

WORKSHOP MANUAL

TF SERIES

ELECTRICAL-BODY AND CHASSIS

SECTION 8

ISUZU

NOTICE

Before using this Workshop Manual to assist you in performing vehicle service and maintenance operations, it is recommended that you carefully read and thoroughly understand the information contained in Section - 0A under the headings "GENERAL REPAIR INSTRUCTIONS" and "HOW TO USE THIS MANUAL".

All material contained in this Manual is based on the latest product information available at the time of publication.

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SECTION 8

ELECTRICAL-BODY AND CHASSIS

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GENERAL INFORMATION

The body and chassis electrical system operates on a twelve volt power supply with negative ground polarity.

The main harness consists of the engine harness, the instrument harness, the body harness, and the chassis harness.

The harnesses use a split corrugated tube to protect the wires from the elements.

Wire size is determined by current flow, circuit length, and voltage drop.

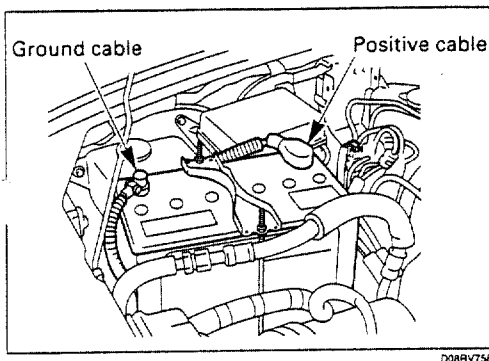
All wires have color-coded insulation.

Wire color-codes are shown in the circuit diagrams. This makes it easier to trace circuits and to make the proper connections.

Each circuit consists of the following:

1. Power source - The battery and the alternator
2. Wires - To carry electrical current through the circuit
3. Fuses - To protect the circuit against current overload
4. Relays - To protect voltage drop between the battery and the circuit parts and to protect the switch points against burning
5. Switches - To open and close the circuit
6. Load - Any device, such as a light or a motor, which converts the electrical current into useful work
7. Ground - To allow the current to flow back to the power source

NOTES FOR WORKING ON ELECTRICAL ITEMS



BATTERY CABLE

Disconnecting the Battery Cable

1. All switches should be "OFF" position.
2. Disconnect the battery ground cable.
3. Disconnect the battery positive cable.

CAUTION:

It is important that the battery ground cable be disconnected first.

Disconnecting the battery positive cable first can result in a short circuit.

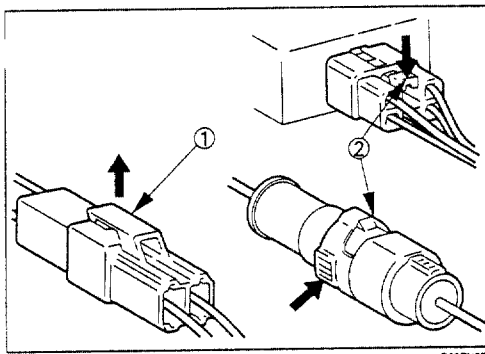


Connecting the Battery Cable

Follow the disconnecting procedure in the reverse order to connect the battery cables.

CAUTION:

Clean the battery terminal and apply light coat of grease to prevent terminal corrosion.



CONNECTOR HANDLING

Disconnecting the Connectors

Some connectors have a tang lock to hold the connectors together during vehicle operation.

Some tang locks are released by pulling them towards you ①.

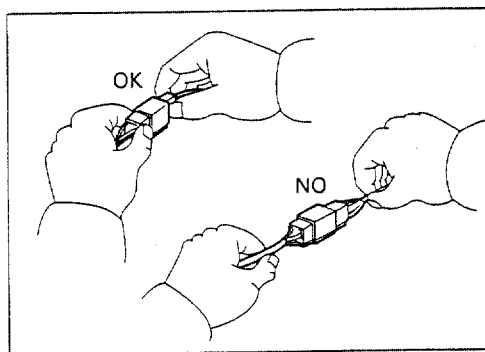
Other tang locks are released by pressing them forward ②.

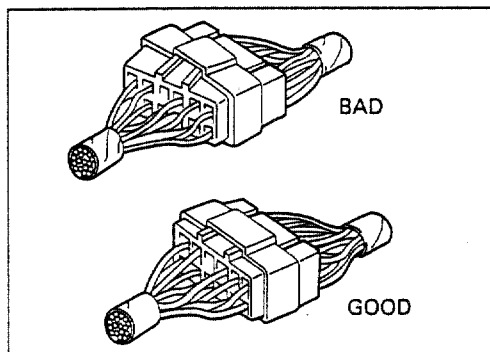
Determine which type of tang lock is on the connector being handled.

Firmly grasp both sides (male and female) of the connector.

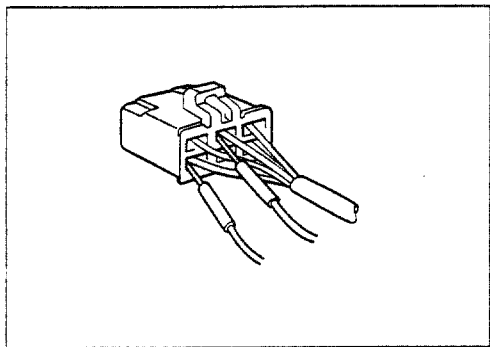
Release the tang lock and carefully pull the two halves of the connector apart.

Never pull on the wires to separate the connectors. This will result in wire breakage.

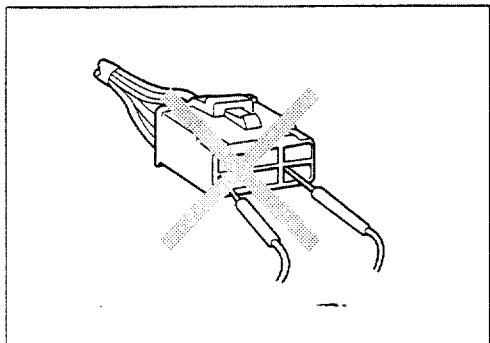




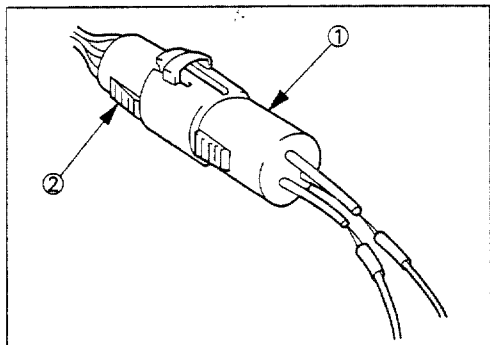
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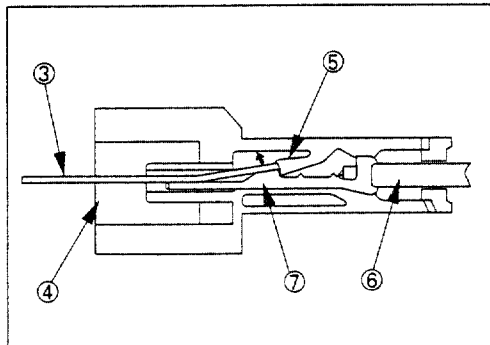
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D08RV674



D08RV841



D08RV844

Connecting the Connectors

Firmly grasp both sides (male and female) of the connector.

Be sure that the connector pins and pin holes match.

Be sure that both sides of the connector are aligned with each other.

Firmly but carefully push the two sides of the connector together until a distinct click is heard.

Connector Inspection

Use a circuit tester to check the connector for continuity.

Insert the test probes from the connector wire side.

CAUTION

Never insert the circuit tester test probes into the connector open side to test the continuity.

Broken or open connector terminals will result.

Waterproof Connector Inspection

It is not possible to insert the test probes into the connector wire side of a waterproof connector.

Use one side of a connector (1) with its wires cut to make the test.

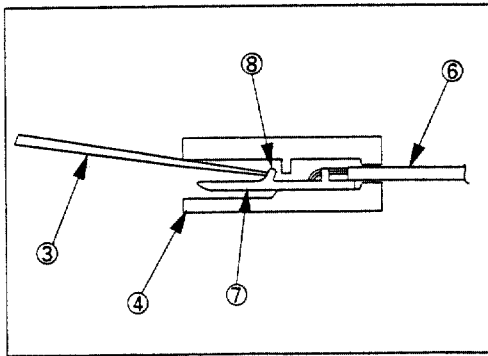
Connect the test connector to the connector (2) to be tested.

Connect the test probes to the cut wires to check the connector continuity.

Connector Pin Removal

Connector Housing Tang Lock Type

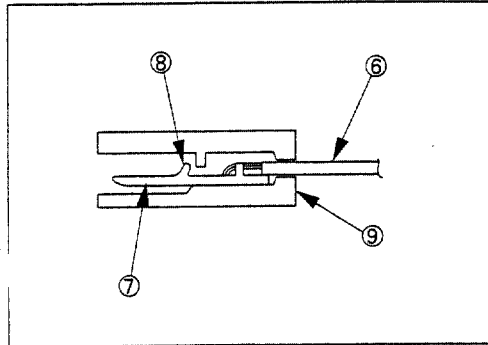
1. Insert a slender shaft (3) into the connector housing open end (4).
2. Push the tang lock (5) up (in the direction of the arrow in the illustration). Pull the wire (6) with pin (7) free from the wire side of the connector.



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Pin Tang Lock Type

1. Insert a slender shaft ③ into the connector housing open end ④.
2. Push the tang lock ⑧ flat (toward the wire side of the connector). Pull the wire ⑥ with pin ⑦ free from the wire side of the connector.



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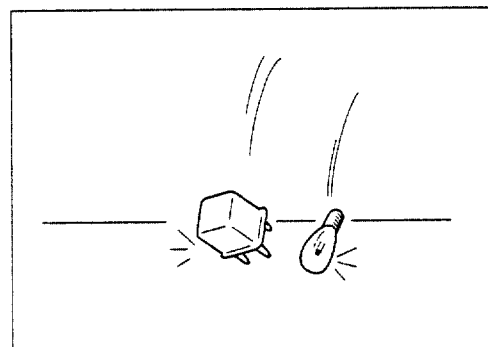
Connector Pin Insertion

1. Check that the tang lock ⑧ is fully up.
2. Insert the pin ⑦ from the connector wire side ⑨. Push the pin in until the tang lock closes firmly.
3. Gently pull on the wires ⑥ to make sure that connector pin is firmly set in place.

Fuse Replacement

The replacement fuse must have the same amperage specification as the original fuse.

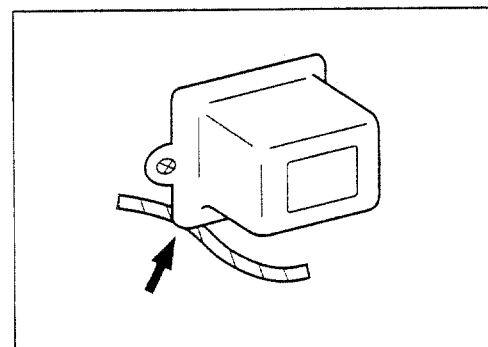
Never replace a burn out fuse with a fuse of a different amperage specification. Doing so can result in an electrical fire or other serious circuit damage.



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Parts Handling

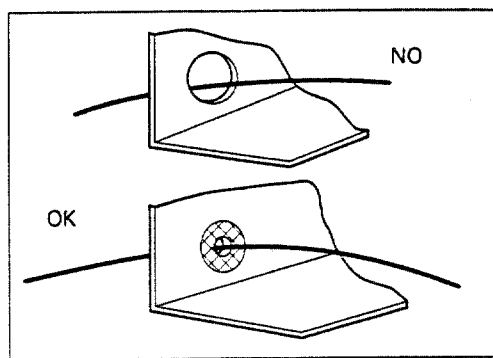
Be careful for parts handling and any part should not be dropped or thrown, otherwise short circuit or disorder may result.



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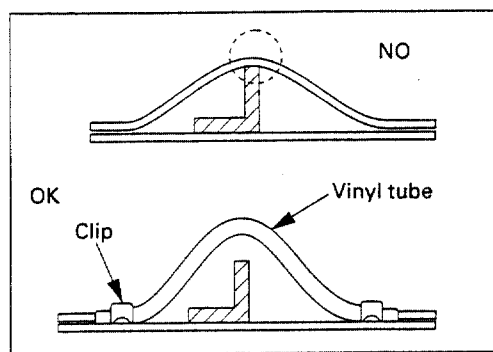
Wiring Harness

1. When assembling the parts, be careful not to bite or wedge the wiring harness.
2. All electrical connections must be kept clean and tight.



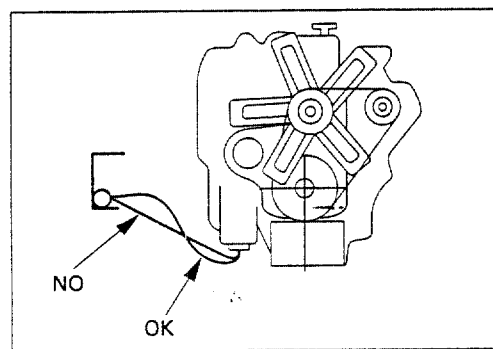
D08RV836

3. Use a grommet or guard tube to protect the wiring harness from contacting a sharp edge or surface.



D08RV837

4. Position the wiring harness with enough clearance from the other parts and guard the wiring harness with a vinyl tube to avoid direct contact.



D08RV838

5. The wiring harness between engine and chassis should be long enough to prevent chafing or damage due to various vibrations.

SPLICING WIRE

Open the Harness

If the harness is taped, remove the tape. To avoid wire insulation damage, use a sewing "seam ripper" (available from sewing supply stores) to cut open the harness.

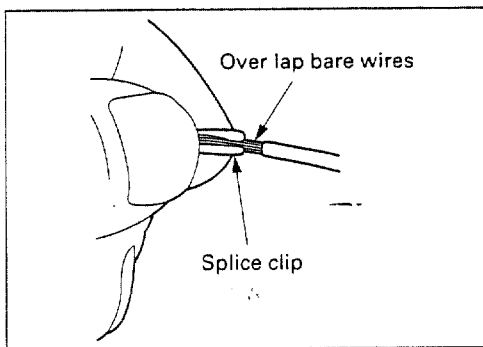
If the harness has a black plastic conduit, simply pull out the desired wire.

Cut the wire

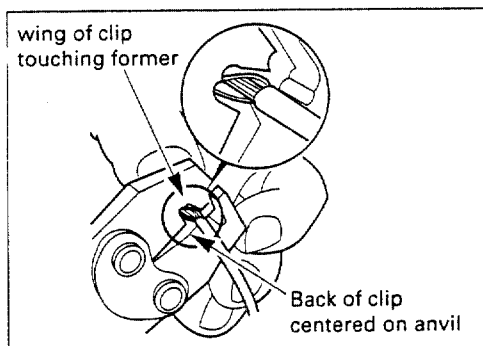
Begin by cutting as little wire off the harness as possible. You may need the extra length of wire later if you decide to cut more wire off to change the location of a splice. You may have to adjust splice locations to make certain that each splice is at least 1-1/2" (40 mm) away from other splices, harness branches, or connectors.

Strip the insulation

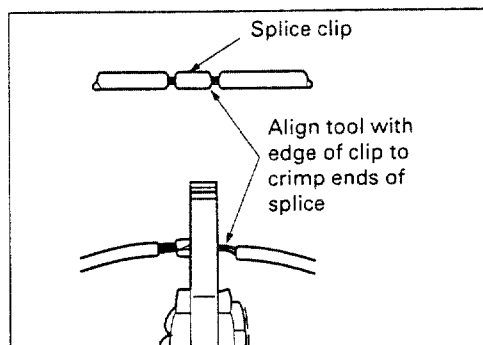
When replacing a wire, use a wire of the same size as the original wire. Check the stripped wire for nicks or cut stands. If the wire is damaged, repeat the procedure on a new section of wire. The two stripped wire ends should be equal in length.



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D08RV678



D08RV677

Crimp the Wires

Select the proper clip to secure the splice. To determine the proper clip size for the wire being spliced, follow the directions included with your clips. Select the correct anvil on the crimper. (On most crimpers your choice is limited to either a small or large anvil.) Overlap the two stripped wire ends and hold them between your thumb and forefinger.

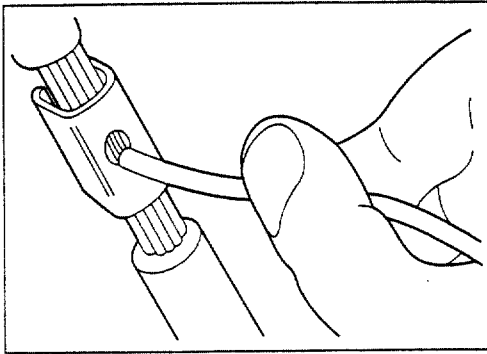
Then, enter the splice clip under the stripped wires and hold it in place.

- Open the crimping tool to its full width and rest one handle on a firm flat surface.
- Center the back of the splice clip on the proper anvil and close the crimping tool to the point where the back of the splice clip touches the wings of the clip.
- Make sure that the clip and wires are still in the correct position. Then, apply steady pressure until the crimping tool closes.

Before crimping the ends of the clip, be sure that:

- The wires extend beyond the clip in each direction.
- No strands of wire are cut loose, and
- No insulation is caught under the clip.

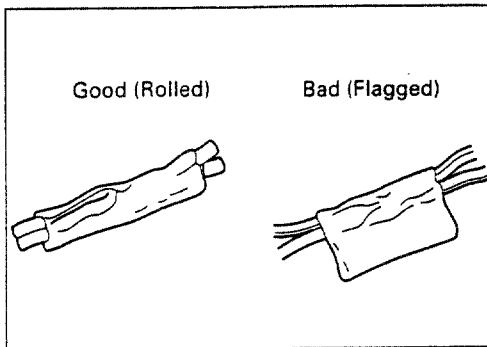
Crimp the splice again, once on each end. Do not let the crimping tool extend beyond the edge of the clip or you may damage or nick the wires.



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Solder

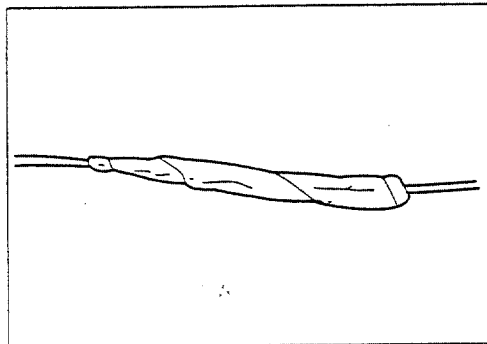
Apply 60/40 rosin core solder to the opening in the back of the clip. Follow the manufacturer's instructions for the solder equipment you are using.



D08RV880

Tape the Splice

Center and roll the splicing tape. The tape should cover the entire splice. Roll on enough tape to duplicate the thickness of the insulation on the existing wires. Do not flag the tape. Flagged tape may not provide enough insulation, and the flagged ends will tangle with the other wires in the harness.

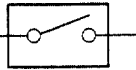
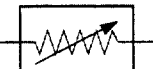
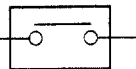
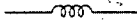
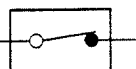
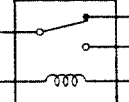
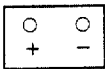
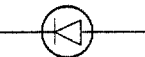
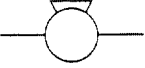
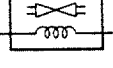


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If the wire does not belong in a conduit or other harness covering, tape the wire again. Use a winding motion to cover the first piece of tape.

SYMBOLS AND ABBREVIATIONS

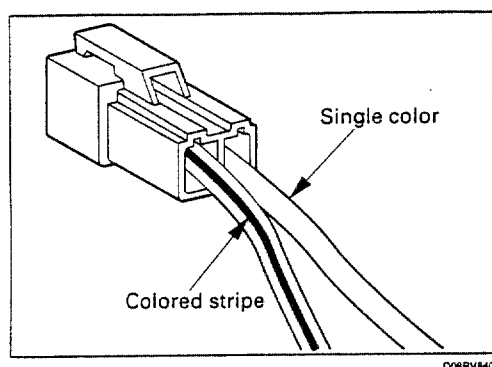
SYMBOLS

Symbol	Meaning of Symbol	Symbol	Meaning of Symbol
	Fuse		Bulb
	Fusible link		Double filament bulb
	Fusible link wire		Motor
	Switch		Variable resistor Rheostat
	Switch		Coil (inductor), solenoid, magnetic valve
	Switch (Normal close type)		Relay
	Contact wiring		
	Battery		
	Diode		Connector
	Electronic Parts		Light emitting diode
	Resistor		Reed switch
	Speaker		Condenser
	Buzzer		Horn
	Circuit breaker		Vacuum switching valve

ABBREVIATIONS

Abbreviation	Meaning of Abbreviation	Abbreviation	Meaning of Abbreviation
A	Ampere (S)	LH	Left hand
ABS	Anti-lock brake system	LWB	Long wheel base
ASM	Assembly	MPI	Multiport fuel injection
AC	Alternating current	M/T	Manual transmission
A/C	Air conditioner	OD	Over drive
ACC	Accessories	OPT	Option
A/T	Automatic transmission	QOS	Quick on start
CARB	Carburetor	RH	Right hand
C/B	Circuit breaker	RR	Rear
CSD	Cold start device	RWAL	Rear wheel anti-lock brake system
DIS	Direct ignition system	SRS	Supplemental restraint system
EBCM	Electronic brake control module	ST	Start
ECGI	Electronic control gasoline injection	STD	Standard
ECM	Engine control module	SW	Switch
ECU	Electronic control unit	SWB	Short wheel base
EFE	Early fuel evaporation	TCM	Transmission control module
4A/T	4-speed automatic transmission	3A/T	3-speed automatic transmission
4X4	Four-wheel drive	V	Volt
FL	Fusible link	VSV	Vacuum switching valve
FRT	Front	W	Watt (S)
H/L	Headlight	WOT	Wide open throttle
IC	Integrated circuit	W/	With
IG	Ignition	W/O	Without
kW	kilowatt		

PARTS FOR ELECTRICAL CIRCUIT



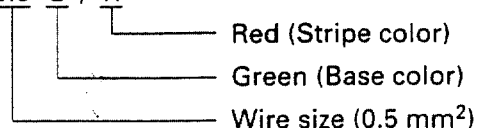
WIRING

Wire Color

All wires have color-coded insulation.

Wires belonging to system's main harness will have a single color. Wires belonging to a system's sub-circuits will have a colored stripe. Striped wires use the following code to show wire size and colors.

Example: 0.5 G / R



Abbreviations are used to indicate wire color within a circuit diagram.

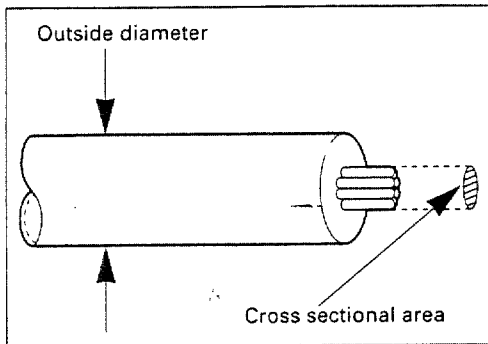
Refer to the following table.

Wire Color-Coding

Color-Coding	Meaning	Color-Coding	Meaning
B	Black	BR	Brown
W	White	LG	Light green
R	Red	GR	Grey
G	Green	P	Pink
Y	Yellow	LB	Light blue
L	Blue	V	Violet
O	Orange		

Distinction of Circuit by Wire Base Color

Base color	Circuits	Base color	Circuits
B	Starter circuit and grounding circuit	Y	Instrument circuit
W	Charging circuit	L,O, BR, LG, GR, P, LB, V	Other circuits
R	Lighting circuit		
G	Signal circuit		



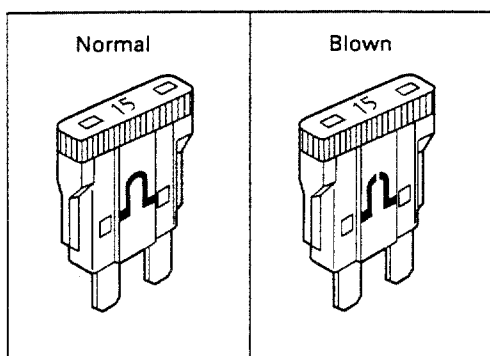
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Wire Size

Wire size is specified with the metric gauge system. The metric gauge system gives the wire size in cross sectional area measured in square millimeters.

Wire Size Specifications

Normal size	Cross sectional area (mm ²)	Outside diameter (mm)	Allowable current (A)
0.3	0.372	1.8	9
0.5	0.563	2.0	12
0.85	0.885	2.2	16
1.25	1.287	2.5	21
2	2.091	2.9	28
3	3.296	3.6	37.5
5	5.227	4.4	53
8	7.952	5.5	67
15	13.36	7.0	75
20	20.61	8.2	97



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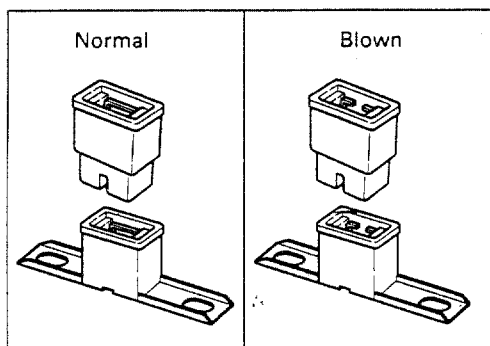
FUSE

Fuses are the most common form of circuit protection used in vehicle wiring. A fuse is a thin piece of wire or strip of metal encased in a glass or plastic housing. It is wired in series with the circuit it protects. When there is an overload of current in a circuit, such as a short of a ground, the wire or metal strip is designed to burn out and interrupt the flow of current. This prevents a surge of high current from reaching and damaging other components in the circuit.

Determine the cause of the overloaded before replacing the fuse.

Never replace a blown fuse with a fuse of a different amperage specification.

Doing so can result in an electrical fire or other serious circuit damage. A blown fuse is easily identified.



FUSIBLE LINK

The fusible link is primarily used to protect circuits where high amounts of current flow and where it would not be practical to use a fuse. For example, the starter circuit. When a current overload occurs, the fusible link melts open and interrupts the flow of current so as to prevent the rest of the wiring harness from burning.

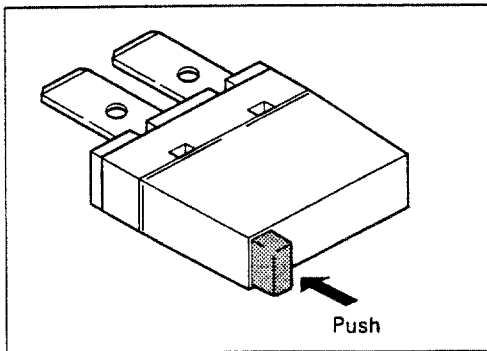
Determine the cause of the overload before replacing the fusible link. The replacement fusible link must have the same amperage specification as the original fusible link.

Never replace a blown fusible link with a fusible link of a different amperage specification. Doing so can result in an electrical fire or other serious circuit damage.

A blown fusible link is easily identified.

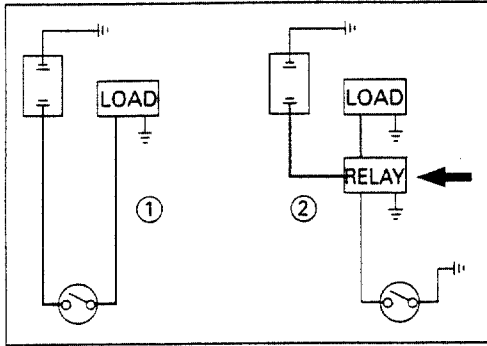
Fusible Link Specifications

Type	Rating	Case Color	Maximum Circuit Current (A)
Connector	30A	Pink	15
Connector	40A	Green	20
Bolted	50A	Red	25
Bolted	60A	Yellow	30
Bolted	80A	Black	40



CIRCUIT BREAKER

The circuit breaker is a protective device designed to open the circuit when a current load is in excess of rated breaker capacity. If there is a short or other type of overload condition in the circuit, the excessive current will open the circuit between the circuit breaker terminals. The reset knob pops out when the circuit is open. Push the reset knob in place to restore the circuit after repairing it.



D06RV709

RELAY

Battery and load location may require that a switch be placed some distance from either component. This means a longer wire and a higher voltage drop ①. The installation of a relay between the battery and the load reduces the voltage drop ②.

Because the switch controls the relay, amperage through the switch can be reduced.

Relay Specifications and Configurations

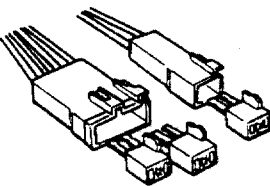
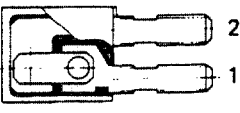
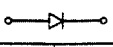
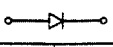
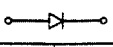
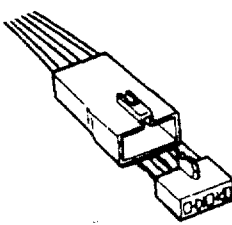
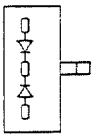
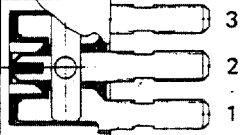
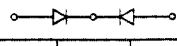
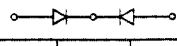
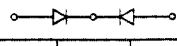
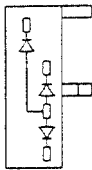
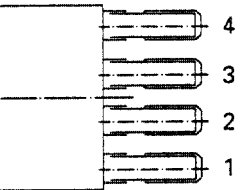
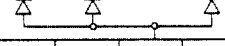
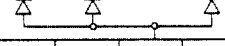
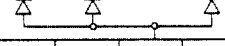
Name/ Color	Rated voltage/ Coil resistance	Internal circuit
1T (MR5C)/ Black	12V Approx. 90Ω Minimum operating voltage: 7V at 25°C(77°F)	
1T (MR5C)/ Brown	12V Approx. 90Ω Minimum operating voltage: 10.5V at 25°C(77°F)	

D06RV005

* Relay contact shown in the wiring diagram indicates condition before actuation.

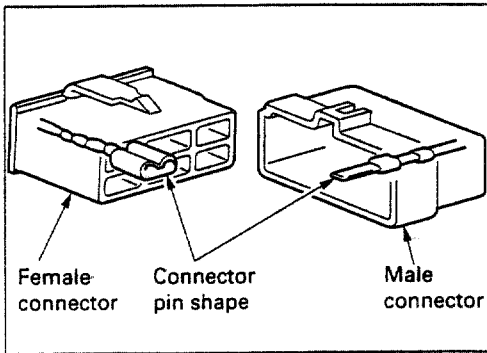
DIODE

Diode Specifications and Configurations

SHAPE	MARK/ COLOR	CONSTRUCTION	CHECKING	THERE SHOULD BE CONTINUITY IN EITHER A OR B WHEN A CIRCUIT TESTER IS CONNECTED WITH DIODE TERMINAL																			
	 BLACK		<table><tr><td>TERMINAL NO.</td><td colspan="2"></td></tr><tr><td></td><td>2</td><td>1</td></tr><tr><td rowspan="2">CONNECTION PATTERN</td><td>A</td><td>⊕ ⊖</td></tr><tr><td>B</td><td>⊖ ⊕</td></tr></table>	TERMINAL NO.				2	1	CONNECTION PATTERN	A	⊕ ⊖	B	⊖ ⊕									
TERMINAL NO.																							
	2	1																					
CONNECTION PATTERN	A	⊕ ⊖																					
	B	⊖ ⊕																					
	 BLACK		<table><tr><td>TERMINAL NO.</td><td colspan="3"></td></tr><tr><td></td><td>3</td><td>2</td><td>1</td></tr><tr><td rowspan="2">CONNECTION PATTERN</td><td>A</td><td>⊖ ⊕</td><td></td></tr><tr><td>B</td><td>⊕ ⊖</td><td></td></tr></table>	TERMINAL NO.					3	2	1	CONNECTION PATTERN	A	⊖ ⊕		B	⊕ ⊖						
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	BLACK		<table><tr><td>TERMINAL NO.</td><td colspan="4"></td></tr><tr><td></td><td>4</td><td>3</td><td>2</td><td>1</td></tr><tr><td rowspan="2">CONNECTION PATTERN</td><td>A</td><td></td><td></td><td>⊕ ⊖</td></tr><tr><td>B</td><td></td><td></td><td>⊖ ⊕</td></tr></table>	TERMINAL NO.						4	3	2	1	CONNECTION PATTERN	A			⊕ ⊖	B			⊖ ⊕	
			TERMINAL NO.																				
	4	3	2	1																			
CONNECTION PATTERN	A			⊕ ⊖																			
	B			⊖ ⊕																			

Maximum Rating (Temp.=25°C)

Items	Rating	Remarks
Peak reverse voltage	400V	
Transient peak reverse voltage	500V	
Average output current	1.5A	Temp.=40°C
Working ambient temperature	-30°C~80°C	
Storage temperature	-40°C~100°C	

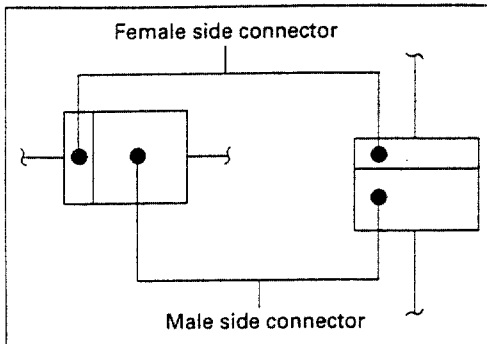


D08RV685

CONNECTOR

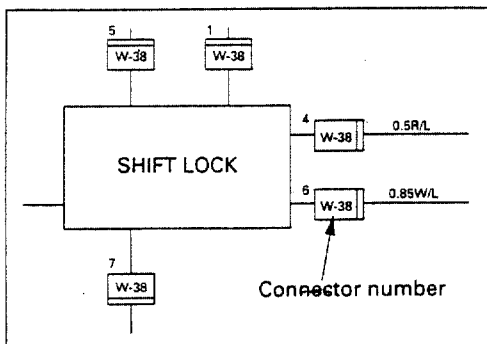
The connector pin shape determines whether the connector is male or female.

The connector housing configuration does not determine whether a connector is male or female.



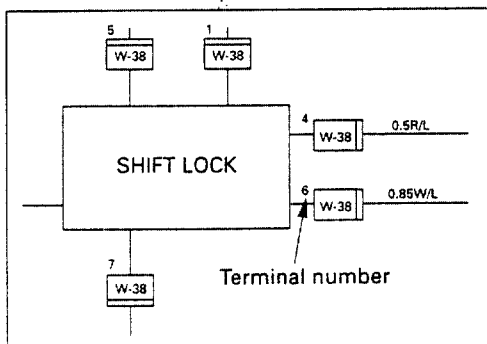
D08RV710

The symbol illustrated in the figure is used as connector in the circuit of this section.



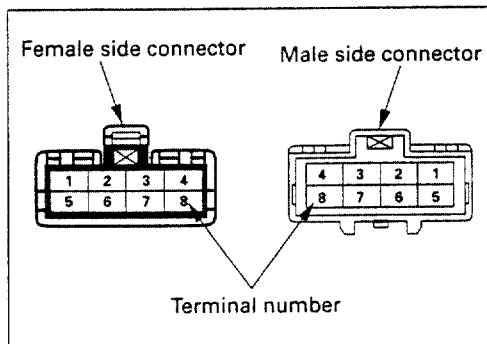
D08RV711

Connector is identified with a number.



D08RV712

The applicable terminal number is shown for each connector.



D08RV713

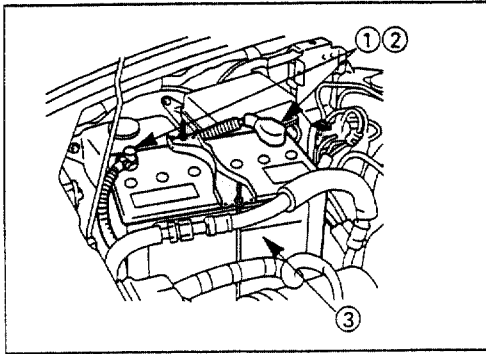
Connector terminal numbers are clearly shown.

Male side connector terminal numbers are in sequence from upper right to lower left.

Female side connector terminal numbers are in sequence from upper left to lower right.

NOTE:

For those connectors on which specific terminal numbers on symbols are shown, the terminal numbers or symbols are used in the circuit diagram, irrespective of the above rule.



D08RV944

BATTERY

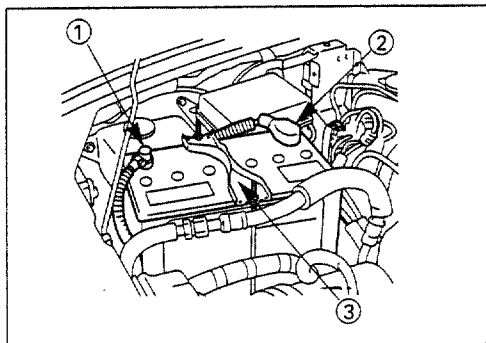
Inspection

1. Check the battery terminals ① for corrosion.
2. Check the battery cables ② for looseness.
3. Check the battery case ③ for cracks and other damage.
4. Check the battery electrolyte level.
If the electrolyte level is excessively low, the battery must be replaced.
5. If the battery has a built-in hydrometer, perform the following steps:

- 1) Carefully clean the battery upper surface.
- 2) Check the hydrometer.

The hydrometer design will vary with the battery manufacturer.

Refer to the illustration shown on the battery.



D08RV945

Battery Replacement

1. Disconnect the battery ground cable ①.
2. Disconnect the battery positive cable ②.
3. Remove the battery clamp ③.
4. Remove the battery

Caution:

It is important that the battery ground cable be removed first.

Removing the battery positive cable first can result in a short circuit.

Jump Starting the Engine with a Booster Battery

The following description assumes that you are using a booster battery mounted on a second vehicle.

The listed steps (with some minor modifications) are also applicable if you are using a naked booster battery or special battery charging equipment.

Caution:

Never push or tow the vehicle in an attempt to start it. Extensive damage to the emission system and other vehicle parts will result. (only catalytic converter vehicle)
Treat both the discharged battery and the booster battery with great care when using jumper cables.
Carefully follow the procedure outlined below.
Always be aware of the dangers of sparking.

Failure to follow the following procedure can result in:

- a. Serious personal injury, especially to your eyes.
- b. Extensive property damage from a battery explosion, battery acid discharge, or electrical fire.
- c. Extensive damage to the electronic components of both vehicles.

Do not use a 24 volt booster battery. Serious damage to the vehicle's electrical system and electronic components will result.

Jump Starting Procedure

1. Set the parking brake on both vehicles.
2. If one or both vehicles is equipped with an automatic transmission, place the selector lever in the "PARK" position.

If one or both vehicles is equipped with a manual transmission, place the gear shift in the "NEUTRAL" position.

3. Turn off the ignition on both vehicles.
4. Turn off all vehicle lights and accessories.
5. Check the built-in hydrometer on the discharged battery (If so equipped).

If there is no hydrometer indication abandon the jump start procedure.

6. Be sure that the two vehicles are not touching.
Attach the end of one jumper cable to the booster battery positive terminal.

7. Attach the other end of the same cable to the discharged battery positive terminal.

8. Once again, check that the booster battery has a 12-volt rating.

9. Attach one end of the remaining booster cable to the booster battery negative terminal.

10. Attach the other end of the booster cable to a solid ground (such as the air conditioner compressor mounting bracket or the alternator mounting bracket) in the engine room of the vehicle with the discharged battery.

Be sure that the ground connection is at least 500 mm (20 in) from the discharged battery.

Caution:

Do not attach the booster cable to the discharged battery negative terminal.

11. Start the engine of the vehicle with the booster battery.

Check that all unnecessary electrical accessories are off.

12. Start the engine of the vehicle with the discharged battery.
13. Remove the jumper cables in the reverse order to which they were attached.

Caution:

Be absolutely sure to remove the negative jumper cable from the vehicle with the discharged battery first.

READING THE CIRCUIT DIAGRAM

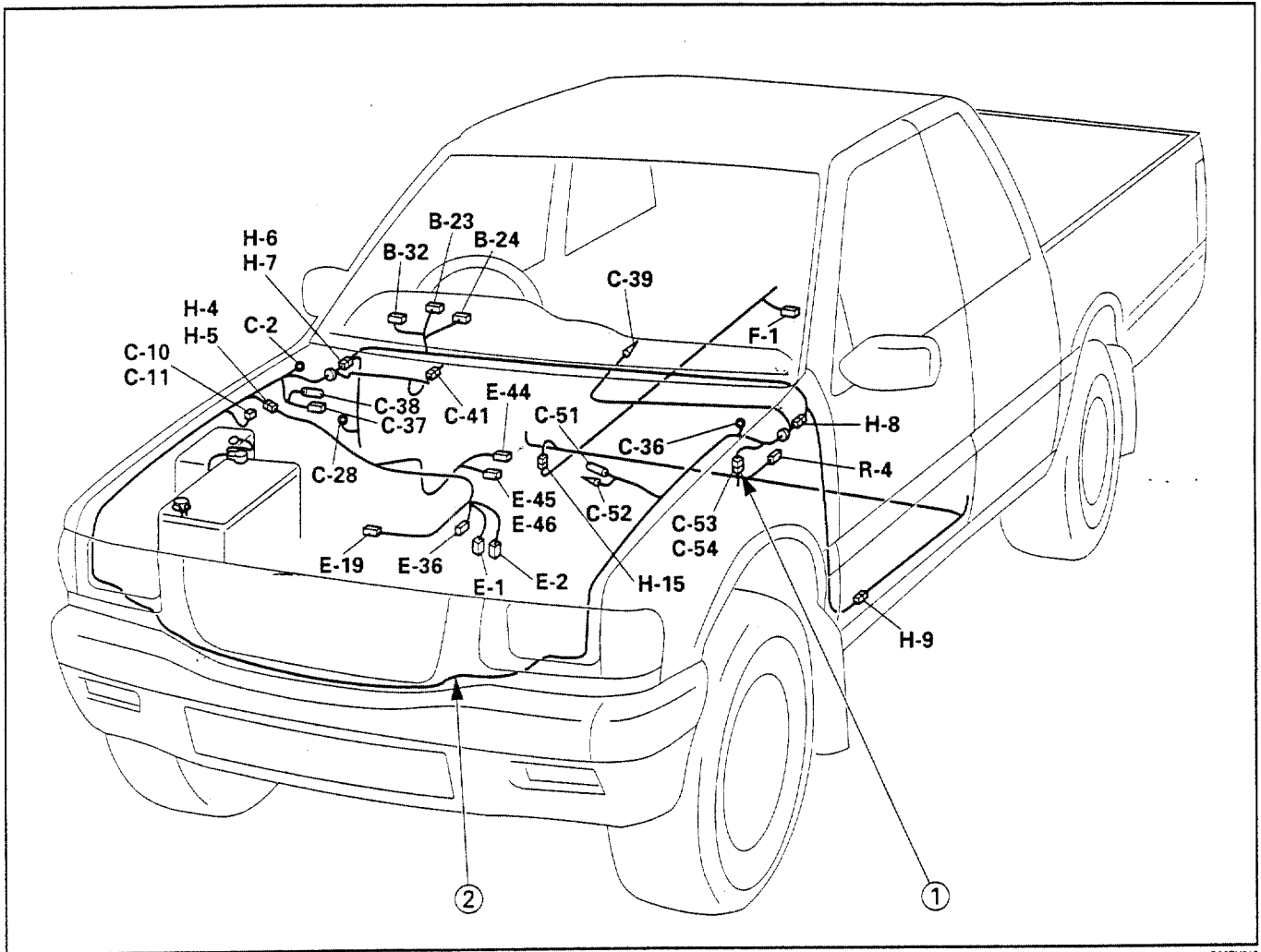
In this manual, each system has its own parts location illustration and circuit diagram. And connector configurations used in the circuit diagram are shown at the end of this manual.

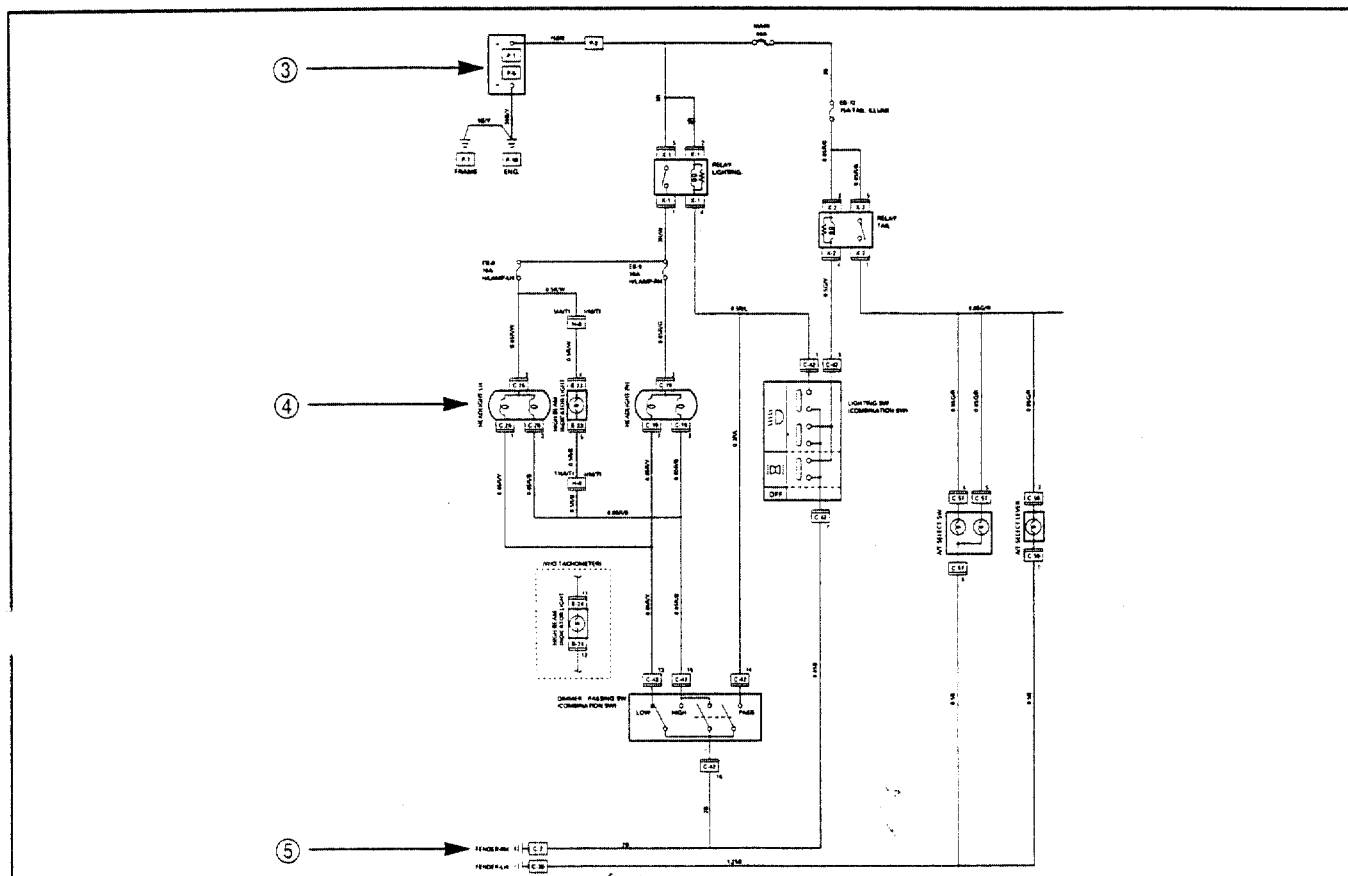
PARTS LOCATION: The parts location shows the location of the connectors ① and the harnesses ② used in the each system.

CIRCUIT DIAGRAM: The circuit diagram shows the power supply ③, the load or loads ④ and the grounding point(s) ⑤.

CONNECTOR LIST: The connector configuration shows each connector's number ⑥, configuration ⑦ and the pin numbers ⑧.

PARTS LOCATION

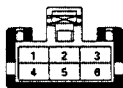
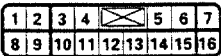




MARVA21

CONNECTOR LIST

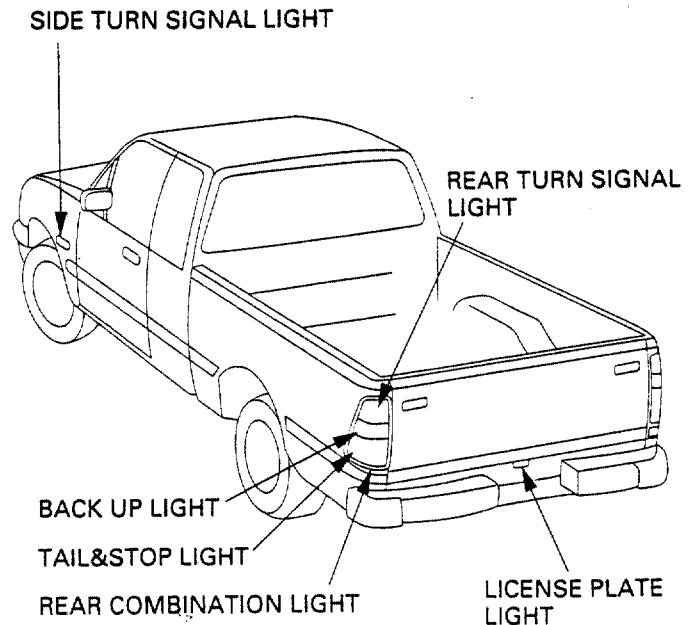
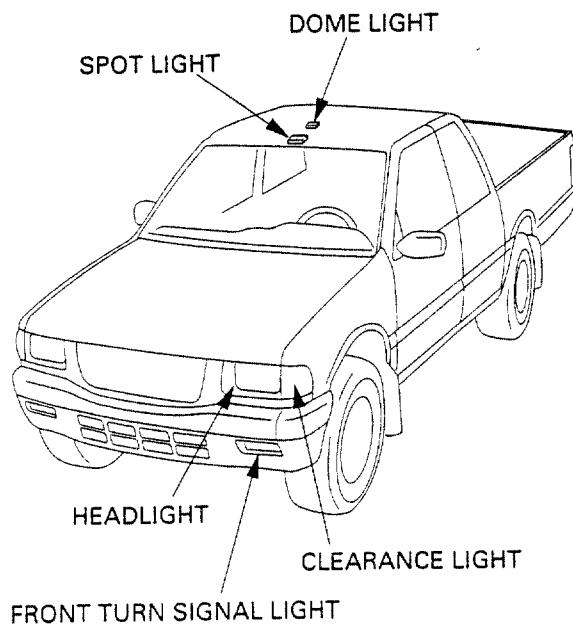
CONNECTOR LIST

No.	Connector face	No.	Connector face
B-1		B-11	NOT USED
B-2		B-12	
B-3	 	B-13	
B-4	NOT USED	B-14	
		NOT USED	

MAIN DATA AND SPECIFICATIONS

BULB SPECIFICATIONS

This illustration is based on LHD



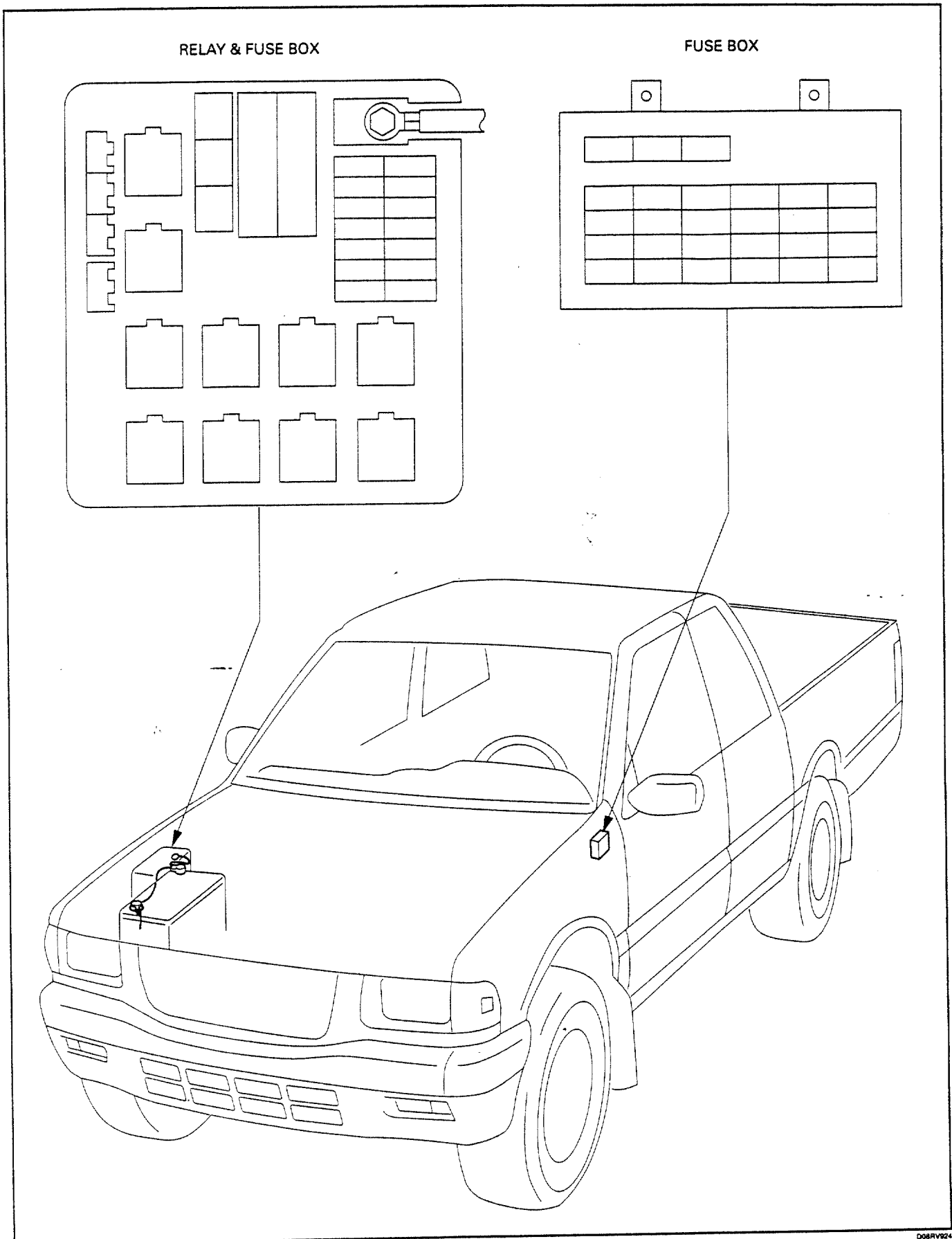
D08RV911

Light Name	Bulb No.	Rated Power V-W	Number of Bulbs	Lens Color	Remarks
Headlight	H4	12-60/55	2	White	Halogen
	R2	12-45/40	2	White	
Front turn signal light	—	12-21	2	Amber	
Side turn signal light	W5W	12-5	2	Amber	
Rear turn signal light	P21W	12-21	2	Amber	
Tail and stop light	P21/5W	12-21/5	2	Red	
Back up light	P21W	12-21	2	White	
License plate light	W5W	12-5	1 or 2	White	
Clearance light	W5W	12-5	2	White	
A/C-Heater control light	—	12-0.7	1	—	
Dome light	—	12-10	1	White	
Spot light	—	12-5	2	White	
Inspection light	—	12-5	1	White	
Rear fog light		12-21	1	Red	

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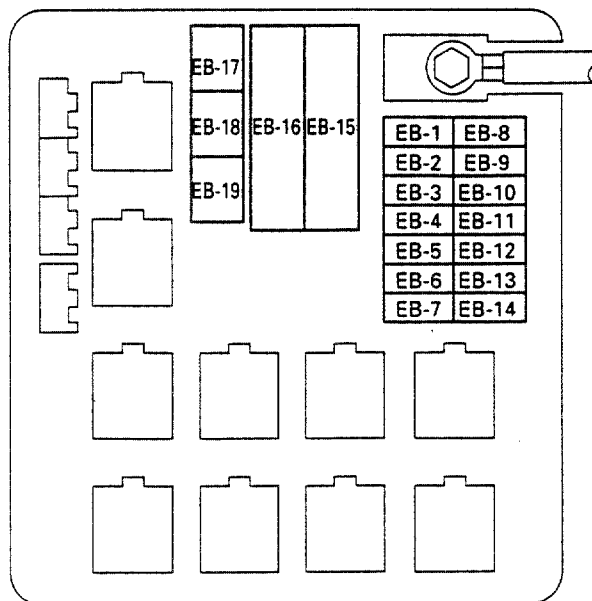
Light Name		Bulb No.	Rated Power V-W	Number of Bulbs	Lens Color	Remarks
Indicator/ Warning light	Charging system	74	14-1.4	1	Red	
	Turn signal	74	14-1.4	2	Green	
	High beam	74	14-1.4	1	Blue	
	Low fuel	74	14-1.4	1	Amber	
	Oil pressure	74	14-1.4	1	Red	
	Brake system	74	14-1.4	1	Red	
	4WD	74	14-1.4	1	Green	4WD
	Overdrive Off	74	14-1.4	1	Amber	A/T
	Glow	74	14-1.4	1	Amber	
	Sedimenter	74	14-1.4	1	Red	
	A/T Oil temperature	74	14-1.4	1	Red	A/T
	Timing belt	74	14-1.4	1	Red	
	Check trans	74	14-1.4	1	Red	A/T
	Power drive	74	14-1.4	1	Amber	A/T
	Rear fog	74	14-1.4	1	Amber	
	A/T Indicator	—	14-0.91	6	Green	A/T

RELAY AND FUSE BOX, FUSE BOX LOCATION



FUSE AND FUSIBLE LINK LOCATION (RELAY AND FUSE BOX)

RELAY & FUSE BOX



FUSE

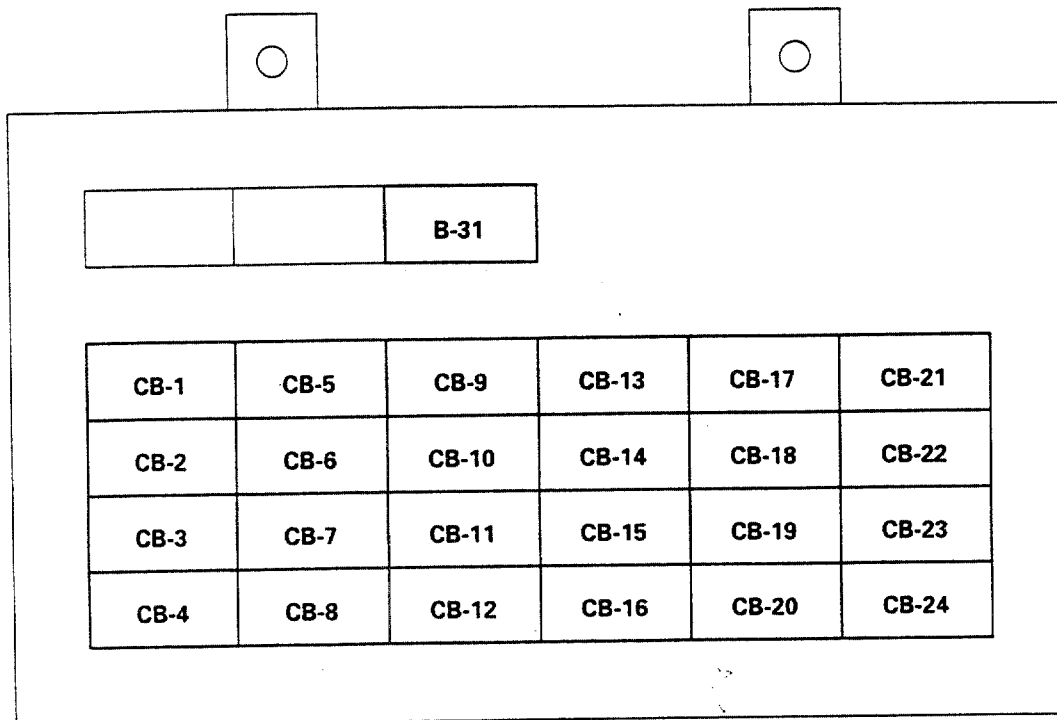
Fuse No.	Capacity	Indication on lable
EB-1	15A	HAZARD
EB-2	10A	HORN
EB-3	10A	STOP
EB-4	20A	BLOWER
EB-5	10A	AIR CON
EB-6	10A	RR FOG
EB-7	10A	CHARGE
EB-8	10A	H/LAMP LH-H1
EB-9	10A	H/LAMP LH-H1
EB-10	10A	H/LAMP RH-LD
EB-11	10A	H/LAMP RH-LD
EB-12	10A	TCM
EB-13	10A	TAIL-RH
EB-14	10A	TAIL-LH

FUSIBLE LINK

Fuse No.	Capacity	Indication on lable
EB-15	40A	IGN:B1
EB-16	80A	MAIN
EB-17	50A	GLOW
EB-18	30A	H/LAMP WASHER
EB-19	40A	IGN. B2. POWER

FUSE AND CIRCUIT BREAKER LOCATION (FUSE BOX) **LHD**

FUSE BOX



DOBRV926

FUSE

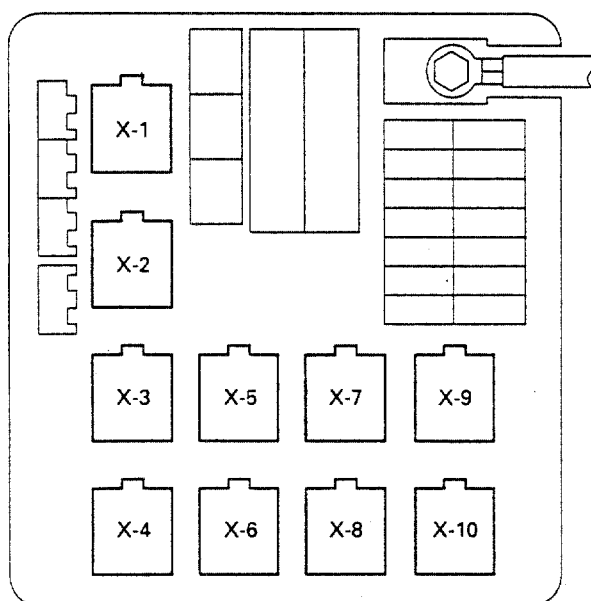
No.	Capacity	Indication on label	No.	Capacity	Indication on label
CB-1	10A	STARTER	CB-13	15A	(RR DEFOG.)
CB-2	—	—	CB-14	10A	DOME LIGHT
CB-3	15A	ENGINE-1	CB-15	20A	(DOOR LOCK)
CB-4	10A	ENGINE-2	CB-16	—	—
CB-5	—	—	CB-17	—	—
CB-6	—	—	CB-18	—	—
CB-7	15A	METER	CB-19	15A	AUDIO
CB-8	20A	FRONT WIPER	CB-20	15A	CIGAR
CB-9	—	—	CB-21	—	—
CB-10	—	—	CB-22	—	—
CB-11	15A	BACK UP, TURN	CB-23	—	—
CB-12	10A	(SEAT HEATER)	CB-24	—	—

CIRCUIT BREAKER

No.	Capacity	Indication on label
B-31	30A	(POWER WINDOW)

RELAY LOCATION-1 (RELAY AND FUSE BOX)

RELAY & FUSE BOX

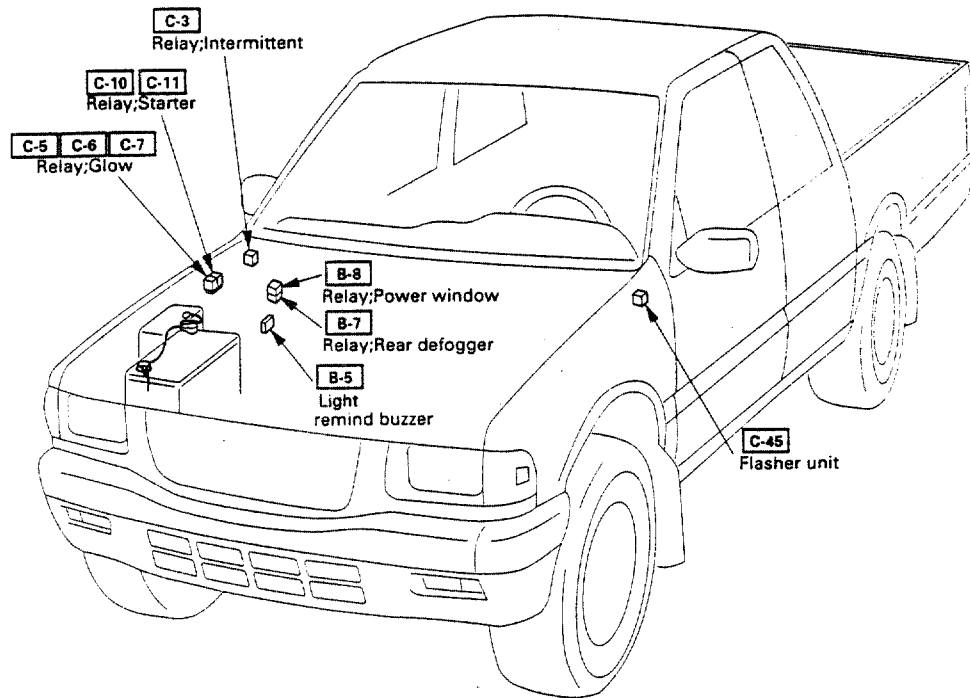


RELAY

NO. \ Engine model	4JG2-A/T Series
X-1	RELAY; LIGHTING
X-2	RELAY; TAIL
X-3	RELAY; HEATER
X-4	RELAY; HORN
X-5	RELAY; CHARGE
X-6	—
X-7	(RELAY; THERMO)
X-8	RELAY; ST. GWS
X-9	RELAY; DIMMER
X-10	RELAY; RR. FOG

D08RV807

RELAY LOCATION-2



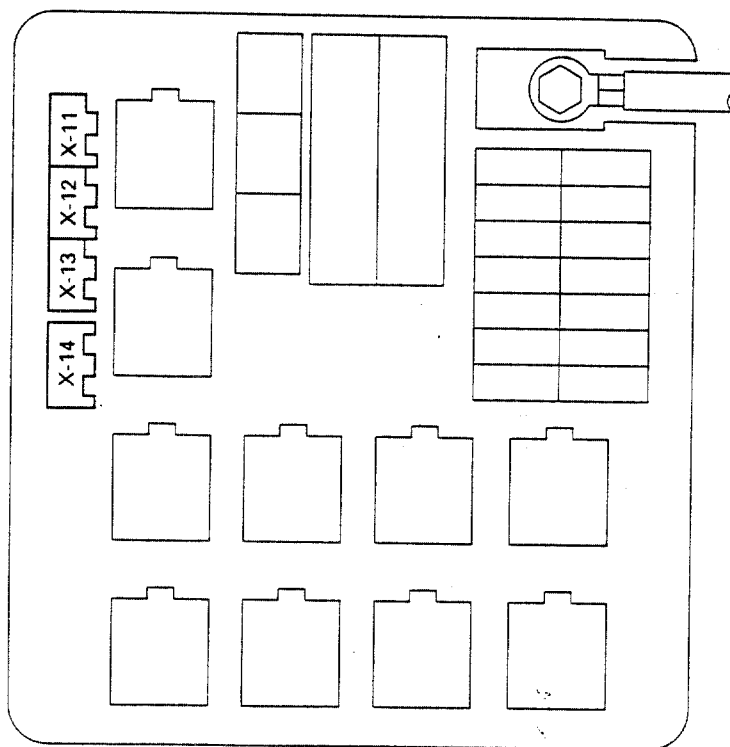
006RVA33

RELAY

Connector No.	C-3	C-5	C-6	C-7	C-10	C-11	B-7	B-8
Relay	WINDSHIELD INTERMITTENT	GLOW			STARTER		RR DEFOGGER	POWER WINDOW

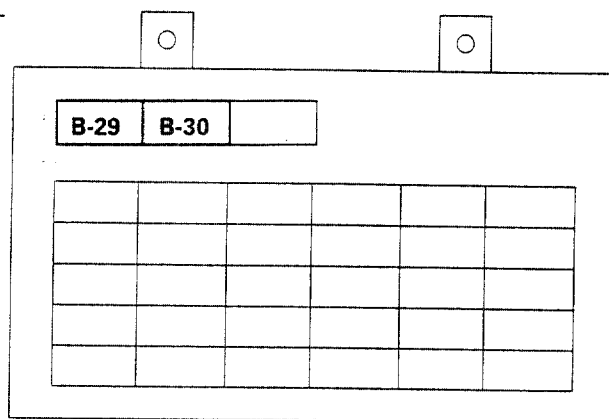
DIODE LOCATION

RELAY & FUSE BOX



D08RV812

FUSE BOX

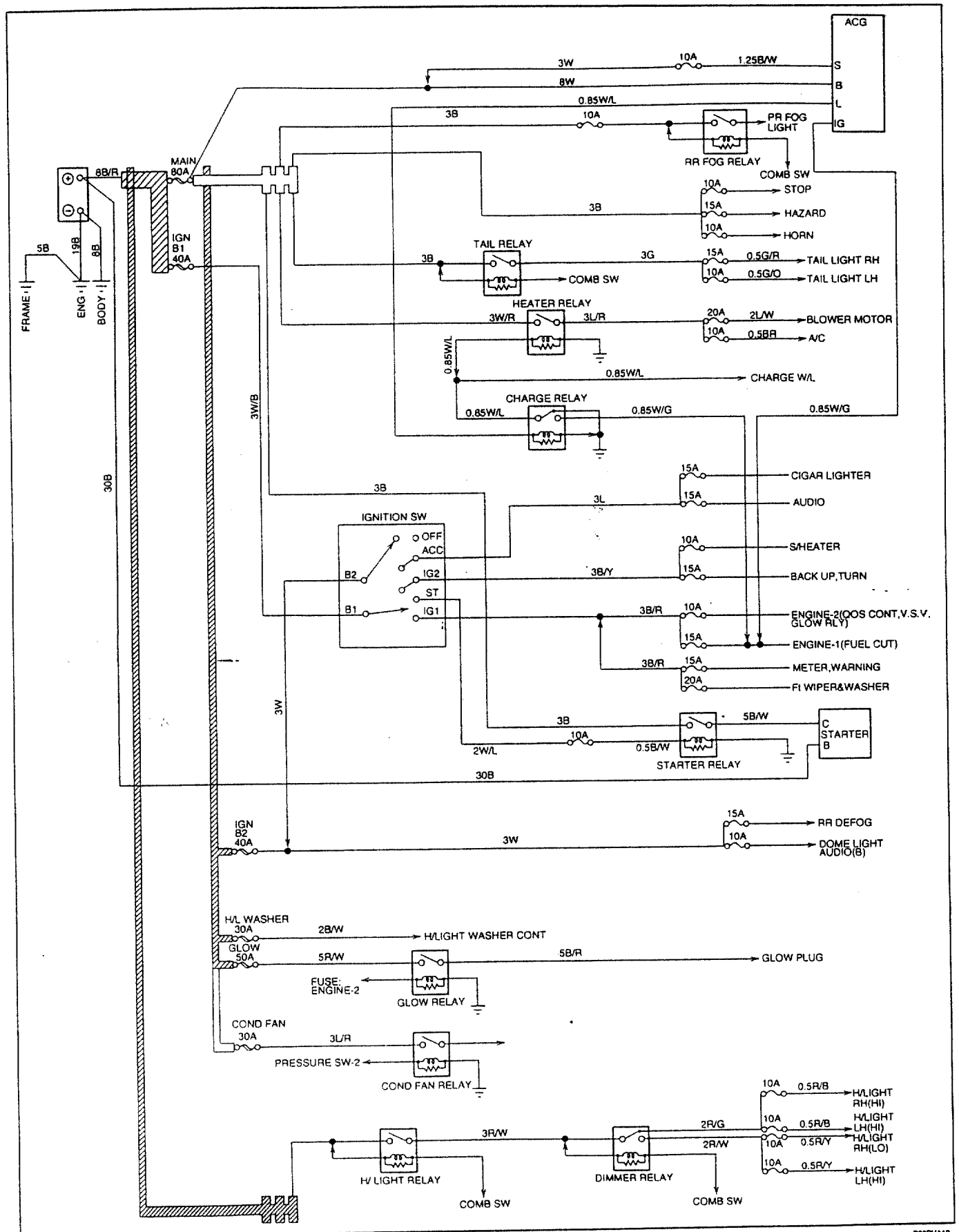


D08RV928

DIODE

Connector No.	X-11	X-12	X-13	X-14	B-29	B-30
USAGE	RELAY: ECM MAIN	—	—	—	RR FOG	DOVE LIGHT

FUSE BLOCK CIRCUIT



REFERENCE TABLE OF FUSE, FUSIBLE LINK AND CIRCUIT BREAKER

FUSE

(Relay and fuse box)

Fuse No.	Capacity	Indication on lable	Pats (Load)
EB-1	15A	HAZARD	Hazard SW, Flasher unit
EB-2	10A	HORN	Horn relay, Horn SW, Horn
EB-3	10A	STOP	Stop light SW, Stop light, High mounted stop light
EB-4	20A	BLOWER	Blower motor, A/C thermo relay, Blower resistor
EB-5	10A	AIR CON.	Pressure SW, A/C SE, Electronic thermostat, Fan SW, Magnetic cluch, VSV; FICD, A/C thermo relay
EB-6	10A	RR FOG	RR Fog light
EB-7	10A	CHARGE	AC generator, Charge relay
EB-8	10A	H/LANP LH-HI	Headlight-RH, High beam indicator light, Dimmer-passing SW
EB-9	10A	H/LANP LH-HI	Headlight-LH, High beam indicator light, Dimmer - passing SW
EB-10	10A	H/LANP RH-LD	Headlight-RH, Lower beam
EB-11	10A	H/LANP LH-LO	Headlight-LH, Lower beam
EB-12	10A	TCM	TCM Control unit
EB-13	10A	TAIL-RH	Tail relay, Clearrance light, Tail light, License plate light, Illumination lights, Lighting SW, Illumination controller
EB-14	10A	TAIL-LH	Tail relay, Clearrance light, Tail light, License plate light, Illumination lights, Lighting SW, Illumination controller

FUSE
(Fuse box)

Fuse No.	Capacity	Indication on lable	Pats (Load)
CB-1	10A	STARTER	Ignition SW, Starter relay
CB-2	—	—	—
CB-3	15A	ENGINE-1	Ignition SW, Fuel cut solenoid, Thermo SW, AC Generator, Charge relay
CB-4	10A	ENGINE-2	Glow control unit, Glow relay, QWS relay
CB-5	—	—	—
CB-6	—	—	—
CB-7	15A	METER	Vehicle speed sensor, Meter gauges, Indicator and Warning lights, Glow control unit, RR defogger relay, RR defogger SW
CB-8	20A	FRONT WIPER	Windshield wiper & washer SW, Windshield wiper motor, Windshield washer motor, Windshield intermittent relay
CB-9	—	—	—
CB-10	—	—	—
CB-11	15A	BACK UP, TURN	Power window relay, FRT power window & door lock SW-driver side, RR power window SW, Hazard SW, Flasher unit, Turn signal SW, Back up light SW, Back up light
CB-12	10A	(SEAT HERTER)	—
CB-13	15A	(RR DEFOG.)	RR defogger relay, RR defogger SW, RR defogger
CB-14	10A	DOVE LIGHT	Dome light, Spot light, Door SW, Audio, Clock
CB-15	20A	(DOOR LOCK)	FRT power window & door lock SW-driver side, Door lock SW-driver side, Door lock actuator
CB-16	—	—	—
CB-17	—	—	—
CB-18	—	—	—
CB-19	15A	AUDIO	Door mirror control SW, Mirror, Audio

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Fuse No.	Capacity	Indication on lable	Parts (Load)
CB-20	15A	CIGAR	Cigarette lighter, Clock
CB-21	—	—	—
CB-22	—	—	—
CB-23	—	—	—
CB-24	—	—	—

FUSIBLE LINK
 (Relay and fuse box)

Fusible link No.	Capacity	Indication on label	Remarks
EB-15	40A	IGN.B1	
EB-16	80A	MAIN	4JG2
EB-17	50A	GLOW	
EB-18	30A	COND. FAN	
EB-19	40A	IGN.B2, POWER	

CIRCUIT BREAKER
 (Fuse box)

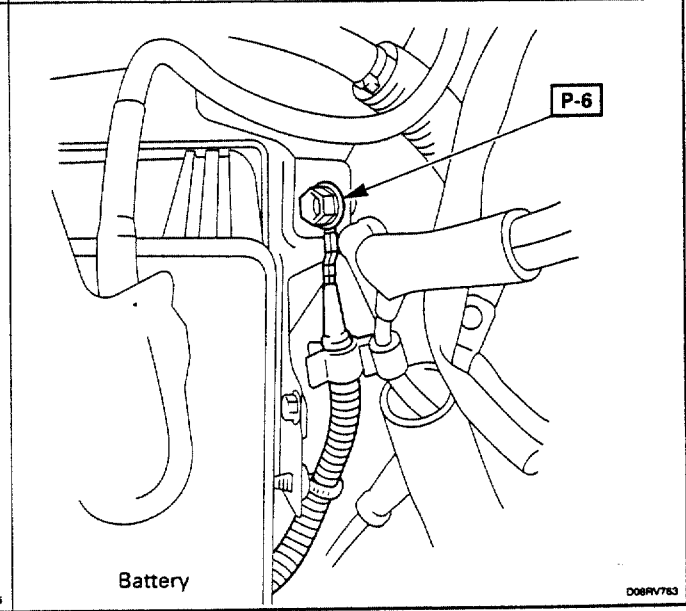
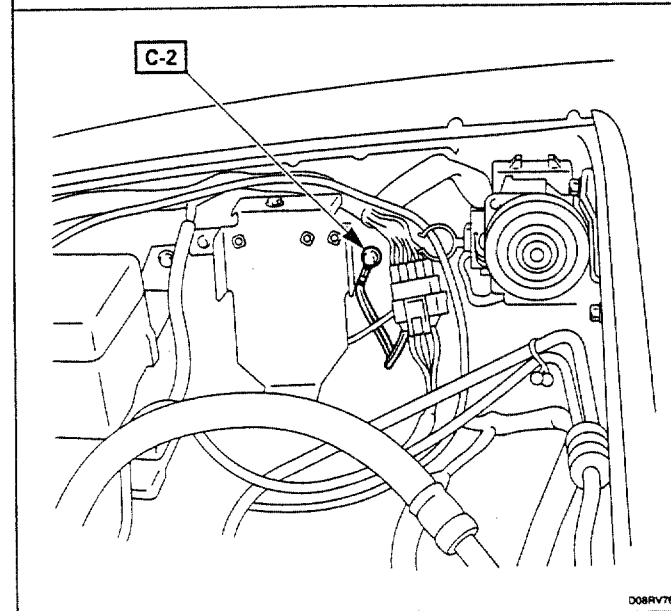
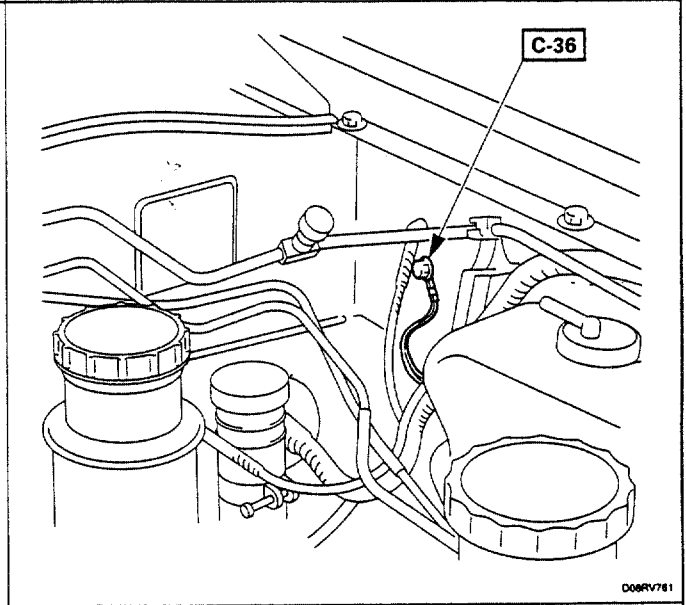
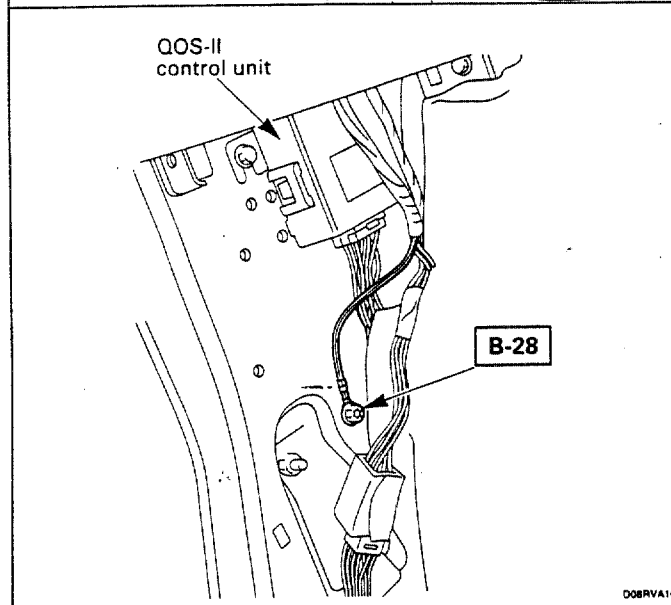
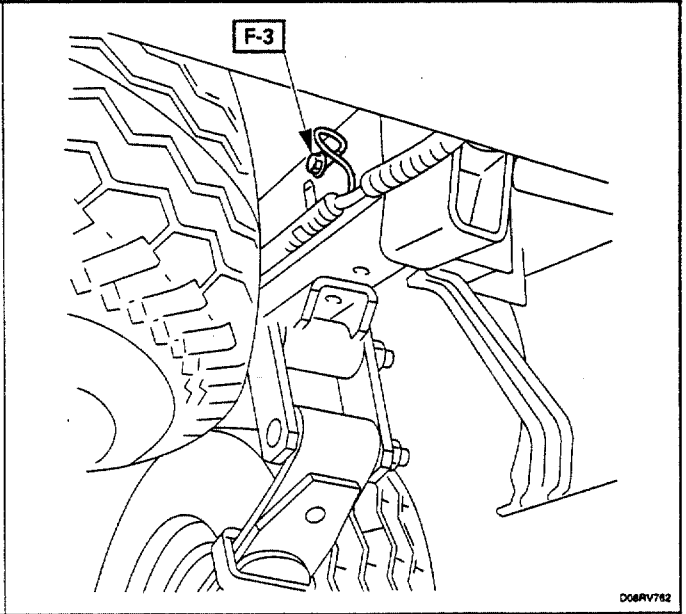
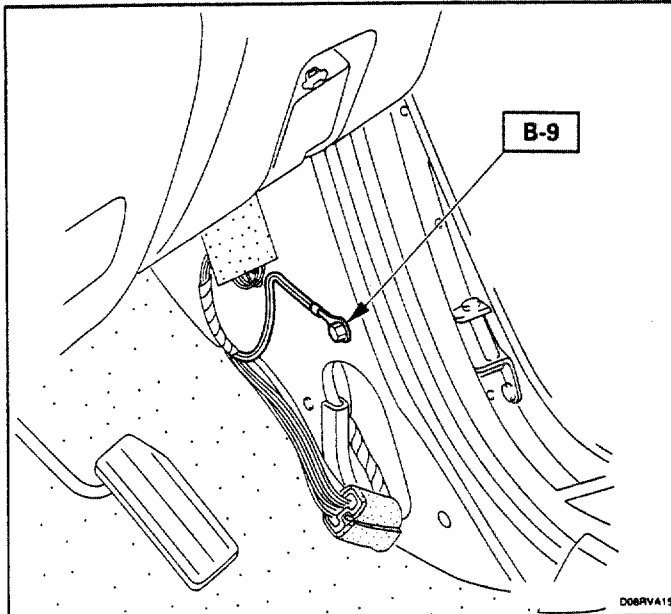
Circuit breaker No.	Capacity	Indication on label	Parts (Load)
B-31	30A	(POWER WINDOW)	Power window & door lock SW, Power window motor, Power window relay

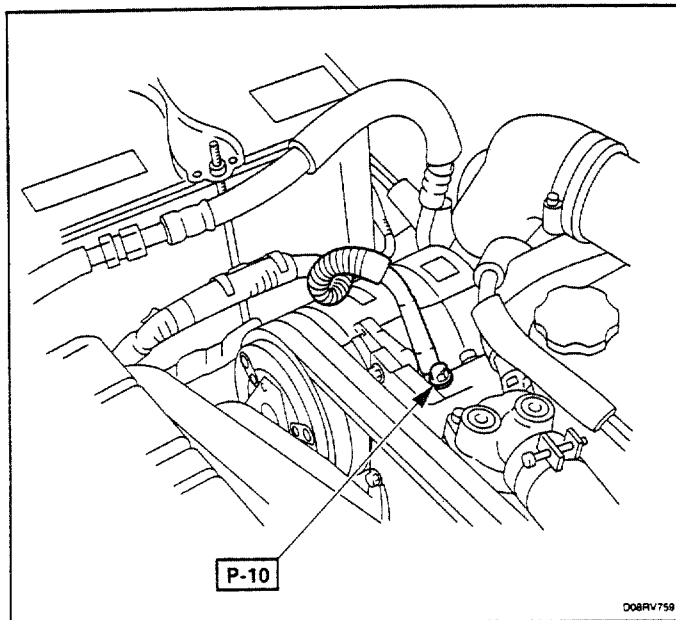
GROUNDING POINT

REFERENCE TABLE

Connector No.	Cable harness	Location	Parts (Load)
B-9	Body harness	Body-RH	Fan SW, FRT power window & door lock SW-passenger side, QWS SW,
B-28		Body-LH	Turn signal indicator light, QWS, SW, Illumination light (Meter, Heater & A/C control panel, Cigarette lighter, RR defogger SW, Audio, Hazard SW) FRT power window & door lock SW-driver side, RR power window SW, Door mirror control SW, RR defogger, RR defogger SW, FRT door lock SW-driver side, Audio, Clock, Cigarette lighter, Power window relay
C-2	Engine room harness	Fender-RH	Vehicle speed sensor, 4WD SW, select SW Tacho sensor, Heater relay, VSV; FICD, Dimmer-passing SW, Lighting SW, GLOW control unit, Starter relay, Charge relay, Windshield wiper moter, Windshield intermittent relay, Side turn signal light-RH
C-36		Fender-LH	Speedometer, Fuel tank unit, Fuel filter SW, Brake fluid level SW, Tachometer, Engine coolant temperature gauge, Fuel gauge, Clearance light, Windshield washer moter, Side turn signal light-LH, Glow control unit, FRT turn signal light, Flasher unit, Tacho sensor, vsv.
F-3	Chassis harness	Frame	Tail light, Licence plate light, Stop light, RR turn signal light, Back up light, Fuel pump
P-6	Battery harness	Body-RH	Battery (-)
P-7		Frame	Engine
P-10		Engine	Battery (-), Engine

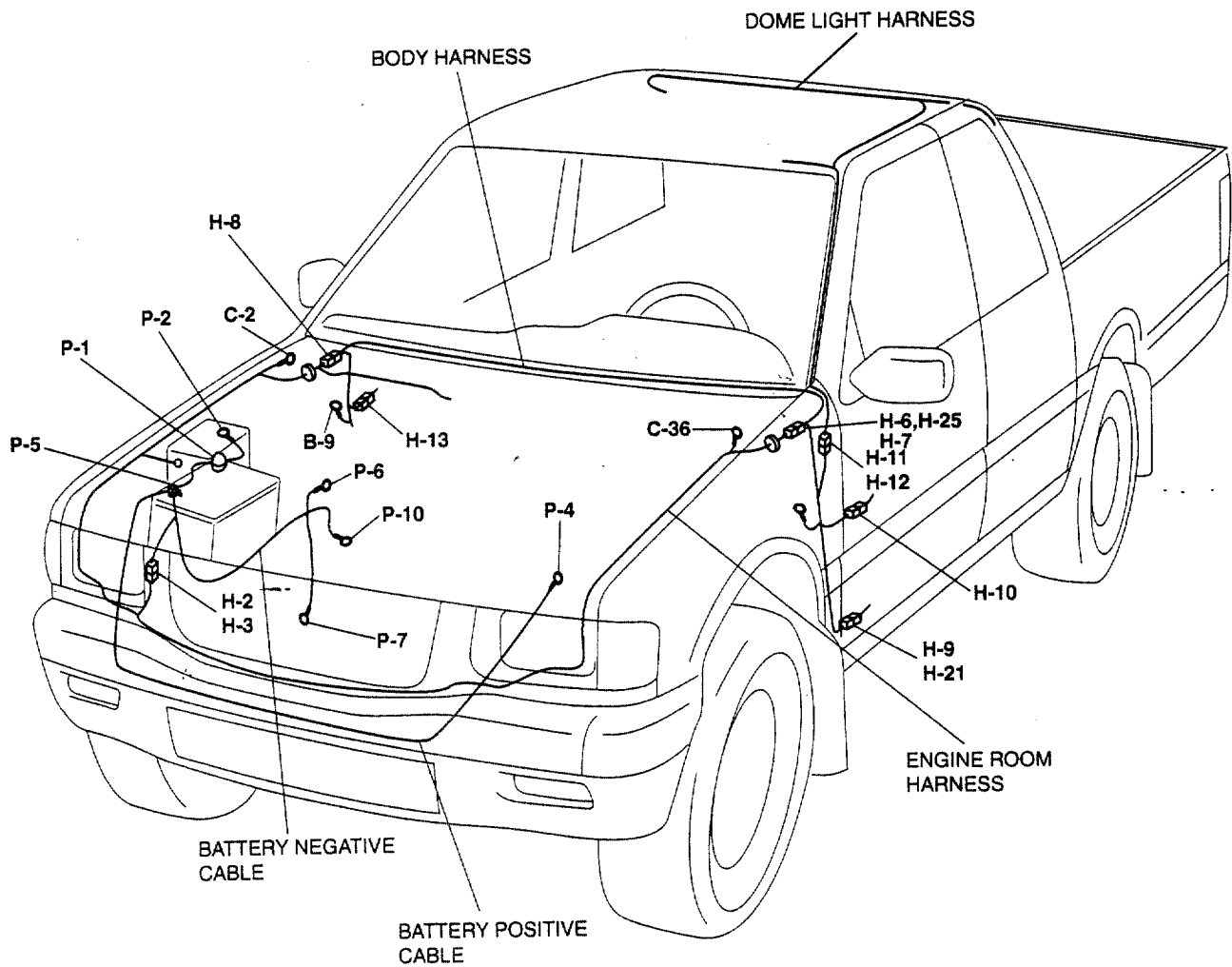
LOCATION



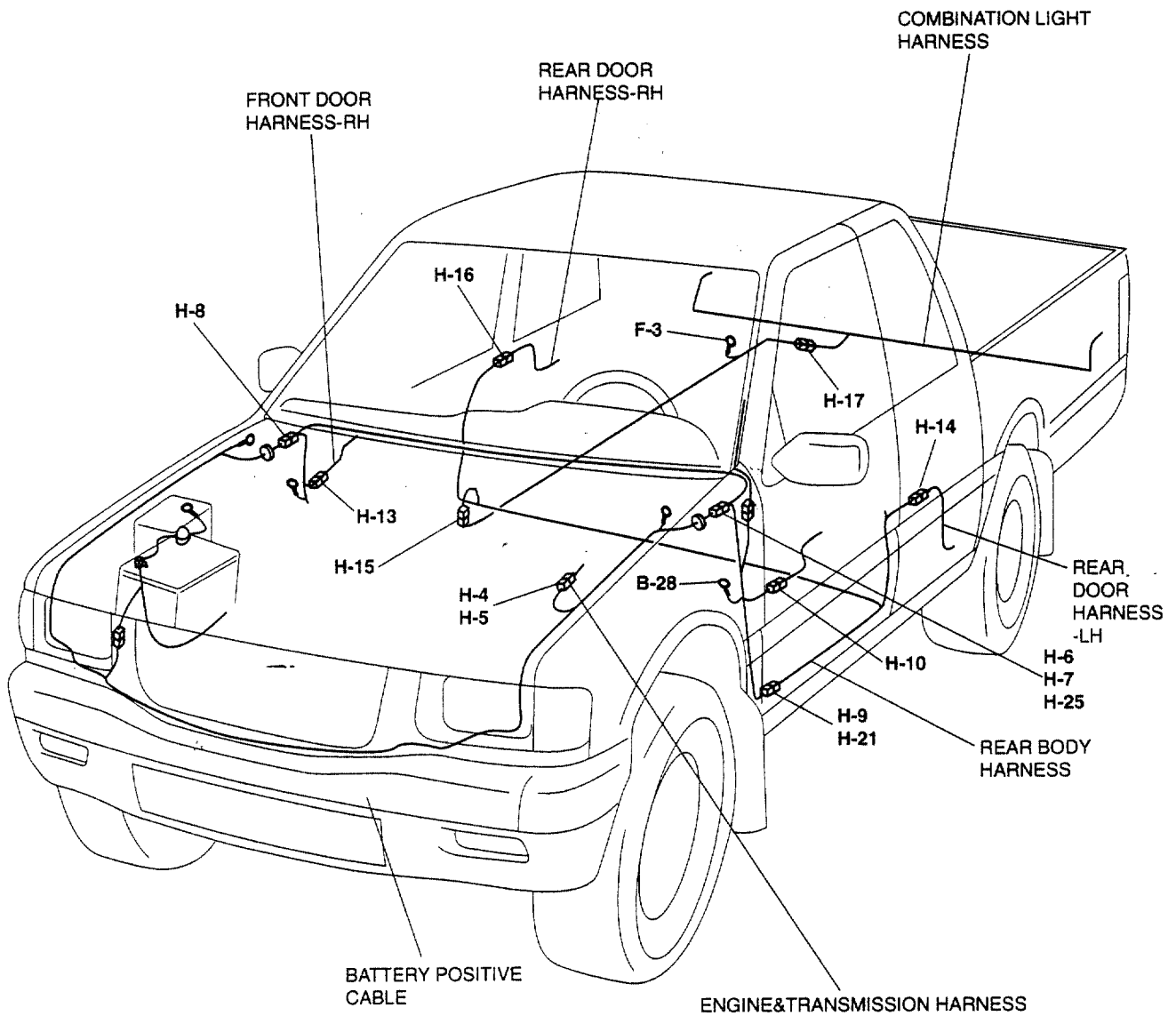


00BRV759

MAIN CABLE HARNESS ROUTING



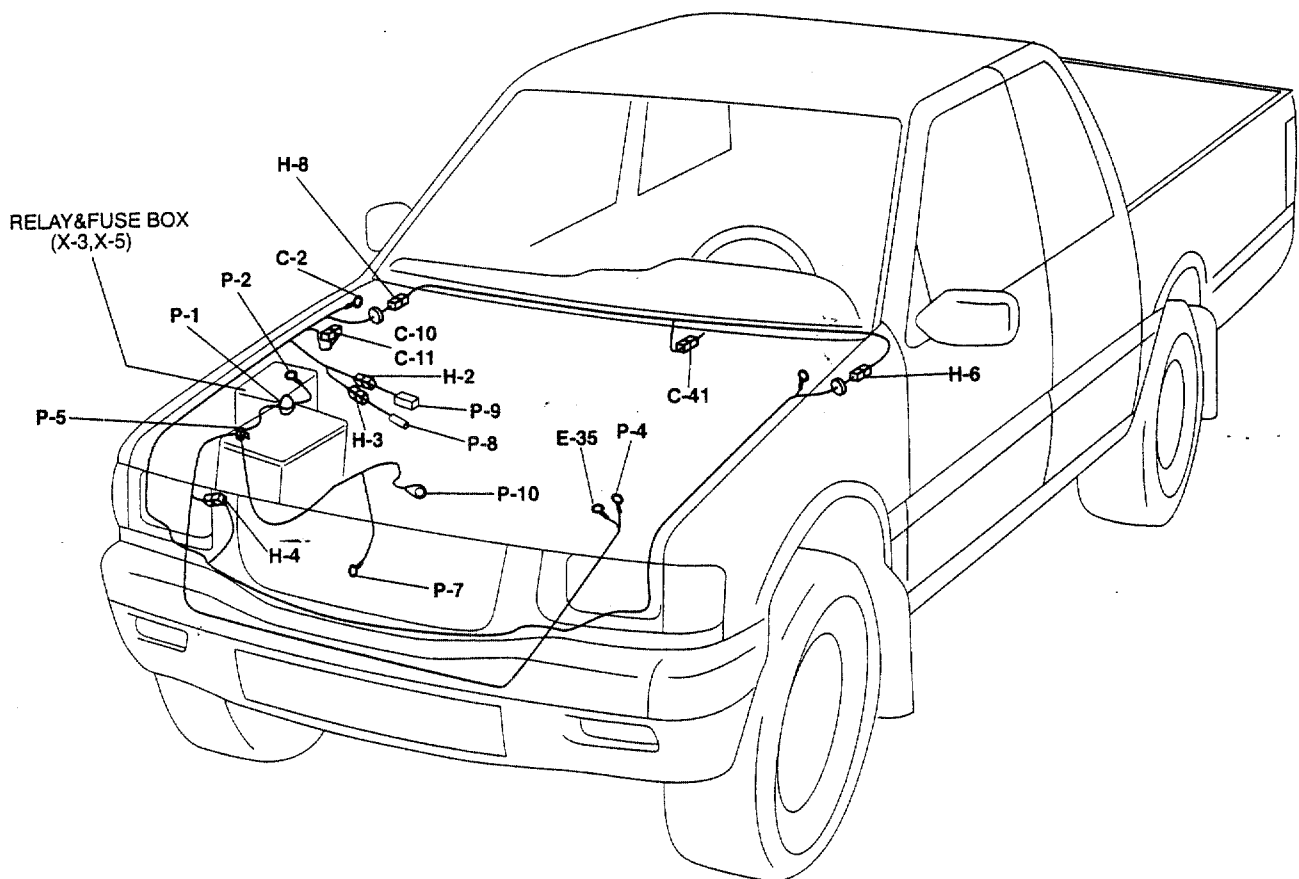
(LHD)

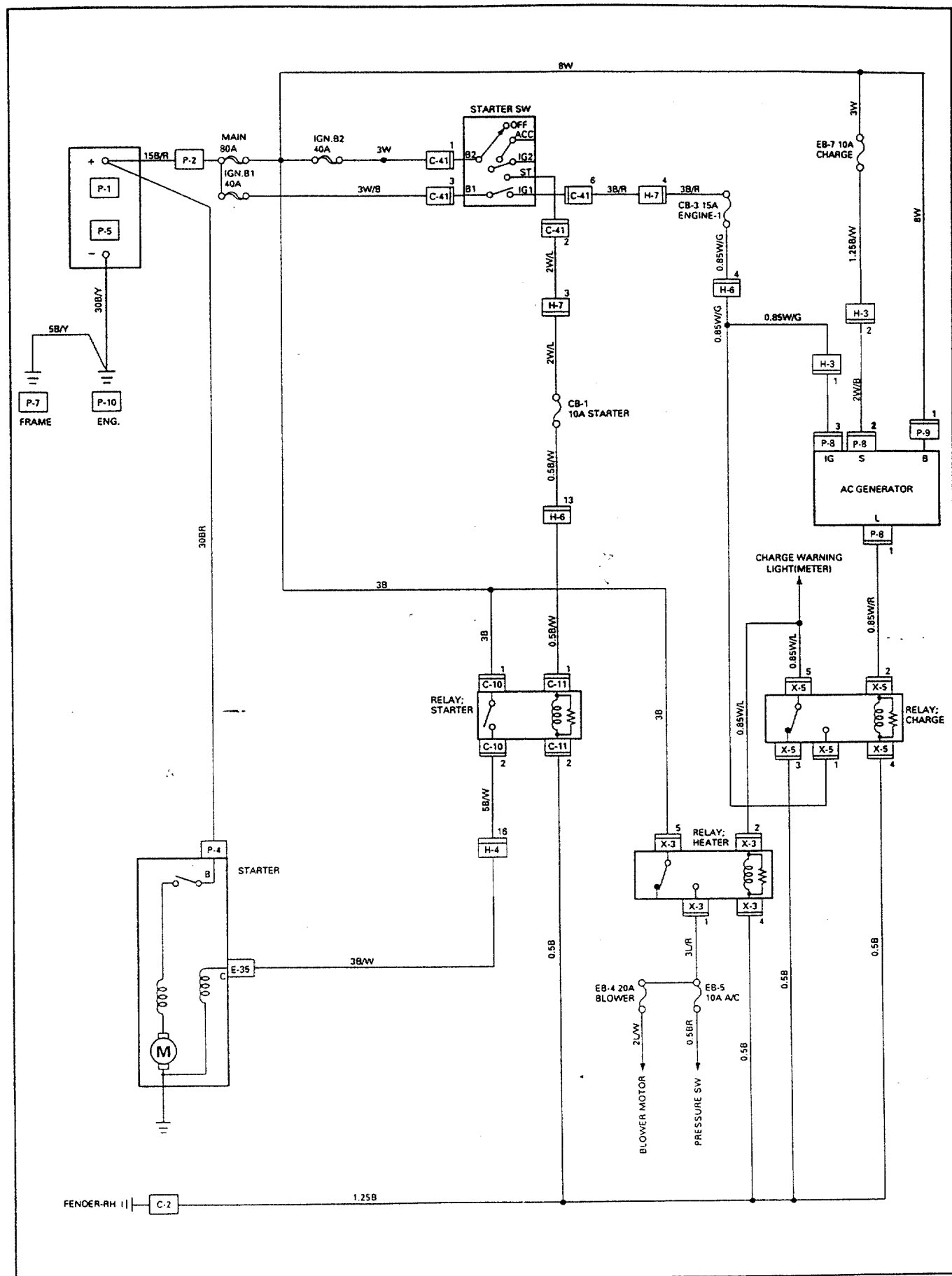


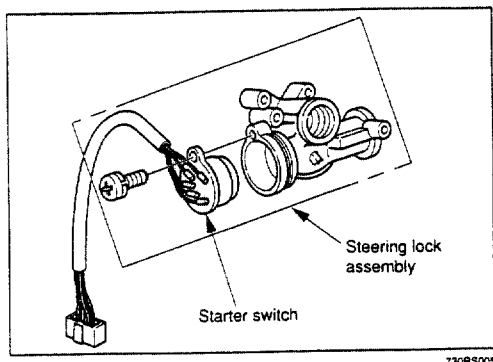
SYSTEM REPAIR

START AND CHARGING

PARTS LOCATION





**REMOVAL AND INSTALLATION****STARTER SWITCH****Removal**

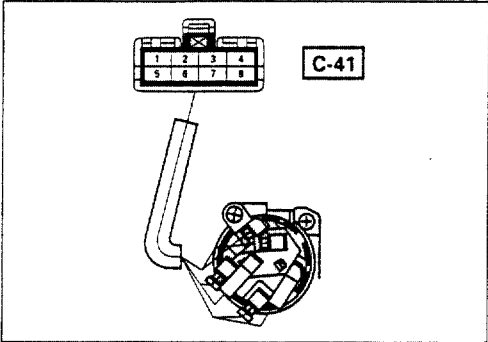
1. **Steering Lock Assembly**
 - Refer to Section 3B "STEERING COLUMN" for steering lock assembly removal steps.
2. **Starter Switch**

**Installation**

Follow the removal procedure in the reverse order to install the starter switch.



INSPECTION AND REPAIR

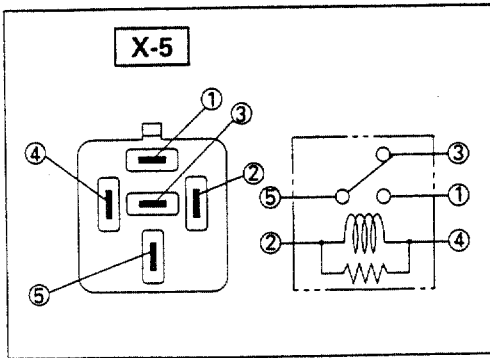


730RV001

STARTER SWITCH

Switch Connections

Terminal No.		1 (B2)	4 (ACC)	8 (IG2)	2 (ST)	3 (B1)	6 (IG1)
Starter switch key position	Removed						
	Inserted						
LOCK							
OFF							
ACC		○	○				
ON		○	○	○		○	○
START		○	○	○	○	○	○



060RV005

**Charge relay (Diesel engine)**

Check continuity between the relay terminals.

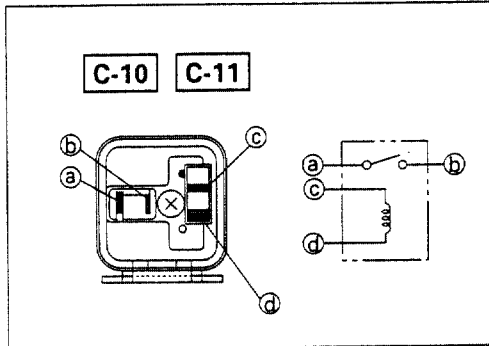
③ - ⑤ Continuity

① - ⑤ No continuity

(When battery voltage is applied between ② and ④)

③ - ⑤ No continuity

① - ⑤ Continuity



060RV006

**Starter relay**

Check continuity between the relay terminals.

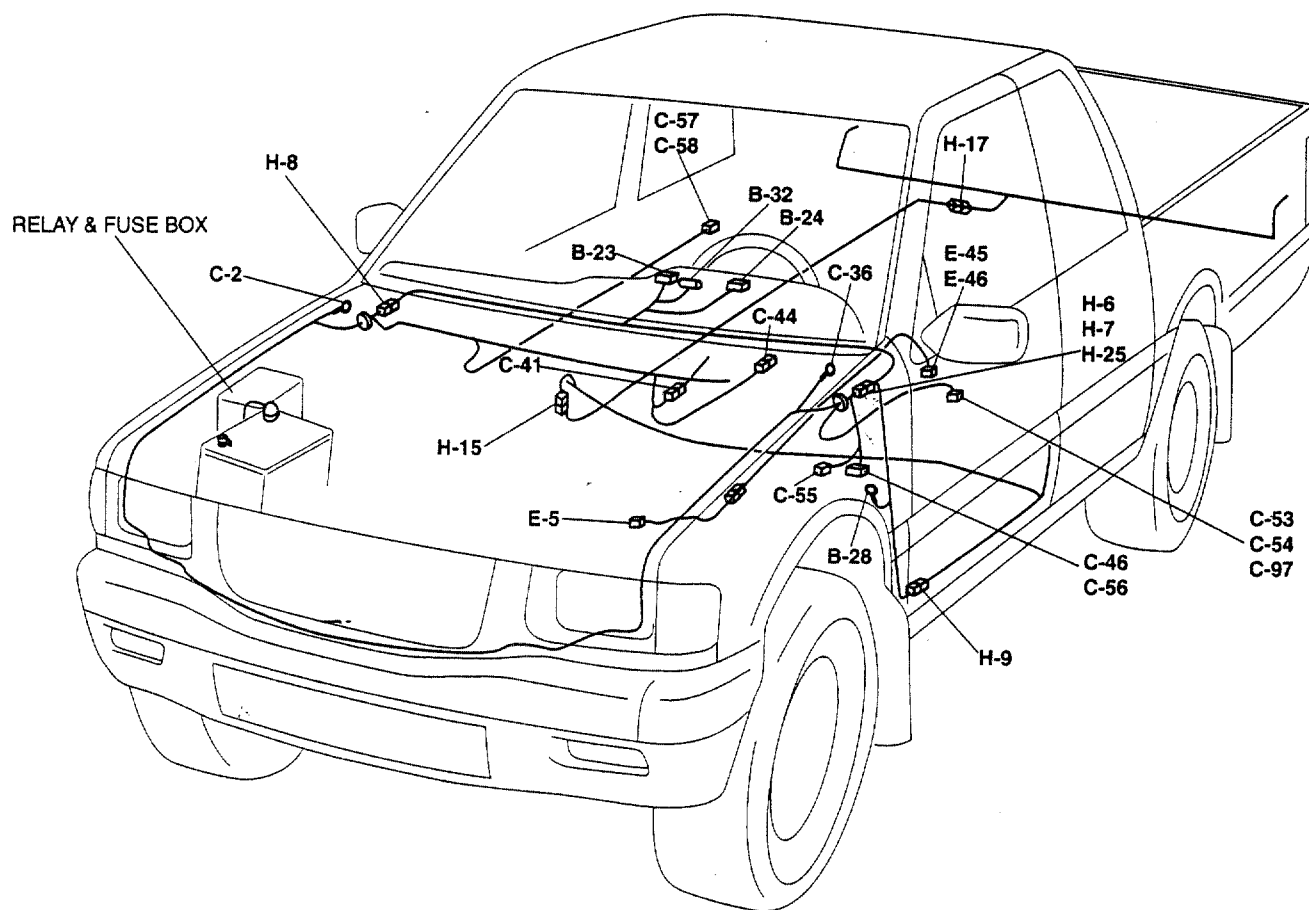
a - b No continuity

(When battery voltage is applied between c and d)

a - b Continuity

TRANSMISSION CONTROL MODULE (TCM)

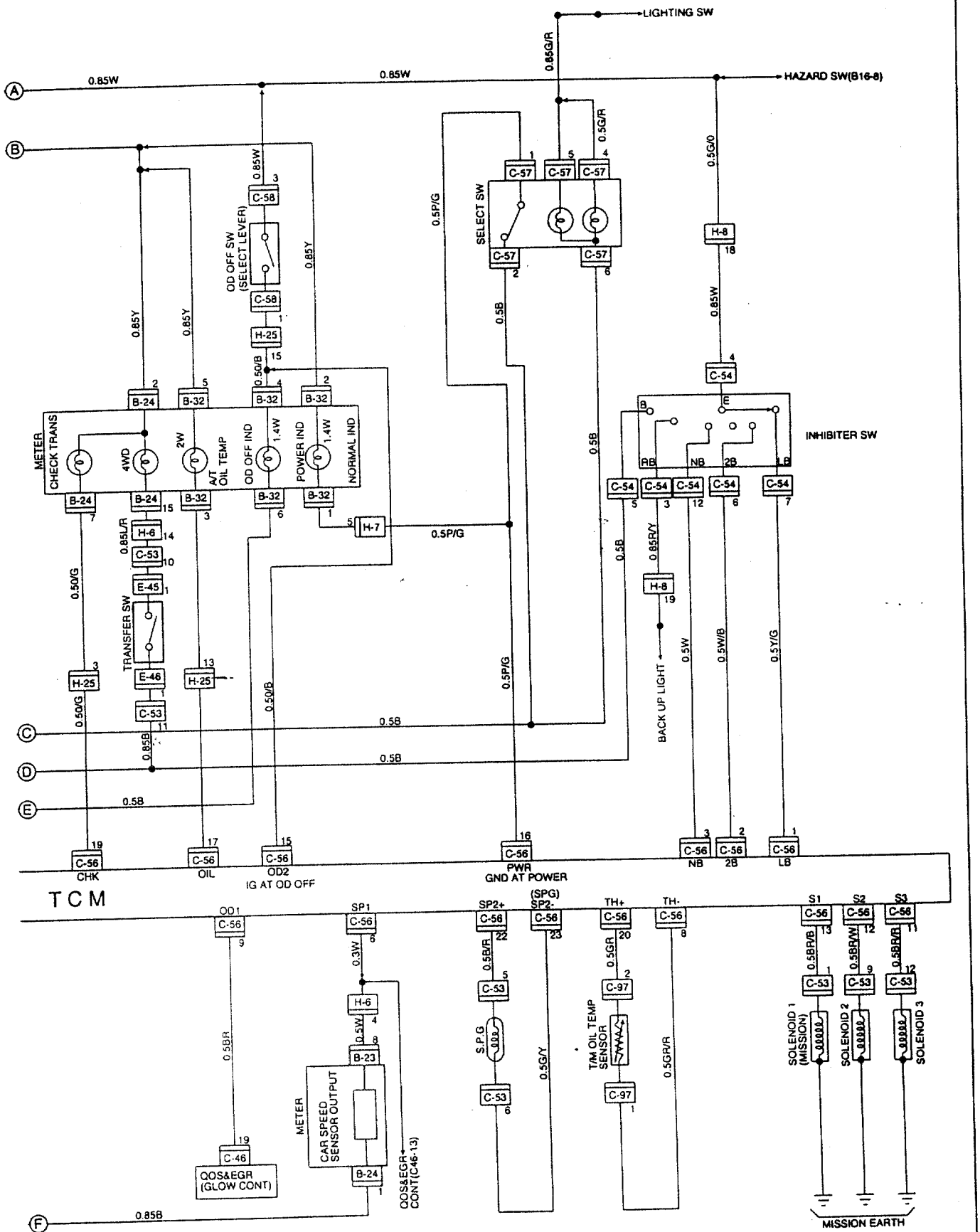
PARTS LOCATION



MEMO

Lined area for writing the memo.





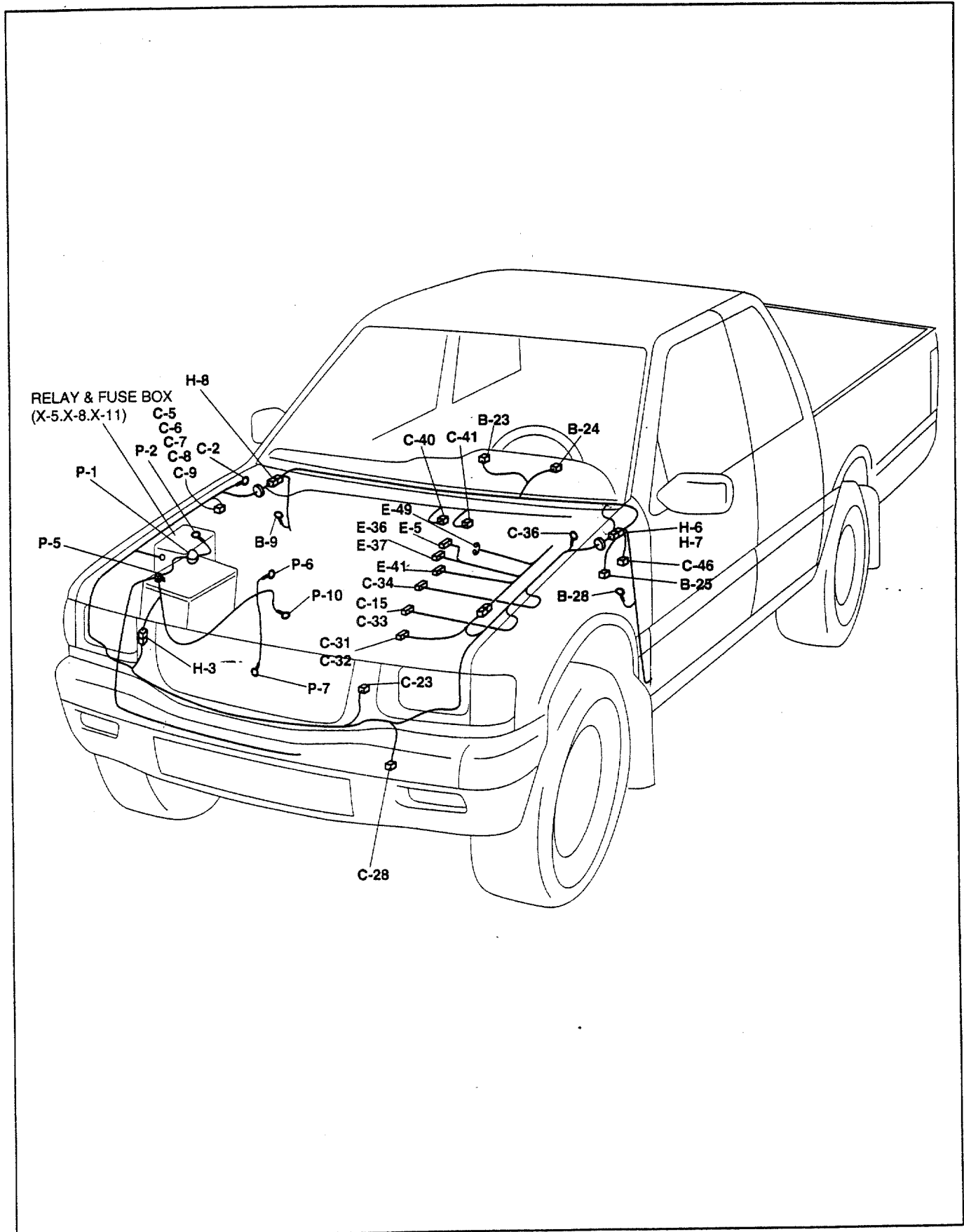


INSPECTION AND REPAIR

NOTE: Refer to Inspection and repair for Transmission Control Module (TCM) of the Section 7A.

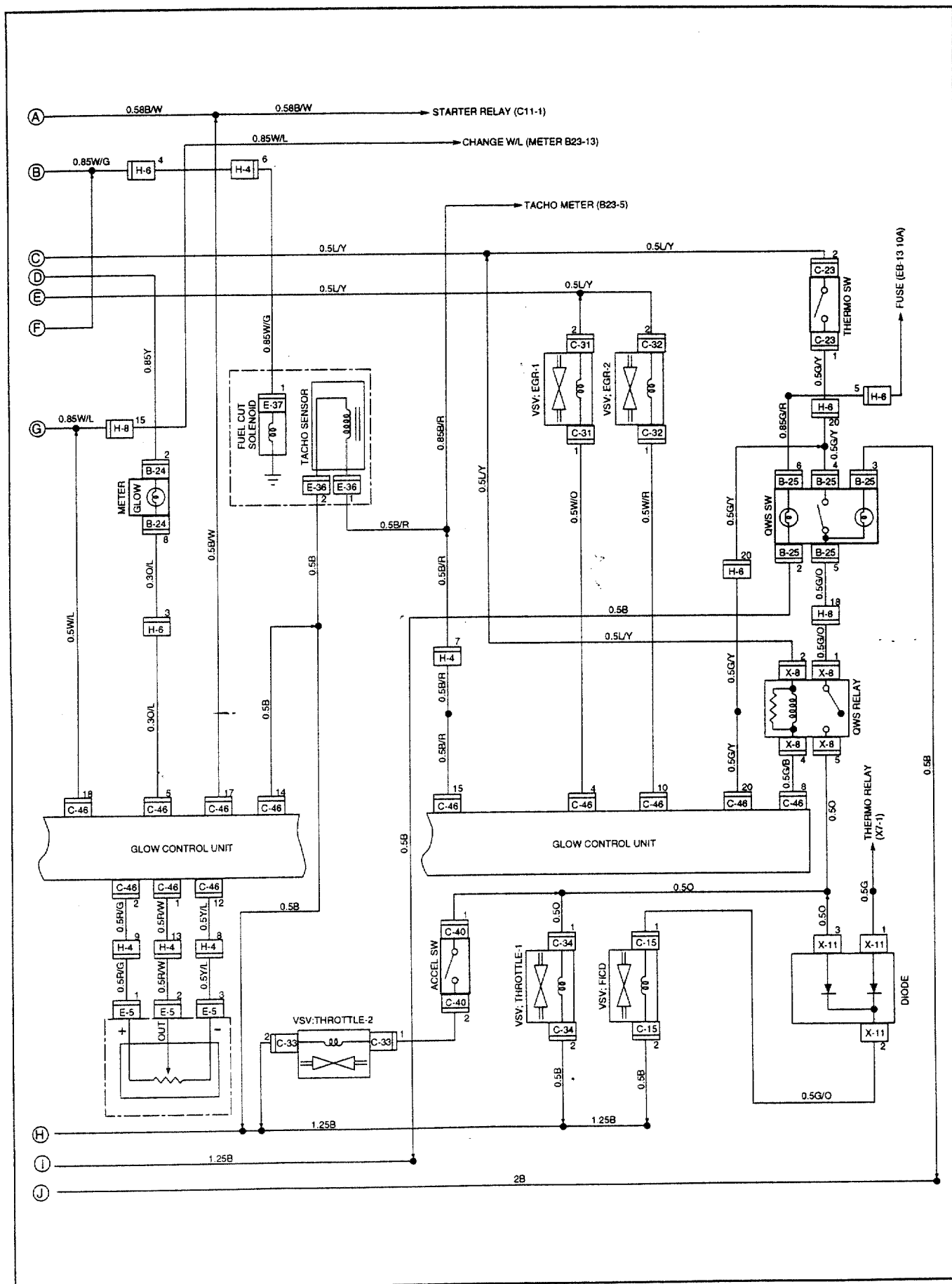
GLOW CONTROL SYSTEM

PARTS LOCATION



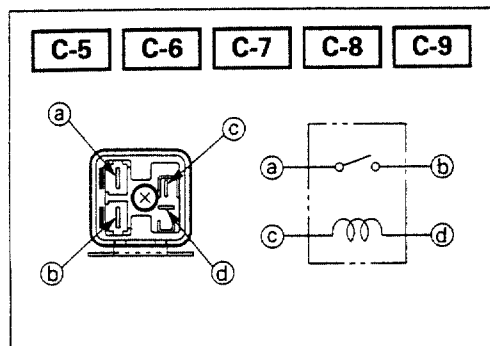


CIRCUIT DIAGRAM (RHD)





INSPECTION AND REPAIR

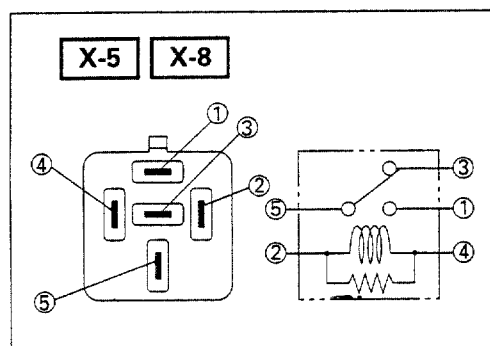
**Glow relay**

Check continuity between the relay terminals.

a - b		No continuity
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(When battery voltage is applied between c and d)		
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a - b		Continuity
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**Charge relay, QWS relay**

Check continuity between the relay terminals.

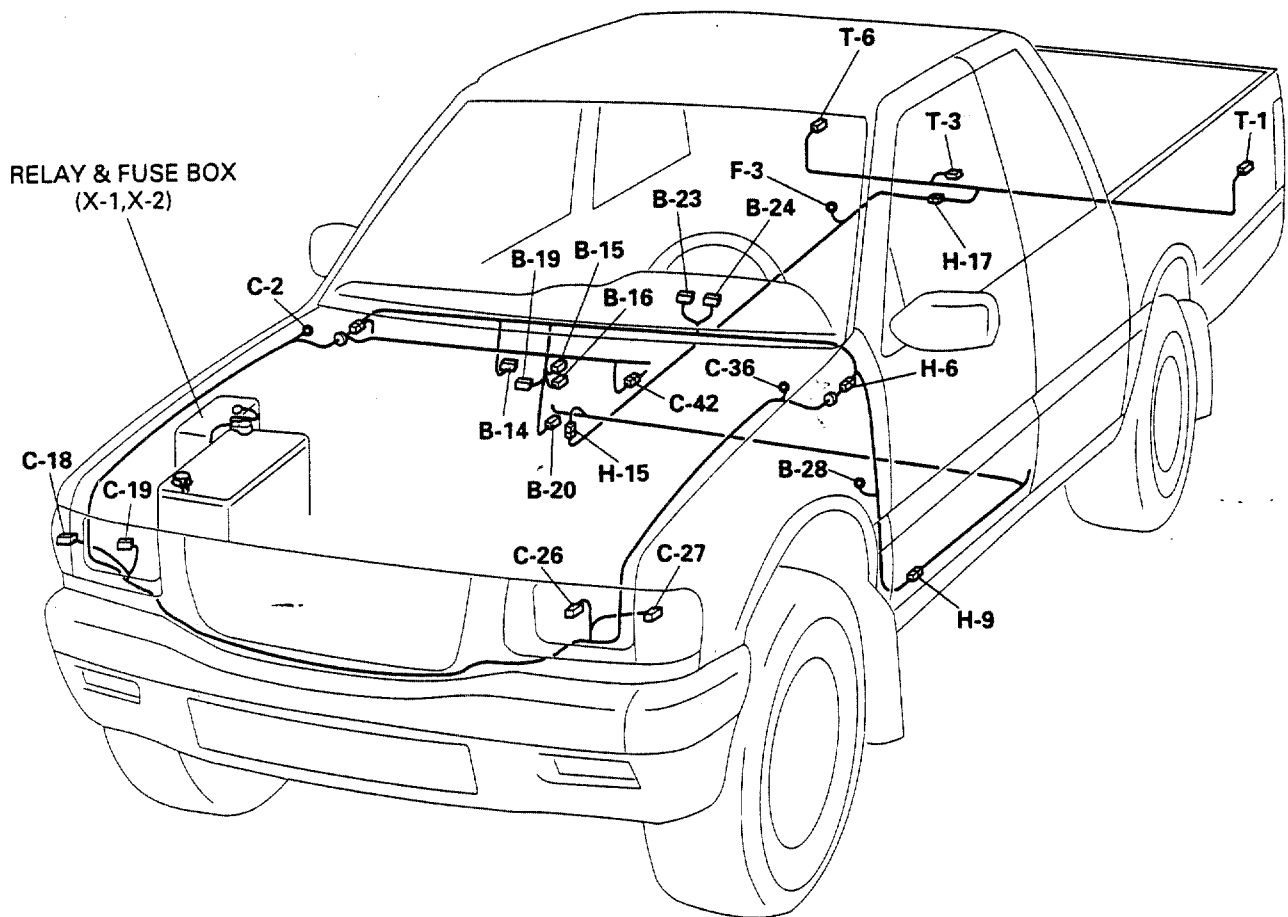
③ - ⑤		Continuity
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(When battery voltage is applied between ② and ④)		
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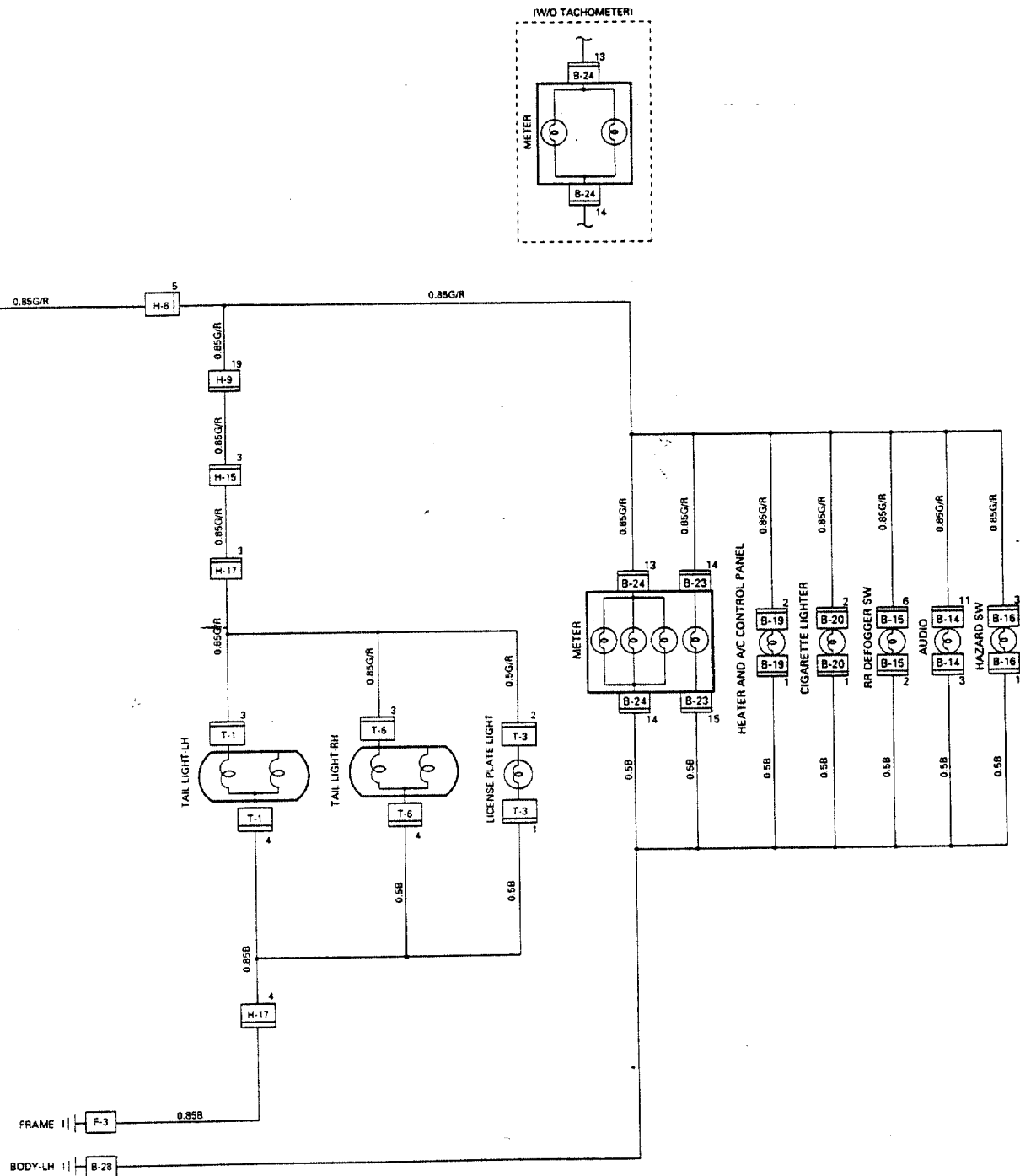
③ - ⑤		No continuity
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LIGHTING

PARTS LOCATION







TROUBLESHOOTING

HEADLIGHT

1. Both the headlights (high and low beam) do not light

Checkpoint		Trouble Cause	Countermeasure
Ground point contact (C-2)	NG	Poor ground point contact	Repair the wiring
OK			
Combination switch continuity	NG	Poor switch contact or sw faulty	Repair or replace the combination switch
OK			
Lighting relay	NG	Poor relay contact or relay faulty	Reinstall or replace the lighting relay
OK			
Voltage between 5 X-1 - ground and 2 X-1 - ground	NG	Open circuit between battery positive terminal and lighting relay	Repair open circuit
OK			
Voltage between 1 C-42 - ground	NG	Open circuit between lighting relay and lighting switch	Repair open circuit or connector contact
OK			
Wiring continuity between 7 C-42 - C-2 and 16 C-42 - C-2	NG	Open circuit	Repair open circuit

2. High or low beam does not light on both headlights

Checkpoint		Trouble Cause	Countermeasure
Dimmer · passing switch continuity	NG	Poor switch contact or switch faulty	Repair or replace the combination switch
OK			
Voltage between 13 C-42 - ground and 15 C-42 - ground	NG	Open circuit between headlight and dimmer · passing switch	Repair open circuit or connector contact

3. RH (or LH) high and low beam does not light

Fuse No. EB-8 (10A) or No. EB-9 (10A) (Relay and fuse box) (No. EB-8 RH, No. EB-9: LH)	NG	Poor installation or blown fuse	Reinstall or replace fuse No. EB-8 or No. EB-9
OK			
Headlight connector continuity	NG	Blown filament or air leakage	Replace the headlight bulb
OK			
Wiring continuity between connector 3 C-19 -fuse No. EB-9 or 3 C-26 -fuse No. EB-8	NG	Open circuit and/or poor connector contact	Repair or replace the wire and/or connector

4. High or low beam does not light on one headlight (RH or LH)

Headlight connector continuity	NG	Blown filament	Replace the headlight assembly
OK			
Wiring continuity between headlight and dimmer · passing switch	NG	Open circuit between headlight and dimmer · passing switch	Repair open circuit or connector contact

5. Headlight does not go out

Checkpoint		Trouble Cause	Countermeasure
Lighting relay continuity between connector 1 X-1 - 5 X-1 (Should be no continuity)	NG	Relay point fused	Replace the lighting relay
OK			
Lighting switch continuity between connector 1 C-42 - 7 C-42 when switch is OFF (Should be no continuity)	NG	Switch point fused or faulty	Replay the combination switch
OK			
Dimmer - passing switch continuity between connector 14 C-42 - 16 C-42 when switch is not operating (Should be no continuity)	NG	Switch point fused or faulty	Repair or replace the combination switch
OK			
Check if headlight goes out when connector C-42 is disconnected	NG	Short circuit	Repair short circuit between 4 X-1 - 1 C-42 and 4 X-1 - 14 C-42

6. Insufficient headlight brightness

Headlight lens	NG	Lens dirty	Clean the light lens
OK			
Headlight bulb	NG	Bulb filament faulty	Replace the headlight bulb
OK			
Dimmer - passing switch wire continuity between connector 16 C-42 - C-2	NG	Poor ground point contact	Repair the wiring

7. Passing light does not function when dimmer switch is operated

Checkpoint		Trouble Cause	Countermeasure
Dimmer switch	NG	Poor switch point contact	Repair or replace the dimmer switch
OK			
Voltage between 14 C-42 - ground (Should be battery voltage present)	NG	Open circuit	Repair open circuit between 4 X-1 - 14 C-42

8. Headlight beam does not change when dimmer switch is operated

Dimmer switch	NG	Loose beam lever or foreign material in switch	Repair or replace the dimmer switch
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TAIL LIGHT, LICENSE PLATE LIGHT, CLEARANCE LIGHT AND ILLUMINATION CONTROLLER

1. All lights do not light

Checkpoint		Trouble Cause	Countermeasure
Fuse No. EB-12 (15A, Relay and fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. EB-12
OK			
Lighting switch continuity between connector 8 C-42 - 7 C-42	NG	Poor switch point or connector contact	Repair or replace the combination switch
OK			
Tail relay	NG	Poor relay contact or relay faulty	Reinstall or replace the tail relay

2. Tail light does not light

Tail light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact
OK			
Continuity between connector 3 T-6 - 4 T-6 (RH) or 3 T-1 - 4 T-1 (LH)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

3. License plate light does not light

Checkpoint		Trouble Cause	Countermeasure
License plate light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact
OK			
Continuity between connector 1 T-3 - 2 T-3	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

4. Clearance light does not light

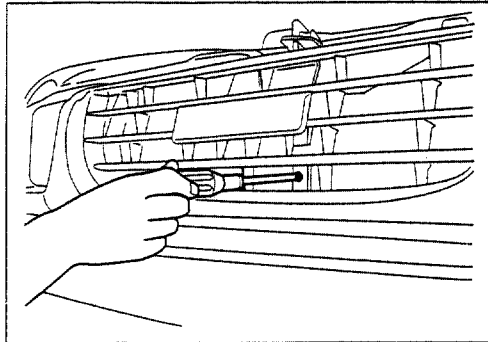
Clearance light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact
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5. Illumination controller does not operate

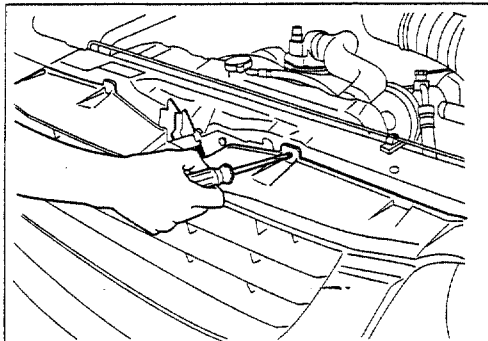
Disconnect the illumination controller connector (Light should be dim)	NG	Short circuit	Repair short circuit or replace the wire
OK			
Turn the illumination controller knob (Brightness should change)	NG	Loose knob or faulty controller	Repair knob installation or replace the controller



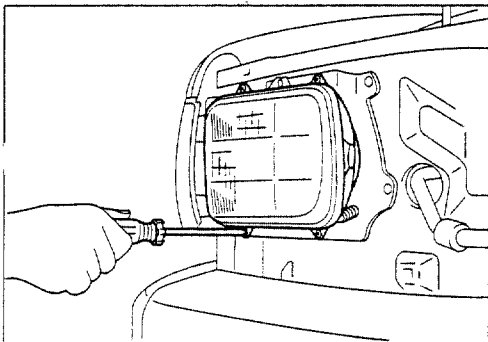
REMOVAL AND INSTALLATION



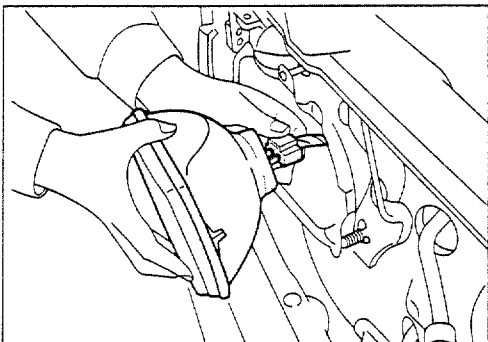
D08RV753



D08RV754



D08RV855



D08RV856

HEADLIGHT



Removal

1. Remove the radiator grille center bolt.
2. Use a screwdriver to raise the clip and release the lock.
Place a clean rag beneath the screwdriver tip to protect the body painted surfaces.
3. Remove the radiator grille.
4. Remove the headlight rim.
5. Disconnect the headlight connector.
6. Remove the headlight.

**Installation**

Follow the removal procedure in the reverse order to install the headlight.

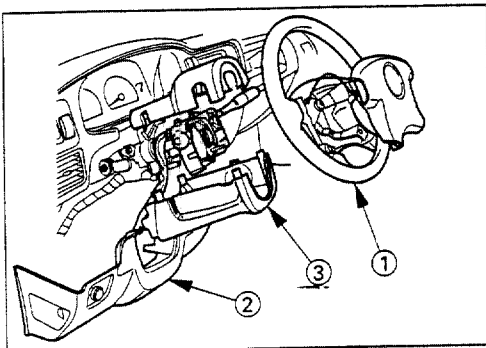


Pay close attention to the important points mentioned in the following paragraphs.

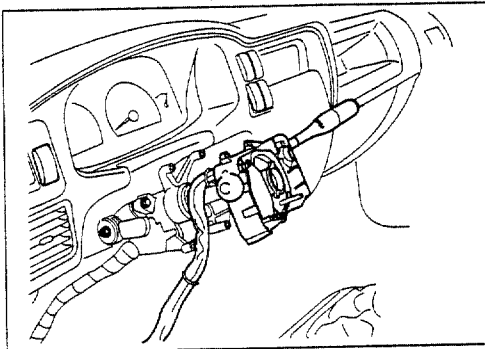
Connector

Be absolutely sure that the headlight connector is securely connected.

This will prevent a contact and an open circuit.



D06RV588



D06RV747

LIGHTING SWITCH**Removal**

1. Remove the steering wheel ①.
Refer to the "STEERING" Section of this manual.
2. Remove the Instrument panel lower cover ②.
3. Remove the steering column cover ③.
4. Disconnect the connector.
5. Remove the lighting switch from the steering shaft.

**Installation**

Follow the removal procedure in the reverse order to install the lighting switch.



Pay close attention to the important points mentioned in the following paragraphs.

Connector

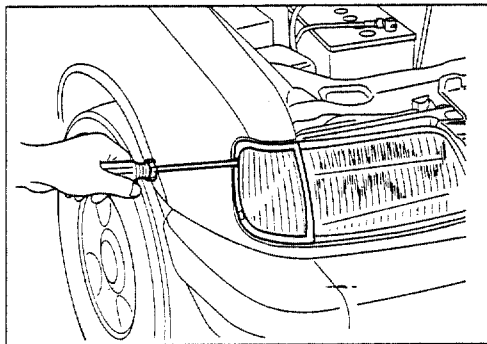
Be absolutely sure that the lighting switch connector is securely connected.

This will prevent a poor contact and an open circuit.

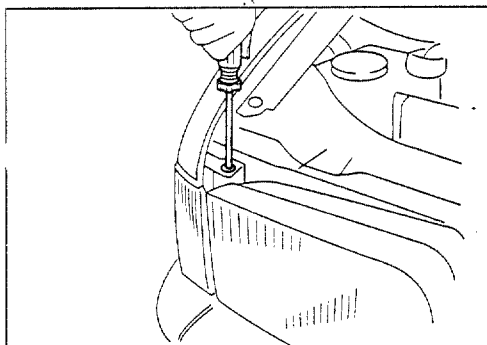
Wire Harness

Do not pinch the wire harnesses between the cluster and the meter hood during the cluster installation procedure.

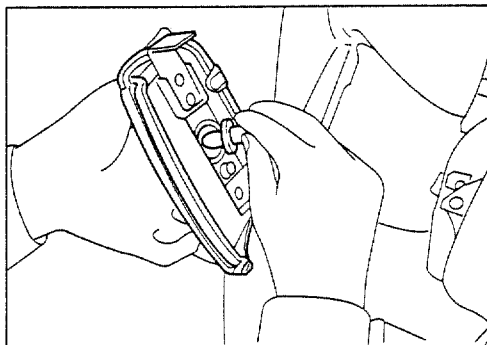
Wire damage will result.



D08RV859



D08RV860



D08RV861

CLEARANCE LIGHT

Removal



1. Remove the radiator grille. (Refer to headlight removal procedure.)
2. Remove the side screws.
3. Remove the top screw.
4. Turn the socket counterclockwise to disconnect it from the clearance light housing.
5. Pull the bulb from the socket.

**Installation**

Follow the removal procedure in the reverse order to install the clearance light.

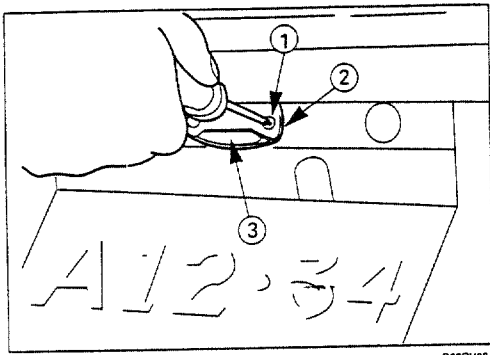


Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the clearance light connector is securely connected.

This will prevent a poor contact and an open circuit.

**LICENSE PLATE LIGHT****Removal**

1. Loosen the screws ①.
2. Remove the lens cover ② and the lens ③.
3. Pull the bulb to remove it.

**Installation**

Follow the removal procedure in the reverse order to install the license plate light.

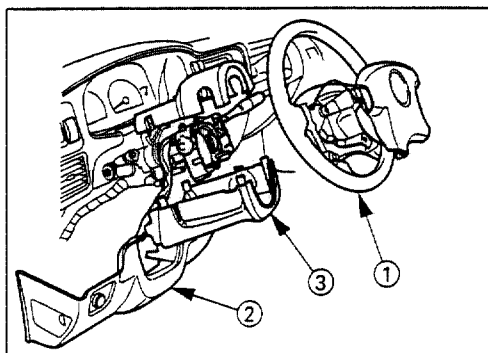


Pay close attention to the important points mentioned in the following paragraphs.

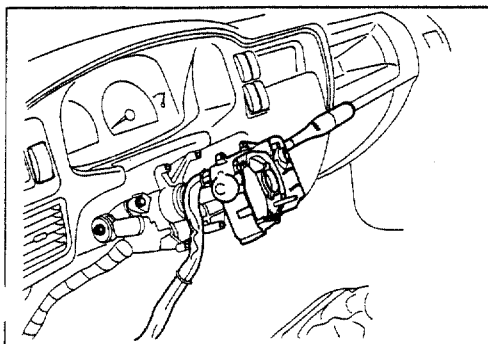
Bulb

Be absolutely sure that the license plate light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



D08RV666



D08RV747

HEADLIGHT BEAM SWITCH

Removal



1. Remove the steering wheel ①.
Refer to the "STEERING" Section of this manual.
2. Remove the Instrument panel lower cover ②.
3. Remove the steering column cover ③.

4. Disconnect the connector.
5. Remove the headlight beam switch (lever) from the steering shaft.



Installation

Follow the removal procedure in the reverse order to install the headlight beam switch (lever).



Pay close attention to the important points mentioned in the following paragraphs.

Connector

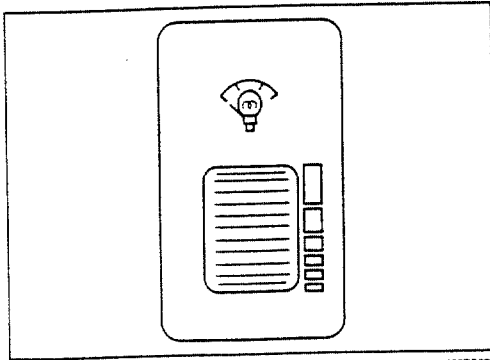
Be absolutely sure that the headlight beam switch connector is securely connected.

This will prevent a poor contact and an open circuit.

Wire Harness

Do not pinch the wire harnesses between the cluster and the meter hood during the cluster installation procedure.

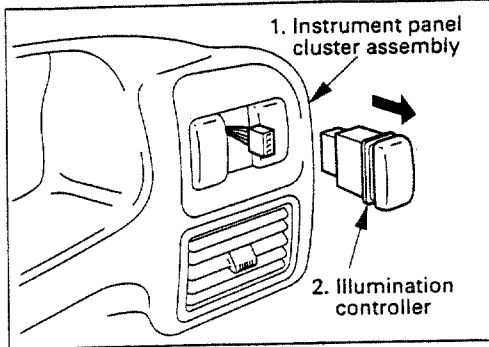
Wire damage will result.



825R5032

ILLUMINATION CONTROLLER

Turning the illumination controller knob upward increases the brightness of each illumination light, turning it downward decreases its brightness.



825RV104

Removal

1. Instrument Panel Cluster Assembly

- Refer to Section 10 "BODY" for instrument panel cluster assembly removal steps.

2. Illumination Controller

- Disconnect the switch connector.
- To remove the switch, push the lock from the back side of the cluster assembly.

Installation

To install, follow the removal procedure in the reverse order.

Connector

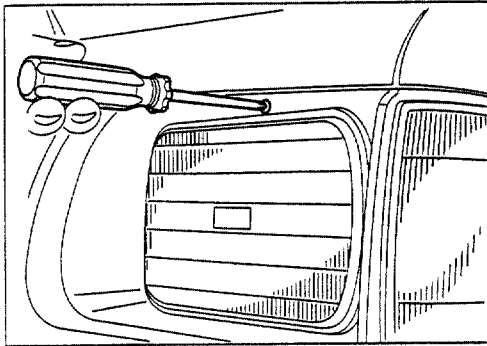
Be absolutely sure that the illumination controller connector is securely connected.

This will prevent a poor contact and an open circuit.



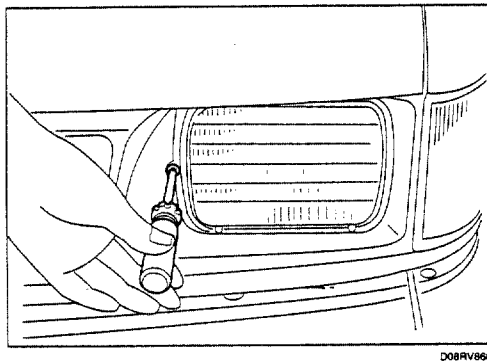
AIMING OF HEADLIGHT

Check and adjust the inflation pressures, clean the headlight lenses, park the vehicle on a level surface and insure that vehicle is at curb weight.



VERTICAL ADJUSTMENT

Use a screwdriver for vertical adjustment.

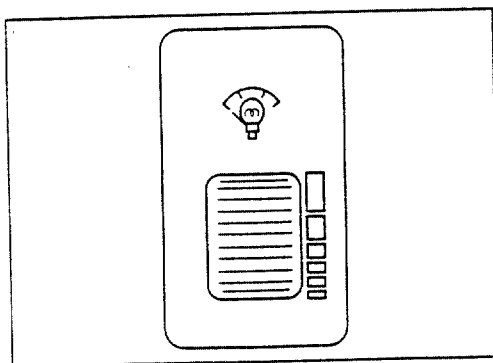


HORIZONTAL ADJUSTMENT

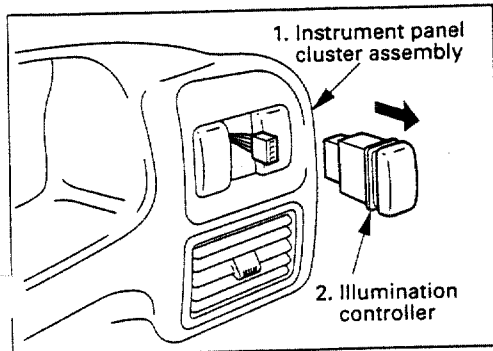
Use a screwdriver horizontal adjustment.

ILLUMINATION CONTROLLER

Turning the illumination controller knob upward increases the brightness of each illumination light, turning it downward decreases its brightness.



625RS032



825RV104

Removal**1. Instrument Panel Cluster Assembly**

- Refer to Section 10 "BODY" for instrument panel cluster assembly removal steps.

2. Illumination Controller

- Disconnect the switch connector.
- To remove the switch, push the lock from the back side of the cluster assembly.

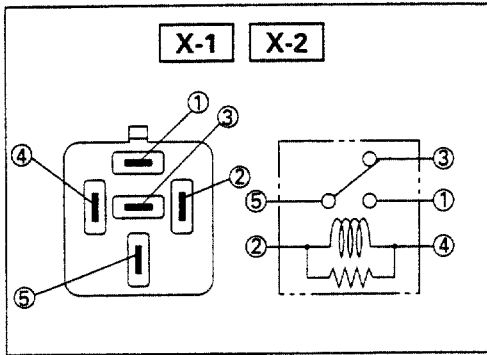
Installation

To install, follow the removal procedure in the reverse order.

Connector

Be absolutely sure that the illumination controller connector is securely connected.

This will prevent a poor contact and an open circuit.



060RV005

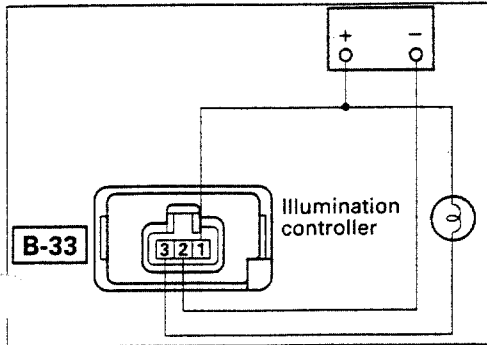
LIGHTING RELAY, TAIL RELAY

Check continuity between the relay terminals.

① - ⑤ No continuity

(When battery voltage is applied between ② and ④)

① - ⑤ Continuity



825RV107

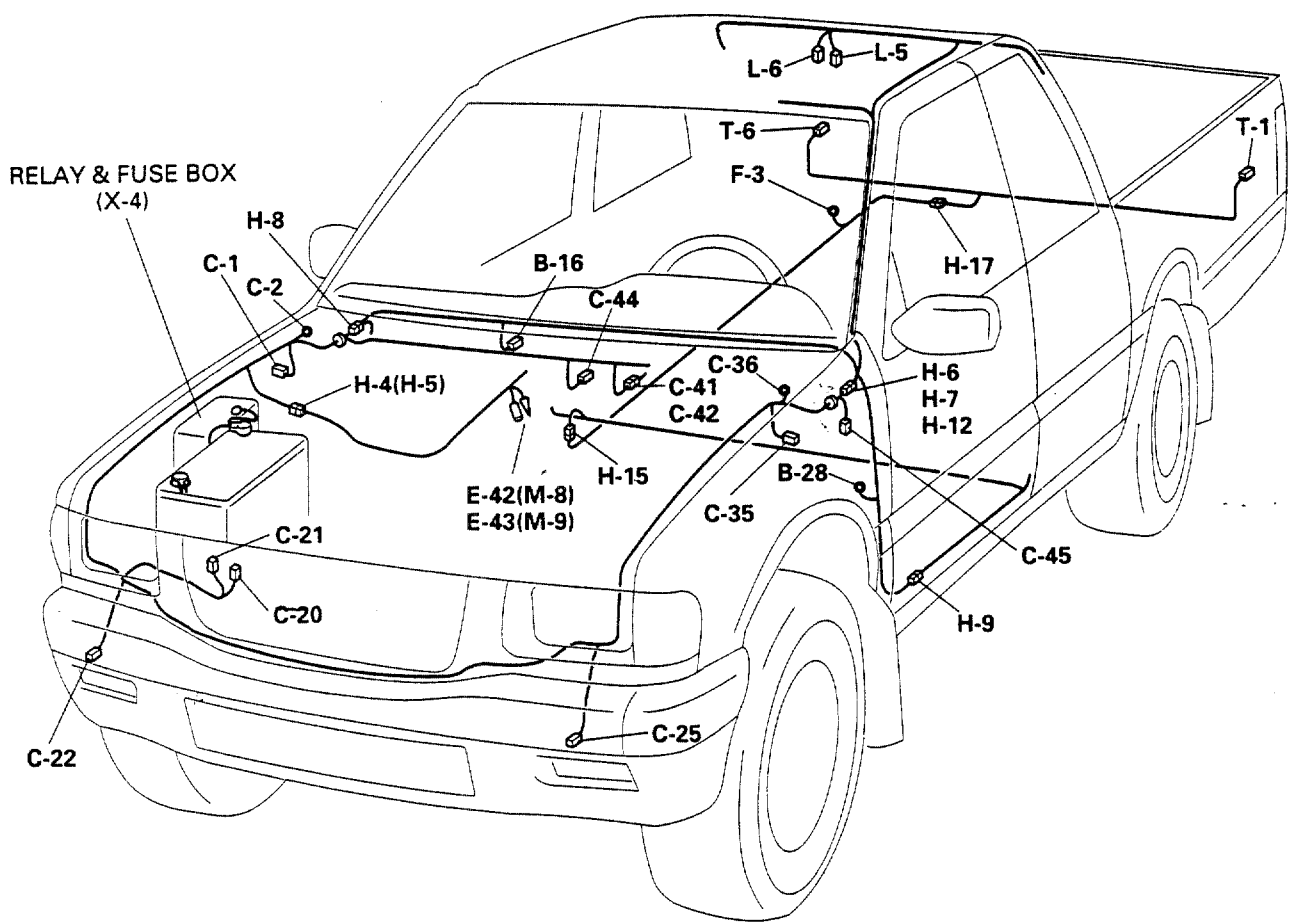
ILLUMINATION CONTROLLER

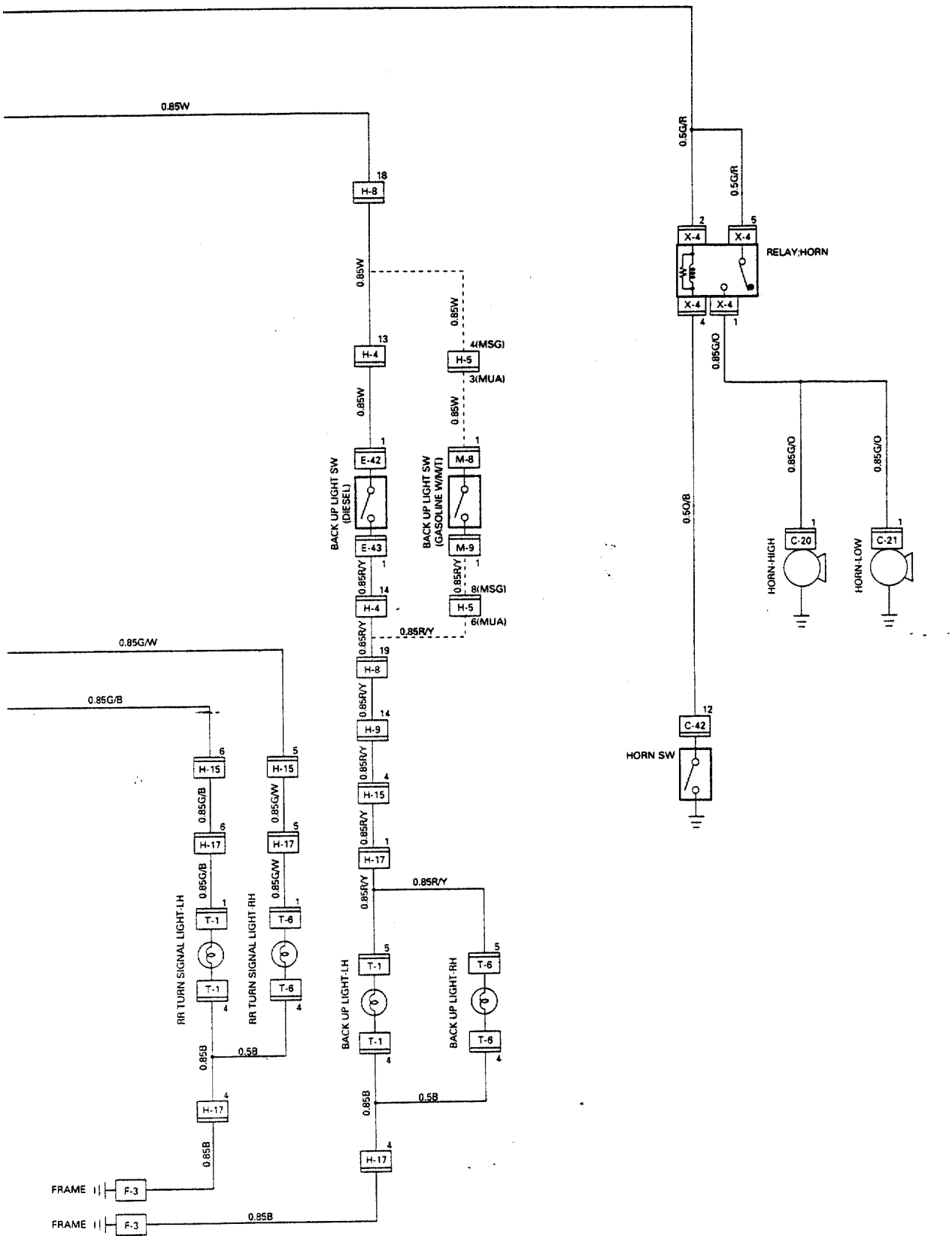
Controller Inspection

Check the illumination controller function.

HAZARD WARNING FLASHER, TURN SIGNAL LIGHT, BACK UP LIGHT, HORN AND STOP LIGHT

PARTS LOCATION





TROUBLE SHOOTING

STOPLIGHT AND HIGH MOUNTED STOPLIGHT

1. One side of stoplight does not light

Checkpoint		Trouble Cause	Countermeasure
Stoplight bulb continuity	NG	Burned out bulb or poor connector contact	Replace the bulb or repair connector contact
OK			
LHD: Continuity between 8 H-8 - 2 T-1 RHD: Continuity between 18 H-6 - 2 T-1	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between F-3 - 4 T-1	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Both sides of stoplight do not light

Fuse No. EB-11 (10A, Fuse and Relay box)	NG	Poor fuse contact or blown	Reinstall or replace fuse No. EB-11 (10A)
OK			
Stop light switch (or brake switch) function	NG	Incorrect the switch installation or adjustment	Adjust the switch installation position
OK			
Voltage between 2 T-1 - ground or 2 T-6 - ground with brake pedal depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact between stoplight switch (or brake switch) and stoplight	Repair open circuit or connector contact

3. High mounted stoplight does not light

Checkpoint		Trouble Cause	Countermeasure
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Continuity between 1 L-5 - 1 L-6	NG	High mounted stoplight malfunction	Repair or replace the high mounted stoplight
OK			
Voltage between 1 L-5 - ground with brake pedal depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or connector contact between 1 L-5 - 8 H-8

TURN SIGNAL LIGHT AND HAZARD WARNING LIGHT

1. Turn signal light does not light on both sides (RH and LH)

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-11 (15A, Fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace fuse No. CB-11 (15A)
OK			
Short circuit between connector 1 C-45 - 2 C-45 when turn signal switch operates with starter switch in "ON" position (Turn signal light should be ON)	NG	Flasher unit malfunction	Replace the flasher unit
OK			
Continuity between connector 3 C-45 - ground (Should be continuity)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Turn signal switch continuity between connector 3 C-42 - 4 C-42 and 3 C-42 - 5 C-42 when turn signal switch operates	NG	Poor switch point contact or faulty switch	Repair or replace the combination switch

2. Turn signal light does not light on one side (RH or LH)

Turn signal switch continuity	NG	Poor switch point contact or faulty switch	Repair or replace the combination switch
OK			
(RH) Continuity between 2 C-22 - 5 C-42 (FRT), 1 C-1 - 5 C-42 (SIDE) 1 T-6 - 5 C-42 (RR)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
(LH) Continuity between 2 C-25 - 4 C-42 (FRT), 1 C-35 - 4 C-42 (SIDE) 1 T-1 - 4 C-42 (RR)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

3. Hazard warning light does not light

Checkpoint		Trouble Cause	Countermeasure
Fuse No. EB-1 (15A, Relay and fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace the fuse No. EB-1 (15A)
OK			
Hazard SW. continuity	NG	Hazard SW. malfunction	Repair or replace the hazard SW.
OK			
Voltage between 2 B-16 - ground (Should be battery voltage present)	NG	Open circuit or poor connector contact between fuse No. EB-1 (15A) - 2 B-16	Repair open circuit or connector contact

4. Flashing rate too fast (One side)

Inspect bulb	NG	Burned out bulb	Replace the bulb or repair open circuit
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BACKUP LIGHT**1. Backup light does not light on one side (RH or LH)**

Checkpoint		Trouble Cause	Countermeasure
Backup light bulb continuity	NG	Burned out bulb or poor connector contact	Replace the bulb or repair connector contact
OK			
Grounding point	NG	Poor ground contact	Repair grounding point contact

2. Backup light does not light on both sides

Fuse No. CB-11 (15A, Fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace fuse No. CB-11 (15A)
OK			
Back up light switch (mode switch) continuity	NG	Poor switch point contact or faulty switch	Repair or replace the switch
OK			
Voltage between 5 T-1 (5 T-6) - ground with starter switch ON and shift lever into reverse position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

HORN**1. Both sides of horn do not sound**

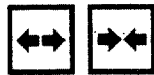
Checkpoint		Trouble Cause	Countermeasure
Fuse No EB-2 (10A, Relay and fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace fuse No. EB-2 (10A)
OK			
Grounding point	NG	Poor ground contact	Repair the grounding point
OK			
Horn relay	NG	Poor relay contact or faulty horn relay	Reinstall or replace the horn relay
OK			
Voltage between connector 2 X-4 - ground or 5 X-4 - ground (Should be battery voltage present)	NG	Open circuit or poor connector contact between fuse No. EB-2 (10A) and horn relay	Repair open circuit or reconnect the connector
OK			
Remove steering pad and steering wheel			
Horn switch continuity	NG	Poor switch point contact or faulty switch	Repair or replace the horn switch
OK			
Continuity between 4 X-4 - 12 C-42 1 X-4 - 1 C-20 (1 C-21)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. One side of horn does not blow

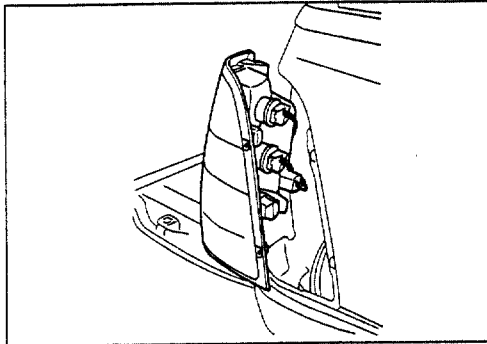
Checkpoint		Trouble Cause	Countermeasure
Horn continuity between connectors	NG	Faulty horn assembly	Replace the horn assembly
OK			
Voltage between 1 C-20 (1 C-21) - ground with horn switch depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or reconnect the connector

3. Insufficient horn volume

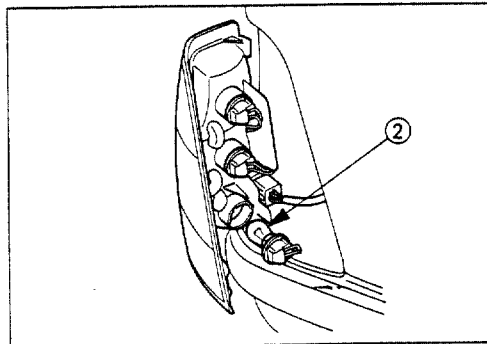
Battery condition	NG	Discharged battery	Recharge or replace the battery
OK			
Horn	NG	Stain or foreign material in the horn	Clean and/or remove the foreign material



REMOVAL AND INSTALLATION



D08RV751



D08RV887

REAR COMBINATION LIGHT

Stoplight

Removal



1. Open the rear gate.
2. Remove the screws of rear combination light.
3. Remove the rear combination light assembly.

4. Turn the bulb ② counterclockwise to remove it.



Installation

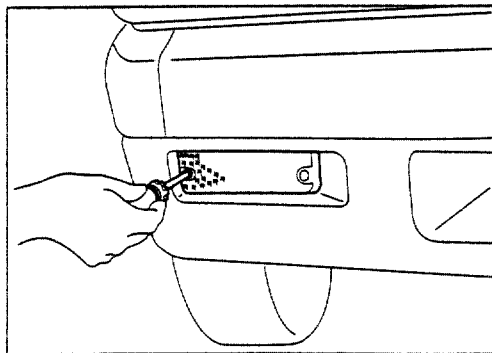
Follow the removal procedure in the reverse order to install the rear combination light.



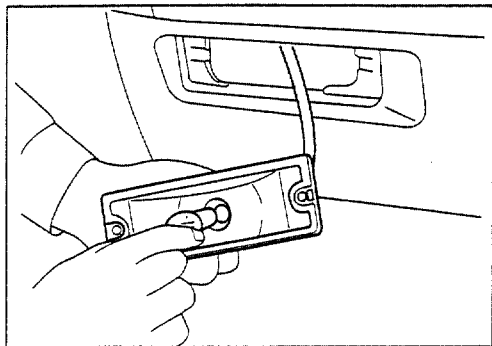
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that each bulb is correctly installed. This will prevent a poor contact and an open circuit.



D08RV862



D08RV863

FRONT TURN LIGHT



Removal

1. Remove the front turn light lens.
2. Pull the light housing free.
3. Push the bulb in and turn it counterclockwise to remove it from the light housing.



Installation

Follow the removal procedure in the reverse order to install the front turn light.

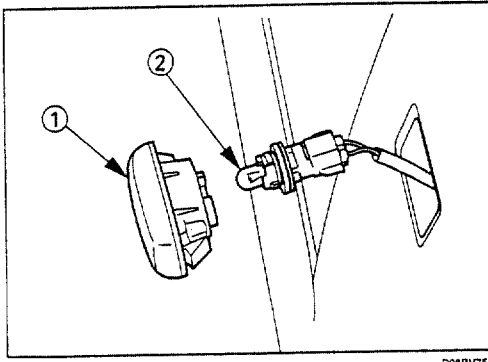


Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the front turn light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



D08RV750

SIDE TURN LIGHT

Removal



1. Remove the lens ①.
 - Pull the light/bulb toward you while pushing the light housing in the rear direction of the vehicle to release its lock.
 - Remove the socket by turning it counterclockwise.
2. Pull the bulb ② to remove it.



Installation

Follow the removal procedure in the reverse order to install the side turn light.

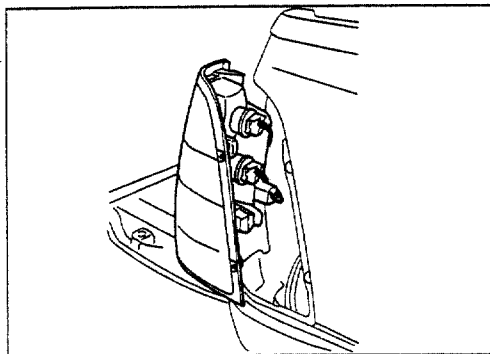


Pay close attention to the important points mentioned in the following paragraphs.

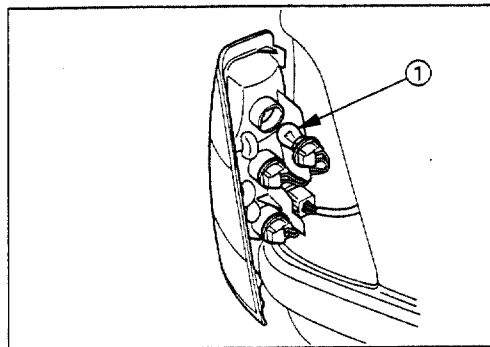
Bulb

Be absolutely sure that the side turn light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



D08RV751



D08RV752

REAR COMBINATION LIGHT

Turn Signal Light



Removal

1. Open the rear gate.
2. Remove the screws.
3. Remove the rear combination light assembly.

4. Turn the bulb ① counterclockwise to remove it.



Installation

Follow the removal procedure in the reverse order to install the rear combination light.

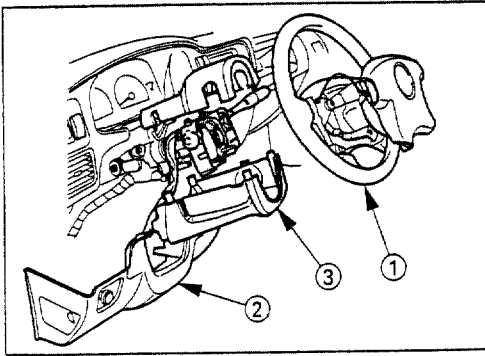


Pay close attention to the important points mentioned in the following paragraphs.

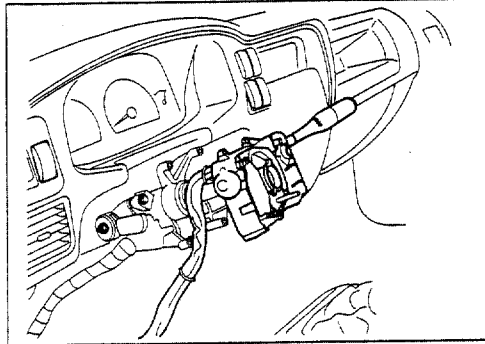
Bulb

Be absolutely sure that the rear combination light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



D08RV888



D08RV747

TURN SIGNAL SWITCH



Removal

1. Remove the steering wheel ①.
Refer to the "STEERING" Section of this Manual.
2. Remove the instruments panel lower cover ②.
3. Remove the steering column cover ③.
4. Disconnect the connector.
5. Remove the turn signal switch from the steering shaft.



Installation

Follow the removal procedure in the reverse order to install the turn signal switch (lever).

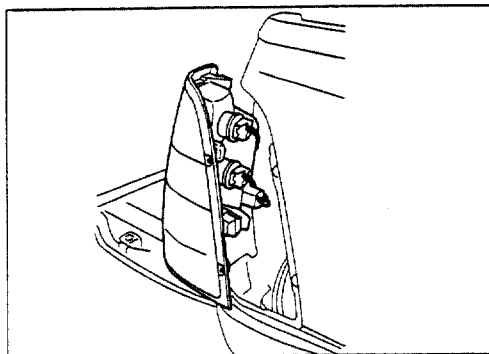


Pay close attention to the important points mentioned in the following paragraphs.

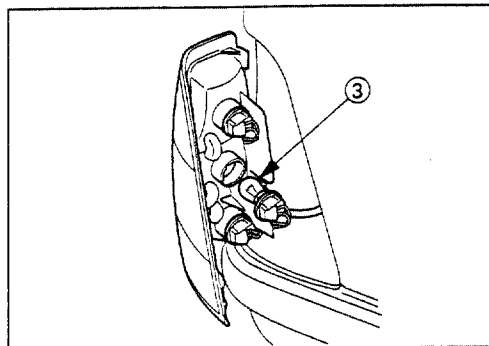
Connector

Be absolutely sure that the turn signal switch connector is securely connected.

This will prevent a poor contact and at an open circuit.



D08RV751



D08RV886

REAR COMBINATION LIGHT

Back Up Light

Removal



1. Open the rear gate.
2. Remove the screws.
3. Remove the rear combination light assembly.

4. Turn the bulb ③ counterclockwise to remove it.



Installation

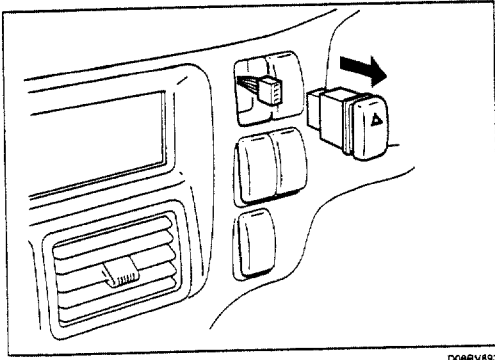
Follow the removal procedure in the reverse order to install the rear combination light.



Pay close attention to the important points mentioned in the following paragraphs.

Bulbs

Be absolutely sure that each bulb is correctly installed. This will prevent a poor contact and an open circuit.



D08RV553

HAZARD WARNING FLASHER SWITCH



Removal

1. Instrument Panel Cluster Assembly

- Refer to Section 10 "BODY" for instrument panel cluster assembly removal steps.

2. Hazard Warning Switch

- Disconnect the switch connector.
- To remove the switch, push the lock from the back side of the cluster assembly.



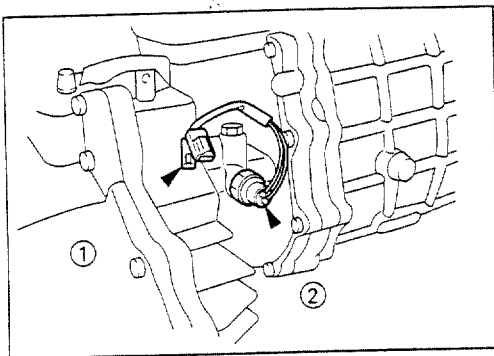
Installation

To install, follow the removal procedure in the reverse order.

Connector

Be absolutely sure that the hazard warning flasher switch connector is securely connected.

This will prevent a poor contact and an open circuit.



D08RV567

BACK UP LIGHT SWITCH



Removal

1. Disconnect the connector ①.
2. Remove the back up light switch from the transmission ②.



Installation

Follow the removal procedure in the reverse order to install the back up light switch.



Pay close attention to the important points mentioned in the following paragraphs.

Back up Light Switch Threads

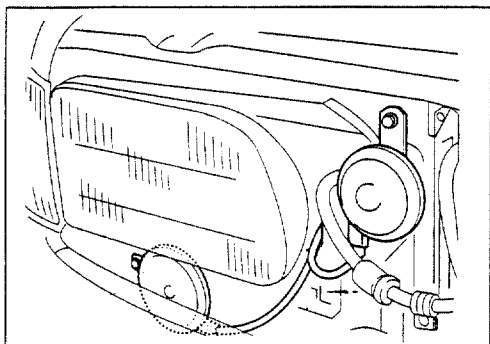


Apply liquid gasket to the threaded portion and install the back up light switch.

Connector

Be absolutely sure that the back up light connector is securely connected.

This will prevent a poor contact and an open circuit.



HORN

Removal



1. Remove the radiator grille.
Refer to the "HEADLIGHT" removal procedure.
2. Loosen the horn bolt.
3. Disconnect the horn connector.

Installation



Follow the removal procedure in the reverse order to install the horn.

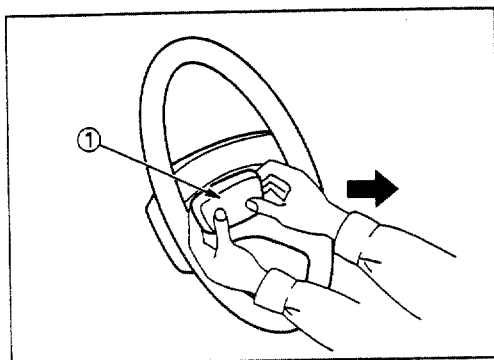


Pay close attention to the important points mentioned in the following paragraphs.

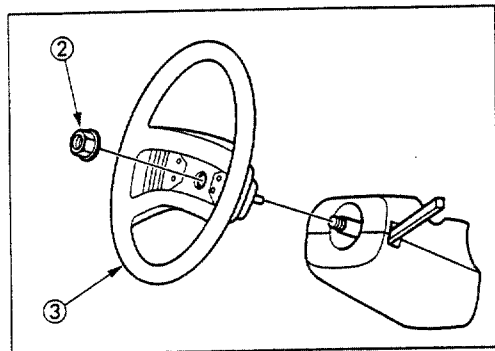
Connector

Be absolutely sure that the horn connector is securely connected.

This will prevent a poor contact and an open circuit.



D08RV870



D08RV871

HORN SWITCH

Removal



1. Remove the horn pad ①.

2. Remove the steering wheel nut ②.
3. Remove the steering wheel ③.
4. Remove the horn switch.



Installation

Follow the removal procedure in the reverse order to install the horn switch.



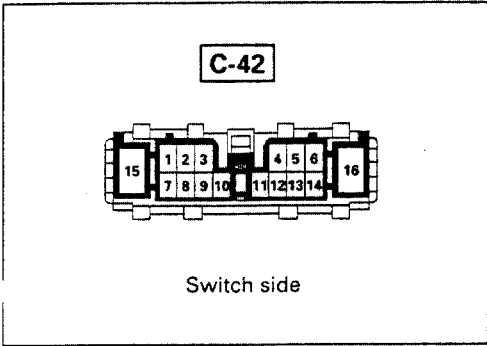
Pay close attention to the important points mentioned in the following paragraphs.



Steering Wheel Nut ②

Tighten the nut to the specified torque.

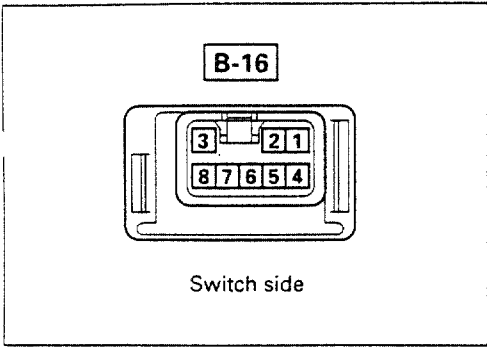
Steering Wheel Nut Torque	kg·m (lb·ft/N·m)
3.5 ± 0.5 ($25.3 \pm 3.6/34.3 \pm 4.9$)	



TURN SIGNAL SWITCH

Lighting Switch Connections

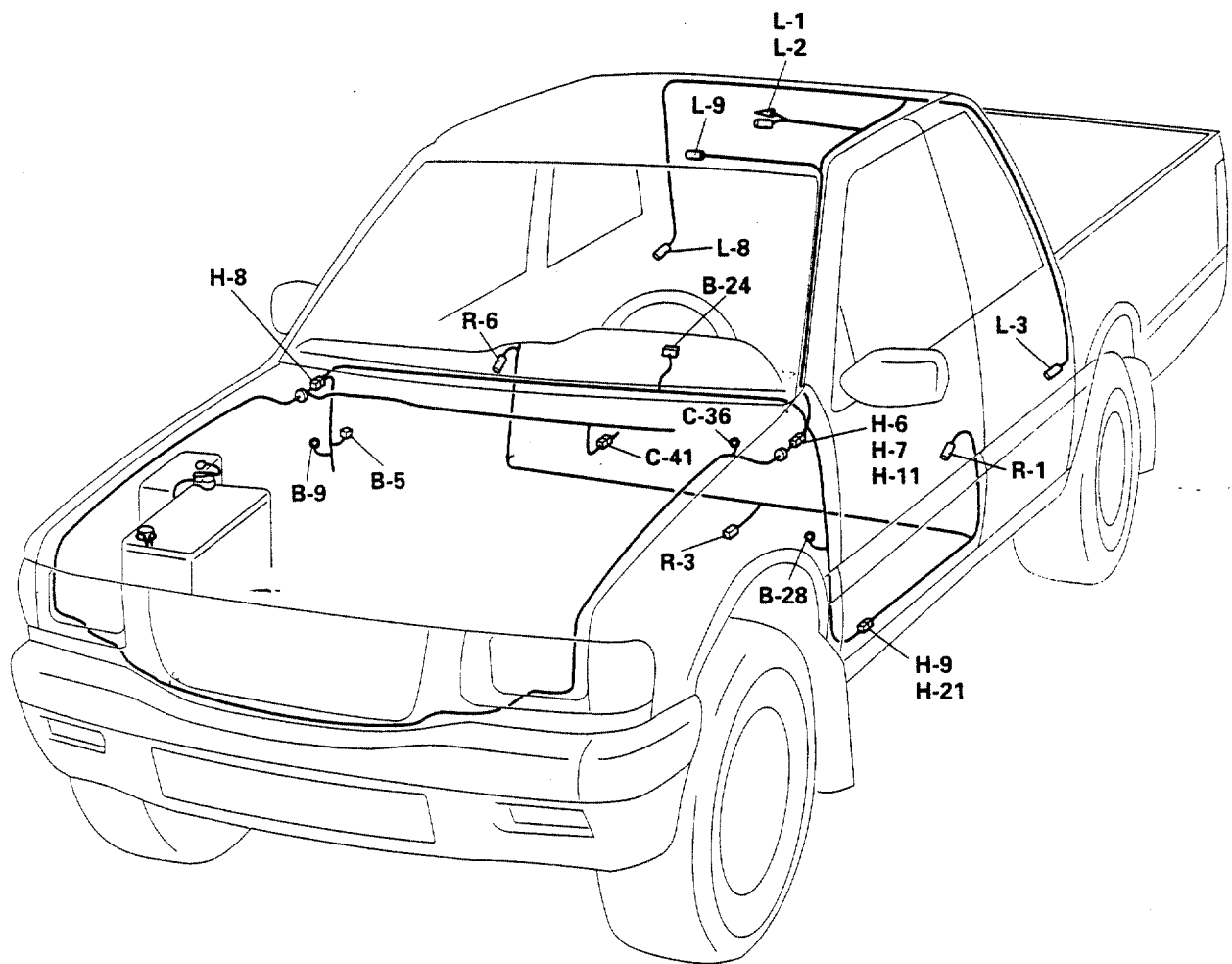
Terminal No.		3	4	5
SW position				
Turning direction	Left	○ — ○		
	↕	X — — — X		
	Neutral			
	↕	X — X		
	Right	○ — — — ○		

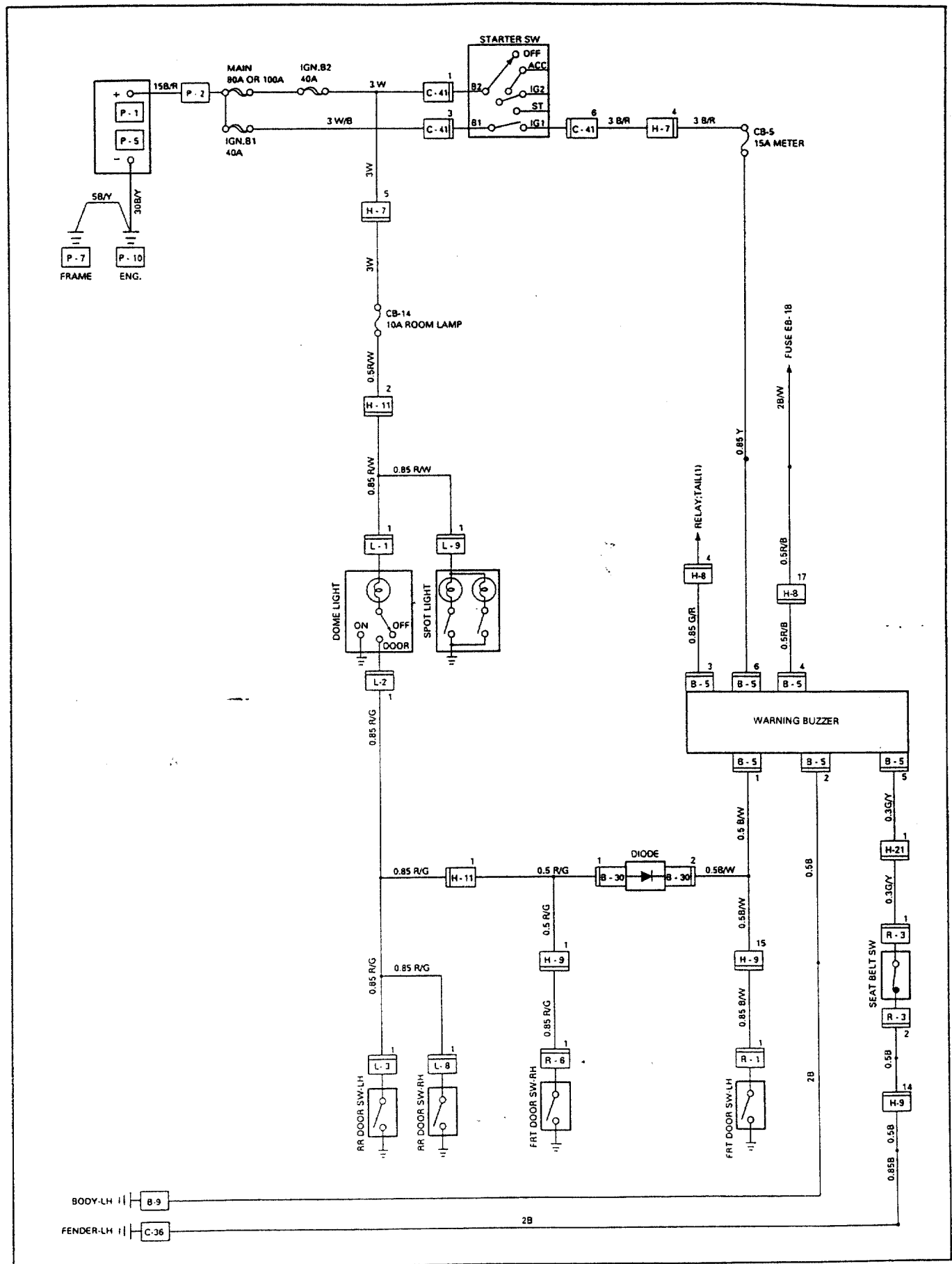


HAZARD WARNING FLASHER SWITCH

Hazard Warning Flasher Switch Connections

Terminal No.	4	5	6	7	8	2	1	3
SW position								
ON	○ — ○ — ○			○ — — — ○				○ — — — ○
OFF				○ — ○				○ — — — ○

DOMESTIC LIGHT, SPOT LIGHT AND WARNING BUZZER**PARTS LOCATION**



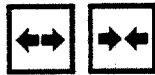
TROUBLE SHOOTING

1. Dome light does not light

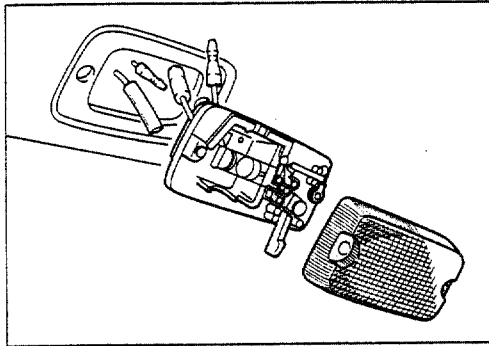
Checkpoint		Trouble Cause	Countermeasure
Dome light bulb continuity	NG	Burned out the bulb	Replace the dome light bulb
OK			
Dome light switch function	NG	Switch malfunction	Repair or replace the dome light assembly
OK			
Continuity between connector 2 H-11 - 1 L-1	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Dome light does not go out

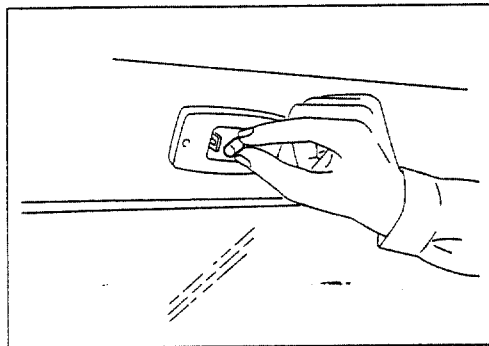
Door switch function (Both side)	NG	Switch malfunction or foreign material in switch	Repair or replace the door switch
OK			
Continuity between connector 1 L-2 -ground when shutting the door (Should be no continuity)	NG	Short circuit	Repair short circuit or connector contact



REMOVAL AND INSTALLATION



D08RV872



D08RV873

DOMELIGHT



Removal

1. Remove the dome light cover free.

2. Pull the bulb to remove it.



Installation

Follow the removal procedure in the reverse order to install the dome light.

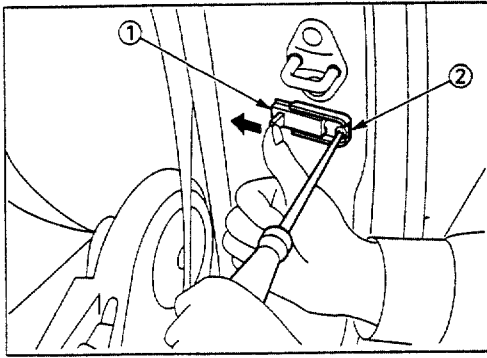


Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the dome light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



D08RV874

DOOR SWITCH

Removal



1. Push the door switch sliding portion ① in the direction of the arrow in the illustration.
2. Loosen the screw ②.
3. Pull the switch free to remove it.
4. Disconnect the door switch connector.



Installation

Follow the removal procedure in the reverse order to install the spot light.

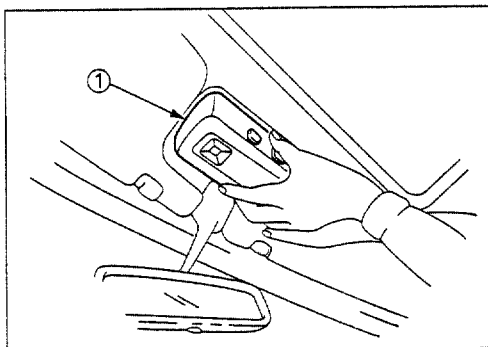


Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the door switch connector is securely connected.

This will prevent a poor contact and an open circuit.



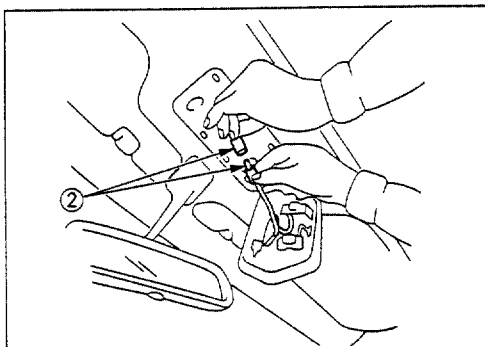
D08RV875

SPOT LIGHT

Removal



1. Grasp the spot light housing ① with both hands.
Pull the housing straight down.
This will release the clip.



D08RV876

2. Disconnect the connector ②.
3. Push the bulb in and turn it counterclockwise to remove it.



Installation

Follow the removal procedure in the reverse order to install the spot light.



Pay close attention to the important points mentioned in the following paragraphs.

Connector

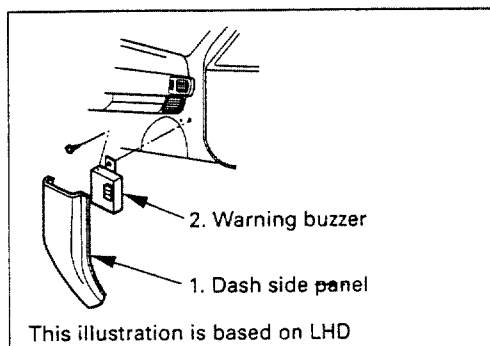
Be absolutely sure that the spot light connector is securely connected.

This will prevent a poor contact and an open circuit.

Bulb

Be absolutely sure that the spot light bulb is correctly installed.

This will prevent a poor contact and an open circuit.



825RV105

WARNING BUZZER



Removal

1. Dash Side Panel
2. Warning Buzzer
 - Disconnect the connector.
 - Remove the screw.



Installation

Follow the removal procedure in the reverse order to install the warning buzzer.



Pay close attention to the important points mentioned in the following paragraphs.

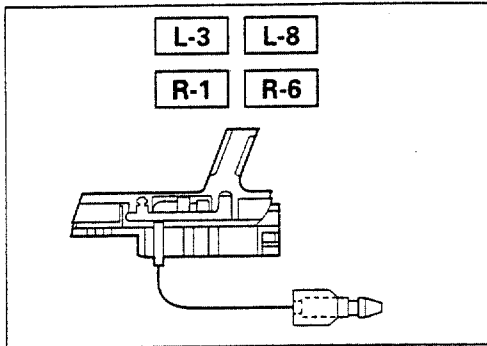
Connector

Be absolutely sure that the warning buzzer connector is securely connected.

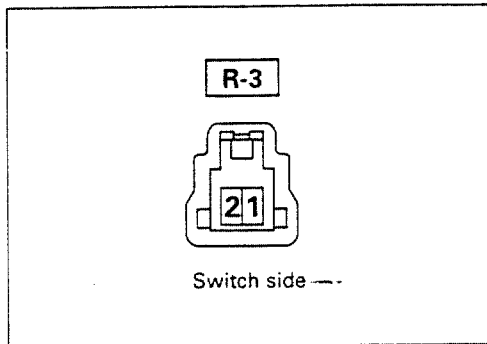
This will prevent a poor contact and an open circuit.



INSPECTION AND REPAIR



625RV106



DOOR SWITCH

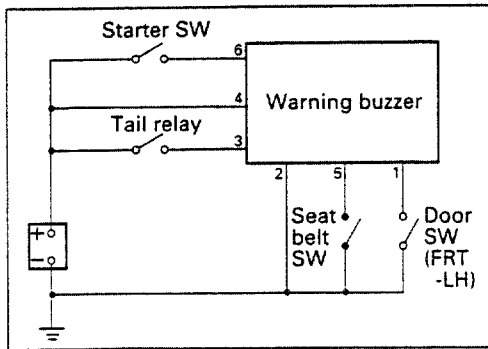
Door Switch Connections

SW position	Connector No.	Terminal No.	
		L-3 R-1	L-8 R-6
PUSHED	1	Body Ground	
RELEASED		○	○

SEAT BELT SWITCH

Seat Belt Switch Connections

SW position	Connector No.	Terminal No.	
		R-3	
ON (Belt tongue removed)	1	○	○
OFF (Belt tongue inserted)			



WARNING BUZZER

1. Warning Buzzer Circuit

Warning function	Operational conditions
Fasten the seat belt	The buzzer sounds when the starter switch is turned on with the seat belt switch on (when the seat belt is not used).
Key left in starter switch	The buzzer sounds when both the key remind switch and the FRT door switch-LH are turned on. To stop the sound of the buzzer, turn on the starter switch.
Taillights left on	The buzzer sounds when the starter switch is turned from the "on" to "off" position while the taillights are on.

B-5



Harness side

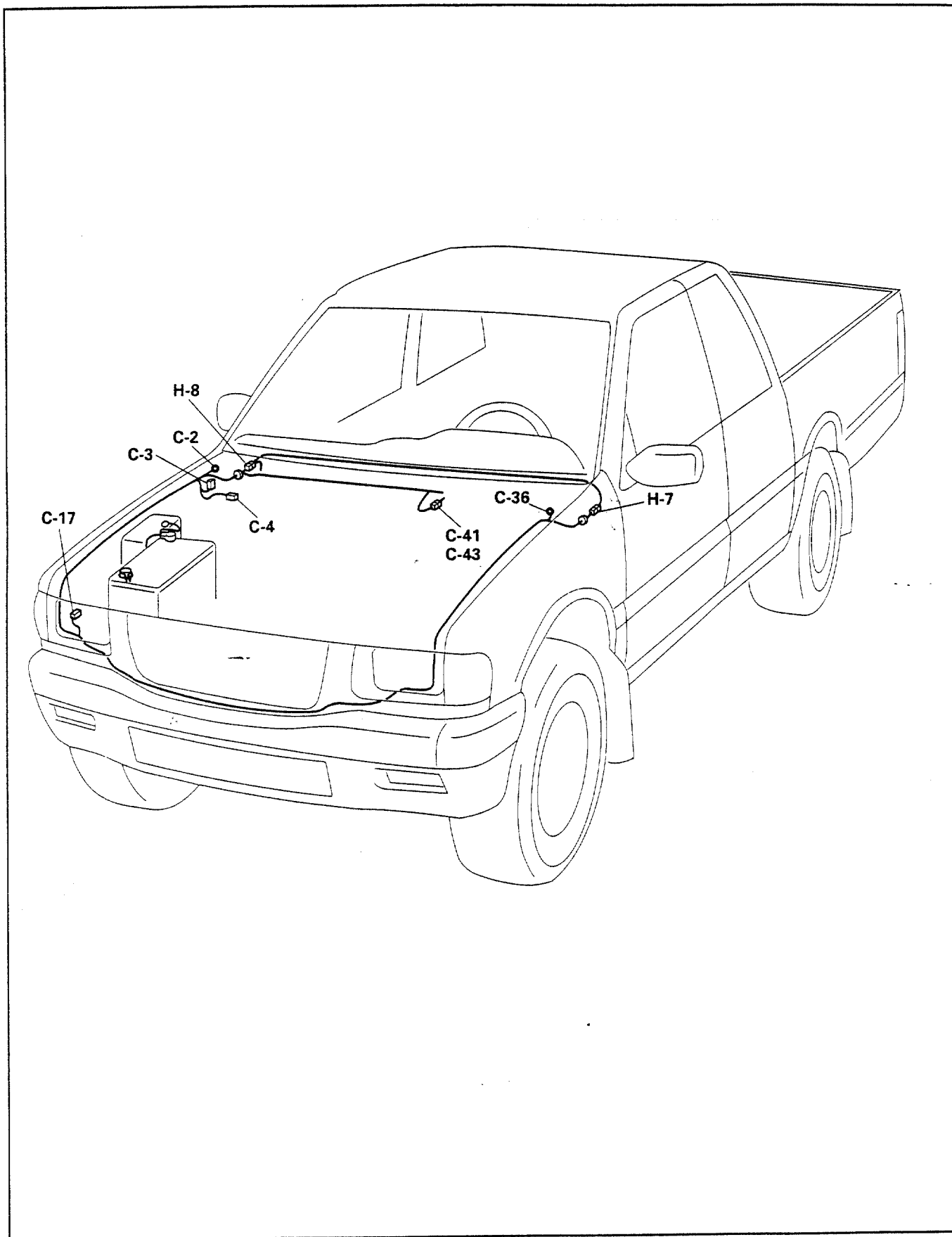
2. Warning Buzzer Harness Side Connector Circuit

Disconnect the warning buzzer connector and check continuity and voltage between the warning buzzer harness side connector terminals.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition		Standard
5	G/Y	Seat belt SW	Continuity	5-Ground	Seat belt	Unfasten	Continuity
						Fasten	No continuity
3	G/R	Tail relay	Voltage	3-Ground	Lighting SW "ON"		Approx. 12V
4	R/B	Fuse EB-18		4-Ground	Key	Insert	Approx. 12V
						Remove	0V
6	Y	Fuse CB-5		6-Ground	Starter SW "ON"		Approx. 12V
1	B/W	Door SW (FRT-LH)	Continuity	1-Ground	FRT door-LH	Open	Continuity
						Close	No continuity
2	B	Ground		2-Ground	—		Continuity

WINDSHIELD WIPER AND WASHER

PARTS LOCATION





TROUBLE SHOOTING

WINDSHIELD WIPER

1. Wiper does not operate at any switch position

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-8 (20A)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-8 (20A)
OK			
Voltage between 3 C-43 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity in the wiper & washer SW.	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Grounding point (C-2)	NG	Poor grounding point contact	Repair grounding point (C-2) contact
OK			
1. Wiper motor function when connecting the motor connector 2 C-4 to the battery (+) terminal, and 3 C-4 to the (-) terminal (Should the wiper motor rotate at a low speed) 2. Wiper motor function when connecting the motor connector 1 C-4 to the battery (+) terminal, and 3 C-4 to the (-) terminal (Should the wiper motor rotate at a high speed)	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Continuity between 3 C-4 and C-2	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Wiper does not operate at "INT" position

Checkpoint		Trouble Cause	Countermeasure
Continuity between the wiper & washer SW. connector terminals 3 C-43 and 2 C-43 at the "INT" position	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Grounding point C-2	NG	Poor grounding point contact	Repair grounding point contact
OK			
Voltage between the intermittent relay harness side connector terminal 4 C-3 and the ground at the "INT" position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Intermittent relay function	NG	Relay malfunction	Replace the intermittent relay

3. Wiper does not operate at "LO" position

Wiper motor function 1. Disconnect the wiper & washer SW. connector 2. Turn the starter SW. on 3. Short-circuit between the wiper & washer SW. harness side connector terminals 3 C-43 and 5 C-43 4. Check to see if the wiper motor rotates at a low speed	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Wiper & washer SW. function	NG	SW. malfunction	Replace the wiper & washer SW.

4. Wiper does not operate at "HI" position

Checkpoint		Trouble Cause	Countermeasure
Continuity between the wiper & washer SW. connector terminals 3 C-43 and 4 C-43 at the "HI" position	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Wiper motor function when connecting the motor connector 1 C-4 to the battery (+) terminal, and 3 C-4 to the (-) terminal (Should the wiper motor rotate at a high speed)	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Continuity between 4 C-43 and 1 C-4	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

5. Rotation of the wiper motor does not stop

Continuity in the wiper & washer SW.	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Wiper motor function	NG	Wiper motor malfunction	Replace the wiper motor

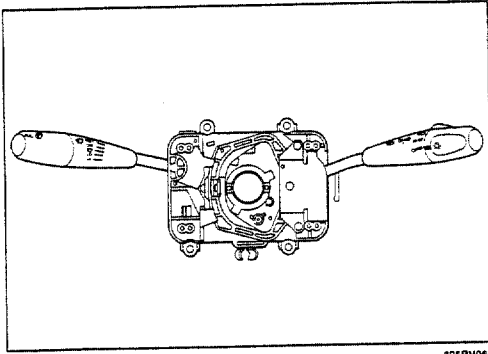
6. Auto-stop function of the wiper motor does not operate

Checkpoint		Trouble Cause	Countermeasure
Continuity between the wiper & washer SW. connector terminals 5 C-43 and 6 C-43 at the "OFF" position	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Wiper motor function 1. Disconnect the wiper motor connector 2. Connect the motor connector 2 C-4 to the battery (+) terminal and 3 C-4 to the (-) terminal, and then change the connection of the battery (+) terminal to the connector 6 C-4 while the motor rotating at a low speed 3. Check to see if the wiper motor stops at the auto stop position when connecting the connector terminals 2 C-4 and 5 C-4 in this condition	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Voltage between the wiper motor harness side connector terminal 6 C-4 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between the fuse No. CB-8 (20A) (RHD: CB-6 (20A)) and 6 C-4
OK			
Continuity between the intermittent relay harness side connector 6 C-3 and the wiper motor harness side connector 5 C-4	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Intermittent relay function	NG	Relay malfunction	Replace the intermittent relay

WASHER

1. Washer motor does not operate

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-8 (20A)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-8 (20A)
OK			
Continuity between the wiper & washer SW. side connector terminals 1 [C-43] and 7 [C-43] when the washer button is depressed	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Voltage between the wiper & washer SW. harness side connector terminal 1 [C-43] and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair or an open circuit or a poor connection of the connectors between the Fuse No. CB-8 (20A) and 1 [C-43]
OK			
Voltage between the washer motor harness side connector terminal 1 [C-17] and the ground when the washer button is depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair or an open circuit or a poor connection of the connectors between 1 [C-17] and 7 [C-43]
OK			
Grounding point ([C-36])	NG	Poor grounding point contact	Repair grounding point ([C-36]) contact
OK			
Washer motor function when connecting the motor side connector 1 [C-17] to the battery (+) terminal, and the connector 2 [C-17] to the (-) terminal (Should the washer motor rotate)	NG	Motor malfunction	Replace the washer motor
OK			
Continuity between 2 [C-17] and [C-36]	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

**REMOVAL AND INSTALLATION****WIPER AND WASHER SWITCH****Removal**

Refer to the removal steps of the LIGHTING SWITCH (COMBINATION SWITCH) in "LIGHTING" of this section.

**Installation**

Follow the removal procedure in the reverse order to install the wiper and washer switch.



Pay close attention to the important points mentioned in the following paragraphs.

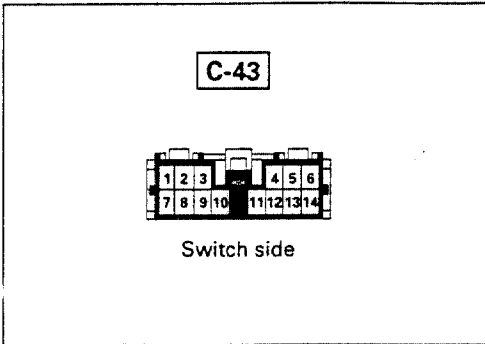
Connector

Be absolutely sure that the wiper and washer switch connector is securely connected.

This will prevent a poor contact and an open circuit.

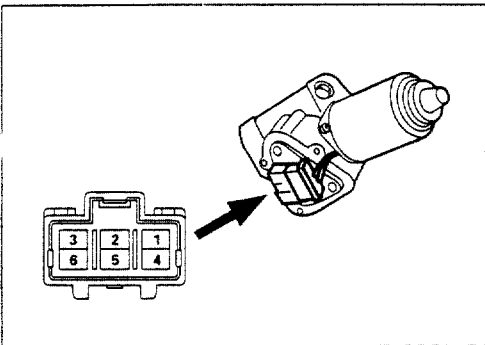


INSPECTION AND REPAIR



Control Switch Connections

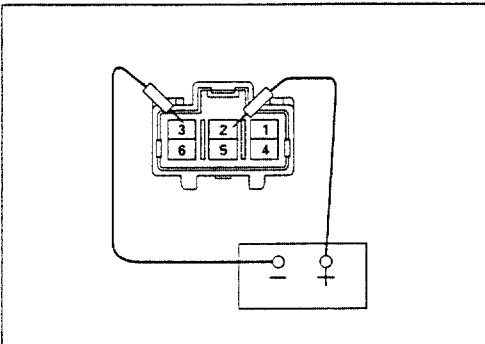
Terminal No. \ SW position	6	3	5	4	2	1	7
Mist		○—○					
Off	○—○		○—○				
INT	○—○	○—○		○—○			
Lo		○—○	○—○				
Hi		○—○		○—○			
Wash						○—○	



825RV084



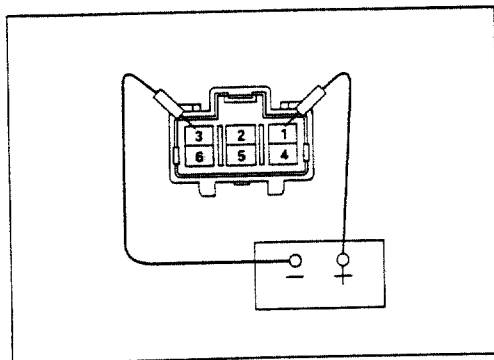
Wiper Motor Inspection
Connector



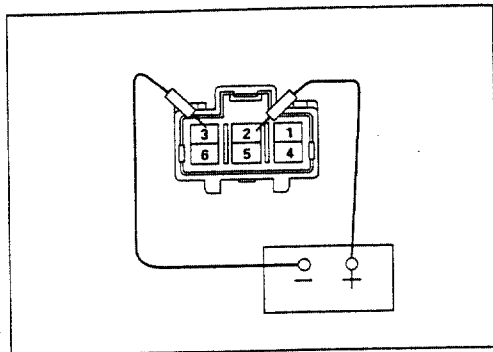
825RV081

Low Speed Inspection

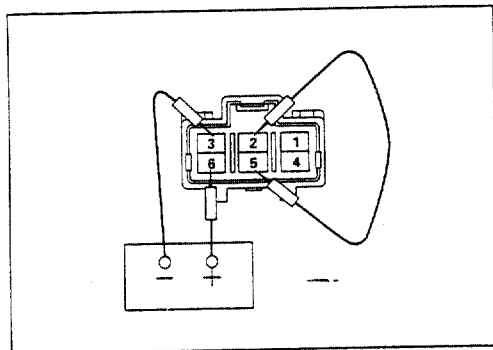
1. Clamp the wiper motor in a vise.
The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
Refer to the illustration.
3. Check the wiper motor low speed operation.



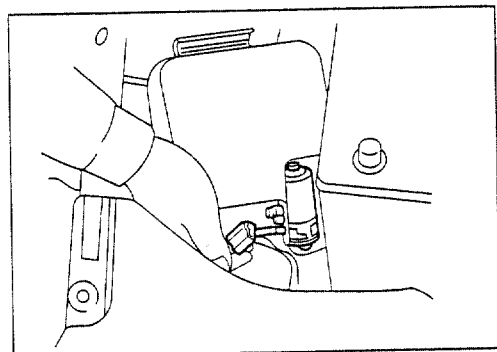
825RV082



825RV081



825RV080



825RV079

High Speed Inspection

1. Clamp the wiper motor in a vise.
The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
Refer to the illustration.
3. Check the wiper motor high speed operation.

Auto-Stop Inspection

1. Clamp the wiper motor in a vise.
The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
Refer to the illustration.
3. Check the wiper motor low speed operation.
4. Disconnect the positive battery terminal.
This will stop the motor.
5. Connect the connector terminals No. 2 and No. 5
with a lead wire.
Refer to the illustration.
6. Reconnect the positive battery terminal to connector
terminal No. 6.
This will restart the motor.
Refer to the illustration.
7. Check the auto-stop operation.



Washer Motor Inspection

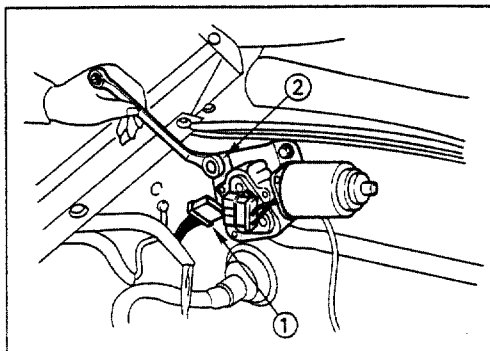
1. Fill the washer tank with washing solution.
2. Disconnect the motor connector.
3. Apply battery voltage to the washer motor
connector.
4. Check the washer motor operation.

WIPER MOTOR AND LINKAGE

Removal

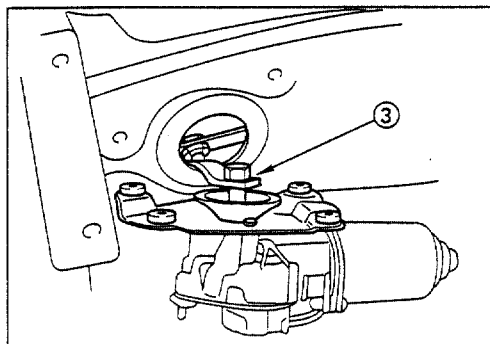


1. Disconnect the wiper motor connector ①.
2. Remove the wiper motor bracket screws ②.



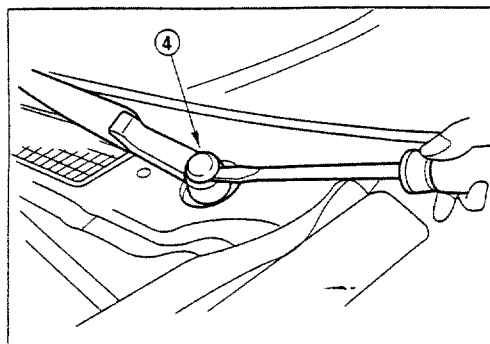
825RV069

3. Disconnect the wiper motor from the wiper linkage at the crank arm ③.



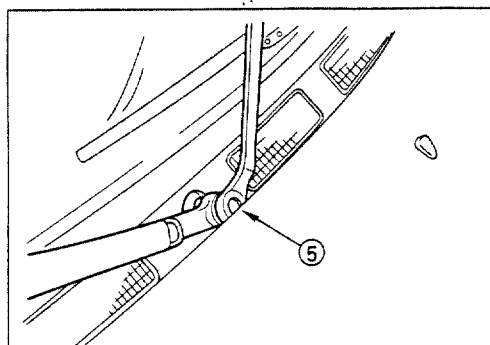
825RV070

4. Disconnect the wiper arm nut cap ④.



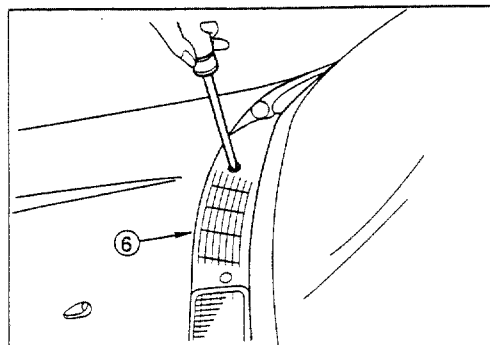
825RV071

5. Remove the wiper arm nut ⑤.
6. Remove the wiper arm with blade.

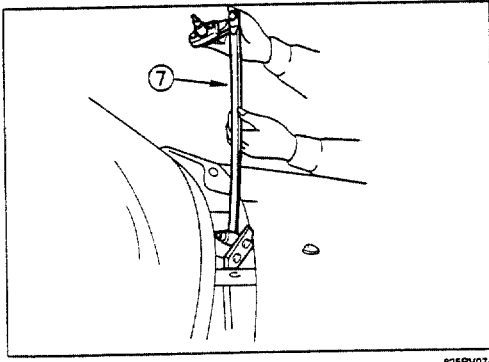


825RV072

7. Remove the vent cowl cover ⑥.



825RV073



825RV074

8. Remove the wiper linkage ⑦ from the access hole.



Installation

Follow the removal procedure in the reverse order to install the wiper motor and linkage.



Pay close attention to the important points mentioned in the following paragraphs.

Wiper Linkage

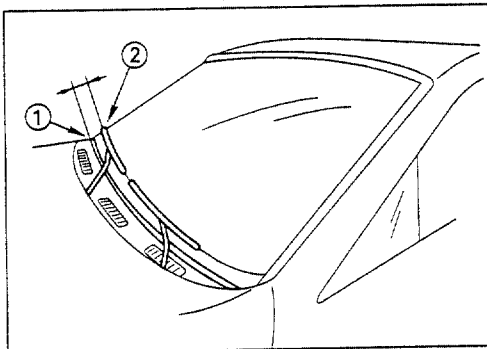
Take care not to scratch the painted surfaces of the body when installing the wiper linkage to the body.

In case crank arm of wiper motor is removed, confirm the position of auto stop prior to reinstall the crank arm to the wiper motor.



Crank Arm Nut Torque kg·m (lb·ft/N·m)

1.4 ± 0.2 ($10 \pm 1.4/13.7 \pm 2.0$)



825RV075

Wiper Blade Position

Confirm the auto stop position of wiper motor prior to the installation of the wiper blade and arm.



The distance between the vent cowl cover rubber seal ① and the wiper blade edge ② is about 45 mm (1.8 in).

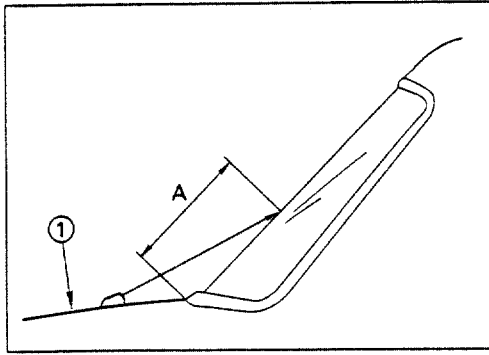
Wiper Arm Nut

Tighten the wiper arm nut to the specified torque.



Wiper Arm Nut Torque kg·m (lb·ft/N·m)

1.4 ± 0.2 ($10 \pm 1.4/13.7 \pm 2.0$)



825RV076



Windshield Washer Spray

Be sure that the engine hood ① is completely closed before checking the windshield washer spray adjustment.

Windshield Washer Spray Position		mm (in)
A		Approximately 300 (11.8)

Connector

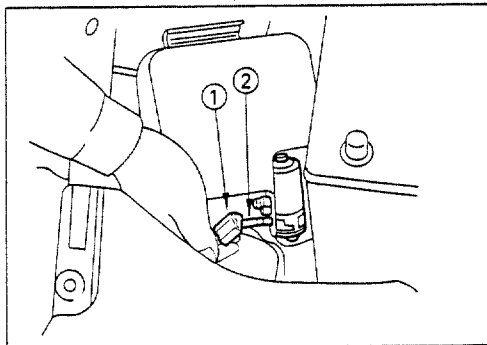
Be absolutely sure that the wiper motor connector is securely connected.

This will prevent a poor contact and an open circuit.

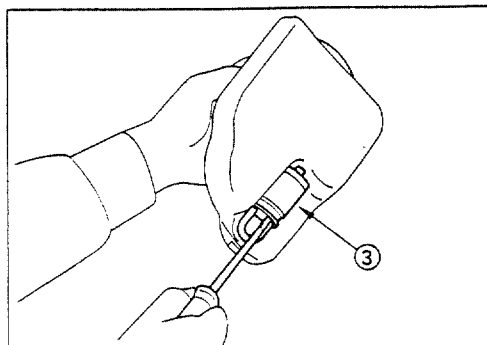
Note:

Windshield wiper arm and blade assembly configurations are different for the right-hand and left-hand side of the vehicle.

Be careful not to confuse the right-hand and left-hand side assemblies.



825RV077



825RV078



WASHER TANK MOTOR

Removal

1. Remove the washer tank bolts.
2. Disconnect the connector ①.
3. Disconnect the water hose ②.
4. Remove the washer tank motor ③.



Installation

Follow the removal procedure in the reverse order to install the washer tank motor.



Pay close attention to the important points mentioned in the following paragraphs.

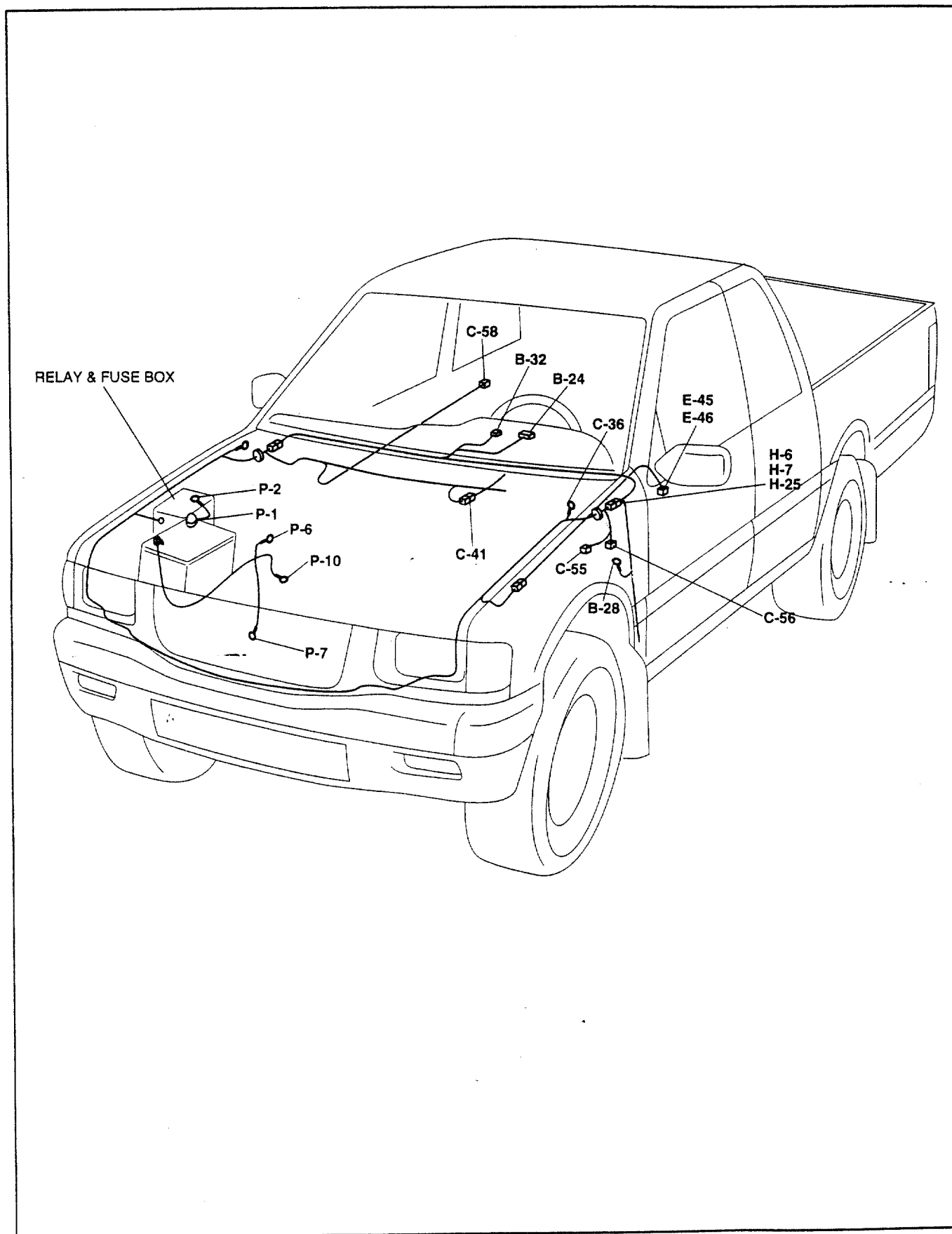
Connector

Be absolutely sure that the washer tank motor connector is securely connected.

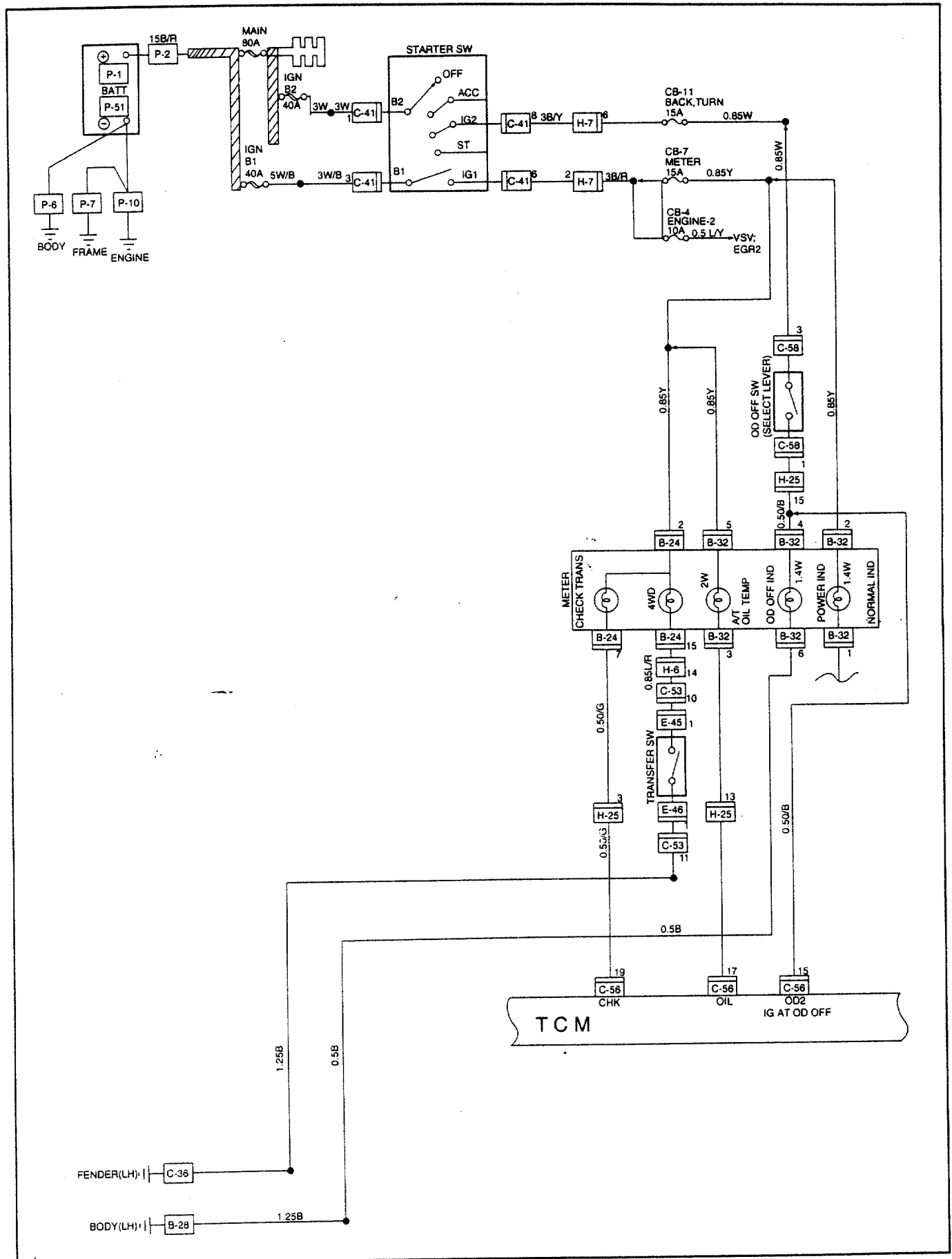
This will prevent a poor contact and an open circuit.

OVERDRIVE OFF (A/T)

PARTS LOCATION

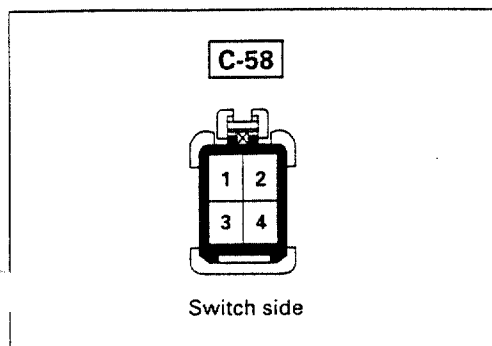


CIRCUIT DIAGRAM





INSPECTION AND REPAIR

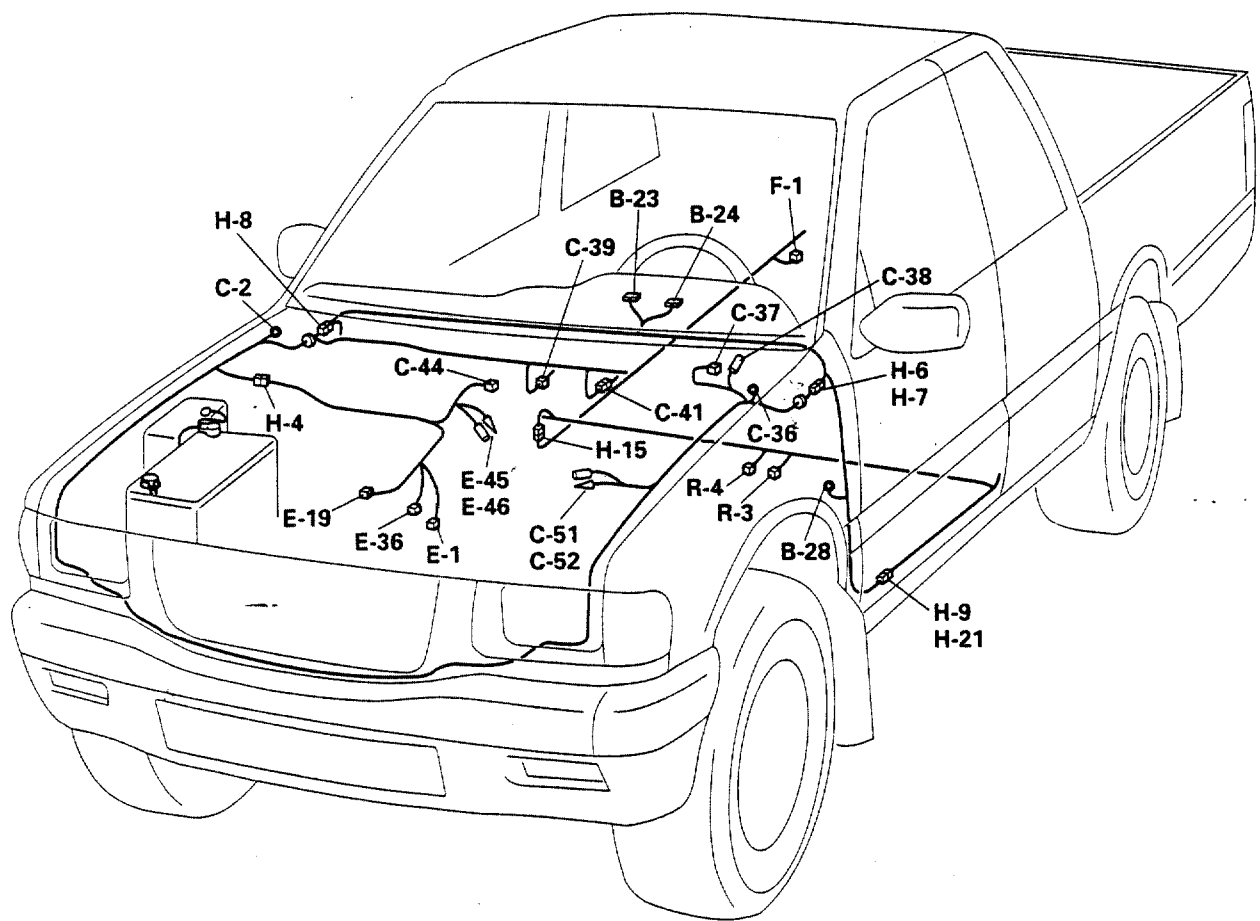


OVERDRIVE OFF SWITCH

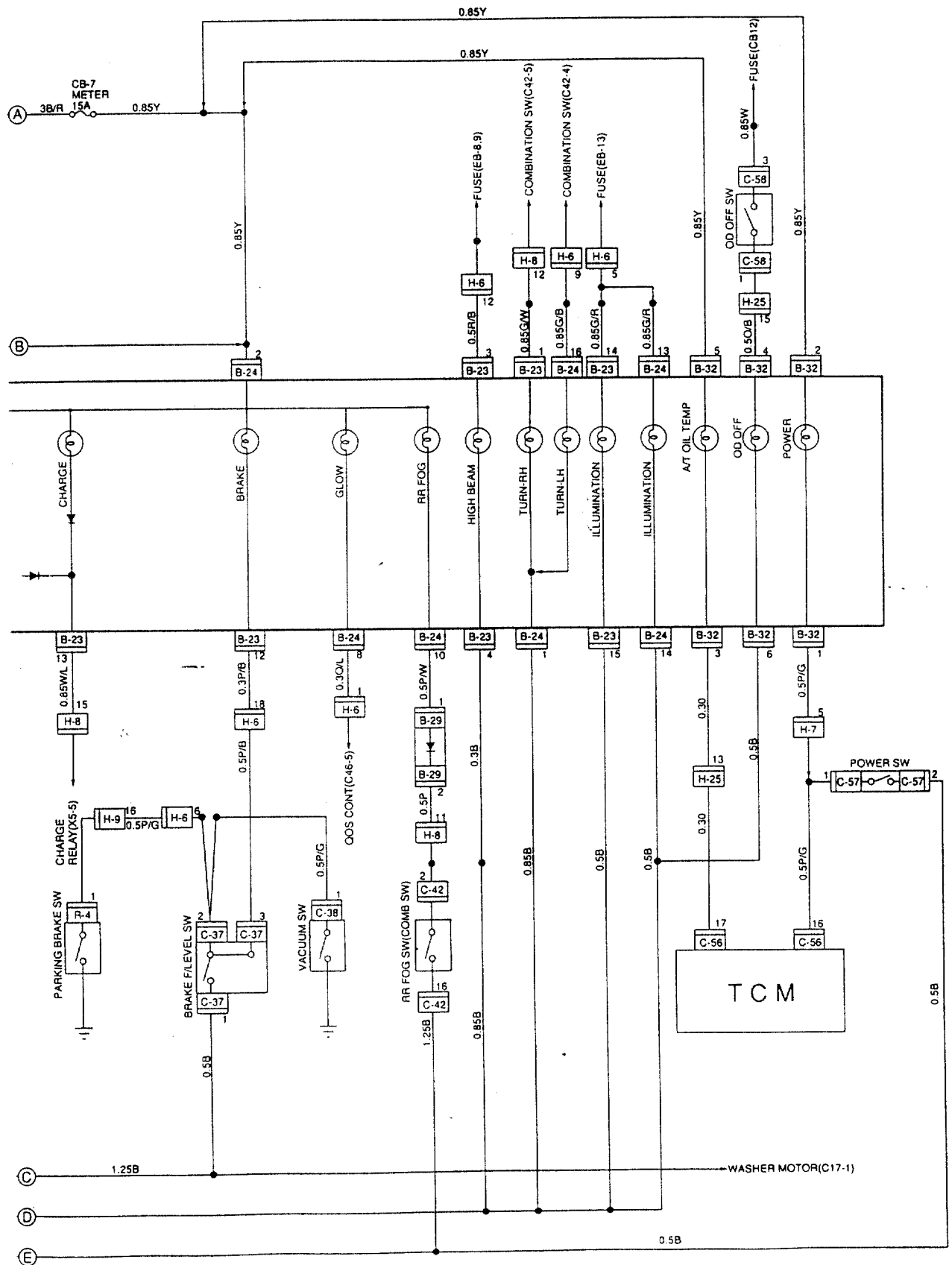
Overdrive Off Switch Connections

Terminal No.	2	4	1	3
SW position				
ON				
OFF				

NOTE: Refer to Inspection and repair for Overdrive OFF (A/T) of the Section 7A.

METER, WARNING LIGHT AND INDICATOR LIGHT**PARTS LOCATION**

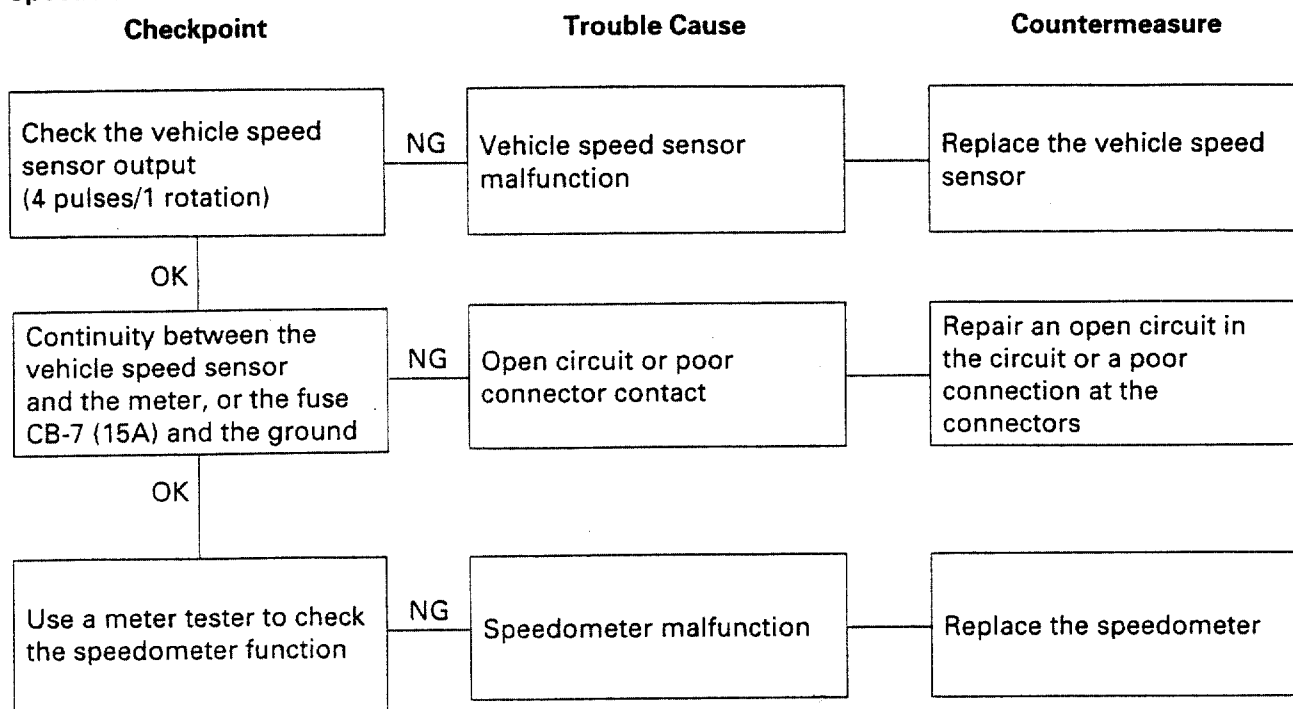
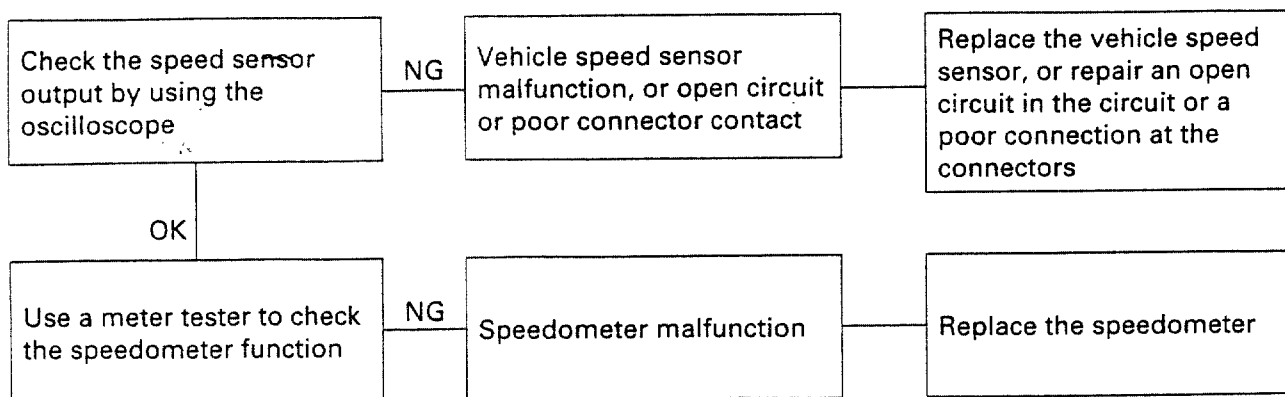




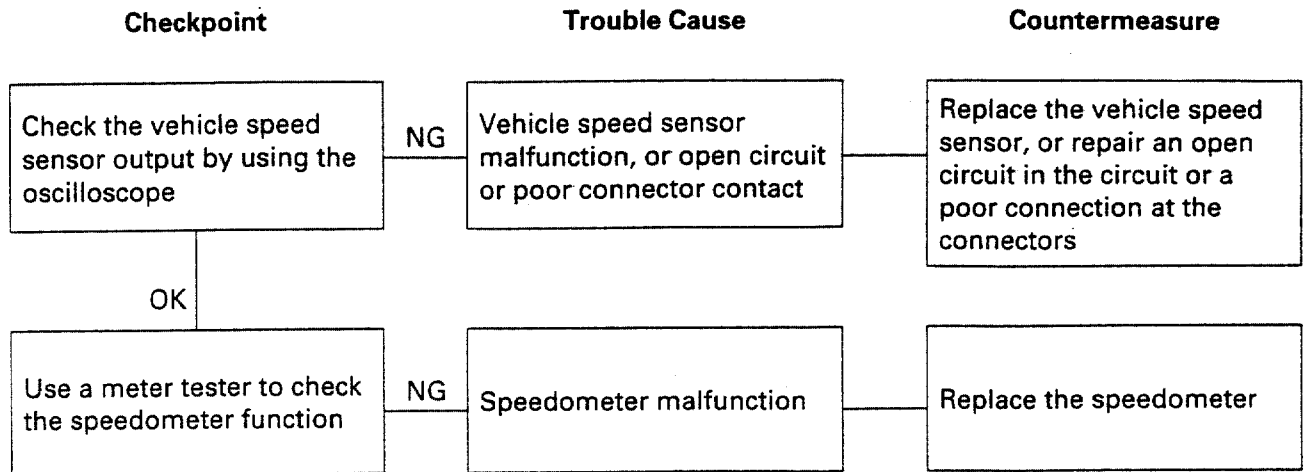
TROUBLE SHOOTING

SPEEDOMETER

1. Speedometer and odometer do not function

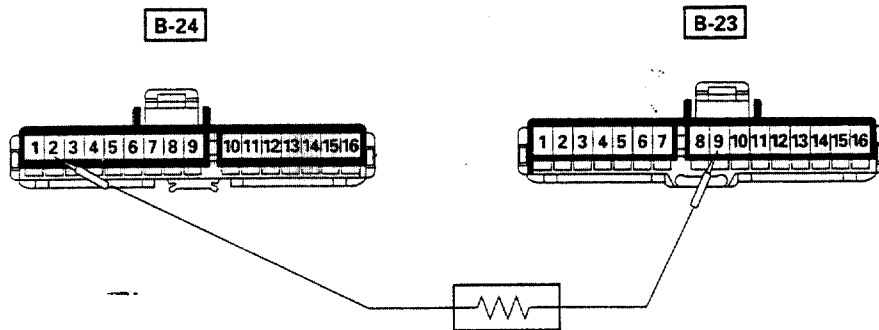
2. Speedometer needle fluctuates
(May be wide fluctuation)

3. Speedometer needle jumps erratically

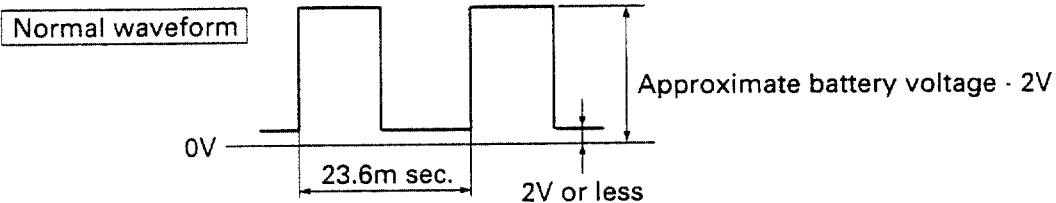


Inspection of a waveform by oscilloscope

1. Connect a resistance of 1.3 to 5k ohm (1.4W or more) between the harness side connectors 2 **B-24** and 9 **B-23** of the meter.

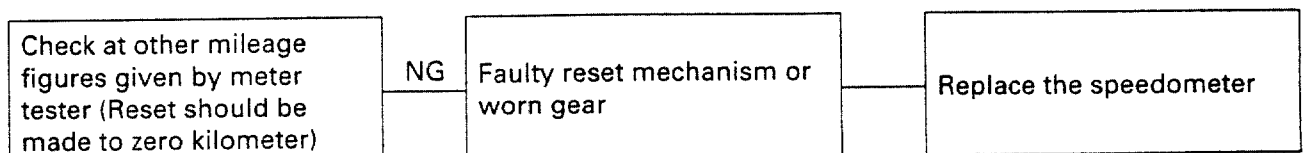


2. Install a speedometer tester.
2. Turn on the starter SW.
3. Check the waveform at the time when the vehicle speed is at 60km/h.



825RV108

4. Trip odometer does not reset



TACHOMETER**1. Tachometer does not function when engine is running**

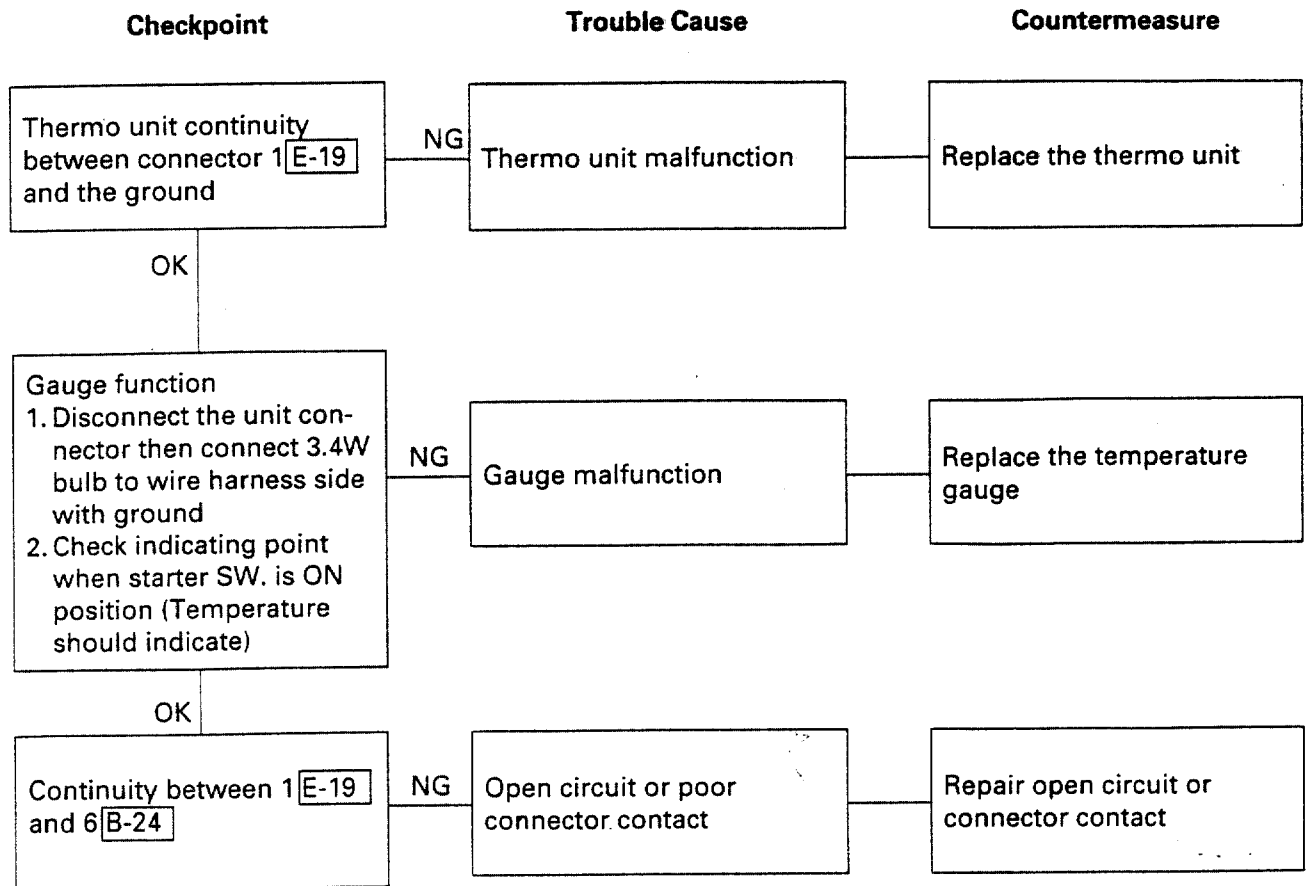
Checkpoint		Trouble Cause	Countermeasure
Pulse between connector 3 [B-24] and the ground when engine is running (Should be pulse present)	NG	Tacho sensor malfunction, or open circuit or poor connector contact	Replace the tacho sensor, or repair open circuit or connector contact
OK			
Tachometer function	NG	Tachometer malfunction	Replace the tachometer

2. Meter needle fluctuates (May be wide fluctuation)

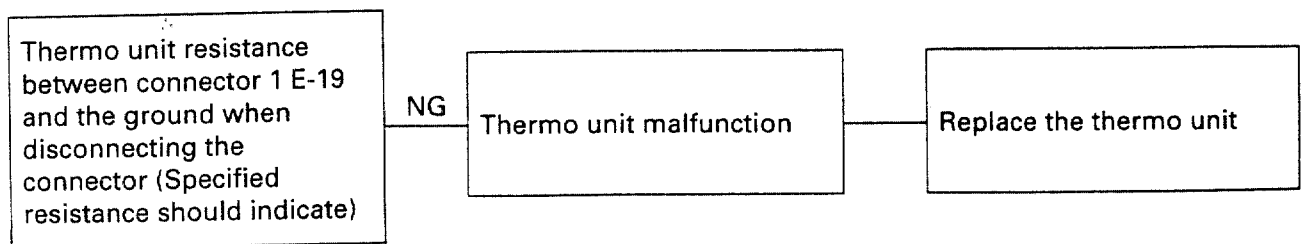
Use a meter tester to check the tachometer function	NG	Tachometer malfunction	Replace the tachometer
---	----	------------------------	------------------------

TEMPERATURE GAUGE AND THERMO UNIT

1. No temperature indicates at all



2. Temperature gauge incorrect readings in all ranges



FUEL GAUGE AND FUEL TANK UNIT

1. No fuel level indicates at all

Checkpoint		Trouble Cause	Countermeasure
Tank unit continuity between connector 1 F-1 and ground	NG	Open circuit inside the tank unit	Replace the tank unit
OK			
Fuel gauge function 1. Disconnect the tank unit connector then connect 3.4W bulb to wire harness side 2. Check indicating point when starter SW. is ON position (Fuel level should indicate)	NG	Gauge malfunction	Replace the fuel gauge
OK			
Continuity between connectors 11 B-23 and 1 F-1	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Fuel gauge gives incorrect readings in all ranges

Tank unit resistance position with the float at checking points (Specified resistance should indicate)	NG	Tank unit malfunction	Replace the tank unit
--	----	-----------------------	-----------------------

WARNING AND INCIDATOR LIGHT**1. When the parking brake lever is pulled, the indicator light does not light up**

Checkpoint		Trouble Cause	Countermeasure
Brake indicator light bulb continuity	NG	Bulb burned out or loose contact	Replace or reinstall the bulb
OK			
Parking brake SW. installation position and function	NG	Incorrect SW. adjustment or poor SW. point contact	Adjust or replace the parking brake SW.
OK			
Continuity between the parking brake SW. connector 1 R-4 and 12 B-23	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between the parking brake SW. connector 1 R-4 and the ground when the parking brake is operated	NG	Parking brake SW. malfunction	Replace the parking brake SW.

2. Even when the parking brake lever is pulled, the indicator light does not go off

Checkpoint		Trouble Cause	Countermeasure
Parking brake SW. installation position and function	NG	Incorrect the parking brake SW. adjustment or brake SW. faulty	Adjust the SW. installation position or replace the parking brake SW.
OK			
Check to see if the indicator light goes off when the parking brake SW. connector 1 R-4 is disconnected	NG	Brake fluid level SW. or vacuum SW. faulty or short circuit	Replace the brake fluid level SW., or vacuum SW., or repair a short circuit between the parking brake SW. connector 1 R-4 and 12 B-23 or the brake fluid level SW. connector 3 C-37 and 12 B-23 , or the vacuum SW. connector 1 C-38 and 12 B-23

3. Oil pressure warning light does not go off while engine is running

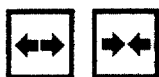
Engine oil pressure	NG	Refer to ENGINE Section	Refer to ENGINE Section
OK			
Check to see if the warning light goes off when the oil pressure SW. connector 1 E-1 is disconnected	NG	Short circuit	Repair a short circuit between 1 E-1 and 10 B-23
OK			
Continuity between the oil pressure SW. connector 1 E-1 and the body ground when the engine is operating	NG	Oil pressure unit (or oil pressure SW) faulty	Replace the oil pressure unit (or the oil pressure SW).

4. Even when the fuel filter is filled with water, the warning light does not light up

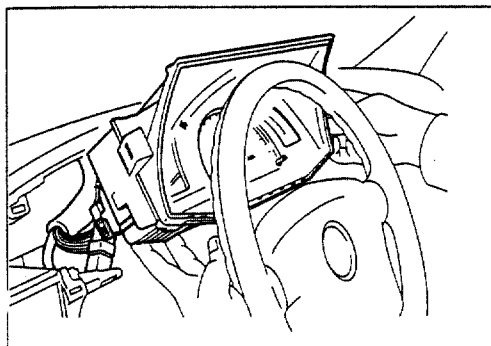
Checkpoint		Trouble Cause	Countermeasure
Sedimenter warning light bulb continuity	NG	Bulb burned out or loose contact	Replace or reinstall the bulb
OK			
Fuel filter SW. function	NG	SW. malfunction	Replace the fuel filter SW.
OK			
Continuity between the fuel filter SW. harness side connector 2 C-30 and 9 B-24 or 1 C-30 and C-36	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

5. Even when the fuel filter is empty, the warning light does not go off

Check to see if the warning light goes off when the fuel filter SW. connectors C-30	NG	Short circuit	Repair a short circuit between 2 C-30 and 9 B-24
OK			
Fuel filter SW. function	NG	SW. malfunction	Replace the fuel filter SW.



REMOVAL AND INSTALLATION



626RV017

METER ASSEMBLY



Removal

1. **Instrument Panel Driver Lower Cover**
 - Refer to the removal steps of "INSTRUMENT PANEL" in Section 10 "CAB".
2. **Lower Cluster Assembly**
 - Refer to the removal steps of "INSTRUMENT PANEL" in Section 10 "CAB".
3. **Instrument Panel Cluster Assembly**
 - Refer to the removal steps of "INSTRUMENT PANEL" in Section 10 "CAB".
4. **Meter Assembly**
 - Remove four screws of the meter assembly.
 - Disconnect the meter connectors.



Installation

Follow the removal procedure in the reverse order to install the meter.



Pay close attention to the important points mentioned in the following paragraphs.

Connector

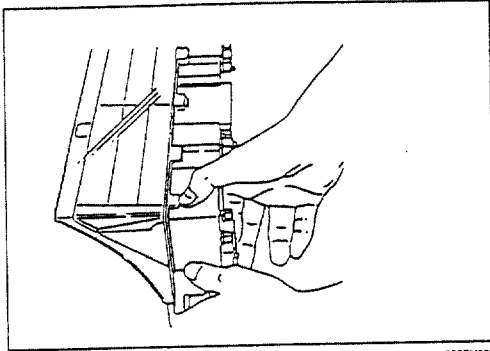
Be absolutely sure that the meter connectors are securely connected.

This will prevent a poor contact and an open circuit.

Wire Harness

Do not pinch the wire harness between the cluster and the meter hood during the meter assembly installation procedure.

Wire damage will result.



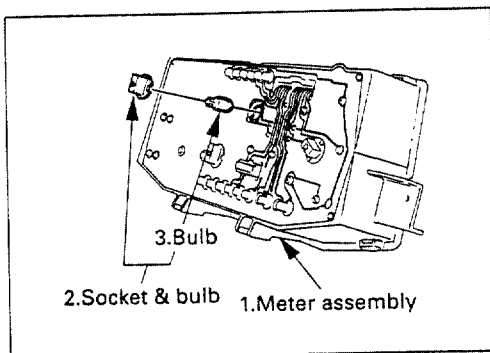
825RV062

METERS AND GAUGES**Removal**

1. **Meter Assembly**
 - Refer to "METER ASSEMBLY" removal steps in this system.
2. **Meter Glass**
3. **Meter Needless**
 - Pull out the needles of speedometer and tachometer
4. **Meter Board**
 - Loosen four fixing screws.
5. **Meters and Gauges**

**Installation**

To install, follow the removal steps in the reverse order.



825RV063

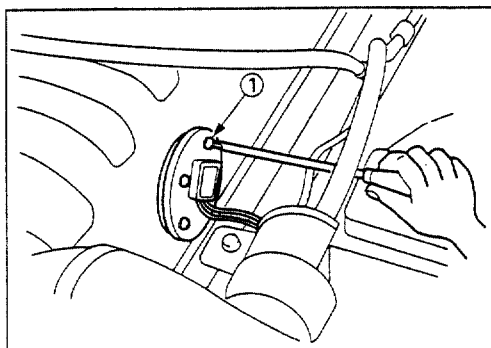
WARNING LIGHT BULB, INDICATOR LIGHT BULB AND ILLUMINATION LIGHT BULB**Removal**

Turn the bulb socket counterclockwise and pull the bulb out.

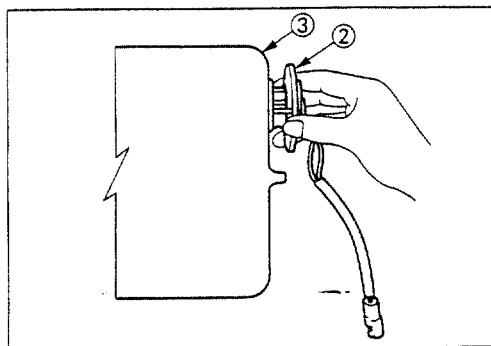


Installation

To install, follow the removal steps in the reverse order.



140RV008



140RV009

FUEL TANK UNIT

Removal

1. Disconnect the fuel tank unit connector.
2. Loosen the screws ①.
3. Remove the fuel tank unit ② from the fuel tank ③.



Installation

Follow the removal procedure in the reverse order to install the fuel tank unit.



Pay close attention to the important points mentioned in the following paragraphs.

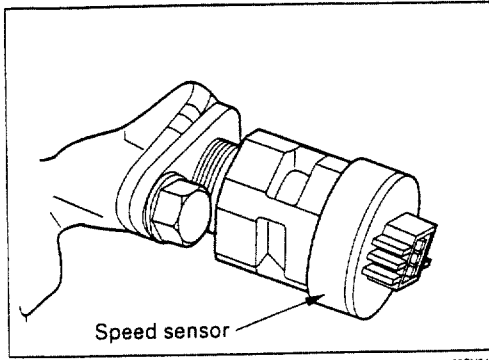
Rubber Seal

Be absolutely sure that the fuel tank unit rubber seal is correctly seated.

Connector

Be absolutely sure that the fuel tank unit connector is securely connected.

This will prevent a poor contact and an open circuit.



826RV043

VEHICLE SPEED SENSOR (INSTALLED ON THE TRANSMISSION)



Removal

1. Disconnect the connector.
2. Remove the vehicle speed sensor body by rotating it.



Installation

To install, follow the removal steps in the reverse order, noting the following point.

Tighten the vehicle speed sensor to the specified torque.



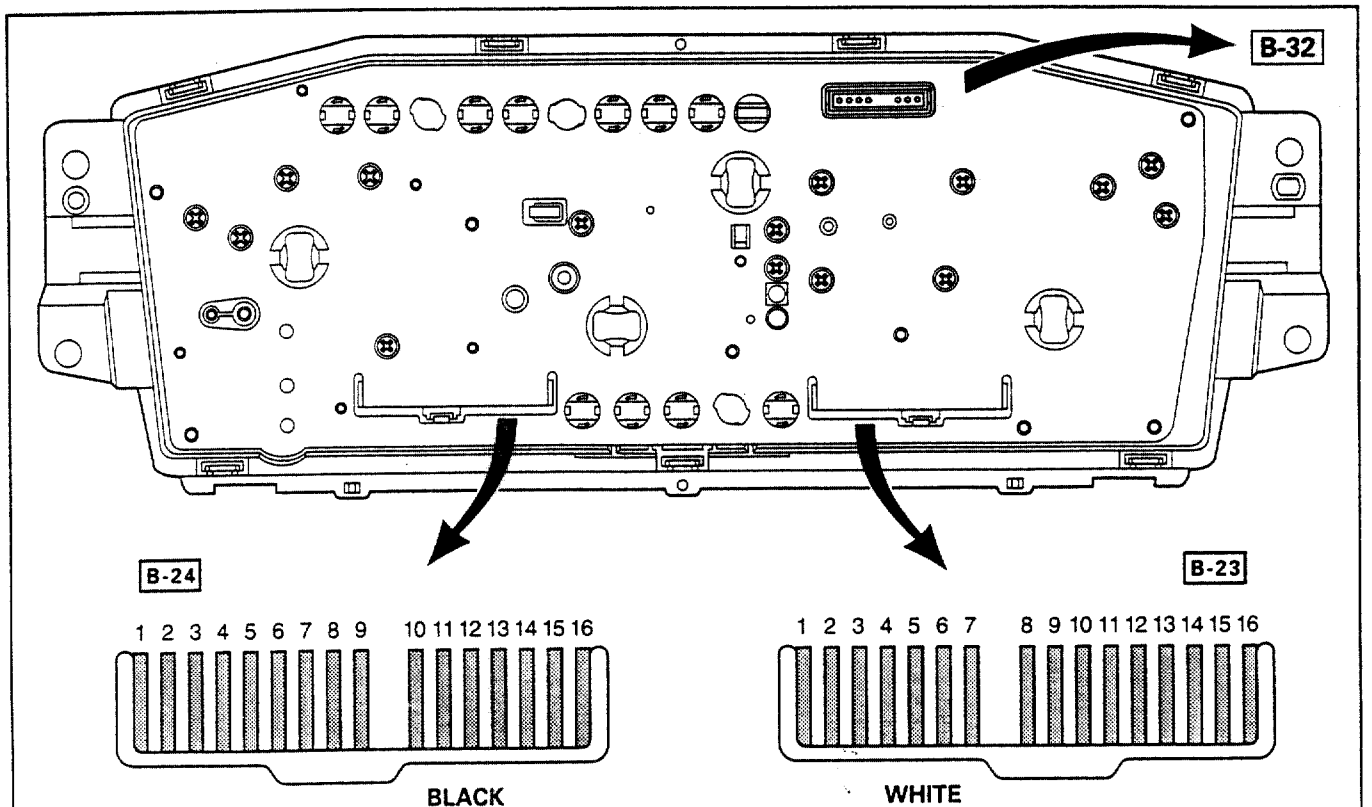
Vehicle Speed Sensor Tightening Torque kg·m (lb·ft/N·m)

2.5 ± 0.5 (18 ± 3.6 / 25 ± 4.9)

(This illustration is based on the Km/h meter)



Meter connector pin arrangement
W/ Tachometer



825RV034

Connector No. Ter- minal No.	B-24
1	Ground
2	Fuse (Meter)
3	Tachometer
4	—
5	Check Trans
6	Engine coolant temperature gauge
7	—
8	Glow indicator light
9	Sedimenter warning light
10	RR Fog
11	High-beam indicator light (+)
12	High-beam indicator light (-)
13	Illumination light (+)
14	Illumination light (-)
15	4WD Indicator light (+)
16	Turn signal indicator light (left)

Connector No. Ter- minal No.	B-23
1	Turn signal indicator light (right)
2	—
3	High-beam indicator light (+)
4	High-beam indicator light (-)
5	Ground
6	—
7	Fuse (Meter)
8	Glow control light
9	Speedometer
10	Oil pressure warning light
11	Fuel gauge
12	Brake warning light
13	Charge warning light
14	Illumination light (+)
15	Illumination light (-)
16	Fuel warning light

Connector No. Ter- minal No.	B-32
1	Power indicator (-)
2	Power indicator (+)
3	Oil temperature indicator
4	ON/OFF indicator (+)
5	Fuse (Meter)
6	OD/OFF indicator (-)
7	—

SPEEDOMETER AND TACHOMETER

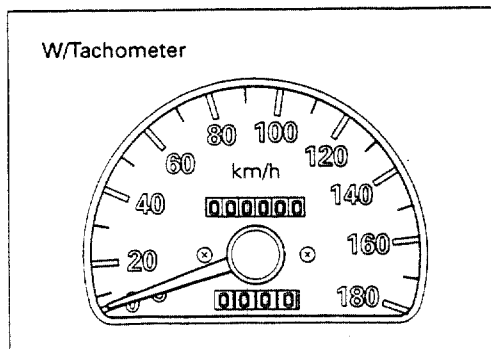


Speedometer On-Vehicle Inspection

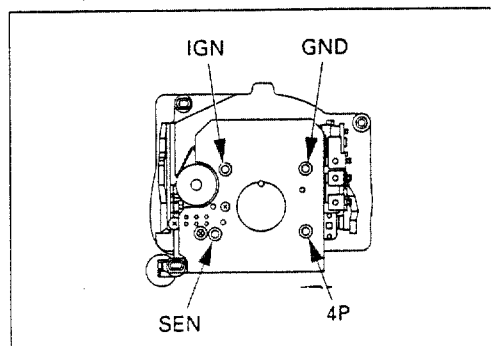
Check the speedometer accuracy with a speedometer tester.



Carefully follow the tester manufacturer's instructions.



826RV026



825RV064

km/h meter	km/h
Indication	Permissible Range
20	17.5-22.5
40	37.5-42.5
60	57.5-62.5
80	77.5-82.5
100	97.6-103.4
120	117.6-123.4
140	137.6-143.4
160	157.2-163.8

Speedometer Off-Vehicle Inspection



Remove the speedometer from the meter assembly and measure the resistance and the current consumption between each terminal.

Speedometer Resistance

Tester terminal	Red (+)	Black (-)	Black (-)	Red (+)
Terminal symbol				
IGN - GND	IGN	GND	IGN	GND
	∞		30.6 - 37.4k	
SEN - GND	SEN	GND	SEN	GND
	28.8 - 35.2k		∞	
4P - GND	4P	GND	4P	GND
	13.5 - 16.5k		∞	

Note: Use the analog type circuit tester (range: x 1k).

Speedometer Current Consumption

Terminal symbol	Current consumption	Remarks
IGN - GND ⊕ ⊖	85 ± 15 mA (when 12 ± 1V applied)	No signal input

- Note:**
1. Use the analog type circuit tester.
 2. Since the current consumption fluctuates when the source voltage varies, check to be sure that the voltage applied is 12V ± 1V.

**Tachometer On-Vehicle Inspection**

1. Attach a tune-up tester to the engine.
2. Start the engine.



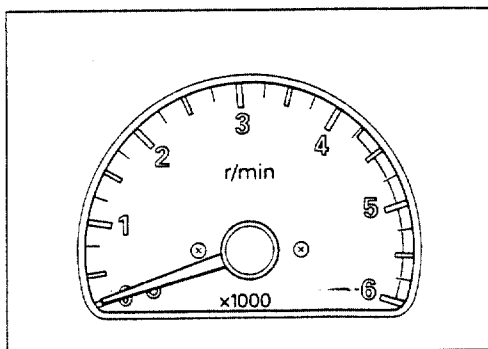
3. Compare the tachometer reading and the tester reading.

If the tachometer indication is outside the permissible range, the tachometer must be replaced.

4. Gradually increase and decrease the engine speed.

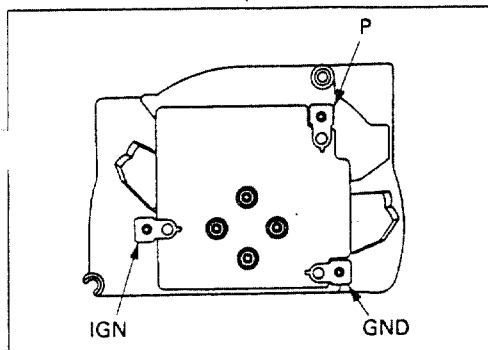
Note the movement of the tachometer needle.

If the needle movement is sluggish, the tachometer must be replaced.



821RV116

rpm	
Indication	Permissible Range
750	690-810
2,000	1875-2125
3,000	2850-3150
4,000	3820-4180
5,000	4820-5180



821RV117

**Tachometer Off-Vehicle Inspection**

Remove the tachometer from the meter assembly and measure the resistance value and the current consumption between each terminal.

Tachometer Resistance

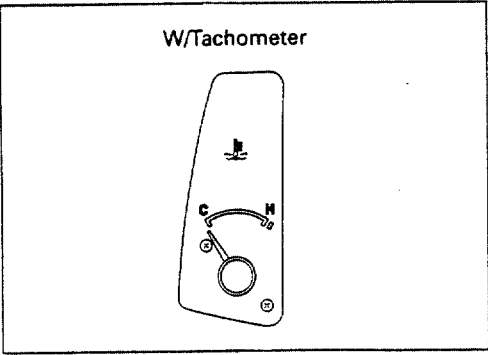
Tester terminal Terminal symbol	Red (+)	Black (-)	Black (-)	Red (+)
IGN - GND	IGN	GND	IGN	GND
	∞		23 - 31k	
P - GND	P	GND	P	GND
	∞		24.7 - 33.4k	

Note: Use the analog type circuit tester (range: x 1k).

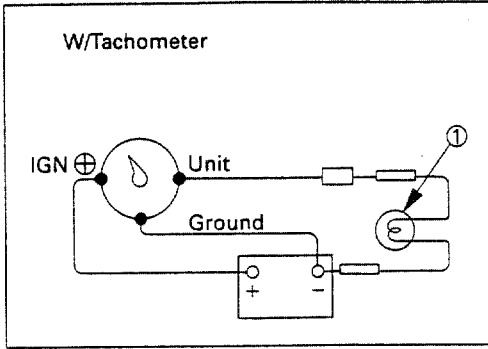
Tachometer Current Consumption

Terminal symbol	Current consumption	Remarks
IGN - GND ⊕ ⊖	90 ± 15 mA (12 ± 1V when voltage applied)	No signal input

- Note:**
1. Use the analog type circuit tester.
 2. Since the current consumption fluctuates as the source voltage varies, check to be sure that the voltage applied is 12V ± 1V.



325RV041



140RV006

TEMPERATURE GAUGE AND THERMO UNIT



Temperature Gauge On-Vehicle Inspection

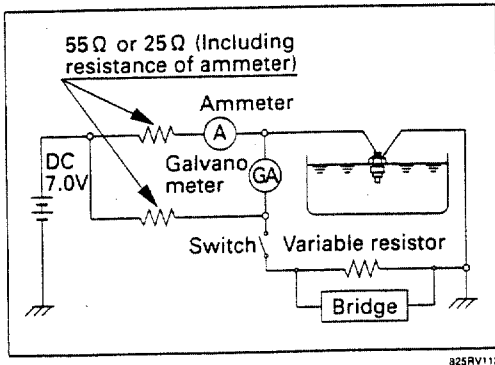
1. Disconnect the temperature gauge wire connector.
 2. Connect a 3.4 Watt test bulb ① to the ground.
- The gauge needle should move the middle part of the gauge



Temperature Gauge Off-Vehicle Inspection

Use a circuit tester to measure the temperature gauge resistance.

Temperature Gauge Resistance Ω		
Measuring Point	Standard	
	With Tachometer	Without Tachometer
IGN (+) – Ground	130	–
IGN (+) – UNIT	82	–
UNIT – Ground	212	–
VOLTAGE REGULATOR – UNIT	–	25



Thermo Unit Inspection

The thermo unit is thermistor type and must be inspected under the conditions as shown in the left chart.

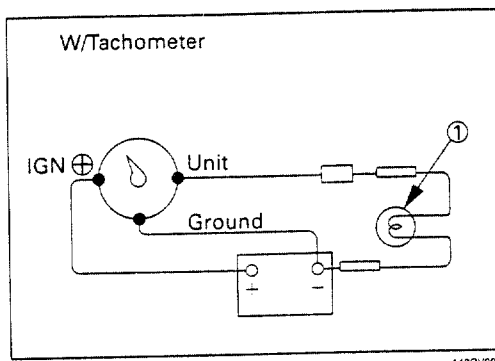
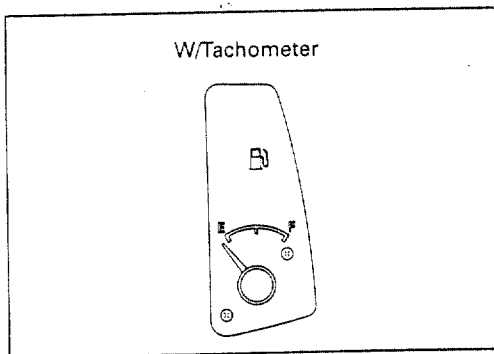
1. Put the deviation of the galvanometer to 0 by using the variable resistor, switch the thermo unit off and then measure the resistance of the resistor through the bridge.

Confirm that the resistance is continuously variable in any other points than those shown in the following table.

2. Dip the thermo unit into 80 – 90°C (176 – 194°F) water and confirm that there is no bubble continuously coming out of inside of the unit.

Replace the unit when the result of inspection is found abnormal.

Temperature		50°C (122°F)	115°C (239°F)
Check condition			
7V 55 Ω Gauge	Resistance value (Ω)	$^{+33.6}_{226.0-36.6}$	$^{+1.71}_{26.4-2.21}$
7V 25 Ω Gauge		—	$^{+2.68}_{24.3-3.68}$



FUEL GAUGE AND TANK UNIT



Fuel Gauge On-Vehicle Inspection

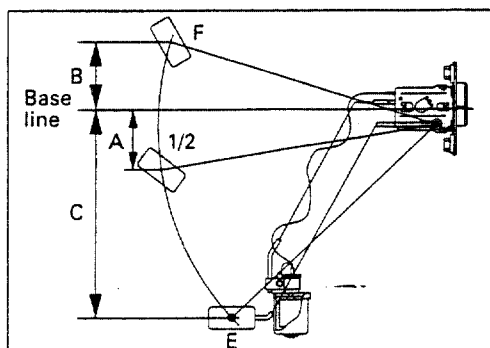
1. Disconnect the fuel gauge wire connector.
 2. Connect a 3.4 Watt test bulb ① to the ground.
- The gauge needle should move the middle part of the gauge.

Fuel Gauge Off-Vehicle Inspection

Use a circuit tester to measure the fuel gauge resistance.

Fuel Gauge Resistance Ω

Measuring Point	Standard	
	With Tachometer	Without Tachometer
IGN (+) - Ground	223	110
IGN (+) - 7V		(0)
IGN (+) - UNIT	83	25
Ground - 7V		110
Ground - UNIT	140	135
7V - UNIT		25



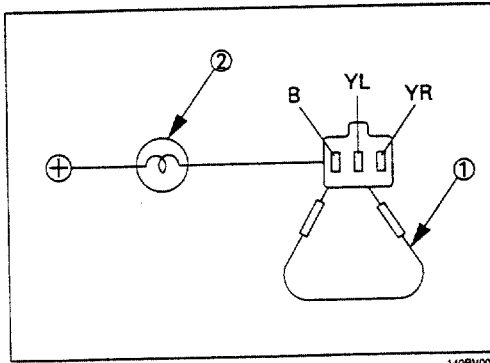
140RV003

**Fuel Tank Unit Inspection**

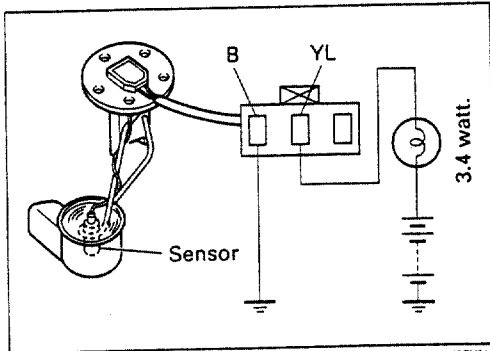
Measure the fuel tank unit resistance between the connector terminals, 1 **F-1** and 3 **F-1** while shifting the float from "E" to "F" point.

Fuel Tank Resistance

Level	Float position mm	Standard resistance Ω
F (B)	51.7	17 ± 2.1
1/2 (A)	49.4	45 ± 4.5
E (C)	166.9	120 ± 6.5



140RV004



140RV010

**Low Fuel Indicator Light Inspection**

1. Disconnect the fuel tank unit wire connector.
2. Connect between terminal (YL) and (B).
3. Turn the key switch on. Check that the bulb lights.

If operation is not correct, remove and check the bulb or circuit.

Check level sensor operation

1. Remove the fuel tank unit.
2. Apply battery voltage between terminal (YL) and (B) through a 3.4 watt bulb. Check that the bulb lights.

**Note:**

It will take a short time for the bulb light.

3. Submerge the sensor in fuel. Check that the bulb goes out.

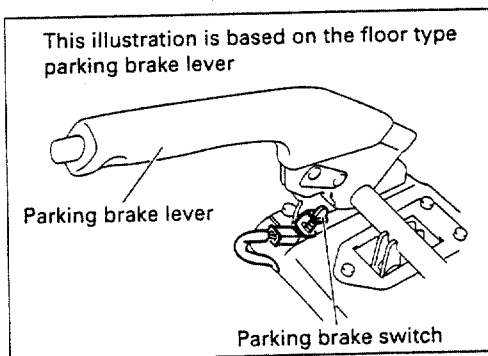
If operation is not correct, replace the fuel tank unit.

BRAKE SYSTEM WARNING LIGHT

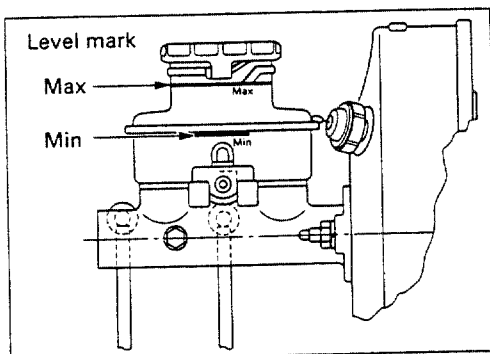
The brake system warning light comes on while the parking brake is set and the starter key is ON position.

Note:

The parking brake indicator light circuit is designed to prevent driving of the vehicle with the parking brake on. It does not indicate the condition of the parking brake system.



825RV056

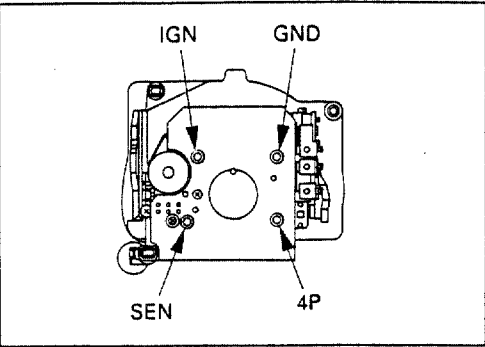


330RV001

The parking brake switch is in parallel with the brake fluid switch.

The brake system warning light also comes on when reservoir brake fluid level falls below the specified limit with the parking brake released and the starter switch is ON position.

VEHICLE SPEED SENSOR (INCORPORATED IN THE SPEEDOMETER)



825RV064



Vehicle Speed Sensor Inspection

Remove the speedometer from the meter assembly and measure the resistance value between the terminals.

Speed Sensor Resistance

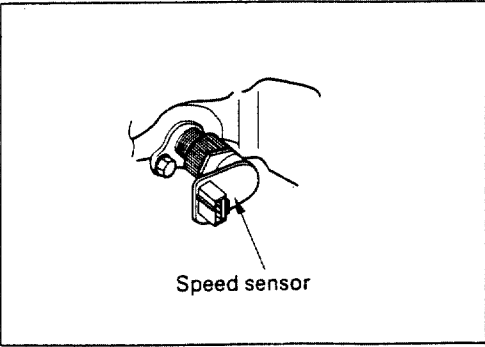
Tester terminal Terminal symbol	Tester terminal			
	Red (+)	Black (-)	Black (-)	Red (+)
4P - GND	4P	GND	4P	GND
	13.5 - 16.5k		∞	

Note: Use the analog type circuit tester.

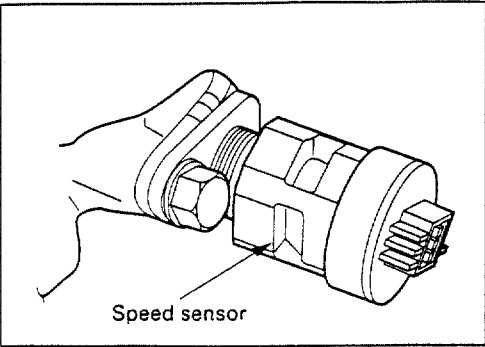
VEHICLE SPEED SENSOR (INSTALLED ON THE TRANSMISSION)

The speed sensor is installed on the rear portion of the transmission.

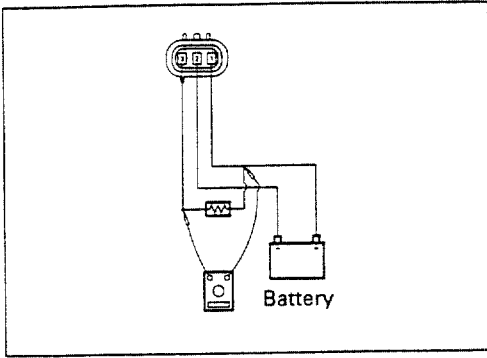
The number of pulses generated is four pulses per one rotation of the pinion shaft.



825RV018



825RV044



820RV001

**Vehicle Speed Sensor Inspection**

1. Connect the Vehicle speed sensor connector 1 **E-44** to the battery (+) terminal and 2 **E-44** to the (-) terminal.
2. Connect a resistance of 1.3K ohm to 5K ohm (1/4 W or more) between connectors 1 **E-44** and 3 **E-44**

**CAUTION:**

Be extremely careful not to connect the battery (+) terminal to the connector 3 **E-44**.

This may damage the vehicle speed sensor.

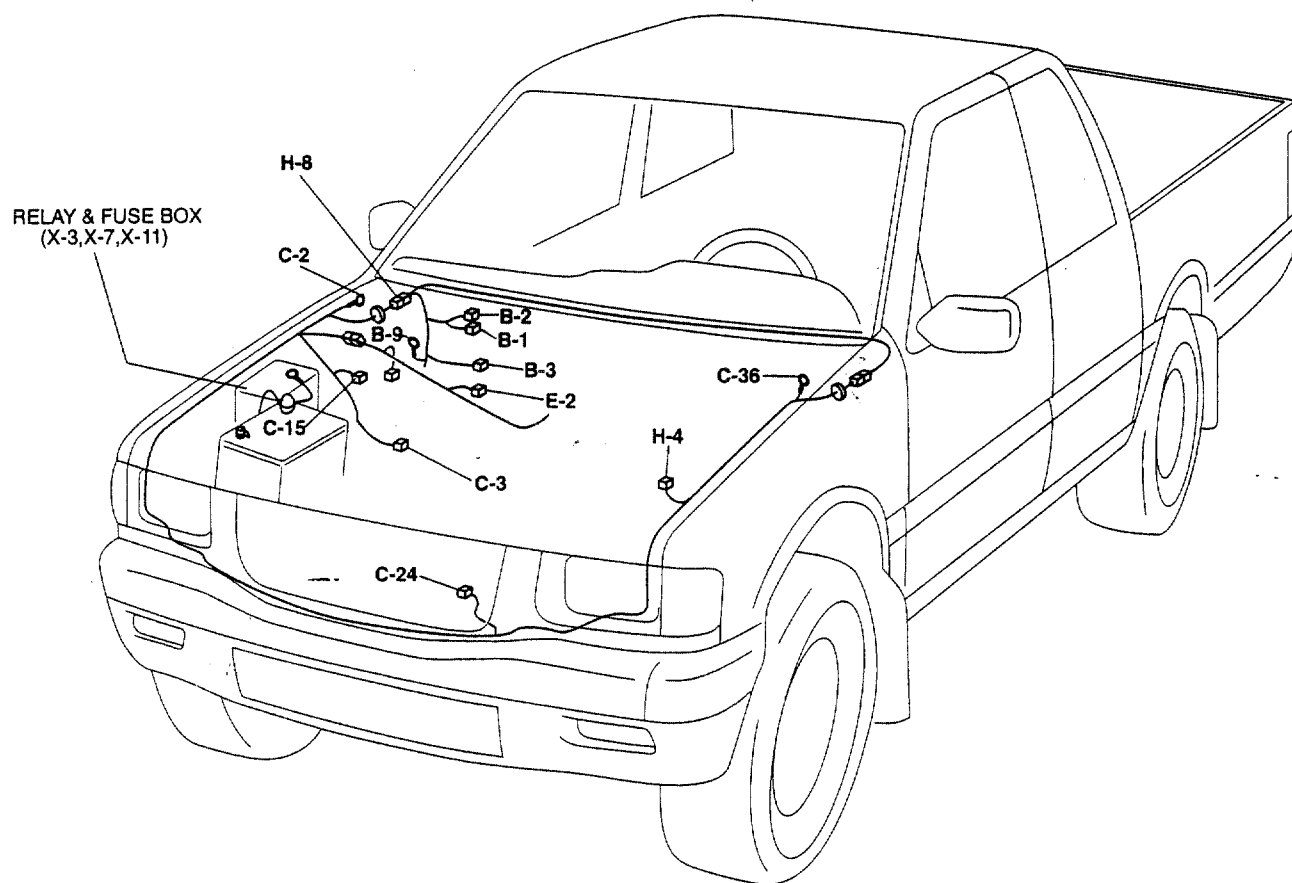


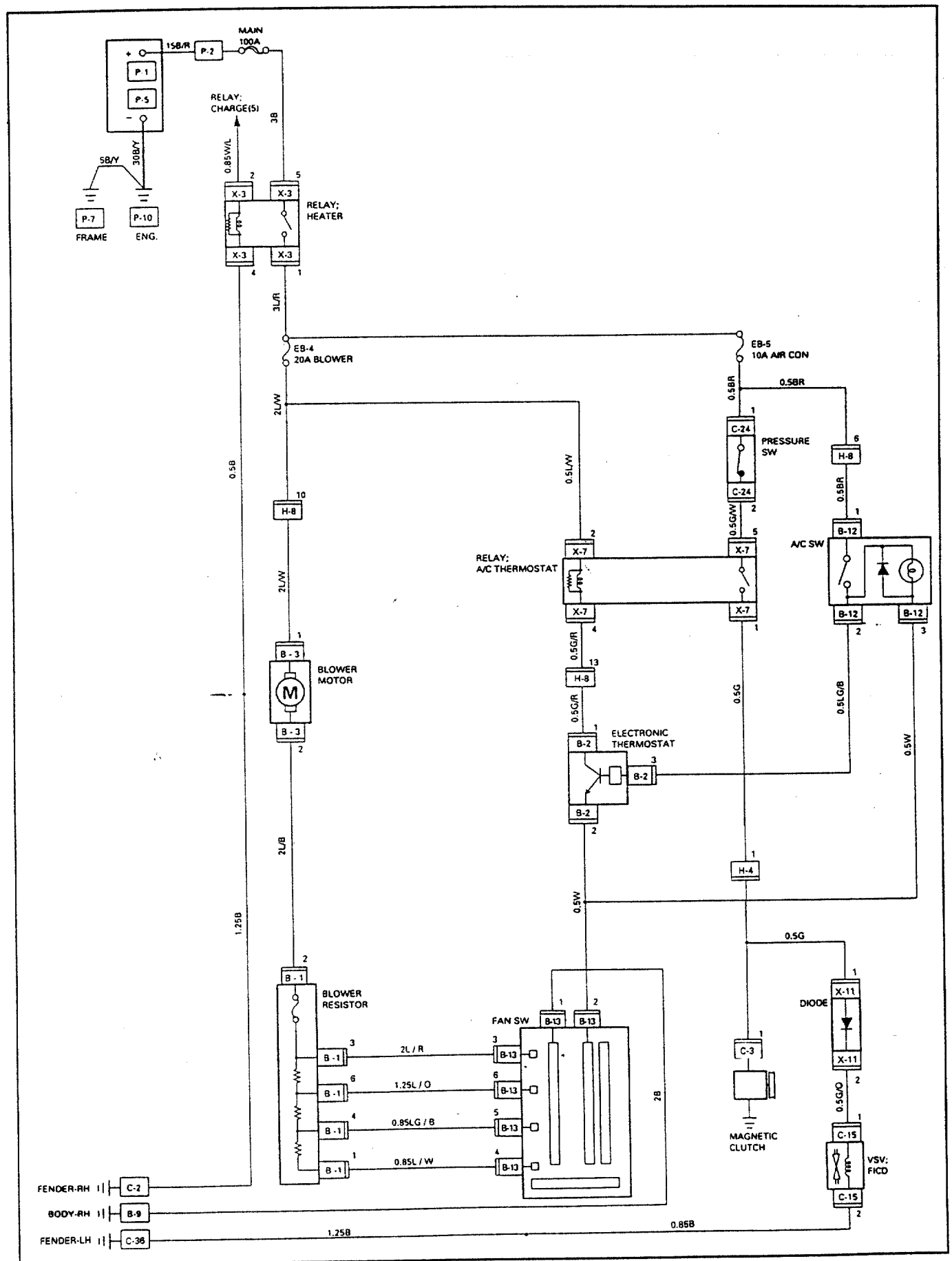
3. Rotate the shaft of the vehicle speed sensor slowly and measure the voltage at the both ends with a digital tester.

The voltage, with one rotation of shaft fluctuates four times in the following range: 10 to 14V — 2V or less.

HEATER AND AIR CONDITIONING

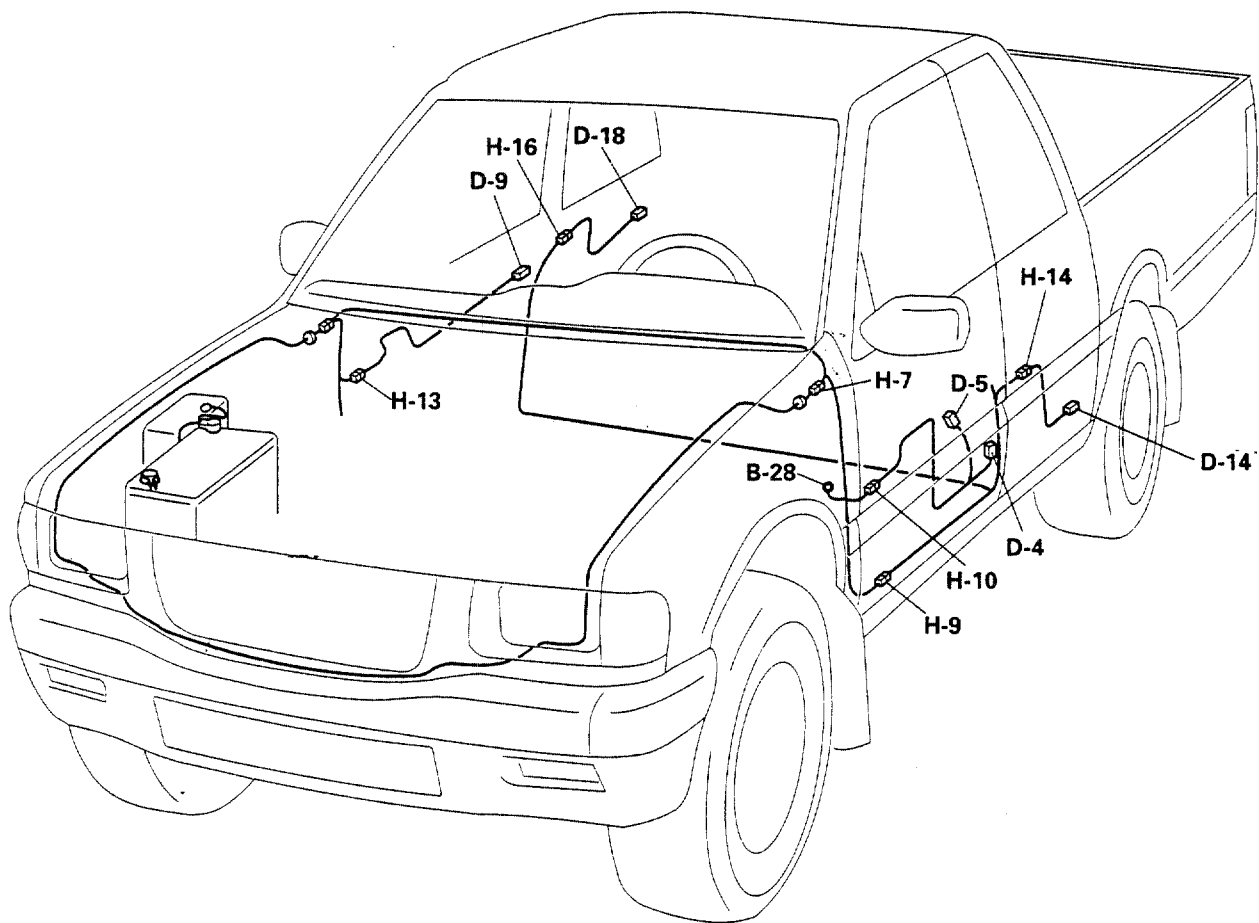
PARTS LOCATION



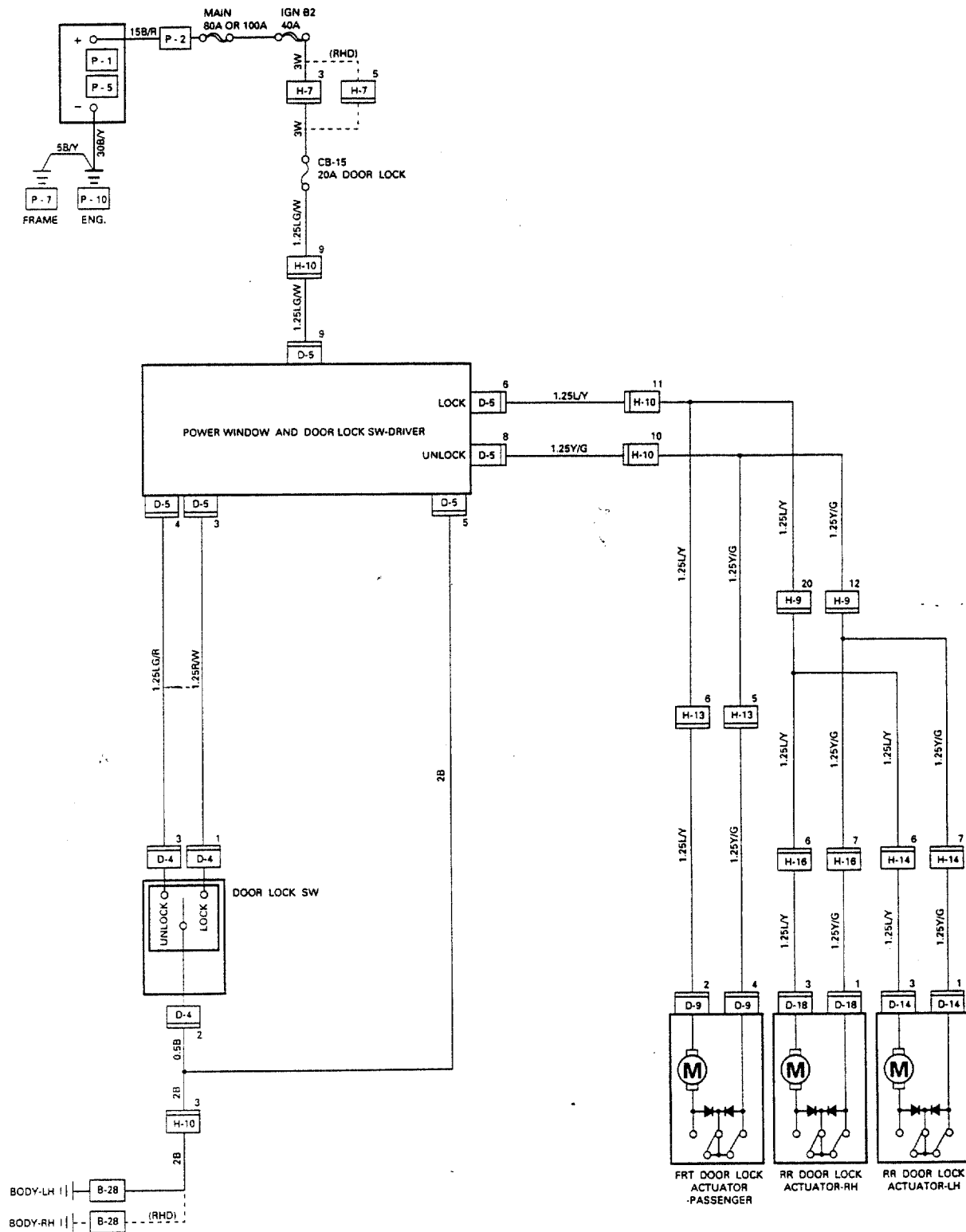


POWER DOOR LOCK

PARTS LOCATION



CIRCUIT DIAGRAM



TROUBLE SHOOTING

QUICK CHART FOR CHECK POINTS

Check Points Trouble Mode	Fuse CB-15 (20A)	Power Window & Door Lock Switch	Door Lock Switch	Door Lock Actuator			Cable Harness
		Driver's side	Driver's side	Passenger's side	RR-RH	RR-LH	
1. All the doors do not lock and unlock	☐	☐					☐
2. All the doors do not get locked (or unlocked)		☐					☐
3. Driver's side door does not get locked (or unlocked)			☐				☐
4. FRT passenger's side door does not get locked (or unlocked)				☐			☐
5. RR door-RH does not get locked (or unlocked)					☐		☐
6. RR door-LH does not get locked (or unlocked)						☐	☐
7. Door lock does not operate when operating from the driver's seat side			☐				☐

1. All the doors do not lock and unlock

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-15 (20A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-15 (20A)
OK			
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Voltage between the driver's side power window & door lock SW harness side connector terminal 9 D-5 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between 5 D-5 and B-28	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Driver's side power window & door lock SW. function	NG	SW. malfunction	Replace the driver's side power window & door lock SW.

2. All the doors do not get locked (or unlocked)

Continuity between the driver's side power window & door lock SW harness side connector terminals 6 D-5 and 8 D-5	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Driver's side power window & door lock SW. function	NG	SW. malfunction	Replace the driver's side power window & door lock SW.

3. Driver's side door does not get locked (or unlocked)

Checkpoint		Trouble Cause	Countermeasure
Door lock SW. function	NG	SW. malfunction	Replace the door lock SW.

4. FRT passenger's side door does not get locked (or unlocked)

FRT passenger's side door lock actuator function	NG	Actuator malfunction	Replace the FRT passenger's side door lock actuator
--	----	----------------------	---

5. RR door-RH does not get locked (or unlocked)

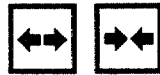
RR door lock actuator-RH function	NG	Actuator malfunction	Replace the RR door lock actuator-RH
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6. RR door-LH does not get locked (or unlocked)

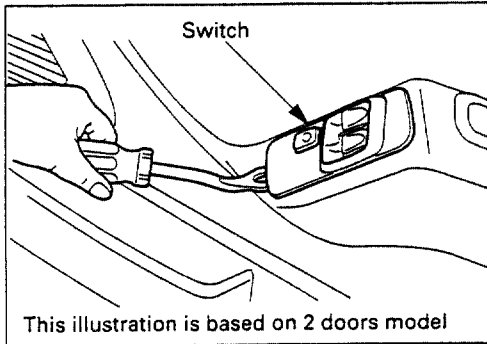
RR door lock actuator-LH function	NG	Actuator malfunction	Replace the RR door lock actuator-LH
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7. Door lock does not operate when operated from the driver's seat side

Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Continuity between the door lock SW. side connector terminals 1 D-4 and 2 D-4 when the SW is locked and between 3 D-4 and 2 D-4 when the SW. is unlocked	NG	SW. malfunction	Replace the door lock SW.



REMOVAL AND INSTALLATION



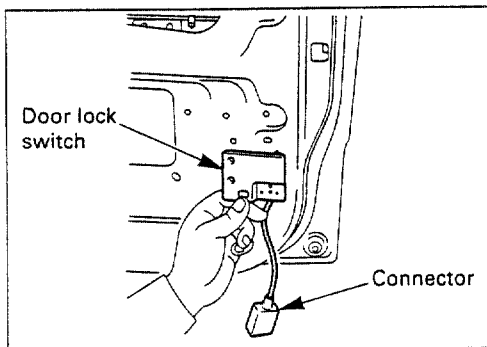
825RV089

**DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH****Removal**

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

**Installation**

To install, follow the removal steps in the reverse order.



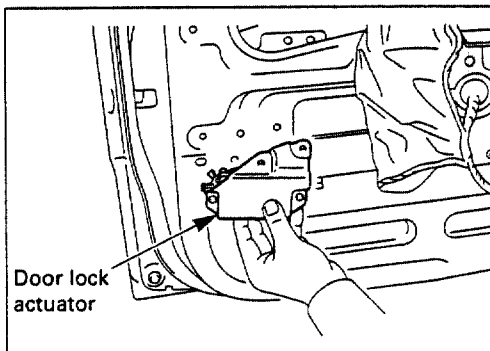
825RV058

**DRIVER'S SIDE DOOR LOCK SWITCH****Removal**

1. **Door Lock ASM**
 - Refer to the removal steps of the DOORS in Section 10 "BODY".
2. **Door Lock Switch**

**Installation**

To install, follow the removal steps in the reverse order.



825RV057

FRT PASSENGER'S SIDE DOOR LOCK ACTUATOR

Removal



1. Door Lock ASM

- Refer to the removal steps of the DOORS in Section 10 "BODY".

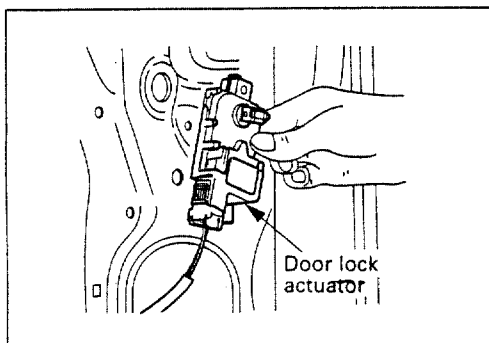
2. Door Lock Actuator

- Remove the actuator fixing bolts.
- Disconnect the door lock link rod.
- Disconnect the actuator connector.

Installation



To install, follow the removal steps in the reverse order.



825RV097

RR DOOR LOCK ACTUATOR-LH & RH

Removal



1. Door Lock ASM

- Refer to the removal steps of the DOORS in Section 10 "BODY".

2. Door Lock Actuator

- Remove the actuator fixing bolts.
- Disconnect the door lock link rod.
- Disconnect the actuator connector.

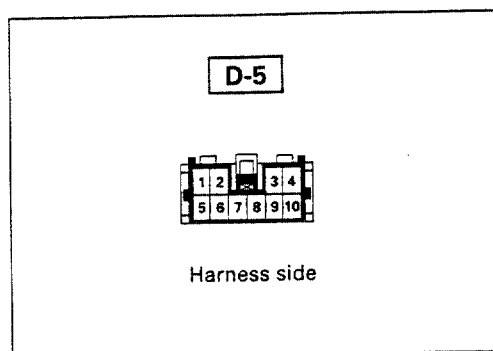
Installation



To install, follow the removal steps in the reverse order.

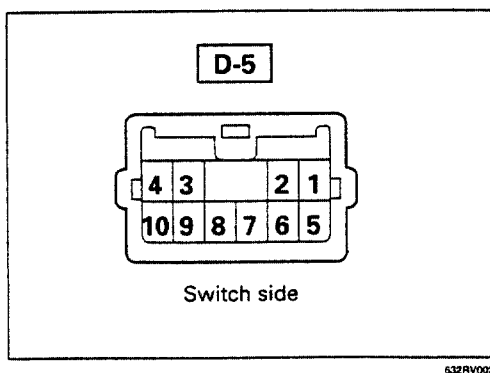


INSPECTION AND REPAIR

**Driver Seat Side Power Window & Door Lock Switch****1. Harness Side Connector Circuit**

Check voltage and continuity between the switch harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition		Standard
3	R/W	Door lock SW (Lock)	Continuity (Resistance)	3-Ground	Driver seat side door	Lock	Continuity
					Driver seat side door	Unlock	No continuity
4	LG/R	Door lock SW (Unlock)		4-Ground	Driver seat side door	Lock	No continuity
					Driver seat side door	Unlock	Continuity
5	B	Ground		5-Ground	—		Continuity
6	L/Y	Door lock actuator (Lock)		6 - 8	—		Continuity (There is some resistance)
8	Y/G	Door lock actuator (Unlock)		8 - 6	—		Continuity (There is some resistance)
9	LG/W	Fuse CB-15 (20A)	Voltage	9- Ground	—		Battery voltage (Approx. 12V)



2. Switch Side Connector Circuit

Remove the switch connector, and check continuity and voltage between the switch connector terminals.

(Connect the (+) terminal of the battery to 9 **D-5** and the (-) terminal to 5 **D-5**.)

5 **D-5** - 6 **D-5** Continuity

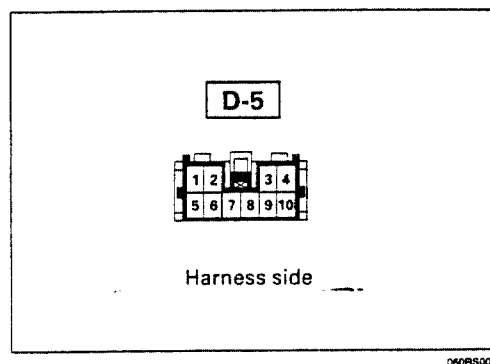
5 **D-5** - 8 **D-5** Continuity

(Then, ground 3 **D-5**.)

6 **D-5** Current flow for approx. 1 second

(Disconnect the ground of 3 **D-5**, and ground 4 **D-5**.)

8 **D-5** Current flow for approx. 1 second

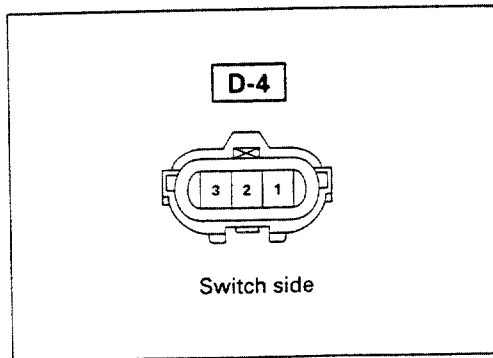


3. Door Lock Operation Test

After confirming that there is continuity between the switch harness side connector terminals 6 **D-5** and 8 **D-5**, apply the battery voltage to each of the terminals to conduct the operation test.

When the door lock will not operate, check the door lock actuator for any trouble.

Connecting terminals		Operation
8 (Y/G)	6 (L/Y)	
⊕	⊖	Unlock
⊖	⊕	Lock

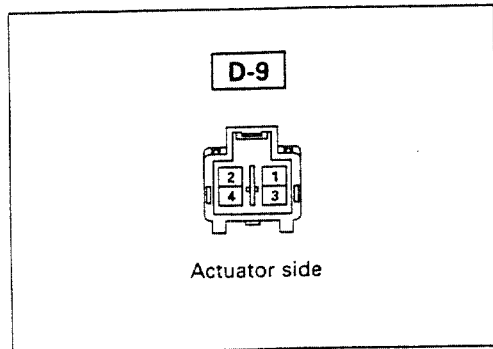


Driver's Side Door Lock Switch

1. Switch Side Connector Circuit

Check continuity between the switch connector terminals

SW position \ Terminal No.	1	2	3
Lock	○	○	
Unlock		○	○



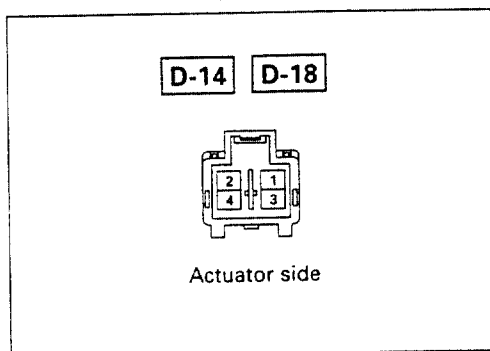
Front Passenger's Side Door Lock Actuator

1. Actuator Side Connector Circuit

Apply the battery voltage to the actuator connector terminals to check the operation.

When the door lock actuator is checked on the vehicle and there is no continuity, and when the door lock actuator itself is checked and no trouble is found, check the circuit between the door lock actuator and the driver seat side power window & door lock switch for any failure.

Connecting terminals		Operation
2	4	
⊕	⊖	Lock
⊖	⊕	Unlock



Rear Door Lock Actuator -LH & RH

1. Actuator Side Connector Circuit

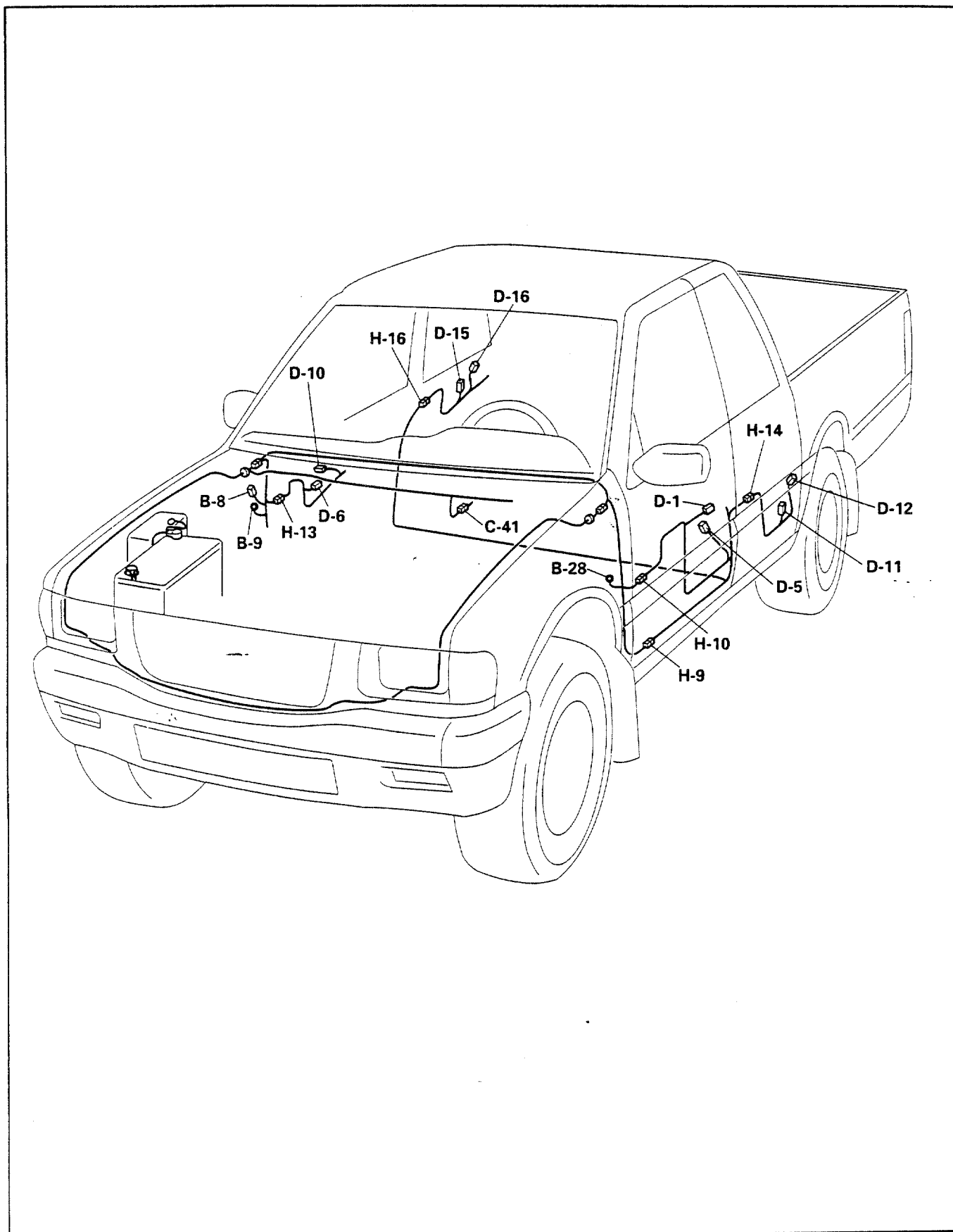
Apply the battery voltage to the actuator connector terminals to check the operation.

When the door lock actuator is checked on the vehicle and there is no continuity, and when the door lock actuator itself is checked and no trouble is found, check the circuit between the door lock actuator and the driver seat side power window & door lock switch for any failure.

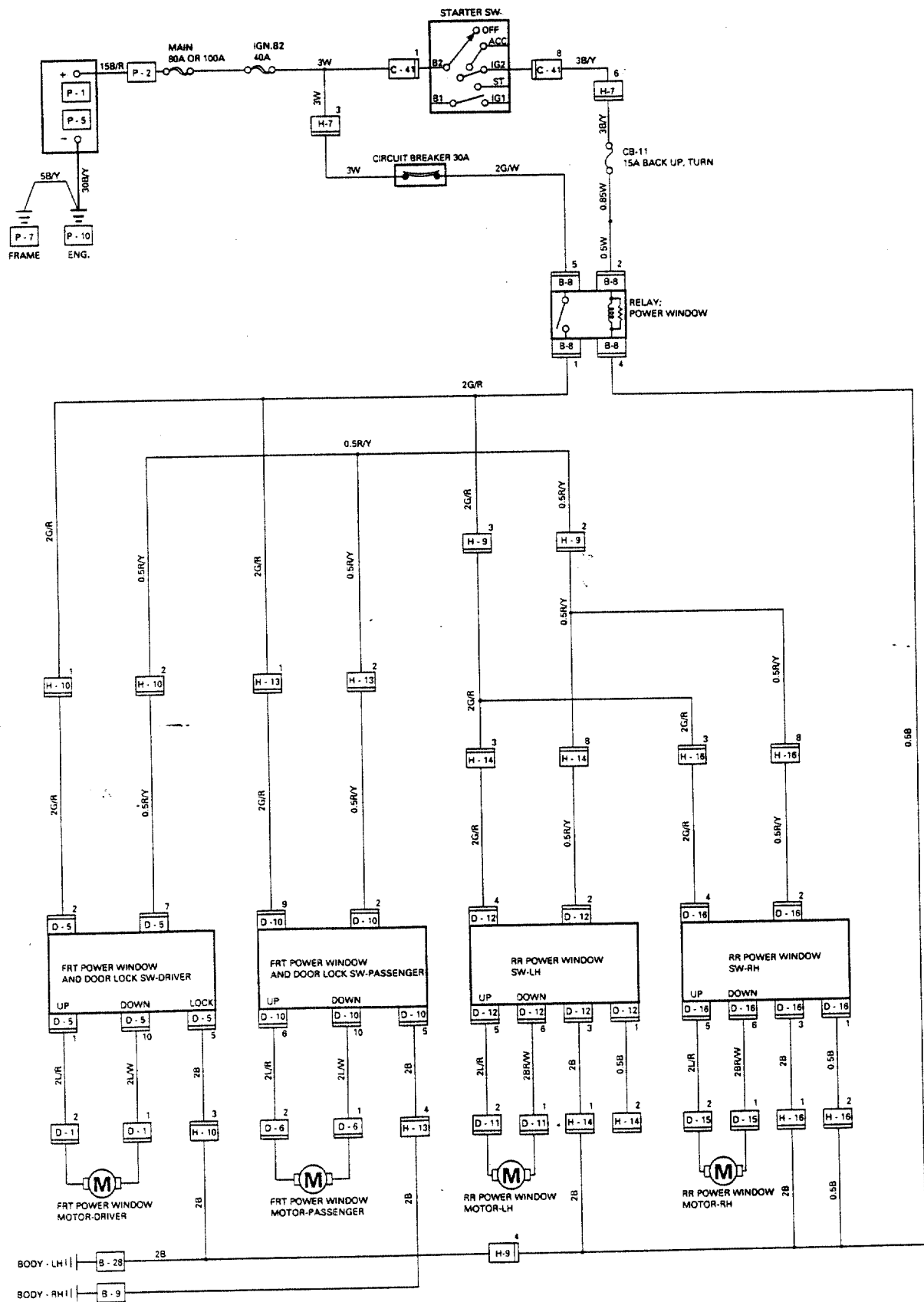
Connecting terminals		Operation
1	3	
⊖	⊕	Lock
⊕	⊖	Unlock

POWER WINDOW

PARTS LOCATION



CIRCUIT DIAGRAM



TROUBLE SHOOTING

QUICK CHART FOR CHECK POINTS

Trouble Mode	Check Points											
	Fuse CB-11 (15A)	Circuit Breaker (30A)	Relay; Power Window	Power Window & Door Lock Switch		Power Window Switch		Power Window Motor				Cable Harness
				Driver's Side	Passenger's Side	RR-LH	RR-RH	Driver's Side	Passenger's Side	RR-LH	RR-RH	
All windows will not operate	☐	☐	☐	☐								☐
Lock SW does not function				☐								
Driver's Window:												
Window does not operate	☐	☐	☐	☐				☐				☐
One-touch operation for "DOWN" movement will not operate				☐								
Window operates in only one direction				☐								
Front window on passenger seat side:												
Window does not operate				☐	☐				☐			☐
Window does not operate when operating the driver's SW				☐								
Window does not operate when operating the passenger's SW				☐	☐							☐
Window does operate in only one direction when operating the driver's SW				☐	☐							
Window does operate in only one direction when operating the passenger's seat side SW					☐							
Rear window on left (or right) side:												
Window on left (or right) side does not operate				☐		☐	☐			☐	☐	☐
Window does not operate when operating the driver's SW				☐								
Window does operate in only one direction when operating the driver's SW				☐								
Window does operate in only one direction when operating the RR-LH (or RH) side SW						☐	☐					☐

1. All windows do not operate

Checkpoint		Trouble Cause	Countermeasure
Fuse CB-11 (15A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-11(15A)
OK			
Circuit breaker (30A, Fuse box) function	NG	Circuit breaker malfunction	Replace the circuit breaker (30A)
OK			
Grounding points (B-9 and B-28)	NG	Poor grounding point contact	Repair grounding points (B-9 and B-28) contact
OK			
Power window relay function	NG	Power window relay malfunction	Replace the power window relay
OK			
Voltage between the power window relay harness side connector terminal 5 B-8 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between 3 H-7 (RHD: 5 H-7) and 5 B-8
OK			
Voltage between 2 D-5 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between 1 B-8 and 2 D-5
OK			
Voltage between B-28 and the ground	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between 5 D-5 and B-28 , or 4 B-8 and B-28

Continued on the next page

Checkpoint

Trouble Cause

Countermeasure

Continued from the previous page

OK

Driver seat side power window & door lock SW. function

NG

SW. malfunction

Replace the driver seat side power window & door lock SW.

2. Lock switch does not function

Driver seat side power window & door lock SW. function

NG

SW. malfunction

Replace the driver seat side power window & door lock SW.

3. Window on the driver's side does not operate

Driver seat side power window & door lock SW. function

NG

SW. malfunction

Replace the driver seat side power window & door lock SW.

OK

1. Driver seat side power window motor function when connecting the motor connector 2 D-1 to the battery (+) terminal, and 1 D-1 to the (-) terminal
(Should the motor rotate in the "UP" direction of the window)
2. Driver seat side power window motor function when connecting the motor connector 1 D-1 to the battery (+) terminal, and 2 D-1 to the (-) terminal
(Should the motor rotate in the "DOWN" direction of the window)

NG

Motor malfunction

Replace the driver seat side power window motor

OK

Continuity between 1 D-5 and 2 D-1, or 10 D-5 and 1 D-1

NG

Open circuit or poor connector contact

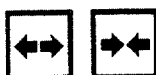
Repair open circuit or connector contact

4. Window on the front passenger's side does not operate

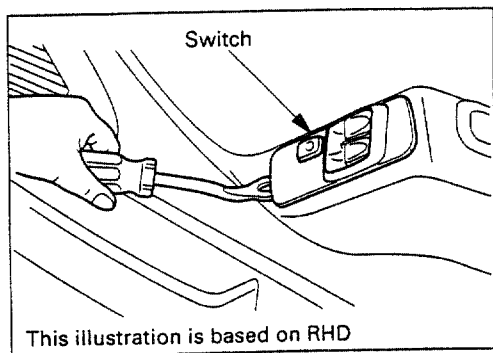
Checkpoint		Trouble Cause	Countermeasure
Front passenger's power window & door lock SW. function	NG	SW. malfunction	Replace the front passenger's power window & door lock SW.
OK			
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.
OK			
1. Front passenger's power window motor function when connecting the motor connector 2 D-6 to the battery (+) terminal, and 1 D-6 to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Front passenger's power window motor function when connecting the motor connector 1 D-6 to the battery (+) terminal, and 2 D-6 to the (-) terminal. (Should the motor rotate in the "DOWN" direction of the window)	NG	Motor malfunction	Replace the front passenger's power window motor
OK			
Continuity between 6 D-10 and 2 D-6 , or 10 D-10 and 1 D-6	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

5. Rear window on the left (right) side does not operate

Checkpoint		Trouble Cause	Countermeasure
Rear power window SW.-LH (RH) function	NG	SW. malfunction	Replace the rear power window SW.-LH (RH)
OK			
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.
OK			
1. Rear power window motor-LH (RH) function when connecting the motor connector 2 D-11 (2 D-15) to the battery (+) terminal, and 1 D-11 (1 D-15) to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Rear power window motor-LH (RH) function when connecting the motor connector 1 D-11 (1 D-15) to the battery (+) terminal, and 2 D-11 (2 D-15) to the (-) terminal (Should the motor rotate in the "DOWN" direction of the window)	NG	Motor malfunction	Replace the rear power window motor
OK			
Continuity between 5 D-12 and 2 D-11 (5 D-16 and 2 D-15), or 6 D-12 and 1 D-11 (6 D-16 and 1 D-15)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact



REMOVAL AND INSTALLATION



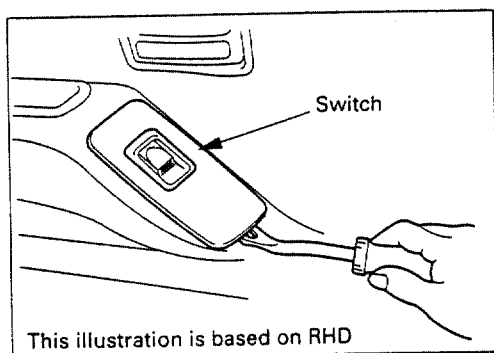
825RV089

**DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH
(2 DOORS MODEL)****Removal**

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

**Installation**

To install, follow the removal steps in the reverse order.



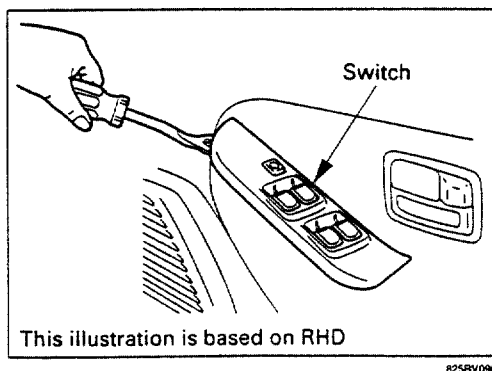
825RV086

**FRONT PASSENGER'S POWER WINDOW & DOOR LOCK SWITCH
(2 DOORS MODEL)****Removal**

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

**Installation**

To install, follow the removal steps in the reverse order.



82SRV098

DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH (4 DOORS MODEL)

Removal

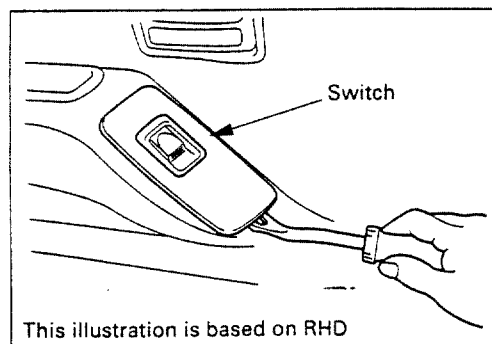


1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation



To install, follow the removal steps in the reverse order.



82SRV098

FRONT PASSENGER'S POWER WINDOW & DOOR LOCK SWITCH (4 DOORS MODEL)

Removal

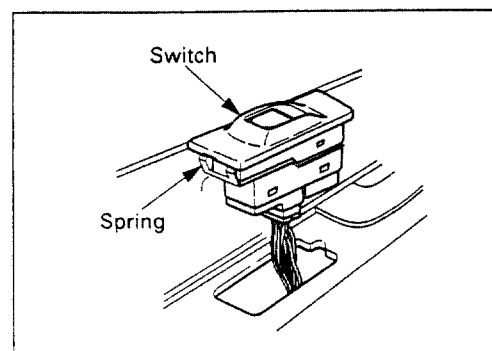


1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation



To install, follow the removal steps in the reverse order.



82SRV098

REAR POWER WINDOW & DOOR LOCK SWITCH-LH & RH

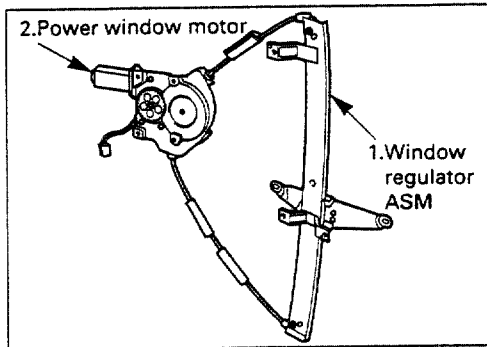
Removal



1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

**Installation**

To install, follow the removal steps in the reverse order.



82SRV091

**Removal****1. Window Regulator ASM**

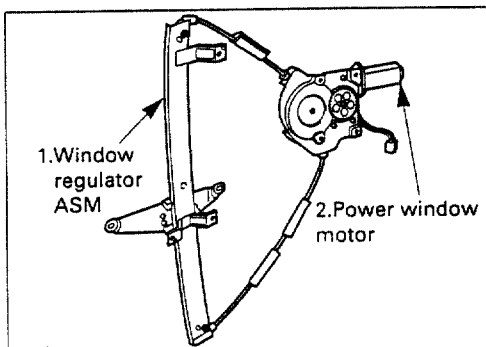
- Refer to the removal steps of the WINDOW REGULATOR/POWER WINDOW MOTOR in Section 10 "BODY".

2. Power Window Motor

- Loosen the fixing bolts to remove the power window motor from the regulator.

**Installation**

To install, follow the removal steps in the reverse order.



82SRV090

**FRONT PASSENGER'S POWER WINDOW MOTOR****Removal****1. Window Regulator ASM**

- Refer to the removal steps of the WINDOW REGULATOR/POWER WINDOW MOTOR in Section 10 "BODY".

2. Power Window Motor

- Loosen the fixing bolts to remove the power window motor from the regulator.

**Installation**

To install, follow the removal steps in the reverse order.

REAR POWER WINDOW MOTOR-LH & RH

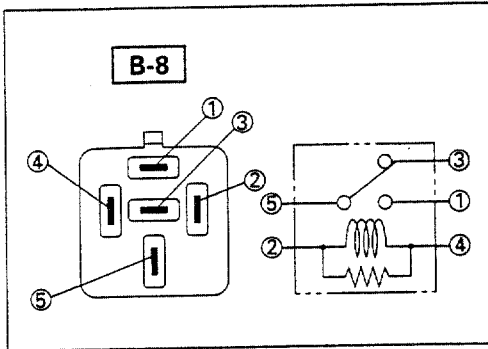
Removal and Installation

Refer to the "DRIVER SEAT SIDE POWER WINDOW MOTOR" removal and installation steps in this section.





INSPECTION AND REPAIR



05CRV005

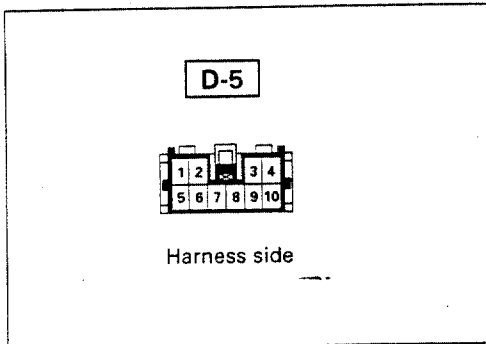
Power Window Relay

Check continuity between the relay terminals.

① - ⑤ No continuity

(When battery voltage is applied between ② and ④)

① - ⑤ Continuity

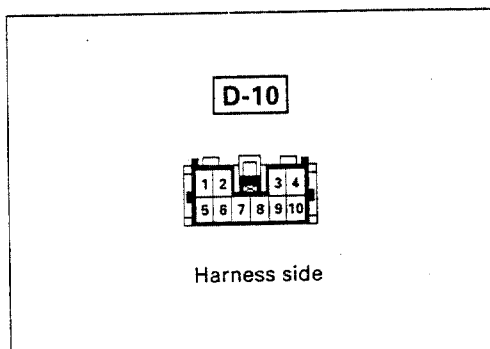


Harness side

Driver Seat Side Power Window & Door Lock Switch**1. Harness Side Connector Circuit**

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
2	G/R	Power window relay	Voltage	2-Ground	Starter SW "ON"	Approx. 12V
1	L/R	Power window motor	Continuity	1 - 10	—	Continuity
10	L/W					
5	B	Ground	Continuity	5-Ground	—	Continuity



Harness side

Front Passenger's Power Window & Door Lock Switch**1. Harness Side Connector Circuit**

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
9	G/R	Power window relay	Voltage	9-Ground	Starter SW "ON"	Approx. 12V
6	L/R	Power window motor	Continuity	6 - 10	—	Continuity
10	L/W					
5	B	Ground	Continuity	5-Ground	—	Continuity

D-12 D-16

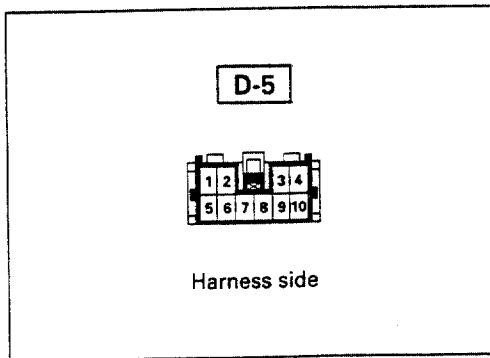


Harness side

Rear Power Window Switch-LH & RH**1. Harness Side Connector Circuit**

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following tables.

D-12 (RR-LH)						
Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
4	G/R	Power window relay	Voltage	4-Ground	Starter SW "ON"	Approx. 12V
5	L/R	Power window motor	Continuity	5 - 6	—	Continuity
6	BR/W					
3	B	Ground	Continuity	3-Ground	—	Continuity
D-16 (RR-RH)						
Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
4	G/R	Power window relay	Voltage	4-Ground	Starter SW "ON"	Approx. 12V
5	L/R	Power window motor	Continuity	5 - 6	—	Continuity
6	BR/W					
3	B	Ground	Continuity	3 - 1	—	Continuity
1	B					

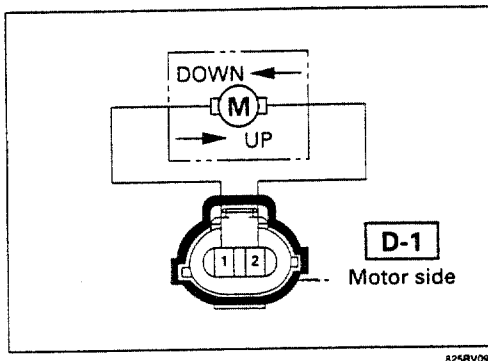


Driver Seat Side Power Window Motor

1. Driver Seat Side Power Window & Door Lock Switch Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

Connecting terminals		Operation direction
1 (L/R)	10 (L/W)	
⊖	⊕	DOWN
⊕	⊖	UP

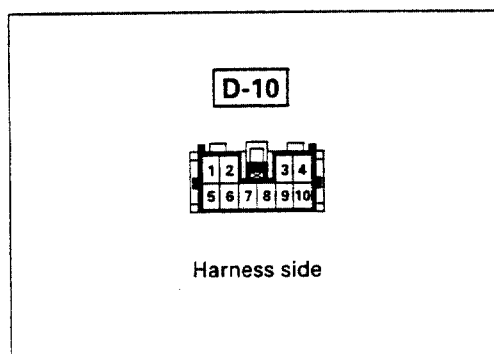


825RV092

2. Driver Seat Side Power Window Motor Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

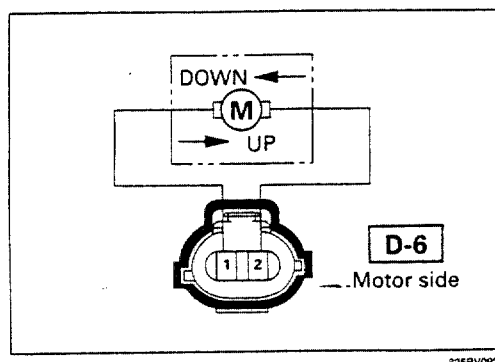


Front Passenger's Power Window Motor

1. Front Passenger's Power Window Switch & Door Lock Switch Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

Connecting terminals		Operation direction
6 (L/R)	10 (L/W)	
⊖	⊕	DOWN
⊕	⊖	UP

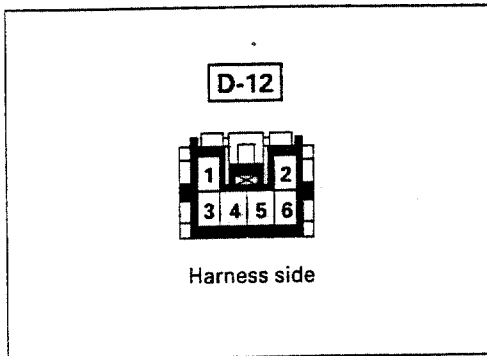


825RV092

2. Front Passenger's Power Window Motor Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

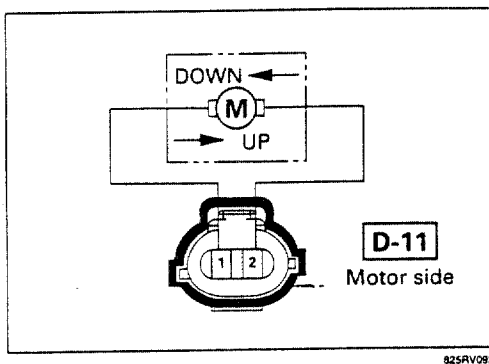


Rear Passenger's Power Window Motor-LH

1. Rear Power Window Switch-LH Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

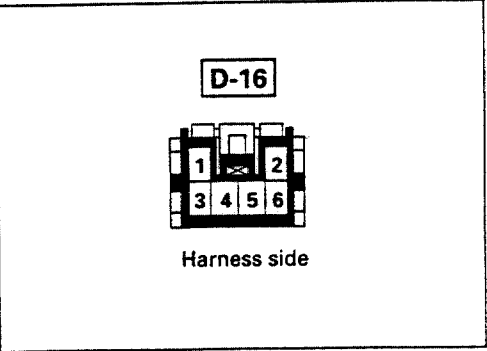
Connecting terminals		Operation direction
5 (L/R)	6 (BR/W)	
⊖	⊕	DOWN
⊕	⊖	UP



2. Rear Power Window Motor-LH Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

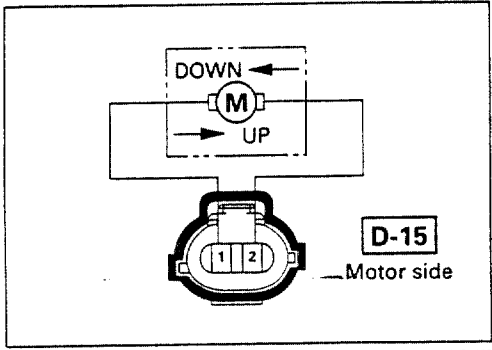


Rear Power Window Motor-RH

1. Rear Power Window Switch-RH Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

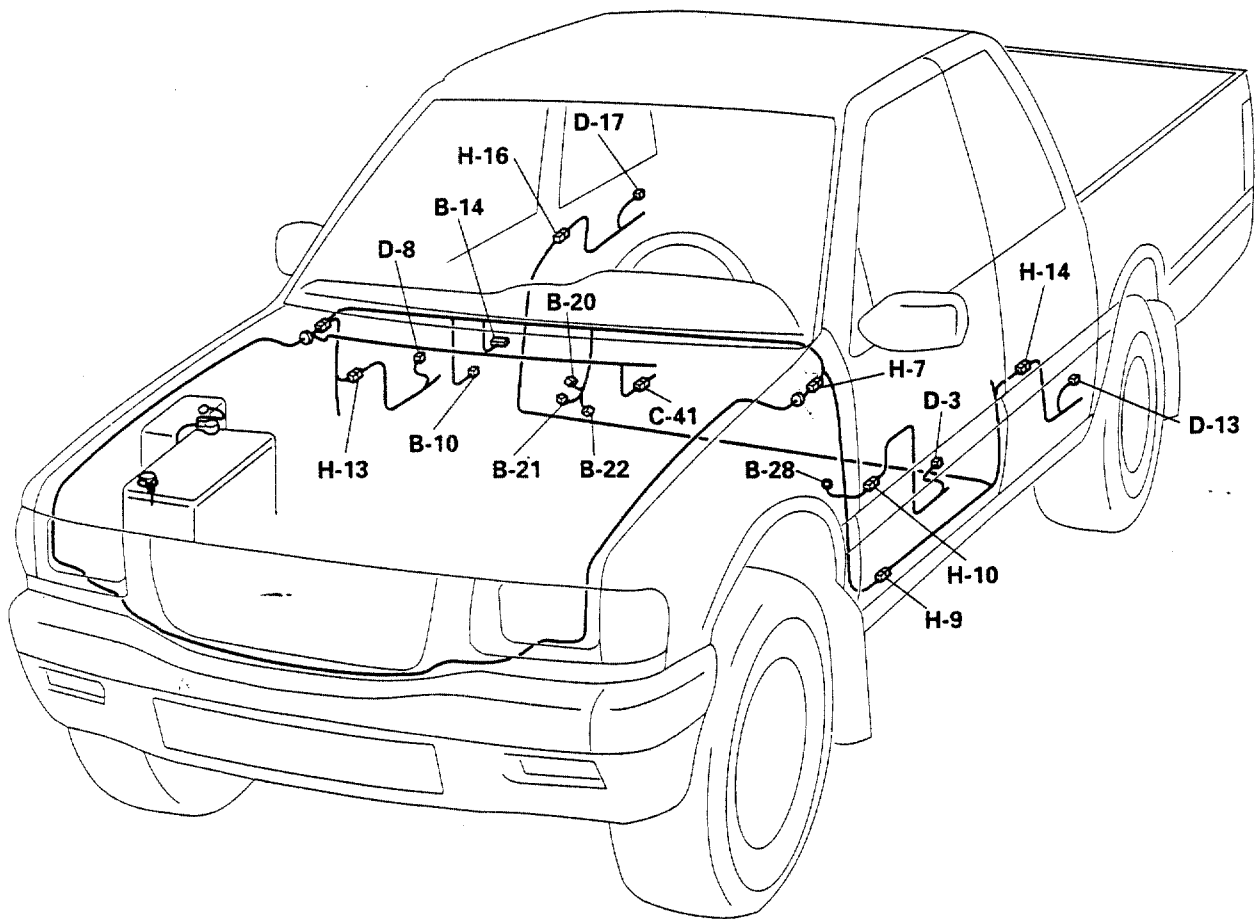
Connecting terminals		Operation direction
5 (L/R)	6 (BR/W)	
⊖	⊕	DOWN
⊕	⊖	UP



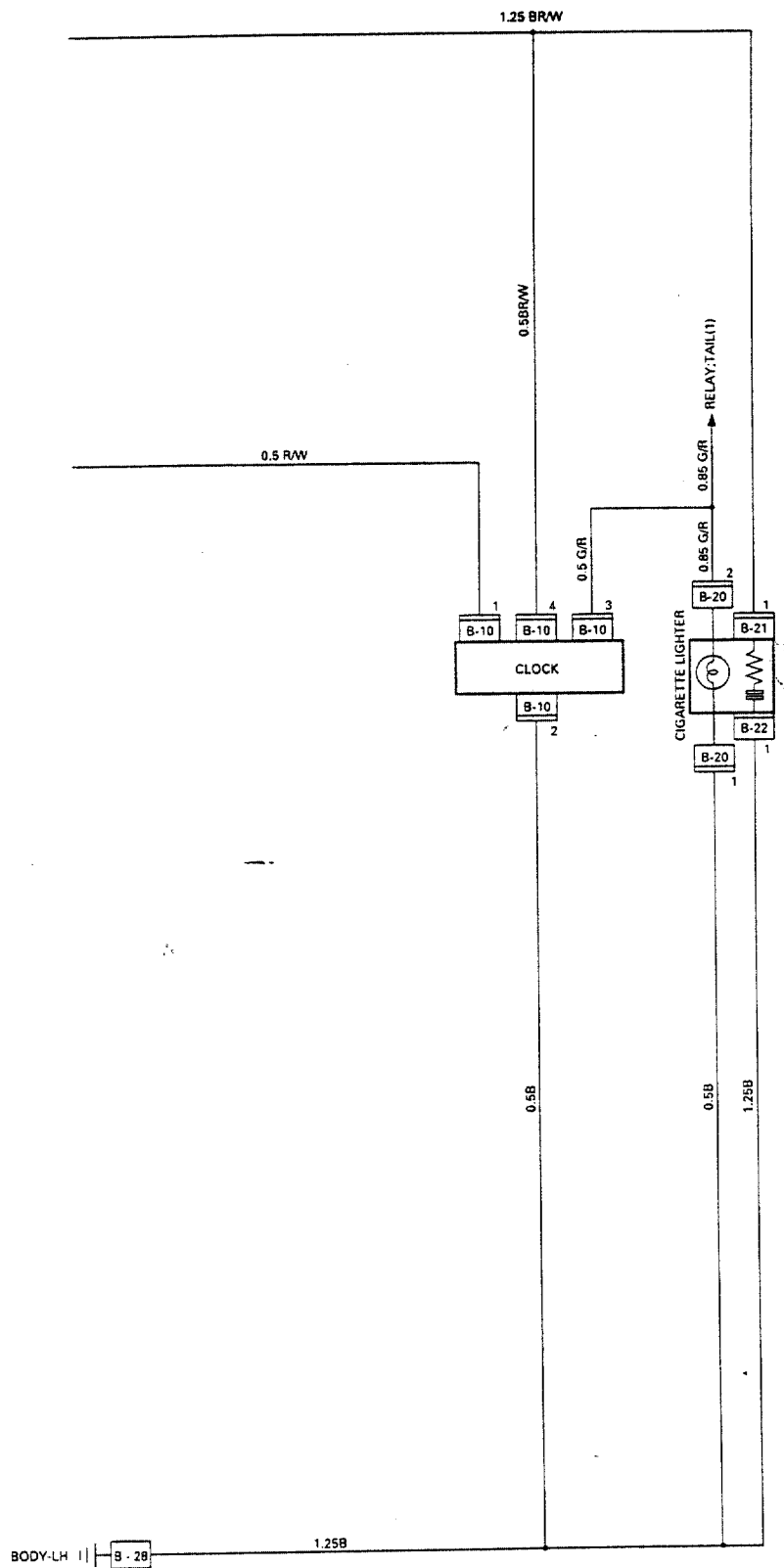
2. Rear Power Window Motor-RH Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

AUDIO, CLOCK AND CIGARETTE LIGHTER**PARTS LOCATION**





TROUBLE SHOOTING

CIGARETTE LIGHTER

1. Lighter does not pop out after being pushed in. It does not become hot.

Checkpoint		Trouble Cause	Countermeasure
Audio system (System should receive power)	NG	Poor Fuse No. CB-20 (15A, Fuse box) contact or blown	Reinstall or replace the fuse No. CB-20 (15A)
OK			
Lighter continuity between center part and outer area	NG	Open circuit or poor connector contact	Replace the lighter
OK			
Voltage between connector 1 B-21 and the ground at starter SW. is ACC position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between connector 1 B-22 and the ground	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Lighter pops out prematurely before becoming hot

Lighter and casing	NG	Deformed lighter or casing	Repair or replace the lighter and/or casing
--------------------	----	----------------------------	---

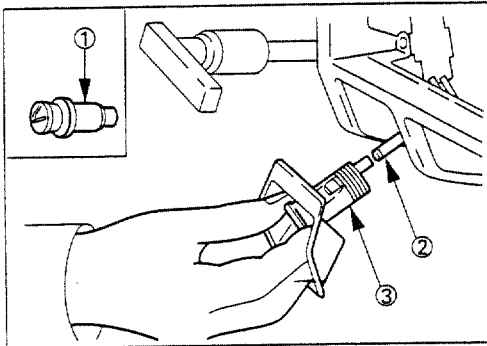
3. Lighter becomes too hot

Lighter and casing	NG	Deformed lighter and casing	Repair or replace the lighter and/or casing
--------------------	----	-----------------------------	---

REMOVAL AND INSTALLATION

AUDIO

Refer to Section 9 "ACCESSORIES" for details.



D08RV882

CIGARETTE LIGHTER

Removal



1. Remove the lighter ①.
2. Disconnect the connector ②.
3. Loosen the lighter holder ③ nut at the back side.
4. Remove the holder from the bezel.

Installation



Follow the removal procedure in the reverse order to install the lighter.



Pay close attention to the important points mentioned in the following paragraphs.

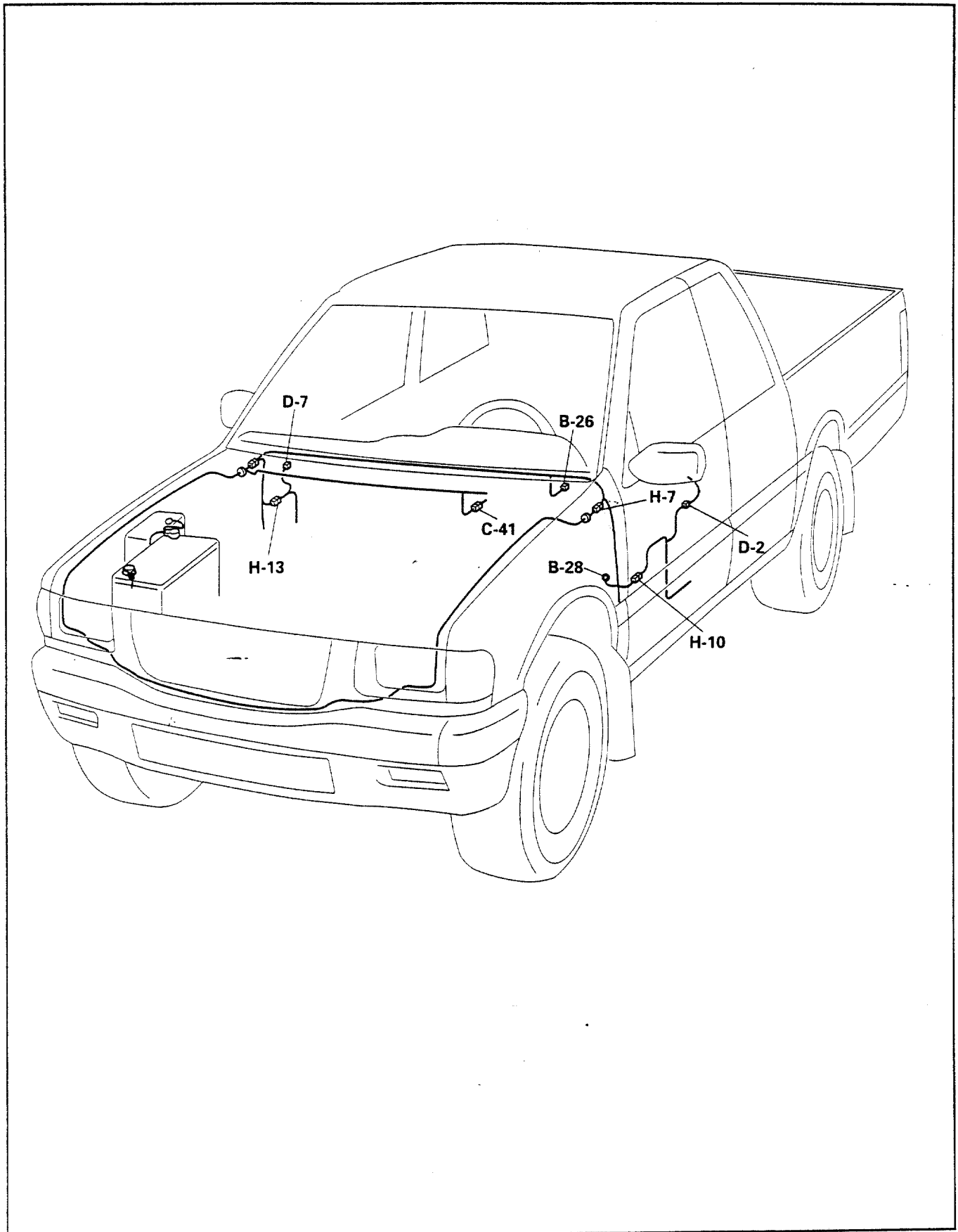
Connector

Be absolutely sure that the lighter connector is securely connected.

This will prevent a poor contact and an open circuit.

POWER DOOR MIRROR

PARTS LOCATION





TROUBLE SHOOTING

QUICK CHART FOR CHECK POINTS

Trouble Mode \ Check Points	Fuse	Door Mirror Control Switch	Door Mirror		Cable Harness
	CB-19 (15A)		LH	RH	
1. Mirrors on the both sides do not operate	☐	☐			☐
2. Mirror on the left (or right) side does not operate		☐	☐	☐	☐
3. Mirrors on the both sides operate only in the vertical (or horizontal) direction		☐			
4. Mirror on the left side operates only in the vertical (or horizontal) direction		☐	☐		☐
5. Mirror on the right side operates only in the vertical (or horizontal) direction		☐		☐	☐

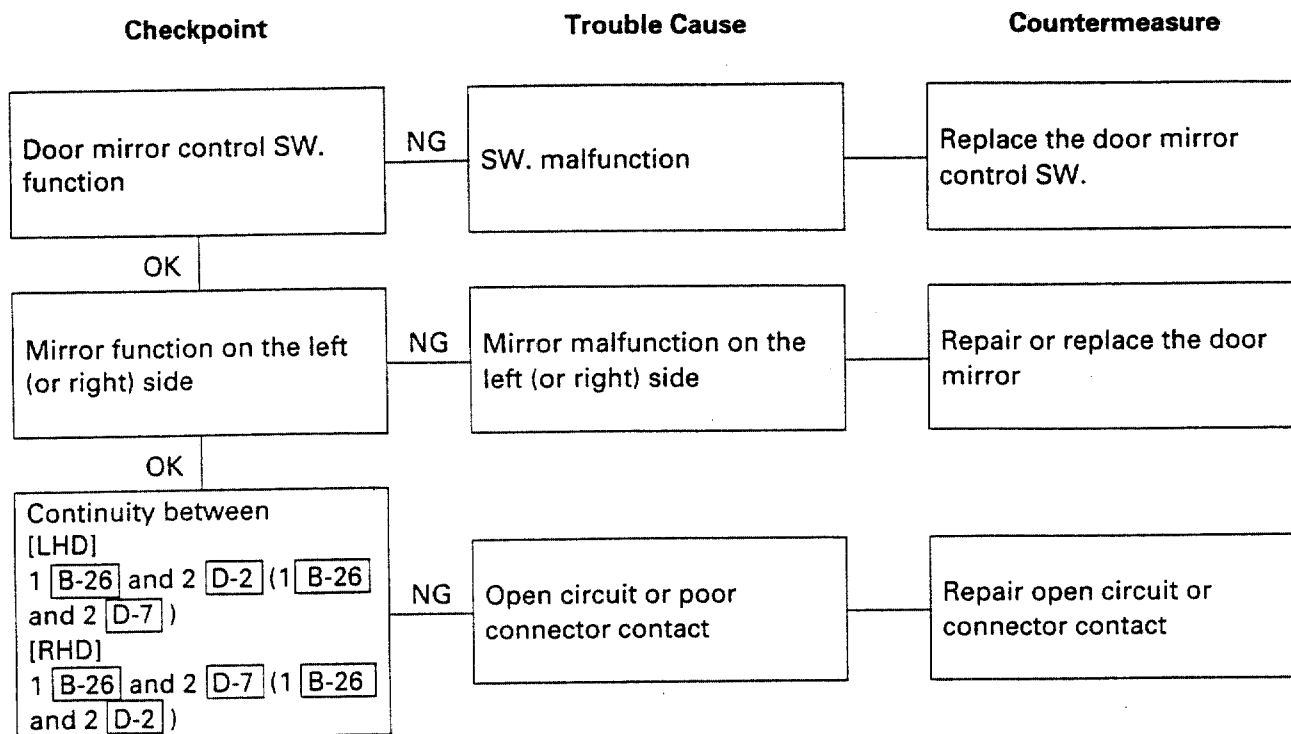
TROUBLE SHOOTING

DOOR MIRROR CONTROL SWITCH

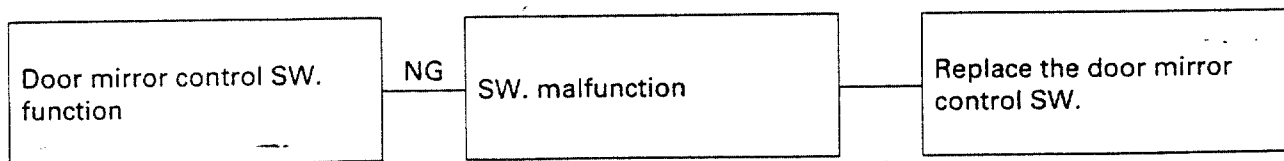
1. Mirrors on the both sides do not operate

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-19 (15A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-19 (15A)
OK			
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Voltage between the door mirror control SW. harness side connector terminal 4 B-26 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between the fuse No. CB-19 (15A) and 4 B-26
OK			
Continuity between the door mirror control SW. harness side connector terminal 9 B-26 and B-28	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Door mirror control SW. function	NG	SW. malfunction	Replace the door mirror control SW.
OK			
Continuity between 1 B-26 and 10 H-13 (or 6 H-10)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

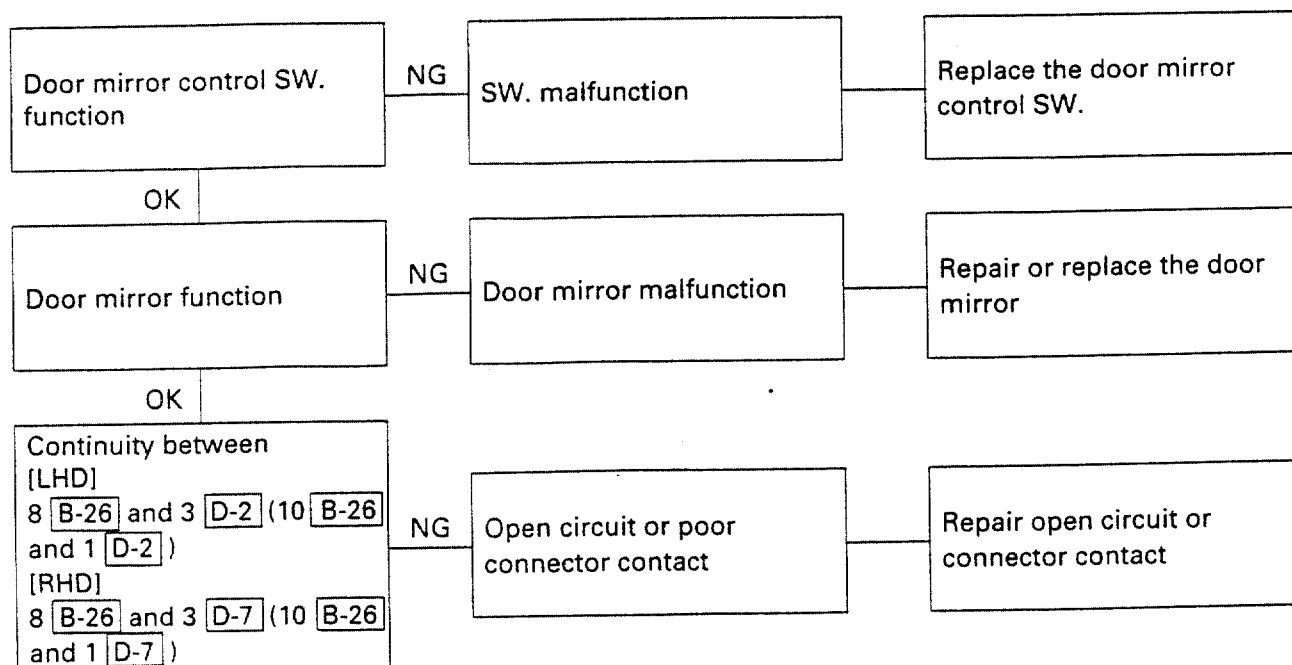
2. Mirror on the left (or right) side does not operate



3. Mirrors on the both sides operate only in the vertical (or horizontal) direction



4. Mirror on the left side operates only in the vertical (or horizontal) direction

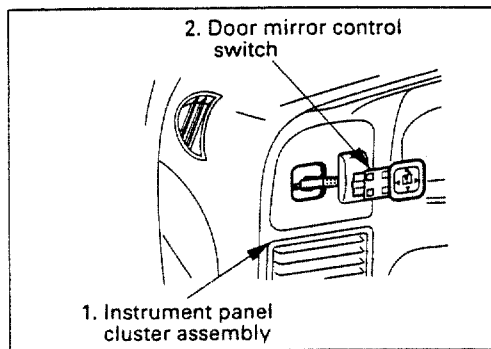


5. Mirror on the right side operates only in the vertical (or horizontal) direction

Checkpoint		Trouble Cause	Countermeasure
Door mirror control SW: function	NG	Door mirror control malfunction	Replace the door mirror control SW.
OK			
Door mirror function	NG	Door mirror malfunction	Repair or replace the door mirror
OK			
Continuity between [LHD] 7 B-26 and 3 D-7 (5 B-26 and 1 D-7) [RHD] 7 B-26 and 3 D-2 (5 B-26 and 1 D-2)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact



REMOVAL AND INSTALLATION



325RV094



DOOR MIRROR CONTROL SWITCH

Removal

1. **Instrument Panel Cluster Assembly**
 - Refer to section 10 "BODY" for instrument panel cluster assembly removal steps.
2. **Door Mirror Control Switch**
 - Disconnect the switch connector.
 - To remove the switch, push the lock from the back side of the cluster assembly.



Installation

To install, follow the removal steps in the reverse order.



DOOR MIRROR

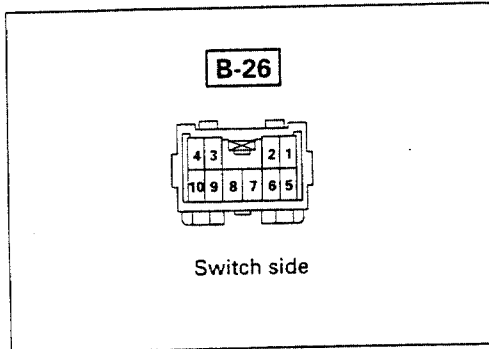
Removal and Installation



Refer to the DOOR MIRROR in section 10 "BODY".

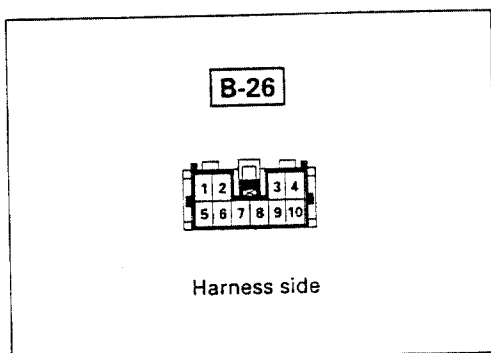


INSPECTION AND REPAIR

**Door Mirror Control Switch****1. Switch Side Connector Circuit**

Check continuity between the switch connector terminals while operating the door mirror control switch as shown in the following table.

Connector No.		4	9	1	8	10	7	5
Switch position								
Door mirror (RH)	△ (Up)	○	○	○			○	○
	▽ (Down)	○	○	○			○	
	◁ (Left)	○	○	○			○	○
	▷ (Right)	○	○	○				○
Door mirror (LH)	△ (Up)	○	○	○	○	○		
	▽ (Down)	○	○	○	○			
	◁ (Left)	○	○	○	○	○		
	▷ (Right)	○	○	○		○		

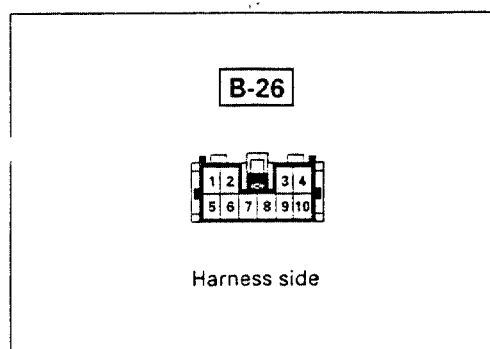
**2. Harness Side Connector Circuit**

Remove the connector No. **B-26** of the mirror control switch and check voltage and continuity of the harness side connector.

- When there is no continuity at the terminal No. 5, 7, 8 and 10, it is considered that the circuit with terminal No. 1 (B/W) is defective.

- When there is no continuity at either one of the circuit No. 5, 7, 8, or 10, the motor in the mirror of the circuit or the circuit itself is defective.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
1	B/W	LH mirror & RH mirror	Continuity	1-Ground	—	No continuity
4	R/L	Fuse CB-19 (15A)	Voltage	4-Ground	Starter SW "ACC" position	Approx. 12V
5	V	RH mirror-LH/RH	Continuity	5 - 1	—	Continuity
7	W/B	RH mirror-Up/Down		7 - 1	—	
8	W/G	LH mirror-Up/Down		8 - 1	—	
9	B	Ground		9-Ground	—	
10	B/R	LH mirror-LH/RH		10 - 1	—	



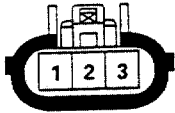
Door Mirror

1. Door Mirror Control Switch Connector Circuit

Disconnect the switch connector (B-26), apply the battery voltage to the harness side connector terminals and check its function.

Mirror	Connector No.		B-26					Operating direction
	Terminal No.		10	5	1	8	7	
Right				+	-			Left
				-	+			Right
					-		+	Up
					+		-	Down
Left			+		-			Left
			-		+			Right
					-	+		Up
					+	-		Down

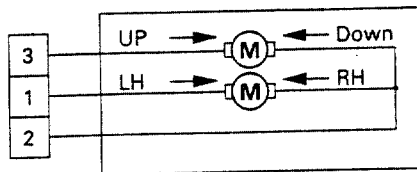
D-2 D-7



Door mirror side

2. Door Mirror Connector Circuit

Disconnect the door mirror connector, apply the battery voltage to the door mirror side connector (D-2 and D-7) terminals and check its function.

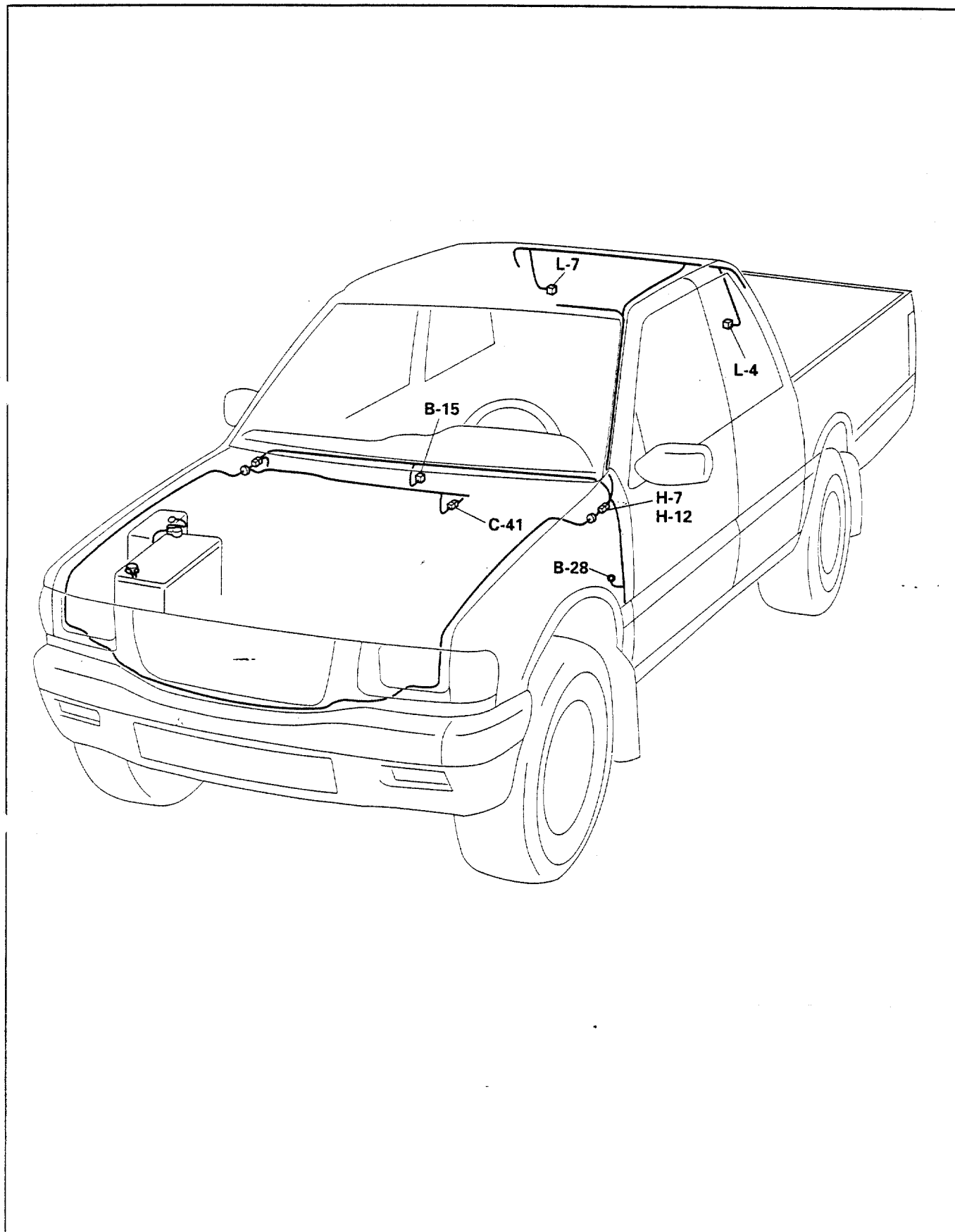


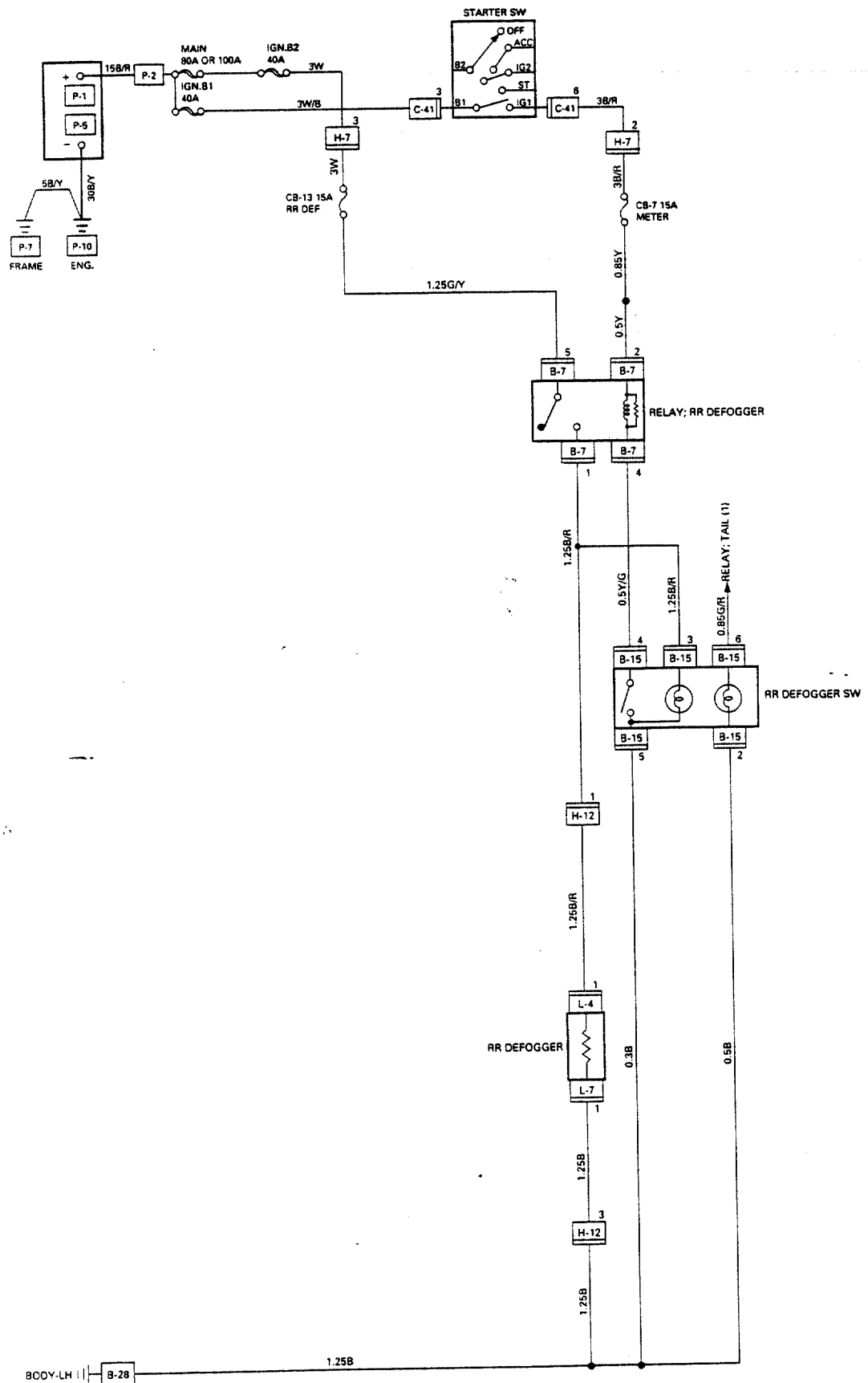
Connector No.		D-2		D-7
Terminal No.		1	2	3
Operation				
Up			⊖	⊕
Down			⊕	⊖
Left		⊕	⊖	
Right		⊖	⊕	

825RV093

REAR DEFOGGER

PARTS LOCATION





TROUBLE SHOOTING

Rear defogger inoperative

Checkpoint		Trouble Cause	Countermeasure
LHD: Fuse No. CB-7 (15A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-7 (15A) (RHD: fuse
OK			
Fuse No. CB-13 (15A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-13 (15A)
OK			
Rear defogger switch function	NG	Switch malfunction	Replace the rear defogger switch
OK			
Rear defogger relay function	NG	Relay malfunction	Replace the rear defogger relay
OK			
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Voltage between 1 L-4 - ground when the starter switch and the rear defogger switch are at on position (should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or poor connector contact between fuse No. CB-7 (15A) and 2 B-7 , fuse No. CB-13 (15A) and 5 B-7 , 1 B-7 and 1 L-4 , 4 B-7 and 4 B-15 or 5 B-15 and B-28

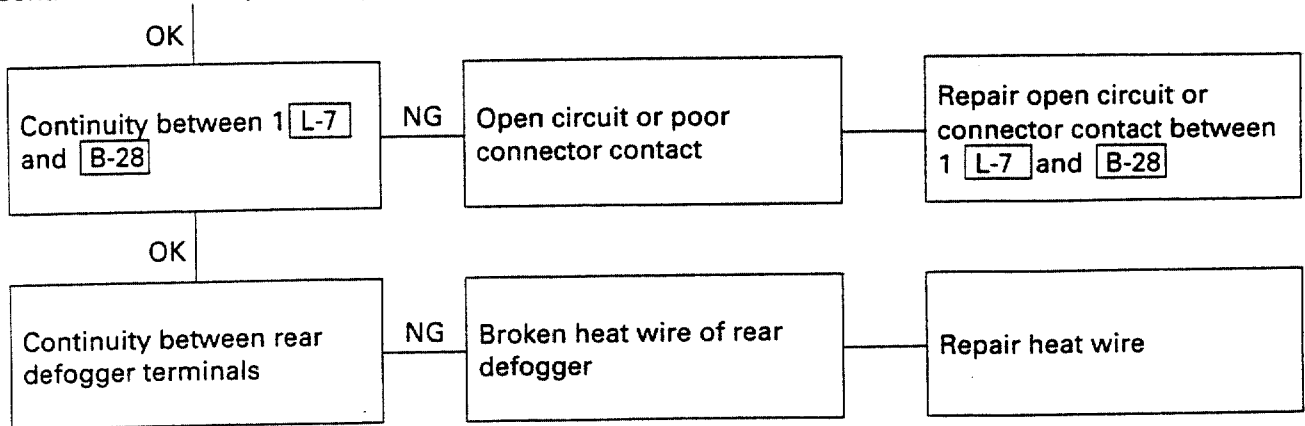
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Checkpoint

Trouble Cause

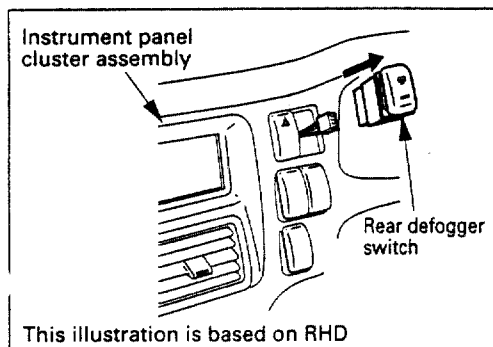
Countermeasure

Continued from the previous page





REMOVAL AND INSTALLATION



825RV095

REAR DEFOGGER SWITCH

Removal



1. Instrument Panel Cluster Assembly

- Refer to Section 10 "BODY" for instrument panel cluster assembly removal steps.

2. Rear Defogger Switch

- Disconnect the switch connector.
- To remove the switch, push the lock from the back side of the cluster assembly.

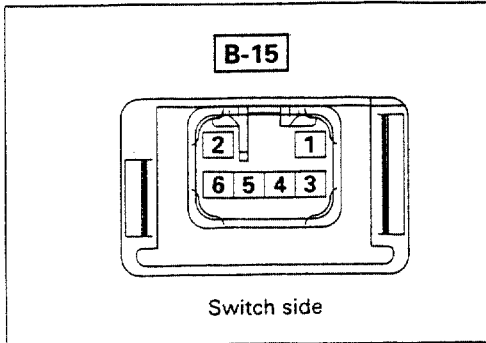
Installation



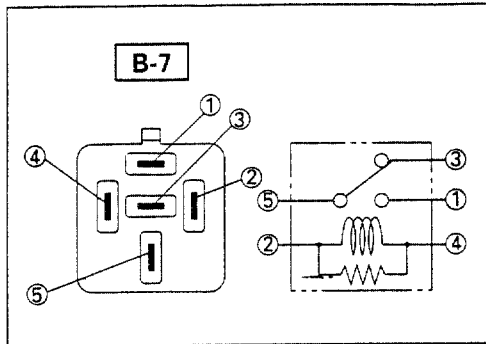
Follow the removal procedure in the reverse order to install the rear defogger switch.



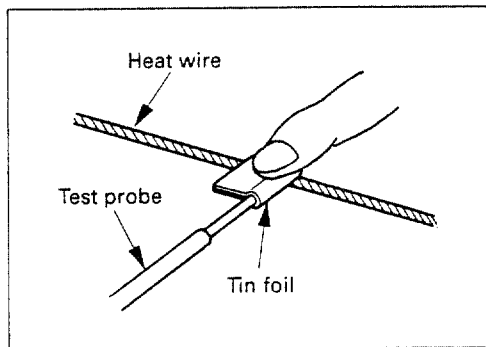
INSPECTION AND REPAIR



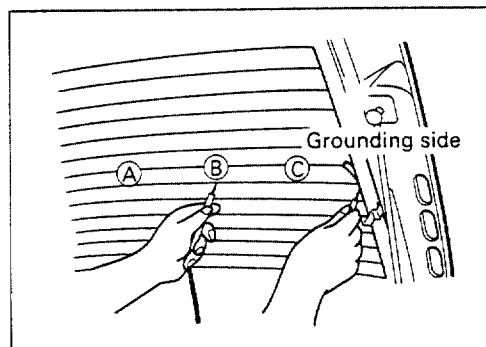
825RV095



060RV005



825RV102



825RV103

REAR DEFOGGER SWITCH

Rear Defogger Switch Connections

Terminal No.	3	5	4	6	2
SW position					
ON	○	○	○	○	○
OFF	○	○	○	○	○

REAR DEFOGGER RELAY

Check continuity between the relay terminals.

① - ⑤ No continuity

(When battery voltage is applied between ② and ④)

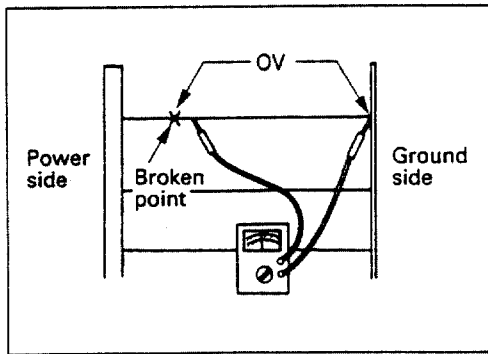
① - ⑤ Continuity



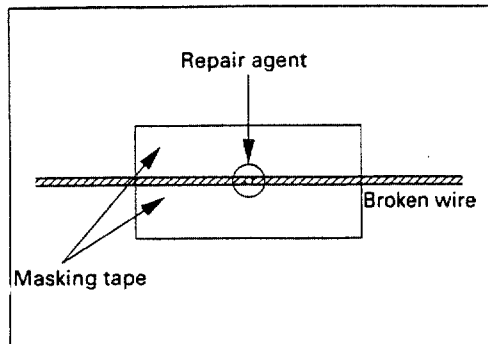
INSPECTION OF REAR DEFOGGER HEAT WIRE

- Heat wires are printed on the inner side of glass. To clean, use a soft cloth and wipe horizontally along the wires.
- Never use glass cleaner or equivalent.
- When measuring voltage, wind a piece of tin foil around the tip of the negative probe and press the foil against the wire with your finger as shown.

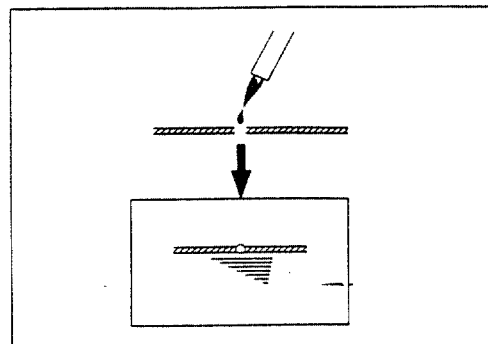
- Turn the ignition switch on.
- Turn the defogger switch on.
- Measure the voltage between the three points on the heat wire and the (-) terminal with a voltmeter.
- Check that the voltage becomes smaller from ① to ② to ③.



825RV101



825RV099



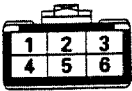
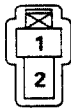
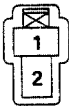
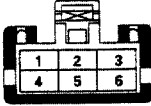
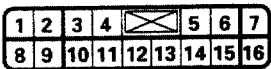
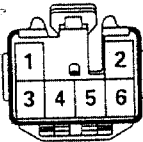
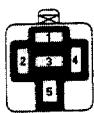
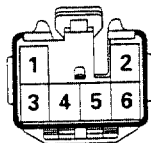
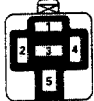
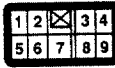
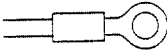
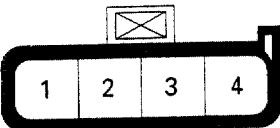
825RV100

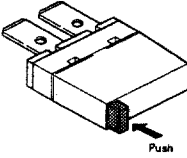
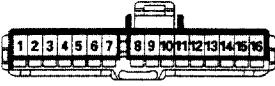
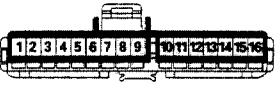
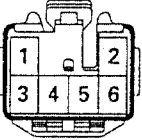
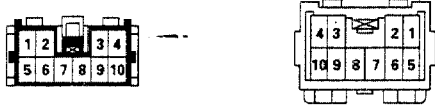
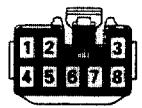
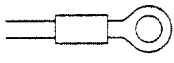
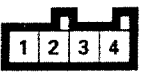
- (5) If there is a place where the voltage suddenly changes to 0V, there is a broken wire between there and the power side.
- (6) Move the tester probe from the position where the voltage changes to 0V toward the power side and find where the voltage suddenly increases.

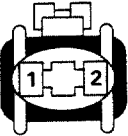
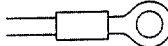
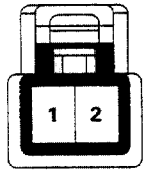
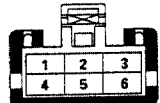
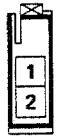
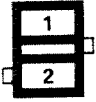
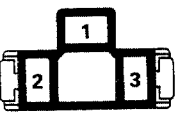
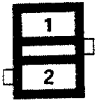
REPAIR OF BROKEN HEAT WIRE

- (1) Clean broken wire tips with white gasoline.
- (2) Place masking tape along both sides of wire to be repaired.
- (3) Thoroughly mix the repair agent (Dupont paste No. 4817 or equivalent).
- (4) Using a fine tip brush, apply a small amount to the wire.
- (5) After a couple of minutes, remove the masking tape.
- (6) Allow to stand at least 24 hours.

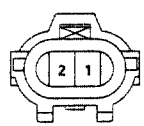
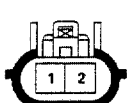
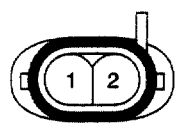
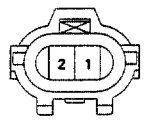
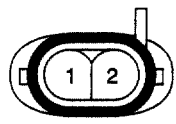
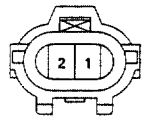
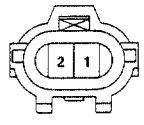
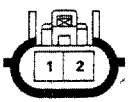
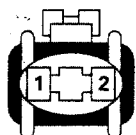
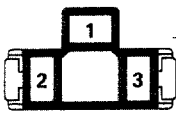
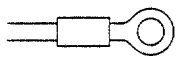
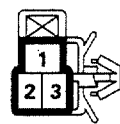
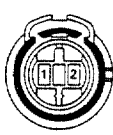
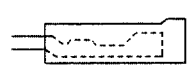
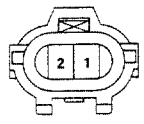
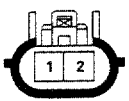
CONNECTOR LIST

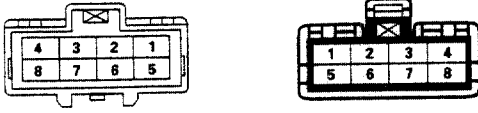
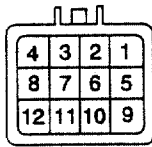
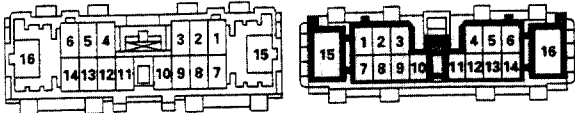
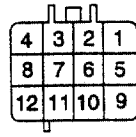
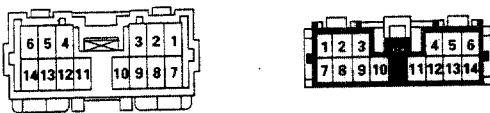
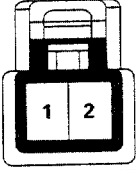
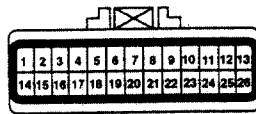
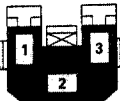
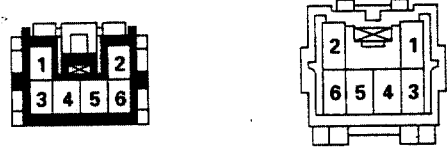
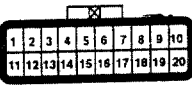
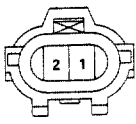
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B-1		B-11	 
B-2		B-12	
B-3	 	B-13	
B-4		B-14	
B-5		B-15	
B-6	NOT USED	B-16	
B-7		B-17	
B-8		B-18	
B-9		B-19	
B-10		B-20	

No.	Connector face	No.	Connector face
B-21		B-31	
B-22		B-32	
B-23			
B-24			
B-25			
B-26			
B-27			
B-28			
B-29			
B-30			

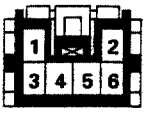
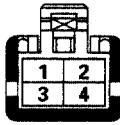
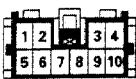
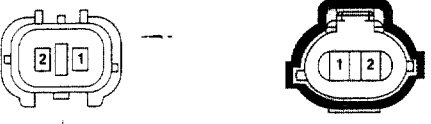
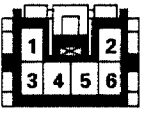
No.	Connector face	No.	Connector face
C-1		C-11	
C-2		C-12	
C-3		C-13	NOT USED
C-4		C-14	NOT USED
C-5		C-15	
C-6		C-16	
C-7		C-17	
C-8		C-18	
C-9		C-19	
C-10		C-20	

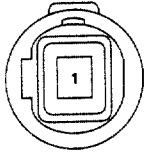
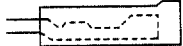
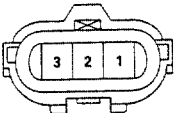
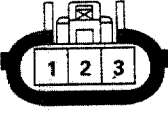
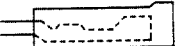
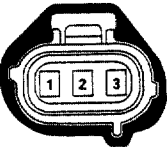
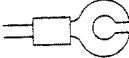
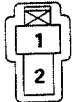
8-198 ELECTRICAL-BODY AND CHASSIS

No.	Connector face	No.	Connector face
C-21		C-31	
C-22	 	C-32	
C-23		C-33	
C-24		C-34	 
C-25	 	C-35	
C-26		C-36	
C-27		C-37	
C-28		C-38	
C-29		C-39	NOT USED
C-30	 	C-40	

No.	Connector face	No.	Connector face
C-41		C-53	
C-42		C-54	
C-43		C-55	
C-44		C-56	
C-45		C-57	
C-46		C-58	
C-47 C-49	NOT USED	C-59 C-96	NOT USED
C-50		C-97	
C-51	NOT USED		
C-52	NOT USED		

8-200 ELECTRICAL-BODY AND CHASSIS

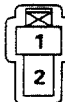
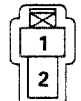
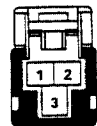
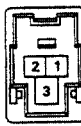
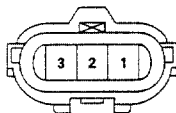
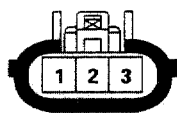
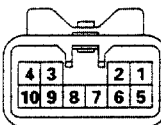
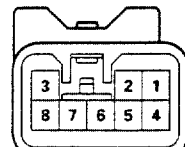
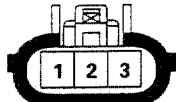
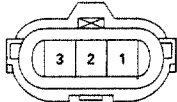
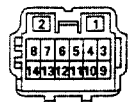
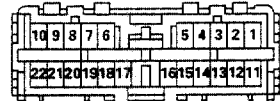
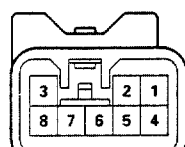
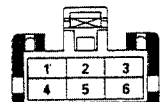
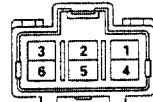
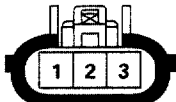
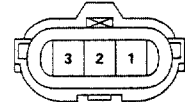
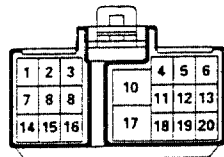
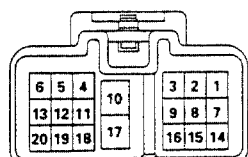
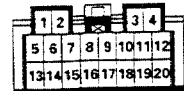
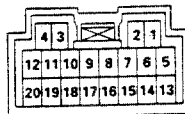
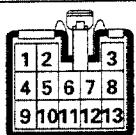
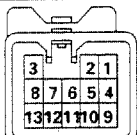
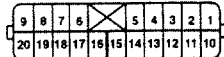
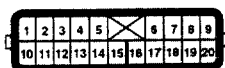
No.	Connector face	No.	Connector face
D-1		D-11	
D-2		D-12	
D-3		D-13	
D-4		D-14	
D-5		D-15	
D-6		D-16	
D-7		D-17	
D-8		D-18	
D-9			
D-10			

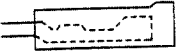
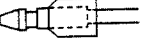
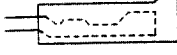
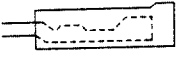
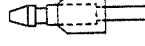
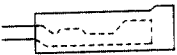
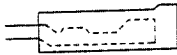
No.	Connector face	No.	Connector face
E-1	 (DIEZEL)	E-37	 
E-2	NOT USED	E-38 E-40	NOT USED
E-3	 	E-41	
E-4	NOT USED	E-42	 
E-5	 	E-43	 
E-6 E-18	NOT USED	E-44	
E-19		E-45	 
E-20 E-34	NOT USED	E-46	 
E-35		E-47	NOT USED
E-36	 	E-48	NOT USED

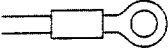
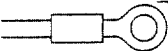
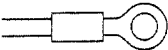
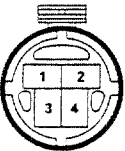
8-202 ELECTRICAL-BODY AND CHASSIS

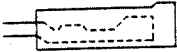
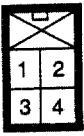
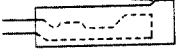
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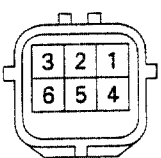
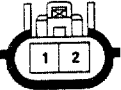
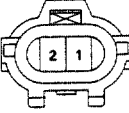
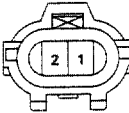
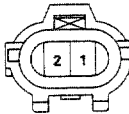
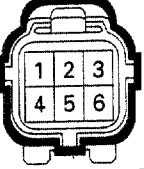
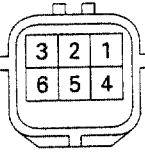
No.	Connector face	No.	Connector face
H-1	NOT USED	H-11	 
H-2	 	H-12	 
H-3	 	H-13	  (WITH POWER WINDOW AND POWER DOOR LOCK)
H-4	 	H-14	 
H-5	 	H-15	 
H-6	 	H-16	 
H-7	 	H-17	 
H-8	 	H-18 H-20	NOT USED
H-9	 	H-21	 
H-10	  (WITHOUT POWER WINDOW AND DOOR LOCK)	H-25	 

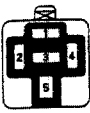
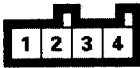
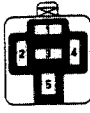
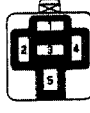
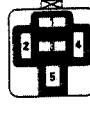
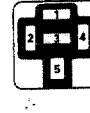
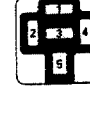
No.	Connector face	No.	Connector face
L-1	 		
L-2	 		
L-3	 		
L-4			
L-5			
L-6			
L-7			
L-8	 		
L-9	 		

No.	Connector face	No.	Connector face
P-1			
P-2			
P-3	NOT USED		
P-4			
P-5			
P-6			
P-7			
P-8			
P-9	 		
P-10			

No.	Connector face	No.	Connector face
R-1			
R-2			
R-3	 		
R-4			
R-5			
R-6			

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No.	Connector face		No.	Connector face
T-1				
T-2				
T-3				
T-4				
T-5	NOT USED			
T-6				

No.	Connector face	No.	Connector face
X-1		X-11	
X-2		X-12	NOT USED
X-3		X-13	NOT USED
X-4		X-14	NOT USED
X-5			
X-6			
X-7			
X-8			
X-9			
X-10			

MEMO

A series of horizontal dotted lines for writing.

TFELC-WE-989IR

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