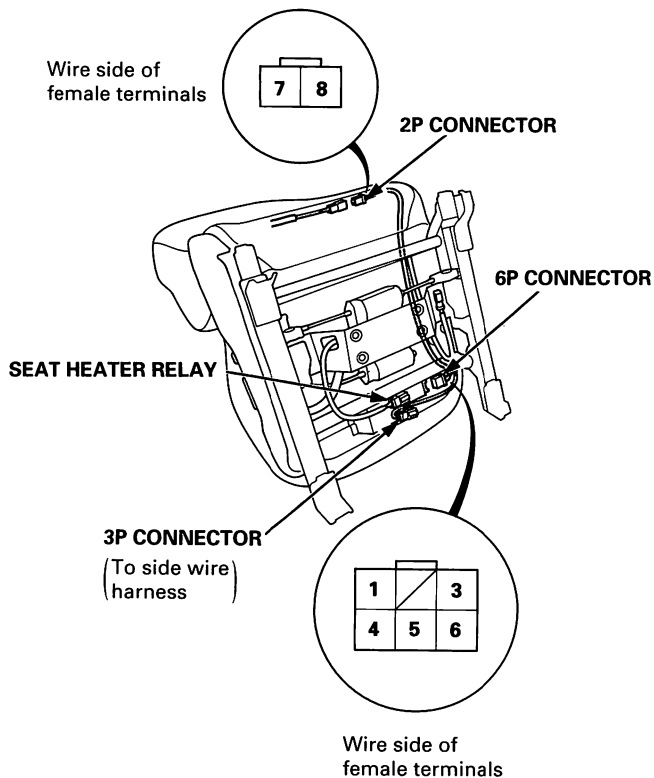
# Seat Heaters

## Heater Test

### ⚠ CAUTION

Some types of this vehicle have a side airbag in each front seat. See section 24 before servicing in this area.

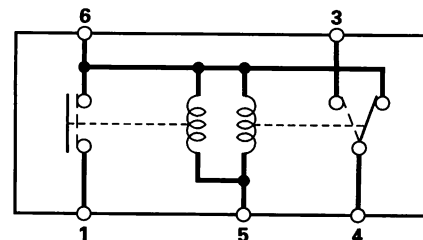
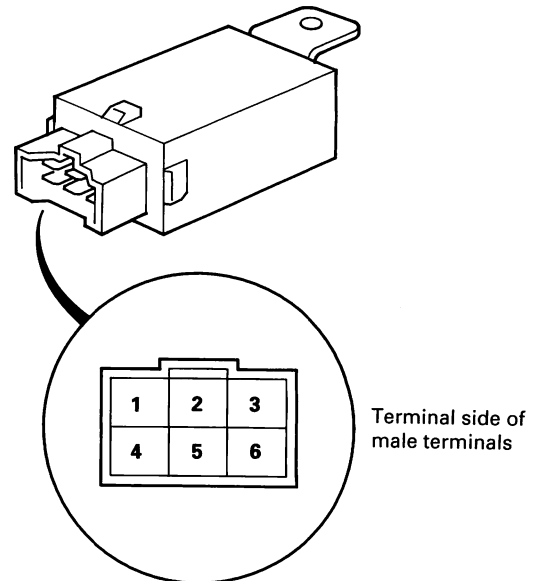
1. Disconnect the 2P and 6P connectors as shown below.



2. **Seat Cushion Heater:**  
Check for continuity between the No. 1 and No. 5 terminals ( $R \times 10^3$  scale).  
There should be continuity.
3. **Seat Back Heater:**  
Check for continuity between the No. 7 and No. 8 terminals ( $R \times 10^3$  scale).  
There should be continuity.

## Seat Heater Relay Test

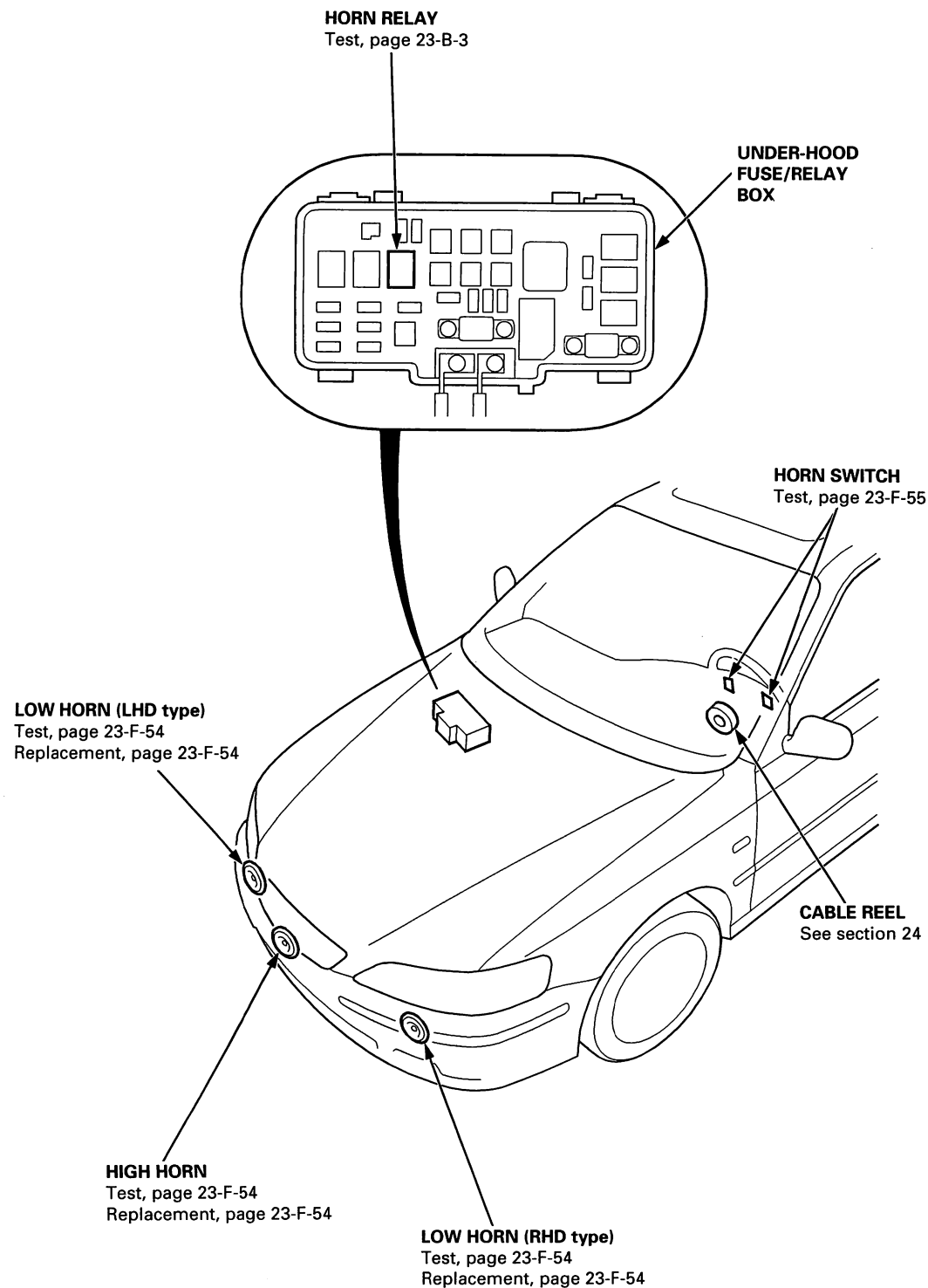
1. Disconnect the 6P connector from the seat heater relay.
2. Check for continuity between the terminals.  
There should be continuity between the No. 3 and No. 4 terminals and should be battery voltage to the No. 1 terminal when power and ground are connected to the No. 5 and No. 6 terminals.
3. When power is disconnected, there should be continuity between the No. 4 and No. 6 terminals, and should be no continuity between the No. 1 and No. 6 terminals.



## Component Location Index

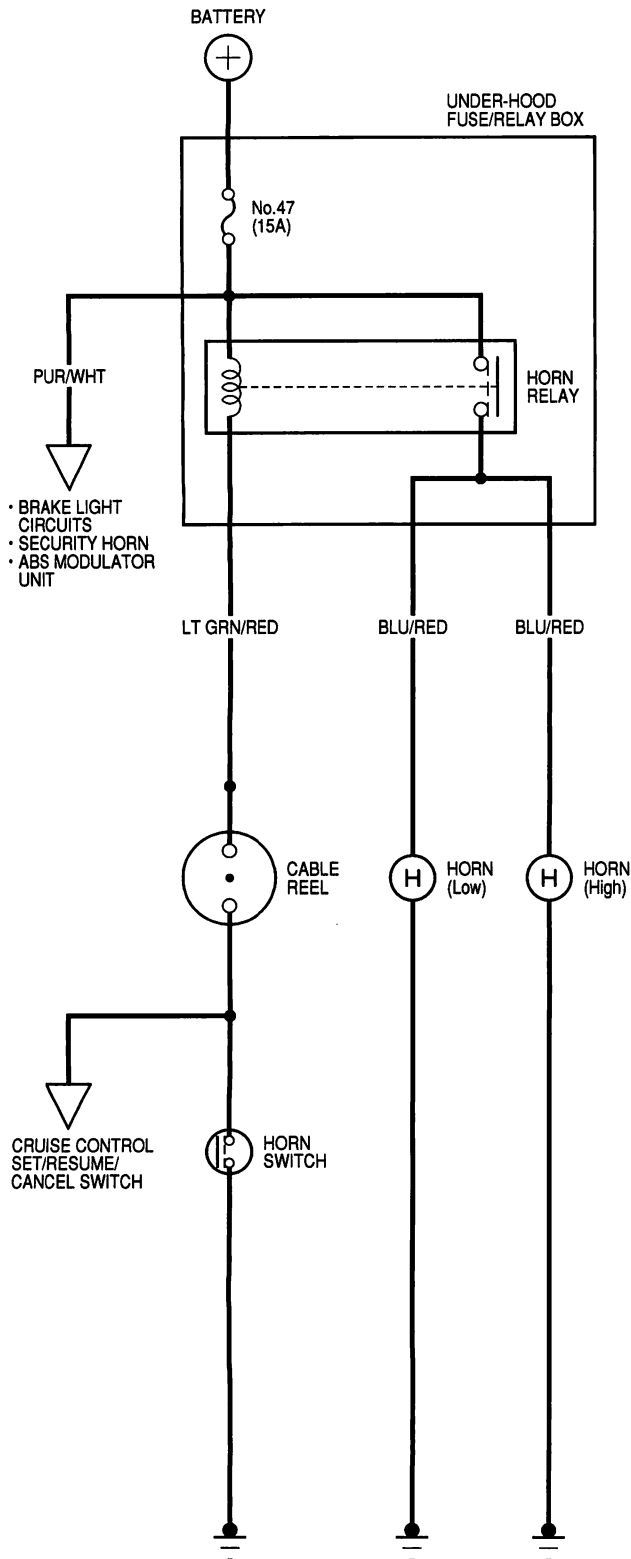
### NOTE:

- LHD type is shown, RHD type is symmetrical.
- Security horn (see page 23-G-33).



# Horns

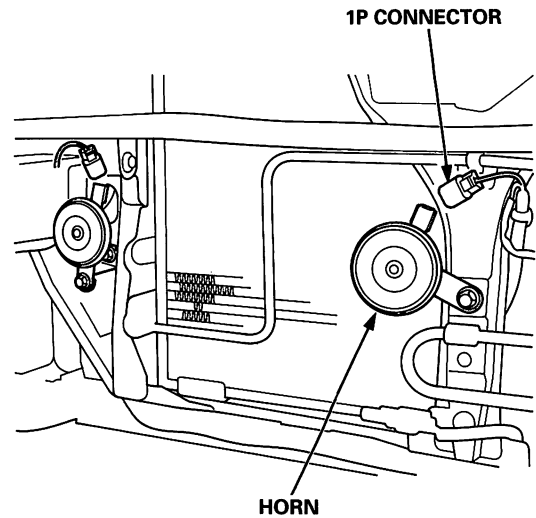
## Circuit Diagram



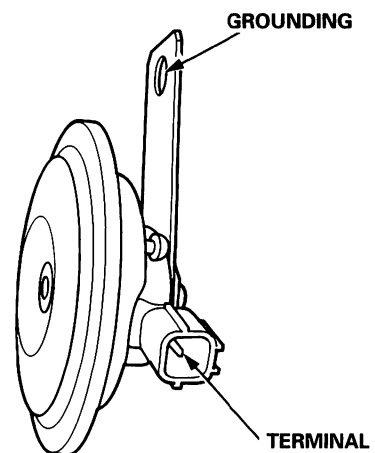
## Horn Test and Replacement

1. Open the hood.
2. Disconnect the 1P connector, and remove the horn.

NOTE: High horn is shown, low horn (on some types) is similar.



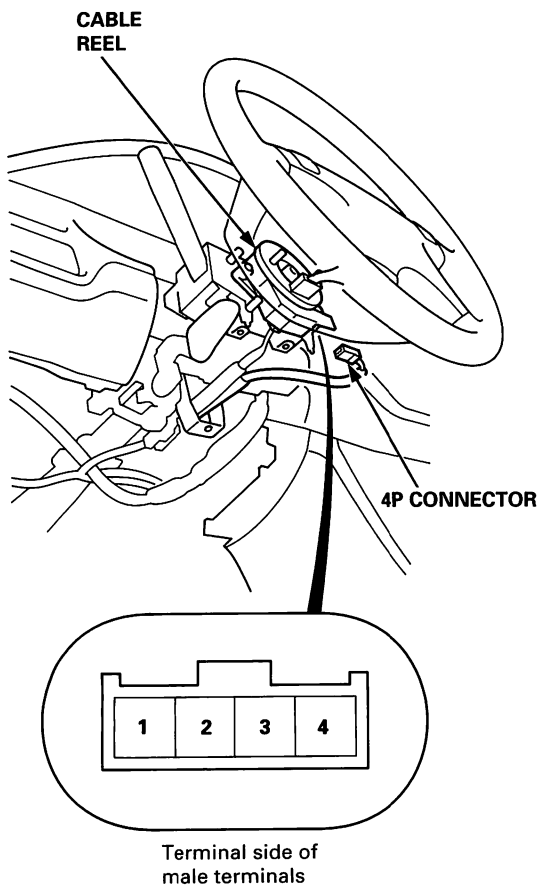
3. Test the horn by connecting battery power to the terminal and grounding the bracket. The horn should sound.



4. If it fails to sound, replace it.

# Switch Test

1. Remove the dashboard lower cover (see section 20).
2. Remove the steering column upper and lower covers (see section 20).
3. Disconnect the steering beam wire harness 4P connector from the cable reel.



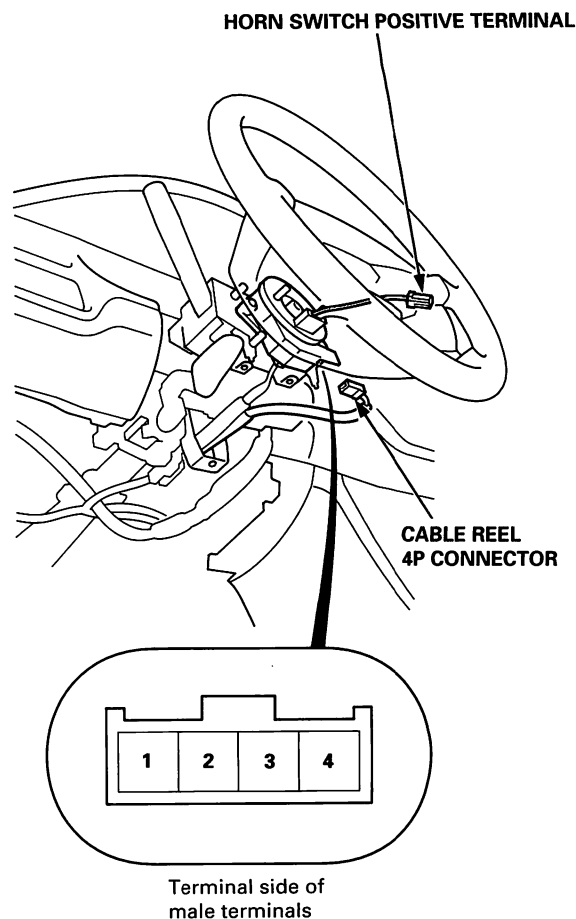
4. Check for continuity between the cable reel No. 3 terminal and body ground in each switch position.

Terminal	3	Body ground
Position		
Pushed		
Released		

- If there is continuity, the horn switch is OK.
- If there is no continuity, go to step 5.

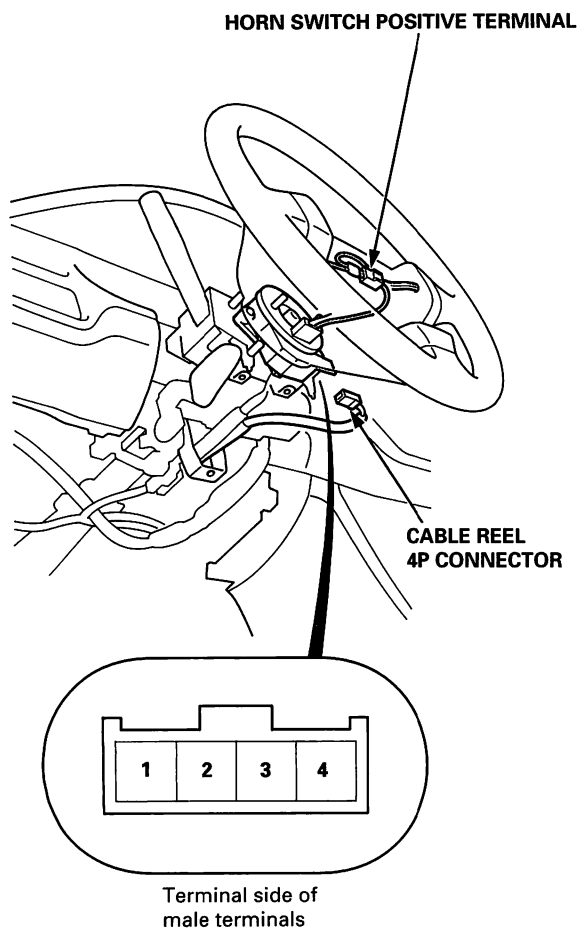
5. Remove the driver's airbag assembly (see section 24).
6. Check for continuity between the cable reel No. 3 terminal and the horn switch positive terminal.

**Except Type R:**



# Horns

Type R:



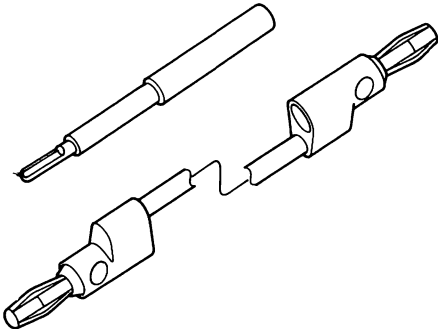
- If there is no continuity, check the cruise control Set/Resume/Cancel switch (with cruise control). If the switch is OK, replace the cable reel (see section 24) and confirm the proper operation.
- If there is continuity;
  - Except Type R:**
    - Replace the horn switch (SRS airbag assembly) (see section 24).
  - Type R:**
    - Repair or replace the horn switch.

## Security

<b>Special Tool .....</b>	<b>23-G-2</b>
<b>Immobilizer System</b>	
<b>Component Location Index .....</b>	<b>23-G-3</b>
<b>Description .....</b>	<b>23-G-4</b>
<b>Circuit Diagram .....</b>	<b>23-G-5</b>
<b>Troubleshooting .....</b>	<b>23-G-7</b>
<b>Keyless Entry/Security Alarm System</b>	
<b>Component Location Index .....</b>	<b>23-G-10</b>
<b>Circuit Diagram .....</b>	<b>23-G-12</b>
<b>System Description .....</b>	<b>23-G-17</b>
<b>Keyless Door Lock System</b>	
<b>Troubleshooting .....</b>	<b>23-G-18</b>
<b>Keyless Receiver Unit Input Test .....</b>	<b>23-G-19</b>
<b>Control Unit Input Test .....</b>	<b>23-G-20</b>
<b>Transmitter Test .....</b>	<b>23-G-26</b>
<b>Super Locking Control Unit</b>	
<b>Input Test .....</b>	<b>23-G-28</b>

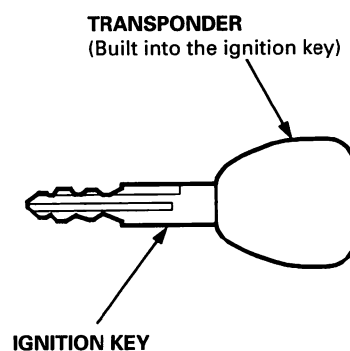
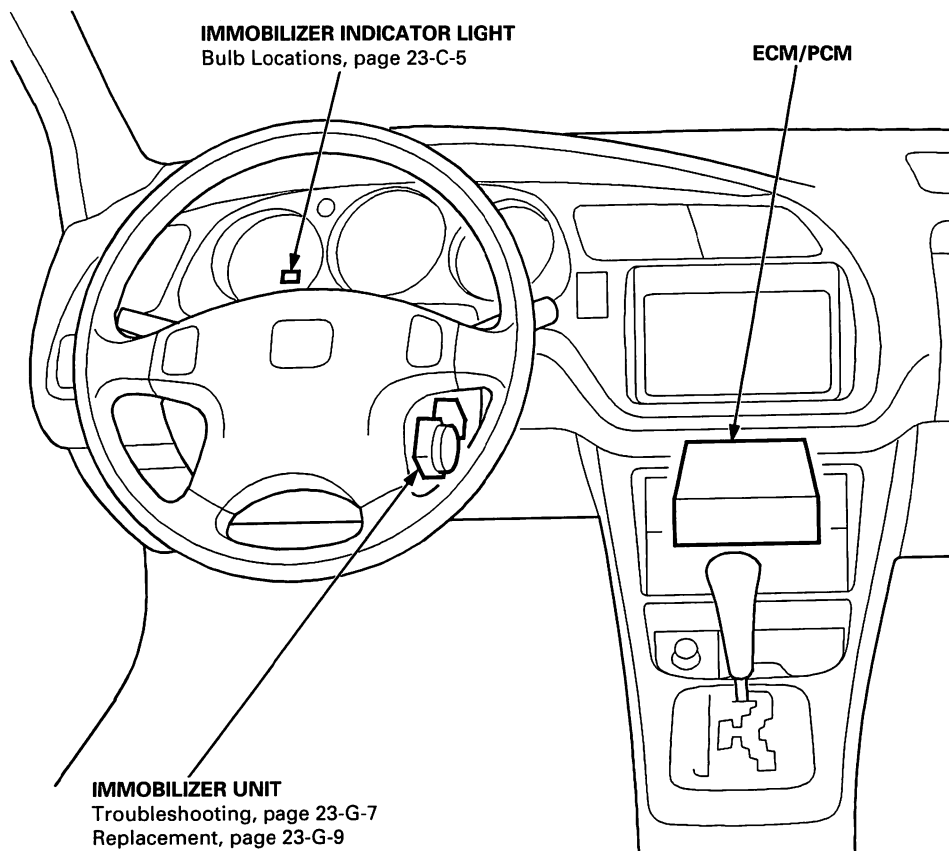


# Special Tool

Ref. No.	Tool Number	Description	Qty	Remark
①	07SAZ – 001000A	Backprobe Set	1	
<div><p>①</p></div>				

## Component Location Index

NOTE: LHD type is shown, RHD type is similar.

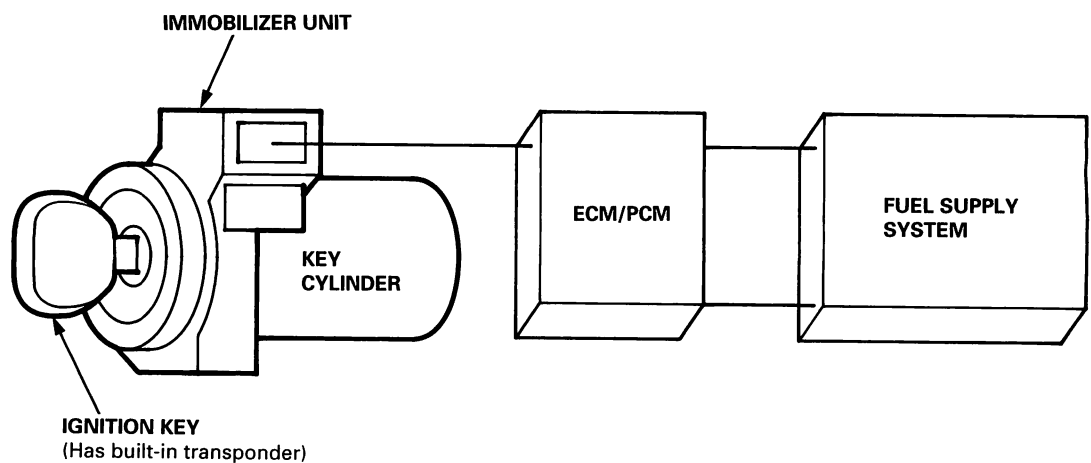




# Immobilizer System

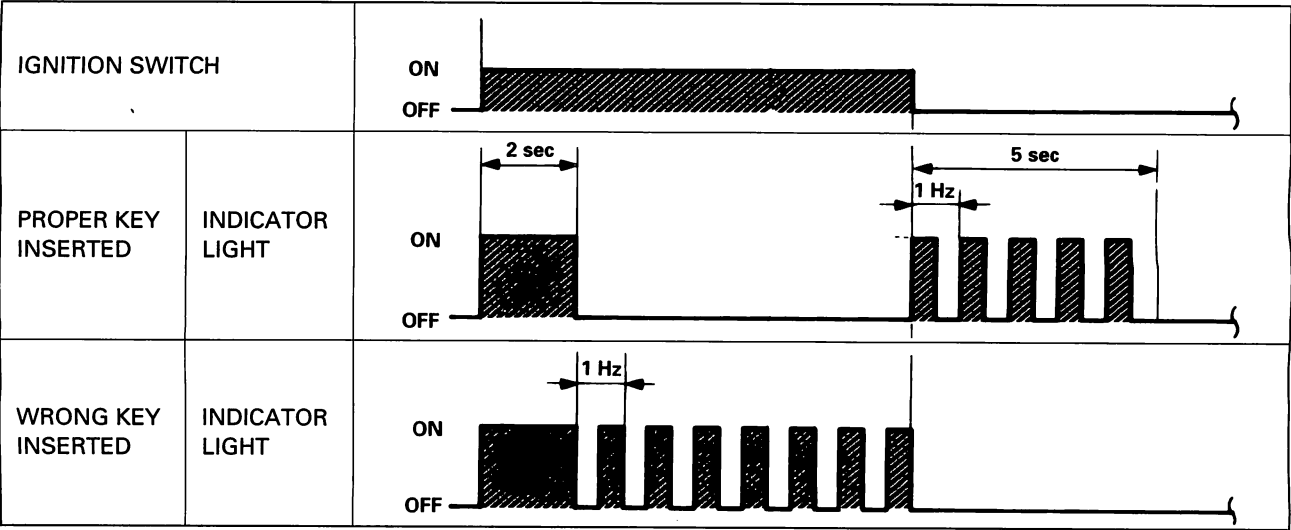
## Description

- The vehicle is equipped with an immobilizer system that will disable the vehicle unless the proper ignition key is used. This system consists of a transponder, an immobilizer unit, an indicator light and ECM/PCM.
- When the key is inserted in the ignition switch and turned to the (II) position, the immobilizer unit sends power to the transponder. The transponder then sends a coded signal back to the immobilizer unit. The immobilizer unit in turn signals the ECM/PCM.



- If the proper key has been used, the immobilizer indicator light will come on for about two seconds, then go off.
- If the wrong key has been used whose code was not received or recognized by the unit, or which was not approved by Honda, the indicator light will come on for about two seconds, then it will go on blinking until the ignition switch turned OFF.
- If the ignition switch is turned OFF, the indicator will blink for about five seconds to signal that the unit has been set correctly, then the indicator will go off.

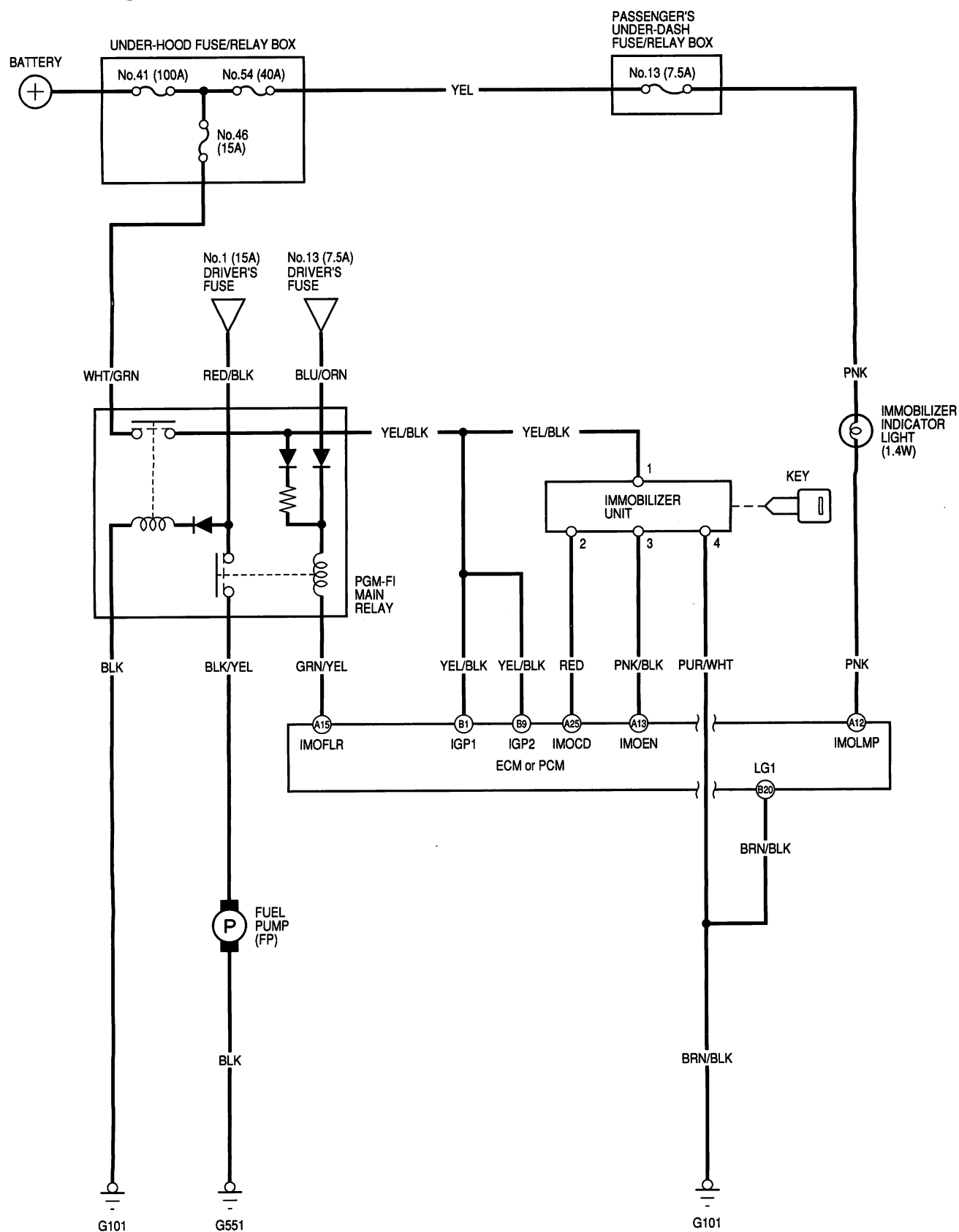
### IMMOBILIZER INDICATOR LIGHT BLINKING PATTERN:



- If the customer has lost his key, and cannot start the engine, contact Honda Customer Relations.



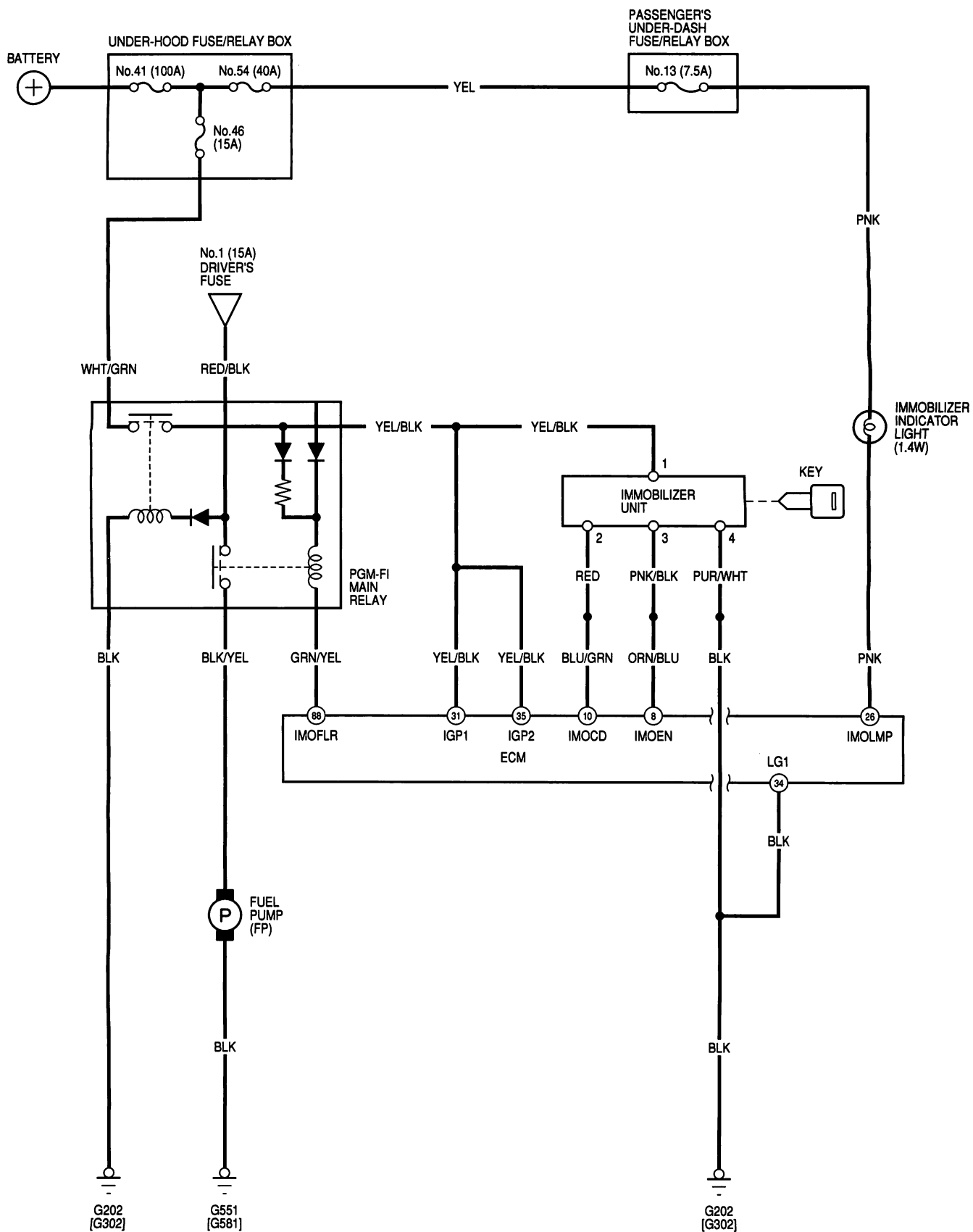
## Circuit Diagram (Except D16B6 engine)



# Immobilizer System

## Circuit Diagram (D16B6 engine)

[ ] : RHD type



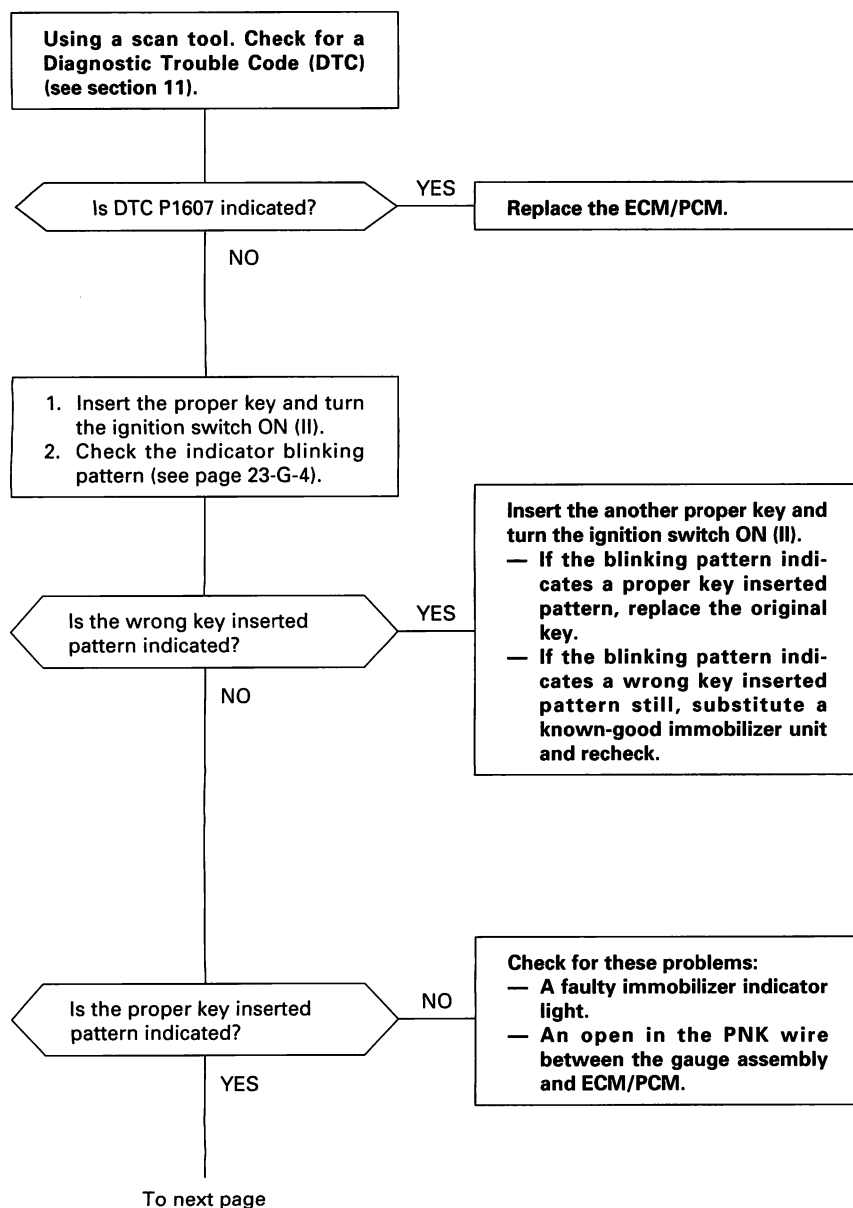


## Troubleshooting

### Before testing:

- Due to the action of the immobilizer system, the engine takes slightly more time to start than engines of vehicle without an immobilizer system.
- If the ECM/PCM is faulty, substitute a known-good ECM/PCM, and recheck. However, since the known-good ECM/PCM has a different code stored into it, it must be rewritten with the Honda PGM Tester. Otherwise, the engine will not start.

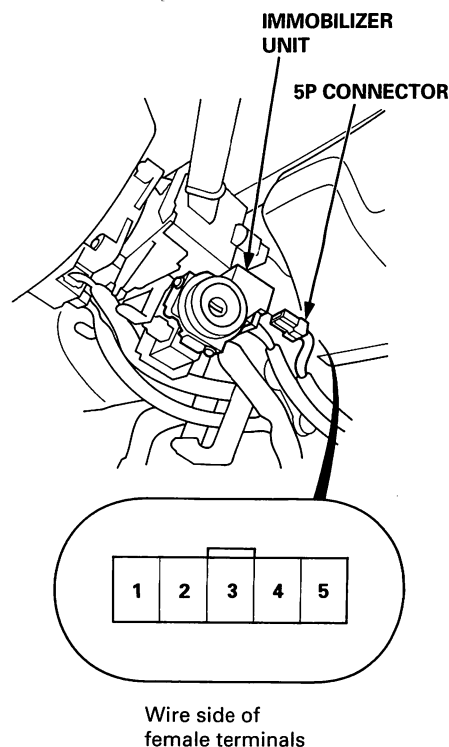
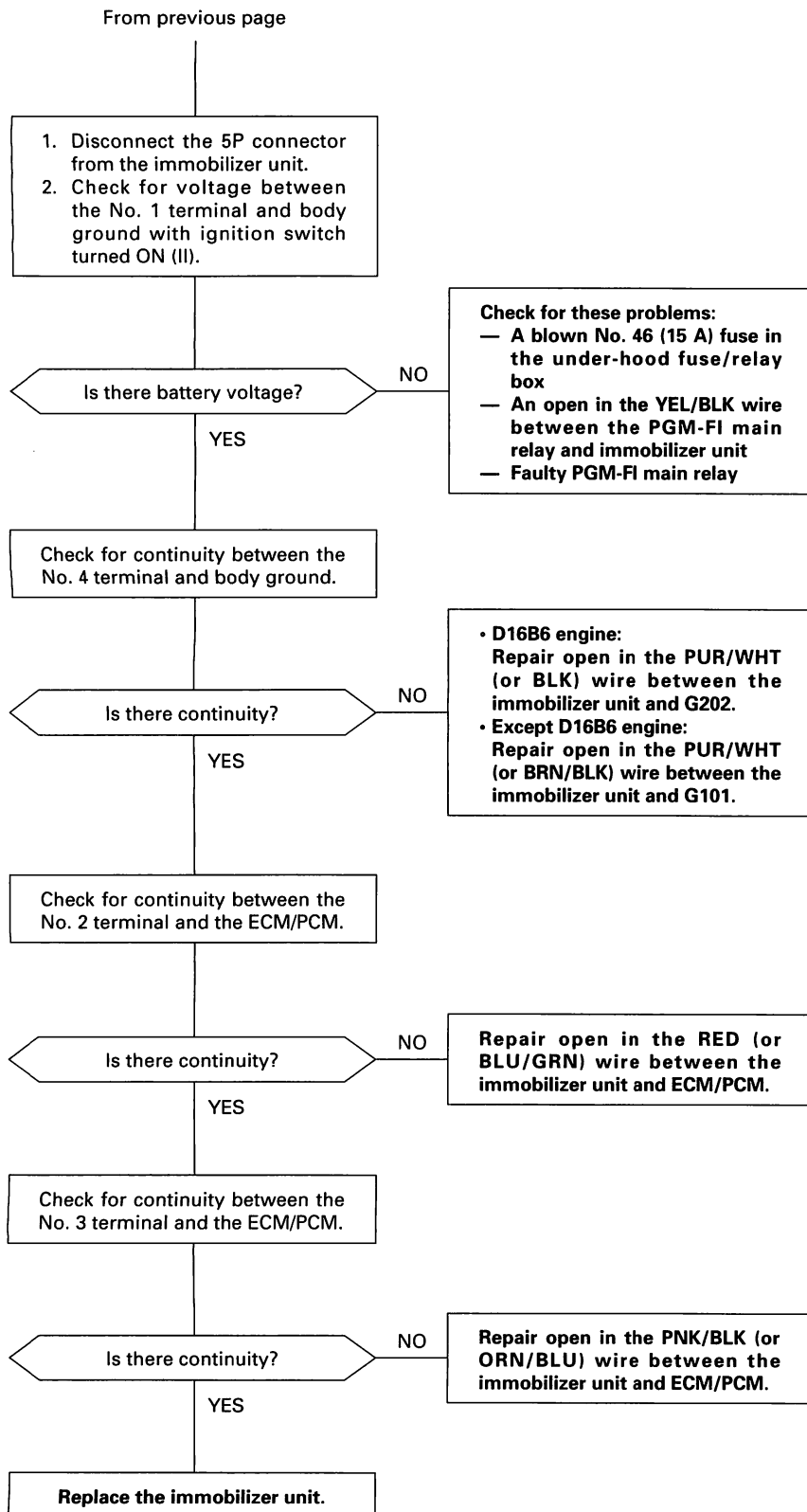
Follow this flowcharts if the vehicle does not start after rewriting the ECM/PCM with the Honda PGM Tester.



(cont'd)

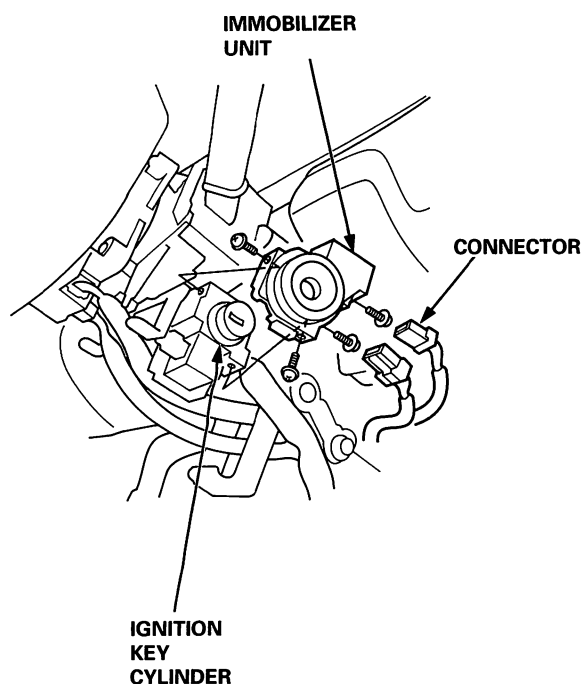
# Immobilizer System

## Troubleshooting (cont'd)



## Immobilizer Unit Replacement

1. Remove the driver's dashboard lower cover and steering column covers (see section 20).
2. Disconnect the 5P connector from the immobilizer unit.

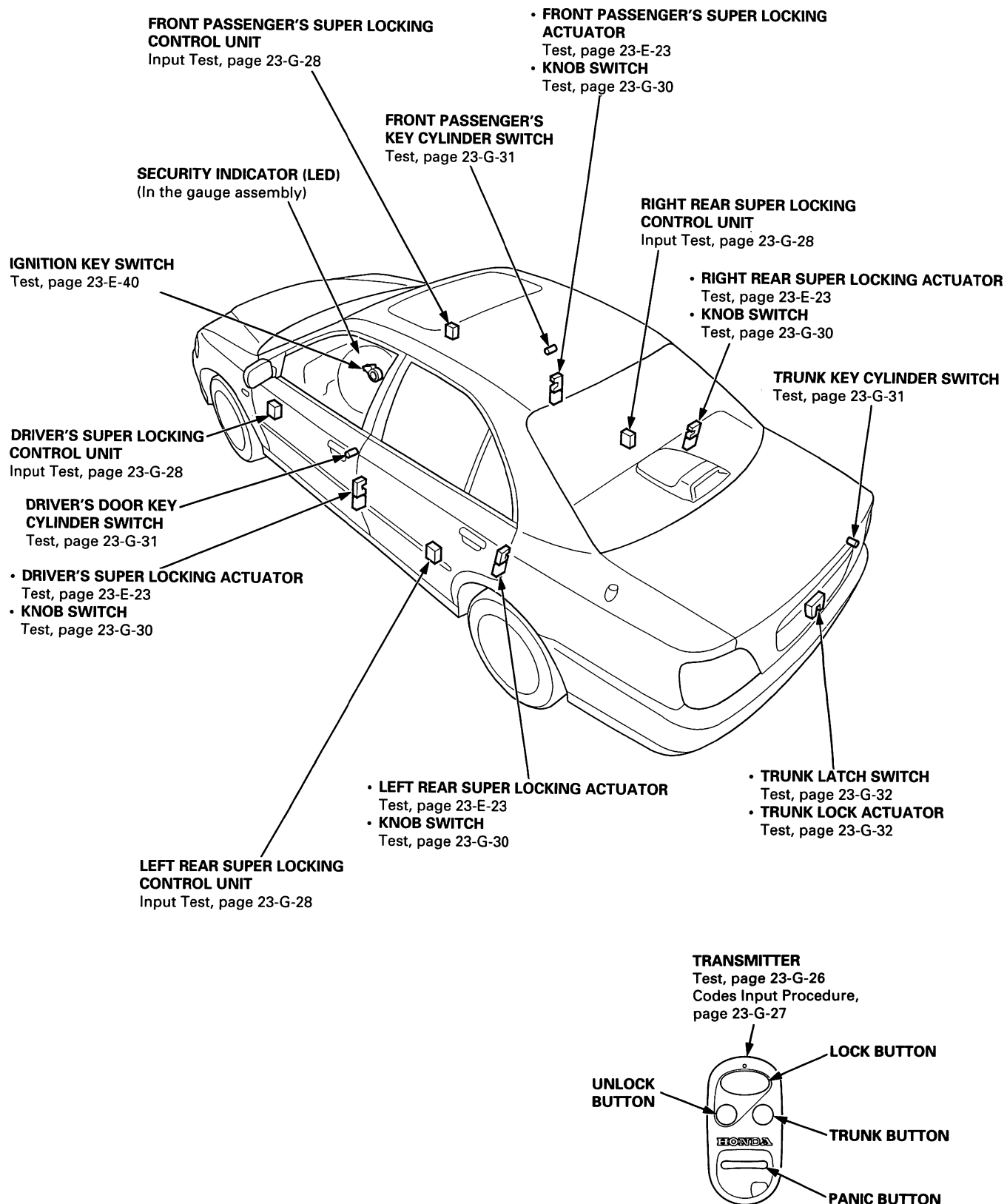


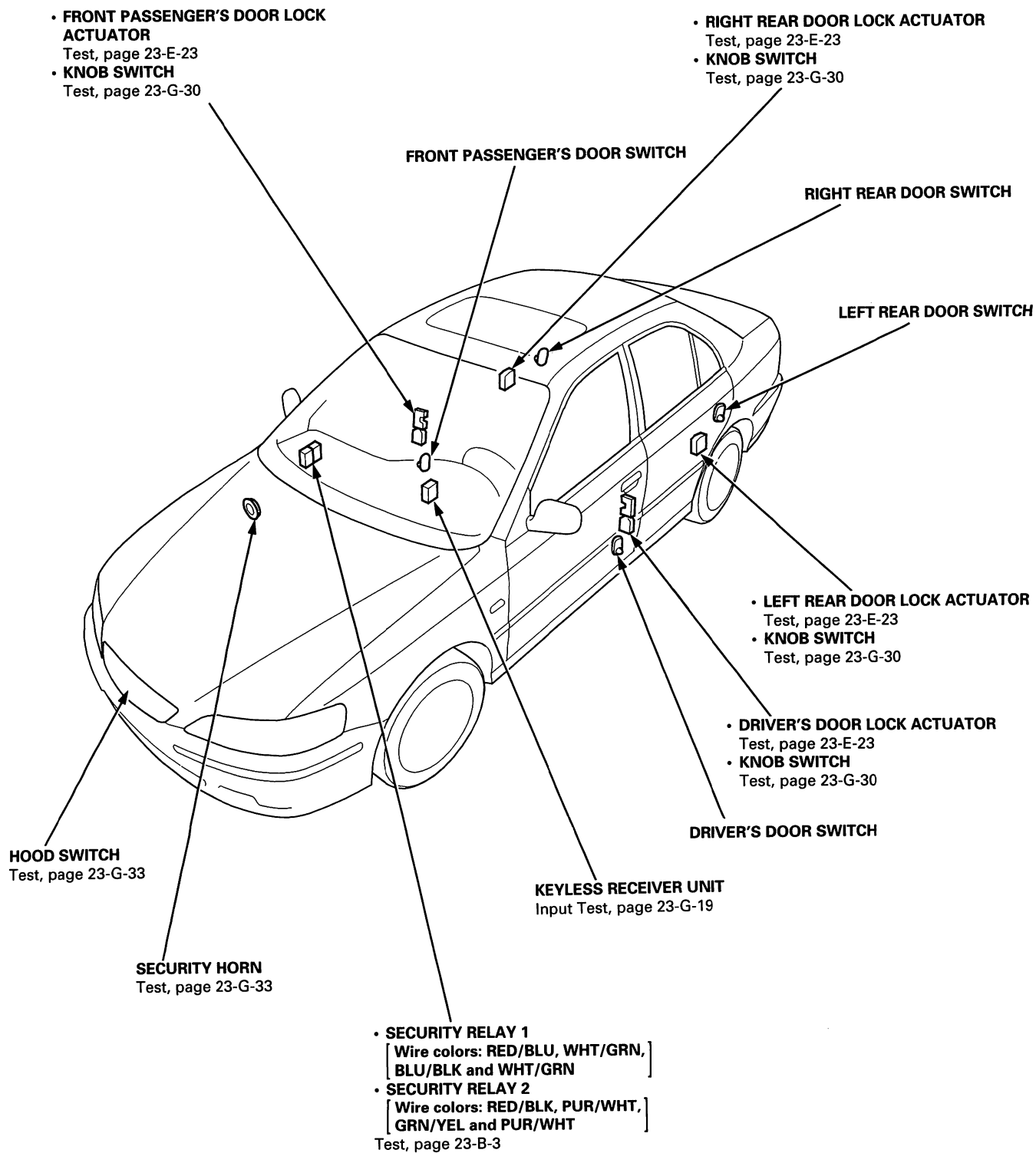
3. Remove the screws and the immobilizer unit from the ignition key cylinder.
4. Install in the reverse order of removal.
5. After replacement, make sure the immobilizer indicator light blinks correctly.

# Keyless Entry/Security Alarm System

## Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.

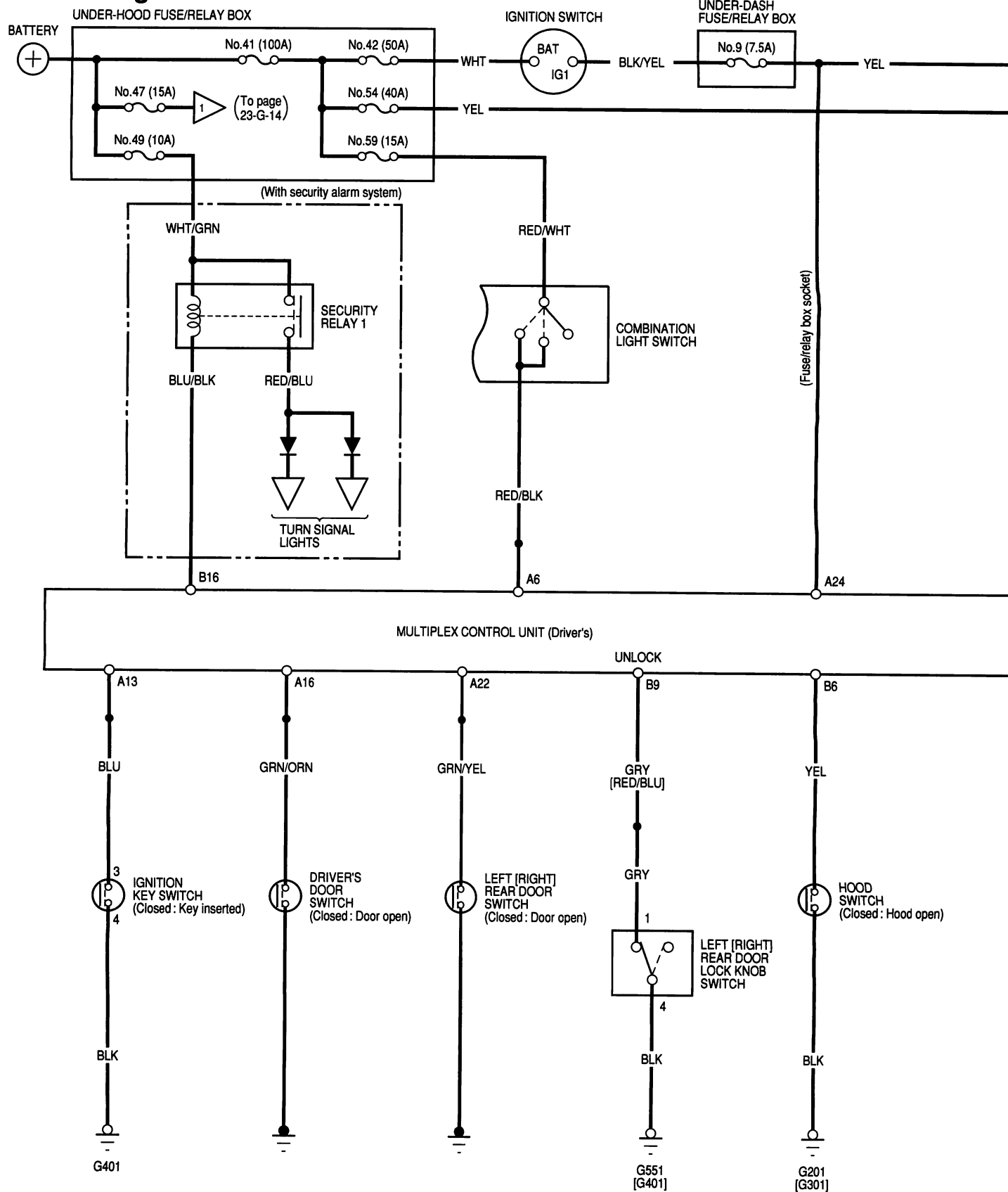


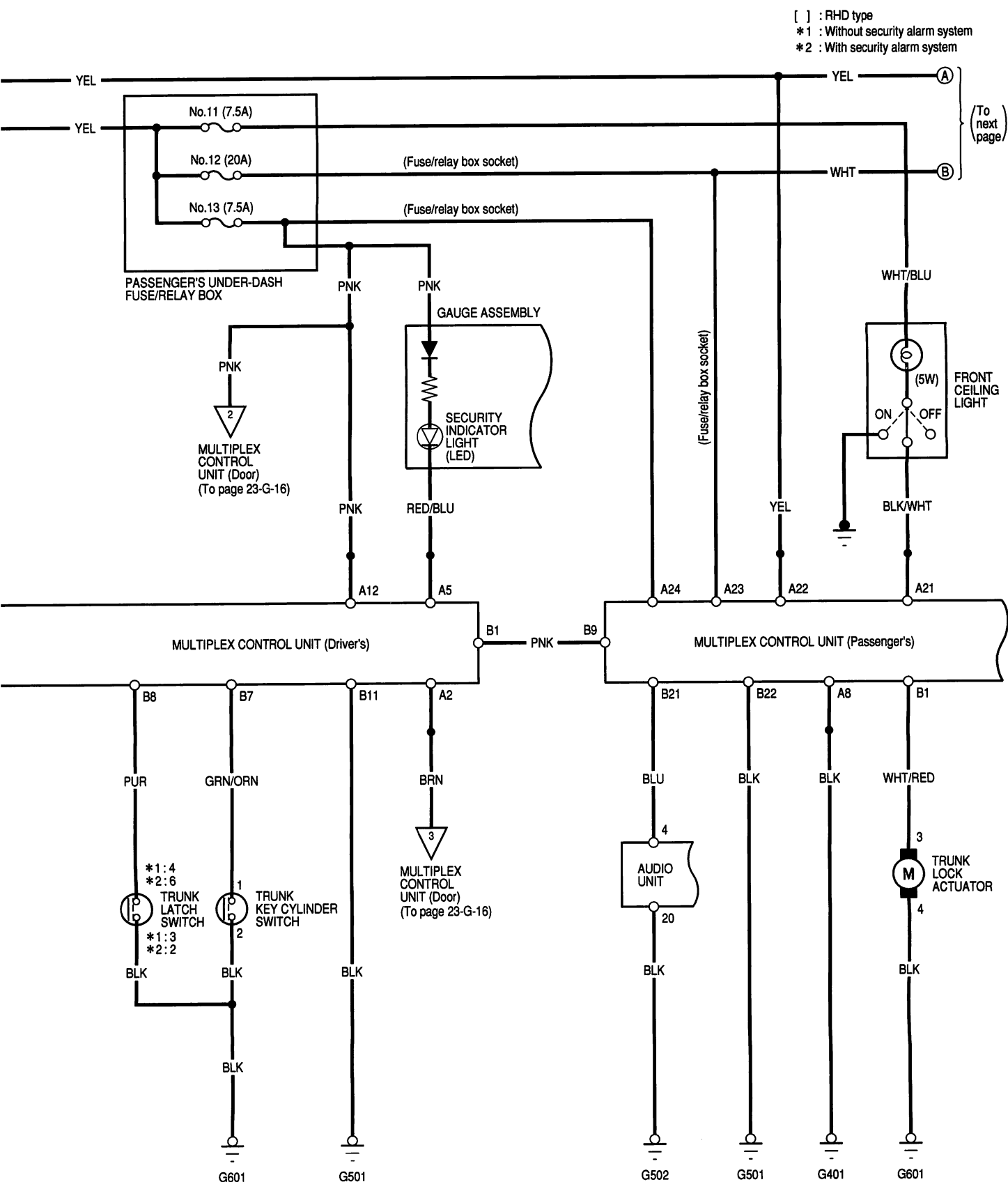




## Keyless Entry/Security Alarm System

## Circuit Diagram

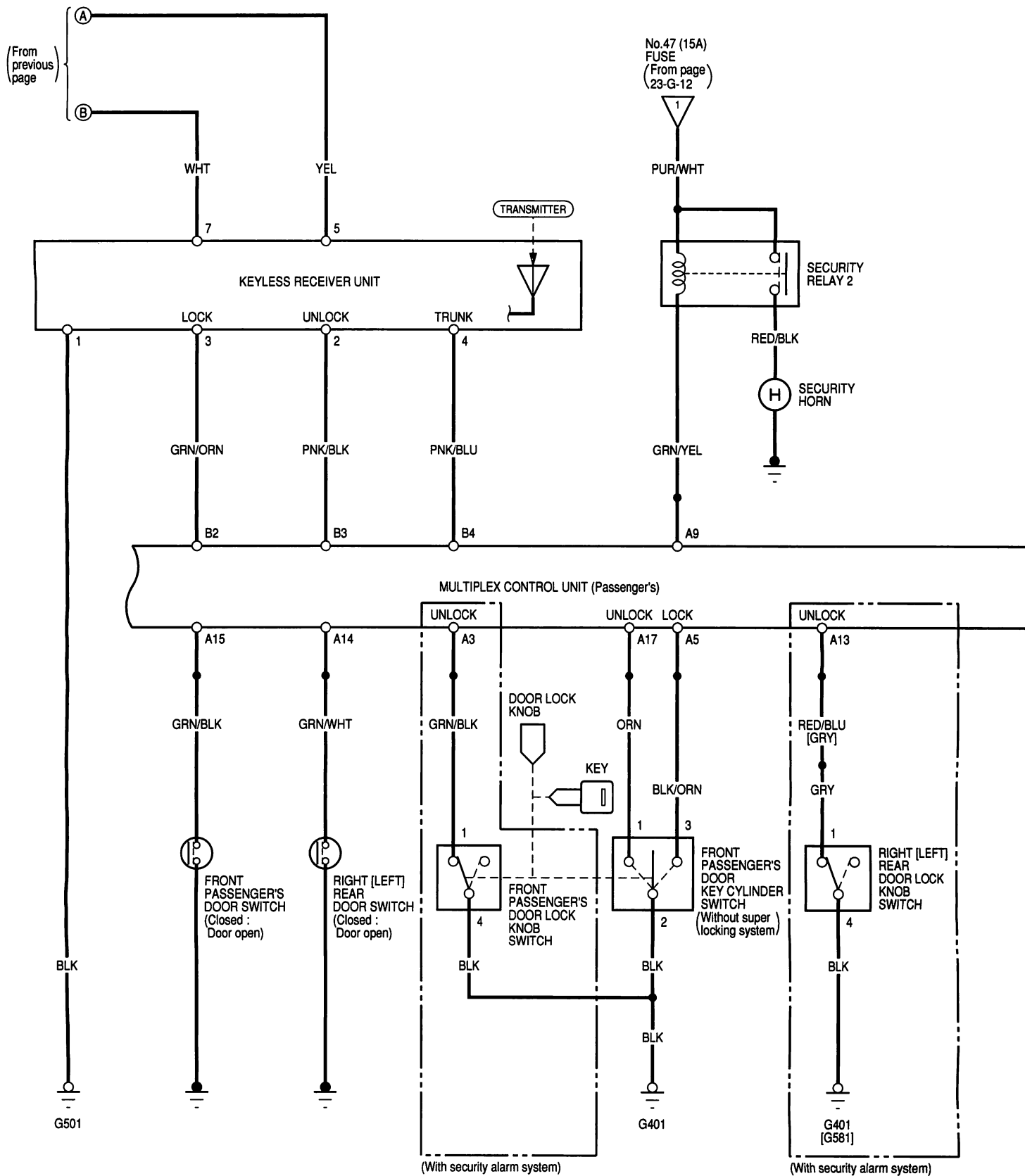




(cont'd)

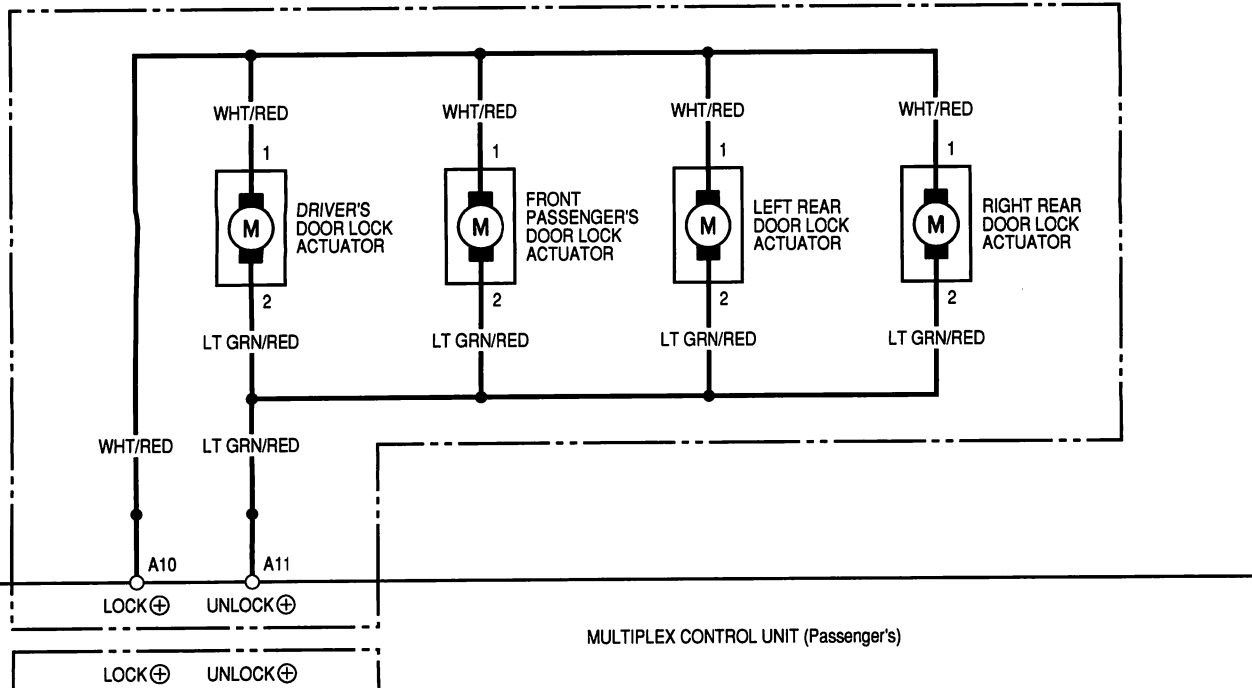
# Keyless Entry/Security Alarm System

## Circuit Diagram (cont'd)

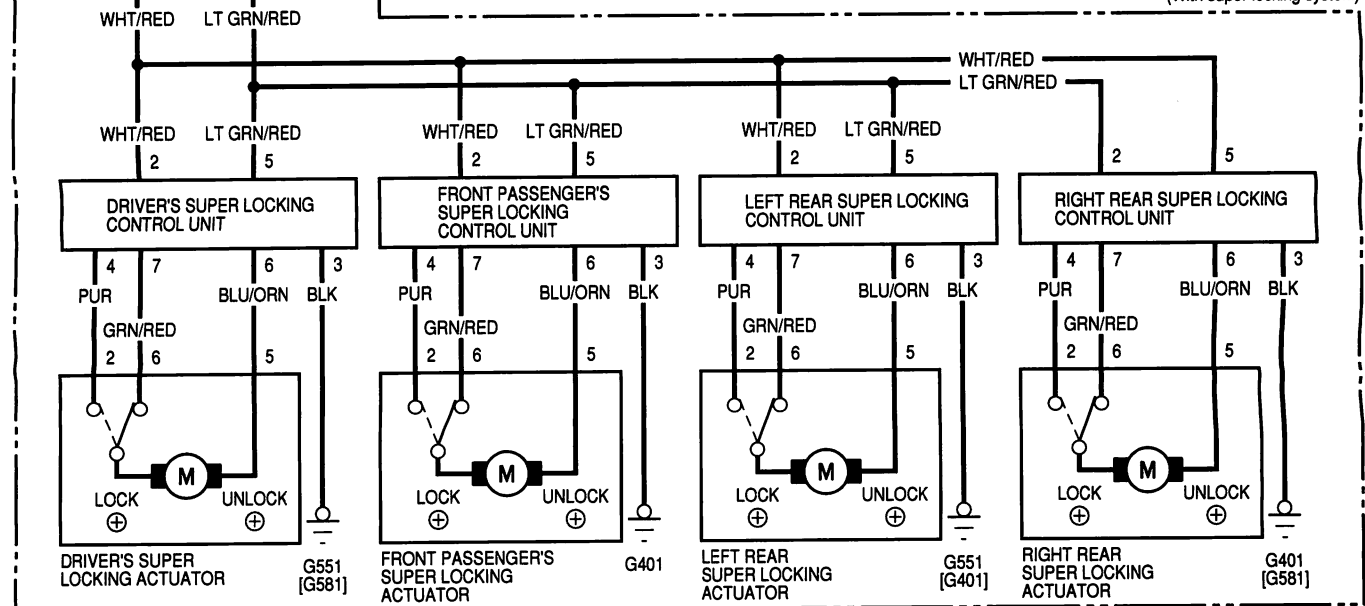


[ ] : RHD type

(Without super locking system)



(With super locking system)

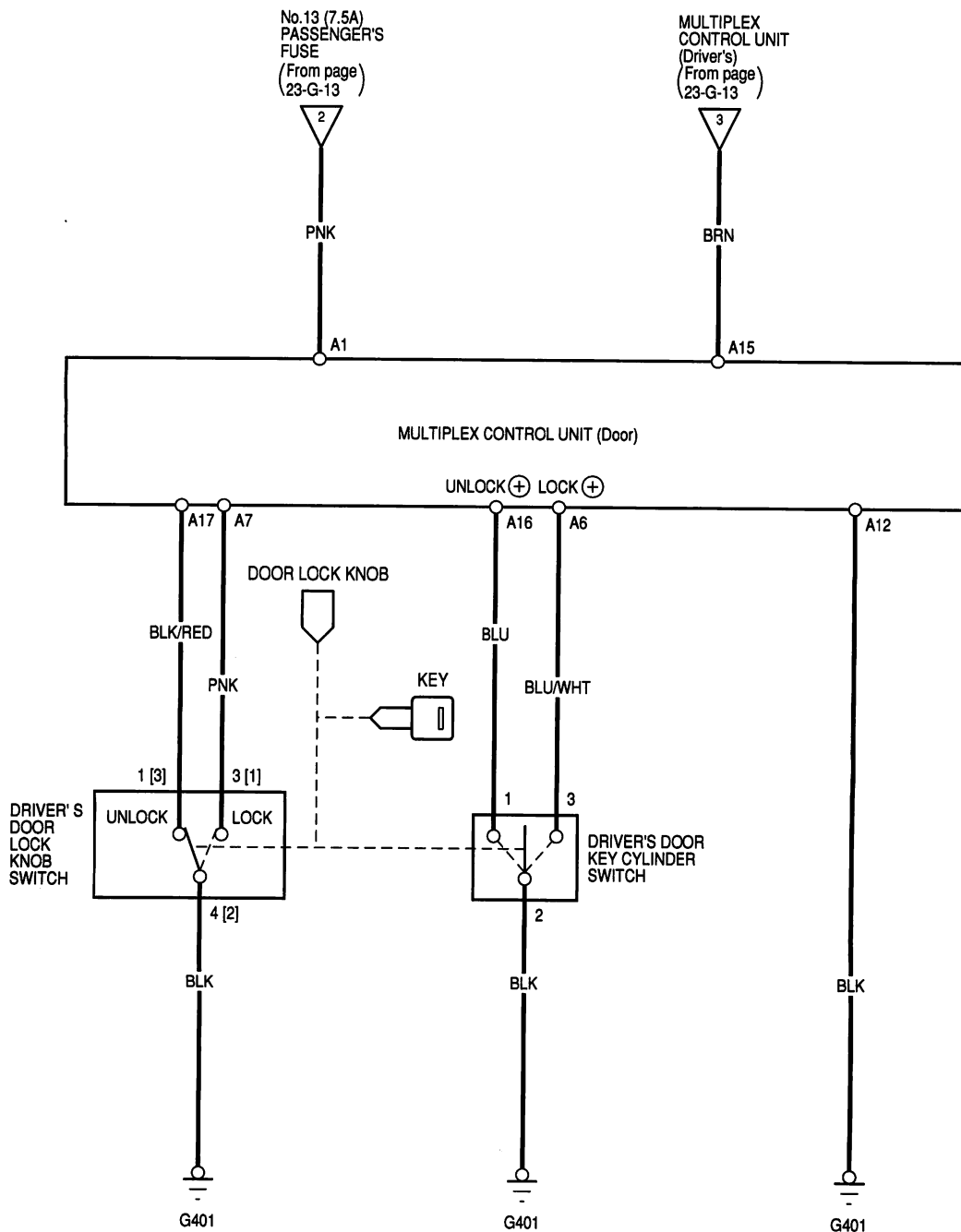


(cont'd)

# Keyless Entry/Security Alarm System

## Circuit Diagram (cont'd)

[ ] : Without super locking system





## System Description

### Security Alarm System

The security alarm system is armed automatically after the doors, hood, and trunk are closed and locked. The security indicator on the driver's door panel flashes after the system is armed.

The system is set off when any of these things occur:

- A door is forced open
- A door is unlocked without using the key or the transmitter
- The trunk lid is opened without using the key or the transmitter
- The hood is opened
- The engine starter circuit and battery circuit are bypassed by breaking the ignition switch

When the system is set off, the alarm (siren) sounds and the exterior lights (headlights, side marker lights, parking lights, and taillights) flash for about two minutes or until the system is disarmed by unlocking either door with the key or the transmitter.

For the system to arm, the ignition switch must be off and the key removed. Then, the keyless/security control unit must receive signals that the doors, hood, and trunk lid are closed and locked. When everything is closed and locked, none of the control unit inputs are grounded. The door switches, hood switch, trunk lid switch, door lock knob switches, and door lock cylinder switches are all open. Fifteen seconds after the doors are locked with the key or the lock knob, or immediately after locking the doors with the remote transmitter, the system arms. If anything is opened or improperly unlocked after the system is armed, the control unit gets a ground signal from that switch, and the system is set off.

If one of the switches is misadjusted or there is a short in the system, the system will not arm. As long as the control unit continues to get a ground signal, it thinks the vehicle is not closed and locked and will not arm.

An alarm that sounds for no apparent reason may have been set off by a switch that is on the threshold of misadjustment. In this case, it may only take a significant change in outside temperature, the vibration of a passing truck, or someone bumping into the vehicle to make the alarm sound.

### Panic Mode

The panic mode allows the security system to be set off by the remote transmitter to attract attention. When you push and hold the PANIC button for about two seconds, the alarm will sound and the exterior lights will flash for about 30 seconds.

To immediately cancel the panic mode, press any button on the remote transmitter, or turn the ignition switch ON (II). The panic mode will not function if the key is in the ignition switch.

### Keyless Entry System

The security alarm system is integrated with the keyless entry system. The keyless entry system allows you to lock and unlock the vehicle with the remote transmitter. When you push the LOCK button, all doors lock. When you push the UNLOCK button once, only the driver's door unlocks. The remaining doors unlock when you push the button a second time.

The ceiling lights, if its switch is in the center position, will come on when you press the UNLOCK button. If you do not open a door, the light will go off in about 30 seconds, the doors will automatically relock, and the security system will rearm. If you relock the doors with the remote transmitter within 30 seconds, the light will go off immediately.

You cannot lock or unlock the doors with the remote transmitter if a door or the trunk or hood is not fully closed, or if the key is in the ignition switch. If a door or the trunk or hood is not closed, the alarm chirps three times to alert you.

To open the trunk, push the Trunk Release button and hold it for about two seconds. The trunk will not open if the key is in the ignition switch.

The system will signal you when the doors lock and unlock by flashing the parking lights, turn signal lights, and taillights: once when they lock, and twice when they unlock. You can program the remote transmitter so the system will also give an audible signal. The alarm will chirp once when you lock the doors and twice when you unlock them. The alarm chirps only the first time you press a transmitter button. Pressing the same button repeatedly does not chirp the alarm again.

# Keyless Entry/Security Alarm System

## Keyless Door Lock System Troubleshooting

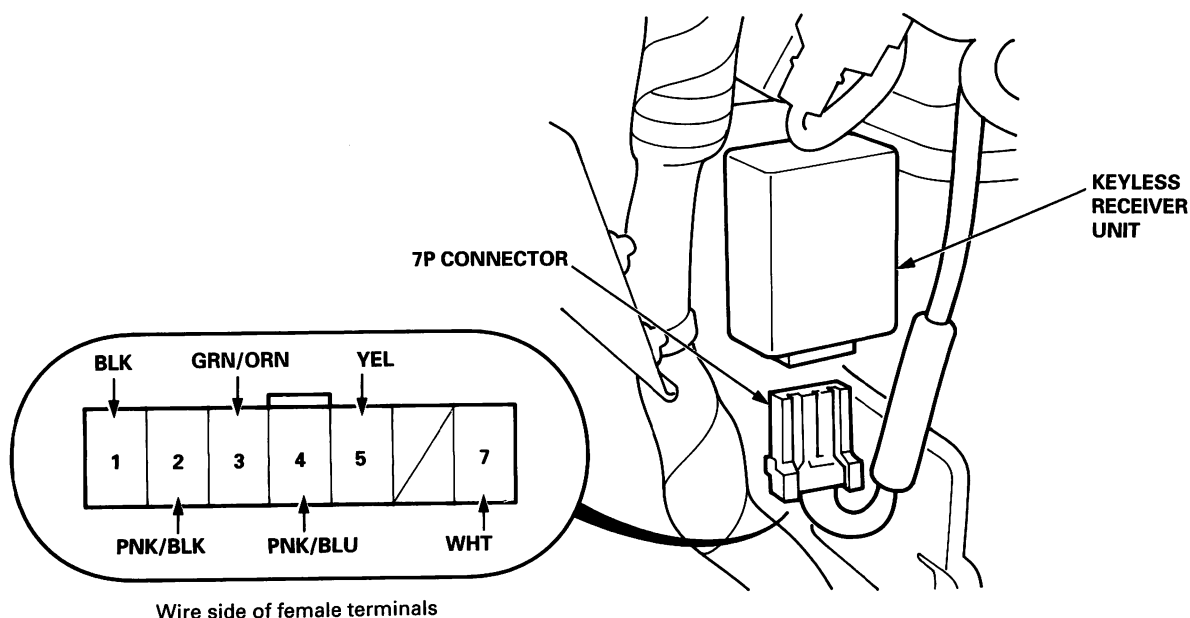
NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

Item to be inspected  Symptom		In the passenger's under-dash fuse/relay box		Driver's door lock knob switch	Ignition key switch	Driver's door switch	Passenger's door switch	Door lock actuator	Driver's door key cylinder switch	Passenger's door key cylinder switch	Control unit input	Super locking control unit (With super locking system)	Transmitter and receiver unit	Disconnected or obstructed door lock rod/linkage	Poor ground	Open circuit in wires, loose or disconnected terminals
		Blown No. 12 (20 A) fuse	Blown No. 13 (7.5 A) fuse													
Power door lock system does not work at all.		1	2								3	4				YEL, WHT/RED, LT GRN/RED
Doors don't lock or unlock with the driver's door lock knob.	All doors			1							2				G401	PNK, BLK/RED
	One door							2			3			1		
Doors don't lock or unlock with the driver's door key.	All doors (*)								1		2				G401	BLK/ORN, ORN
	One door							2			3			1		
Doors don't lock or unlock with the passenger's door key.	All doors									1	2					
	One door							2			3			1	G401	BLU, BLU/WHT
The door will lock when the ignition key is inserted and one of the doors is open.					1	2	3				4				G401	BLU, GRN/BLK, GRN/WHT, GRN, GRN/ORN
The power door lock system works properly but keyless entry system does not work.													1		G501	GRN/ORN, PNK/BLK, PNK/BLU

(\*) If the system is normal, all doors will unlock when the door key is kept in the unlock position (key cylinder switch and door lock knob switch turned ON) for one second or more.

## Keyless Receiver Unit Input Test

1. Remove the glove box (see section 20).
2. Disconnect the 7P connector from the keyless receiver unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>
2	PNK/BLK	Under all conditions	Check for continuity between the terminals No. 2 and [B3], No. 3 and [B2], and No. 4 and [B4]: There should be continuity.	<ul style="list-style-type: none"> <li>• An open in the wire</li> </ul>
3	GRN/ORN			
4	PNK/BLU			
5	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
7	WHT	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (20 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>

[ ]: The terminal numbers of the multiplex control unit (passenger's).



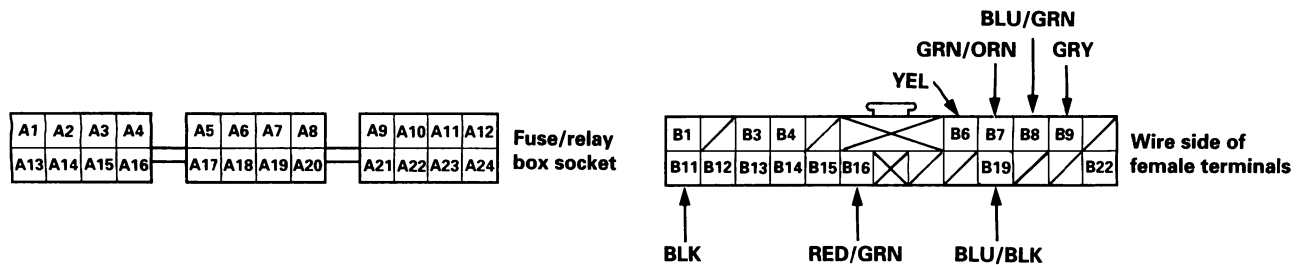
# Keyless Entry/Security Alarm System

## Control Unit Input Test

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Driver's):

1. Remove the driver's under-dash fuse/relay box (see page 23-B-7).
2. Remove the driver's unit from the driver's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector and the fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Disconnect the connectors from the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B11	BLK	Under all conditions	Check for continuity: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G501)</li><li>• An open in the wire</li></ul>
A12	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
A24		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>
A5		Under all conditions	Connect to ground: The security indicator light should come on.	<ul style="list-style-type: none"><li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li><li>• Faulty security indicator light (LED)</li><li>• An open in the wire</li></ul>
A6		Combination light switch ON	Connect to ground: The small lights should come on.	<ul style="list-style-type: none"><li>• Blown No. 59 (15 A) fuse in the under-hood fuse/relay box</li><li>• Faulty combination light switch</li><li>• An open in the wire</li></ul>
B16	BLU/BLK	Under all conditions	Connect to ground: The turn signal lights should come on.	<ul style="list-style-type: none"><li>• Blown No. 49 (10 A) fuse in the under-hood fuse/relay box</li><li>• Faulty security relay 1</li><li>• An open in the wire</li></ul>



Reconnect the connectors to the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A13	Fuse/relay box socket	Ignition key inserted the ignition switch	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty ignition key switch</li><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>
		Ignition key out of the ignition switch	Check for voltage to ground: There should be 5 V or more.	
A16		Driver's door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty driver's door switch</li><li>• An open in the wire</li></ul>
		Driver's door closed	Check for voltage to ground: There should be 5 V or more.	
A17		Left [Right] rear door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty left [right] rear door switch</li><li>• An open in the wire</li></ul>
		Left [Right] rear door closed	Check for voltage to ground: There should be 5 V or more.	
B6	YEL	Hood opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty hood switch</li><li>• Poor ground (G201 [G301])</li><li>• An open in the wire</li></ul>
		Hood closed	Check for voltage to ground: There should be 5 V or more.	
B7	GRN/ORN	Trunk key cylinder switch in lock	Check for voltage to ground: There should be 5 V or more.	<ul style="list-style-type: none"><li>• Faulty trunk key cylinder switch</li><li>• Poor ground (G601)</li><li>• An open in the wire</li></ul>
		Trunk key cylinder switch in unlock	Check for voltage to ground: There should be less than 1 V.	
B8	PUR	Trunk lid opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty trunk latch switch</li><li>• Poor ground (G601)</li><li>• An open in the wire</li></ul>
		Trunk lid closed	Check for voltage to ground: There should be 5 V or more.	
B9	GRY [RED/BLU]	Left [Right] rear door lock knob unlocked	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty left [right] rear super door lock actuator</li><li>• Poor ground (G551)</li><li>• An open in the wire</li></ul>
		Left [Right] rear door lock knob locked	Check for voltage to ground: There should be 5 V or more.	

[ ]: RHD type

(cont'd)

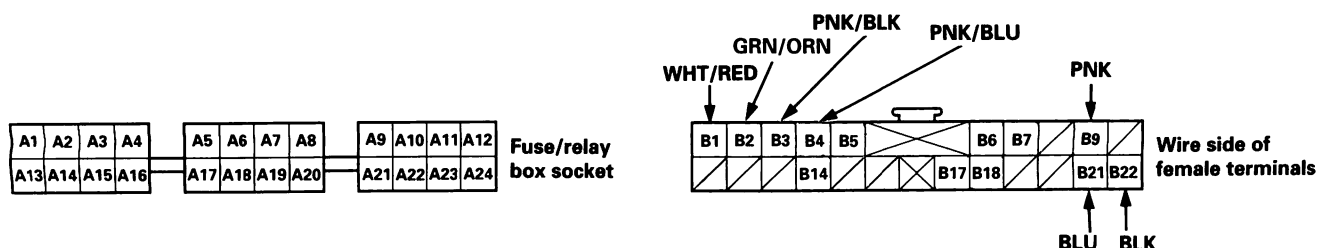
# Keyless Entry/Security Alarm System

## Control Unit Input Test (cont'd)

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

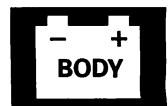
### Multiplex Control Unit (Passenger's):

1. Remove the passenger's under-dash fuse/relay box (see page 23-B-7).
2. Remove the passenger's unit from the passenger's under-dash fuse/relay box.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty; replace it.



Disconnect the connectors from the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A8	Fuse/relay box socket	Under all conditions	Check for continuity: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401)</li> <li>• An open in the wire</li> </ul>
A9		Under all conditions	Connect to ground: The security horn should sound.	<ul style="list-style-type: none"> <li>• Blown No. 47 (15 A) fuse in the under-hood fuse/relay box</li> <li>• Faulty security horn</li> <li>• Faulty security relay 2</li> <li>• An open in the wire</li> </ul>
A21		Ceiling light switch in "middle" position	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 11 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• Blown ceiling light bulb</li> <li>• Faulty ceiling light</li> <li>• An open in the wire</li> </ul>
A22		Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A23		Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 12 (20 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
A24		Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li> <li>• An open in the wire</li> </ul>
B21	BLU	Under all conditions	Check for continuity between B21 terminal and audio unit No. 4 terminal: There should be continuity.	<ul style="list-style-type: none"> <li>• Faulty audio unit</li> <li>• Poor ground (G502)</li> <li>• An open in the wire</li> </ul>
B22	BLK	Under all conditions	Check for continuity: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501)</li> <li>• An open in the wire</li> </ul>



Reconnect the connectors to the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained	
A3	Fuse/relay box socket	Front passenger's door lock knob unlocked	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty front passenger's super locking or door lock actuator (knob switch)</li><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>	
		Front passenger's door lock knob locked	Check for voltage to ground: There should be 5 V or more.		
A5		Front passenger's door lock key cylinder locked	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty front passenger's door lock key cylinder switch</li><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>	
		Front passenger's door lock key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.		
A17		Front passenger's door lock key cylinder unlocked	Check for voltage to ground: There should be less than 1 V.		
		Front passenger's door lock key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.		
A14		Right [Left] rear door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty right [left] rear door switch</li><li>• An open in the wire</li></ul>	
		Right [Left] rear door closed	Check for voltage to ground: There should be 5 V or more.		
A15		Front passenger's door opened	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty front passenger's door switch</li><li>• An open in the wire</li></ul>	
		Front passenger's door closed	Check for voltage to ground: There should be 5 V or more.		
A13		Right [Left] rear door lock knob unlock	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"><li>• Faulty right [left] super locking actuator (knob switch)</li><li>• Poor ground (G401 [G581])</li><li>• An open in the wire</li></ul>	
		Right [Left] rear door lock knob lock	Check for voltage to ground: There should be 5 V or more.		
A10		Connect the A10 terminal to the A23 terminal, and the A11 terminal to the B22 terminal momentarily.	Check door lock operation: All doors should lock.	<ul style="list-style-type: none"><li>• Blown No. 12 (20 A) fuse in the passenger's under-dash fuse/relay box</li><li>• Faulty actuator</li><li>• Faulty super locking control unit (with super locking system)</li><li>• An open in the wire</li></ul>	
A11					
B1	WHT/RED	Connect the B1 terminal to the A24 terminal momentarily.	Check trunk lock actuator operation: Trunk lid should open.	<ul style="list-style-type: none"><li>• Faulty trunk lock actuator solenoid</li><li>• Poor ground (G601)</li><li>• An open in the wire</li></ul>	

[ ]: RHD type

(cont'd)

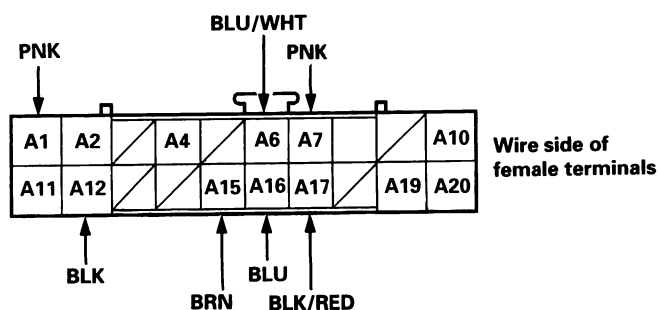
# Keyless Entry/Security Alarm System

## Control Unit Input Test (cont'd)

NOTE: Before testing, go to the Multiplex Control System Troubleshooting Guide (see page 23-E-6).

### Multiplex Control Unit (Door):

1. Remove the driver's door panel, and disconnect the 20P connector from the door unit (see page 23-B-7).
2. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the power window master switch must be faulty: replace it.



Disconnect the connectors from the unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A12	BLK	Under all conditions	Check for continuity: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G401)</li><li>• An open in the wire</li></ul>
A1	PNK	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 13 (7.5 A) fuse in the passenger's under-dash fuse/relay box</li><li>• An open in the wire</li></ul>



Reconnect the connectors to the unit.

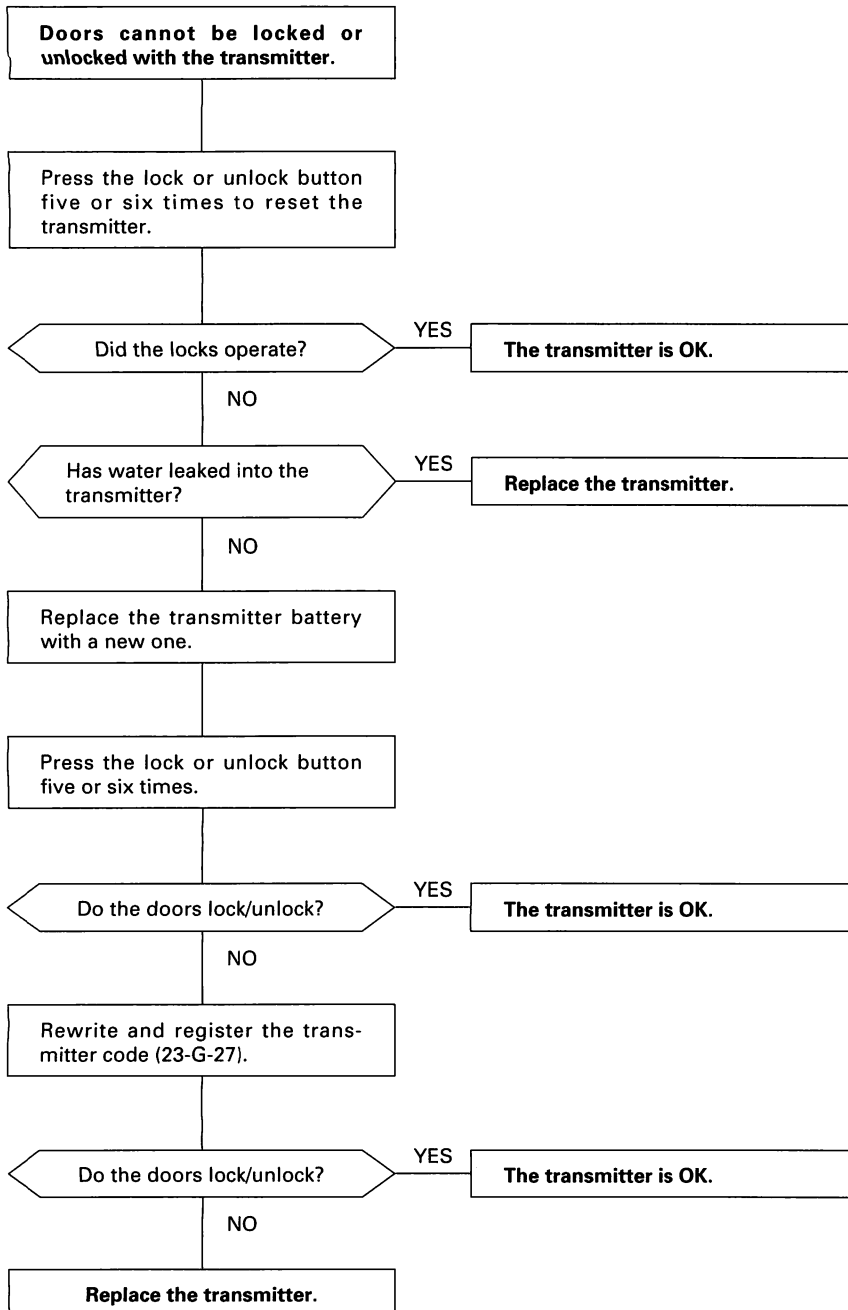
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A6	BLU/WHT	Driver's door key cylinder switch in LOCK	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>Faulty driver's door key cylinder switch</li> <li>Poor ground (G401)</li> <li>An open in the wire</li> </ul>
		Driver's door key cylinder switch in neutral	Check for voltage to ground: There should be 5 V or more.	
A16	BLU	Driver's door key cylinder switch in UNLOCK	Check for voltage to ground: There should be less than 1 V.	
		Driver's door key cylinder switch in neutral	Check for voltage to ground: There should be 5 V or more.	
A7	PNK	Driver's door lock knob locked	Check for voltage to ground: There should be less than 1 V.	<ul style="list-style-type: none"> <li>Faulty driver's super locking or door lock actuator (knob switch)</li> <li>Poor ground (G401)</li> <li>An open in the wire</li> </ul>
		Driver's door lock knob unlocked	Check for voltage to ground: There should be 5 V or more.	
A17	BLK/RED	Driver's door lock knob unlocked	Check for voltage to ground: There should be less than 1 V.	
		Driver's door lock knob locked	Check for voltage to ground: There should be 5 V or more.	

# Keyless Entry/Security Alarm System

## Transmitter Test

### NOTE:

- If the doors unlock or lock with the transmitter, but the LED on the transmitter does not come on, the LED is faulty; replace the transmitter.
- If any door is open, you cannot lock or unlock the door with the transmitter.
- If you unlocked the doors with the transmitter, but do not open any of the doors within 30 seconds, the doors relock automatically.
- The doors do not lock or unlock with the transmitter if the ignition key is inserted in the ignition switch.





## Keyless Transmitter Codes Input Procedure

Storing transmitter codes:

The codes of up to three transmitters can be read into the keyless receiver unit memory.  
(If a fourth code is stored, the code which was input first will be erased.)

NOTE: It is important to maintain the time limits between the steps.

1. Turn the ignition switch ON (II).
2. Within 1 to 4 sec, push the transmitter lock or unlock button with the transmitter aimed at the receiver.
3. Within 1 to 4 sec, turn the ignition switch OFF.
4. Within 1 to 4 sec, go to step 5.

5. Repeat step 1.
6. Repeat step 2.
7. Repeat step 3.
8. Within 4 sec, go to step 9.

9. Repeat step 1.
10. Repeat step 2.
11. Repeat step 3.
12. Within 4 sec, go to step 13.

13. Repeat step 1.
14. Repeat step 2.
15. Confirm you can hear the sound of the door lock actuators.

16. Within 9 sec, go to step 17 through 22.
17. Aim the (first) transmitter whose code you want to store at the receiver, and press the transmitter button.
18. Repeat step 15.
19. Aim the (second) transmitter whose code you want to store at the receiver, and press the transmitter button.
20. Repeat step 15.
21. Aim the (third) transmitter whose code you want to store at the receiver, and press the transmitter button.
22. Repeat step 15.

NOTE:

- If only one transmitter code is to be stored, repeat step 17 through 18 three times.
- If only two transmitter codes are to be stored, perform step 17 through 18 one time by the first transmitter, and then repeat step 19 through 20 twice by second transmitter.  
Delete steps 21 and 22.
- If new another (forth) transmitter code is to be stored, go back to step 1 and perform the procedure.  
The codes that can be read into the keyless receiver unit memory are the latest three transmitter codes.

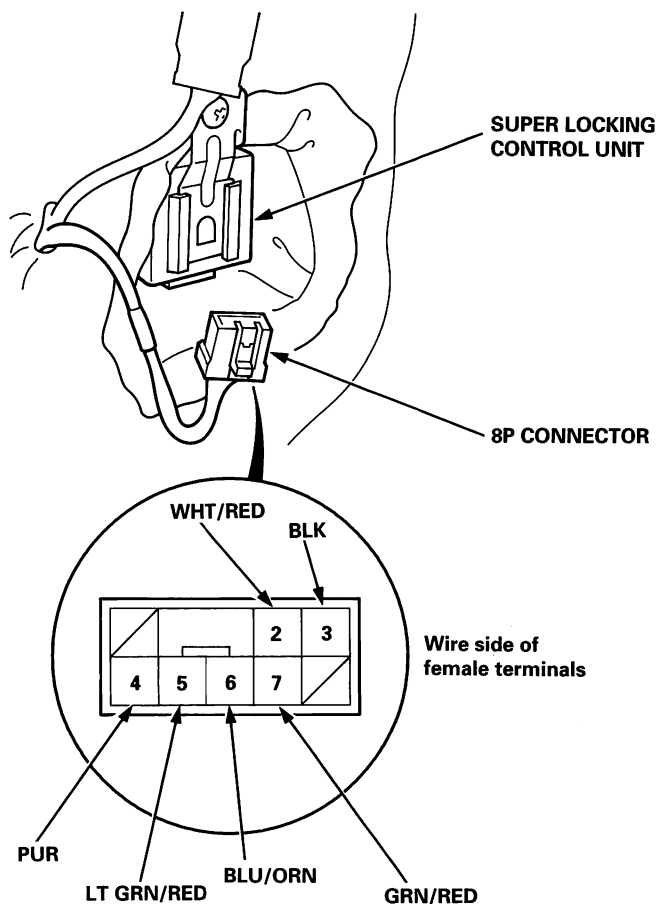
23. Turn the ignition switch OFF, and pull out the key.
24. Confirm proper operation with the new code(s).



# Keyless Entry/Security Alarm System

## Super Locking Control Unit Input Test

1. Remove the each door panel (see section 20).
2. Disconnect the 8P connector from the super locking control unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
  - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
  - If the terminals look OK, make the following input tests at the connector.
    - If a test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, the control unit must be faulty, replace it.





Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
3	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground G401, G551 [G401, G581]</li> <li>• An open in the wire</li> </ul>
2 and 7	WHT/RED and GRN/RED	Connect the No. 2 terminal to the No. 7 terminal and the No. 6 terminal to the No. 3 terminal momentarily with ignition switch ON (II)	Check door lock operation: The actuator should run (lock).	<ul style="list-style-type: none"> <li>• Faulty door lock actuator</li> <li>• An open in the wire</li> </ul>
5 and 6	LT GRN/RED and BLU/ORN	Connect the No. 5 terminal to the No. 6 terminal and the No. 7 terminal to the No. 3 terminal momentarily with ignition switch ON (II)	Check door lock operation: The actuator should run (unlock).	<ul style="list-style-type: none"> <li>• Faulty door lock actuator</li> <li>• An open in the wire</li> </ul>
4	PUR	Under all condition	Check for continuity between the No. 4 terminal and No. 7 terminal of the actuator: There should be continuity.	<ul style="list-style-type: none"> <li>• An open in the wire</li> </ul>

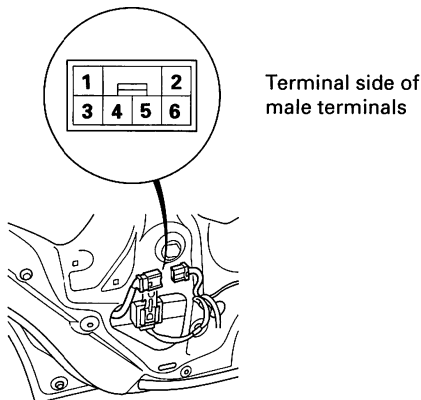
[ ]: RHD type

# Keyless Entry/Security Alarm System

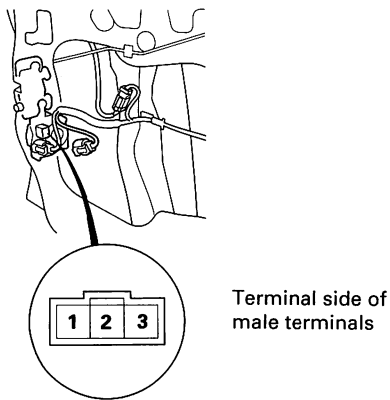
## Driver's Door Lock Knob Switch Test

- 1. Remove the driver's door panel (see section 20).
- 2. Disconnect the 6P [3P] connector from the actuator.

With super locking system:



Without super locking system:



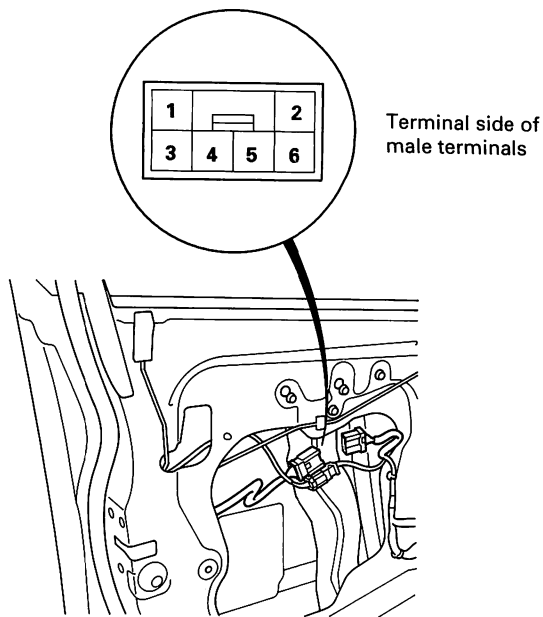
- 3. Check for continuity between the terminals in each knob switch position according to the table.

Terminal Position	1 [3]	3 [1]	4 [2]
LOCK		○ — ○	○ — ○
UNLOCK	○ —		○ —

[ ]: Without super locking system

## Passenger's Door Lock Knob Switch Test (With Super Locking System)

- 1. Remove the passenger's door panel (see section 20).
- 2. Disconnect the 6P connector from the actuator.

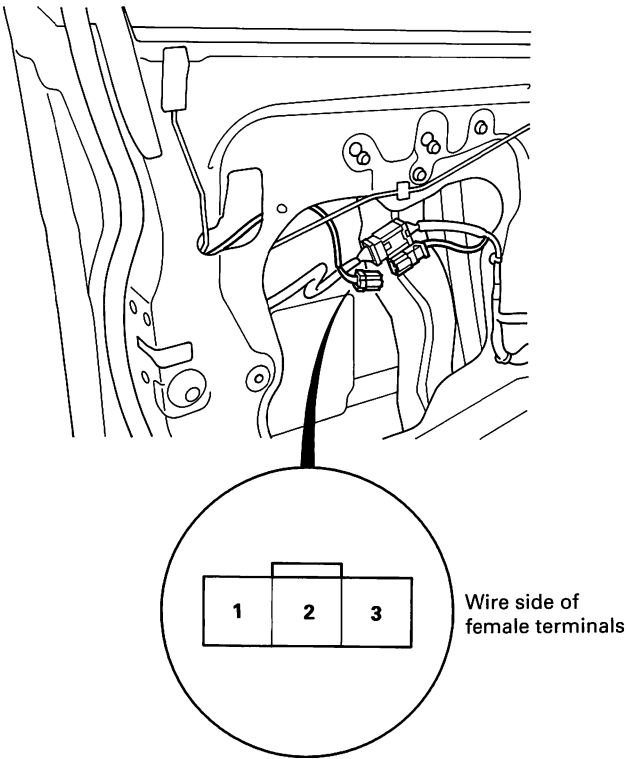


- 3. Check for continuity between the terminals in each knob switch position according to the table.

Terminal Position	1	4
LOCK		
UNLOCK	○ —	○ —

Door Key Cylinder Switch Test

1. Remove the door panel (see section 20).
2. Disconnect the 3P connector from the key cylinder switch.

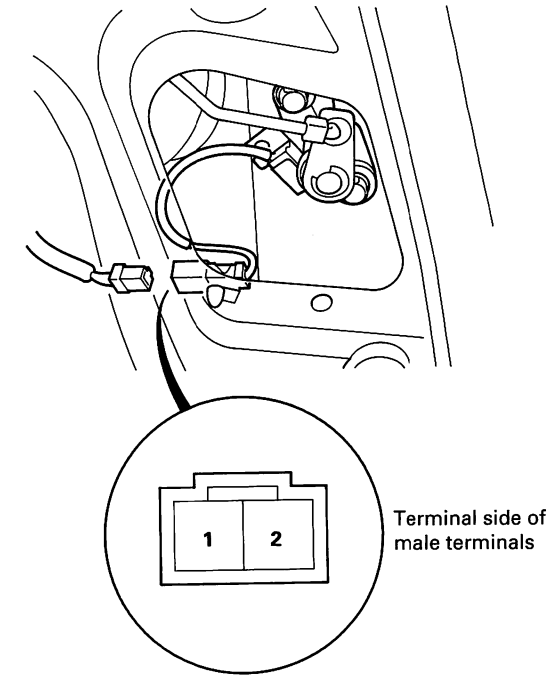


3. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	1	2	3
LOCK		○ — ○	
OFF			
UNLOCK	○ — ○		

Trunk Key Cylinder Switch Test

1. Open the trunk lid.
2. Disconnect the 2P connector from the trunk key cylinder switch.



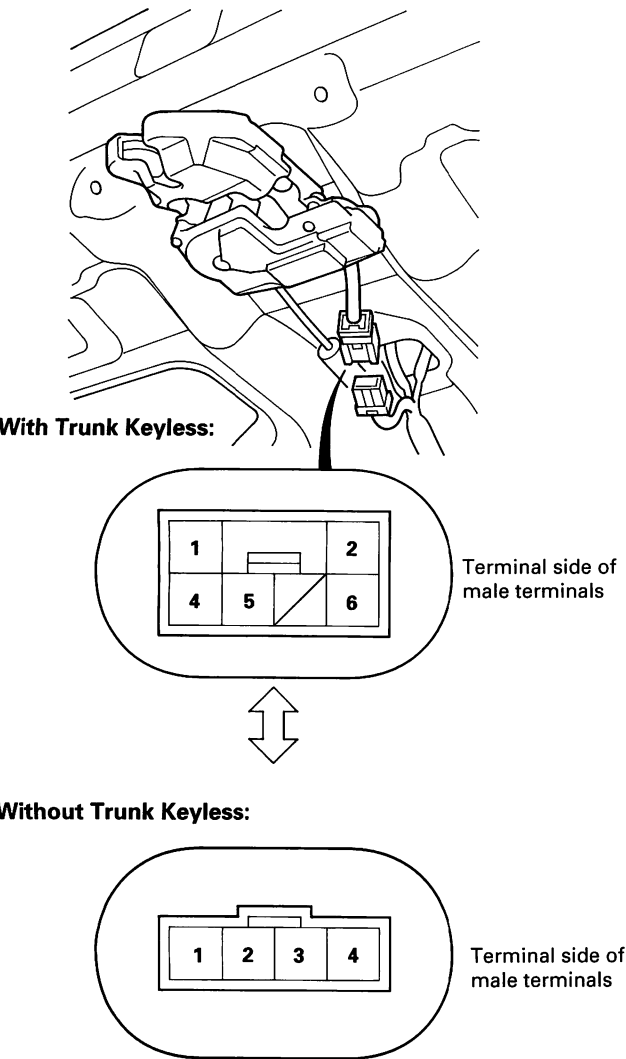
3. Check for continuity between terminals in each switch position according to the table.

Terminal Position	1	2
LOCK		
UNLOCK	○ — ○	

# Keyless Entry/Security Alarm System

## Trunk Latch Switch Test

- 1. Open the trunk lid.
- 2. Disconnect the 6P [4P] connector from the trunk latch.



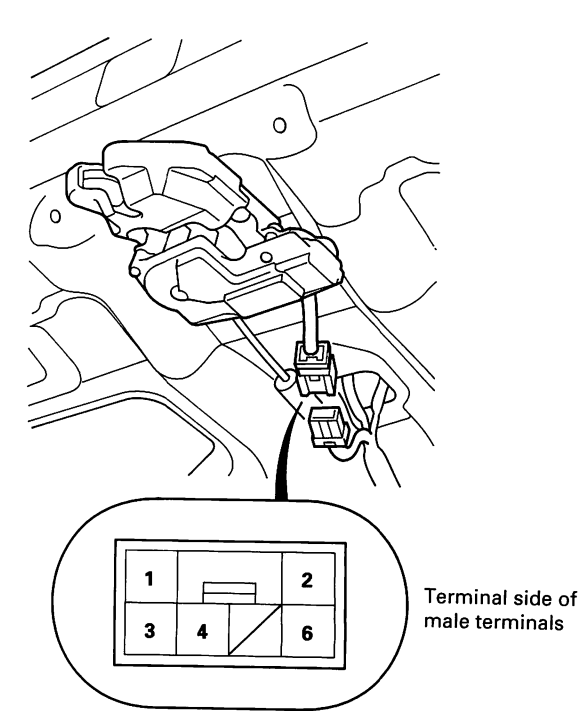
- 3. Check for continuity between the terminals in each trunk lid position according to the table.

Terminal Position	2 [3]	6 [4]
Opened		
Closed		

[ ] : Without trunk keyless

## Trunk Lock Actuator Test

- 1. Open the trunk lid.
- 2. Disconnect the 6P connector from the trunk latch.

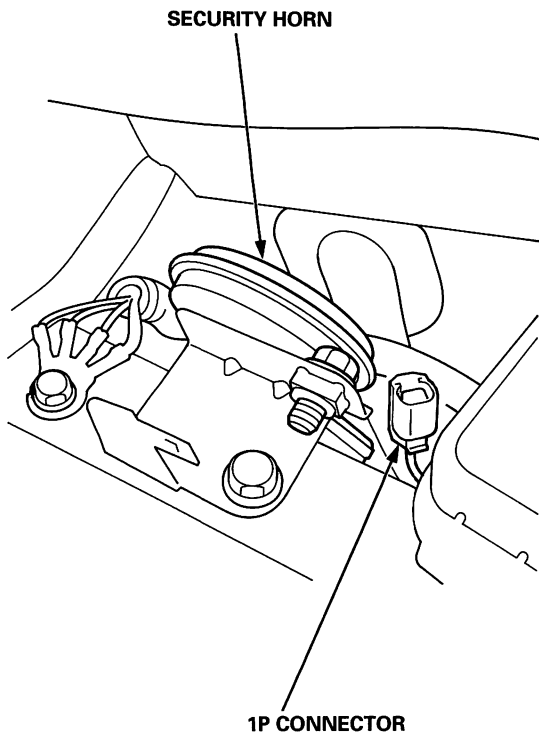


- 3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

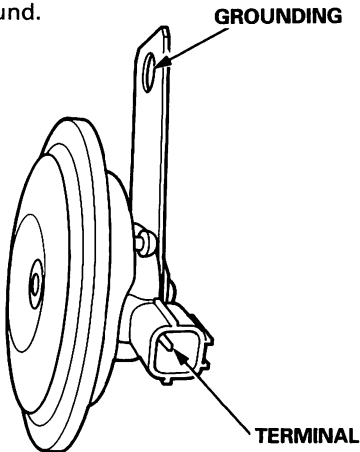
Terminal Position	3	4
UNLOCK	⊕	⊖

# Security Horn Test

1. Open the hood.
2. Disconnect the 1P connector, and remove the horn.



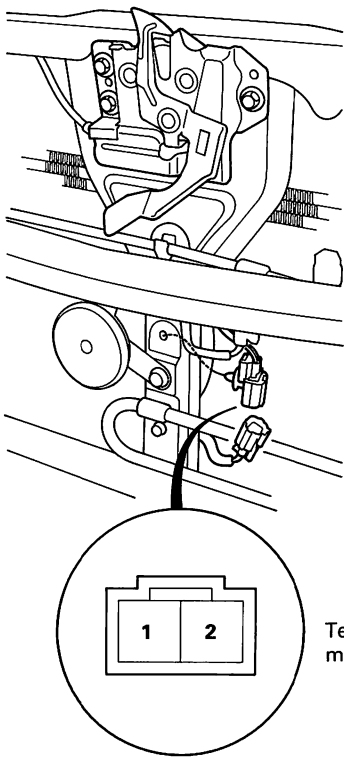
3. Disconnect the 1P connector, and remove the horn.
4. Test the horn by connecting battery power to the terminal and grounding the bracket. The horn should sound.



5. If it fails to sound, replace it.

# Hood Switch Test

1. Open the hood.
2. Disconnect the 2P connector from the hood switch.



3. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	2
Position		
Hood open (Lever released)	○	○
Hood closed (Lever pushed down)		

## Navigation System

### Description

<b>Overview .....</b>	<b>23-H-2</b>
<b>Navigation Function .....</b>	<b>23-H-3</b>
<b>Circuit Diagram .....</b>	<b>23-H-8</b>
<b>Connector locations .....</b>	<b>23-H-10</b>
<b>Terminal Arrangement .....</b>	<b>23-H-11</b>
<b>Troubleshooting Precautions .....</b>	<b>23-H-14</b>
<b>Troubleshooting Guide .....</b>	<b>23-H-17</b>
<b>Picture Diagnosis .....</b>	<b>23-H-18</b>
<b>Troubleshooting .....</b>	<b>23-H-28</b>

### CD-ROM

<b>Replacement .....</b>	<b>23-H-32</b>
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### Navigation Unit

<b>Removal/Installation .....</b>	<b>23-H-33</b>
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### Display Unit/Audio Unit

<b>Removal/Installation .....</b>	<b>23-H-34</b>
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### GPS Antenna

<b>Removal/Installation .....</b>	<b>23-H-35</b>
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# Description

## Overview

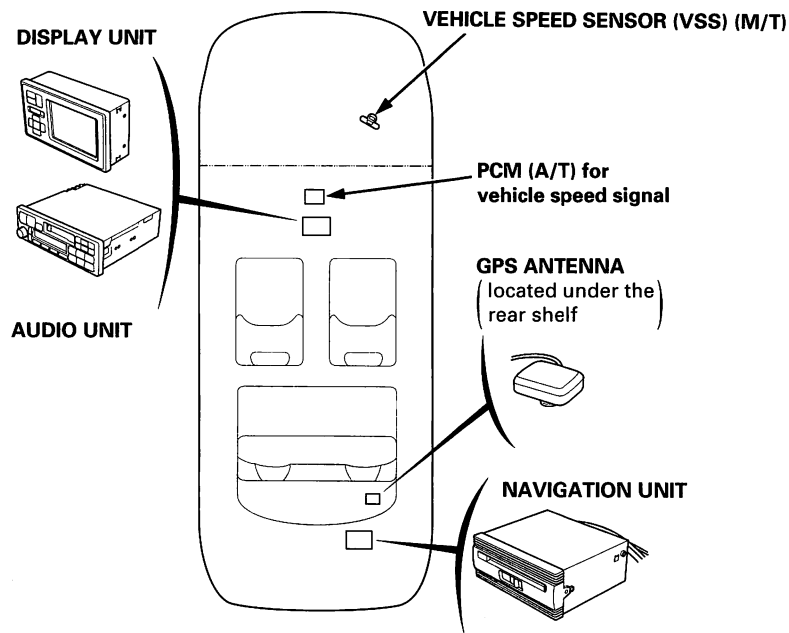
The Honda Navigation System is a highly-sophisticated, hybrid locating system that uses satellites and a map database to show you where you are and to help guide you to a desired destination.

The Navigation System receives signals from the Global Positioning System (GPS), a network of 24 satellites in orbit around the earth. By receiving signals from several of these satellites, the Navigation System can determine the latitude and longitude of the vehicle. In addition, signals from the system's yaw rate sensor and the vehicle speed sensor (VSS) enable the system to keep track of the vehicle's direction and speed of travel.

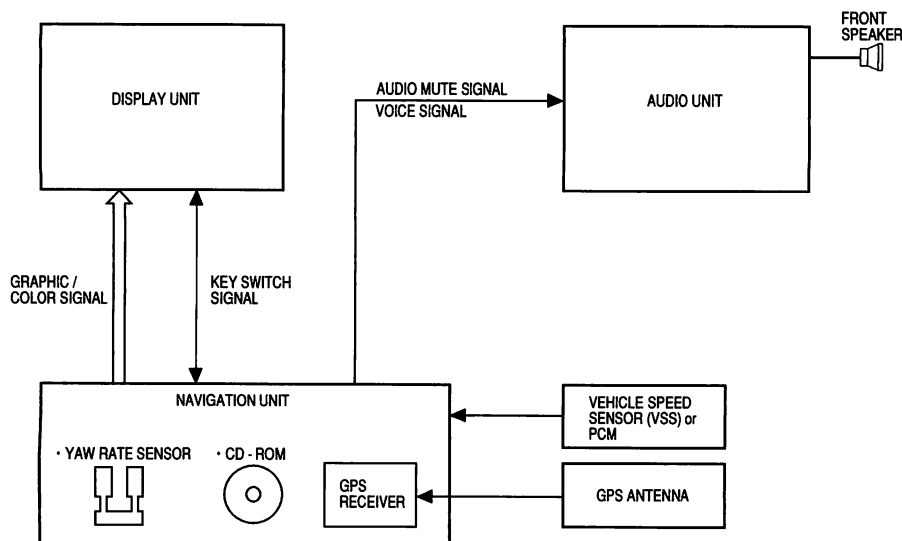
This hybrid system has advantages over a system that is either entirely self-contained or one that relies totally on the GPS. For example, the self-contained portion of the system can keep track of vehicle position even when satellite signals cannot be received, and the GPS can keep track of the vehicle position even when the vehicle is transported by ferry.

The Navigation System applies all this location, direction, and speed information to the maps and calculates a route to the destination entered. As you drive to that destination, the system provides both visual and voice guidance.

## Component Locations



## System Diagram

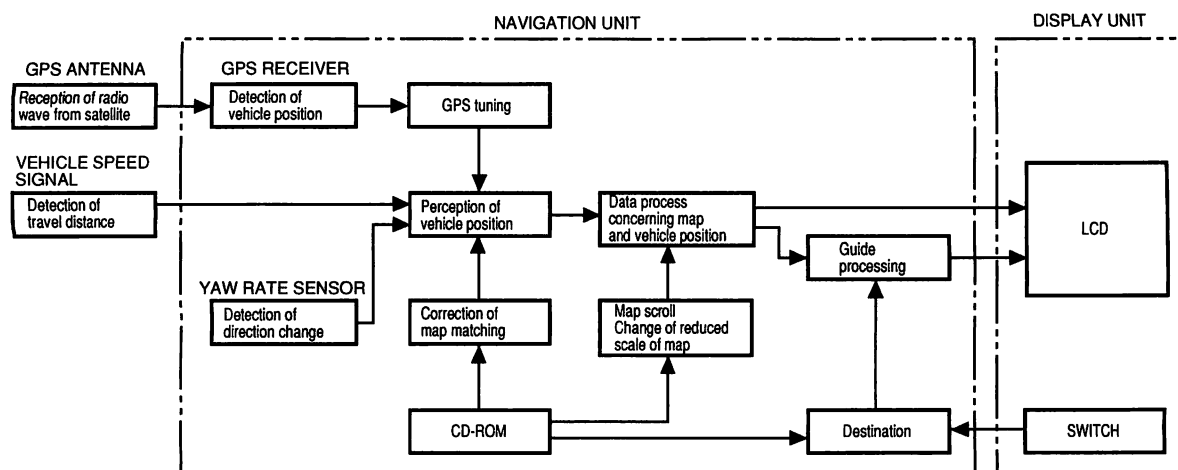




## Navigation Function

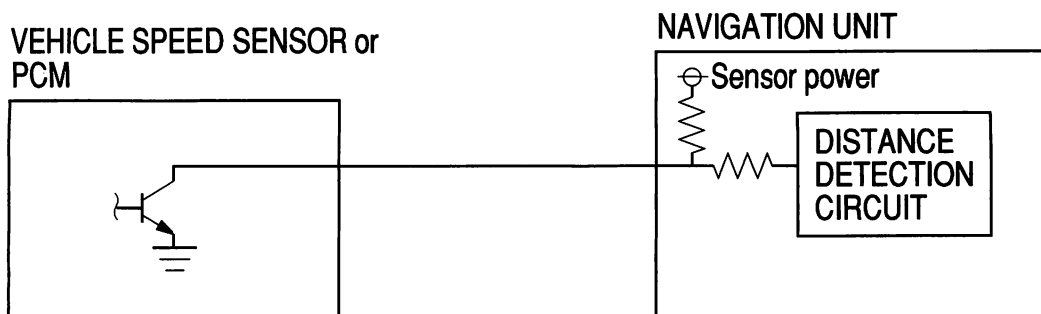
The navigation system is composed of the navigation unit, the vehicle speed sensor (M/T), PCM (A/T), the GPS antenna, and the display unit.

### Function Diagram



### Vehicle Speed Signal

The vehicle speed signal is shared with the speedometer and other systems. The vehicle speed signal is outputted by the vehicle speed sensor (M/T) or PCM (A/T). The vehicle speed sensor is driven by the differential gear. For every revolution of the sensor, a four-pulse signal is sent to the navigation unit. The PCM receives the signal which is outputted by the counter shaft speed sensor, then the PCM process the signal and transmit the signal to the speedometer and other system.



(cont'd)

# Description

## Navigation Function (cont'd)

### Yaw Rate Sensor

The yaw rate sensor detects the direction change (angular speed) of the vehicle. The sensor is an oscillation gyro built into the navigation unit.

### Sensor Element Structure

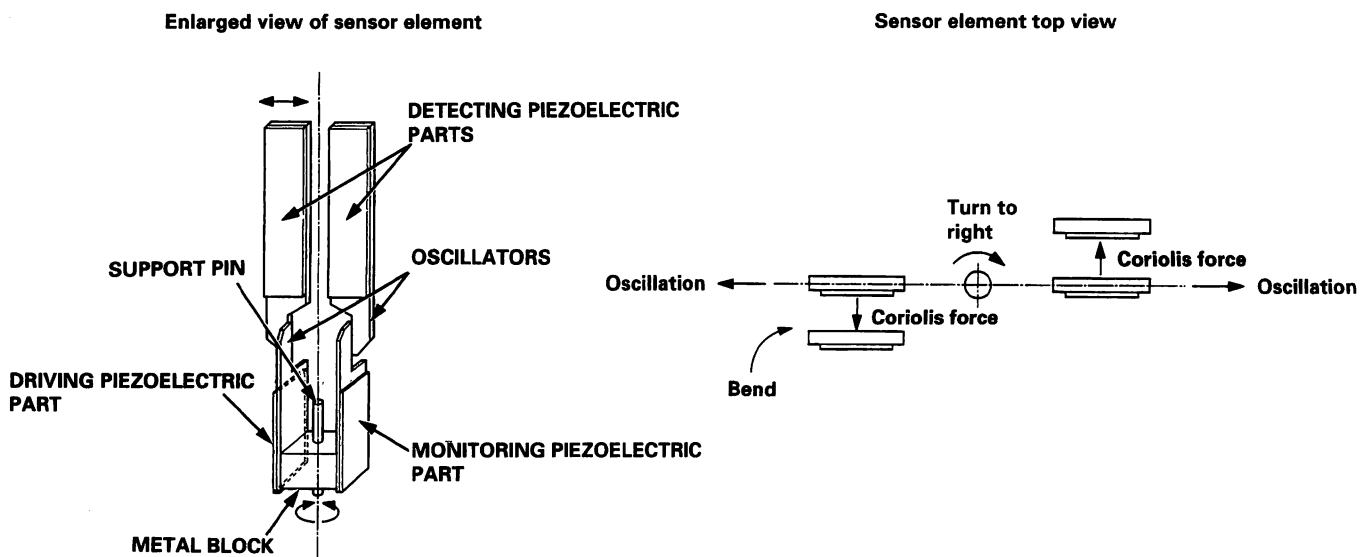
The sensor element is shaped like a tuning fork, and it consists of the piezoelectric parts, the oscillators, the metal block, and the support pin. There are four piezoelectric parts: one to drive the oscillators, one for monitoring that maintains the oscillation at a regular frequency, and two to detect angular velocity. The two oscillators have a 90 degree twist in the center, are connected at the bottom by the metal block, and supported by the support pin. A detecting piezoelectric part is attached to the top of each oscillator. The driving piezoelectric part is attached to the bottom of one oscillator, and the monitoring piezoelectric part is attached to the bottom of the other oscillator.

### Oscillation Gyro Principles

The piezoelectric parts have "electric/mechanical transfer characteristics". The piezoelectric parts bend vertically when voltage is applied to both sides of the parts, and voltage is generated between both sides of the piezoelectric parts when they are bent by an external force. The oscillation gyro functions by utilizing this characteristic of the piezoelectric parts and "Coriolis force." (Coriolis force deflects moving objects as a result of the earth's rotation.) In the oscillation gyro, this force moves the sensor element when the angular velocity is applied.

### Operation

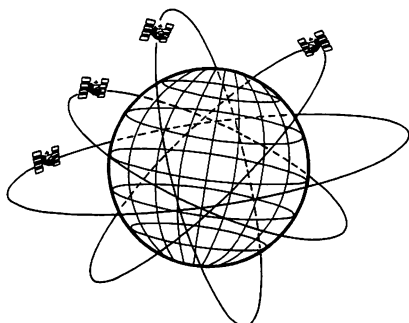
1. The driving piezoelectric part oscillates the oscillator by repeatedly bending and returning when an AC voltage at 6 kHz is applied to the part. The monitoring-side oscillator resonates because it is connected to the driving-side oscillator by the metal block.
2. The monitoring piezoelectric parts bends in proportion to the oscillation and outputs voltage (the monitor signal). The navigation unit control circuit controls the drive signal to stabilize the monitor signal.
3. When the vehicle is stopped, the detecting piezoelectric parts oscillate right and left with the oscillators, but no signal is output because the parts are not bent (no angular force).
4. When the vehicle turns to the right, the sensor element moves in a circular motion with the right oscillator bending forward and the left oscillator bending rearward. The amount of forward/rearward bend varies according to the angular velocity of the vehicle.
5. The detecting piezoelectric parts output voltage (the yaw rate signal) according to the amount of bend. The amount of vehicle direction change is determined by measuring this voltage.



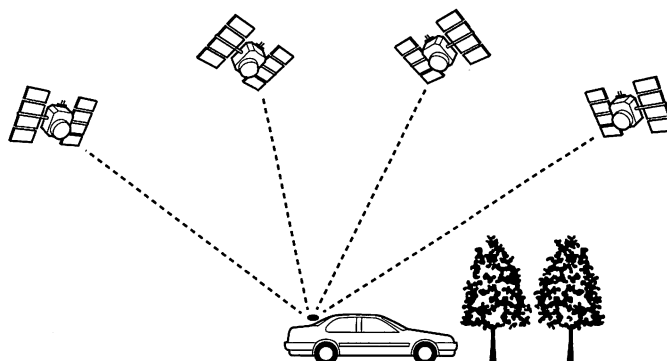
### Global Positioning System (GPS)

The Global Positioning System (GPS) enables the navigation system to determine the current position of the vehicle by utilizing the electric waves transmitted from the satellites in orbit around the earth. The satellites transmit the satellite identification signal, orbit information, transmission time signal, and other information. When the GPS receiver receives the electric waves from three or more satellites simultaneously, it calculates the current position of the vehicle based on the distance to each satellite and the satellite positions on their respective orbits.

#### Position detection image with GPS satellite



NOTE: Four satellites on each of six orbits.



### Precision of GPS

The precision of the GPS varies according to the number of satellites from which electric waves are received and the control condition. The receiving condition is indicated on the DSC menu.

### GPS Antenna

Receiving the electric waves from the satellites, the GPS antenna amplifies and transmits them to the GPS receiver.

### GPS Receiver

The GPS receiver is built in the navigation unit. It calculates the vehicle position by receiving the signal from the GPS antenna. The vehicle position and signal reception condition is transmitted from the GPS receiver to the navigation control part for tuning of the vehicle position.

(cont'd)

# Description

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## Navigation Function (cont'd)

### Navigation Unit

The navigation unit calculates the vehicle position and guides you to the destination. The unit performs map matching correction, GPS correction, and distance tuning. It also controls the menu functions and the CD-ROM drive. With control of all these items, the navigation unit makes the navigation graphic signal, then it transmits the signal to the display unit and audio driving instructions to the audio unit.

### Calculation of Vehicle Position

The navigation unit calculates the vehicle position (the driving direction and the current position) by receiving the directional change signals from the yaw rate sensor and the travel distance signals from the vehicle speed sensor or PCM.

### Map Matching Tuning

The map matching tuning is accomplished by indicating the vehicle position on the roads on the map. The map data transmitted from the CD-ROM is checked against the vehicle position data, and the vehicle position is indicated on the nearest road. Map matching tuning does not occur when the vehicle travels on a road not shown on the map or when the vehicle position is far away from a road on the map.

### GPS Tuning

The GPS tuning is accomplished by indicating the vehicle position as the GPS's vehicle position. The navigation unit compares its calculated vehicle position data with the GPS vehicle position data. If there is a large difference between the two, the indicated vehicle position is adjusted to the GPS vehicle position.

### Distance Tuning

The distance tuning reduces the difference between the travel distance signal from the vehicle speed signal and the distance data on the map. The distance tuning is performed by setting the vehicle type and the tire size on the picture diagnosis.

### Route Guidance

The navigation unit can calculate different routes to a selected destination.

### Voice Guidance

The navigation unit transmits voice driving instructions before entering an intersection or passing a junction. The audio instructions come through audio unit and the front speakers.

### CD-ROM

The map data (including all scale rates) is stored in the CD-ROM. The map data includes:

- Road data and guidance voice data for route guidance
- System program
- Latitude and longitude for GPS

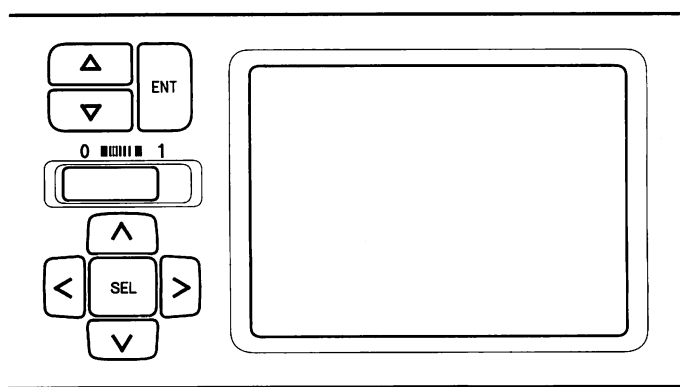
### Audio Unit

The audio unit receives the voice driving instructions from the navigation unit and transmits the instructions through the front speakers even when the audio system is in use.

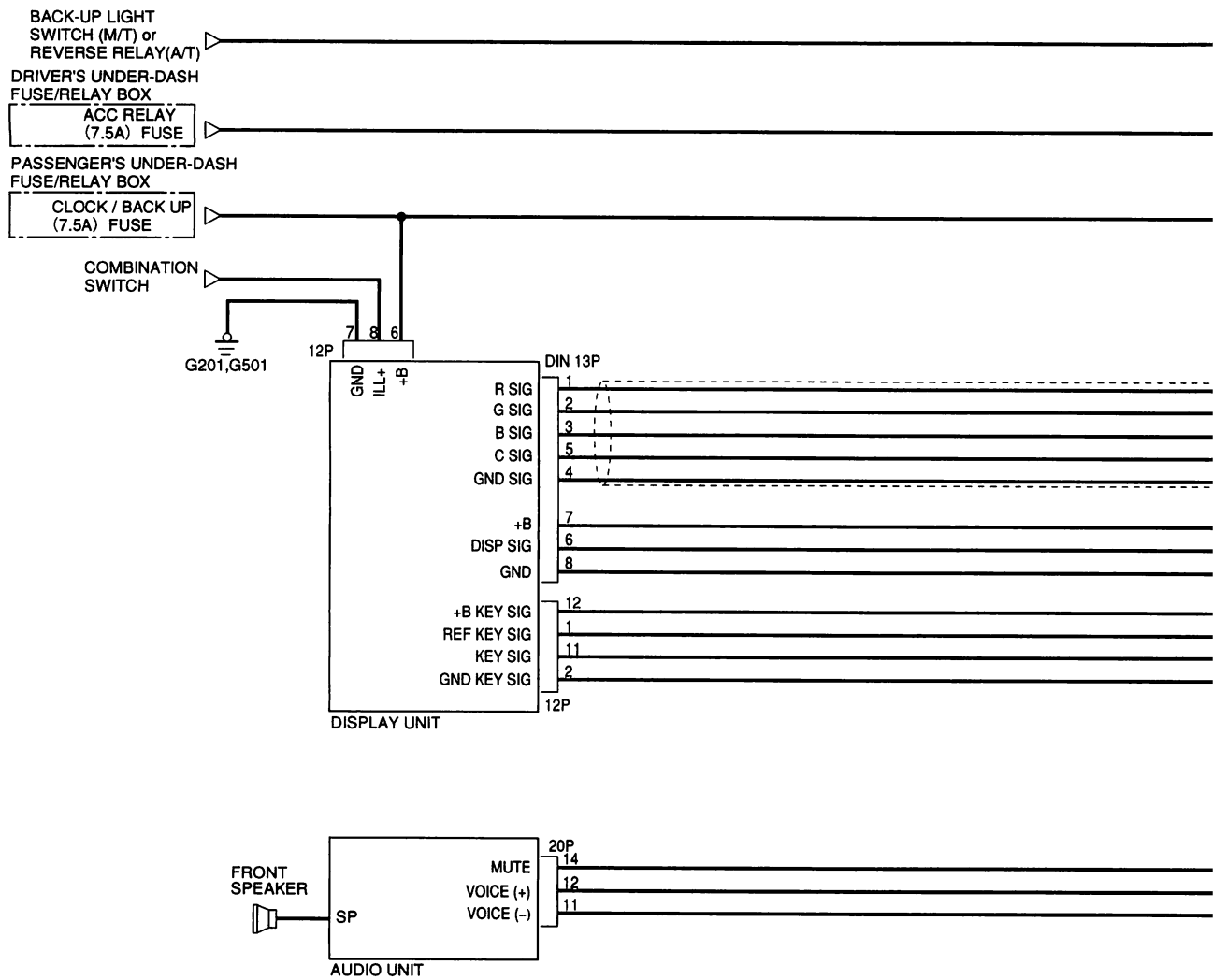
### Display Unit

The display unit uses a liquid crystal display (LCD). The LCD is a five-inch-size, Thin Film Transistor (TFT), stripe type. The color film and fluorescent light are laid out on the back of the liquid crystal film. The display unit transmits the signal from each operation key to the navigation unit.

### Display unit and operation keys

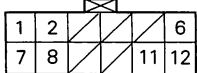


# Circuit Diagram



## DISPLAY UNIT CONNECTORS

### 12P CONNECTOR



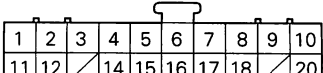
Wire side of female terminals

### DIN 13P CONNECTOR

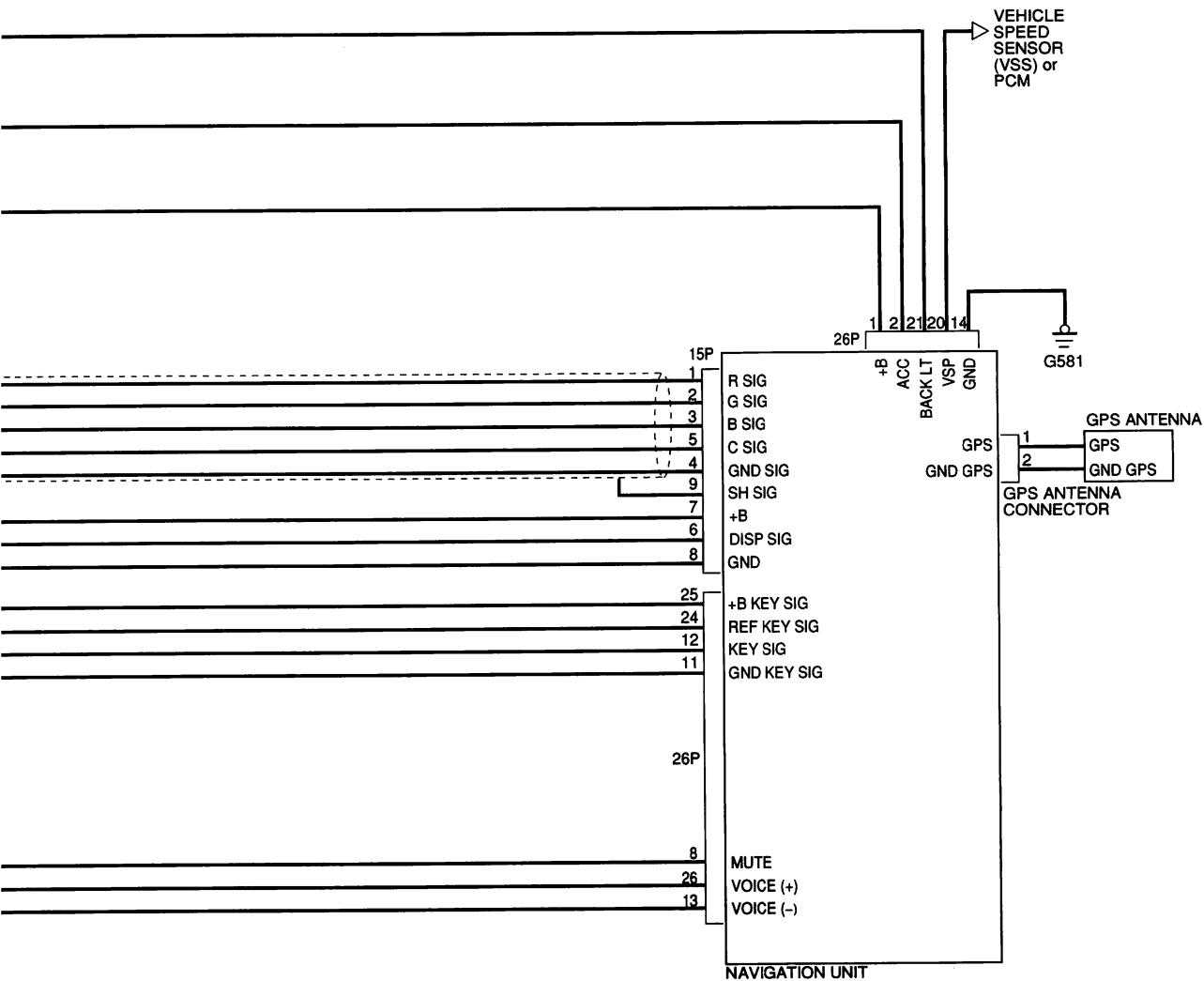
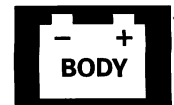


Terminal side of male terminals

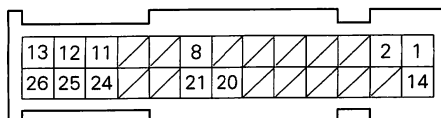
## AUDIO UNIT 20P CONNECTOR



Wire side of female terminals



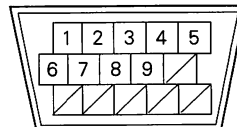
26P CONNECTOR



Terminal side of female terminals

NAVIGATION UNIT CONNECTORS

15P CONNECTOR



Terminal side of male terminals

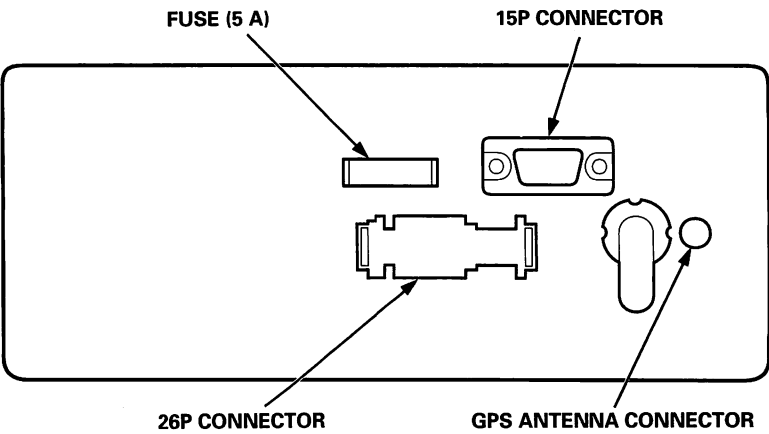
GPS ANTENNA CONNECTOR



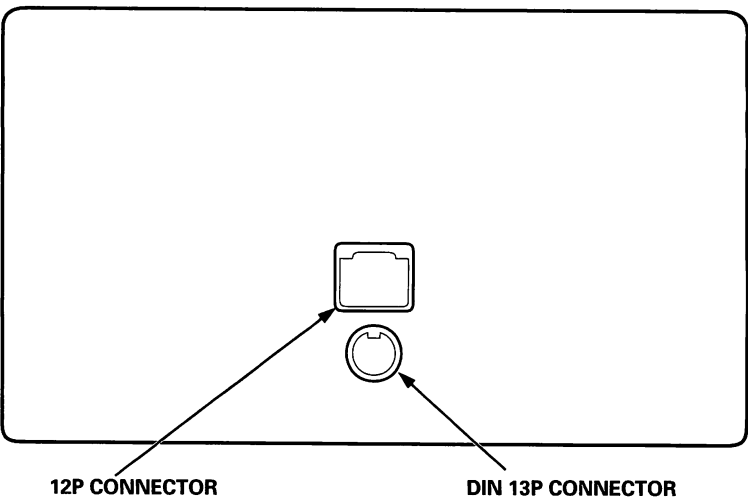
# Connector Locations

---

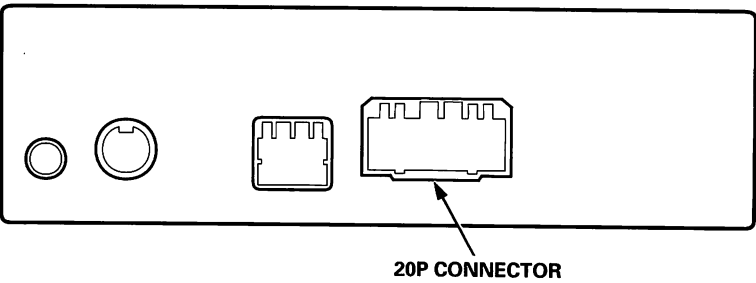
## Navigation unit



## Display unit



## Audio unit

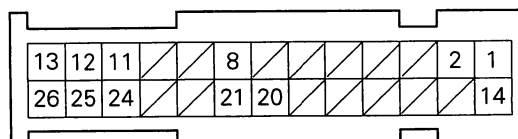






# Terminal Arrangement

## Navigation unit 26P connector



Terminal side of female terminals

Terminal number	Wire color	Terminal	Terminal name	Description
1	PNK	+B	+B power source	Power source for navigation unit
2	YEL/BLK	ACC	Accessory	Power source for accessory
8	BRN	MUTE	Mute	Signal to mute the audio
11	ORN	GND KEY SIG	Ground key signal	Ground for operation key signal
12	BLK	KEY SIG	Key signal	Operation key signal
13	PNK	VOICE (-)	Voice negative	Voice signal negative
14	BLK	GND	Ground	Ground for navigation unit
20	BLU/WHT	VSP	Vehicle speed pulse	Vehicle speed signal
21	GRN/BLK	BACK LT	Back light	Reverse signal of shift lever
24	RED/BLK	REF KEY SIG	Reference key signal	Operation key reference signal
25	WHT	+B KEY SIG	+B key signal	Power source for operation key
26	BLU	VOICE (+)	Voice positive	Voice signal positive

## GPS antenna connector

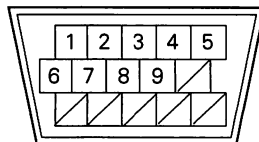


Terminal side of male terminals

Terminal number	Wire color	Terminal	Terminal name	Description
1	—	GPS	GPS	GPS signal
2	—	GND GPS	GPS ground	Ground for GPS signal

# Terminal Arrangement

## Navigation unit 15P connector



Terminal side of male terminals

Terminal number	Wire color	Terminal	Terminal name	Description
1	—	R SIG	Red signal	Red color signal
2	—	G SIG	Green signal	Green color signal
3	—	B SIG	Blue signal	Blue color signal
4	—	GND SIG	Ground signal	Ground for color signal
5	—	C SIG	Composite signal	Composite video (vertical/horizontal) synchronizing signal
6	—	DISP SIG	Display signal	Display ON/OFF signal
7	—	+B	+B power source	Power source for display signal
8	—	GND	Ground	Ground for display signal
9	—	SH SIG	Shield signal	Shield for terminal No. 1, 2, 3, 4, 5

## Display unit DIN 13P connector

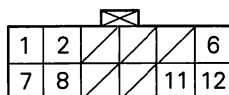


Terminal side of male terminals

Terminal number	Wire color	Terminal	Terminal name	Description
1	—	R SIG	Red signal	Red color signal
2	—	G SIG	Green signal	Green color signal
3	—	B SIG	Blue signal	Blue color signal
4	—	GND SIG	Ground signal	Ground for color signal
5	—	C SIG	Composite signal	Composite video (vertical/horizontal) synchronizing signal
6	—	DISP SIG	Display signal	Display ON/OFF signal
7	—	+B	+B power source	Power source for display signal
8	—	GND	Ground	Ground for display signal



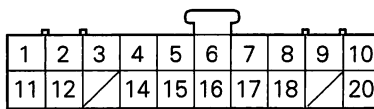
#### Display unit 12P connector



Wire side of female terminals

Terminal number	Wire color	Terminal	Terminal name	Description
1	RED/BLK	REF KEY SIG	Reference key signal	Operation key reference signal
2	ORN	GND KEY SIG	Ground key signal	Ground for operation key signal
6	PNK	+B	+B power source	Power source for display unit
7	BLK	GND	Ground	Ground for display unit
8	RED/BLK	ILL+	Illumination	Illumination ON signal
11	BLK	KEY SIG	Key signal	Operation key signal
12	WHT	+B KEY SIG	+B key signal	Power source for operation key

#### Audio unit 20P connector



Wire side of female terminals

Terminal number	Wire color	Terminal	Terminal name	Description
11	PNK	VOICE (-)	Voice negative	Voice signal negative
12	BLU	VOICE (+)	Voice positive	Voice signal positive
14	BRN	MUTE	Mute	Signal to mute the audio

# Troubleshooting Precautions

---

## General Operation

Refer to the Accord Navigation System Owner's Manual, P/N 32S1T800, for the navigation system operating procedures.

## Symptom Diagnosis

Certain circumstances and system limitations will produce occasional vehicle positioning errors. Some customers may think this indicates a problem with the navigation system when, in fact, the system is normal. Keep the following items in mind when interviewing customers about navigation system symptoms.

### Self-Inertial Navigation Limitations

The limitations of the self-inertial portion of the navigation system (the yaw rate sensor and the vehicle speed sensor) can cause some discrepancies between the actual vehicle position and the indicated vehicle position. If there is a large discrepancy, and the system is receiving GPS signals, the system will adjust the indicated vehicle position to the GPS vehicle position. However, if GPS signals cannot be received, you must tune the vehicle position manually.

The following circumstances may cause vehicle positioning errors until the system can adjust to the GPS.

- Moving the vehicle with the engine stopped, such as by ferry or tow truck, or if the vehicle is spun on a turn table.
- Tire slippage, changes in tire rolling diameters, and some driving situations may cause discrepancies in travel distances. Examples of this include:
  - Continuous tire slippage on a slippery surface.
  - Driving with snow chains mounted.
  - Abnormal tire pressures.
  - Different diameter tires.
  - Frequent lanes changes across a wide highway.
  - Continuous driving on a straight or gently curving highway.
- Tolerances in the system and map accuracy sometimes limit how precisely the vehicle position is indicated. Examples of this include:
  - Driving on roads not shown on the map (map matching is not possible).
  - Driving on a road that winds in one direction, such as a loop bridge, an interchange, or a spiral parking garage.
  - Driving on a road with a series of sharp hair-pin turns.
  - Driving on one of two close parallel roads.
  - After making many 90 degree turns.



---

### **Global Positioning System (GPS) Limitations**

The GPS cannot detect the vehicle position in these instances:

- For the first five to ten minutes after reconnecting the battery.
- When the satellite signals are blocked by tall building, mountains, tunnels, large trees, or large trucks.
- When the GPS antenna is blocked by something on the package shelf.
- When there is no satellite signal output. (Signal output is sometimes stopped for satellite servicing.)

The precision of the GPS is reduced when the satellite control center purposely lowers the signal precision.

### **LCD Display Unit Limitations**

- In cold temperatures, the display may stay dark for the first two or three minutes until it warms up.
- When the display is too hot because of direct summer sunlight, it will remain dark until the temperature drops.
- When the humidity is high and the interior temperature is low, the display may appear cloudy. The display will clear after some use.

# Troubleshooting Precautions

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## Symptom Duplication

- When the symptom can be duplicated, follow the self-diagnostic procedures (picture diagnosis mode) and the appropriate troubleshooting procedures.
- When the symptom does not reappear or only reappears intermittently, ask the customer about the conditions when the symptom occurred.
  - Try to establish if outside interference may have been the cause.
  - Try to duplicate the symptom under the same conditions the customer was experiencing.
  - Vibration, temperature extremes, and moisture (dew, humidity) may be factors that are difficult to duplicate.

## Service Precautions

- Before disconnecting the battery, write down the frequencies for the radio's preset buttons.
- After servicing, park the vehicle in an area where the GPS satellite signals will be unobstructed, and check the satellite mark on the display.

# Troubleshooting Guide



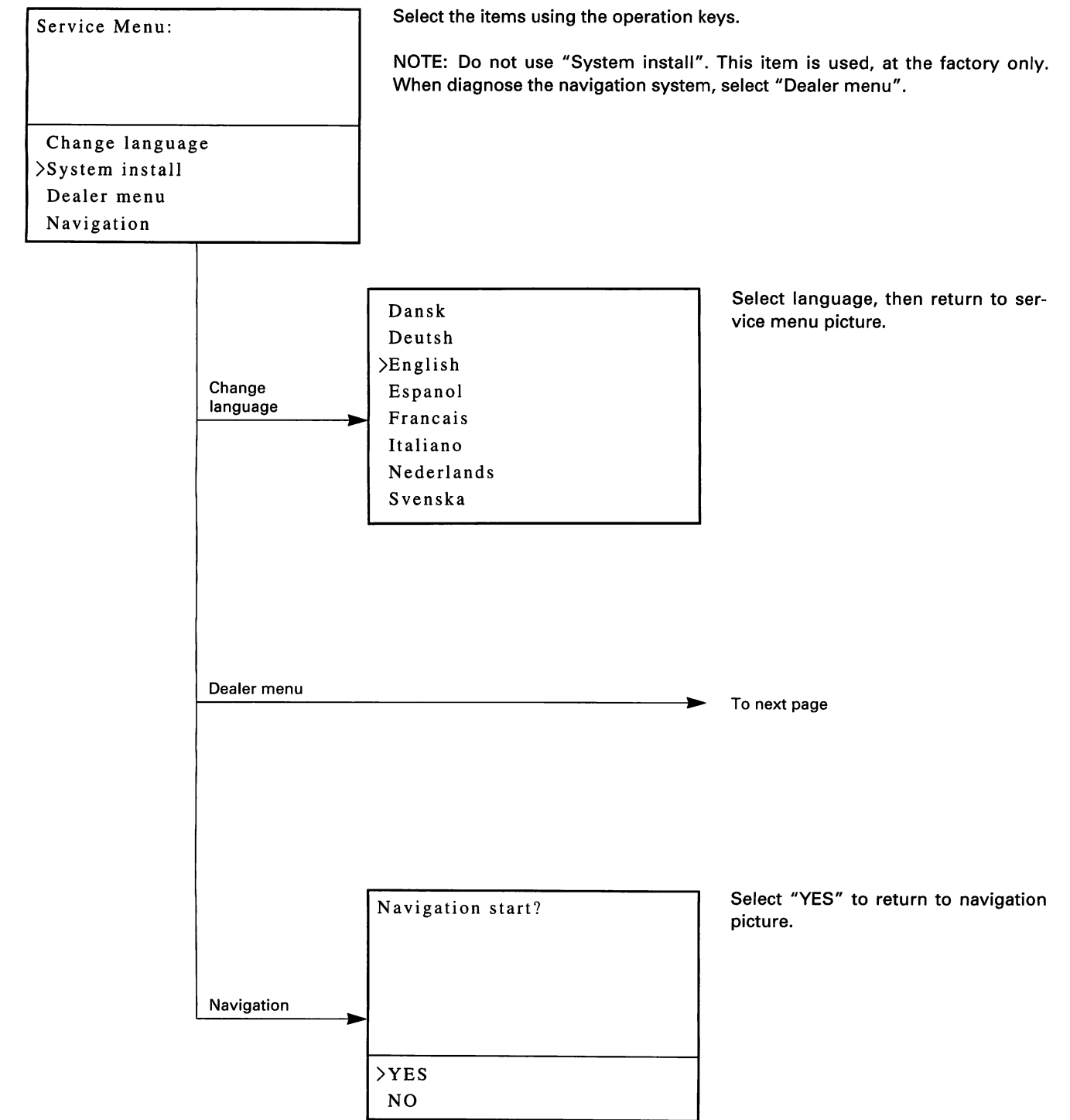
NOTE: Circles (○) in the table indicate which parts to inspect.

PROBLEM SYMPTOM	RELATED UNIT, OTHER PROBLEM ITEMS						DIAGNOSIS METHOD								Refer to troubleshooting page	
	NAVIGATION UNIT	DISPLAY UNIT	GPS ANTENNA	CD-ROM	AUDIO UNIT	HARNESS	STATIC TEST	DYNAMIC TEST	CALIBRATION	GPS STATUS	HARD WARE TEST	SENSOR TEST	KEY BOARD TEST	LCD TEST		ELECTRIC CONTINUITY IN HARNESS
No picture is shown on the display	○	○				○									○	23-H-28
Display indication is not correct														○		23-H-30
Map is not shown on the display	○	○		○		○					○					23-H-30
Display unit operation key does not work		○				○							○			23-H-30
Distance of vehicle position mark is not correct	○							○	○			○				23-H-30
Vehicle position mark does not turn or does not move straight forward (or rotate)	○										○	○				23-H-30
GPS mark is not indicated	○		○				○			○	○					23-H-30
Guidance voice cannot be heard	○				○	○	○									23-H-31

# Picture Diagnosis

- Turn the ignition switch to ACC (I) while pushing the “▽” key, then the display indicates the service menu picture.
- NOTE:
- If the display unit indicates the navigation picture, set the “Stanby time” to “0” on the DSC menu then retry operation.
  - The picture illustration are indicated in english.

## Service menu





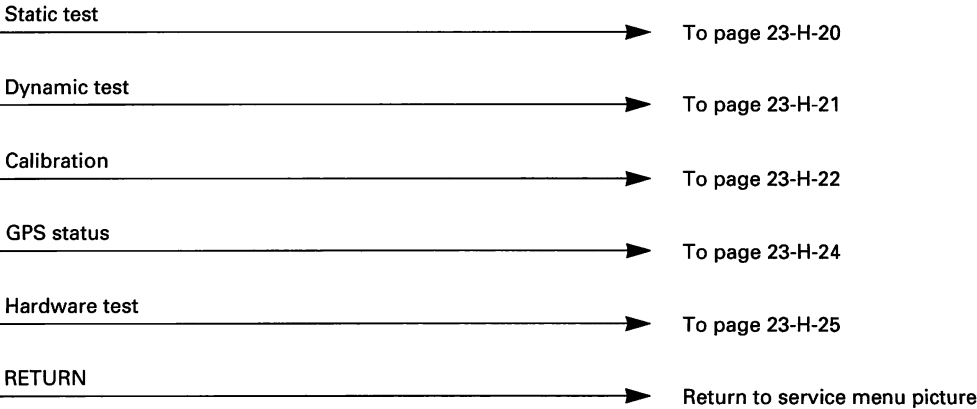


**Dealer menu**

Dealer Menu:
>Static test
Dynamic test
Calibration
GPS status
Hardware test
CONTINUE
RETURN

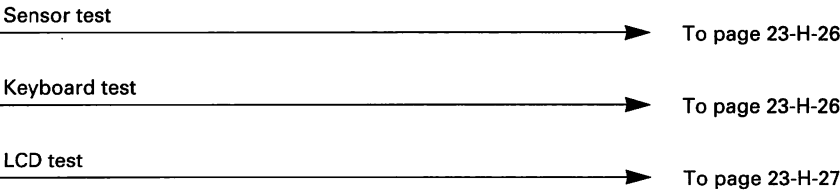
Select the items using the operation keys.

NOTE: Do not use "Calibr. values", "Software vers." and "Stretch calibr.". These items are used of the factory only.



RETURN

>Sensor test
Keyboard test
LCD test
Calibr. values
Software vers.
Stretch calibr.
RETURN



# Picture Diagnosis

## Static test

Static test

Activating voice output...

Sound OK  
>REPEAT  
No Sound

- On the "Static test", diagnose for the GPS antenna. GPS receiver (inside of the navigation unit) and guidance voice output.
- When change to this picture, guidance voice is output from front speakers for first three seconds.
- If you select "Sound OK", guidance voice output becomes OK. If you select "No sound", guidance voice output becomes NG.

NOTE: If guidance voice data in the memory of the navigation unit by disconnected the battery, guidance voice is not outputted (noise will be heard). In this case, turn the ignition switch OFF to ON (II) and wait until the navigation menu is indicated (guidance voice data is loading during this time). Then perform the "Static test" again.

Static test

OK!

>CONTINUE

- If "Static test" is OK, this picture is indicated.
- If there is a problem, item in problem is indicated. Those items are;
  - GPS antenna: Disconnected GPS antenna or faulty GPS antenna.
  - Internal (GPS rec.): Faulty GPS receiver (inside of the navigation unit).
  - Radio: Guidance voice signal line is disconnected.

CONTINUE

Return to dealer menu picture.

## Dynamic test

Dynamic test <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> drive forward gear lever→reverse  Impulse: OK Rev. light: OK
>OK

- On the "Dynamic test", diagnose for the vehicle speed signal and back-up light signal.
- When drive the vehicle forward and vehicle speed signal input to navigation unit, the display indicates "Impulses: OK".
- When drive the vehicle backward and back-up light signal input to navigation unit, the display indicates "Rev. light: OK".

Both "Impulses" and "Rev. light" are OK or select "OK"

Dynamic test <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/>   <div style="text-align: center; font-size: 1.2em;">OK!</div>
>CONTINUE

- If both "Impulses" and "Rev. light" are OK, this picture is indicated.
- If there is a problem, item in problem is indicated. Those items are;
  - Speed sensor: Open in the vehicle speed signal wire.
  - Reverse light: Open in the back-up light signal wire.

CONTINUE

Return to dealer menu picture.

# Picture Diagnosis

## Calibration

Veh. : M20/M18/M16 Tyre : 195/60 R 15
>Vehicle type *Tyre type RETURN

- On the "Calibration", calibrate relationship of vehicle speed pulse and traveling distance by inputting the vehicle type and tyre type.
- "Veh." and "Tyre" indicate current vehicle type and tyre type.
- "Tyre type" can select after performing "Vehicle type"
- The item indicated "\*" at the top of it cannot select now.

Vehicle type

Select veh. type:
>M22 M20/M18/M16 A20/A18 SPECIAL

Select vehicle type.

- M22: M/T 2.2 ℓ
- M20/M18/M16: M/T 2.0 ℓ, 1.8 ℓ or 1.6 ℓ
- A20/A18: A/T2.0 ℓ or 1.8 ℓ

NOTE: Do not select "SPECIAL". This item is for tuning at the factory.

NO

Select except "SPECIAL"

Vehicle type:
M22
>CONFIRM NO CANCEL

Select the items.

- CONFIRM: Change to this setting.
- NO: Reset
- CANCEL: Cancel this setting.

Tyre type

To page 23-H-23

RETURN

Return to dealer menu picture.



**Tyre type**

Tyre	Profile
New	> 5 mm

>New
Used
CANCEL

Select the current tyre is new one or used one.

New or Used

Select tyre type:
>215/45 R 17
195/60 R 15
185/70 R 14
SPECIAL

Select tyre type.

NOTE: Do not select "SPECIAL". This item is for tuning at the factory.

NO

Select except "SPECIAL"

Tyre type:
195/60 R 15
(New)

>CONFIRM
NO
CANCEL

Select the items.

- CONFIRM: Change to this setting.
- NO: Reset
- CANCEL: Cancel this setting.

CONFIRM or  
CANCEL

CANCEL

Return to calibration picture.

# Picture Diagnosis

---

## GPS status

On the "GPS status", one of following picture is indicated.

Visible sat. : xx Receiv. sat : xx  Latit. :     xx, xx N Longit. :     xxx, xx E
>RETURN

The vehicle position is identified by received GPS signal.

Error: GPS antenna or antenna cable defective.
>RETURN

Open in the GPS antenna wire or faulty GPS antenna.

Visible sat. : xx Receiv. sat : xx  No GPS position available.
>RETURN

The vehicle position cannot be identified (the vehicle is behind of the buildings etc.).

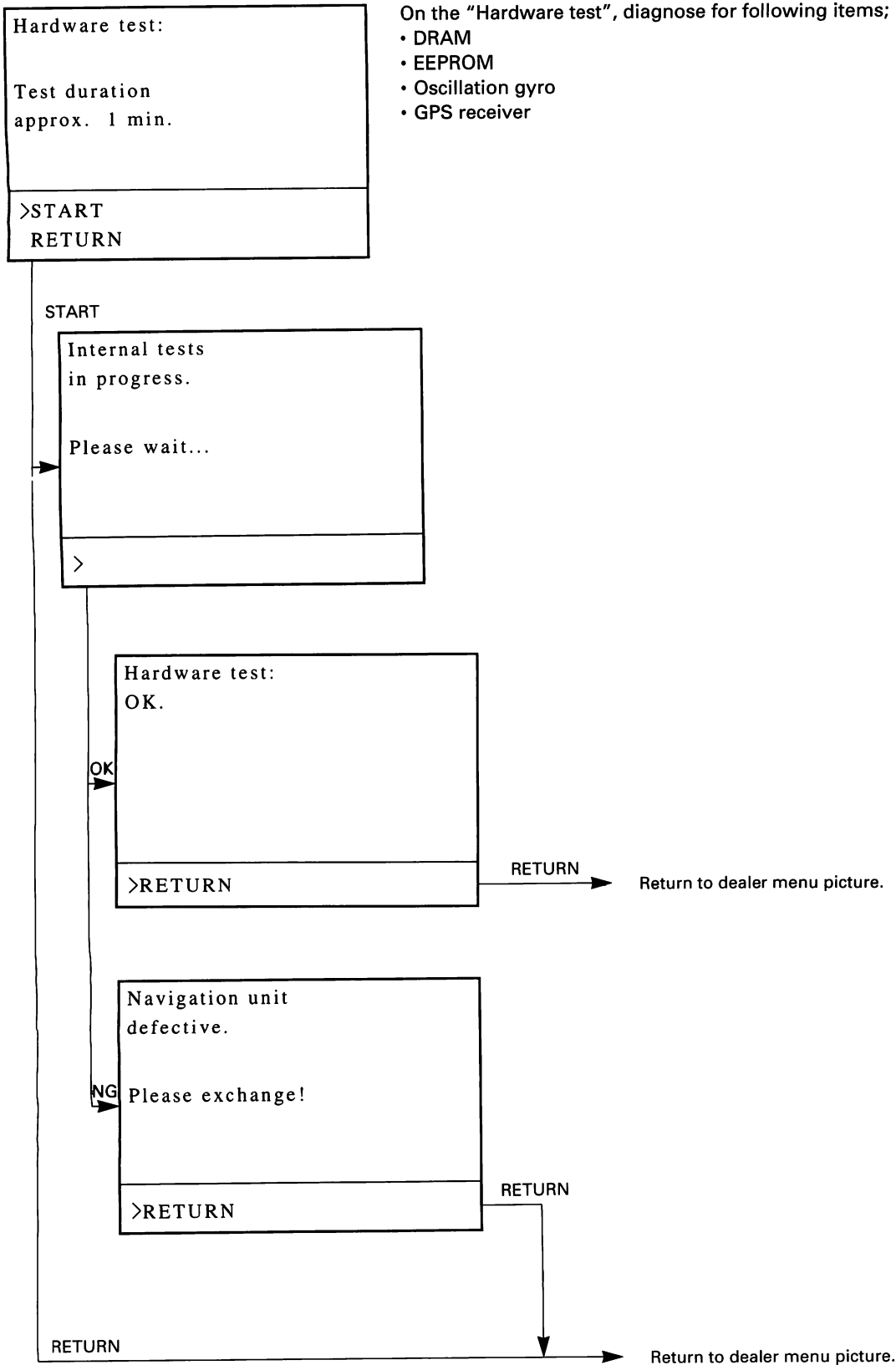
Error: No data available from GPS receiver.
>RETURN

Faulty GPS receiver (inside of the navigation unit) or connection error.

Visible sat. : xx Receiv. sat : xx  GPS initialis. active.
>RETURN

During initializing GPS receiver (after replacing the battery etc.).

Hardware test



# Picture Diagnosis

## Sensor test

Gyro	:	xxxx
Whl. sensor:		xxxxx
Speedomet. :		
km/h	»	xxx
Direction:		FORW.
>RETURN		

On the "Sensor test", diagnose for following items;

- Oscillation gyro
- Speedometer
- Vehicle speed signal
- Vehicle direction (forward or backward)

## Display item and diagnosis method

Display	Test	Display OK	Corrective measure in event of error
Gyro	Move vehicle and change direction.	Values change during steering motions within the valid range 30 – 994.	Replace the oscillation gyro and/or navigation unit.
Whl.sensor	Not used		
Speedomet.	Move vehicle forward.	Value increases during motion. (return to 0 after 65535)	Check the wiring for connection and signal.
km/h	Move vehicle forward.	Display roughly matches the speedometer display ( $\pm 15\%$ ).	Conduct calibration.
Direction	Move gear lever into and out of reverse.	Display "BACKW." when gear lever is in reverse. Display "FORW." when otherwise.	Check back-up light wiring.

## Keyboard test

Pressed button:
ENT
>RETURN

Check the operation keys by pushing the key.

- When push the enter key, indicate ">RETURN" on the display. When push the enter key again, return to dealer menu picture.

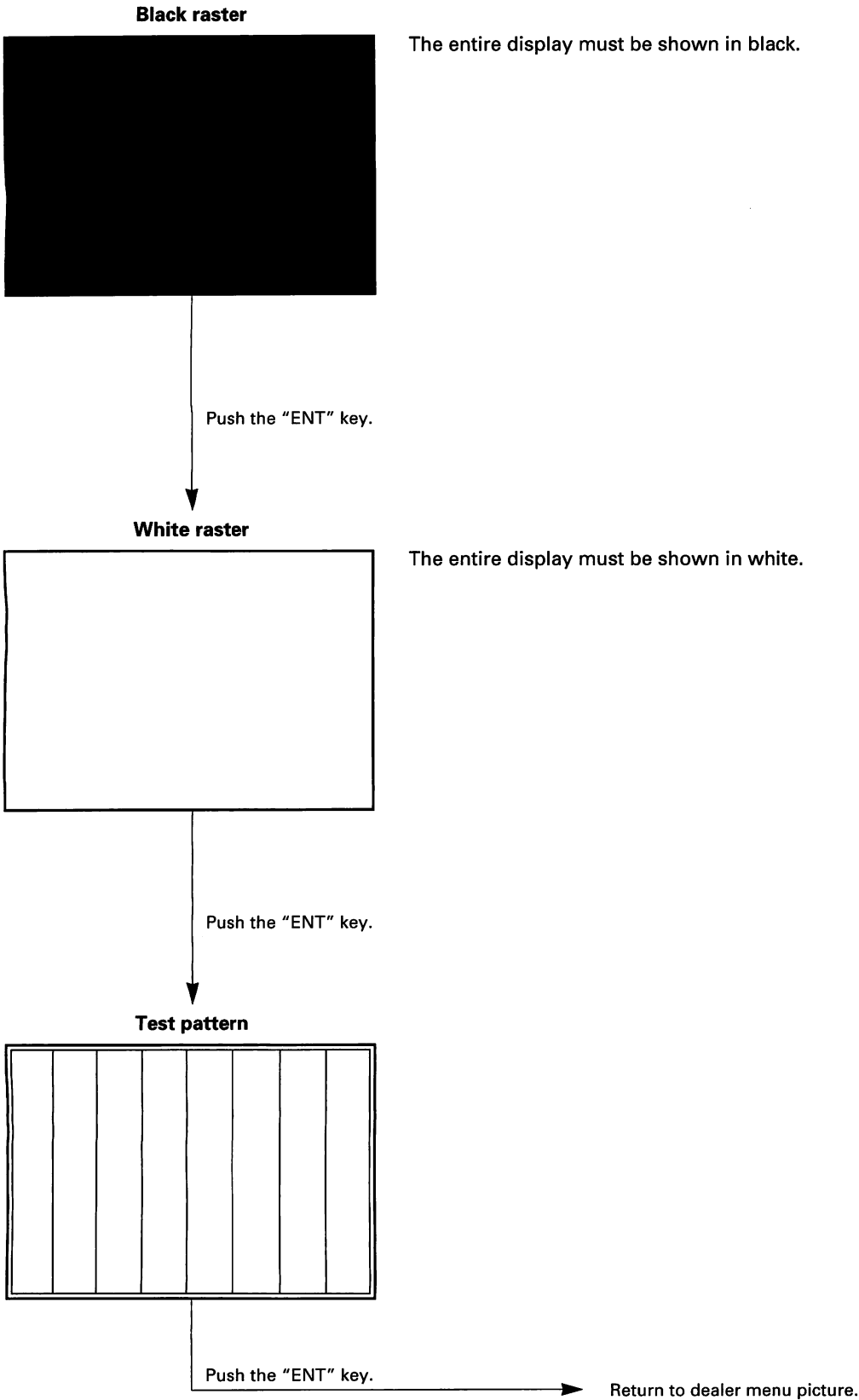
## Operation key and display indication

Key	Δ	▽	ENTER	∧	∨	<	>	SET
Display	ENTΔ	ENT▽	ENT	SET↑	SET↓	SET←	SET→	SET



**LCD test**

LCD test is used to check that the display indicates picture correctly.



# Troubleshooting

## No picture is shown on the display

### Check the +B fuse:

Check the CLOCK/BACK UP (7.5 A) fuse in the passenger's under-dash fuse/relay box and reinstall the fuse if it is OK.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

### Check the ACC fuse:

Check the ACC RELAY (7.5 A) fuse in the driver's under-dash fuse/relay box and reinstall the fuse if it is OK.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

### Check for an open in the power source circuit:

1. Turn the ignition switch ON (II).
2. Measure the voltage between body ground and the navigation unit 26P connector terminal No. 1 and No. 2 individually.

Is there battery voltage?

NO

Repair open in the wire between the driver's (or passenger's) under-dash fuse/relay box and navigation unit.

YES

### Check for an open in the GND circuit:

1. Turn the ignition switch OFF.
2. Check for continuity between the navigation unit 26P connector terminal No. 14 and body ground.

Is there continuity?

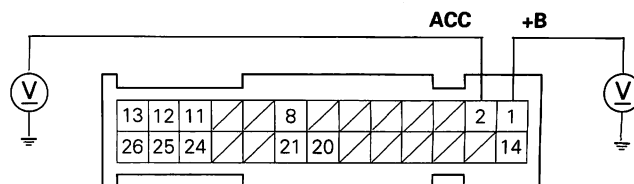
NO

- Repair open in the wire between the navigation unit and body ground.
- Repair poor ground (G581).

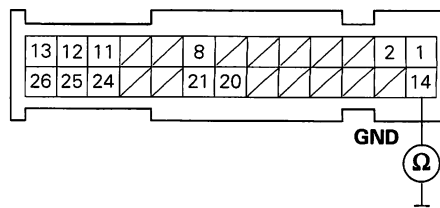
YES

(To page 23-H-29)

### NAVIGATION UNIT 26P CONNECTOR



Terminal side of female terminals





(From page 23-H-28)

**Check the display unit:**

1. Disconnect the display unit DIN 13P connector.
2. Turn the ignition switch ON (II).
3. Connect body ground and the display unit DIN 13P connector terminals No. 6 and No. 8 on the display unit individually with a jumper wire.
4. Supply battery voltage to terminal No. 7.

**NOTE:** To check, shield the display unit from the sun with your hand.

Does the display back light turn ON?

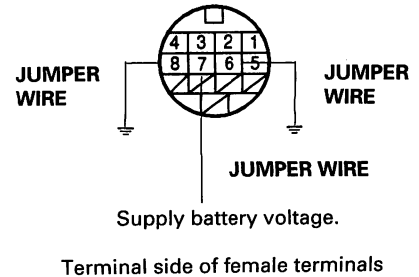
YES

**Replace the navigation unit.**

NO

**Replace the display unit.**

**DISPLAY UNIT DIN 13P CONNECTOR (Unit side)**



# Troubleshooting

---

## Display indication is not correct

**Picture diagnosis:**  
Perform picture diagnosis LCD test (see page 23-H-27).

## Map is not shown on the display

**Picture diagnosis:**  
Perform picture diagnosis hardware test (see page 23-H-25).

## Display unit operation key does not work

**Picture diagnosis:**  
Perform picture diagnosis keyboard test (see page 23-H-26).

## Distance of vehicle position mark is not correct

**Picture diagnosis:**  
Perform picture diagnosis dynamic test, calibration and sensor test (see page 23-H-19).

## Vehicle position mark does not turn

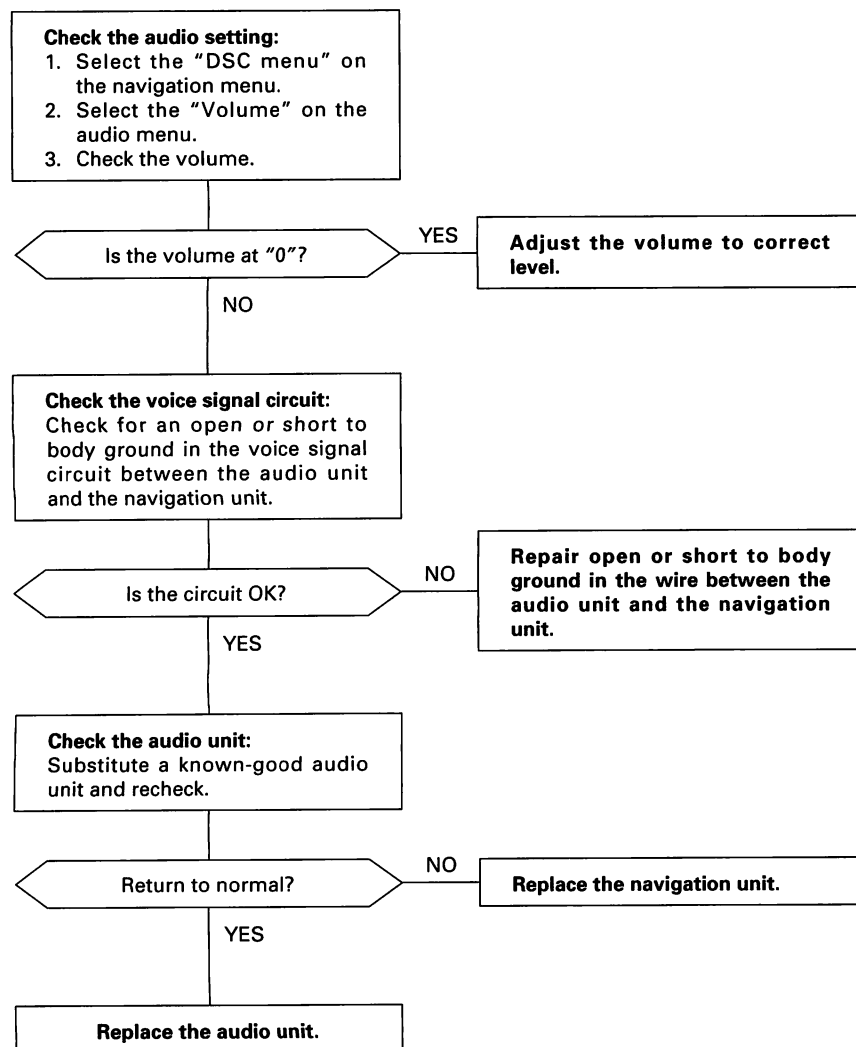
**Picture diagnosis:**  
Perform picture diagnosis sensor test (see page 23-H-26).

## GPS mark is not indicated

**Picture diagnosis:**  
Perform picture diagnosis static test, GPS status and hardware test (see page 23-H-19).



### Guidance voice can not be heard

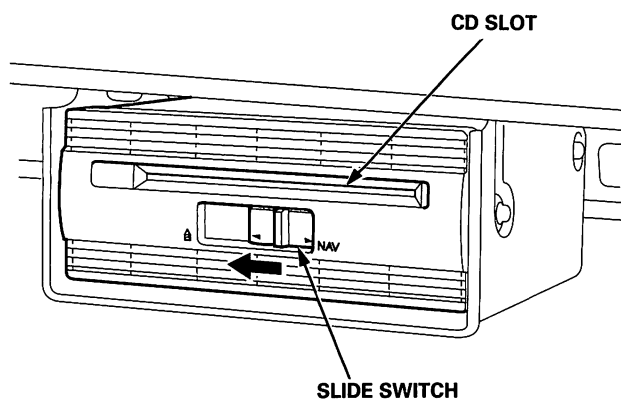


# CD-ROM

---

## Replacement

1. Turn the ignition switch ON (II).
2. Move the slide switch to the left side, and the CD-ROM is ejected automatically.



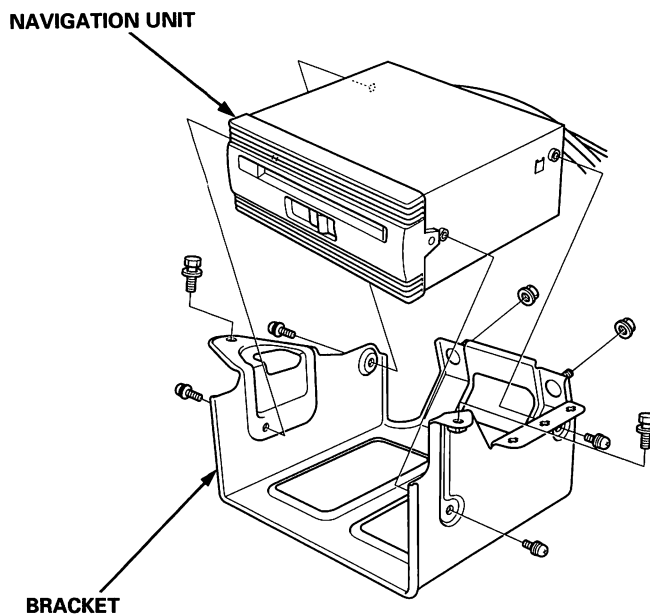
3. Remove the CD-ROM.
4. Insert the CD-ROM with the label facing up carefully into the CD slot until it is automatically pulled into the CD-ROM drive.
5. After the CD-ROM is securely in the drive, move the slide switch to the right side.

# Navigation Unit

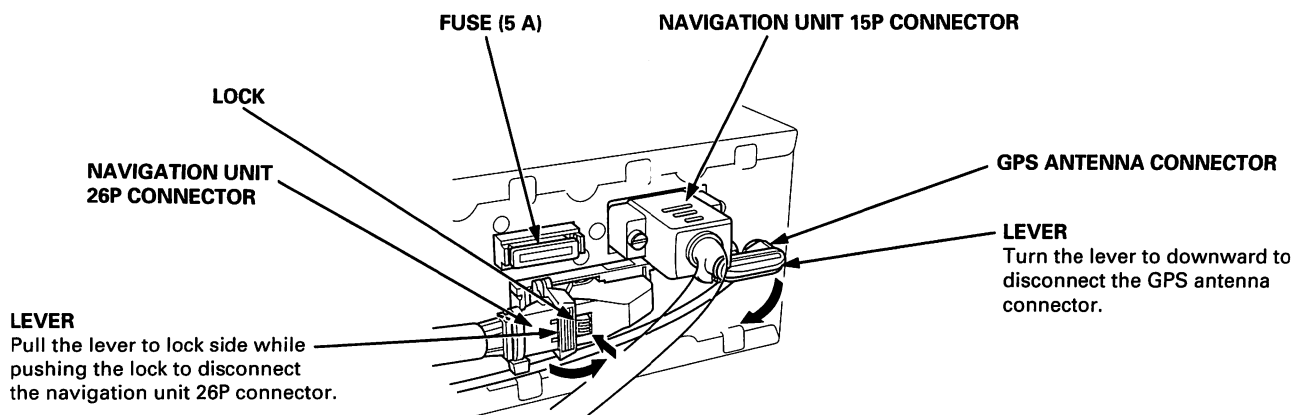


## Removal/Installation

1. Remove the rear seat back and rear shelf (see page 20-67).
2. Remove the navigation unit bracket from the frame.



3. Remove the navigation unit from the bracket.
4. Disconnect the connectors from the navigation unit.



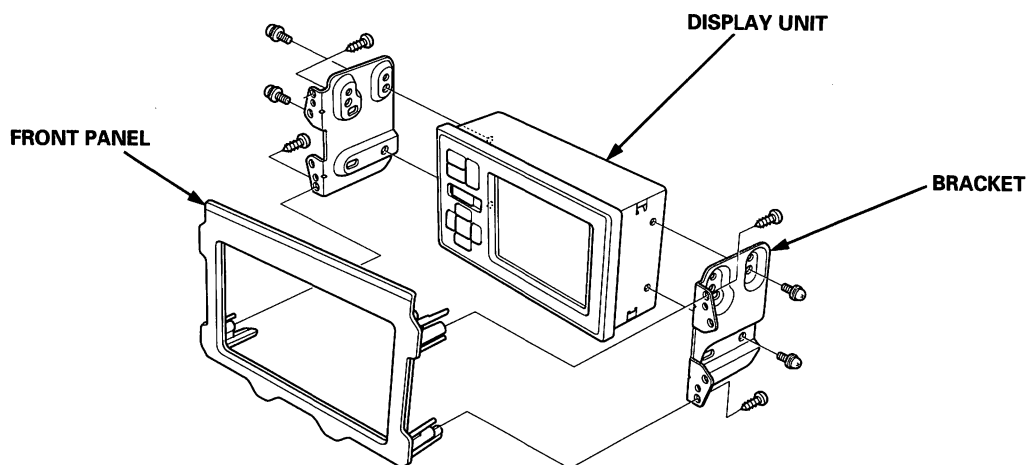
5. Install the parts in the reverse order of removal.

# Display Unit/Audio Unit

## Removal/Installation

### Display Unit

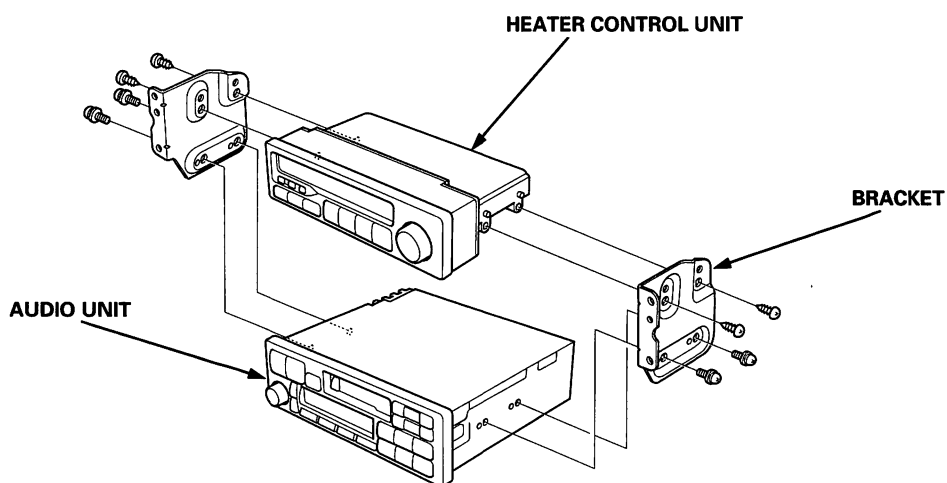
1. Remove the front panel/display unit/brackets as an assembly from the center console (see page 20-78).
2. Remove the front panel and the brackets from the display.



3. Install the parts in the reverse order of removal.

### Audio Unit

1. Remove the heater control unit/audio unit/brackets as an assembly from the center console (see page 20-75).
2. Remove the brackets from the heater control unit/audio unit.

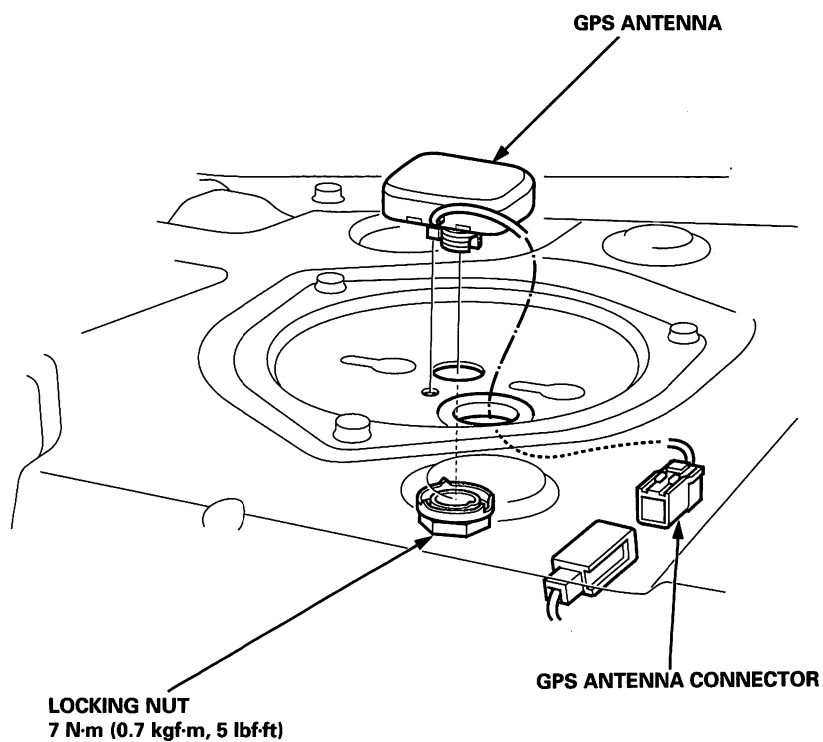


3. Install the parts in the reverse order of removal.



## Removal/Installation

1. Remove the rear shelf (see page 20-67).
2. Disconnect the GPS antenna connector.



3. Remove the locking nut located under the frame, then remove the GPS antenna.
4. Install the parts in the reverse order of removal.

## **Restraints**

<b>Seat Belts .....</b>	<b>24-1</b>
<b>Supplemental Restraint System (SRS) .....</b>	<b>24-11</b>

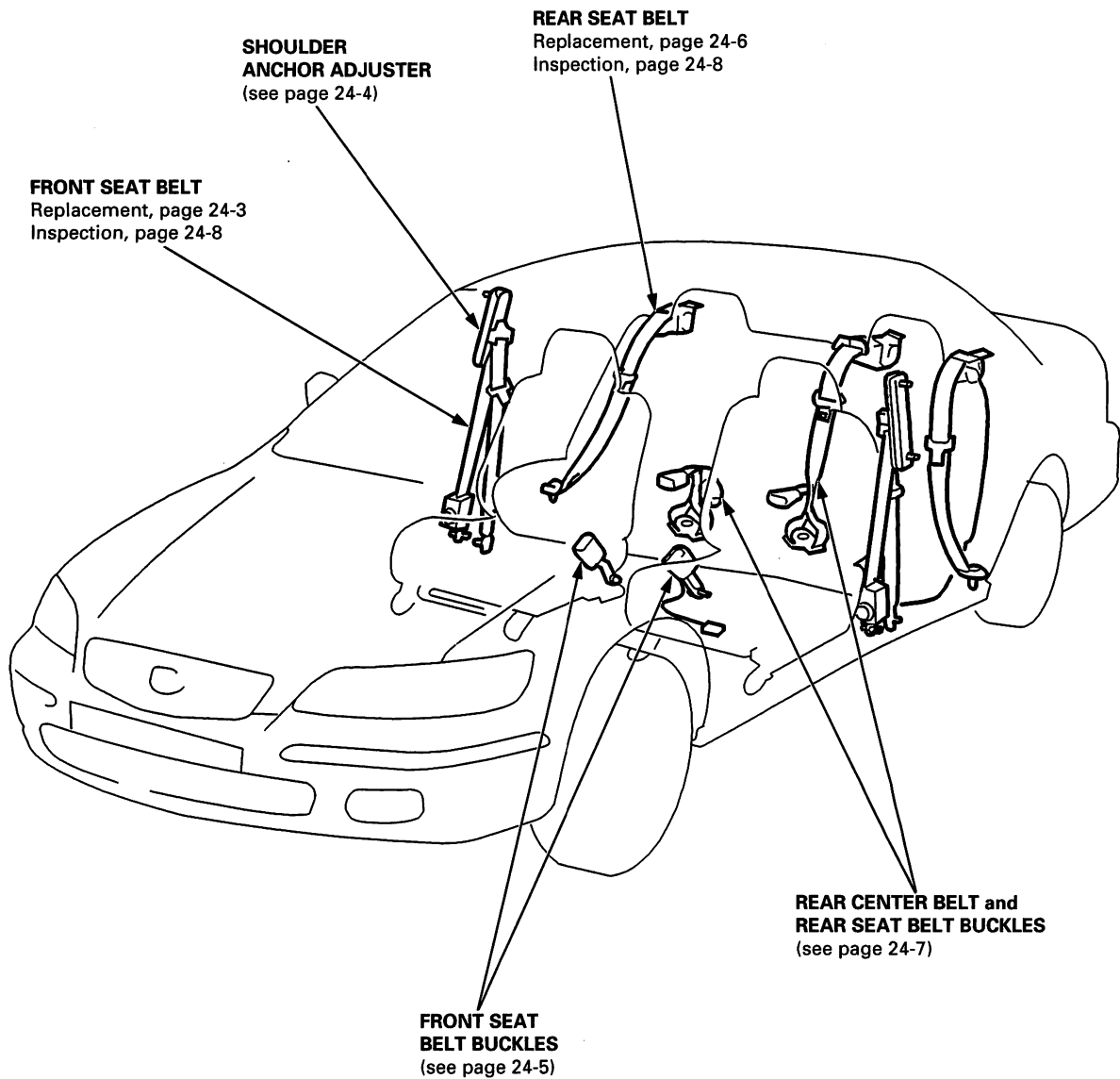
### **Seat Belts**

<b>Component Location Index .....</b>	<b>24-2</b>
<b>Front Seat Belt Replacement .....</b>	<b>24-3</b>
<b>Rear Seat Belt Replacement .....</b>	<b>24-6</b>
<b>Inspection .....</b>	<b>24-8</b>



# Seat Belts

## Component Location Index





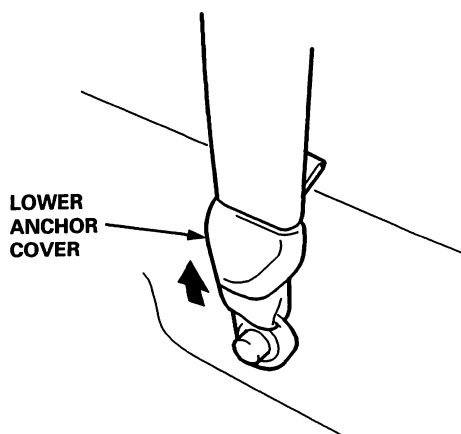
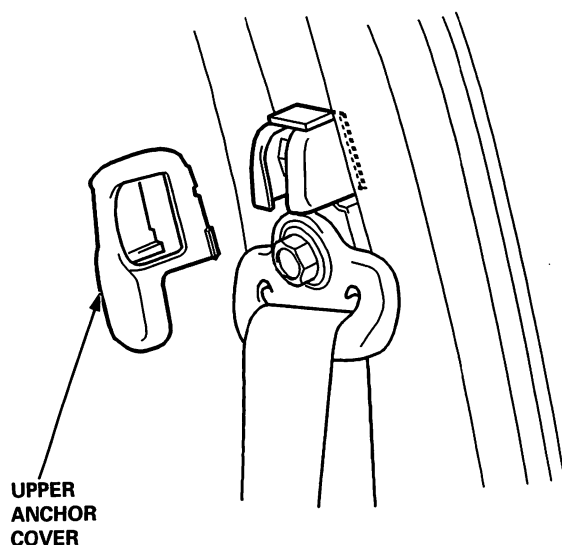
## Front Seat Belt Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in this section (24) before performing repairs or service.

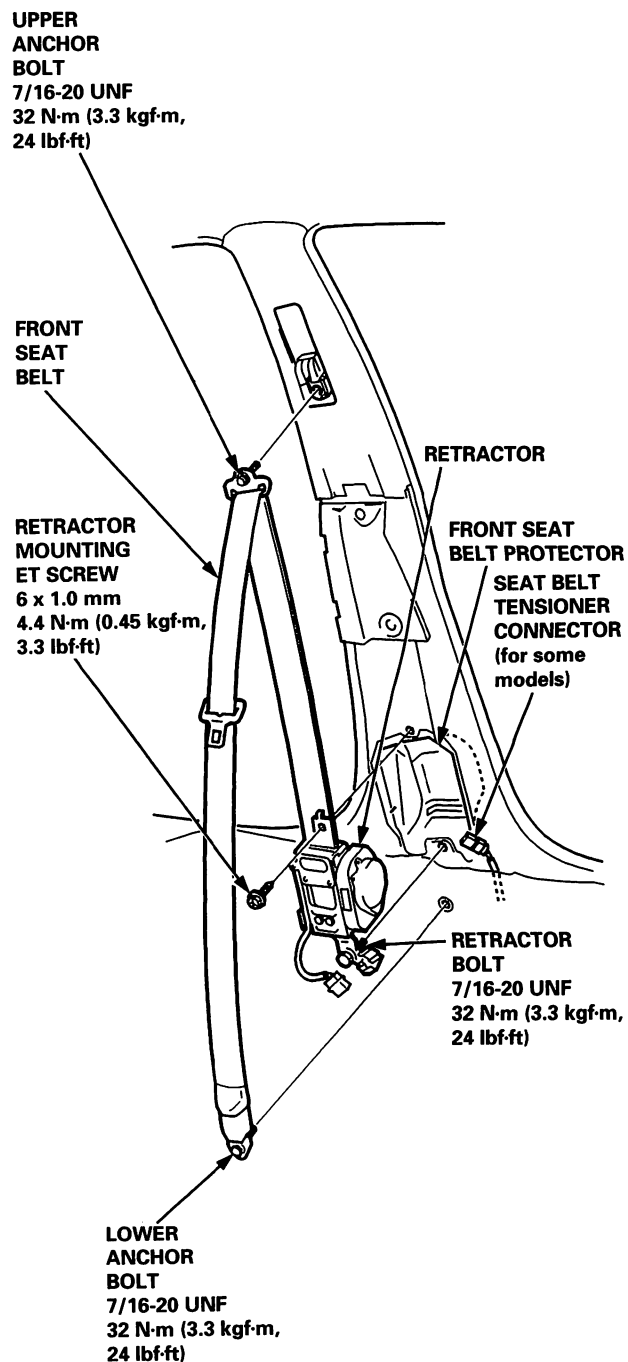
**NOTE:** Check the front seat belts for damage, and replace them if necessary. Be careful not to damage them during removal and installation.

### Front seat belt:

1. Slide the front seat forward fully.
2. Remove (see section 20):
  - Rear seat cushion
  - Front side trim
  - Rear side trim
  - Center pillar lower trim panel
3. Remove the upper anchor cover, and pull the lower anchor cover back.



4. Remove the upper anchor bolt and lower anchor bolt, the retractor mounting ET screw, the retractor bolt, if so equipped, disconnect the seat belt tensioner connector, and remove the front seat belt and retractor.

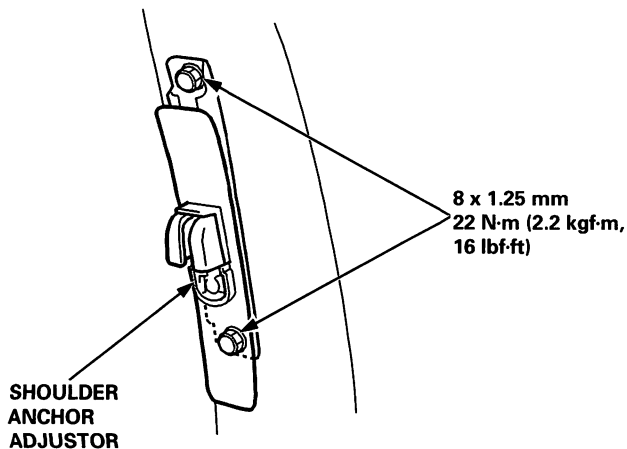


(cont'd)

# Seat Belts

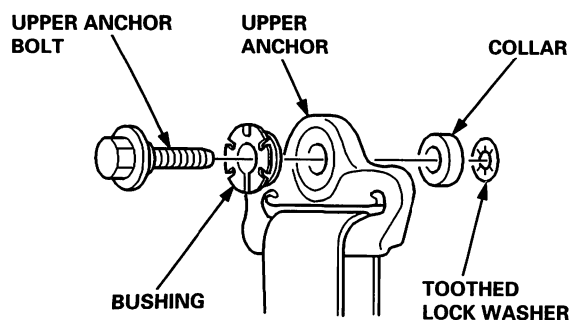
## Front Seat Belt Replacement (cont'd)

5. Remove the front and rear door trim as necessary (see section 20).
6. Remove the center pillar upper trim (see section 20).
7. Remove the shoulder anchor adjuster.

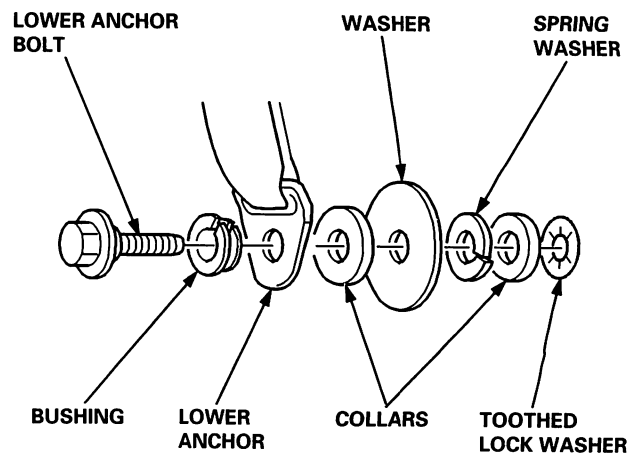


8. Install in the reverse order of removal, and note these items:
  - Apply liquid thread lock to the upper anchor bolt before reinstallation.
  - If the threads on the retractor mounting ET screw are worn out, use an oversized ET screw made specifically for this application.
  - Check that the retractor locking mechanism functions as described on page 24-8.
  - Assemble the washers, collar and bushing on the upper and lower anchor bolts as shown.
  - Before installing the anchor bolts, make sure there are no twists or kinks in the front seat belt.
  - If so equipped, make sure the seat belt tensioner connector is plugged in properly.

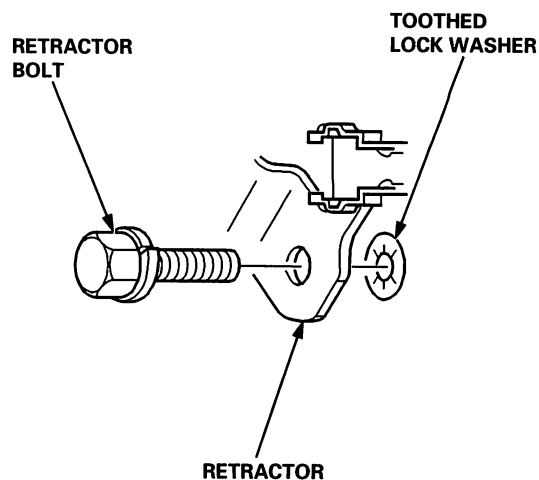
### Upper anchor bolt construction:



### Lower anchor bolt construction:



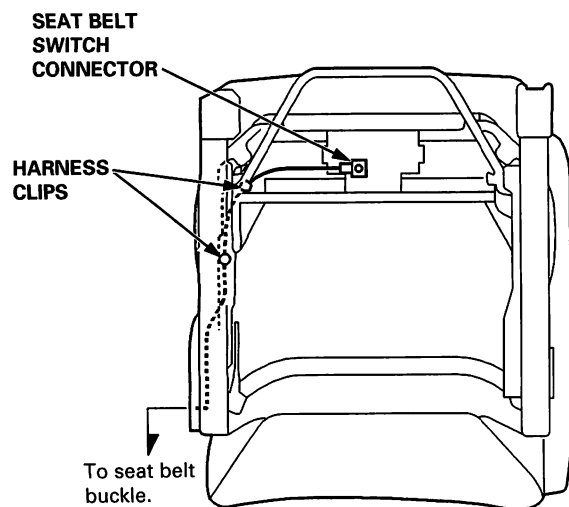
### Retractor bolt construction:





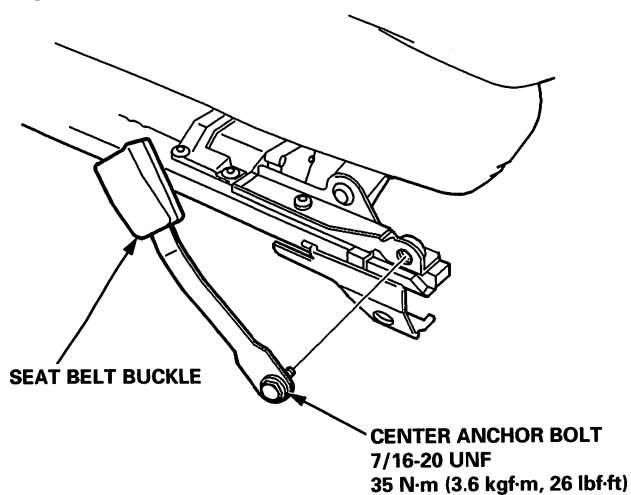
### Seat belt buckle:

1. Remove the front seat (see section 20).
2. With seat belt switch: Detach the seat belt switch connector and harness clips.



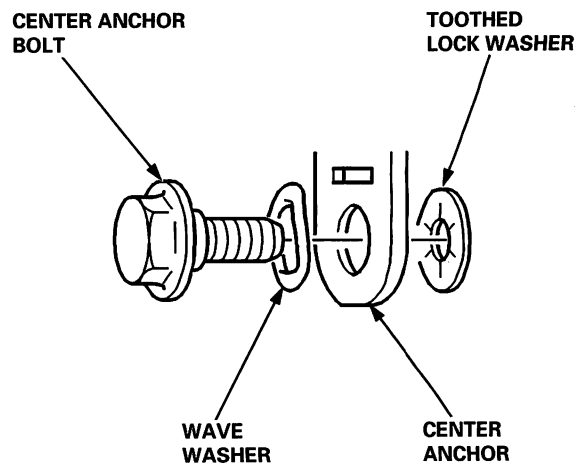
3. Remove the center anchor bolt, and remove the seat belt buckle.

NOTE: The 8-way power seat is shown, the manual seat, and the manual height adjustable seat are similar.



4. With seat belt switch: Raise the seat cushion to its maximum height, then remove the seat belt switch harness.

### Center anchor bolt construction:



5. Install in the reverse order of removal; assemble the washers on the center anchor bolt as shown.

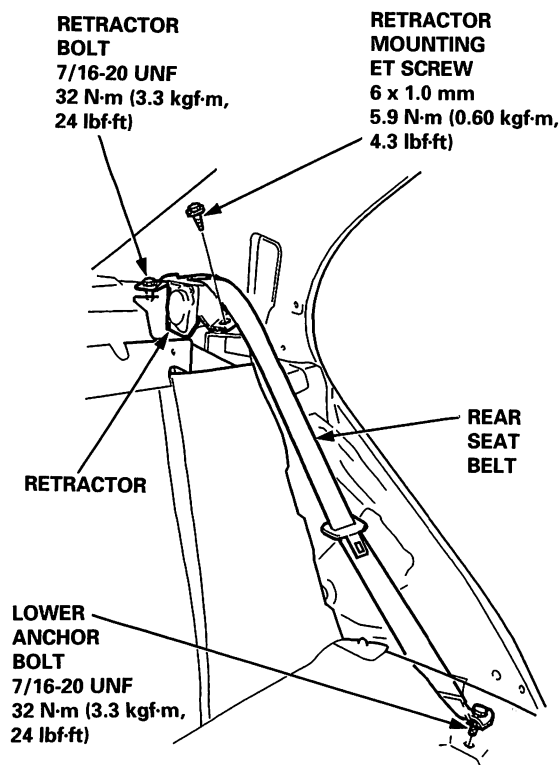
# Seat Belts

## Rear Seat Belt Replacement

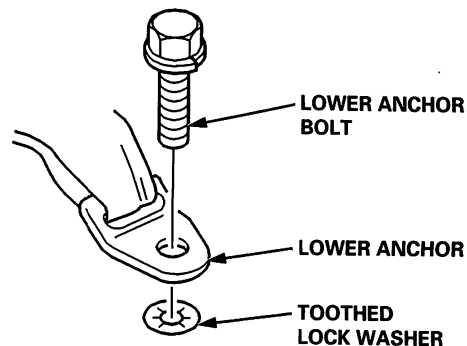
**NOTE:** Check the rear seat belts for damage, and replace them if necessary. Be careful not to damage them during removal and installation.

### Rear seat belt:

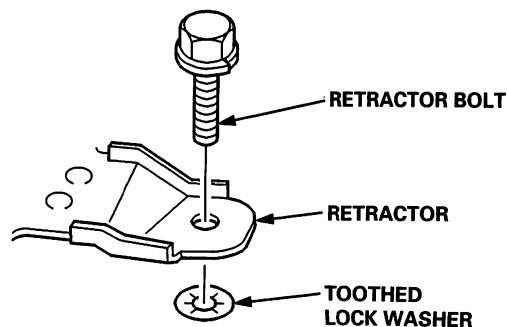
1. Remove:
  - Rear seat-back, for fixed rear seat (see section 20)
  - Rear bulkhead cover, for fold down rear seat (see section 20)
  - Rear shelf (see section 20)
2. Remove the lower anchor bolt, the retractor mounting ET screw, the retractor bolt, and remove the rear seat belt and retractor.



### Lower anchor bolt construction:



### Retractor bolt construction:

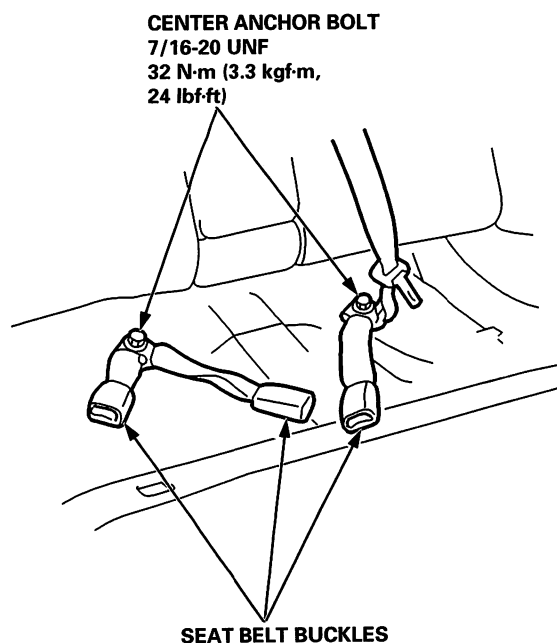


3. Install in the reverse order of removal, and note these items:
  - If the threads on the retractor mounting ET screw are worn out, use an oversized ET screw made specifically for this application.
  - Check that the retractor locking mechanism functions as described on page 24-8.
  - Before installing the anchor bolt, make sure there are no twists or kinks in the rear seat belt.



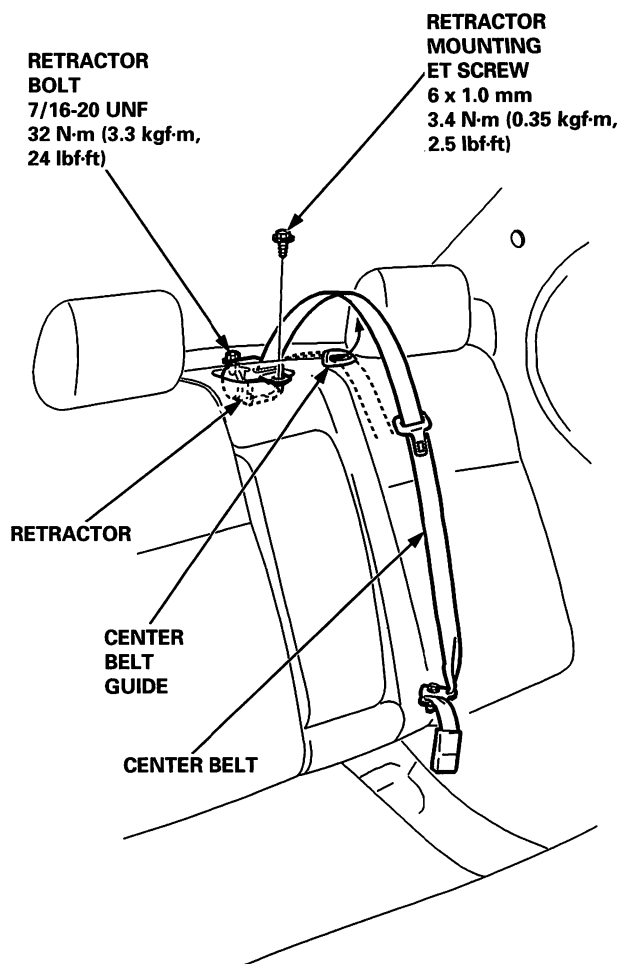
#### Center belt and seat belt buckles:

1. Remove the rear seat cushion (see section 20).
2. Remove the center anchor bolts, and remove the seat belt buckles.

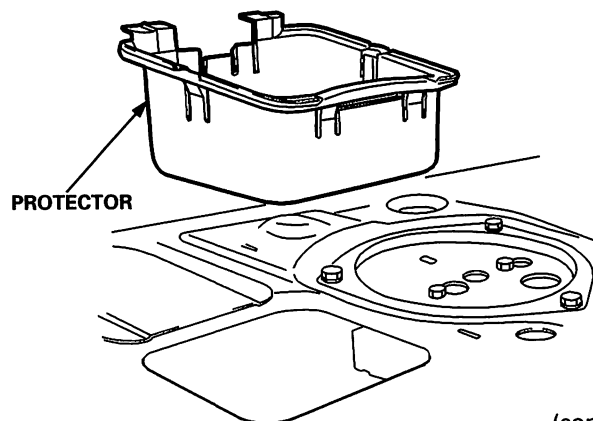


3. Remove (see section 20):
  - Rear seat-back, for fixed rear seat
  - Rear bulkhead cover, for fold down rear seat
  - Rear shelf

4. Remove the center belt from the center belt guide through its slit (fold down rear seat). Remove the retractor mounting ET screw, and the retractor bolt, then remove the center belt and retractor.



5. Remove the protector.



(cont'd)

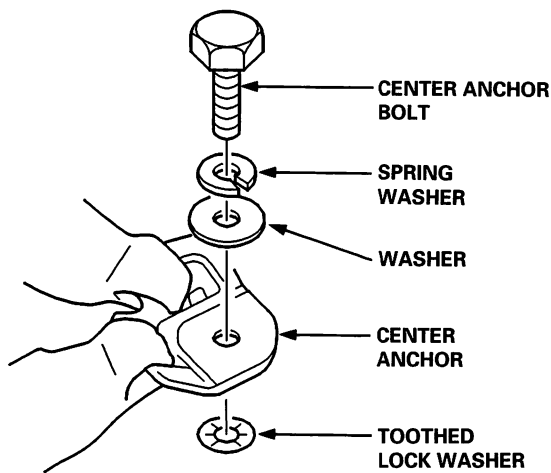


# Seat Belts

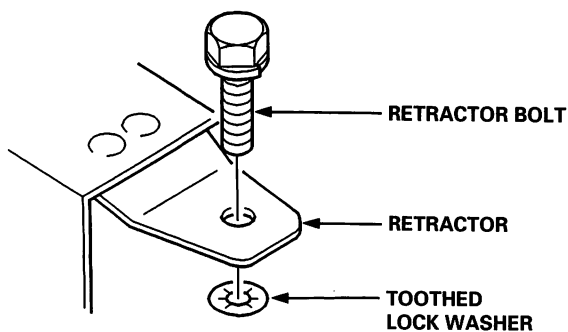
## Rear Seat Belt Replacement (cont'd)

6. Install in the reverse order of removal, and note these items:
  - If the threads on the retractor mounting ET screw are worn out, use an oversized ET screw made specifically for this application.
  - Check that the retractor locking mechanism functions as described on page 24-8.
  - Assemble the washers on the center anchor bolt as shown.
  - Before installing the center anchor bolt, make sure there are no twists or kinks in the center belt.

### Center anchor bolt construction:



### Retractor bolt construction:



## Inspection

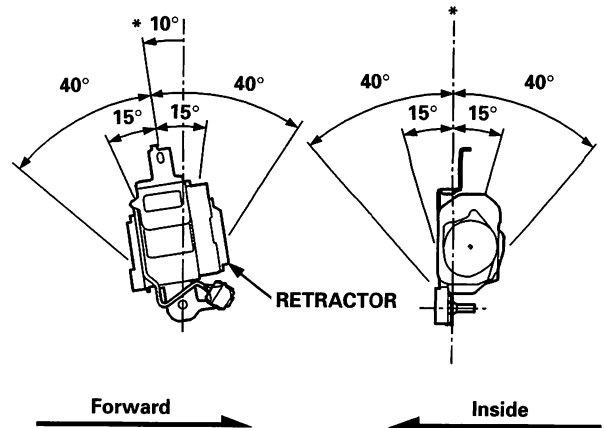
### Retractor:

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in this section (24) before performing repairs or service.

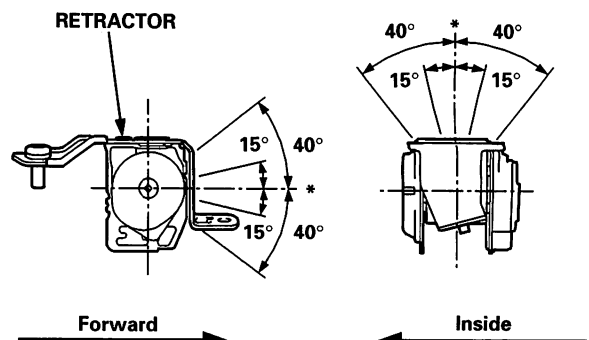
1. Before installing the retractor, check that the seat belt can be pulled out freely.
2. Make sure that the seat belt does not lock when the retractor is leaned slowly up to 15° from the mounted position. The seat belt should lock when the retractor is leaned over 40°. Do not attempt to disassemble the retractor.

### Front:

\*: Mounted Position

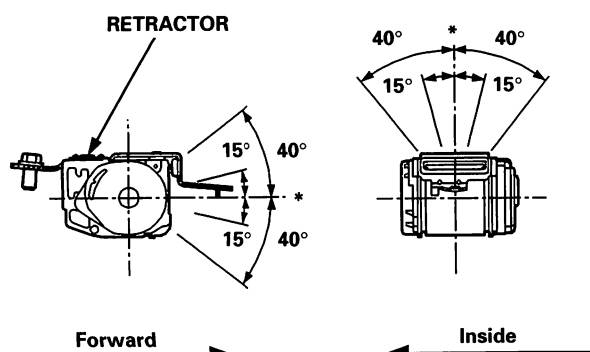


### Rear side:





#### Rear center:



3. Replace the seat belt with a new one if there is any abnormality.

#### In-vehicle:

1. Check that the seat belt is not twisted or caught on anything.
2. After installing the anchors, check for free movement on the anchor bolts. If necessary, remove the anchor bolts and check that the washers and other parts are not damaged or improperly installed.
3. Check the seat belts for damage or discoloration. Clean with a shop towel if necessary. Use only soap and water to clean.

NOTE: Dirt build-up in the metal loops of the upper anchors can cause the seat belts to retract slowly. Wipe the inside of the loops with a clean cloth dampened in isopropyl alcohol.

4. Check that the seat belt does not lock when pulled out slowly. The seat belt is designed to lock only during a sudden stop or impact.
5. Make sure that the seat belt will retract automatically when released.
6. Replace the seat belt with a new one if there is any abnormality.



# Supplemental Restraint System (SRS)

## Airbag/Seat Belt Tensioner/Side Airbag

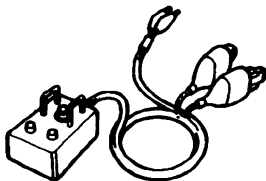
<b>Special Tools .....</b>	<b>24-12</b>	<b>Reading the DTC</b>	
<b>Component/Wiring Locations</b>		<b>(Diagnostic Trouble Code) .....</b>	<b>24-27</b>
<b>Index .....</b>	<b>24-13</b>	<b>Erasing the DTC Memory .....</b>	<b>24-29</b>
<b>Circuit Diagram .....</b>	<b>24-14</b>	<b>Troubleshooting Intermittent</b>	
<b>Wire Harness and Connectors .....</b>	<b>24-15</b>	<b>Failures .....</b>	<b>24-29</b>
<b>Description .....</b>	<b>24-17</b>	<b>Diagnostic Trouble Code (DTC)</b>	
<b>Precautions/Procedures</b>		<b>Chart .....</b>	<b>24-30</b>
<b>General Precautions .....</b>	<b>24-18</b>	<b>Fuse Box and Connector</b>	
<b>Airbag/Seat Belt Tensioner/Side Airbag</b>		<b>Locations .....</b>	<b>24-33</b>
<b>Handling and Storage .....</b>	<b>24-19</b>	<b>Flowcharts .....</b>	<b>24-38</b>
<b>Backprobing Spring-loaded Lock</b>		<b>Driver's Airbag</b>	
<b>Connectors (Without</b>		<b>Replacement .....</b>	<b>24-73</b>
<b>waterproof type) .....</b>	<b>24-20</b>	<b>Front Passenger's Airbag</b>	
<b>Seat with Side Airbag .....</b>	<b>24-20</b>	<b>Replacement .....</b>	<b>24-75</b>
<b>SRS Unit/Side Impact Sensor</b>		<b>Side Airbag</b>	
<b>Precautions .....</b>	<b>24-21</b>	<b>Replacement .....</b>	<b>24-77</b>
<b>Steering-related Precautions .....</b>	<b>24-21</b>	<b>Seat Belt (With Seat Belt Tensioner)</b>	
<b>Wiring Precautions .....</b>	<b>24-22</b>	<b>Replacement .....</b>	<b>24-78</b>
<b>Precautions for Electrical</b>		<b>Cable Reel</b>	
<b>Inspections .....</b>	<b>24-22</b>	<b>Replacement .....</b>	<b>24-80</b>
<b>Spring-loaded Lock Connectors .....</b>	<b>24-23</b>	<b>SRS Unit</b>	
<b>Disconnecting the Airbag Connectors,</b>		<b>Replacement .....</b>	<b>24-83</b>
<b>Side Airbag connectors and Seat</b>		<b>Side Impact Sensor</b>	
<b>Belt Tensioner Connectors .....</b>	<b>24-24</b>	<b>Replacement .....</b>	<b>24-84</b>
<b>Troubleshooting</b>		<b>Scrapping .....</b>	<b>24-85</b>
<b>Self-diagnostic Precautions .....</b>	<b>24-26</b>		



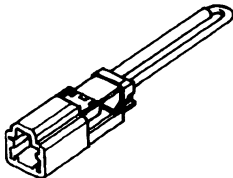
# Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①*1	07HAZ – SG00500	Deployment Tool	1	
②*1	07PAZ – 0010100	SCS Short Connector	1	
③	07SAZ – TB4011A	SRS Inflator Simulator	1	
④	07TAZ – SZ5011A	SRS Simulator Lead C	1	
⑤*2	07TAZ – 001020A	Backprobe Adapter, 17 mm	2	
⑥	07XAZ – S1A0100	SRS Test Box 4P	1	
⑦	07XAZ – S1A0200	SRS Simulator Lead D	1	

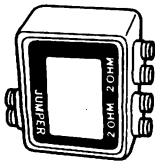
\*1: Included in SRS Tool Set 07MAZ – SM5000B.  
\*2: Use with the stacking patch cords from T/N 07SAZ – 001000A, Backprobe Set.



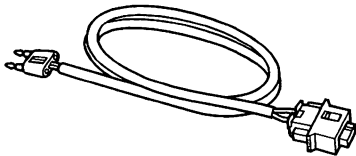
①



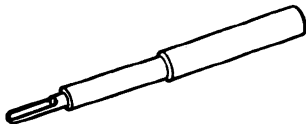
②



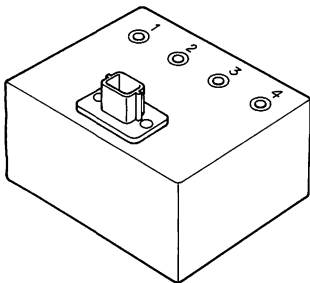
③



④



⑤



⑥



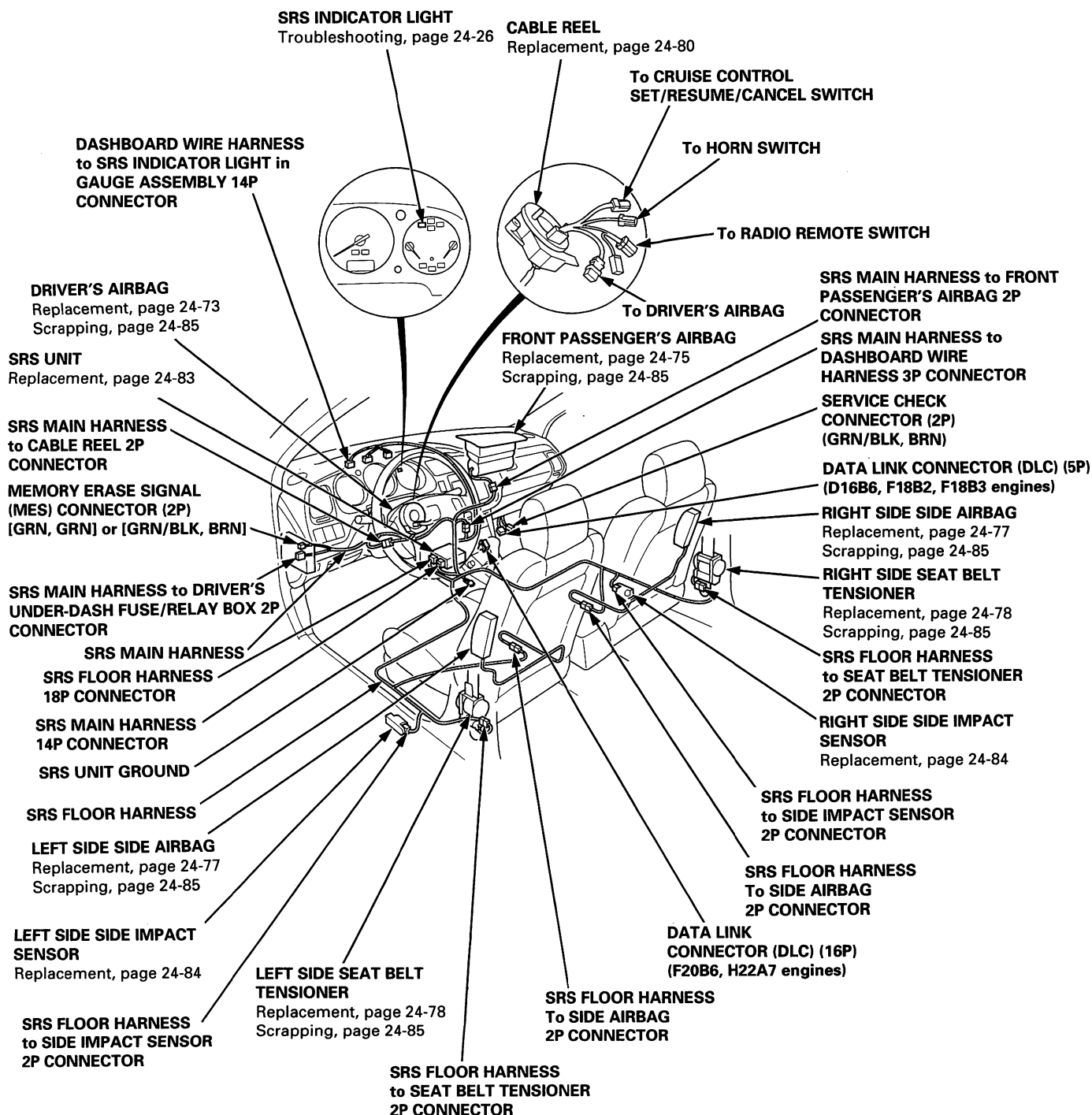
⑦

# Component/Wiring Locations Index

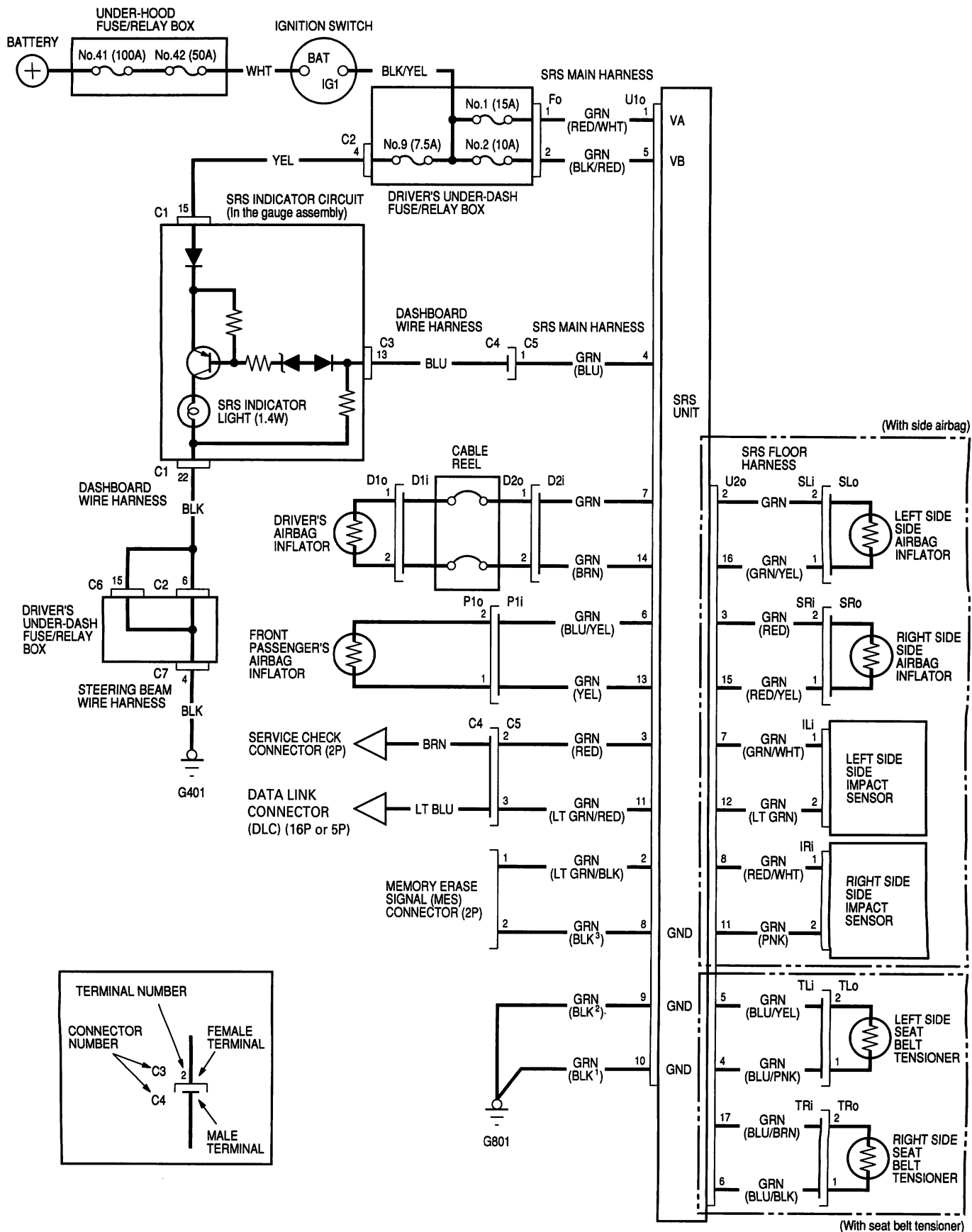


## Index: LHD

NOTE: RHD type is symmetrical LHD type.



# Circuit Diagram



# Wire Harness and Connectors



Connector No.	Wire harness and connector		Terminal		Remark	Ref. No (next page)
			Male	Female		
U1o		SRS main harness 14P connector		○	①	1
U2o		SRS floor harness 18P connector		○	①	2
Fo		SRS main harness 2P connector		○	①	3
D1	D1o	Driver's airbag 2P connector		○	②	5
	D1i	Cable reel 2P connector	○			4
D2	D2o	Cable reel 2P connector		○	①	5
	D2i	SRS main harness 2P connector	○			4
P1	P1o	Front passenger's airbag connector		○	②	5
	P1i	SRS main harness 2P connector	○			4
TL	TLi	Left side seat belt tensioner 2P connector		○	②	5
	TLi	SRS floor harness 2P connector	○			4
TR	TRo	Right side seat belt tensioner 2P connector		○	②	5
	TRi	SRS floor harness 2P connector	○			4
SL	SLo	Left side side airbag 2P connector		○	②③	6
	SLi	SRS floor harness 2P connector	○			7
SR	SRO	Right side side airbag 2P connector		○	②③	6
	SRi	SRS floor harness 2P connector	○			7
ILi		SRS floor harness 2P connector		○	①③	8
IRi		SRS floor harness 2P connector		○	①③	8
C1		Dashboard wire harness 22P connector		○		9
C2		Dashboard wire harness 18P connector		○		10
C3		Dashboard wire harness 14P connector		○		11
C4		Dashboard wire harness 3P connector	○			12
C5		SRS main harness 3P connector		○		13
C6		Dashboard wire harness 18P connector		○		14
C7		Steering beam wire harness 22P connector		○		15

\*1: The connector numbers are different from other sections.

\*2: Remark

①: Spring loaded lock connector

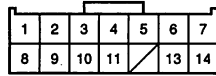
②: Spring loaded lock connector with built-in short contact

③: Waterproof connector



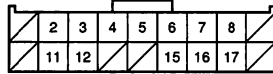
# Wire Harness and Connectors

## 1. U1o



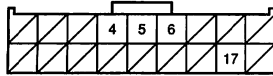
Wire side of female terminals

## 2. U2o With side airbags



Wire side of female terminals

## Without side airbags, with seat belt tensioner



Wire side of female terminals

## 3. Fo



Wire side of female terminals

## 4. D1i, D2i, P1i, TLi, TRi



Terminal side of male terminals

## 5. D1o, D2o, P1o, TLo, TRo



Wire side of female terminals

## 6. SLo, SRo



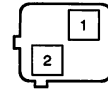
Terminal side of male terminals

## 7. SLi, SRi



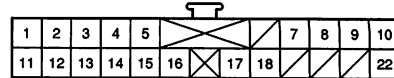
Wire side of female terminals

## 8. ILi, IRi



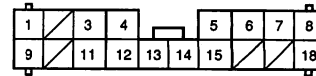
Wire side of female terminals

## 9. C1



Wire side of female terminals

## 10. C2



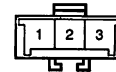
Wire side of female terminals

## 11. C3



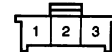
Wire side of female terminals

## 12. C4



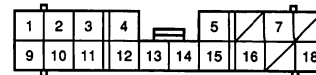
Terminal side of male terminals

## 13. C5



Wire side of female terminals

## 14. C6



Wire side of female terminals

## 15. C7



Wire side of female terminals

# Description



## SRS Airbag

The SRS is a safety device which, when used in conjunction with the seat belt, is designed to help protect the driver and front passenger in a frontal impact exceeding a certain set limit. The system consists of the SRS unit (including safing sensor and frontal impact sensor), the cable reel, the driver's airbag and front passenger's airbag.

## Side airbag

The side airbag is designed to help protect the driver's and front passenger's chests in a side impact exceeding a certain set limit. A side airbag only operates the side which given the impact, and protects its side of the driver's or passenger's chest.

## Seat Belt Tensioner

The seat belt tensioner is linked with the SRS airbags to further increase the effectiveness of the seat belt. In a front-end collision, the tensioner instantly retracts the belt firmly to secure the occupants in their seats.

## Operation

The main circuit in the SRS unit senses and judges the force of impact and, if necessary, ignites the inflator charges. If battery voltage is too low or power is disconnected due to the impact, the voltage regulator and the back-up power circuit respectively will keep voltage at a constant level.

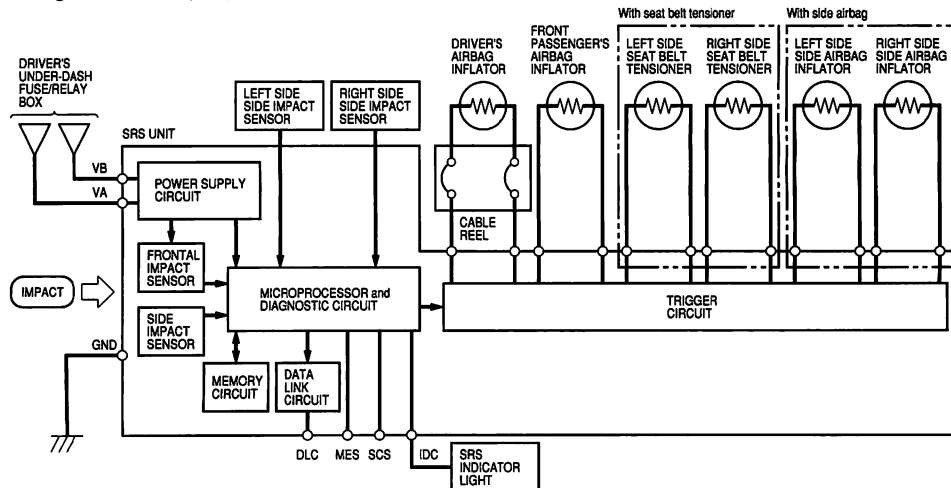
## For the SRS to operate:

### Airbag and Seat Belt Tensioner

- (1) The frontal impact sensor must activate, and send electric signals to the microprocessor.
- (2) The microprocessor must compute the signals, and must send signals to the airbag inflators and seat belt tensioners.
- (3) The inflators must ignite and deploy the airbags and activate the tensioners.

### Side Airbag

- (1) The side impact sensors must activate, and send electric signals to the microprocessor.
- (2) The microprocessor must compute the signals, and must send signals to the side airbag inflators.
- (3) The inflators must ignite and deploy the side airbags.



## Self-diagnosis System

A self-diagnosis circuit is built into the SRS unit; when the ignition switch is turned ON (II), the SRS indicator light comes on and goes off after about six seconds if the system is operating normally.

If the light does not come on, or does not go off after six seconds, if it comes on while driving, it indicates an abnormality in the system. The system must be inspected and repaired as soon as possible.

For battery serviceability, the memory will store the cause of the malfunction, and the data link circuit passes on the information from the memory to the data link connector (DLC). This information can be read with the Honda PGM Tester connected to the DLC (16P or 5P).

# Precautions/Procedures

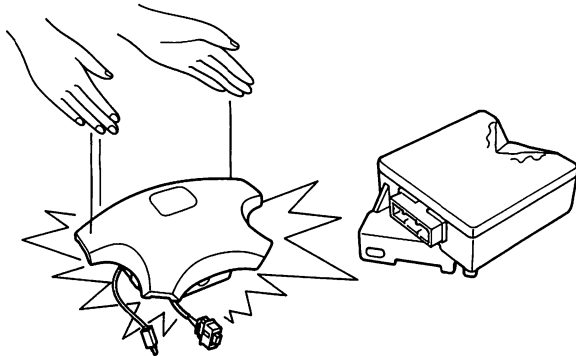
## General Precautions

Please read the following precautions carefully before performing the SRS service. Observe the instructions described in this manual, or the airbags and side airbags could accidentally deploy and cause damage or injuries.

- Except when performing electrical inspections, always turn the ignition switch OFF and disconnect the negative cable from the battery, and wait at least three minutes before beginning work.

NOTE: The contents in the memory is not erased even if the ignition switch is turned OFF or the battery cables are disconnected from the battery.

- Use the replacement parts which are manufactured to the same standards as the original parts and quality. Do not install used SRS parts from another vehicle. Use only new parts when making SRS repairs.
- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.



- Before removing any of the SRS parts (including the disconnection of the connectors), always disconnect the SRS connectors. Refer to page 24-24 for disconnection of the SRS connectors.

- Use only a digital multimeter to check the system. If it is not a Honda multimeter, make sure its output is 10 mA (0.01 A) or less when switched to the lowest value in the ohmmeter range. A tester with a higher output could cause accidental deployment and possible injury.
- Do not put objects on the front passenger's airbag assembly.
- Except KY model; the original radio has a coded theft protection circuit. Be sure to get the customer's radio code before disconnecting the battery cable.

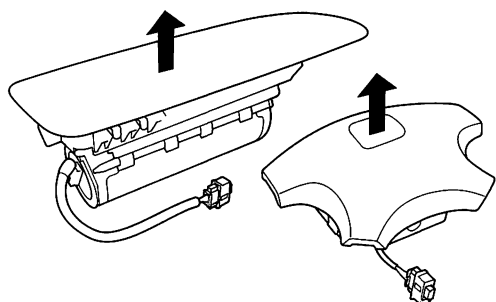


## Airbag/Seat Belt Tensioner/Side Airbag Handling and Storage

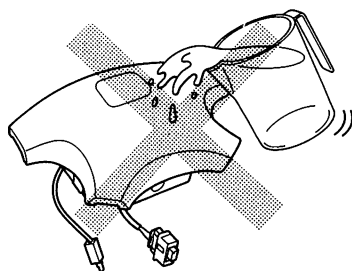
Do not disassemble the airbag, seat belt tensioner and side airbag. It has no serviceable parts. Once an airbag and a side airbag have been deployed, once a seat belt tensioner has been activated, it cannot be repaired or reused.

For temporary storage of the airbag, seat belt tensioner and side airbag during service, please observe the following precautions.

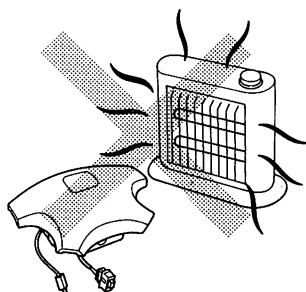
- Store the removed airbag and side airbag with pad surface (deployment surface) up. Never put any things on the removed airbag and side airbag assembly.



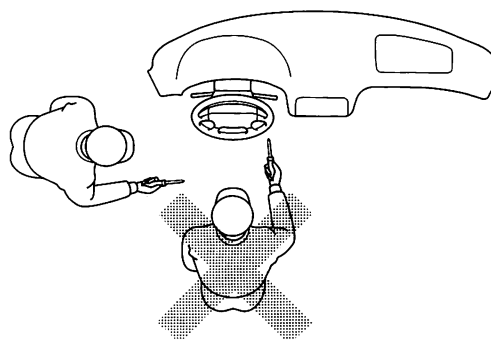
- Keep free from any oil, grease, detergent, or water to prevent damage to the airbag, seat belt tensioner and side airbag assembly.



- Store the removed airbag and side airbag on a secure flat surface away from any high heat source (exceeding 93°C/200°F).



- Never perform electrical inspections to the airbag, seat belt tensioner and side airbag such as measuring resistance.
- Do not position yourself in front of the airbag assembly during removal, inspection, or replacement.

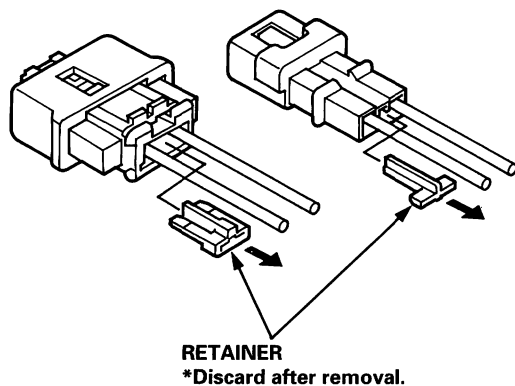


- Refer to the scrapping procedures for disposal of the damaged airbag (see page 24-91).

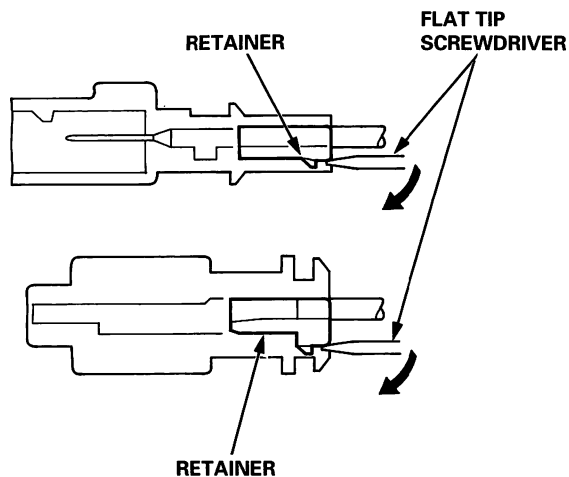
# Precautions/Procedures

## Backprobing Spring-loaded Lock Connectors (Without waterproof type)

- When checking voltage or resistance on this type of connector the first time, it is necessary to remove the retainer to insert the tester probe from the wire side. It is not necessary to reinstall the removed retainer; the terminals will stay locked in the connector housing.

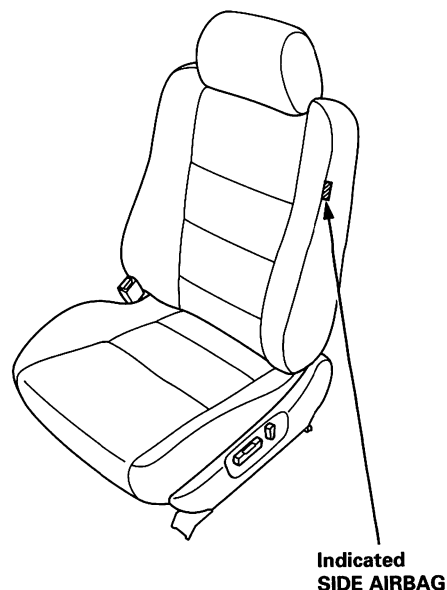


- To remove the retainer, insert a flat-tip screwdriver between the connector body and the retainer, then carefully pry out the retainer. Take care not to break the connector.



## Seat with Side Airbag

- To distinguish two type of the seats, the seat with a airbag is marked with a side airbag on the surface of the seat-back. As the component parts (a seat-back cover, etc.) are different from the types with side airbag and types without side airbag, if service is necessary, be careful not to assemble the wrong parts.

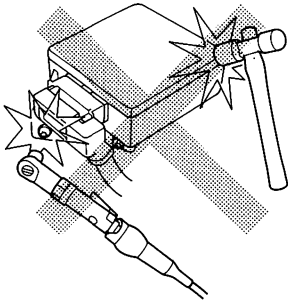


- Do not wash the seat and do not spray the steam on the seat.
- Do not repair the tear or frayed spot of the seat-back cover. If necessary, replace the seat-back cover.
- After a collision in which the side airbag was deployed, replace the seat-back cover and side airbag of the deployed side seat to new parts.

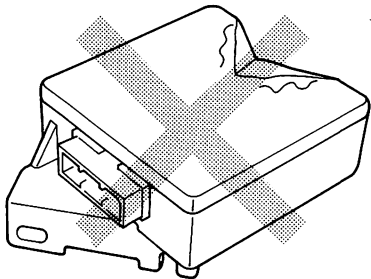


## SRS Unit/Side Impact Sensor Precautions

- Be careful not to bump or impact the SRS unit and side impact sensor whenever the ignition switch is ON (II), or wait at least for three minutes after the ignition switch is turned OFF.
- During installation or replacement, be careful not to bump (by impact wrench, hammer, etc.) the area around the SRS unit and side impact sensor. The airbags and side airbags could accidentally deploy and cause damage or injury.



- After a collision in which the airbags were deployed, replace the SRS unit. After a collision in which the side airbag was deployed, replace the side impact sensor of deployed side and SRS unit. After a collision in which the airbags or the side airbags were not deployed, inspect for any damage or any deformation on the SRS unit and the side impact sensor. If there is any damage, replace the SRS unit and/or the side impact sensor.



- Do not disassemble the SRS unit and side impact sensor.
- Turn the ignition switch OFF, disconnect the battery negative cable and wait at least three minutes before beginning installation or replacement of the SRS unit, and disconnect the connectors from the SRS unit.
- Be sure the SRS unit and side impact sensor are installed securely to the specified torque.

**TORQUE: 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)**

- Do not spill water or oil on the SRS unit and side impact sensor, and keep them away from dust.
- Store the SRS unit and side impact sensor in a cool (less than 40°C/104°F) and dry (less than 80% relative humidity, no moisture) area.

## Steering-related Precautions

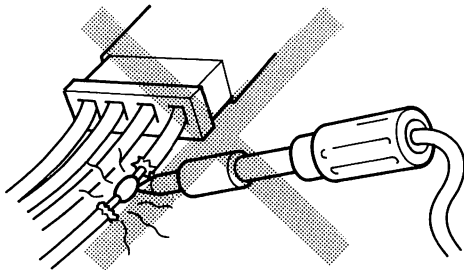
### Cable Reel Alignment

- Center the cable reel whenever the following is performed. (Refer to page 24-82 for centering the cable reel.) Misalignment of the cable reel (the cable reel is not centered) could cause an open in the cable reel, making the SRS system and the horns inoperative.
  - Installation of the steering wheel
  - Installation of the cable reel
  - Installation of the steering column
  - Other steering-related adjustment or installation
- Do not disassemble the cable reel.
- Do not apply grease on the cable reel.
- If the cable reel shows any signs of damage for example, it does not rotate smoothly, replace the cable reel with a new one.

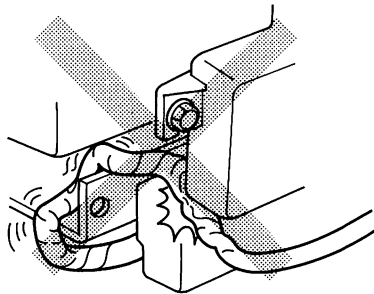
# Precautions/Procedures

## Wiring Precautions

- SRS wiring can be identified by special yellow outer covering (except the SRS indicator light circuit). Observe the instructions described in this chapter.
- Confirm that the article number label with the SRS floor harness is located in the right side of the body, when you replace the SRS floor harness.
- Never attempt to modify, splice, or repair SRS wiring. If there is an open or damage in SRS wiring, replace the harness.



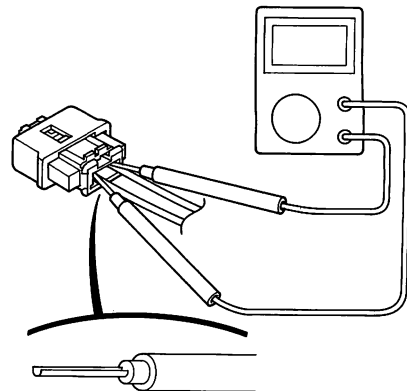
- Be sure to install the harness wires so that they are not pinched, or interfere with other parts.



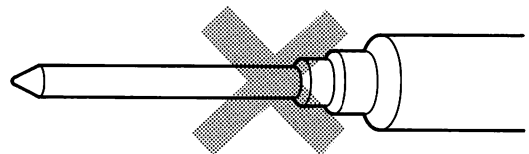
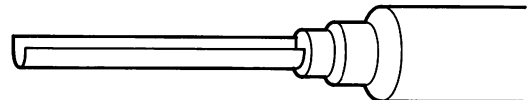
- Make sure all SRS ground locations are clean, and grounds are securely fastened for optimum metal-to-metal contact. Poor grounding can cause intermittent problems that are difficult to diagnose.

## Precautions for Electrical Inspections

- Use the special tools for the waterproof connector.
- When using electrical test equipment, insert the probe of the tester into the wire side of the connector. Do not insert the probe of the tester into the terminal side of the connector, and do not tamper with the connector. Inserting the probe into the terminal side of the connector and tampering of the connector could cause malfunction of the SRS system or an error in inspection.



- Use a U-type probe with a Honda PGM Tester as shown below. Do not insert the probe forcibly.



- Use specified service connectors in troubleshooting. Using tools which are not specified standard design could cause poor metal-to-metal contact.



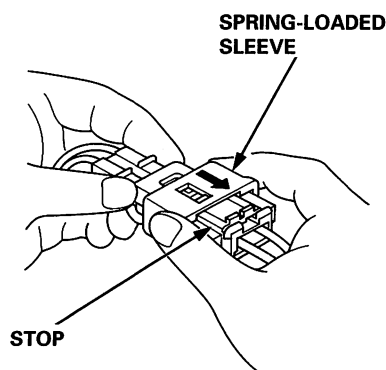
## Spring-loaded Lock Connectors

Some SRS system connectors have a spring-loaded lock.

### Except Side Airbag Connector:

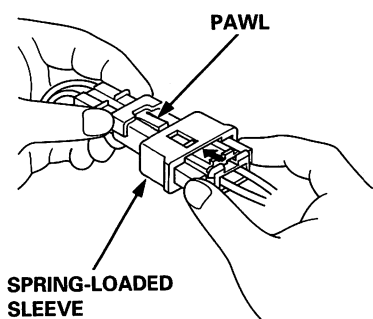
#### Disconnecting

To release the lock, pull the spring-loaded sleeve toward the stop while holding the opposite half of the connector. Then pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.

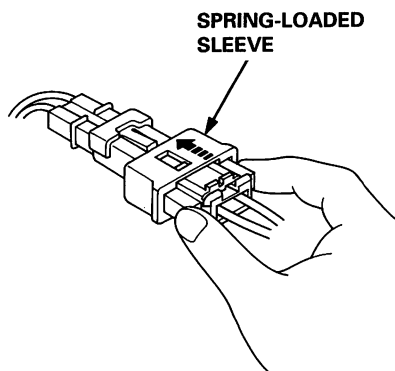


#### Connecting

1. Hold the pawl-side connector half, and press on the back of the sleeve-side connector half in the direction shown. As the two connector halves are pressed together, the sleeve is pushed back by the pawl. Do not touch the sleeve.



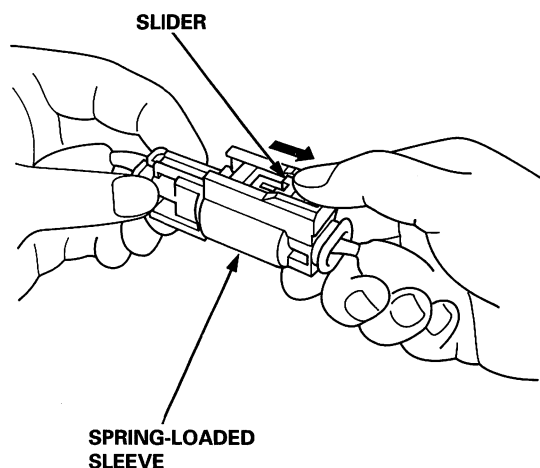
2. When the connector halves are completely connected, the pawl is released, and the spring-loaded sleeve locks the connector.



### Side Airbag Connector:

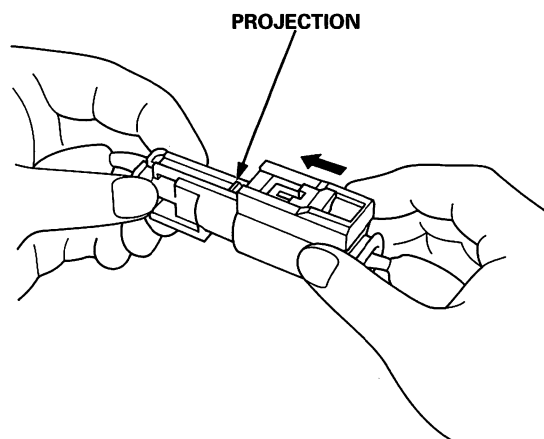
#### Disconnecting

To release the lock, pull the spring-loaded sleeve with pulling the slider while holding the opposite half of the connector. Then pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.



#### Connecting

Hold the both connector halves, and press them forcibly until the projection of the sleeve-side connector clicks to lock.





## Precautions/Procedures

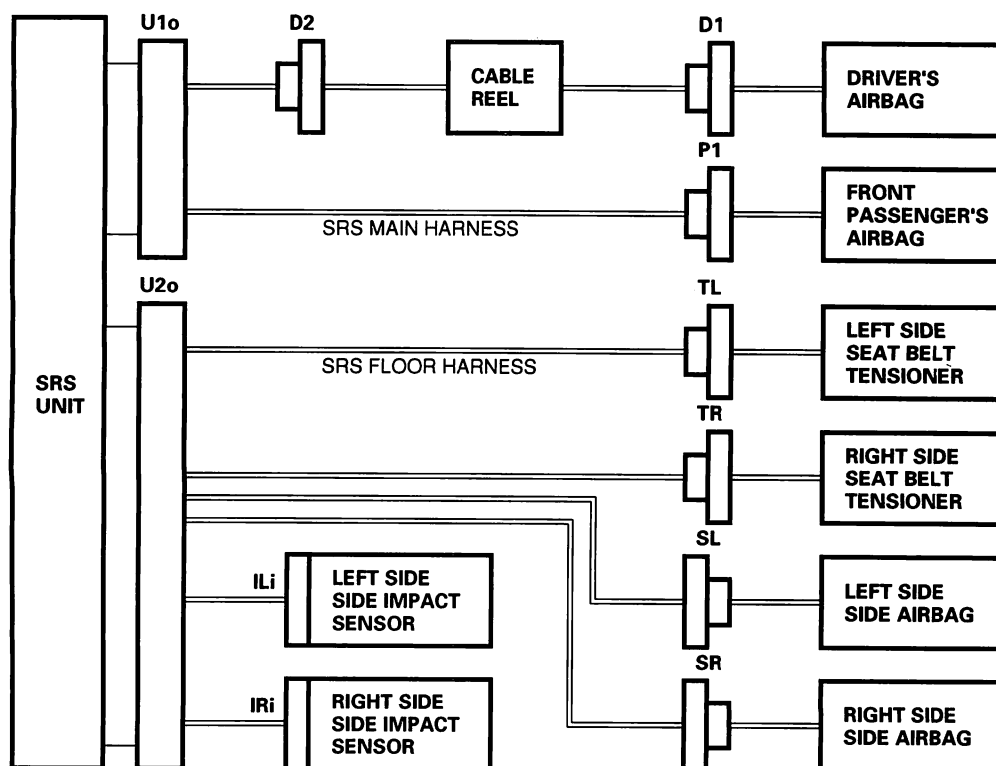
### Disconnecting the Airbag Connectors, Side Airbag Connectors and Seat Belt Tensioner Connectors

Before removing the airbag or the side airbag or SRS related devices (the SRS unit, the cable reel, the side impact sensor and the seat belt tensioner connector), disconnecting connectors from related devices, or removing the dashboard or the steering column, disconnect the airbag connectors from the airbags or the side airbag connectors from the side airbags to prevent accidental deployment.

#### **⚠ WARNING**

Turn the ignition switch OFF and disconnect the negative cable from the battery, and wait at least three minutes before beginning the following procedures A and B. (procedure B follows the procedure A.)

A. Airbag connectors to be disconnected	B. SRS devices to be removed/SRS-related connectors to be disconnected
Disconnect the D1, P1, TL, TR, SL and SR connectors.	Removal of the SRS unit
Disconnect the D1 connector.	Removal of the cable reel
Disconnect the SL connector.	Removal of the left side side impact sensor
Disconnect the SR connector.	Removal of the right side side impact sensor
Disconnect the D1 connector.	Disconnection of the D2 connector
Disconnect the D1 and P1 connectors.	Disconnection of the U1o connector
Disconnect the TL, TR, SL and SR connectors.	Disconnection of the U2o connector
Disconnect the SL connector.	Disconnection of the ILi connector
Disconnect the SR connector.	Disconnection of the IRI connector

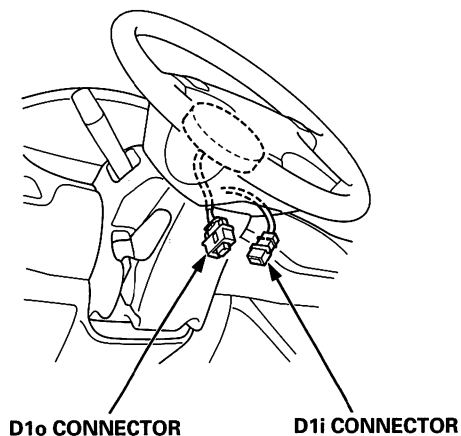




1. Disconnect the battery negative cable, and wait at least three minutes.
2. Disconnect the airbag connector(s), the side airbag connector(s) and (or) seat belt tensioner(s) connector(s).

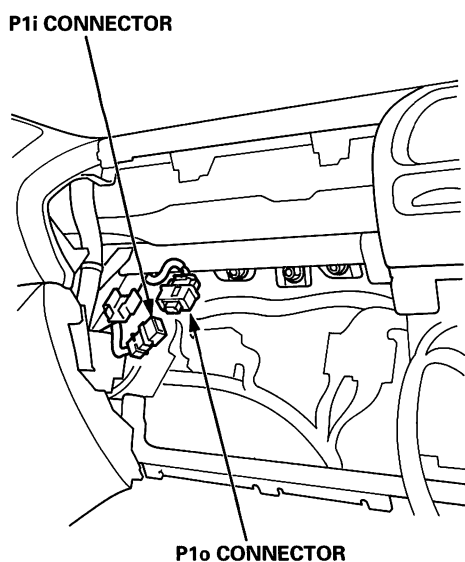
#### Driver's Side:

- Remove the access panel from the steering wheel, then disconnect the D1i connector and D1o connector.



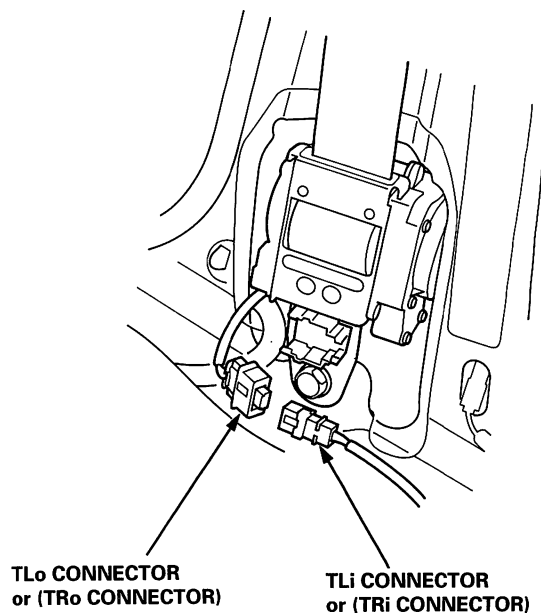
#### Front Passenger's Side:

- Remove the glove box (see section 20), then disconnect the P1i connector and P1o connector.



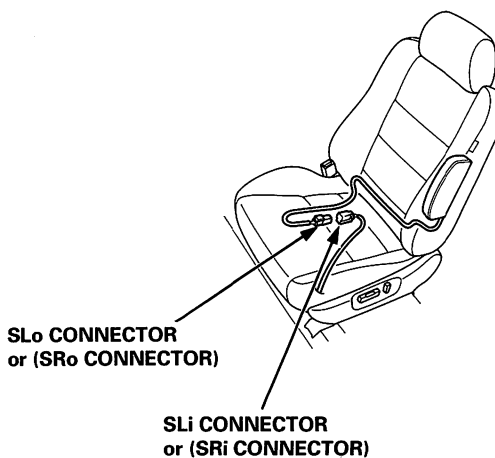
#### Seat Belt Tensioner:

- Remove the left and (or) right center pillar lower trim panel (see section 20).
- Disconnect the TLo connector from the TLi connector and (or) TRo connector from the TRi connector.



#### Side Airbag:

- Disconnect the SLo connector from the SLi connector and (or) SRo connector from the SRi connector.



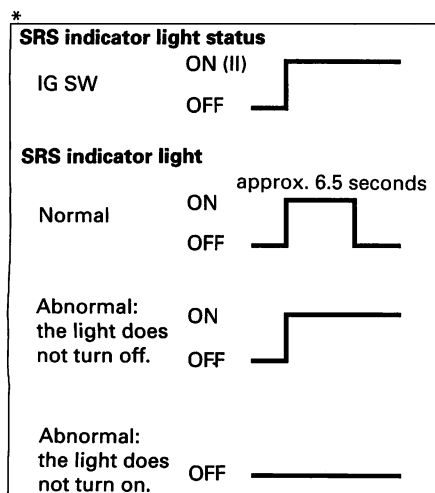
# Troubleshooting

## Self-diagnostic Precautions

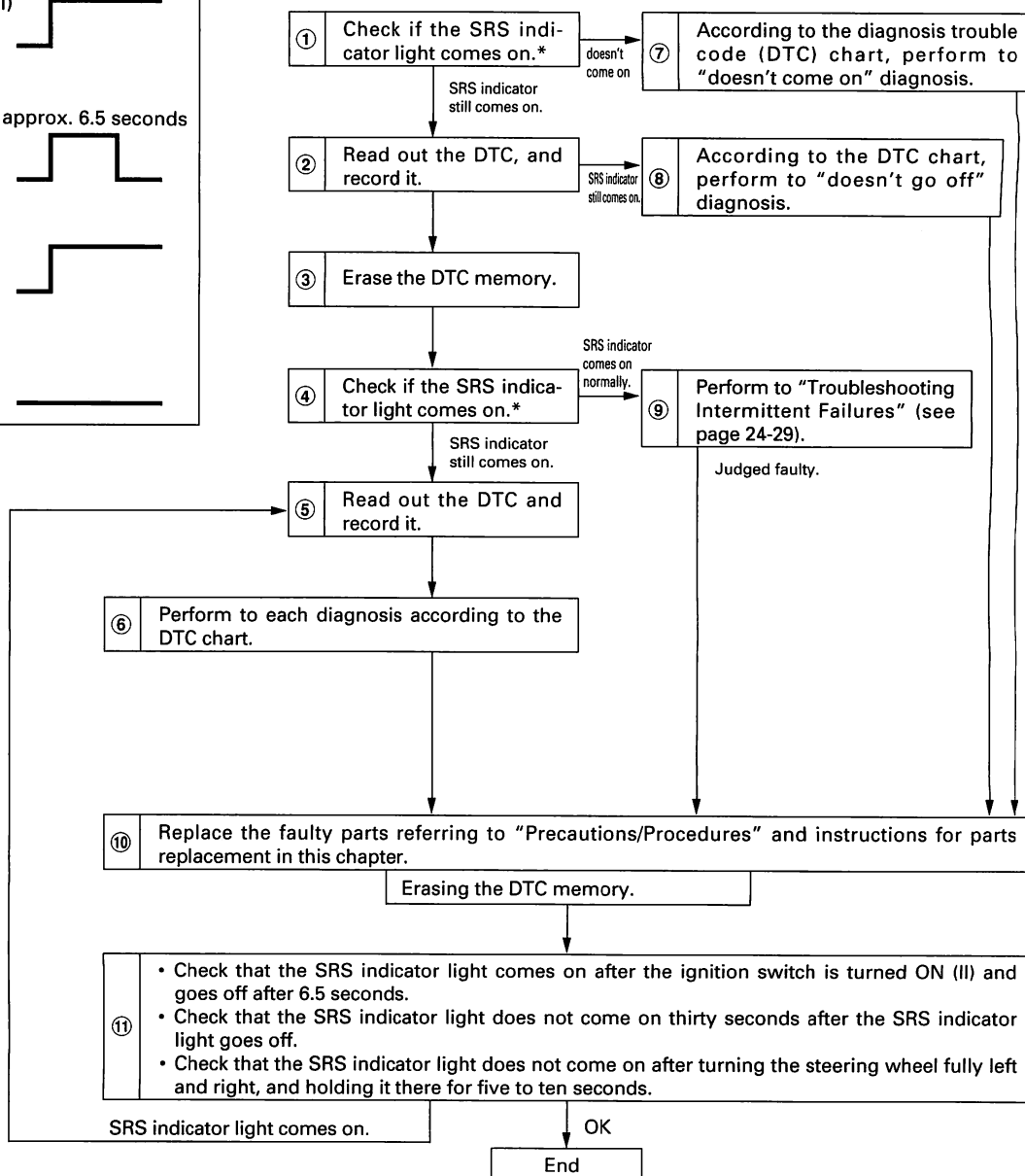
For correct and effective troubleshooting, follow the flowchart below.

### NOTE:

- Observe the precautions and the procedure described in this chapter in performing troubleshooting.
- Make sure the battery is sufficiently charged. If the battery is dead or low, measuring value won't be correct.
- When performing diagnosis for an open or damage in the wire harness, check the condition of the connectors and visually inspect the terminals for corrosion, bent pins, or other damage.



Reading the diagnostic trouble code (DTC): see page 24-27.  
Erasing the DTC Memory: see page 24-29.  
Diagnostic Trouble Code (DTC) Chart: see page 24-38.





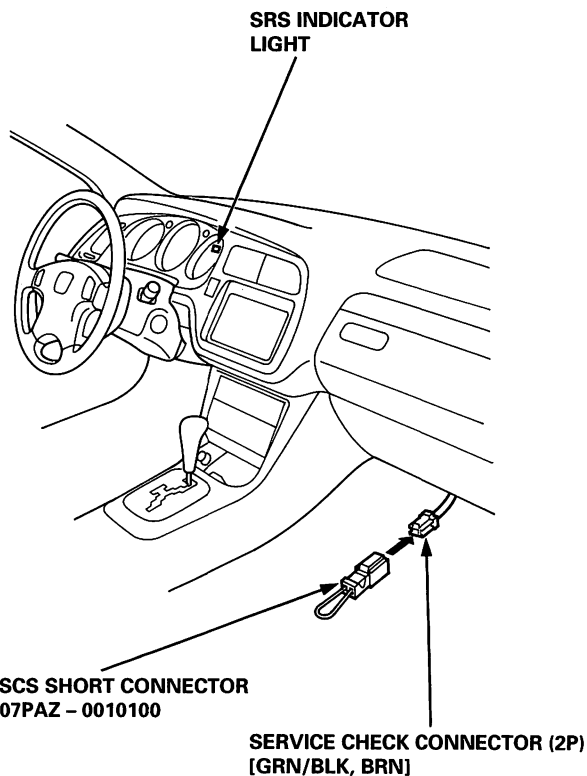
## Reading the DTC (Diagnostic Trouble Code)

There are two ways of reading the DTC that depends on the SRS indicator light (A) and using a Honda PGM Tester (B).

### A. Reading the DTC by the SRS indicator light

The SRS indicator light indicates the DTC by the number of blinks when the SCS short connector is connected to the service check connector (2P).

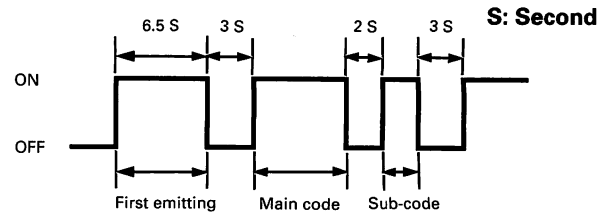
1. Turn the ignition switch OFF, and wait for ten seconds. Then connect the SCS short connector to the service check connector (2P). If you don't wait ten seconds, the SRS unit won't be completely reset or output DTCs.



2. Turn the ignition switch ON (II). The SRS indicator light comes on for about 6.5 seconds, and then goes off. Then it will indicate the DTC.
3. Read the DTC.
4. Turn the ignition switch OFF, and wait for ten seconds. Then disconnect the SCS short connector from the service check connector (2P).
5. End.

## Patterns of the DTC Indications:

The DTC consists of a main code and sub-code.

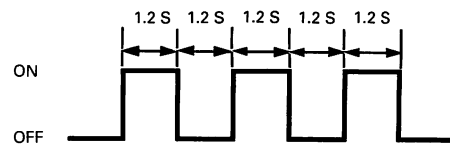


### Reading the main code:

In case of 1 ~ 10

Count the number of the blinks.

#### Example:

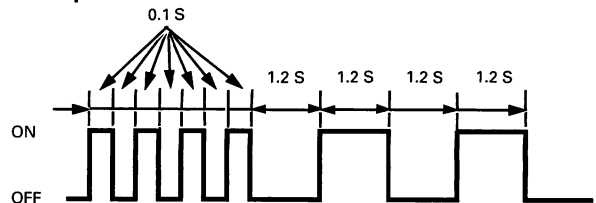


$$\text{Main code} = 1 + 1 + 1 = 3$$

In case of 11 ~ 14

The indicator's blink is regarded first four continuous blinks as count ten, then after blink is added to them.

#### Example:

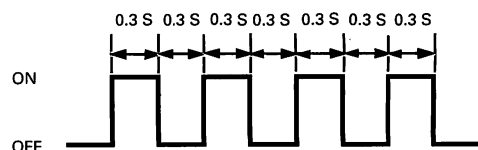


$$\text{Main code} = 10 + 1 + 1 = 12$$

### Reading the sub code:

Count the number of the blinks.

#### Example:



$$\text{Sub code} = 1 + 1 + 1 + 1 = 4$$

In case of main code is '3', sub code is '4', record a DTC 3-4.

(cont'd)

# Troubleshooting

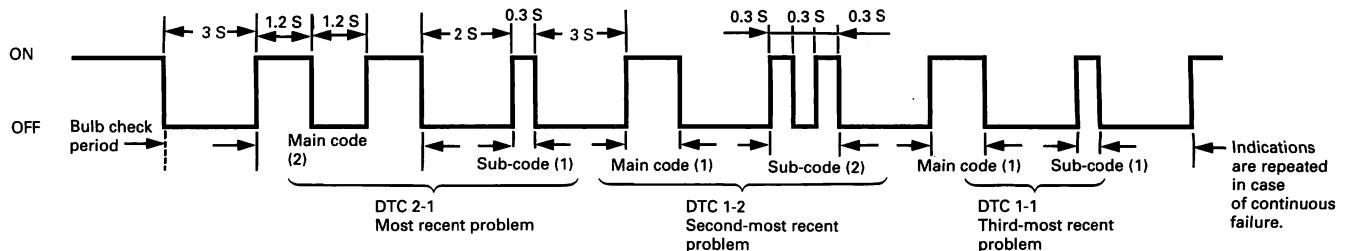
## Reading the DTC (cont'd)

- Including the most recent problem, up to three different malfunctions can be indicated (see example 1 below).
- In case of a continuous failure, the DTC will be indicated repeatedly (see example 1 below).
- In case of an intermittent failure, the SRS indicator light will indicate the DTC one time, then it will stay on (see example 2 below).
- If both a continuous and an intermittent failure occur, both DTCs will be indicated as continuous failures.
- When the system is normal (no DTC), the SRS indicator light will stay on (see example 3).
- If the SRS indicator light comes on continually without DTC, it will be faulty.

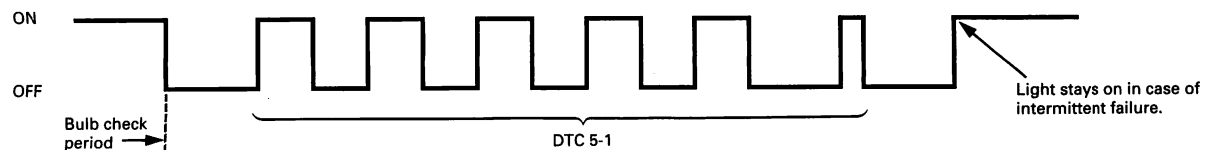
### Examples of the DTC Indications:

#### 1. Continuous failure, SRS Indicator Light is:

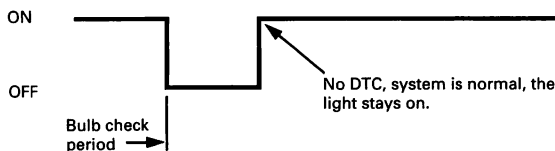
S: Second



#### 2. Intermittent failure, SRS Indicator Light is:

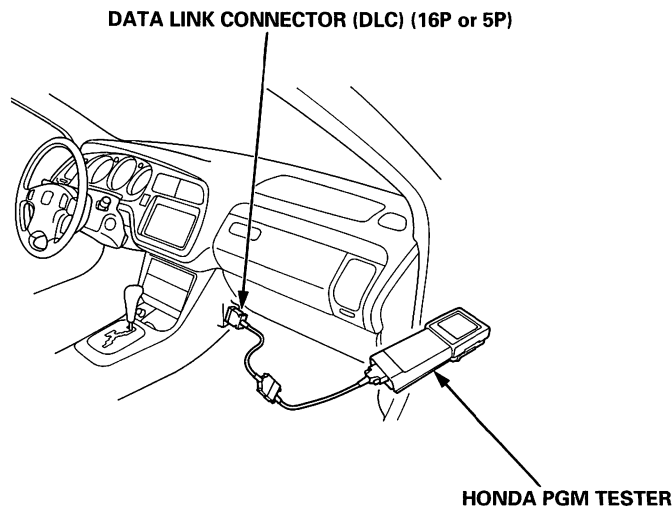


#### 3. Normal (no failure), SRS Indicator Light is:



## B. Reading the DTC by the Honda PGM Tester

DTC can be read with the Honda PGM Tester connected to the DLC (16P or 5P) as shown below. If the tester indicates the no DTC, DTC 9-1 or DTC 9-2, read by SRS indicator light.

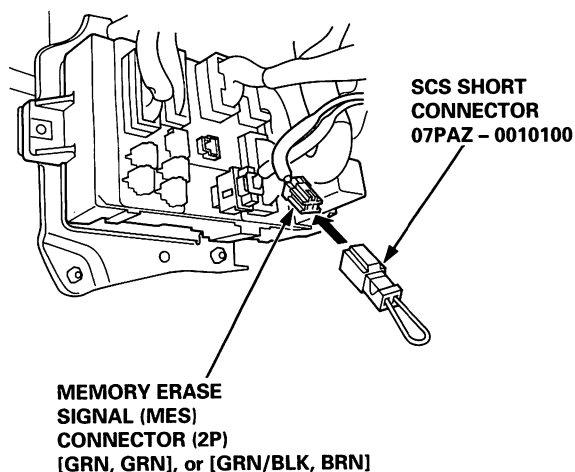




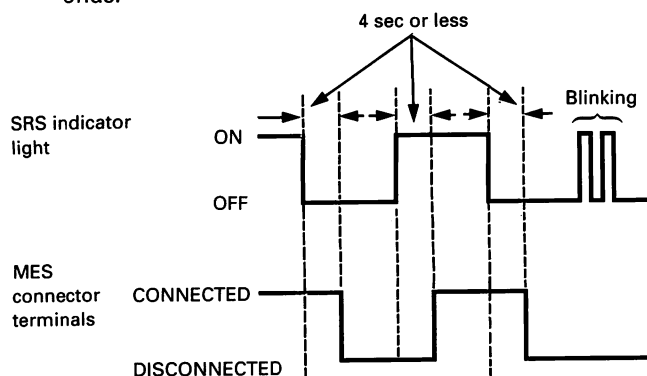
## Erasing the DTC Memory

To erase the DTC(s) from the SRS unit, use a Honda PGM Tester SRS vehicle System Supplement or the following procedure.

1. Make sure the ignition switch is OFF.
2. Connect the SCS short connector to the MES connector (2P). Do not use a jumper wire.



3. Turn the ignition switch ON (II).
4. The SRS indicator light comes on for about 6.5 seconds and goes off. Remove the SCS short connector from the MES connector (2P) within four seconds after the SRS indicator light goes off.
5. The SRS indicator light comes on again. Reconnect the SCS short connector to the MES connector (2P) within four seconds after the SRS indicator light comes on.
6. The SRS indicator light goes off. Remove the SCS short connector from the MES connector (2P) within four seconds.
7. The SRS indicator light indicates that the memory is erased by blinking two times.
8. Turn the ignition switch OFF, and wait for ten seconds.

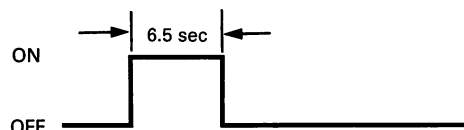


## Troubleshooting Intermittent Failures

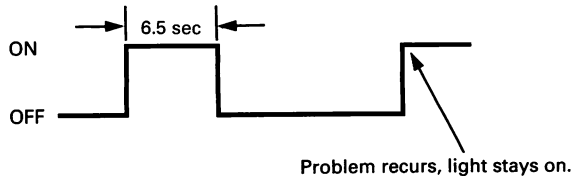
If there was a malfunction, but it doesn't recur, it will be stored in the memory as an intermittent failure, and the SRS indicator light comes on.

**After checking the DTC, troubleshoot as follows:**

1. Read the DTC (see Reading the DTC).
2. Erase the DTC memory (see "Erasing the DTC Memory").
3. With the shift lever in neutral, start the engine, and let the engine idle.
4. The SRS indicator light comes on for about 6.5 seconds and then goes off.



5. Shake the wire harness and connector, take a test drive (quick acceleration, quick braking, cornering), and turn the steering wheel fully left and right, and hold it there for five to ten seconds. If the problem recurs, the SRS indicator light will stay on.



6. If you can't duplicate the intermittent failure, the system is OK at this time.

# Troubleshooting

## Diagnostic Trouble Code (DTC) Chart

SRS indicator light	DTC	Possible cause	Corrective action	See page
doesn't come on	none (doesn't come on)	Faulty SRS indicator light circuit	Troubleshooting	24-38
comes on	none (doesn't go off)	Faulty SRS indicator light circuit, internal failure of SRS unit, faulty SRS power supply (VB line)	Troubleshooting	24-40
	1-1	Open or increased resistance in the driver's airbag inflator	Troubleshooting	24-43
	1-3	Short to another wire or decreased resistance in the driver's airbag inflator		24-44
	1-4	Short to power in the driver's airbag inflator		24-45
	1-5	Short to ground in the driver's airbag inflator		24-46
	2-1	Open or increased resistance in the passenger's airbag inflator	Troubleshooting	24-47
	2-3	Short to another wire or decreased resistance in the passenger's airbag inflator		24-48
	2-4	Short to power in the passenger's airbag inflator		24-49
	2-5	Short to ground in the passenger's airbag inflator		24-50
	3-1	Open or increased resistance in the left side seat belt tensioner	Troubleshooting	24-51
	3-3	Short to another wire or decreased resistance in the left side seat belt tensioner		24-52
	3-4	Short to power in the left side seat belt tensioner		24-53
	3-5	Short to ground in the left side seat belt tensioner		24-54
	4-1	Open or increased resistance in the right side seat belt tensioner	Troubleshooting	24-55
	4-3	Short to another wire or decreased resistance in the right side seat belt tensioner		24-56
	4-4	Short to power in the right side seat belt tensioner		24-57
	4-5	Short to ground in the right side seat belt tensioner		24-58



SRS indicator light	DTC	Possible cause	Corrective action	See page
comes on	5-1	Internal failure of the SRS unit	SRS unit replacement	24-83
	5-2			
	5-3			
	5-4			
	5-5			
	5-8			
	6-1	Internal failure of the SRS unit	SRS unit replacement	24-83
	6-2			
	6-3			
	6-4			
	6-5			
	6-6			
	6-7			
	6-8	Internal failure of the SRS unit	SRS unit replacement	24-83
	7-1			
	7-2			
	7-3	Internal failure of the SRS unit	SRS unit replacement	24-83
	8-1			
	8-2	Internal failure of the SRS unit	SRS unit replacement	24-83
	8-3			
	8-4			
	8-5			
	8-6			
	8-7			
	8-8			
	9-1*1	Internal failure of the SRS unit	SRS unit replacement	24-83
	9-2*2			

**NOTE:**

\*1: In case of an intermittent failure DTC 9-1, it means there was an internal failure of the SRS unit or faulty SRS indicator light circuit. Do the troubleshooting for intermittent failures (see page 24-29).

\*2: In case of an intermittent failure DTC 9-2, it means there was an internal failure or the power supply (VB line). Do the troubleshooting for intermittent failures (see page 24-29).

(cont'd)



# Troubleshooting

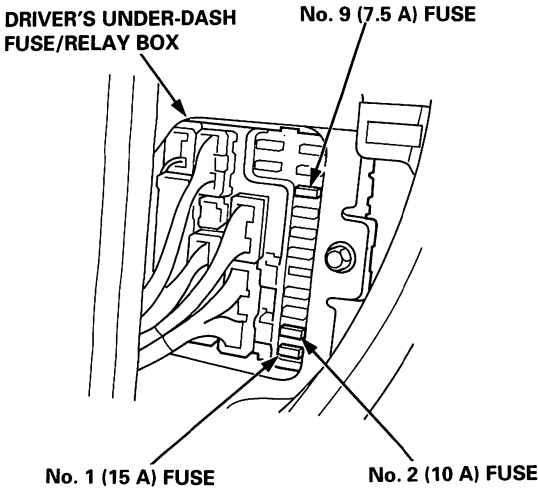
## Diagnostic Trouble Code (DTC) Chart (cont'd)

SRS indicator light	DTC	Possible cause	Corrective action	See page
comes on	10-1	Airbags and seat belt tensioners deployed	SRS unit and deployment related parts replacement	24-83
	10-2	Left side side airbag deployed		
	10-3	Right side side airbag deployed		
	10-4	Airbags and seat belt tensioners and left side side airbag deployed		
	10-5	Airbags and seat belt tensioners and right side side airbag deployed		
	10-6	Side airbags deployed		
	10-7	Airbags and seat belt tensioners and side airbags deployed		
	11-1	Open or increased resistance in the left side side airbag inflator	Troubleshooting	24-59
	11-3	Short to another wire or decreased resistance in the left side side airbag inflator		24-60
	11-4	Short to power in the left side side airbag inflator		24-61
	11-5	Short to ground in the left side side airbag inflator		24-62
	12-1	Open or increased resistance in the right side side airbag inflator	Troubleshooting	24-63
	12-3	Short to another wire or decreased resistance in the right side side airbag inflator		24-64
	12-4	Short to power in the right side side airbag inflator		24-65
	12-5	Short to ground in the right side side airbag inflator		24-66
	13-1	Internal failure of the left side side impact sensor	Left side side impact sensor replacement	24-84
	13-2			
	13-3	Faulty signal line of the left side side impact sensor	Troubleshooting	24-67
	13-4	Faulty power line of the left side side impact sensor		24-68
	14-1	Internal failure of the right side side impact sensor	Right side side impact sensor replacement	24-84
	14-2			
	14-3	Faulty signal line of the right side side impact sensor	Troubleshooting	24-70
	14-4	Faulty power line of the right side side impact sensor		24-71

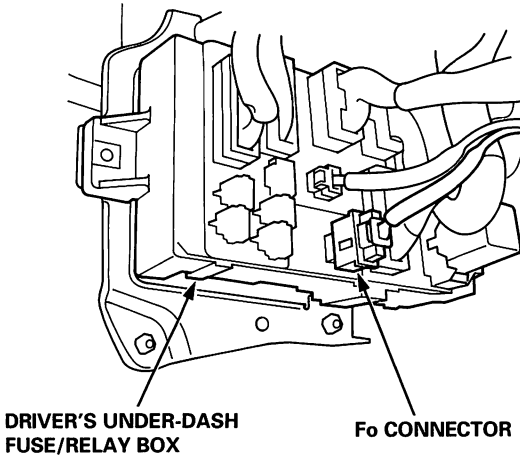


# Fuse Box and Connector Locations

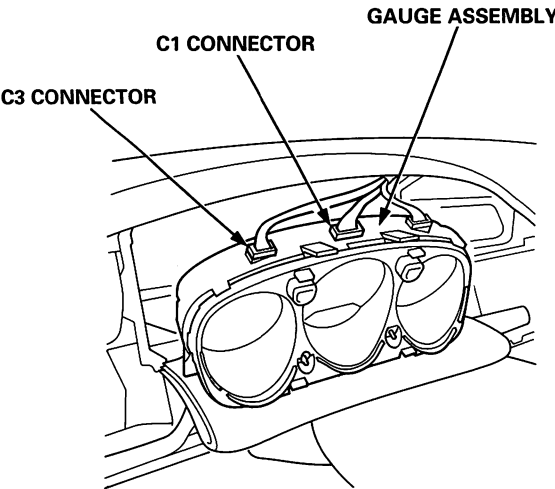
## Driver's under-dash fuse/relay box:



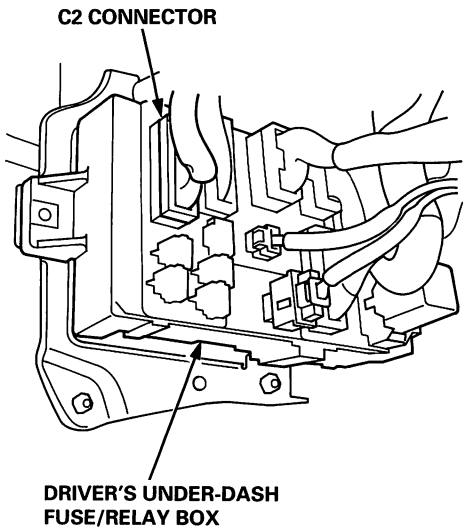
## Fo connector:



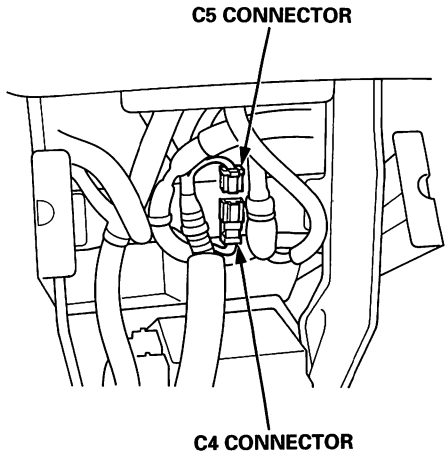
## C1, C3 connector:



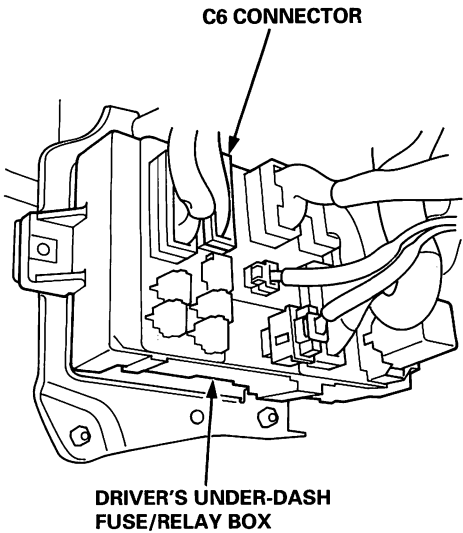
## C2 connector:



## C4, C5 connector:



## C6 connector:

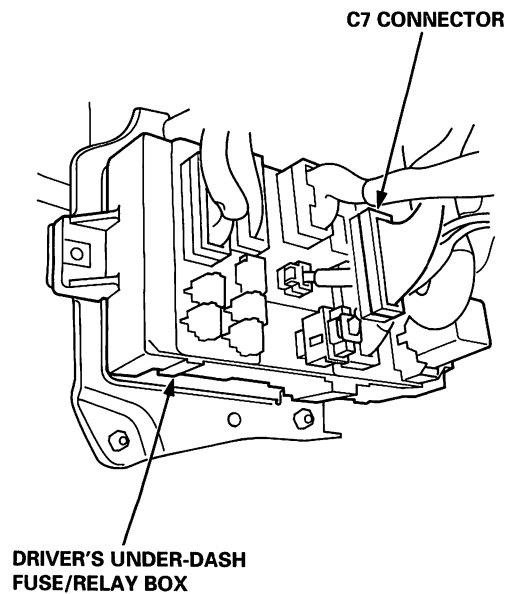


(cont'd)

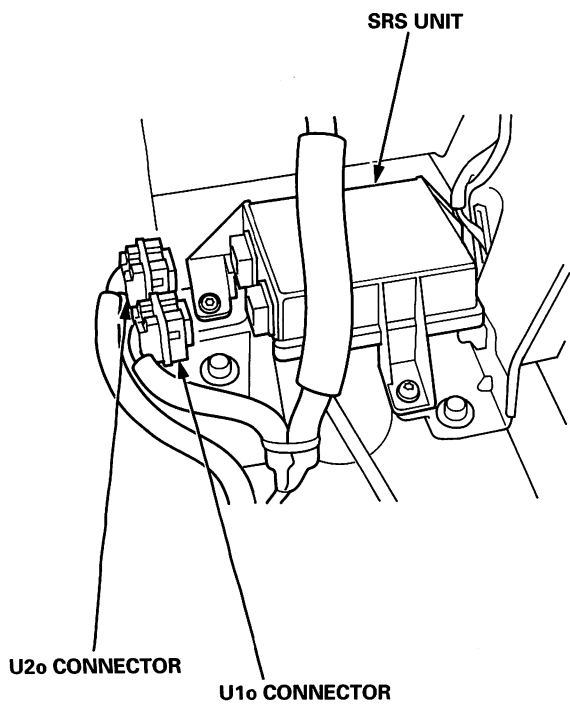
# Troubleshooting

## Fuse Box and Connector Locations (cont'd)

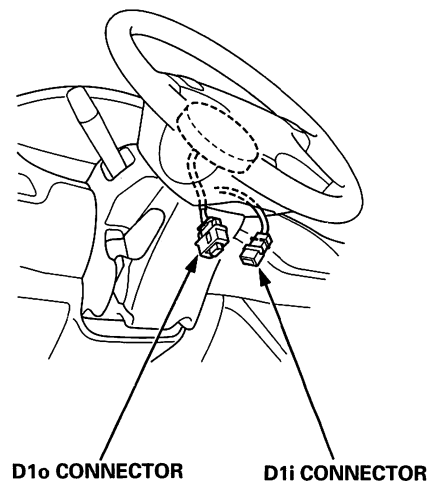
C7 connector:



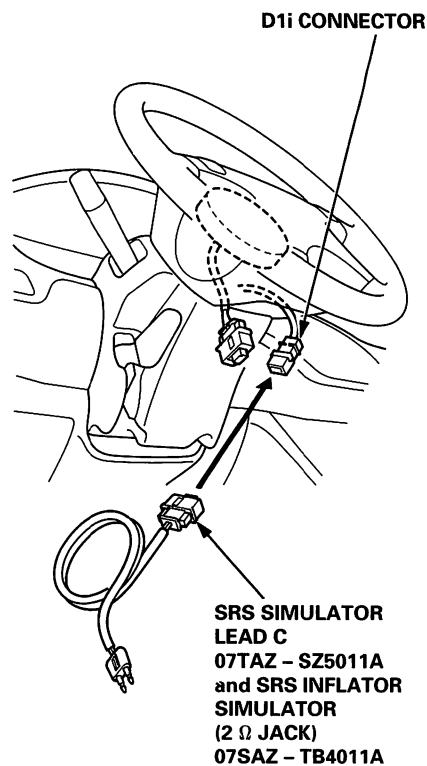
U1o, U2o connector:



D1o connector and D1i connectors:

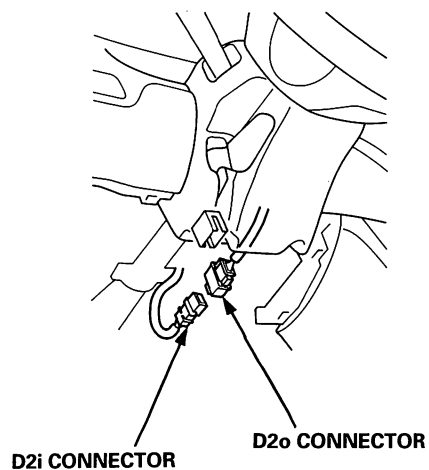


Connecting the special tool to the D1i connector:

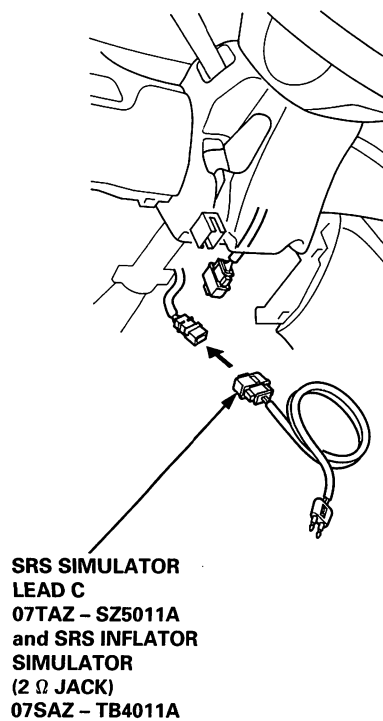




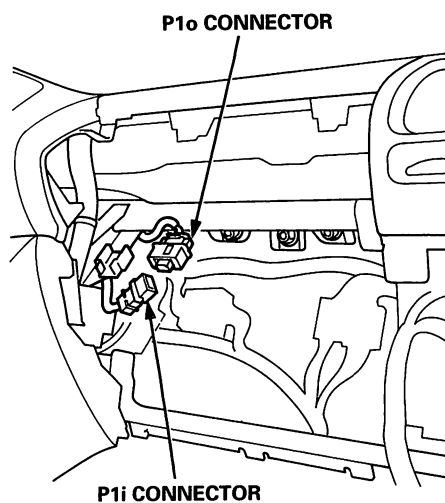
**D2o connector and D2i connector:**



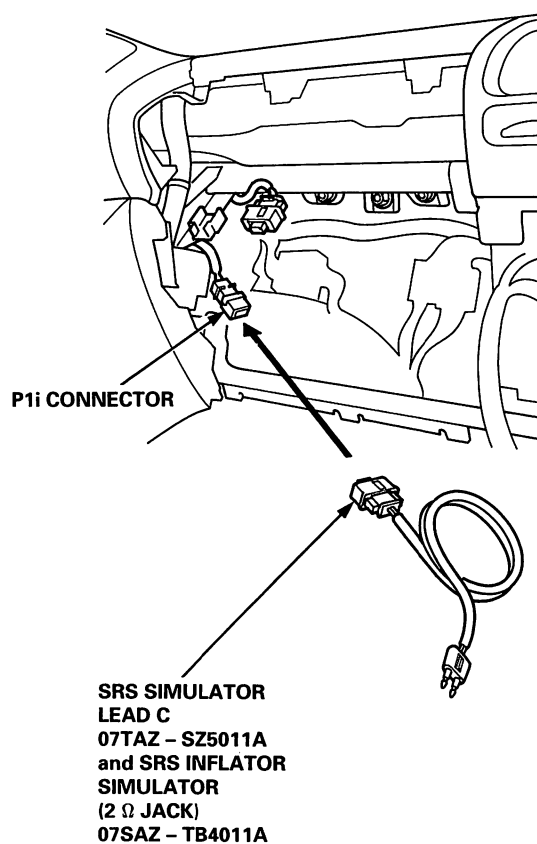
**Connecting the Special tool to the D2i connector:**



**P1o connector and P1i connector:**



**Connecting the special tool to the P1i connector:**

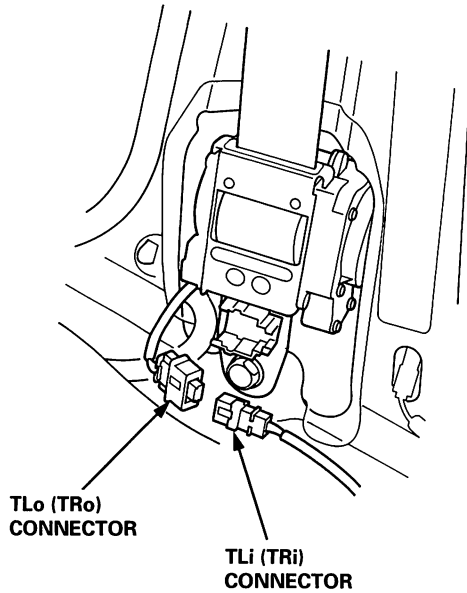


(cont'd)

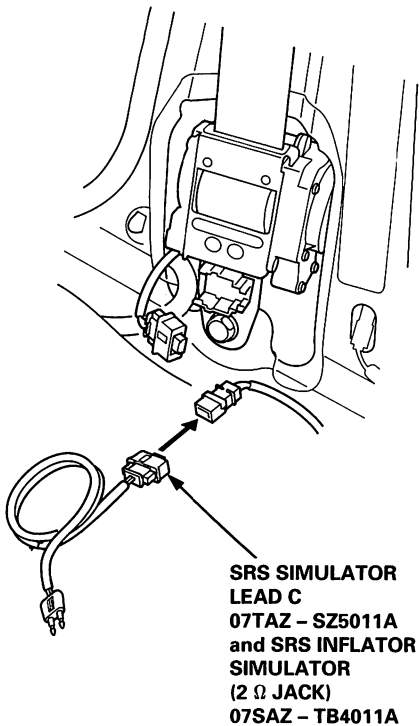
# Troubleshooting

## Fuse Box and Connector Locations (cont'd)

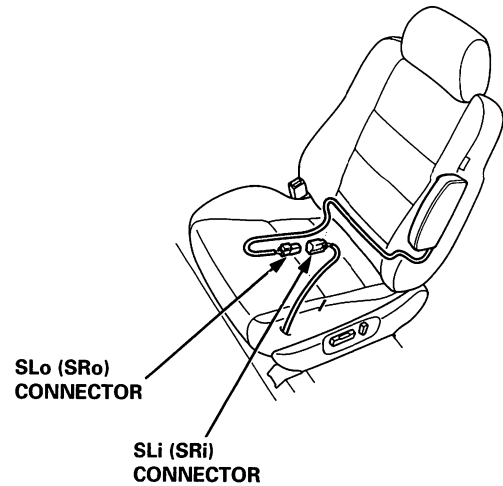
TLo connector and TLi connector (left side) or  
TPo connector and TRi connector (right side):



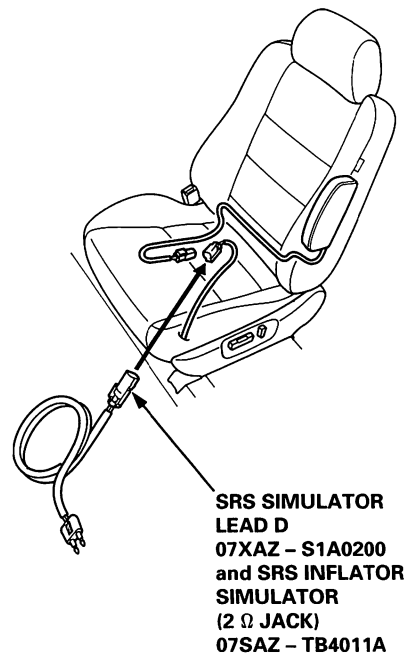
Connecting the special tool to the TLi (or TRi) connector:



SLo connector and SLi connector (left side) or  
SRo connector and SRi connector (right side):

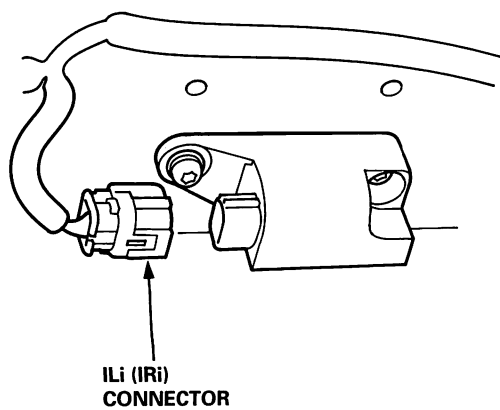


Connecting the special tool to the SLi (or SRi) connector:

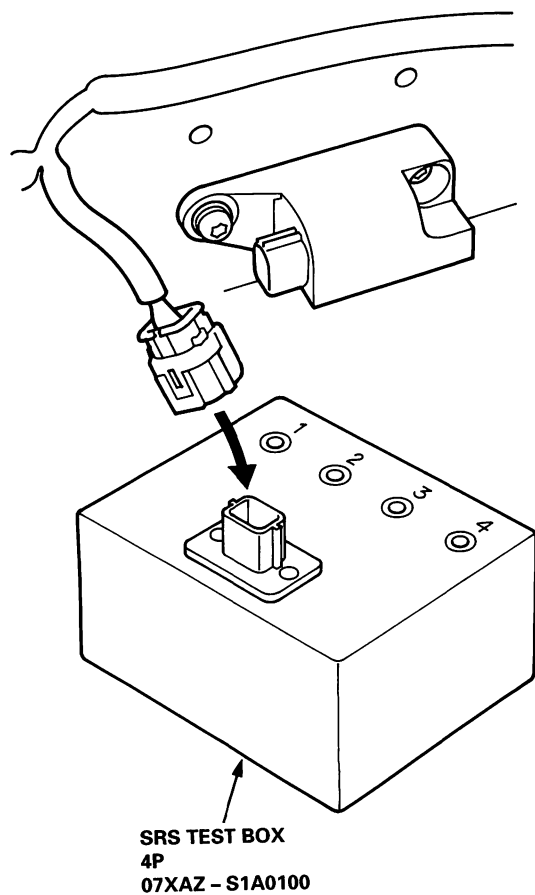




**ILi connector (left side) or  
IRi connector (right side):**



**Connecting the special tool to the ILi (or IRi) connector:**



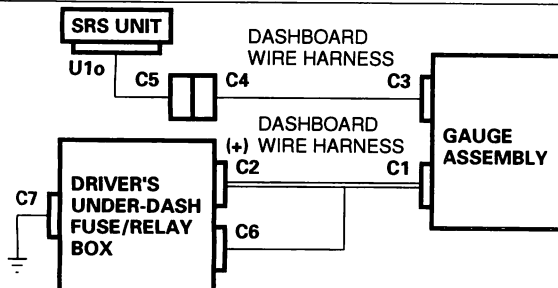
# Troubleshooting

## The SRS Indicator Light Doesn't Come On

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Blown No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box. There is a possibility of short to ground between the C1 and C2 connectors in the dashboard wire harness or short to ground in other circuits in relation to the No. 9 fuse.
- Open between the C1 and C2 connectors in the dashboard wire harness.
- Short to power between the U1o and C3 connectors.
- Open in the wire between the C1 connector and body ground.
- Faulty SRS unit.
- Failure or blown bulbs in the gauge assembly.

Refer to pages 24-33 for the fuse box and connector locations.

#### Check the power supply (fuse):

Turn the ignition switch ON (II), and check whether the other indicator lights come on or not (brake system, etc).

#### Do the other indicator lights come on?

YES

NO

#### Check the fuse:

Check the No. 9 (7.5 A) fuse in the driver's under-dash fuse/relay box (see page 24-33).

#### Is the fuse OK?

YES

NO

(B)

(C)

(A)

(A)

(B)

(c)

#### Check the bulb:

Replace the No. 9 (7.5 A) fuse, and check that the SRS indicator light comes on.

#### Does the SRS indicator light come on?

YES

NO

END

#### Check the wire harness between fuse and gauge assembly:

Check for an open in the wire between fuse No. 9 (7.5 A) and the gauge assembly, and repair. Check that the SRS indicator light comes on.

#### Does the SRS indicator light come on?

YES

NO

END

#### Check the SRS indicator light bulb:

1. Turn the ignition switch OFF.
2. Remove the gauge assembly.
3. Check for blown SRS indicator light bulb.

#### Is the SRS indicator light bulb OK?

YES

NO

#### Check the SRS indicator light circuit:

Replace the bulb, and reconnect the gauge assembly connectors. Then turn the ignition switch ON (II).

#### Does the SRS indicator light come on?

YES

NO

END

To page 24-39 (E)

(D) To page 24-39

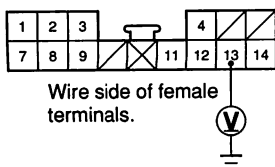


(D) From page 24-38

From page 24-38 (E)

**Check the SRS indicator light circuit:**

1. Disconnect the C3 connector from the gauge assembly (see page 24-33).
2. Connect a voltmeter between the No. 13 terminal (+) of the C3 connector and ground.
3. Turn the ignition switch ON (II), and measure voltage.



Wire side of female terminals.

Is there 8.5 V or less for 6.5 seconds after the ignition switch has been turned ON (II)?

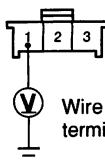
YES

NO

Faulty SRS indicator light circuit in the gauge assembly; replace the SRS indicator circuit board in the gauge assembly.

**Check the wire harness of the SRS indicator light circuit (1):**

1. Turn the ignition switch OFF.
2. Disconnect the C5 connector from the dashboard wire harness (see page 24-33).
3. Connect a voltmeter between the No. 1 terminal (+) of the C5 connector and ground.
4. Turn the ignition switch ON (II), and measure voltage.



Wire side of female terminals.

Is there 8.5 V or less for six seconds after the ignition switch has been turned ON (II)?

YES

NO

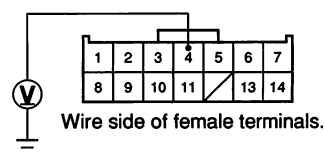
Short to power in the BLU wire of the dashboard wire harness; repair the dashboard wire harness.

(F)

(F)

**Check the wire harness of the SRS indicator circuit (2):**

1. Turn the ignition switch OFF.
2. Disconnect the negative battery cable and wait for three minutes.
3. Disconnect the D1 and P1 connectors (see page 24-25).
4. Disconnect the U1o connector from the SRS unit (see page 24-34).
5. Reconnect the negative battery cable.
6. Connect a voltmeter between the No. 4 terminal (+) of the U1o connector and ground.
7. Turn the ignition switch ON (II), and measure voltage. There should be 0.5 V or less.



Wire side of female terminals.

Is voltage as specified?

YES

NO

Faulty SRS unit; replace the unit (see page 24-83).

Short to power in the BLU wire of the SRS main harness; replace the SRS main harness.



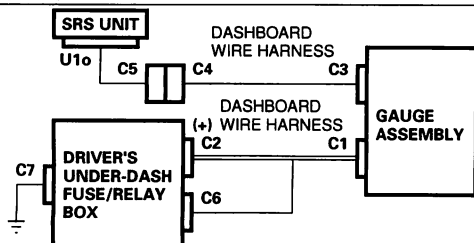
# Troubleshooting

## The SRS Indicator Light Doesn't Go Off

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Blown No. 2 (10 A) fuse in the driver's under-dash fuse/relay box.
- Open or short to ground between the U1o and C3 connectors.
- Faulty SRS indicator light circuit in the gauge assembly.
- Faulty SRS unit.
- Faulty power supply circuit in the SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check the No. 2 (10 A) fuse:

1. Turn the ignition switch OFF.
2. Check for blown No. 2 (10 A) fuse in the driver's under-dash fuse/relay box (see page 24-33).

#### Is the fuse OK?

YES

NO

(A)

(B)

(B)

#### Replace the fuse, and erase the memory:

1. Replace the No. 2 (10 A) fuse.
2. Erase the DTC memory (see page 24-29).
3. Turn the ignition switch ON (II).

#### Does the SRS indicator light go off after 6.5 seconds?

YES

NO

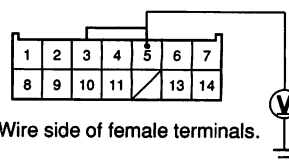
END

Confirm the DTC, and continue troubleshooting.

(A)

#### Check for an open in the SRS main harness (VB line):

1. Disconnect the negative battery cable and wait for three minutes.
2. Disconnect the D1 and P1 connectors (see page 24-25).
3. Disconnect the U1o connector from the SRS unit (see page 24-34).
4. Reconnect the negative battery cable.
5. Connect a voltmeter between the No. 5 terminal (+) of the U1o connector and ground.
6. Turn the ignition switch ON (II).



#### Is there battery voltage?

YES

NO

Open in the SRS main harness (VB line); replace the SRS main harness.

(C) To page 24-41

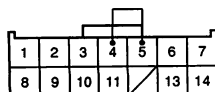


(C) From page 24-40

#### Check the SRS unit:

Connect the U1o connector terminals No. 4 and No. 5 with a jumper wire and backprobe adapters.

#### JUMPER WIRE



Wire side of female terminals.

Does the SRS indicator light go off?

YES

NO

Faulty SRS unit or poor contact at the U1o connector; check the connector. If the connector is OK, replace the SRS unit (see page 24-83).

Did fuse No. 2 (10 A) blow?

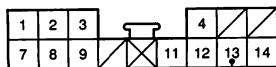
YES

NO

(D)

#### Check for a short to ground in the SRS indicator light circuit:

1. Turn the ignition switch OFF.
2. Disconnect the C3 connector from the gauge assembly (see page 24-33).
3. Check resistance between the No. 13 terminal of the C3 connector and ground. There should be 1 MΩ or more.



Wire side of female terminals.

Is resistance as specified?

YES

NO

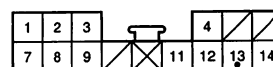
Short to ground in the gauge assembly; replace the gauge assembly.

To page 24-42 (E)

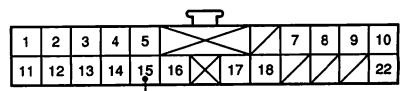
(D)

#### Check the SRS indicator light circuit:

1. Turn the ignition switch OFF.
2. Remove the gauge assembly. Do not disconnect the connector from the gauge assembly.
3. Turn the ignition switch ON (II).
4. Connect the No. 13 terminal of the C3 connector and No. 15 terminal of the C1 connector with a jumper wire (see page 24-33).



Wire side of female terminals.



#### JUMPER WIRE

Does the SRS indicator light go off?

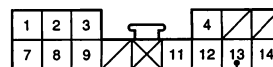
YES

NO

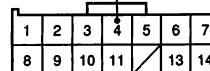
Faulty SRS indicator light circuit in the gauge assembly; replace the SRS indicator circuit board in the gauge assembly.

#### Check for an open in the SRS indicator light circuit:

1. Turn the ignition switch OFF.
2. Disconnect the C3 connector from the gauge assembly (see page 24-33).
3. Check resistance between the No. 4 terminal of the U1o connector and No. 13 terminal of the C3 connector, there should be 0 – 1.0 Ω.



Wire side of female terminals.



Is the resistance as specified?

YES

NO

(F) To page 24-42

To page 24-42 (G)

(cont'd)

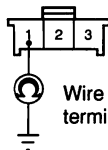
# Troubleshooting

## The SRS Indicator Light Doesn't Go Off (cont'd)

From page 24-41 (E)

### Check for a short to ground in the SRS main harness:

1. Disconnect the C5 connector from the dashboard wire harness (see page 23-33).
2. Check resistance between the No. 1 terminal of the C5 connector and ground. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

Is the resistance as specified?

YES

NO

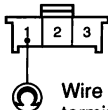
Short to ground in the dashboard wire harness; repair the dashboard wire harness.

Short to ground in the SRS main harness; replace the SRS main harness.

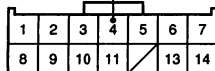
From page 24-41 (G)

### Check for an open in the dashboard wire harness:

1. Disconnect the C5 connector from the dashboard wire harness (see page 24-33).
2. Check resistance between the No. 4 terminal of the U1o connector and No. 1 terminal of the C5 connector; there should be 0 – 1.0  $\Omega$ .



Wire side of female terminals.



Is the resistance as specified?

YES

NO

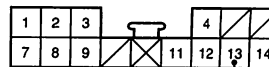
Open in the BLU wire of the dashboard wire harness; repair the dashboard wire harness.

Open in the SRS main harness: replace the SRS main harness.

(F) From page 24-41

### Check the SRS indicator circuit input voltage:

1. Reconnect the U1o connector to the SRS unit.
2. Connect a voltmeter between the No. 13 terminal (+) of the C3 connector and ground.
3. Turn the ignition switch ON (II), wait for 6.5 seconds, then measure voltage.



Wire side of female terminals.



Is there 8.5 V or more?

YES

NO

The problem has disappeared due to disconnecting and connecting the connectors. Be sure all terminals make good contact, and recheck the system (see Troubleshooting Intermittent Failures on page 24-29).

### Poor contact at the U1o connector; check the connector.

- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

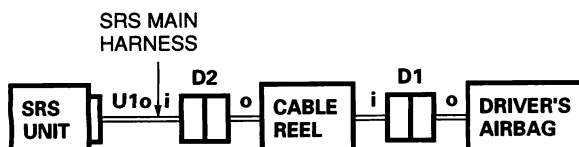


## DTC 1-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U1o connector and the D1i connectors.
- Open or increased resistance in the driver's airbag inflator.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29).

#### Check for an open or increased resistance in the driver's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1i connector from the D1o connector (see page 24-34).
3. Connect the special tool (2  $\Omega$ ) to the D1i connector (see page 24-34).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 1-1 indicated?

YES

NO

Open or increased resistance in the driver's airbag inflator; replace the driver's airbag (see page 24-73).

(A)

#### Check for an open or increased resistance in the cable reel:

1. Disconnect the D2i connector from the D2o connector (see page 24-35).
2. Connect the special tool (2  $\Omega$ ) to the D2i connector (see page 24-35).
3. Erase the DTC memory (see page 24-29).
4. Read the DTC (see page 24-27).

#### Is DTC 1-1 indicated?

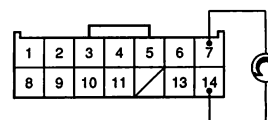
YES

NO

Open or increased resistance in the cable reel; replace the cable reel (see page 24-80).

#### Check for an open or increased resistance in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1 connector (see page 24-35).
3. Disconnect the U1o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the D2i connector.
4. Check resistance between the No. 7 terminal and the No. 14 terminal of the U1o connector. There should be 2.0 – 3.0  $\Omega$ .



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U1o connector and the SRS unit, check the connection between the U1o connector and the SRS unit.

- If the connection is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS main harness; replace the SRS main harness.

(A)

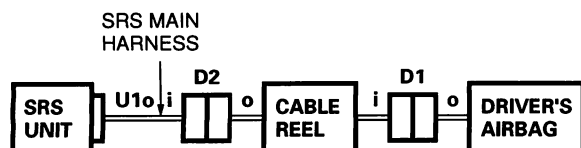
# Troubleshooting

## DTC 1-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U1o connector and the D1i connectors.
- Short to another wire in the driver's airbag inflator.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the driver's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1i connector from the D1o connector (see page 24-34).
3. Connect the special tool (2  $\Omega$ ) to the D1i connector (see page 24-34).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 1-3 indicated?

YES

NO

Short to another wire in the driver's airbag inflator; replace the driver's airbag (see page 24-73).

(A)

#### Check for a short to another wire in the cable reel:

1. Disconnect the D2o connector from the D2i connector (see page 24-35).
2. Connect the special tool (2  $\Omega$ ) to the D2i connector (see page 24-35).
3. Erase the DTC memory (see page 24-29).
4. Read the DTC (see page 24-27).

#### Is DTC 1-3 indicated?

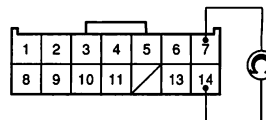
YES

NO

Short to another wire in the cable reel; replace the cable reel (see page 24-80).

#### Check for a short to another wire in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1 connector (see page 24-35).
3. Disconnect the U1o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the D2i connector (see page 24-35).
5. Check resistance between the No. 7 terminal and the No. 14 terminal of the U1o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS main harness; replace the SRS main harness.

(A)

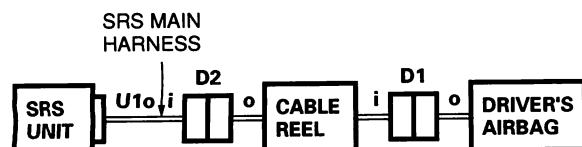


## DTC 1-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U1o connector and the D1i connectors.
- Short to power in the driver's airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the driver's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1i connector from the D1o connector (see page 24-34).
3. Connect the special tool (2  $\Omega$ ) to the D1i connector (see page 24-34).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 1-4 indicated?

YES

NO

Short to power in the driver's airbag inflator; replace the driver's airbag (see page 24-73).

(A)

#### Check for a short to power in the cable reel:

1. Disconnect the D2o connector from the D2i connector (see page 24-35).
2. Connect the special tool (2  $\Omega$ ) to the D2i connector (see page 24-35).
3. Erase the DTC memory (see page 24-29).
4. Read the DTC (see page 24-27).

#### Is DTC 1-4 indicated?

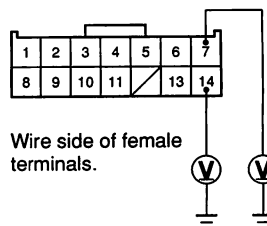
YES

NO

Short to power in the cable reel; replace the cable reel (see page 24-80).

#### Check for a short to power in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1 connector (see page 24-35).
3. Disconnect the U1o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the D2i connector (see page 24-35).
5. Reconnect the negative battery cable.
6. Turn the ignition switch ON (II).
7. Check for voltage between the No. 7 terminal of the U1o connector and body ground, and between the No. 14 terminal of the U1o connector and body ground. There should be 0.5 V or less.



#### Is the voltage as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to power in the SRS main harness; replace the SRS main harness.

(A)

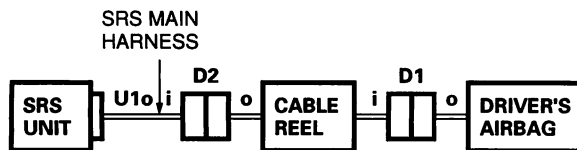
# Troubleshooting

## DTC 1-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U10i connector and the D1i connectors.
- Short to ground in the driver's airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the driver's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1i connector from the D1o connector (see page 24-34).
3. Connect the special tool (2  $\Omega$ ) to the D1i connector (see page 24-34).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 1-5 indicated?

YES

NO

Short to ground in the driver's airbag inflator, replace the driver's airbag (see page 24-73).

(A)

#### Check for a short to ground in the cable reel:

1. Disconnect the D2o connector from the D2i connector (see page 24-35).
2. Connect the special tool (2  $\Omega$ ) to the D2i connector (see page 24-35).
3. Erase the DTC memory (see page 24-29).
4. Read the DTC (see page 24-27).

#### Is DTC 1-5 indicated?

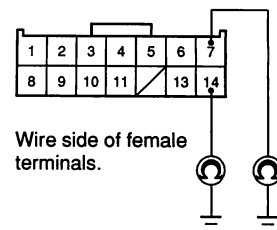
YES

NO

Short to ground in the cable reel; replace the cable reel (see page 24-80).

#### Check for a short to ground in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1 connector (see page 24-35).
3. Disconnect the U10i connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the D2i connector (see page 24-35).
5. Check resistance between the No. 7 terminal of the U10i connector and body ground, and between the No. 14 terminal of the U10i connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS main harness; replace the SRS main harness.

(A)



## DTC 2-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U1o connector and the P1i connectors.
- Open or increased resistance in the front passenger's airbag inflator.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for an open or increased resistance in the front passenger's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1i connector from the P1o connector (see page 24-35).
3. Connect the special tool (2  $\Omega$ ) to the P1i connector (see page 24-35).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 2-1 indicated?

YES

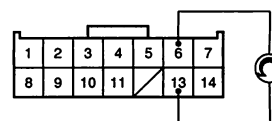
NO

Open or increased resistance in the front passenger's airbag inflator; replace the front passenger's airbag (see page 24-75).

(A)

#### Check for an open or increased resistance in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1 connector (see page 24-34).
3. Disconnect the U1o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the P1i connector.
4. Check resistance between the No. 6 and No. 13 terminals of the U1o connector. There should be 2.0 – 3.0  $\Omega$ .



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U1o connector and the SRS unit; check the connection between the U1o connector and the SRS unit.

- If the connector is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS main harness; replace the SRS main harness.

(A)



# Troubleshooting

## DTC 2-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U1o connector and the P1i connectors.
- Short to another wire in the front passenger's airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the front passenger's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1i connector from the P1o connector (see page 24-35).
3. Connect the special tool (2  $\Omega$ ) to the P1i connector (see page 24-35).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 2-3 indicated?

YES

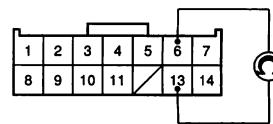
NO

Short to another wire in the front passenger's airbag inflator; replace the front passenger's airbag (see page 24-75).

(A)

#### Check for a short to another wire in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1 connector (see page 24-34).
3. Disconnect the special tool (2  $\Omega$ ) from the P1i connector (see page 24-35).
4. Disconnect the U1o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 6 and No. 13 terminals of the U1o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS main harness; replace the SRS main harness.

(A)



## DTC 2-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U1o connector and the P1i connectors.
- Short to power in the front passenger's airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the front passenger's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1i connector from the P1o connector (see page 24-35).
3. Connect the special tool (2  $\Omega$ ) to the P1i connector (see page 24-35).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 2-4 indicated?

YES

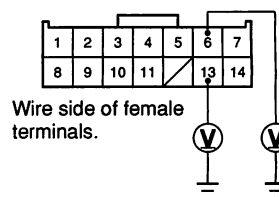
NO

Short to power in the front passenger's airbag inflator; replace the front passenger's airbag (see page 24-75).

(A)

#### Check for a short to power in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1 connector (see page 24-34).
3. Disconnect the U1o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the P1i connector (see page 24-35).
5. Reconnect the negative battery cable.
6. Turn the ignition switch ON (II).
7. Check for voltage between the No. 6 terminal of the U1o connector and body ground, and between the No. 13 terminals of the U1o connector and body ground. There should be 0.5 V or less.



#### Is the voltage as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to power in the SRS main harness; replace the SRS main harness.

(A)

# Troubleshooting

## DTC 2-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U1o connector and the P1i connectors.
- Short to ground in the front passenger's airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the front passenger's airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the P1i connector from the P1o connector (see page 24-35).
3. Connect the special tool (2  $\Omega$ ) to the P1i connector (see page 24-35).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 2-5 indicated?

YES

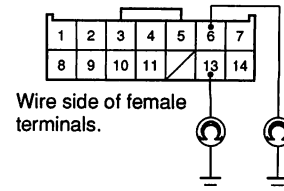
NO

Short to ground in the front passenger's airbag inflator; replace the front passenger's airbag (see page 24-75).

(A)

#### Check for a short to ground in the SRS main harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the D1 connector (see page 24-34).
3. Disconnect the U1o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the P1i connector (see page 24-35).
5. Check resistance between the No. 6 terminal of the U1o connector and body ground, and between the No. 13 terminal of the U1o connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS main harness; replace the SRS main harness.

(A)

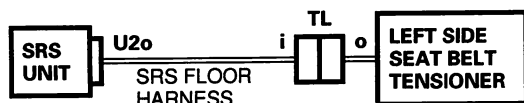


## DTC 3-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U2o connector and the TLi connectors.
- Open or increased resistance in the left side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for an open or increased resistance in the left side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TLi connector from the TLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 3-1 indicated?

YES

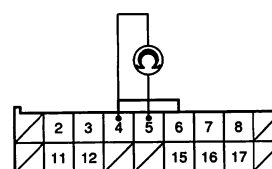
NO

Open or increased resistance in the left side seat belt tensioner; replace the left side seat belt (see page 24-78).

(A)

#### Check for an open or increased resistance in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TR, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the TLi connector.
4. Check resistance between the No. 4 and No. 5 terminals of the U2o connector. There should be 2.0 – 3.0  $\Omega$ .



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U2o connector and the SRS unit, check the connection between the U2o connector and the SRS unit.

- If the connector is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS floor harness; replace the SRS floor harness.

(A)

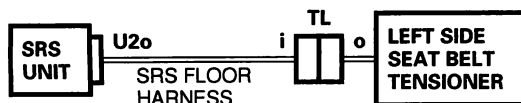
# Troubleshooting

## DTC 3-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U2o connector and the TLi connectors.
- Short to another wire in the left side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the left side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TLi connector from the TLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 3-3 indicated?

YES

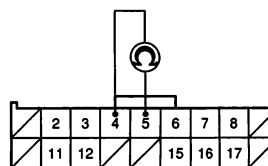
NO

Short to another wire in the left side seat belt tensioner; replace the left side seat belt (see page 24-78).

(A)

#### Check for a short to another wire in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TR, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the TLi connector (see page 24-36).
5. Check resistance between the No. 4 and No. 5 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS floor harness; replace the SRS floor harness.

(A)

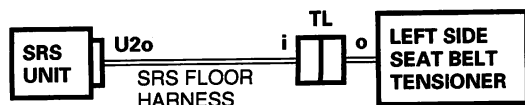


## DTC 3-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U2o connector and the TLi connectors.
- Short to power in the left side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the left side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TLi connector from the TLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 3-4 indicated?

YES

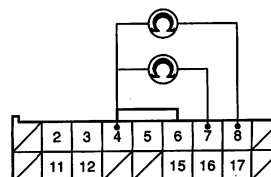
NO

Short to power in the left side seat belt tensioner; replace the left side seat belt (see page 24-78).

(A)

#### Check for a short to power in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TRo, (SLi and SRi) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Check resistance between the No. 4 and No. 7 terminals of the U2o connector, and between the No. 4 and No. 8 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Short to power in the SRS floor harness; replace the SRS floor harness.

Faulty SRS unit; replace the SRS unit (see page 24-83).

(A)

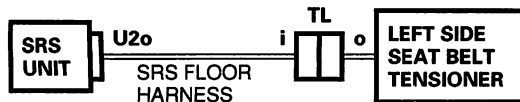
# Troubleshooting

## DTC 3-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U2o connector and the TLi connectors.
- Short to ground in the left side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the left side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TLi connector from the TLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 3-5 indicated?

YES

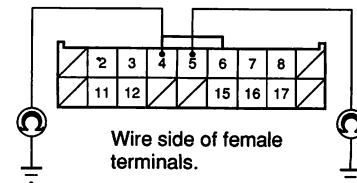
NO

Short to ground in the left side seat belt tensioner; replace the left side seat belt (see page 24-78).

(A)

#### Check for a short to ground in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TR, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the TLi connector (see page 24-36).
5. Check resistance between the No. 4 terminal of the U2o connector and body ground, and between the No. 5 terminals of the U2o connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS floor harness; replace the SRS floor harness.

(A)

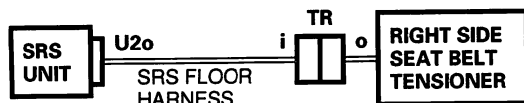


## DTC 4-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U2o connector and the TRi connectors.
- Open or increased resistance in the right side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for an open or increased resistance in the right side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TRi connector from the TRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 4-1 indicated?

YES

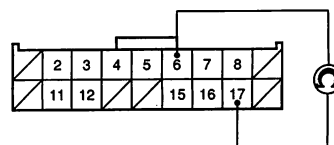
NO

Open or increased resistance in the right side seat belt tensioner; replace the right side seat belt (see page 24-78).

(A)

#### Check for an open or increased resistance in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TL, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the TRi connector.
4. Check resistance between the No. 6 and No. 17 terminals of the U2o connector. There should be 2.0 – 3.0  $\Omega$ .



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U2o connector and the SRS unit, check the connection between the U2o connector and the SRS unit.

- If the connector is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS floor harness; replace the SRS floor harness.

(A)



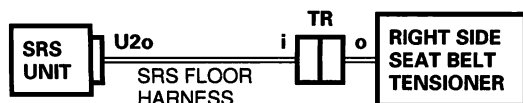
# Troubleshooting

## DTC 4-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U2o connector and the TRi connectors.
- Short to another wire in the right side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the right side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TRi connector from the TRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 4-3 indicated?

YES

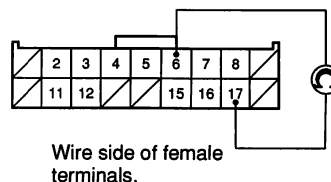
NO

Short to another wire in the right side seat belt tensioner; replace the right side seat belt (see page 24-78).

(A)

#### Check for a short to another wire in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TL, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the TRi connector (see page 24-36).
5. Check resistance between the No. 6 and No. 17 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS floor harness; replace the SRS floor harness.

(A)

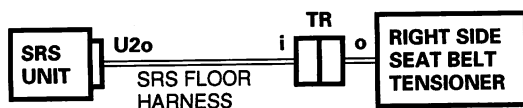


## DTC 4-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U2o connector and the TRi connectors.
- Short to power in the right side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the right side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TRi connector from the TRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 4-4 indicated?

YES

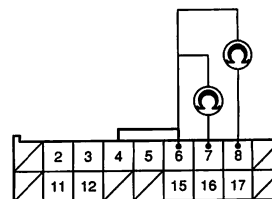
NO

Short to power in the right side seat belt tensioner; replace the right side seat belt (see page 24-78).

(A)

#### Check for a short to power in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TLo, (SLi and SRi) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Check resistance between the No. 6 and No. 7 terminals of the U2o connector, and between the No. 6 and No. 8 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Short to power in the SRS floor harness; replace the SRS floor harness.

Faulty SRS unit; replace the SRS unit (see page 24-83).

(A)

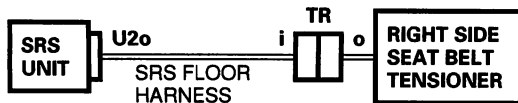
# Troubleshooting

## DTC 4-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U2o connector and the TRi connectors.
- Short to ground in the right side seat belt tensioner.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the right side seat belt tensioner:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TRi connector from the TRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the TRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 4-5 indicated?

YES

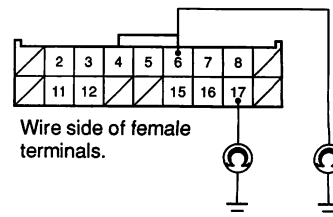
NO

Short to ground in the right side seat belt tensioner; replace the right side seat belt (see page 24-78).

(A)

#### Check for a short to ground in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TL, (SL and SR) connector(s) (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the TRi connector (see page 24-36).
5. Check resistance between the No. 6 terminal of the U2o connector and body ground, and between the No. 17 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS floor harness; replace the SRS floor harness.

(A)

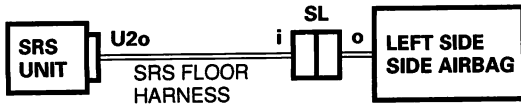


## DTC 11-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U2o connector and the SLi connectors.
- Open or increased resistance in the left side side airbag inflator.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for an open or increased resistance in the left side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SLi connector from the SLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 11-1 indicated?

YES

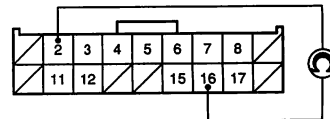
NO

Open or increased resistance in the left side side airbag inflator; replace the left side side airbag (see page 24-77).

(A)

#### Check for an open or increased resistance in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SR, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the SLi connector.
4. Check resistance between the No. 2 and No. 16 terminals of the U2o connector. There should be 2.0 – 3.0  $\Omega$ .



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U2o connector and the SRS unit; check the connection between the U2o connector and the SRS unit.

- If the connector is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS floor harness; replace the SRS floor harness.

(A)

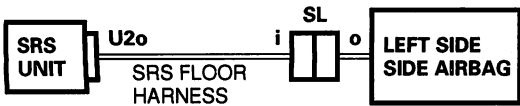
# Troubleshooting

## DTC 11-3

### ⚠ CAUTION

Follow the precautions/procedures described before-hand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U2o connector and the SLi connectors.
- Short to another wire in the left side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the left side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SLi connector from the SLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 11-3 indicated?

YES

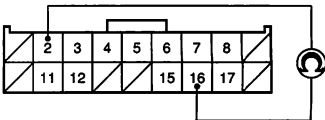
NO

Short to another wire in the left side side airbag inflator; replace the left side side airbag (see page 24-77).

(A)

#### Check for a short to another wire in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SR, TL and TR connectors (see page 24-36).
3. Disconnect the special tool (2  $\Omega$ ) from the SLi connector (see page 24-36).
4. Disconnect the U2o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 2 and No. 16 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS floor harness; replace the SRS floor harness.

(A)

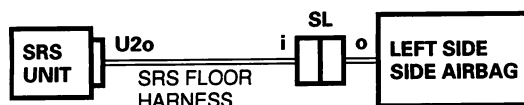


## DTC 11-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U2o connector and the SLi connectors.
- Short to power in the left side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the left side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SLi connector from the SLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 11-4 indicated?

YES

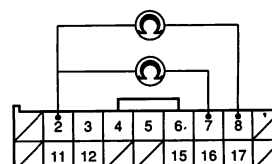
NO

Short to power in the left side side airbag inflator; replace the left side side airbag (see page 24-77).

(A)

#### Check for a short to power in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SR, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Check resistance between the No. 2 and No. 7 terminals of the U2o connector, and between the No. 2 and No. 8 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Short to power in the SRS floor harness; replace the SRS floor harness.

Faulty SRS unit; replace the SRS unit (see page 24-83).

(A)

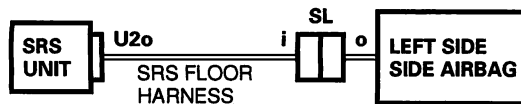
# Troubleshooting

## DTC 11-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U2o connector and the SLi connectors.
- Short to ground in the left side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the left side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SLi connector from the SLo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SLi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 11-5 indicated?

YES

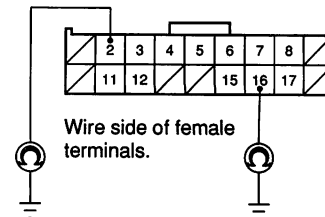
NO

Short to ground in the left side side airbag inflator; replace the left side side airbag (see page 24-77).

(A)

#### Check for a short to ground in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SR, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the SLi connector (see page 24-36).
5. Check resistance between the No. 2 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more. Then check resistance between the No. 16 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS floor harness; replace the SRS floor harness.

(A)

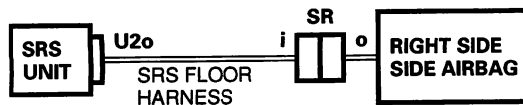


## DTC 12-1

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Open or increased resistance between the U2o connector and the SRi connectors.
- Open or increased resistance in the right side side airbag inflator.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for an open or increased resistance in the right side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SRi connector from the SRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 12-1 indicated?

YES

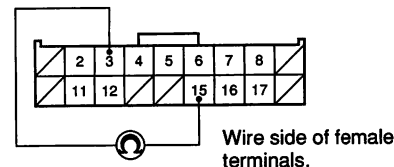
NO

Open or increased resistance in the right side side airbag inflator; replace the right side side airbag (see page 24-77).

(A)

#### Check for an open or increased resistance in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SL, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34). Do not disconnect the special tool (2  $\Omega$ ) from the SRi connector.
4. Check resistance between the No. 3 and No. 15 terminals of the U2o connector. There should be 2.0 – 3.0  $\Omega$ .



#### Is the resistance as specified?

YES

NO

Faulty SRS unit or poor contact at the U2o connector and the SRS unit; check the connection between the U2o connector and the SRS unit.

- If the connector is OK, replace the SRS unit (see page 24-83).

Open or increased resistance in the SRS floor harness; replace the SRS floor harness.

(A)



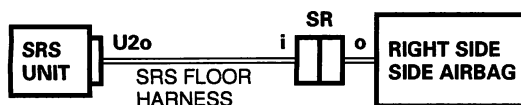
# Troubleshooting

## DTC 12-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to another wire between the U2o connector and the SRi connectors.
- Short to another wire in the right side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to another wire in the right side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SRi connector from the SRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 12-3 indicated?

YES

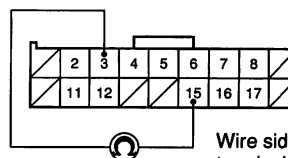
NO

Short to another wire in the right side side airbag inflator; replace the right side side airbag (see page 24-77).

(A)

#### Check for a short to another wire in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SL, TL and TR connectors (see page 24-36).
3. Disconnect the special tool (2  $\Omega$ ) from the SRi connector (see page 24-36).
4. Disconnect the U2o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 3 and No. 15 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to another wire in the SRS floor harness; replace the SRS floor harness.

(A)

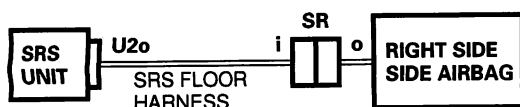


## DTC 12-4

### CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to power between the U2o connector and the SRo connectors.
- Short to power in the right side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to power in the right side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SRi connector from the SRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 12-4 indicated?

YES

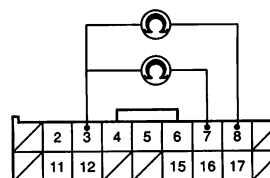
NO

Short to power in the right side side airbag inflator; replace the right side side airbag (see page 24-77).

(A)

#### Check for a short to power in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SR, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Check resistance between the No. 3 and No. 7 terminals of the U2o connector, and between the No. 3 and No. 8 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Wire side of female terminals.

#### Is the resistance as specified?

YES

NO

Short to power in the SRS floor harness; replace the SRS floor harness.

Faulty SRS unit; replace the SRS unit (see page 24-83).

(A)

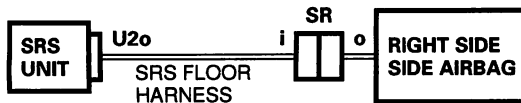
# Troubleshooting

## DTC 12-5

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Short to ground between the U2o connector and the SRi connectors.
- Short to ground in the right side side airbag inflator.
- Faulty SRS unit.

Refer to page 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for a short to ground in the right side side airbag inflator:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SRi connector from the SRo connector (see page 24-36).
3. Connect the special tool (2  $\Omega$ ) to the SRi connector (see page 24-36).
4. Reconnect the negative battery cable.
5. Erase the DTC memory (see page 24-29).
6. Read the DTC (see page 24-27).

#### Is DTC 12-5 indicated?

YES

NO

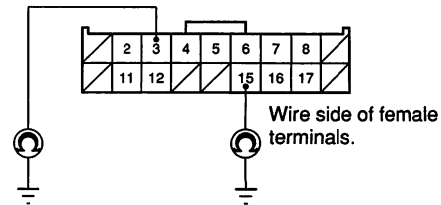
Short to ground in the right side side airbag inflator; replace the right side side airbag (see page 24-77).

(A)

(A)

#### Check for a short to ground in the SRS floor harness:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SL, TL and TR connectors (see page 24-36).
3. Disconnect the U2o connector from the SRS unit (see page 24-34).
4. Disconnect the special tool (2  $\Omega$ ) from the SRi connector (see page 24-36).
5. Check resistance between the No. 3 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more. Then check resistance between the No. 15 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more.



#### Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 24-83).

Short to ground in the SRS floor harness; replace the SRS floor harness.



## DTC 13-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Faulty signal line between the U2o and ILi connectors.
- Faulty left side side impact sensor.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for poor contact at the ILi connector:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SLi connector from the SLo connector (see page 24-36).
3. Check for connections between the ILi connector and the left side side impact sensor.

#### Is the connections OK?

YES

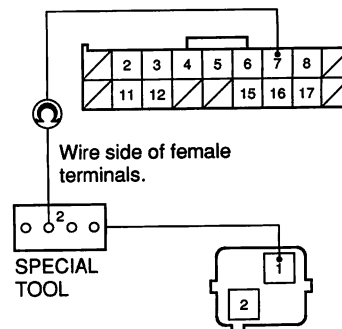
NO

Poor contact at the ILi connector; connect the ILi connector securely.

(A)

#### Check for an open in the SRS floor harness:

1. Disconnect the TL, TR and SR connectors (see page 24-36).
2. Disconnect the ILi connector from the left side side impact sensor (see page 24-37).
3. Connect the special tool to the ILi connector (see page 24-37).
4. Disconnect the U2o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 7 terminal of the U2o connector and the No. 2 terminal of the special tool. There should be 0 – 1.0  $\Omega$ .



#### Is the resistance as specified?

YES

NO

Open in the SRS floor harness; replace the SRS floor harness.

(B) To page 24-68

(A)

(cont'd)

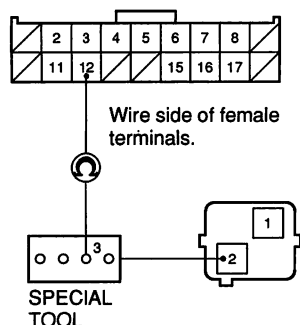
# Troubleshooting

## DTC 13-3 (cont'd)

(B) From page 24-67

### Check for an open in the SRS floor harness:

Check resistance between the No. 12 terminal of the U2o connector and the No. 3 terminal of the special tool. There should be 0 – 1.0  $\Omega$ .



Is the resistance as specified?

YES

NO

Open in the SRS floor harness; replace the SRS floor harness.

Faulty left side side impact sensor or SRS unit; replace the left side side impact sensor.

- If the problem is still present, replace the SRS unit.

## DTC 13-4

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

### Wiring Diagram:



### Possible Causes of Failures:

- Faulty power line between the U2o and ILi connectors.
- Faulty left side side impact sensor.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

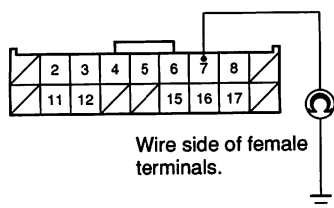
(A) To page 24-69



(A) From page 24-68

**Check for a short to ground in the SRS floor harness:**

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the TL, TR, SL and SR connectors (see page 24-36).
3. Disconnect the ILi connector from the left side side impact sensor (see page 24-37).
4. Disconnect the U2o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 7 terminal of the U2o connector and body ground. There should be 1 M $\Omega$  or more.



Is the resistance as specified?

YES

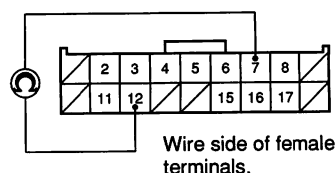
NO

Short to ground in the SRS floor harness; replace the SRS floor harness.

(B)

**Check for a short to another wire in the SRS floor harness:**

Check resistance between the No. 7 and No. 12 terminals of the U2o connector. There should be 1 M $\Omega$  or more.



Is the resistance as specified?

YES

NO

Short to another wire in the SRS floor harness; replace the SRS floor harness.

Faulty left side side impact sensor or SRS unit; replace the left side side impact sensor.

- If the problem is still present, replace the SRS unit. (see page 24-83).

(B)

# Troubleshooting

## DTC 14-3

### ⚠ CAUTION

Follow the precautions/procedures described beforehand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

#### Wiring Diagram:



#### Possible Causes of Failures:

- Faulty signal line between the U2o and IRi connectors.
- Faulty right side side impact sensor.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

#### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

#### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

#### Check for poor contact at the IRi connector:

1. Disconnect the negative battery cable, and wait for three minutes.
2. Disconnect the SRi connector from the SRo connector (see page 24-36).
3. Check for connections between the IRi connector and the right side side impact sensor.

#### Is the connections OK?

YES

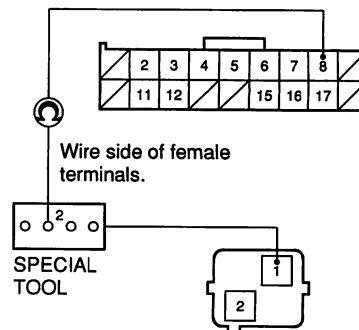
NO

Poor contact at the IRi connector; connect the IRi connector securely.

(A)

#### Check for an open in the SRS floor harness:

1. Disconnect the TL, TR, and SL connectors (see page 24-36).
2. Disconnect the IRi connector from the right side side impact sensor (see page 24-37).
3. Connect the special tool to the IRi connector (see page 24-37).
4. Disconnect the U2o connector from the SRS unit (see page 24-34).
5. Check resistance between the No. 8 terminal of the U2o connector and the No. 2 terminal of the special tool. There should be 0 – 1.0 Ω.



#### Is the resistance as specified?

YES

NO

Open in the SRS floor harness; replace the SRS floor harness.

(B) To page 24-71

(A)

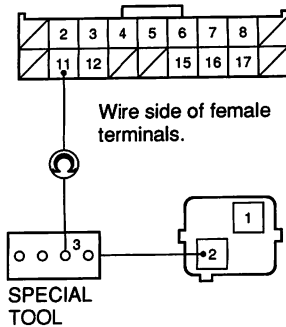


## DTC 14-4

(B) From page 24-70

### Check for an open in the SRS floor harness:

Check resistance between the No. 11 terminal of the U2o connector and the No. 3 terminal of the special tool. There should be 0 – 1.0  $\Omega$ .



Is the resistance as specified?

YES

NO

Open in the SRS floor harness; replace the SRS floor harness.

Faulty right side side impact sensor or SRS unit; replace the right side side impact sensor.  
• If the problem is still present, replace the SRS unit.

## ⚠ CAUTION

Follow the precautions/procedures described before-hand in this section without fail or the airbags could accidentally deploy and cause damage or injuries.

### Wiring Diagram:



### Possible Causes of Failures:

- Faulty power line between the U2o and IRi connectors.
- Faulty right side side impact sensor.
- Faulty SRS unit.

Refer to pages 24-33 for the fuse box and connector locations.

### Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 24-29).
2. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about 6.5 seconds, and then goes off.

### Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting Intermittent Failures on page 24-29.

(A) To page 24-72

(cont'd)



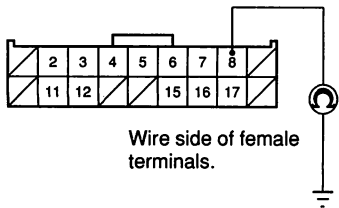
# Troubleshooting

## DTC 14-4 (cont'd)

(A) From page 24-71

**Check for a short to ground in the SRS floor harness:**

- 1. Disconnect the negative battery cable, and wait for three minutes.
- 2. Disconnect the TL, TR, SL and SR connectors (see page 24-36).
- 3. Disconnect the IRi connector from the right side side impact sensor (see page 24-37).
- 4. Disconnect the U2o connector from the SRS unit (see page 24-34).
- 5. Check resistance between the No. 8 terminal of the U2o connector and body ground. There should be 1 MΩ or more.



Is the resistance as specified?

YES

NO

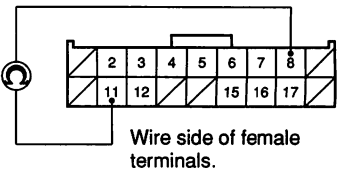
Short to ground in the SRS floor harness; replace the SRS floor harness.

(B)

(B)

**Check for a short to another wire in the SRS floor harness:**

Check resistance between the No. 8 and No. 11 terminals of the U2o connector. There should be 1 MΩ or more.



Is the resistance as specified?

YES

NO

Short to another wire in the SRS floor harness; replace the SRS floor harness.

Faulty right side side impact sensor or SRS unit; replace the right side side impact sensor.

- If the problem is still present, replace the SRS unit (see page 24-83).

# Driver's Airbag



## Replacement

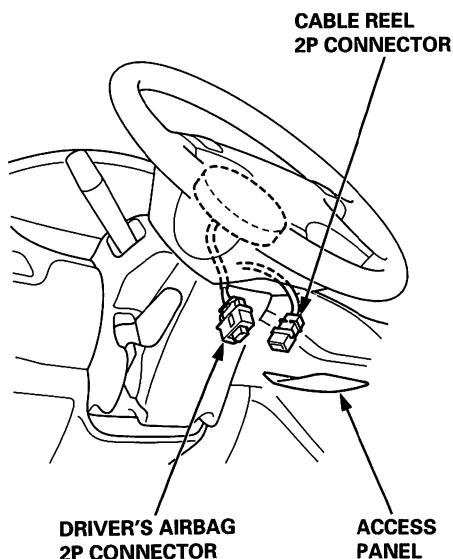
### ⚠ CAUTION

Removal of the airbag must be performed according to the precautions/procedures described before.

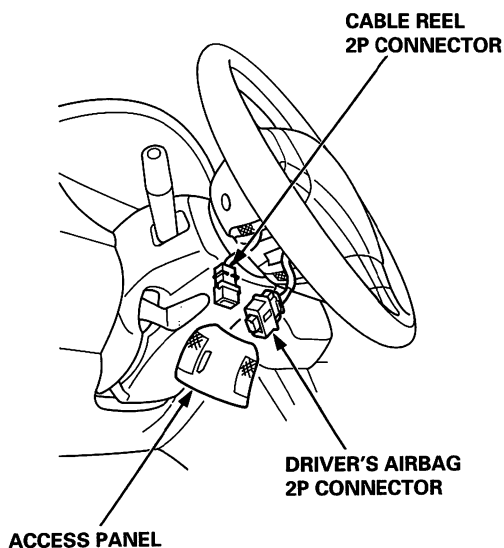
#### Removal

1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Remove the access panel from the steering wheel, then disconnect the connector between the cable reel 2P connector and driver's airbag 2P connector.

Except Type R:

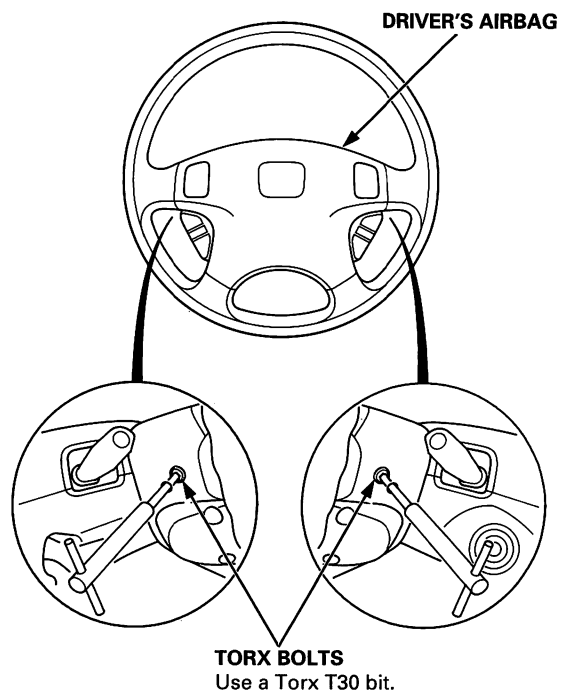


Type R:

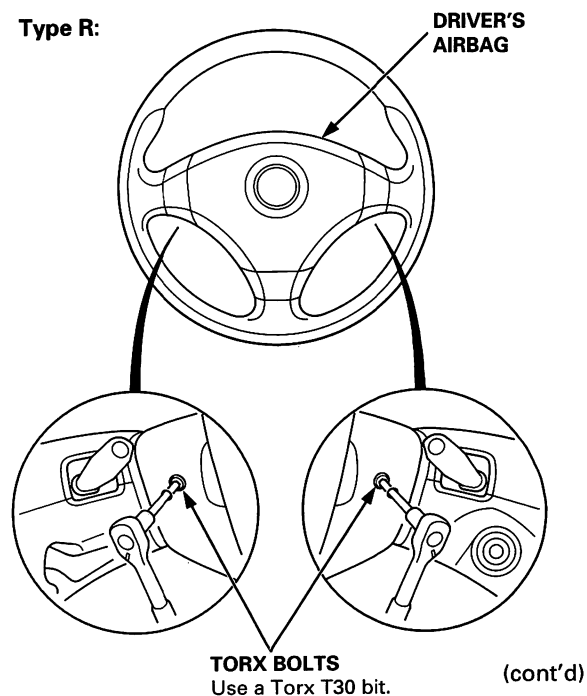


3. Remove the two Torx bolts using a Torx T30 bit (Long Torx FTXL30 made of the Snap-on is recommended to be use in except Type R), then remove the driver's airbag.

Except Type R:



Type R:



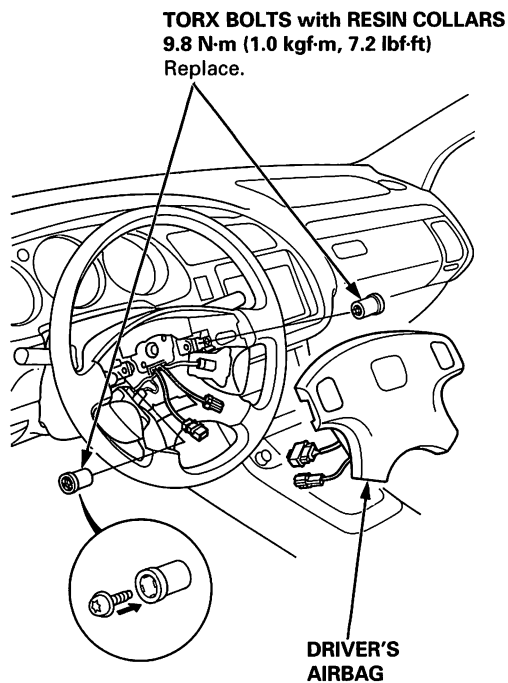
# Driver's Airbag

## Replacement (cont'd)

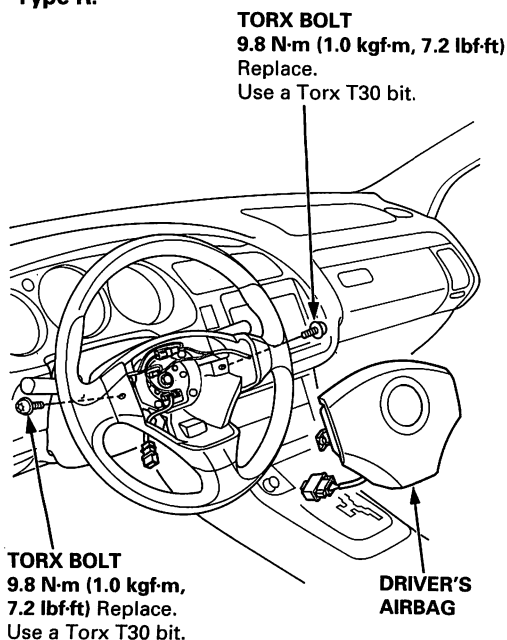
### Installation

1. Place the new driver's airbag in the steering wheel, and secure it with new Torx bolts (Torx bolts are exchanged with the resin color in except Type R).

#### Except Type R:

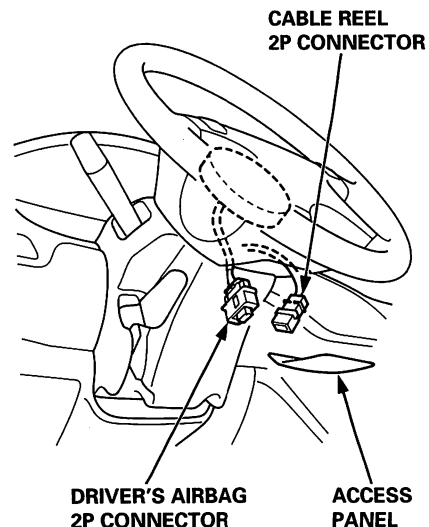


#### Type R:

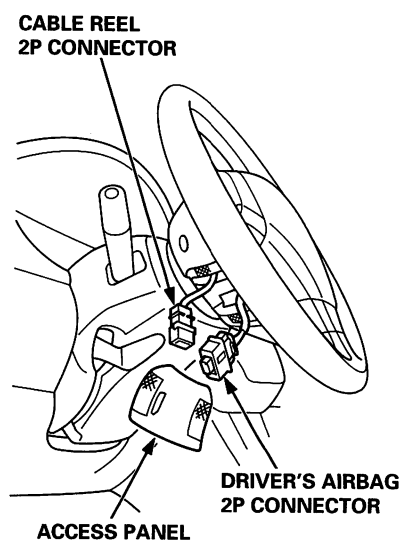


2. Connect the cable reel 2P connector to the driver's airbag 2P connector, then install the access panel on the steering wheel.

#### Except Type R:



#### Type R:



3. Connect the negative battery cable.
4. After installing the airbag, confirm proper system operation:
  - Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.
  - Make sure horn button works.

# Front Passenger's Airbag



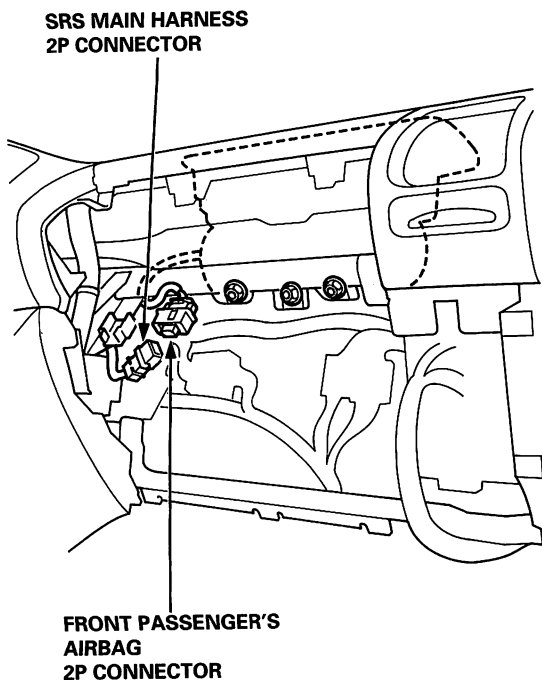
## Replacement

### ⚠ CAUTION

Removal of the airbag must be performed according to the precautions/procedures described before.

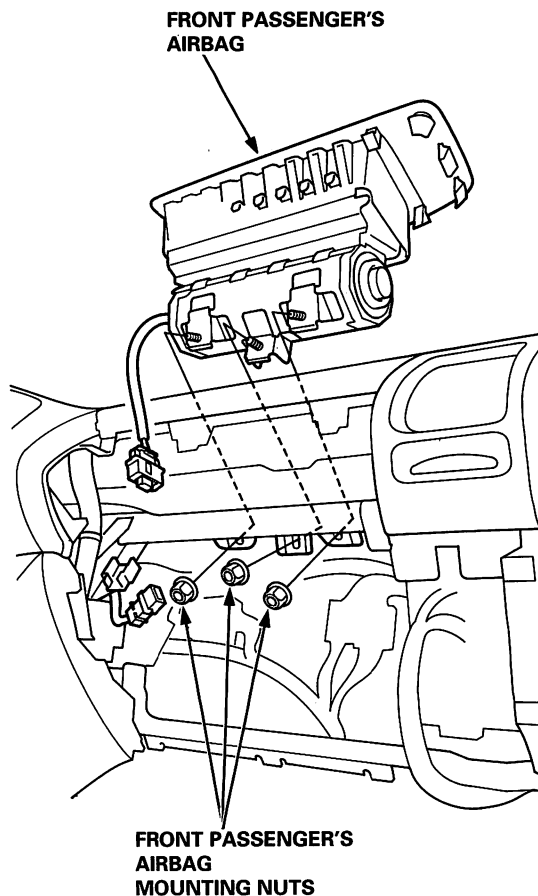
#### Removal

1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Remove the glove box (see section 20), then disconnect the connector between the SRS main harness 2P connector and front passenger's airbag 2P connector.



3. Remove the three mounting nuts from the bracket. Cover the lid and dashboard with a cloth, and pry carefully with a screwdriver to lift the front passenger's airbag out of the dashboard.

NOTE: The airbag lid has pawls on its side which attach it to the dashboard.



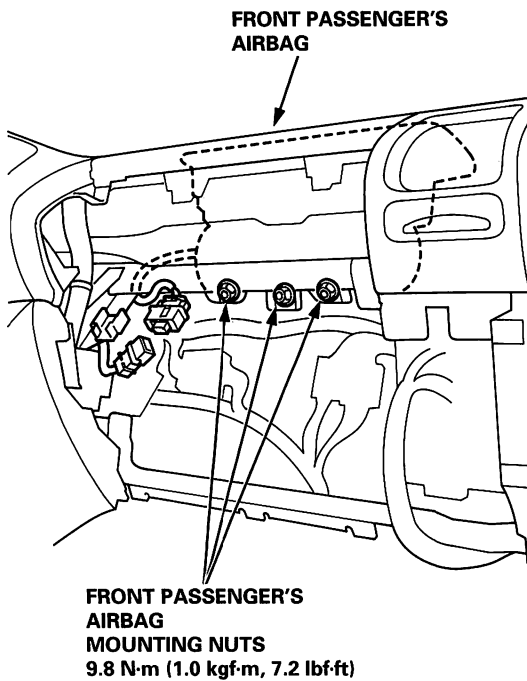
(cont'd)

# Front Passenger's Airbag

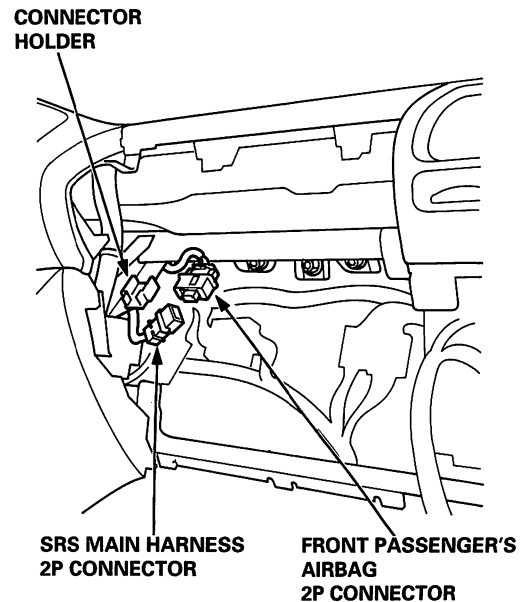
## Replacement (cont'd)

### Installation

1. Place the new front passenger's airbag into the dashboard. Tighten the front passenger's airbag mounting nuts.



2. Connect the front passenger's airbag 2P connector to the SRS main harness 2P connector. Attach the front passenger's airbag connector to the connector holder, then reinstall the glove box.



3. Reconnect the negative battery cable.
4. After installing the airbag, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.

# Side Airbag



## Replacement

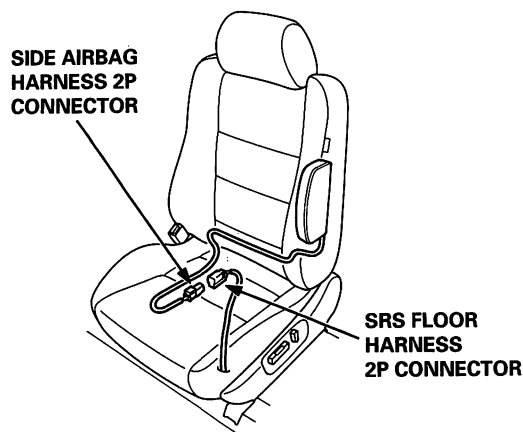
### ⚠ CAUTION

Removal of the airbag must be performed according to the precautions/procedures described before.

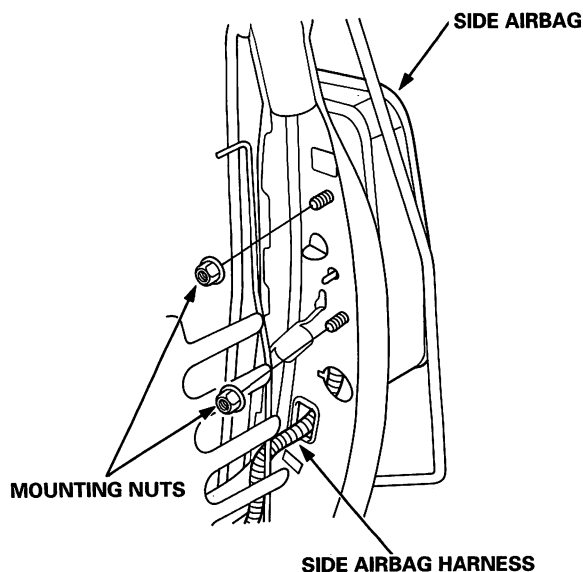
Review the Seats in the Body section (20) before performing repair or service.

### Removal

1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Disconnect the SRS floor harness 2P connector from the side airbag harness 2P connector.



3. Remove the seat assembly and seat-back cover (see section 20).
4. Remove the two mounting nuts and the side airbag.



### Installation

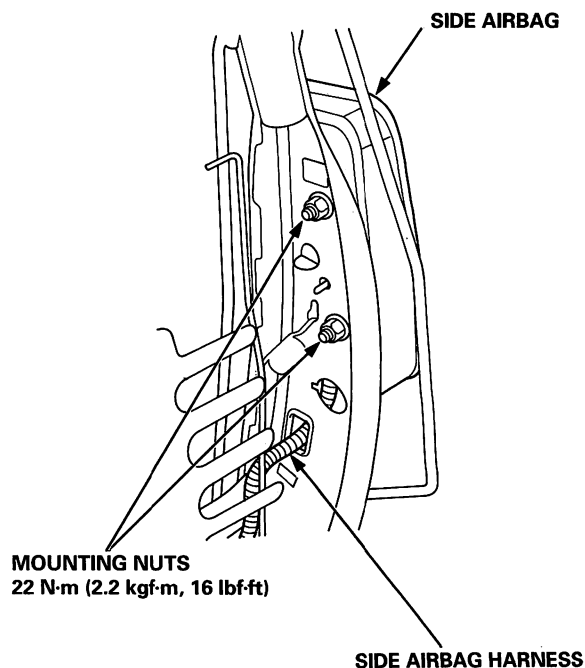
### ⚠ CAUTION

Be sure to install the harness wires so that they are not pinched or interfering with other parts.

### NOTE:

- If the side airbag lid is fixed by a tape, remove it.
- Do not open the lid of the side airbag cover.
- Use new mounting nuts according to the specified torque when you replace a side airbag.
- Make sure that the seat-back cover is installed properly. Improper installation disturbs the proper deployment.

1. Place the new side airbag on the seat back-frame. Tighten the side airbag mounting nuts.



2. Install the new seat-back cover (see section 20).
3. Install the seat assembly on the body (see section 20), then connect the side airbag harness 2P connector to the SRS floor harness 2P connector.
4. Reconnect the negative battery cable.
5. After installing the side airbag, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.

# Seat Belt (With Seat Belt Tensioner)

## Replacement

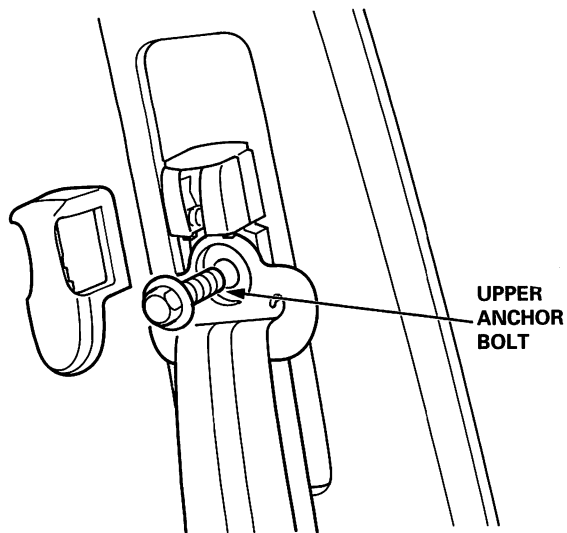
### ⚠ CAUTION

Removal of the airbag must be performed according to the precautions/procedures described before.

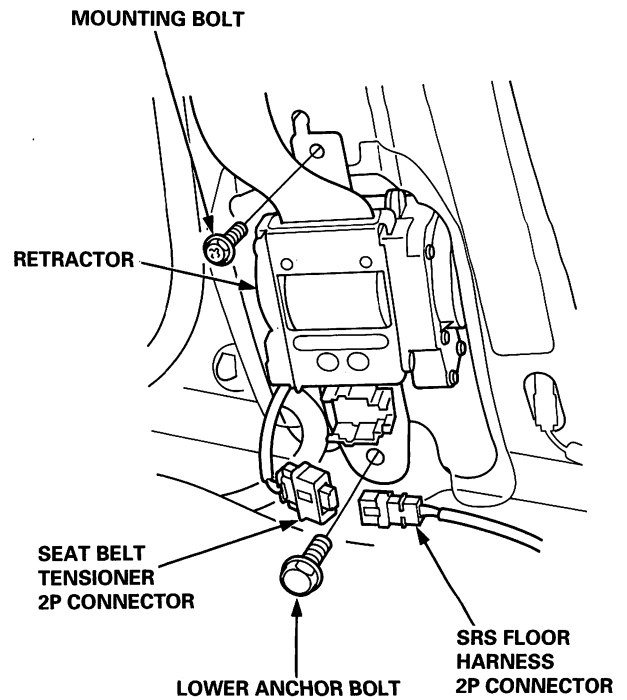
Review the front seat belt replacement in the Seat Belts section (24) before performing repair or service.

### Removal

1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Remove the center pillar lower trim panel (see section 20).
3. Disconnect the seat belt tensioner 2P connector from the SRS floor harness 2P connector.
4. Remove the upper anchor cover and upper anchor bolt.



5. Remove the two retractor mounting bolts, then remove the retractor.



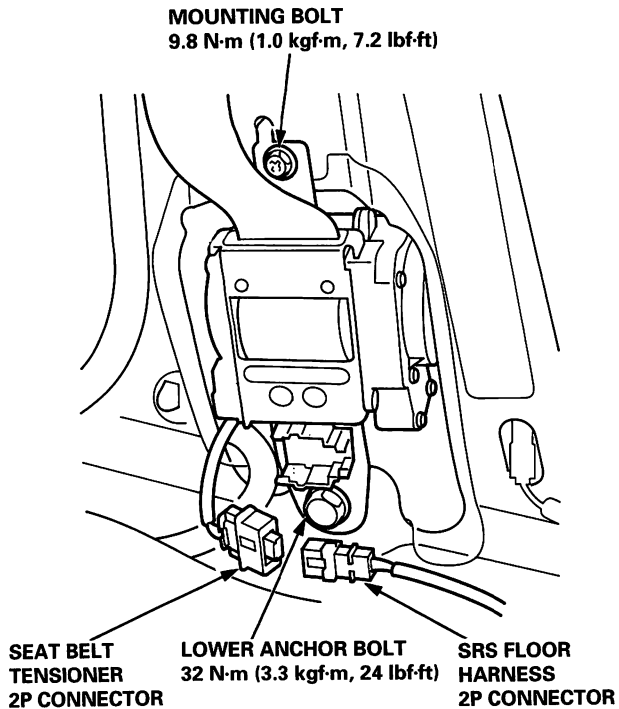


## Installation

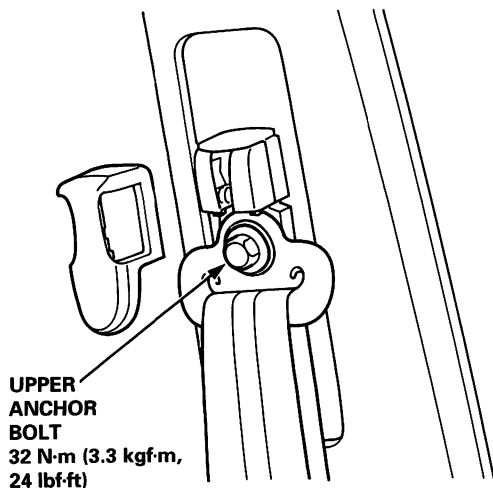
### ⚠ CAUTION

Be sure to install the harness wires so that they are not pinched or interfering with other parts.

1. Install the new seat belt.



2. Reinstall the upper anchor bolt and upper anchor cover.



3. Reconnect the seat belt tensioner 2P connector to SRS floor harness 2P connector.
4. Reinstall the center pillar lower trim panel (see section 20).
5. Reconnect the negative battery cable.
6. After installing the seat belt, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.



# Cable Reel

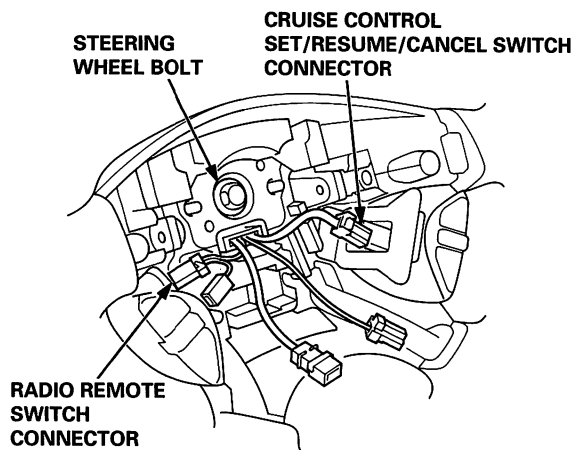
## Replacement

### ⚠ CAUTION

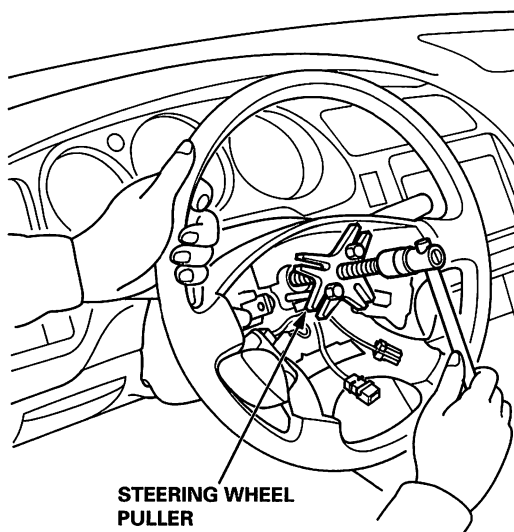
Removal of the airbag must be performed according to the precautions/procedures described before.

#### Removal

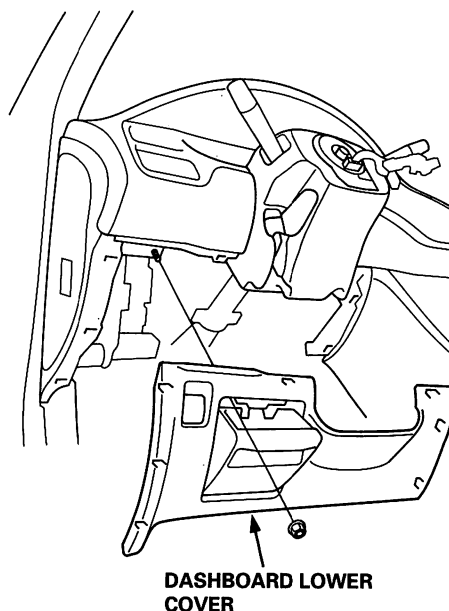
1. Make sure the wheels are aligned straight ahead.
2. Disconnect the negative battery cable and wait at least three minutes.
3. Remove the driver's airbag (see page 23-73).
4. Disconnect the connectors from the horn, radio remote switch, and cruise control set/resume/cancel switches, then remove the steering wheel bolt.



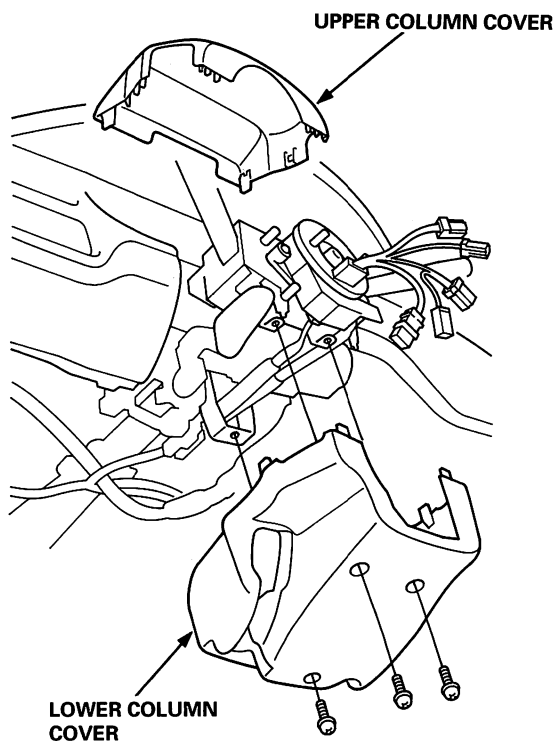
5. Align the front wheels straight ahead, then remove the steering wheel with a steering wheel puller. Do not tap on the steering wheel or steering column shaft when removing the steering wheel.



6. Remove the dashboard lower cover.

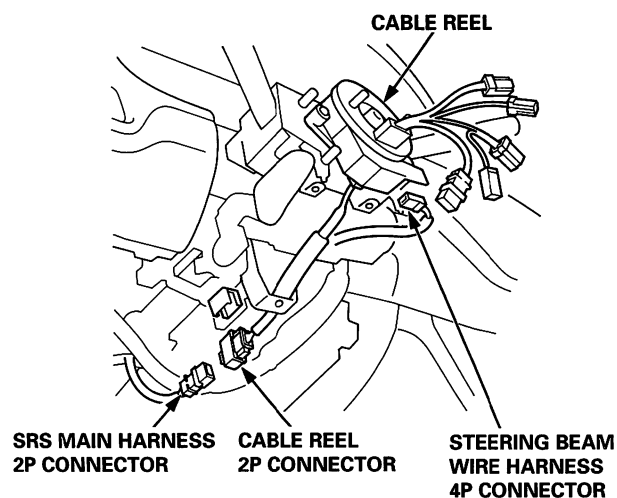


7. Remove the column covers.

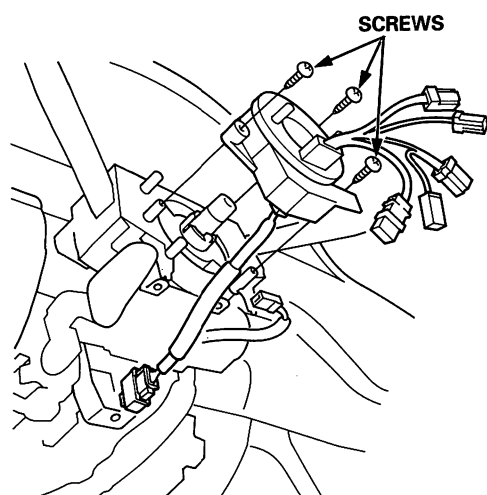




8. Disconnect the SRS main harness 2P connector from the cable reel 2P connector, then disconnect the steering beam wire harness 4P connector from the cable reel.

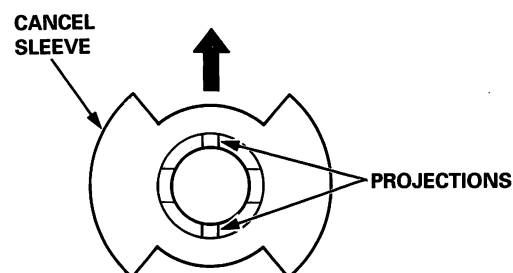


9. Remove the screw from the cable reel, then remove the cable reel from the column.

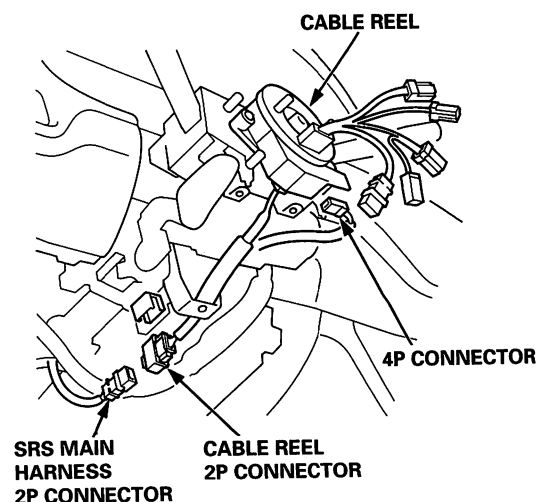


## Installation

1. Before installing the steering wheel, the front wheels should be aligned straight ahead.
2. Be sure to check the negative cable from the battery is disconnected.
3. Set the cancel sleeve to align vertically.



4. Carefully install the cable reel on the steering column shaft. Then connect the 4P connector to the cable reel, and connect the 2P connector to the SRS main harness.

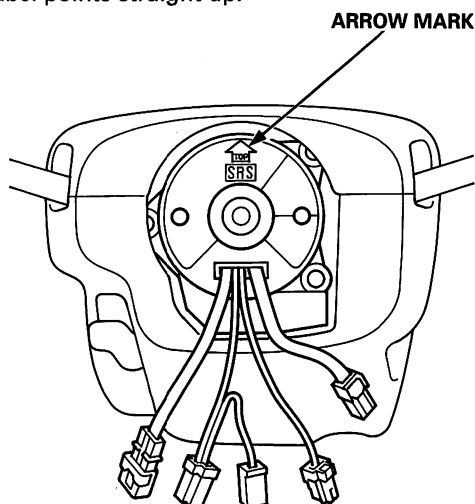


(cont'd)

# Cable Reel

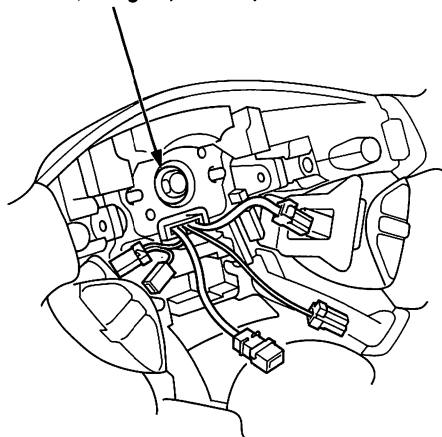
## Replacement (cont'd)

5. Install the steering column covers.
6. If necessary, center the cable reel. (New replacement cable reels come centered.) Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise (approximately two and a half turns) until the arrow mark on the cable reel label points straight up.



7. Align the slots on the steering wheel shaft and projections on the cancel sleeve, then install the steering wheel.

**STEERING WHEEL BOLT**  
38 N·m (3.9 kgf·m, 28 lbf·ft)



8. Install the driver's airbag (see page 24-74).
9. Reconnect the negative battery cable.
10. After installing the cable reel, confirm proper system operation:
  - Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.
  - After the SRS indicator light has come off, turn the steering wheel fully left and right to confirm the SRS indicator light does not come on.
  - Make sure horn button works.



## Replacement

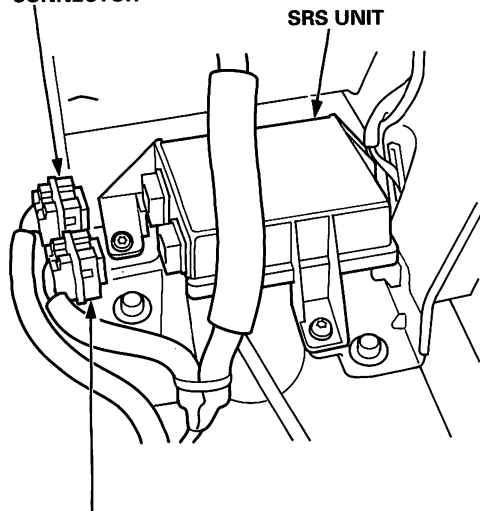
### ⚠ CAUTION

Removal of the airbag must be performed according to the precautions/procedures described before.

#### Removal

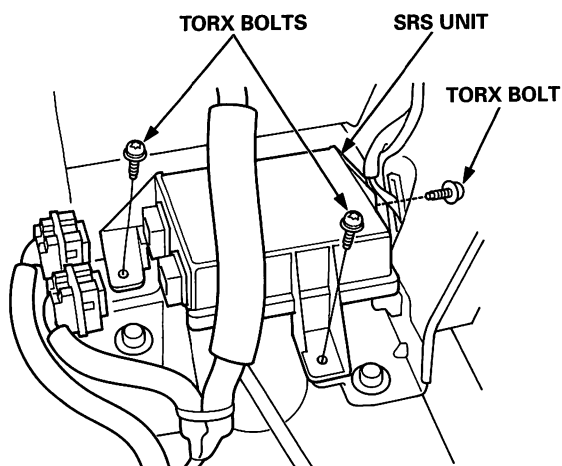
1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Disconnect the airbag, side airbag and seat belt tensioner connectors (see page 24-34).
3. Remove the console assembly (see section 20).
4. Disconnect the SRS main harness 14P connector and SRS floor harness 18P connector from the SRS unit.

SRS FLOOR HARNESS  
18P CONNECTOR



SRS MAIN HARNESS  
14P CONNECTOR

5. Remove the three Torx bolts from the SRS unit, then pull out the SRS unit from the bracket.

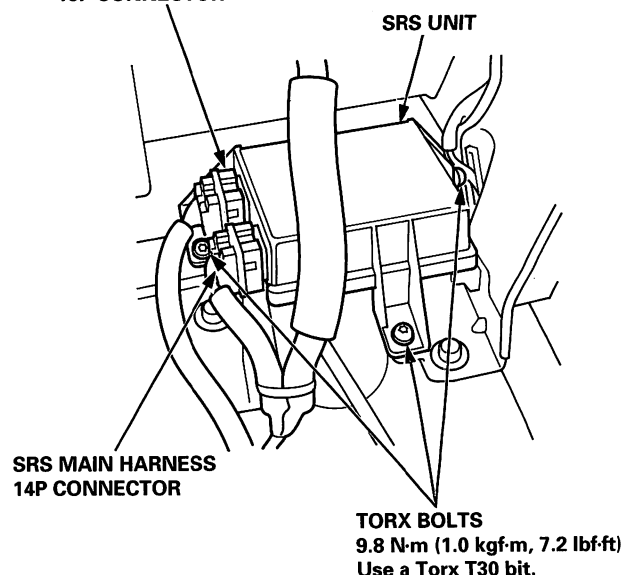


#### Installation

1. Install the new SRS unit with Torx bolts, then connect the SRS main harness 14P connector and SRS floor harness 18P connector to the SRS unit; push it into position until it clicks.

NOTE: When tightening the Torx bolts to the specified torque after replacement, be careful to turn them in so that their heads rest squarely on the brackets.

SRS FLOOR HARNESS  
18P CONNECTOR



2. Install the console assembly (see section 20).
3. Reconnect the airbag, side airbag and seat belt tensioner connectors (see page 24-34).
4. Reconnect the negative battery cable.
5. After installing the SRS unit, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.

# Side Impact Sensor

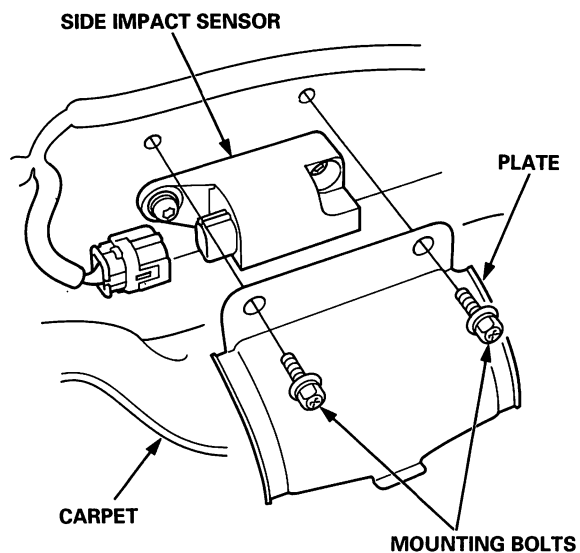
## Replacement

### ⚠ CAUTION

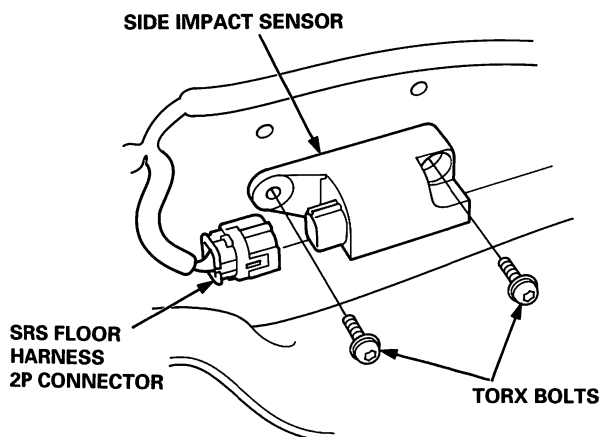
Removal of the airbag must be performed according to the precautions/procedures described before.

#### Removal

1. Disconnect the negative battery cable, and wait at least three minutes before beginning work.
2. Remove (see section 20):
  - Seat assembly
  - Front side trim
  - Center pillar lower trim panel
  - Lower anchor bolt
3. Turn up the carpet, then remove the two mounting bolts and the plate.



4. Disconnect the SRS floor harness 2P connector from the side impact sensor.
5. Remove the two Torx bolts using a Torx T30 bit, then remove the side impact sensor.

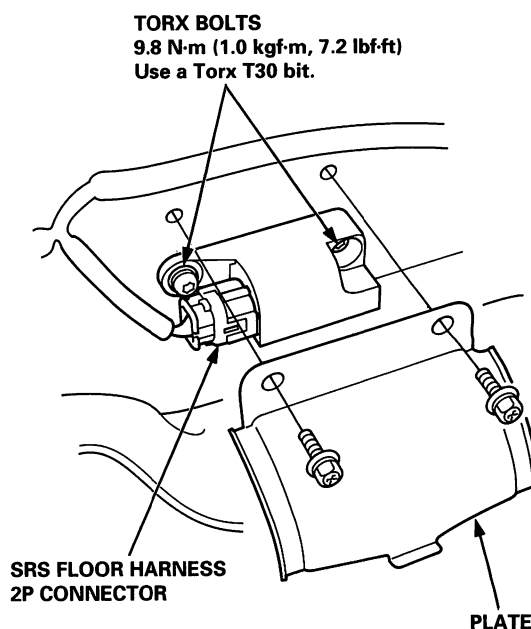


#### Installation

### ⚠ CAUTION

Be sure to install the harness wires so that they are not pinched or interfering with other parts.

1. Install the new side impact sensor, then connect the SRS floor harness 2P connector to the side impact sensor.
2. Reinstall the plate.



3. Reconnect the negative battery cable.
4. After installing the side impact sensor, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about 6.5 seconds and then go off.



## Procedure

Before scrapping any deployment units (airbags or side airbags or seat belt tensioners) (including those in a whole vehicle to be scrapped), the deployment units must be deployed. If the vehicle is still within the warranty period, before you deploying the deployment units, the local Honda Service Manager must give approval and/or special instructions. Only after the deployment units (as the result of vehicle collision, for example), can they be scrapped. If the deployment units appear intact (not deployed or triggered) treat them with extreme caution.

Follow this procedure:

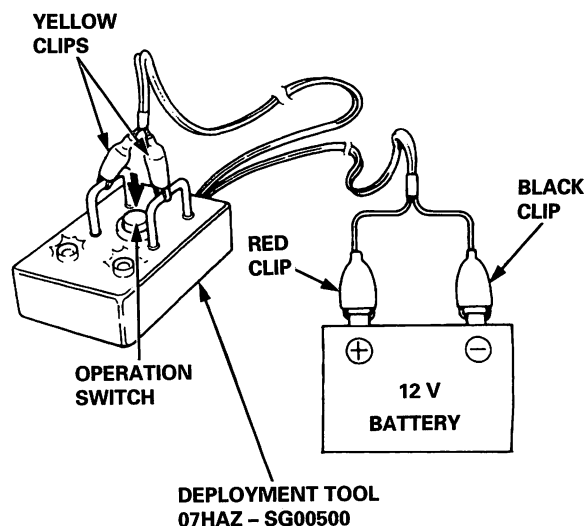
1. Deployment Preparations (see pages 24-86 through 90).
2. Deployment (see pages 24-90 and 91).
3. Disposal (see page 24-91).

### ⚠ WARNING

If you scrap more than one deployment unit, first complete the deployment procedure for one deployment unit, and only then start with step 1. of Deployment Preparations. Otherwise, severe personal injury could result from deployment.

## Deployment Tool Check

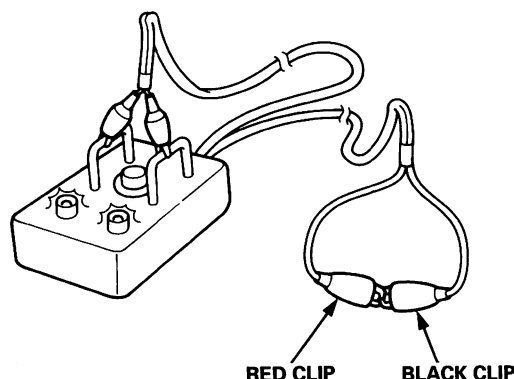
1. Connect the yellow clips to both switch protector handles on the tool, and connect the red (+) and black (-) clips to a 12 V battery.



2. Push the operation switch: green means the tool is OK; red means the tool is faulty.
3. After the check, disconnect the red and black clips from the battery, and connect them to each other.

### ⚠ WARNING

Do not reconnect the red and black clips to the battery until all preparations for deployment are finished. Otherwise, severe personal injury could result from accidental deployment.



# Scrapping

## In-vehicle Deployment Preparations

NOTE: If an SRS vehicle is to be entirely scrapped, its deployment units should be deployed while still in the vehicle. The deployment units should not be considered as salvageable parts and should never be installed in another vehicle.

### ⚠ WARNING

Confirm that the deployment units are securely mounted; otherwise, severe personal injury could result from deployment.

Necessary equipment:

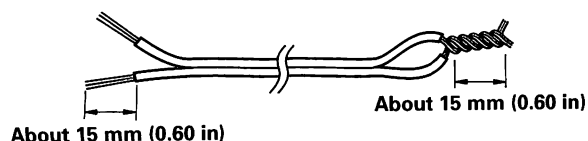
With deployment tool

- Deployment tool
- Fully charged 12 volt battery

Without deployment tool

- Fully charged 12 volt battery
- 12 to 15 m (40 to 50 ft) of vinyl double cable
- Insulation tape

1. Disconnect the negative battery cable, and wait at least three minutes.
2. With Deployment Tool: Confirm that the deployment tool is functioning properly by following the check procedure on the tool box label, or on page 24-85.
3. Without Deployment Tool: Strip both ends of the vinyl double cable about 15 mm (0.60 in), and intertwine the wires on one end.



**Driver's Airbag:**

4. Disconnect the driver's airbag 2P connector from the cable reel (see page 24-34).

**Front Passenger's Airbag:**

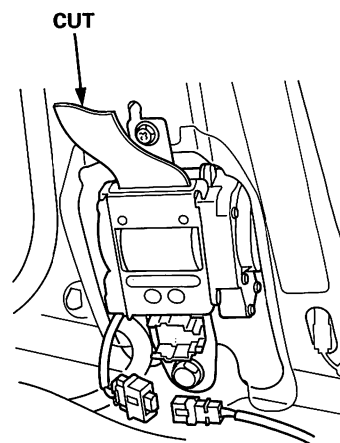
5. Disconnect the front passenger's airbag 2P connector from the SRS main harness (see page 24-35).

**Side Airbag:**

6. Disconnect the side airbag 2P connector from the SRS floor harness (see page 24-36).

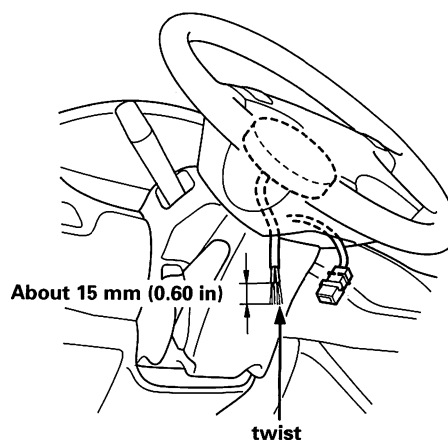
**Seat Belt Tensioner:**

7. Disconnect the seat belt tensioner 2P connector from the SRS floor harness (see page 24-36).
8. Pull the seat belt out all the way and cut it.



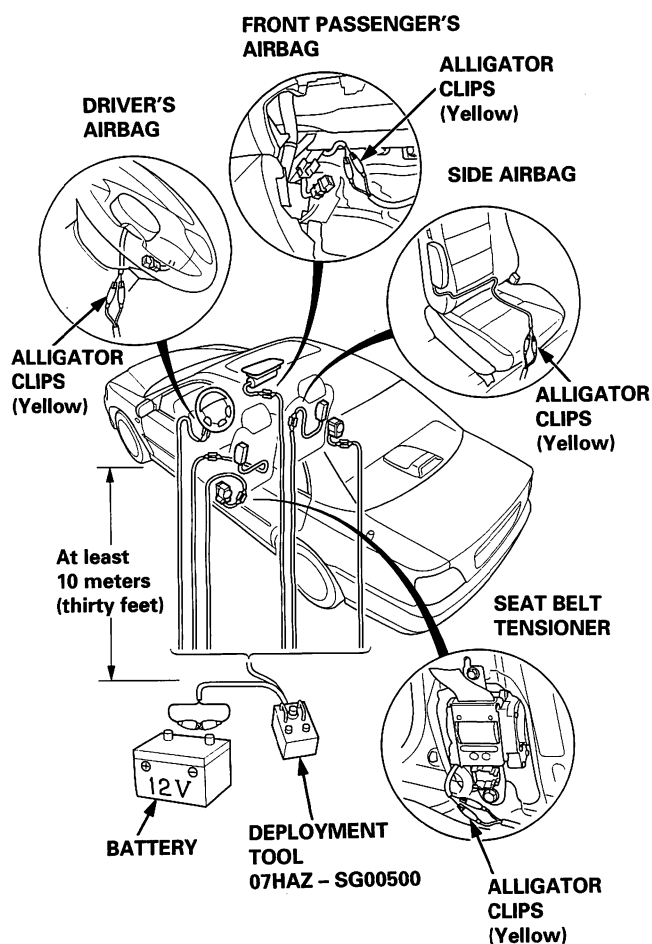
9. Cut off the airbag or side airbag or seat belt tensioner connector, and strip the ends of the airbag wires about 15 mm (0.60 in), and twist them together.

**Example**

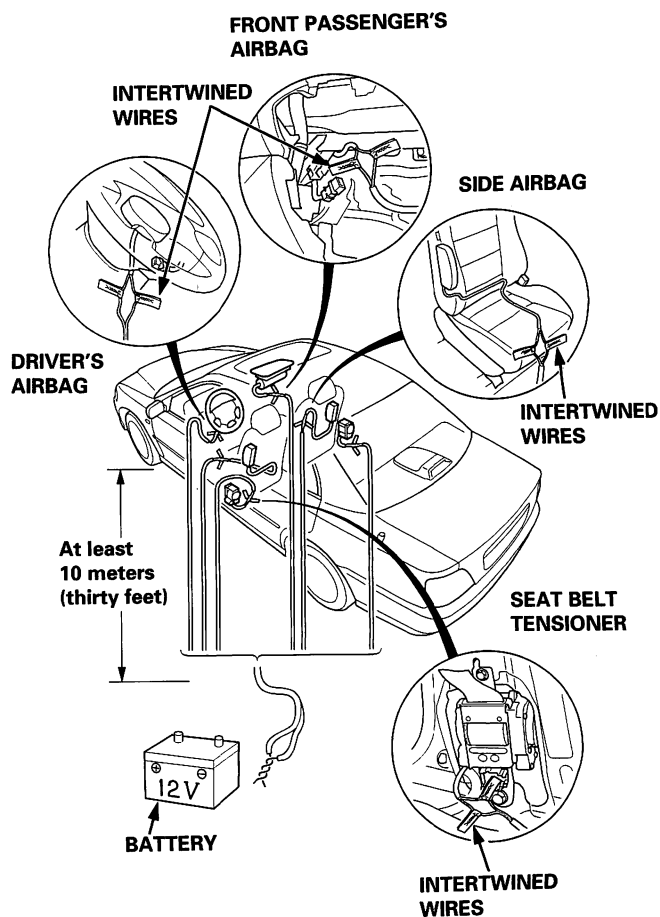




10. With Deployment Tool: Connect the deployment tool alligator clips to the deployment wires as shown. Place the deployment tool at least 10 meters (thirty feet) away from the airbag.



11. Without Deployment Tool: Connect the wires of the vinyl double cable which were not intertwined in step 10 to the deployment unit wires as shown, and put insulation tape over the connections. Place the battery at least 10 meters (thirty feet) away from the vehicle.



12. With Deployment Tool: Go to Deployment on page 24-90.
13. Without Deployment Tool: Go to Deployment on page 24-91.



# Scrapping

## Out-of-vehicle Deployment Preparations

**NOTE:** If an intact airbag or side airbag or seat belt tensioner has been removed from a scrapped vehicle or has been found defective or damaged during transit, storage or service, it should be deployed as follows.

### Necessary Equipment:

With deployment tool

— Deployment tool

Without deployment tool

— 12 to 15 m (40 to 50 ft) of vinyl double cable

— Insulation tape

Other

— Fully charged 12 volt battery

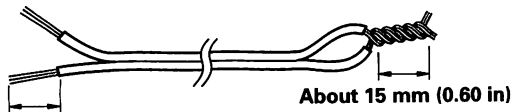
— Four tires for 15 inch wheels or bigger without wheel, and one tire of the same size with wheel

### NOTE:

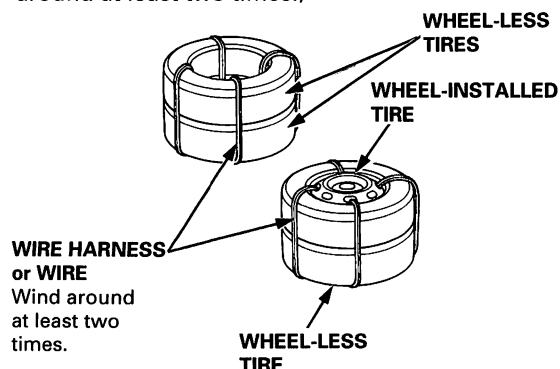
- Preferably take used tires.
- Tires which were used for airbag deployment can be reused on vehicles after carefully cleaning their inner side with water.

— Vehicle wire harness with a core wire cross sectional area of at least 1.25 mm<sup>2</sup> (0.002 in<sup>2</sup>) or iron wire with a diameter of more than 1.2 mm (0.05 in).

1. Turn the ignition switch OFF. Disconnect the negative battery cable and wait at least three minutes.
2. With Deployment Tool: Confirm that the deployment tool is functioning properly by following the check procedure on the tool box label, or on page 24-85.
3. Without Deployment Tool: Strip both ends of the vinyl double cable about 15 mm (0.60 in), and intertwine the wires on one end.



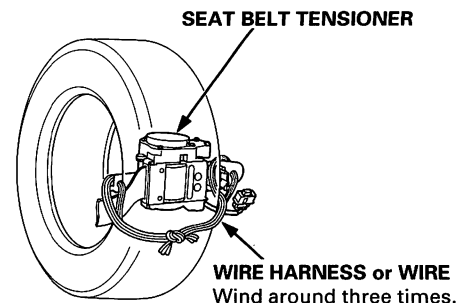
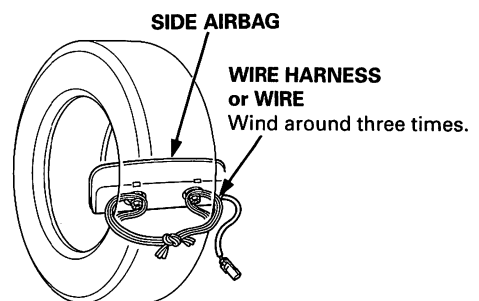
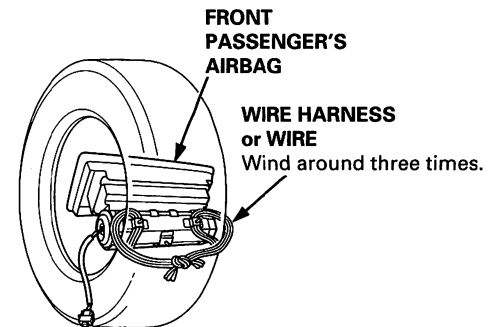
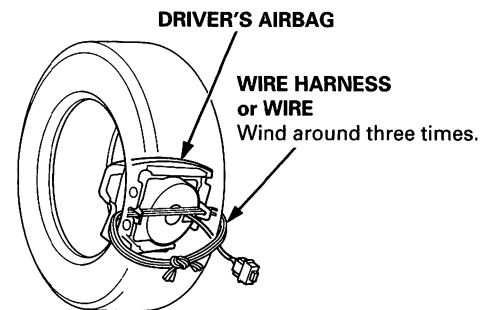
4. Remove the driver's airbag (see page 24-73).
5. Remove the front passenger's airbag (see page 24-75).
6. Remove the side airbag (see page 24-77).
7. Remove the seat belt tensioner (see page 24-78).
8. With vehicle wire harness or wire, tie two of the wheel-less tires together, then tie one wheel-less tire and the wheel-installed tire together. (Wind around at least two times.)



9. Tie the airbag or the side airbag or the seat belt tensioner with vehicle wire harness or wire to the remaining wheel-less tire as shown. (Wind around three times.)

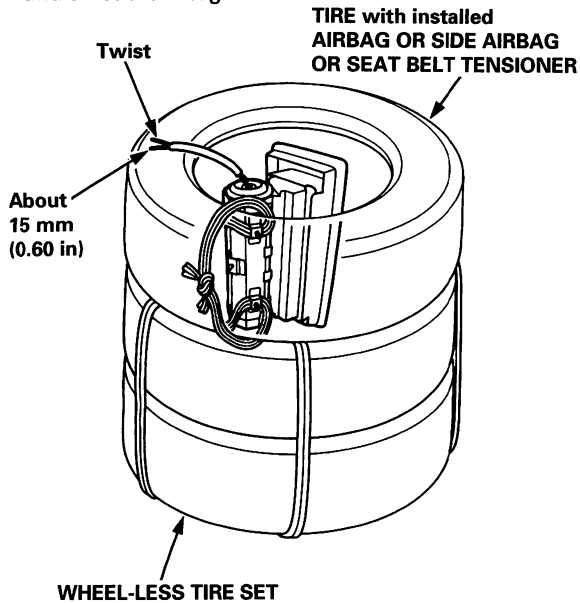
## CAUTION

Make sure the pad surface is turned to the center of the tire.





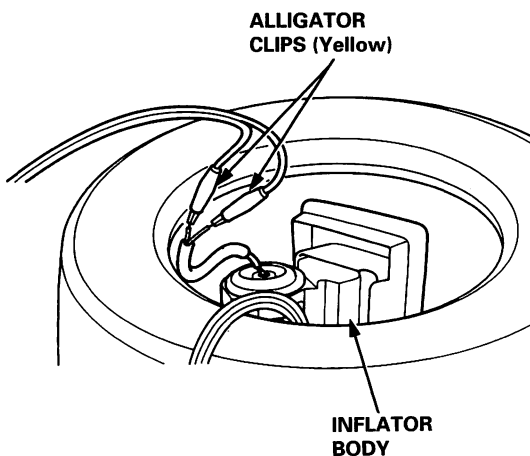
10. Place the set of two wheel-less tires on flat ground, and place the tire with the airbag or side airbag or seat belt tensioner on them.
11. Cut off the airbag or side airbag or seat belt tensioner connector, strip the ends of the airbag or side airbag or seat belt tensioner wires about 15 mm (0.60 in), and twist them together.



12. With Deployment Tool: Connect the deployment tool alligator clips to the airbag or side airbag or seat belt tensioner wires.

### ⚠ CAUTION

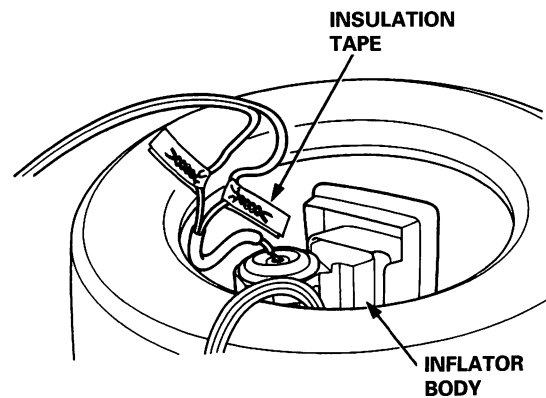
Do not route the vinyl double cable nearby the pad surface of the airbag or the inflator body.



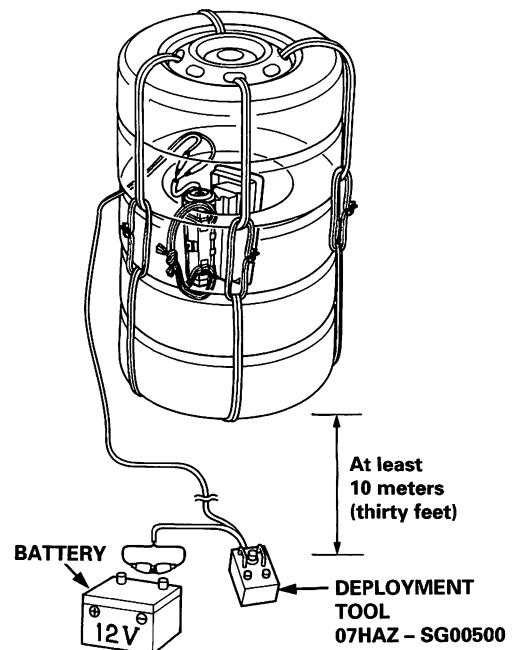
13. Without Deployment Tool: Connect the wires of the vinyl double cable which were not intertwined in step 3 to the airbag or side airbag or seat belt tensioner wires as shown, and put insulation tape over the connections.

### ⚠ CAUTION

Do not route the vinyl double cable nearby the pad surface of the airbag or the inflator body.



14. With Deployment Tool: With the wheel-installed tire up, put the second pair of tires on top of the other three tires, and tie the upper and lower tire sets together. Place the deployment tool at least 10 meters (thirty feet) away from the tires.

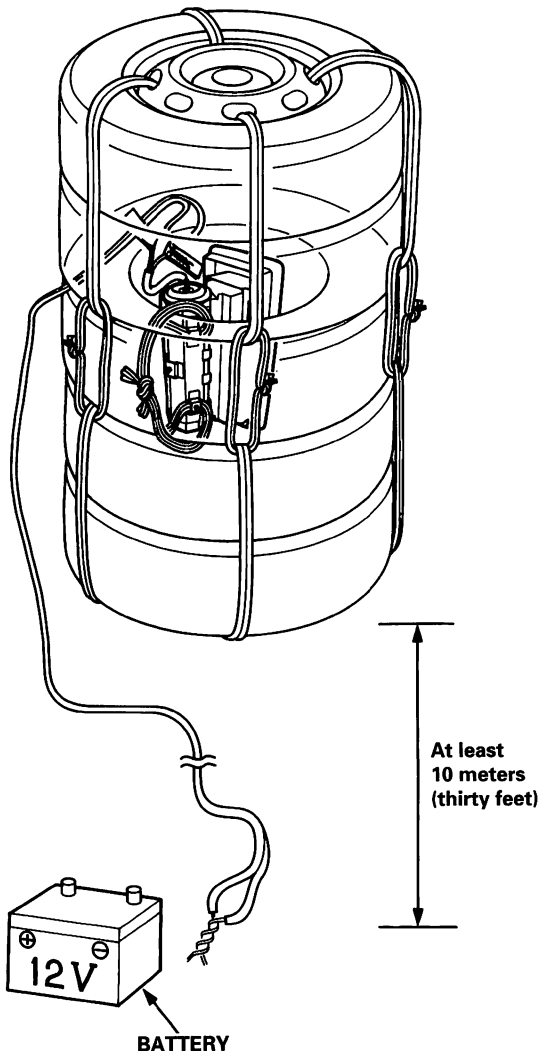


(cont'd)

# Scrapping

## Out-of vehicle Deployment Preparations (cont'd)

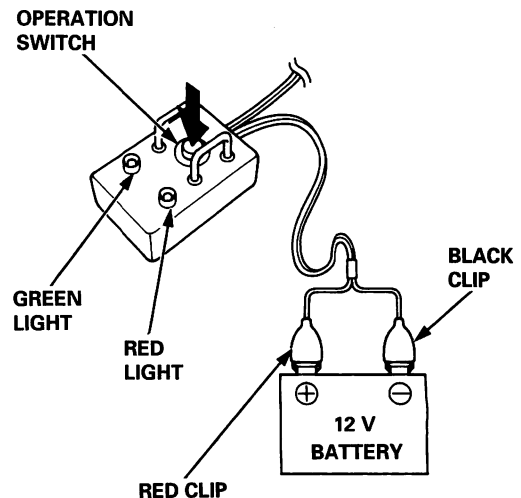
15. Without Deployment Tool: With the wheel-installed tire up, put the second pair of tires on top of the other three tires, and tie the upper and lower tire sets together. Place the battery at least 10 meters (thirty feet) away from the tires.



16. With Deployment Tool: Go to Deployment on page 24-90.
17. Without Deployment Tool: Go to Deployment on page 24-91.

## Deployment (With Deployment Tool)

1. Connect the red (+) and black (-) clips of the deployment tool to the 12 volt battery:
  - If the green light on the tool comes on, the airbag igniter circuit is defective and cannot deploy the airbag. In this case, refer to Damaged Airbag, Side Airbag, Seat Belt Tensioner Special Procedure under Disposal on page 24-91.
  - If the red light on the tool comes on, the airbag is ready to be deployed.
2. Push the tool's operation switch. The airbag should deploy (deployment is both highly audible and visible; a loud noise and rapid inflation of the bag, followed by slow deflation).
  - If audible/visible deployment happens and the green light on the tool comes on, go to Disposal on page 24-91.
  - If the airbag does not deploy, yet the green light comes on, the igniter is defective. Go to Damaged Airbag, Side Airbag, Seat Belt Tensioner Special Procedure under Disposal on page 24-91.



### ⚠ CAUTION

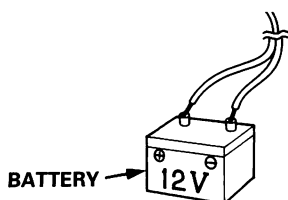
During deployment, the deployment unit can become hot enough to burn you. Wait thirty minutes after deployment before touching the unit.



## Deployment (Without Deployment Tool)

Untwist the stripped ends of the vinyl double cable and connect them to the 12 volt battery. The deployment unit should deploy (deployment is both highly audible and visible; a loud noise and rapid inflation of the bag, followed by slow deflation).

- If audible/visible deployment happens, go to Disposal.
- If the airbag or side airbag or seat belt tensioner does not deploy, go to Damaged Airbag, Side Airbag, Seat Belt Tensioner Special Procedure.



### ⚠ CAUTION

During deployment, the deployment unit can become hot enough to burn you. Wait thirty minutes after deployment before touching the unit.

## Disposal

In accordance with local regulations, dispose of the complete deployment unit. No part of it can be reused. Place it in a sturdy plastic bag, and seal it securely.

### ⚠ CAUTION

- Wear a face shield and gloves when handling a deployed unit.
- Wash your hands and rinse them well with water after handling a deployed unit.

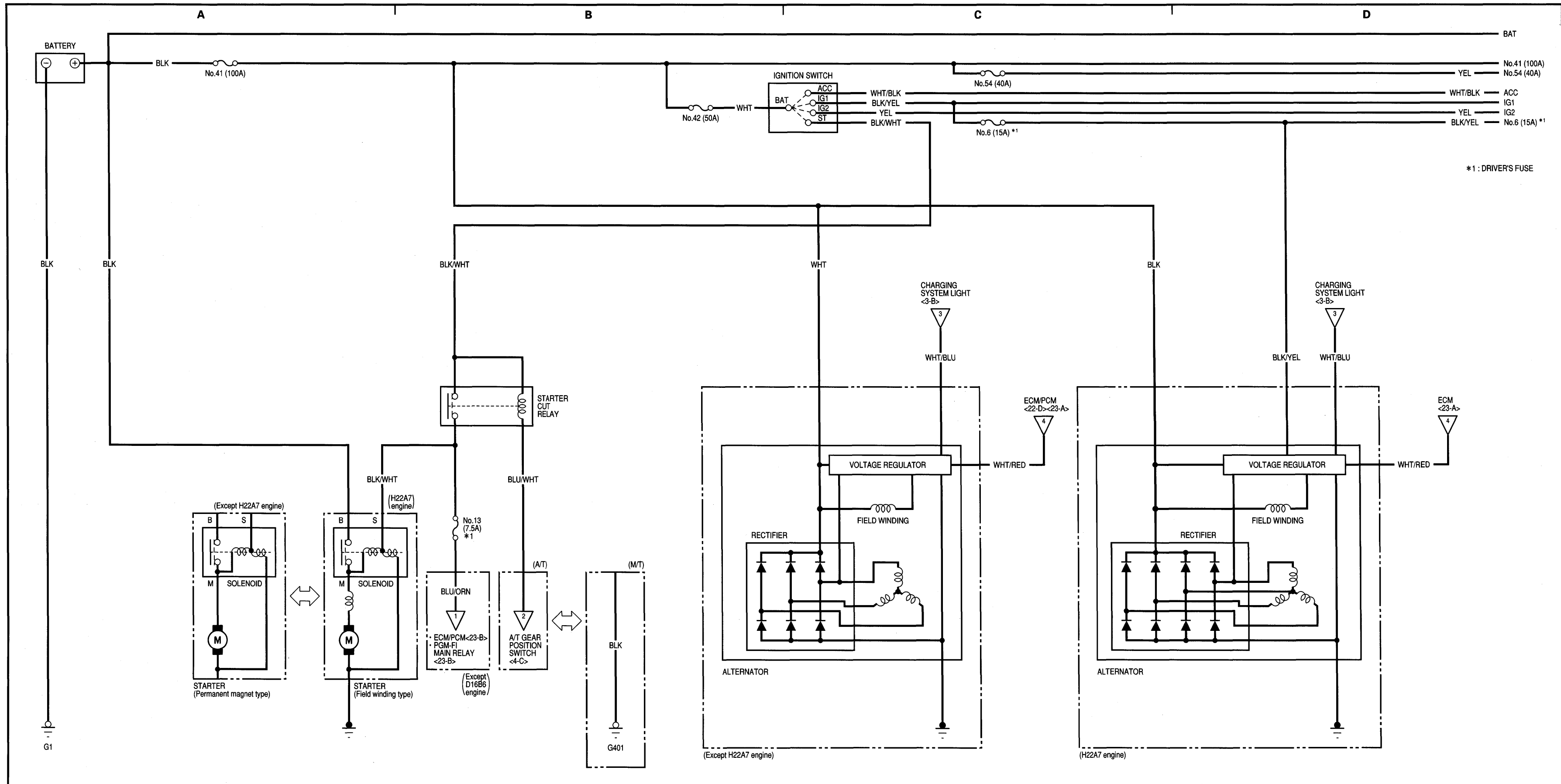


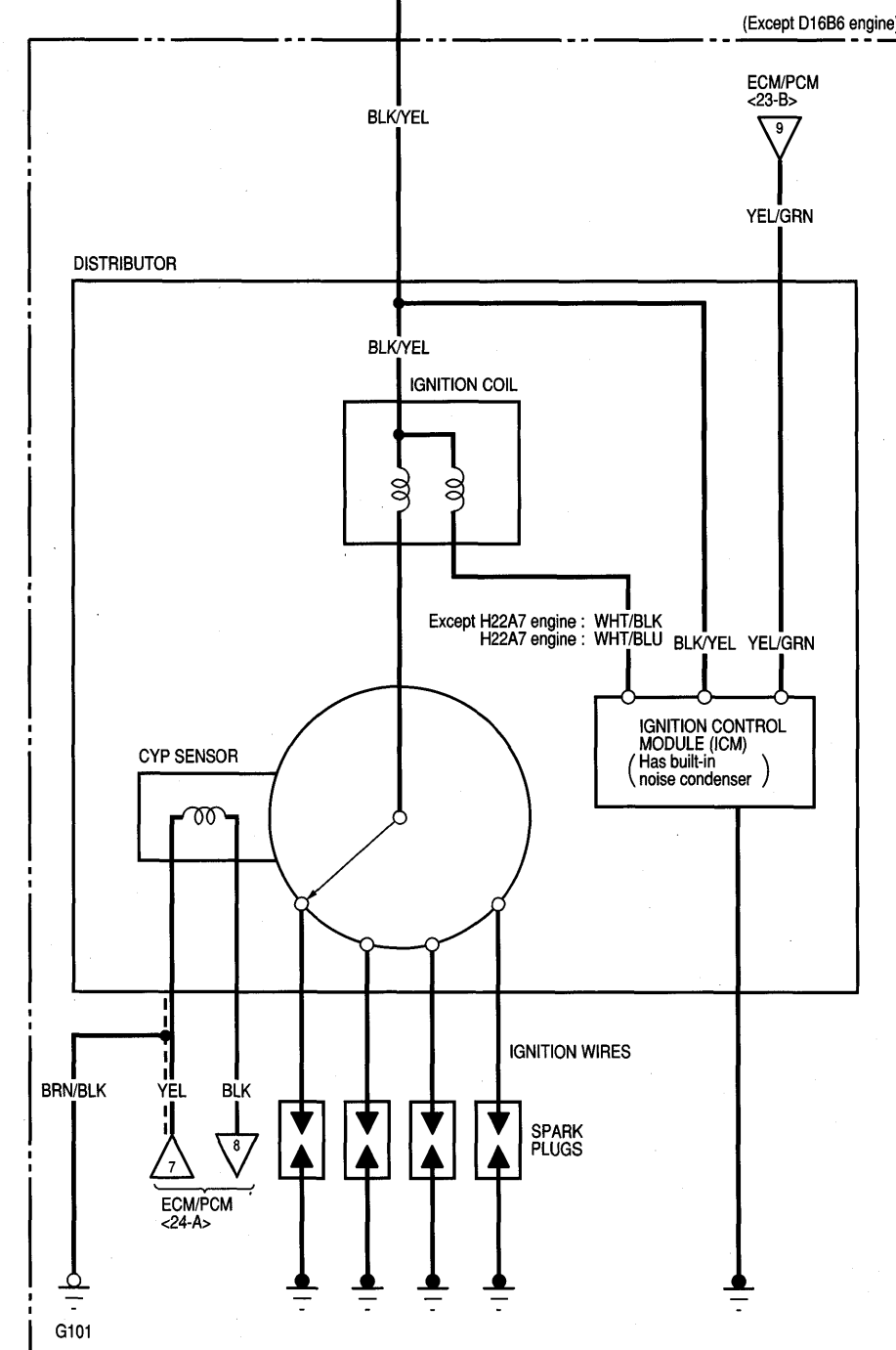
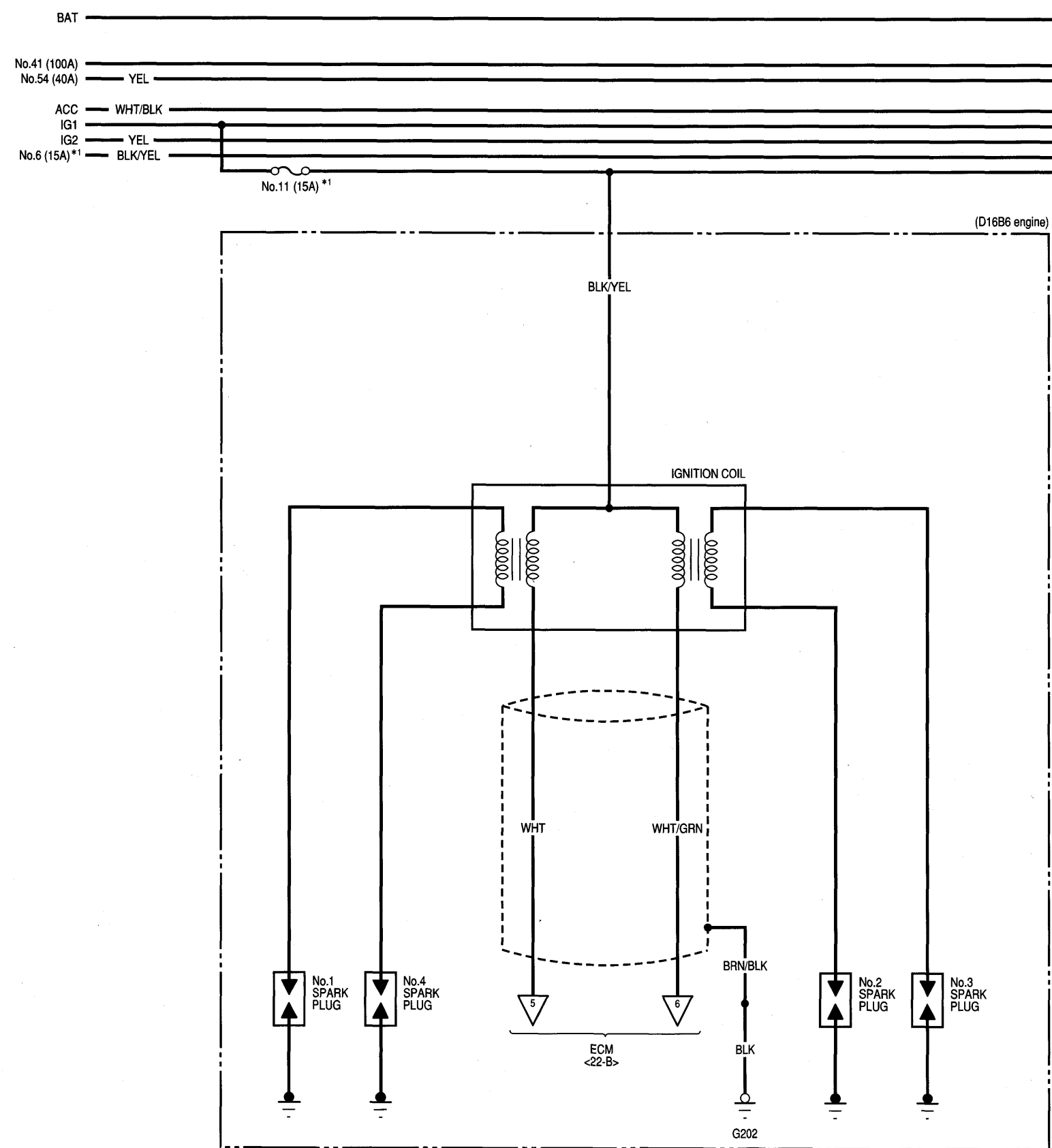
## Damaged Airbag, Side Airbag, Seat Belt Tensioner Special Procedure

### ⚠ WARNING

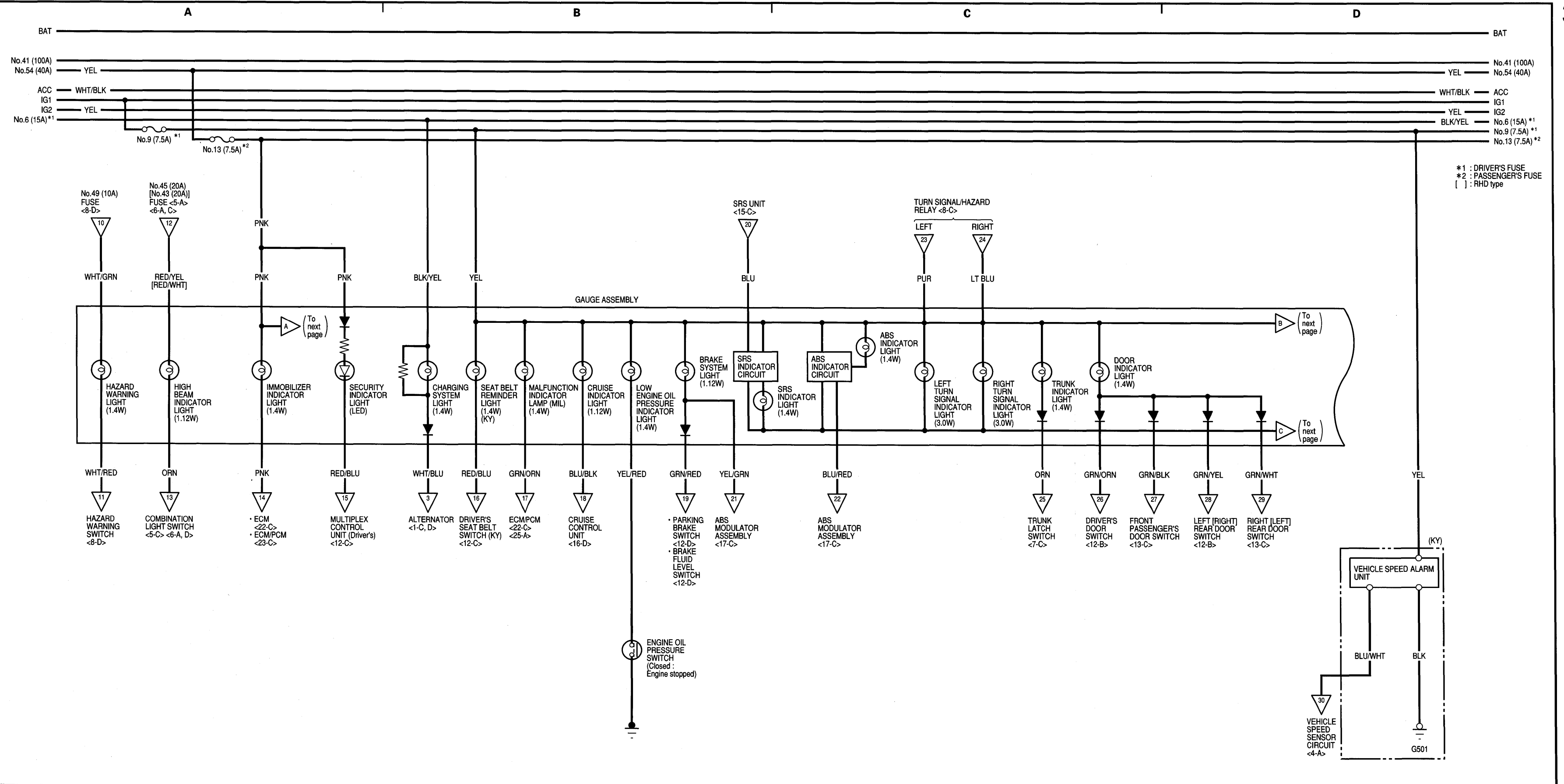
If a deployment unit cannot be deployed, it should not be treated as normal scrap; it should still be considered a potentially explosive device that can cause serious injury.

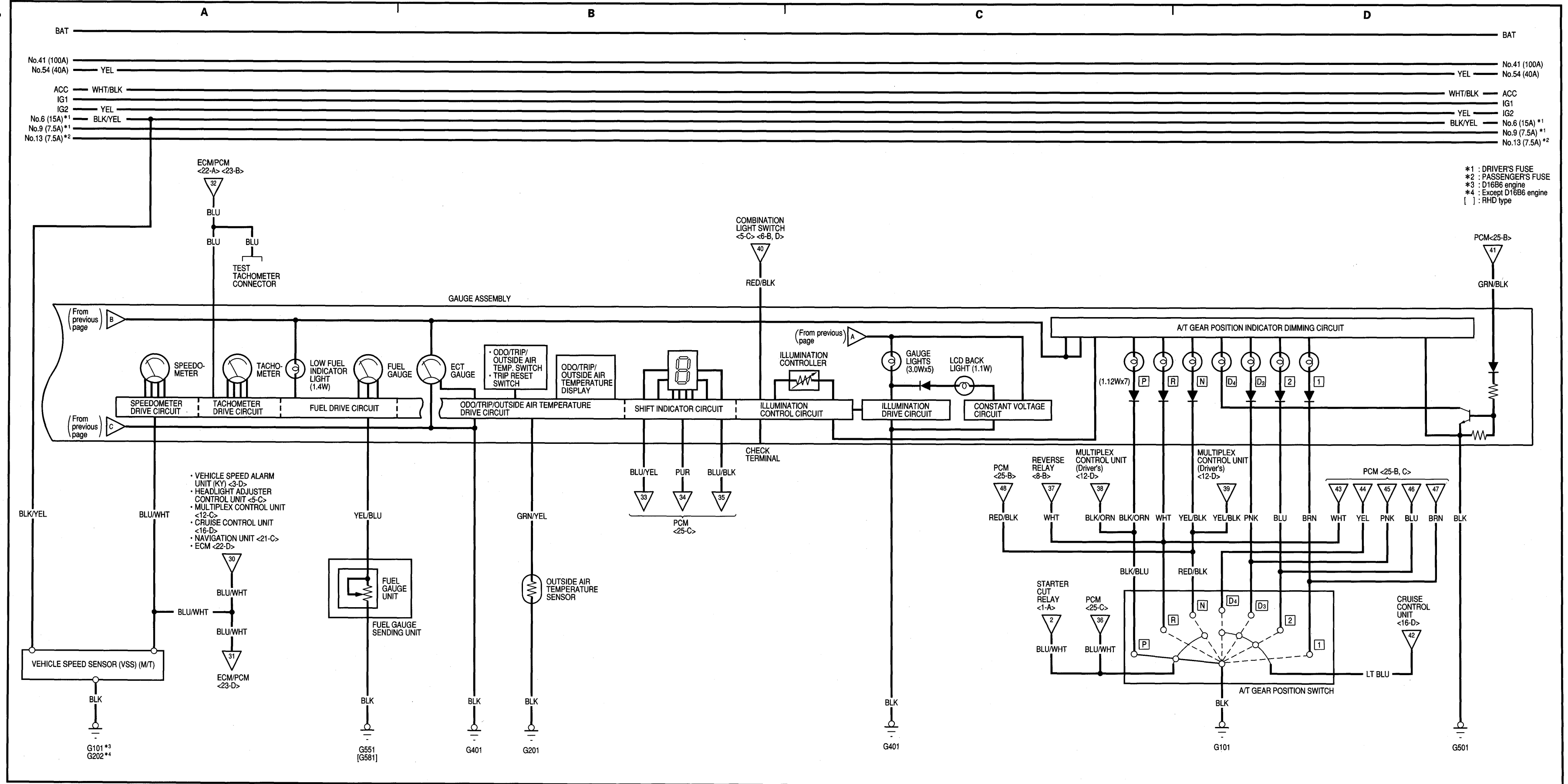
1. If installed in a vehicle, follow the removal procedure on page 24-73.
2. Intertwine the stripped ends of the two deployment unit wires to make a short circuit.
3. Package the deployment unit in exactly the same packaging that the new replacement part came in.
4. Mark the outside of the box "DAMAGED AIRBAG NOT DEPLOYED" so it does not get confused with your parts stock.
5. Contact your local Honda Service Manager for how and where to return it for disposal.



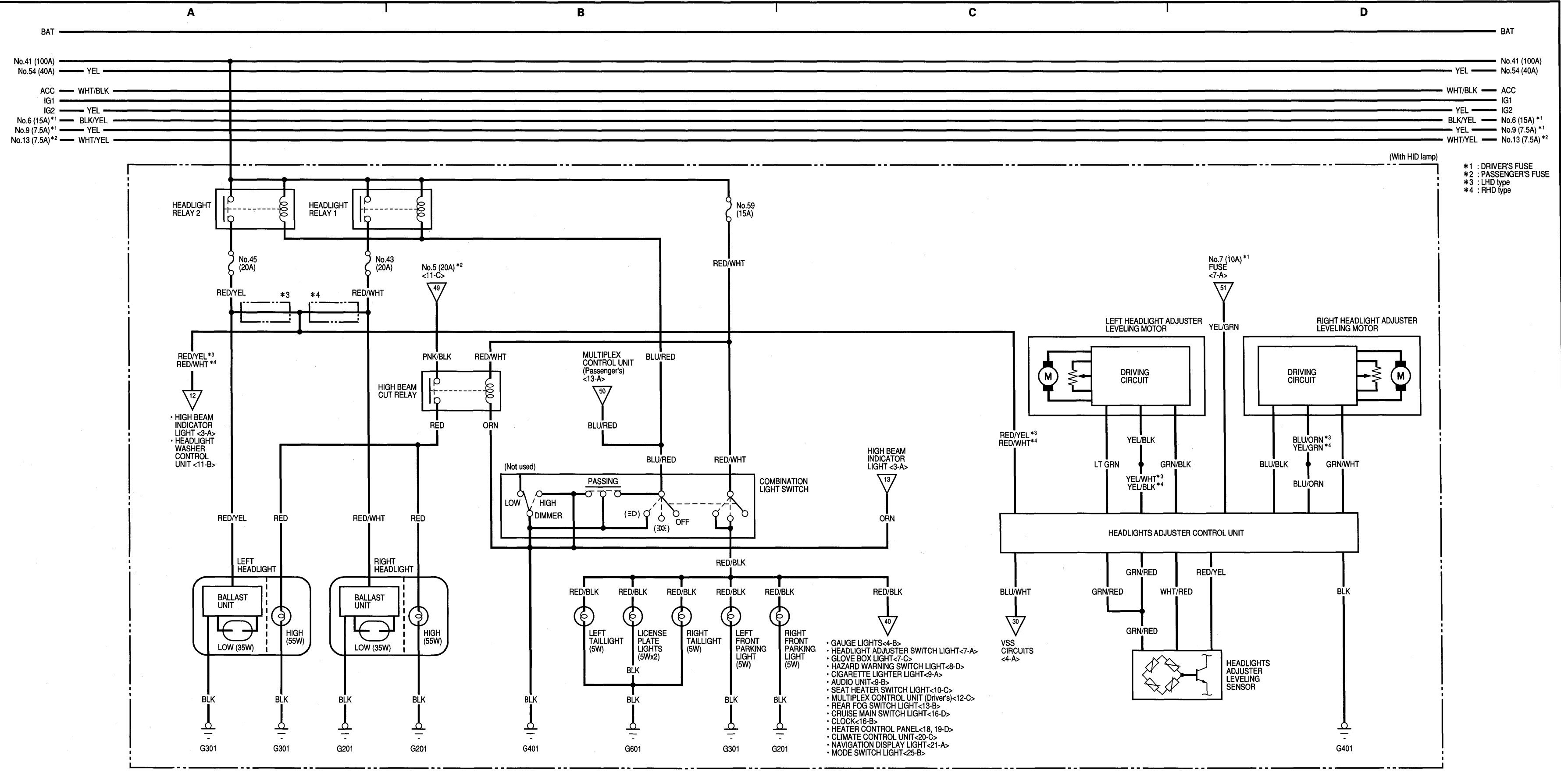


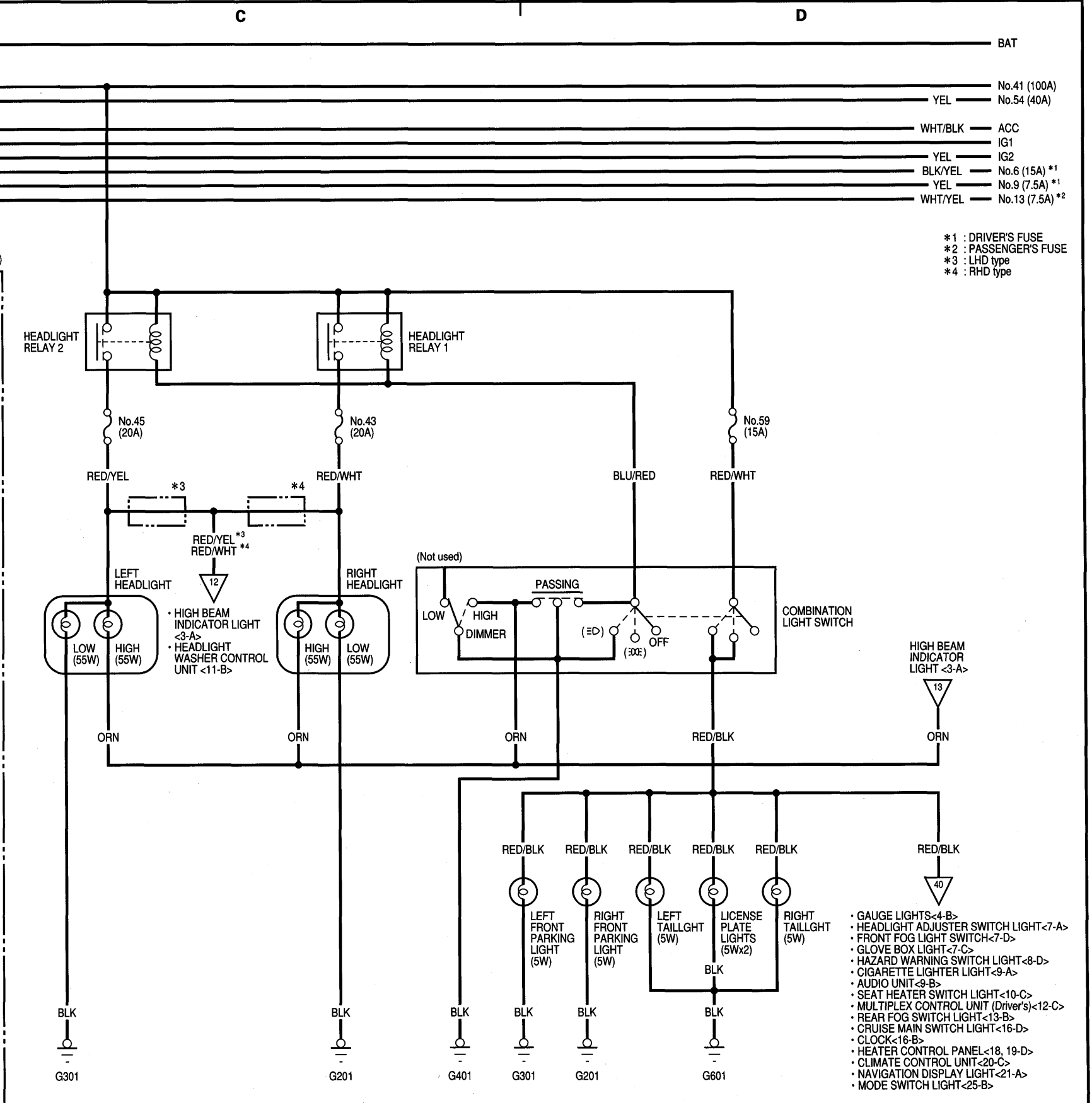
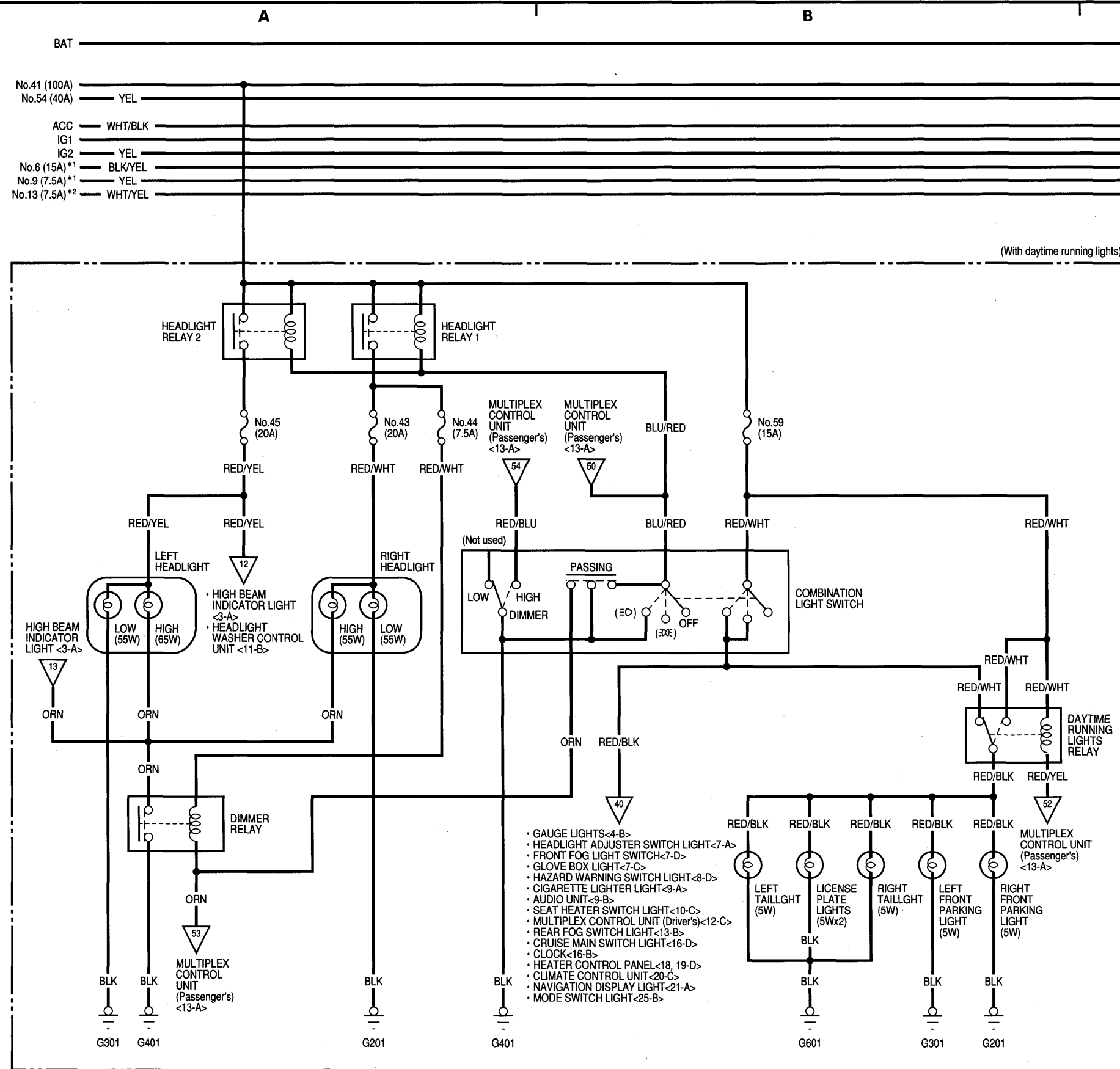
\*1: DRIVER'S FUSE  
\*2: PASSENGER'S FUSE  
-----: Shielding

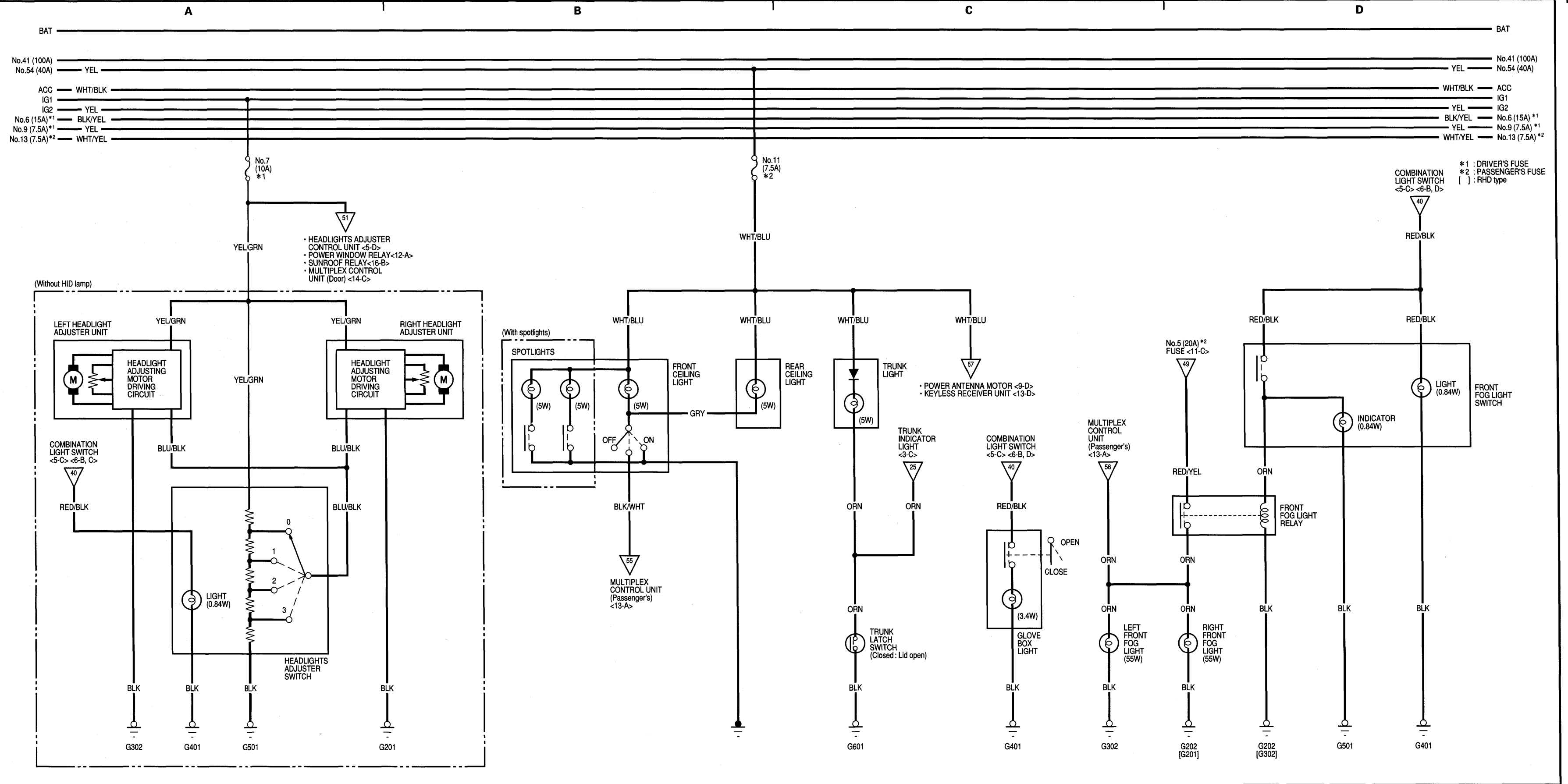


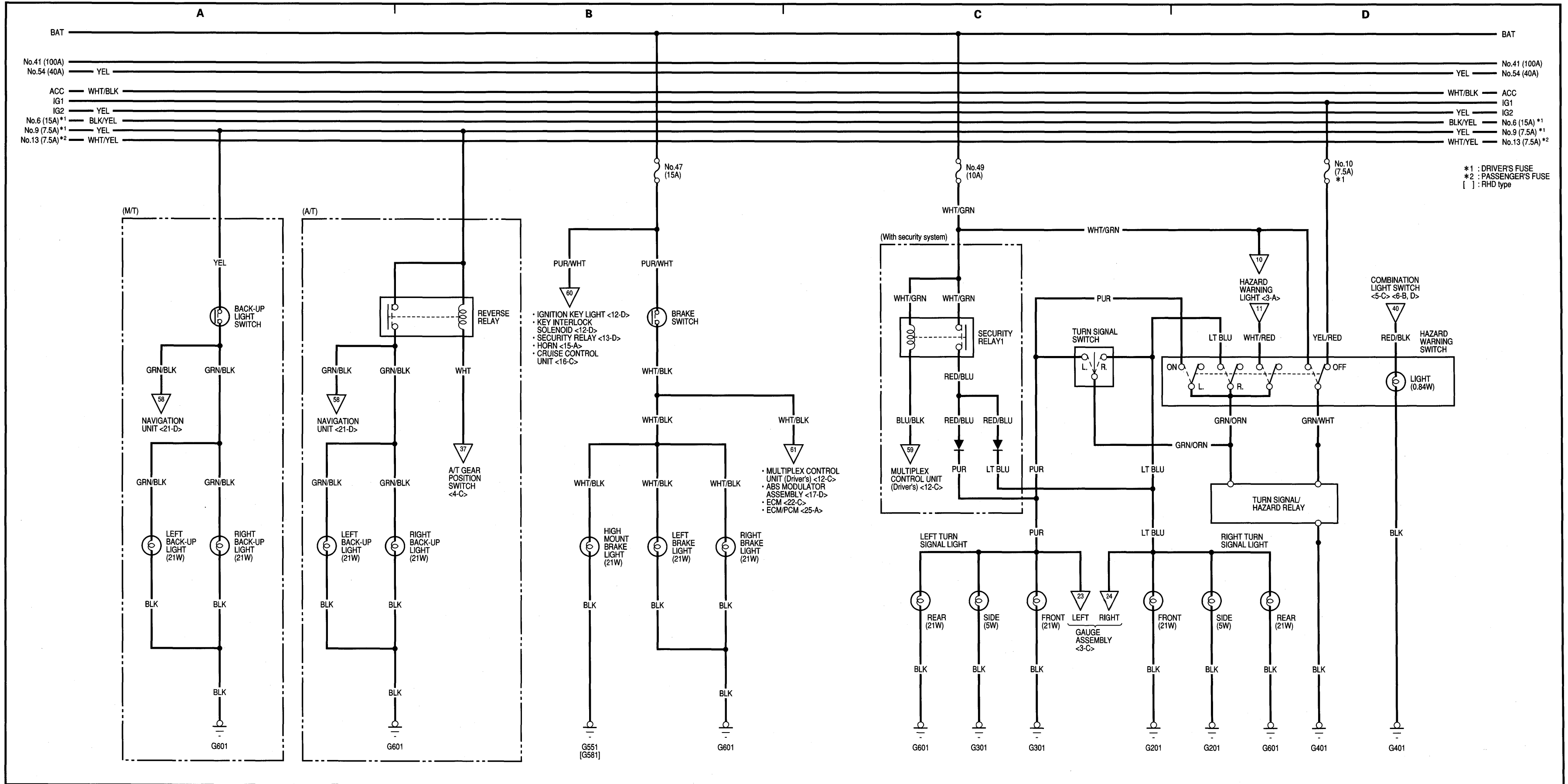


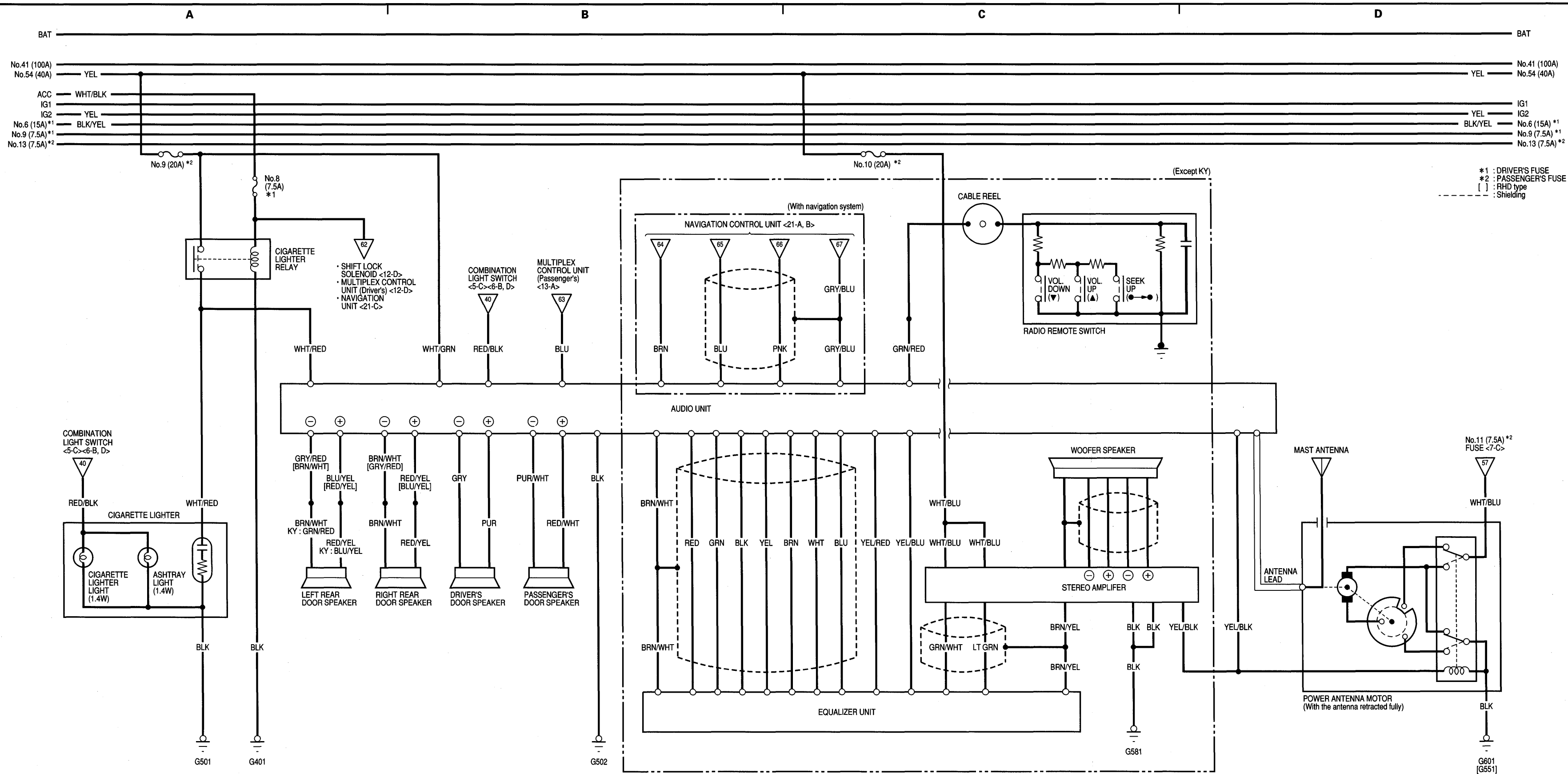


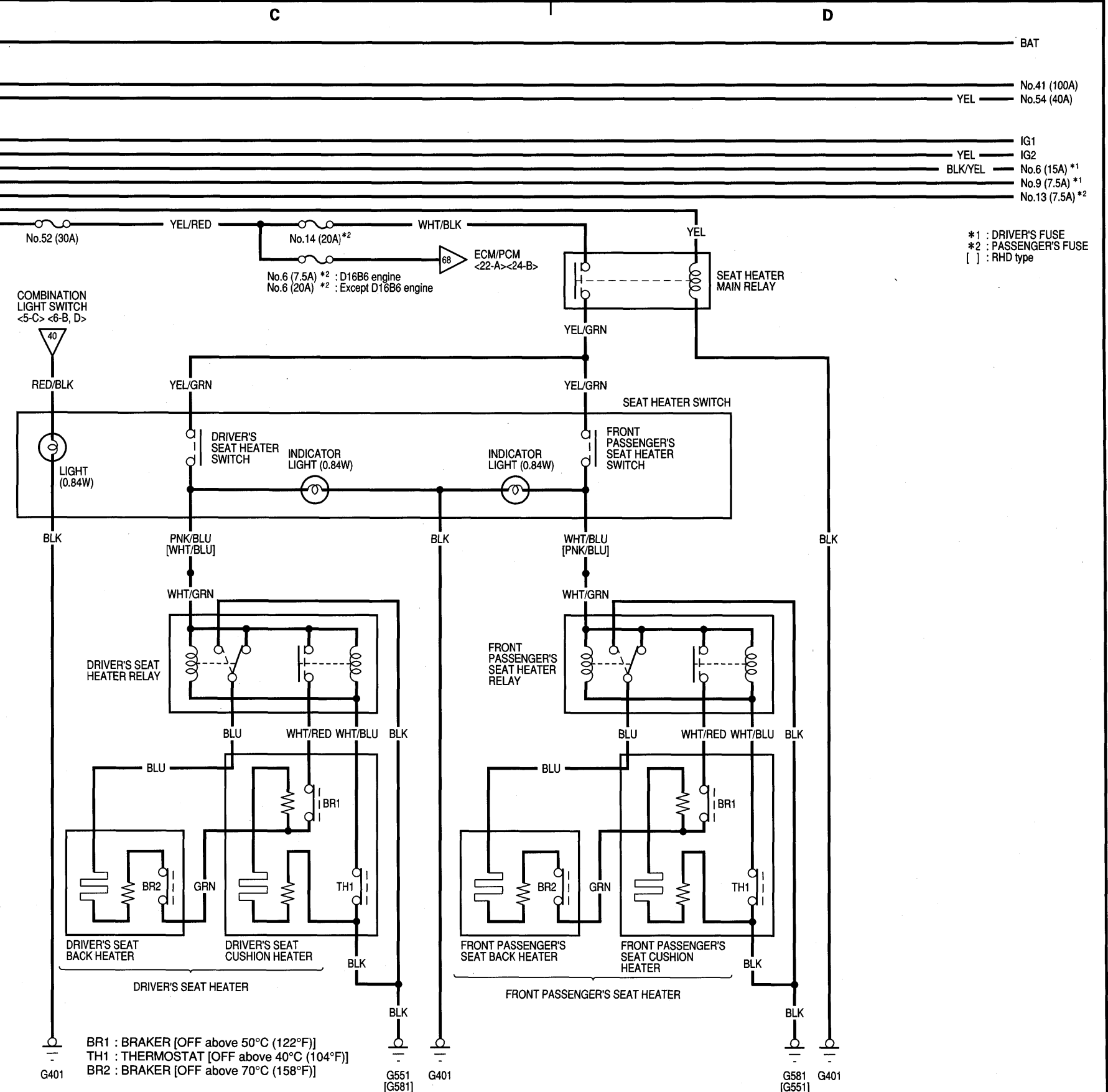
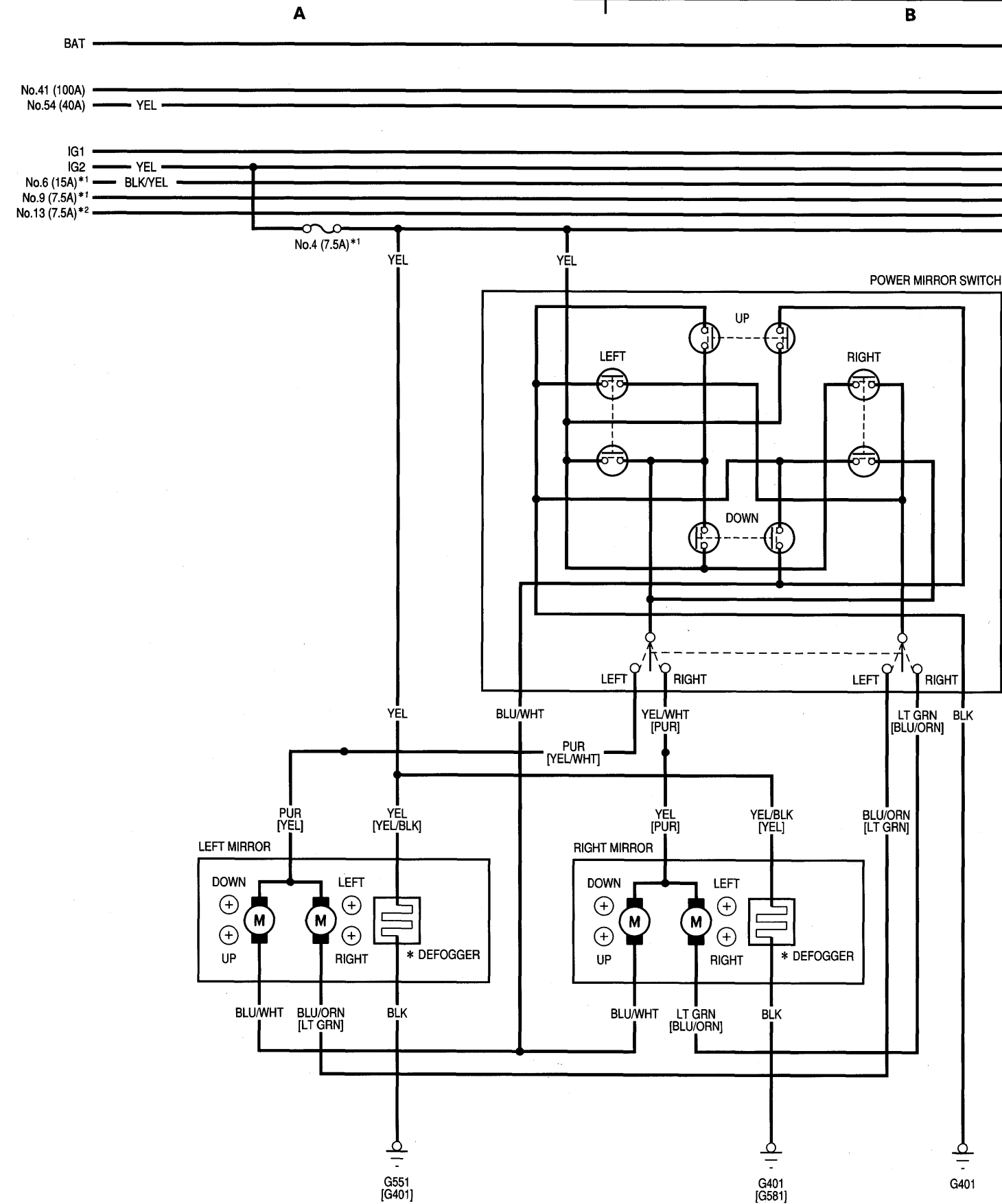


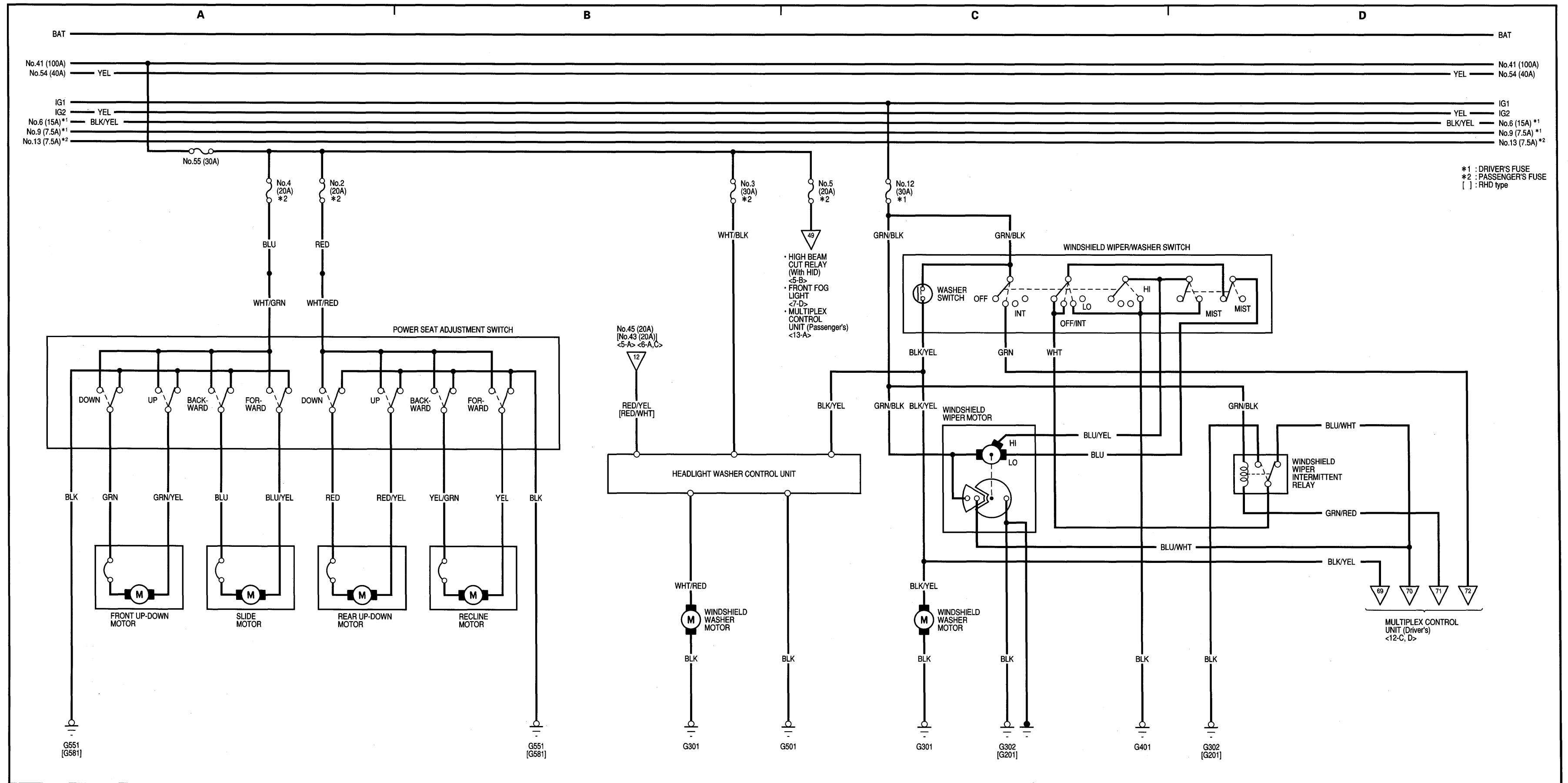


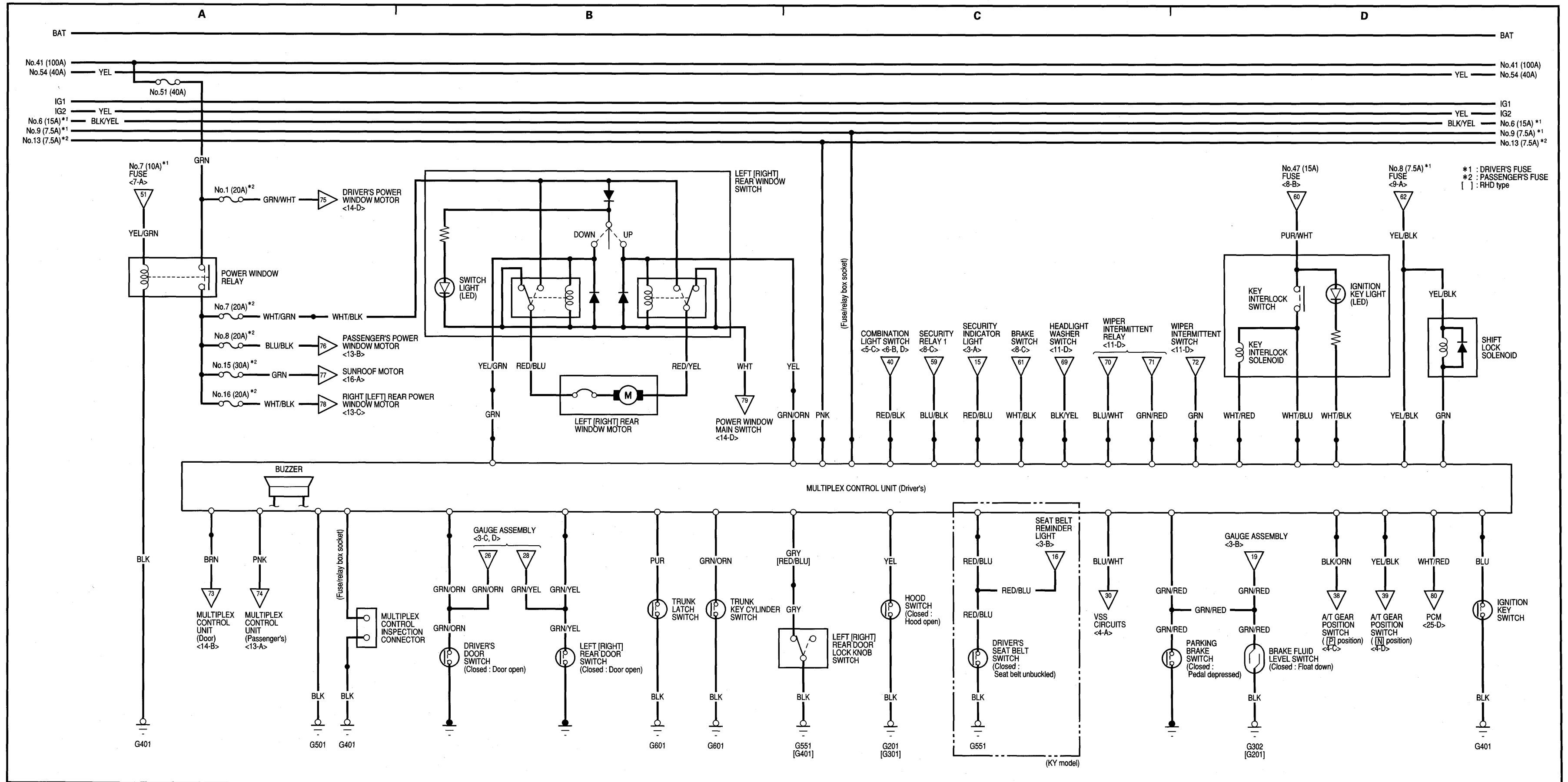




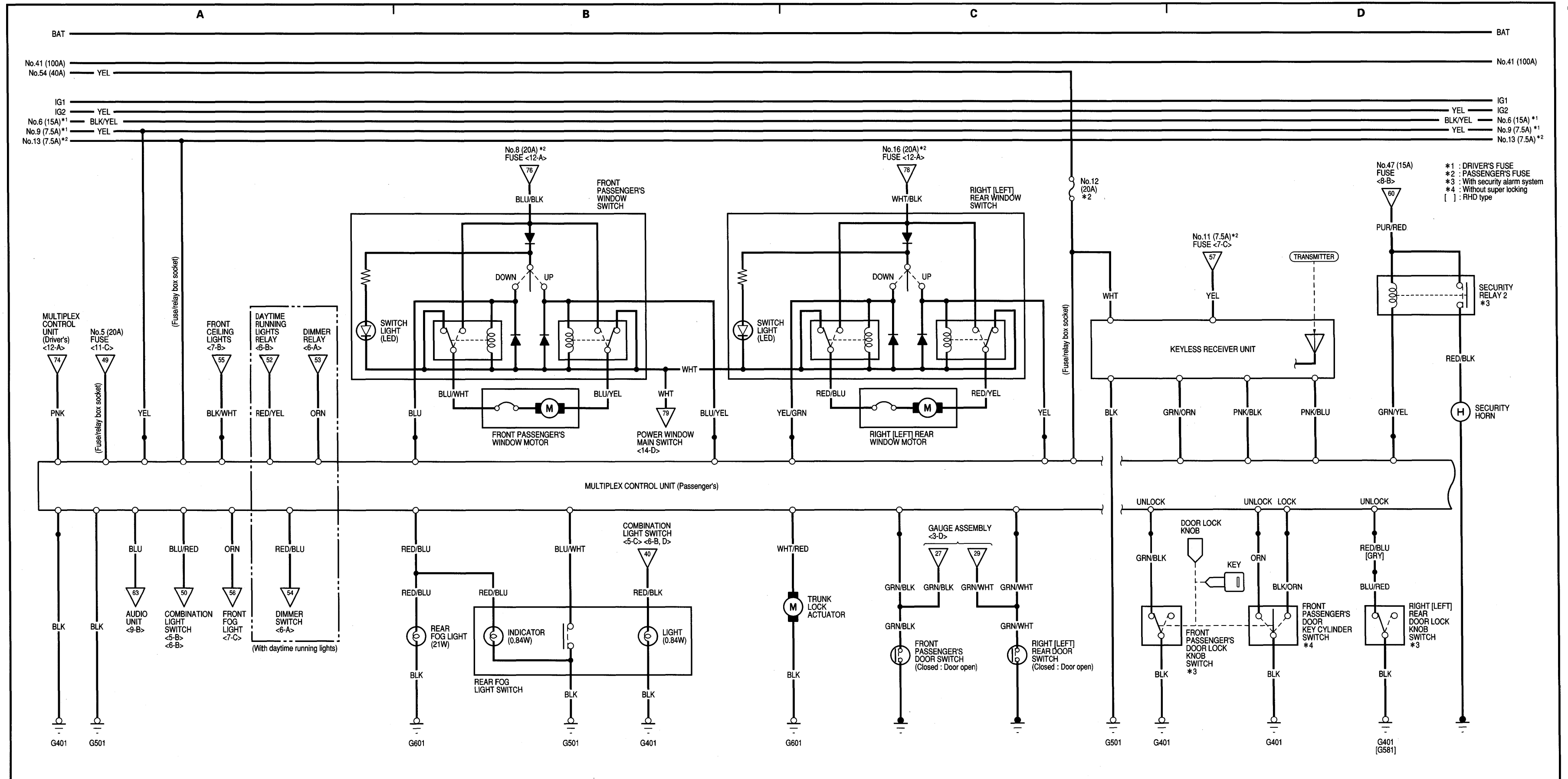


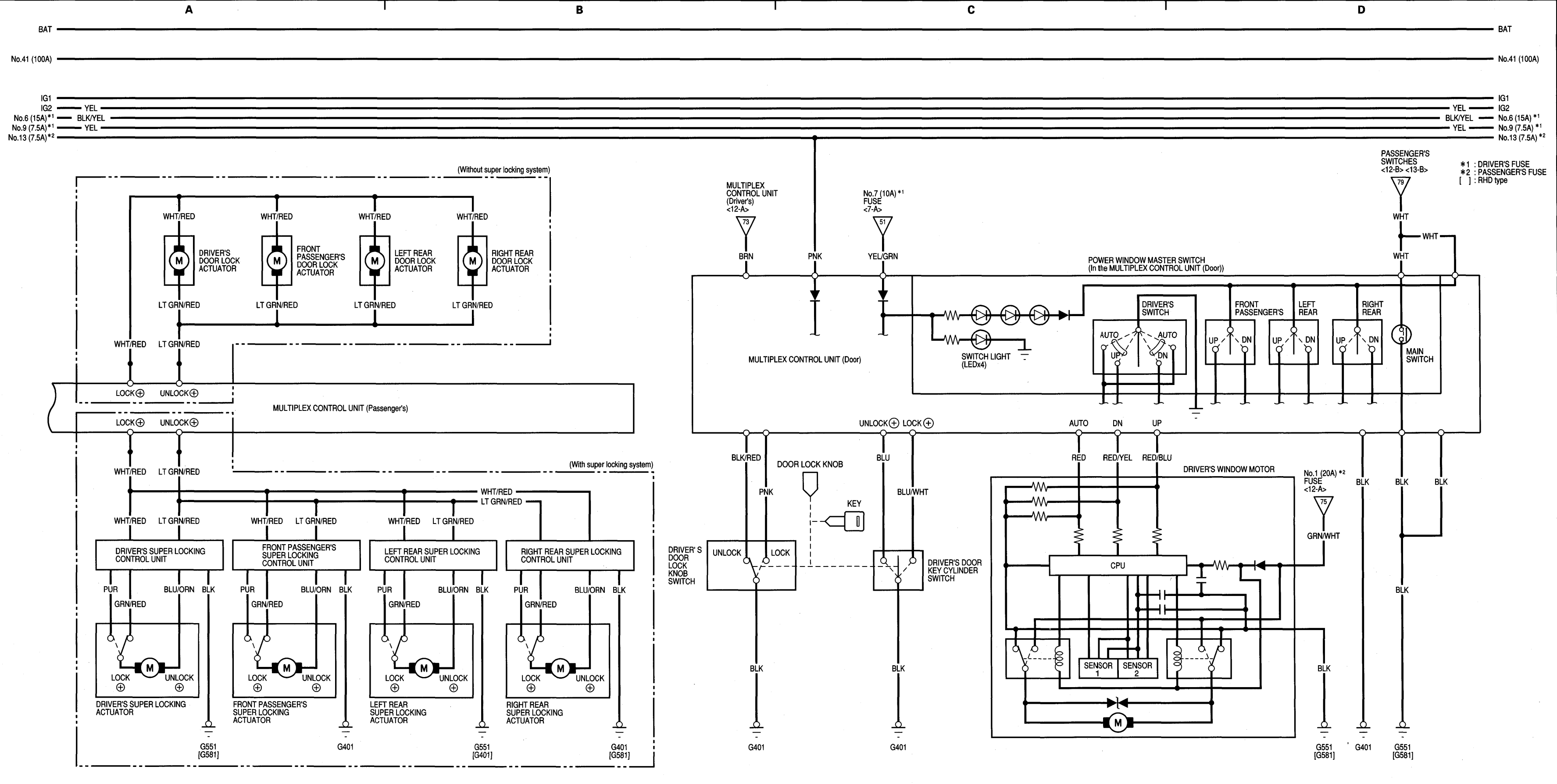


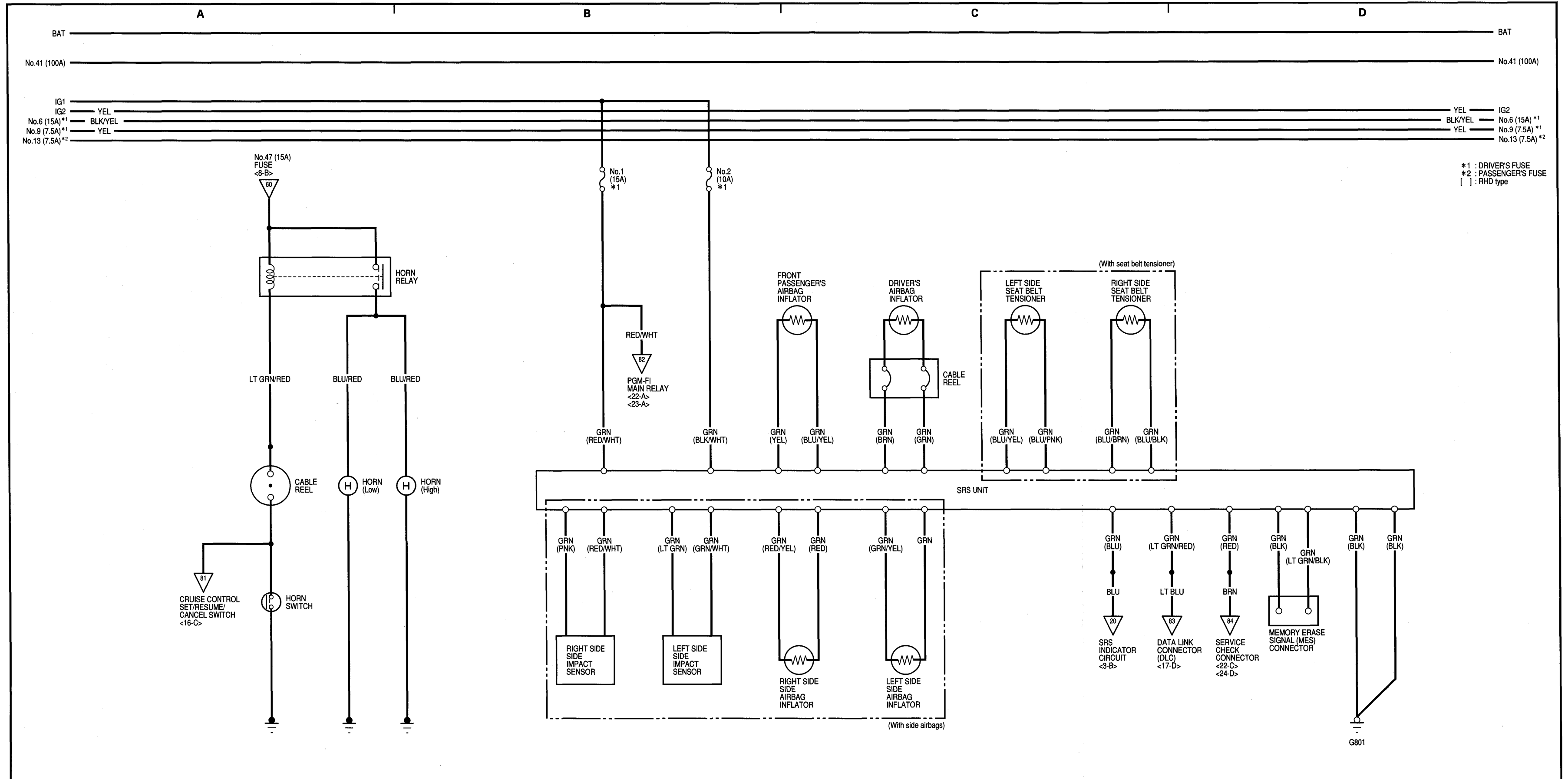


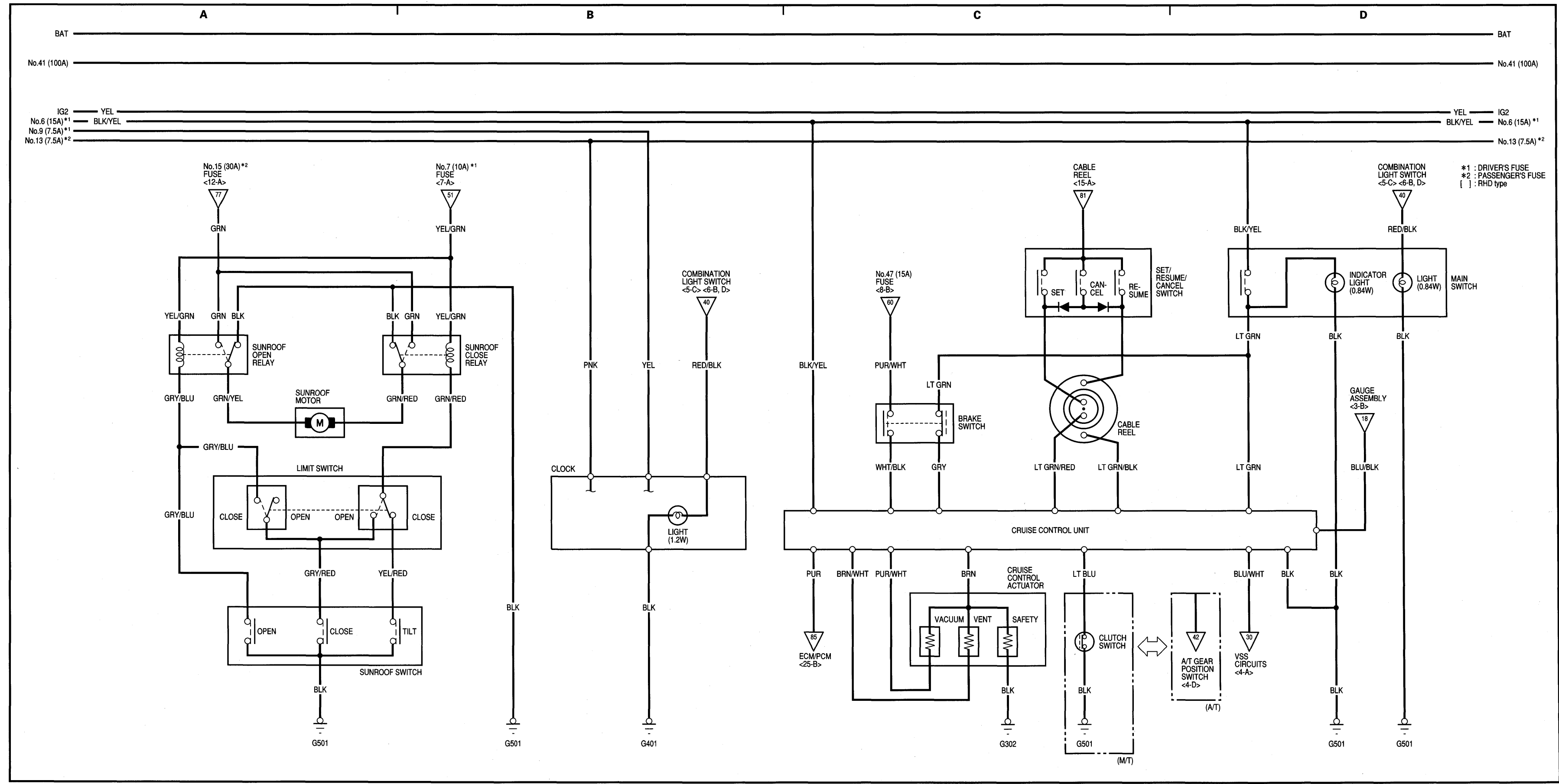


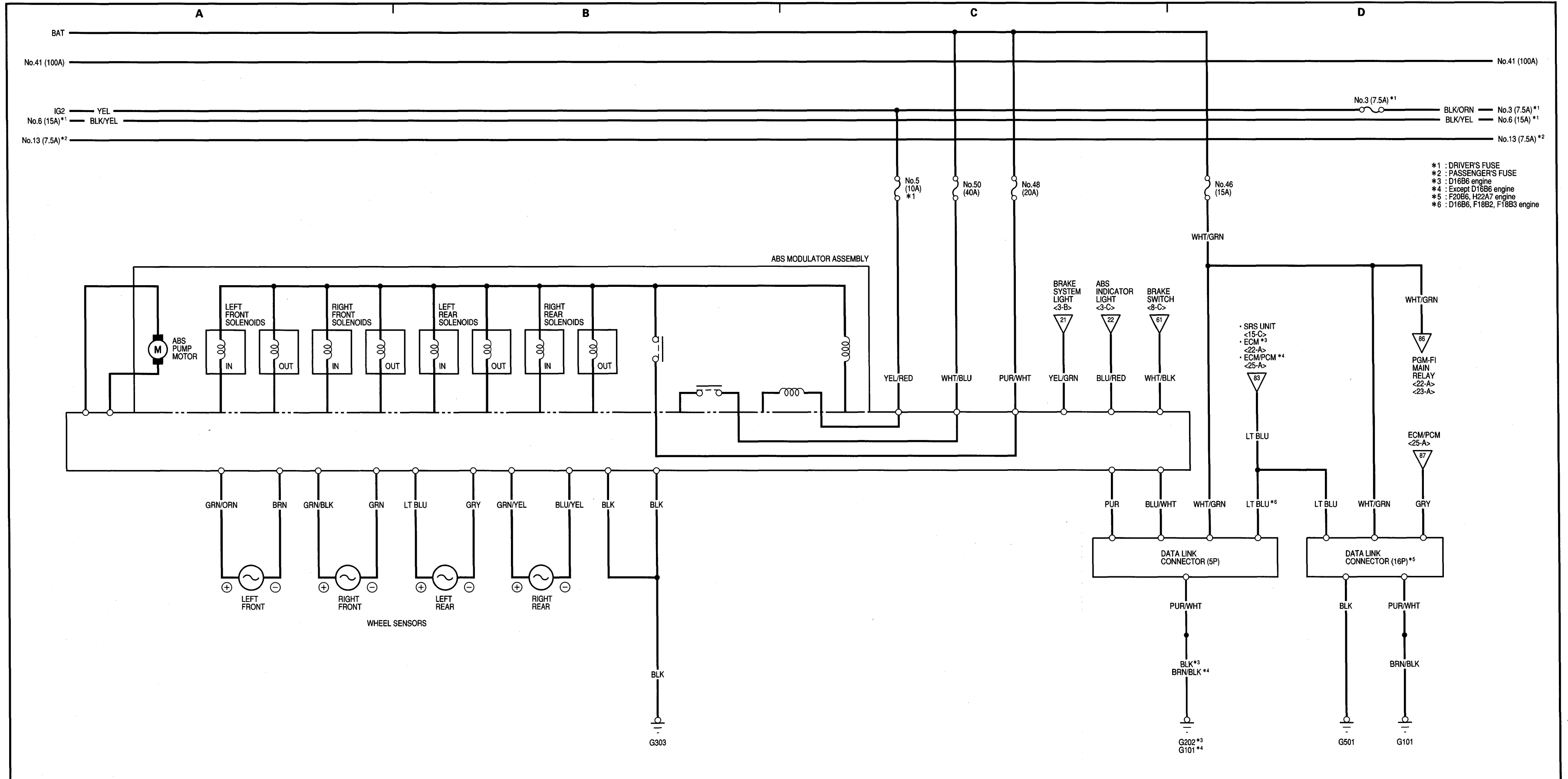


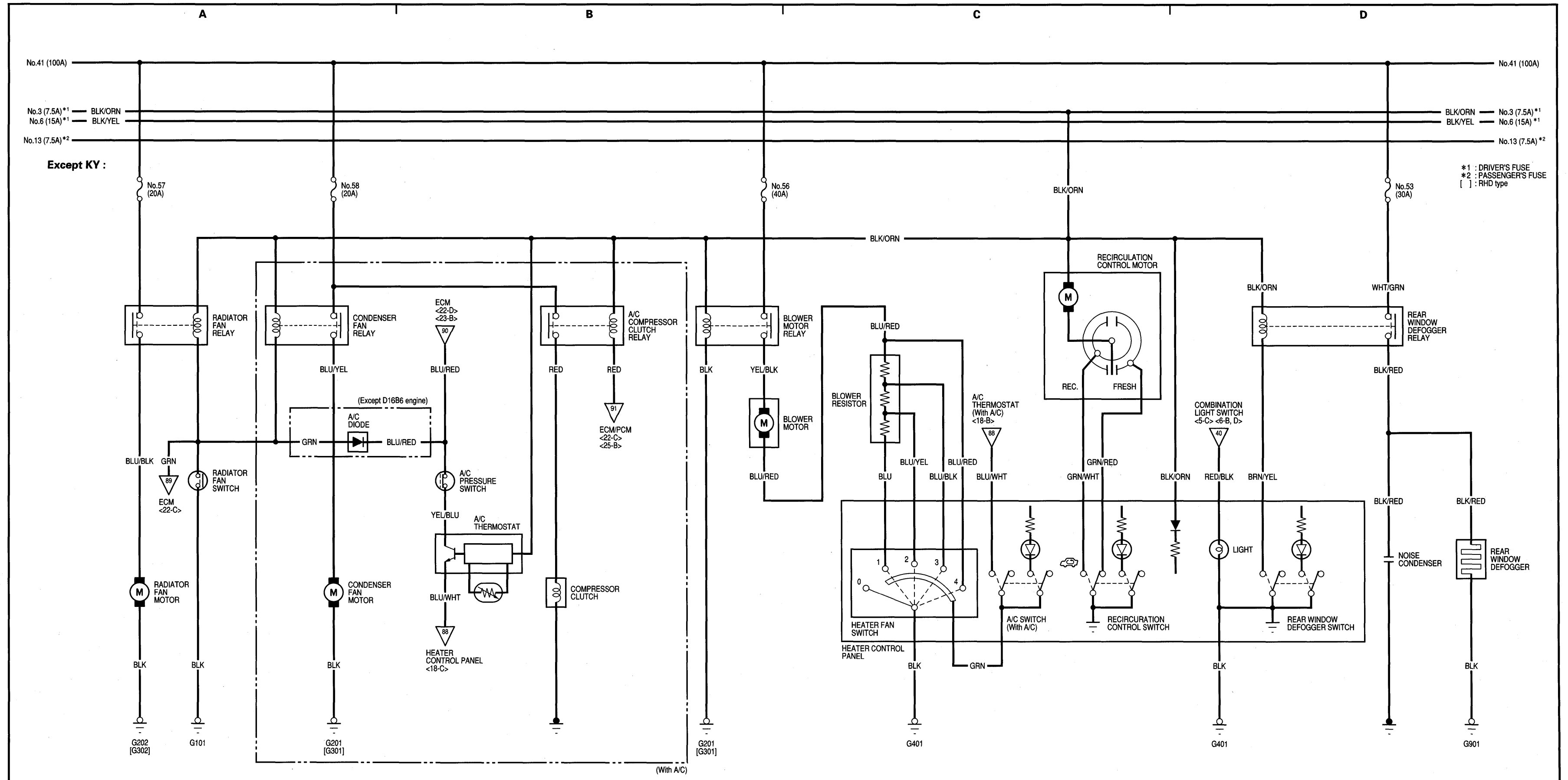


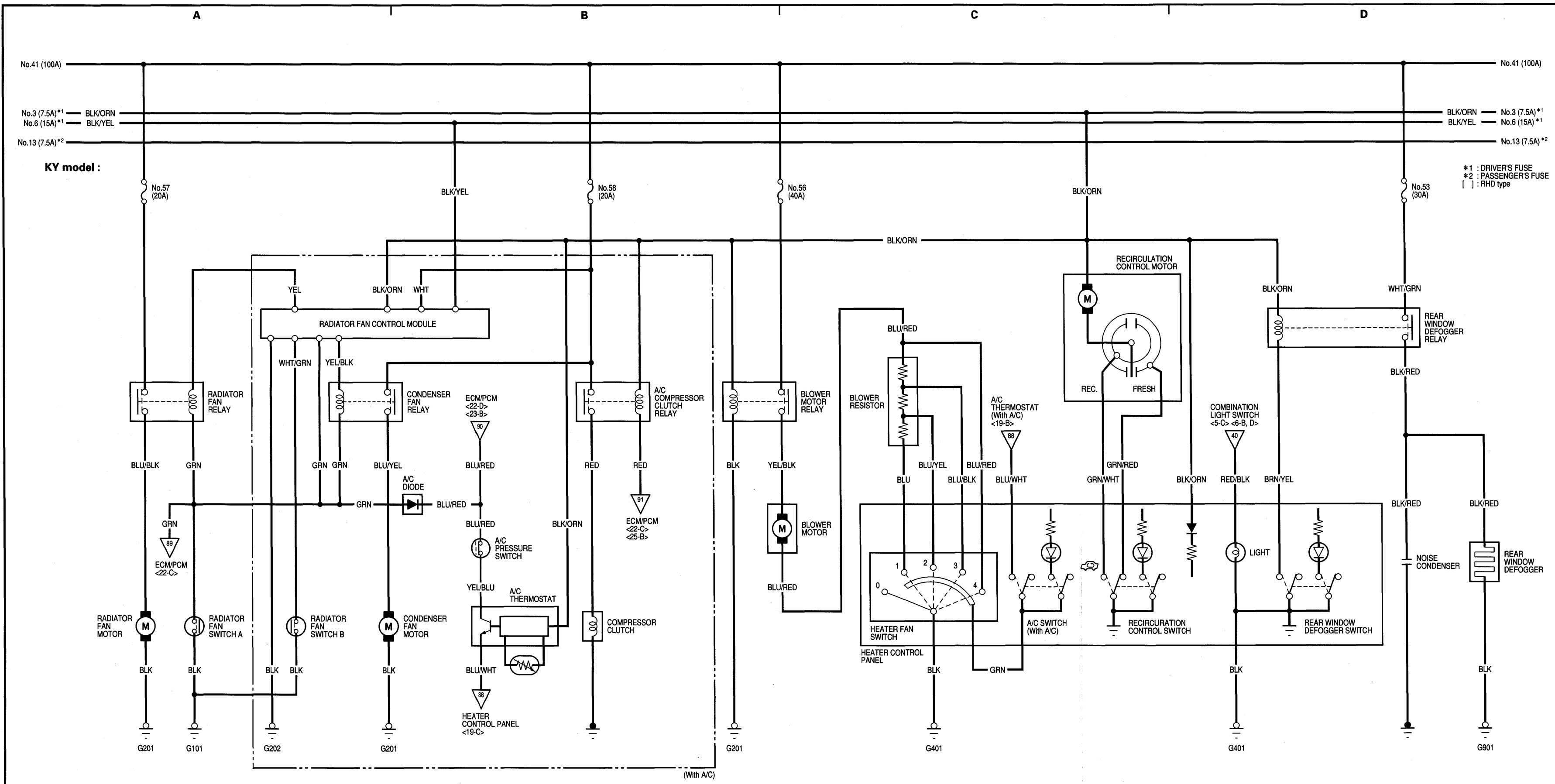


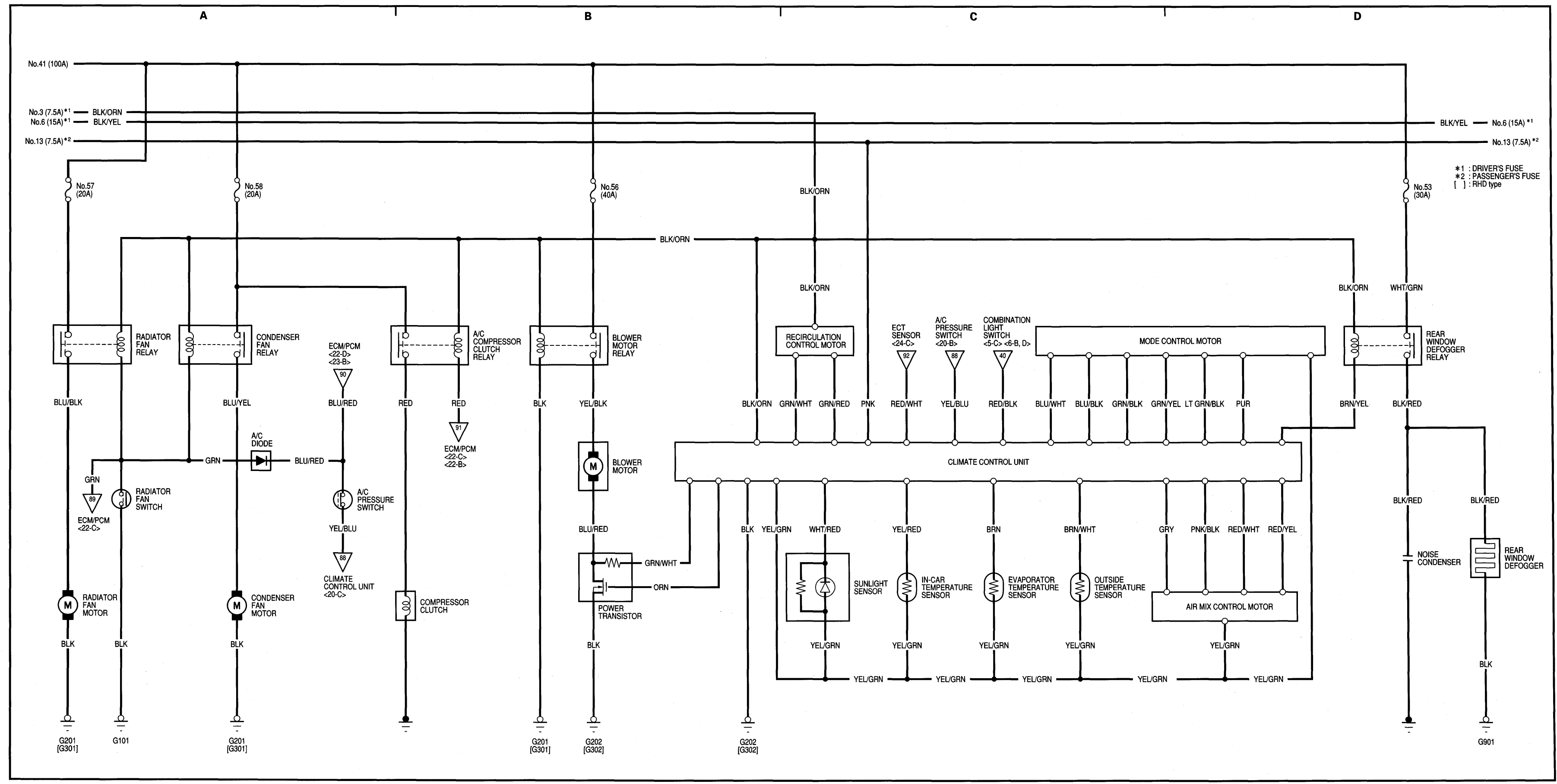




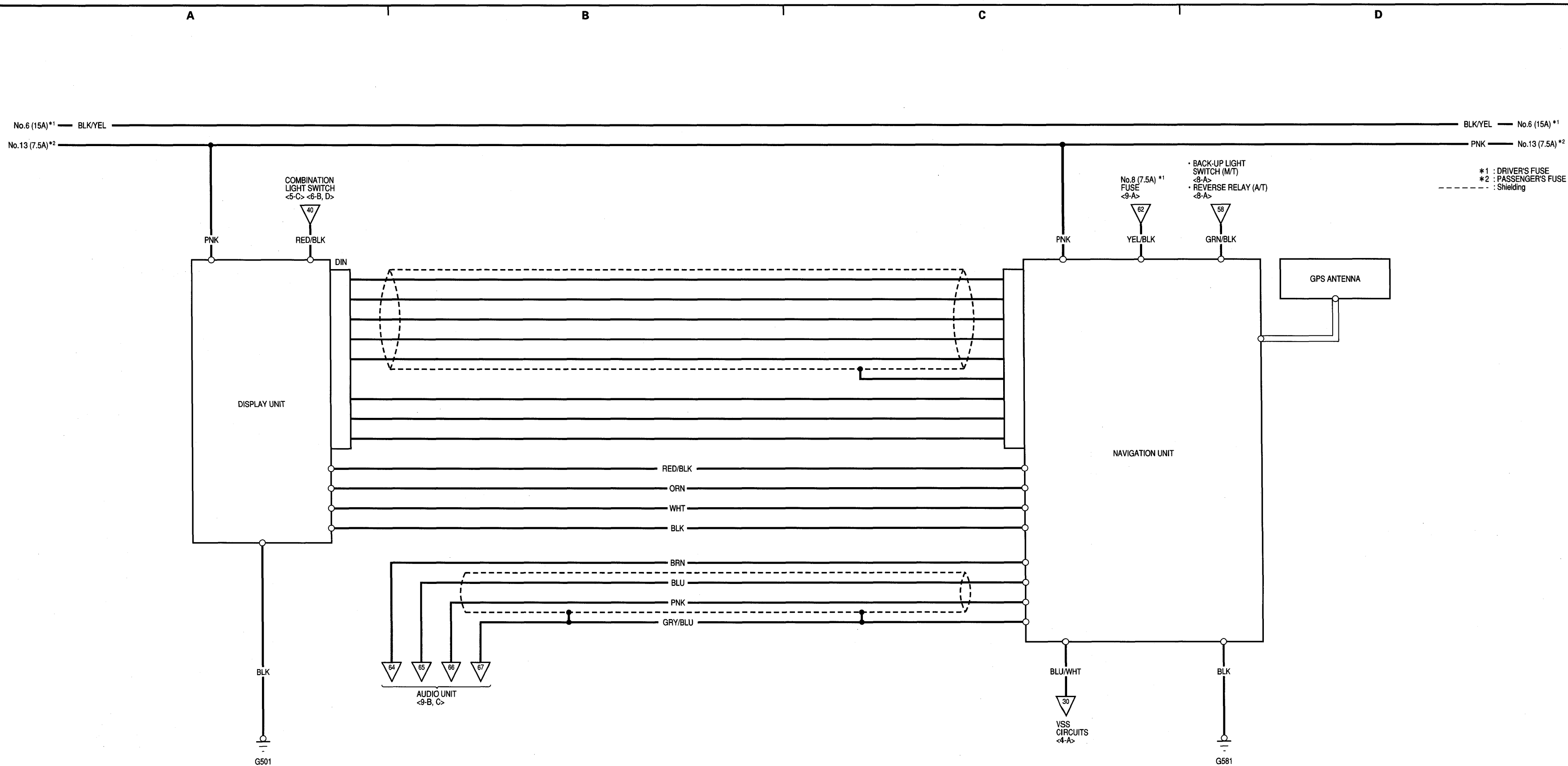


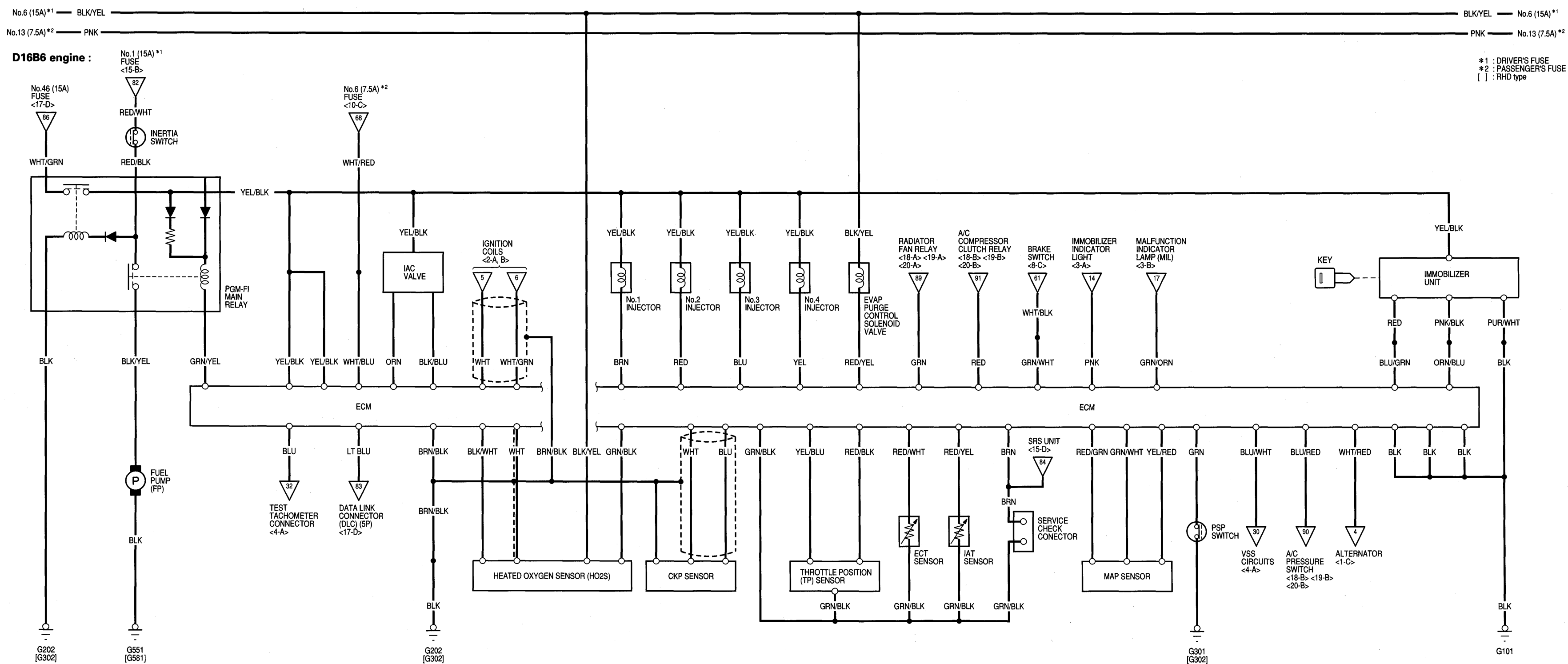


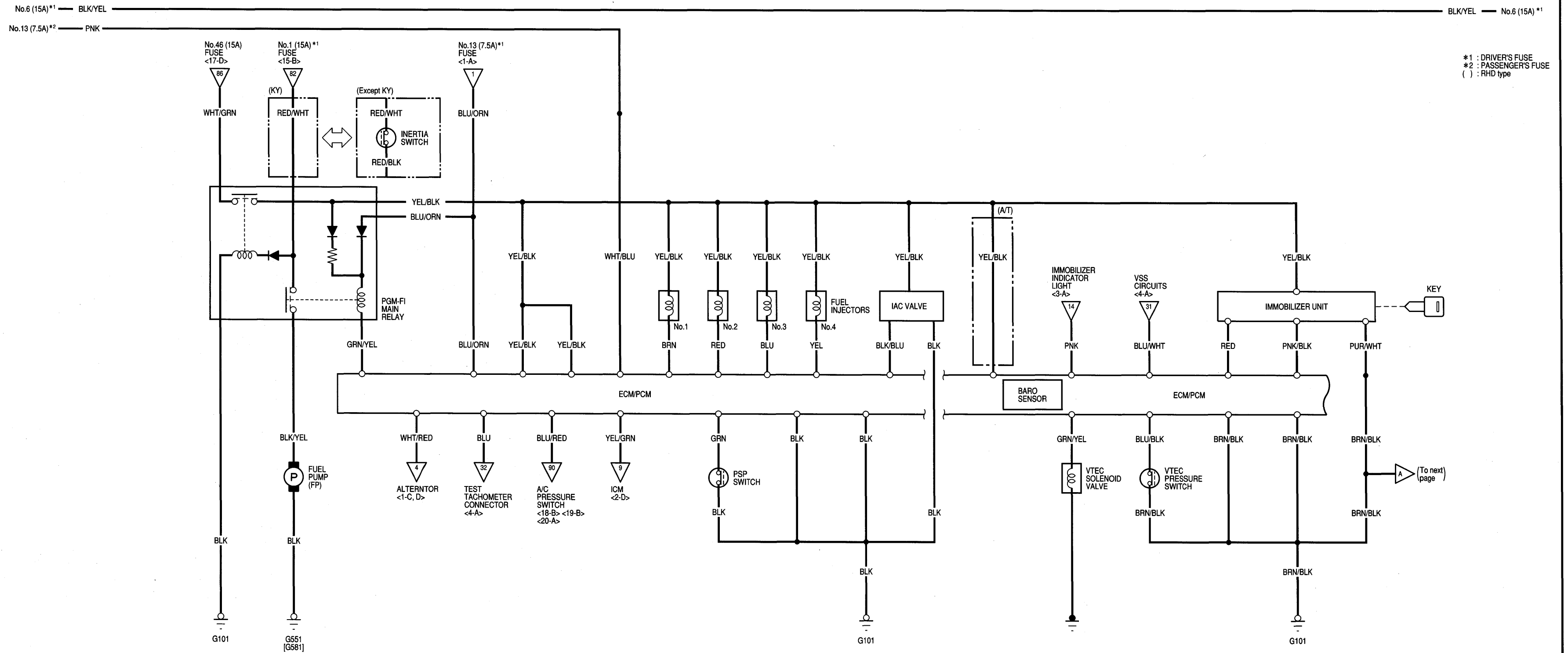


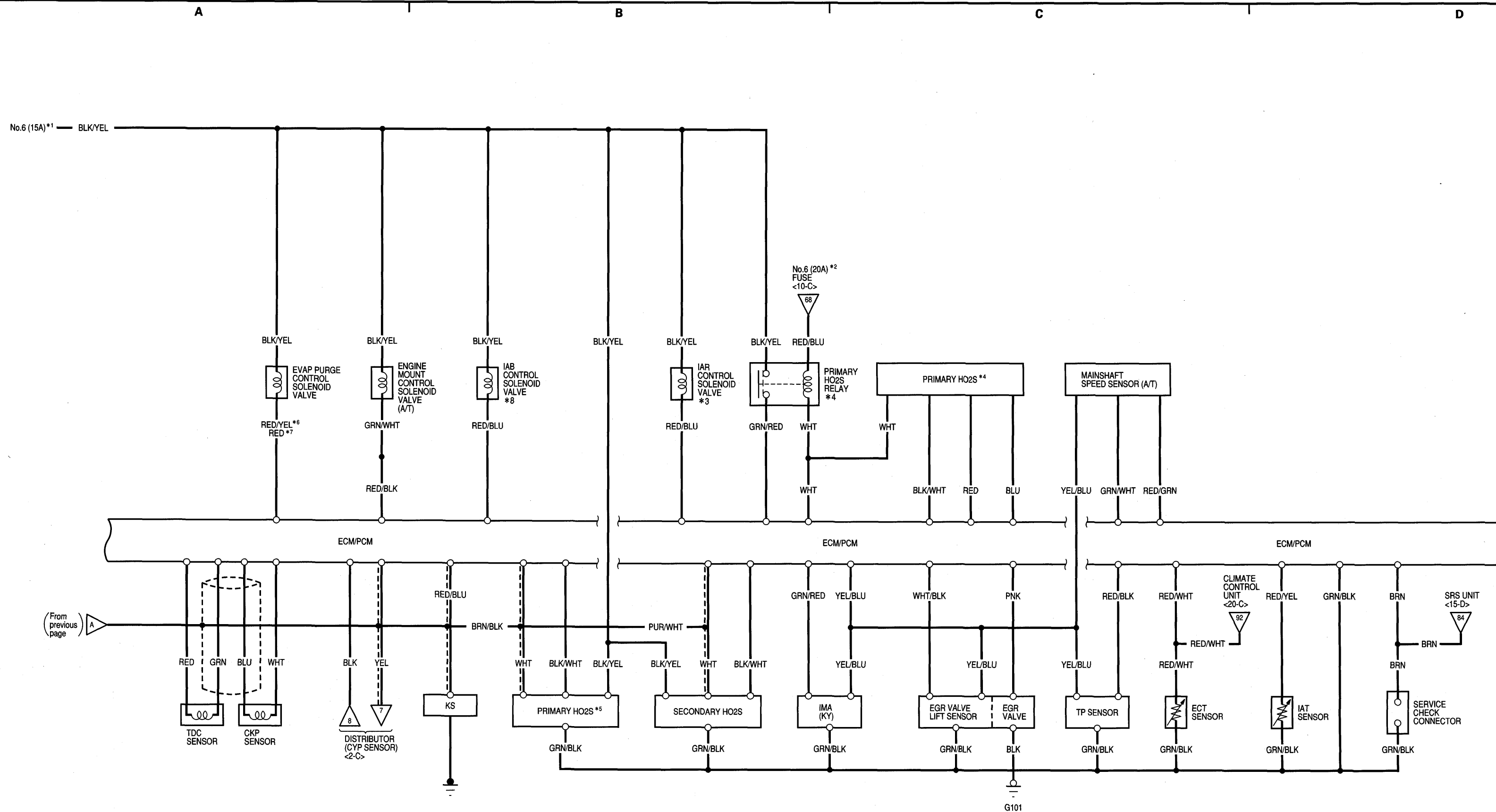


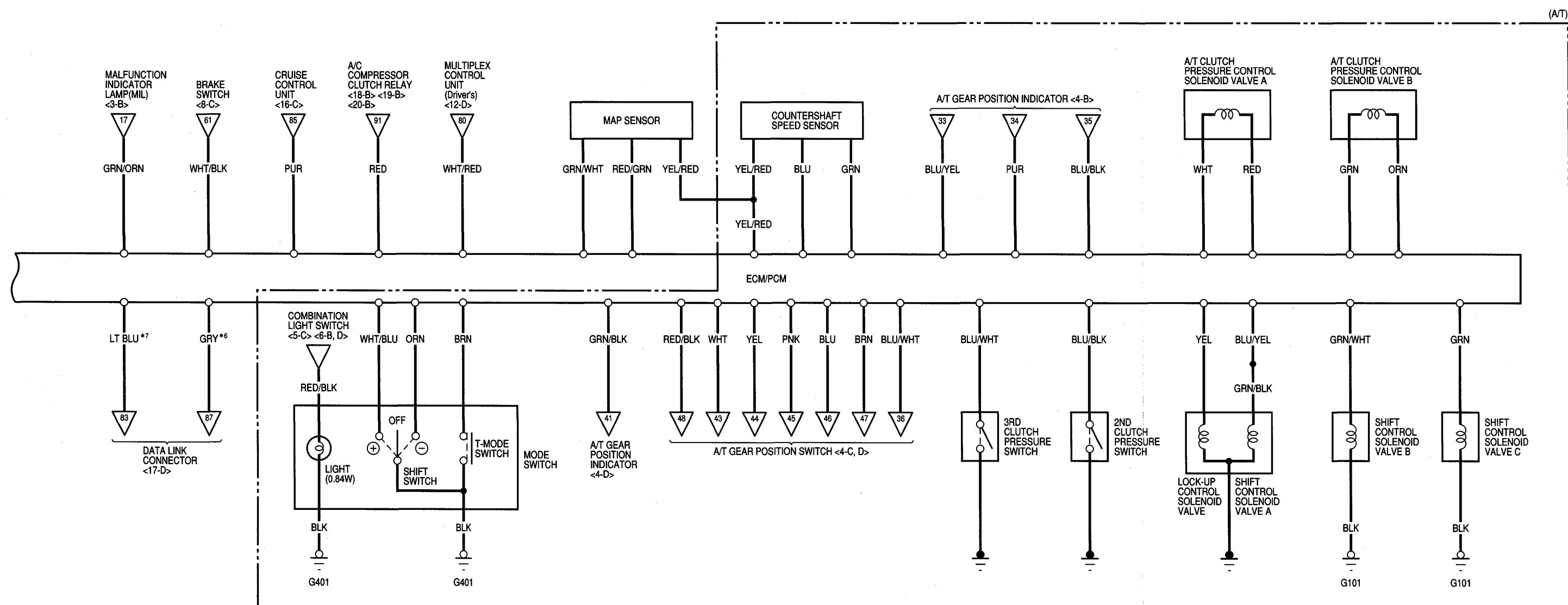












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