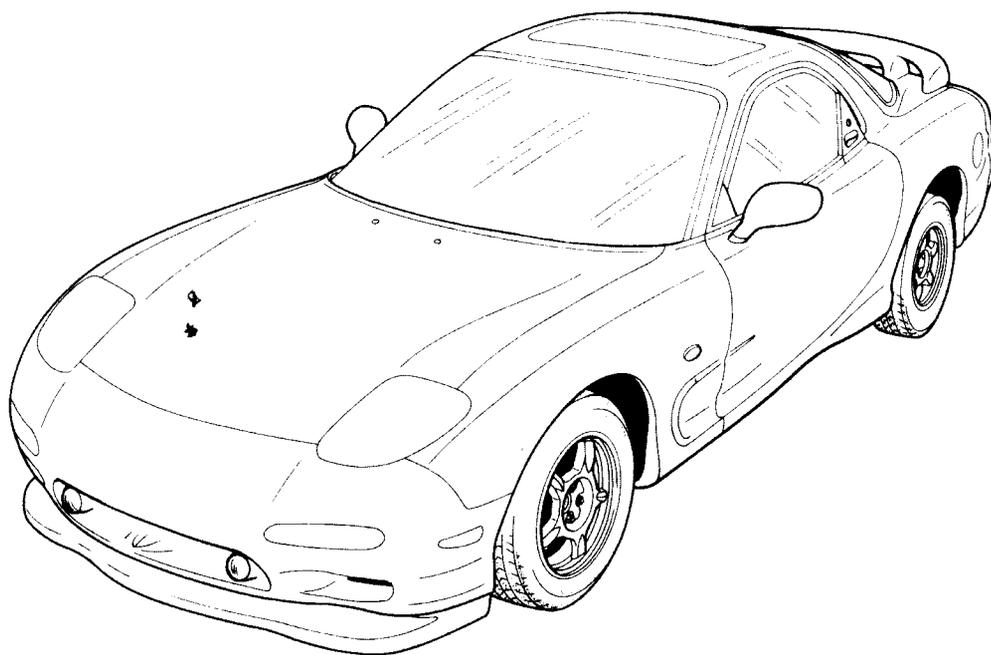


Mazda RX-7

1994 Body Electrical Troubleshooting Manual



1994 Mazda RX-7 Body Electrical Troubleshooting Manual

FOREWORD

For proper repair and maintenance, a thorough familiarization with this manual is important, and it should always be kept in a handy place for quick and easy reference. All the contents of this manual, including drawings and specifications, are the latest available at the time of printing. As modifications affecting repair or maintenance occur, relevant information supplementary to this volume will be made available at Mazda dealers. This manual should be kept up-to-date.

Mazda Motor Corporation reserves the right to alter the specifications and contents of this manual without obligation or advance notice.

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WARRANTY

The manufacturer's warranty on Mazda vehicles and engines can be voided if improper service or repairs are performed by persons other than those at an Authorized Mazda Dealer.

**Mazda Motor Corporation
HIROSHIMA, JAPAN**

APPLICATION:

This manual is applicable to vehicles beginning with the Vehicle Identification Numbers (VIN) shown on the following page.

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Part No. 9999-95-085F-94

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

INSTRUMENT CLUSTER

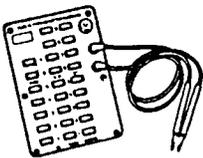
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47UC1X-501

INSTRUMENT CLUSTER

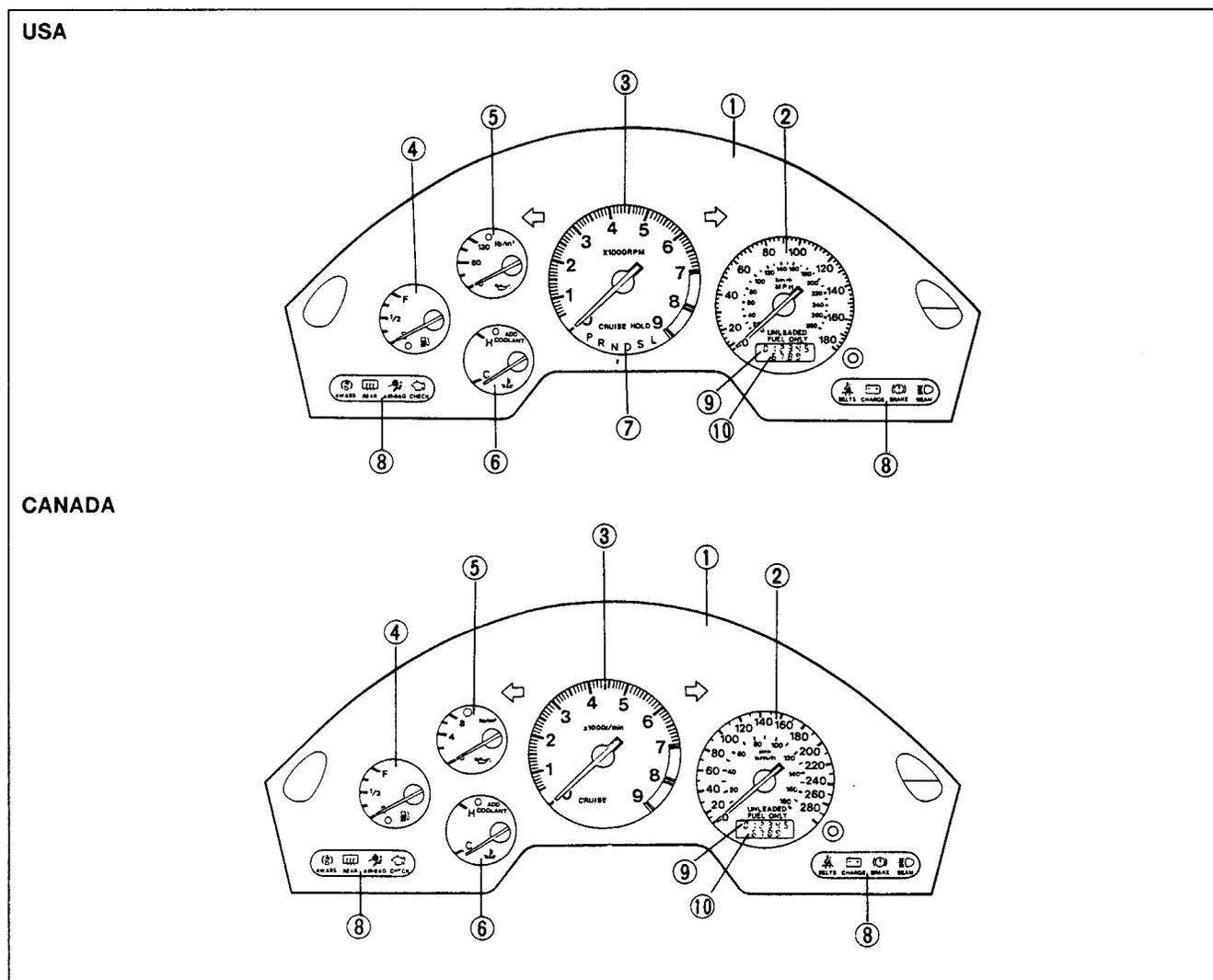
PREPARATION

SST

<p>49 0839 285</p> <p>Checker, fuel/ thermometer</p> 	<p>For inspection of fuel and water temper- ature gauge</p>
--	---

19G0TX-437

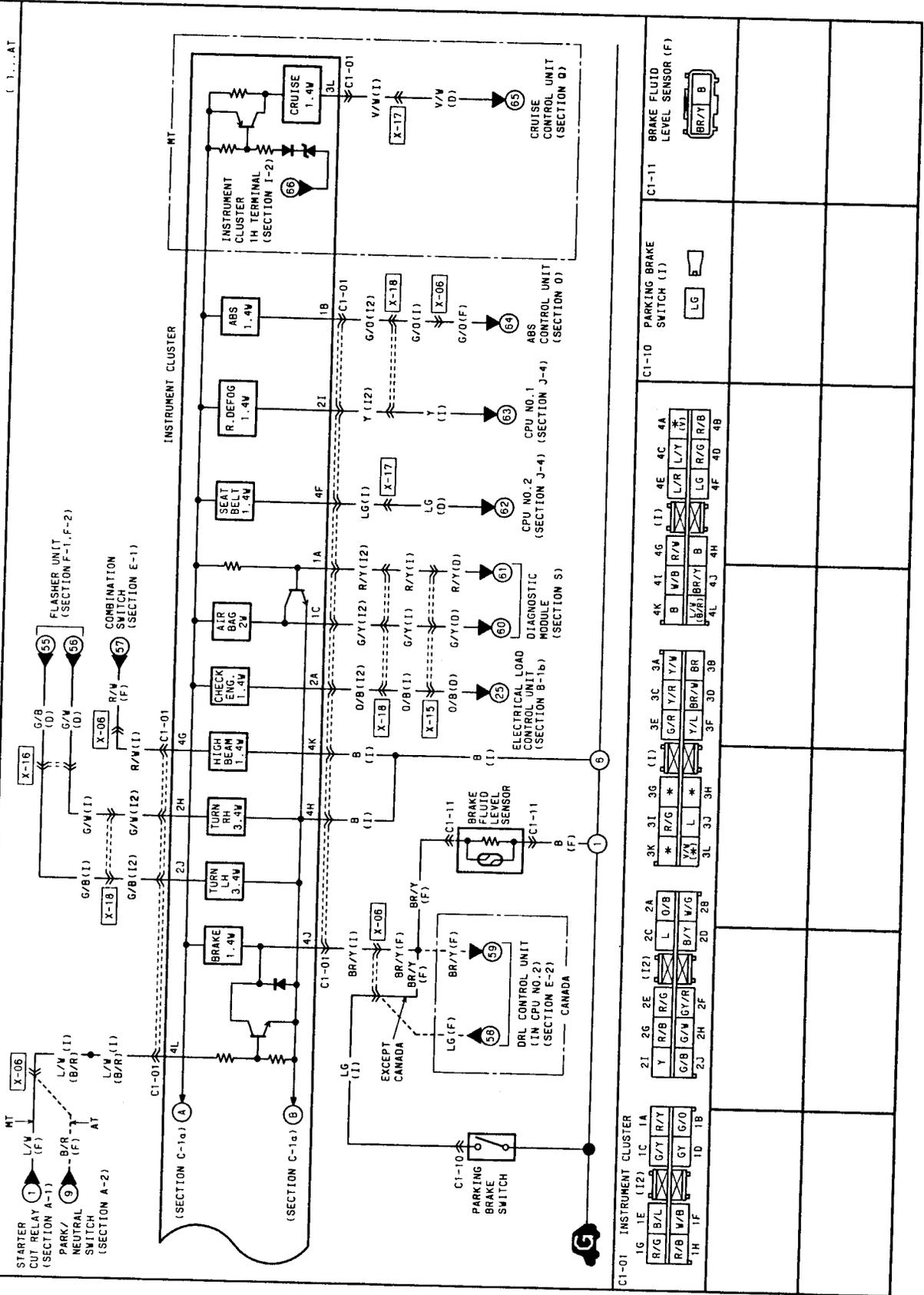
STRUCTURAL VIEW



47UC1X-502

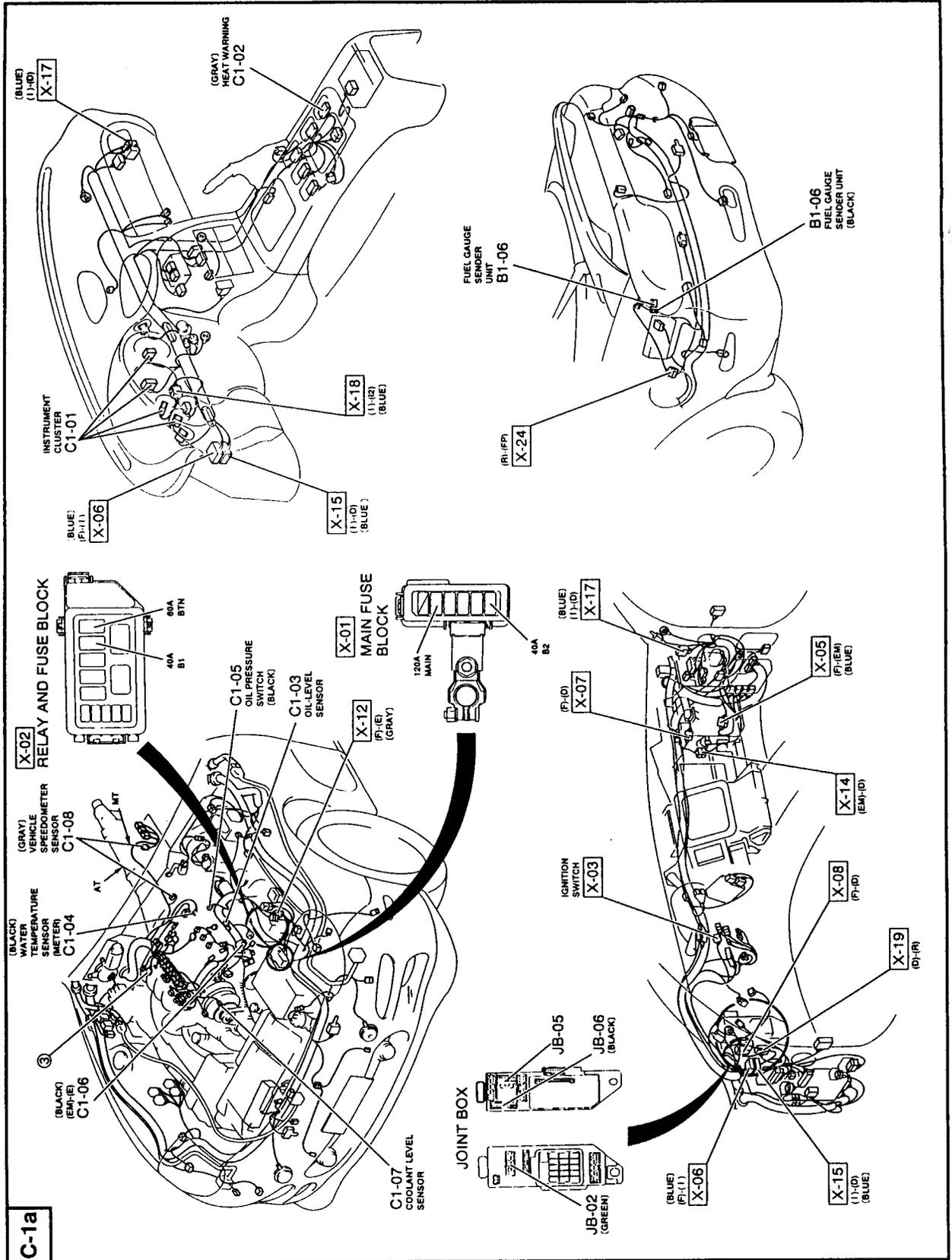
- | | |
|---|---|
| 1. Instrument cluster
Removal / Installation page C1-13
Disassembly / Assembly page C1-14 | 5. Oil pressure gauge
Inspection page C1-16 |
| 2. Speedometer
Inspection page C1-15 | 6. Water temperature gauge
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| 3. Tachometer
Inspection page C1-15 | 7. Selector indicator light |
| 4. Fuel gauge
Inspection page C1-15 | 8. Warning and indicator lights
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| | 9. Odometer |
| | 10. Tripmeter |

C-1b INSTRUMENT CLUSTER AND WARNING LIGHTS

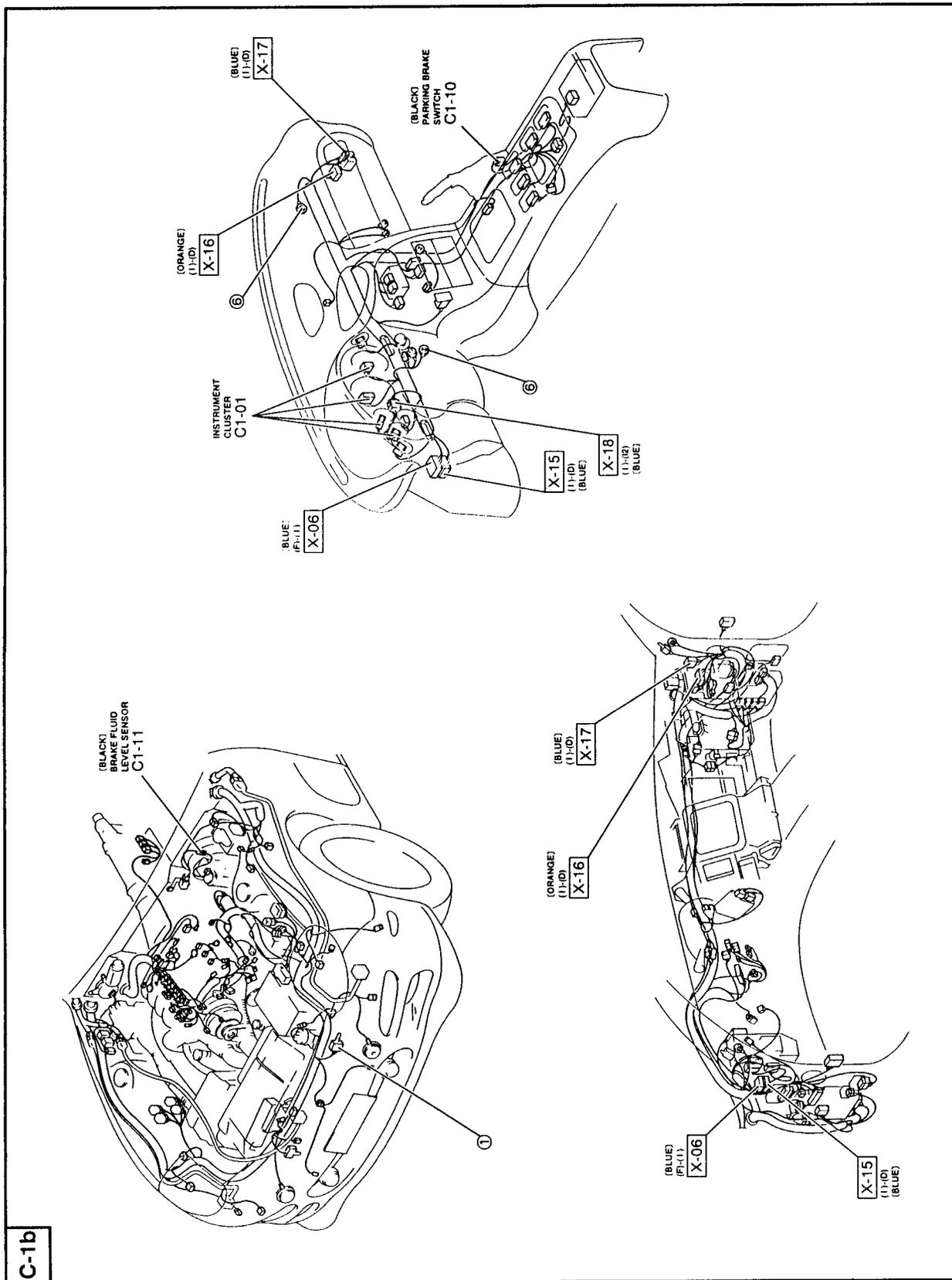


(...AT

Connector Locations



C1



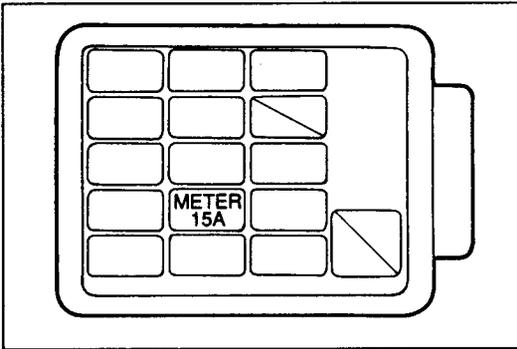
C-1b

Flowchart No.1	Symptom	All meters and gauges (speedometer, tachometer, water temperature gauge, oil pressure gauge, and fuel gauge) do not operate
-----------------------	----------------	---

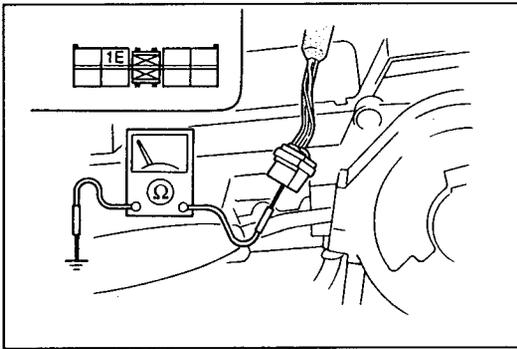
Possible cause

- Burnt METER 15A fuse
- Damaged meters and gauges
- Open or short circuit in wiring harness
- Poor connection of connector

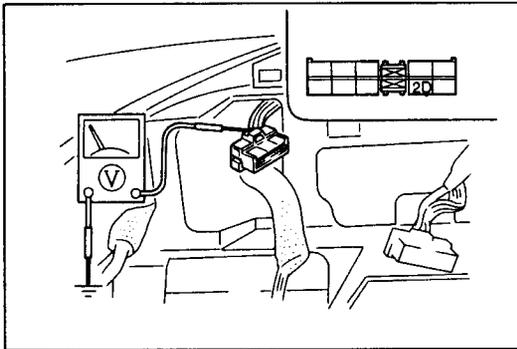
47UC1X-505



47UC1X-506



47UC1X-507



47UC1X-508

Step 1

Check the METER 15A fuse in the fuse block.

Fuse	Action
Burnt	Replace fuse after checking and repairing wiring harness
OK	Go to Step 2

Step 2

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Disconnect the instrument cluster connector and check for continuity between terminal 1E (B/L) and ground.

Continuity	Action
Yes	Reconnect connector and go to Step 3
No	Repair wiring harness (Instrument cluster—GND)

Step 3

1. Turn the ignition switch to ON.
2. Measure the voltage at terminal 2D (B/Y) of the instrument cluster connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (METER 15A fuse—Instrument cluster)

Step 4

Refer to the following flowcharts.

Faulty item	Flowchart No.	Refer to
Speedometer	2, 3	pages C1-8, 9
Tachometer	4	page C1-9
Water temperature gauge	5	page C1-10
Fuel gauge	6	page C1-11
Oil pressure gauge	7	page C1-12

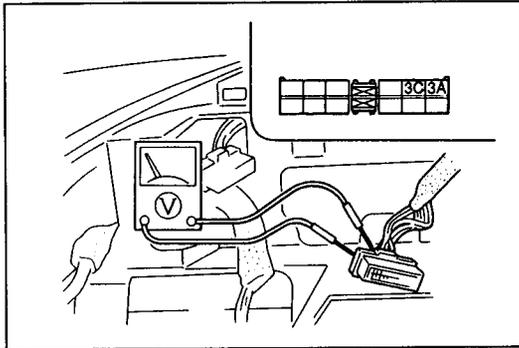
47UC1X-509

Flowchart No.2	Symptom	Speedometer does not operate
-----------------------	----------------	------------------------------

Possible cause

- Damaged vehicle speedometer sensor
- Damaged speedometer
- Open or short circuit in wiring harness
- Poor connection of connector

47UC1X-510

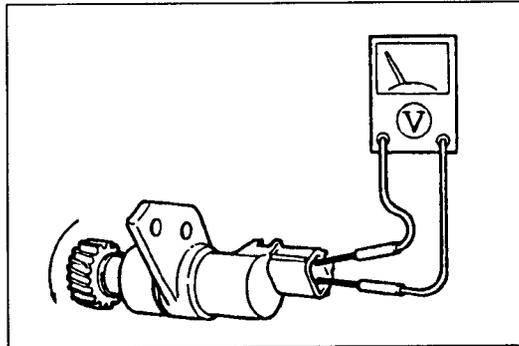


47UC1X-511

Step 1

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Turn the ignition switch to LOCK and disconnect the instrument cluster connector.
3. Measure the voltage between terminal 3A (Y/W) and 3C (Y/R) of the instrument cluster connector with the rear wheels turning slowly.

Meter needle	Action
Moves slightly under 5V	Replace speedometer (Refer to page C1-14)
Does not move	Go to Step 2



47UC1X-512

Step 2

1. Remove the vehicle speedometer sensor. (Refer to page C1-17.)
2. Measure the voltage between terminals A and B of the vehicle speedometer sensor while rotating the driven gear.

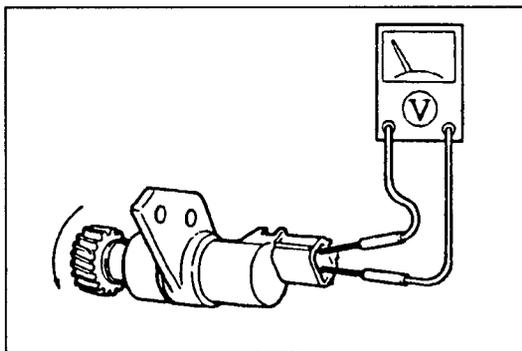
Meter needle	Action
Moves slightly under 5V	Repair wiring harness (Instrument cluster—Vehicle speedometer sensor)
Does not move	Replace vehicle speedometer sensor (Refer to page C1-17)

Flowchart No.3	Symptom	Speedometer needle fluctuates or indication incorrect
-----------------------	----------------	---

Possible cause

- Damaged vehicle speedometer sensor
- Damaged speedometer

47UC1X-513



47UC1X-514

Remedy

1. Remove the vehicle speedometer sensor. (Refer to page C1-17.)
2. Measure the voltage between terminals A and B of the vehicle speedometer sensor while rotating the driven gear.

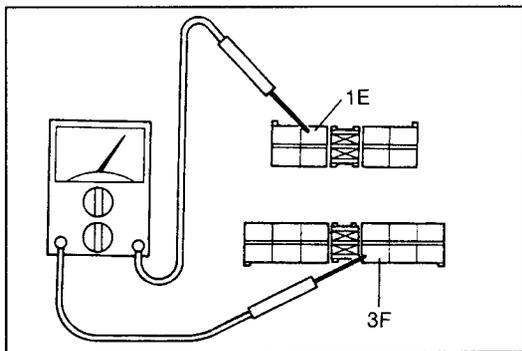
Meter needle	Action
Moves slightly under 5V	Repair wiring harness (Instrument cluster—Vehicle speedometer sensor)
Does not move	Replace vehicle speedometer sensor (Refer to page C1-17)

Flowchart No.4	Symptom	Tachometer does not operate
-----------------------	----------------	-----------------------------

Possible cause

- Damaged tachometer
- Open or short circuit in wiring harness
- Damaged PCME or crank angle sensor
- Poor connection of connector

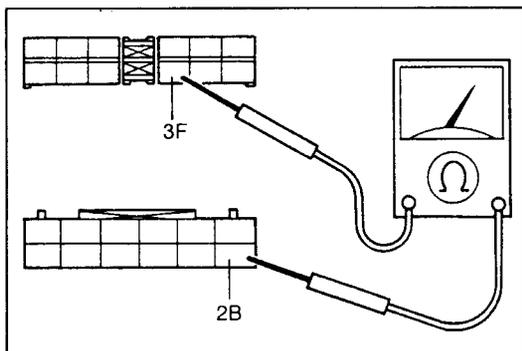
47UC1X-515



Step 1

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Connect a test tachometer between terminals 1E (B/L) and 3F (Y/L) of the instrument cluster connector.
3. Start the engine.
4. Verify that the test tachometer operates normally.

Operation	Action
Normal	Replace tachometer (Refer to page C1-14)
Abnormal	Go to Step 2



Step 2

1. Remove the passenger-side scuff plate and the front side trim.
2. Disconnect the PCME connector (12-pin).
3. Check for continuity between terminal 3F (Y/L) of the instrument cluster connector and terminal 2B (Y/L) of the PCME connector.

Continuity	Action
No	Repair wiring harness (Instrument cluster—PCME)
Yes	Inspect PCME (Refer to 1994 RX-7 Workshop Manual, section F)

Flowchart No.5

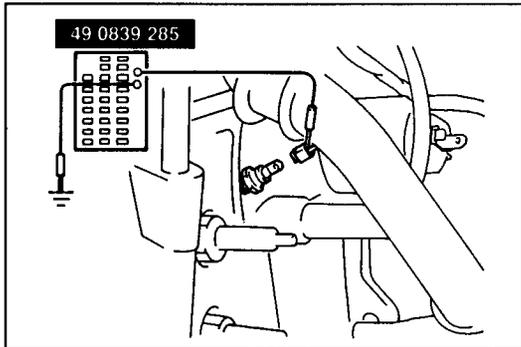
Symptom

Water temperature gauge does not operate

Possible cause

- Damaged water temperature sensor
- Damaged water temperature gauge
- Open or short circuit in wiring harness
- Poor connection of connector

47UC1X-518

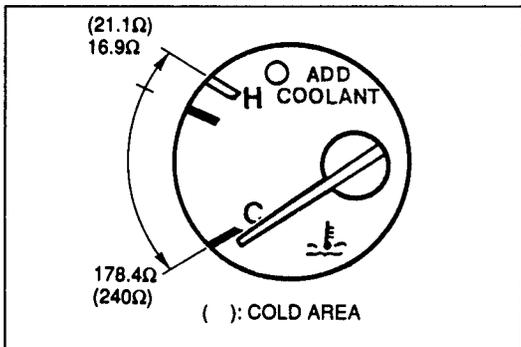


47UC1X-519

Step 1

1. Disconnect the water temperature sensor connector.
2. Connect the red lead of the **SST** to terminal A (Y/W) of the connector and the black lead to ground.
3. Turn the ignition switch to ON.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each value.
5. Verify that the water temperature gauge indicates the correct values. The allowable indication error is twice the width of the needle.

Gauge display	Action
Correct	Replace water temperature sensor (Refer to page C1-17)
Incorrect	Go to Step 2

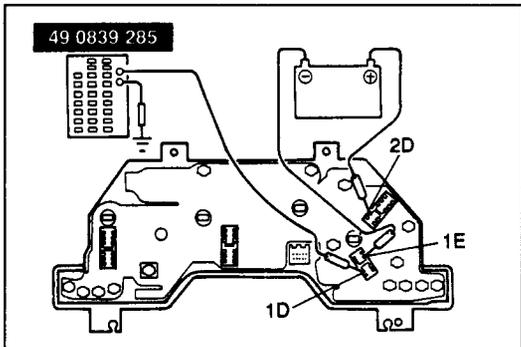


47UC1X-520

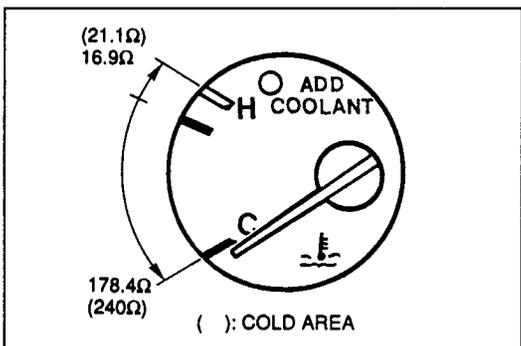
Step 2

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 1D of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each value.
5. Verify that the water temperature gauge indicates the correct values. The allowable indication error is twice the width of the needle.

Gauge display	Action
Correct	Repair wiring harness (Instrument cluster—Water temperature sensor)
Incorrect	Replace water temperature gauge (Refer to page C1-14)



47UC1X-521



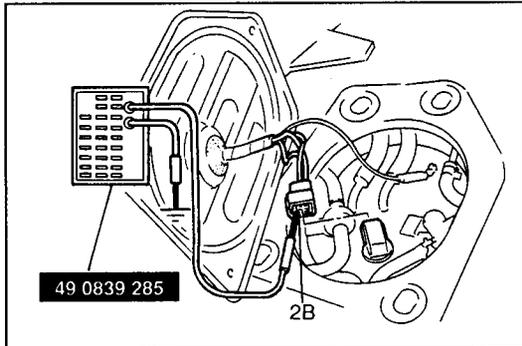
47UC1X-522

Flowchart No.6	Symptom	Fuel gauge does not operate
-----------------------	----------------	-----------------------------

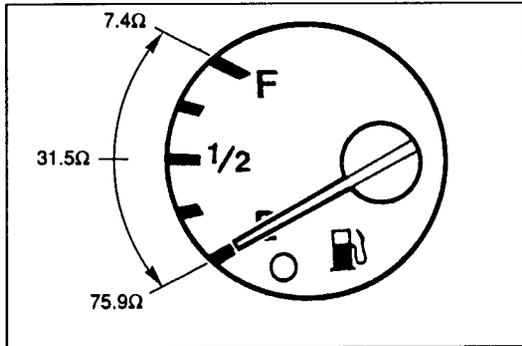
Possible cause

- Damaged fuel gauge sender unit
- Damaged fuel gauge
- Open or short circuit in wiring harness
- Poor connection of connector

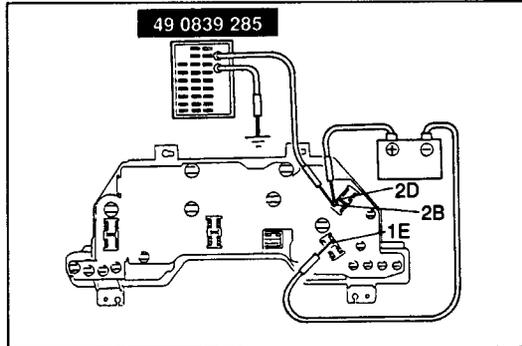
47UC1X-523



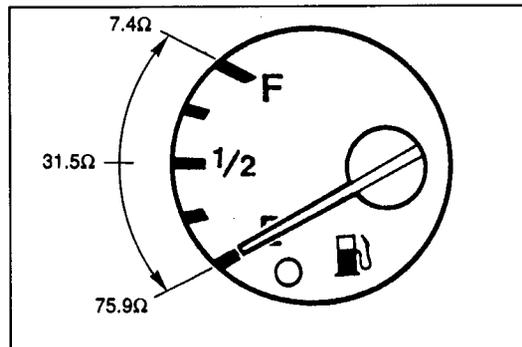
47UC1X-524



47UC1X-525



47UC1X-526



47UC1X-527

Step 1

1. Remove the fuel pump cover. (Refer to the 1994 RX-7 Workshop Manual, section F.)
2. Disconnect the fuel gauge sender unit connector.
3. Connect the red lead of the **SST** to terminal 2C (W/G) of the connector and the black lead to ground.
4. Turn the ignition switch to ON.
5. Set the **SST** to the resistance valves shown in the figure. To get an accurate reading, wait 2 minutes after setting each valve.
6. Verify that the fuel gauge indicates the correct valves. The allowable indication error is twice the width of the needle.

Gauge display	Action
Correct	Replace fuel gauge sender unit (Refer to 1994 RX-7 Workshop Manual, section F)
Incorrect	Go to Step 2

Step 2

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 2B of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance valves shown in the figure. To get an accurate reading, wait 2 minutes after setting each valve.
5. Verify that the fuel gauge indicates the correct values. The allowable indication error is twice the width of the needle.

Gauge display	Action
Correct	Repair wiring harness (Instrument cluster—Fuel gauge)
Incorrect	Replace fuel gauge (Refer to page C1-14)

Flowchart No.7

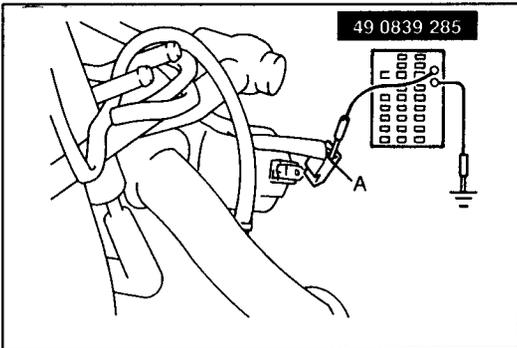
Symptom

Oil pressure gauge does not operate

Possible cause

- Damage oil pressure switch
- Damage oil pressure gauge
- Open or short circuit in wiring harness
- Poor connection of connector

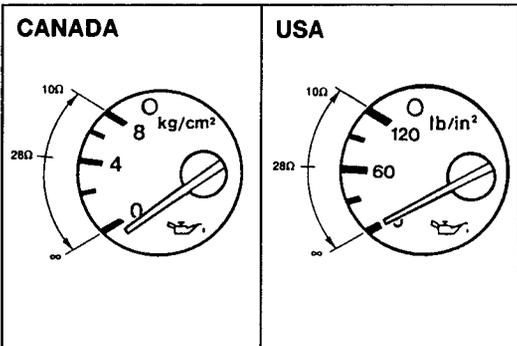
47UC1X-528



47UC1X-529

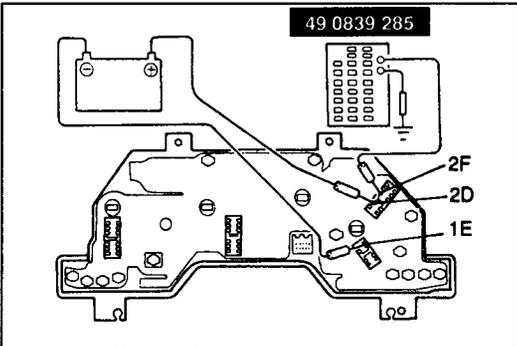
Step 1

1. Disconnect the oil pressure switch connector.
2. Connect the red lead of the **SST** to terminal A (GY/R) of the connector and the black lead to ground.
3. Turn the ignition switch to ON.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each valve.
5. Verify that the oil pressure gauge indicates the correct values. The allowable indication error is twice the width of the needle.



47UC1X-530

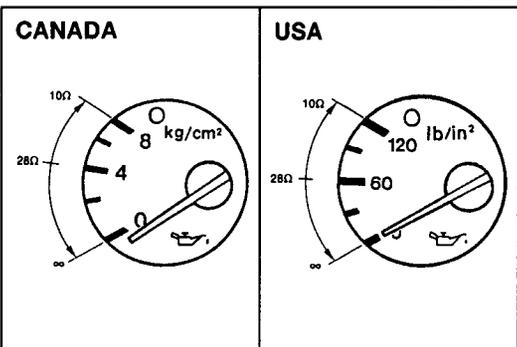
Gauge display	Action
Correct	Replace oil pressure switch (Refer to 1994 RX-7 Workshop Manual, section D)
Incorrect	Go to Step 2



47UC1X-531

Step 2

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 2F of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each valve.
5. Verify that the oil pressure gauge indicates the correct values. The allowable indication error is twice the width of the needle.



47UC1X-532

Gauge display	Action
Correct	Repair wiring harness (Instrument cluster—Oil pressure switch)
Incorrect	Replace oil pressure gauge (Refer to page C1-14)

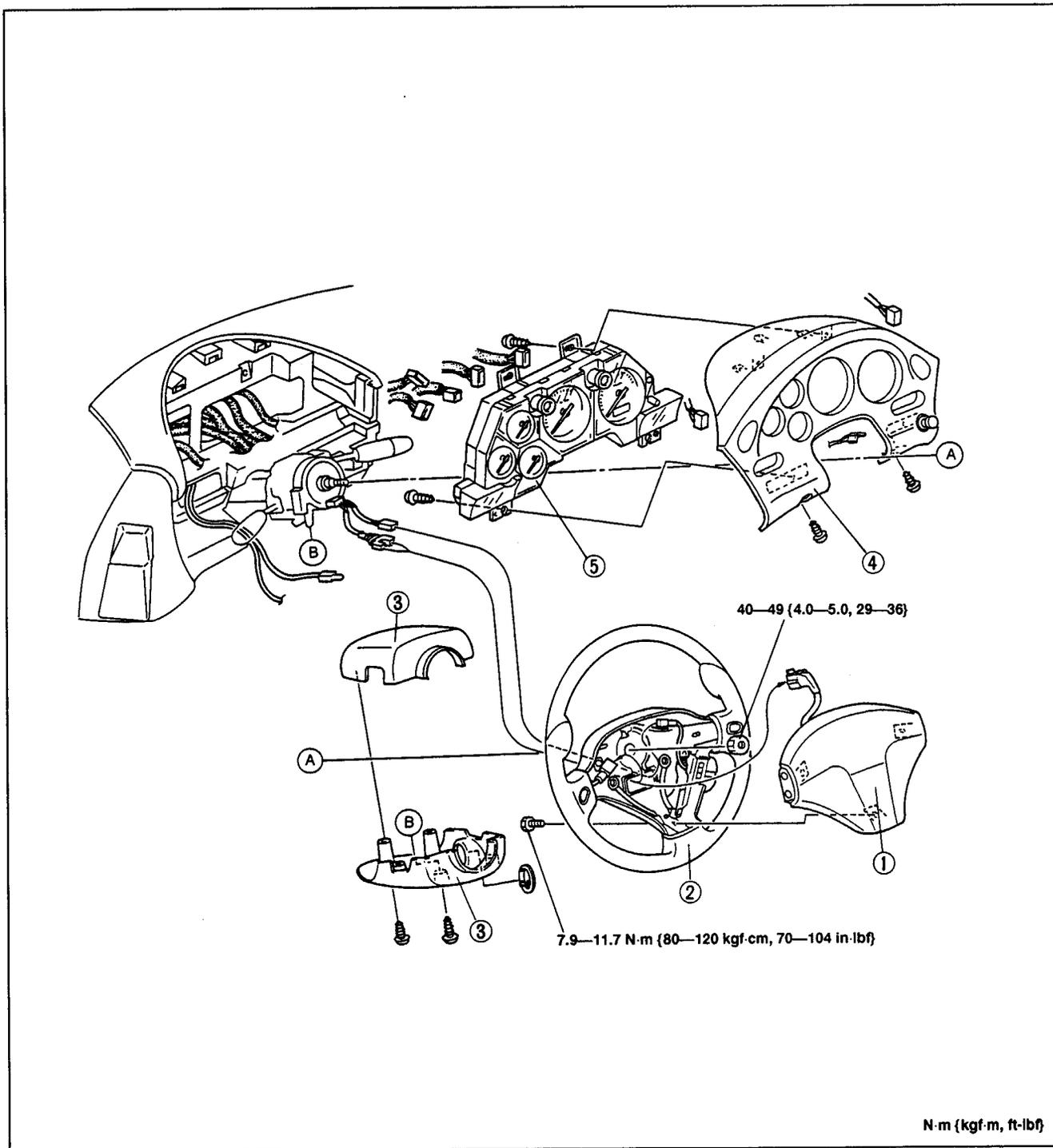
INSTRUMENT CLUSTER

Removal / Installation

Warning

- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, section S, before handling the air bag module.

1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.



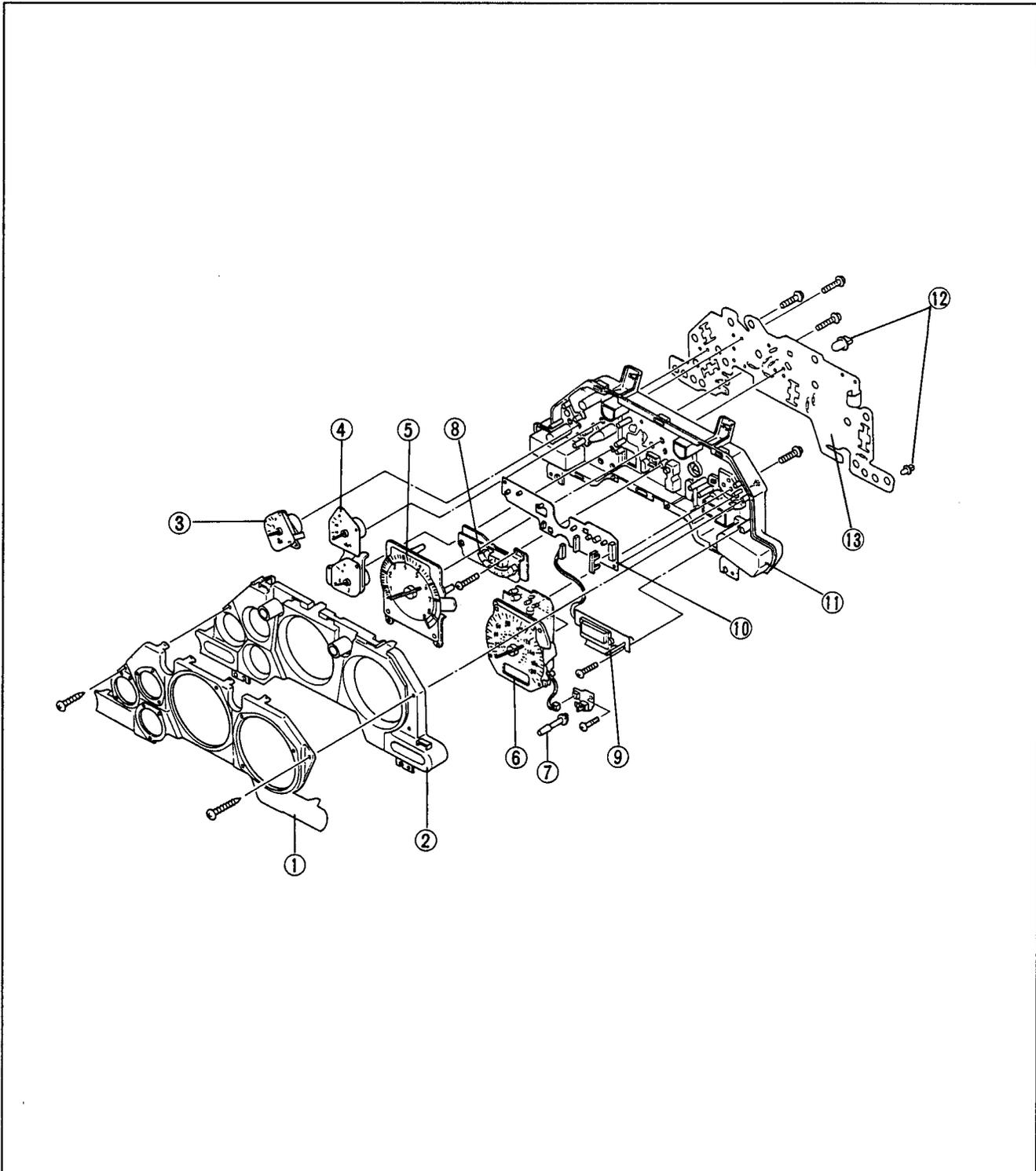
47UC1X-533

1. Air bag module
2. Steering wheel
3. Column cover

4. Meter hood
5. Instrument cluster

Disassembly / Assembly

1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of disassembly.



47UC1X-534

- | | |
|--|-----------------------------------|
| 1. Lens | 8. Selector indicator light (USA) |
| 2. Cover | 9. Display (odometer, tripmeter) |
| 3. Fuel gauge | 10. Print circuit |
| 4. Oil pressure gauge, water temperature gauge | 11. Housing |
| 5. Tachometer | 12. Bulb |
| 6. Speedometer | 13. Print circuit |
| 7. Tripmeter cancel knob | |

Standard indication {km/h}	Allowable indication {km/h}
40	40—43
80	80—84
120	120—126

Standard indication {mph}	Allowable indication {mph}
20	20—23
60	60—63
100	100—105

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(MT)

Standard indication {rpm}	Allowable indication {rpm}
2,000	1,810—2,100
3,000	2,800—3,100
4,000	3,760—4,060
5,000	4,780—5,080

(AT) (USA)

Standard indication {rpm}	Allowable indication {rpm}
2,000	1,810—2,110
3,000	2,800—3,100
4,000	3,820—4,020
5,000	4,700—5,000

47UC1X-536

SPEEDOMETER

Inspection

Note

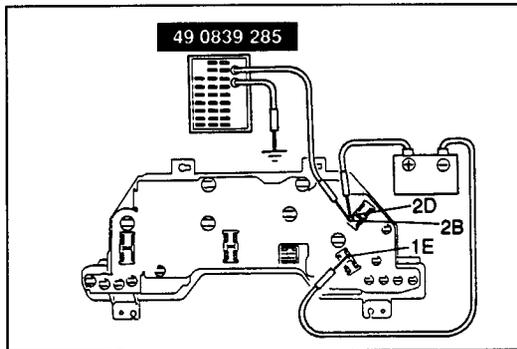
- Tire wear and improper inflation could increase speedometer error.

1. Using a speedometer tester, check the speedometer for indication error, and check the operation of the speedometer.
2. If not as specified, replace the speedometer. (Refer to page C1-14.)

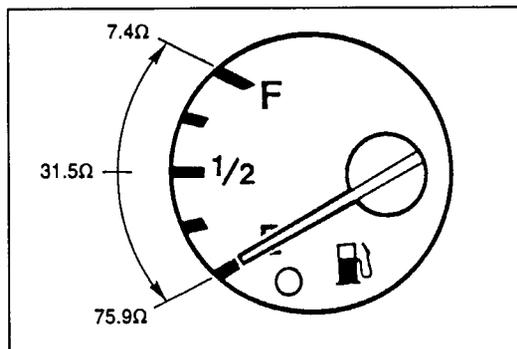
TACHOMETER

Inspection

1. Connect a test tachometer to the engine and start the engine.
2. Check the tachometer for allowable indication error.
3. If not as specified, replace the tachometer. (Refer to page C1-14.)



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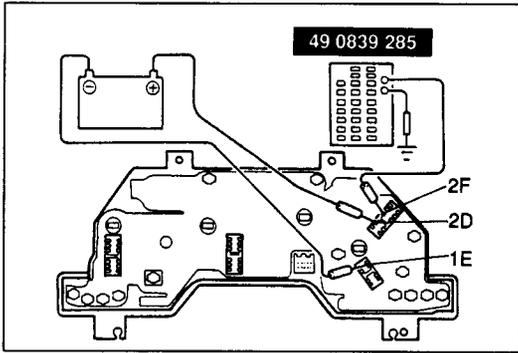


47UC1X-538

FUEL GAUGE

Inspection

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 2B of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each value.
5. Verify that the fuel gauge indicates the correct values. The allowable indication error is twice the width of the needle.
6. If not as specified, replace the fuel gauge.

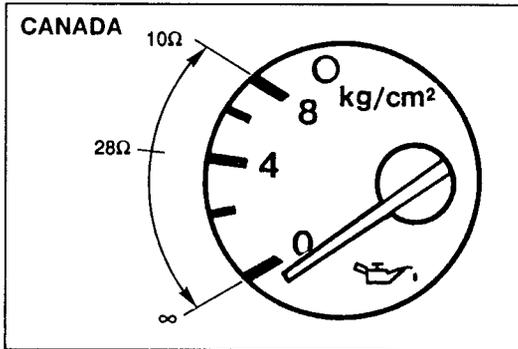


47UC1X-539

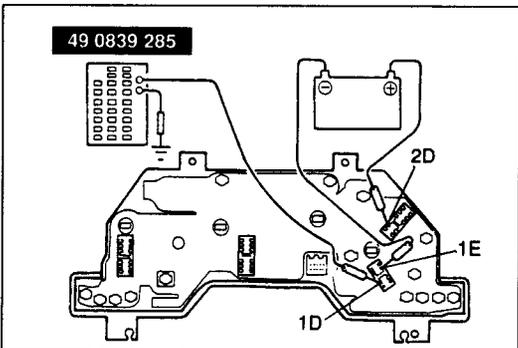
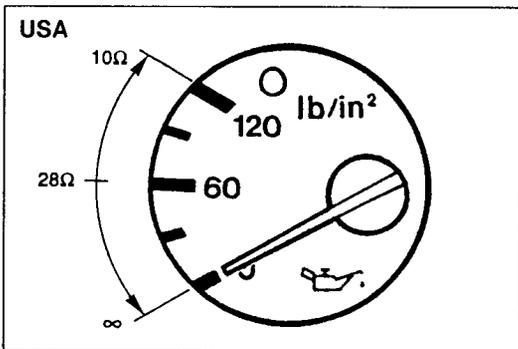
OIL PRESSURE GAUGE

Inspection

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 2F of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each value.
5. Verify that the oil pressure gauge indicates the correct values. The allowable indication error is twice the width of the needle.
6. If not as specified, replace the oil pressure gauge.



47UC1X-540

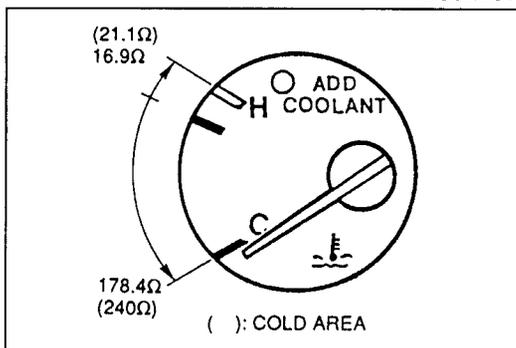


47UC1X-541

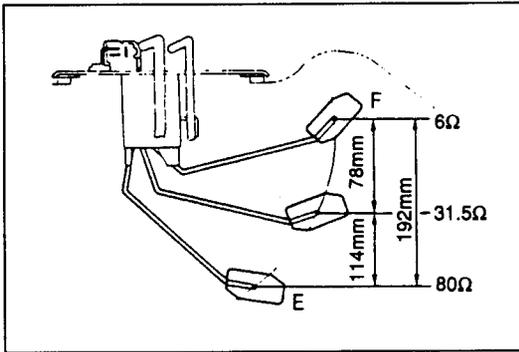
WATER TEMPERATURE GAUGE

Inspection

1. Remove the instrument cluster. (Refer to page C1-13.)
2. Apply battery positive voltage to terminal 2D of the instrument cluster and connect terminal 1E of the instrument cluster to ground.
3. Connect the red lead of the **SST** to terminal 1D of the instrument cluster and the black lead to ground.
4. Set the **SST** to the resistance values shown in the figure. To get an accurate reading, wait 2 minutes after setting each value.
5. Verify that the water temperature gauge indicates the correct values. The allowable indication error is twice the width of the needle.
6. If not as specified, replace the water temperature gauge.



47UC1X-542

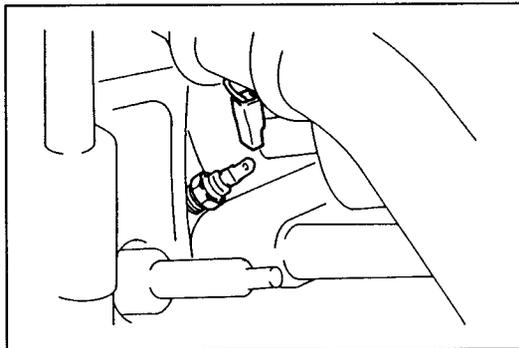


47U0C1X-543

FUEL GAUGE SENDER UNIT

Inspection

1. Remove the fuel gauge sender unit.
(Refer to the 1994 RX-7 Workshop Manual, section F.)
2. Measure the resistance between terminal C of the fuel gauge sender unit and ground while slowly moving the sender unit arm from point F to point E.
3. If not as specified, replace the fuel gauge sender unit.
(Refer to the 1994 RX-7 Workshop Manual, section F.)



47UC1X-544

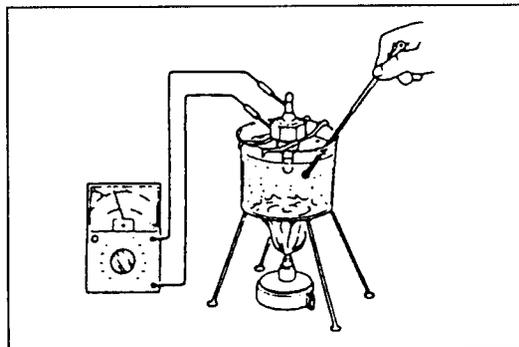
WATER TEMPERATURE SENSOR

Removal / Installation

1. Disconnect the water temperature sensor connector.
2. Remove the water temperature sensor from the thermostat cover.
3. Install in the reverse order of removal.

Tightening torque:

20—25 N·m {2.0—2.5 kgf·m, 14—18 ft·lb}



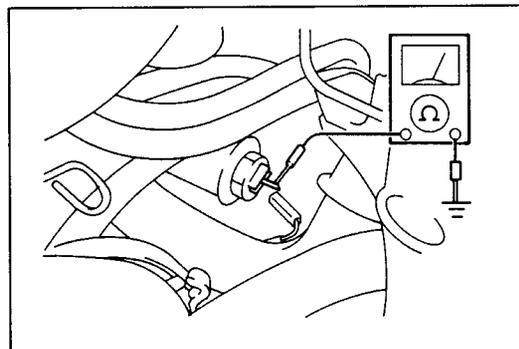
47UC1X-545

Inspection

1. Remove the water temperature sensor.
2. Place the water temperature sensor in water.
3. Heat the water gradually, and check the resistance of the water temperature sensor.

Temperature	°C {°F}	50 {122}
Resistance	(Ω)	190—260

4. If not as specified, replace the water temperature sensor.



47UC1X-546

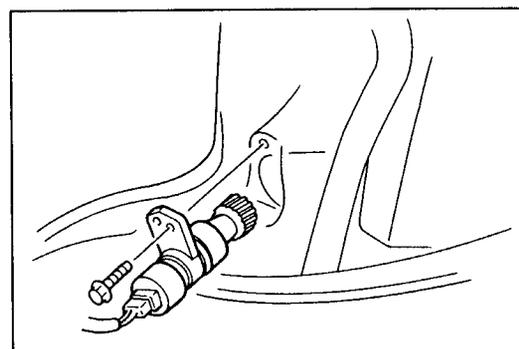
OIL PRESSURE SWITCH

Inspection

1. Disconnect the oil pressure switch connector.
2. Measure the resistance between the oil pressure switch and ground.

Condition		Resistance
Engine stopped		Over 74Ω
Idle	2 kgf/cm ² {30 lb/in ² }	43Ω (Reference)
	3 kgf/cm ² {45 lb/in ² }	50—57Ω

3. If not as specified, replace the oil pressure switch.

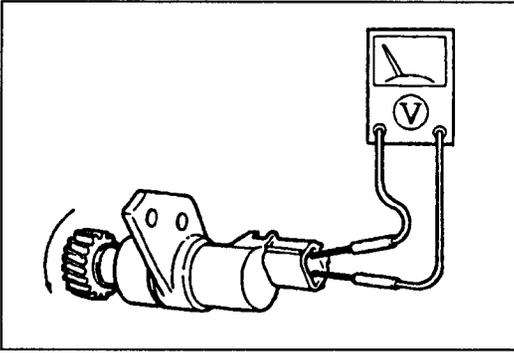


47UC1X-547

VEHICLE SPEEDOMETER SENSOR

Removal / Installation

1. Disconnect the vehicle speedometer sensor connector.
2. Remove the bolt and the vehicle speedometer sensor.
3. Install in the reverse order of removal.



47UCIX-548

Inspection

1. Remove the vehicle speedometer sensor.
(Refer to page C1-17.)
2. Turn the tip of the vehicle speedometer sensor and verify that magnetic resistance is felt.
3. Measure the voltage between terminals A and B of the vehicle speedometer sensor when rotating the driven gear.

Meter needle	Action
Moves slightly under 5V	Normal
Does not move	Replace vehicle speedometer sensor

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

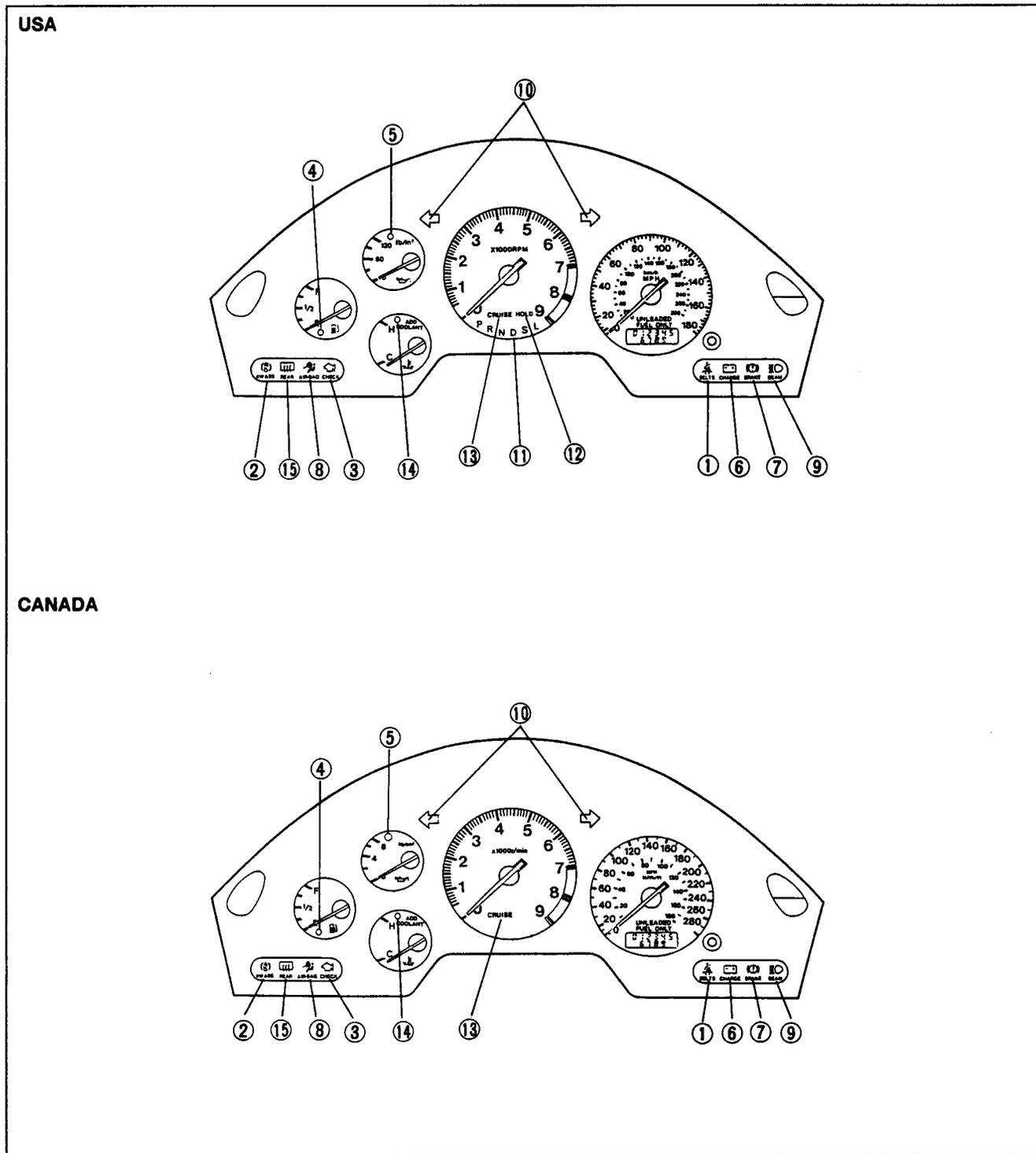
WARNING SYSTEM

STRUCTURAL VIEW..... C2- 2
SYSTEM OPERATION..... C2- 4
TROUBLESHOOTING C2- 5
BRAKE FLUID LEVEL SENSOR C2-36
PARKING BRAKE SWITCH..... C2-36
OIL-LEVEL SENSOR..... C2-37
BUCKLE SWITCH..... C2-37
COOLANT LEVEL SENSOR..... C2-37
WARNING BULBS C2-38
SECURITY LIGHT..... C2-38
OVERHEATED-EXHAUST WARNING LIGHT C2-38

47UC2X-501

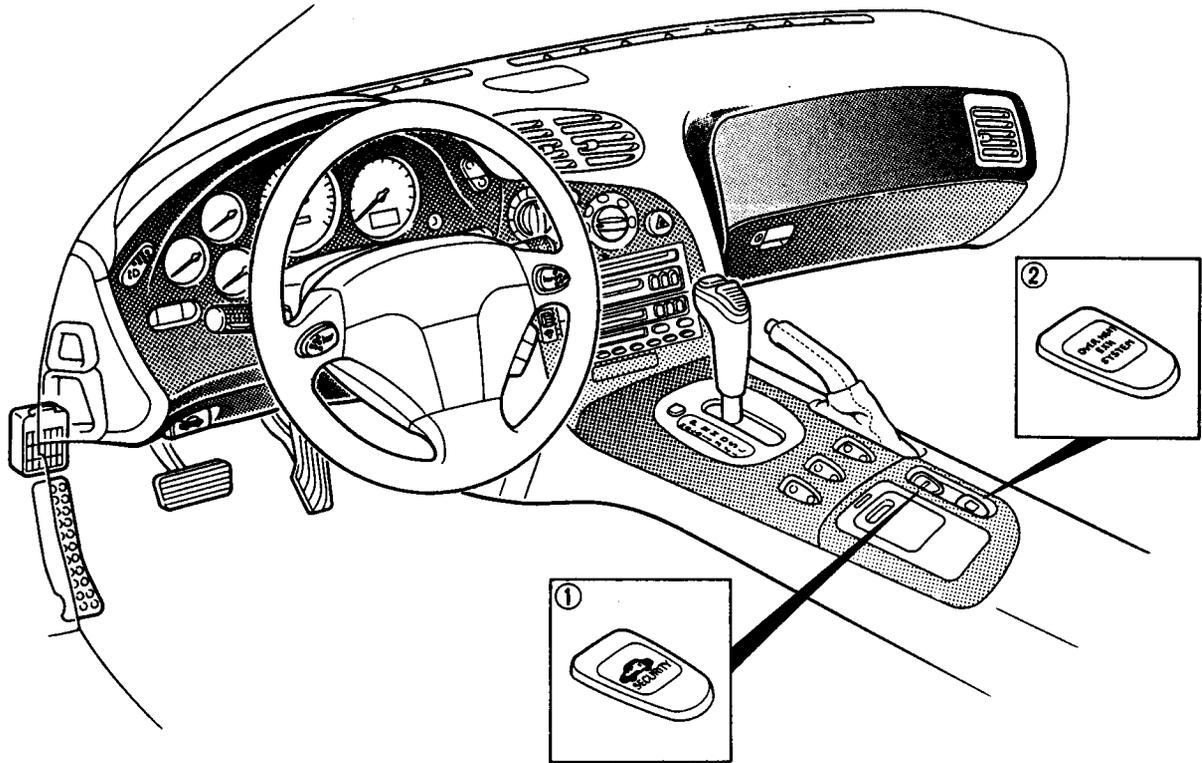
WARNING SYSTEM

STRUCTURAL VIEW



47UC2X-502

- | | |
|---|--|
| 1. Seat belt warning light (1.4W) | 9. High beam indicator light (1.4W) |
| 2. ABS warning light (1.4W) | 10. Turn indicator light (3.4W × 2) |
| 3. MIL (malfunction indicator light) (1.4W) | 11. Selector indicator light (2W × 6) |
| 4. Fuel-level warning light (3W) | 12. HOLD indicator light (1.4W) |
| 5. Oil-level warning light (3W) | 13. Cruise set indicator light (1.4W) |
| 6. Alternator warning light (3W) | 14. Coolant level warning light (3W) |
| 7. Brake system warning light (1.4W) | 15. Rear window defroster indicator light (1.4W) |
| 8. Air bag system warning light (2W) | |



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1. Security light (1.4W)
Removal / Installation page C2-38

2. Overheated-exhaust warning light (1.4W)
Removal / Installation page C2-38

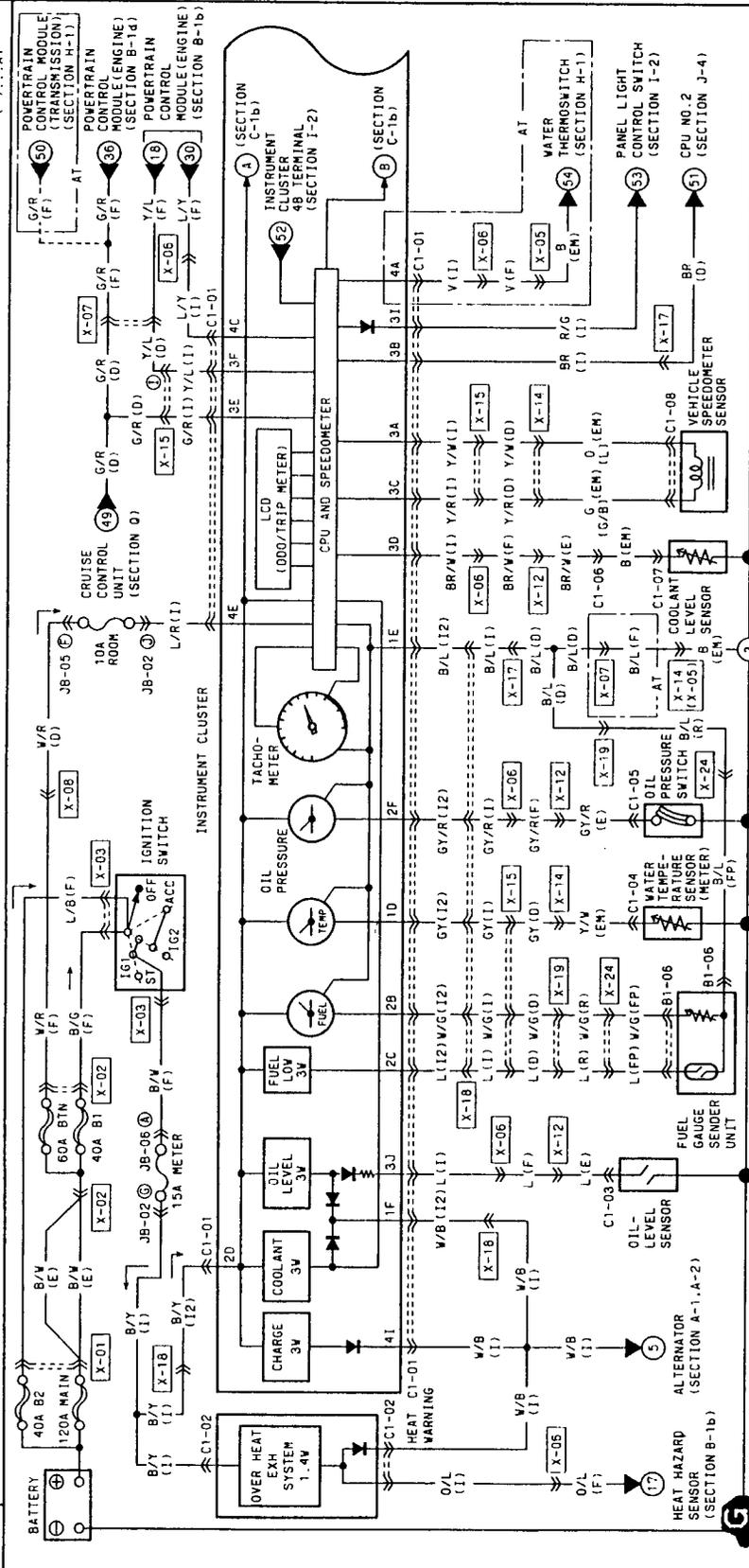
SYSTEM OPERATION

Warning and indicator light system	Illumination	Operation
Oil-level warning light		<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) Engine oil level low (engine running)
Alternator warning light	 CHARGE	<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) Drive belt loose (engine running) (Refer to 1994 RX-7 Workshop Manual, section G)
Brake system warning light	 BRAKE	<ul style="list-style-type: none"> Parking brake depressed after ignition switch at ON (engine stopped) Brake fluid in reservoir below MIN (engine running)
Air bag system warning light	 AIR-BAG	<ul style="list-style-type: none"> Warning light illuminates for 4—8 seconds after ignition switch at ON (Refer to section S if not as above)
Seat belt warning light	 BELTS	<ul style="list-style-type: none"> Warning light illuminates for 4—8 seconds after ignition switch at ON
ABS warning light	 4W ABS	<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) ABS malfunction (Refer to 1994 RX-7 Workshop Manual, section P)
MIL (malfunction indicator light)	 CHECK	<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) PCME (powertrain control module) malfunction (engine running) (Refer to 1994 RX-7 Workshop Manual, section F)
Fuel-level warning light		<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) Fuel level low (engine running)
Security light	 SECURITY	(Refer to section J2)
Coolant level warning light		<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) Engine coolant level low (engine running)
HOLD indicator light	HOLD	<ul style="list-style-type: none"> Hold switch on after ignition switch at ON (engine stopped)
Rear window defroster indicator light	 REAR	<ul style="list-style-type: none"> Rear window defroster switch on after ignition switch at ON (engine stopped)
Overheated-exhaust warning light	OVER HEAT EXH SYSTEM	<ul style="list-style-type: none"> Ignition switch at ON (engine stopped) Exhaust system malfunction (Refer to 1994 RX-7 Workshop Manual, section F)

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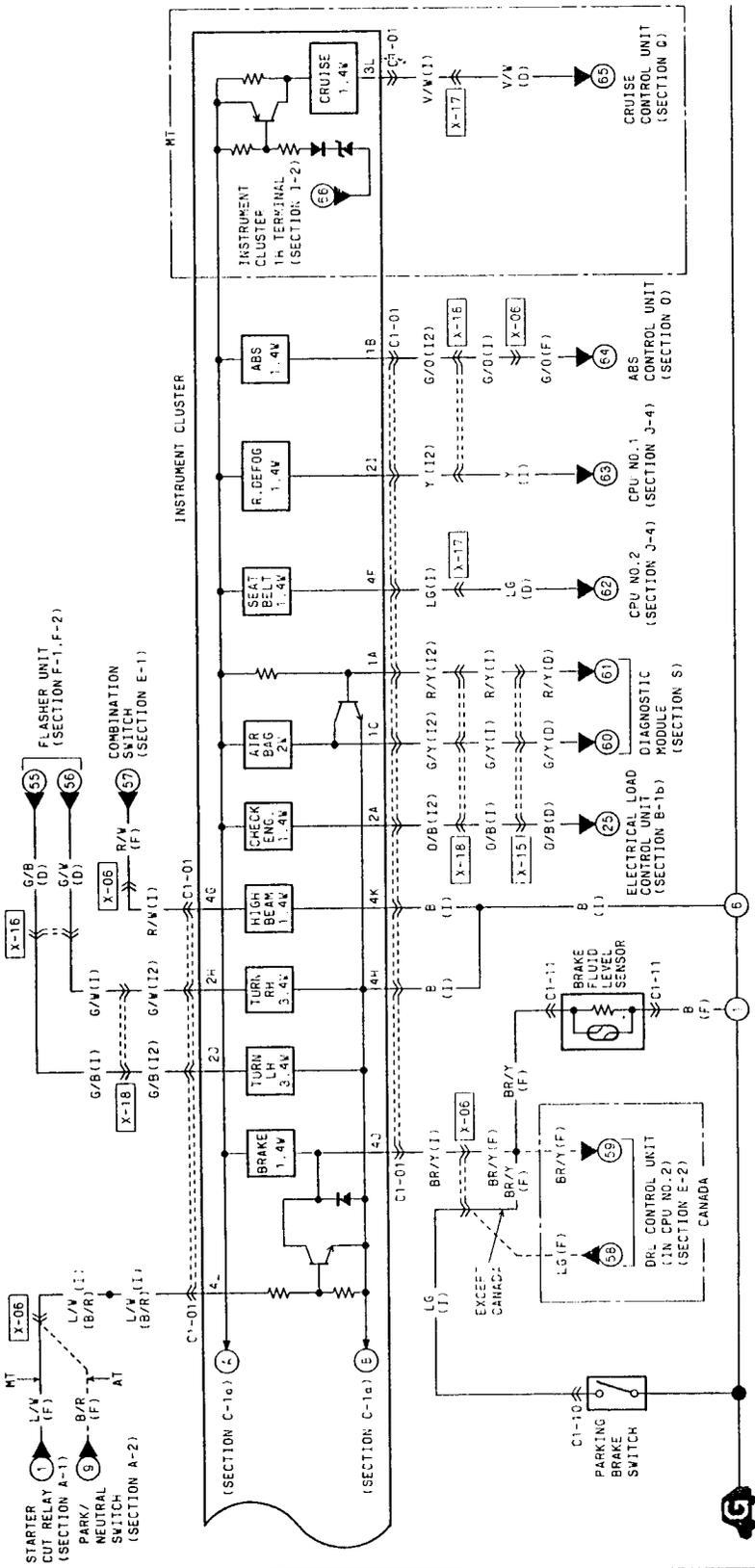
TROUBLESHOOTING
Circuit Diagram

C-1a INSTRUMENT CLUSTER AND WARNING LIGHTS



C1-01 INSTRUMENT CLUSTER 1G 1E (12) 1C 1A R/G B/L G/Y R/Y R/B W/B G/Y R/R 1H 1F 1D 1B	2I 2G 2E (12) 2C 2A Y R/B R/G L O/B G/B G/W G/Y/R B/Y W/G 2J 2H 2F 2D 2B	3K 3I 3G (1) 3E 3C 3A * R/G * Y/L L * 3L 3J 3H	4K 4I 4G (1) 4E 4C 4A L/R L/Y W/Y L/G R/G R/B 4L 4J 4H	C1-02 HEAT WARNING (I) * W/B O/L B/Y	C1-03 OIL-LEVEL SENSOR (E)
C1-04 WATER TEMPERATURE SENSOR (METER/EM) Y/W	C1-05 OIL PRESSURE SWITCH (E) G/Y/R	C1-06 CONNECTOR BETWEEN EMISSION(EM) AND ENGINE (E) B BR/W (E)	C1-07 COOLANT LEVEL SENSOR (EM) B	C1-08 VEHICLE SPEEDOMETER SENSOR (EM) L (G) L (G)	B1-06 FUEL GAUGE SENDER UNIT (FP) W/G L B W/R

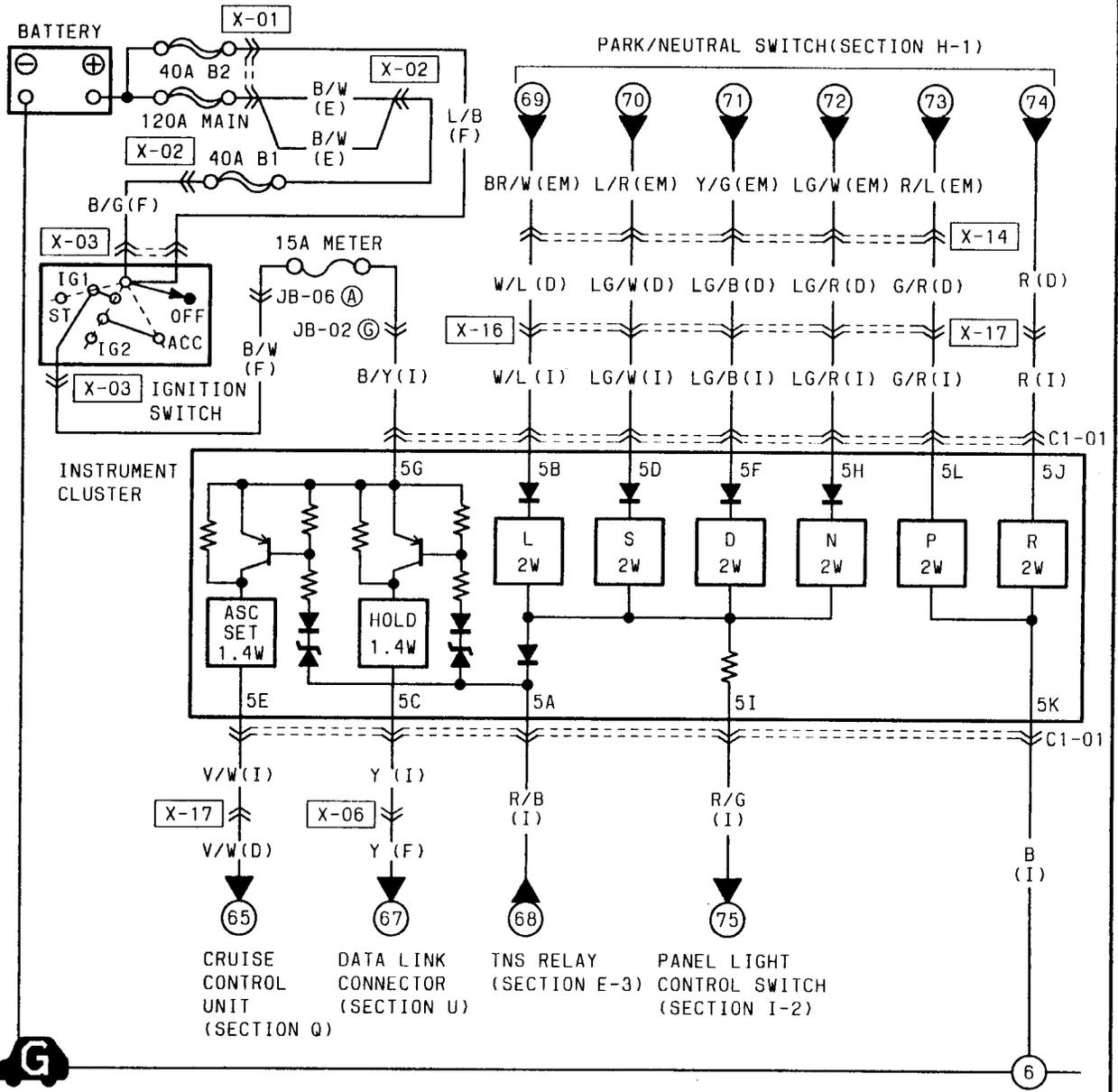
C-1b INSTRUMENT CLUSTER AND WARNING LIGHTS



C1-01 INSTRUMENT CLUSTER	1G 1E (12) 1C 1A	1H 1F	1D 1B						
	R/G B/L	R/B W/S	G/Y B/Y	G ⁺ G/O					
	Y	R/B R/C	L	D/B					
	21 2G 2E (12) 2C 2A	20 2B							
	G/B G/W	G/Y R/Y	B/Y W/G						
	3K 3I 3G (1) 3E 3C 3A	3F 3D 3B							
	* R/G *	Y/L BR/W BR							
	4K 4I 4G (1) 4E 4C 4A	4L 4J 4H 4B							
	B W/S R/W	L/R L/Y							
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	B W/S R/W	L/R L/Y							

C-2

AT ■ INSTRUMENT CLUSTER AND WARNING LIGHTS
 ■ SELECTOR INDICATOR LIGHTS

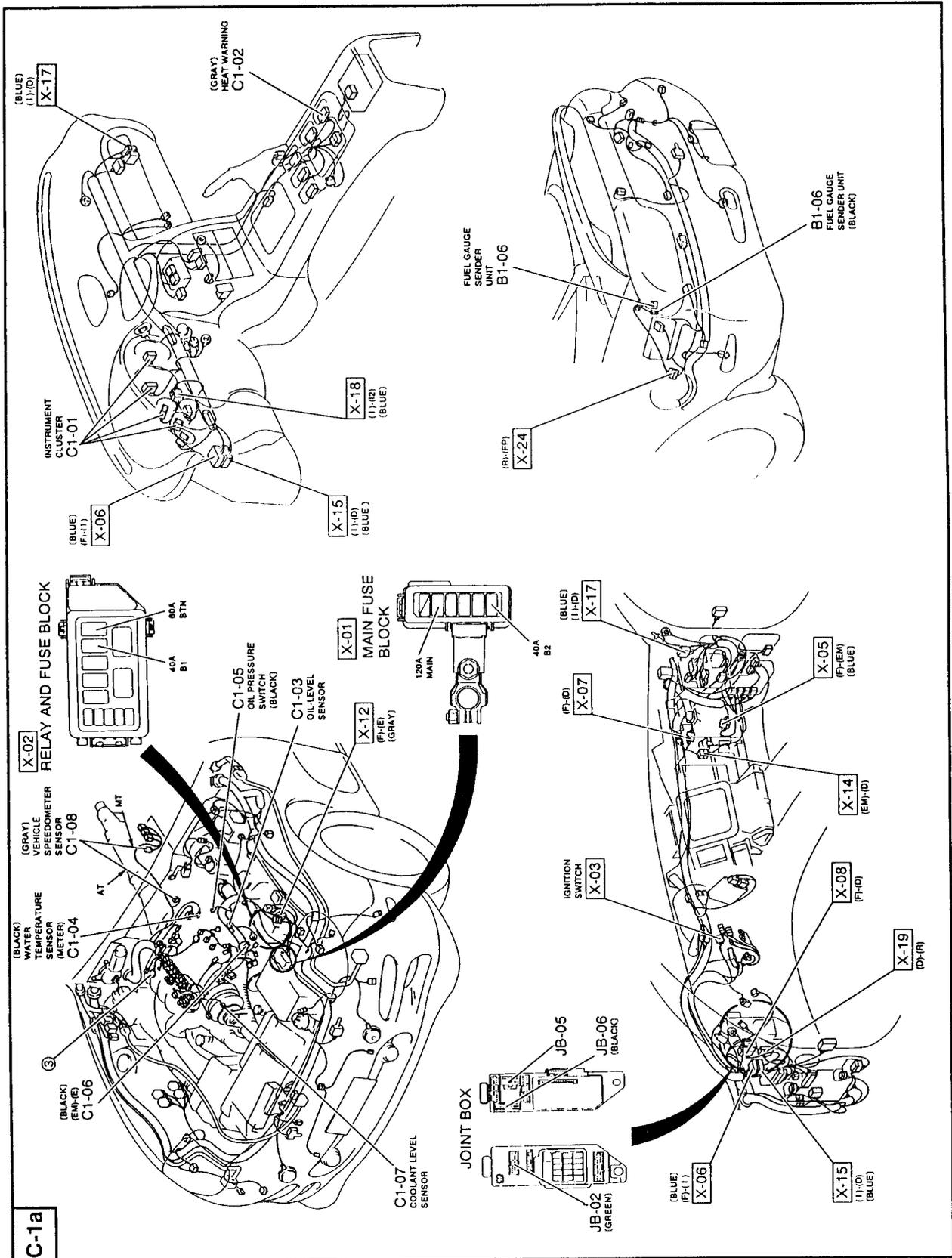


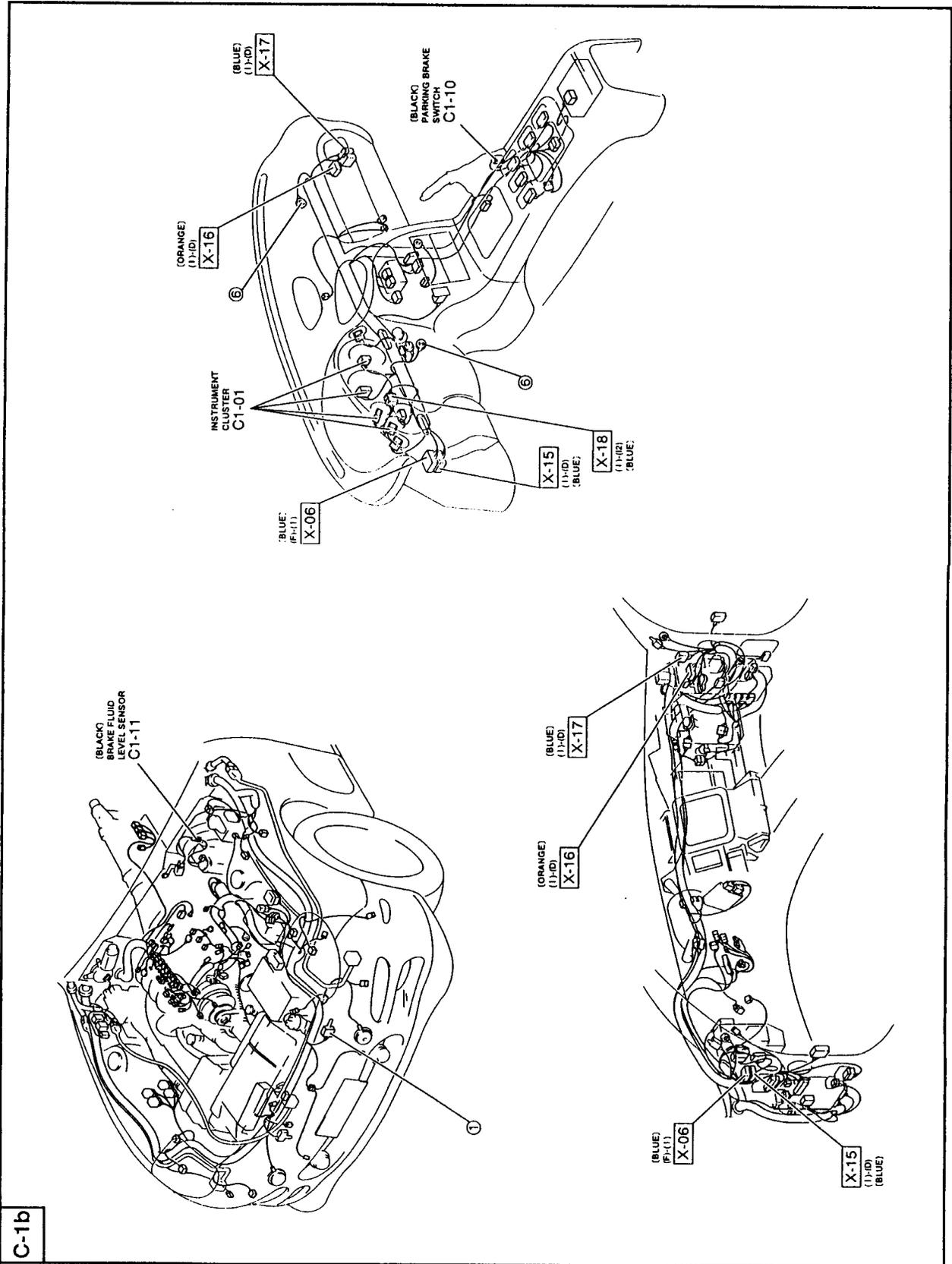
C1-01 INSTRUMENT CLUSTER (I)

5K	5I	5G	5E	5C	5A
B	R/G	B/Y	V/W	Y	R/B
G/R	R	LG/R	LG/B	LG/W	W/L
5L	5J	5H	5F	5D	5B

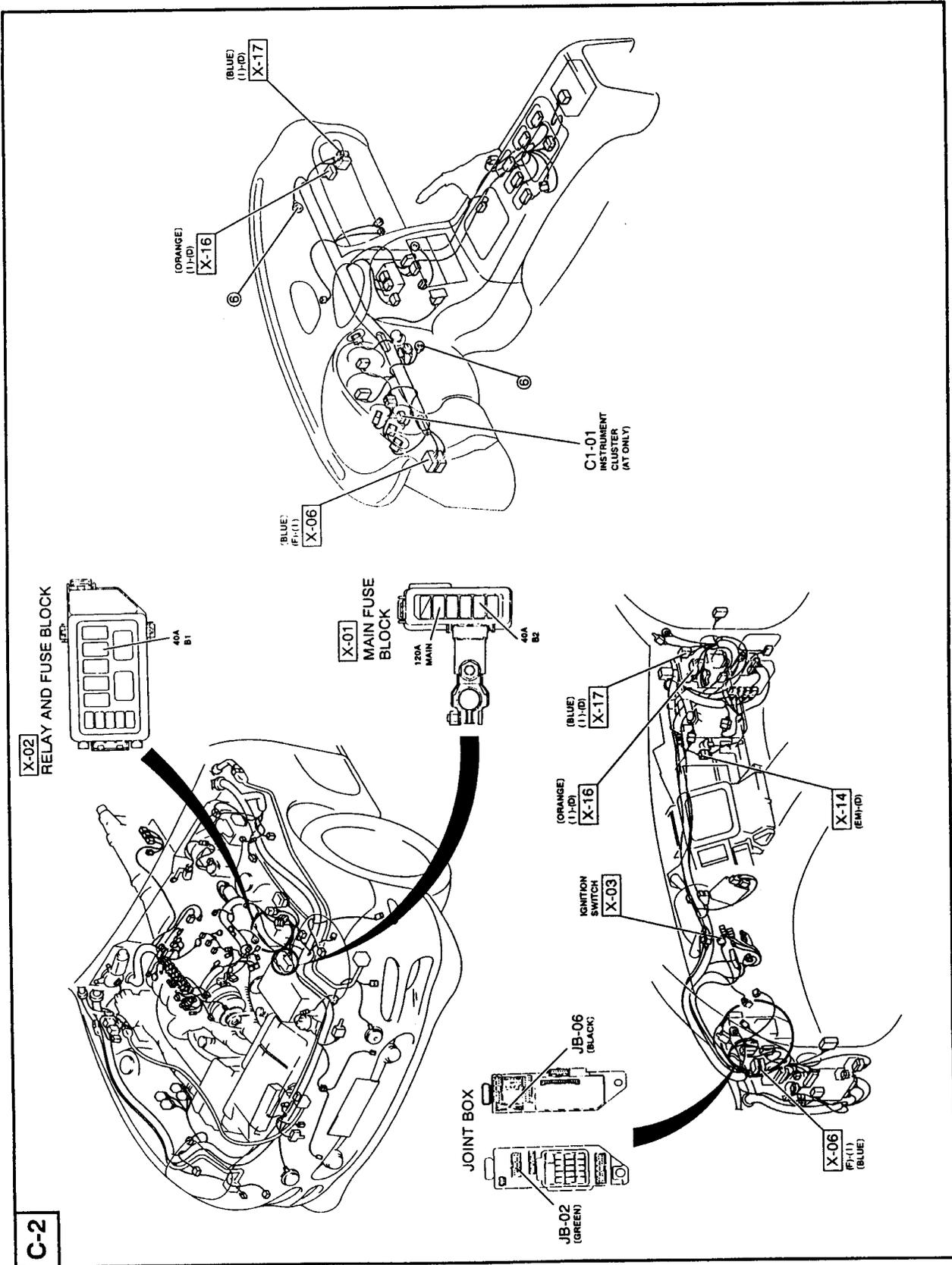
C2

Connector Locations





C-1b



Checklist

Check the bulb of each warning light before troubleshooting. If the bulbs are normal, refer to the following charts for inspection of each warning system. Refer to section S for air bag system warning light inspection and section J2 for security light inspection.

Warning lights

Warning light	Procedure/Proper operation	Symptom	Flowchart No.
All warning lights	1. Turn ignition switch to ON. 2. Verify that all warning lights illuminate (coolant level, oil-level, alternator).	Warning lights do not illuminate with ignition switch at ON	1
		Coolant level, oil-level and alternator warning lights do not illuminate with ignition switch at ON	2
Brake system warning light	1. Turn ignition switch to ON. 2. Pull parking brake lever. 3. Verify that brake system warning light illuminates. 4. Pull release knob and release parking brake lever. 5. Verify that brake system warning light goes out. 6. Verify that brake system warning light illuminates (when brake fluid in reservoir is below MIN).	Brake system warning light does not illuminate with parking brake on	3
		Brake system warning light remains illuminated with parking brake released	4
		Brake system warning light does not illuminate with brake fluid in reservoir is below MIN	5
Oil-level warning light	1. Turn ignition switch to ON. 2. Verify that oil-level warning light illuminates. 3. Start engine. 4. Verify that oil-level warning light goes out. 5. Verify that oil-level warning light illuminates (when engine oil level low).	Oil-level warning light does not illuminate with ignition switch at ON (engine stopped)	6
		Oil-level warning light does not go out when engine is started	7
		Oil-level warning light does not illuminate when oil level low (light illuminates with ignition switch at ON)	8
Coolant level warning light	1. Turn ignition switch to ON. 2. Verify that coolant level warning light illuminates. 3. Start engine. 4. Verify that coolant level warning light goes out. 5. Verify that coolant level warning light illuminate (when engine coolant in reservoir below MIN).	Coolant level warning light does not illuminate with ignition switch at ON (engine stopped)	9
		Coolant level warning light does not go out when engine is started	10
		Coolant level warning light does not illuminate with engine coolant in reservoir below MIN (light illuminates with ignition switch at ON)	11
Alternator warning light	1. Turn ignition switch to ON. 2. Verify that alternator warning light illuminates. 3. Start engine. 4. Verify that alternator warning light goes out. 5. Verify that alternator warning light illuminate (when charging system has malfunction).	Alternator warning light does not illuminate when ignition switch is turned to ON (engine stopped)	12
		Alternator warning light does not illuminate when charging system has malfunction	1994 RX-7 Workshop Manual, section G
ABS warning light	1. Turn ignition switch to ON. 2. Verify that ABS warning light illuminates. 3. Verify that ABS warning light illuminates (when ABS system has malfunction).	ABS warning light does not illuminate when ignition switch is turned to ON	13
		ABS warning light does not illuminate when ABS system has malfunction	1994 RX-7 Workshop Manual, section P
Overheated-exhaust warning light	1. Turn ignition switch to ON. 2. Verify that overheated-exhaust warning light illuminates. 3. Start engine. 4. Verify that overheated-exhaust warning light goes out. 5. Verify that overheated-exhaust warning light illuminates when exhaust system has malfunction.	Overheated-exhaust warning light does not illuminate when ignition switch is turned to ON	14
		Overheated-exhaust warning light does not illuminate when exhaust system has malfunction	1994 RX-7 Workshop Manual, section F

Warning light	Procedure/Proper operation	Symptom	Flowchart No.
Fuel-level warning light	1. Start engine. 2. Verify that fuel-level warning light goes out. 3. Verify that fuel-level warning light illuminates (when fuel almost empty).	Fuel-level warning light does not illuminate when fuel tank is almost empty	15
MIL (malfunction indicator light)	1. Start engine. 2. Verify that malfunction indicator light goes out. 3. Verify that malfunction indicator light illuminates (when PCME has malfunction).	Malfunction indicator light remains illuminated (engine running)	1994 RX-7 Workshop Manual, section F
		Malfunction indicator light does not illuminate when PCME has malfunction (engine running)	
Seat belt warning light	Verify that seat belt warning light illuminates for 4—8 seconds when ignition switch is turned to ON	Seat belt warning light does not illuminate for 4—8 seconds when ignition switch is turned to ON from OFF	16
		Seat belt warning light does not go out or illuminates too long or too short	17
HOLD indicator light	Verify that HOLD indicator light illuminates when hold switch depressed with ignition switch at ON	HOLD indicator light does not go out with hold switch off (ignition switch at ON)	18
Rear window defroster indicator light	Verify that rear window defroster indicator light illuminates when rear window defroster operates with ignition switch at ON	Rear window defroster indicator light does not illuminate when rear window defroster operates	19

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Warning alarms

Warning light	Procedure/Proper operation	Symptom	Flowchart No.
Key reminder alarm	1. Turn ignition switch to OFF from ON. 2. Open door. 3. Verify that key reminder alarm sounds.	Key reminder alarm does not sound (when door is opened with interior light switch at DOOR, interior light illuminates)	20
Lights-on reminder alarm	1. Turn light switch on. 2. Turn ignition switch to ACC or LOCK. 3. Open door. 4. Verify that lights-on reminder alarm sounds.	Lights-on reminder alarm does not sound	21
Seat belt warning alarm	1. Verify that seat belt warning alarm sounds for 4—8 seconds when ignition switch is turned to ON (without inserting seat belt tongue into buckle). 2. Verify that alarm stops when tongue is inserted into buckle.	Seat belt warning alarm does not sound when ignition switch is turned to ON	22
Coolant level warning alarm	1. Turn ignition switch to ON. 2. Verify that coolant level warning alarm sounds when coolant fluid low level.	Coolant level warning alarm does not sound when coolant fluid low level (coolant level warning light illuminates)	23
Over-revolution warning alarm	1. Turn ignition switch to ON. 2. Verify that over-revolution warning alarm sounds when the engine speed nears red zone or indicates red zone.	Over-revolution warning alarm does not sound when tachometer indicates red zone	24

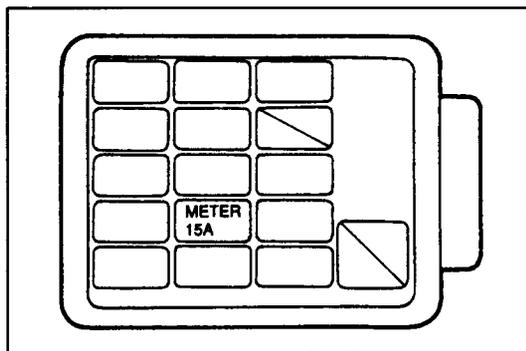
47UC2X-509

Flowchart No.1	Symptom	Warning lights do not illuminate with ignition switch at ON
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Possible cause

- Burnt METER 15A fuse
 - Damaged instrument cluster
 - Burnt warning light bulbs
- Open or short circuit in wiring harness
 - Poor connection of connector

47UC2X-510

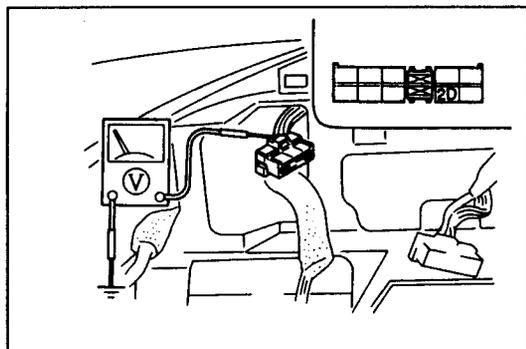


47UC2X-511

Step 1

Check the METER 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



47UC2X-512

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal 2D (B/Y) of instrument cluster connector ② (10-pin).

B+: Battery positive voltage

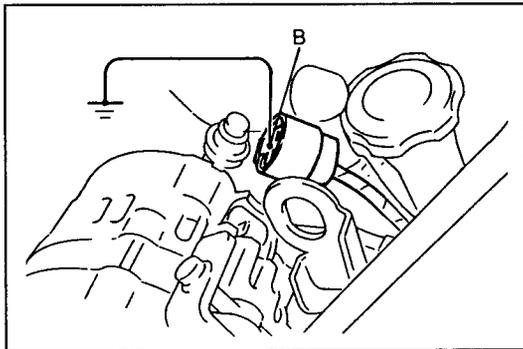
Voltage	Action
B+	Inspect all warning lights
Other	Repair wiring harness (METER 15A fuse—Instrument cluster)

Flowchart No.2	Symptom	Coolant level, oil-level and alternator warning lights do not illuminate with ignition switch at ON
-----------------------	----------------	---

Possible cause

- Damaged instrument cluster
- Damaged alternator
- Burnt warning light bulbs
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-513

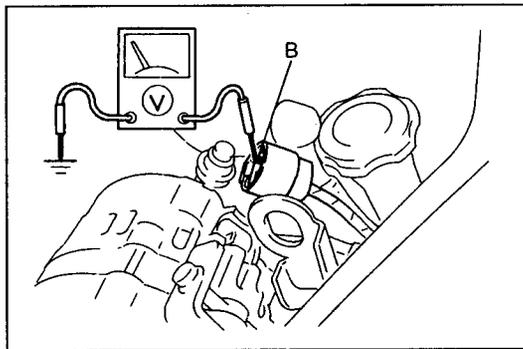


47UC2X-514

Step 1

1. Disconnect the alternator connector and ground terminal B (W/B).
2. Verify that the warning lights illuminate when the ignition switch is turned to ON.

Lights	Action
Illuminate	Inspect alternator (Refer to 1994 RX-7 Workshop Manual, section G)
Do not illuminate	Go to Step 2



47UC2X-515

Step 2

Measure the voltage at terminal B (W/B) of the alternator connector.

B+: Battery positive voltage

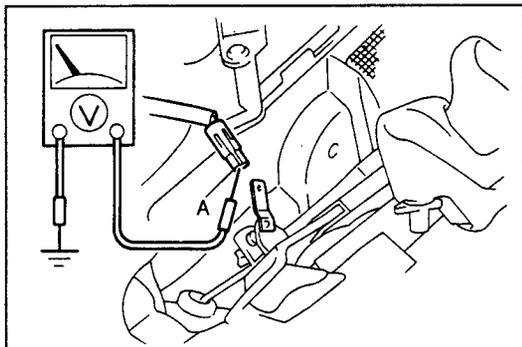
Voltage	Action
B+	Inspect each bulb
Other	Repair wiring harness (Instrument cluster—Alternator)

Flowchart No.3	Symptom	Brake system warning light does not illuminate with parking brake on
-----------------------	----------------	--

Possible cause

- Damaged parking brake switch
- Damaged instrument cluster
- Burnt brake system warning light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-516



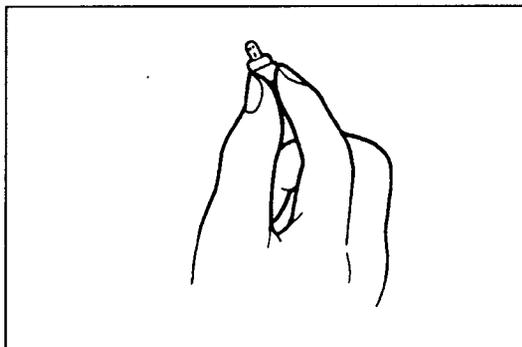
47UC2X-517

Step 1

1. Remove the console panel and the rear console. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal A (LG) of the parking brake switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Inspect parking brake switch (Refer to page C2-36) or check for poor grounding
Other	Go to Step 2

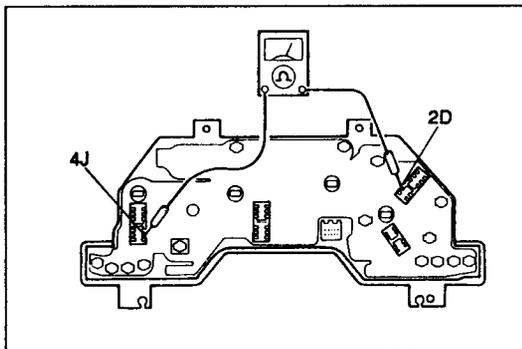


47UC2X-518

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the brake system warning light bulb.

Bulb	Action
OK	Install warning light bulb and go to Step 3
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-519

Step 3

Check for continuity between terminal 2D and 4J of the instrument cluster.

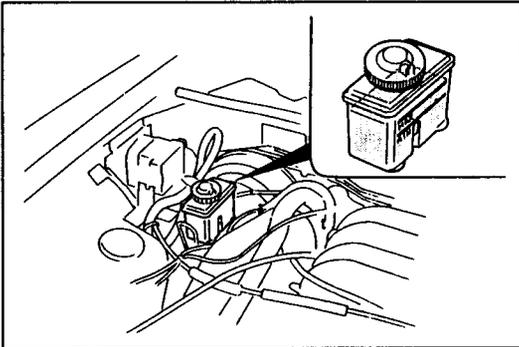
Continuity	Action
No	Replace print circuit (Refer to section C1)
Yes	Repair wiring harness (Instrument cluster—Parking brake switch)

Flowchart No.4	Symptom	Brake system warning light remains illuminated with parking brake released
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Possible cause

- Shortage of brake fluid
- Damaged parking brake switch
- Damaged wiring harness

47UC2X-520

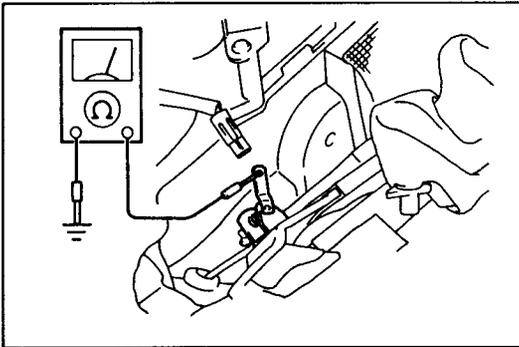


47UC2X-521

Step 1

Check the brake fluid level.

Brake fluid level	Action
OK	Go to Step 2
Low	Supply brake fluid and recheck light



47UC2X-522

Step 2

1. Remove the console panel and rear console. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the parking brake switch connector.
3. Check for continuity between the switch terminal and ground.

Parking brake lever	Continuity
Pulled	Yes
Released	No

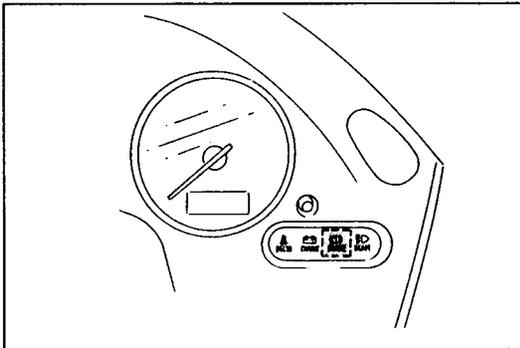
4. If not as specified, replace the parking brake switch. (Refer to the 1994 RX-7 Workshop Manual, section P.)
5. If correct, repair the wiring harness (instrument cluster—parking brake switch).

Flowchart No.5	Symptom	Brake system warning light does not illuminate with brake fluid in reservoir is below MIN
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Possible cause

- Damaged brake fluid level sensor
- Open or short circuit in wiring harness

47UC2X-523

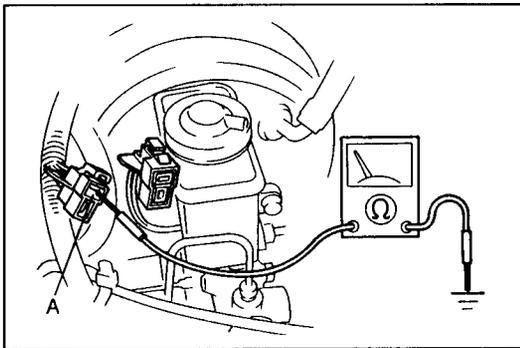


47UC2X-524

Step 1

1. Pull the parking brake lever.
2. Check the brake system warning light

Light	Action
Illuminates	Go to Step 2
Does not illuminate	Refer to Flowchart No.3 (page C2-15)

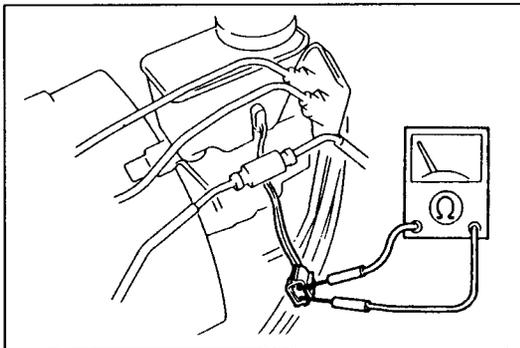


47UC2X-525

Step 2

1. Disconnect the brake fluid level sensor connector.
2. Check for continuity between terminal A (B) of the brake fluid level sensor connector and ground.

Continuity	Action
Yes	Go to Step 3
No	Repair wiring harness (Brake fluid level sensor—GND)



47UC2X-526

Step 3

1. Check for continuity between the terminals of the brake fluid level sensor.

Brake fluid level	Continuity
Below MIN	Yes
Above MIN	No

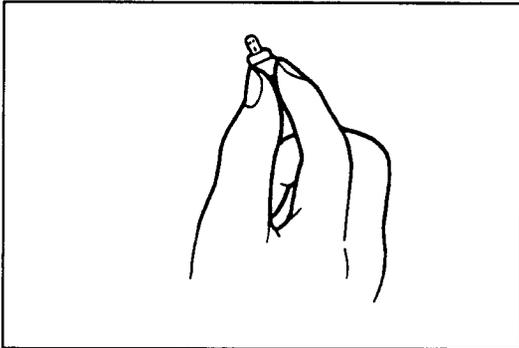
2. If not as specified, replace the brake fluid level sensor. (Refer to the 1994 RX-7 Workshop Manual, section P.)
3. If correct, repair the wiring harness (instrument cluster—brake fluid level sensor).

Flowchart No.6	Symptom	Oil-level warning light does not illuminate with ignition switch at ON (engine stopped)
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Possible cause

- Damaged instrument cluster
- Burnt oil-level warning light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-527

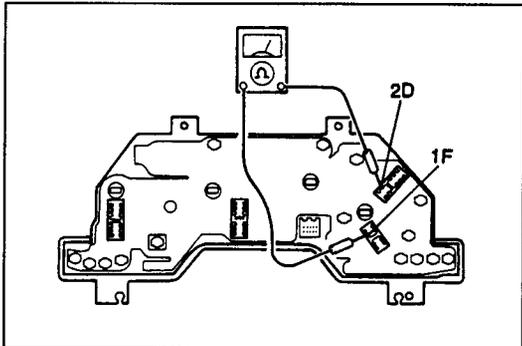


47UC2X-528

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the oil-level warning light bulb.

Bulb	Action
OK	Install warning light bulb and go to Step 2
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-529

Step 2

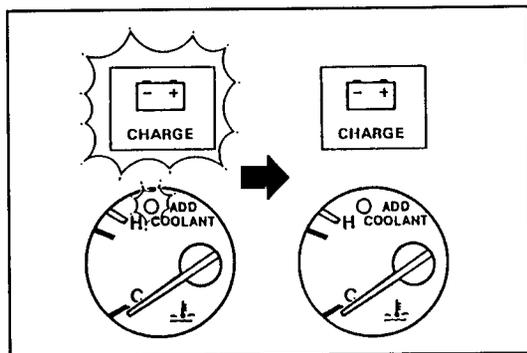
1. Check for continuity between terminal 2D and 1F of the instrument cluster.
2. If there is no continuity, replace the print circuit. (Refer to section C1.)

Flowchart No.7	Symptom	Oil-level warning light does not go out when engine is started
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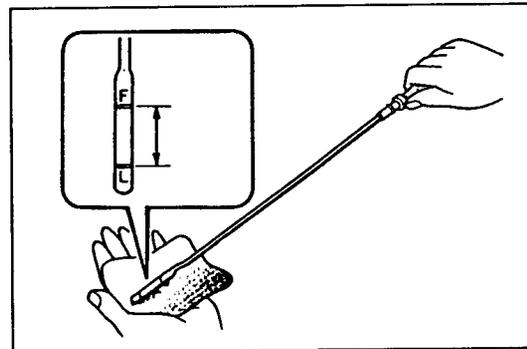
Possible cause

- Shortage of engine oil
- Damaged oil-level sensor
- Damaged alternator
- Open or short circuit in wiring harness
- Poor connection of connector

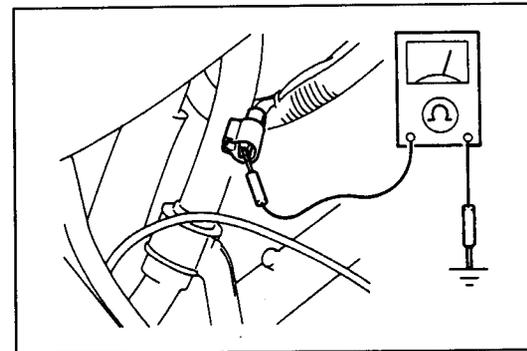
47UC2X-530



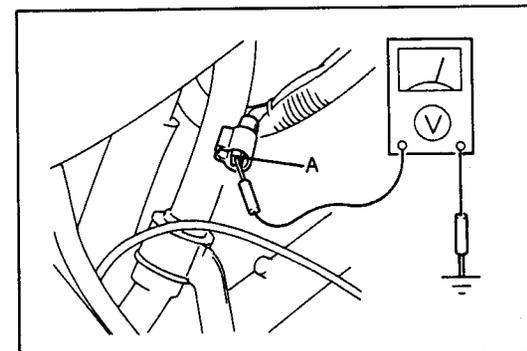
47UC2X-531



47UC2X-532



47UC2X-533



47UC2X-534

Step 1

Start the engine and check the coolant level and alternator warning lights.

Lights	Action
Illuminate	Go to Step 5
Do not illuminate	Go to Step 2

Step 2

1. Turn the ignition switch to OFF.
2. Check the oil level.

Oil level	Action
OK	Go to Step 3
Almost empty	Add oil

Step 3

1. Disconnect the oil-level sensor connector.
2. Check for continuity between the terminals of the oil-level sensor and ground.

Oil level	Continuity
Below MIN	Yes
Above MIN	No

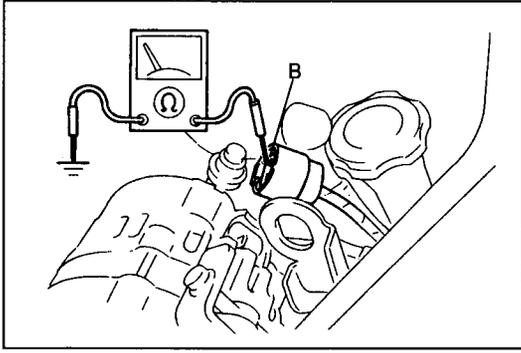
3. If correct, go to Step 4.
4. If not as specified, replace the oil-level sensor. (Refer to page C2-37.)

Step 4

1. Turn the ignition switch to ON.
2. Measure the voltage at terminal A (L) of the oil-level sensor connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Instrument cluster—Oil-level sensor)



47UC2X-535

Step 5

1. Disconnect the alternator connector.
2. Check for continuity between terminal B (W/B) of the alternator connector and ground.

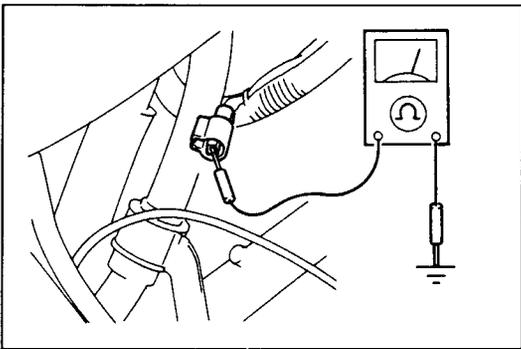
Continuity	Action
Yes	Repair wiring harness (Instrument cluster—Alternator)
No	Inspect alternator (Refer to 1994 RX-7 Workshop Manual, section G)

Flowchart No.8	Symptom	Oil-level warning light does not illuminate when oil level low (light illuminates with ignition switch at ON)
----------------	---------	---

Possible cause

- Damaged oil-level sensor
- Damaged instrument cluster
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-536



47UC2X-537

Step 1

1. Disconnect the oil-level sensor connector.
2. Check for continuity between the terminal of the oil-level sensor and ground.

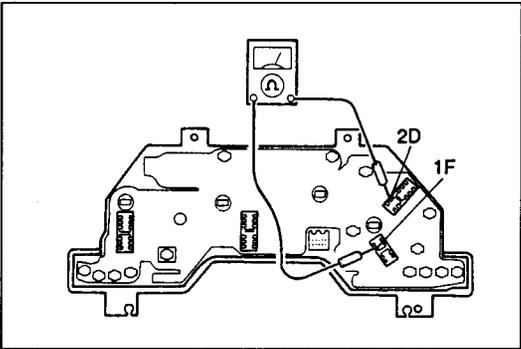
Oil level	Continuity
OK	No
Almost empty	Yes

3. If correct, go to Step 2.
4. If not as specified, replace the oil-level sensor. (Refer to page C2-37.)

Step 2

Check for continuity between terminals 2D and 1F of the instrument cluster.

Continuity	Action
Yes	Repair wiring harness (Instrument cluster—Oil-level sensor)
No	Replace print circuit (Refer to section C1)



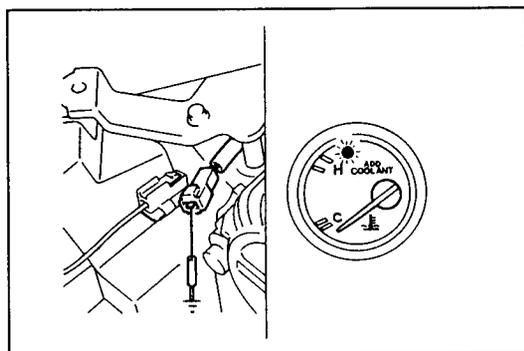
47UC2X-538

Flowchart No.9	Symptom	Coolant level warning light does not illuminate with ignition switch at ON (engine stopped)
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Possible cause

- Damaged coolant level sensor
- Damaged instrument cluster
- Burnt coolant level warning light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-539

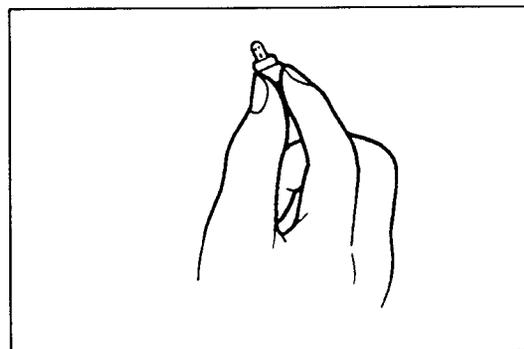


47UC2X-540

Step 1

1. Disconnect and ground the coolant level sensor connector (1-pin).
2. Turn the ignition switch to ON.
3. Check the coolant level warning light.

Light	Action
Does not illuminate	Go to Step 2
Illuminates	Inspect coolant level sensor (Refer to page C2-37)

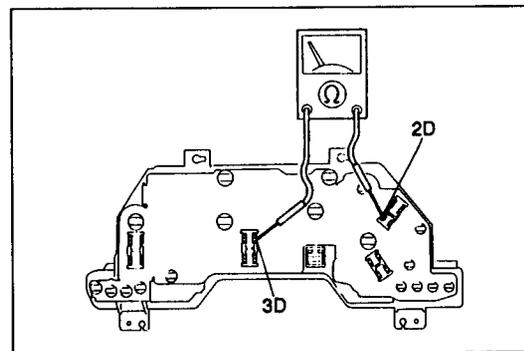


47UC2X-541

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the coolant level warning light bulb.

Bulb	Action
OK	Install warning light bulb and go to Step 3
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-542

Step 3

Check for continuity between terminals 2D and 3D of the instrument cluster.

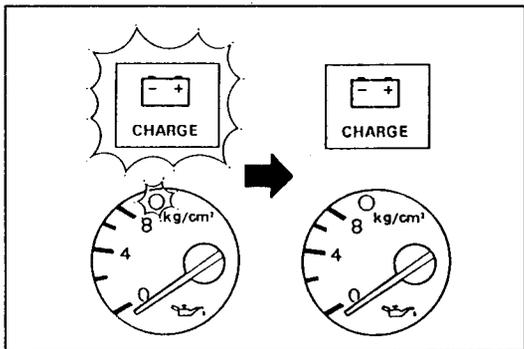
Continuity	Action
No	Replace print circuit (Refer to section C1)
Yes	Repair wiring harness (Instrument cluster—Coolant level sensor)

Flowchart No.10	Symptom	Coolant level warning light does not go out when engine is started
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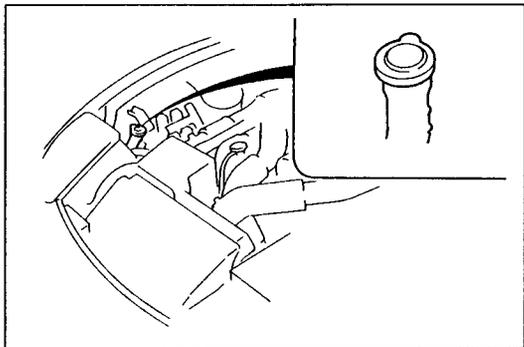
Possible cause

- Damaged coolant level sensor
- Damaged alternator
- Burnt coolant level warning light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

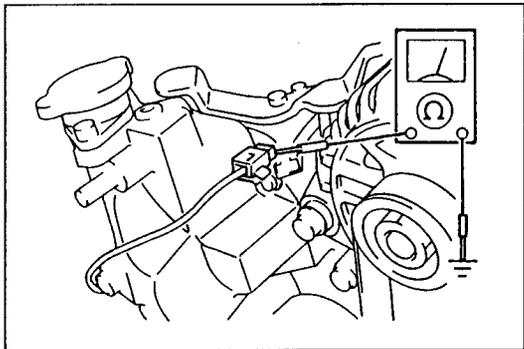
47UC2X-543



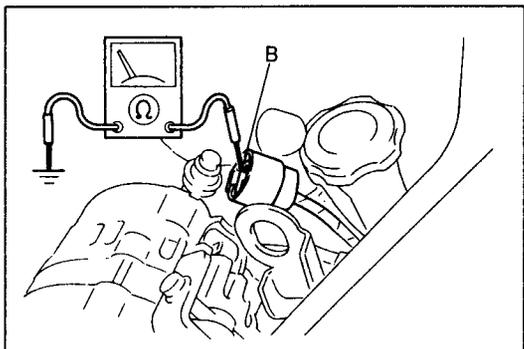
47UC2X-544



47UC2X-545



47UC2X-546



47UC2X-547

Step 1

Start the engine and check the alternator and oil level warning lights.

Lights	Action
Illuminate	Go to Step 4
Do not illuminate	Go to Step 2

Step 2

1. Turn the ignition switch to OFF.
2. Check the engine coolant level.

Engine coolant level	Action
OK	Go to Step 3
Almost empty	Add engine coolant

Step 3

1. Disconnect the coolant level sensor connector.
2. Check for continuity between the terminal of the coolant level sensor and ground.

Engine coolant level	Continuity
Below MIN	No
Above MIN	Yes

3. If correct, go to Step 4.
4. If not as specified, replace the coolant level sensor.
(Refer to page C2-37.)

Step 4

1. Disconnect the alternator connector.
2. Check for continuity between terminal B (W/B) of the alternator connector and ground.

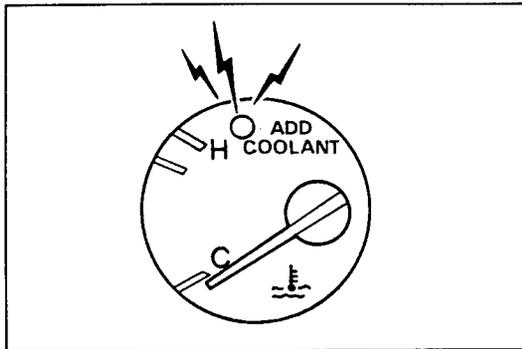
Continuity	Action
Yes	Repair wiring harness (Instrument cluster—Alternator)
No	Inspect alternator (Refer to the 1994 RX-7 Workshop Manual, section G)

Flowchart No.11	Symptom	Coolant level warning light does not illuminate with engine coolant in reservoir below MIN (light illuminates with ignition switch at ON)
------------------------	----------------	---

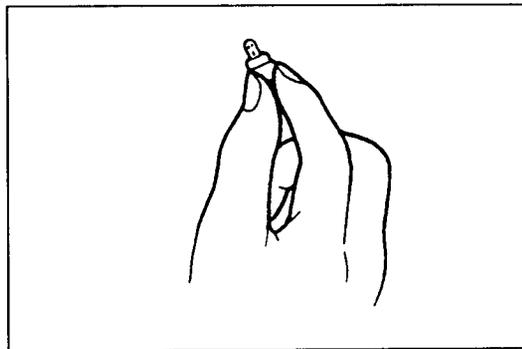
Possible cause

- Damaged coolant level sensor
- Damaged instrument cluster
- Burnt coolant level warning light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

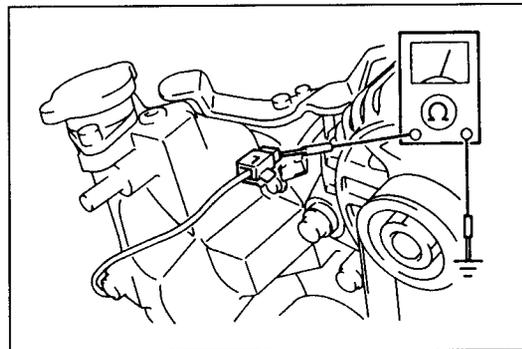
47UC2X-548



47UC2X-549



47UC2X-550



47UC2X-551

Step 1

1. Turn the ignition switch to ON.
2. Check the coolant level warning alarm.

Warning alarm	Action
Sounds	Go to Step 2
Does not sound	Go to Step 3

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the coolant level warning light bulb.

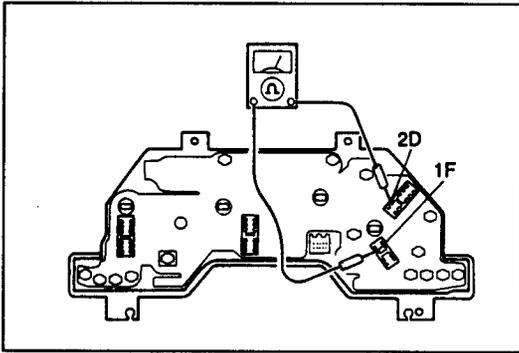
Bulb	Action
Burnt	Replace bulb (Refer to page C2-38)
OK	Install warning light bulb and go to Step 3

Step 3

1. Disconnect the coolant level sensor connector.
2. Check for continuity between the terminal of the coolant level sensor and ground.

Engine coolant level	Continuity
Below MIN	No
Above MIN	Yes

3. If correct, go to Step 4.
4. If not as specified, replace the coolant level sensor. (Refer to page C2-37.)



47UC2X-552

Step 4

Check for continuity between terminals 2D and 1F of the instrument cluster.

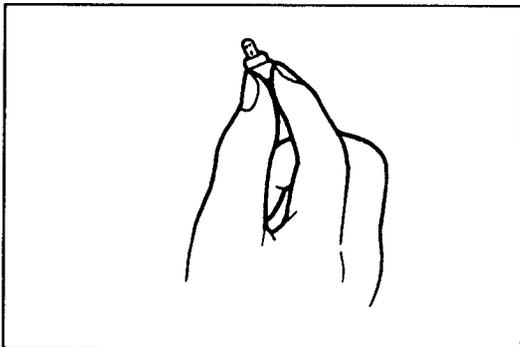
Continuity	Action
Yes	Repair wiring harness (Instrument cluster—Oil-level sensor)
No	Replace print circuit (Refer to section C1)

Flowchart No.12	Symptom	Alternator warning light does not illuminate when ignition switch is turned to ON (engine stopped)
------------------------	----------------	--

Possible cause

- Damaged alternator
- Burnt alternator warning light bulb
- Damaged instrument cluster
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-553

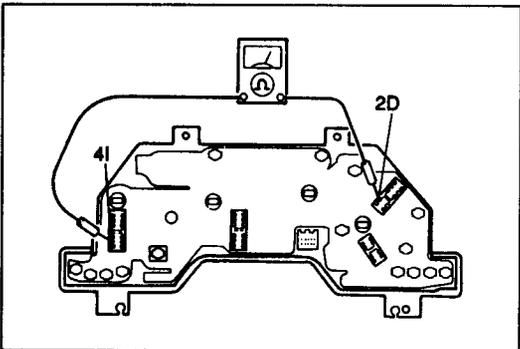


47UC2X-554

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the alternator warning light bulb.

Bulb	Action
OK	Go to Step 2
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-555

Step 2

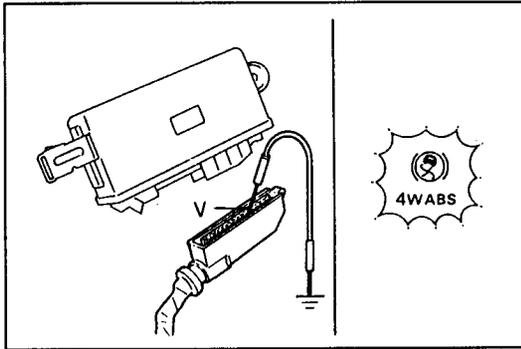
1. Check for continuity between terminals 2D and 4I of the instrument cluster.
2. If there is no continuity, replace the print circuit. (Refer to section C1.)

Flowchart No.13	Symptom	ABS warning light does not illuminate when ignition switch is turned to ON
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Possible cause

- Damaged ABS control unit
- Burnt ABS warning light bulb
- Damaged instrument cluster
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-556

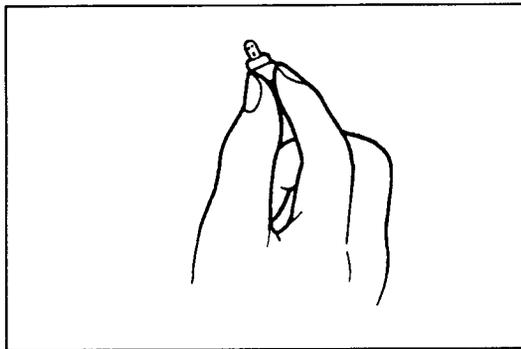


47UC2X-557

Step 1

1. Disconnect the ABS control unit connector (35-pin) and connect terminal V (G/O) of the connector to ground.
2. Turn the ignition switch to ON.
3. Check the ABS warning light.

Light	Action
Does not illuminate	Go to Step 2
Illuminates	Inspect ABS control unit (Refer to 1994 RX-7 Workshop Manual, section P)

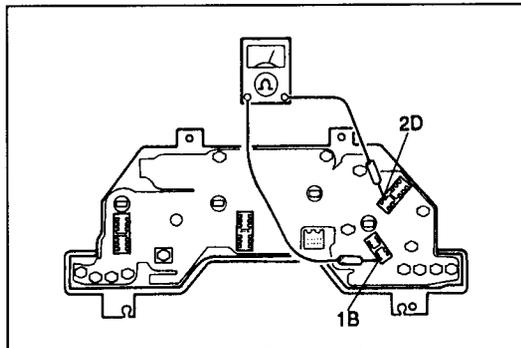


47UC2X-558

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the ABS warning light bulb.

Bulb	Action
OK	Install warning light bulb and go to Step 3
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-559

Step 3

Check for continuity between terminals 2D and 1B of the instrument cluster.

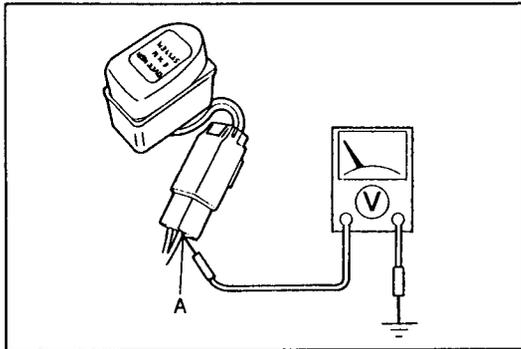
Continuity	Action
No	Replace print circuit (Refer to section C1)
Yes	Repair wiring harness (Instrument cluster—ABS control unit)

Flowchart No.14	Symptom	Overheated-exhaust warning light does not illuminate when ignition switch is turned to ON
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Possible cause

- Damaged overheated-exhaust warning light
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-560



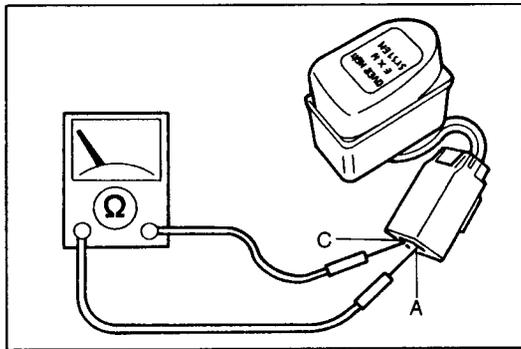
47UC2X-561

Step 1

1. Remove the overheated-exhaust warning light. (Refer to page C2-38.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal A (B/Y) of the overheated-exhaust warning light connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (METER 15A fuse—Overheated-exhaust warning light)



47UC2X-562

Step 2

1. Disconnect the overheated-exhaust warning light connector.
2. Check for continuity between terminals A and C of the overheated-exhaust warning connector.

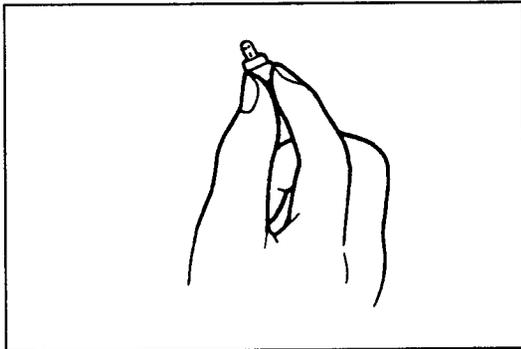
Continuity	Action
No	Replace overheated-exhaust warning light (Refer to page C2-38)
Yes	Repair wiring harness (Overheated-exhaust warning light—Alternator)

Flowchart No.15	Symptom	Fuel-level warning light does not illuminate when fuel tank is almost empty
------------------------	----------------	---

Possible cause

- Damaged instrument cluster
- Burnt fuel-level warning light bulb
- Damaged fuel gauge sender unit
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-563

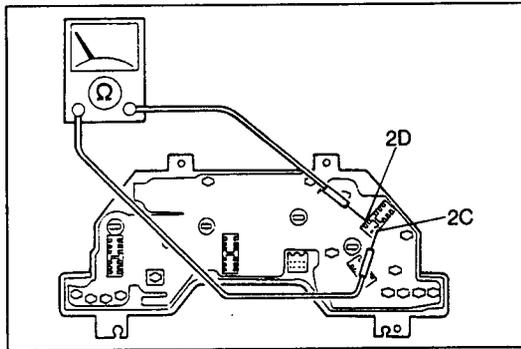


47UC2X-564

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the fuel-level warning light bulb.

Bulb	Action
OK	Install warning light bulb and go to Step 2
Burnt	Replace bulb (Refer to page C2-38)

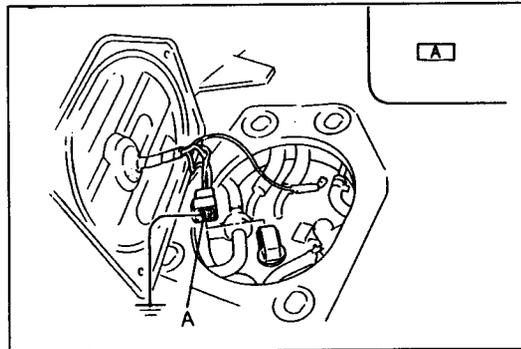


47UC2X-565

Step 2

Check for continuity between terminals 2D and 2C of the instrument cluster.

Continuity	Action
Yes	Go to Step 3
No	Replace print circuit (Refer to section C1)



47UC2X-566

Step 3

1. Remove the fuel pump hole cover. (Refer to the 1994 RX-7 Workshop Manual, section F.)
2. Disconnect the fuel gauge sender unit connector and connect terminal A (L) of the connector to ground.
3. Turn the ignition switch to ON.
4. Check the fuel-level warning light.

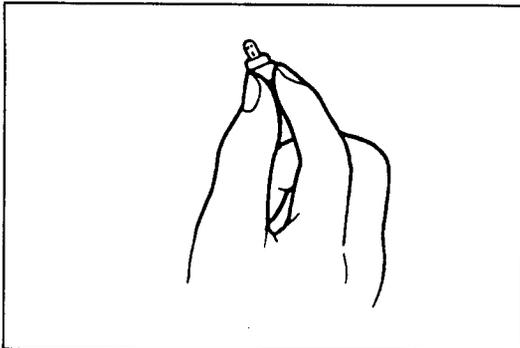
Light	Action
Illuminates	Inspect fuel gauge sender unit (Refer to section C1)
Does not illuminate	Repair wiring harness (Instrument cluster—Fuel gauge sender unit)

Flowchart No.16	Symptom	Seat belt warning light does not illuminate for 4—8 seconds when ignition switch is turned to ON from OFF
------------------------	----------------	---

Possible cause

- Burnt seat belt warning light bulb
- Damaged instrument cluster
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-567

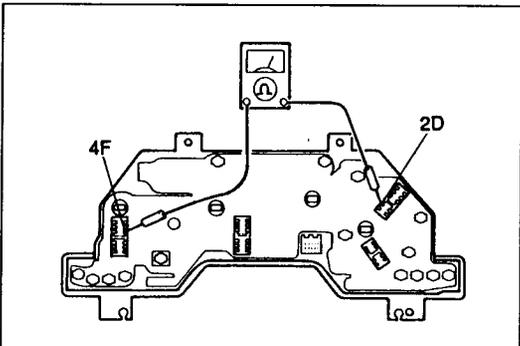


47UC2X-568

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the seat belt warning light bulb.

Bulb	Action
OK	Go to Step 2
Burnt	Replace bulb (Refer to page C2-38)

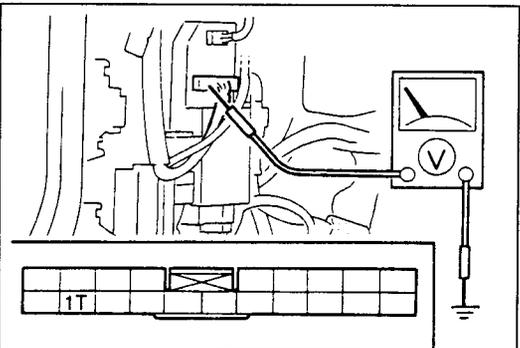


47UC2X-569

Step 2

Check for continuity between terminals 2D and 4F of the instrument cluster.

Continuity	Action
Yes	Go to Step 3
No	Replace print circuit (Refer to section C1)



47UC2X-570

Step 3

1. Install the instrument cluster. (Refer to section C1.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal 1T (LG) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Instrument cluster—CPU No.2)

Flowchart No.17	Symptom	Seat belt warning light does not go out or illuminates too long or too short
------------------------	----------------	--

Possible cause

- Damaged CPU No.2

Remedy

Replace CPU No.2. (Refer to section Z3.)

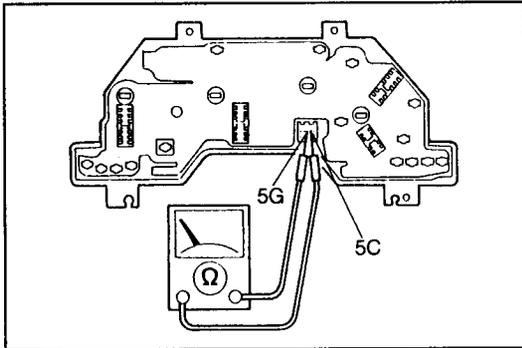
47UC2X-571

Flowchart No.18	Symptom	HOLD indicator light does not go out with hold switch off (ignition switch at ON)
------------------------	----------------	---

Possible cause

- Damaged instrument cluster
- Open or short circuit in wiring harness
- Damaged PCMT
- Poor connection of connector
- Damaged hold switch

47UC2X-572

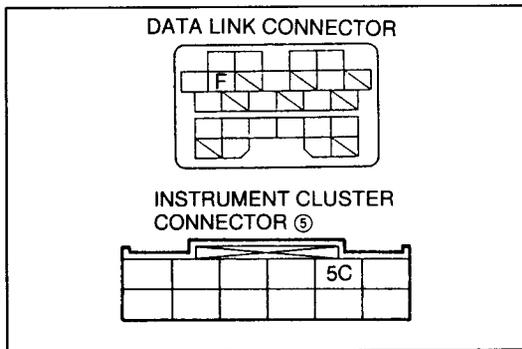


47UC2X-573

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check for continuity between terminals 5G and 5C of the instrument cluster.

Continuity	Action
Yes	Go to Step 2
No	Replace print circuit (Refer to section C1)

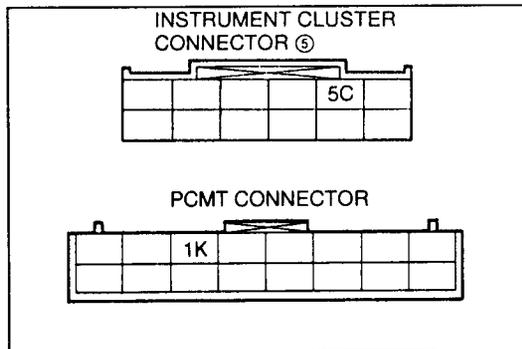


47UC2X-574

Step 2

1. Connect terminal F (Y) of the data link connector to ground.
2. Check for continuity between terminal 5C (Y) of the instrument cluster connector ⑤ (12-pin) and ground.

Continuity	Action
Yes	Go to Step 3
No	Repair wiring harness (Instrument cluster—Data link connector)

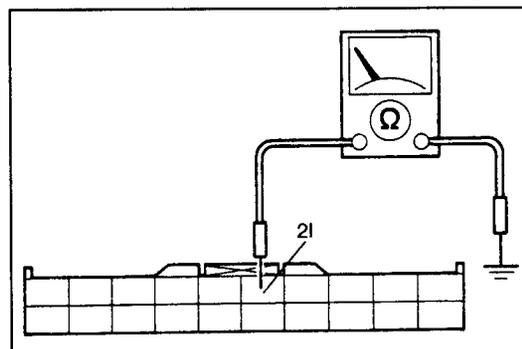


47UC2X-575

Step 3

1. Disconnect the PCMT connector (16-pin).
(Refer to the 1994 RX-7 Workshop Manual, section K.)
2. Check for continuity between terminal 5C (Y) of the instrument cluster connector ⑤ (12-pin) and terminal 1K (Y) of the PCMT connector (16-pin).

Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (Instrument cluster—PCMT)

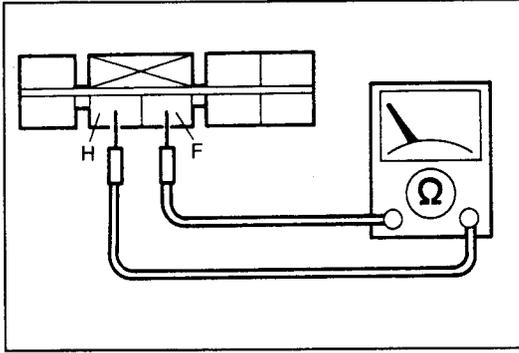


47UC2X-577

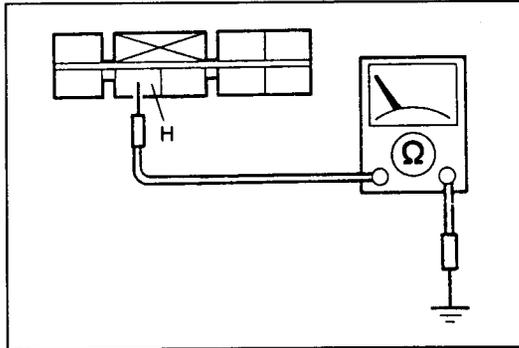
Step 4

1. Disconnect the PCMT connector (20-pin).
2. Check for continuity between terminal 2I (R/W) of the PCMT connector (20-pin) and ground

Continuity	Action
Yes	Inspect PCMT (Refer to 1994 RX-7 Workshop Manual, section K)
No	Go to Step 5



47UC2X-578



47UC2X-579

Step 5

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the hold switch connector.
3. Check for continuity between terminals F and H of the hold switch connector.

Continuity	Action
Yes	Go to Step 6
No	Inspect hold switch (Refer to 1994 RX-7 Workshop Manual, section K)

Step 6

Check for continuity between terminal H (B) of the hold switch connector and ground.

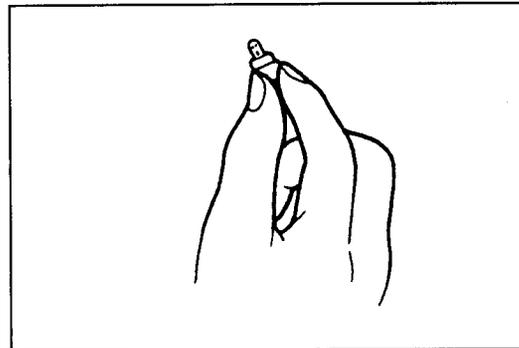
Continuity	Action
Yes	Repair wiring harness (PCMT—Hold switch)
No	Repair wiring harness (Hold switch—GND)

Flowchart No.19	Symptom	Rear window defroster indicator light does not illuminate when rear window defroster operates
------------------------	----------------	---

Possible cause

- Damaged instrument cluster
- Burnt rear window defroster indicator light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-580

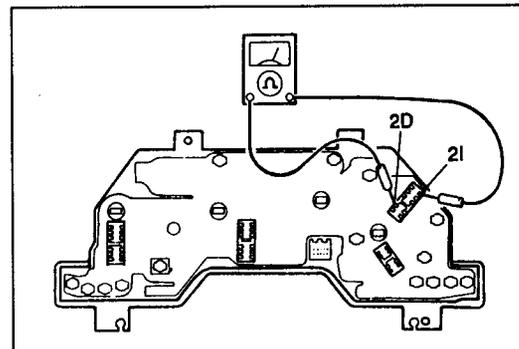


47UC2X-581

Step 1

1. Remove the instrument cluster. (Refer to section C1.)
2. Check the rear window defroster indicator light bulb.

Bulb	Action
OK	Install indicator light bulb and go to Step 2
Burnt	Replace bulb (Refer to page C2-38)



47UC2X-582

Step 2

Check for continuity between terminals 2D and 2I of the instrument cluster.

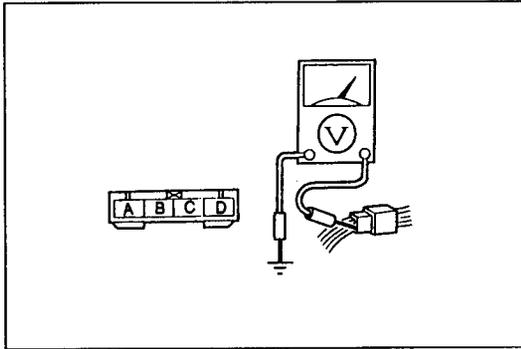
Continuity	Action
Yes	Troubleshoot rear window defroster (Refer to section I1)
No	Replace print circuit (Refer to section C1)

Flowchart No.20	Symptom	Key reminder alarm does not sound (when door is opened with interior light switch at DOOR, interior light illuminates)
------------------------	----------------	---

Possible cause

- Damaged key reminder switch
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-583



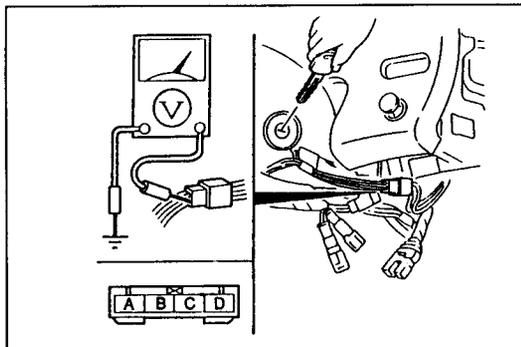
47UC2X-584

Step 1

Measure the voltage at terminal A (L/R) of the key reminder switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (ROOM 10A fuse—Key reminder switch)



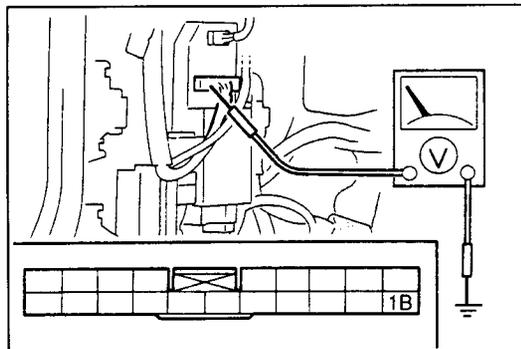
47UC2X-585

Step 2

1. Insert the ignition key.
2. Measure the voltage at terminal D (W) of the key reminder switch connector.

B+: Battery positive voltage

Continuity	Action
B+	Go to Step 3
Other	Inspect key reminder switch (Refer to section I2)



47UC2X-586

Step 3

Measure the voltage at terminal 1B (W) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

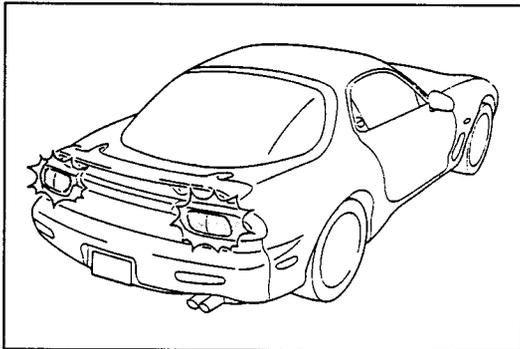
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Key reminder switch—CPU No.2)

Flowchart No.21	Symptom	Lights-on reminder alarm does not sound
------------------------	----------------	---

Possible cause

- Damaged combination switch
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-587

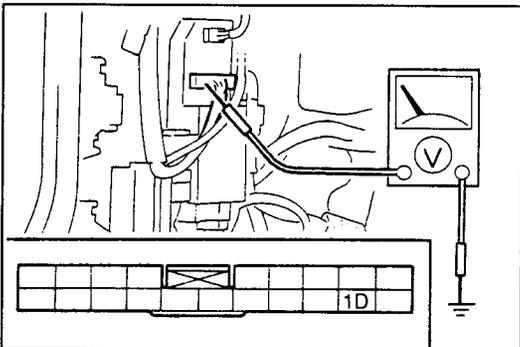


47UC2X-588

Step 1

1. Turn the parking lights on.
2. Check the TNS.

Lights	Action
Remain off	Troubleshoot circuit (Refer to section E)
Other	Go to Step 2



47UC2X-589

Step 2

Measure the voltage at terminal 1D (R/B) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

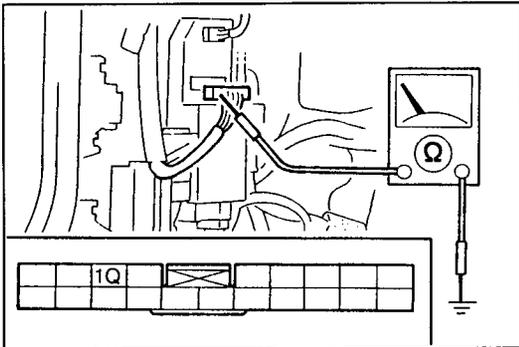
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (TNS relay—CPU No.2)

Flowchart No.22	Symptom	Seat belt warning alarm does not sound when ignition switch is turned to ON
------------------------	----------------	---

Possible cause

- Damaged CPU No.2
- Damaged buckle switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-590

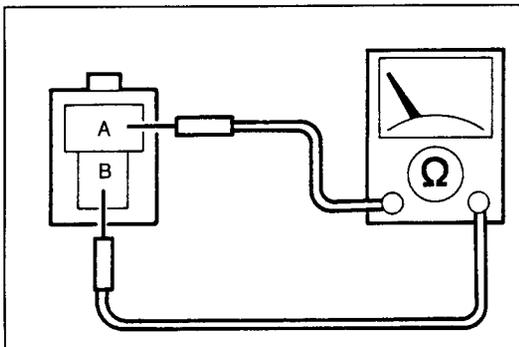


47UC2X-591

Step 1

1. Disconnect the CPU No.2 connector (20-pin).
2. Check for continuity between terminal 1Q (G/Y) of the CPU No.2 connector (20-pin) and ground without inserting the seat belt tongue into the buckle.

Continuity	Action
Yes	Replace CPU No.2 (Refer to section Z3)
No	Go to Step 2

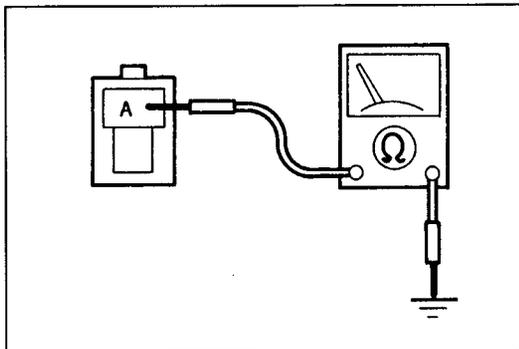


47UC2X-592

Step 2

1. Disconnect the buckle switch connector.
2. Check for continuity between terminals A and B of the buckle switch connector without inserting the seat belt tongue to the buckle.

Continuity	Action
Yes	Go to Step 3
No	Replace buckle switch (Refer to 1994 RX-7 Workshop Manual, section S)



47UC2X-593

Step 3

Check for continuity between terminal A (B) of the buckle switch connector and ground.

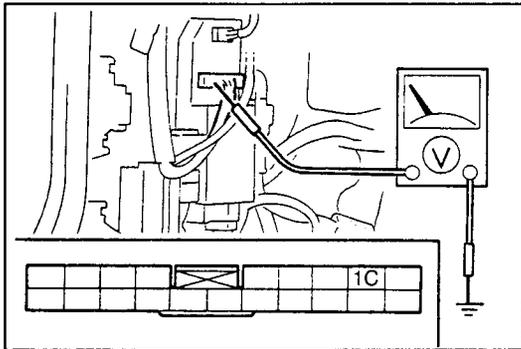
Continuity	Action
Yes	Repair wiring harness (CPU No.2—Buckle switch)
No	Repair wiring harness (Buckle switch—GND)

Flowchart No.23	Symptom	Coolant level warning alarm does not sound when coolant fluid low level (coolant level warning light illuminates)
------------------------	----------------	---

Possible cause

- Damaged CPU No.2
- Damaged instrument cluster
- Damaged coolant level sensor
- Open or short circuit in wiring harness
- Poor connection of connector

47UC2X-594



47UC2X-595

Step 1

1. Turn the ignition switch to ON.
2. Measure the voltage at terminal 1C (B/Y) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

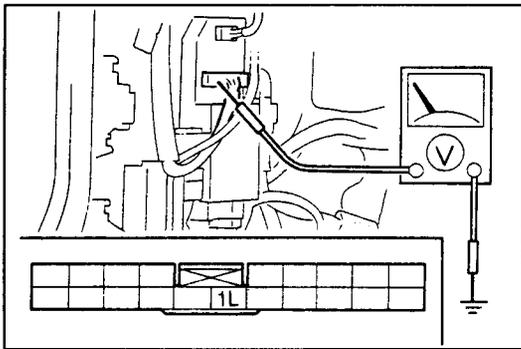
Voltage	Action
B+	Go to Step 2
Others	Repair wiring harness (METER 15A fuse—CPU No.2)

Step 2

2. Measure the voltage at terminal 1L (BR) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Others	Replace CPU No.2 (Refer to section Z3)



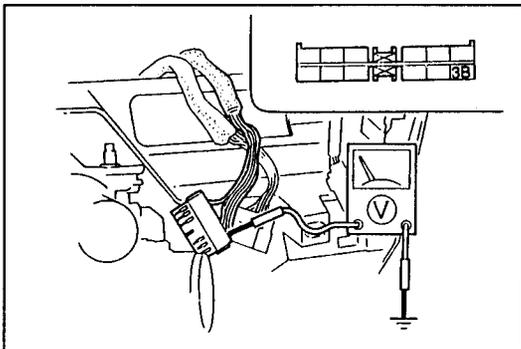
47UC2X-596

Step 3

1. Turn the ignition switch to OFF.
2. Remove the instrument cluster. (Refer to section C1.)
3. Turn the ignition switch to ON.
4. Measure the voltage at terminal 3B (BR) of instrument cluster connector ③ (12-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (CPU No.2—Instrument cluster)



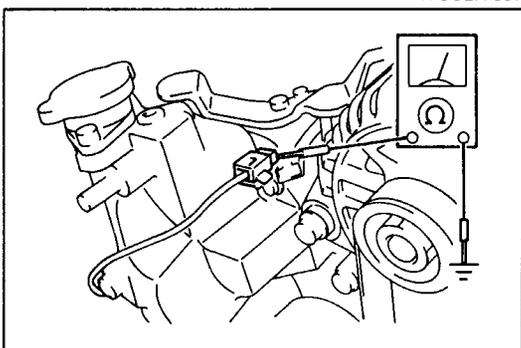
47UC2X-597

Step 4

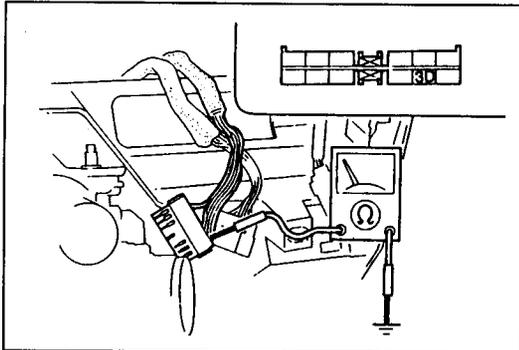
1. Disconnect the coolant level sensor connector.
2. Check for continuity between the terminal of the coolant level sensor and ground.

Engine coolant level	Continuity
Below MIN	No
Above MIN	Yes

3. If correct, connect the coolant level sensor connector and go to Step 5.
4. If not as specified, replace the coolant level sensor. (Refer to page C2-37.)



47UC2X-598



47UC2X-599

Step 5

1. Check for continuity between terminal 3D (BR/W) of instrument cluster connector ③ (12-pin) and ground.

Engine coolant level	Continuity
Below MIN	No
Above MIN	Yes

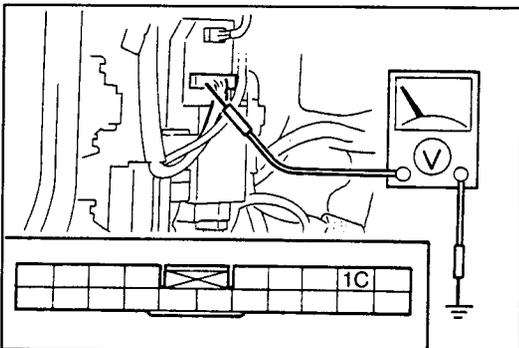
2. If correct, replace the instrument cluster. (Refer to section C1.)
3. If not as specified, repair the wiring harness (instrument cluster—coolant level sensor).

Flowchart No.24	Symptom	Over-revolution warning alarm does not sound when tachometer indicates red zone
------------------------	----------------	---

Possible cause

- Damaged CPU No.2
- Damaged instrument cluster
- Open or short circuit in wiring harness
- Poor connection of connector
- Damaged tachometer
- Damaged PCME

47UC2X-600



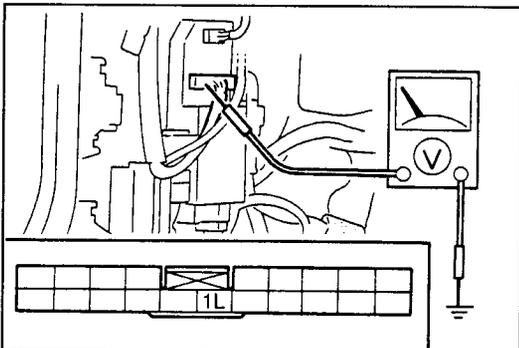
47UC2X-601

Step 1

1. Turn the ignition switch to ON.
2. Measure the voltage at terminal 1C (B/Y) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (METER 15A fuse—CPU No.2)



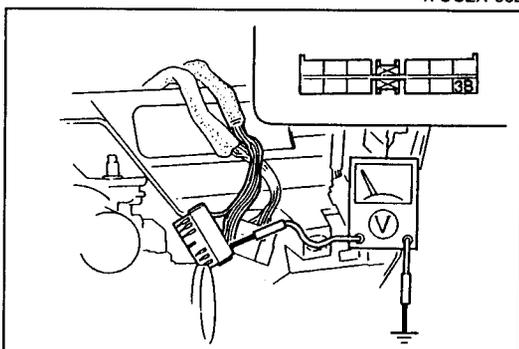
47UC2X-602

Step 2

- Measure the voltage at terminal 1L (BR) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Replace CPU No.2 (Refer to section Z3)



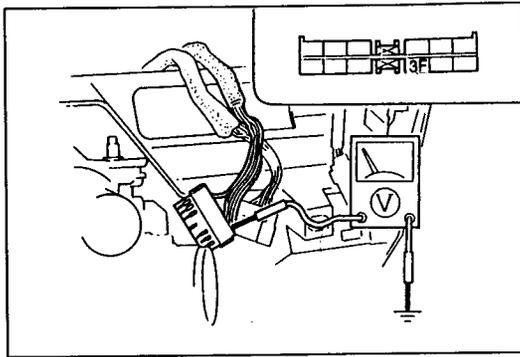
47UC2X-603

Step 3

1. Turn the ignition switch to OFF.
2. Remove the instrument cluster. (Refer to section C1.)
3. Turn the ignition switch to ON.
4. Measure the voltage at terminal 3B (BR) of instrument cluster connector ③ (12-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (CPU No.2—Instrument cluster)



47UC2X-604

Step 4

1. Measure the voltage at terminal 3F (Y/L) of instrument cluster connector ③ (12-pin).

Condition	Voltage
Engine stopped	0V
Engine started (idle)	3—6V (reference)

2. If correct, replace the instrument cluster.
(Refer to section C1.)
3. If not as specified, go to Step 5.

Step 5

1. Measure the voltage at terminal 2B (Y/L) of PCME connector.

Condition	Voltage
Engine stopped	0V
Engine started (idle)	3—6V (reference)

2. If correct, repair the wiring harness (PCME—instrument cluster).
3. If not as specified, inspect the PCME.
(Refer to the 1994 RX-7 Workshop Manual, section F.)

BRAKE FLUID LEVEL SENSOR

Inspection

1. Disconnect the brake fluid level sensor connector.
2. Check for continuity between the terminals of the brake fluid level sensor.

Fluid level	Continuity
Below MIN	Yes
Above MIN	No

3. If not as specified, replace the brake fluid level sensor.
(Refer to the 1994 RX-7 Workshop Manual, section P.)

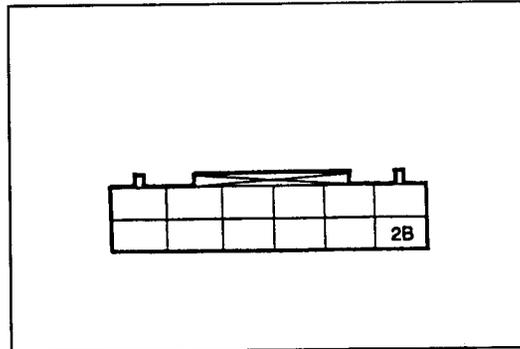
PARKING BRAKE SWITCH

Inspection

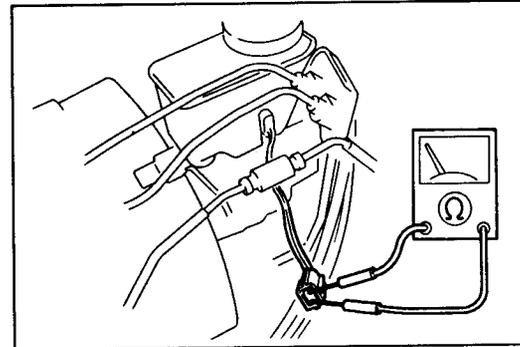
1. Remove the console panel and rear console.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the parking brake switch connector.
3. Check for continuity between the switch terminal and ground.

Parking brake lever	Continuity
Pulled	Yes
Released	No

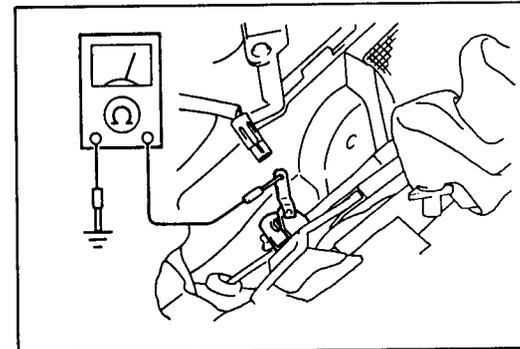
4. If not as specified, replace the parking brake switch.
(Refer to the 1994 RX-7 Workshop Manual, section P.)



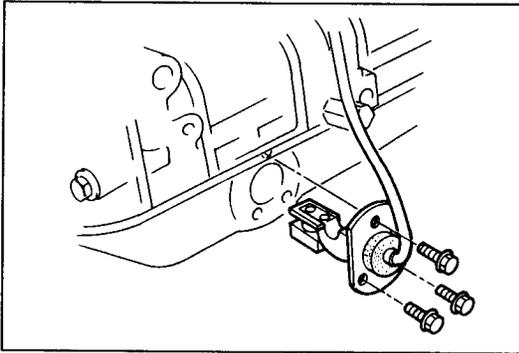
47UC2X-605



47UC2X-506



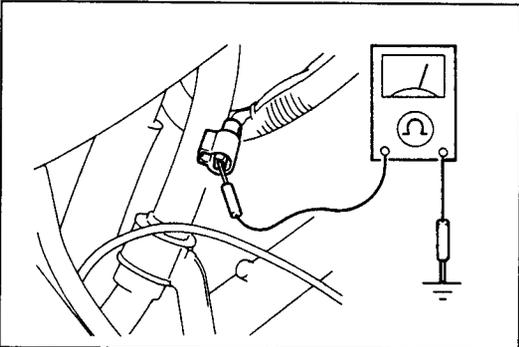
47UC2X-607



47UC2X-608

OIL-LEVEL SENSOR
Removal / Installation

1. Drain the engine oil.
(Refer to the 1994 RX-7 Workshop Manual, section D.)
2. Remove the oil level sensor.
3. Install in the reverse order of removal.



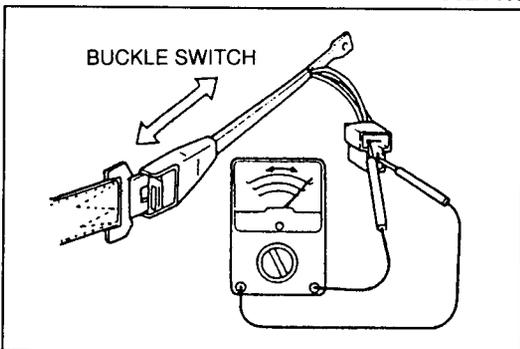
47UC2X-609

Inspection

1. Check for continuity between the terminal of the oil-level sensor and ground.

Oil level	Continuity
Below MIN	Yes
Above MIN	No

2. If not as specified, replace the oil-level sensor.

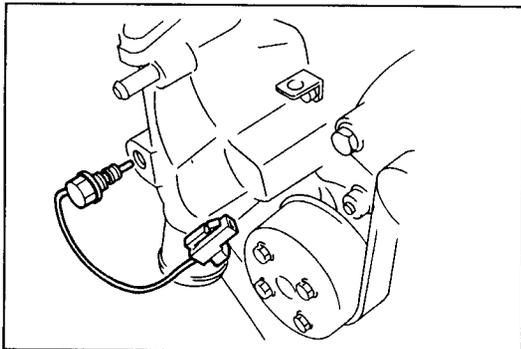


47UC2X-610

BUCKLE SWITCH

Inspection

1. Disconnect the buckle switch connector.
2. Check for continuity between the terminals of the buckle switch.
3. If there is no continuity, replace the buckle switch.
(Refer to the 1994 RX-7 Workshop Manual, section S.)

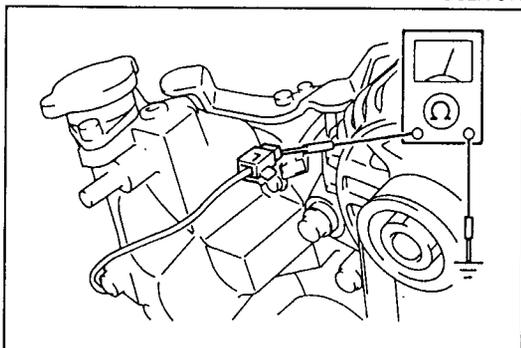


47UC2X-611

COOLANT LEVEL SENSOR

Removal / Installation

1. Drain the engine coolant.
(Refer to the 1994 RX-7 Workshop Manual, section E.)
2. Disconnect the coolant level sensor connector.
3. Remove the coolant level sensor from the thermostat cover.
4. Install in the reverse order of removal.



47UC2X-612

Inspection

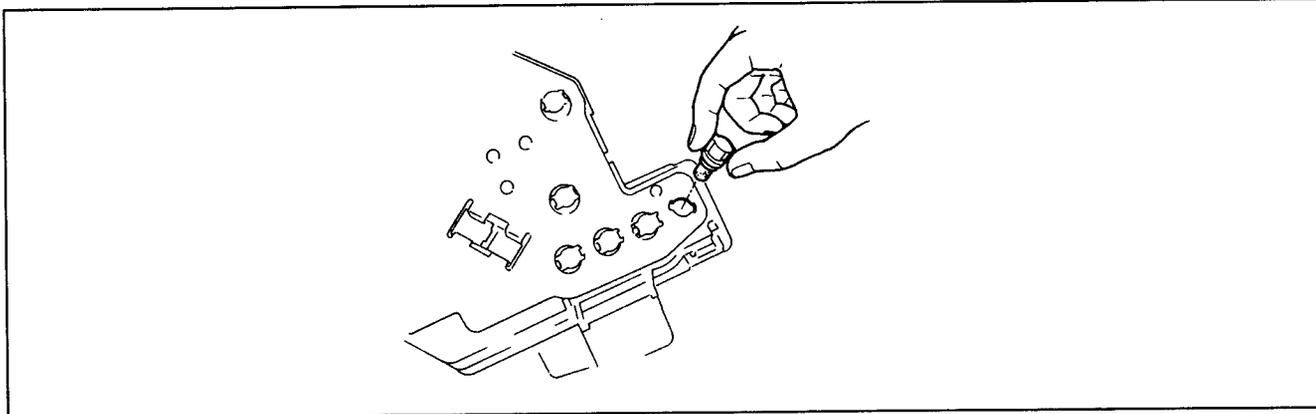
1. Disconnect the coolant level sensor connector.
2. Check for continuity between the terminal of the coolant level sensor and ground.

Engine coolant level	Continuity
Below MIN	No
Above MIN	Yes

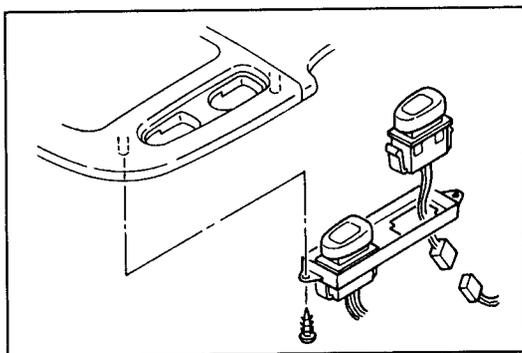
3. If not as specified, replace the coolant level sensor.

WARNING BULBS**Replacement**

1. Remove the instrument cluster. (Refer to section Z4.)
2. Turn the bulb socket and remove the bulb as shown in the figure.
3. When installing a new bulb, use only a bulb of specified wattage. (Refer to page C2-2.)



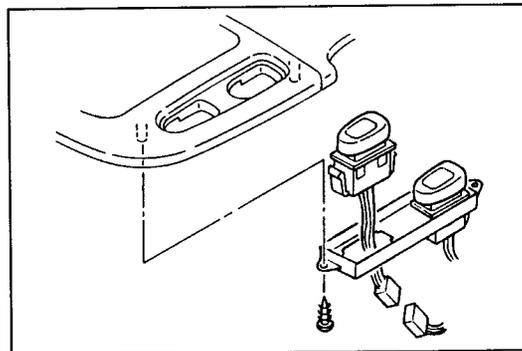
47UC2X-613



47UC2X-614

SECURITY LIGHT**Removal / Installation**

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the security light.
3. Install in the reverse order of removal.



47UC2X-615

OVERHEATED-EXHAUST WARNING LIGHT**Removal / Installation**

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the overheated-exhaust warning light.
3. Install in the reverse order of removal.

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

WINDSHIELD WIPER AND WASHER

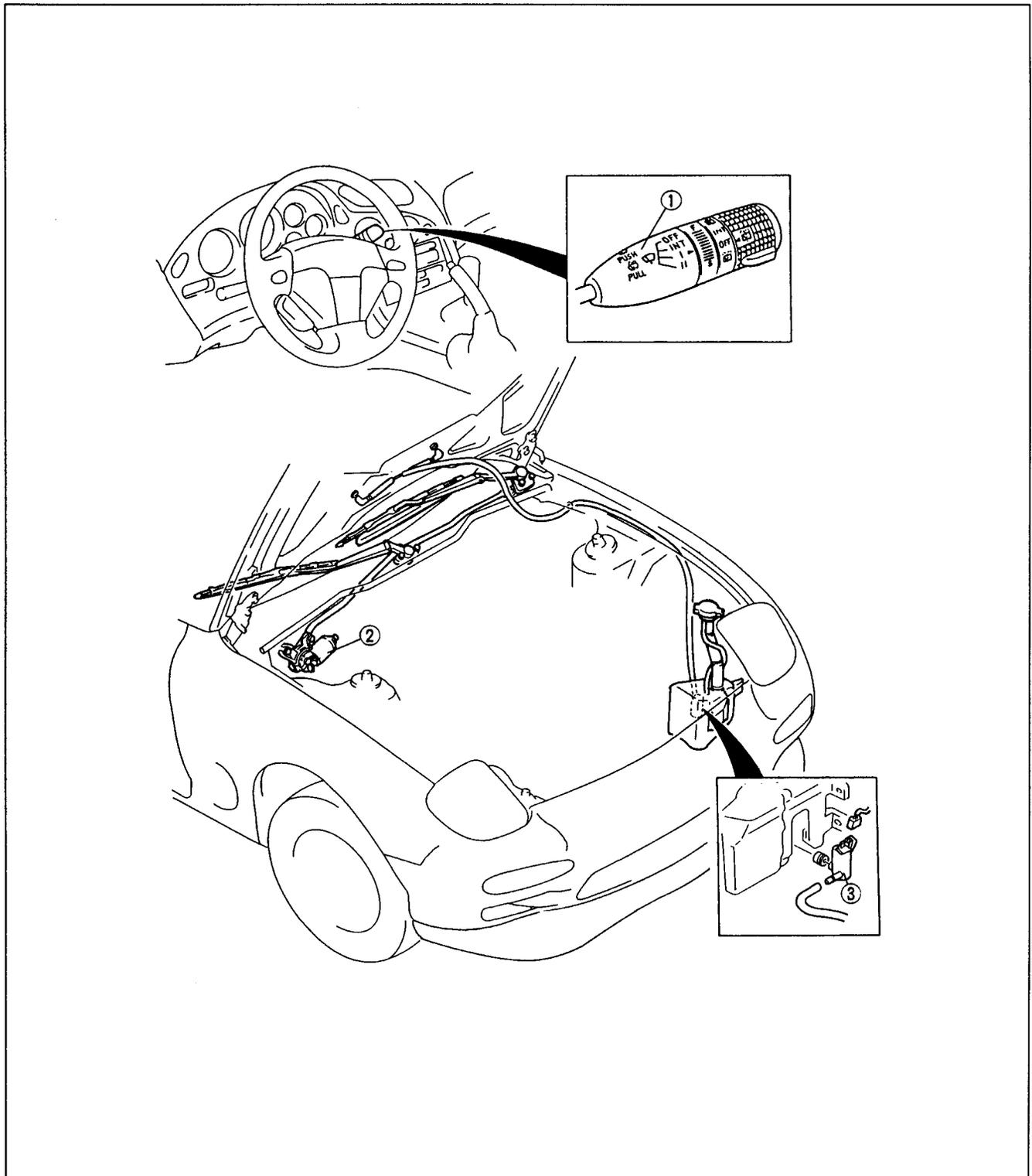
STRUCTURAL VIEW..... D1- 2
SYSTEM DIAGRAM..... D1- 3
TROUBLESHOOTING D1- 6
WINDSHIELD WIPER AND
WASHER SWITCH..... D1-13
WINDSHIELD WIPER MOTOR..... D1-13
WINDSHIELD WASHER MOTOR..... D1-13
COMPONENTS..... D1-14

47UD1X-501

D1

WINDSHIELD WIPER AND WASHER

STRUCTURAL VIEW



37U0SX-022

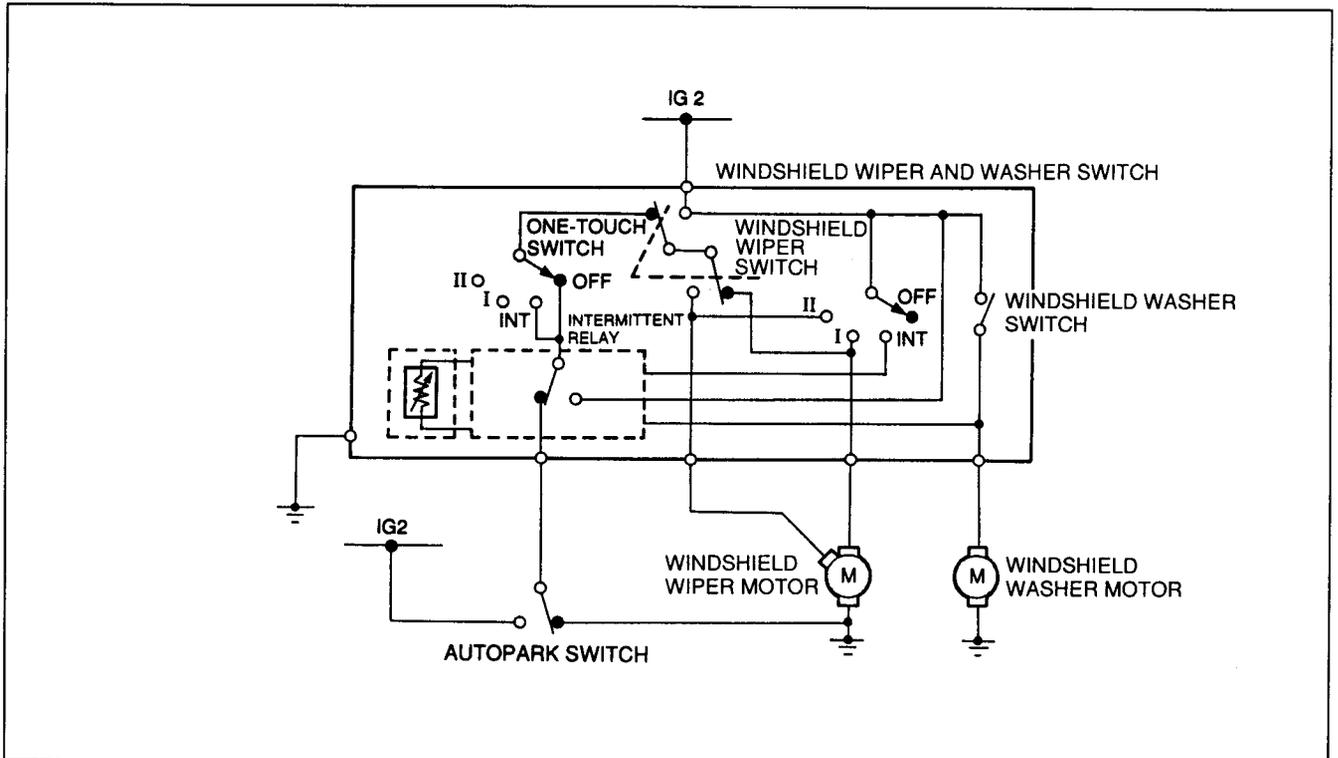
Windshield wiper

- 1. Windshield wiper and washer switch
Inspectionpage D1-13
- 2. Windshield wiper motor
Inspection page D1-13
Removal / Installation page D1-14

Windshield washer

- 3. Windshield washer motor
Inspection page D1-13
Removal / Installation page D1-14

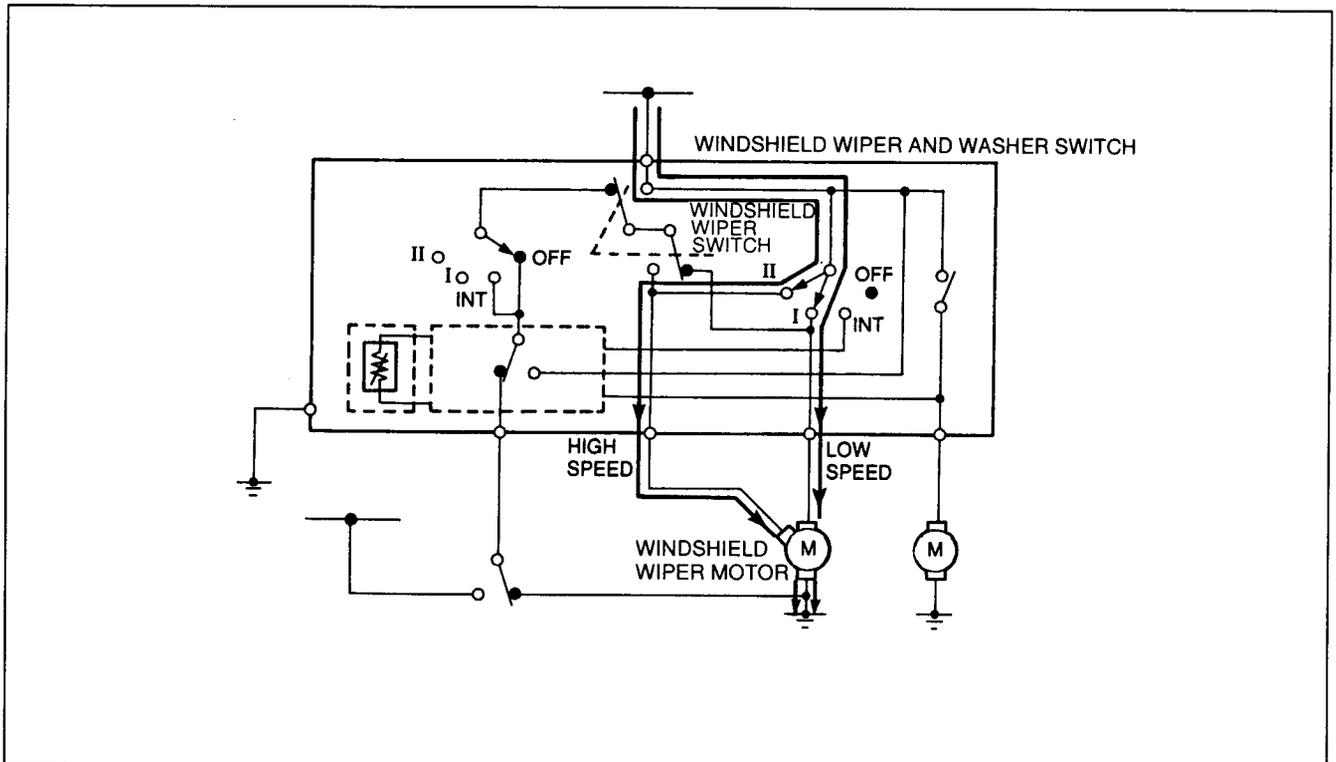
SYSTEM DIAGRAM



D1

2PU0SX-677

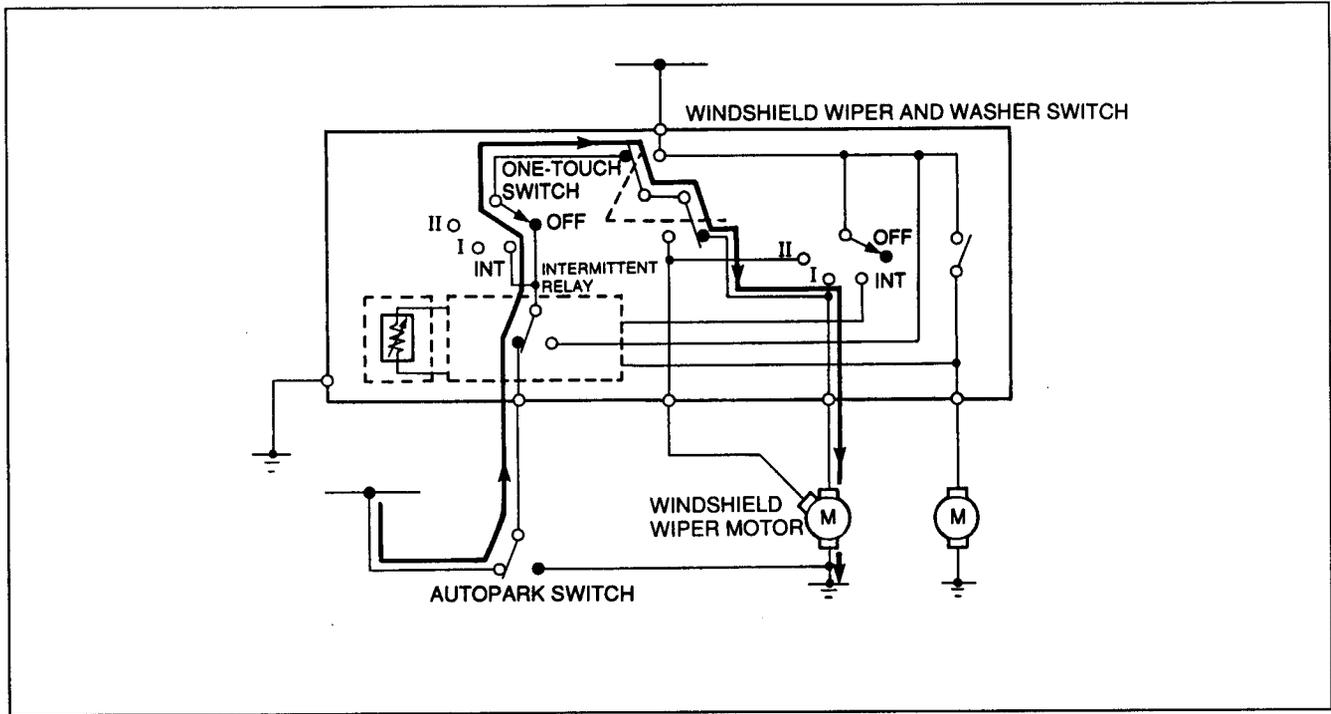
System Operation



37U0SX-704

1. Low speed and high speed

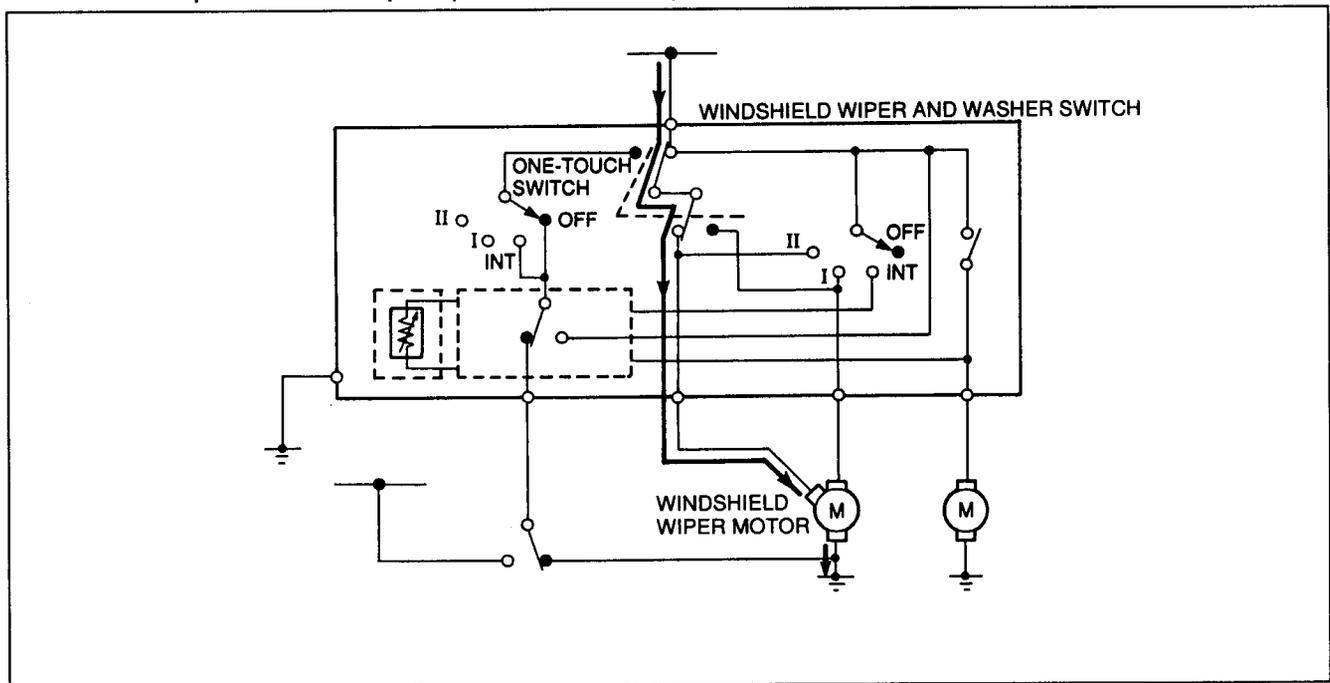
- When the windshield wiper switch is moved to the I (low) position, current flows through the windshield wiper switch, to the motor, then to ground. The wipers operate at low speed.
- When the windshield wiper switch is moved to the II (high) position, current flows through the windshield wiper switch, to the windshield wiper motor, then to ground. The wipers operate at high speed.



47UD1X-502

2. Autopark

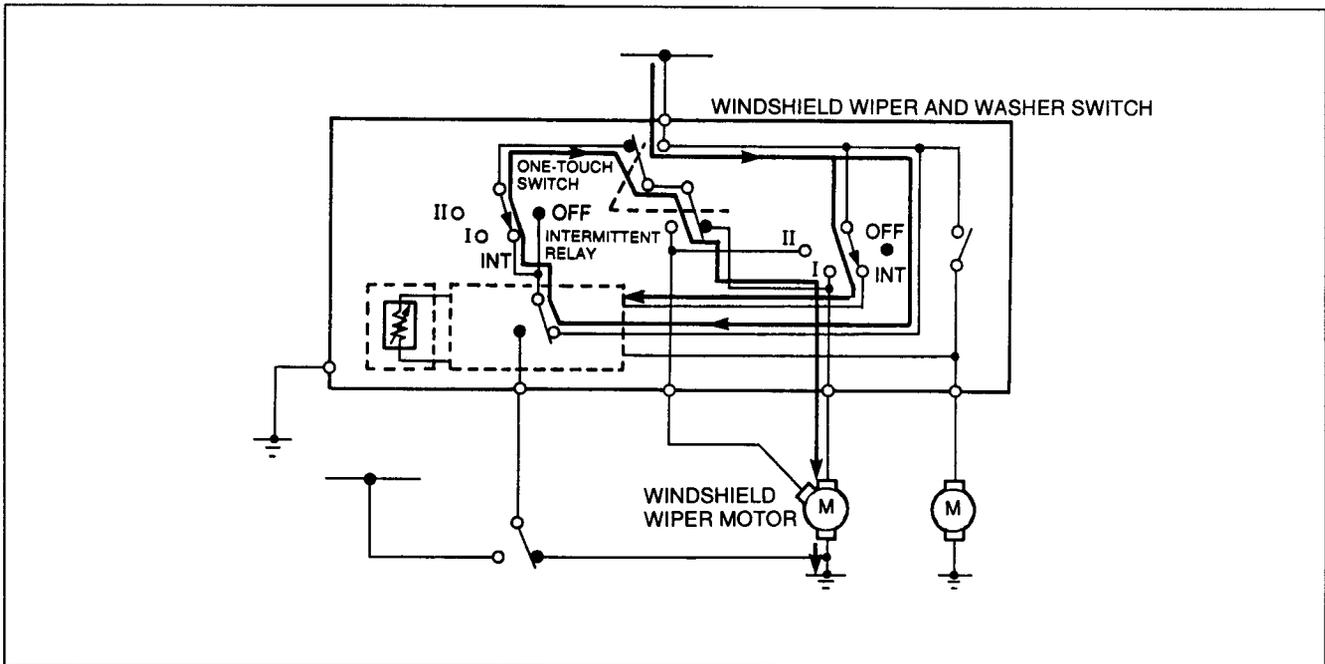
- While the wiper motor is operating, the autopark switch is on. If the windshield wiper switch is moved to OFF, current continues to flow through the autopark switch, to the intermittent relay, to the one-touch switch, to the windshield wiper motor, and then to ground. Thus, the wipers keep moving until they reach the park position.
- When the wipers reach the park position, the autopark switch turns off and the wipers stop.



47UD1X-503

3. One-touch wiper

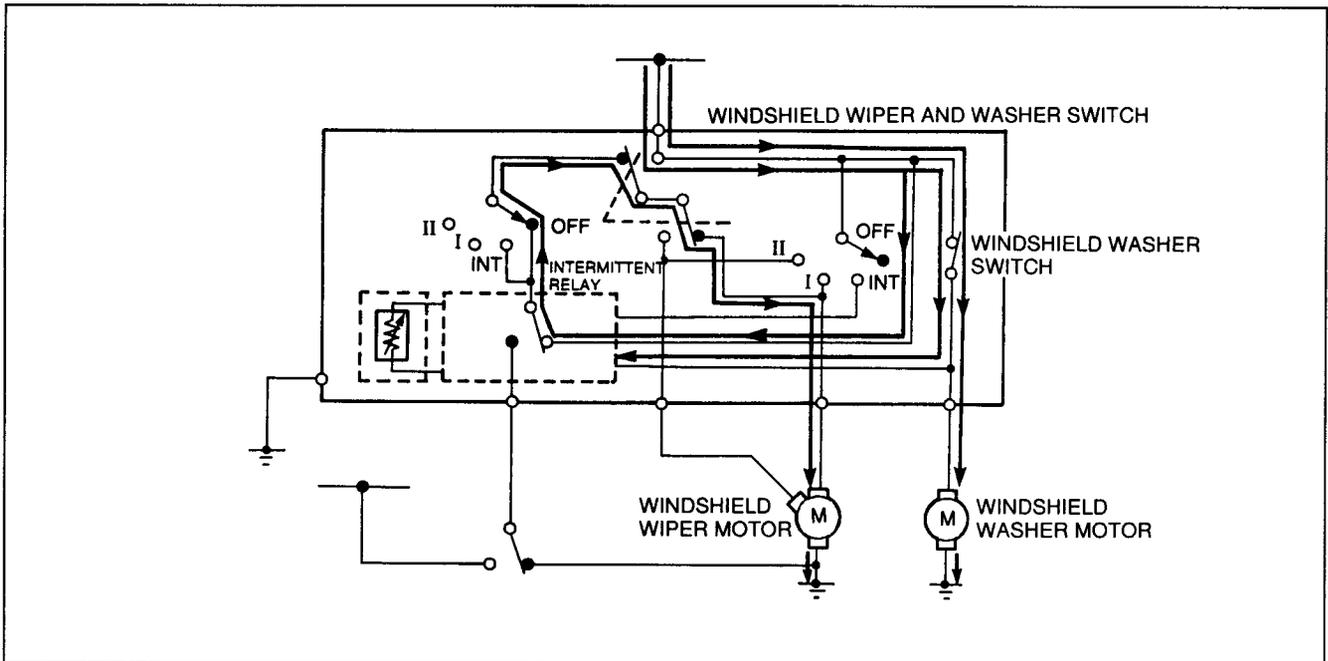
- When the windshield wiper switch is pushed, the one-touch switch turns on, and current flows through the one-touch switch, to the windshield wiper motor, and then to ground. The wipers operate at high speed for one cycle.
- When the windshield wiper switch is pushed and held, the wipers cycle at high speed. When the switch is released, the autopark function is activated and the wipers stop at the park position.



47UD1X-504

4. Intermittent wiper

- When the windshield wiper switch is moved to INT, the intermittent relay turns on, and current flows through the windshield wiper switch, to the intermittent relay, to the one-touch switch, to the windshield wiper motor, and then to ground. The wipers operate at low speed. The intermittent relay internal circuit turns off the relay. The autopark function is activated, and the wipers stop at the park position.
- After the wipers stop, discharge from the capacitor inside the relay turns the intermittent relay on again, and current flows as shown above. The wipers operate again.



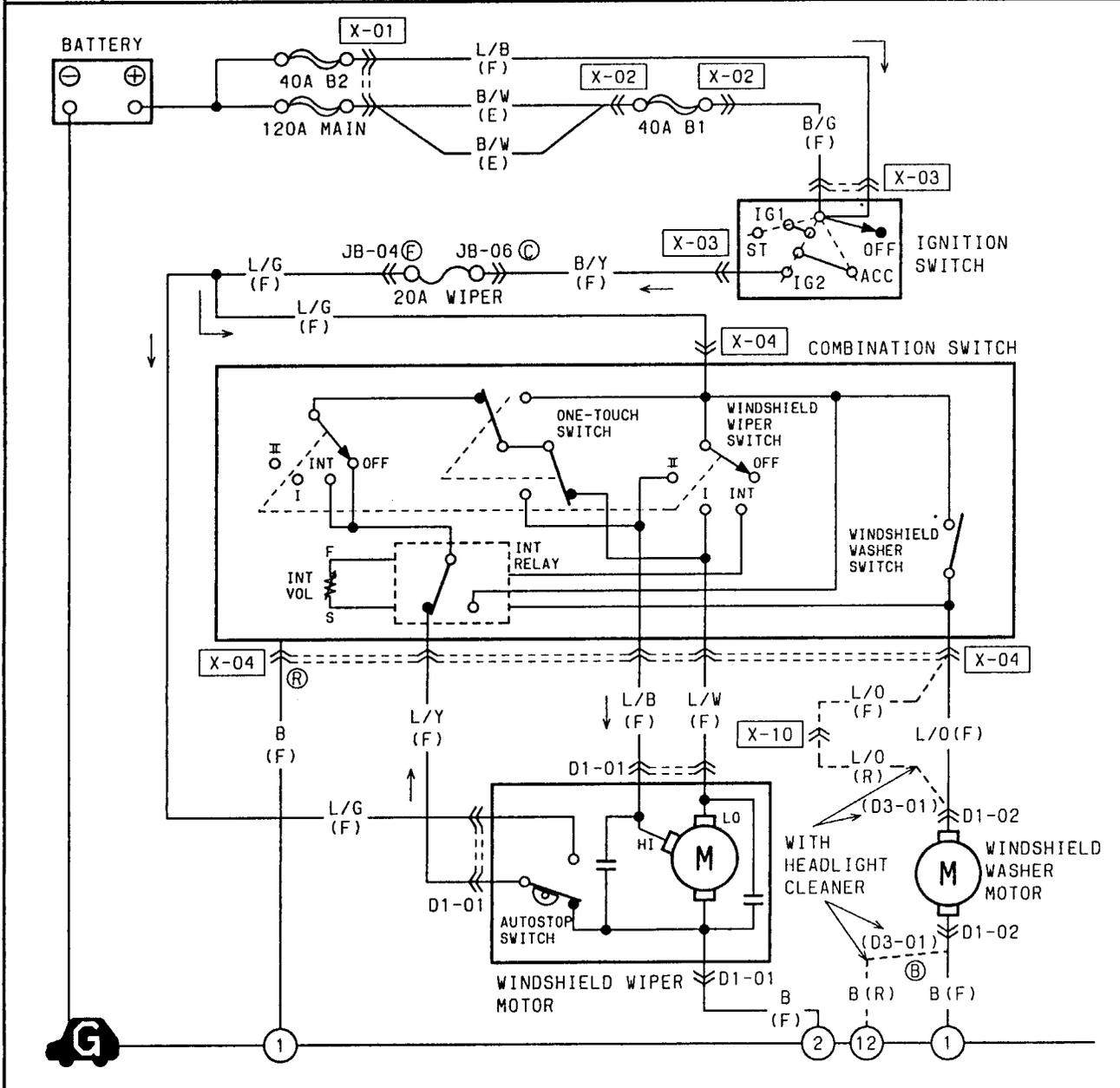
47UD1X-505

5. Washer

- When the wiper and windshield washer switch is pulled, the windshield washer switch turns on. Current flows through the windshield washer switch, to the windshield washer motor, and then to ground. The windshield washer motor is activated.
- Current also flows to the intermittent relay, turning it on, and continues through the one-touch switch, to the windshield wiper motor, and then to ground. The wipers operate at low speed.

TROUBLESHOOTING Circuit Diagram

D-1 ■ WINDSHIELD WIPER AND WASHER



D1-01 WINDSHIELD WIPER MOTOR (F)

B	L/W	L/B
*	L/G	L/Y

D1-02 WINDSHIELD WASHER MOTOR (F)

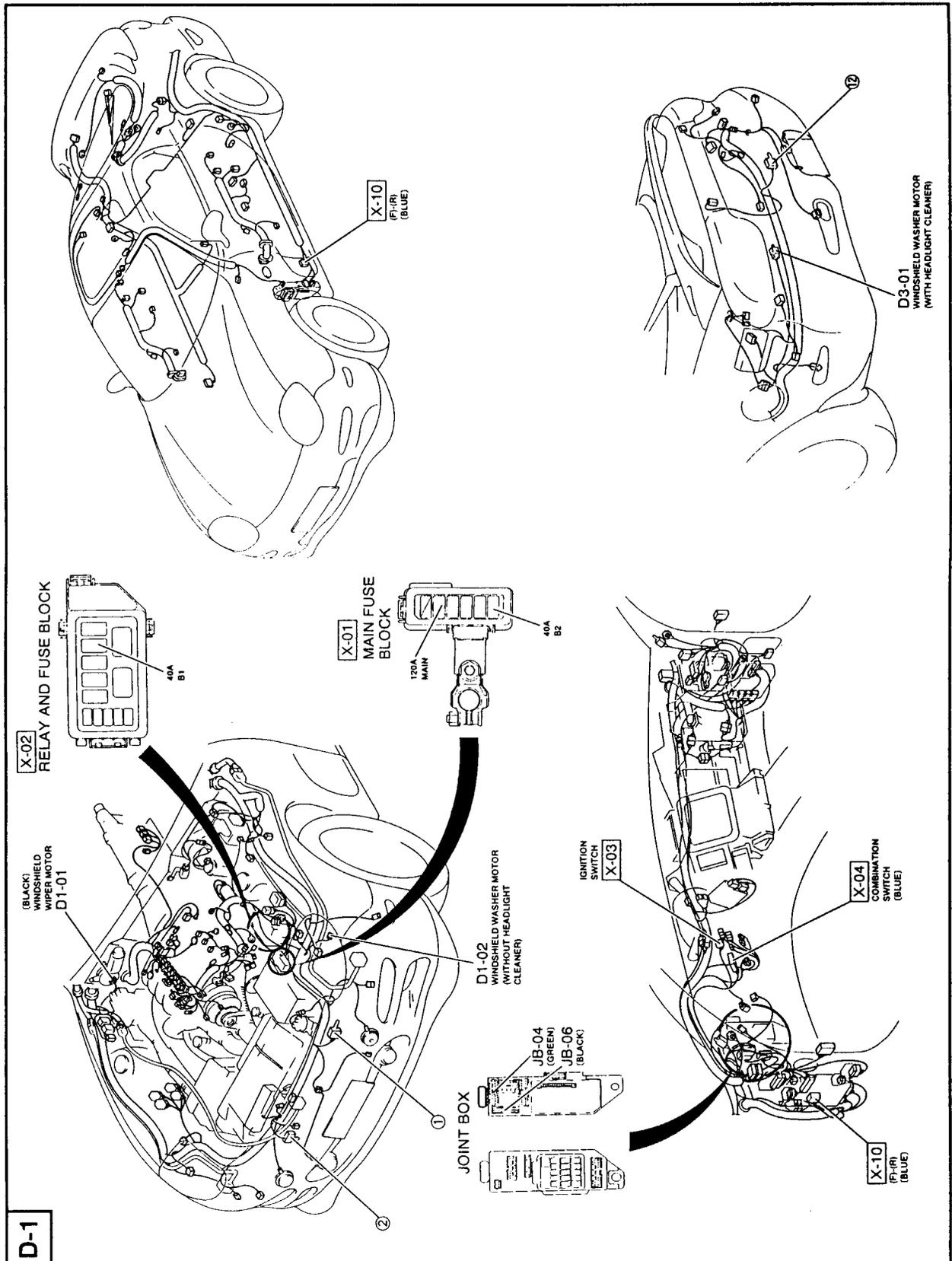
B	(WITHOUT HEADLIGHT CLEANER)
L/O	

D3-01 WINDSHIELD WASHER MOTOR (R)

R/W	*	*	⊗	*	*	L/O
R/L	W	W	*	W	B	B

(WITH HEADLIGHT CLEANER) ⓐ ⓑ

Connector Locations



Checklist

	Procedure / Proper operation	Symptom	Flowchart No.
1	Operate wiper and washer switch and verify that wipers operate at low and high speeds.	Windshield wipers do not operate	1
		Windshield wipers continue operating after wiper and washer switch is moved to OFF	2
2	Move wiper and washer switch to INT and verify that windshield wipers work intermittently. Verify that intermittent operation can be adjusted.	Intermittent wiper operation is not possible (low/high operation is possible)	3
		Interval adjustment of intermittent wiper operation is not possible	4
		Windshield wipers continue intermittent operation	5
3	Push wiper and washer switch and verify that wipers operate at high speed.	One-touch wiper operation is not possible	6
4	Move wiper and washer switch to OFF during wiper operation, and verify that wipers stop at park position.	Autopark operation does not work (wipers immediately stop when windshield wiper and washer switch is moved to OFF)	7
5	Pull wiper and washer switch and verify that washer fluid is sprayed and wipers operate at low speed.	Windshield washer does not operate, but windshield wipers operate	8
		Windshield wipers do not operate, but windshield washer operates	9
		Windshield washer operates with windshield washer switch turned off	10

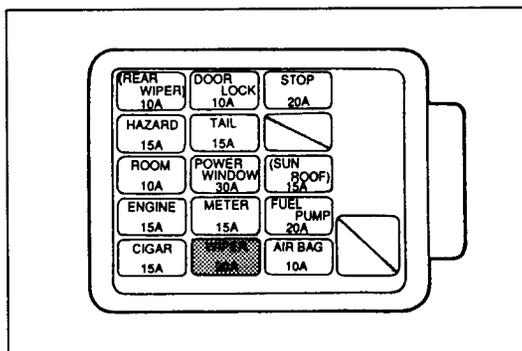
47UD1X-506

Flowchart No.1	Symptom	Windshield wipers do not operate
-----------------------	----------------	----------------------------------

Possible cause

- Burnt WIPER 20A fuse
- Damaged windshield wiper motor
- Damaged windshield wiper and washer switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UD1X-507

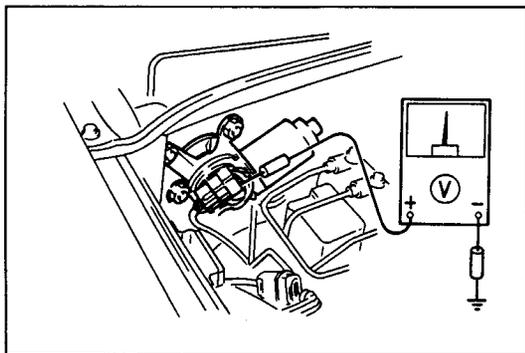


37U0SX-707

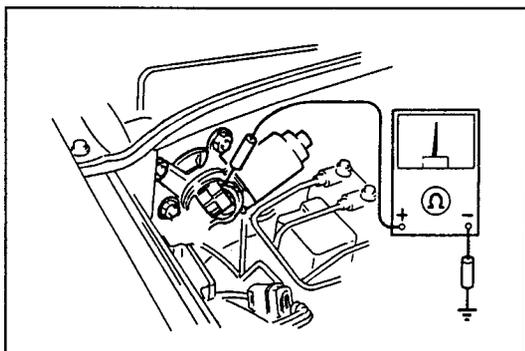
Step 1

Check the WIPER 20A fuse in the fuse block.

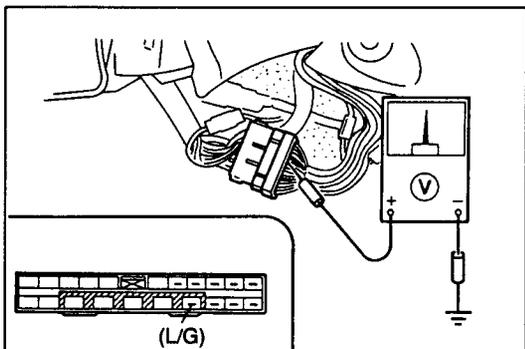
Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



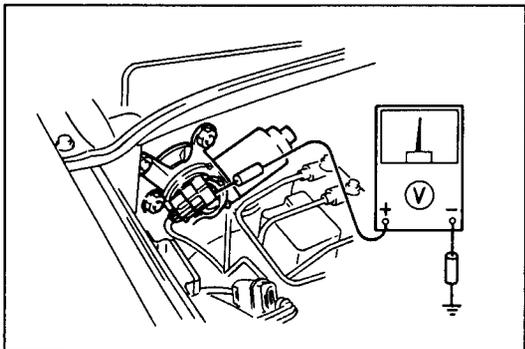
47UD1X-508



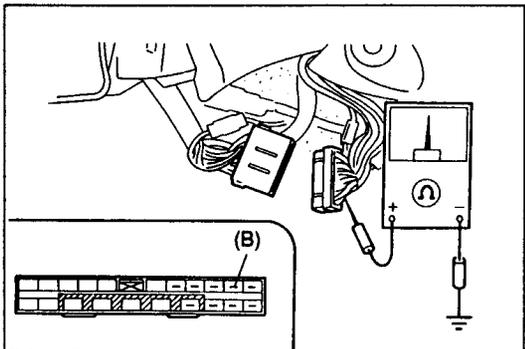
47UD1X-509



47UD1X-510



47UD1X-511



47UD1X-512

Step 2

1. Turn the ignition switch to ON.
2. Measure the voltage at the terminal wires of the windshield wiper motor connector.

B+: Battery positive voltage

Switch position	Terminal	Voltage
I (low)	(L/W) wire	B+
II (high)	(L/B) wire	B+

3. If correct, go to Step 3.
4. If not as specified, go to Step 4.

Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the windshield wiper motor connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Check the windshield wiper motor (Refer to page D1-13)
No	Repair wiring harness (Windshield wiper motor—GND)

Step 4

1. Remove the lower panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at the (L/G) terminal wire of the windshield wiper and washer switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Fuse block—Windshield wiper and washer switch)

Step 5

1. Measure the voltage at the terminal wires of the windshield wiper and washer switch connector.

B+: Battery positive voltage

Switch position	Terminal	Voltage
I (low)	(L/W) wire	B+
II (high)	(L/B) wire	B+

3. If correct, go to Step 6.
4. If not as specified, check the windshield wiper and washer switch. (Refer to page D1-13.)

Step 6

1. Turn the ignition switch to OFF.
2. Disconnect the windshield wiper and washer switch connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Repair wiring harness (Windshield wiper and washer switch—Windshield wiper motor)
No	Repair wiring harness (Windshield wiper and washer switch—GND)

D1

Flowchart No.2	Symptom	Windshield wipers continue operating after wiper and washer switch is turned to OFF
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-513

Flowchart No.3	Symptom	Intermittent wiper operation is not possible (low/high operation is possible)
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch
- Damaged intermittent wiper relay

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-514

Flowchart No.4	Symptom	Interval adjustment of intermittent wiper operation is not possible
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch
- Damaged intermittent wiper relay

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-515

Flowchart No.5	Symptom	Windshield wipers continue intermittent operation
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch
- Damaged intermittent wiper relay

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-516

Flowchart No.6	Symptom	One-touch wiper operation is not possible
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

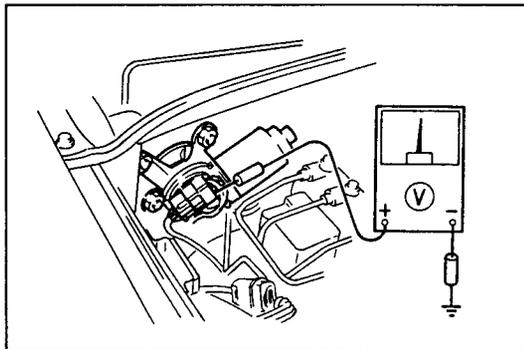
47UD1X-517

Flowchart No.7	Symptom	Autopark operation does not work (wipers immediately stop when windshield wiper and washer switch is moved to OFF)
-----------------------	----------------	--

Possible cause

- Damaged windshield wiper motor
- Damaged windshield wiper and washer switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UD1X-518



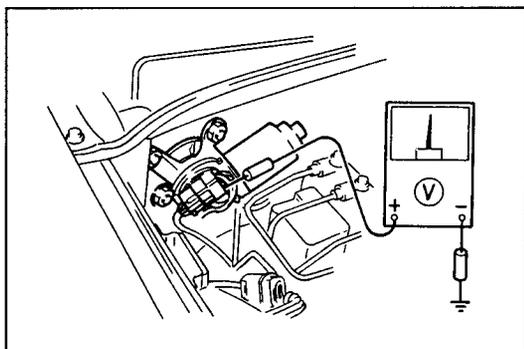
47UD1X-519

Step 1

1. Turn the ignition switch to ON.
2. Measure the voltage at the (L/G) terminal wire of the windshield wiper motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (Fuse block—Windshield wiper motor)



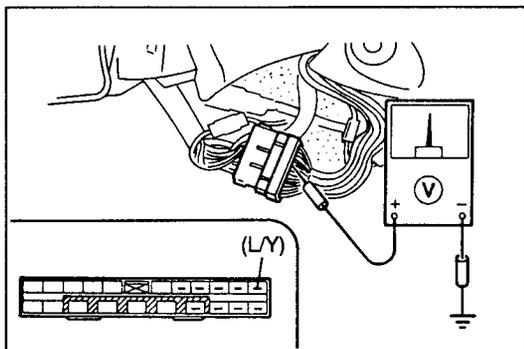
47UD1X-520

Step 2

1. Move the wiper and washer switch to the I (low) position.
2. Measure the voltage at the (L/Y) terminal wire of the windshield wiper motor harness connector.

B+: Battery positive voltage

Voltage	Action
Alternates B+ and 0V	Go to Step 3
Other	Check the windshield wiper motor (Refer to page D1-13)



47UD1X-521

Step 3

1. Remove the lower panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the (L/Y) terminal wire of the windshield wiper and washer switch connector with the windshield wiper switch on.

B+: Battery positive voltage

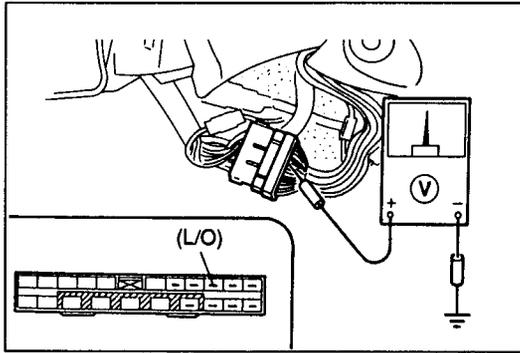
Voltage	Action
Alternates B+ and 0V	Check wiper and washer switch (Refer to page D1-13)
Other	Repair wiring harness (Windshield wiper motor—Windshield wiper and washer switch)

Flowchart No.8	Symptom	Windshield washer does not operate, but windshield wipers operate
-----------------------	----------------	---

Possible cause

- Damaged windshield wiper and washer switch
- Damaged windshield washer motor
- Open a short circuit in wiring harness
- Poor connection of connector

47UD1X-521



47UD1X-522

Step 1

1. Remove the lower panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Operate the washer switch and measure the voltage at the (L/O) terminal wire of the windshield wiper and washer switch harness connector.

B+: Battery positive voltage

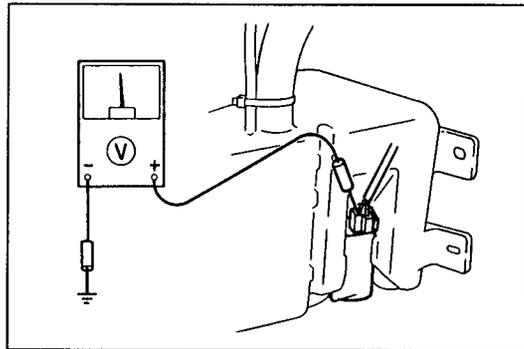
Voltage	Action
B+	Go to Step 2
Other	Check the windshield wiper and washer switch (Refer to page D1-13)

Step 2

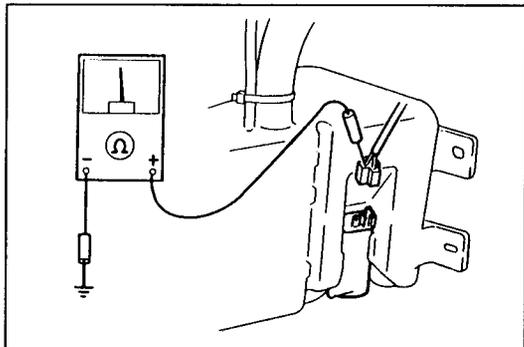
1. Remove the washer tank. (Refer to page D1-14.)
2. Operate the washer switch and measure the voltage at the (L/O) terminal wire of the windshield washer motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Windshield wiper and washer switch—Windshield washer motor)



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47UD1X-524

Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the windshield washer motor harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Check windshield washer motor (Refer to page D1-13)
No	Repair wiring harness (Windshield washer motor—GND)

Flowchart No.9	Symptom	Windshield wipers do not operate, but windshield washer operates
-----------------------	----------------	--

Possible cause

- Damaged windshield wiper and washer switch

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-525

Flowchart No.10	Symptom	Windshield washer operates with windshield washer switch turned off
------------------------	----------------	---

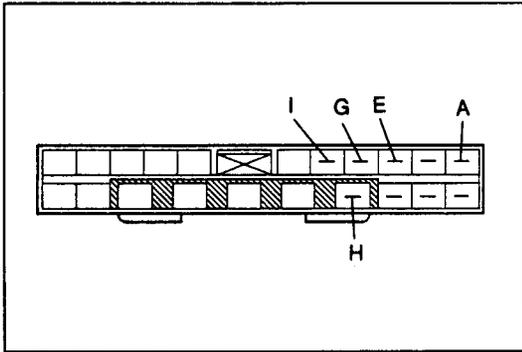
Possible cause

- Damaged windshield wiper and washer switch

Remedy

Check the windshield wiper and washer switch. (Refer to page D1-13.)

47UD1X-526



47UD1X-526

WINDSHIELD WIPER AND WASHER SWITCH

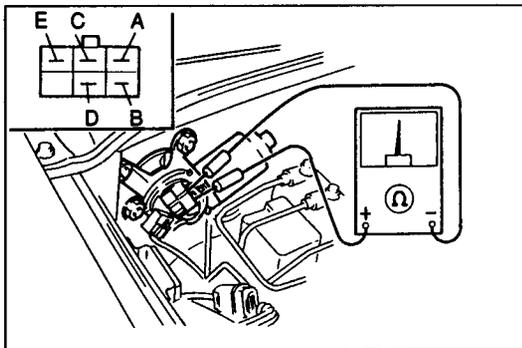
Inspection

1. Remove the lower panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the windshield wiper and washer switch harness connector and check for continuity between the switch terminals as indicated below.

Position		Terminal				
		A	I	G	H	E
Wiper switch	OFF	One-touch OFF	○—○			
		One-touch ON			○—○	
	INT	○—○				
	II (high)		○—○		○—○	
Washer switch ON					○—○	

○—○ : Continuity

3. If not as specified, replace the combination switch.



47UD1X-527

WINDSHIELD WIPER MOTOR

Inspection

1. Disconnect the windshield wiper motor harness connector and check for continuity between the motor terminals.

Terminal	A	B	C	D	E
Wiper position					
Parked	○—○	○—○	○—○	○—○	○—○
Not parked	○—○	○—○	○—○	○—○	○—○

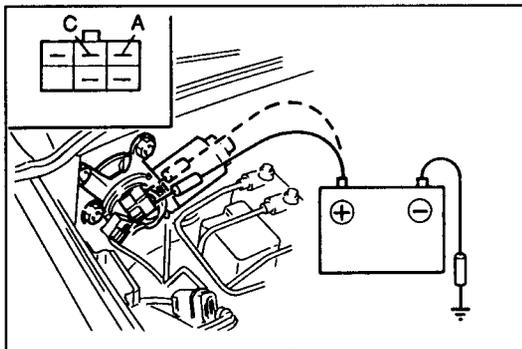
○—○ : Continuity

2. Apply battery positive voltage and check the operation of the windshield wiper motor as indicated below.

B+ : Battery positive voltage

Connection	Operation speed
B+	
C	Low
A	High

3. If not as specified, replace the windshield wiper motor.

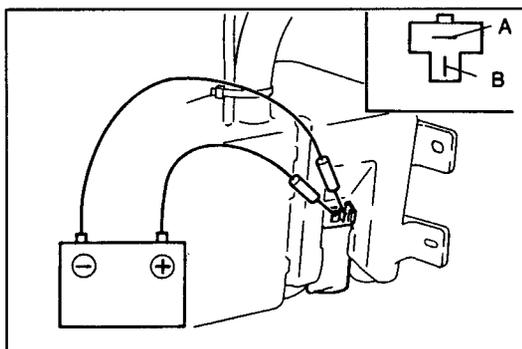


47UD1X-528

WINDSHIELD WASHER MOTOR

Inspection

1. Remove the washer tank. (Refer to page D1-14.)
2. Disconnect the windshield washer motor harness connector and check for continuity between the motor terminals.
3. Connect terminal B to battery positive voltage and terminal A to ground. Verify that the windshield washer motor operates.
4. If not as specified, replace the windshield washer motor.

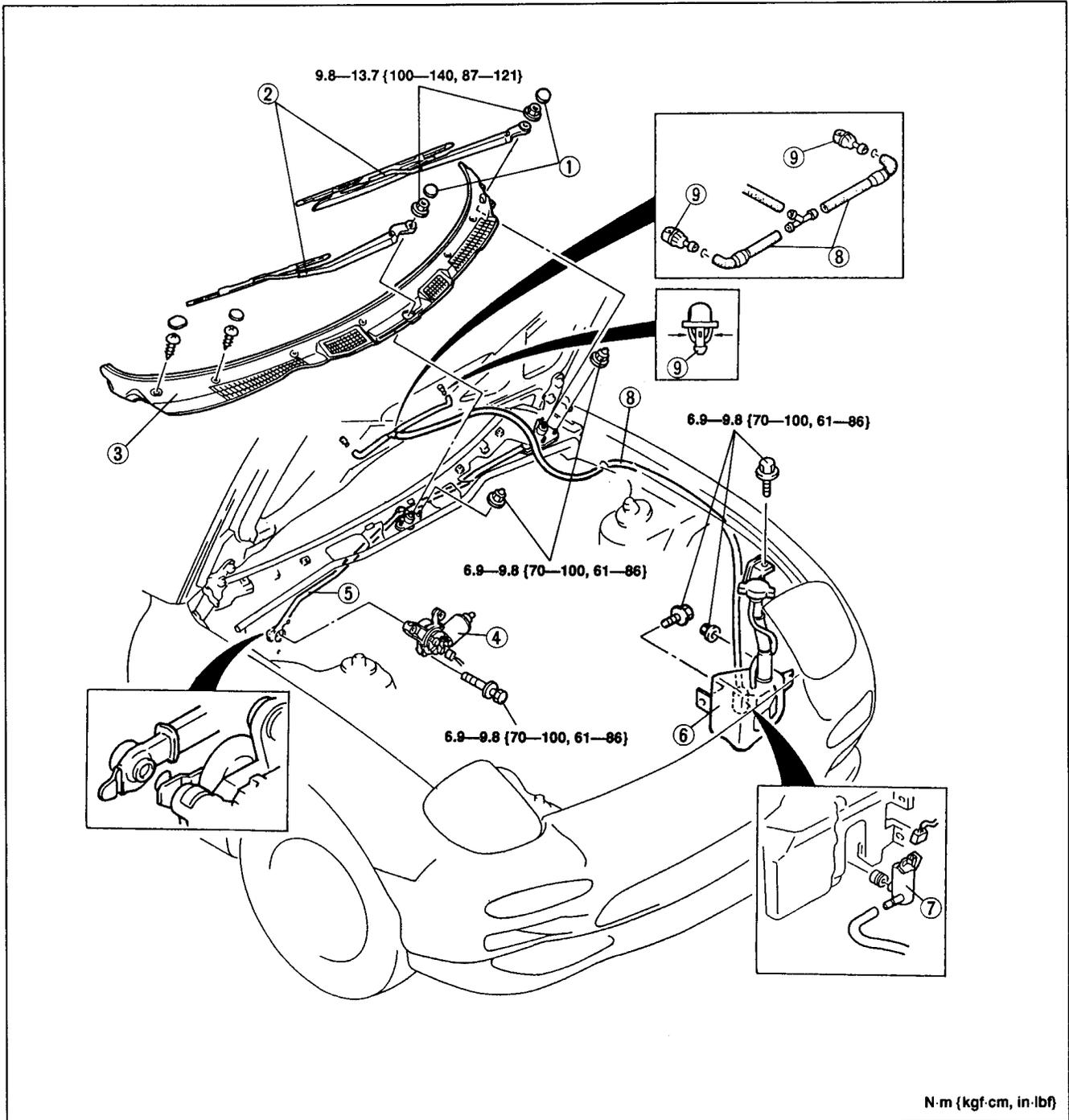


47UD1X-529

COMPONENTS

Removal / Installation

1. Disconnect the negative battery cable.
2. Remove in the order shown in the figure. To remove the washer tank, remove the mud guard. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Install in the reverse order of removal.



N·m {kgf·cm, in·lbf}

47UD1X-530

Windshield wiper

- 1. Wiper arm cover
- 2. Wiper arm and blade
- 3. Cowl grille
- 4. Windshield wiper motor
Inspection page D1-13
- 5. Wiper link

Windshield washer

- 6. Washer tank
- 7. Windshield washer motor
Inspection page D1-13
- 8. Washer pipe
- 9. Washer nozzle

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

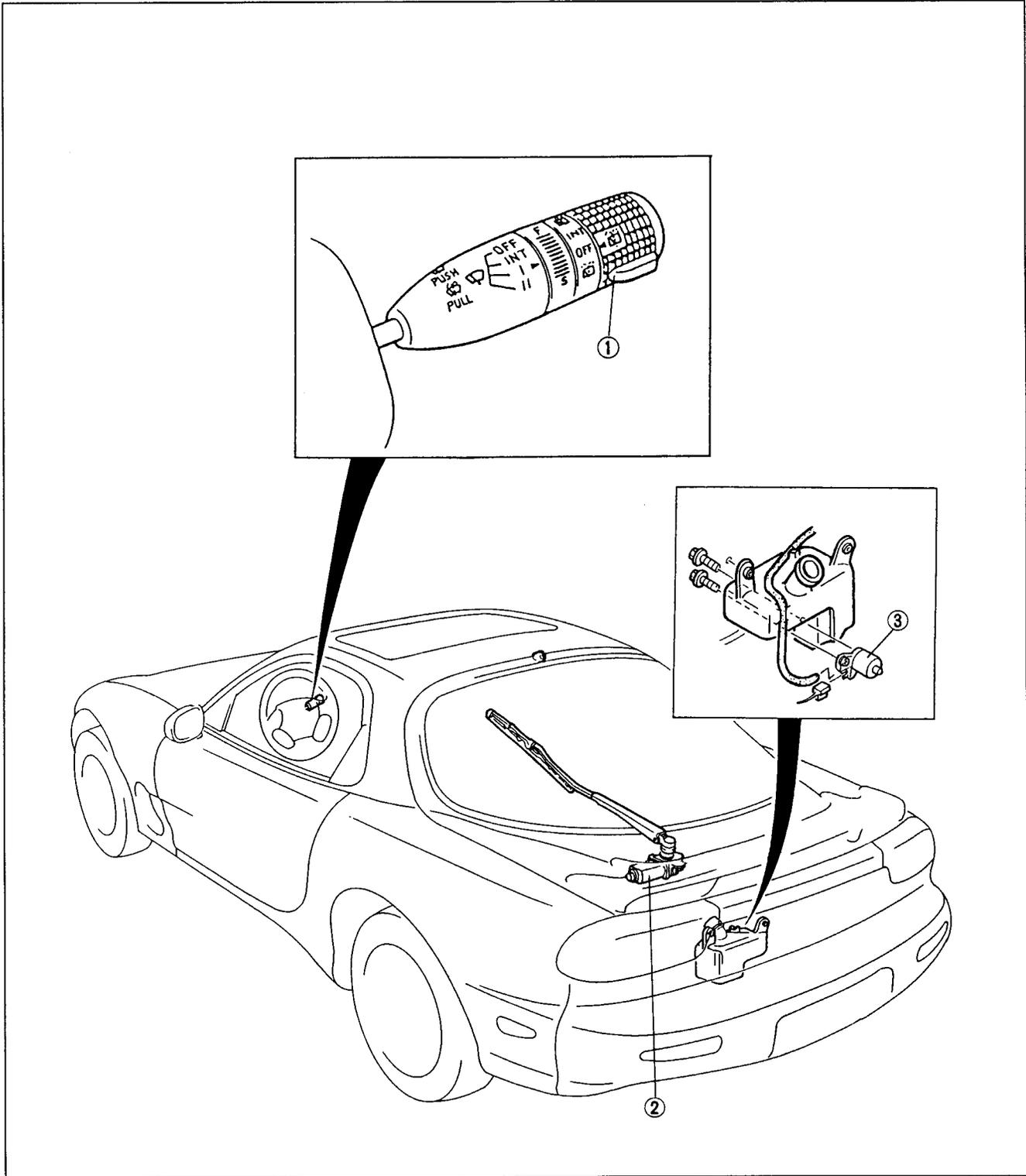
REAR WIPER AND WASHER

STRUCTURAL VIEW.....	D2- 2
SYSTEM DIAGRAM.....	D2- 3
TROUBLESHOOTING	D2- 5
REAR WIPER AND WASHER SWITCH.....	D2-11
REAR WIPER MOTOR	D2-11
REAR WASHER MOTOR.....	D2-11
COMPONENTS.....	D2-12

47UD2X-501

REAR WIPER AND WASHER

STRUCTURAL VIEW



37U0SX-713

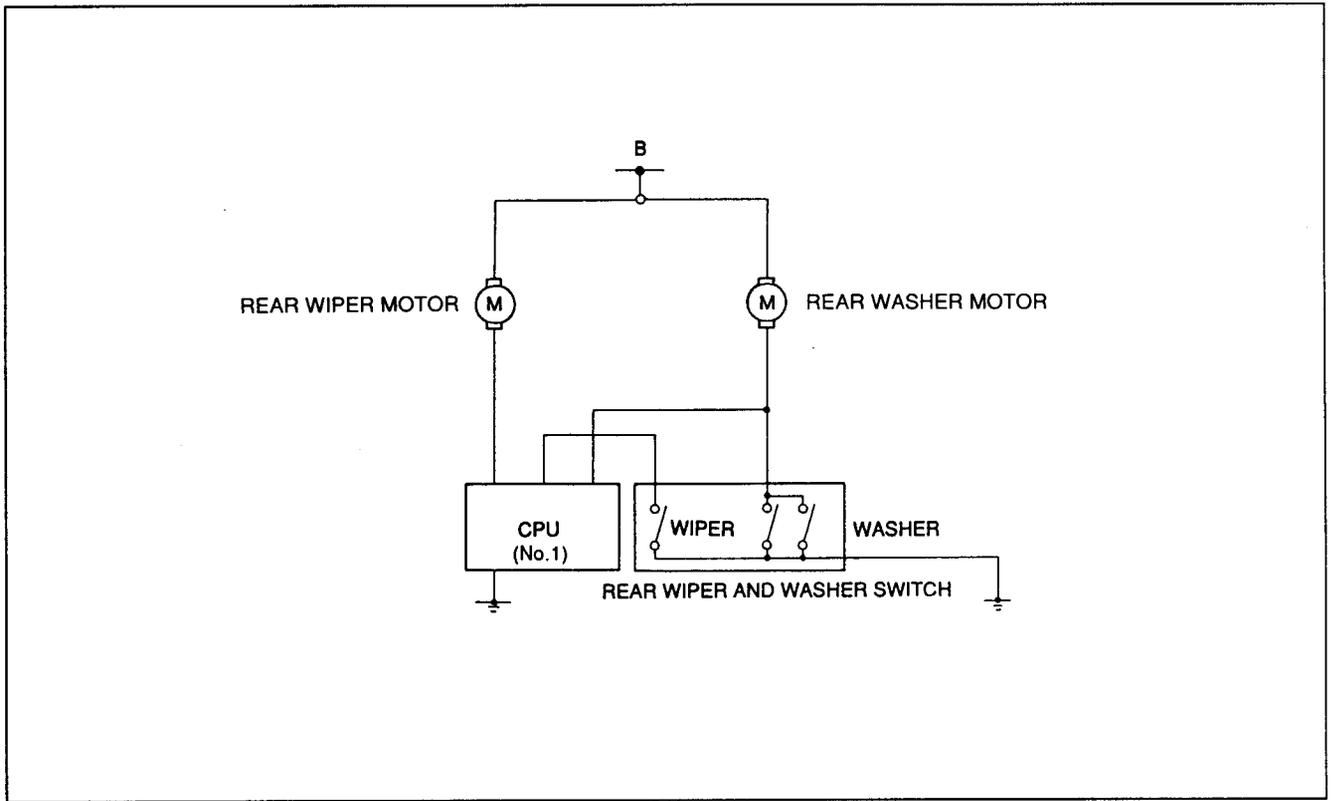
Rear wiper

- 1. Rear wiper and washer switch
Inspection page D2-11
- 2. Rear wiper motor
Inspection page D2-11
Removal / Installation page D2-12

Rear washer

- 3. Washer motor
Inspection page D2-11
Removal / Installation page D2-12

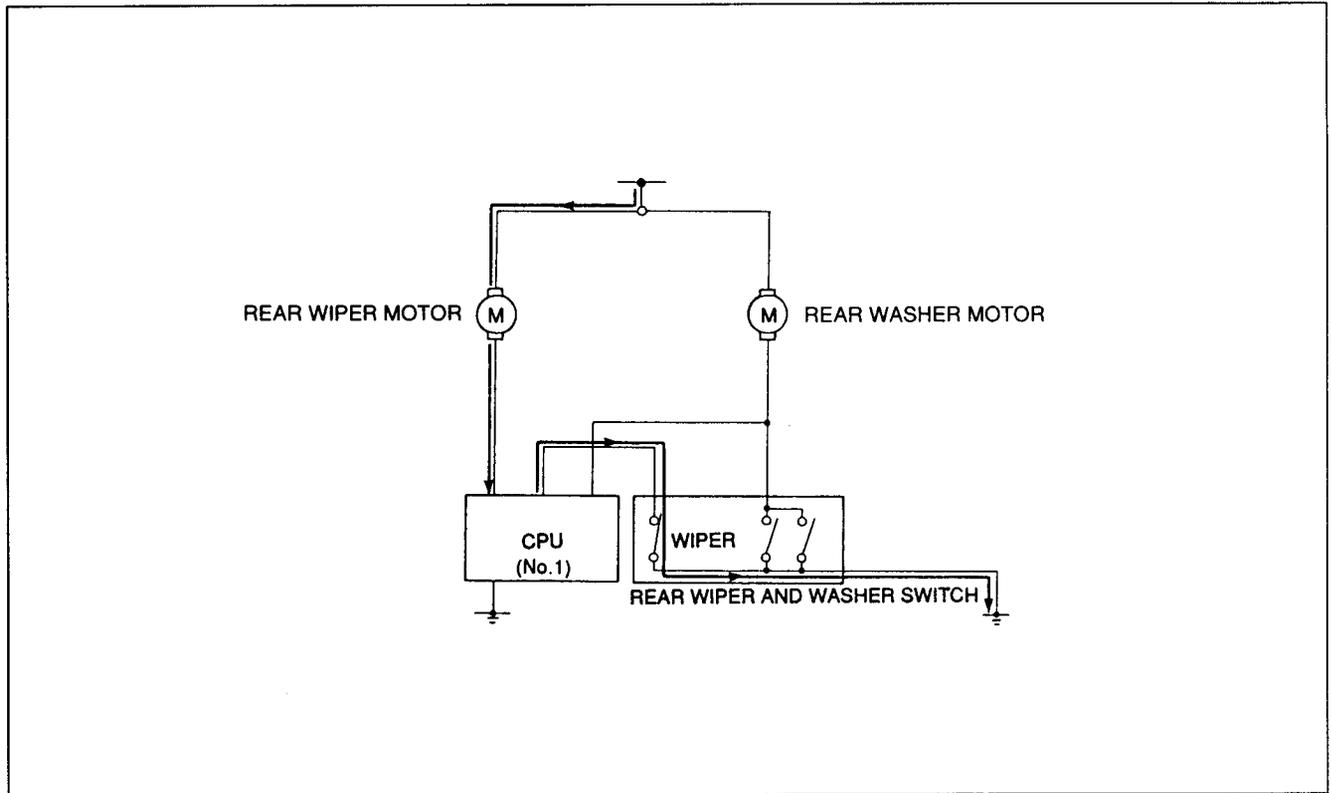
SYSTEM DIAGRAM



D2

2PU0SX-702

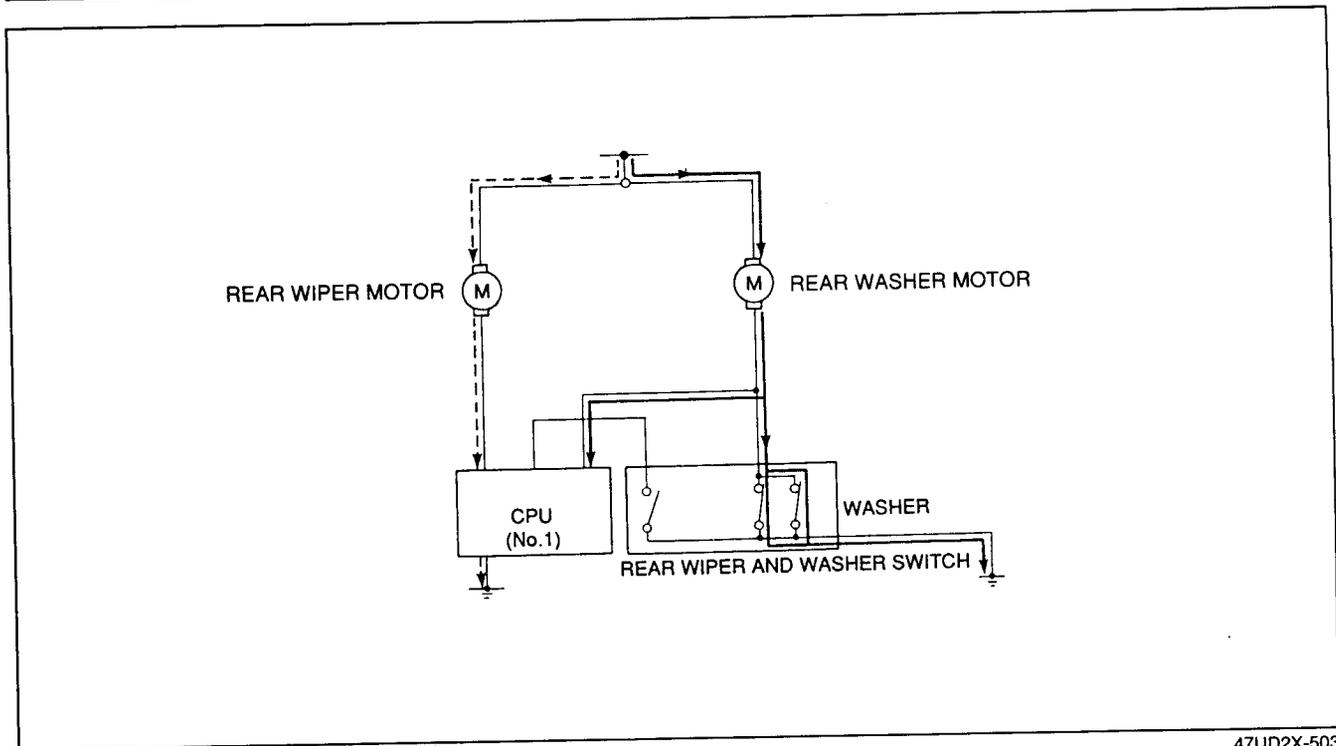
System Operation



47UD2X-502

1. Rear wiper

When the rear wiper switch is turned on, current flows through the rear wiper motor, to the CPU, to the rear wiper switch, and then to ground, activating the rear wiper motor.



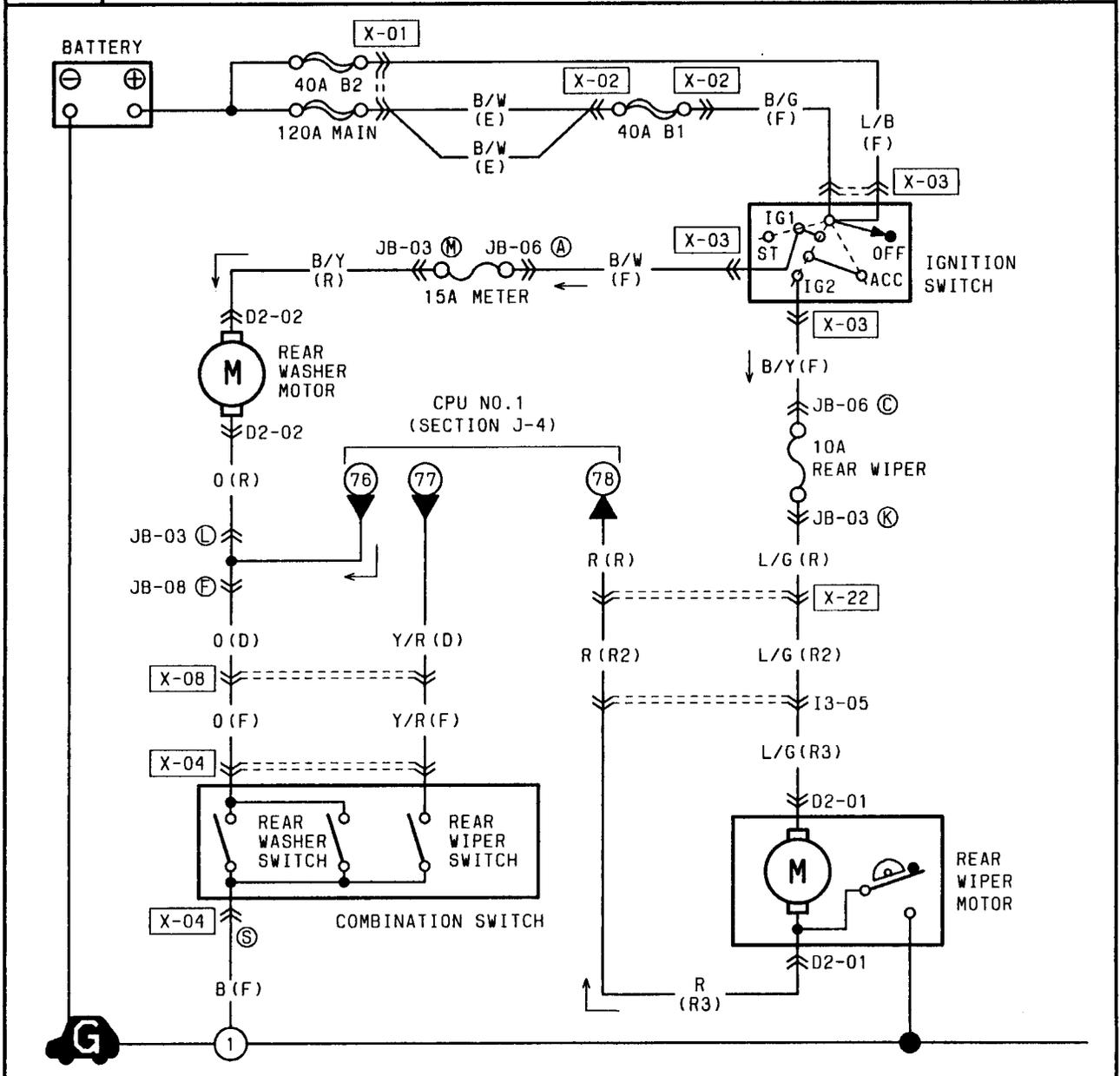
47UD2X-503

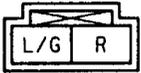
2. Rear washer

- When the rear washer switch is turned on, current flows through the rear washer motor, to the rear washer switch, and then to ground, activating the rear washer motor. At the same time, current flows through the CPU and turns it on.
- Because the CPU is ON, the circuit for the CPU is completed through the rear wiper motor, and to ground. The rear wiper motor operates.

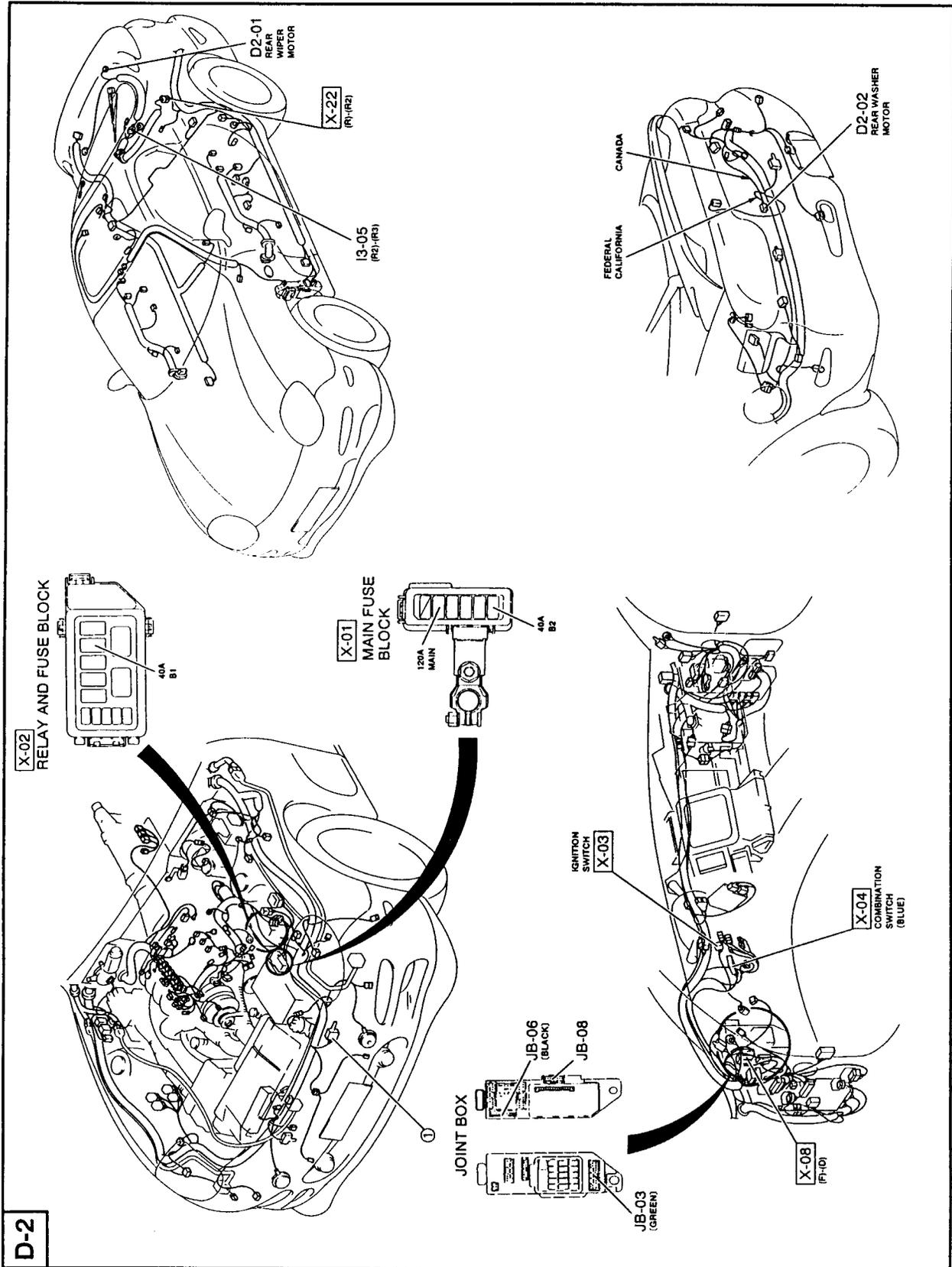
TROUBLESHOOTING
Circuit Diagram

D-2 ■ REAR WIPER AND WASHER



<p>D2-01 REAR WIPER MOTOR (R3)</p> 	<p>D2-02 REAR WASHER MOTOR (R)</p> 	<p>I3-05 CONNECTOR BETWEEN REAR NO.2 (R2) AND REAR NO.3 (R3)</p> 	

Connector Locations



Checklist

Procedure / Proper operation	Symptom	Flowchart No.
1 Operate rear wiper switch and verify that wiper operates.	Rear wiper does not operate	1
	Rear wiper continues operating after rear wiper switch is turned off	2
2 Turn off rear wiper switch during rear wiper operation, and verify that wiper stops at park position.	Autopark operation does not work (wiper immediately stops when rear wiper switch is turned off)	3
3 Operate rear washer switch and verify that washer operates.	Rear washer does not operate	4

47UD2X-504

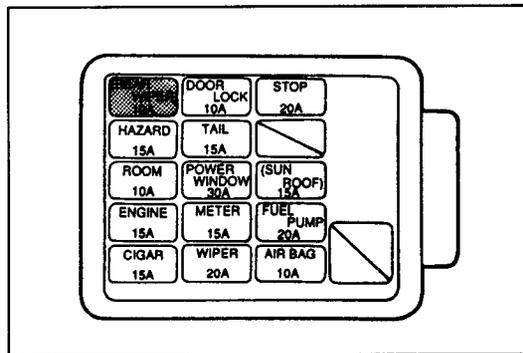
D2

Flowchart No.1	Symptom	Rear wiper does not operate
-----------------------	----------------	-----------------------------

Possible cause

- Burnt REAR WIPER 10A fuse
- Damaged rear wiper motor
- Damaged CPU No.1
- Damaged rear wiper and washer switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UD2X-505

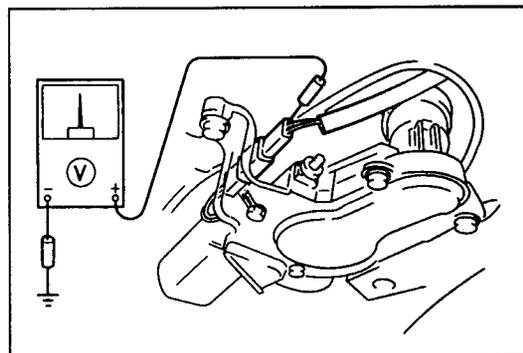


47UD2X-506

Step 1

Check the REAR WIPER 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



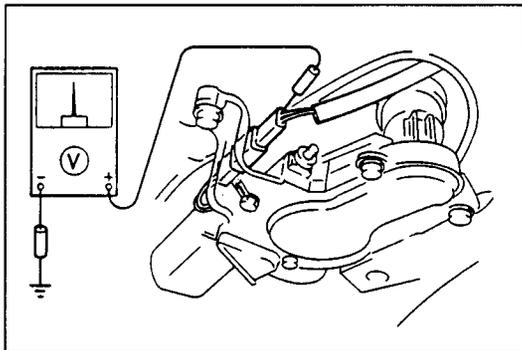
47UD2X-507

Step 2

1. Remove the rear hatch lower trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at the (L/G) terminal wire of the rear wiper motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Fuse block—Rear wiper motor)



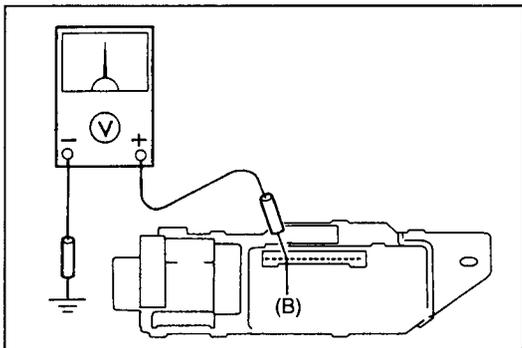
47UD2X-508

Step 3

Measure the voltage at the (R) terminal wire of the rear wiper motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Check rear wiper motor (Refer to page D2-11)



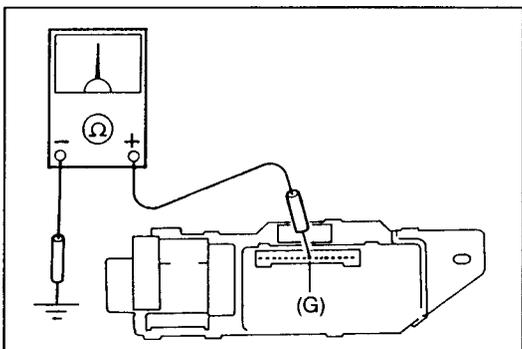
47UD2X-509

Step 4

1. Remove CPU No.1 from the joint box.
(Refer to section Z3.)
2. Measure the voltage at the (B) terminal wire of the joint box (16-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Rear wiper motor—CPU)

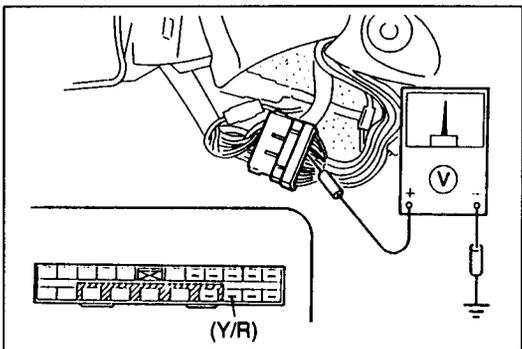


47UD2X-510

Step 5

1. Remove CPU No.1 from the joint box.
(Refer to section Z3.)
2. Check for continuity between the (G) terminal wire of the joint box (16-pin) and ground.

Continuity	Action
Yes	Go to Step 6
No	Replace CPU



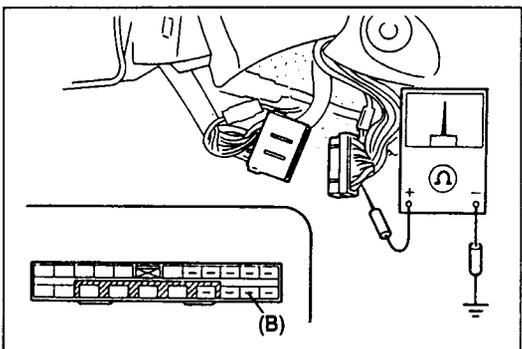
47UD2X-511

Step 6

1. Remove the lower panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Install the CPU in the joint box.
3. Measure the voltage at the (Y/R) terminal wire of the rear wiper and washer switch harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 7
Other	Repair wiring harness (CPU—Rear wiper and washer switch)



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Step 7

Disconnect the rear wiper and washer switch harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Check rear wiper and washer switch (Refer to page D2-11)
No	Repair wiring harness (Rear wiper and washer switch—GND)

Flowchart No.2	Symptom	Rear wiper continues operating after rear wiper switch is turned off
-----------------------	----------------	--

Possible cause

- Damaged rear wiper and washer switch

Remedy

Check the rear wiper and washer switch. (Refer to page D2-11.)

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Flowchart No.3	Symptom	Autopark operation does not work (wiper immediately stops when rear wiper switch is turned off)
-----------------------	----------------	---

Possible cause

- Damaged rear wiper motor

Remedy

Check the rear wiper motor. (Refer to page D2-11.)

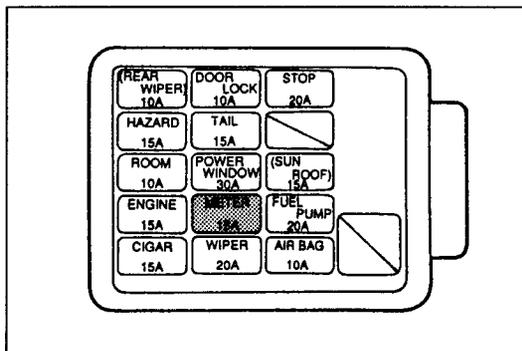
47UD2X-514

Flowchart No.4	Symptom	Rear washer does not operate
-----------------------	----------------	------------------------------

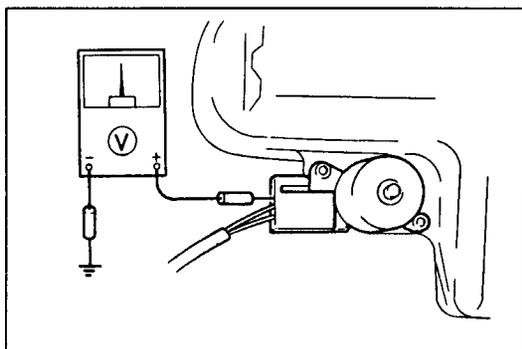
Possible cause

- Burnt METER 15A fuse
- Damaged rear washer motor
- Damaged rear wiper and washer switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UD2X-515



1PE0SX-168



47UD2X-516

Step 1

Check the METER 15A fuse in the fuse block.

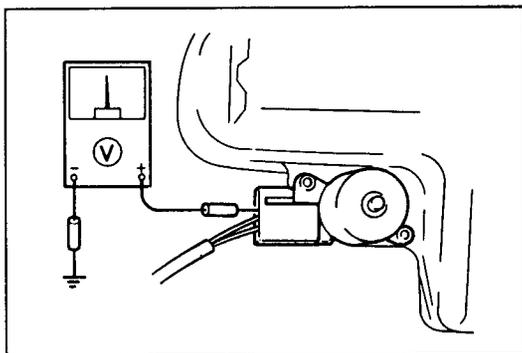
Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the trunk end trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at the (B/Y) terminal wire of the rear washer motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Fuse block—Rear washer motor)



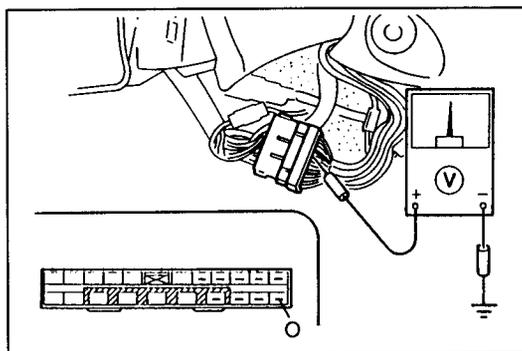
47UD2X-517

Step 3

Measure the voltage at the (O) terminal wire of the rear washer motor harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Check rear washer motor (Refer to page D2-11)



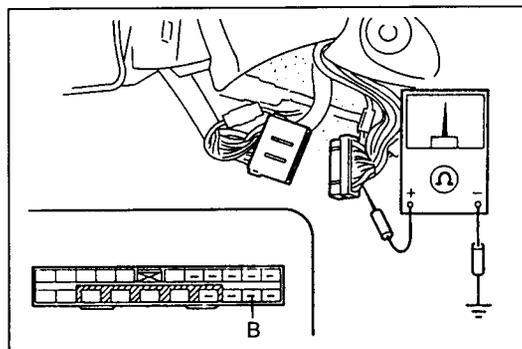
47UD2X-518

Step 4

1. Remove the lower panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the (O) terminal wire of the rear wiper and washer switch harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Rear wiper motor—Rear wiper and washer switch)

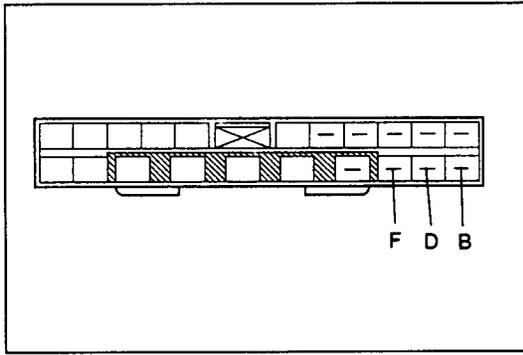


47UD2X-519

Step 5

Disconnect the rear wiper and washer switch harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Replace combination switch (Refer to section Z4)
No	Repair wiring harness (Rear wiper and washer switch—GND)



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REAR WIPER AND WASHER SWITCH

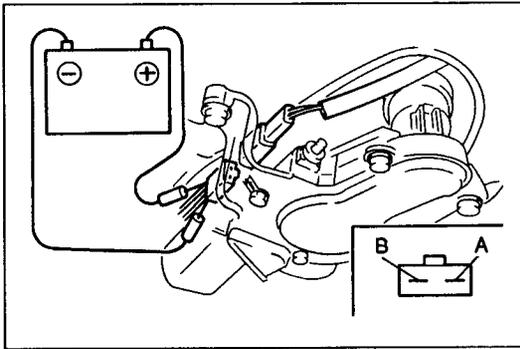
Inspection

1. Remove the lower panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the rear wiper and washer switch harness connector and check for continuity between the switch terminals.

Terminal	F	B	D
Washer (top)		○—○	○—○
INT	○—○		○—○
OFF			
Washer (bottom)		○—○	○—○

○—○ : Continuity

3. If not as specified, replace the combination switch.

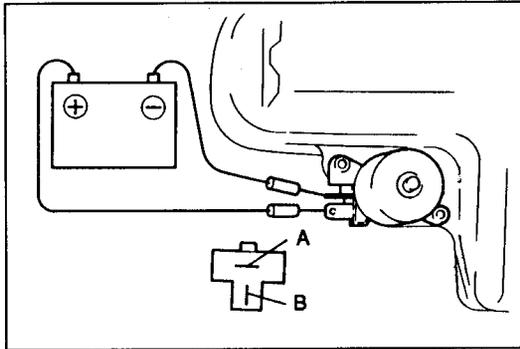


47UD2X-521

REAR WIPER MOTOR

Inspection

1. Remove the rear hatch lower trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the rear wiper motor harness connector and check for continuity between the motor terminals.
3. Connect terminal B to battery positive voltage and terminal A to ground. Verify that the wiper motor operates.
4. If not as specified, replace the wiper motor.



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REAR WASHER MOTOR

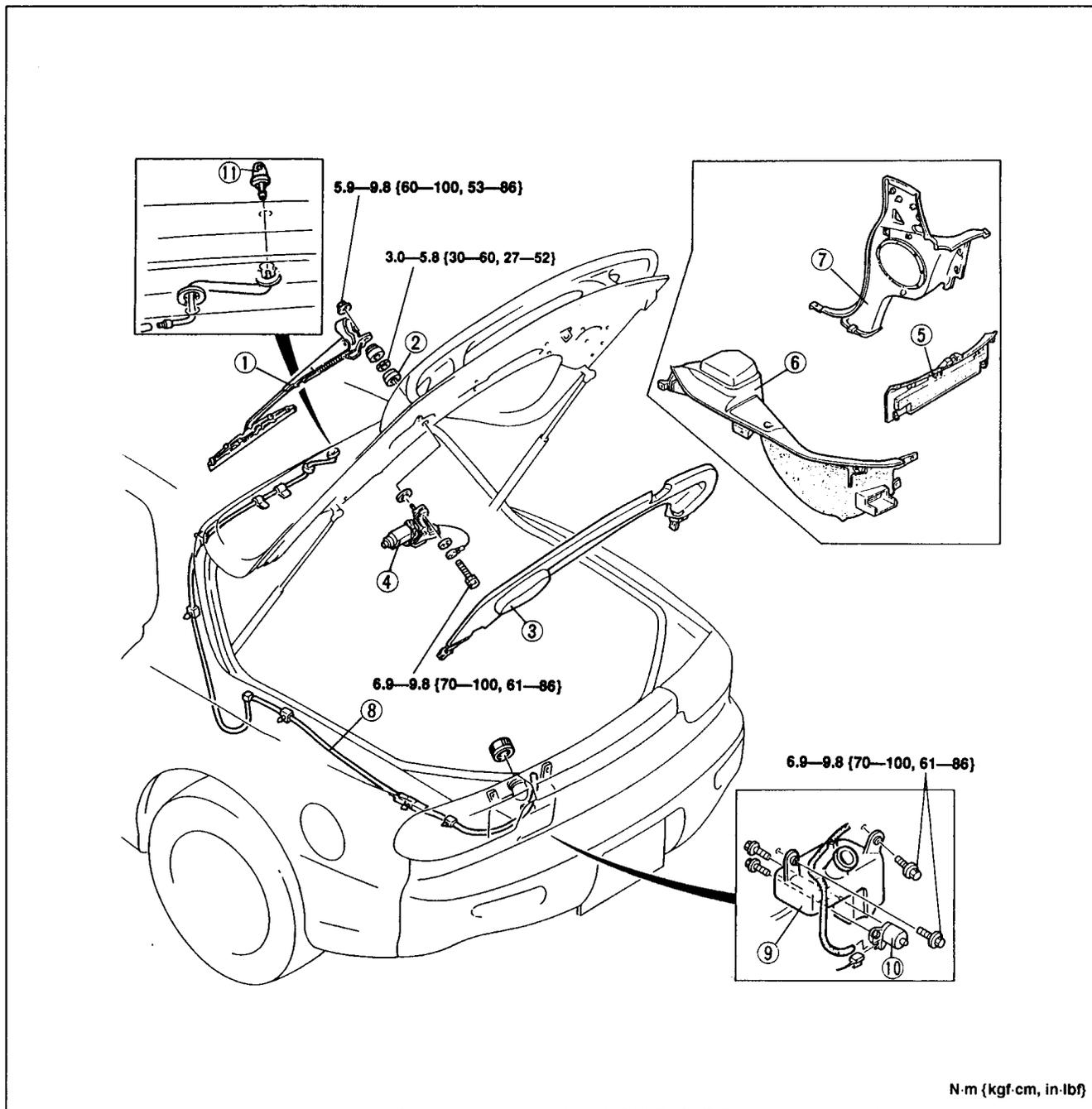
Inspection

1. Remove the trunk end trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the rear washer harness connector and check for continuity between the motor terminals.
3. Connect terminal B to battery positive voltage and terminal A to ground. Verify that the washer motor operates.
4. If not as specified, replace the washer motor.

COMPONENTS

Removal / Installation

1. Disconnect the negative battery cable.
2. Remove in the order shown in the figure. To remove the rear washer pipe, remove the rear hatch upper trim and the rear portion of the headliner. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Install in the reverse order of removal.



47UD2X-523

Rear wiper

1. Wiper arm and blade
2. Outer bushing
3. Rear hatch lower trim
4. Wiper motor

Inspection page D2-11

Rear washer

5. Trunk end trim
6. Trunk side trim
7. Quarter trim
8. Rear washer pipe
9. Rear washer tank
10. Rear washer motor

Inspection page D2-11

11. Rear washer nozzle

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

HEADLIGHT CLEANER

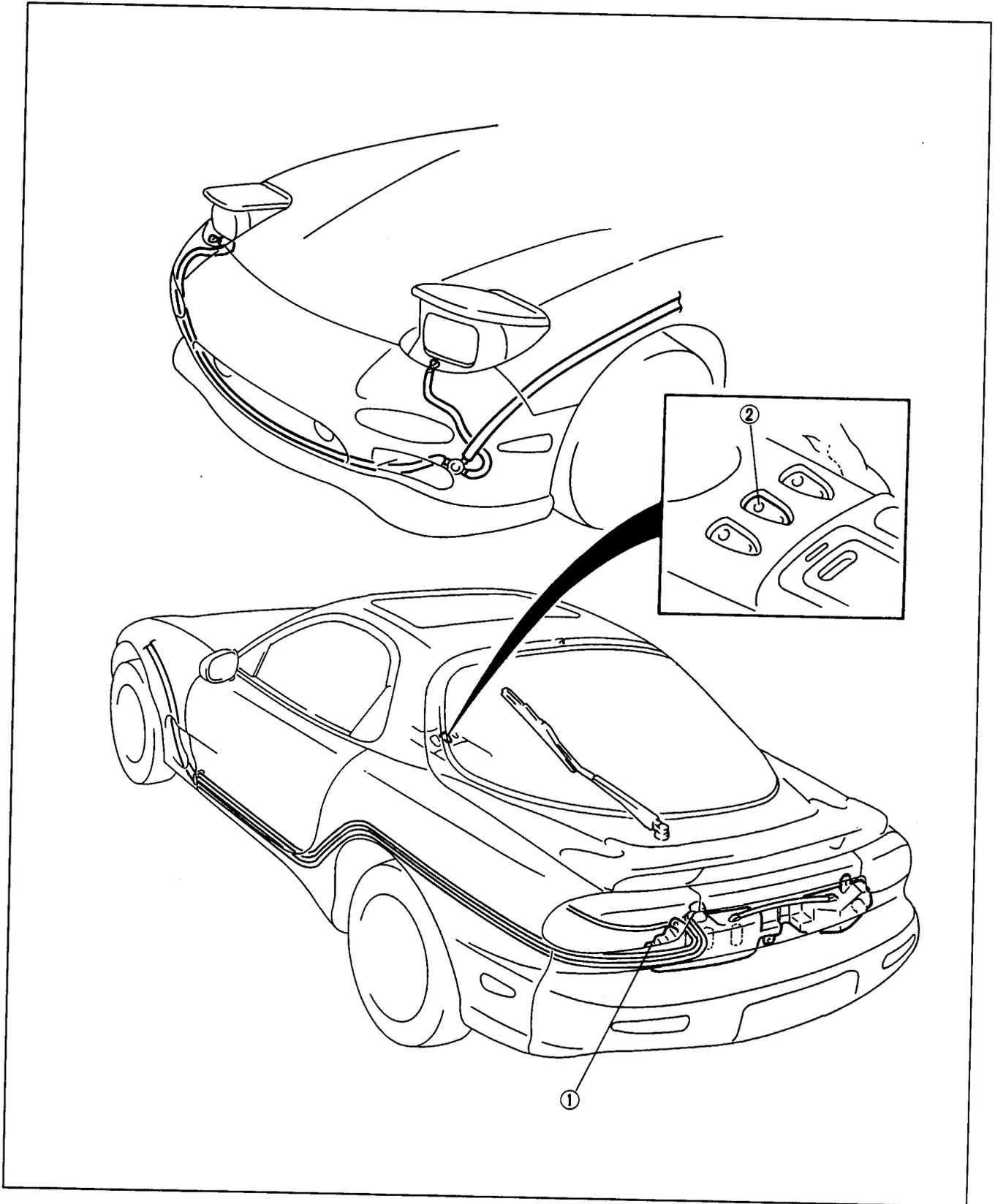
STRUCTURAL VIEW..... D3-2
SYSTEM DIAGRAM.....D3-3
TROUBLESHOOTING D3-4
HEADLIGHT CLEANER MOTOR
AND RELAY D3-8
HEADLIGHT CLEANER SWITCH..... D3-8
COMPONENTS..... D3-9

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D3

HEADLIGHT CLEANER

STRUCTURAL VIEW

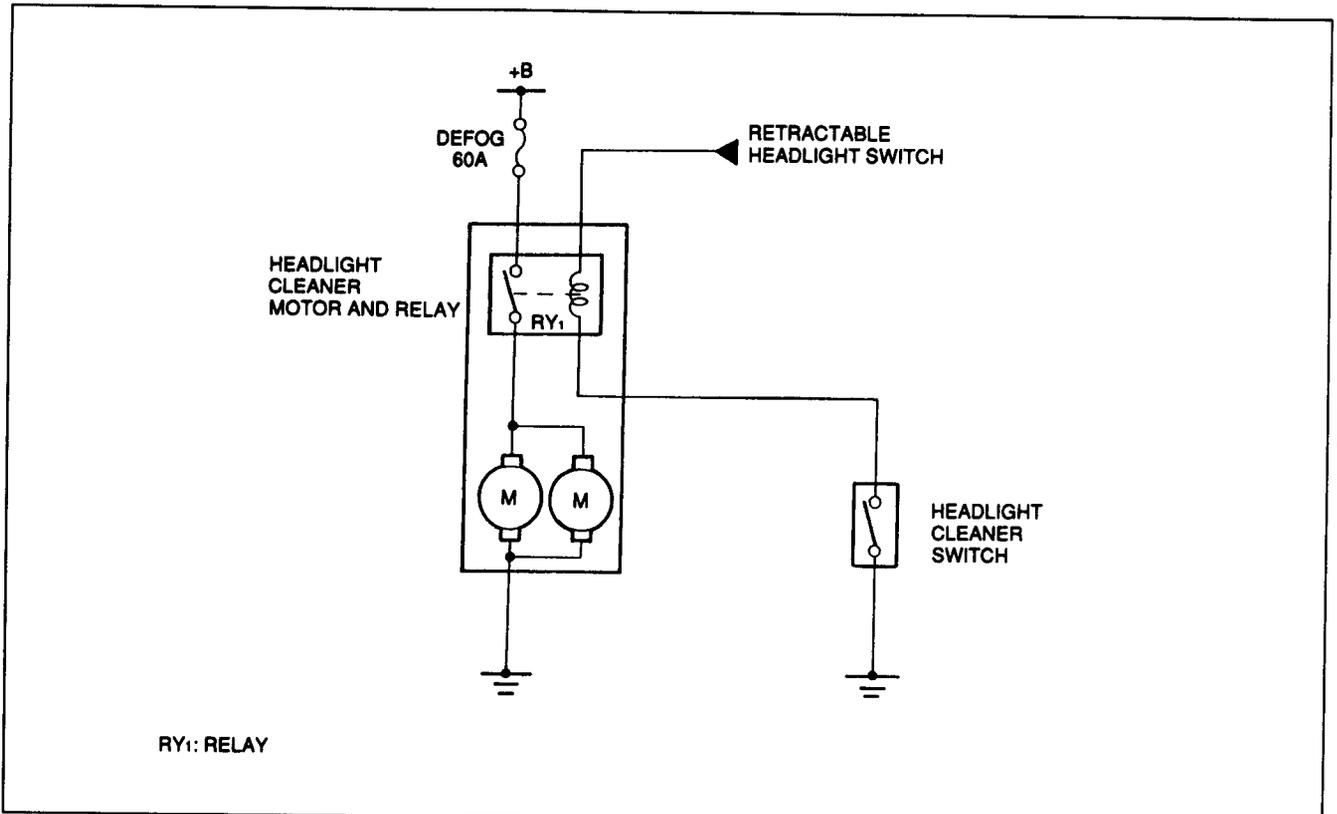


37U0SX-791

- 1. Headlight cleaner motor and relay
 - Inspection page D3-8
 - Removal / Installation page D3-9

- 2. Headlight cleaner switch
 - Inspection page D3-8
 - Removal / Installation page D3-9

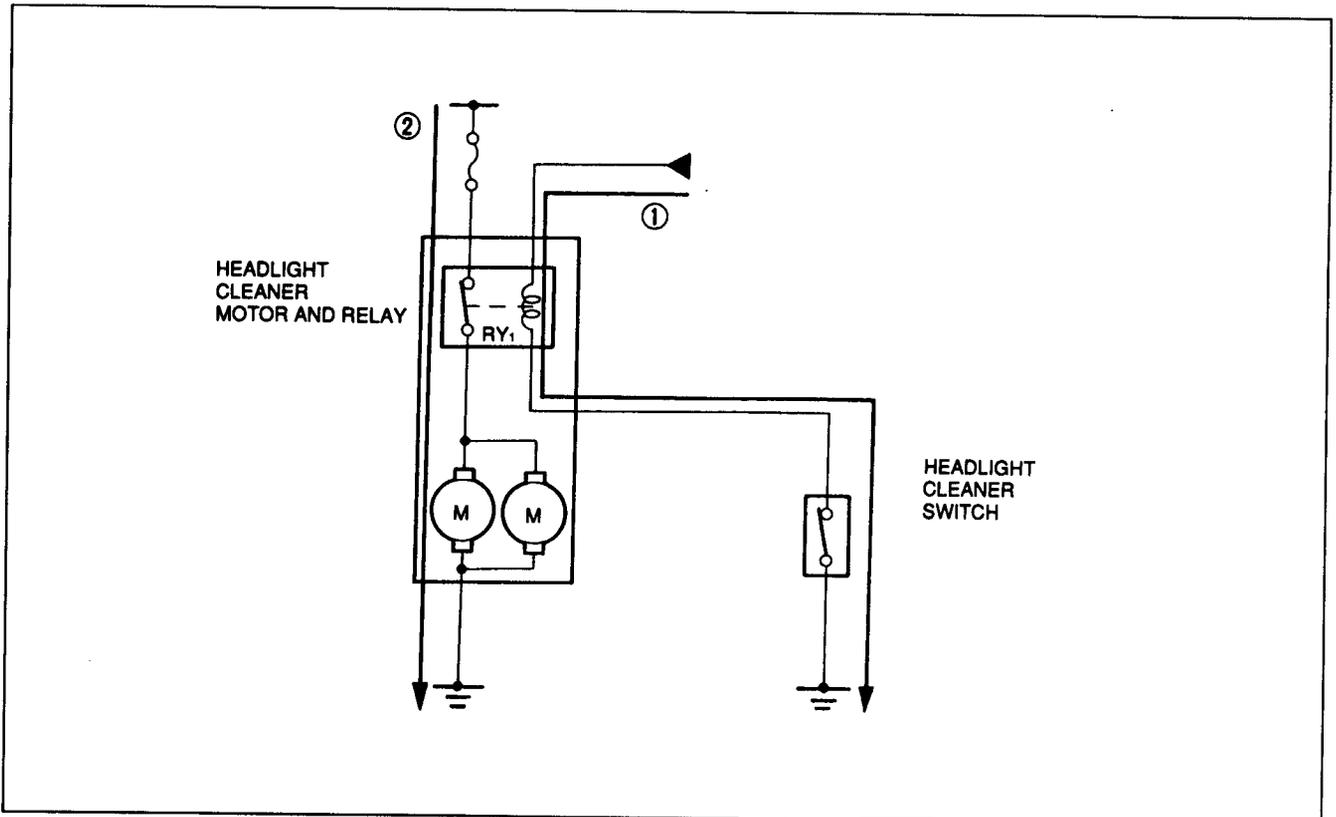
SYSTEM DIAGRAM



D3

37U0SX-792

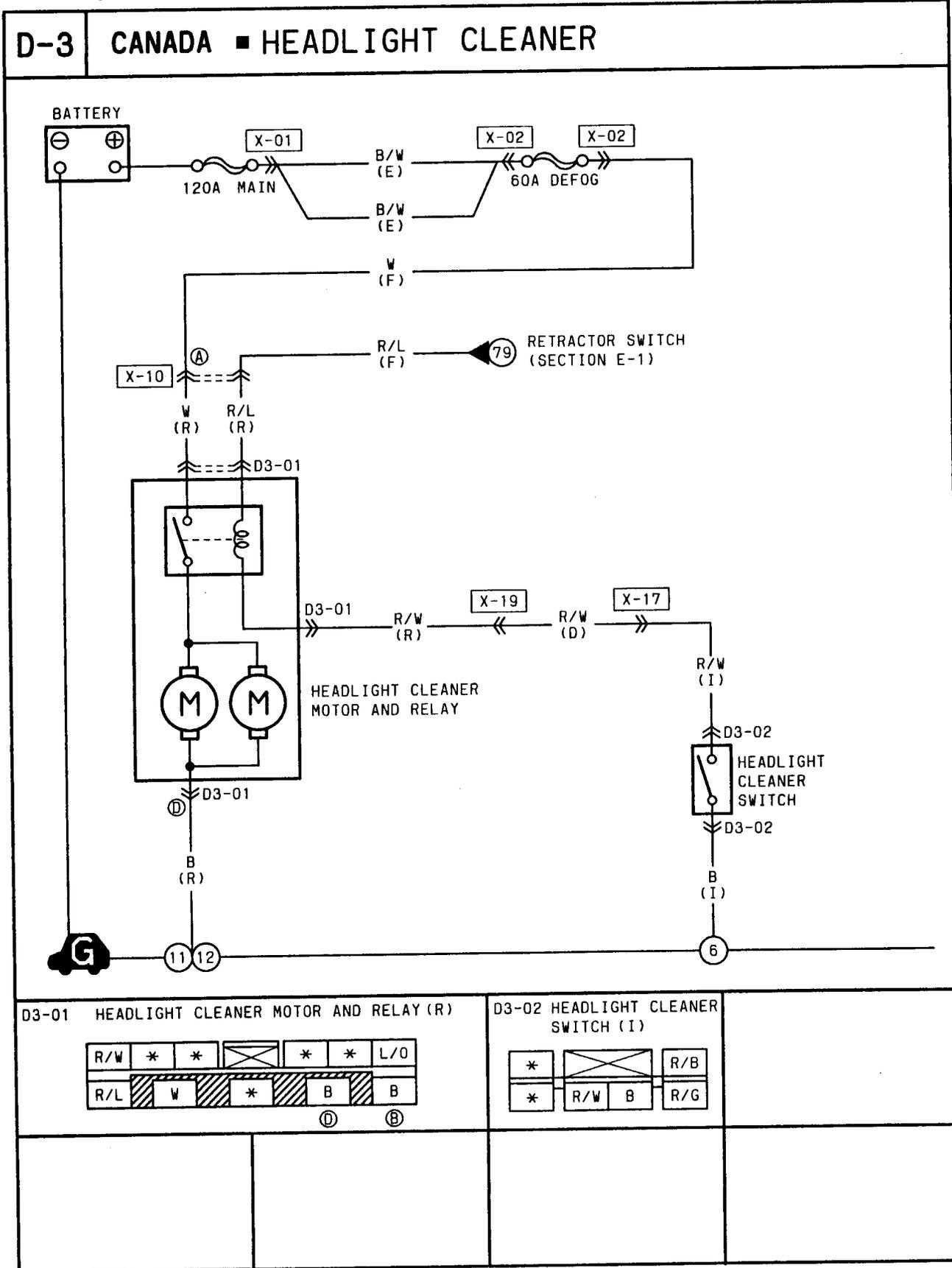
System Operation



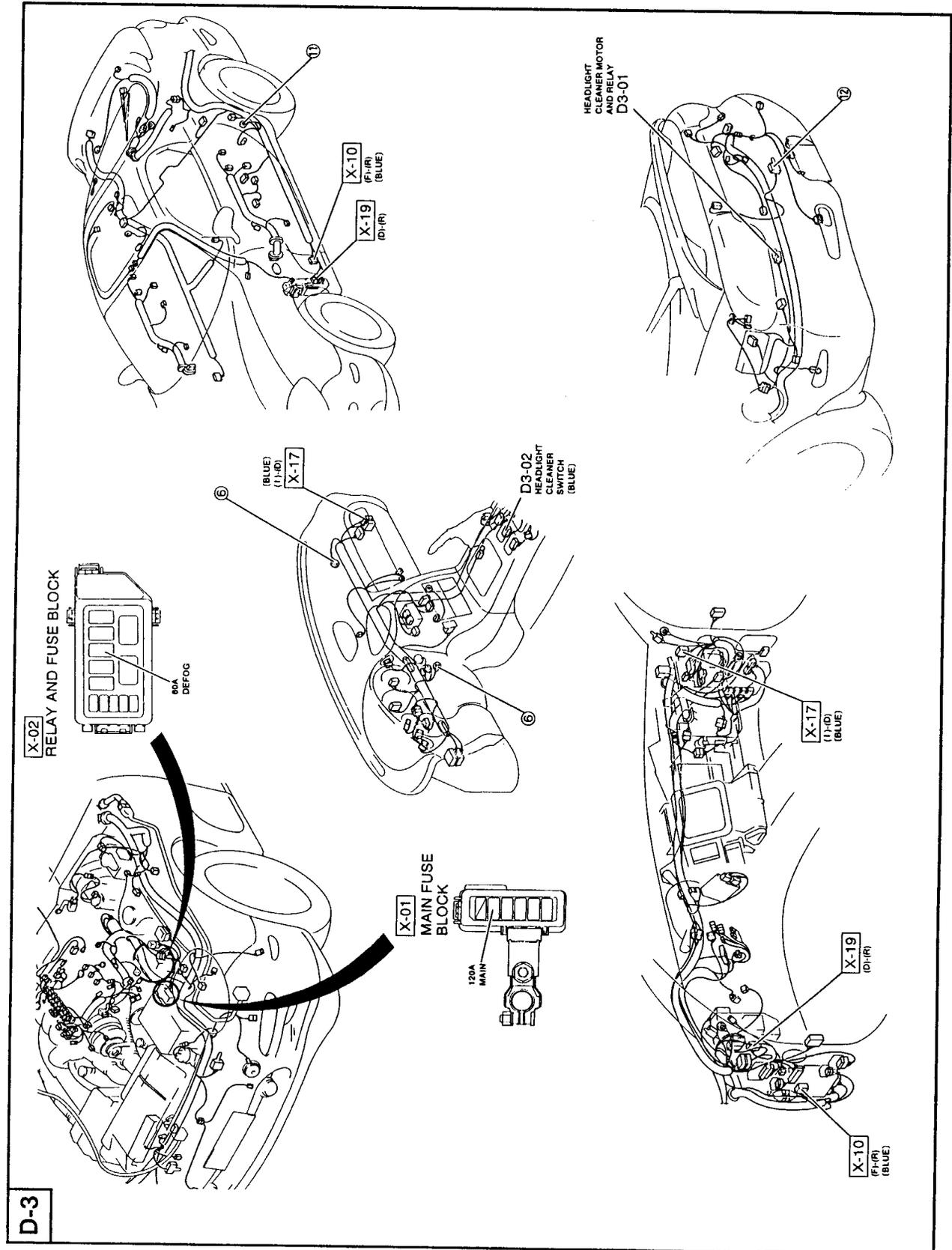
47UD3X-502

When the headlight cleaner switch is turned on, current ① flows and RY1 switches on. Current ② then flows, turning on the headlight cleaner motor.

TROUBLESHOOTING Circuit Diagram



Connector Locations



D3

D-3

Checklist

Procedure / Proper operation	Symptom	Flowchart No.
Turn headlight cleaner switch on, and verify that headlight cleaner operates.	Headlight cleaner does not operate	1

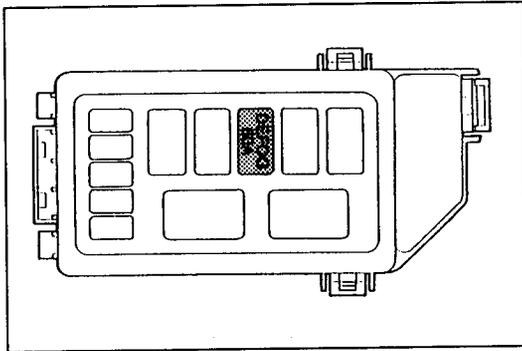
47UD3X-502

Flowchart No.1	Symptom	Headlight cleaner does not operate
----------------	---------	------------------------------------

Possible cause

- Burnt DEFOG 60A fuse
- Damaged headlight cleaner motor and relay
- Damaged headlight cleaner switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UD3X-503

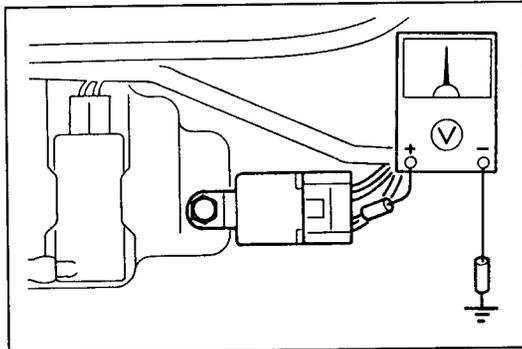


37U0SX-797

Step 1

Check the DEFOG 60A fuse in relay and fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



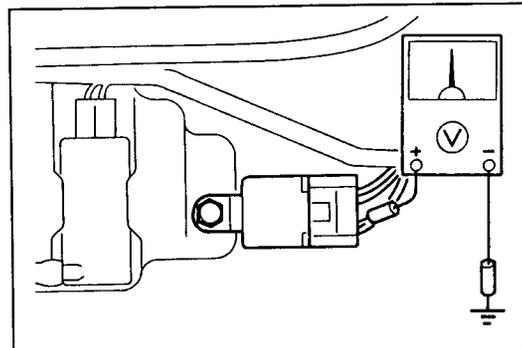
47UD3X-504

Step 2

1. Remove the trunk end trim and trunk side trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the (W) terminal wire of the headlight cleaner motor and relay harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Main fuse block No.2—Headlight cleaner motor and relay)



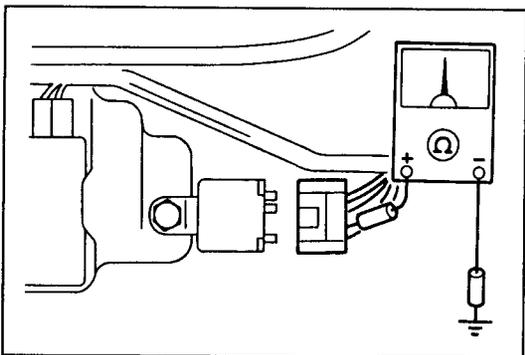
47UD3X-505

Step 3

Measure the voltage at the (R/L) terminal wire of the headlight cleaner motor and relay harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (Retractable headlight switch—Headlight cleaner motor and relay)

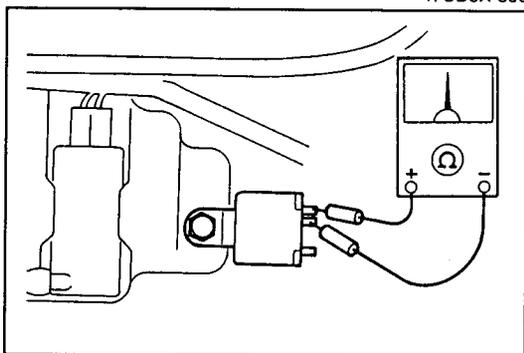


47UD3X-506

Step 4

Disconnect the headlight cleaner motor and relay harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Go to Step 5
No	Repair wiring harness (Headlight cleaner motor and relay—GND)



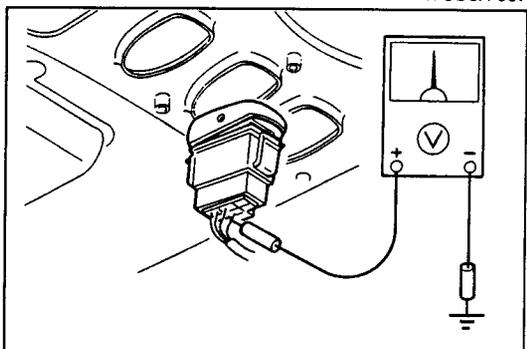
47UD3X-507

Step 5

Check for continuity between the (R/L) and (R/W) terminal wires of the headlight cleaner motor and relay.

Continuity	Action
Yes	Go to Step 6
No	Check headlight cleaner motor and relay (Refer to page D3-8)

D3



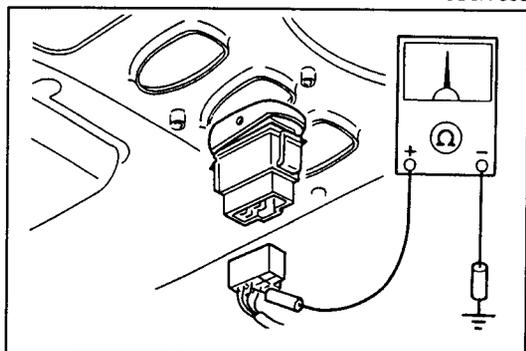
47UD3X-508

Step 6

1. Remove the console panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the (R/W) terminal wire of the headlight cleaner switch harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 6
Other	Repair wiring harness (Headlight cleaner motor and relay—Headlight cleaner switch)

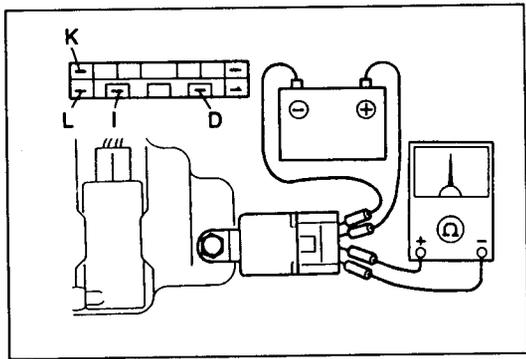


47UD3X-509

Step 7

Disconnect the headlight cleaner switch harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Check headlight cleaner switch (Refer to page D3-8)
No	Repair wiring harness (Headlight cleaner switch—GND)



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HEADLIGHT CLEANER MOTOR AND RELAY

Inspection

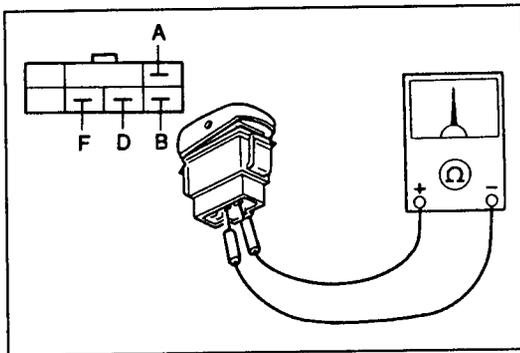
1. Remove the trunk end trim and trunk side trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the headlight cleaner motor and relay.
3. Check for continuity between the headlight cleaner motor and relay terminals.

B+: Battery positive voltage

Connection		D	I	K	L
B+	GND				
—	—			○—○	○—○
L	K	○—○	○—○		

○—○ : Continuity

4. If not as specified, replace the headlight cleaner motor and relay.



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HEADLIGHT CLEANER SWITCH

Inspection

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check for continuity between the switch terminals.

Terminal	A	B	D	F
Switch position				
OFF	○—○	○—○		
ON	○—○	○—○	○—○	○—○

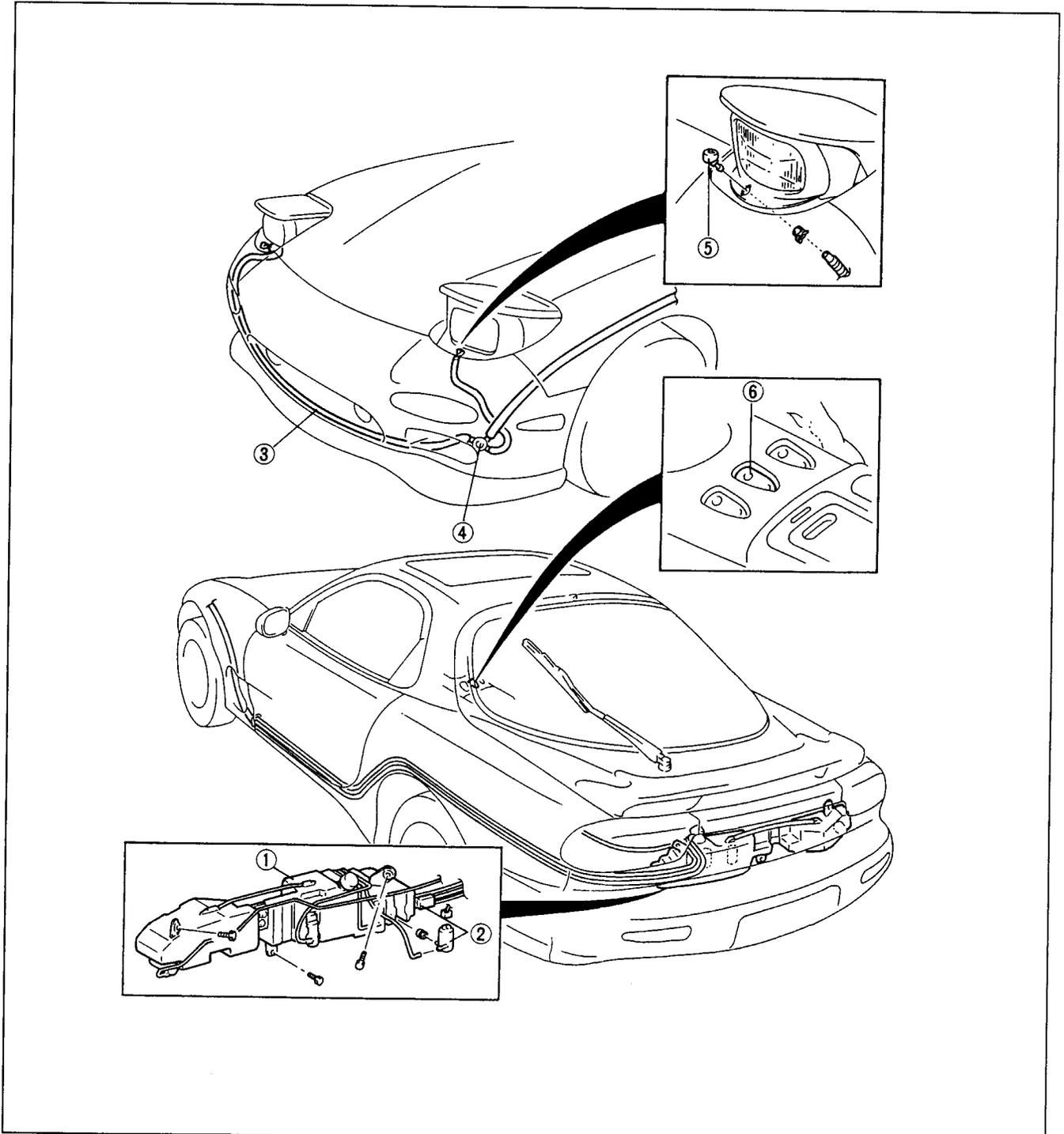
○—○ : Continuity

3. If not as specified, replace the headlight cleaner switch.

COMPONENTS

Removal / Installation

1. Disconnect the negative battery cable.
2. Remove in the order shown in the figure. To remove the headlight cleaner motor and relay, remove the trunk end trim and trunk side trim. To remove the pipe assembly, remove the front bumper and the floor covering. To remove the headlight cleaner switch, remove the console panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Install in the reverse order of removal.



D3

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- 1. Washer tank assembly
- 2. Headlight cleaner motor and relay
Inspection page D3-8
- 3. Pipe assembly

- 4. Check valve
- 5. Cleaner nozzle
- 6. Headlight cleaner switch
Inspection page D3-8

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

EXTERIOR LIGHTING SYSTEM

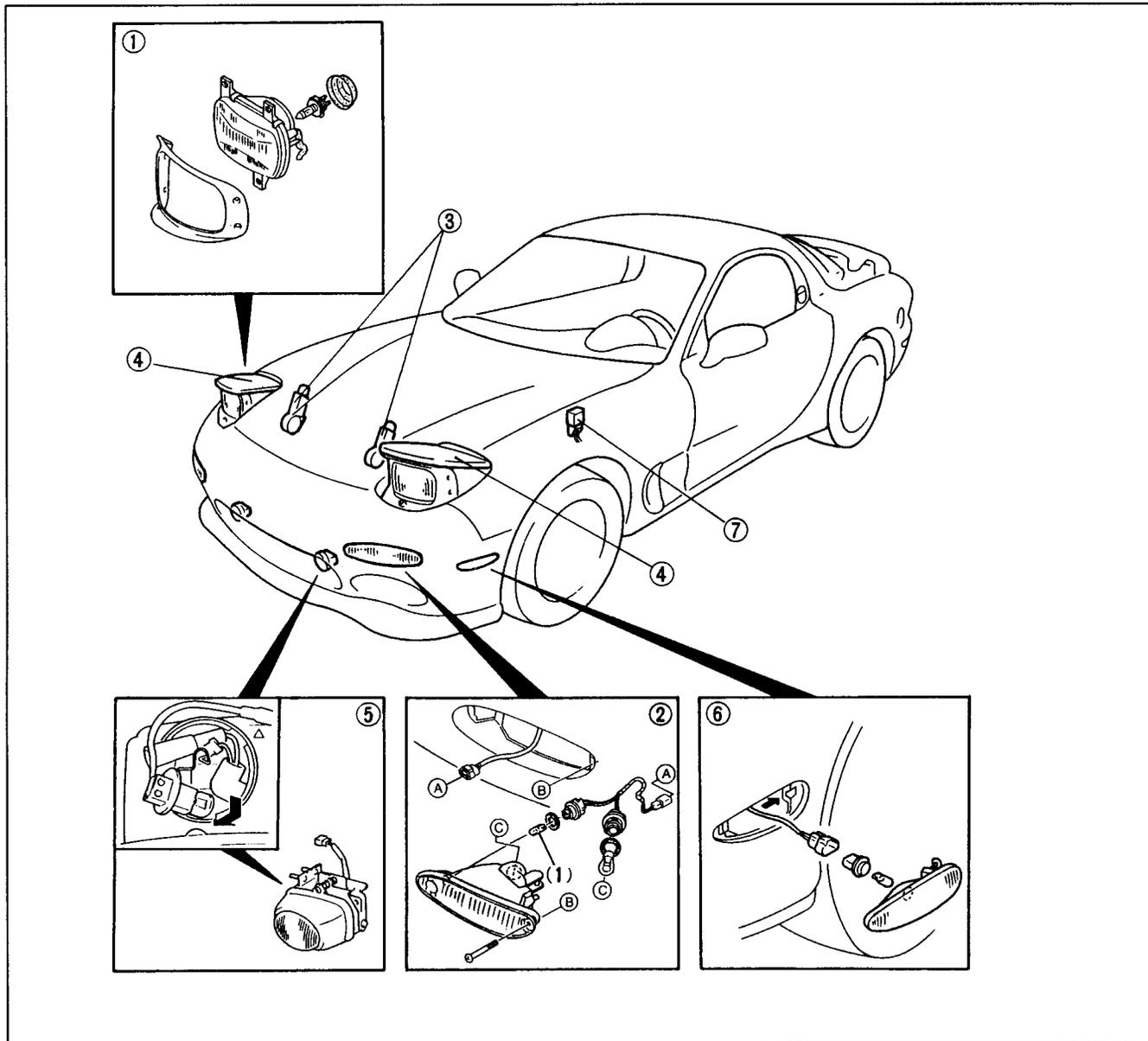
STRUCTURAL VIEW	E- 2
RETRACTABLE HEADLIGHT SYSTEM	E- 5
TROUBLESHOOTING	E- 7
HEADLIGHT AND FRONT COMBINATION LIGHT	E-25
HEADLIGHT LID	E-27
RETRACTABLE HEADLIGHT ACTUATOR	E-27
FRONT FOG LIGHT	E-28
REAR COMBINATION LIGHT	E-29
HIGH-MOUNT STOPLIGHT	E-30
LICENSE PLATE LIGHT	E-31
FRONT SIDE MARKER LIGHT	E-32
REAR SIDE MARKER LIGHT	E-32
HEADLIGHT RELAY	E-32
BACK-UP LIGHT	E-32

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EXTERIOR LIGHTING SYSTEM

STRUCTURAL VIEW

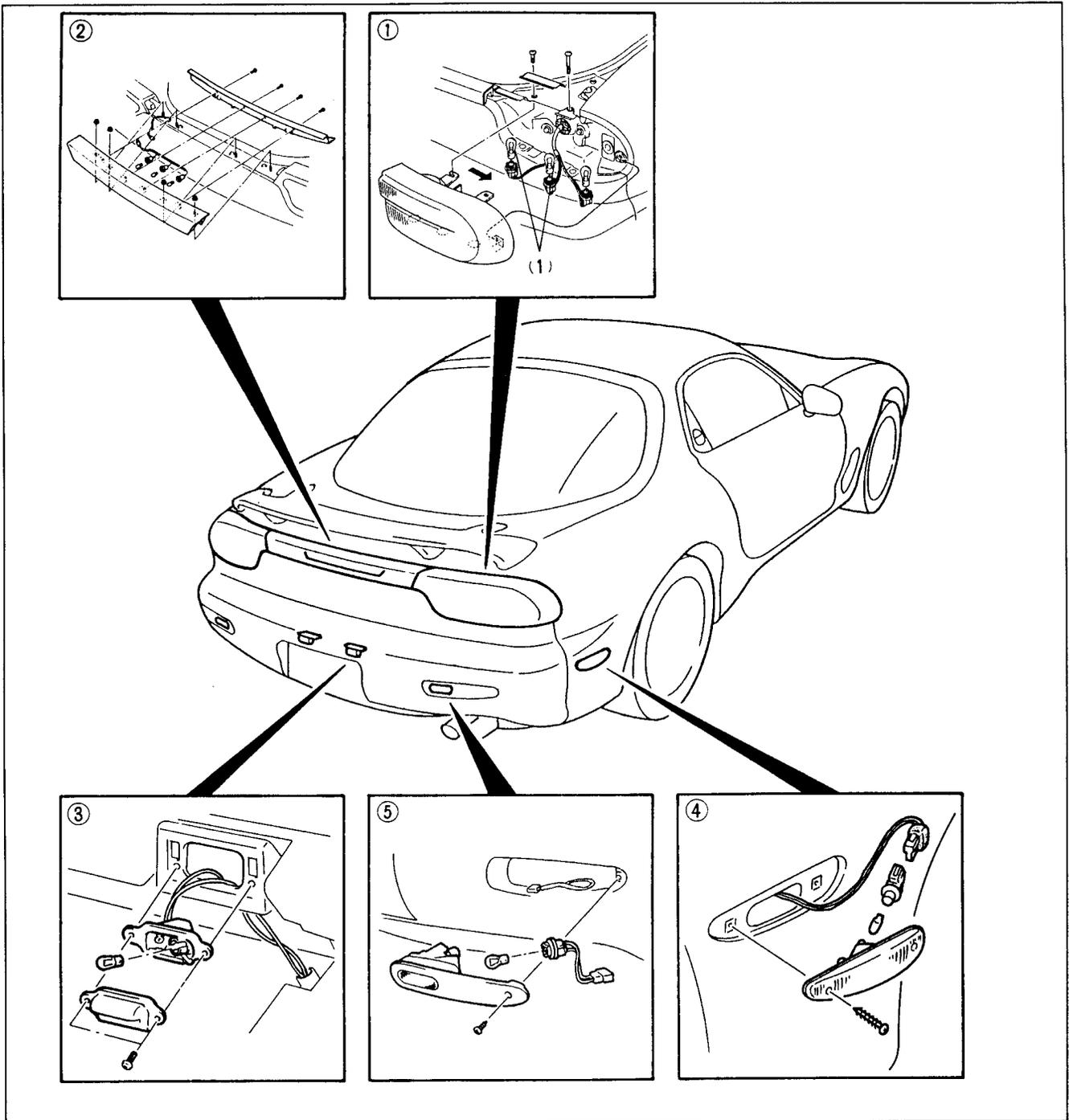
Front View



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- | | |
|--|---|
| 1. Headlight 60/55W (HB2)
Troubleshooting page E- 7
Removal / Inspection /
Installation page E-25
Aiming..... page E-26 | 4. Headlight lid
Adjustment..... page E-27 |
| 2. Front combination light
Removal / Inspection /
Installation page E-25
(1) Parking light 5W
Troubleshooting page E-21 | 5. Front fog light 35W
Troubleshooting page E- 7
Removal / Inspection /
Installation page E-28
Adjustment..... page E-28 |
| 3. Retractable headlight actuator
Troubleshooting..... page E- 7
Removal / Installation page E-27
Inspection page E-27
Manual operation..... page E-27 | 6. Front side marker light 4.9W (168)
Troubleshooting page E-21
Removal / Installation page E-32 |
| | 7. Headlight relay
Inspection page E-32 |

Rear View



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- 1. Rear combination light
Removal / Inspection /
Installationpage E-29
- (1) Stop / Taillight **27/8W (1157)**
Troubleshooting
1) Stoplight section F1
2) Taillight page E-21
- 2. High-mount stoplight **18.4W (921)**
Troubleshooting section F1
Removal / Inspection /
Installation page E-30

- 3. License plate light **5W**
Troubleshooting page E-21
Removal / Inspection /
Installation page E-31
Disassembly / Assembly page E-31
- 4. Rear side marker light **3.8W (194)**
Troubleshooting page E-21
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- 5. Back-up light **27W (1156)**
Troubleshooting section F1
Removal / Inspection /
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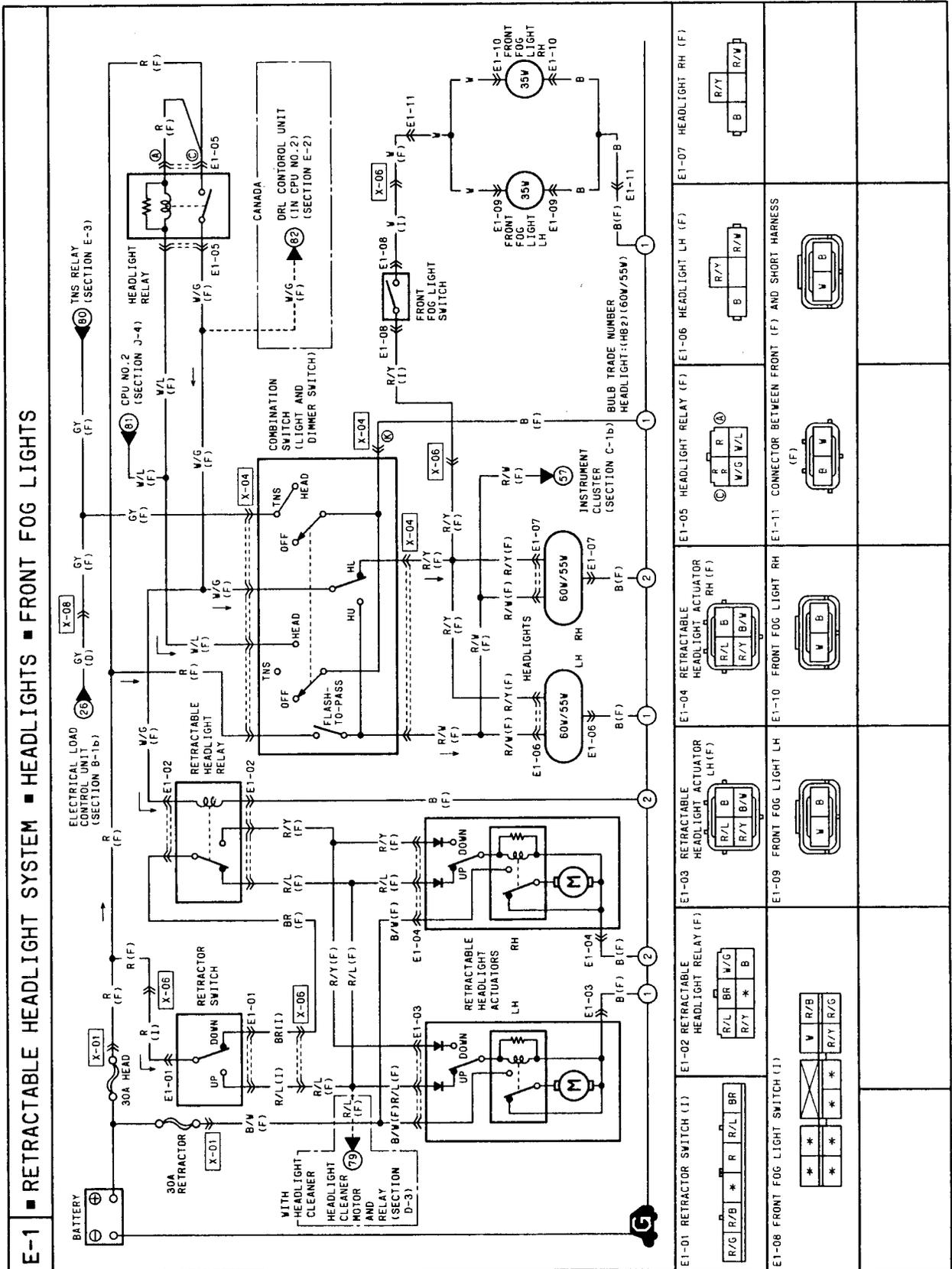
Specifications

Headlight	High/Low	60/55W × 2 (HB2)
Parking light		5W × 2
Front turn and hazard warning light		27W × 2 (3497)
*DRL (daytime running lights)		27/8W × 2 (3496)
Front fog light		35W × 2
Front side marker light		4.9W × 2 (168)
Stop/Taillight		27/8W × 4 (1157)
High-mount stoplight		18.4W × 3 (921)
Rear turn and hazard warning light		27W × 2 (1156)
Back-up light		27W × 2 (1156)
Rear side marker light		3.8W × 2 (194)
License plate light		5W × 2

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*DRL: Canada only.

TROUBLESHOOTING
Headlights / Front Fog Lights
Circuit diagram



Checklist

Procedure / Proper operation	Symptom	Flowchart No. (page)
1. Turn headlight switch to second position. 2. Verify that TNS (parking light, taillight, and license plate light) illuminate. 3. Change headlight switch to high/low beam position and verify that headlight angle changes. 4. Verify that flash-to-pass operates normally with headlight switch at any position. 5. Turn the front fog light switch on and verify that front fog lights illuminate.	TNS and headlights do not illuminate	1 (E-10)
	TNS illuminate, but both headlights and front fog lights do not illuminate	2 (E-10)
	High-beam headlights do not illuminate	3 (E-12)
	Low-beam headlights do not illuminate	4 (E-13)
	Both high and low beam of one headlight does not illuminate	5 (E-13)
	Headlights illuminate, but cannot change to flash-to-pass, high beam, or low beam	6 (E-14)
	Front fog lights do not illuminate, but headlights illuminate	7 (E-15)
	Headlights do not illuminate, but front fog lights illuminate	8 (E-16)
	Headlight bulb(s) often burn out	9 (E-16)
1. Turn headlight switch to second position or turn on retractor switch. 2. Verify that headlights fully extend.	Retractable headlights do not operate	10 (E-17)
	Retractable headlights do not operate with headlight switch, but operate with retractor switch	11 (E-19)
	Retractable headlights do not operate with retractor switch, but operate with headlight switch	12 (E-19)
	One retractable headlight does not operate	13 (E-20)

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TNS: Tail-number-side (taillights, license plate light, parking lights)

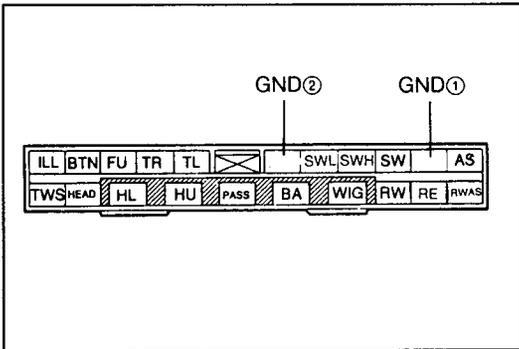
E

Flowchart No.1	Symptom	TNS and headlights do not illuminate
-----------------------	----------------	--------------------------------------

Possible cause

- Damaged combination switch
- Poor connection of connector

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Remedy

1. Check for continuity between the terminals of the combination switch.

Position	Terminal	GND②	BTN	HEAD	BA	HL	HU	PASS
	OFF							
Parking		○	○					
Headlight	Low	○	○	○	○	○		
	High	○	○	○	○		○	
Flash-to-pass							○	○

○—○ : Continuity

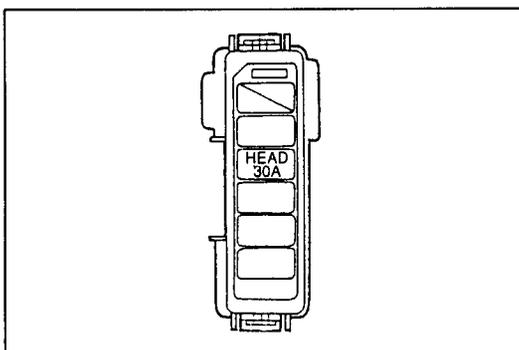
2. If normal, repair wiring harness (combination switch—ground).
3. If not as specified, replace the combination switch. (Refer to section Z4.)

Flowchart No.2	Symptom	TNS illuminate, but both headlights and front fog lights do not illuminate
-----------------------	----------------	--

Possible cause

- Burnt HEAD 30A fuse
- Damaged headlight relay
- Damaged combination switch
- Open or short circuit in wiring harness
- Poor connection of connector

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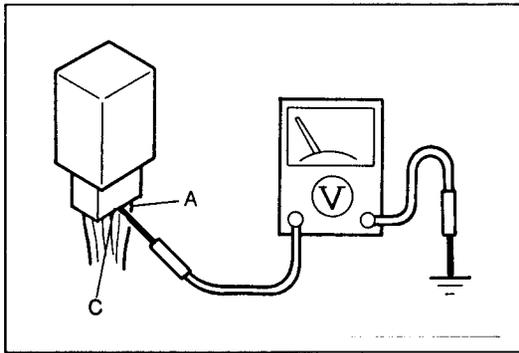


47U0EX-511

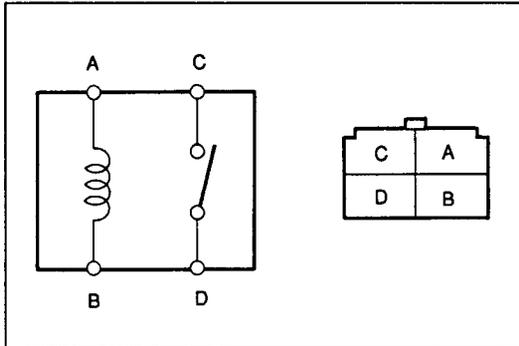
Step 1

Check the HEAD 30A fuse in the main fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



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Step 2

Measure the voltage at terminals A (R) and C (R) of the headlight relay connector (4-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (HEAD 30A fuse—Headlight relay)

Step 3

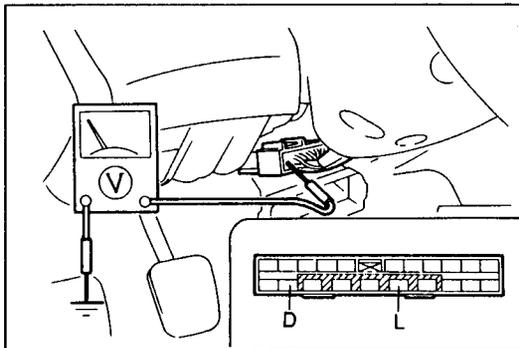
1. Disconnect the headlight relay connector and remove the headlight relay. (Refer to section Z2.)
2. Check for continuity between the terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	D
B+	GND				
—	—	○—○			
A	B			○—○	

○—○ : Continuity

3. If correct, install the headlight relay, connect the relay connector, and go to Step 3.
4. If not as specified, replace the headlight relay.



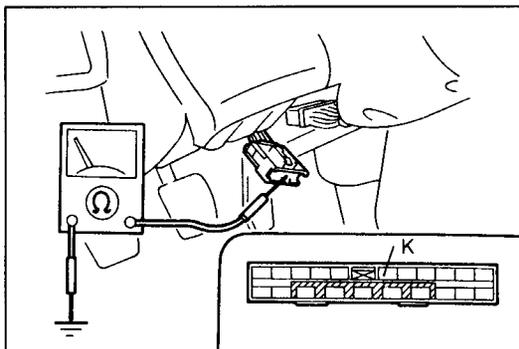
47U0EX-514

Step 4

1. Pull down the combination switch harness for access to the connector (21-pin).
2. Turn the headlight switch to the second position.
3. Measure the voltage at terminals D (W/L) and L (W/G) of the combination switch connector (21-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Headlight relay—Combination switch)

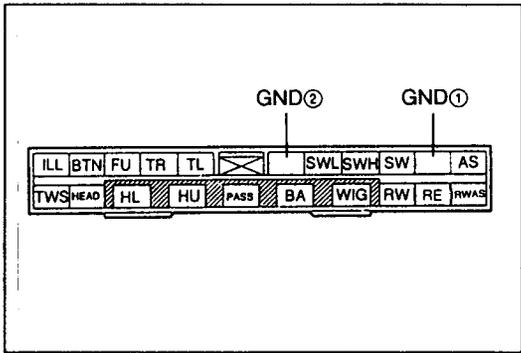


47U0EX-515

Step 5

1. Disconnect the combination switch connector (21-pin).
2. Check for continuity between terminal K (B) of the combination switch connector (21-pin) and ground.

Continuity	Action
Yes	Go to Step 5
No	Repair wiring harness (Combination switch—GND)



47U0EX-516

Step 6

1. Turn the headlight switch to the second position.
2. Check for continuity between the terminals of the combination switch (21-pin).

Position \ Terminal	GND②	BTN	HEAD	BA	HL	HU	PASS
Low	○	○	○	○	○		
High	○	○	○	○	○	○	

○—○ : Continuity

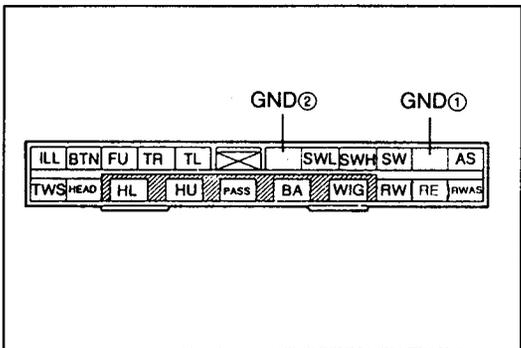
3. If correct, repair the wiring harness (combination switch—headlight, front fog light).
4. If not as specified, replace the combination switch. (Refer to section Z4.)

Flowchart No.3	Symptom	High-beam headlights do not illuminate
-----------------------	----------------	--

Possible cause

- Damaged combination switch
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-517



47U0EX-518

Step 1

1. Disconnect the combination switch connector (21-pin).
2. Turn the headlight switch on (second position, high beam).
3. Check for continuity between the terminals of the combination switch (21-pin).

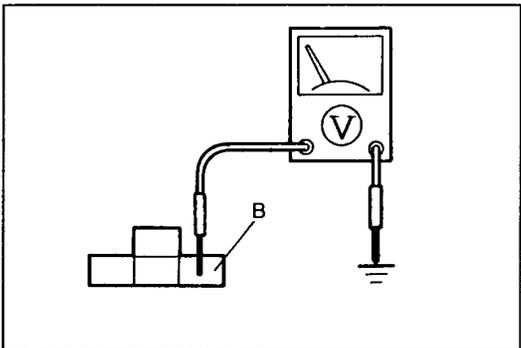
Position \ Terminal	GND②	BTN	HEAD	BA	HL	HU	PASS
High	○	○	○	○	○	○	

○—○ : Continuity

4. If correct, connect the combination switch connector and go to Step 2.
5. If not as specified, replace the combination switch. (Refer to section Z4.)

Step 2

1. Turn the headlight switch on (second position, high beam).
2. Measure the voltage at terminal B (R/W) of the headlight connector (3-pin).
3. If other than battery positive voltage, repair the wiring harness (combination switch—headlight).



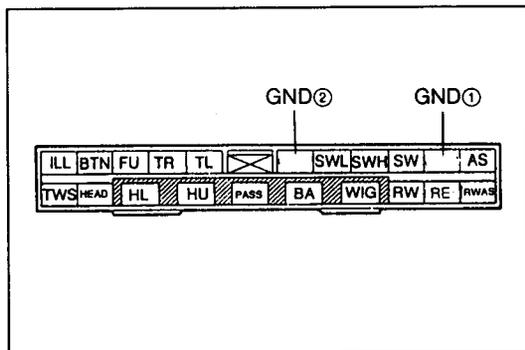
47U0EX-519

Flowchart No.4	Symptom	Low-beam headlight do not illuminate
-----------------------	----------------	--------------------------------------

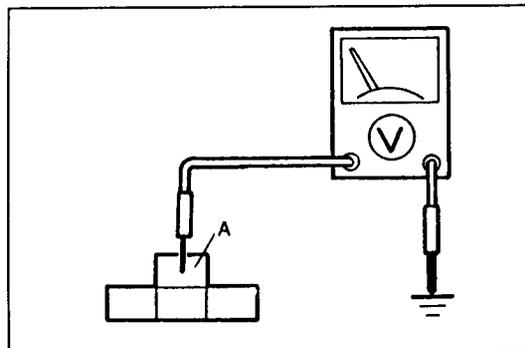
Possible cause

- Damaged combination switch
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-520



47U0EX-521



47U0EX-522

Step 1

1. Disconnect the combination switch connector (21-pin).
2. Turn the headlight switch on (second position, low beam).
3. Check for continuity between the terminals of the combination switch (21-pin).

Position \ Terminal	GND②	BTN	HEAD	BA	HL	HU	PASS
Low	○	○	○	○	○		

○—○ : Continuity

4. If correct, connect the combination switch connector and go to Step 2.
5. If not as specified, replace the combination switch. (Refer to section Z4.)

Step 2

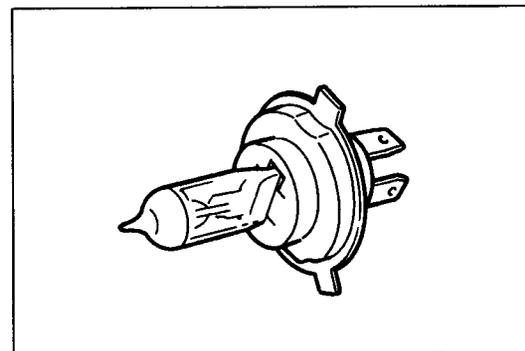
1. Turn the headlight switch on (second position, low beam).
2. Measure the voltage at terminal A (R/Y) of the headlight connector (3-pin).
3. If other than battery positive voltage, repair the wiring harness (combination switch—headlight).

Flowchart No.5	Symptom	Both high and low beam of one headlight does not illuminate
-----------------------	----------------	---

Possible cause

- Burnt headlight bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-523

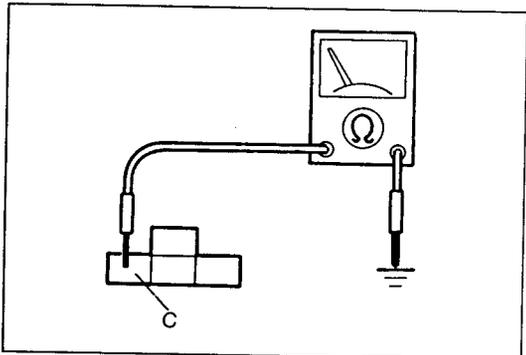


47U0EX-524

Step 1

Check the headlight bulb.

Bulb	Action
OK	Go to Step 2
Burnt	Repair headlight bulb



47U0EX-525

Step 2

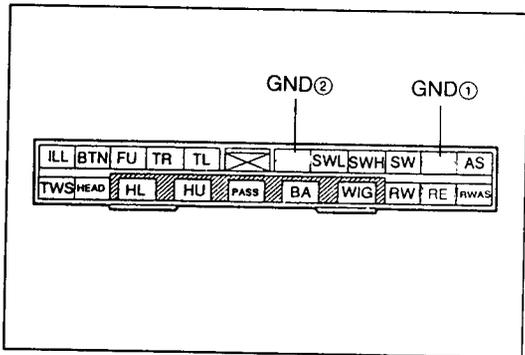
1. Check for continuity between terminal C (B) of the headlight and ground.
2. If there is no continuity, repair the wiring harness (headlight—ground).

Flowchart No.6	Symptom	Headlights illuminate, but cannot change to flash-to-pass, high beam, or low beam
-----------------------	----------------	---

Possible cause

- Damaged combination switch
- Poor connection of connector

47U0EX-526



47U0EX-527

Remedy

1. Disconnect the combination switch connector (21-pin).
2. Check for continuity between the terminals of the combination switch (21-pin).

Position	Terminal	GND(2)	BTN	HEAD	BA	HL	HU	PASS
OFF								
Parking		○—○						
Headlight	Low	○—○	○—○	○—○	○—○	○—○		
	High	○—○	○—○	○—○	○—○		○—○	
Flash-to-pass							○—○	○—○

○—○ : Continuity

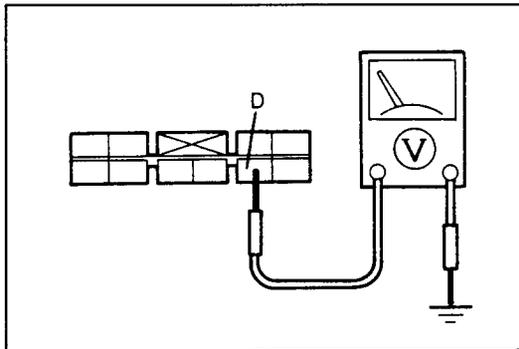
3. If not as specified, replace the combination switch. (Refer to section Z4.)

Flowchart No.7	Symptom	Front fog lights do not illuminate, but headlights illuminate
-----------------------	----------------	---

Possible cause

- Damaged front fog light switch
- Burnt front fog light bulb
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-528



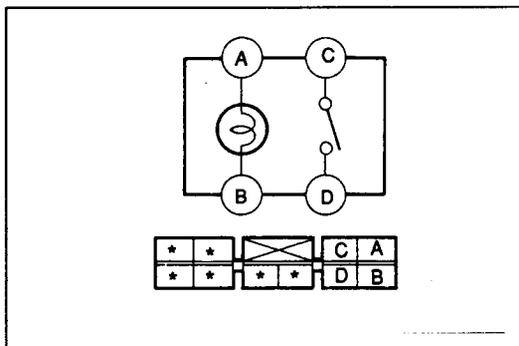
47U0EX-529

Step 1

1. Remove the front fog light switch. (Refer to section Z4.)
2. Turn the headlight switch to the second position.
3. Measure the voltage at terminal D (R/Y) of the front fog light switch connector (4-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (Combination switch—Front fog light switch)



47U0EX-530

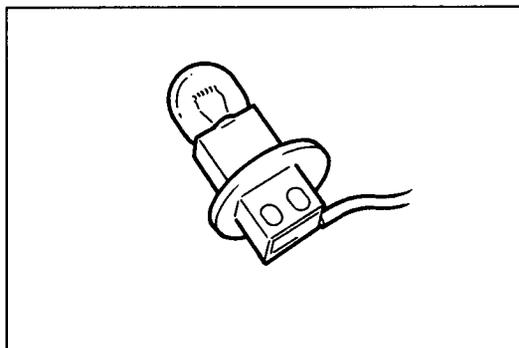
Step 2

1. Disconnect the front fog light switch connector.
2. Check for continuity between the switch terminals.

Terminal	A	B	C	D
OFF	○	⊗	○	○
ON	○	⊗	○	○

○—○ : Continuity

3. If correct, install the front fog light switch and go to Step 3.
4. If not as specified, replace the front fog light switch. (Refer to section Z4.)

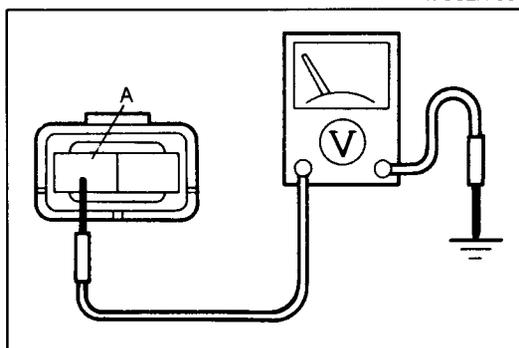


47U0EX-531

Step 3

Check the front fog light bulbs.

Bulb	Action
OK	Go to Step 4
Burnt	Replace bulbs



47U0EX-532

Step 4

1. Turn the headlight switch on and then turn the front fog light switch on.
2. Measure the voltage at terminal A (W) of the front fog light connector (2-pin).
3. If other than battery positive voltage, repair the wiring harness (front fog light switch—front fog light).

Flowchart No.8	Symptom	Headlights do not illuminate, but front fog lights illuminate
-----------------------	----------------	---

Possible cause

- Damaged headlight bulb
- Open or short circuit in wiring harness
- Poor connection of connector

Remedy

Check the headlight bulb and the wiring harness (combination switch—headlight)

47U0EX-533

Flowchart No.9	Symptom	Headlights bulb(s) often burn out
-----------------------	----------------	-----------------------------------

Possible cause

- Extremely rough road conditions
- Charging voltage too high (damaged alternator)

Remedy

Inspect the alternator. (Refer to the 1994 RX-7 Workshop Manual, section G.)

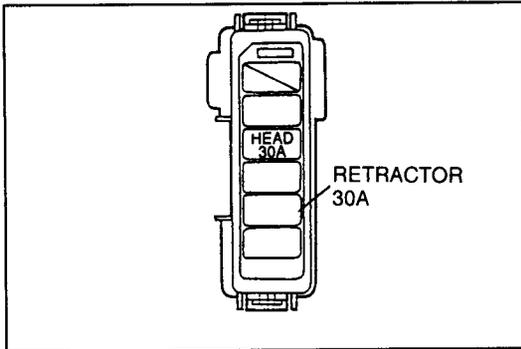
47U0EX-534

Flowchart No.10	Symptom	Retractable headlights do not operate
------------------------	----------------	---------------------------------------

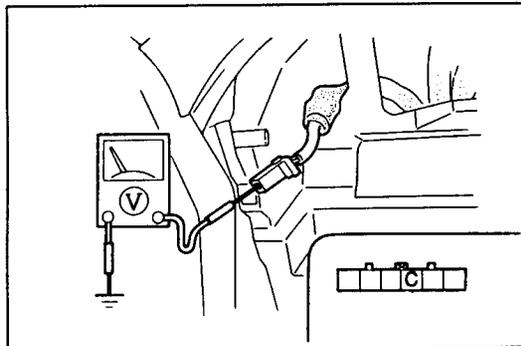
Possible cause

- Burnt HEAD 30A fuse
- Damaged retractor switch
- Damaged retractable headlight actuator

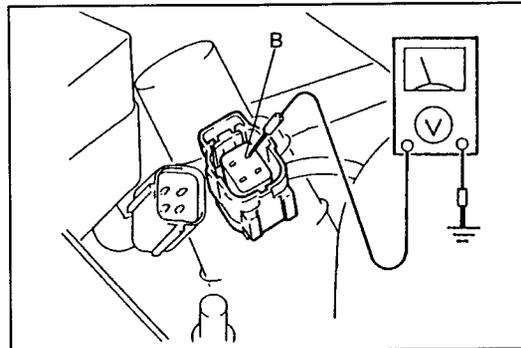
47U0EX-535



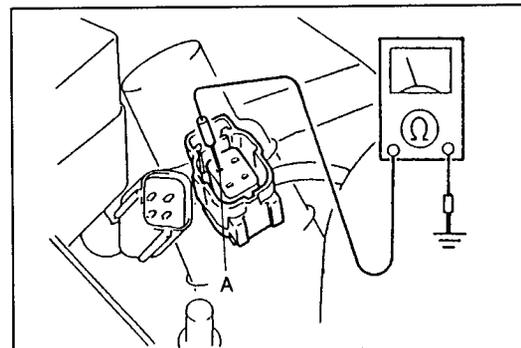
47U0EX-536



47U0EX-537



47U0EX-538



47U0EX-539

Step 1

Check the HEAD 30A fuse and RETRACTOR 30A fuse in the main fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the instrument cluster. (Refer to section C1.)
2. Measure the voltage at terminal C (R) of the retractor switch connector (6-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (HEAD 30A fuse—Retractor switch)

Step 3

1. Disconnect the retractable headlight actuator connector (4-pin).
2. Measure the voltage at terminal B (B/W) of the retractable headlight actuator.

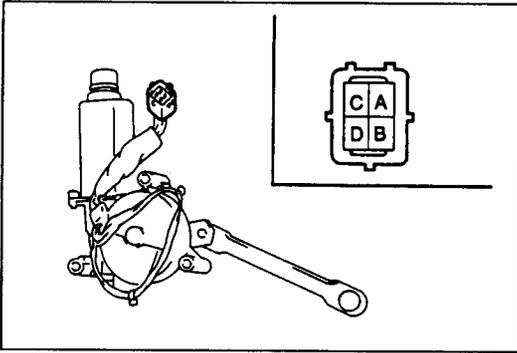
B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (RETRACTOR 30A fuse—Retractable headlight actuator)

Step 4

Check for continuity between terminal A (B) of the retractable headlight actuator connector and ground.

Continuity	Action
Yes	Go to Step 5
No	Repair wiring harness (Retractable headlight actuator—GND)



47U0EX-540

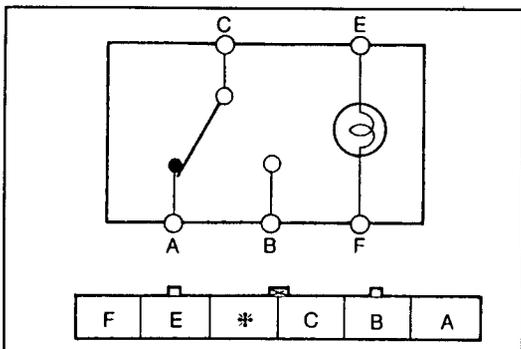
Step 5

1. Connect battery positive voltage to terminal B and ground to terminal A of the retractable headlight actuator connector.
2. Connect battery positive voltage as indicated and verify that the actuator operates as specified.

B+: Battery positive voltage

Connection		Actuator operation
B+	GND	
C	A	Rotates to raised position
D	A	Rotates to retracted position

3. If correct, go to Step 6.
4. If not as specified, replace the retractable headlight actuator. (Refer to page E-27.)



47U0EX-541

Step 6

1. Check for continuity between the terminals of the retractor switch.

Terminal / Position	A	B	C	E	F
OFF	○	—	○	○	⊗
ON		○	○	○	⊗

○—○ : Continuity

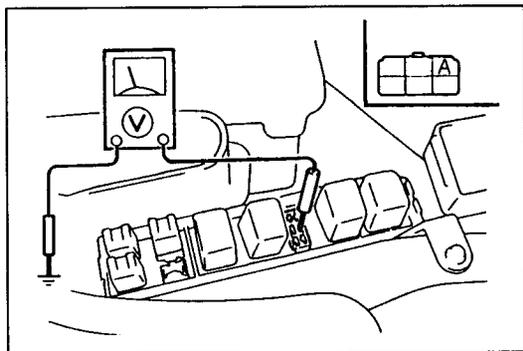
2. If correct, repair the wiring harness (retractor switch—retractable headlight actuator).
3. If not as specified, replace the retractor switch. (Refer to section Z4.)

Flowchart No.11	Symptom	Retractable headlights do not operate with headlight switch, but operate with retractor switch
------------------------	----------------	--

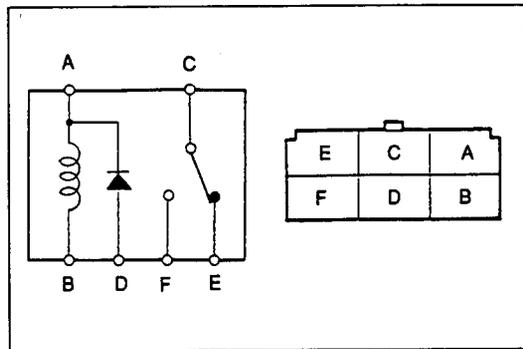
Possible cause

- Damaged retractable headlight relay
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-542



47U0EX-543



47U0EX-544

Step 1

1. Remove the retractable headlight relay.
2. Turn the headlight switch on.
3. Measure the voltage at terminal A (W/G) of the retractable headlight relay connector (6-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (Headlight relay—Retractable headlight relay)

Step 2

1. Check for continuity between the terminals of the retractable headlight relay.

B+: Battery positive voltage

Connection		A	B	C	D	E	F
B+	GND						
—	—	○	○	○	○	○	
A	B			○	○	○	○

○—○ : Continuity

2. If correct, repair the wiring harness (retractable headlight relay—ground).
3. If not as specified, replace the retractable headlight relay.

Flowchart No.12	Symptom	Retractable headlights do not operate with retractor switch, but operate with headlight switch
------------------------	----------------	--

Possible cause

- Damaged retractor switch
- Open or short circuit in wiring harness
- Poor connection of connector

Remedy

- Check the retractor switch. (Refer to section Z4.)

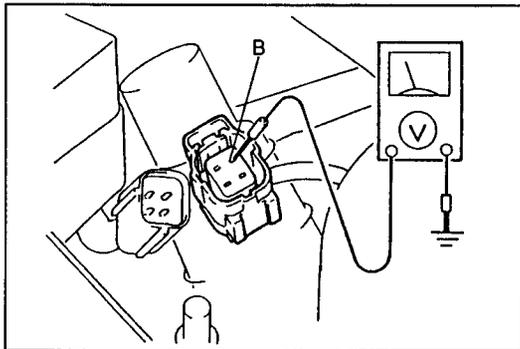
47U0EX-545

Flowchart No.13	Symptom	One retractable headlight actuator does not operate
------------------------	----------------	---

Possible cause

- Damaged retractable headlight actuator
- Open or short circuit in wiring harness
- Poor connection of connector

47U0EX-546



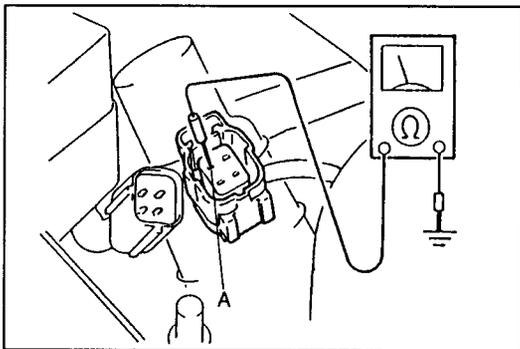
47U0EX-547

Step 1

1. Disconnect the retractable headlight actuator connector (4-pin).
2. Measure the voltage at terminal B (B/W) of the malfunctioning retractable headlight actuator connector (4-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair or replace wiring harness (RETRACTOR 30A fuse—Retractable headlight actuator)



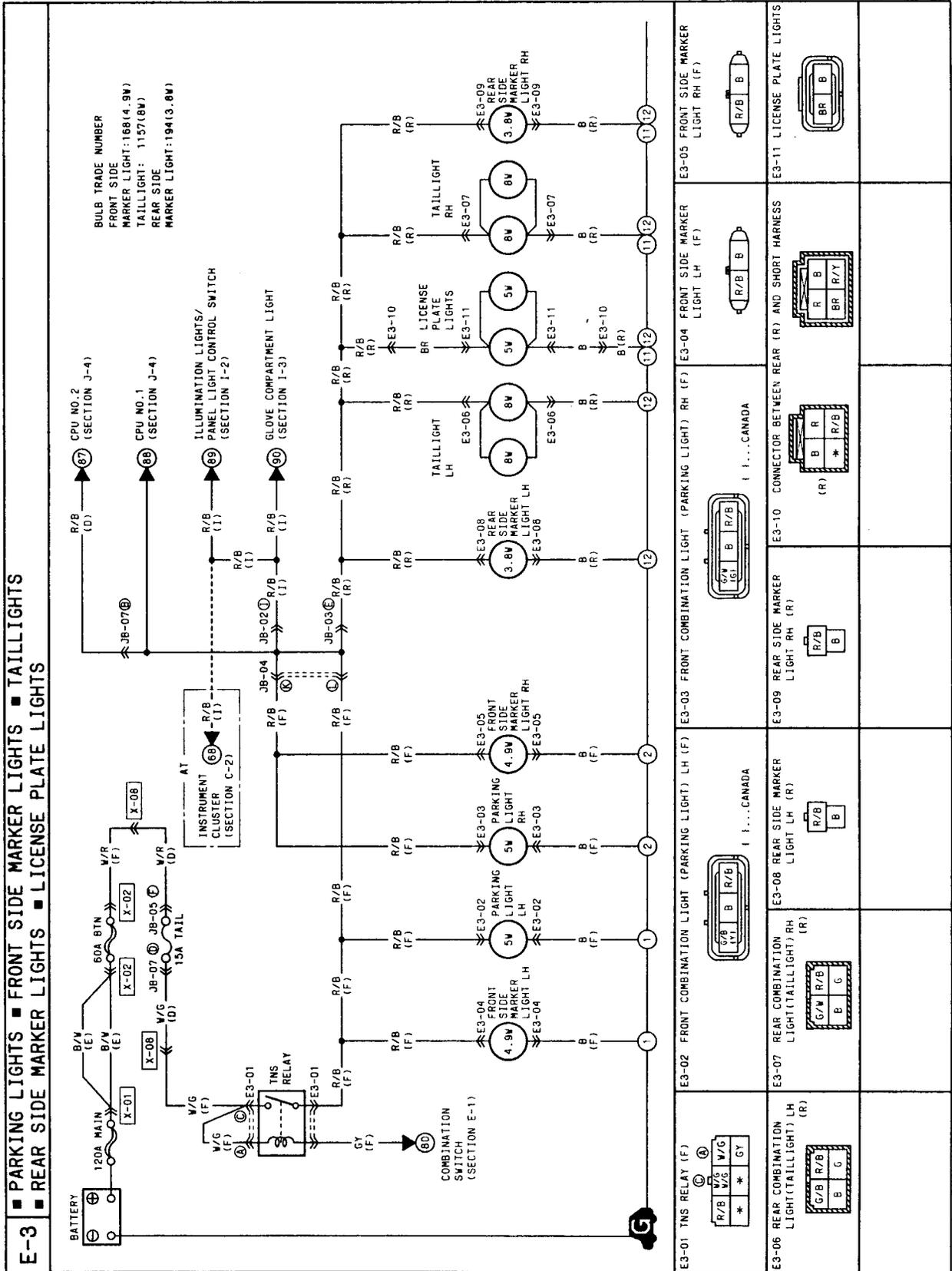
47U0EX-548

Step 2

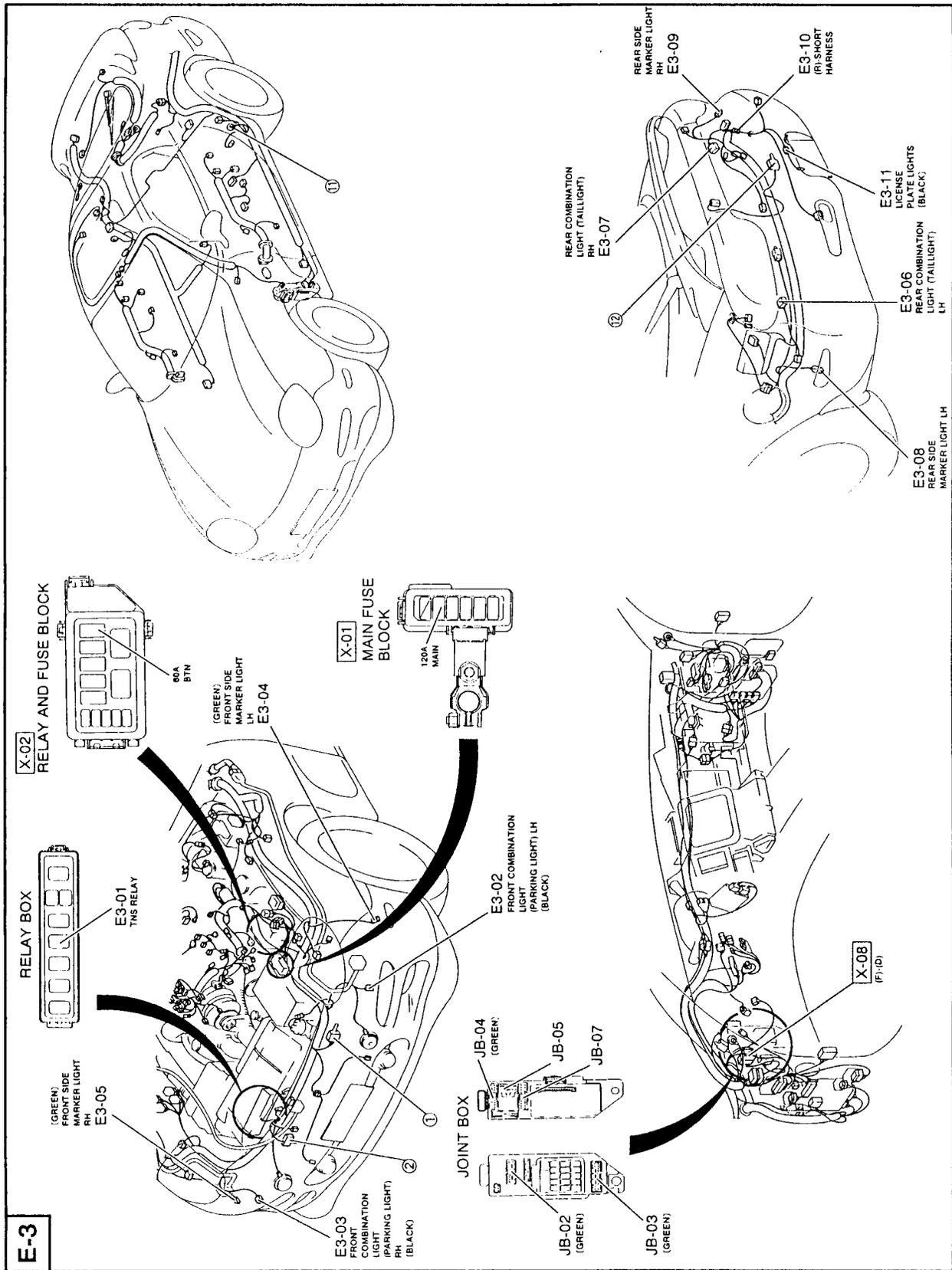
Check for continuity between terminal A (B) of the retractable headlight actuator connector (4-pin) and ground.

Continuity	Action
Yes	Replace retractable headlight actuator (Refer to page E-27)
No	Repair or replace wiring harness (Retractable headlight actuator—GND)

Parking Lights / Taillights
Circuit diagram



Connector locations



Checklist

Procedure / Proper operation	Symptom	Flowchart No. (page)
1. Turn headlight switch to first position. 2. Verify that TNS illuminate	TNS do not illuminate, but headlights illuminate	1 (E-23)

47U0EX-549

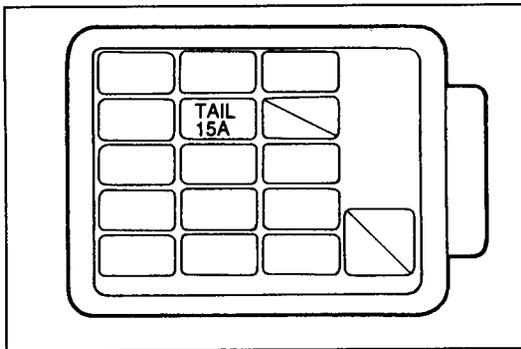
TNS: Tail-number-side (taillights, license plate light, parking lights)

Flowchart No.1	Symptom
	TNS do not illuminate, but headlights illuminate

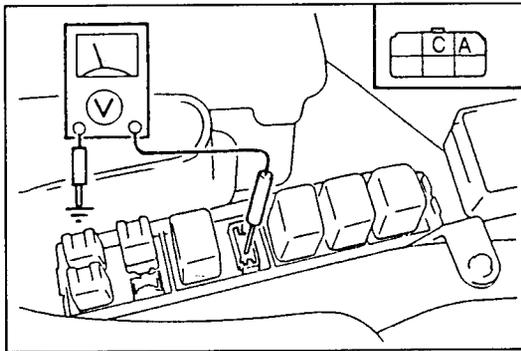
Possible cause

- Burnt TAIL 15A fuse
- Damaged TNS relay
- Damaged combination switch
- Open or short circuit in wiring harness
- Poor connection of connector

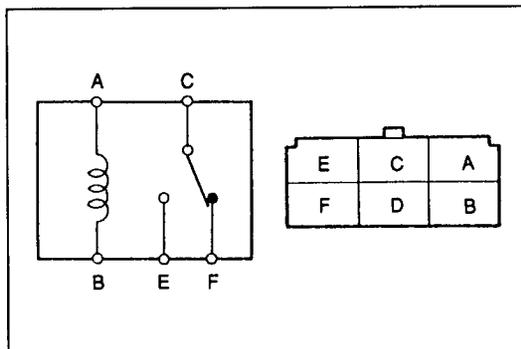
47U0EX-550



47U0EX-551



47U0EX-552



47U0EX-553

Step 1

Check the TAIL 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the TNS relay.
2. Measure the voltage at terminals A (W/G) and C (W/G) of the TNS relay connector (6-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (TAIL 15A fuse—TNS relay)

Step 3

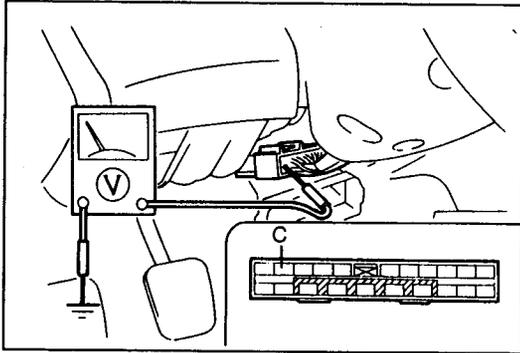
1. Check for continuity between the terminals of the TNS relay.

B+: Battery positive voltage

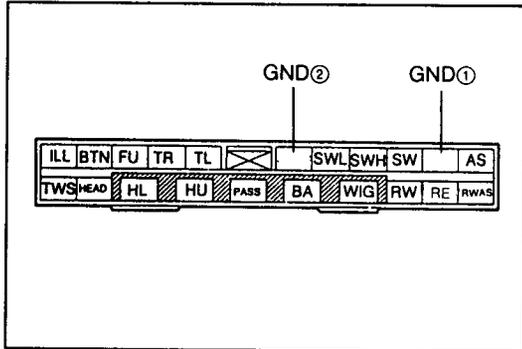
Connection		A	B	C	E	F
B+	GND					
—	—	○	○	○	○	○
A	B			○	○	

○—○ : Continuity

2. If correct, install the TNS relay and go to Step 4.
3. If not as specified, replace the TNS relay.



47U0EX-554



47U0EX-555

Step 4

1. Pull down the combination switch harness for access to the connector (21-pin).
2. Measure the voltage at terminal C (GY) of the combination switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (TNS relay—Combination switch)

Step 4

1. Disconnect the combination switch connector (21-pin).
2. Check for continuity between the terminals of the combination switch.

Position \ Terminal	GND(2)	BTN	HEAD	BA	HL	HU	PASS
OFF							
Parking	○—○						
Headlight	Low	○—○	○	○—○			
	High	○—○	○	○—○	○		
Flash-to-pass						○—○	

○—○ : Continuity

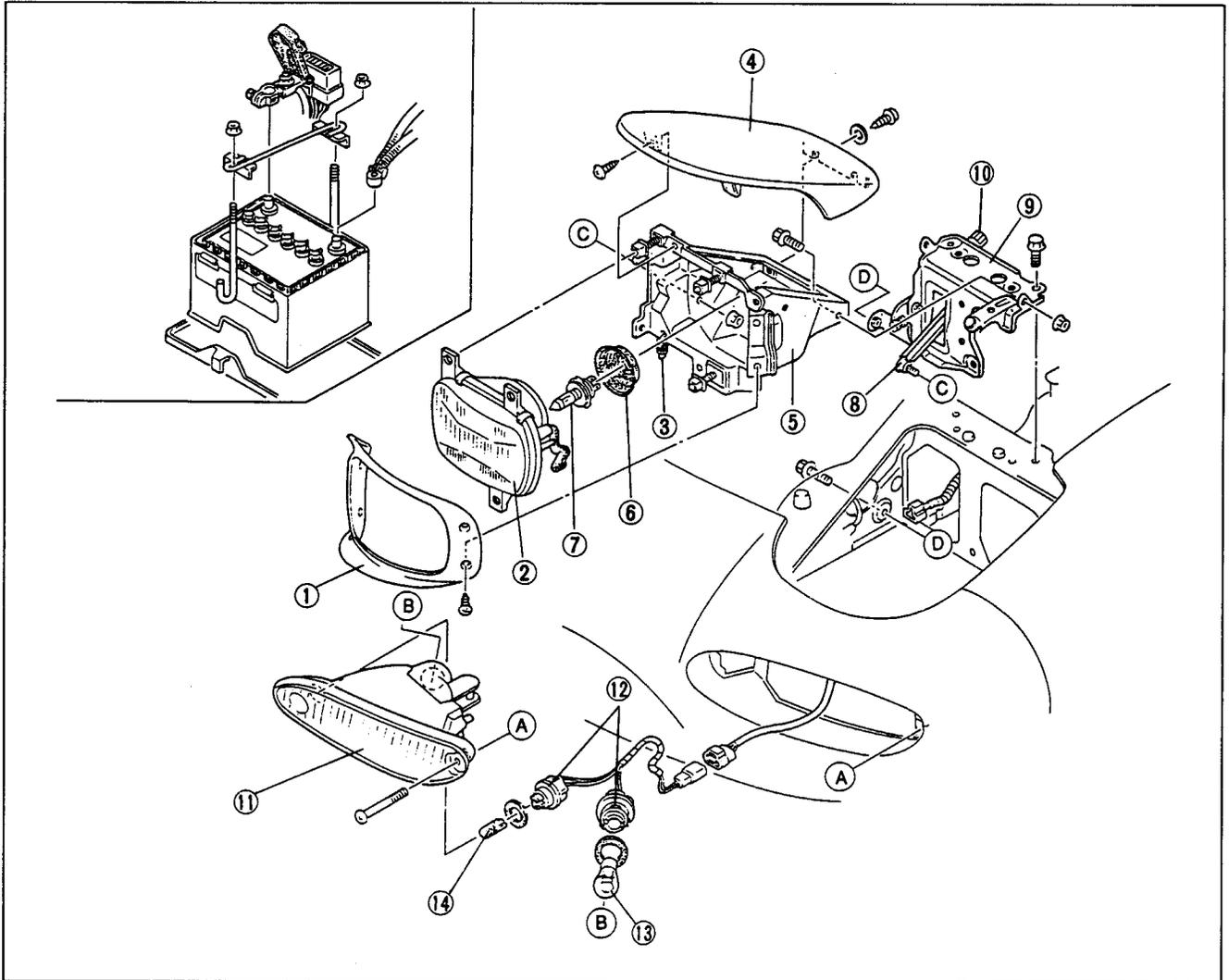
3. If correct, repair the wiring harness (combination switch—each light).
4. If not as specified, replace the combination switch. (Refer to section Z4.)

HEADLIGHT AND FRONT COMBINATION LIGHT
Removal / Inspection / Installation

Warning

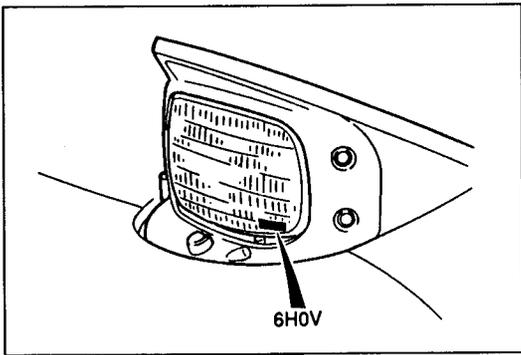
- If the glass surface of a halogen bulb is touched with bare hands, natural body oil could cause the bulb to overheat when it is lit. Because a halogen bulb contains pressurized gas, this overheating will cause the bulb to burst. The flying glass may seriously injure you. Hold the metal flange, not the glass, when replacing the bulb.

1. Remove in the order shown in the figure. To remove the motor bracket, remove the battery and then the motor rod nut.
2. Inspect all parts and repair or replace as necessary.
3. Install in the reverse order of removal.



47U0EX-556

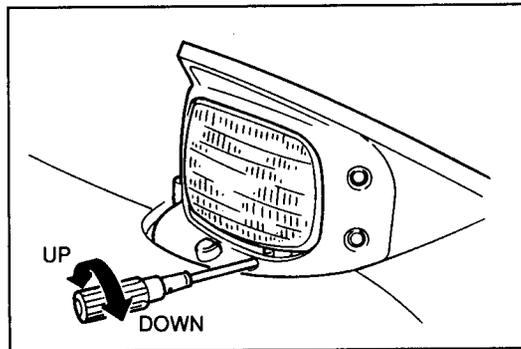
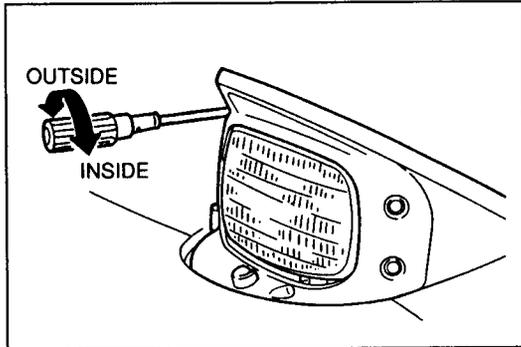
- | | |
|---------------------------------------|--|
| 1. Bezel | 10. Retractable headlight actuator |
| 2. Headlight | Removal / Installation page E-27 |
| Aiming..... page E-26 | Inspection page E-27 |
| 3. Spring | Manual operation..... page E-27 |
| 4. Headlight lid | 11. Front combination light |
| Adjustment..... page E-27 | 12. Socket |
| 5. Headlight housing | 13. Front turn and hazard warning light bulb |
| 6. Bulb cover | 27W (3497) |
| 7. Headlight bulb 60/55W (HB2) | 14. Parking light bulb 5W |
| 8. Motor rod | |
| 9. Motor bracket | |

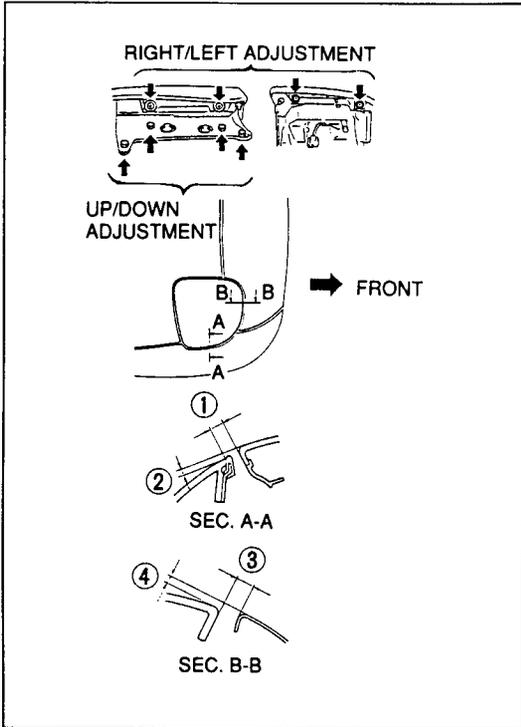


47U0EX-557

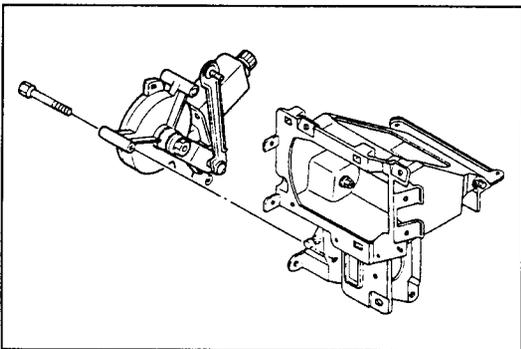
Aiming

1. Measure the tire air pressure when the tires are cold. Adjust the pressure to specification, if necessary.
2. Position the unloaded vehicle on a flat, level surface.
3. Turn the adjusting screws as shown in the figure to adjust the headlights. Use a "HOPPY" brand aimer or equivalent to aim the headlights to specification numbers **6H0V** (found on the headlight lens).

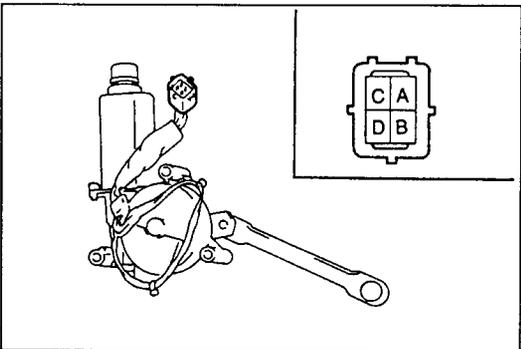




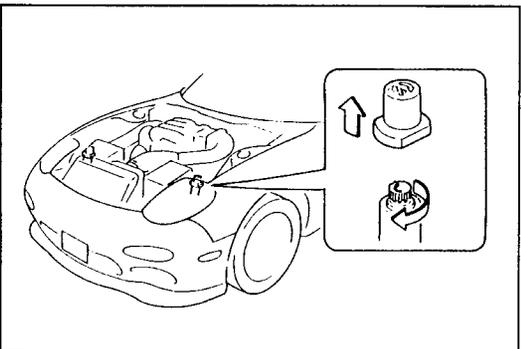
47U0EX-558



47U0EX-559



47U0EX-560



47U0EX-561

HEADLIGHT LID

Adjustment

Turn the headlight lid installation screws to adjust the headlight lid.

Clearance:

- ① 3.4—6.6mm {0.13—0.26 in}
- ② -1.6—1.6mm {-0.063—0.063 in}
- ③ 3.5—6.5mm {0.14—0.26 in}
- ④ -0.75—2.25mm {-0.030—0.089 in}

RETRACTABLE HEADLIGHT ACTUATOR

Removal / Installation

1. Remove the headlight. (Refer to page E-25.)
2. Remove the battery.
(Refer to the 1994 RX-7 Workshop Manual, section G.)
3. Remove the motor rod nut and remove the motor bracket. (Refer to page E-25.)
4. Remove the retractable headlight actuator from the motor bracket.
5. Install in the reverse order of removal.

Inspection

1. Connect battery positive voltage to terminal B and ground to terminal A of the retractable headlight actuator connector.
2. Connect battery positive voltage as indicated and verify that the actuator operates as specified.

B+: Battery positive voltage

Connection		Actuator operation
B+	GND	
C	A	Rotates to raised position
D	A	Rotates to retracted position

3. If not as specified, replace the retractable headlight actuator.

Manual Operation

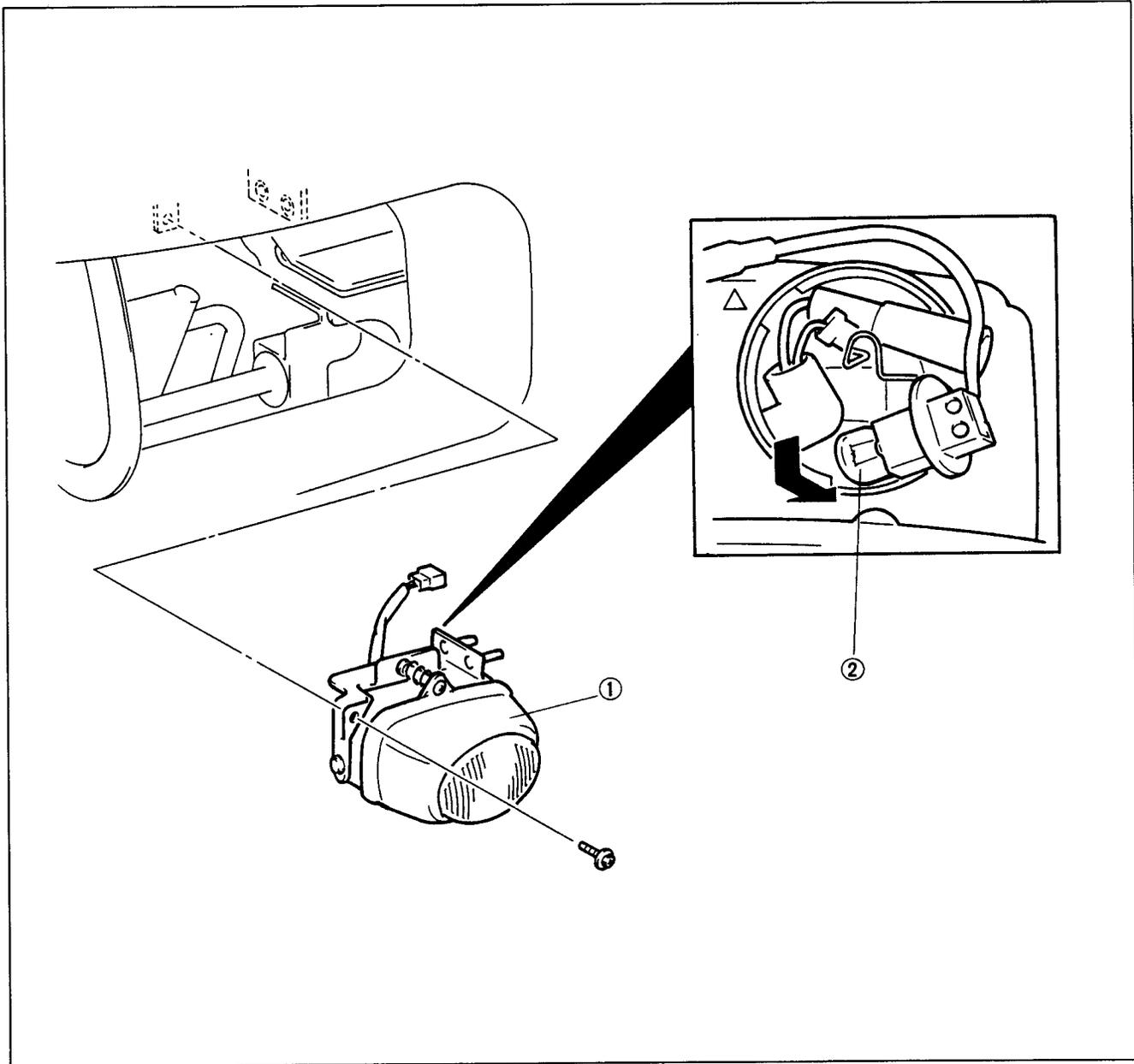
If a retractor fails, raise/retract the headlight manually as follows:

- (1) Turn the headlight switch off.
- (2) Disconnect the negative battery cable.
- (3) Remove the rubber cap from the retractable headlight actuator.
Turn the red knob clockwise to operate the headlight.

FRONT FOG LIGHT

Removal / Inspection / Installation

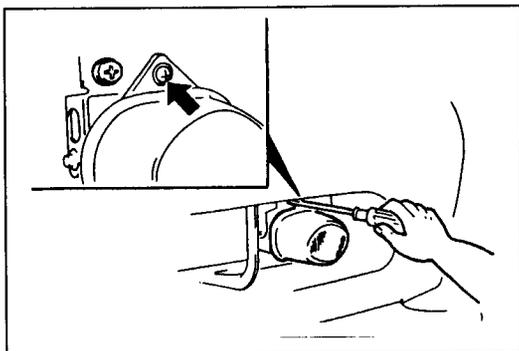
1. Remove in the order shown in the figure.
2. Inspect all parts, and repair or replace as necessary.
3. Install in the reverse order of removal.



1. Front fog light

2. Bulb 35W

47U0EX-562

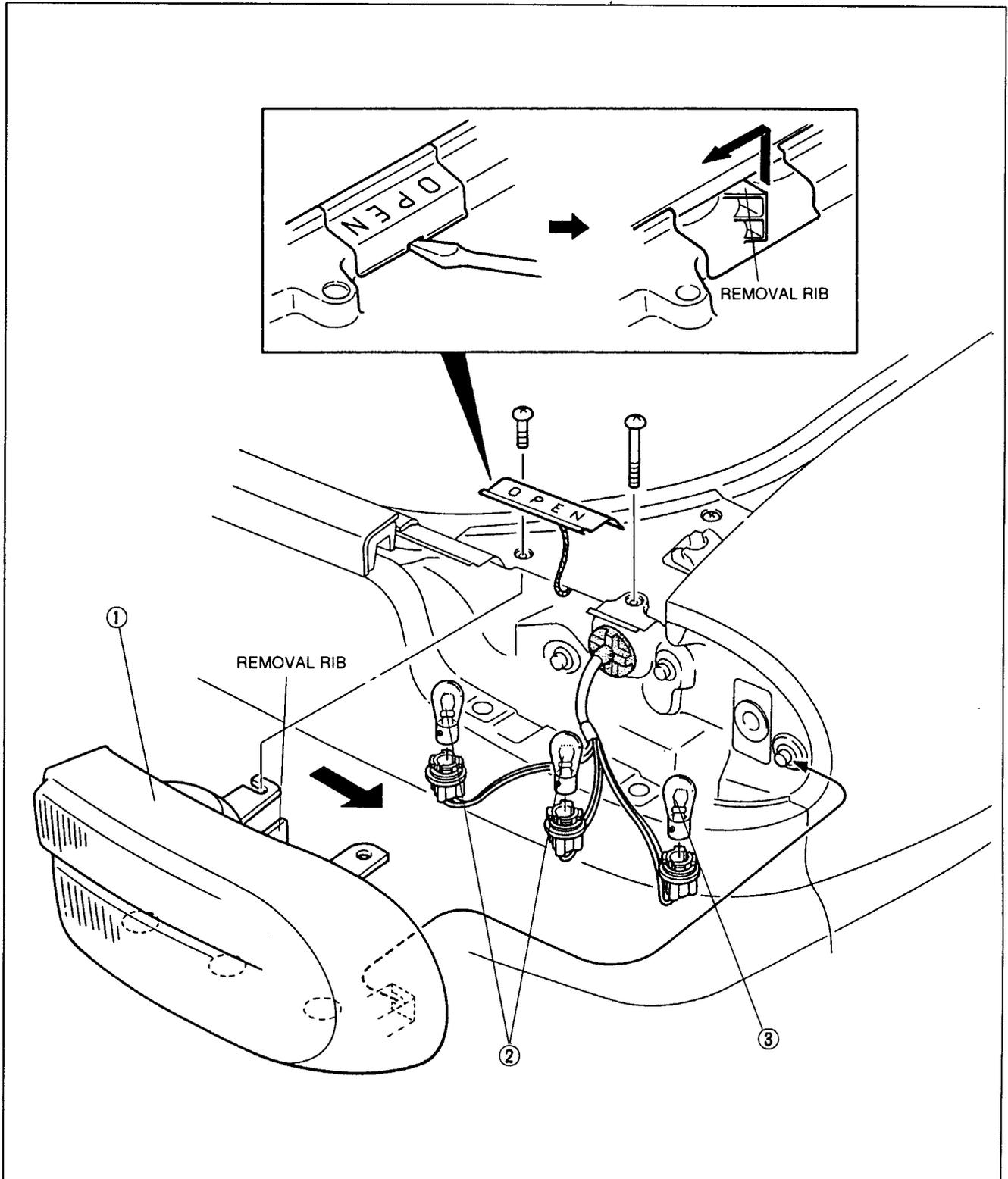


Adjustment

Turn the screw as shown in the figure to adjust the light angle.

REAR COMBINATION LIGHT**Removal / Inspection / Installation**

1. Remove in the order shown in the figure. To remove the rear combination light, insert two fingers into the removal ribs and slide the light outward.
2. Visually inspect all parts, and repair or replace as necessary.
3. Install in the reverse order of removal.



47U0EX-563

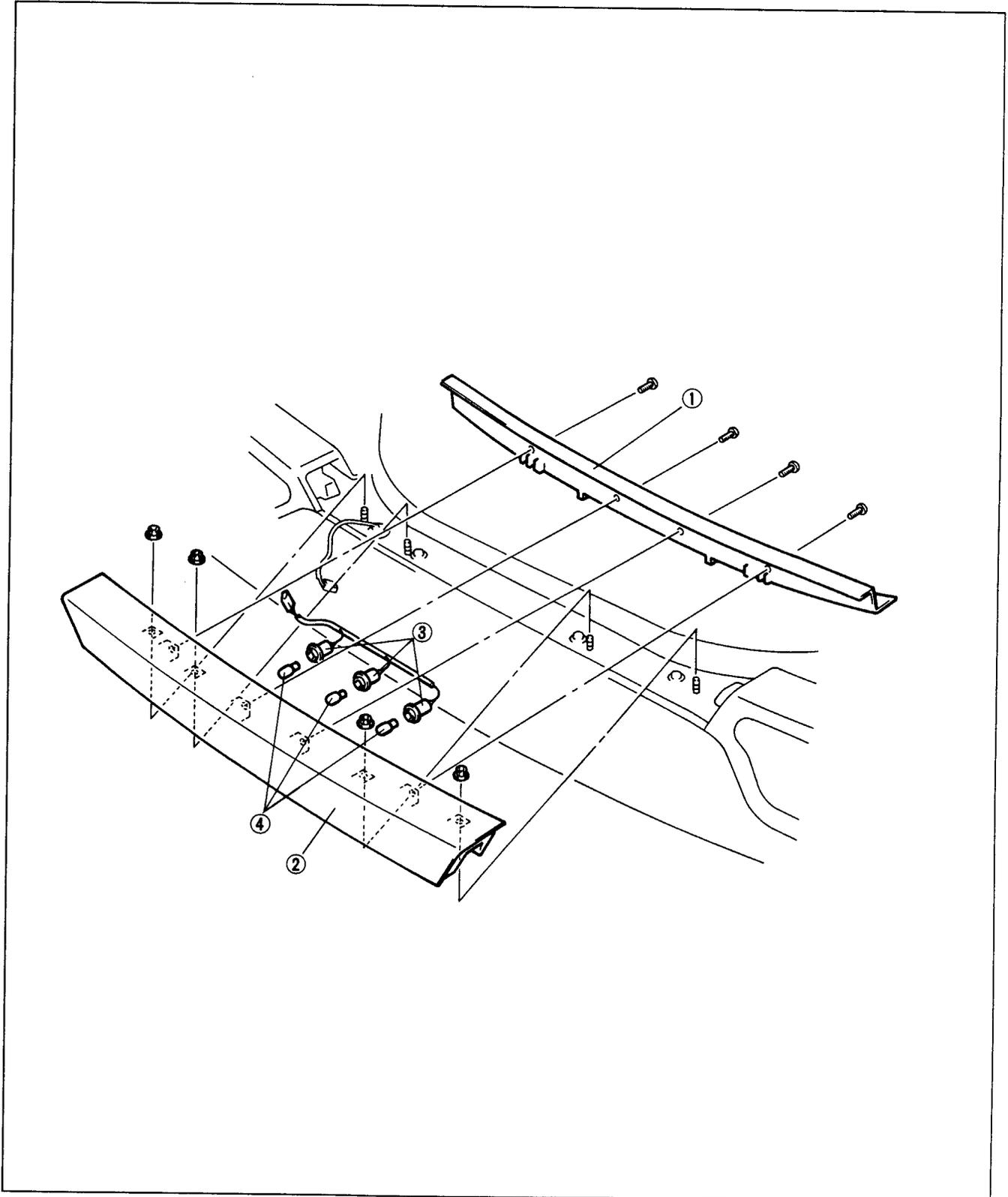
1. Rear combination light
2. Stop / taillight bulb 27/8W (1157)

3. Rear turn and hazard warning light bulb 27W (1156)

HIGH-MOUNT STOPLIGHT

Removal / Inspection / Installation

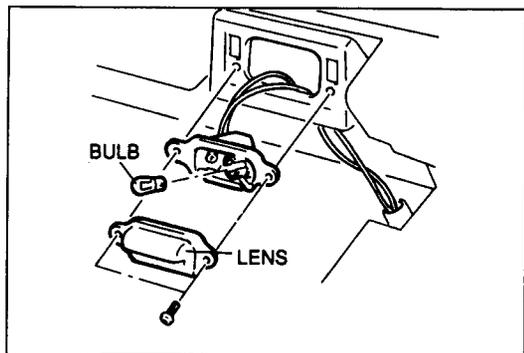
1. Remove in the order shown in the figure.
2. Visually inspect all parts, and repair or replace as necessary.
3. Install in the reverse order of removal.



1. Cover
2. Lens

3. Socket
4. Bulb 18.4W (921)

47U0EX-564



47U0EX-566

LICENSE PLATE LIGHT

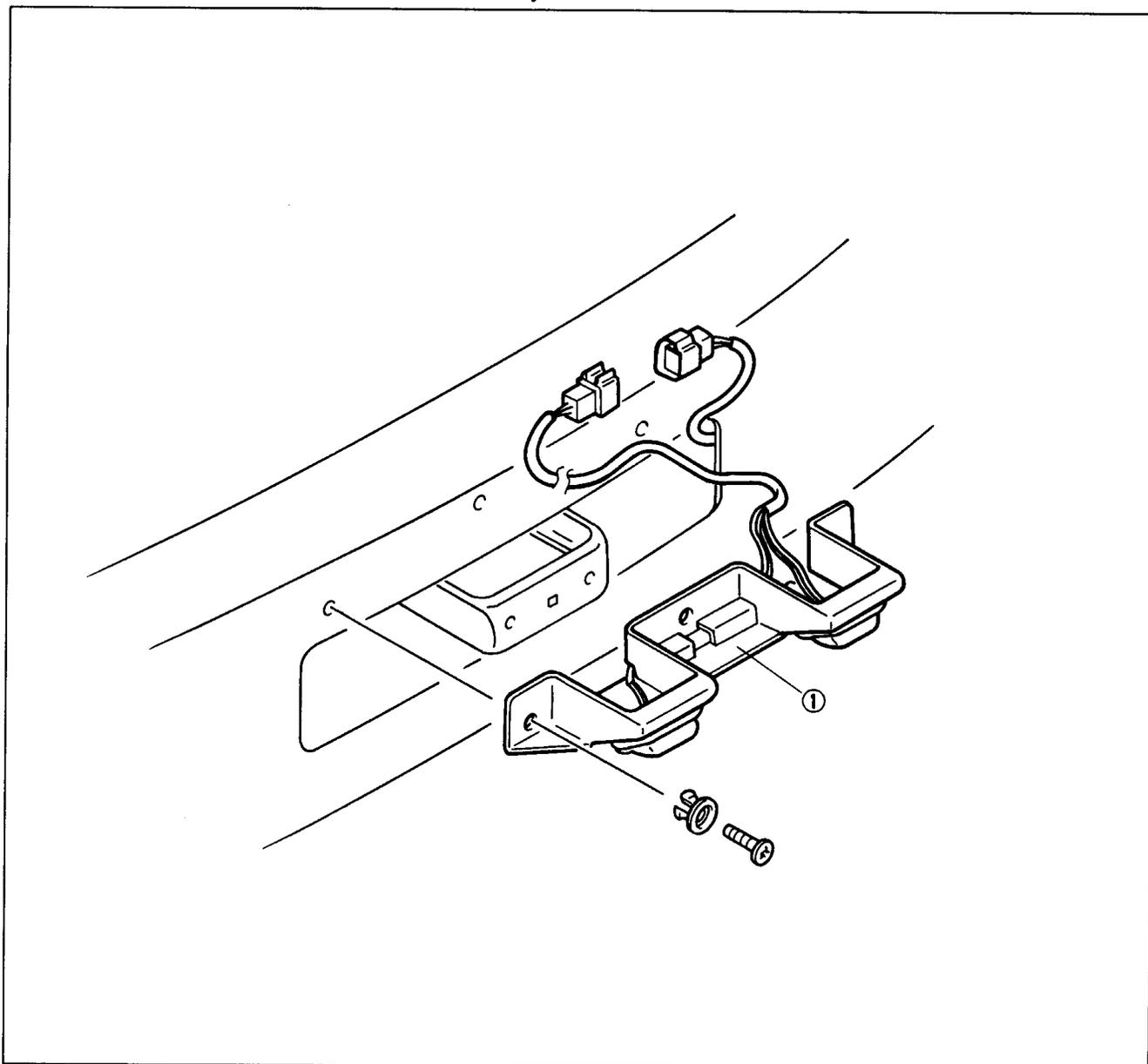
Removal / Inspection / Installation

1. Remove the screw and remove the lens.
2. Inspect all parts and replace as necessary.
3. Install in the reverse order of removal.

Bulb: 5W

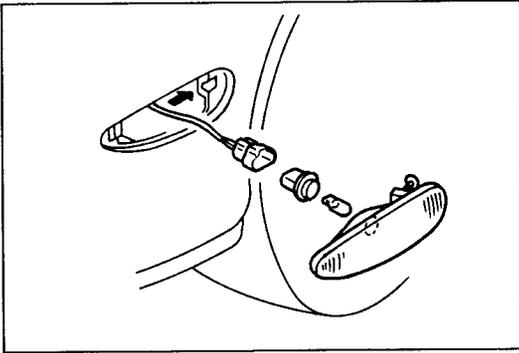
Disassembly / Assembly

1. Remove the rear bumper. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disassemble in the order shown in the figure.
3. Assemble in the reverse order of disassembly.



47U0EX-566

1. Bracket



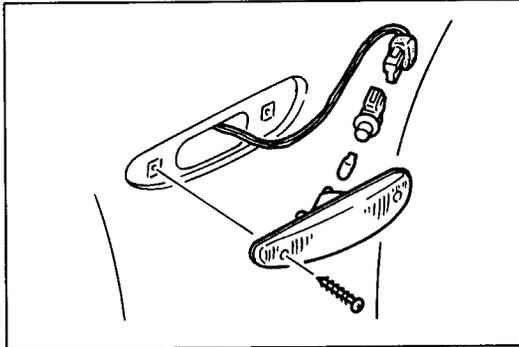
47U0EX-567

FRONT SIDE MARKER LIGHT

Removal / Installation

1. Remove the front side marker light with a protected screwdriver.
2. Install in the reverse order of removal.

Bulb: 4.9W (168)



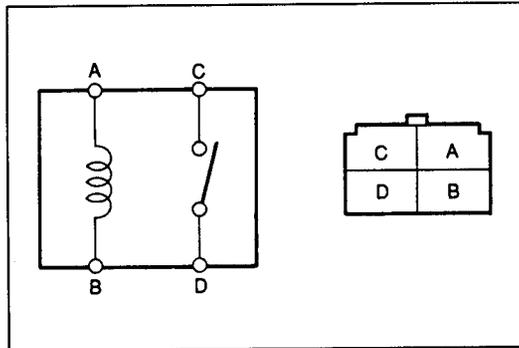
47U0EX-568

REAR SIDE MARKER LIGHT

Removal / Installation

1. Remove the screw and remove the rear side marker light.
2. Install in the reverse order of removal.

Bulb: 3.8W (194)



47U0EX-569

HEADLIGHT RELAY

Inspection

1. Disconnect the headlight relay connector and remove the headlight relay. (Refer to section Z2.)
2. Check for continuity between the terminals of the headlight relay.

B+: Battery positive voltage

Connection		A	B	C	D
B+	GND				
—	—	○—○			
A	B			○—○	○—○

○—○ : Continuity

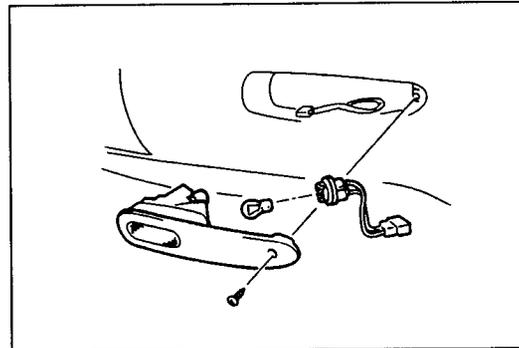
3. If not as specified, replace the headlight relay.

BACK-UP LIGHT

Removal / Inspection / Installation

1. Remove the screw and remove the back-up light.
2. Inspect all parts and replace as necessary.
3. Install in the reverse order of removal.

Bulb: 27W (1156)



47U0EX-570

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

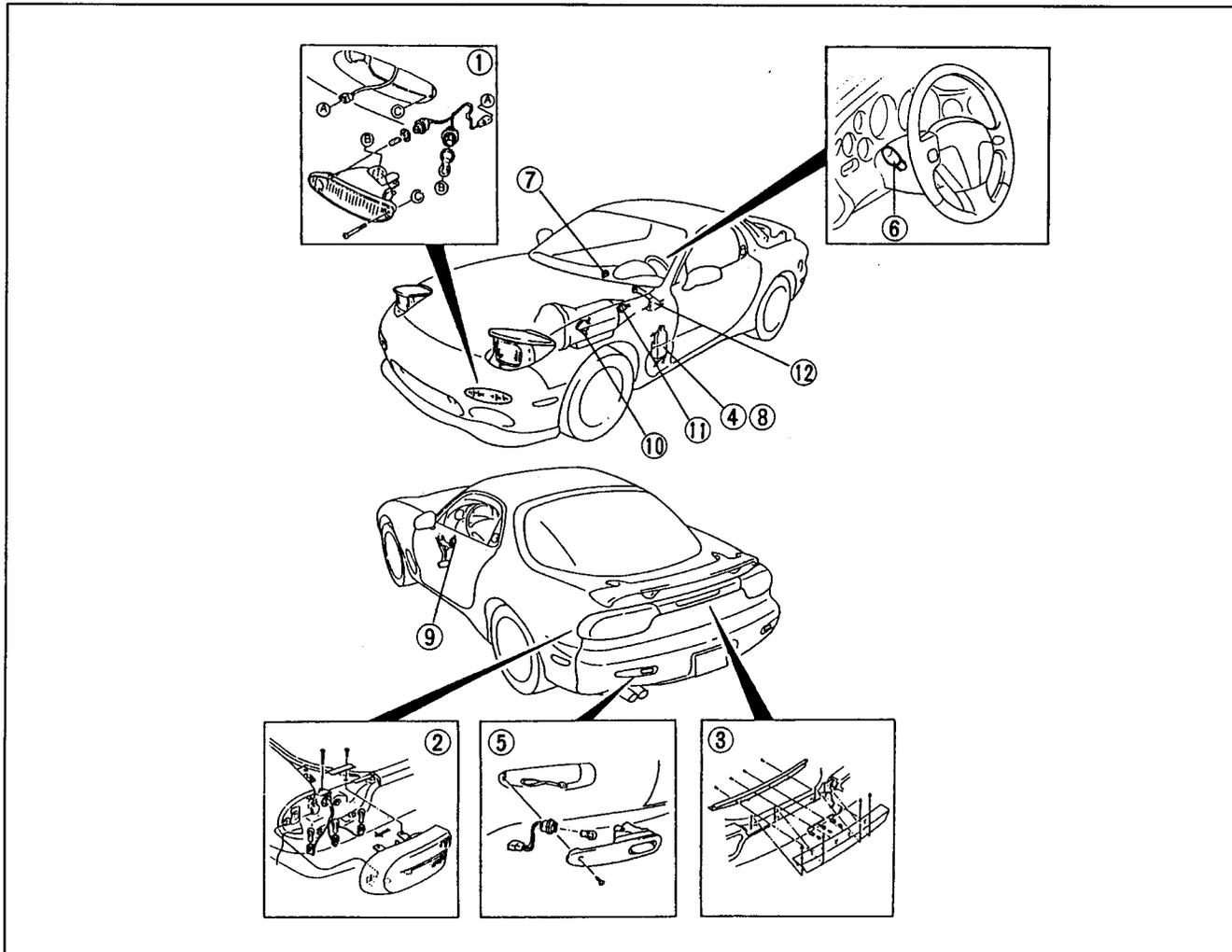
SIGNAL LIGHTING SYSTEM

STRUCTURAL VIEW	F1- 2
TURN SIGNAL LIGHT SYSTEM	F1- 3
DRL SYSTEM (CANADA)	F1- 5
TROUBLESHOOTING	F1- 6
TURN SWITCH	F1-25
HAZARD WARNING SWITCH	F1-25
FLASHER UNIT	F1-25
STOPLIGHT SWITCH	F1-26
PARK/NEUTRAL SWITCH (AT)	F1-27
BACK-UP LIGHT SWITCH (MT)	F1-27
PARKING BRAKE SWITCH	F1-28

47UF1X-501

SIGNAL LIGHTING SYSTEM

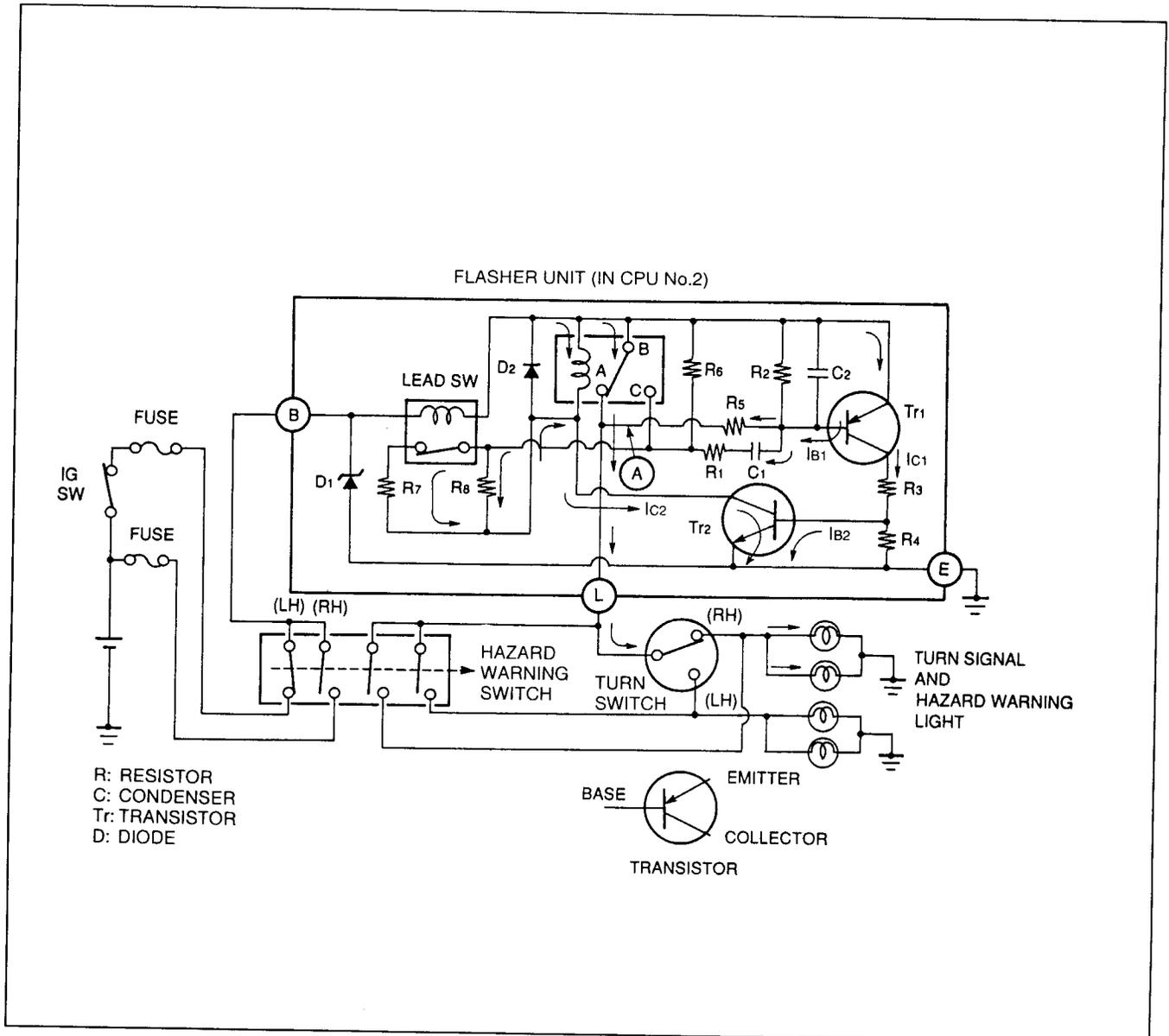
STRUCTURAL VIEW



47UF1X-502

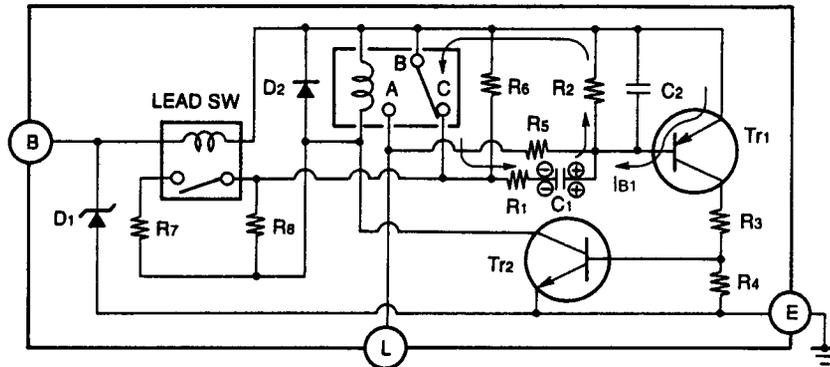
- | | |
|--|---|
| <p>1. Front combination light
Removal / Inspection /
Installation section E
Front turn and hazard warning light
27W (3497)
Troubleshooting page F1- 6</p> <p>2. Rear combination light
Removal / Inspection /
Installation section E
(1) Rear turn and hazard warning light
27W (1156)
Troubleshooting page F1- 6
(2) Stoplight/Taillight 27/8W (1157)
Troubleshooting page F1-19</p> <p>3. High-mount stoplight 18.4W (921)
Troubleshooting page F1-19
Removal / Inspection /
Installation section E</p> <p>4. DRL control unit (in CPU No.2) [Canada]
Troubleshooting page F1- 6</p> | <p>5. Back-up light 27W (1156)
Troubleshooting page F1-19
Removal / Inspection /
Installation section E</p> <p>6. Turn switch
Inspection page F1-25</p> <p>7. Hazard warning switch
Inspection page F1-25</p> <p>8. Flasher unit (in CPU No.2)
Inspection page F1-25</p> <p>9. Stoplight switch
Removal / Installation page F1-26
Inspection page F1-26
Adjustment page F1-26</p> <p>10. Park/Neutral switch (AT)
Inspection page F1-27
Adjustment / Replacement page F1-27</p> <p>11. Back-up light switch (MT)
Removal / Installation page F1-27
Inspection page F1-28</p> <p>12. Parking brake switch
Inspection page F1-28</p> |
|--|---|

TURN SIGNAL LIGHT SYSTEM
System Operation



47UF1X-503

- When the turn switch is turned on, current flows through the hazard warning switch, to flasher unit terminal B, through the lead switch coil, and then to Tr₁. From here, base current (I_{B1}) flows through R₅, terminal L, and the turn switch to the lights. However, because R₅ resistance is large, the current is too weak to illuminate the lights.
- Collector current (I_{C1}) from Tr₁ becomes the base current (I_{B2}) of Tr₂ and flows through Tr₂. Collector current (I_{C2}) for Tr₂ flows through terminal B, the lead switch coil, the relay coil, Tr₂, terminal E, and finally to ground. Because current flows through the relay coil, the relay contact switches from position C to A. The current then flows through the turn switch to illuminate the lights.
- When the relay contact changes from C to A, the electrical potential at (A) rises. Base current (I_{B1}) now flows through C₁ instead of R₅, charging the condenser. The ground circuit is completed through R₇ and R₈, Tr₂, and terminal E.

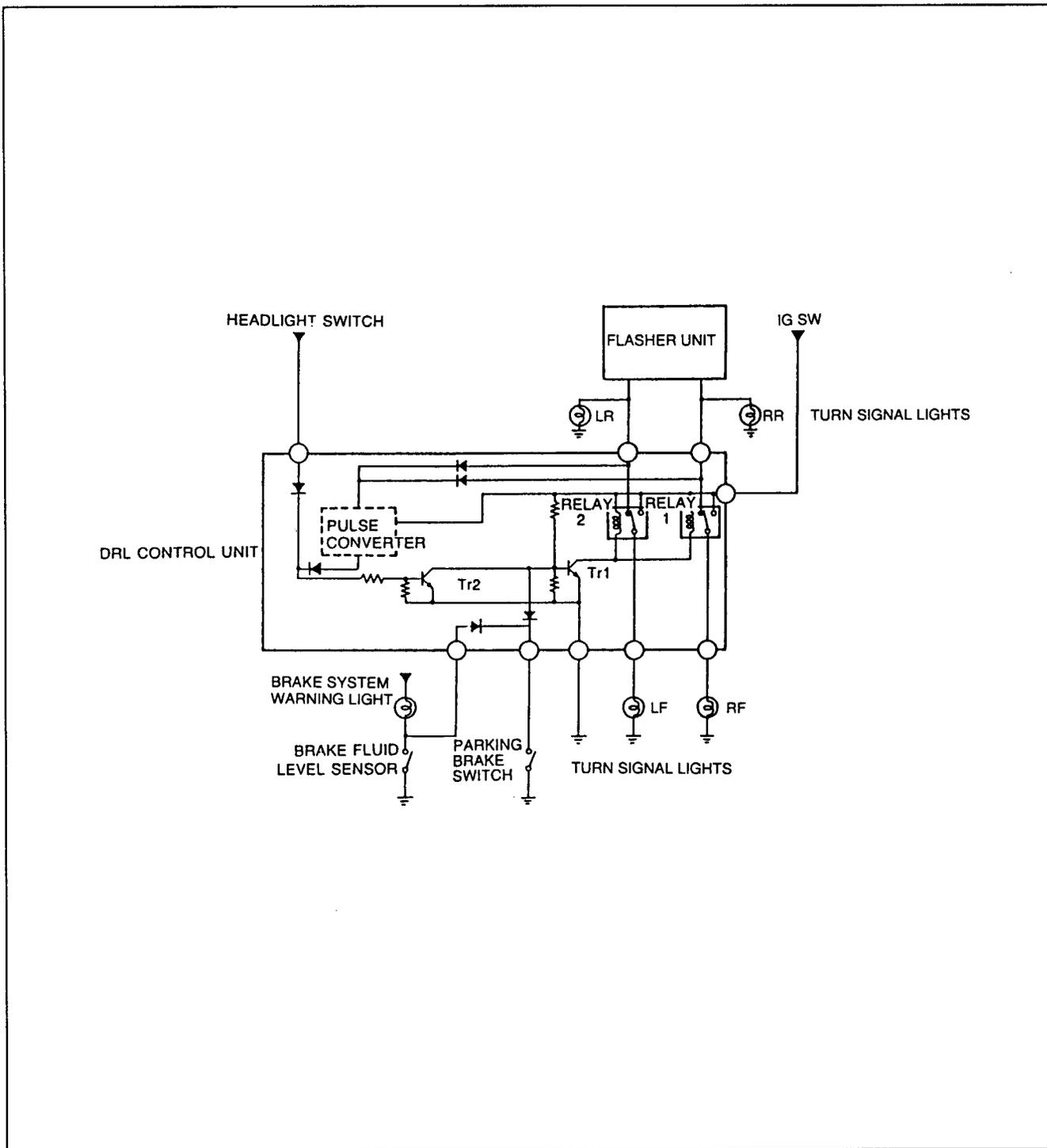


R: RESISTOR
 C: CONDENSER
 Tr: TRANSISTOR
 D: DIODE

47UF1X-504

- The lights are illuminated until C_1 is fully charged. When this occurs, base current (I_{B1}) stops flowing and Tr_1 and Tr_2 are turned off.
- Because Tr_2 turns off, the relay contact switches from position A back to C. Current to the lights is cut, the lights turn off, and the lead switch opens.
- The electric charge stored in C_1 discharges through R_2 , the relay contact, and R_1 . The system then repeats itself until the turn switch is turned off.

DRL SYSTEM (CANADA)
System Diagram



47UF1X-505

System Operation

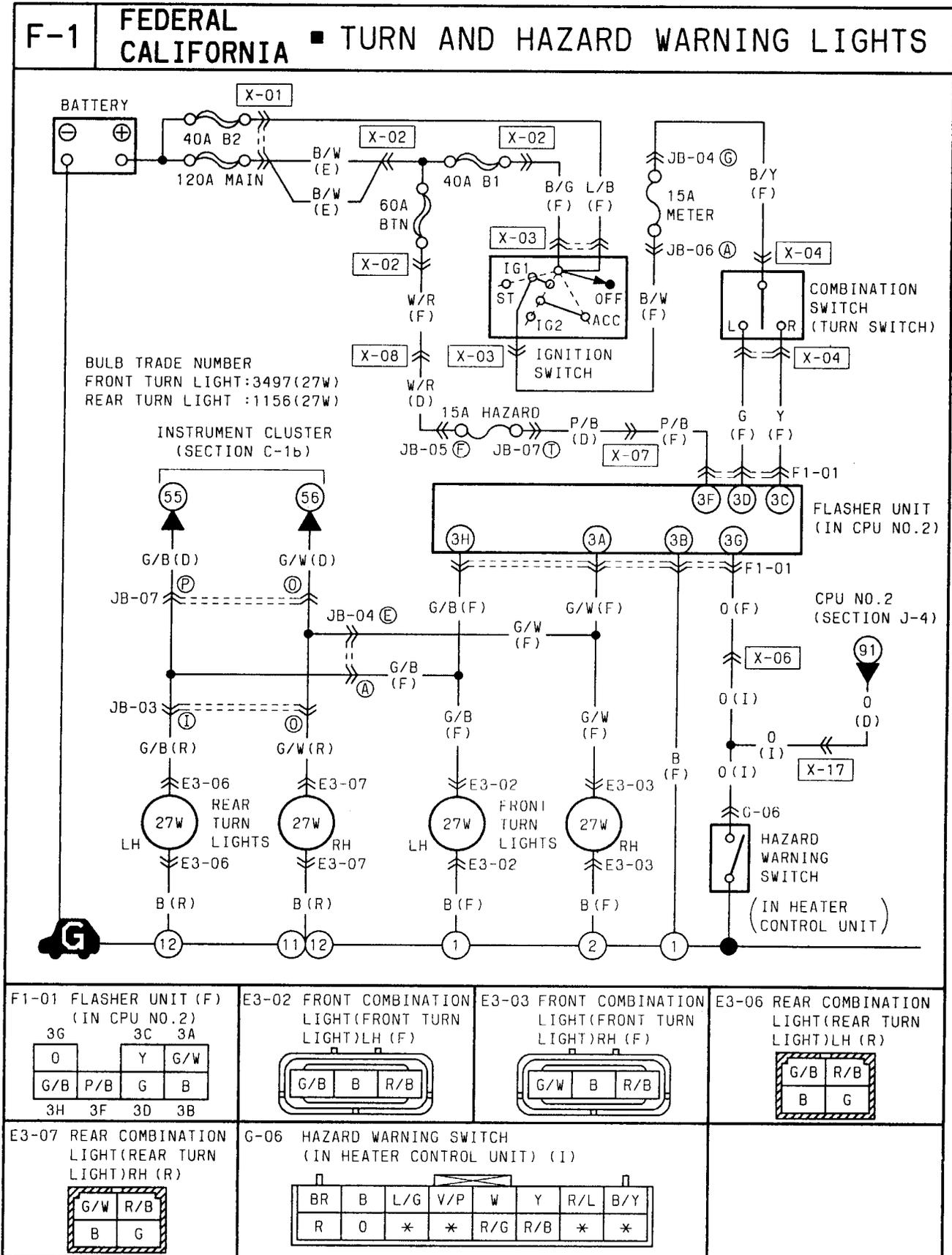
The front turn lights automatically illuminate as running lights when the ignition switch is turned to ON. The daytime running lights (DRL) are switched off under any of the following conditions:

1. Headlights are on
2. Parking brake is applied
3. Turn signal lights are on
4. Hazard warning lights are on.
5. When turn switch is on, only one side is switched off (opposite side is illuminated)

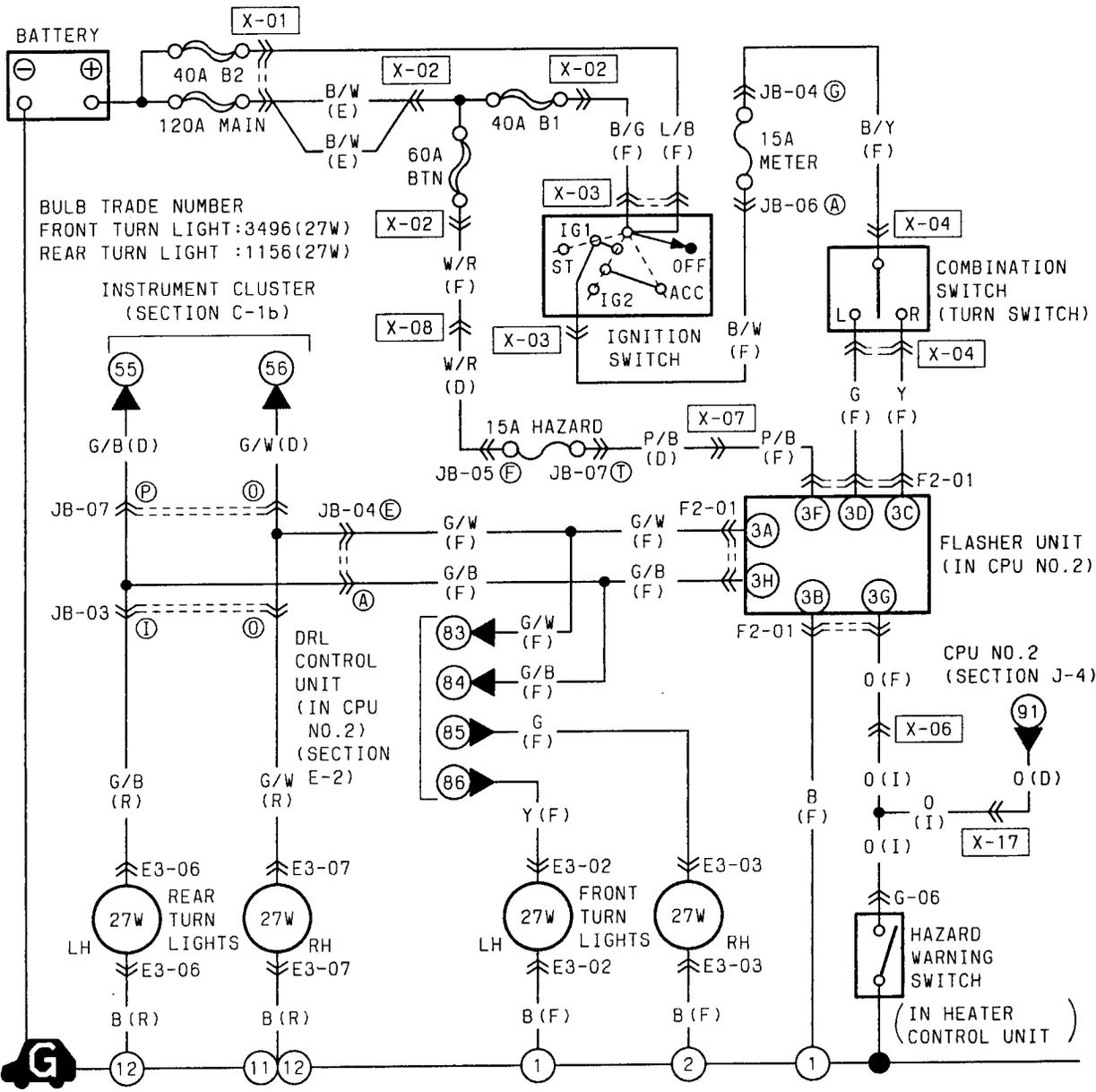
TROUBLESHOOTING

Turn and Hazard Warning Lights

Circuit diagram



F-2 CANADA ■ TURN AND HAZARD WARNING LIGHTS



BULB TRADE NUMBER
 FRONT TURN LIGHT : 3496 (27W)
 REAR TURN LIGHT : 1156 (27W)

INSTRUMENT CLUSTER
 (SECTION C-1b)

DRL CONTROL UNIT
 (IN CPU NO.2)
 (SECTION E-2)

FLASHER UNIT
 (IN CPU NO.2)

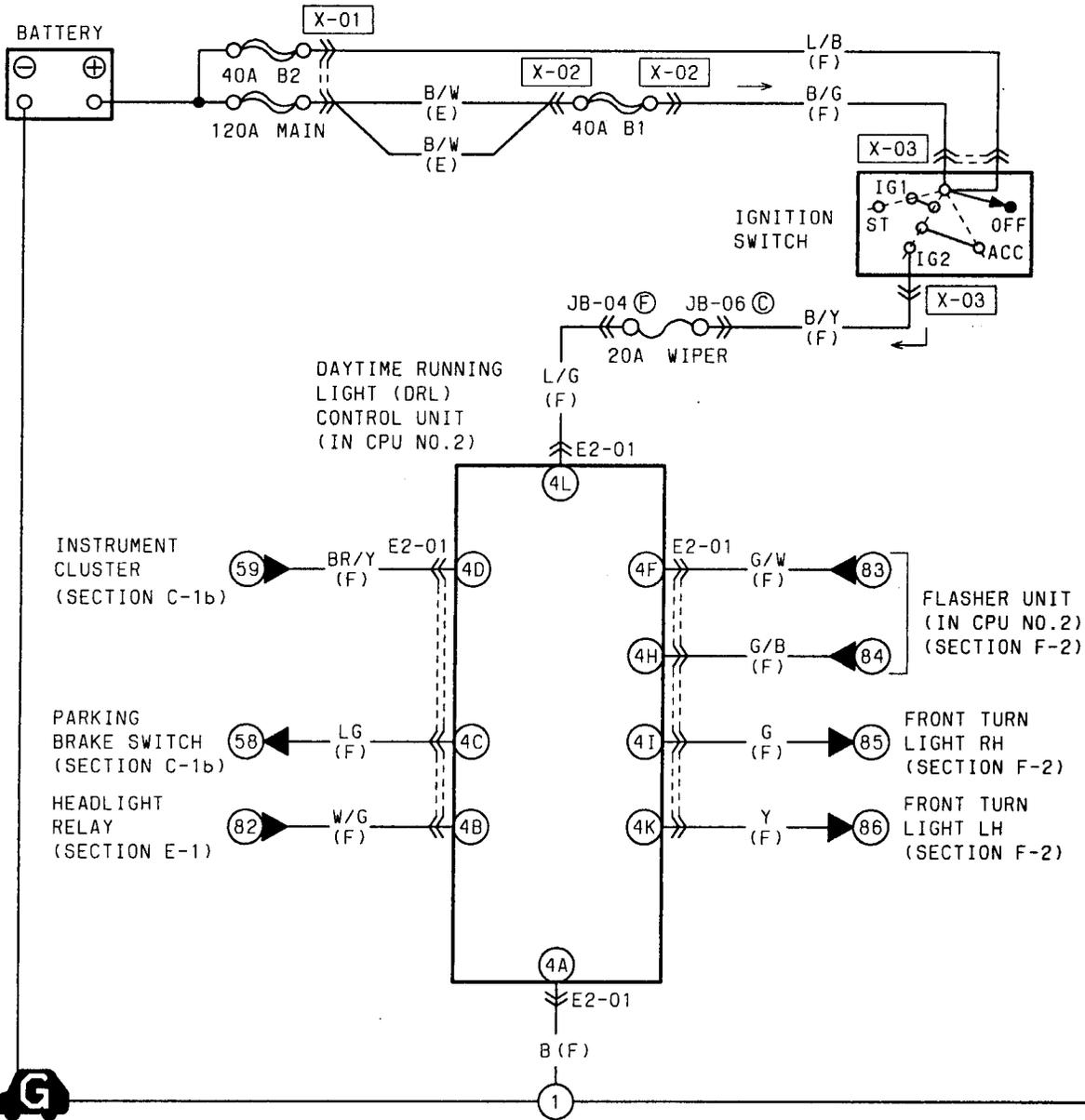
CPU NO.2
 (SECTION J-4)

HAZARD WARNING SWITCH
 (IN HEATER CONTROL UNIT)

<p>F2-01 FLASHER UNIT (F) (IN CPU NO.2)</p> <table border="1"> <tr> <td>3G</td> <td></td> <td>3C</td> <td>3A</td> </tr> <tr> <td>0</td> <td></td> <td>Y</td> <td>G/W</td> </tr> <tr> <td>G/B</td> <td>P/B</td> <td>G</td> <td>B</td> </tr> <tr> <td>3H</td> <td>3F</td> <td>3D</td> <td>3B</td> </tr> </table>	3G		3C	3A	0		Y	G/W	G/B	P/B	G	B	3H	3F	3D	3B	<p>E3-02 FRONT COMBINATION LIGHT (FRONT TURN LIGHT) LH (F)</p> <table border="1"> <tr> <td>Y</td> <td>B</td> <td>R/B</td> </tr> </table>	Y	B	R/B	<p>E3-03 FRONT COMBINATION LIGHT (FRONT TURN LIGHT) RH (F)</p> <table border="1"> <tr> <td>G</td> <td>B</td> <td>R/B</td> </tr> </table>	G	B	R/B	<p>E3-06 REAR COMBINATION LIGHT (REAR TURN LIGHT) LH (R)</p> <table border="1"> <tr> <td>G/B</td> <td>R/B</td> </tr> <tr> <td>B</td> <td>G</td> </tr> </table>	G/B	R/B	B	G
3G		3C	3A																										
0		Y	G/W																										
G/B	P/B	G	B																										
3H	3F	3D	3B																										
Y	B	R/B																											
G	B	R/B																											
G/B	R/B																												
B	G																												
<p>E3-07 REAR COMBINATION LIGHT (REAR TURN LIGHT) RH (R)</p> <table border="1"> <tr> <td>G/W</td> <td>R/B</td> </tr> <tr> <td>B</td> <td>G</td> </tr> </table>	G/W	R/B	B	G	<p>G-06 HAZARD WARNING SWITCH (IN HEATER CONTROL UNIT) (I)</p> <table border="1"> <tr> <td>BR</td> <td>B</td> <td>L/G</td> <td>V/P</td> <td>W</td> <td>Y</td> <td>R/L</td> <td>B/Y</td> </tr> <tr> <td>R</td> <td>0</td> <td>*</td> <td>*</td> <td>R/G</td> <td>R/B</td> <td>*</td> <td>*</td> </tr> </table>			BR	B	L/G	V/P	W	Y	R/L	B/Y	R	0	*	*	R/G	R/B	*	*						
G/W	R/B																												
B	G																												
BR	B	L/G	V/P	W	Y	R/L	B/Y																						
R	0	*	*	R/G	R/B	*	*																						

F1

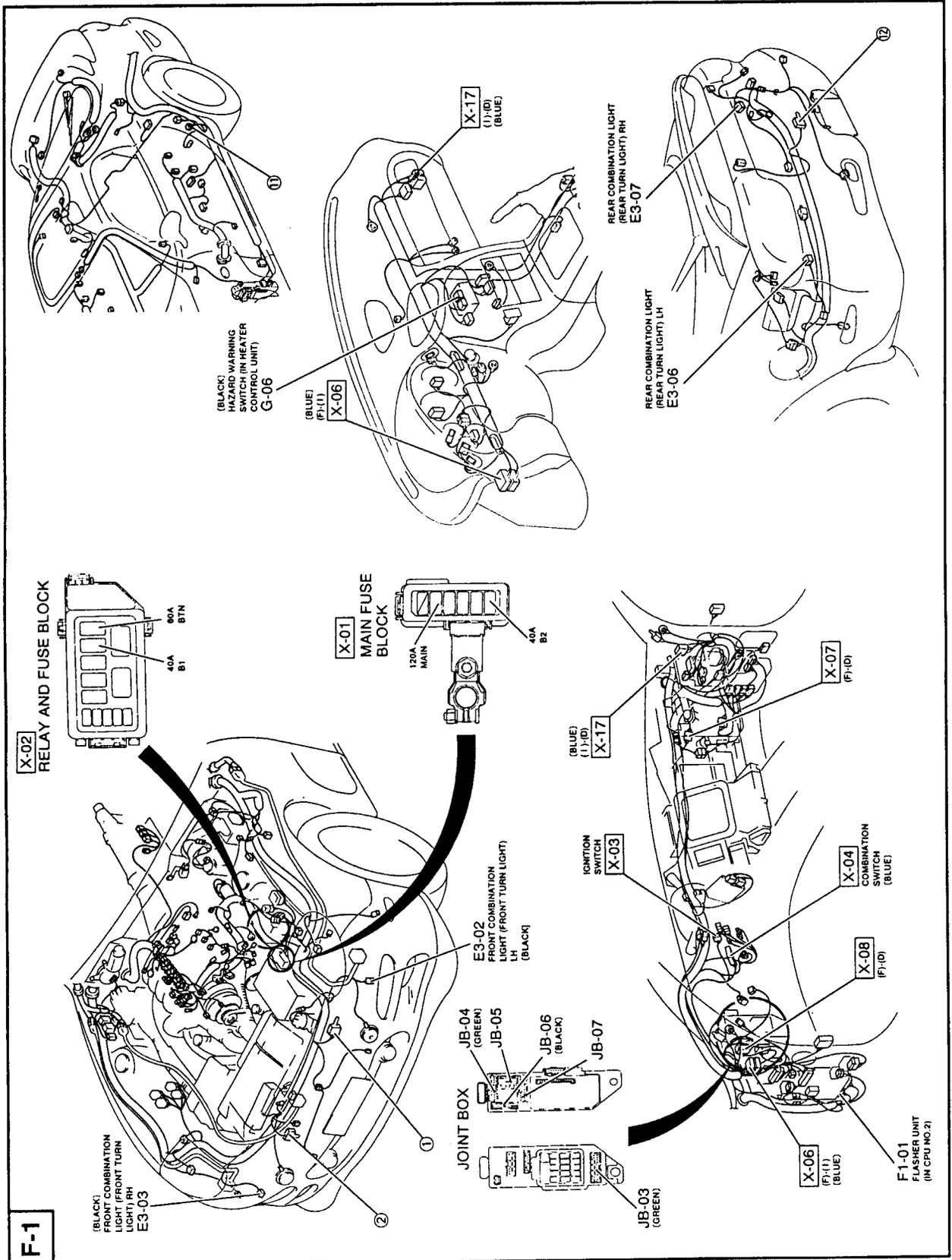
E-2 CANADA ■ DAYTIME RUNNING LIGHT (DRL) CONTROL SYSTEM



E2-01 DAYTIME RUNNING LIGHT (DRL) CONTROL UNIT (IN CPU NO.2) (F)

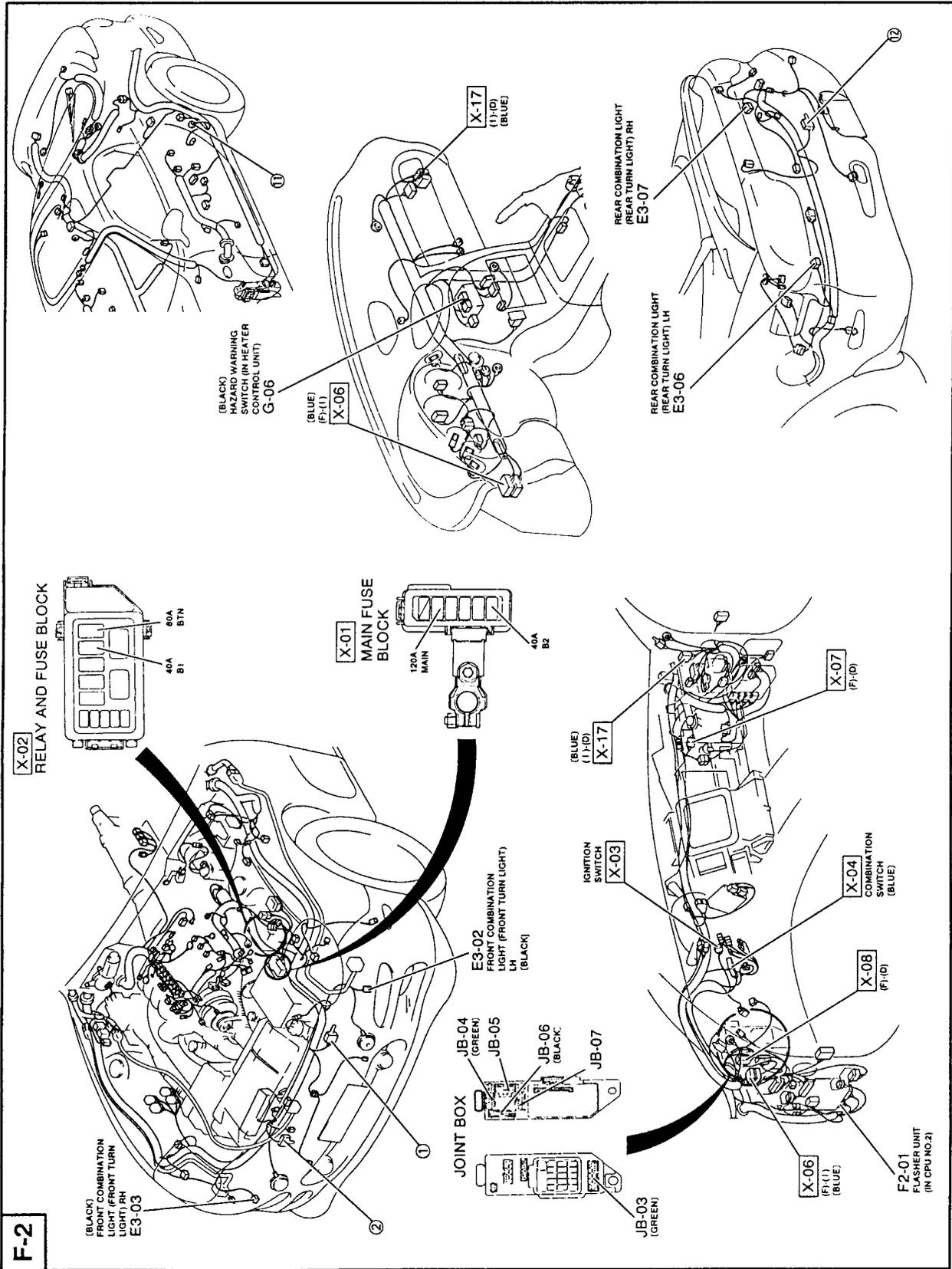
4K	4I		4C	4A
Y	G		LG	B
L/G	*	G/B	G/W	BR/Y
4L	4J	4H	4F	4D
				4B

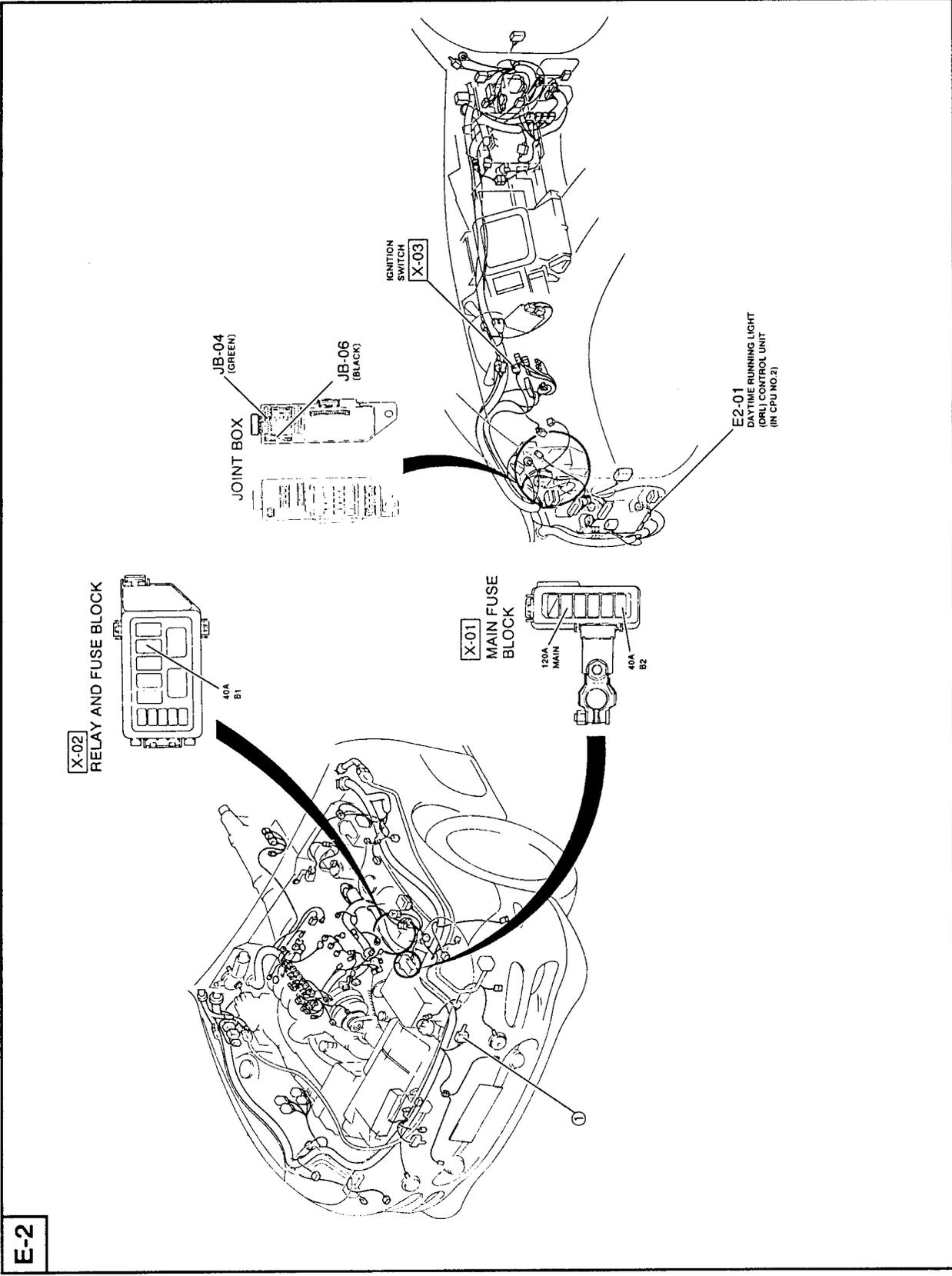
Connector locations



F-1

F1





E-2

Checklist

Procedure / Proper operation	Symptom	Flowchart No. (page)
1. Set turn switch to right turn and verify that right turn lights flash.	Turn signal and hazard warning functions do not operate	1 (F1-13)
2. Set turn switch to left turn and verify that left turn lights flash.	Turn signals do not operate, but hazard warning function operates	2 (F1-14)
3. Turn hazard warning switch on and verify that all turn lights flash simultaneously.	Hazard warning function does not operate, but turn signals operate	3 (F1-15)
	Turn signal and hazard warning functions on one side do not operate	4 (F1-16)
	Turn signal and hazard warning functions operate normally, but do not function as daytime running lights (Canada)	5 (F1-17)
	Daytime running lights are not cancelled by pulling up the parking brake lever (Canada)	6 (F1-18)
	Daytime running lights operate normally, but front turn signal function does not operate (Canada)	7 (F1-18)
	Turn signal and hazard warning lights flash too quickly or remain illuminated	8 (F1-18)

47UF1X-506

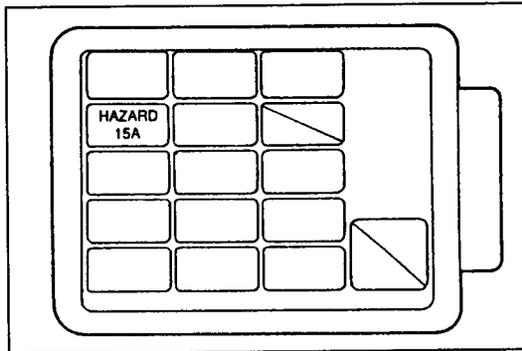
Memo

Flowchart No.1	Symptom	Turn signal and hazard warning functions do not operate
-----------------------	----------------	---

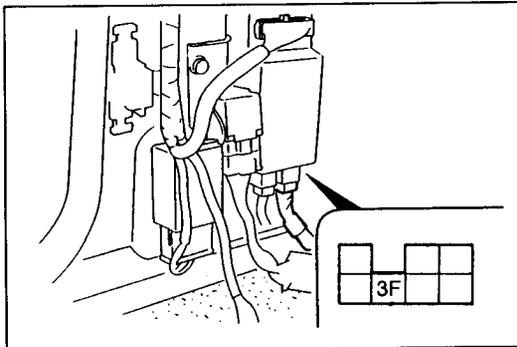
Possible cause

- Burnt HAZARD 15A fuse
- Damaged flasher unit
- Open or short circuit in wiring harness
- Poor connection of connector

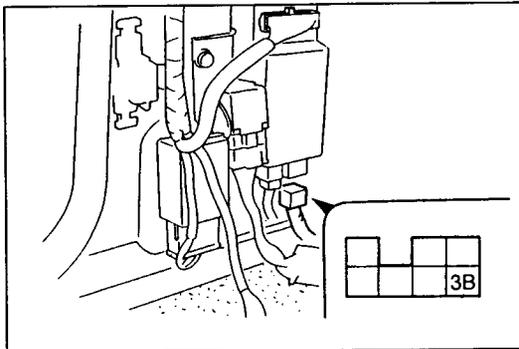
47UF1X-507



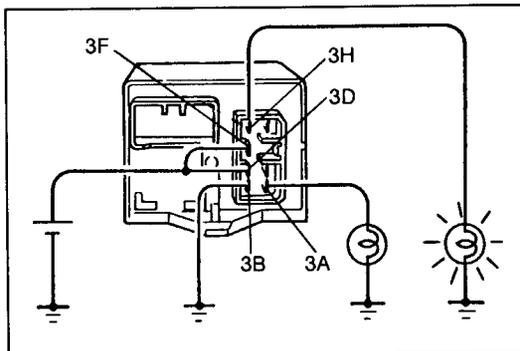
47UF1X-508



47UF1X-509



47UF1X-510



47UF1X-511

Step 1

Check the HAZARD 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

Measure the voltage at terminal 3F (P/B) of the flasher unit connector (7-pin) in CPU No.2.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (HAZARD 15A fuse—Flasher unit)

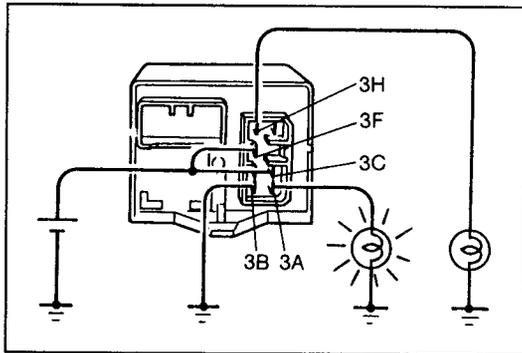
Step 3

1. Disconnect the flasher unit connector.
2. Check for continuity between terminal 3B (B) of the flasher unit connector (7-pin) and ground.

Continuity	Action
No	Repair wiring harness (Flasher unit—GND)
Yes	Go to Step 4

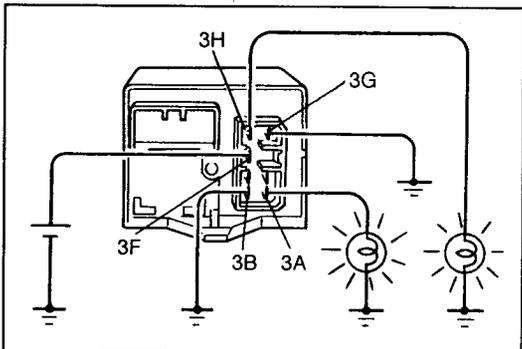
Step 4

1. Remove CPU No.2. (Refer to section Z2.)
2. Connect test lights (27W) between terminals 3A and 3H of the flasher unit and ground as shown.
3. Apply battery positive voltage to terminal 3F and connect terminal 3B to ground.
4. Apply battery positive voltage to terminal 3D and verify that the test light connected to terminal 3H flashes.



47UF1X-512

5. Apply battery positive voltage to terminal 3C and verify that the test light connected to terminal 3A flashes.



47UF1X-513

6. Connect terminal 3G to ground and verify that both test lights flash.

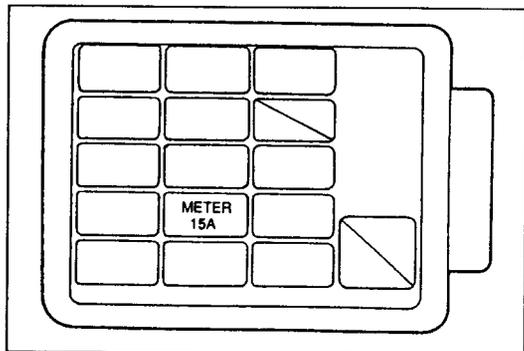
7. If not as specified, replace the flasher unit.
(Refer to section Z2.)

Flowchart No.2	Symptom	Turn signals do not operate, but hazard warning function operates
-----------------------	----------------	---

Possible cause

- Burnt METER 15A fuse
- Damaged turn switch
- Damaged flasher unit
- Open or short circuit in wiring harness
- Poor connection of connector

47UF1X-514

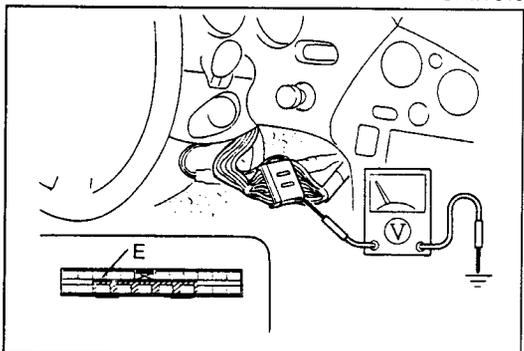


47UF1X-515

Step 1

Check the METER 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



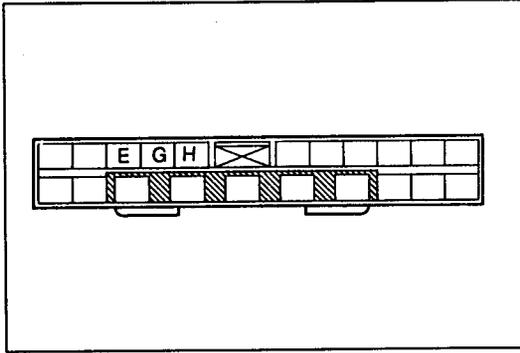
47UF1X-516

Step 2

1. Pull down the combination switch harness for access to the connector (21-pin).
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal E (B/Y) of the 21-pin connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (METER 15A fuse—Combination switch)



47UF1X-517

Step 3

1. Disconnect the combination switch connector (21-pin).
2. Operate the turn switch and check for continuity between the terminals as follows.

Terminal	E	H	G
Switch			
LEFT	○—○	○—○	
OFF			
RIGHT	○—○		○—○

○—○ : Continuity

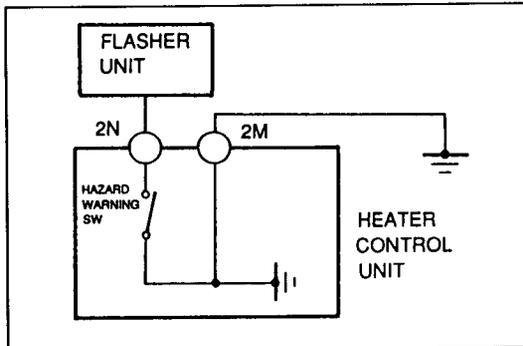
3. If correct, inspect the flasher unit. (Refer to page F1-25.)
4. If not as specified, replace the combination switch. (Refer to section Z4.)

Flowchart No.3	Symptom	Hazard warning function does not operate, but turn signals operate
-----------------------	----------------	--

Possible cause

- Damaged hazard warning switch
- Damaged flasher unit
- Open or short circuit in wiring harness
- Poor connection of connector

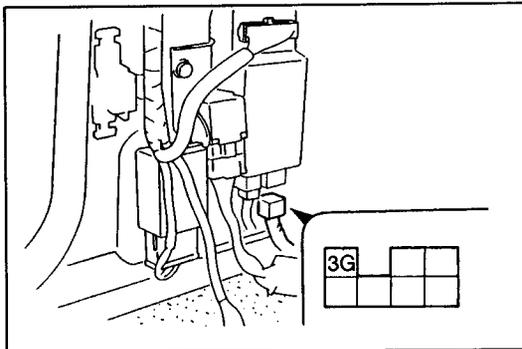
47UF1X-518



47UF1X-519

Step 1

1. Remove the center panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the heater control unit connector.
3. Turn the hazard warning switch on.
4. Check for continuity between terminals 2N and 2M.
5. If there is continuity, connect the heater control unit connector and go to Step 2.
6. If there is no continuity, replace the hazard warning switch. (Refer to section G.)



47UF1X-520

Step 2

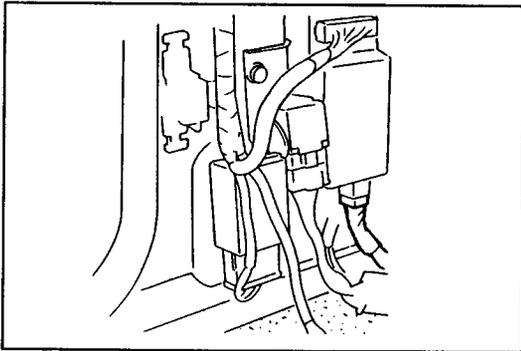
1. Remove the flasher unit. (Refer to section Z2.)
2. Turn the hazard warning switch on.
3. Check for continuity between terminal 3G (O) of the flasher unit connector in CPU No.2 (7-pin) and ground.
4. If there is continuity, verify that the hazard warning switch is installed properly and/or inspect the flasher unit. (Refer to page F1-25.)
5. If there is no continuity, repair the wiring harness (flasher unit—hazard warning switch).

Flowchart No.4	Symptom	Turn signal and hazard warning functions on one side do not operate
-----------------------	----------------	---

Possible cause

- Damaged flasher unit
- Open or short circuit in wiring harness
- Poor connection of connector

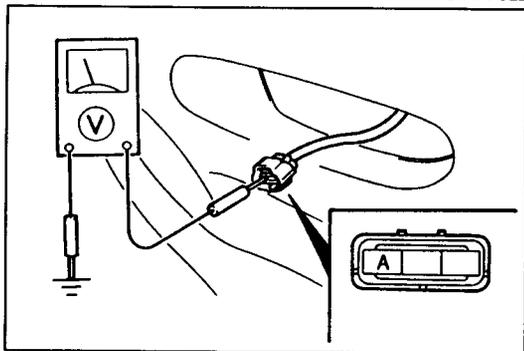
47UF1X-521



47UF1X-522

Step 1

1. Remove and inspect the flasher unit in CPU No. 2.
(Refer to page F1-25.)
2. If OK, install the flasher unit and go to Step 2.
3. If defective, replace the flasher unit.
(Refer to section Z3.)



47UF1X-523

Step 2

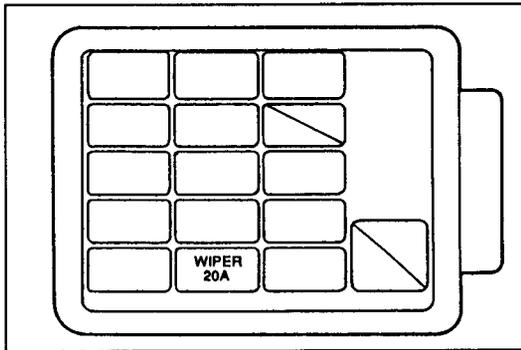
1. Turn the hazard warning switch on.
2. Measure the voltage at the terminal of the turn signal light connector on the inoperative side.
Right: terminal A (G/W)
Left: terminal A (G/B)
3. If other than battery positive voltage, repair the wiring harness (flasher unit—turn signal light).

Flowchart No.5	Symptom	Turn signal and hazard warning functions operate normally, but do not function as daytime running lights (Canada)
-----------------------	----------------	---

Possible cause

- Burnt WIPER 20A fuse
- Damaged DRL control unit
- Open or short circuit in wiring harness
- Poor connection of connector

47UF1X-524

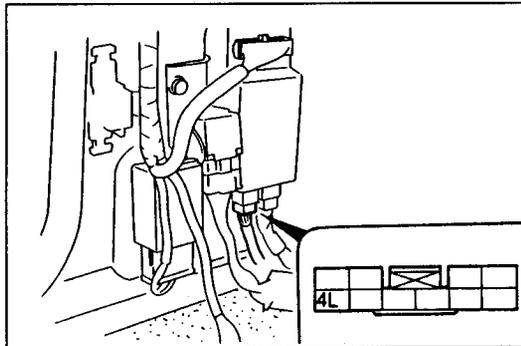


47UF1X-525

Step 1

1. Fully release the parking brake lever and turn the hazard and headlight switches off.
2. Check the WIPER 20A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



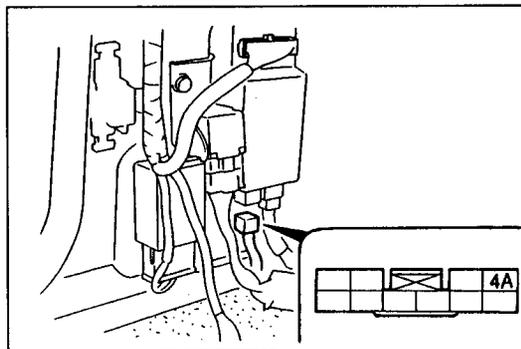
47UF1X-526

Step 2

1. Remove the front side trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal 4L (L/G) of the DRL control unit connector (10-pin) in CPU No.2.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (WIPER 20A fuse—DRL control unit)

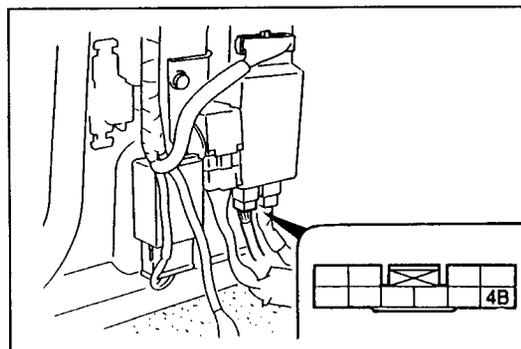


47UF1X-527

Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the DRL control unit connector (10-pin).
3. Check for continuity between terminal 4A (B) of the DRL control unit connector and ground.

Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (DRL control unit—GND)



47UF1X-528

Step 4

1. Turn the headlight switch on.
2. Measure the voltage at terminal 4B (W/G) of the DRL control unit connector (10-pin) in CPU No.2.

B+: Battery positive voltage

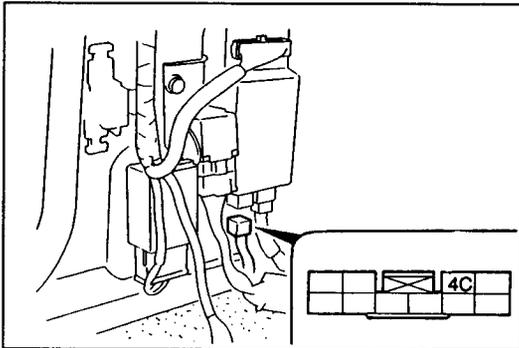
Voltage	Action
B+	Repair wiring harness (DRL control unit—Headlight relay)
Other	Replace DRL control unit (Refer to section Z3)

Flowchart No.6	Symptom	Daytime running lights are not cancelled by pulling up the parking brake lever (Canada)
-----------------------	----------------	---

Possible cause

- Damaged DRL control unit
- Damaged parking brake switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UF1X-529



47UF1X-530

Step 1

1. Pull up the parking brake lever.
2. Check for continuity between terminal 4C (LG) of the DRL control unit connector (10-pin) in CPU No.2 and ground.

Continuity	Action
Yes	Replace DRL control unit (Refer to section Z3)
No	Go to Step 2

Step 2

1. Remove the console panel and rear console. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the parking brake switch connector.
3. Check for continuity between the switch terminal and ground.

Parking brake lever	Continuity
Pulled	Yes
Released	No

4. If correct, repair the wiring harness (parking brake switch—DRL control unit).
5. If not as specified, replace the parking brake switch. (Refer to the 1994 RX-7 Workshop Manual, section P.)

Flowchart No.7	Symptom	Daytime running lights operate normally, but front turn signal function does not operate (Canada)
-----------------------	----------------	---

Possible cause

- Open or short circuit in wiring harness
- Poor connection of connector

Remedy

Repair wiring harness (flasher unit—DRL control unit).

47UF1X-532

Flowchart No.8	Symptom	Turn signal and hazard warning lights flash too quickly or remain illuminated
-----------------------	----------------	---

Possible cause

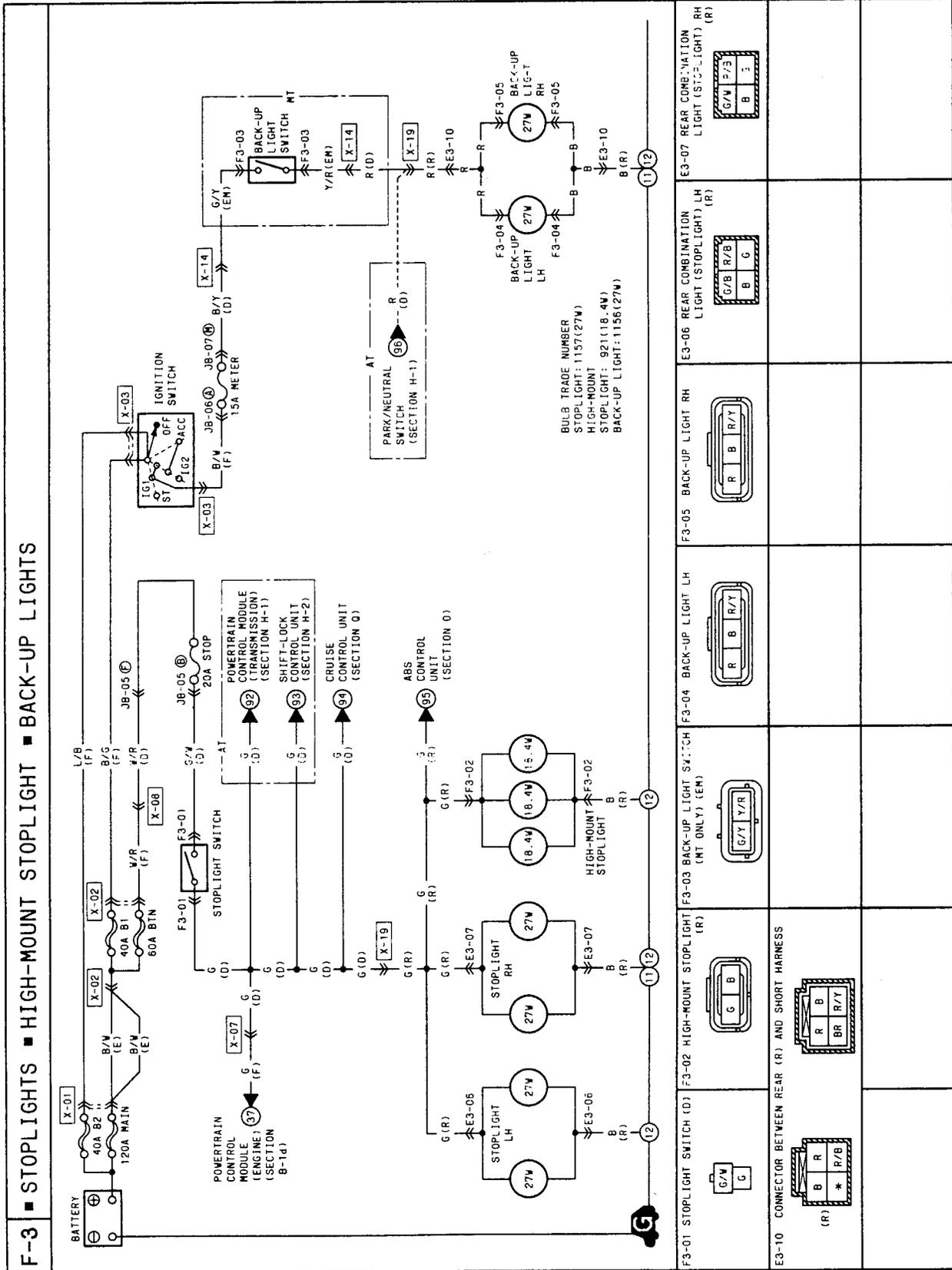
- Burnt bulb
- Damaged flasher unit

Remedy

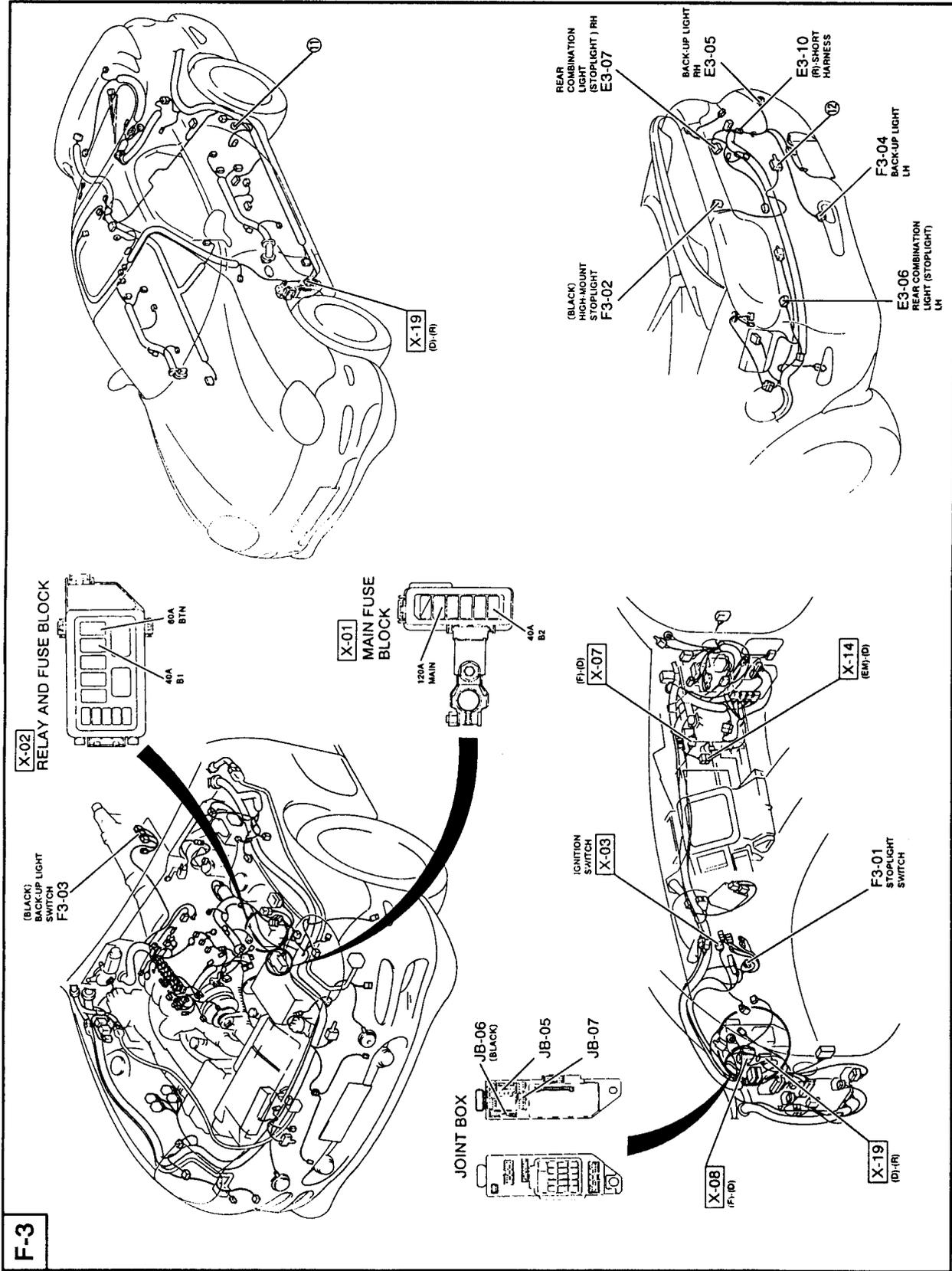
Replace the bulb or inspect the flasher unit. (Refer to page F1-25.)

47UF1X-533

Stoplights / Back-up Lights
Circuit diagram



Connector locations



Checklist

Procedure / Proper operation	Symptom	Flowchart No. (page)
1. Depress brake pedal and verify that stoplight and high-mount stoplight illuminate.	Stoplights do not illuminate	1 (F1-22)
	Stoplight on one side or high-mount stoplight does not illuminate	2 (F1-23)
2. Set shift/selector lever to reverse position and verify that back-up lights illuminate.	Back-up lights do not illuminate	3 (F1-24)

47UF1X-534

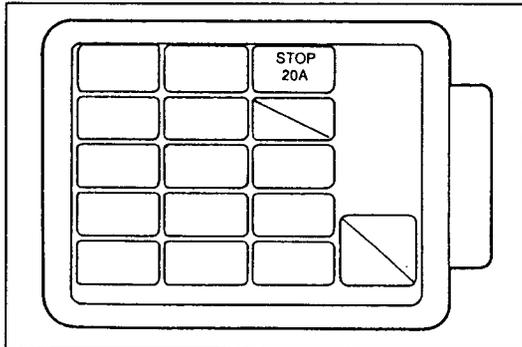
Memo

Flowchart No.1	Symptom	Stoplights do not illuminate
-----------------------	----------------	------------------------------

Possible cause

- Burnt STOP 20A fuse
- Damaged stoplight switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UF1X-535

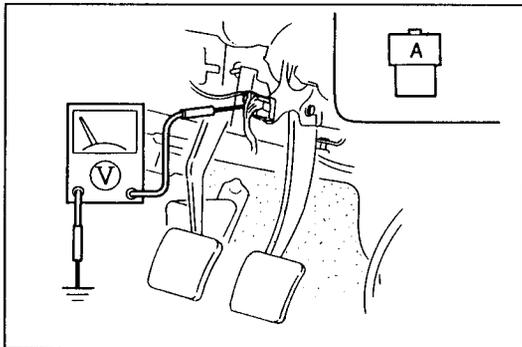


47UF1X-536

Step 1

Check the STOP 20A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



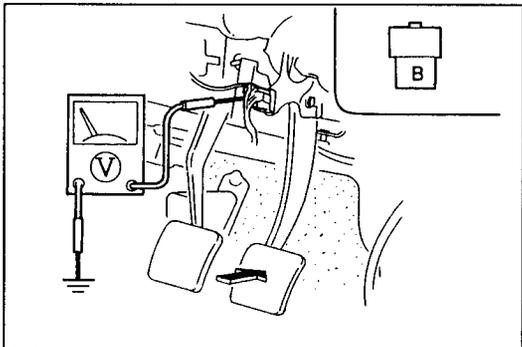
47UF1X-537

Step 2

Measure the voltage at terminal A (G/W) of the stoplight switch connector (2-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (STOP 20A fuse—Stoplight switch)



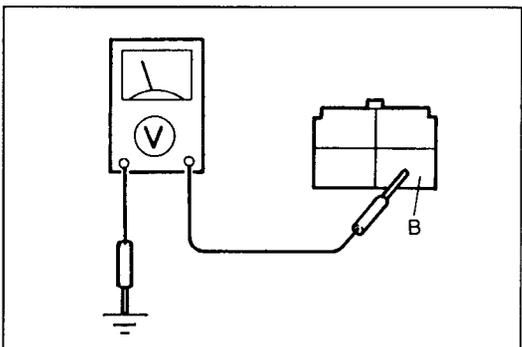
47UF1X-538

Step 3

1. Depress the foot brake to activate the stoplight switch.
2. Measure the voltage at terminal B (G) of the stoplight switch connector (2-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Replace stoplight switch (Refer to page F1-26)



47UF1X-539

Step 4

1. Depress the foot brake to activate the stoplight switch.
2. Measure the voltage at terminal B (G) of the stoplight connector (4-pin).
3. If other than battery positive voltage, repair the wiring harness (stoplight switch—stoplights).

Flowchart No.2

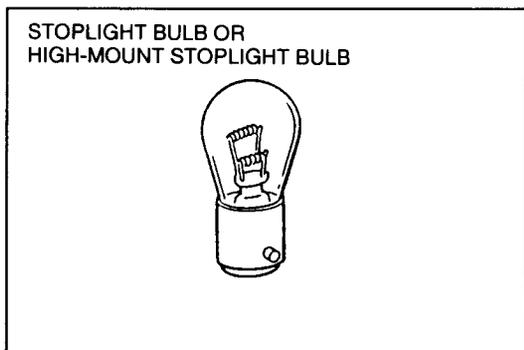
Symptom

Stoplight on one side or high-mount stoplight does not illuminate

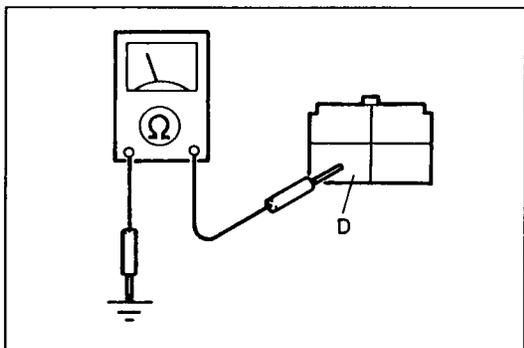
Possible cause

- Burnt bulb
- Open or short circuit in wiring harness

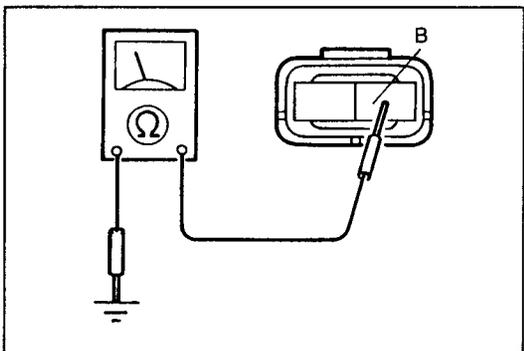
47UF1X-540



47UF1X-541



47UF1X-542



Step 1

Check the stoplight bulb or the high-mount stoplight bulb.

Fuse	Action
OK	Go to Step 2
Burnt	Replace bulb

Step 2

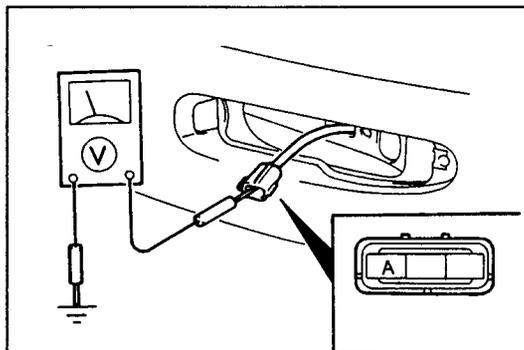
1. Check for continuity between terminal D (B) of the stoplight connector (4-pin) or terminal B (B) of the high-mount stoplight connector (2-pin) and ground.
2. If there is no continuity, repair the wiring harness (stoplight/high-mount stoplight—ground).

Flowchart No.3	Symptom	Back-up lights do not illuminate
-----------------------	----------------	----------------------------------

Possible cause

- Damaged park/neutral switch (AT)
- Damaged back-up light switch (MT)
- Open or short circuit in wiring harness
- Poor connection of connector

47UF1X-543



47UF1X-544

Step 1

1. Turn the ignition switch to ON.
2. Shift the shift [selector] lever to the reverse position.
3. Measure the voltage at terminal A (R) of the back-up light connector (3-pin).

B+: Battery positive voltage

Fuse	Action
B+	Go to Step 2
Other	Repair wiring harness (Back-up light switch [park/neutral switch]—Back-up light)

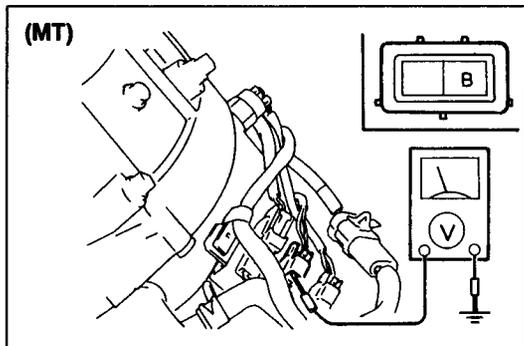
[]: AT

Step 2

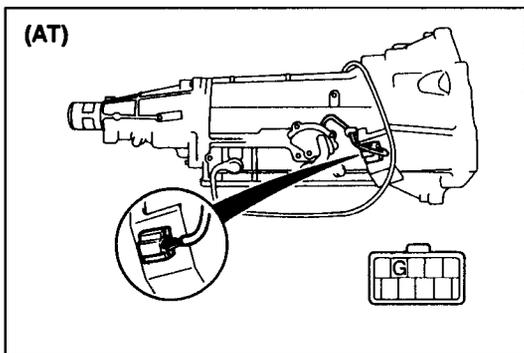
Measure the voltage at terminal B (Y/R) of the back-up light switch (2-pin) or terminal G (R) of the park/neutral switch (9-pin).

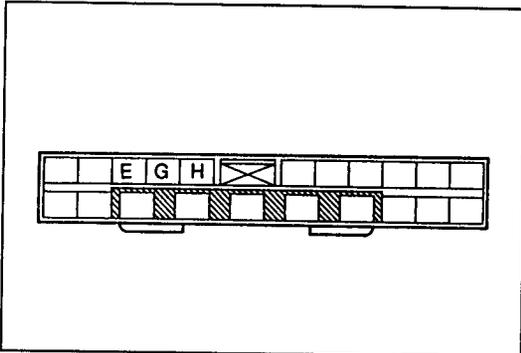
B+: Battery positive voltage

Fuse	Action
B+	Repair wiring harness (Back-up light switch or park/neutral switch—Back-up lights)
Other	Check back-up light switch or park/neutral switch (Refer to page F1-27 and F1-28)



47UF1X-545





47UF1X-546

TURN SWITCH

Inspection

1. Disconnect the combination switch connector (21-pin).
2. Operate the turn switch and check for continuity between the terminals as follows.

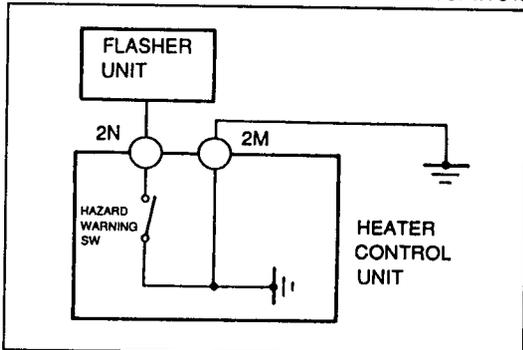
Switch \ Terminal	E	H	G
LEFT	○—○	○—○	
OFF			
RIGHT	○—○		○—○

○—○ : Continuity

HAZARD WARNING SWITCH

Inspection

1. Remove the center panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the heater control unit connector.
3. Turn the hazard warning switch on.
4. Check for continuity between terminals 2N and 2M.
5. If there is no continuity, replace the hazard warning switch. (Refer to section G.)

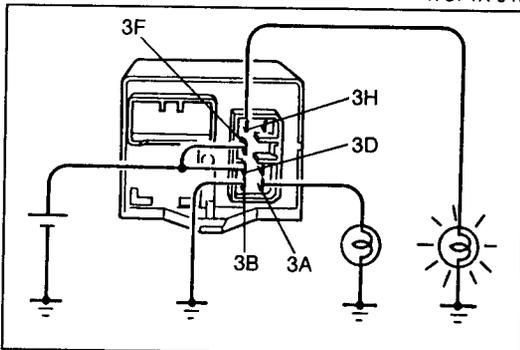


47UF1X-547

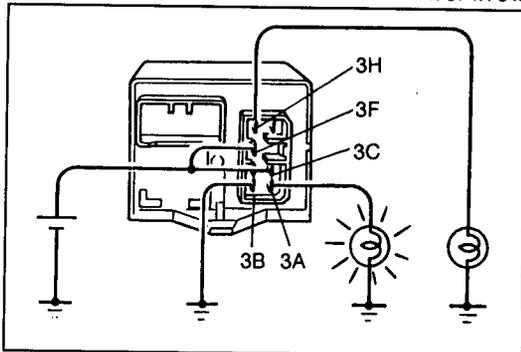
FLASHER UNIT

Inspection

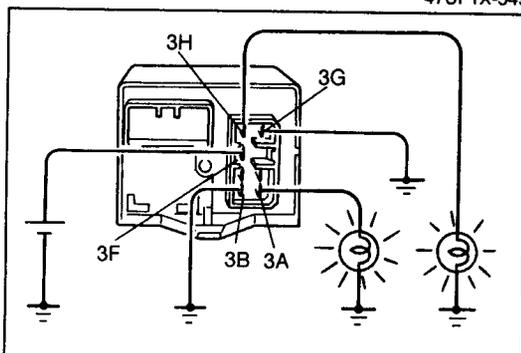
1. Remove CPU No.2. (Refer to section Z2.)
2. Connect test lights (27W) between terminals 3A and 3H of the flasher unit and ground as shown.
3. Apply battery positive voltage to terminal 3F and connect terminal 3B to ground.
4. Apply battery positive voltage to terminal 3D and verify that the test light connected to terminal 3H flashes.
5. Apply battery positive voltage to terminal 3C and verify that the test light connected to terminal 3A flashes.



47UF1X-548

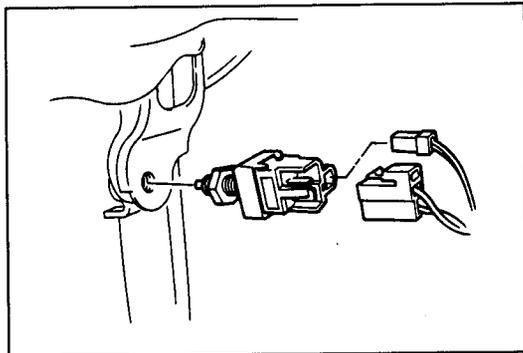


47UF1X-549

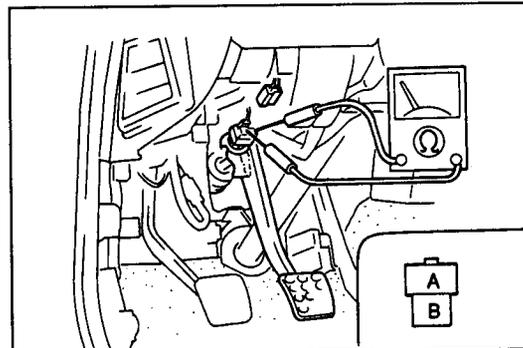


47UF1X-550

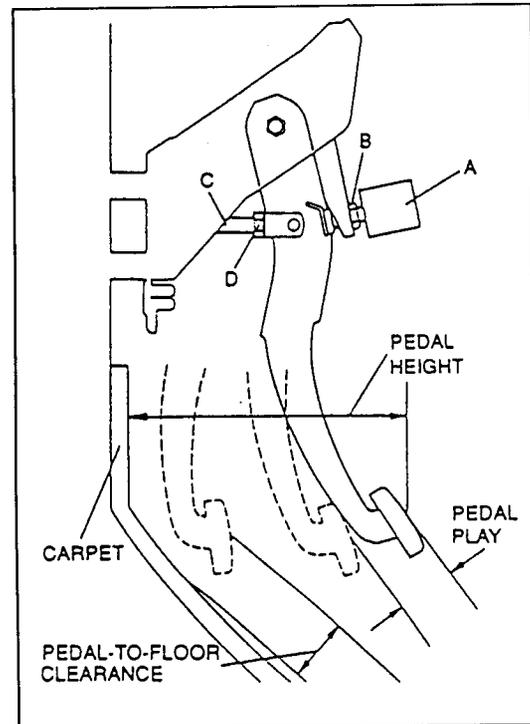
6. Connect terminal 3G to ground and verify that both test lights flash.
7. If not as specified, replace the flasher unit.
(Refer to section Z2.)



47UF1X-551



47UF1X-552



47UF1X-553

STOPLIGHT SWITCH

Removal / Installation

1. Remove the undercover. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the stoplight switch connectors.
3. Loosen stoplight switch locknut and turn the switch out.
4. Install in the reverse order of removal.

Inspection

1. Disconnect the stoplight switch connector.
2. Check for continuity between the terminals of the switch when the brake pedal is depressed.
3. If there is no continuity, adjust or replace the stoplight switch.

Adjustment

1. Disconnect the stoplight switch connector.
2. Loosen locknut B and turn switch A until it does not contact the pedal arm.
3. Loosen locknut D and turn rod C to adjust the height.

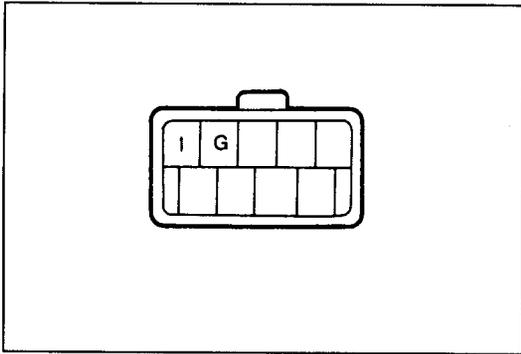
**Pedal height: 164.5—176.0 mm {6.48—6.92 in}
(with carpet)**

4. Adjust the pedal free play and tighten locknut D. (Refer below.)
5. Turn switch A until it contacts the pedal arm; then turn an additional 1/2 turn.
6. Tighten locknut B.

Tightening torque:

13.8—17.6 N·m {140—180 kgf·cm, 122—156 in·lbf}

7. Connect the stoplight switch connector.



47UF1X-554

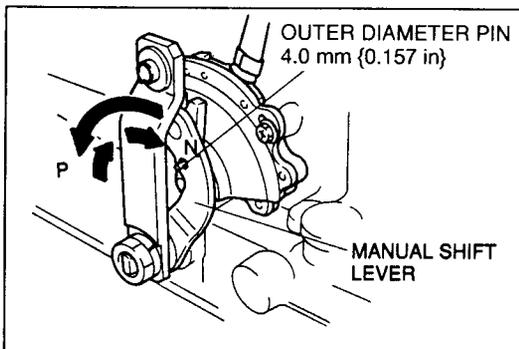
PARK / NEUTRAL SWITCH (AT)

Inspection

1. Disconnect the negative battery cable and disconnect the park/neutral switch connector.
2. Check for continuity between terminals I and G of the park/neutral switch.

Transmission	Continuity
Reverse	Yes
Other	No

3. If not correct, adjust or replace the park/neutral switch.
4. Connect the park/neutral switch connector and the negative battery cable.



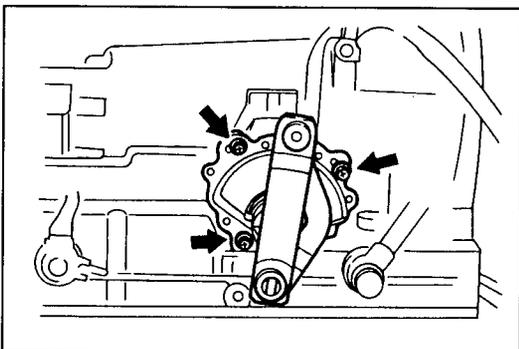
47UF1X-555

Adjustment / Replacement

1. Remove the selector rod from the manual shaft lever.
2. Move the manual shaft to N range position.
3. Loosen the park/neutral switch mounting bolts.
4. Align the holes of the park/neutral switch and the manual shaft by inserting a pin with an outer diameter of approximately 4 mm {0.16 in}.
5. Tighten the park/neutral switch mounting bolts and remove the pin.

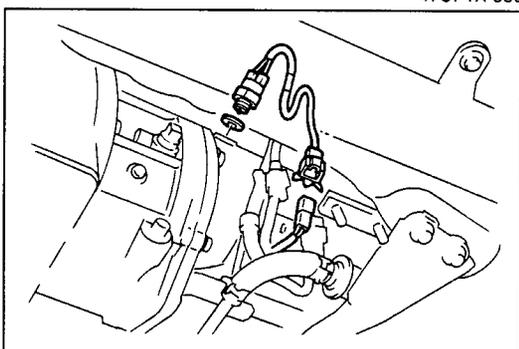
Tightening torque:

2.5—3.9 N·m {25—40 kgf·cm, 22—34 in·lbf}



47UF1X-556

6. Recheck the continuity of the park/neutral switch.
7. If there is no continuity, readjust or replace the park/neutral switch.
8. Install the selector rod to the manual shaft lever.



47UF1X-557

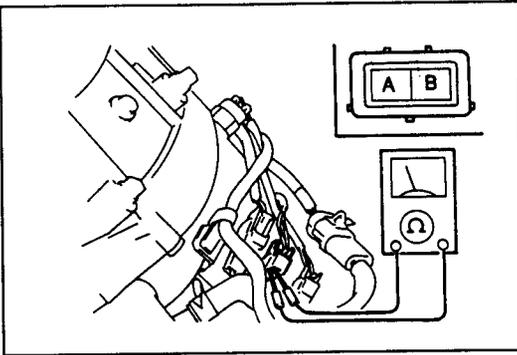
BACK-UP LIGHT SWITCH (MT)

Removal / Installation

1. Disconnect the back-up light switch connector.
2. Turn the back-up light switch counterclockwise and remove the back-up light switch.
3. Install in the reverse order or removal.

Tightening torque:

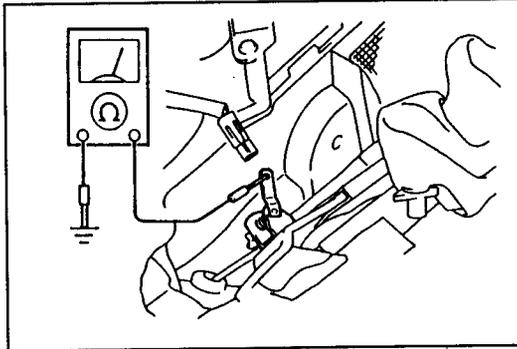
25—34 N·m {2.5—3.5 kgf·m, 19—25 ft·lbf}



47UF1X-558

Inspection

1. Disconnect the back-up light switch connector.
2. Shift the transaxle to reverse.
3. Check for continuity between terminals A and B of the connector.
4. If there is no continuity, replace the back-up light switch.
(Refer to page F1-27.)



47UF1X-559

PARKING BRAKE SWITCH

Inspection

1. Remove the console panel and rear console.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the connector from the parking brake switch.
3. Pull the parking brake lever and check for continuity between the switch terminal and ground.

Parking brake lever	Continuity
Released	No
Pulled	Yes

4. If not as specified, replace the parking brake switch.
(Refer to the 1994 RX-7 Workshop Manual, section P.)

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

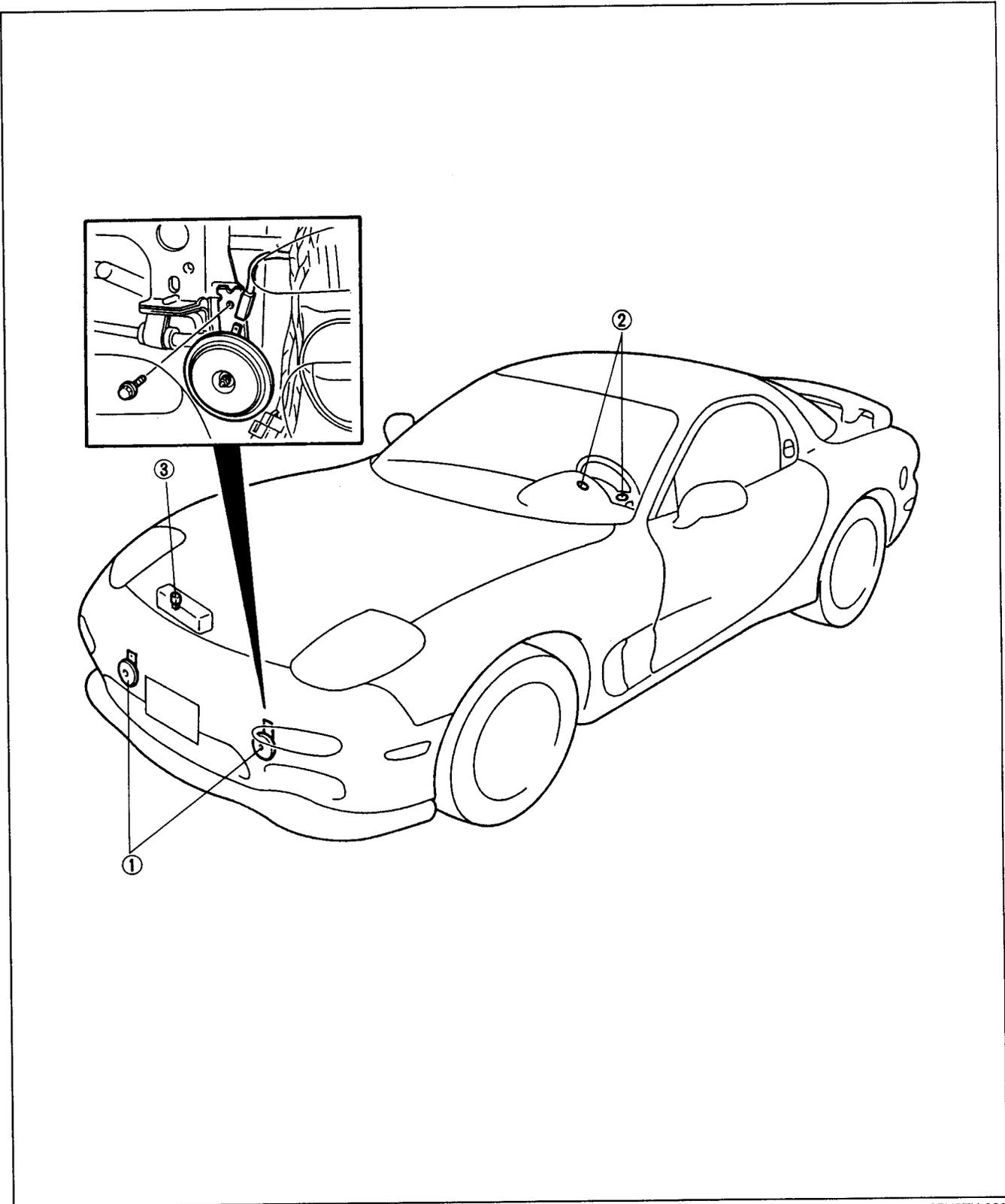
HORN

STRUCTURAL VIEW F2- 2
TROUBLESHOOTING F2- 3
HORN F2- 7
HORN SWITCH F2- 7
HORN RELAY F2- 7

47UF2X-501

HORN

STRUCTURAL VIEW



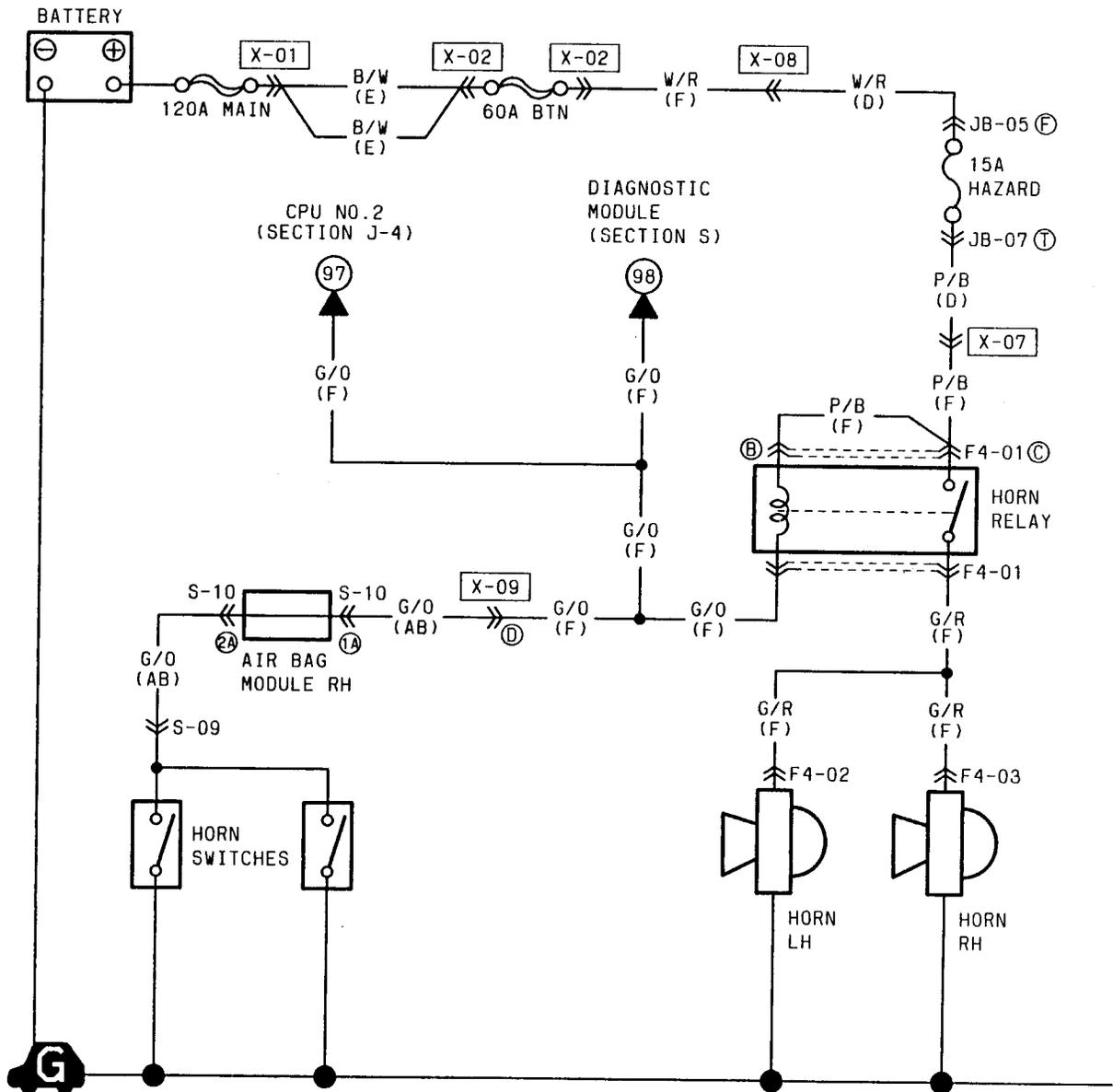
37U0TX-302

1. Horn	
Removal / Installation	F2-7
2. Horn switch	
Inspection	F2-7

3. Horn relay	
Inspection	F2-7

TROUBLESHOOTING
Circuit Diagram

F-4 ■ HORNS



F2

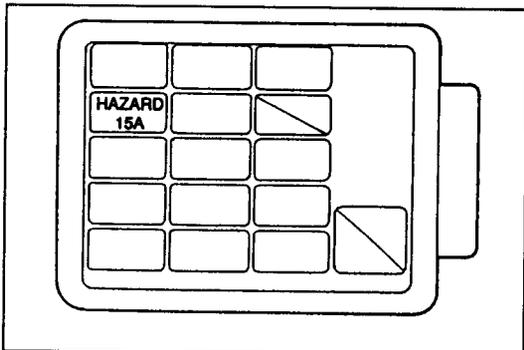
<p>F4-01 HORN RELAY (F)</p>	<p>F4-02 HORN LH (F)</p>	<p>F4-03 HORN RH (F)</p>	<p>S-09 HORN SWITCHES (AB)</p>
<p>S-10 AIR BAG MODULE RH (AB)</p>			

Symptom	Horn does not sound
----------------	---------------------

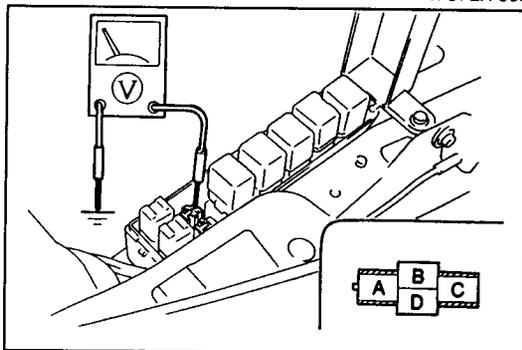
Possible cause

- Burnt HAZARD 15A fuse
- Damaged horn relay
- Open or short circuit in wiring harness
- Poor connection of connector
- Looseness of horn joint

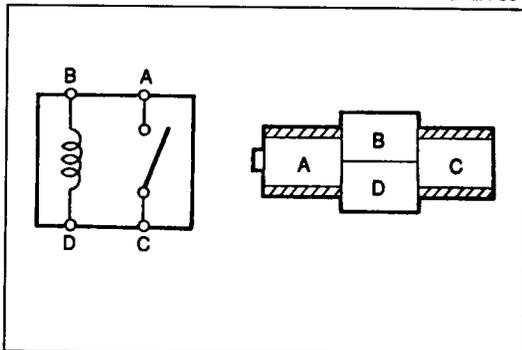
47UF2X-502



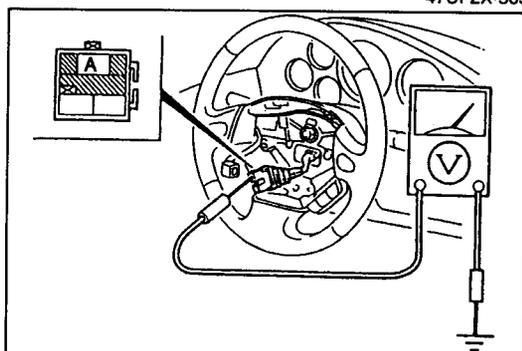
47UF2X-503



47UF2X-504



47UF2X-505



47UF2X-506

Step 1

Check the HAZARD 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

F2

Step 2

1. Remove the horn relay.
2. Measure the voltage at terminals B (P/B) and C (P/B) of the horn relay connector (4-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (HAZARD 15A fuse—Horn relay)

Step 3

1. Check for continuity between the terminals of the horn relay.

B+: Battery positive voltage

Connection		A	C	B	D
B+	GND			○	○
—	—				
B	D	○	○		

○—○ : Continuity

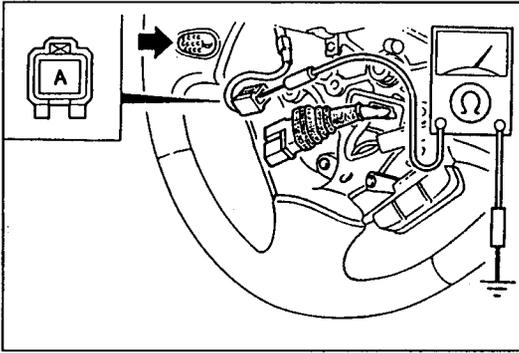
2. If correct, go to Step 4.
3. If not as specified, replace the horn relay.

Step 4

1. Remove the driver-side air bag module and disconnect the horn switch connector. (Refer to section S.)
2. Measure the voltage at terminal A (G/O) of the horn switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Horn relay—Horn switch)

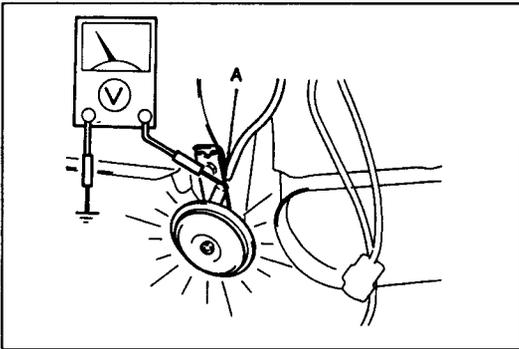


47UF2X-507

Step 5

Check for continuity between terminal A and ground while pressing the horn switch.

Continuity	Action
Yes	Install driver-side air bag module and go to Step 6
No	Replace horn switch



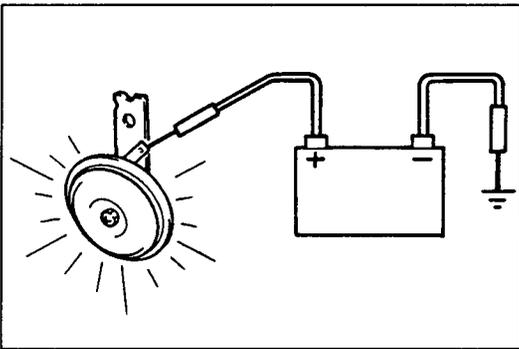
47UF2X-508

Step 6

Measure the voltage at terminal A (G/R) of the right and left horn connectors while pressing the horn switch.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 7
Other	Repair wiring harness (Horn relay—Horn)

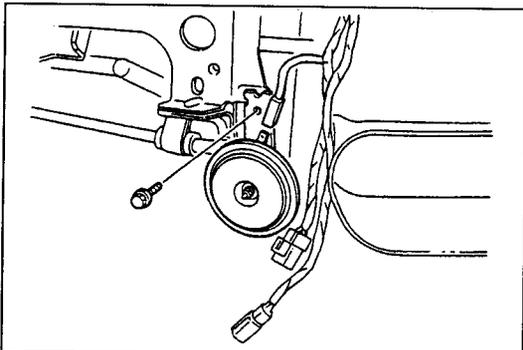


47UF2X-509

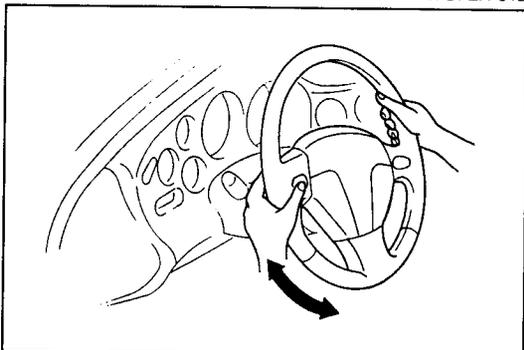
Step 7

Apply battery positive voltage to the horn terminals (RH and LH), and verify that the horn sounds.

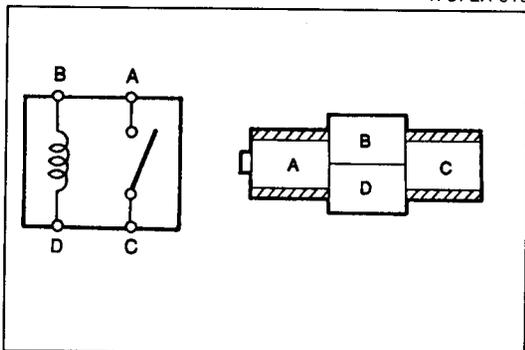
Horn	Action
Sounds	Visually inspect the horn joint for looseness
Does not sound	Replace horn (Refer to page F2-7)



47UF2X-012



47UF2X-510



47UF2X-511

HORN
Removal / Installation

1. Remove the front bumper.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the bolt and the horn.
3. Install in the reverse order of removal.

HORN SWITCH
Inspection

1. Press the horn switch with the steering wheel at any position and verify that the horn sounds.
2. If the horn does not sound, troubleshoot the horn system.

F2

HORN RELAY
Inspection

1. Remove the horn relay.
2. Check for continuity between the terminals of the relay.

B+: Battery positive voltage

Connection		A	C	B	D
B+	GND			○—○	○—○
—	—				
B	D	○—○	○—○		

○—○ : Continuity

3. If not as specified, replace the horn relay.

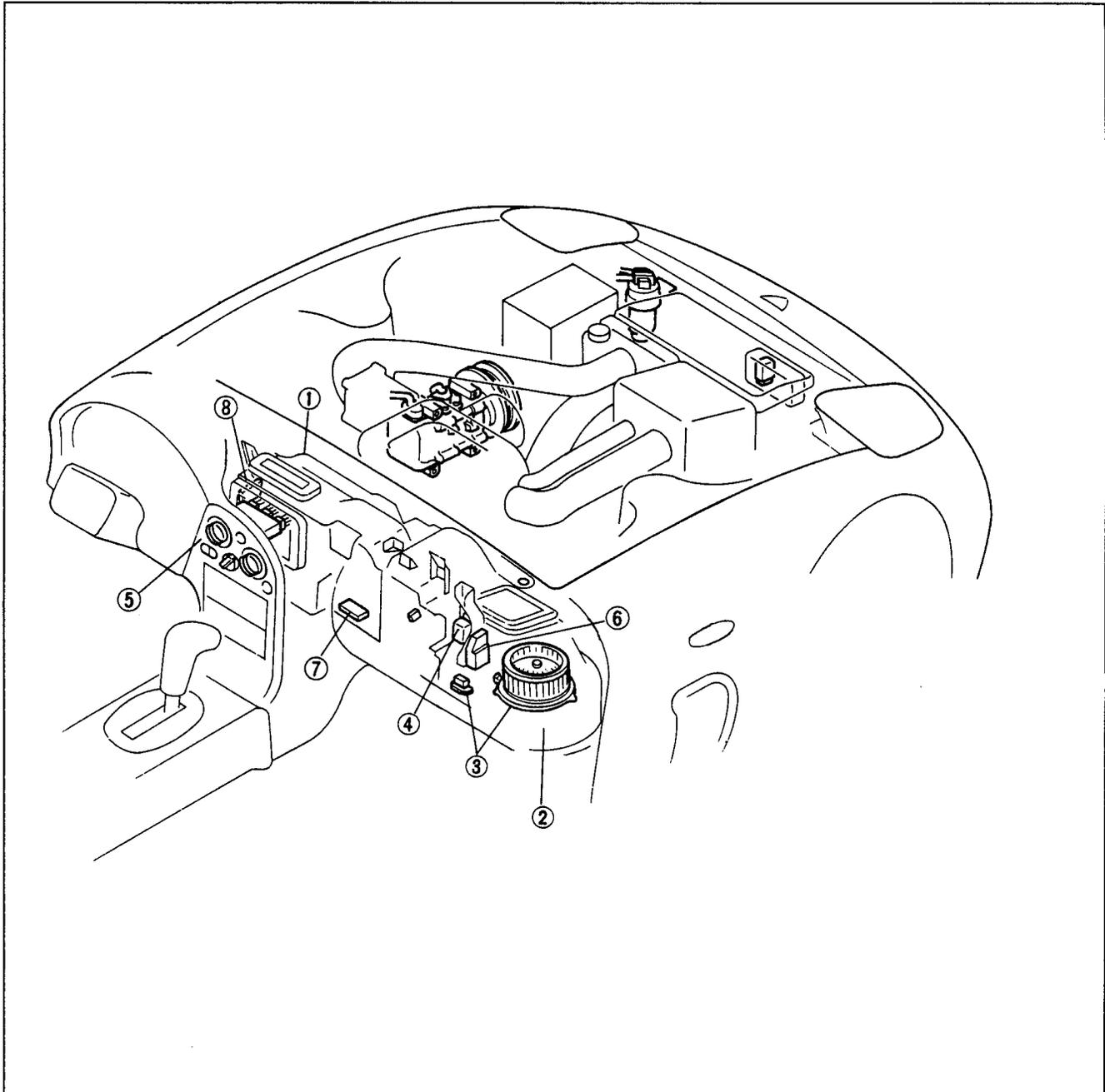
Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

HEATER AND AIR CONDITIONER SYSTEMS

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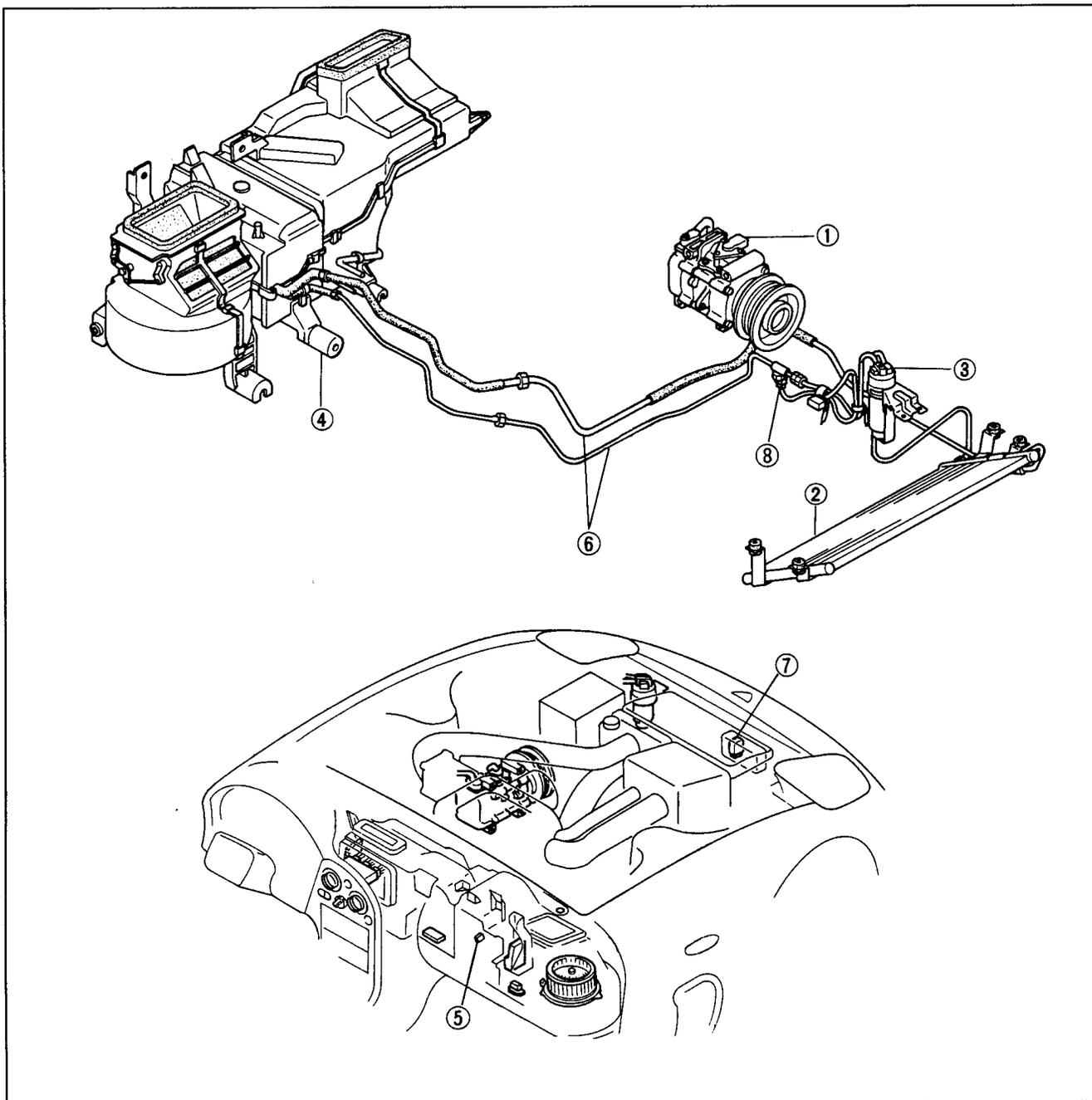
HEATER



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AIR CONDITIONER



G

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CAUTIONARY POINTS FOR MAINTENANCE

REFRIGERANT-134a (R-134a)

Outline

- R-12 and other fluorocarbons now used in air conditioners can destroy the ozone layer in the stratosphere. The result is an increase in hazardous ultraviolet rays which over time can adversely affect both human health and the biosphere. Because of this concern, Mazda has chosen to use Refrigerant-134a (R-134a), a hydrofluorocarbon-based refrigerant that does not deplete the ozone layer, in this vehicle.
- R-12 and R-134a are not interchangeable, system parts and system service tools also differ. The table below compares the two systems.

47U0GX-504

Refrigerant Systems

Part	R-12 system	R-134a system	Remarks
Refrigerant	Chlorofluorocarbon-12 (CFC-12) (CCl ₂ F ₂)	Hydrofluorocarbon-134a (HFC-134a) (CH ₂ FCF ₃)	If the refrigerants are mixed or one refrigerant is used in a system that requires the other, the compressor oil will separate from the refrigerant and not circulate within the system. This can damage the A/C compressor and refrigerant system. In addition, mixing R-134a with R-12 or using R-134a instead of R-12 in an R-12 system can lower the durability of the NBR O-ring and dissolve the fluorine O-rings. If the fluorine O-rings are dissolved, refrigerant may leak.
Compressor oil	Mineral oil	Polyalkylene glycol oil (PAG oil) [ND-OIL 9]	Special compressor oils for R-134a air conditioning systems are developed by each air conditioning vendor. Therefore, use only the specified oil for each model vehicle. If a PAG oil other than the specified type is used, the A/C compressor and refrigerant system can be damaged. If the compressor oils are mixed or one compressor oil is used in a system that requires the others, the compressor oil will separate from the refrigerant and not circulate within the system. This can damage the A/C compressor and refrigerant system. Mixing PAG oil with mineral oil or using PAG oil instead of mineral oil in an R-12 system can lower the durability of the NBR and fluorine rubber O-rings.
O-ring	Nitrile butadiene rubber (NBR) Fluorine rubber	Rubber in behalf of R-134a (RBR)	If an NBR O-ring is used in an R-134a system, the PAG oil and R-134a will lower the durability of the O-ring. If a fluorine rubber O-ring is used in an R-134a system, the R-134a will dissolve the O-ring and cause the refrigerant to leak.
Joint nuts	Inch threads	Metric threads	Thread standards for joint nuts connecting cooler pipes and hoses have been changed to avoid connecting R-12 system parts with R-134a system parts.
Joint blocks	—	—	The bolt sizes and part measurements for joint blocks connecting cooler pipes and cooler hoses have been changed to avoid connecting R-12 system parts with R-134a system parts.
Charging valve	Screw-on type Hi: 3/8-24UNF Lo: 7/16-20UNF	Quick-connect type Hi: 16mm {0.6 in} dia. Lo: 13mm {0.5 in} dia.	The shape of the charging valve differs for each system to avoid confusion. The quick-connect charging valve prevents refrigerant from leaking when the charging hose is connected to the valve

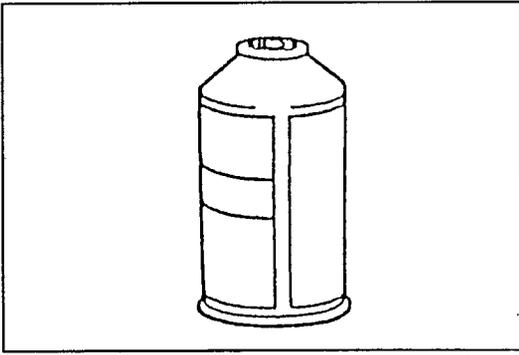
47U0GX-505

Service tools

Part	R-12 system	R-134a system	Remarks
Tool joints	Inch threads	Metric threads	Thread standards for tool joints have been changed to avoid connecting R-12 system tools with R-134a system tools.
Charging valve joints	Screw-on type Hi: 3/8—24 UNF Lo: 7/16—20 UNF	Quick-connect type Hi: 16mm {0.6 in} dia. Lo: 13mm {0.5 in} dia.	The shape of the charging valve joints differ for each system to avoid confusion. The quick-connect type charging valve joint prevents refrigerant from leaking when the charging hose is connected to the valve.
Manifold gauge	High-pressure-side maximum reading: 2.9 MPa {30.0 kgf/cm ² , 430 psi}	High-pressure-side maximum reading: 3.43 MPa {35.0 kgf/cm ² , 500 psi}	R-134a requires a higher pressure to condense than R-12.
Leak tester	Gas type Electric type	Electric type	A gas leak tester reacts with chlorine in R-12 to indicate the location of a leak. This kind of tester does not work with an R-134a system, however, because R-134a has no chlorine. Two kinds of electric tester are available: those that work exclusively with one system or the other, and those that work with both. A tester built only for R-12 systems cannot be used with an R-134a system.

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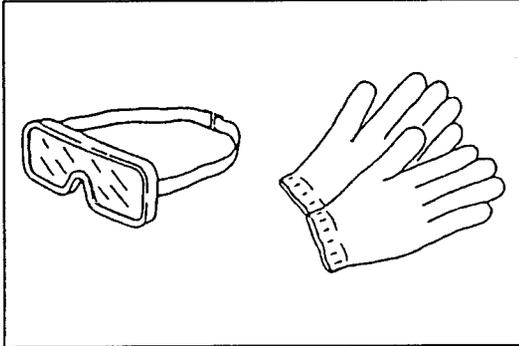


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SERVICE WARNINGS

Storing Refrigerant

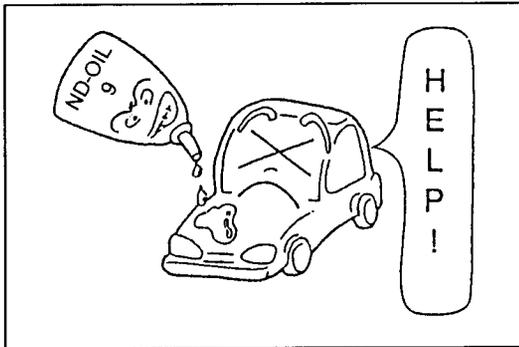
The refrigerant container is highly pressurized. If it is subjected to high heat, it could explode, scattering metal fragments and liquid refrigerant that can seriously injure you. Store the refrigerant at temperatures below 40°C {104°F}.



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Handling Refrigerant

Handling liquid refrigerant is dangerous. A drop of it on the skin can result in localized frostbite. When handling the refrigerant, wear gloves and safety goggles. If refrigerant splashes into the eyes, immediately wash them with clean water and consult a doctor.

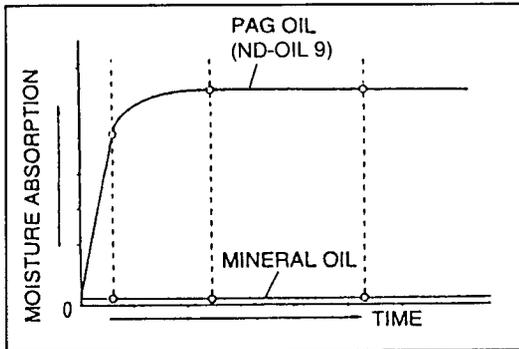


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SERVICE CAUTIONS

Compressor Oil (ND-OIL9)

Do not spill compressor oil on the vehicle. A drop of compressor oil on the vehicle surface can eat away at the paint. If oil gets on the vehicle, wipe it off immediately.

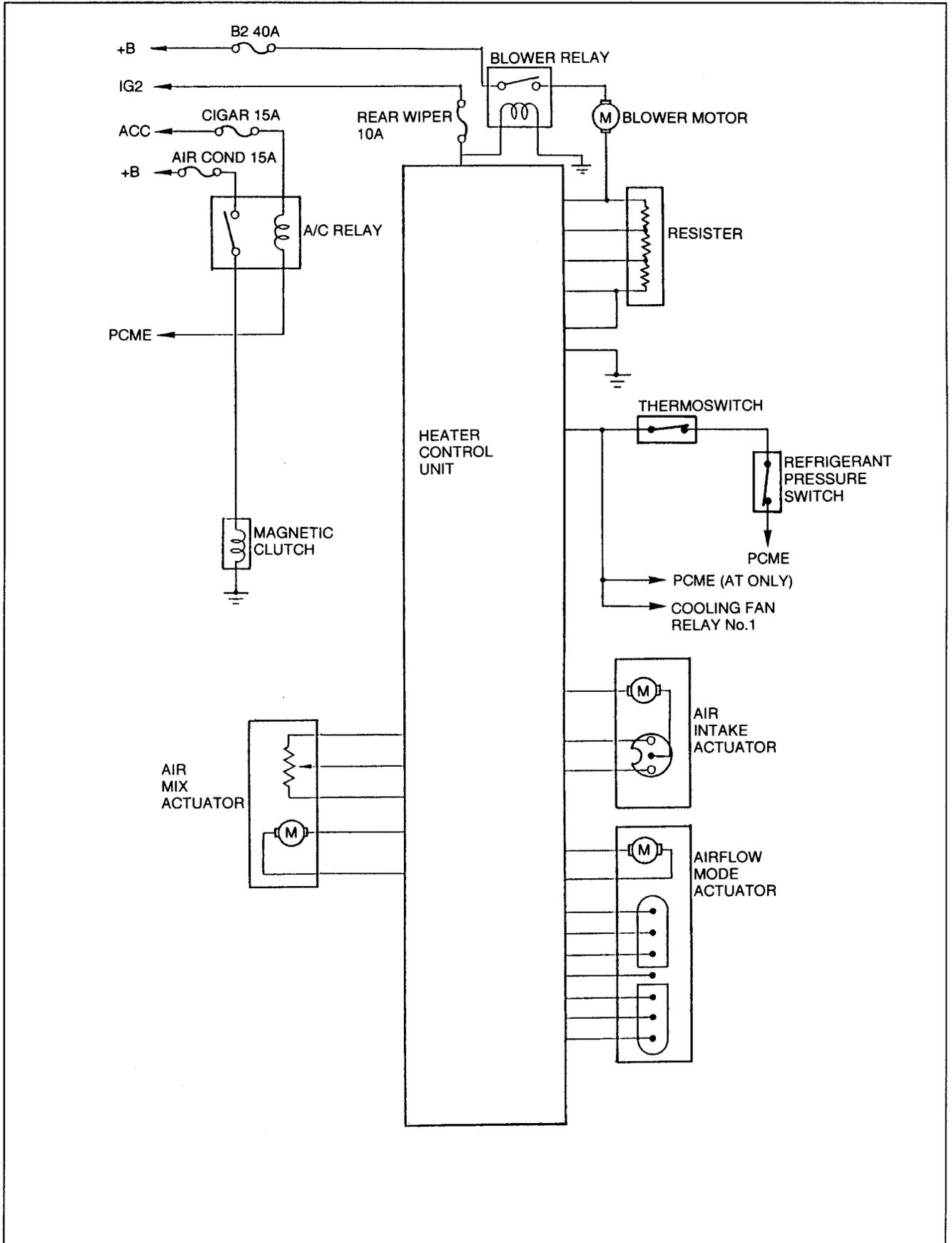


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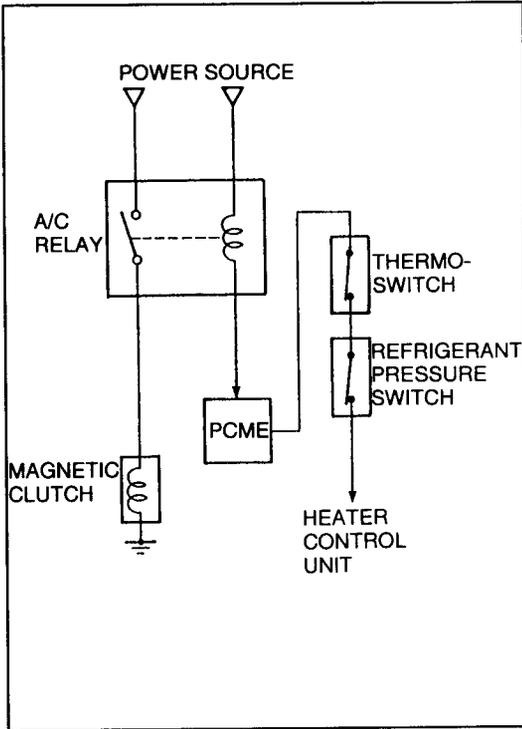
PAG compressor oil (ND-OIL9) has a higher moisture absorption efficiency than the previously used mineral oil. If moisture mixes with the compressor oil, the refrigerant system could be damaged. Therefore, install caps immediately after using the compressor oil or removing refrigerant system parts to prevent moisture absorption.

CONTROL OUTLINE

SYSTEM DIAGRAM



G



47U0GX-513

SYSTEM OPERATION

Refrigerant Cycle Control

On/Off operation of the A/C compressor is done with the A/C relay, refrigerant pressure switch, magnetic clutch, and thermostwitch.

A/C relay

The A/C relay opens and closes the circuit in conjunction with the PCME to prevent engine overloading. (Refer to the 1994 RX-7 Workshop Manual, section F.)

Refrigerant pressure switch

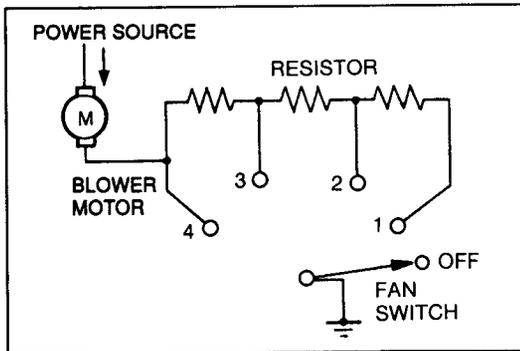
The refrigerant pressure switch opens and closes on pressure changes in the refrigerant. If problems occur in the refrigeration system causing abnormally high or low pressure, the refrigerant pressure switch cuts power to the magnetic clutch to protect the mechanical components.

Magnetic clutch

The A/C compressor is belt-driven from the crankshaft via the magnetic clutch. When the circuit is open, the magnetic clutch disengages and transmits no torque to the A/C compressor. When the circuit is closed, it engages to operate the A/C compressor.

Thermostwitch

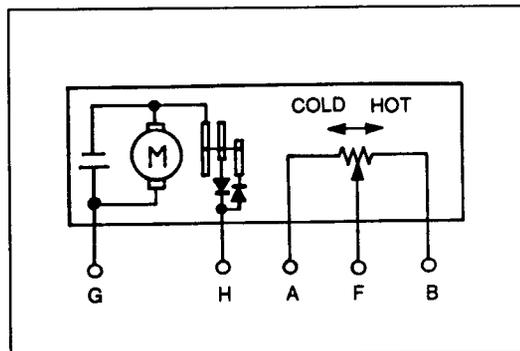
The thermostwitch opens and closes on changes of the evaporator temperature. It controls the evaporator temperature slightly above freezing to prevent evaporator icing and blockage of airflow.



47U0GX-514

Blower Speed Control

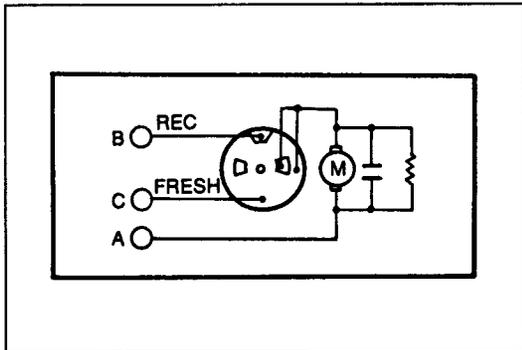
Blower motor operation is controlled by the fan switch and resistor. When the switch is in the first position, current flows from the blower motor is restricted by three resistors. In the second position one of the resistors is bypassed and current flow is restricted by the two remaining resistors. Current flow is restricted by a single resistor in the third position and by no resistor in the fourth position. The blower speed is controlled by setting the fan switch to the selected position.



47U0GX-515

Temperature Control

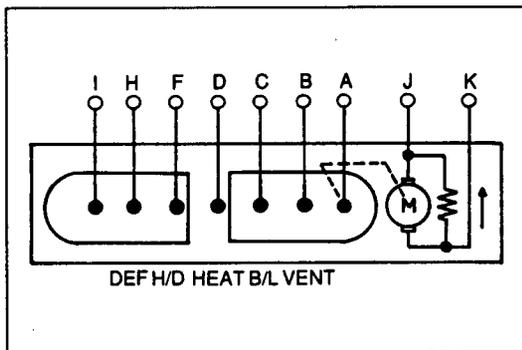
Temperature blend door movement is controlled by the air mix actuator. It positions the blend door on command from the heater control unit. The actual blend door position is determined by the feedback signals from the potentiometer in the air mix actuator.



47U0GX-516

Inlet Airflow Control

Inlet airflow (recirculation or fresh) is determined by the intake door positions. The air intake actuator controls the door movements by a servomechanism.



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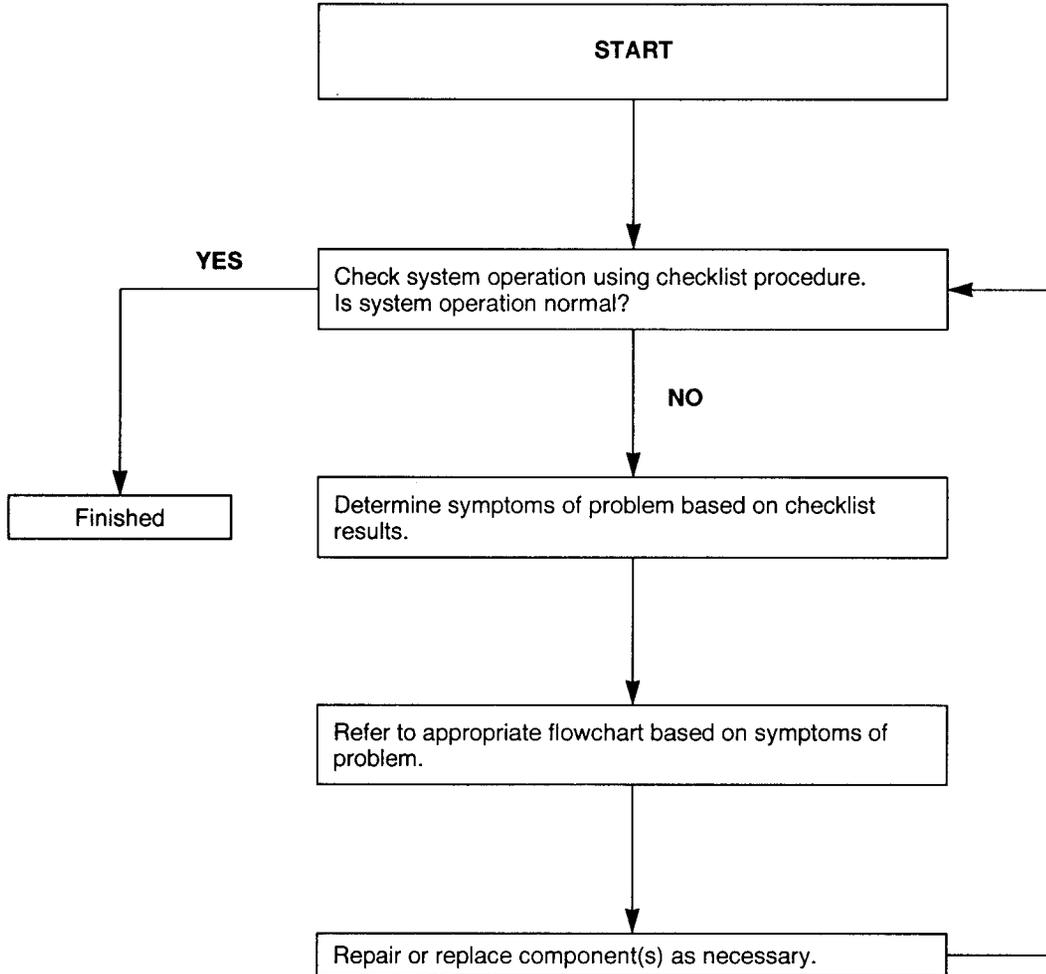
Outlet Airflow Control

Outlet airflow is determined by the mode door position. The airflow mode actuator controls the door movement by a servomechanism.



TROUBLESHOOTING GUIDE**FLOW OF TROUBLESHOOTING**

Troubleshoot the heater and air conditioner system as follows:



47U0GX-518

CHECKLIST

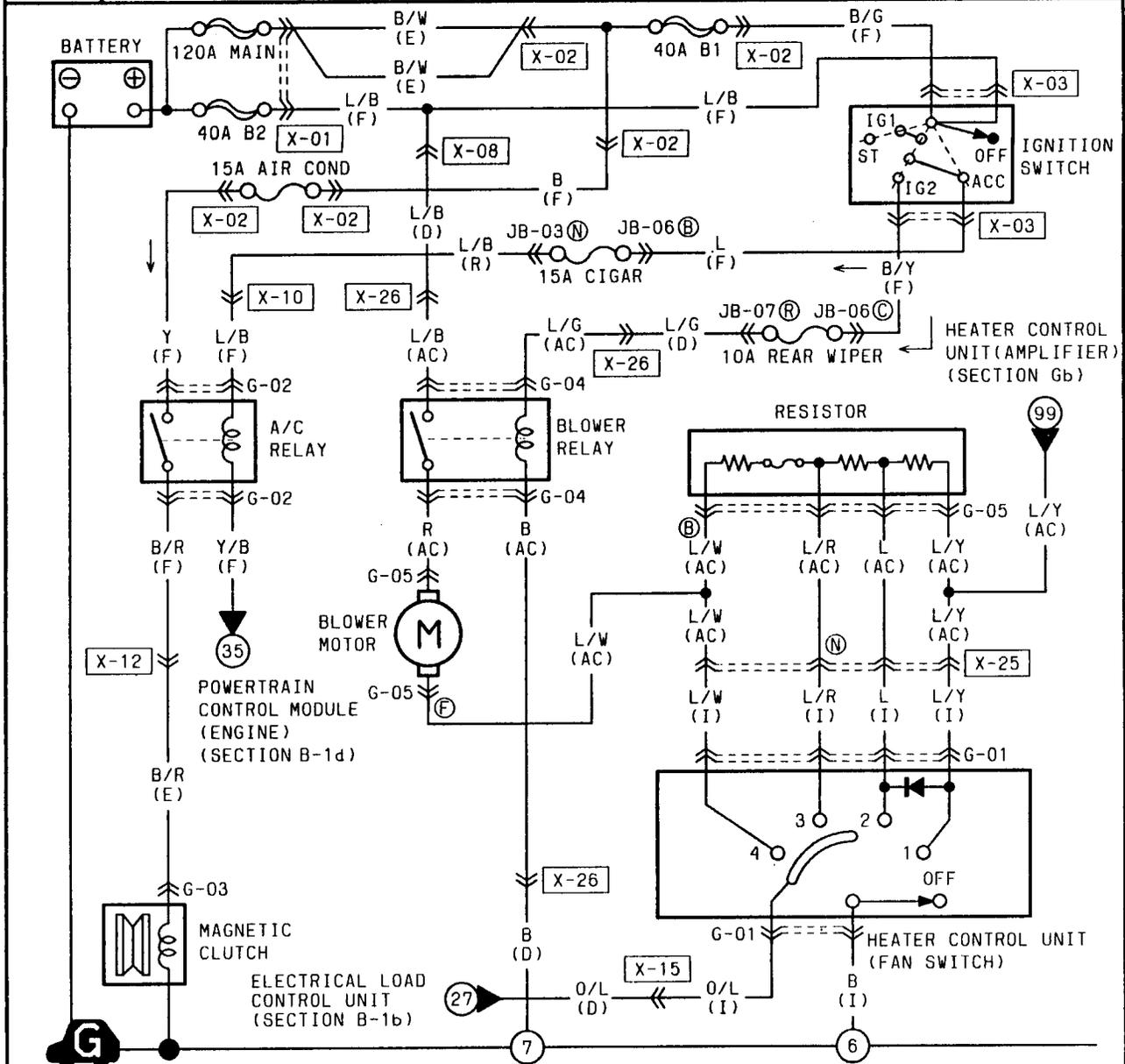
- When inspecting the heater or air conditioner, warm up the engine before each operational check. The engine coolant temperature must be 40°C {104°F} or higher.
- The air conditioner is composed of an electrical system as well as a refrigerant system. Because some refrigerant system components require the evacuation of refrigerant gas before replacement, inspect the electrical system first.

Symptom	Operational check	Malfunction	Flowchart No.
No air blows output	Check motor operation when fan switch is turned to 1st, 2nd, 3rd, and 4th respectively	Blower motor does not operate at any fan switch position	1
		Blower motor does not operate when fan switch at specific position	2
Airflow mode does not change	Press airflow mode switches to each mode; verify that air outlets change accordingly	Airflow mode does not change	3
Intake air mode does not change	Press REC/FRESH switches; verify that recirculation and fresh change accordingly	Intake air mode does not change	4
Airflow temperature does not change	Move air mix lever from MAX COLD to MAX HOT and verify that the airflow temperature changes	Airflow temperature does not change	5
Airflow is not cool (slightly cool)	Turn on fan switch and ACS; check operation of magnetic clutch and condenser fan	Magnetic clutch does not operate (Condenser fan operate normally)	6
		Magnetic clutch and cooling fan do not operate	7

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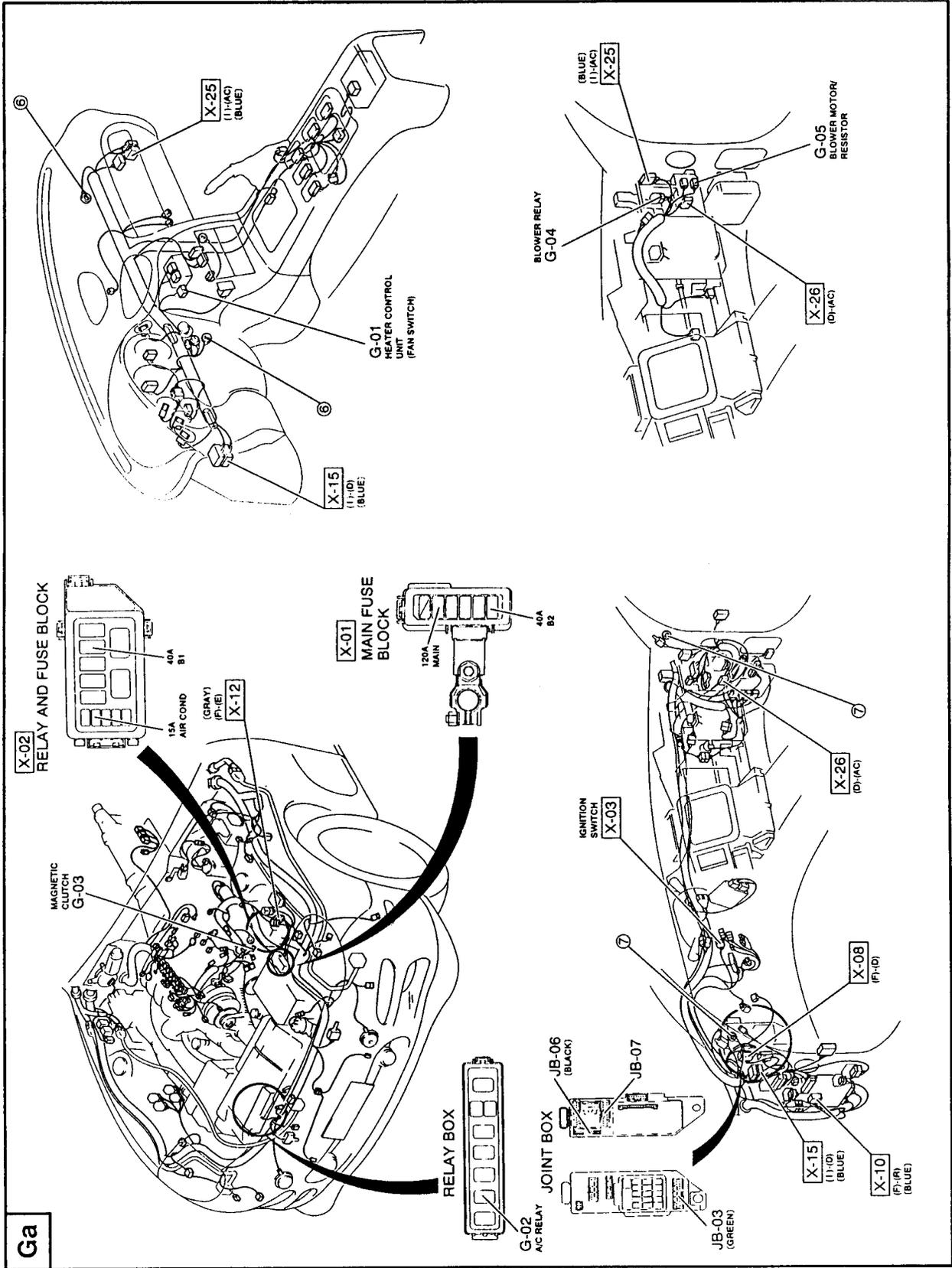
Circuit Diagram 1

Ga ■ HEATER ■ AIR CONDITIONER

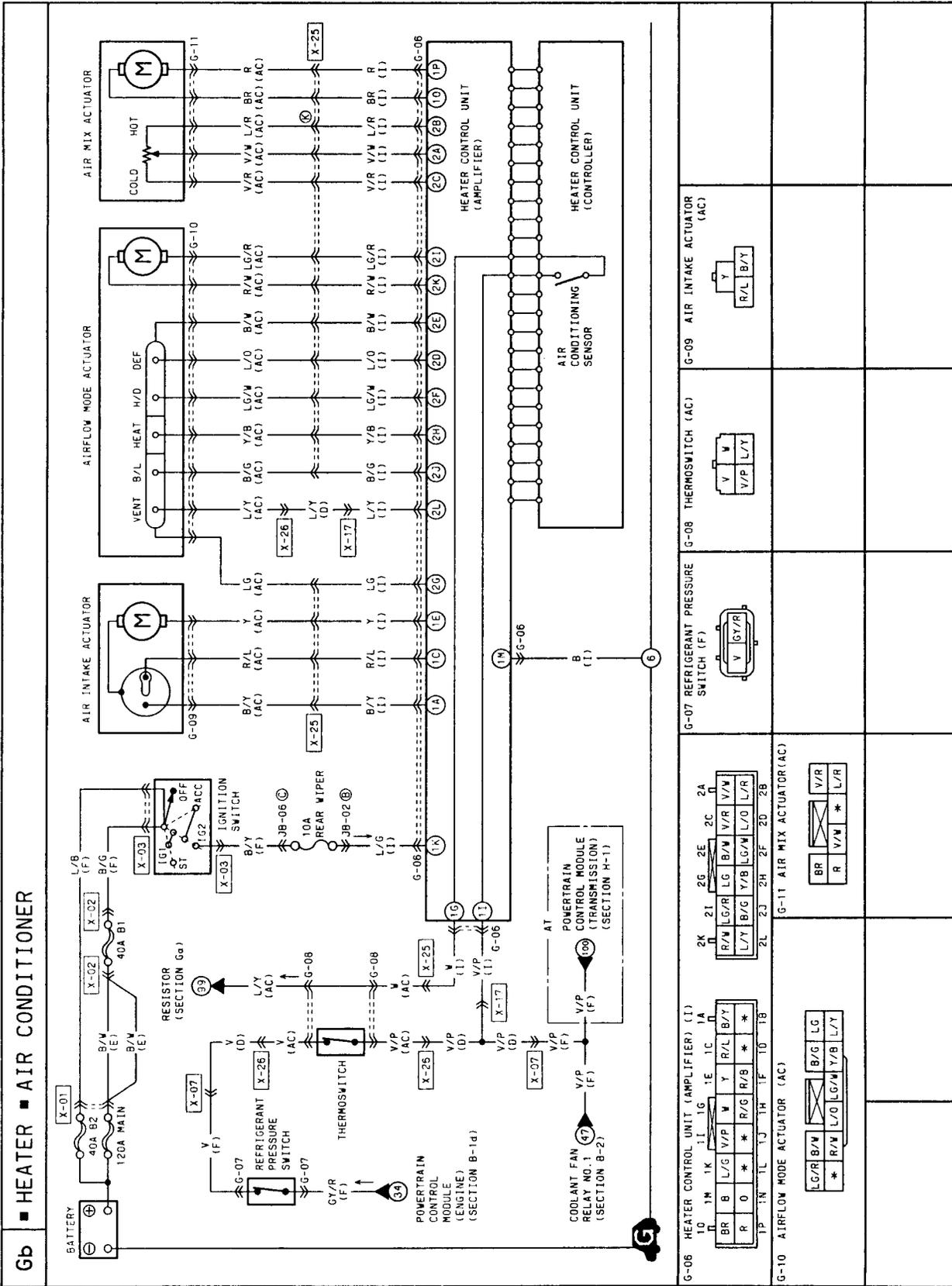


<p>G-01 HEATER CONTROL UNIT (FAN SWITCH) (I)</p> <table border="1"> <tr> <td>B</td> <td>L</td> <td>L/W</td> </tr> <tr> <td>O/L</td> <td>L/R</td> <td>L/Y</td> </tr> </table>	B	L	L/W	O/L	L/R	L/Y	<p>G-02 A/C RELAY (F)</p> <table border="1"> <tr> <td>Y</td> <td>L/B</td> </tr> <tr> <td>B/R</td> <td>Y/B</td> </tr> </table>	Y	L/B	B/R	Y/B	<p>G-03 MAGNETIC CLUTCH (E)</p> <table border="1"> <tr> <td>B/R</td> </tr> </table>	B/R	<p>G-04 BLOWER RELAY (AC)</p> <table border="1"> <tr> <td>L/B</td> <td>L/G</td> </tr> <tr> <td>R</td> <td>B</td> </tr> </table>	L/B	L/G	R	B
B	L	L/W																
O/L	L/R	L/Y																
Y	L/B																	
B/R	Y/B																	
B/R																		
L/B	L/G																	
R	B																	
<p>G-05 BLOWER MOTOR/RESISTOR (AC)</p> <table border="1"> <tr> <td>R</td> <td>L/Y</td> <td>L/R</td> </tr> <tr> <td>L/W</td> <td>L</td> <td>L/W</td> </tr> </table>	R	L/Y	L/R	L/W	L	L/W												
R	L/Y	L/R																
L/W	L	L/W																

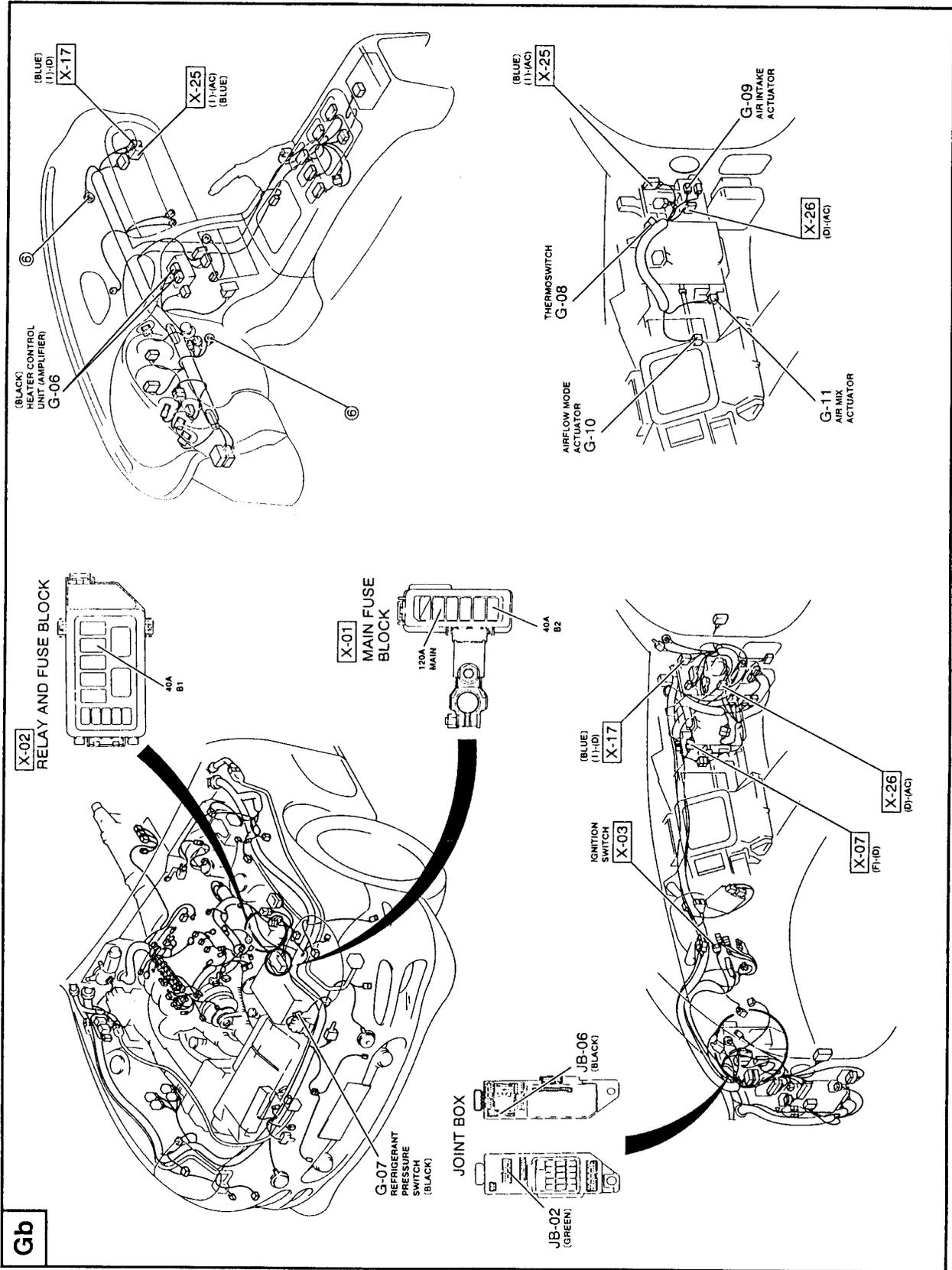
Connector Locations 1



Circuit Diagram 2

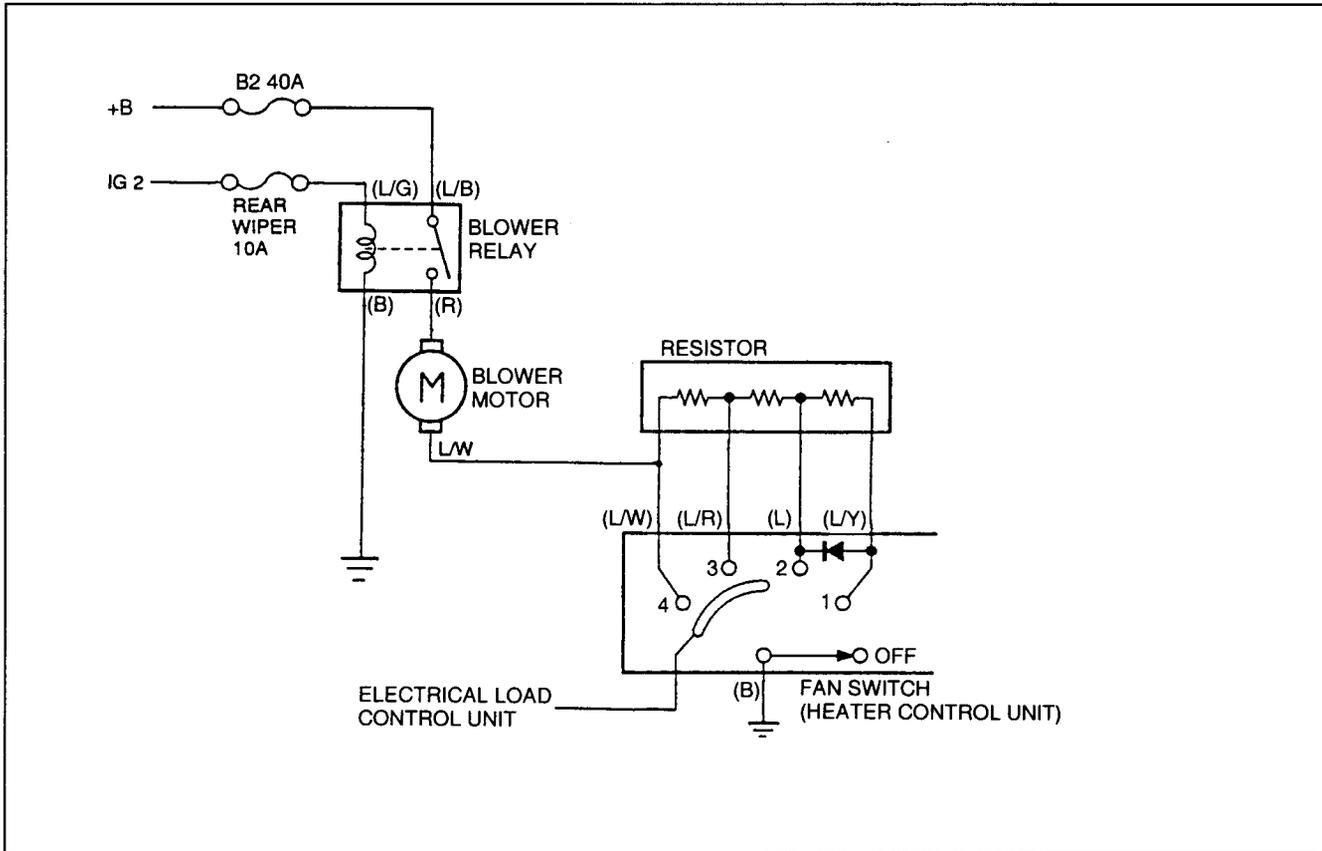


Connector Locations 2

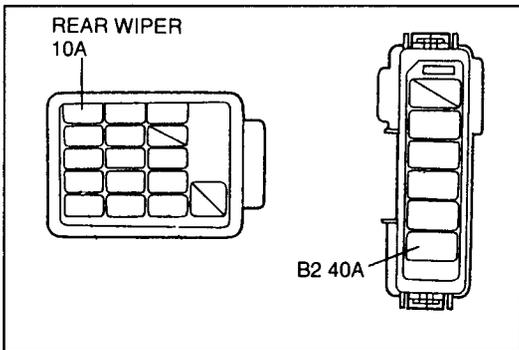


FLOWCHARTS

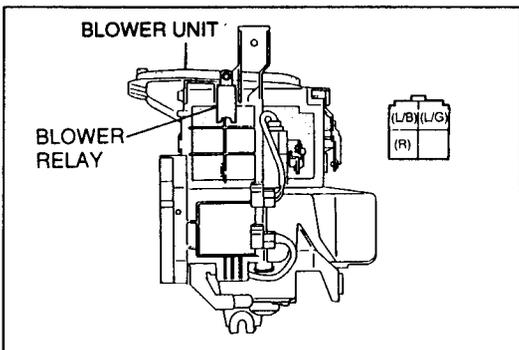
Flowchart No.	SymptomBlower motor does not operate at any fan switch position
1	Related components ...Blower motor, blower relay, fan switch, wiring harness



47U0GX-524



47U0GX-525



47U0GX-526

Step 1

1. Check the following fuses.

Fuse	Amperage (A)	Location
B2	40	Main fuse block
REAR WIPER	10	Fuse block

2. If the fuses are OK, go to Step 2.

3. If a fuse is burnt, check for a short circuit in the harness before replacing the fuse.

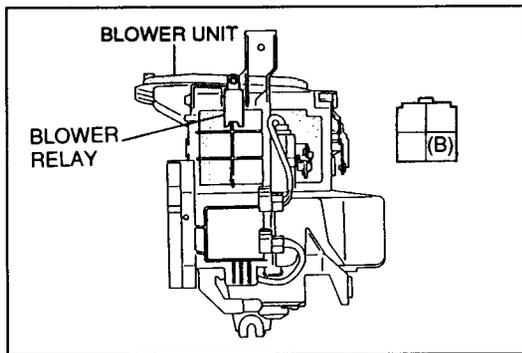
Step 2

1. Turn the ignition switch to ON.

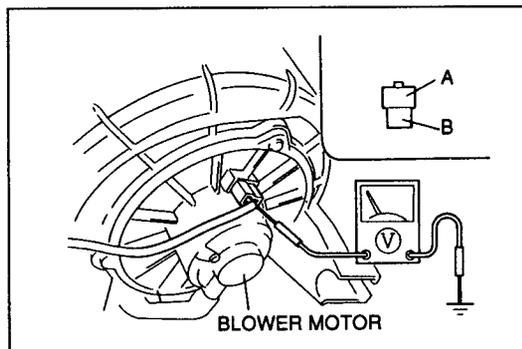
2. Measure the voltage at the following terminal wires of the blower relay connector.

B+: Battery positive voltage

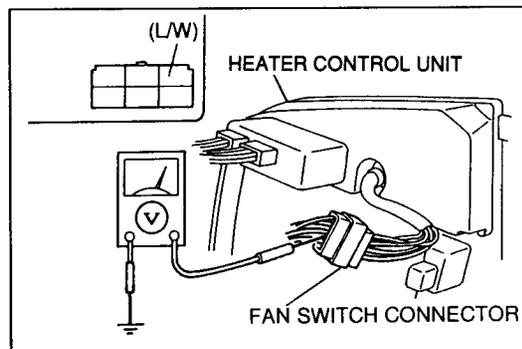
Wire	Voltage	Action
L/B	B+	Check (L/G) wire
	Other	Repair wiring harness (B2 40A fuse—Blower relay)
L/G	B+	Check (R) wire
	Other	Repair wiring harness (REAR WIPER 10A fuse—Blower relay)
R	B+	Go to Step 4
	Other	Go to Step 3



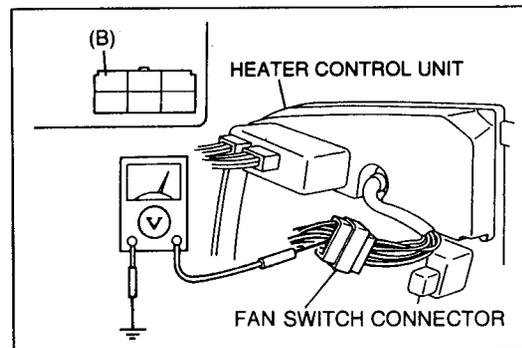
47U0GX-527



47U0GX-528



47U0GX-529



47U0GX-530

Step 3

1. Turn the ignition switch to OFF.
2. Check for continuity between the (B) terminal wire of the blower relay and ground.

Continuity	Action
Yes	Replace blower relay
No	Repair (B) wire

Step 4

1. Turn the ignition switch to ON.
2. Verify that the fan switch is off.
3. Measure the voltage at the following terminals of the blower motor connector.

B+: Battery positive voltage

Terminal	Voltage	Action
A	B+	Check terminal B
	Other	Repair wiring harness (Blower relay—Blower motor)
B	B+	Go to Step 5
	Other	Replace blower motor (Refer to page G-35)

Step 5

1. Remove the heater control unit. (Refer to page G-37.)
2. Measure the voltage at the (L/W) terminal wire of the fan switch connector.

B+: Battery positive voltage

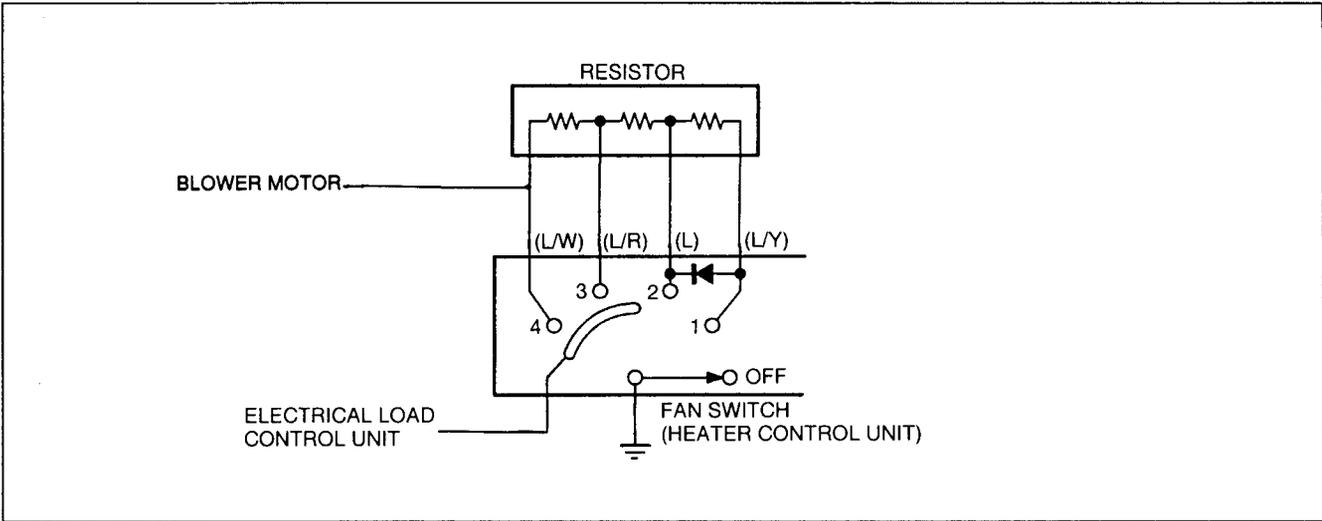
Voltage	Action
B+	Go to Step 6
Other	Repair wiring harness (Blower motor—Fan switch)

Step 6

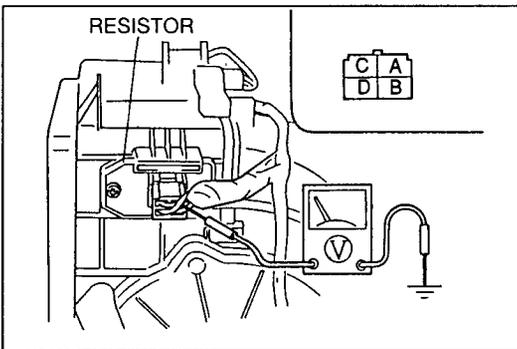
1. Turn the fan switch to the fourth position.
2. Measure the voltage at the (B) terminal wire of the fan switch connector.

Voltage	Action
0V	Replace heater control unit (Refer to page G-37)
Other	Repair wiring harness (Fan switch—GND)

Flowchart No.	SymptomBlower motor does not operate when fan switch at specific position
2	Related components ...Resistor, fan switch, wiring harness



47U0GX-531



47U0GX-542

Step 1

1. Turn the ignition switch to ON.
2. Turn the fan switch off and verify that the ACS is off.
3. Measure the voltage at the following terminals of the resistor.

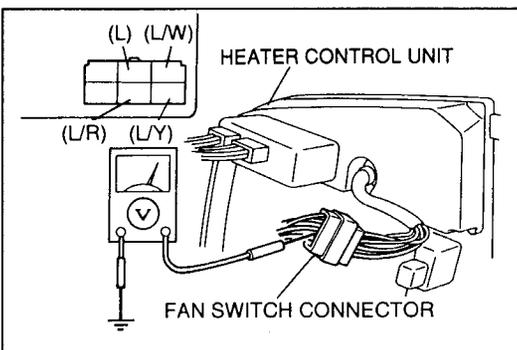
B+: Battery positive voltage

Terminal	Voltage	Action
A	B+	Check terminal B
	Other	Replace resistor
B	B+	Check terminal C
	Other	Replace resistor
C	B+	Check terminal D
	Other	Replace resistor
D	B+	Go to Step 2
	Other	Replace resistor

Step 2

Measure the voltage at the following terminal wires of the fan switch connector.

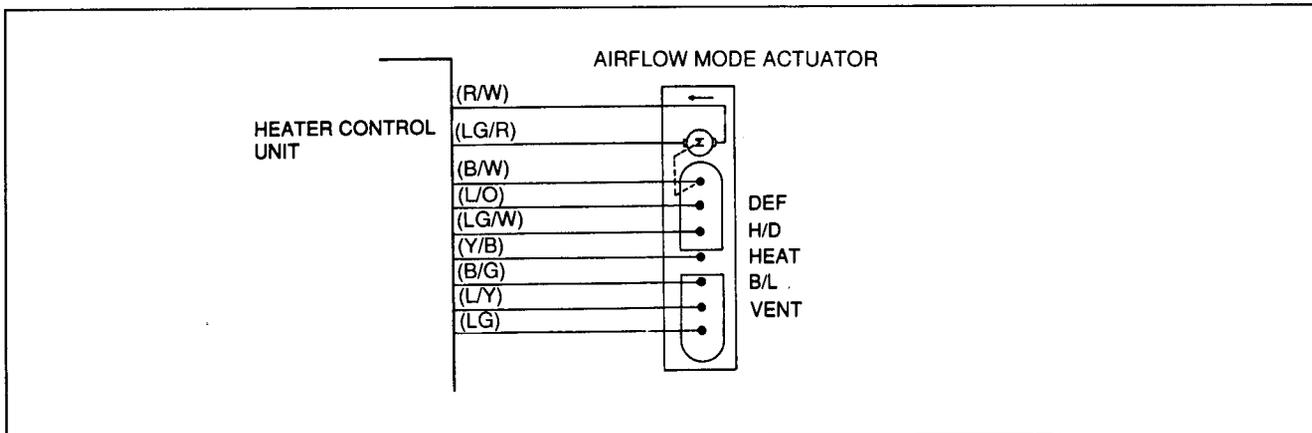
B+: Battery positive voltage



47U0GX-533

Wire	Voltage	Action
(L/W)	B+	Check (L/R) wire
	Other	Repair wiring harness (Resistor—Fan switch)
(L/R)	B+	Check (L) wire
	Other	Repair wiring harness (Resistor—Fan switch)
(L)	B+	Check (L/Y) wire
	Other	Repair wiring harness (Resistor—Fan switch)
(L/Y)	B+	Replace heater control unit (Refer to page G-37)
	Other	Repair wiring harness (Resistor—Fan switch)

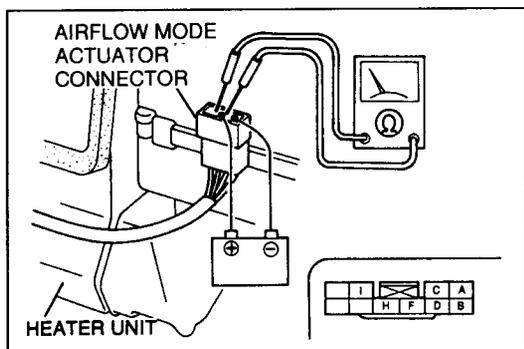
Flowchart No.	SymptomAirflow mode does not change
3	Related components ...Airflow mode actuator, heater control unit, wiring harness



47U0GX-534

Step 1

1. Disconnect the airflow mode actuator connector.
2. Apply battery positive voltage to terminal J and connect terminal K to ground. Verify that the airflow mode actuator operates (VENT → DEF).
3. Check for continuity between the terminals of the airflow mode actuator connector.



47U0GX-535

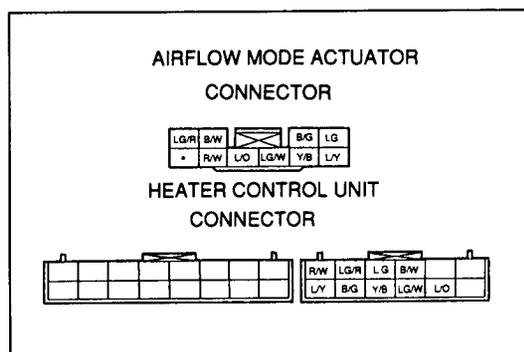
Airflow mode	Terminal						
	A	B	C	D	F	H	I
VENT			○	○	○	○	○
B/L	○	○		○	○	○	○
HEAT	○	○	○		○	○	○
H/D	○	○	○	○		○	○
DEF	○	○	○	○	○		

○-○ : Continuity

4. If not as specified, replace the airflow mode actuator. (Refer to page G-41.)

Step 2

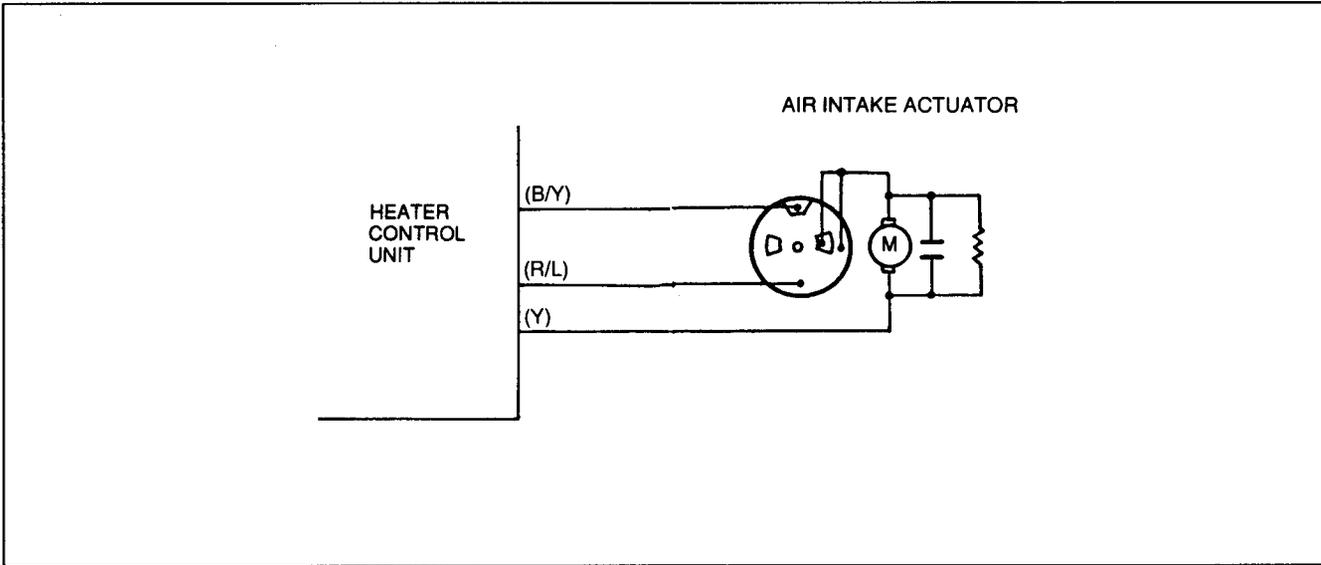
1. Disconnect the heater control unit connector and the airflow mode actuator connector.
2. Check for continuity between the following terminal wires of the connectors.



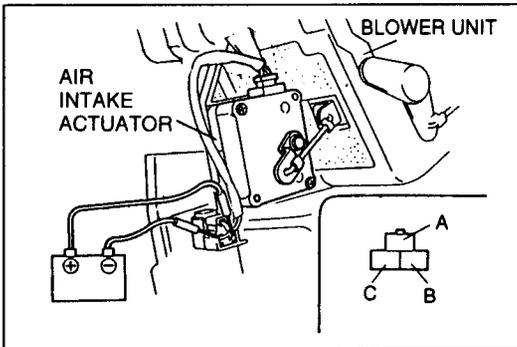
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Wire	Action if no continuity	Action if continuity
(LG/R)	Repair (LG/R) wire	Check (R/W) wire
(R/W)	Repair (R/W) wire	Check (B/W) wire
(B/W)	Repair (B/W) wire	Check (L/O) wire
(L/O)	Repair (L/O) wire	Check (LG/W) wire
(LG/W)	Repair (LG/W) wire	Check (Y/B) wire
(Y/B)	Repair (Y/B) wire	Check (B/G) wire
(B/G)	Repair (B/G) wire	Check (L/Y) wire
(L/Y)	Repair (L/Y) wire	Check (LG) wire
(LG)	Repair (LG) wire	Replace heater control unit (Refer to page G-37)

Flowchart No.	SymptomIntake air mode does not change
4	Related components ...Heater control unit, air intake actuator, wiring harness



47U0GX-537



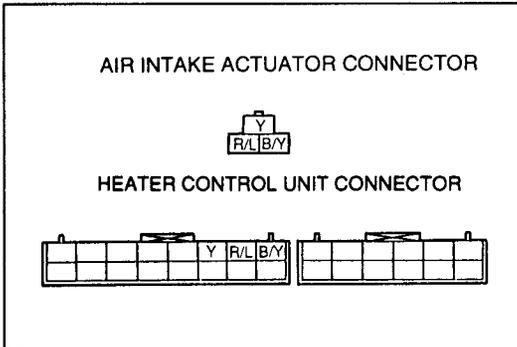
47U0GX-538

Step 1

1. Disconnect the air intake actuator connector.
2. Apply battery positive voltage to terminal A and connect terminal B or C to ground. Verify air intake actuator operation.

B+: Battery positive voltage

B+	GND	Air intake actuator operation
A	B	FRESH → REC
	C	REC → FRESH



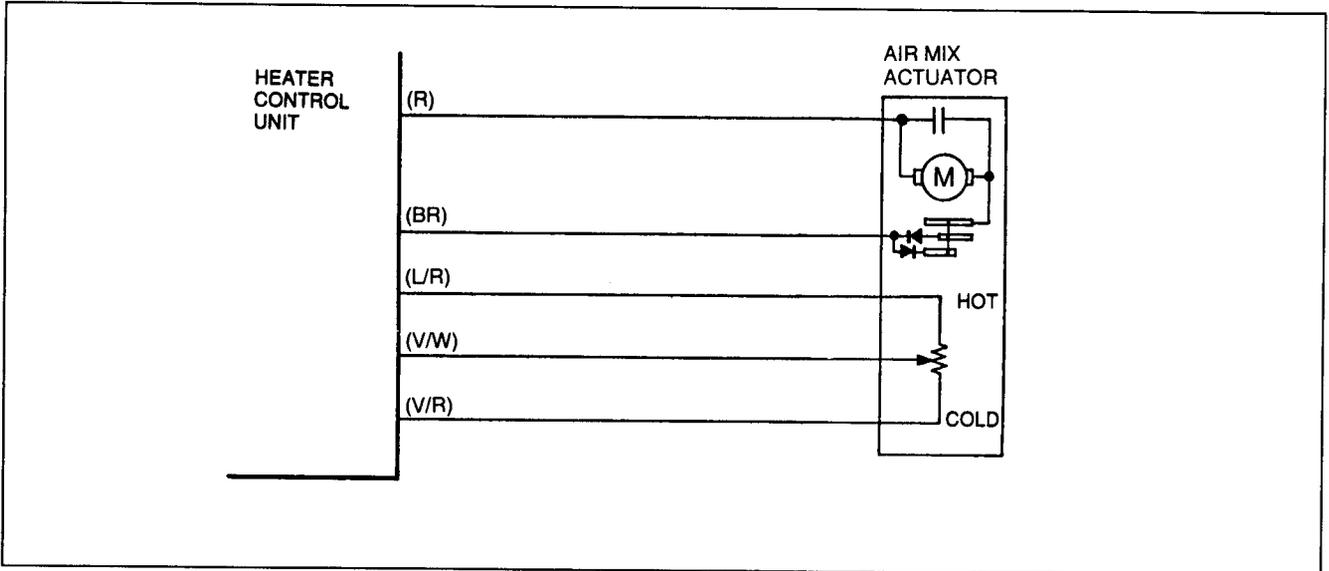
47U0GX-539

Step 2

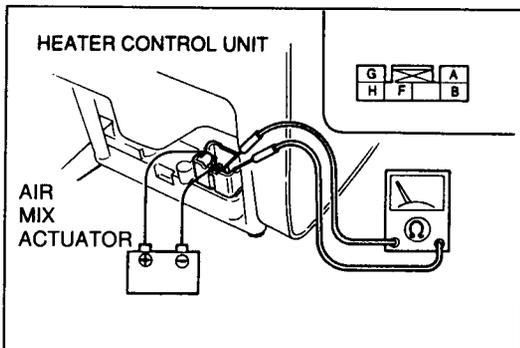
1. Disconnect the heater control unit connector and the air intake actuator connector.
2. Check for continuity between the connectors.

Wire	Continuity	Action
(B/Y)	Yes	Check (Y) wire
	No	Repair (B/Y) wire
(Y)	Yes	Check (R/L) wire
	No	Repair (Y) wire
(R/L)	Yes	Replace heater control unit (Refer to page G-37)
	No	Repair (R/L) wire

Flowchart No.	SymptomAirflow temperature does not change
5	Related components ...Heater control unit, air mix actuator, wiring harness



47U0GX-540



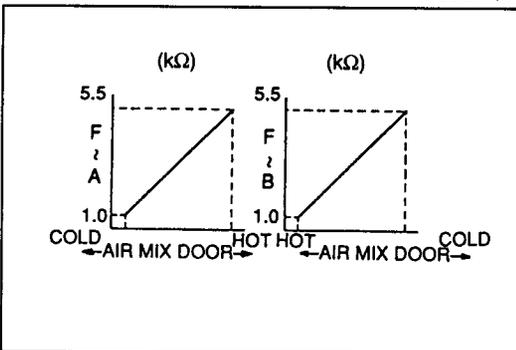
47U0GX-541

Step 1

1. Disconnect the air mix actuator connector.
2. Connect battery positive voltage between terminals G and H and verify that the resistance of the potentiometer changes as shown.

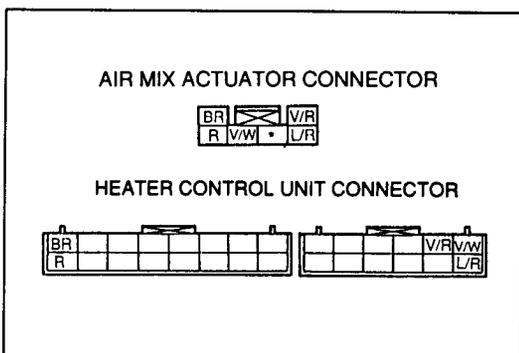
B+	GND	Air mix actuator operation	Measure resistance between
G	H	HOT → COLD	F—B
H	G	COLD → HOT	F—A

3. If not as specified, replace the air mix actuator. (Refer to page G-40.)



Step 2

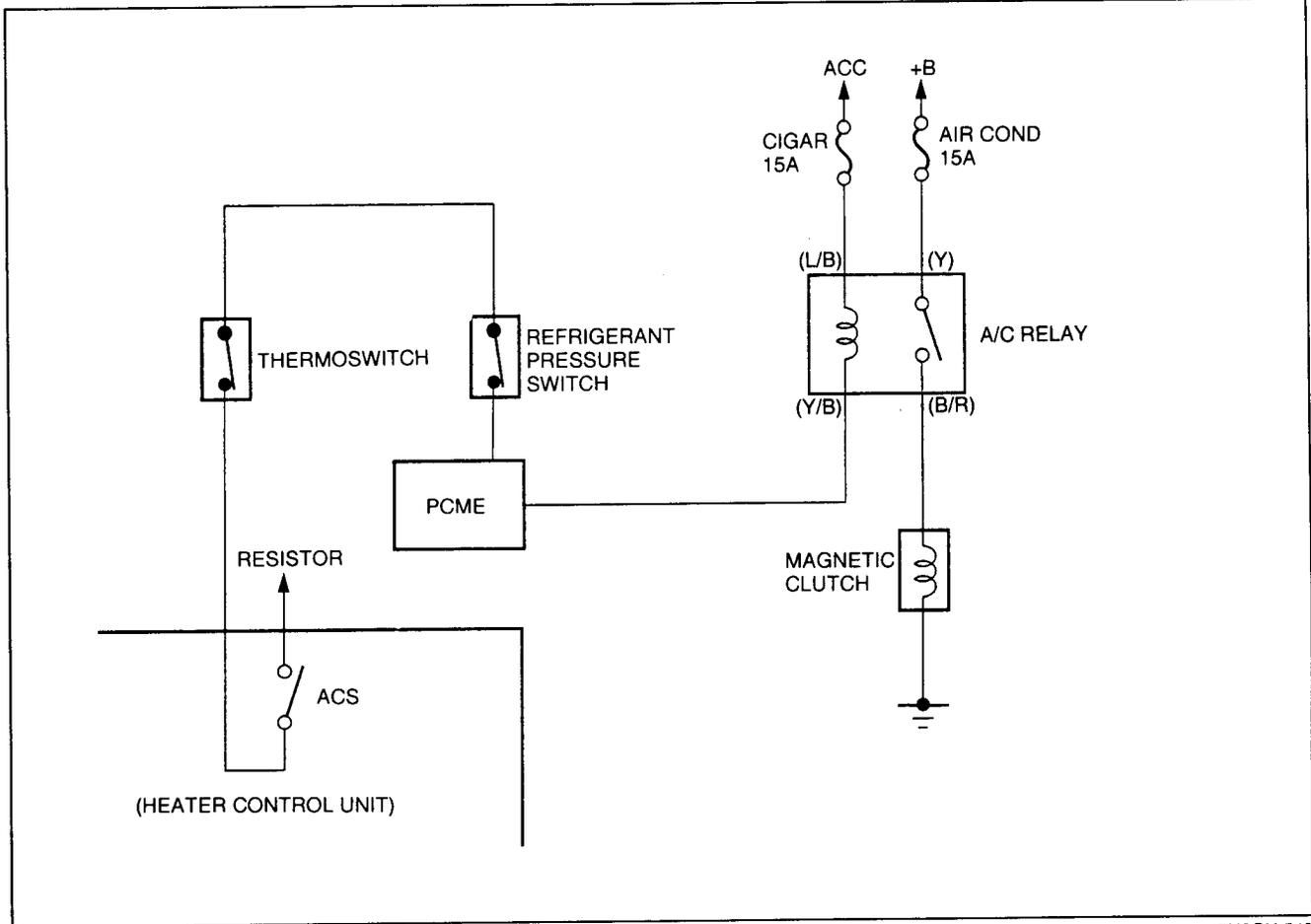
1. Disconnect the heater control unit connector and the air mix actuator connector.
2. Check for continuity between the connectors.



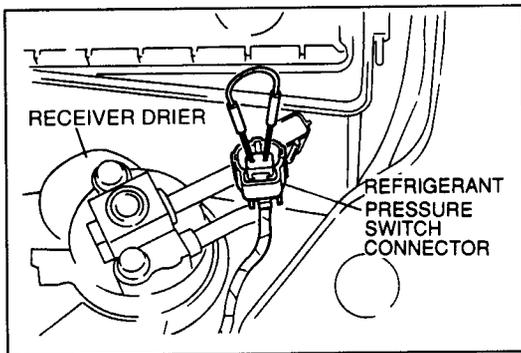
47U0GX-542

Wire	Continuity	Action
(V/R)	Yes	Check (V/W) wire
	No	Repair (V/R) wire
(V/W)	Yes	Check (L/R) wire
	No	Repair (V/W) wire
(L/R)	Yes	Check (BR) wire
	No	Repair (L/R) wire
(BR)	Yes	Check (R) wire
	No	Repair (BR) wire
(R)	Yes	Replace heater control unit (Refer to page G-37)
	No	Repair (R) wire

Flowchart No.	SymptomMagnetic clutch does not operate (Condenser fan operates normally)
6	Related components ...Magnetic clutch, refrigerant pressure switch, wiring harness



47U0GX-543

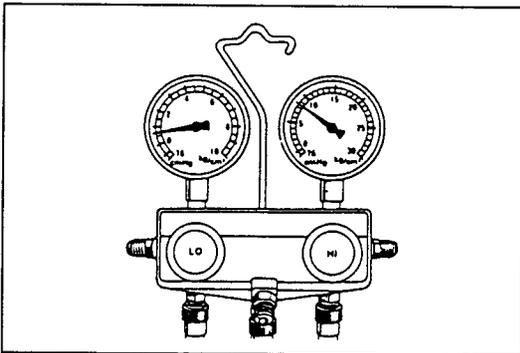


47U0GX-544

Step 1

1. Turn the ignition switch to OFF and disconnect the refrigerant pressure switch connector.
2. Connect a jumper wire between terminals A and B of the refrigerant pressure switch connector.
3. Start the engine.
4. Turn on the fan switch and ACS and check the magnetic clutch operation.

Magnetic clutch	Action
Operates	Go to Step 2
Does not operate	Remove jumper wire and reconnect refrigerant pressure switch connector Go to Step 3

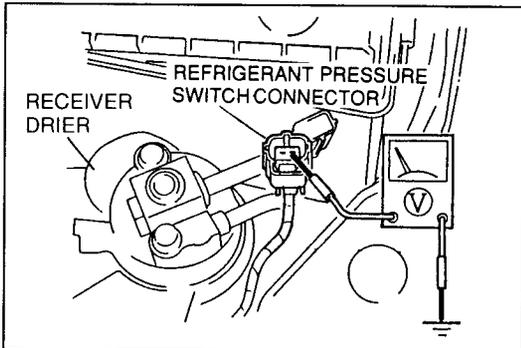


47U0GX-545

Step 2

1. Connect a manifold gauge set to the charging valves.
(Refer to page G-43.)
2. Measure the high-pressure-side pressure.

Refrigerant pressure	Action
(R-134a) 0.20—2.6 MPa {2.0—27 kgf/cm ² , 28—380 psi}	Replace cooler pipe No.4 (Refer to page G-64)
(R-12) 0.19—2.8 MPa {1.9—29 kgf/cm ² , 28—412 psi}	
Other	Perform leak test (Refer to page G-44)



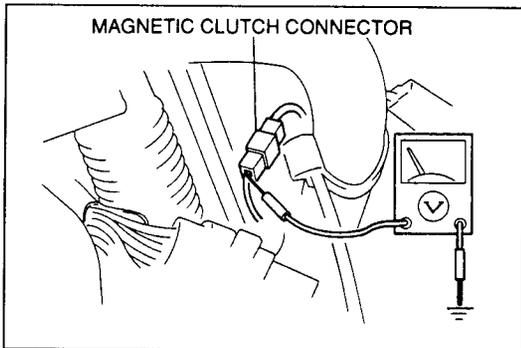
47U0GX-546

Step 3

1. Verify that the ignition switch, fan switch, and ACS are on.
2. Measure the voltage at the (GY/R) terminal wire of the refrigerant pressure switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Go to Step 5



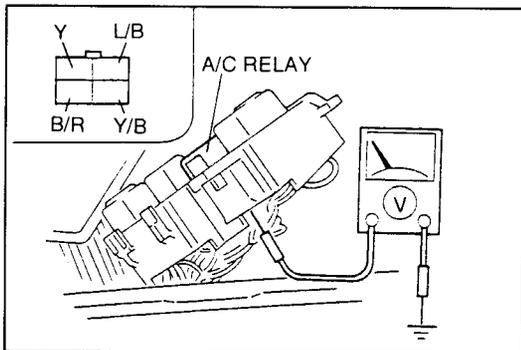
47U0GX-547

Step 4

Measure the voltage at the (B/R) terminal wire of the magnetic clutch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (A/C relay—Magnetic clutch)



47U0GX-548

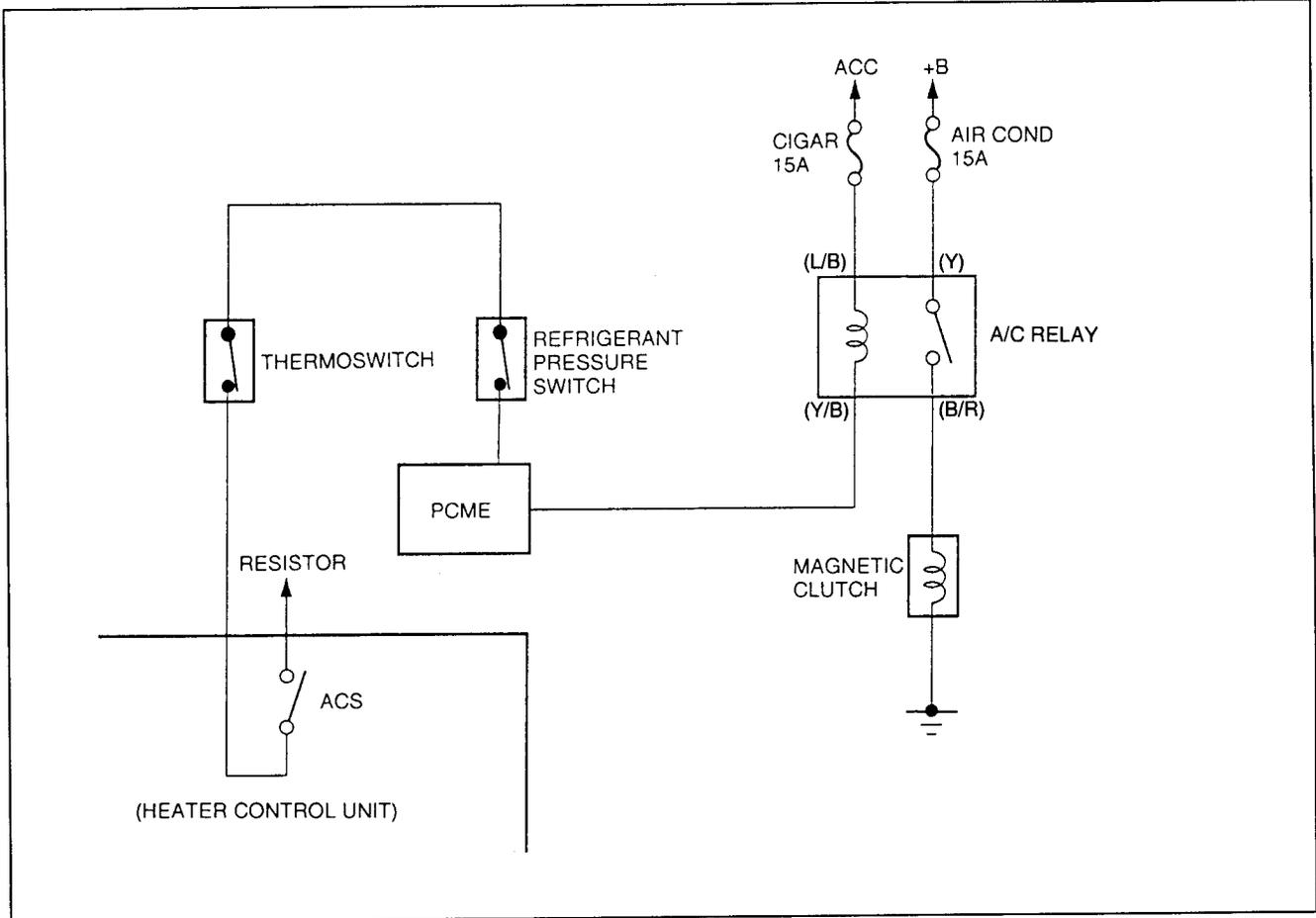
Step 5

Measure the voltage at following terminal wires of the A/C relay connector.

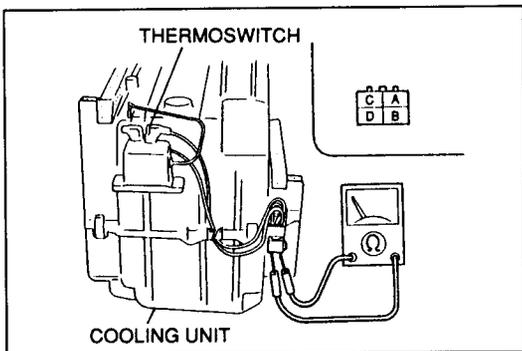
B+: Battery positive voltage

Wire	Voltage	Action
(L/B)	B+	Measure (Y/B) wire voltage
	Other	Repair wiring harness (CIGAR 15A fuse—A/C relay)
(Y/B)	0V	Measure (Y) wire voltage
	Other	Repair wiring harness (PCME—A/C relay)
(Y)	B+	Measure (B/R) wire voltage
	Other	Repair wiring harness (AIR COND 15A fuse—A/C relay)
(B/R)	0V	Replace A/C relay
	Other	Inspect magnetic clutch (Refer to page G-57)

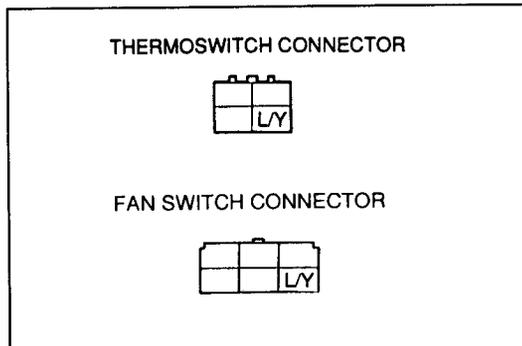
Flowchart No.	SymptomMagnetic clutch and cooling fan do not operate Related components ...Heater control unit, thermosthich, wiring harness
7	



47U0GX-549



47U0GX-550



47U0GX-551

Step 1

1. Verify that the ignition switch is at OFF.
2. Disconnect the thermoswitch connector.
3. Check for continuity between the switch terminals.

A	B	C	D
○	○	○	○

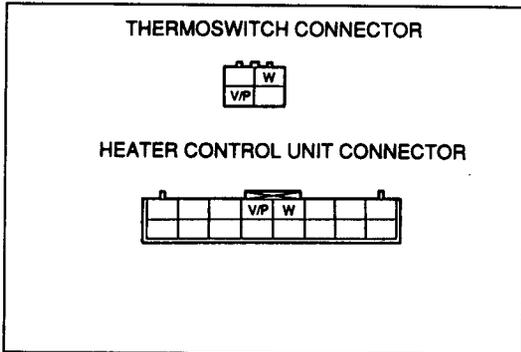
○-○ : Continuity

4. If not as specified, replace the thermoswitch.
(Refer to page G-63.)

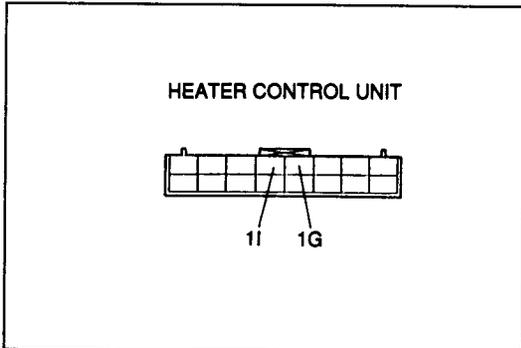
Step 2

1. Disconnect the thermoswitch and fan switch connectors.
2. Check for continuity between the (L/Y) terminal wire of the connectors.

Continuity	Action
Yes	Go to Step 3
No	Repair (L/Y) wire



47U0GX-552



47U0GX-553

Step 3

1. Disconnect the thermoswitch and heater control unit connectors.
2. Check for continuity between the terminal wires of the connectors.

Wire	Continuity	Action
(V/P)	Yes	Check (W) wire
	No	Repair (V/P) wire
(W)	Yes	Go to Step 4
	No	Repair (W) wire

Step 4

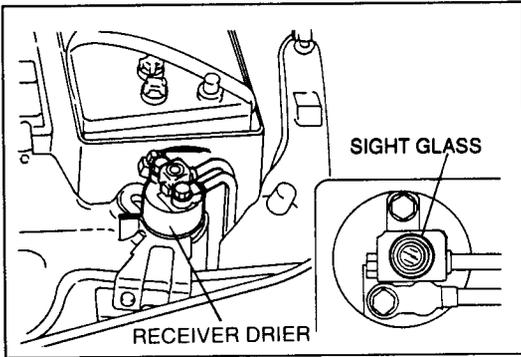
1. Turn the ACS on.
2. Check for continuity between terminals 1G and 1I of the heater control unit.

Terminal	Continuity	Action
1G—1I	Yes	Check PCME (Refer to 1994 RX-7 Workshop Manual, section F)
	No	Replace heater control unit (Refer to page G-37)

REFRIGERANT SYSTEM INSPECTION

Possible refrigerant system problems can be located by checking the refrigerant amount and refrigerant pressure.

47U0GX-554



47U0GX-555

Checking Refrigerant Amount

1. Open all doors and windows.
2. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
3. Follow the procedures in the table to determine the refrigerant amount condition.

Step	Procedure	Sight glass	Cause/Action
1	1. Turn ACS on and move fan switch to fourth position. 2. Press REC switch on. 3. Set TEMP switch to MAX COLD. 4. Verify that A/C compressor is operating and observe refrigerant condition in sight glass.	Clear	Too much or proper amount of refrigerant Go to Step 2
		Bubbles present	Insufficient refrigerant Check refrigerant pressure
		Cloudy	Insufficient refrigerant Check refrigerant pressure
2	Turn off A/C compressor by using ACS and observe refrigerant condition in sight glass.	Clear immediately after A/C compressor turned off, bubbles appear and then disappear	Too much refrigerant Check refrigerant pressure
		Bubbles appear and then disappear	Proper amount of refrigerant Check refrigerant pressure
		Clear	No refrigerant Check refrigerant pressure

47U0GX-556

Checking Refrigerant Pressure

1. Open all doors and windows.
2. Connect a manifold gauge set. (Refer to page G-43.)
3. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
4. Press the ACS.
5. Turn the fan switch to the fourth position.
6. Press the REC switch to on.
7. Set the TEMP switch to MAX COLD.
8. Verify the pressure readings of the manifold gauge.

Standard condition

- (R-134a) Blower inlet temperature: 30—35°C {86—95°F}
 High-pressure side: 1.37—1.57 MPa {14.0—16.0 kgf/cm², 199—228 psi}
 Low-pressure side: 0.1—0.2 MPa {1.5—2.5 kgf/cm², 22—35 psi}
 (R-12) Blower inlet temperature: 30—35°C {86—95°F}
 High-pressure side: 1.43—1.47 MPa {14.5—15.0 kgf/cm², 207—213 psi}
 Low-pressure side: 0.15—0.19 MPa {1.5—2.0 kgf/cm², 22—28 psi}

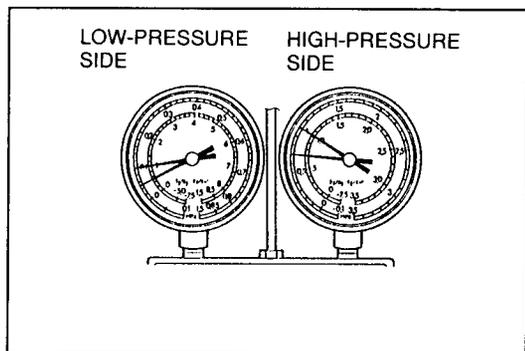
9. If the pressures are normal, inspect the control system.
10. If the pressures are not as specified, refer to the following table and repair the system. (Refer to page G-27.)

47U0GX-557

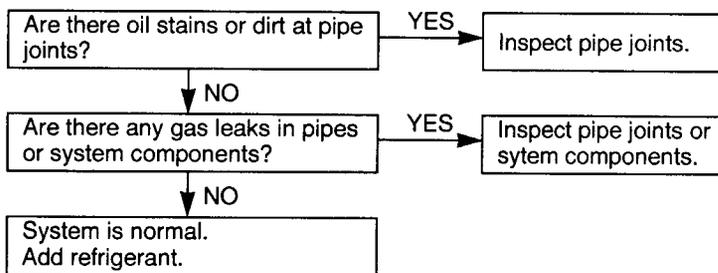
High-pressure side MPa {kgf/cm ² , psi}		Low-pressure side MPa {kgf/cm ² , psi}		Flowchart No. (Refer to page)
R-134a	R-12	R-134a	R-12	
0.69—0.98 {7.00—10.0, 100—142}	0.79—0.88 {8.00—9.00, 114—127}	0.05—0.09 {0.50—1.00, 7.2—14.2}	Approx. 0.078 {0.8, 11}	1 (G-27)
0.50—0.58 {5.00—6.00, 71.2—85.3}	below 0.6 {6.0, 85}	Vacuum pressure	Vacuum pressure	2 (G-28)
0.69—0.98 {7.00—10.0, 100—142}	0.7—1.4 {7.0—15, 100—210}	Vacuum pressure	Vacuum pressure—0.1 {1.5, 21}	3 (G-28)
0.69—0.98 {7.00—10.0, 100—142}	0.7—0.9 {7.0—10, 100—140}	0.40—0.58 {4.00—6.00, 56.9—85.3}	0.4—0.5 {4.0—6.0, 57—85}	4 (G-29)
1.97—2.45 {20.0—25.0, 285—355}	over 2.0 {20, 284}	0.25—0.34 {2.50—3.50, 35.6—49.7}	Approx. 0.2 {2.5, 36}	5 (G-29)
1.97—2.45 {20.0—25.0, 285—355}	2.3 {23, 330}	0.25—0.29 {2.50—3.00, 35.6—42.6}	Approx. 0.2 {2.5, 36}	6 (G-30)
1.97—2.45 {20.0—25.0, 285—355}	1.87—1.96 {19.0—20.0, 271—284}	0.30—0.39 {3.00—4.00, 42.7—56.8}	0.2 {2.5, 36}	7 (G-30)

47U0GX-558

Flowchart No.	High-pressure side	Symptom
1	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm ² , 100—142 psi}	• High-and low-pressure-side readings are lower than normal (large amount of bubbles appear in sight glass) • Not cool enough Possible cause Insufficient refrigerant
	(R-12) 0.79—0.88 MPa {8.00—9.00 kgf/cm ² , 114—127 psi}	
	Low-pressure side	
	(R-134a) 0.05—0.09 MPa {0.50—1.00 kgf/cm ² , 7.2—14.2 psi}	
	(R-12) Approx. 0.078 MPa {0.8 kgf/cm ² , 11 psi}	

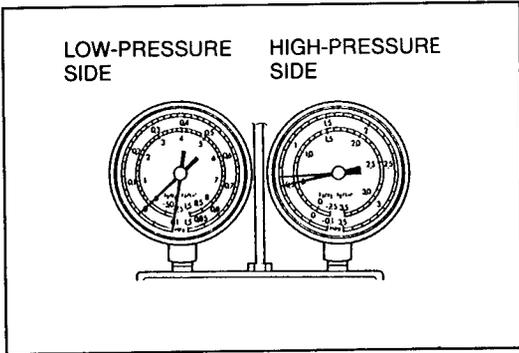


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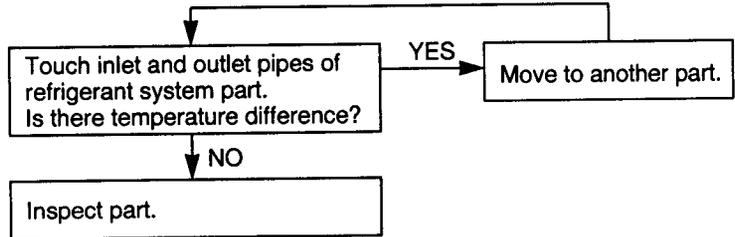


Flowchart No.	High-pressure side	Symptom Low-pressure side readings are vacuum pressure Possible cause Improper refrigerant circulation
	(R-134a) 0.50—0.58 MPa {5.00—6.00 kgf/cm ² , 71.2—85.3 psi} (R-12) below 0.6 MPa {6.0 kgf/cm ² , 85 psi}	
2	Low-pressure side	
	(R-134a) Vacuum pressure (R-12) Vacuum pressure	

47U0GX-561

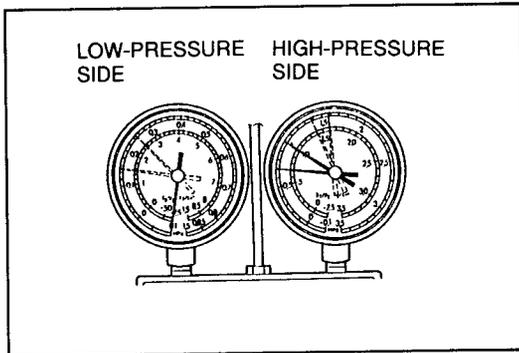


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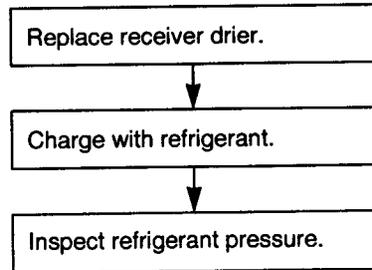


Flowchart No.	High-pressure side	Symptom Low-pressure-side readings falls to vacuum pressure shortly after A/C operation Possible cause • Impropr refrigerant charging • Damaged receiver drier • Expansion valve frozen due to moisture in system
	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm ² , 100—142 psi} (R-12) 0.7—1.4 MPa {7.0—15 kgf/cm ² , 100—210 psi}	
3	Low-pressure side	
	(R-134a) Vacuum pressure (R-12) Vacuum pressure—0.1 MPa {1.5 kgf/cm ² , 21 psi}	

47U0GX-563

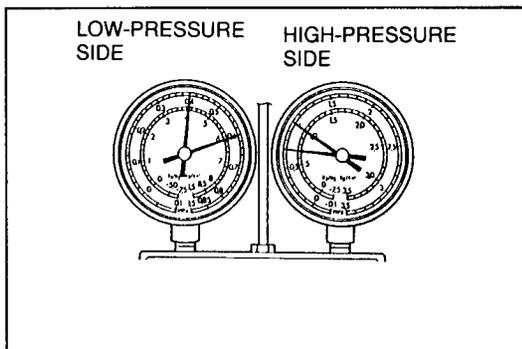


47U0GX-564



Flowchart No.	High-pressure side	Symptom
4	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm ² , 100—142 psi}	High-pressure-side reading is slightly lower than normal; low-pressure-side reading is slightly higher than normal (when A/C is turned off, low- and high-pressure sides soon equalize)
	(R-12) 0.7—0.9 MPa {7.0—10 kgf/cm ² , 100—140 psi}	
	Low-pressure side	
	(R-134a) 0.40—0.58 MPa {4.00—6.00 kgf/cm ² , 56.9—85.3 psi}	Possible cause Improper compression of A/C compressor
	(R-12) 0.4—0.5 MPa {4.0—6.0 kgf/cm ² , 57—85 psi}	

47U0GX-565

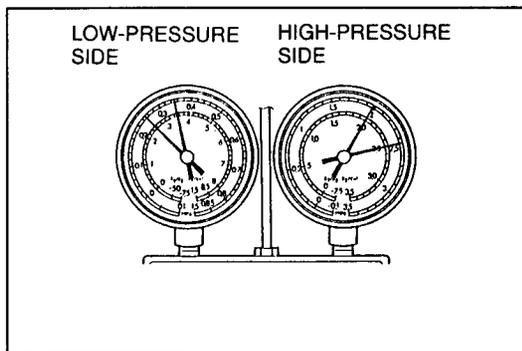


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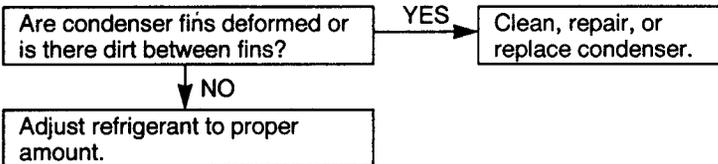
Inspect A/C compressor.

Flowchart No.	High-pressure side	Symptom
5	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm ² , 285—355 psi}	• High- and low-pressure-side readings are higher than normal (bubbles do not appear in sight glass) • Not cool enough • Improper condenser cooling • Too much refrigerant
	(R-12) over 2.0 MPa {20 kgf/cm ² , 284 psi}	
	Low-pressure side	
	(R-134a) 0.25—0.34 MPa {2.50—3.50 kgf/cm ² , 35.6—49.7 psi}	Possible cause
	(R-12) Approx. 0.2 MPa {2.5 kgf/cm ² , 36 psi}	

47U0GX-567

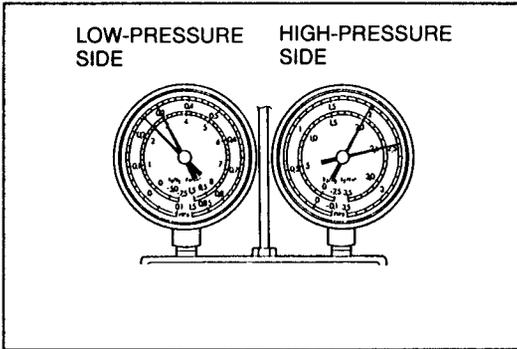


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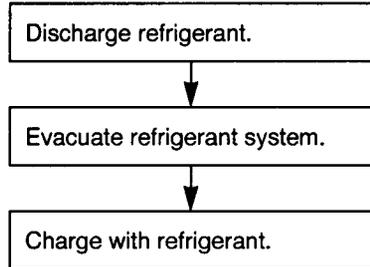


Flowchart No.	High—pressure side	Symptom • High-and low-pressure-side readings are higher than normal Possible cause • Air mixed with refrigerant
	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm ² , 285—355 psi} (R-12) 2.3 MPa {23 kgf/cm ² , 330 psi}	
6	Low—pressure side	
	(R-134a) 0.25—0.29 MPa {2.50—3.00 kgf/cm ² , 35.6—42.6 psi} (R-12) Approx. 0.2 MPa {2.5 kgf/cm ² , 36 psi}	

47U0GX-569

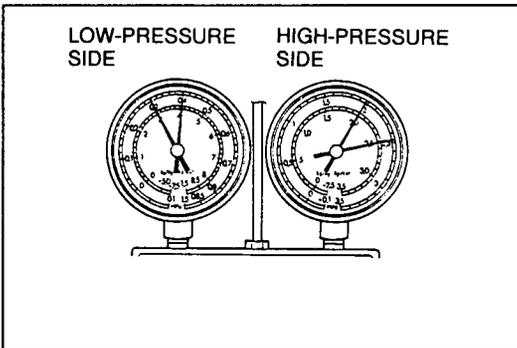


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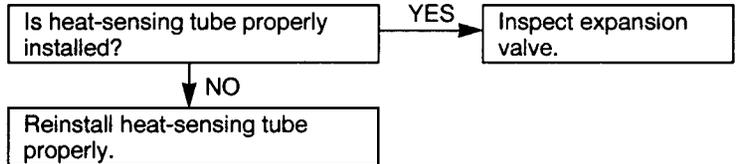


Flowchart No.	High-pressure side	Symptom • High-and low-pressure-side readings are higher than normal Possible cause • Low-pressure-side pipe is frozen • Damaged expansion valve • Heat-sensing tube improperly installed
	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm ² , 285—355 psi} (R-12) 1.87—1.96 MPa {19.0—20.0 kgf/cm ² , 271—284 psi}	
7	Low-pressure side	
	(R-134a) 0.30—0.39 MPa {3.00—4.00 kgf/cm ² , 42.7—56.8 psi} (R-12) 0.2 MPa {2.5 kgf/cm ² , 36 psi}	

47U0GX-571

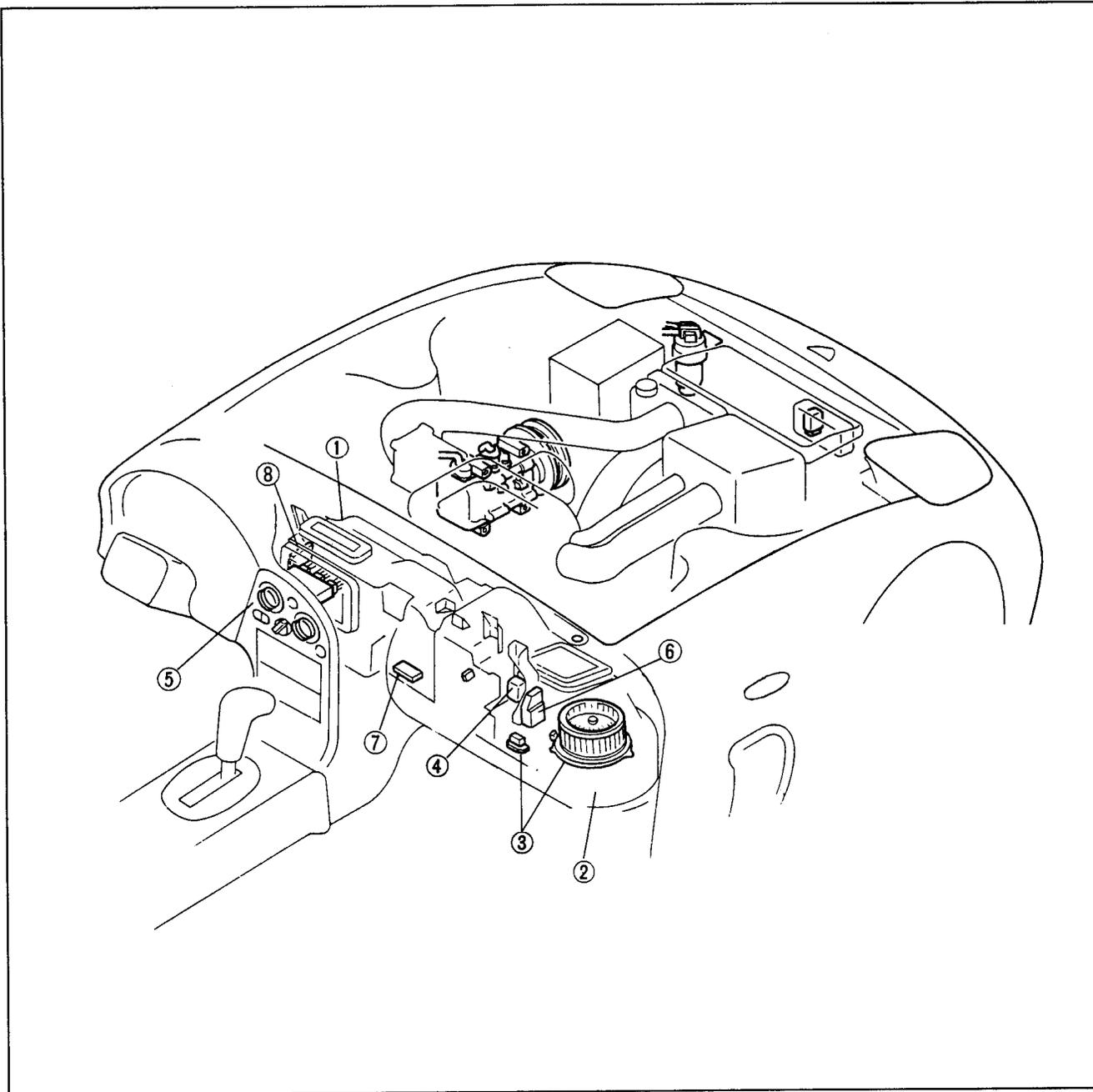


47U0GX-572



HEATER

STRUCTURAL VIEW

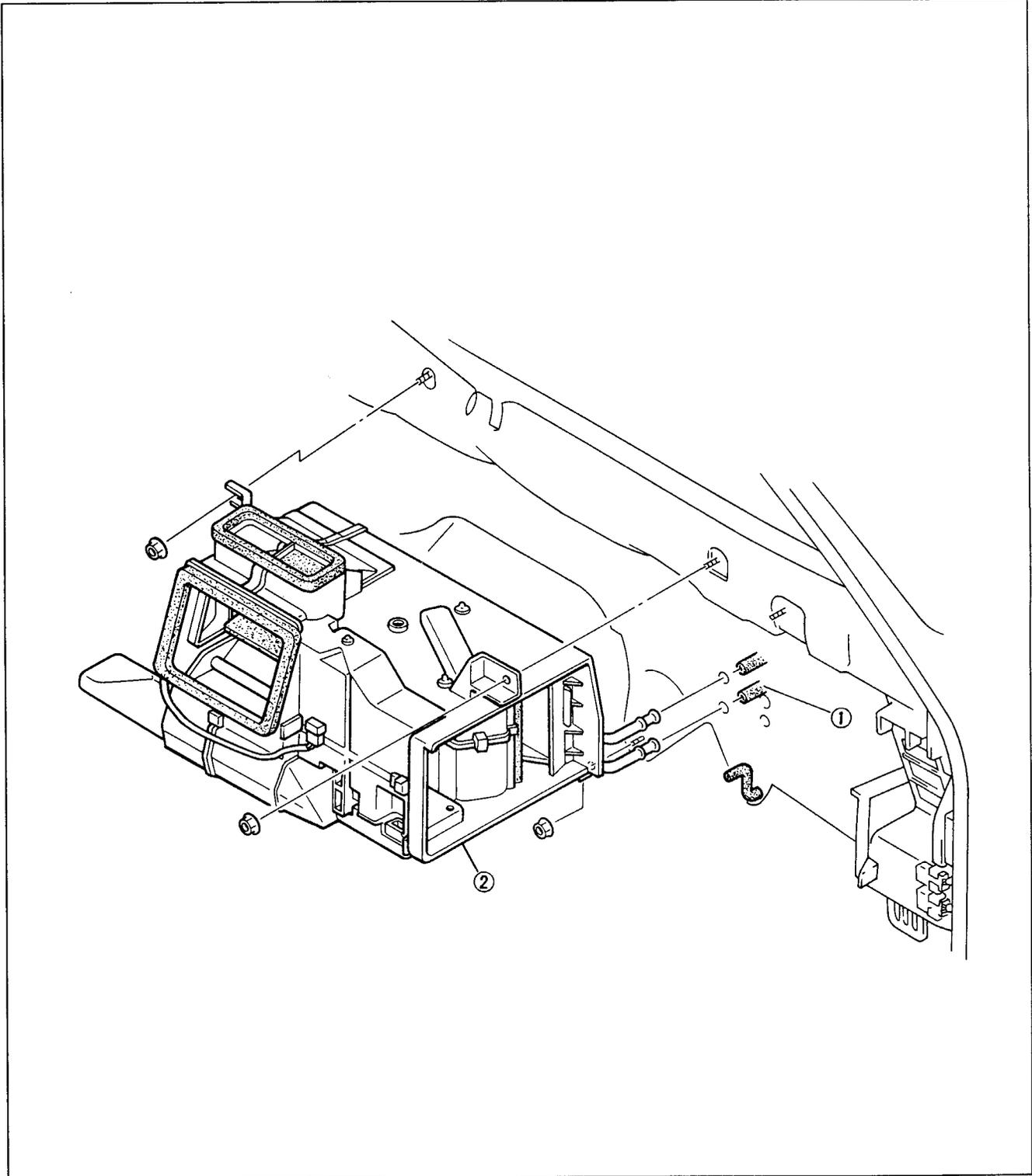


47U0GX-573

- | | |
|--|---|
| <p>1. Heater unit
 Removal / Installation..... page G-32
 Disassembly / Assembly page G-33</p> <p>2. Blower unit
 Removal / Installation..... page G-34
 Disassembly / Assembly page G-35</p> <p>3. Blower motor and resistor
 Inspection..... page G-36</p> <p>4. Blower relay
 Inspection..... page G-36</p> | <p>5. Heater control unit
 Removal / Installation..... page G-37
 Switch / Indicator description page G-38
 Disassembly / Assembly page G-39</p> <p>6. Air intake actuator
 Removal / Installation..... page G-40
 Inspection..... page G-40</p> <p>7. Air mix actuator
 Removal / Installation..... page G-40
 Inspection..... page G-40</p> <p>8. Airflow mode actuator
 Removal / Installation..... page G-41
 Inspection..... page G-41</p> |
|--|---|

HEATER UNIT**Removal / Installation**

1. Drain the engine coolant.
2. Remove the dashboard. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Remove the cooling unit. (Refer to page G-61.)
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.
6. Operate the heater control unit switches and verify that the actuators operate.



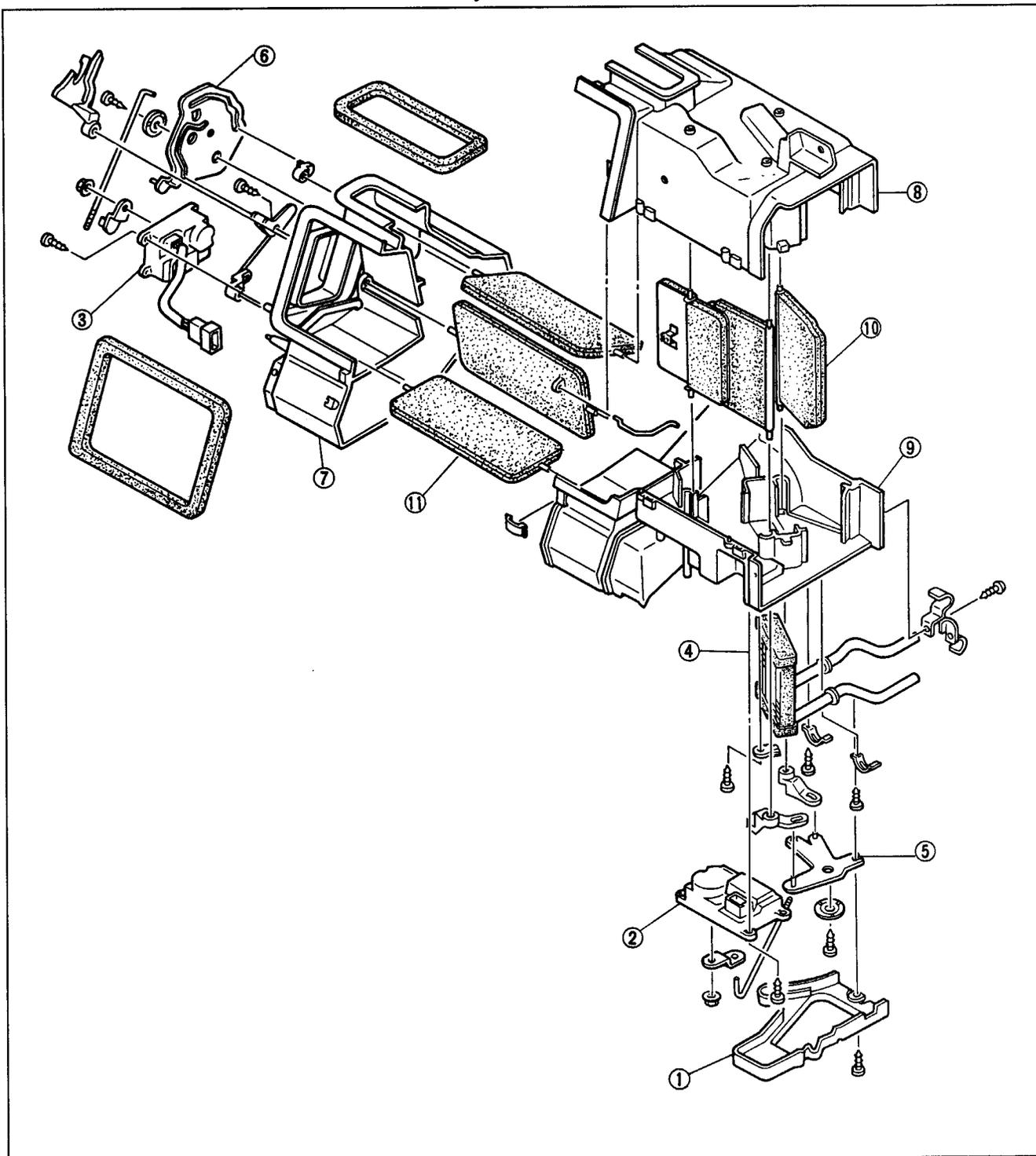
47U0GX-574

1. Heater hose

2. Heater unit

Disassembly / Assembly

1. Disassemble in the order shown in the figure.
2. Check for the following and repair or replace the heater core as necessary.
 - Cracks, damage, and water leakage
 - Bent fins
 - Distorted or bent inlet and outlet.
3. Assemble in the reverse order of disassembly.

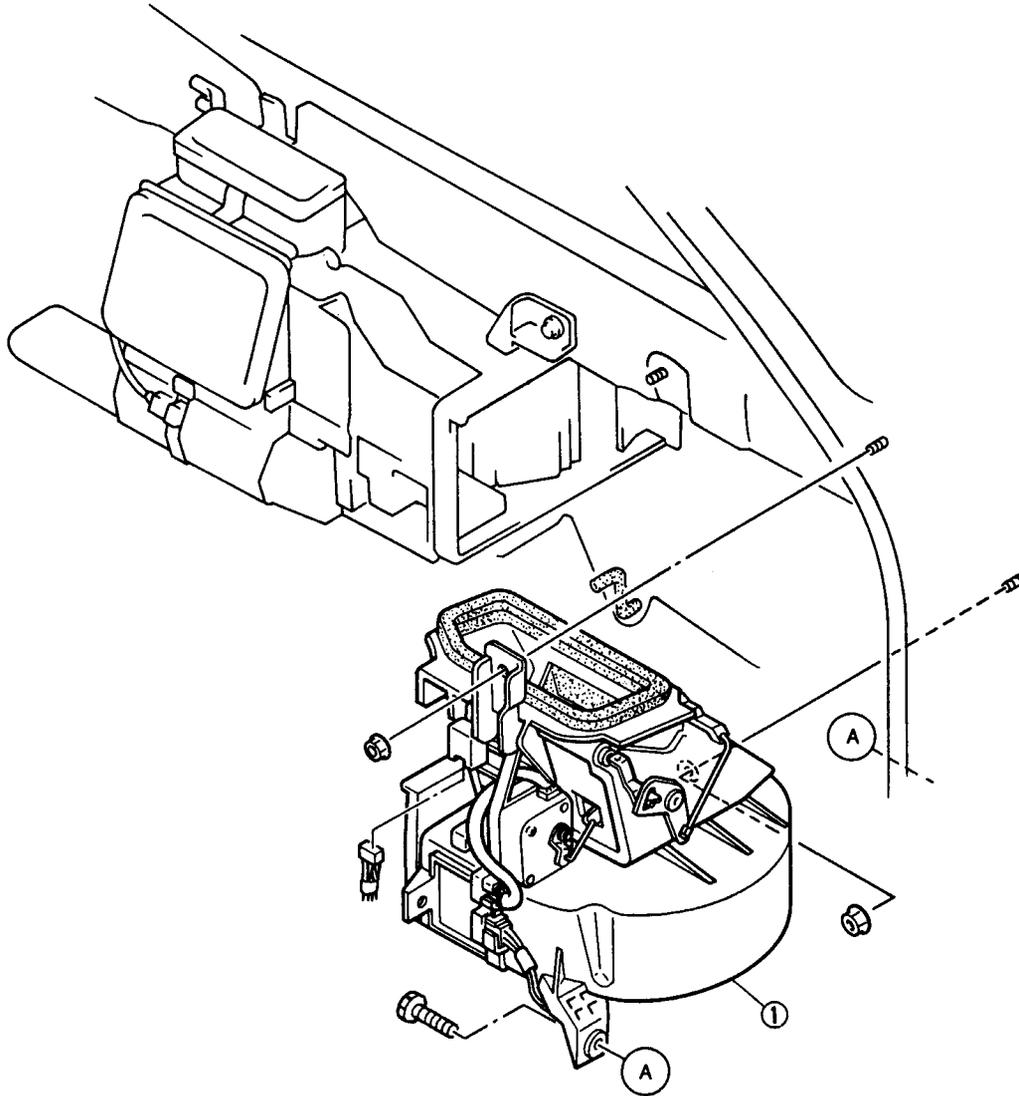


47U0GX-575

- | | | |
|--------------------------|------------------|-----------------------|
| 1. Heater cover | 5. Mix link set | 9. Case C |
| 2. Air mix actuator | 6. Mode link set | 10. Air mix door |
| 3. Airflow mode actuator | 7. Case A | 11. Airflow mode door |
| 4. Heater core | 8. Case B | |

BLOWER UNIT**Removal / Installation**

1. Remove the dashboard. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the cooling unit. (Refer to page G-61.)
3. Remove in the order shown in the figure.
4. Install in the reverse order of removal.
5. Verify that the blower motor and air intake actuator operate normally.

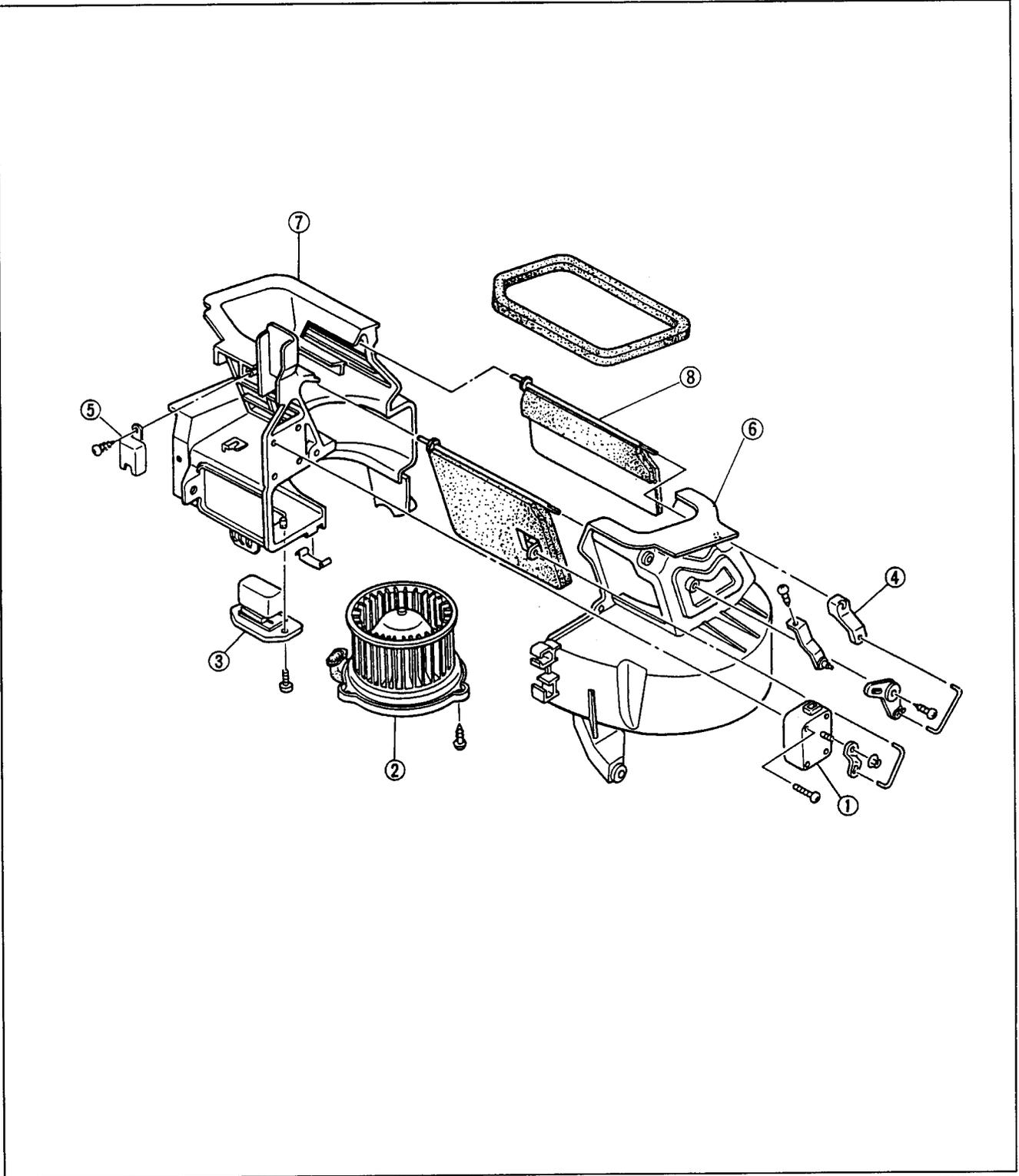


47U0GX-576

1. Blower unit

Disassembly / Assembly

- 1. Disassemble in the order shown in the figure.
- 2. Assemble in the reverse order of disassembly.



47U0GX-577

- 1. Air intake actuator
- 2. Blower motor
Inspection page G-36
- 3. Resistor
Inspection page G-36
- 4. Intake link assembly

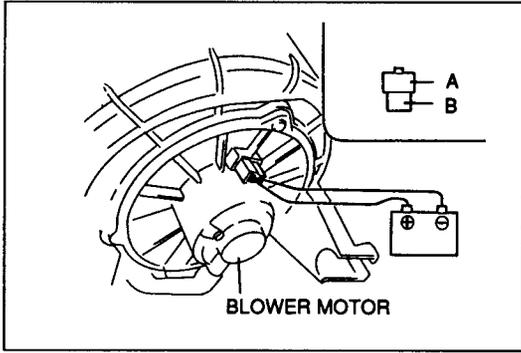
- 5. Blower relay
Inspection page G-36
- 6. Case A
- 7. Case B
- 8. Rec-Fresh door assembly

BLOWER MOTOR AND RESISTOR

Inspection

Blower motor

1. Disconnect the blower motor connector.
2. Apply battery positive voltage to terminal A and connect terminal B to ground. Verify that the motor operates.
3. If not as specified, replace the blower motor.
(Refer to page G-35.)



47U0GX-578

Resistor

1. Disconnect the resistor connector.
2. Check for continuity between terminals of the resistor.

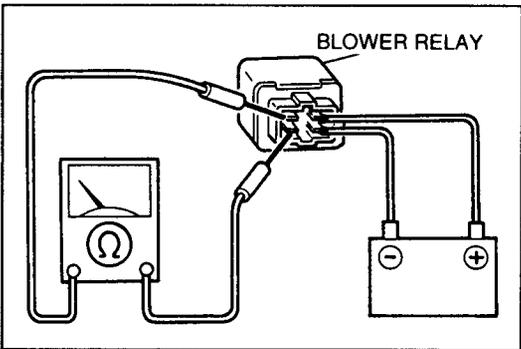
Terminals	Continuity
C—D	Yes (resistance : 1.35Ω)
A—D	Yes (resistance : 0.62 Ω)
A—B	Yes (resistance : 0.28 Ω)

3. If not as specified, replace the resistor.
(Refer to page G-35.)

BLOWER RELAY

Inspection

1. Remove the blower relay.
(Refer to page G-35.)
2. Verify that there is no continuity between terminals C and D.
3. Check for continuity between terminals C and D when battery positive voltage is applied to terminal A and terminal B is grounded.



47U0GX-580

B+: Battery positive voltage

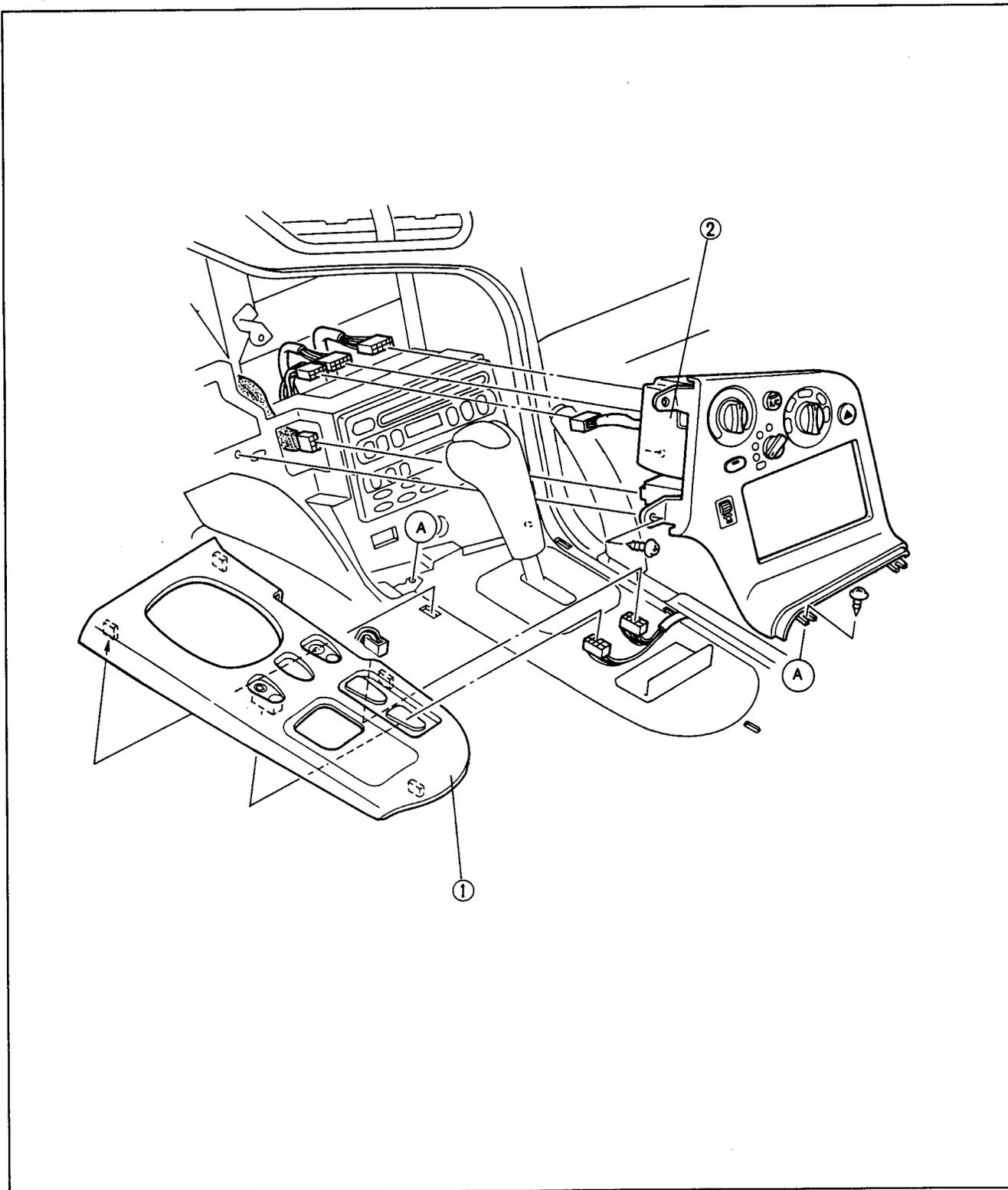
B+	GND	Terminal			
		A	B	C	D
—	—	○	○		
A	B			○	○

○—○ : Continuity

4. If not as specified, replace the blower relay.
(Refer to page G-35.)

HEATER CONTROL UNIT**Removal / Installation**

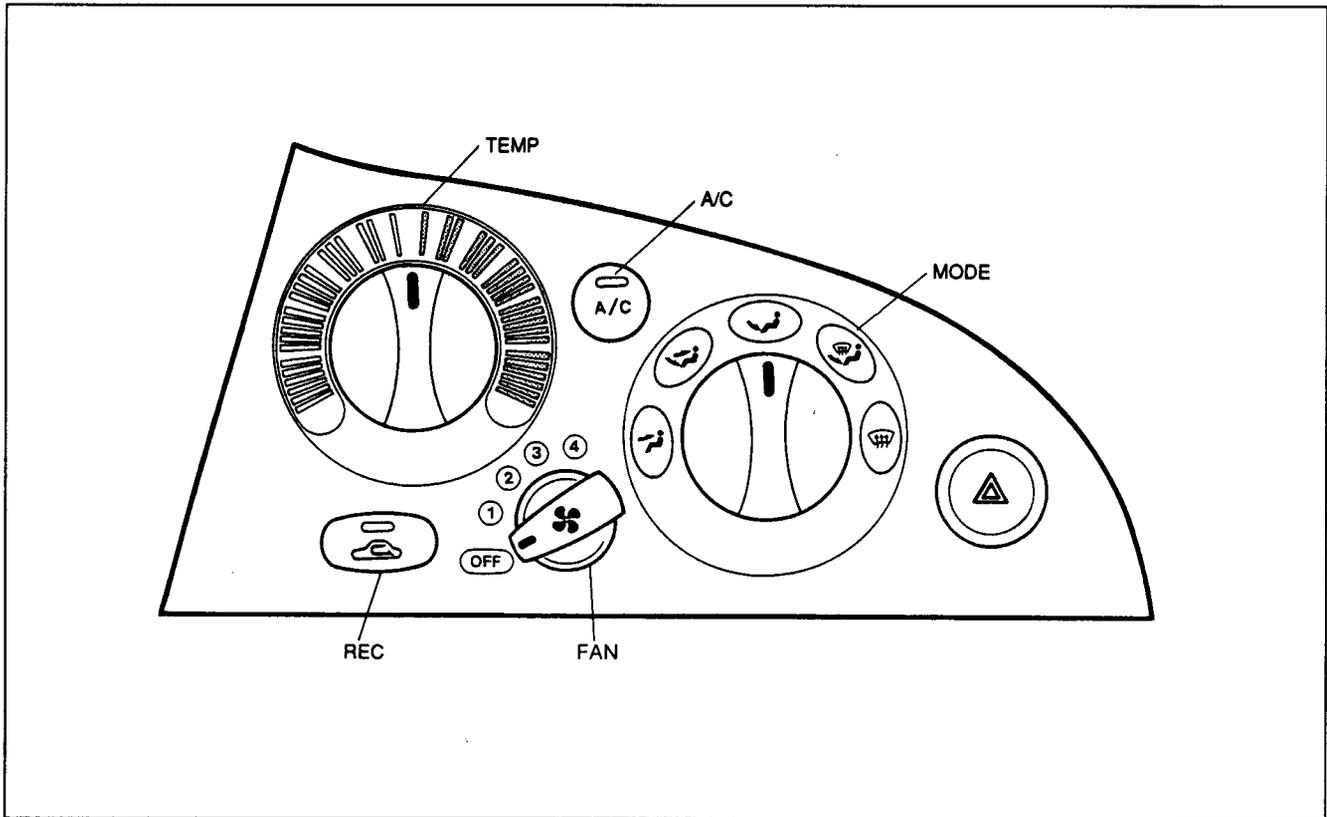
1. Disconnect the negative battery cable.
2. Remove the meter hood. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Remove in the order shown in the figure.
4. Install in the reverse order of removal.
5. Operate the heater control unit switches and verify that all related parts operate normally.



1. Console panel

2. Heater control unit

47U0GX-581



47U0GX-582

Switch / Indicator Description

Switch	Operation and function	Indicator
REC	Changes intake air • ON Recirculated • OFF Fresh	Illuminates when on
A/C	Turns A/C compressor on (when blower is on)	Illuminates when on
MODE	Changes airflow mode • Clockwise..... VENT → B/L → HEAT → H/D → DEF • Counterclockwise..... DEF → H/D → HEAT → B/L → VENT	—
FAN	Changes blower level • Clockwise..... OFF → 1st → 2nd → 3rd → 4th • Counterclockwise..... 4th → 3rd → 2nd → 1st → OFF	—
TEMP	Changes temperature • Clockwise..... COLD → HOT • Counterclockwise..... HOT → COLD	—

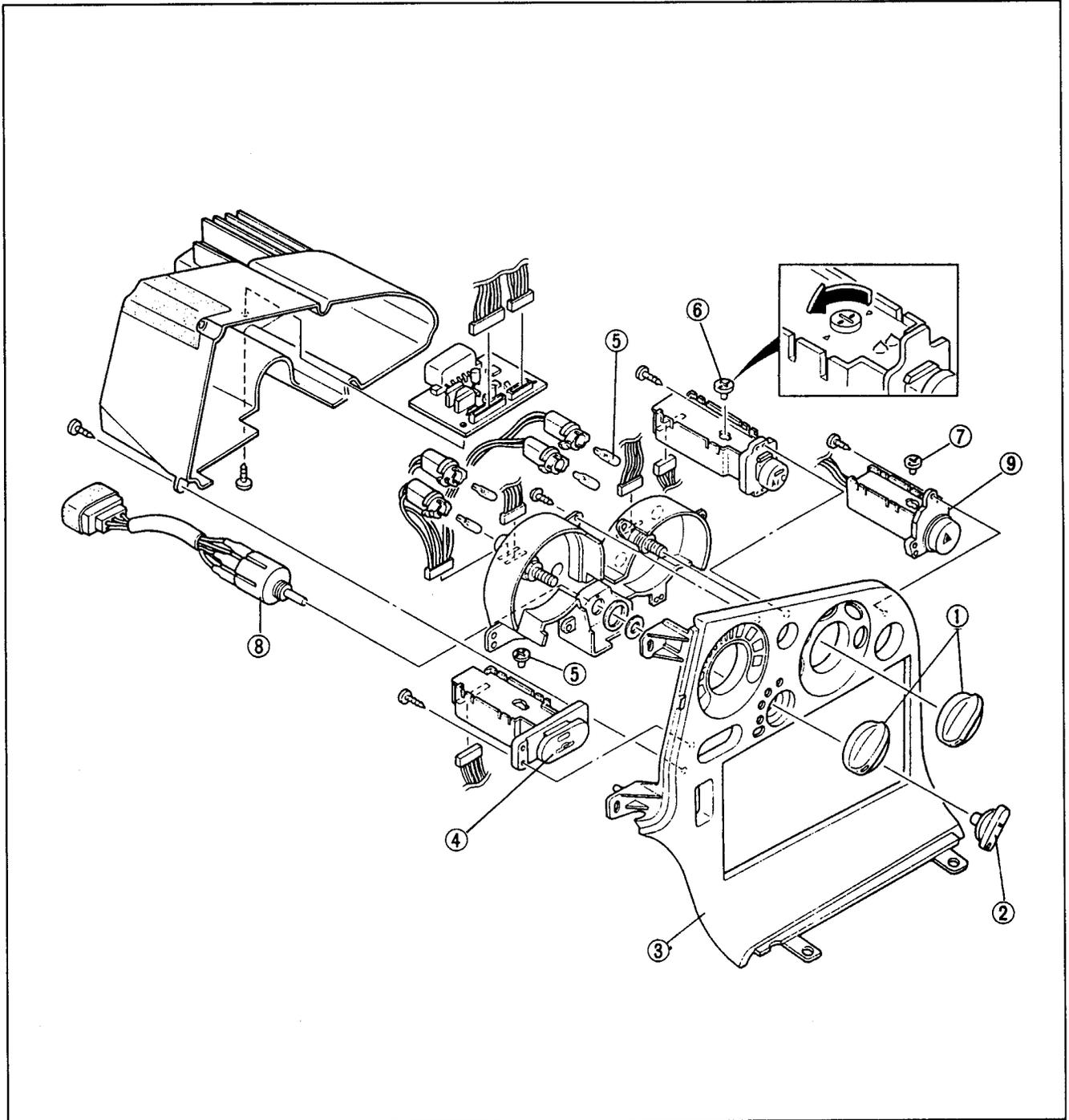
47U0GX-583

Disassembly / Assembly

1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of removal.

Caution

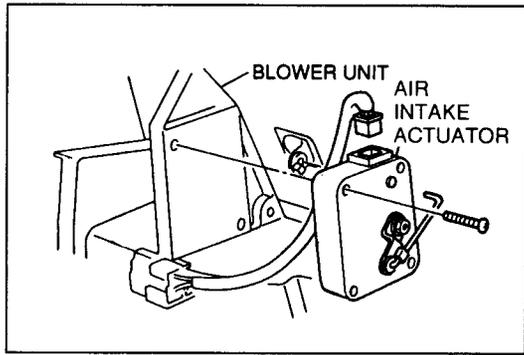
- The hazard warning switch must be removed together with the wiring harness after disconnecting the connectors.
- When removing the bulb, turn the socket connector clockwise and pull it straight out.



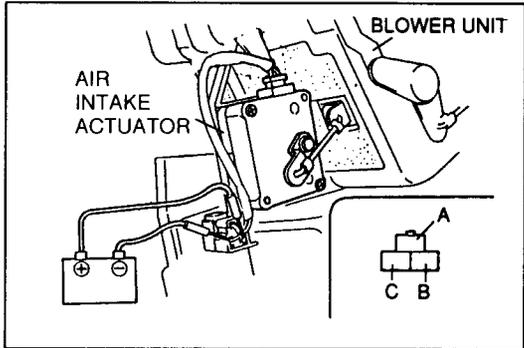
47U0GX-584

1. Knob No.1 × 2
2. Fan switch knob
3. Panel
4. REC switch
5. Bulb (transparent) × 4

6. Bulb (orange) × 2
7. Bulb (red) × 1
8. Fan switch
9. Hazard warning switch



47U0GX-585



47U0GX-586

AIR INTAKE ACTUATOR

Removal / Installation

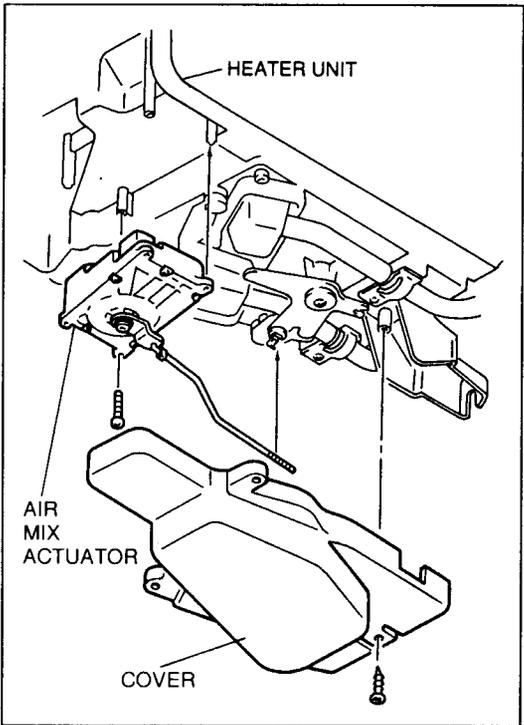
1. Remove the blower unit. (Refer to page G-34.)
2. Remove the air intake actuator as shown in the figure.
3. Install the air intake actuator in the reverse order of removal.

Inspection

1. Disconnect the air intake actuator connector.
2. Apply battery positive voltage to terminal A and connect terminal B or C to ground. Check the air intake actuator operation.

B+: Battery positive voltage

B+	GND	Air intake actuator operation
A	B	FRESH → REC
	C	REC → FRESH



47U0GX-587

AIR MIX ACTUATOR

Removal / Installation

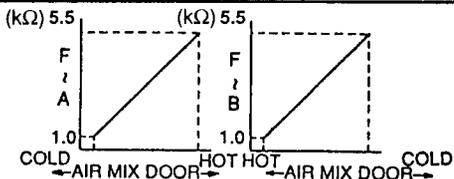
1. Remove the dashboard. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the air mix actuator as shown in the figure.
3. Install the air mix actuator in the reverse order of removal.

Inspection

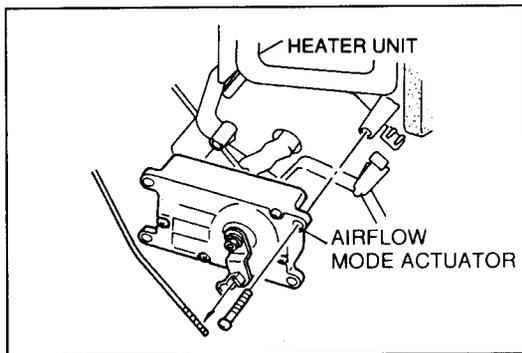
1. Disconnect the air mix actuator connector.
2. Connect battery positive voltage between terminals G and H and verify that the air mix actuator operates and that the resistance of the potentiometer is as shown.

B+: BATTERY POSITIVE VOLTAGE

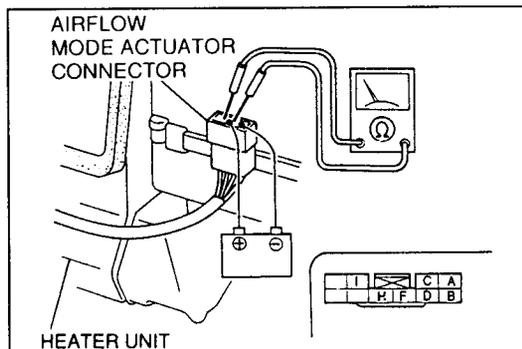
B+	GND	Air mix actuator operation	Measure resistance between
G	H	HOT → COLD	F-B
H	G	COLD → HOT	F-A



47U0GX-588



47U0GX-589



47U0GX-590

AIRFLOW MODE ACTUATOR

Removal / Installation

1. Remove the dashboard. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the airflow mode actuator as shown in the figure.
3. Install the airflow mode actuator in the reverse order of removal.

Inspection

1. Disconnect the airflow mode actuator connector.
2. Apply battery positive voltage to terminal J and connect terminal K to ground. Verify that the airflow mode actuator operates (VENT → DEF).
3. Check for continuity between the terminals of the airflow mode actuator.

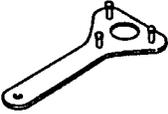
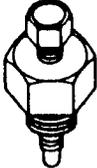
Airflow mode	Terminal						
	A	B	C	D	F	H	I
VENT			○	○	○	○	○
B/L	○	○		○	○	○	○
HEAT	○	○	○		○	○	○
H/D	○	○	○	○		○	○
DEF	○	○	○	○	○		

○—○ : Continuity

AIR CONDITIONER

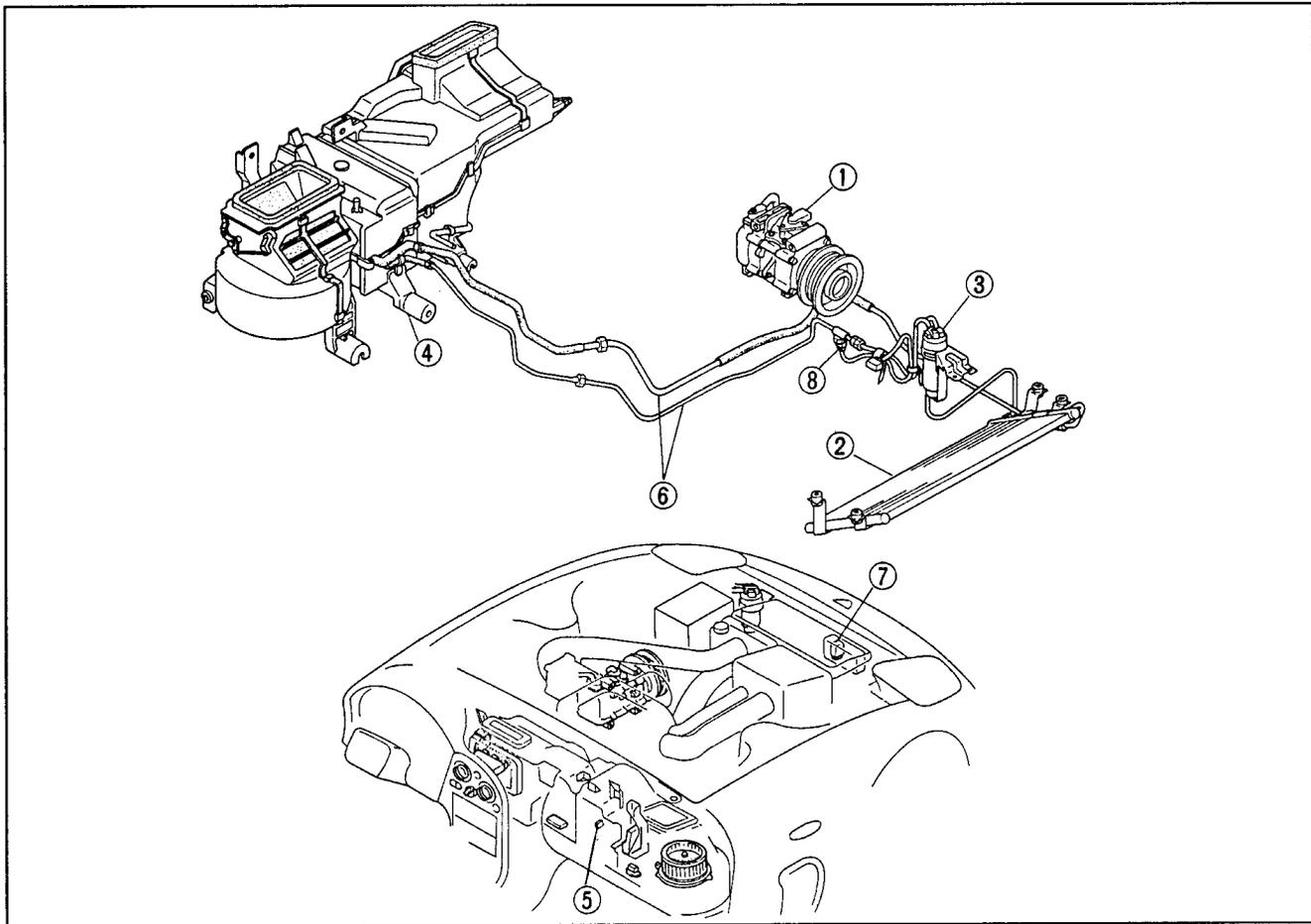
PREPARATION

SST

<p>49 L061 001</p> <p>Stopper, magnetic clutch</p> 	<p>For stopper of magnetic clutch</p>	<p>4992-02-020</p> <p>Pressure plate remover</p> 	<p>For removal of pressure plate</p>
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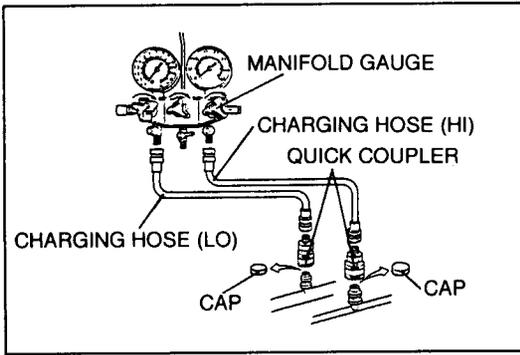
47U0GX-591

STRUCTURAL VIEW

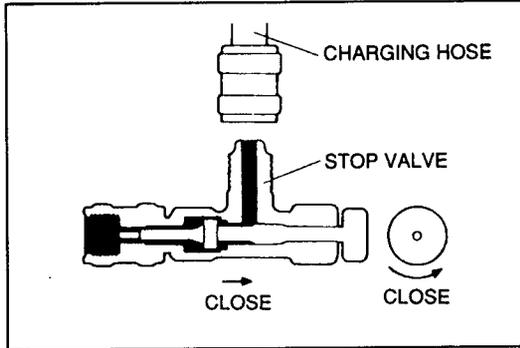


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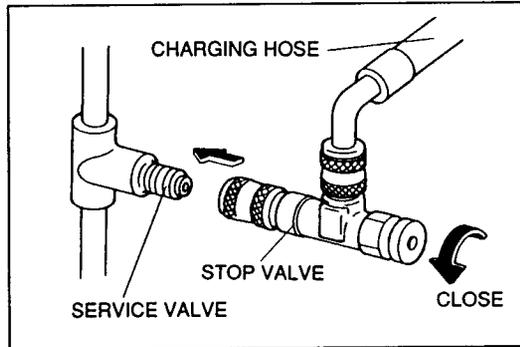
- | | |
|---|---|
| <p>1. A/C compressor
Removal / Installation..... page G-50
Adjustment page G-50
Disassembly / Assembly page G-51
Inspection..... page G-58</p> <p>2. Condenser
Removal / Inspection /
Installation page G-59</p> <p>3. Receiver drier
Removal / Installation..... page G-60</p> <p>4. Cooling unit
Removal / Installation..... page G-61
Disassembly / Inspection /
Assembly..... page G-62</p> | <p>5. Thermostatic switch
Removal / Installation..... page G-63
Inspection..... page G-63</p> <p>6. Refrigerant lines
Removal / Installation..... page G-64</p> <p>7. A/C relay
Inspection..... page G-65</p> <p>8. Refrigerant pressure switch
Inspection..... page G-65</p> |
|---|---|



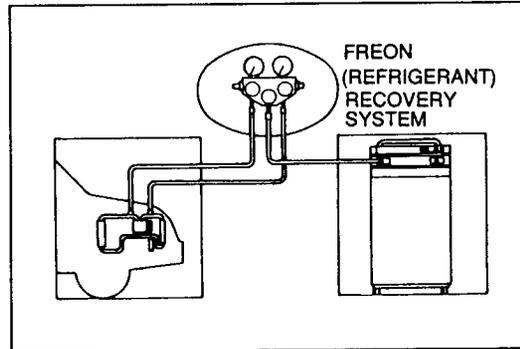
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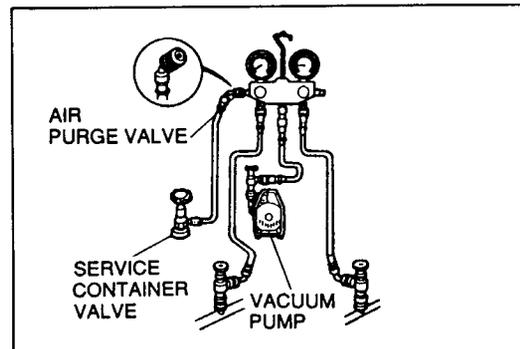
49U0GX-594



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49U0GX-596



47U0GX-597

REFRIGERANT SYSTEM SERVICE PROCEDURES

Manifold Gauge Set Installation (R-134a)

1. Fully close the valves of the manifold gauge.
2. Connect charging hoses to the high- and low-pressure-side joints of the manifold gauge set.
3. Connect quick couplers to the ends of the charging hoses.
4. Remove the caps from the charging valves of the high- and low-pressure-side cooler pipes.
5. Connect the quick couplers to the charging valves of the cooler pipes.

(R-12)

Connect stop valves to the charging hoses of the manifold gauge set to prevent the refrigerant from escaping into the atmosphere.

1. Fully close the stop valves by turning the knobs counterclockwise.
2. Install the stop valves to the ends of the charging hoses of the manifold gauge set.

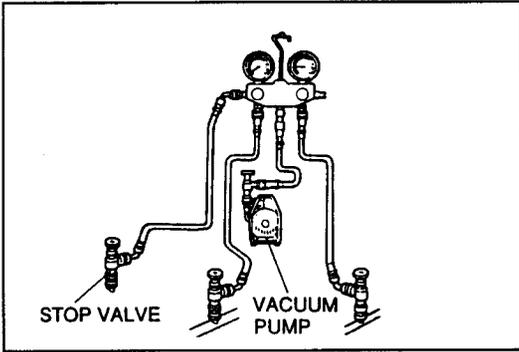
3. Connect the high- and low-pressure-side charging hoses and stop valves to the refrigerant service valves.

Recovery

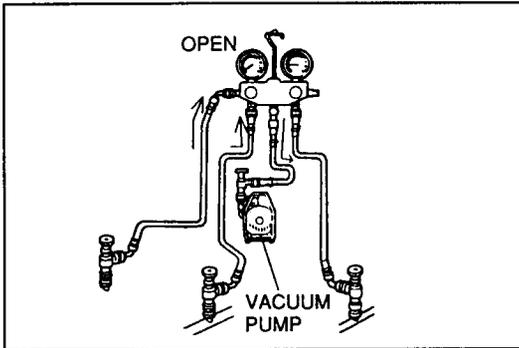
Use a freon recovery/recycling system to remove the refrigerant from the system.

Evacuation and Airtightness Test

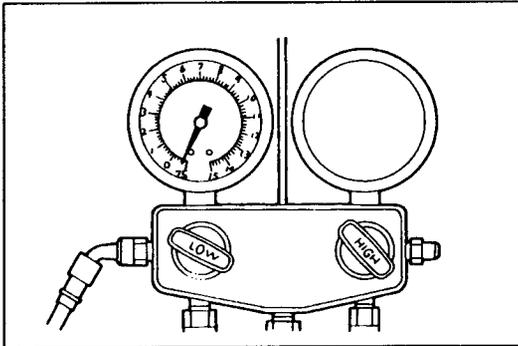
1. Connect the manifold gauge set to the refrigerant system service valves.
2. Connect the center hose of the gauge set to the vacuum pump inlet.



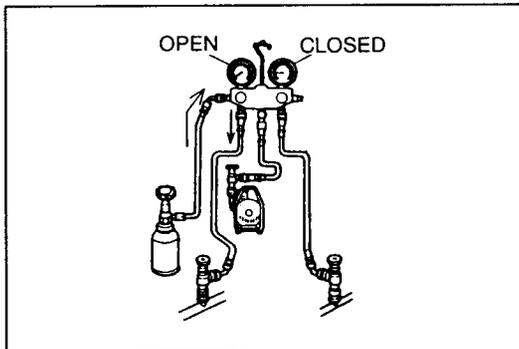
47U0GX-598



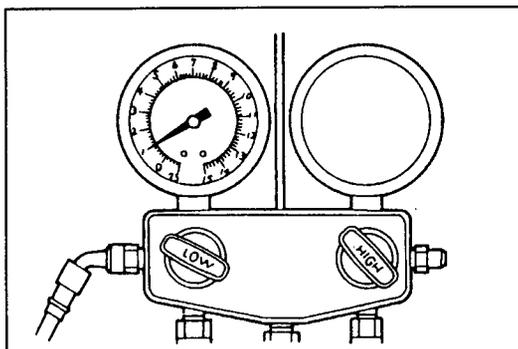
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47U0GX-600



47U0GX-601



47U0GX-602

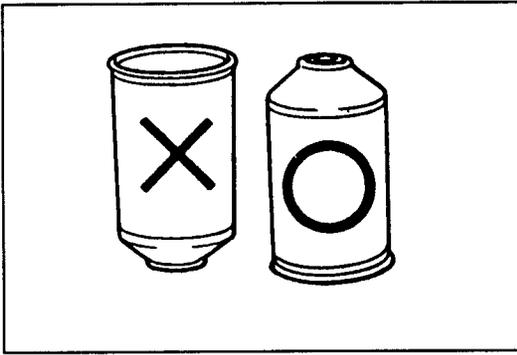
3. Connect the charging hose and service container valve (stop valve) to the tap pin side of the gauge set air purge valve. Keep the service container valve (stop valve) closed until you're ready to begin charging. Do not disconnect the charging hose or the service container valve (stop valve) until charging is complete.

4. Start the vacuum pump and open the low-pressure-side valves of the manifold gauge set.
5. Start the pump and let it operate for **15 minutes**.

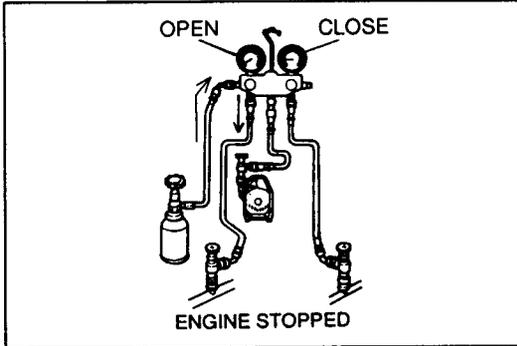
6. Check the high- and low-pressure-side gauge readings. When both of them are at **100 kPa {750 mmHg, 29.5 inHg}** or more, close the manifold gauge set valves.
7. Stop the vacuum pump and wait for about **5 minutes**.
8. Verify that the low-pressure-side gauge reading does not change.
9. If the reading changes, retighten the piping connections and repeat the evacuation operation.
10. If unchanged, check for leaks (see below) and charge the system.

Leak Test

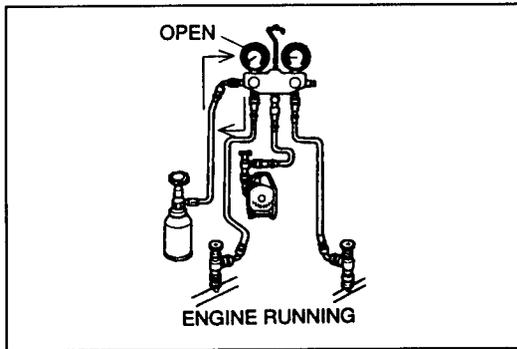
1. Evacuate the system and test for airtightness. (Refer to page G-43.)
2. If you're using a service container, connect it to the service container valve and open the container. If you're using a recovery/recycling system, connect the charging valve of the system to the stop valve.
3. Charge the system until the low-pressure-side gauge indicates **98.1 kPa {1.00 kgf/cm², 14.2 psi}**.
4. Check for leaks at the system piping joints by using a gas leak tester.
5. If leaks are found, check the O-rings and tighten the joints. Replace and/or retighten as necessary. (Refer to page G-64.)
6. If no leaks are found, fully charge the system.



47U0GX-603



47U0GX-604



47U0GX-605

Charging From a Service Container

1. Evacuate the system and test for airtightness (refer to page G-43.) and leaks.

Regular amount of refrigerant:

450—550 g {15.9—19.4 oz} (R-134a)

600 g {21.2 oz} (R-12)

Caution

- Keep the service container in an upright position while charging. If the container is upside down, liquid refrigerant can enter the system and damage the compressor.

2. Open the low-pressure-side valve of the manifold gauge set and charge with half the regular amount of refrigerant.

3. Close the low-pressure-side valve.

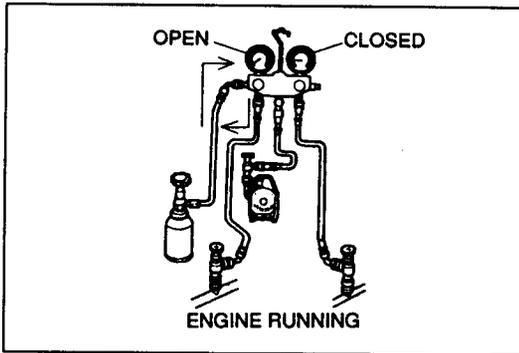
4. Start the engine and actuate the A/C compressor. Do not open the low-pressure-side valve while the engine is running.

5. Open the low-pressure-side valve of the manifold gauge set and charge with the remaining refrigerant.

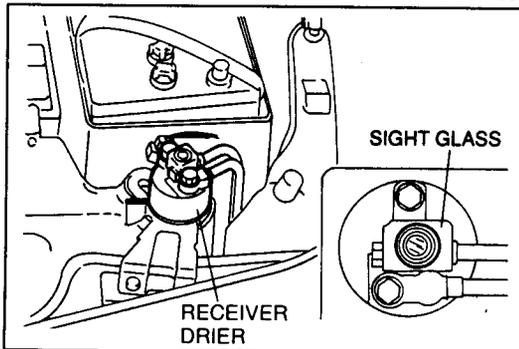
6. Close the low-pressure-side valve.

7. Stop the engine.

8. Close all stop valves and the service container valve. Do not disconnect the stop valves or the service container valve from the charging hoses. Doing so will release refrigerant into the atmosphere.



47U0GX-606



47U0GX-607

Refilling

1. Connect the manifold gauge set to the refrigerant system charging valve. (Refer to page G-43.)
2. Start the engine.

Caution

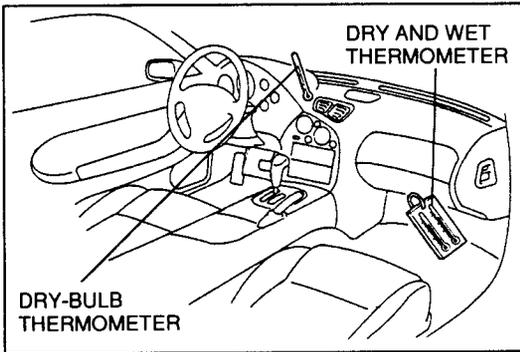
- If there is too much refrigerant in the system, pressure cannot be fixed at an appropriate level to change the gas to a liquid. Do not overcharge the system.

3. Open the low-pressure-side valve of the manifold gauge set and charge the system as necessary.

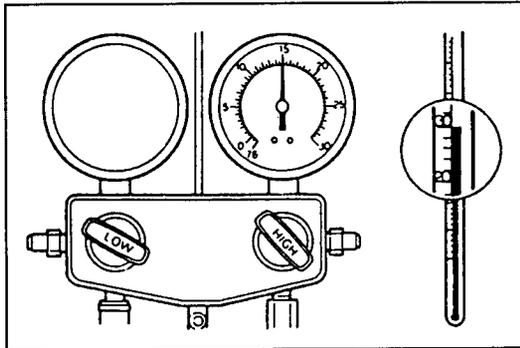
Note

- If the ambient temperature is low, bubbles may not be present even though the system needs refrigerant.

4. Observe the sight glass while refilling with refrigerant. When no bubbles can be seen, close the low-pressure-side valve.
5. Stop the engine.
6. Close all stop valves and the service container valve. Do not disconnect the stop valves or the service container valve from the charging hoses. Doing so will release refrigerant into the atmosphere.



47U0GX-608



47U0GX-609

PERFORMANCE TEST

After servicing the refrigerant system, test its performance.

1. Connect a manifold gauge set to the charging valve. (Refer to page G-43.)
2. Place a dry-bulb thermometer in the center ventilator outlet.
3. Place a wet- and dry-bulb thermometer in the blower inlet.
4. Open all doors and windows.
5. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
6. Press the ACS.
7. Turn the fan switch to the fourth position.
8. Press the REC switch on.
9. Set the TEMP switch to MAX COLD.
10. Wait until the air conditioner output temperature stabilizes.

Stabilized condition

(R-134a)

Blower inlet temperature: 30—35°C {86—95°F}

High-pressure-side: 1.37—1.57 MPa
{14.0—16.0 kgf/cm², 199—228 psi}

(R-12)

Blower inlet temperature: 30—35°C {86—95°F}

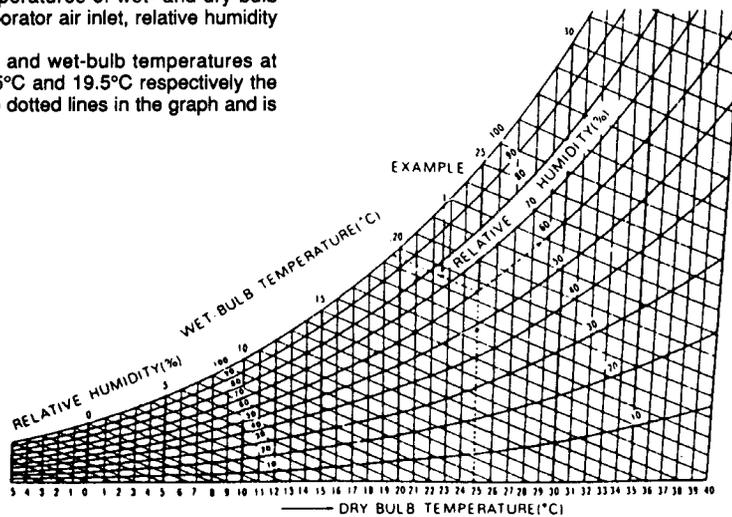
High-pressure-side: 1.43—1.47 MPa
{14.5—15.0 kgf/cm², 207—213 psi}

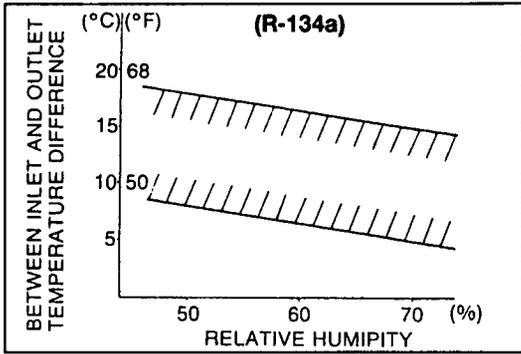
11. After the air conditioner stabilizes, read the wet- and dry-bulb thermometer and then calculate the relative humidity by using the graph below.

HOW TO READ THE GRAPH:

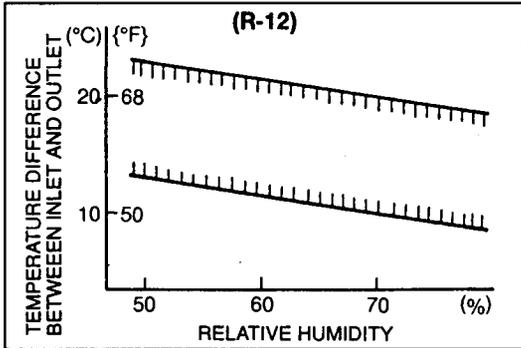
After measuring the temperatures of wet- and dry-bulb thermometers at the evaporator air inlet, relative humidity (%) can be obtained.

Example Supposing dry- and wet-bulb temperatures at evaporator air inlet are 25°C and 19.5°C respectively the point of intersection of the dotted lines in the graph and is 60%.

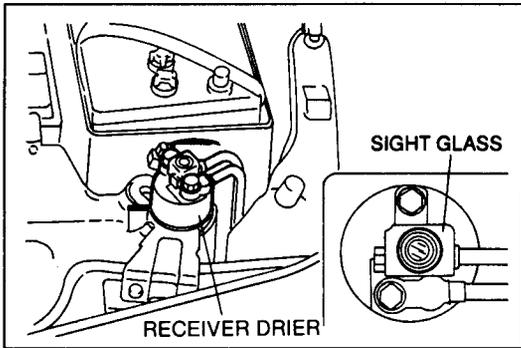




47U0GX-610



47U0GX-611



47U0GX-612

12. Read the dry thermometer at the air outlet, and calculate the temperature difference between the center ventilator outlet and the blower inlet.
13. Verify that the intersection of the temperature difference and the relative humidity is in the shaded zone.

CHECKING REFRIGERANT AMOUNT

1. Open all doors and windows.
2. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
3. Follow the procedures in the table to determine the refrigerant amount condition.

Step	Procedure	Sight glass	Cause/Action
1	1. Turn ACS on and move fan switch to fourth position. 2. Press REC switch on. 3. Set TEMP switch to MAX COLD. 4. Verify that A/C compressor is operating and observe refrigerant condition in sight glass.	Clear	Too much or proper amount of refrigerant Go to Step 2
		Bubbles present	Insufficient refrigerant Check refrigerant pressure
		Cloudy	Insufficient refrigerant Check refrigerant pressure
2	Turn off A/C compressor by using ACS and observe refrigerant condition in sight glass.	Clear immediately after A/C compressor turned off, bubbles appear and then disappear	Too much refrigerant Check refrigerant pressure
		Bubbles appear and then disappear	Proper amount of refrigerant Check refrigerant pressure
		Clear	No refrigerant Check refrigerant pressure

47U0GX-613

CHECKING REFRIGERANT PRESSURE

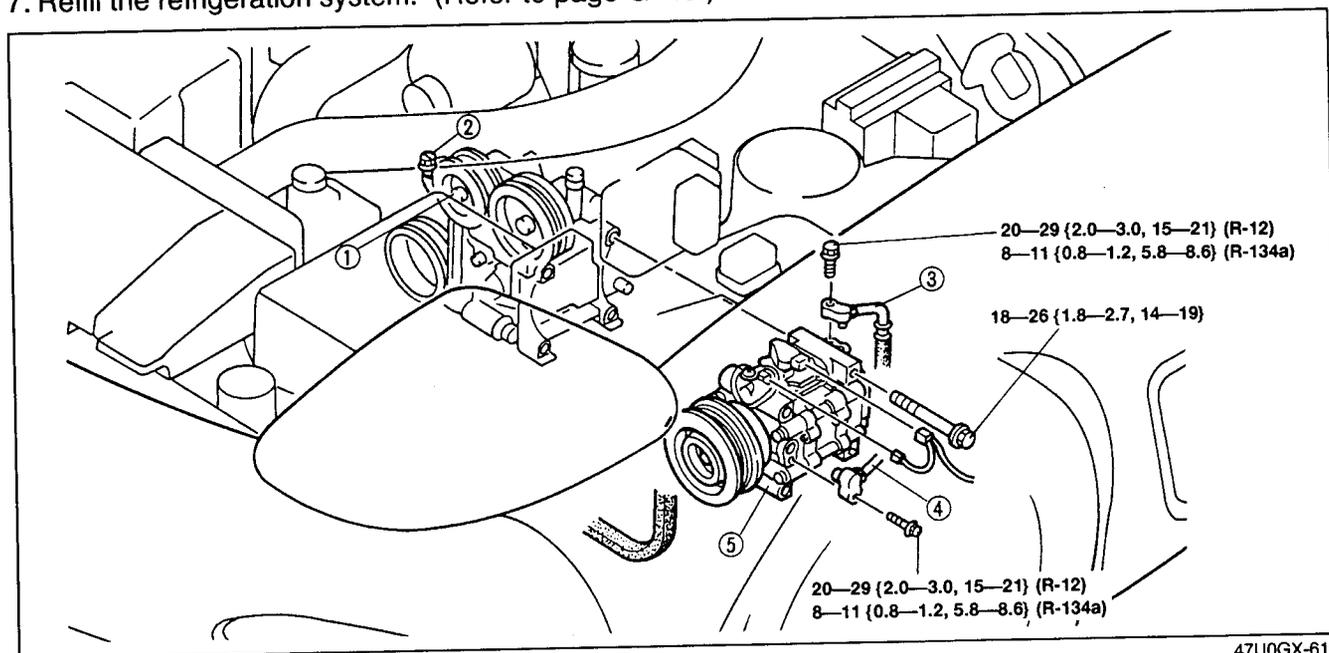
1. Open all doors and windows.
2. Connect a manifold gauge set. (Refer to page G-43.)
3. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
4. Press the ACS.
5. Turn the fan switch to the fourth position.
6. Press the REC switch on.
7. Set the TEMP switch to MAX COLD.
8. Verify the pressure readings of the manifold gauge.

Stabilized condition**(R-134a)****Blower inlet temperature: 30—35°C {86—95°F}****High-pressure side: 1.37—1.57 MPa {14.0—16.0 kgf/cm², 199—228 psi}****Low-pressure side: 0.1—0.2 MPa {1.5—2.5 kgf/cm², 22—35 psi}****(R-12)****Blower inlet temperature: 30—35°C {86—95°F}****High-pressure side: 1.43—1.47 MPa {14.5—15.0 kgf/cm², 207—213 psi}****Low-pressure side: 0.15—0.19 MPa {1.5—2.0 kgf/cm², 22—28 psi}**

47U0GX-614

A/C COMPRESSOR Removal / Installation

1. Remove the refrigerant into a recovery system. (Refer to page G-43.)
2. Remove the battery and battery tray.
3. Disconnect the suction and discharge hoses.
4. Remove the drive belt. (Refer to the 1994 RX-7 Workshop Manual, section C.)
5. Remove in the order shown in the figure. Immediately plug any open fittings to keep moisture out of the system.
6. Install in the reverse order of removal. Apply new compressor oil to the O-rings before connecting the fittings. Do not apply compressor oil to the fittings.
7. Refill the refrigeration system. (Refer to page G-43.)



47U0GX-615

1. Locknut
2. Adjusting bolt
3. Discharge hose

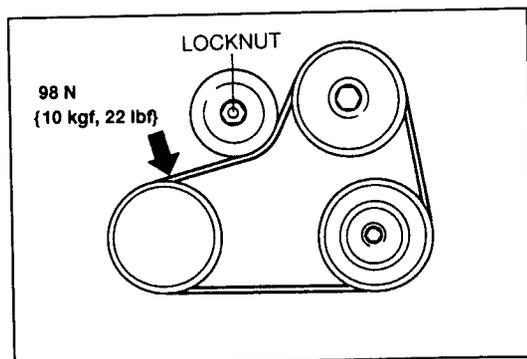
4. Suction hose
5. A/C compressor

Note

- When replacing the A/C compressor, remove the following amount of oil from the new A/C compressor.
Compressor oil to be removed= 150 ml {150 cc, 4.50 fl oz} (R-134a) 120 ml {120 cc, 3.60 fl oz} (R-12)—
(oil from old A/C compressor+15^{±5} ml {15^{±5} cc, 0.5^{±0.1} fl oz})

Adjustment Drive belt

Loosen the locknut and then turn the adjusting bolt to adjust the belt deflection and tension. A belt is considered new if it has been on a running engine for less than five minutes.

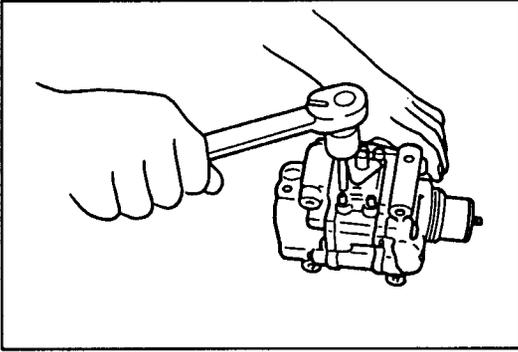


47U0GX-616

Belt	Belt tension
New	740-880 N {75-90 kgf, 170-190 lbf}
Used	540-630 N {55-65 kgf, 130-140 lbf}

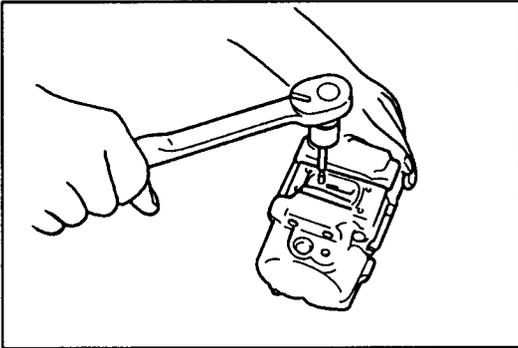
Belt	Belt deflection
New	3.5-4.0mm {0.14-0.15 in}
Used	4.5-5.0mm {0.18-0.19 in}

2) Remove the discharge valve installation bolts and discharge valve body.



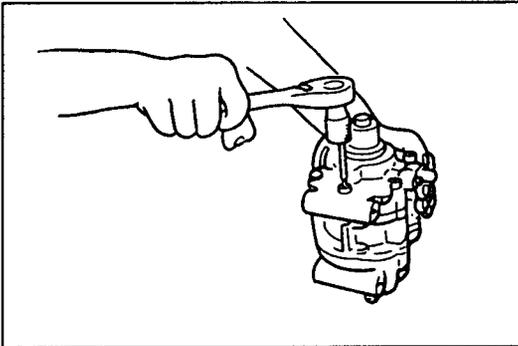
47U0GX-620

3. Remove the bolts, discharge valve plate and discharge valve.



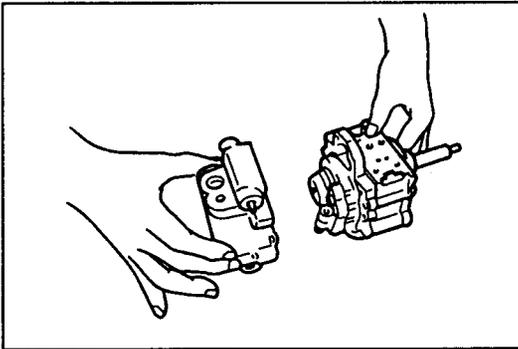
47U0GX-621

4. Remove the front and rear housings
1) Remove the through bolts and front housing.



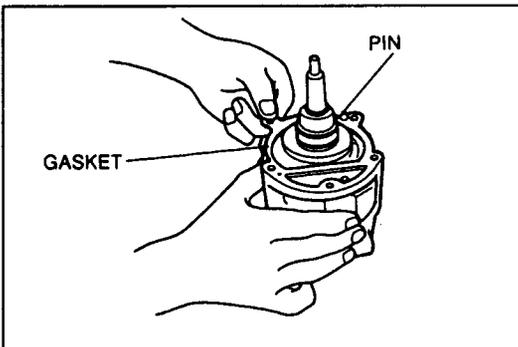
47U0GX-622

2) Remove the rear housing.

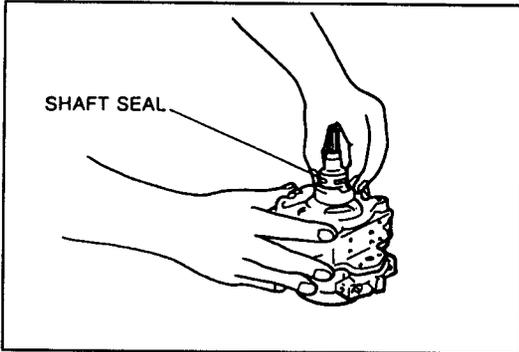


47U0GX-623

3) Remove the pin and gaskets.



47U0GX-624

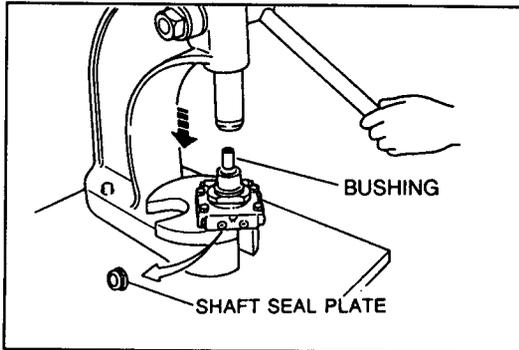


47U0GX-625

5. Remove the shaft seal from the shaft.

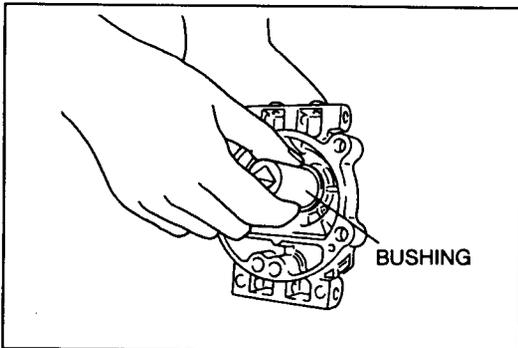
Caution

- Do not disassemble the compressor body.



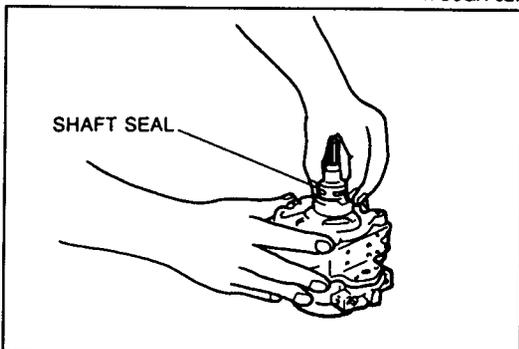
47U0GX-626

6. Remove the shaft seal plate by using a suitably sized bushing.



47U0GX-627

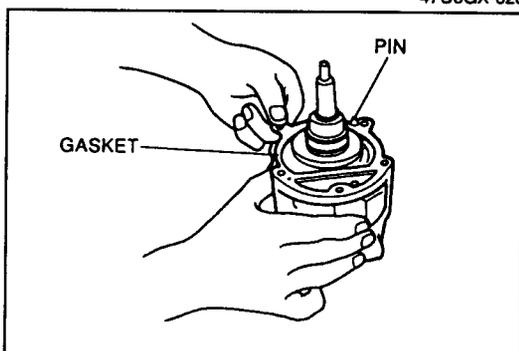
7. Install the shaft seal plate by using a suitably sized bushing.



47U0GX-628

8. Install the shaft seal.

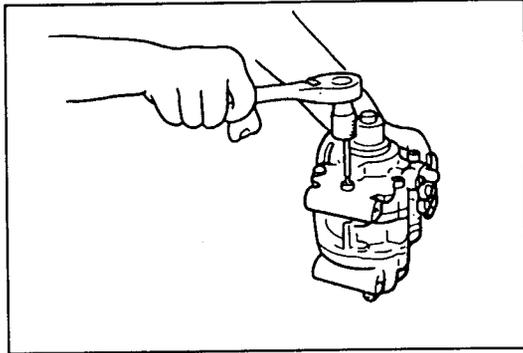
- 1) Lubricate the shaft seal with the compressor oil.
- 2) Install the shaft seal on the shaft.



47U0GX-629

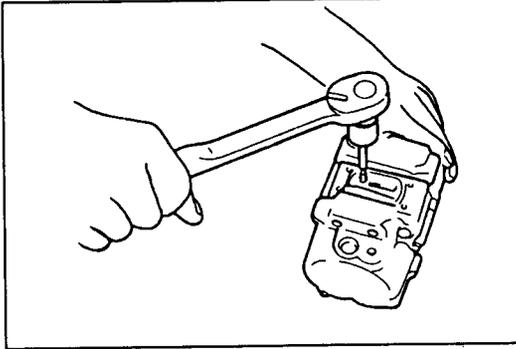
9. Install the front and rear housings.

- 1) Install the new gaskets and pin on the compressor body.



47U0GX-630

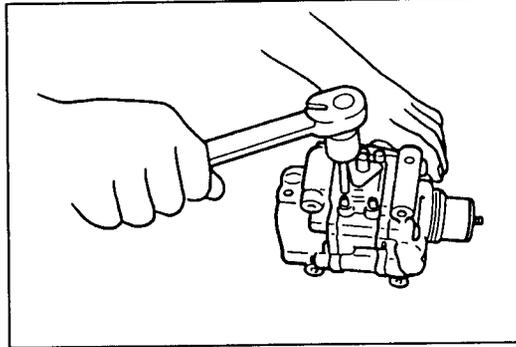
2) Install the front and rear housings and tighten the through bolts loosely.



47U0GX-631

10. Install the discharge valve and discharge valve plate and tighten the bolts.

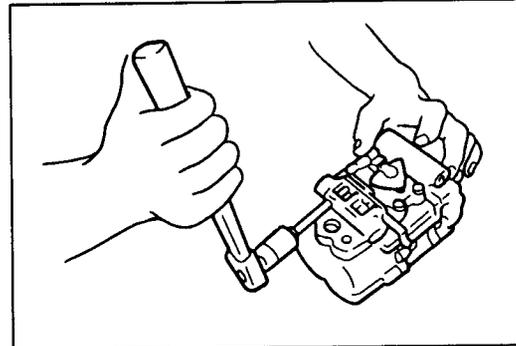
Tightening torque: 4.6 N·m {47 kgf·cm, 41 in·lbf}



47U0GX-632

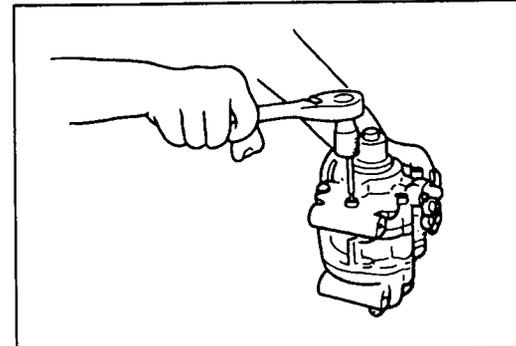
11. Install the discharge valve body.

1) Install the discharge valve body and tighten the bolts loosely.



47U0GX-633

2) Tighten the discharge valve installation through bolts loosely.

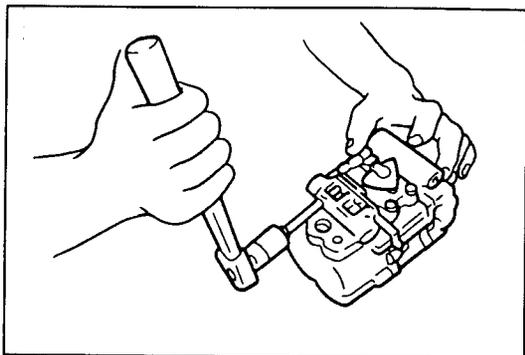


47U0GX-634

12. Tighten all bolts.

1) Tighten the through bolts.

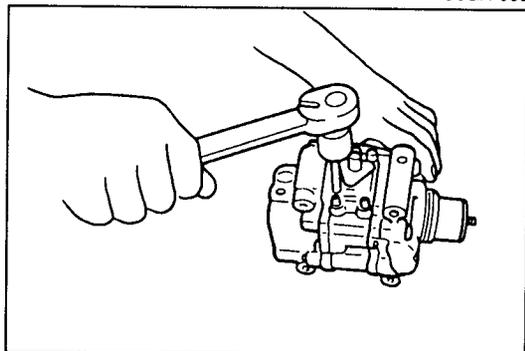
Tightening torque: 25 N·m {2.6 kgf·m, 19 ft·lbf}



47U0GX-635

2) Tighten the discharge valve body installation through bolts.

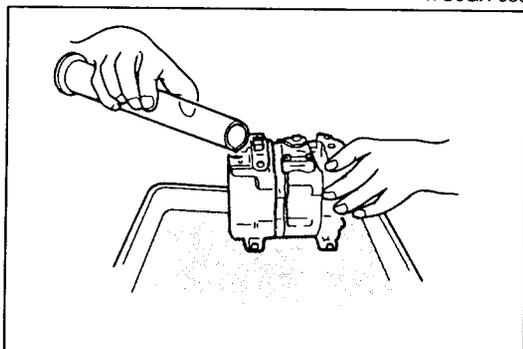
Tightening torque: 10.8 N·m {110 kgf·cm, 95.5 in·lb}



47U0GX-636

3) Tighten the discharge valve body installation bolts.

Tightening torque: 10.8 N·m {110 kgf·cm, 95.5 in·lb}

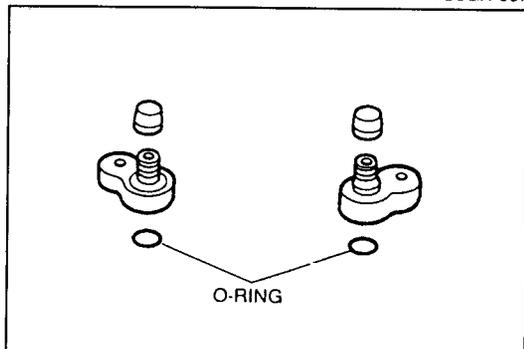


47U0GX-637

13. Pour compressor oil (R-134a: ND-OIL9, R-12: ND-OIL7) into the A/C compressor.

Compressor oil amount:

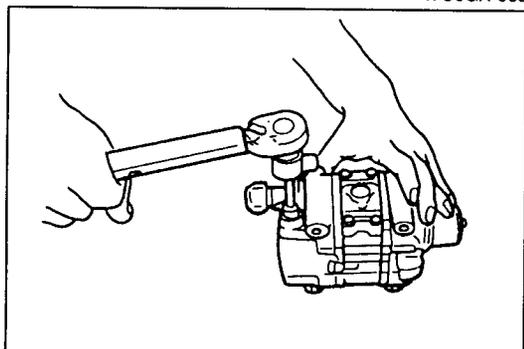
Same amount as drained + 20 ml {20 cc, 0.6 fl oz}



47U0GX-638

14. Install the service valves.

1) Apply compressor oil to the new O-rings.

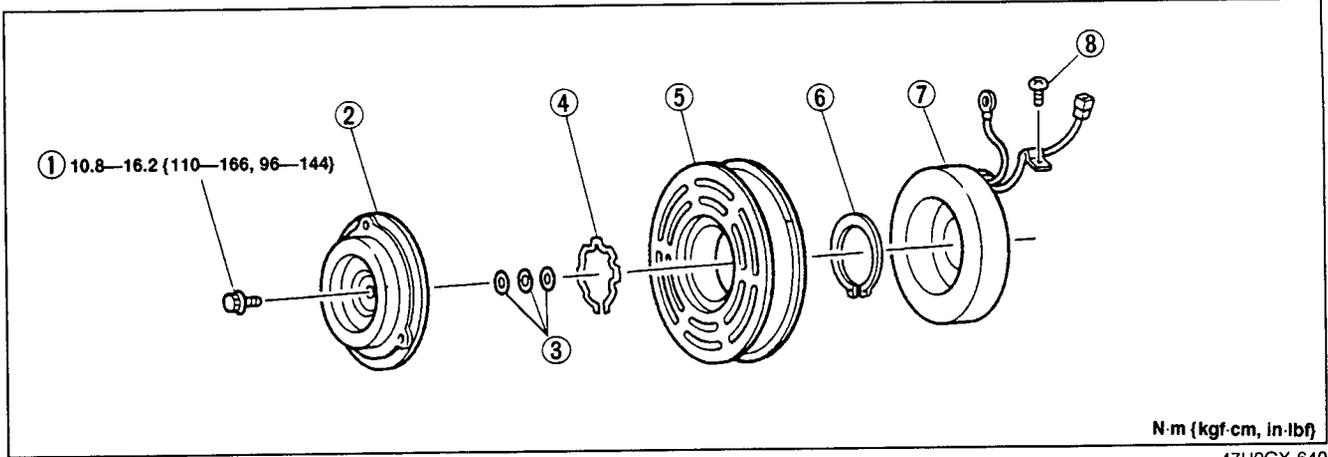


47U0GX-639

2) Install the service valves to the A/C compressor and tighten the installation bolts.

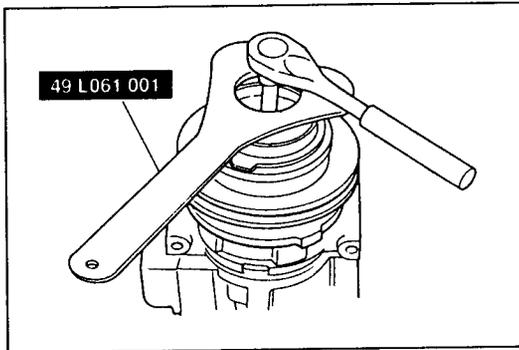
Tightening torque: 12.3 N·m {125 kgf·cm, 108 in·lb}

Magnetic clutch



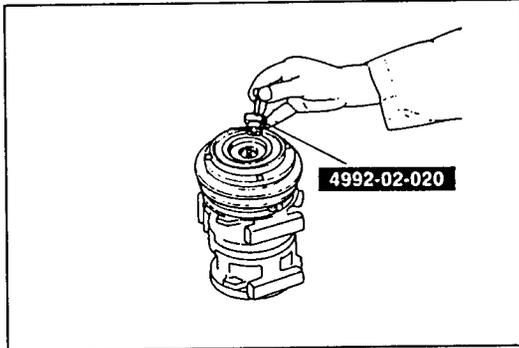
- 1. Bolt
- 2. Pressure plate
Inspection..... page G-57
- 3. Shim
- 4. Snap ring

- 5. Rotor pulley
- 6. Snap ring
- 7. Stator
Inspection..... page G-57
- 8. Screw



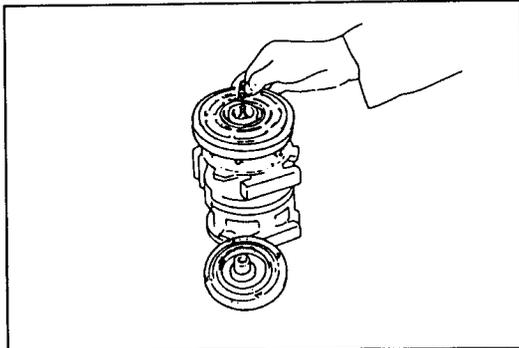
47U0GX-641

1. Hold the clutch with the **SST** and remove the shaft bolt.



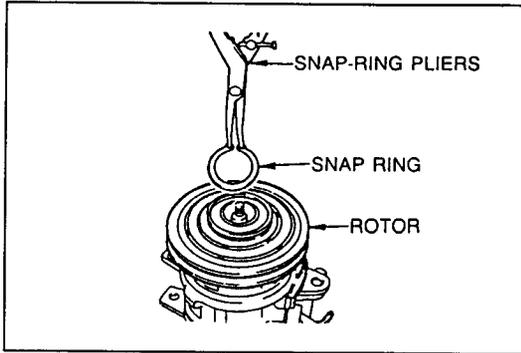
47U0GX-642

2. Remove the pressure plate with the **SST**.



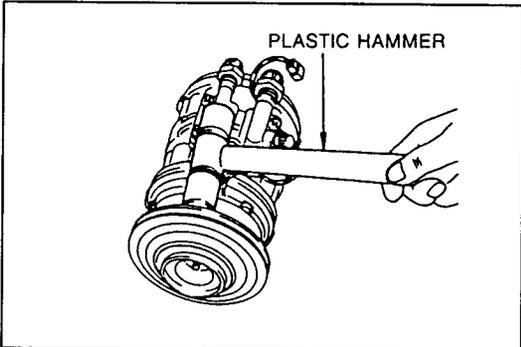
47U0GX-643

3. Remove the shims.



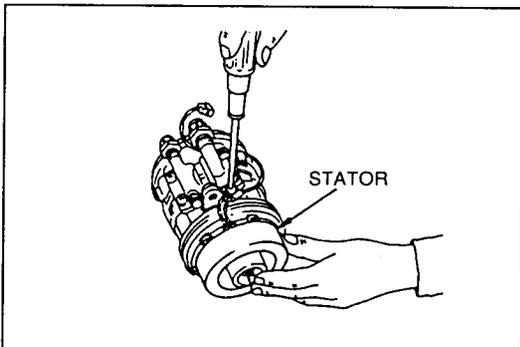
47U0GX-644

4. Remove the snap ring.



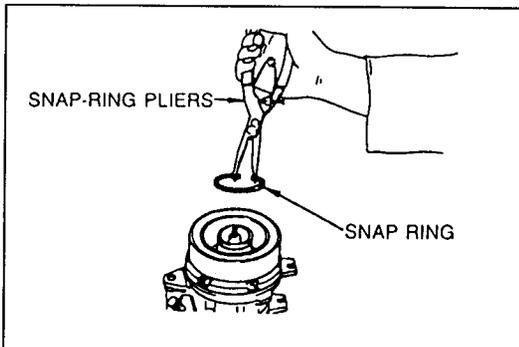
47U0GX-645

5. Remove the rotor by tapping it carefully with a plastic hammer.



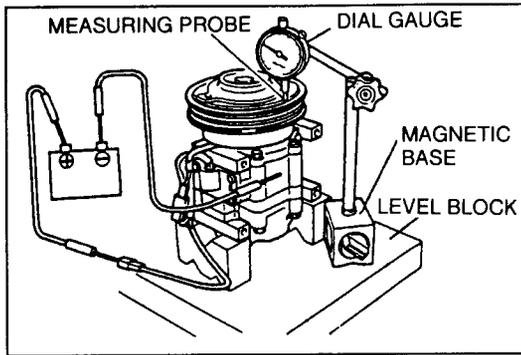
47U0GX-646

6. Disconnect the stator wires from the compressor housing.



47U0GX-647

7. Remove the snap ring and the stator.
8. Assemble in the reverse order of disassembly.



47U0GX-648

Inspection

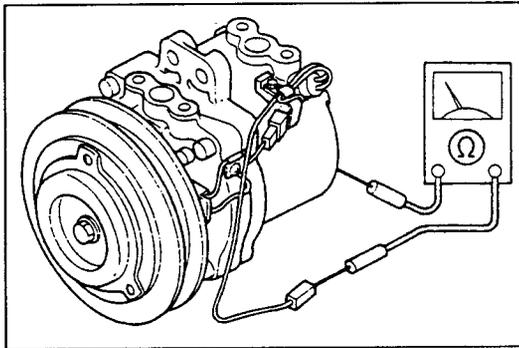
Pressure plate

1. Measure the clearance between the pressure plate and the rotor pulley.
 - (1) Set the A/C compressor on the level plate.
 - (2) Fix a dial indicator on a magnetic base and set the measuring probe on the pressure plate surface.
 - (3) Alternately apply and remove battery positive voltage as shown in the figure. The clearance is the difference in the dial gauge readings.
 - (4) Compare the measured clearance with the specified clearance below.

Clearance: 0.35—0.65mm {0.01—0.02 in}

2. If not as specified, install shims to adjust the clearance.

Shim part no.	Thickness
KA10 61 L12	0.100mm {0.004 in}
KA10 61 L22	0.300mm {0.012 in}
KA10 61 L23	0.500mm {0.020 in}



47U0GX-649

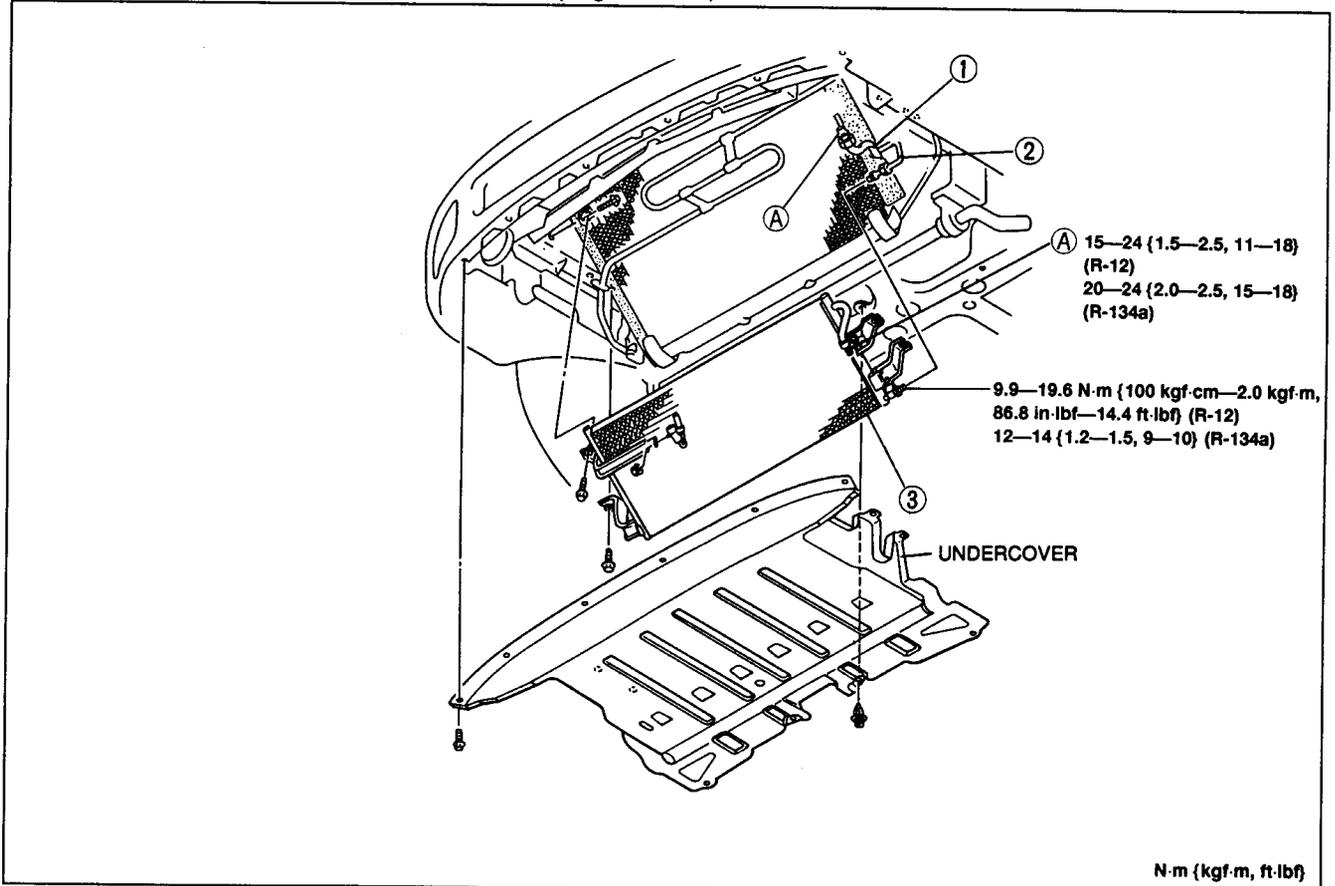
Stator

1. Set the ohmmeter to the $\times 1000\Omega$ range.
2. Verify that there is continuity between the stator terminals.
3. If there is no continuity, replace the stator.

CONDENSER

Removal / Inspection / Installation

1. Remove the refrigerant into a recovery system. (Refer to page G-43.)
2. Remove the undercover. (Refer to the 1994 RX-7 Workshop Manual, section S.)
3. Remove in the order shown in the figure. Immediately plug the open fittings to keep moisture out of the system.
4. Check for the following and repair or replace the condenser as necessary.
 - ① Cracks, damages, and refrigerant leakage
 - ② Bent fins
5. Install in the reverse order of removal. Apply clean compressor oil to the O-rings before connecting the fittings. Do not apply compressor oil to the fittings. When installing a new condenser, add **40 ml {40 cc, 1.2 fl oz}** of compressor oil through the high-pressure pipe port of the compressor.
6. Refill the refrigeration system. (Refer to page G-43.)



47U0GX-650

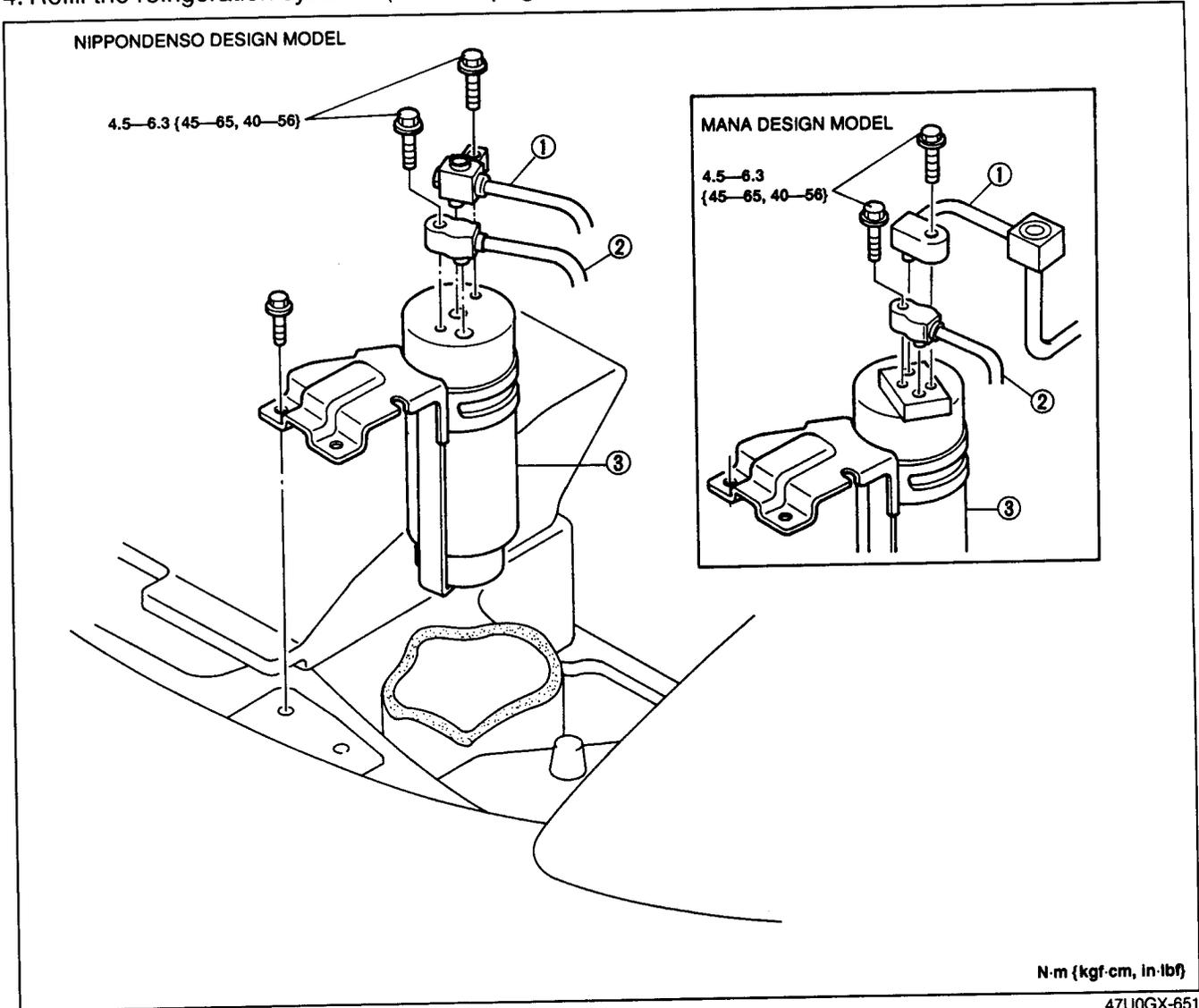
1. Discharge hose
2. Cooler pipe No.5

3. Condenser

RECEIVER DRIER

Removal / Installation

1. Remove the refrigerant into a recovery system. (Refer to page G-43.)
2. Remove in the order shown in the figure.
3. Install in the reverse order of removal. Apply clean compressor oil to the O-rings before connecting the fittings. Do not apply compressor oil to the fittings. When installing a new receiver drier, add **10 ml {10 cc, 0.3 fl oz}** of compressor oil through the high-pressure pipe port of the compressor.
4. Refill the refrigeration system. (Refer to page G-43.)



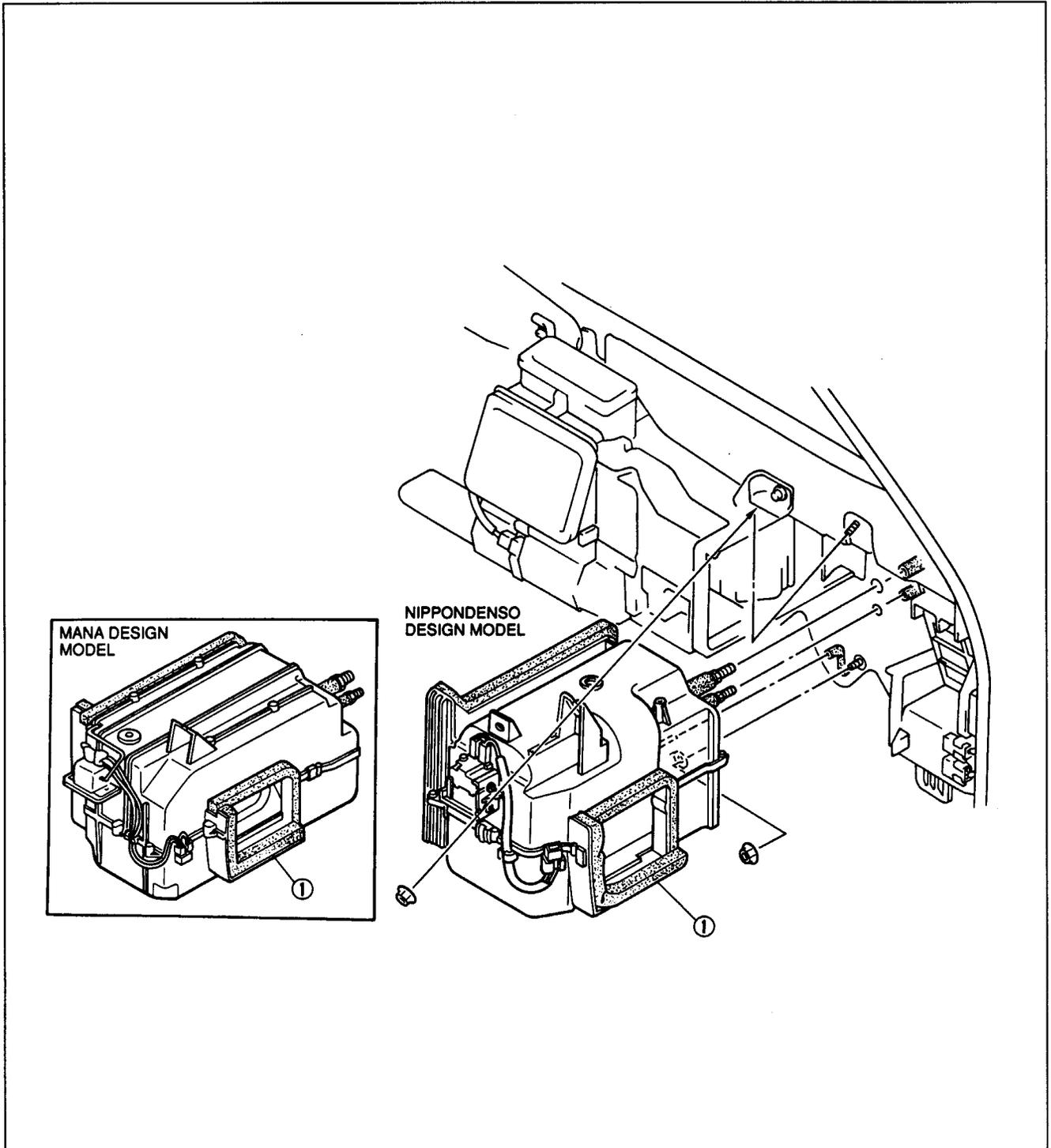
1. Cooler pipe No.3
2. Cooler pipe No.5

3. Receiver drier

COOLING UNIT

Removal / Installation

1. Remove the refrigerant into a recovery system. (Refer to page G-43.)
2. Remove cooler pipes No.1 and No.2.
3. Remove the glove compartment. (Refer to the 1994 RX-7 Workshop Manual, section S.)
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal. Apply clean compressor oil to the O-rings before connecting the fittings. Do not apply compressor oil to the fittings. When installing a new cooling unit, add **40 ml {40 cc, 2.1 fl oz}** of compressor oil through the high-pressure pipe port of the compressor.
6. Refill the refrigeration system. (Refer to page G-43.)



47U0GX-652

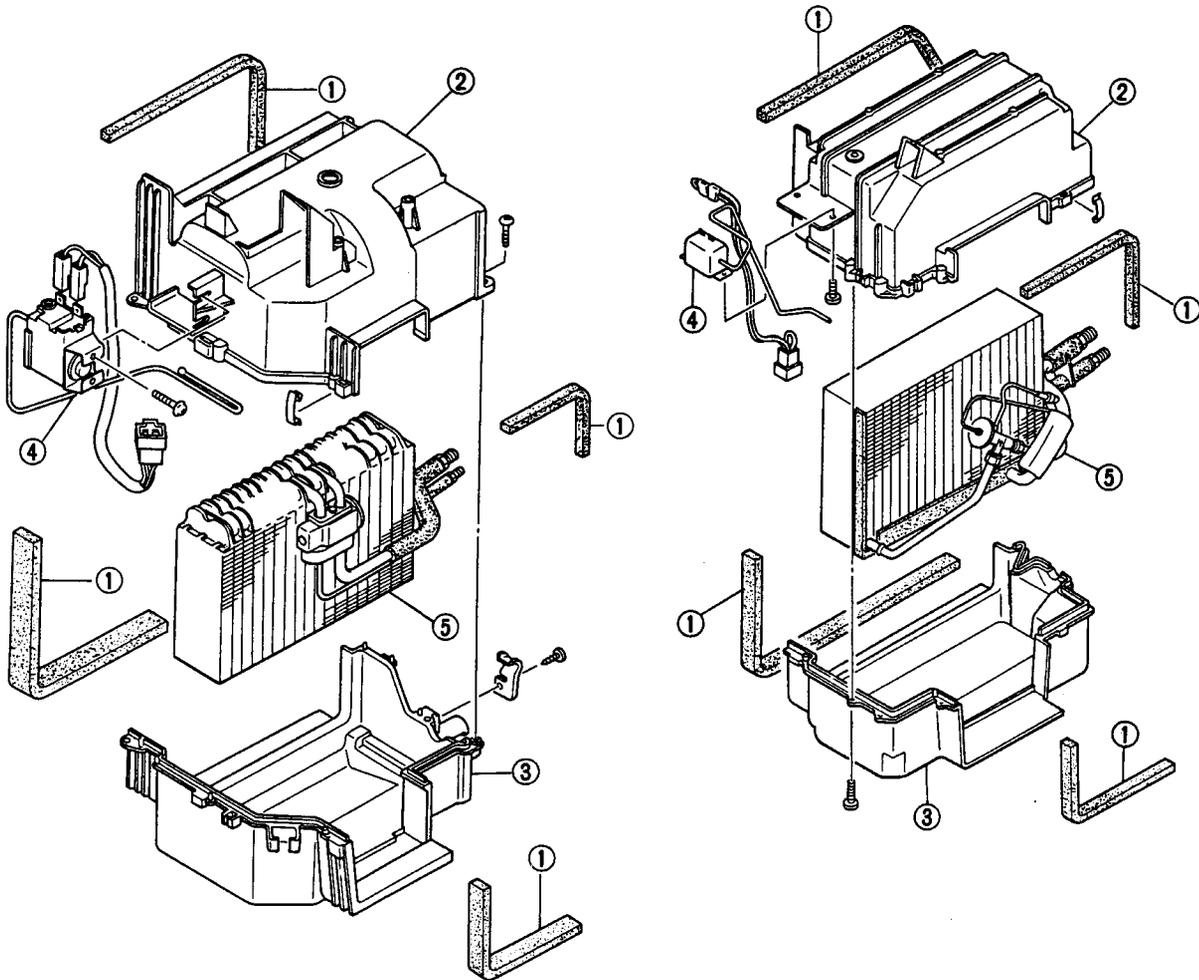
1. Cooling unit

Disassembly / Inspection / Assembly

1. Disassemble in the order shown in the figure.
2. Check for the following and repair or replace the evaporator as necessary.
 - ① Cracks, damages, and refrigerant leakage
 - ② Bent fins
3. Assemble in the reverse order of disassembly.

NIPPONDENSO DESIGN MODEL

MANA DESIGN MODEL



47U0GX-653

1. Seal
2. Cooling unit case (upper)
3. Cooling unit case (lower)

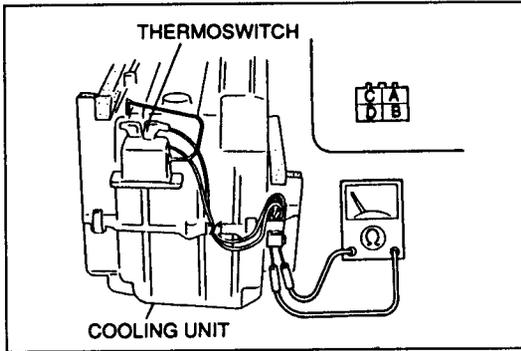
4. Thermoswitch
5. Evaporator

THERMOSWITCH

Removal / Installation

1. Remove the cooling unit. (Refer to page G-61.)
2. Disassemble the cooling unit and remove the thermostat. (Refer to page G-62.)
3. Install the thermostat in the reverse order of removal.

47U0GX-611



47U0GX-654

Inspection

1. Remove the glove compartment. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the thermostat connector.
3. Check for continuity between the terminals of the thermostat connector.

Terminal A	Terminal B	Terminal C	Terminal D
○	○	○	○

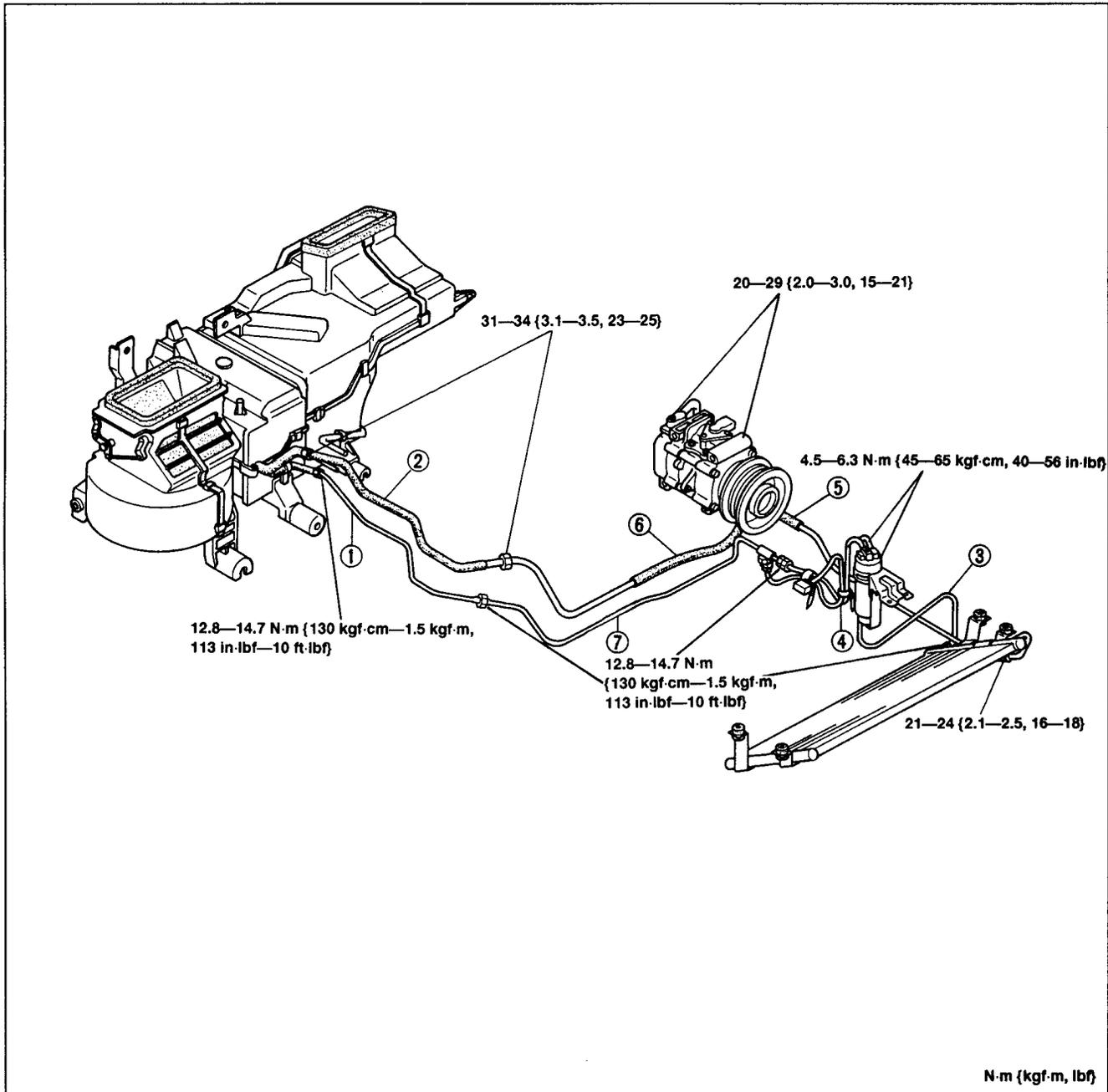
○—○ : Continuity

4. If not as specified, replace the thermostat.

REFRIGERANT LINES

Removal / Installation

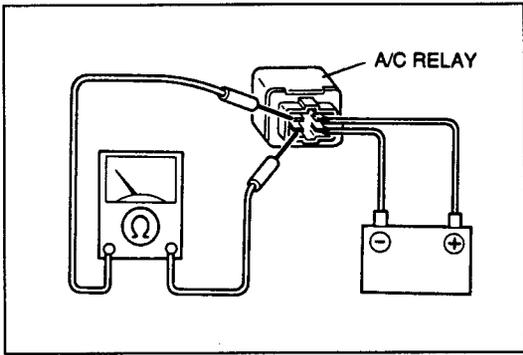
1. Remove the refrigerant into a recovery system. (Refer to page G-43.)
2. Remove the battery and battery tray. (Refer to the 1994 RX-7 Workshop Manual, section G.)
3. Remove the fresh air duct and air cleaner. (Refer to the 1994 RX-7 Workshop Manual, section B.)
4. Remove the cooler pipes and the suction and discharge hoses. Immediately plug the open fittings to keep moisture out of the system.
5. Install the cooler pipes and the suction and discharge hoses in the reverse order of removal.
Apply clean compressor oil to the O-rings before connecting the fittings. Do not apply compressor oil to the fittings. When installing new refrigerant lines, add 5.0 ml {5.0 cc, 0.2 fl oz} of compressor oil through the high-pressure pipe port of the compressor.
6. Refill the refrigeration system. (Refer to page G-43.)



47U0GX-655

1. Cooler pipe No.1
2. Cooler pipe No.2
3. Cooler pipe No.5
4. Cooler pipe No.3

5. Discharge hose
6. Suction hose
7. Cooler pipe No.4



47U0GX-656

A/C RELAY
Inspection

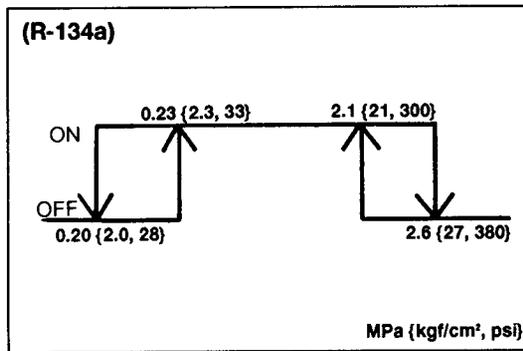
1. Remove the A/C relay from the relay box.
2. Apply battery positive voltage and check for continuity between terminals C and D.

B+: Battery positive voltage

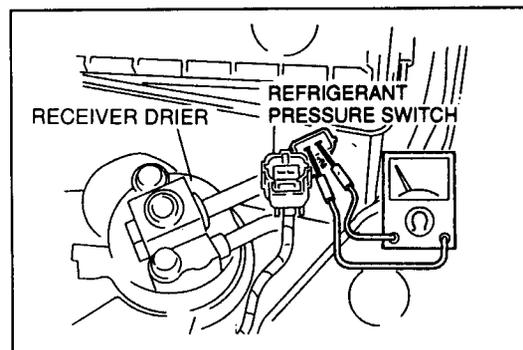
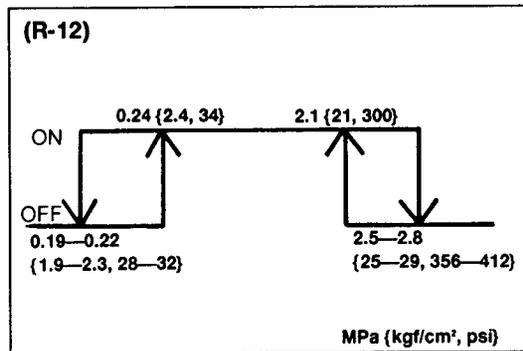
B+	GND	Terminal			
		A	B	C	D
—	—	○—○	○—○		
A	B			○—○	○—○

○—○ : Continuity

3. If not as specified, replace the A/C relay.



47U0GX-657



47U0GX-658

REFRIGERANT PRESSURE SWITCH
Inspection

If problems occur in the refrigerant system that cause abnormally high pressure or abnormally low pressure, the protect the mechanical components. If the pressure recovers to within normal operating range, the power will be restored. These operating values are shown in the figure.

1. Connect a manifold gauge set to the charging valve. Verify that the high-pressure side reads 0.20—0.23 to 2.1—2.6 MPa {2.0—2.3 to 21—27 kgf/cm², 28—33 to 300—380 psi} (R-134a) or 0.19—0.24 to 2.1—2.8 MPa {1.9—2.4 to 21—29 kgf/cm², 28—34 to 300—412 psi} (R-12).
2. Disconnect the refrigerant pressure switch connector and verify that there is continuity between the refrigerant pressure switch terminals.
3. If there is no continuity, replace the refrigerant pressure switch.

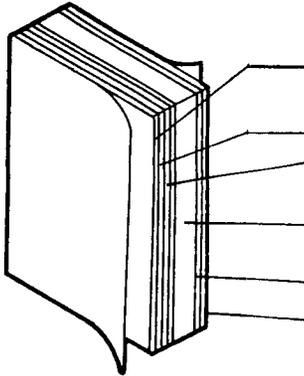
GENERAL INFORMATION

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OUTLINE

CONTENTS

The Body Electrical Troubleshooting Manual is intended as an aid for repairing the body electrical systems of the vehicle. The manual is divided into 6 sections:



GI	General Information	Explains how to use the manual, use test equipment, check harnesses and connectors, and find trouble spots
Y	Ground Points	Shows ground routing to and from the battery
W	Electrical Wiring Schematic	Shows the circuit layout for the entire vehicle
C~T, Z	Individual system sections	Shows system operation, circuit and connector diagrams, component and connector locations, and troubleshooting and replacement procedures
X	Common Connectors	Shows common connectors throughout system
JB	Joint Box	Shows joint box connections and terminals

47UGIX-502

ADVISORY MESSAGES

You'll find several **Warnings**, **Cautions**, and **Notes** in this manual.

Warning

- A **Warning** indicates a situation in which serious injury or death could result if the warning is ignored.

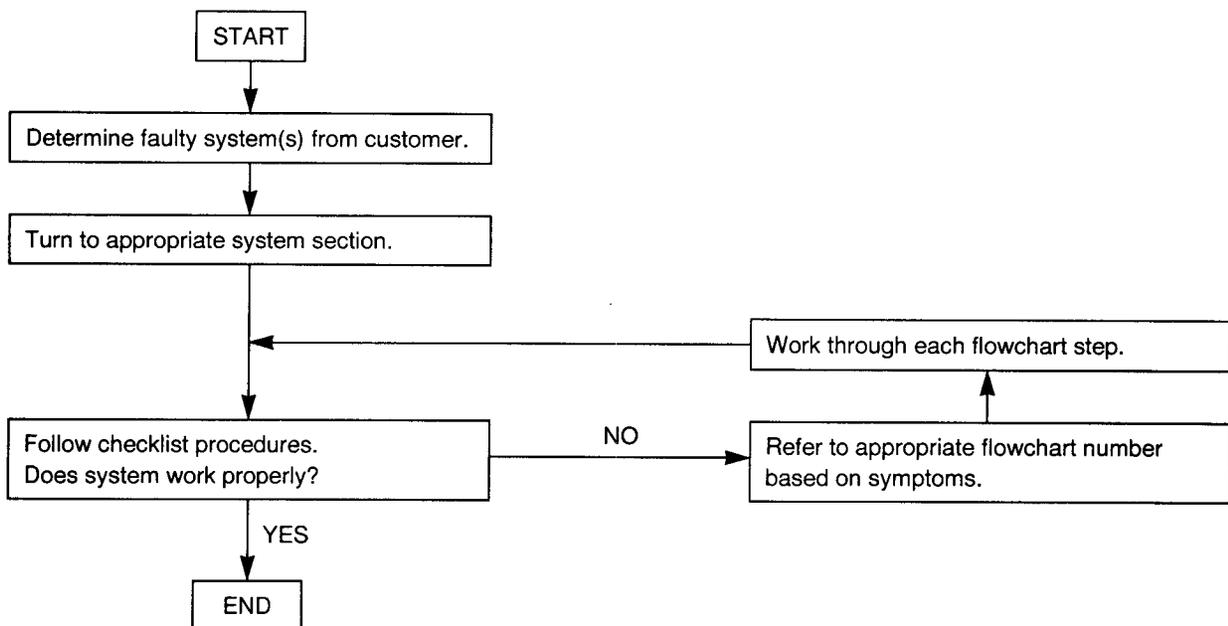
Caution

- A **Caution** indicates a situation in which damage to the vehicle could result if the caution is ignored.

Note

- A **Note** provides additional information that will help you to complete a particular procedure.

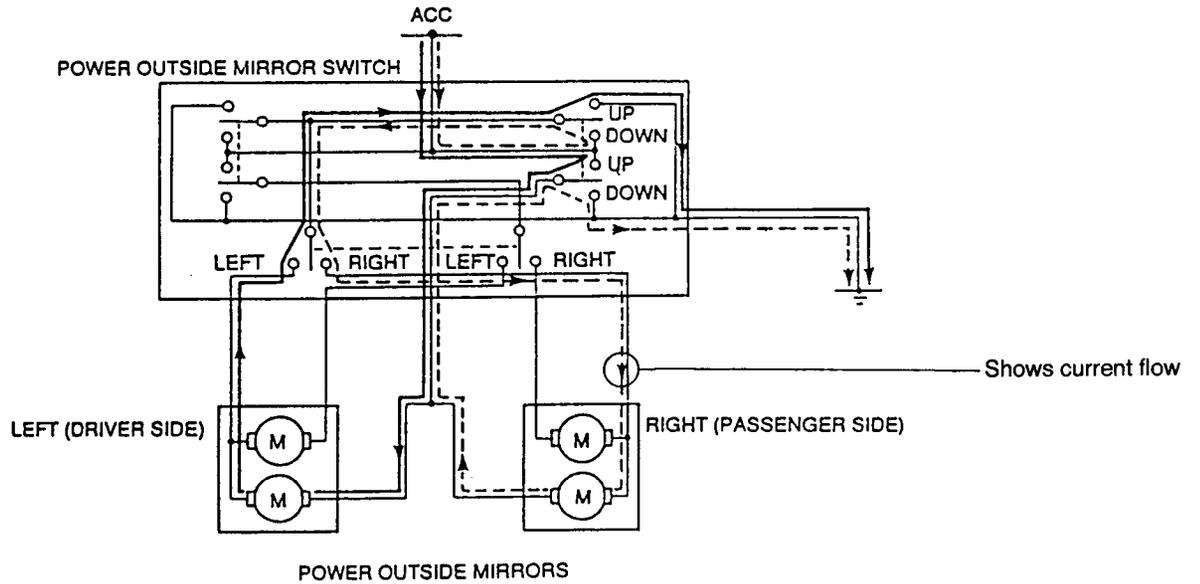
BASIC FLOW OF TROUBLESHOOTING



HOW TO READ THE DIAGRAMS

SYSTEM OPERATION

The system operation description shows how current flows and how the system operates.



System Operation
Vertical adjustment

- When the selector switch is set to the left and the top of the power outside mirror switch is pressed with the ignition switch at ACC, current flows (solid line), the motor turns, and the left mirror glass moves upward. (Right mirror operation is similar.)
- When the selector switch is set to the right and the bottom of the power outside mirror switch is pressed with the ignition switch at ACC, current flows (broken line), the motor turns, and the right mirror glass moves downward. (Left mirror operation is similar.)

Explains how the system and its parts operate.

47UGIX-505

CIRCUIT DIAGRAM

This diagram shows the circuit layout for the system, from the power supply to ground, together with details of the circuit connectors. The power supply side is in the upper part of the diagram; the ground side is in the lower part. The diagram assumes the ignition switch is at OFF.

Wire Color

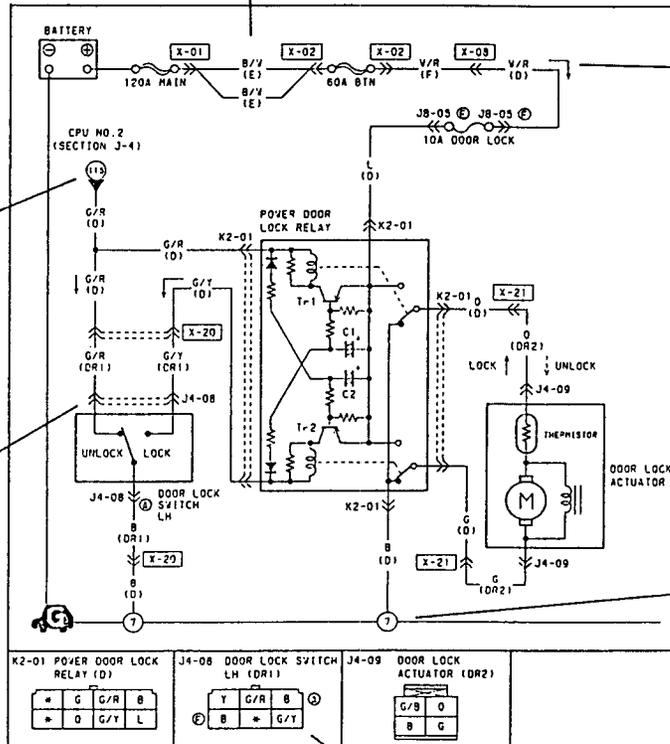
- Two-color wires are indicated as color/color. The first color is the base; the second is the stripe.
B/W is a black wire with a white stripe.
- The letter in () is the connector reference.

Current Flow

Current flows in the direction of the arrow.

Related Diagram

Indicates that the circuit continues on a related diagram.



Ground

Indicates either a unit or harness ground. A number gives the location reference shown on "Connector Locations."

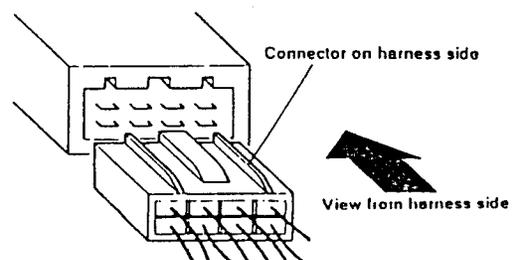
Connector Symbol

Two dashed lines indicate the same connector.

Circuit diagram symbol	Connector diagram symbol
<p>Male</p>	
<p>Female</p>	

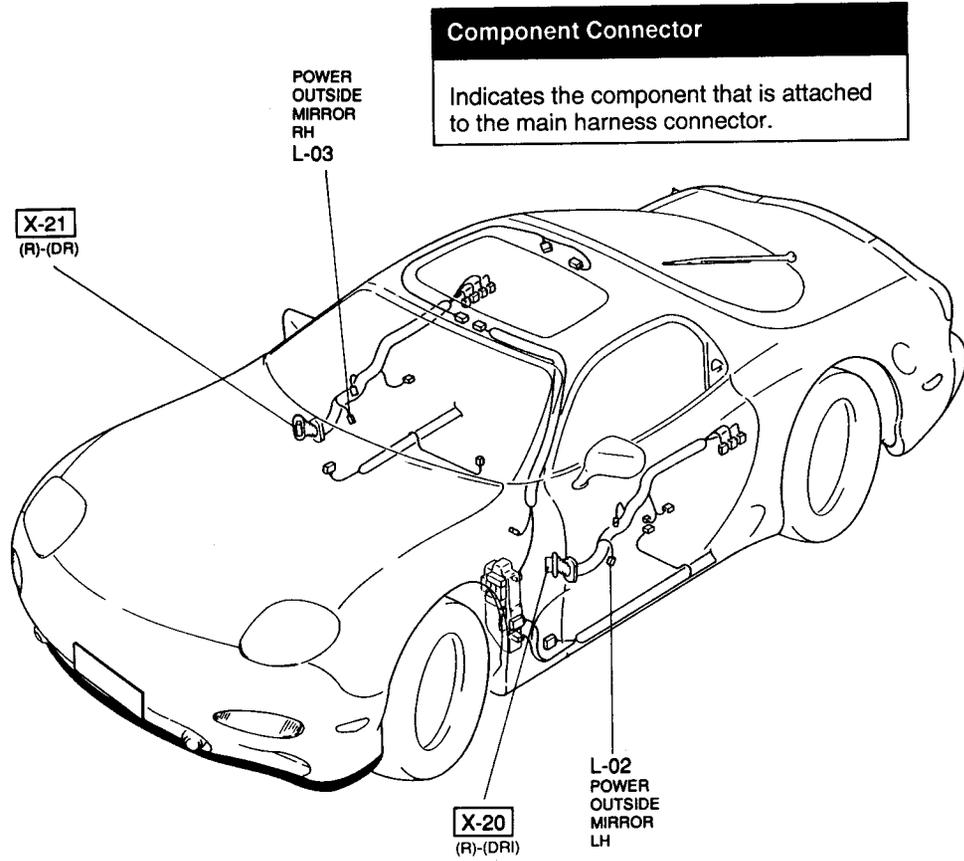
Connector Diagram

Shows connectors from the harness side. Unused terminals are indicated by *.



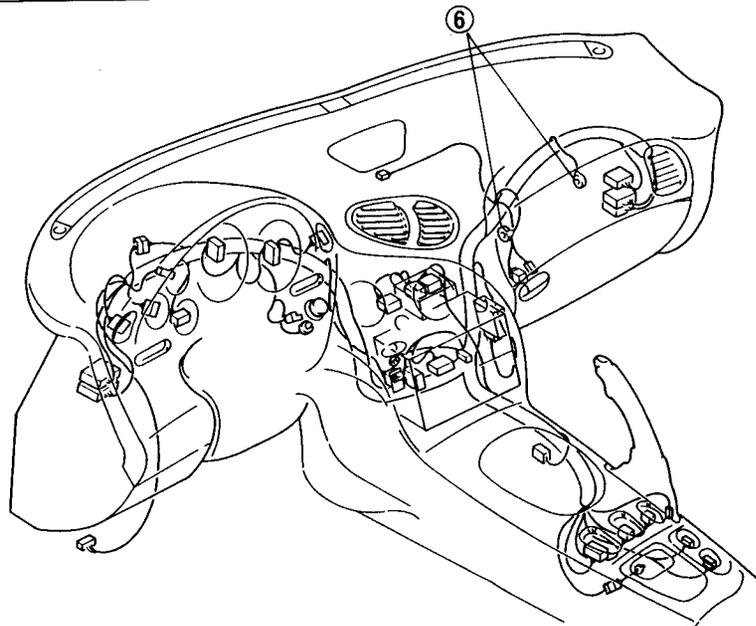
CONNECTOR LOCATIONS

These illustrations show the harness and connector layout of the circuit.



Ground

Corresponds to the ground number written on the circuit diagram.



TROUBLESHOOTING FLOWCHARTS

The flowcharts outline the steps to be taken once symptoms of the problem have been defined.

How to determine the symptoms of the problem and where to refer for the troubleshooting procedure.

Checklist

	Procedure / Proper operation	Symptom	Flowchart No.
1	Operate rear wiper switch and verify that wiper operates.	Rear wiper does not operate	1
		Rear wiper continues operating after rear wiper switch is turned OFF	2
2	Turn OFF rear wiper switch during rear wiper operation, and verify that wiper stops at park position.	Autostop operation does not work (wiper immediately stops when rear wiper switch is turned OFF)	3
3	Operate rear washer switch and verify that washer operates.	Rear washer does not operate	4

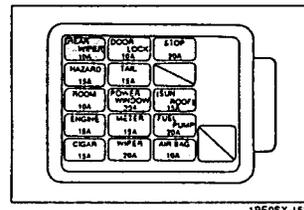
Flowchart No.1	Symptom	Rear wiper does not operate
----------------	---------	-----------------------------

Flowchart corresponding to the symptom

Possible causes of the problem

Possible cause

- REAR WIPER fuse burnt
- Damaged rear wiper motor
- Damaged CPU No.1
- Damaged rear wiper and washer switch
- Open circuit in wiring harness
- Poor connection of connector



Step 1

Check the REAR WIPER 10A fuse in the fuse block.

V: Battery voltage	
Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

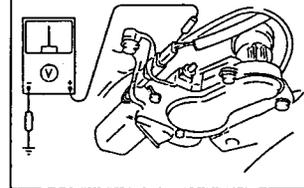
Step 2

1. Remove the rear hatch lower trim. (Refer to the 1993 RX-7 Workshop Manual, Section S.)
2. Turn the ignition switch ON.
3. Measure the voltage at terminal wire (L/G) of the rear wiper motor harness connector.

V: Battery voltage	
Voltage	Action
V _b	Go to Step 3
Others	Repair wiring harness (Fuse block—Rear wiper motor)

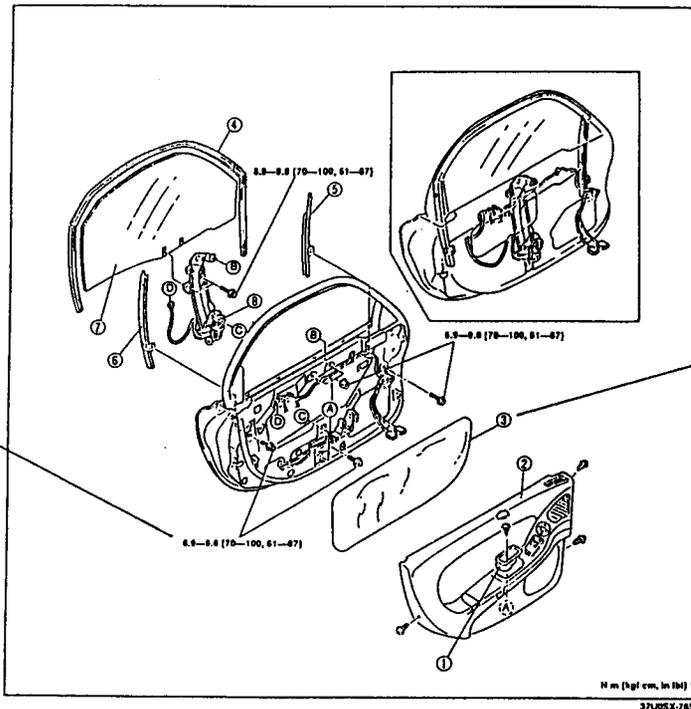
Troubleshooting procedure

Part location and testing method illustration



REPLACEMENT PROCEDURES

These illustrations show how to remove and install or disassemble and assemble the components of a system.



Tightening torque specification

Step number in the removal or disassembly order

Tightening torque unit

Removal or disassembly order

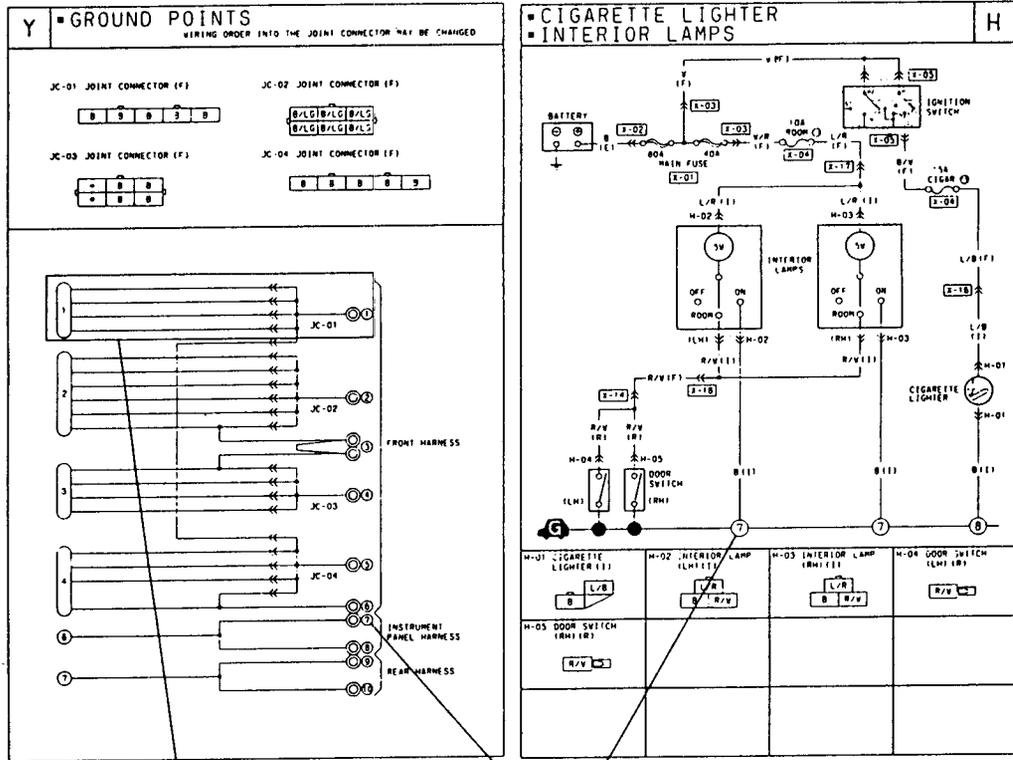
1. Inner handle cover
2. Door trim
3. Door screen
4. Glass run channel

5. Glass guide A
6. Glass guide B
7. Door glass
8. Power window regulator

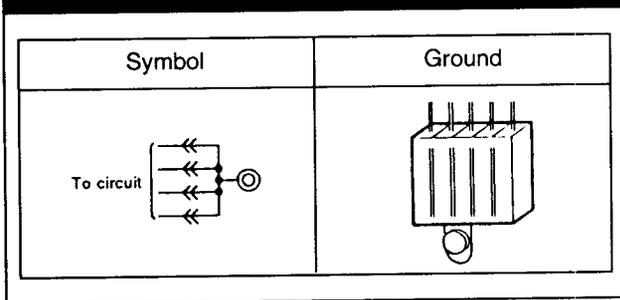
Inspection page K1-13

GROUND POINTS

This section shows the ground points of the vehicle's main harness.



Ground Indication

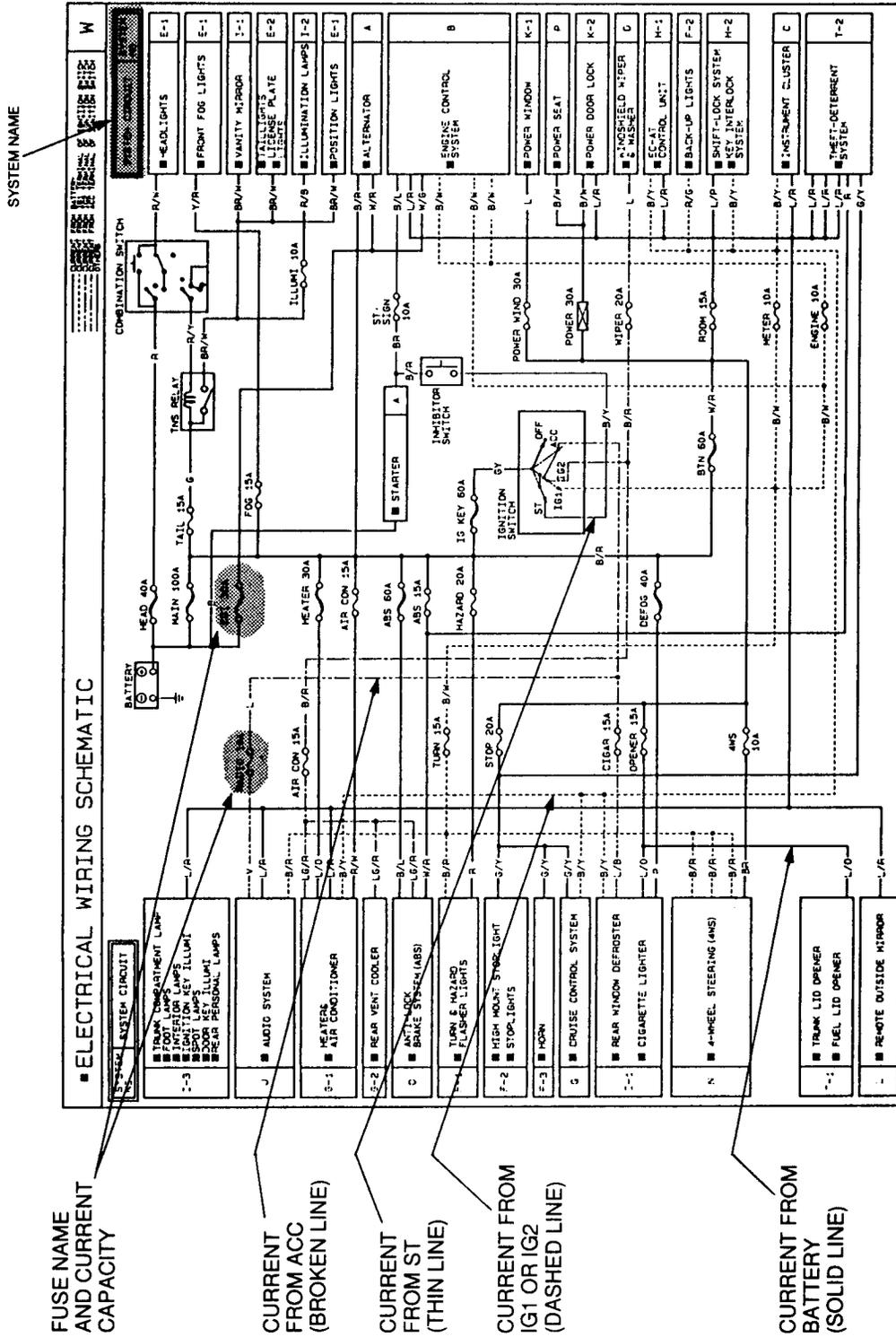


Ground Point Reference Number

The ground connection numbers in the ground points diagram correspond to those in the circuit diagram and connector locations illustration.

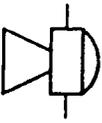
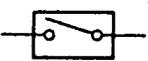
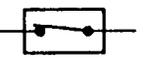
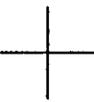
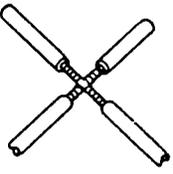
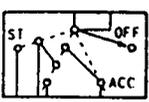
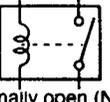
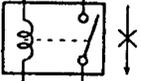
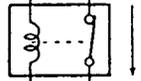
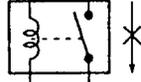
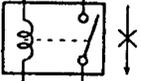
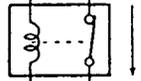
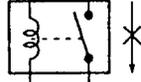
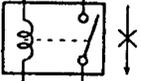
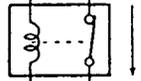
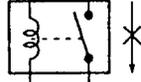
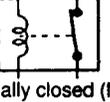
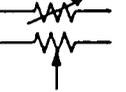
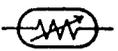
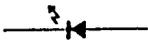
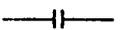
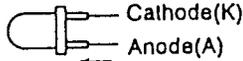
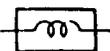
ELECTRICAL WIRING SCHEMATIC

This section details the wiring from the power source to the main fuses and/or other fuses of each system. If a fuse burns, use this diagram to assist in power source diagnosis.



SYMBOLS

Symbol	Meaning	Symbol	Meaning																																																																											
<p>Battery</p>	<ul style="list-style-type: none"> Generates electricity through chemical reaction. Supplies direct current to circuits. 	<p>Resistance</p>	<ul style="list-style-type: none"> A resistor with a constant value. Mainly used to protect electrical components in circuits by maintaining rated voltage. <p>• Reading resistance values. <Colored></p> <table border="1"> <thead> <tr> <th></th> <th>No.1</th> <th>No.2</th> <th>No.3</th> <th>No.4</th> </tr> </thead> <tbody> <tr> <td>Color</td> <td>Resistance values</td> <td>Multiplier</td> <td colspan="2">Tolerance</td> </tr> <tr> <td>Black</td> <td>0</td> <td>0</td> <td>x10⁰</td> <td></td> </tr> <tr> <td>Brown</td> <td>1</td> <td>1</td> <td>x10¹</td> <td></td> </tr> <tr> <td>Red</td> <td>2</td> <td>2</td> <td>x10²</td> <td></td> </tr> <tr> <td>Orange</td> <td>3</td> <td>3</td> <td>x10³</td> <td></td> </tr> <tr> <td>Yellow</td> <td>4</td> <td>4</td> <td>x10⁴</td> <td></td> </tr> <tr> <td>Green</td> <td>5</td> <td>5</td> <td>x10⁵</td> <td></td> </tr> <tr> <td>Blue</td> <td>6</td> <td>6</td> <td>x10⁶</td> <td></td> </tr> <tr> <td>Purple</td> <td>7</td> <td>7</td> <td>x10⁷</td> <td></td> </tr> <tr> <td>Grey</td> <td>8</td> <td>8</td> <td>x10⁸</td> <td></td> </tr> <tr> <td>White</td> <td>9</td> <td>9</td> <td>x10⁹</td> <td></td> </tr> <tr> <td>Gold</td> <td></td> <td></td> <td>x10⁻¹</td> <td>± 5%</td> </tr> <tr> <td>Silver</td> <td></td> <td></td> <td>x10⁻²</td> <td>± 10%</td> </tr> <tr> <td>-</td> <td></td> <td></td> <td></td> <td>+20%</td> </tr> </tbody> </table> <p><Numerical></p>		No.1	No.2	No.3	No.4	Color	Resistance values	Multiplier	Tolerance		Black	0	0	x10 ⁰		Brown	1	1	x10 ¹		Red	2	2	x10 ²		Orange	3	3	x10 ³		Yellow	4	4	x10 ⁴		Green	5	5	x10 ⁵		Blue	6	6	x10 ⁶		Purple	7	7	x10 ⁷		Grey	8	8	x10 ⁸		White	9	9	x10 ⁹		Gold			x10 ⁻¹	± 5%	Silver			x10 ⁻²	± 10%	-				+20%
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-				+20%																																																																										
<p>Ground (1)</p>	<ul style="list-style-type: none"> Connecting point to vehicle body or other ground wire where current flows from positive to negative terminal of battery. Ground (1) indicates a ground point to body through wire harness. Ground (2) indicates point where component is grounded directly to body. <p>Remarks</p> <ul style="list-style-type: none"> Current will not flow through a circuit if ground is faulty. 																																																																													
<p>Ground (2)</p>																																																																														
<p>Fuse (1)</p> <p>(blade)</p>	<ul style="list-style-type: none"> Melts when current flow exceeds that specified for circuit; stopping current flow. <p>Precautions</p> <ul style="list-style-type: none"> Do not replace with fuses exceeding specified capacity. 																																																																													
<p>Fuse (2)</p> <p>(cartridge)</p>		<p><Blade type></p> <p><Cartridge type></p>																																																																												
<p>Main fuse/ Fusible link</p>	<p><Main fuse></p> <p><Fusible link></p>																																																																													
<p>Transistor (1)</p>	<ul style="list-style-type: none"> Electrical switching component. Turns on when voltage is applied to the base (B). <p>Reading code</p> <p>A: High-frequency PNP B: Low-frequency PNP C: High-frequency NPN D: Low-frequency NPN</p>	<p>Motor</p>	<ul style="list-style-type: none"> Converts electrical energy into mechanical energy. 																																																																											
<p>Transistor (2)</p>			<p>Pump</p>	<ul style="list-style-type: none"> Pulls in and expels gases and liquids. 																																																																										
<p>Light</p>	<ul style="list-style-type: none"> Emits light and generates heat when current flows through filament. 	<p>Cigarette lighter</p>	<ul style="list-style-type: none"> Electrical coil that generates heat. 																																																																											

Symbol	Meaning	Symbol	Meaning								
Horn 	<ul style="list-style-type: none"> Generates sound when current flows. 	Switch (1)  Normally open (NO)	<ul style="list-style-type: none"> Allows or breaks current flow by opening and closing circuits. 								
Speaker 		Switch (2)  Normally closed (NC)									
Heater 	<ul style="list-style-type: none"> Generates heat when current flows. 	Harness  (Not connected)	<ul style="list-style-type: none"> Unconnected intersecting harness.  Connected intersecting harness.  								
Vehicle speedometer sensor 		<ul style="list-style-type: none"> Movement of magnet in speedometer turns contact within sensor on and off. 		 (Connected)							
Ignition switch 				<ul style="list-style-type: none"> Turning ignition key operates switch contacts to complete various circuits. 							
Relay (1)  Normally open (NO)	<ul style="list-style-type: none"> Current flowing through coil produces electromagnetic force causing contact to open or close. <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>Open</th> <th>Closed</th> </tr> </thead> <tbody> <tr> <td>Normally open relay (NO)</td> <td>  </td> <td>  </td> </tr> <tr> <td>Normally closed relay (NC)</td> <td>  </td> <td>  </td> </tr> </tbody> </table>		Open	Closed	Normally open relay (NO)			Normally closed relay (NC)			
		Open	Closed								
Normally open relay (NO)											
Normally closed relay (NC)											
Relay (2)  Normally closed (NC)											
Sensor (variable) 	<ul style="list-style-type: none"> Resistor whose resistance changes with operation of other components. 	Diode 	<ul style="list-style-type: none"> Known as a semiconductor rectifier, the diode allows current flow in one direction only. Cathode(K) ——— Anode(A) ——— Flow of electric current K — A K — A K — A 								
Sensor (thermistor) 		<ul style="list-style-type: none"> Resistor whose resistance changes with temperature. 		Light-emitting diode (LED) 	<ul style="list-style-type: none"> A diode that lights when current flows. Unlike ordinary light bulbs, the diode does not generate heat when lit. 						
Capacitor (condenser) 				<ul style="list-style-type: none"> Component that temporarily stores electrical charge. 		  Flow of electric current					
Solenoid 	<ul style="list-style-type: none"> Current flowing through coil generates electromagnetic force to operate plungers. 	Reference diode (Zener diode) 	<ul style="list-style-type: none"> Allows current to flow in one direction up to a certain voltage; allows current to flow in the other direction once that voltage is exceeded. 								

ABBREVIATIONS

Mazda Standards

A	Ampere	IG	Ignition
AE	Acoustic Equilibration	ILLUMI	Illumination
AS	Auto Stop	INT	Intermittent
A/R	Auto Reverse	JB	Joint Box
ACC	Accessory	LH	Left Hand
ACCEL	Accelerator	LCD	Liquid Crystal Display
ADD	Additional	LO	Low
AM	Amplitude Modulation	M	Motor
AMP	Amplifier	MTR	Mechanical Turning Radio
ANT	Antenna	MID	Middle
B	Battery	MIN	Minute
B/L	Bi-Level	MIX	Mixture
CPU	Central Processing Unit	MPX	Multiplex
CCT	Circuit	NC	Normally Closed
CIGAR	Cigarette	NO	Normally Open
COMBI	Combination	OFF	Switch Off
CON	Conditioner	ON	Switch On
CONT	Control	P	Power
DEF	Defroster	R	Rear
ELR	Emergency Locking Retractor	RH	Right Hand
ELEC	Electric	RL	Rear Left
ETR	Electronic Turning Radio	RR	Rear Right
F	Front	REC	Recirculation
FL	Front Left	SOL	Solenoid
FR	Front Right	ST	Start
FM	Frequency Modulation	SW	Switch
GEN	Generator	TEMP	Temperature
H/D	Heat/Defroster	TNS	Tail Number Side
HEAT	Heater	TR	Transistor
HI	High	VENT	Ventilation
		VOL	Volume

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SAE Standards

In accordance with new regulations, SAE (Society of Automotive Engineers) standard names and abbreviations are now used in this manual. The table below lists the names and abbreviations that have been used in Mazda manuals up to now and their SAE equivalents.

Engine and Emission Systems

Previous Standard		SAE standard		
Abbreviation	Name	Abbreviation	Name	Remark
—	Accelerator Pedal	AP	Accelerator Pedal	
—	Air Cleaner	ACH	Air Cleaner Housing	
—	Air/Fuel (A/F) Solenoid Valve	MCS	Mixture Control Solenoid	F2 Carburetor
—	Airflow Meter	VAF	Volume Airflow Sensor	
—	Airflow Sensor	MAF	Mass Airflow Sensor	
—	Alternator	ALT	Alternator	
—	Atmospheric Pressure Sensor	BARO	Barometric Absolute Pressure Sensor	
—	Carburetor	CARB	Carburetor	
—	Catalytic Converter	OC	Oxidation Catalyst	
		TWC	Three Way Catalyst	
		WU-TWC	Warm Up Three Way Catalyst	#1
—	Circuit Opening Relay	FPR	Fuel Pump Relay	#2
—	Cooling Fan Control	CFC	Coolant Fan Control	
—	Crank Angle Sensor	CPS	Crankshaft Position Sensor	
—	Diagnosis Connector	DLC	Data Link Connector	
—	Direct Ignition	DLI	Distributorless Ignition	
EGI	Electronic Gasoline Injection System	CIS	Continuous Fuel Injection System	
—	Electronic Spark Ignition	EI	Electronic Ignition	#3
—	EGR Modulator Solenoid	EGRC	EGR Function Control	
—	EGR Gas Sensor	EGRS	EGR Function Sensor	#4
	EGR Position Sensor			
	EGR Position Switch			
ECU	Engine Control Unit	PCM	Powertrain Control Module	#5
		PCME	Powertrain Control Module (Engine)	
—	Engine Modification	EM	Engine Modification	
—	Engine Speed	RPM	Engine Speed	
—	Evaporative Emission Control System	EVAP	Fuel Evaporative System	
—	Exhaust Gas Recirculation System	EGR	Exhaust Gas Recirculation	System name
—	Feedback System	CLS	Closed Loop System	
—	Flexible Fuel	FF	Flexible Fuel	
—	Fuel Pump	FP	Fuel Pump	
—	IC Regulator	VR	Voltage Regulator	

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#1: Directly connected to exhaust manifold

#2: In some models, there is a "Fuel Pump Relay that controls pump speed.
That relay is now called the "Fuel Pump Relay (Speed)".

#3: Controlled by the PCME (PCM)

#4: EGR valve controller device name

#5: Device that controls engine and powertrain

Engine and Emission Systems (cont'd)

Previous Standard		SAE Standard		
Abbreviation	Name	Abbreviation	Name	Remark
-	Intake Air Thermosensor	IATS	Intake Air Temperature Sensor	
-	Intercooler	CAC	Charge Air Cooler	
-	ISC Solenoid Valve	IACV	Idle Air Control Valve	
-	Knock Sensor	KS	Knock Sensor	
-	Malfunction Indicator Light	MIL	Malfunction Indicator Light	
-	Multiport Fuel Injection	MFI	Multiport Fuel Injection	
-	Oxidizing Converter	OC	Oxidation Catalyst	
-	Oxygen Sensor	HO2S	Heated Oxygen Sensor	With heater
		O2S	Oxygen Sensor	
-	Open Loop	OL	Open Loop	
PTC	Positive Temperature Coefficient Heater	EFE	Early Fuel Evaporation	
-	Pressure Sensor	MAP	Manifold Absolute Pressure Sensor	
		MVS	Manifold Vacuum Sensor	Checks vacuum only
-	Reed Valve	SAPV	Secondary Air Pulse Valve	
-	Relief 1 Solenoid Valve	SABV	Secondary Air Bypass Valve	
-	Secondary Air Injection System	PAIR	Pulsed Secondary Air Injection	Pulsed injection
		AIR	Secondary Air Injection	#6
-	Sequential Fuel Injection	SMFI	Sequential Multipoint Fuel Injection	
-	Service Code(s)	DTC	Diagnostic Trouble Code(s)	
-	Spark Ignition	DI	Distributor Ignition	
-	Supercharger	SC	Supercharger	
-	Switching Solenoid Valve	SASV	Secondary Air Switching Valve	
-	Test Mode(s)	DTM	Diagnostic Test Mode(s)	#7
-	Three Way Catalyst	TWC	Three Way Catalyst	
-	Throttle Body	TB	Throttle Body	
-	Throttle Sensor	TPS	Throttle Position Sensor	
-	Turbocharger	TC	Turbocharger	
-	VAC	MDP	Manifold Differential Pressure	
-	Vacuum Switch	MVZS	Manifold Vacuum Zone Switch	
-	Water Thermosensor	ECTS	Engine Coolant Temperature Sensor	

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- #6: Supplies air to three way catalytic
- #7: Diagnostic trouble codes depend on the test mode

Transmission (Transaxle) and Steering System

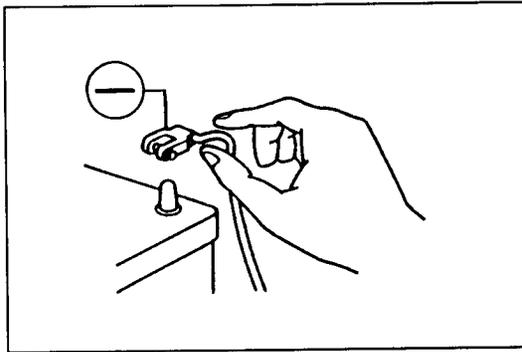
Previous Standard		SAE Standard		
Abbreviation	Name	Abbreviation	Name	Remark
—	Clutch Position	CPP	Clutch Pedal Position	
—	EC-AT Control Unit	PCMT	Powertrain Control Module (Transaxle)	FF
			Powertrain Control Module (Transmission)	FR
—	Fully Closed	CTP	Closed Throttle Position	
—	Fully Open	WOT	Wide Open Throttle	
—	Inhibitor Switch	PNS	Park/Neutral Switch	
—	Lock-Up Position	TCC	Torque Converter Clutch	
—	Output Signal(s)	PTCS	Powertrain Control Signal(s)	
—	Overdrive	4GR	Fourth Gear	
—	Power Steering Pressure Switch	SPS	Steering Pressure Sensor	
—	Pulse Generator	VSPG	Vehicle Speed Pulse Generator	
—	Vehicle Speed Sensor	VSS	Vehicle Speed Sensor	
—	3rd Gear	3GR	Third Gear	

Body Electrical System and Heater and Air Conditioner Systems

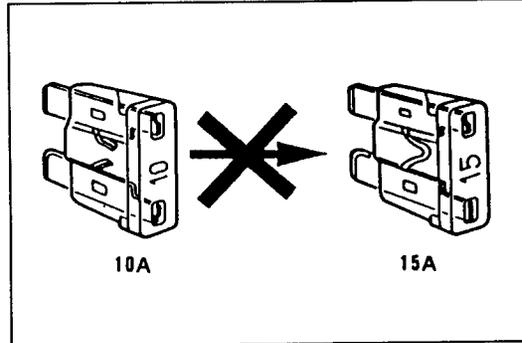
Previous Standard		SAE Standard		
Abbreviation	Name	Abbreviation	Name	Remark
—	A/C Switch	ACS	Air Conditioning Sensor	
—	Air Conditioner	A/C	Air Conditioner	
V _b	Battery Voltage	B+	Battery Positive Voltage	
—	Coolant Level Sensor	COLS	Coolant Level Sensor	
—	Ground	GND	Ground	
—	Self-Diagnosis System	OBD	On-Board Diagnosis System	#8

#8: System name. Other related names are unchanged.

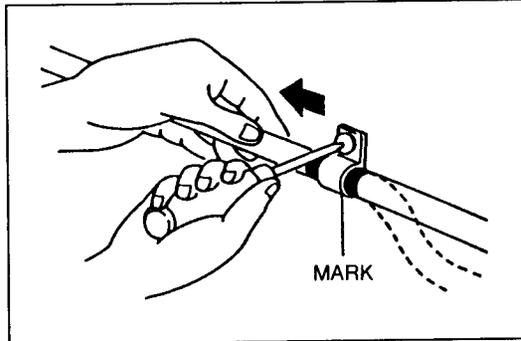
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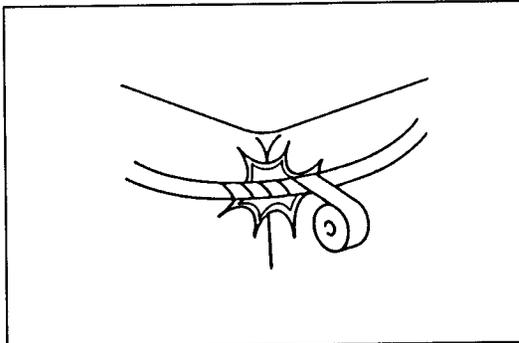
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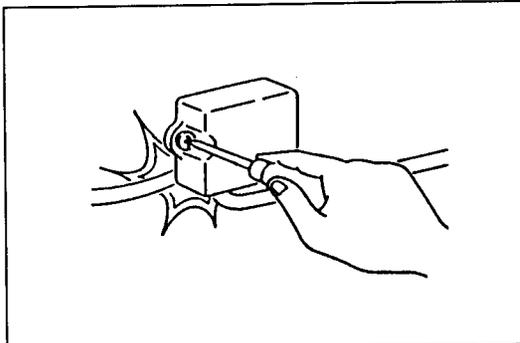
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FUNDAMENTAL TROUBLESHOOTING

PRECAUTIONS

Disconnecting the Battery

- Disconnect the negative (-) battery cable first and reconnect it last. Make sure all switches, including the ignition switch, are at OFF before disconnecting or connecting the battery cables. If a switch is on, semiconductor components may be damaged.

Replacing Fuses

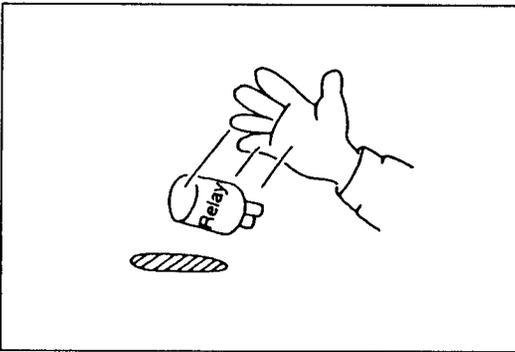
- Replace blown fuses with ones having the same designated capacity. If a fuse is replaced with one of a larger capacity, components may be damaged or a fire may result.

Securing Harnesses

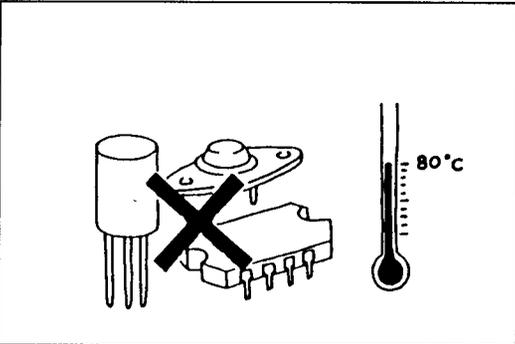
- Clamp all harnesses that are near vibrating components, such as the engine, to remove slack and prevent contact resulting from vibration. If the harness is in contact with a vibrating part, the harness insulation may wear or break.

- Tape areas of the harness that may rub or bump against sharp edges. Without the tape, the harness insulation may be cut.

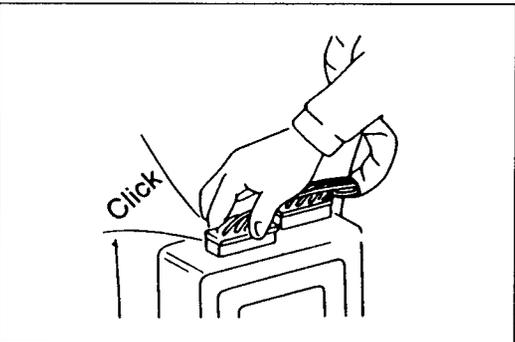
- When mounting components, make sure the harness is not caught. If it is caught, the harness insulation may wear or break.



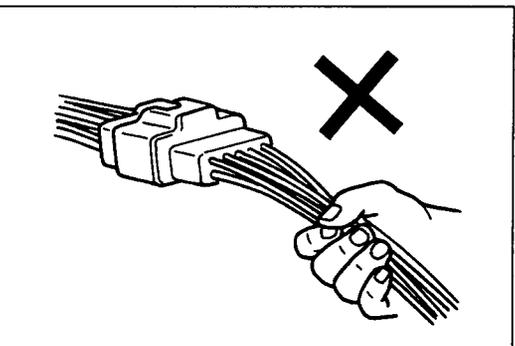
47UGIX-522



47UGIX-523



47UGIX-524



47UGIX-525

Handling Components

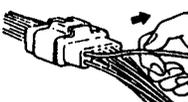
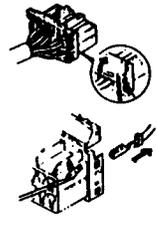
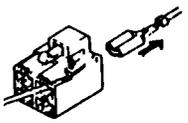
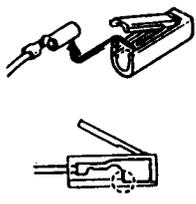
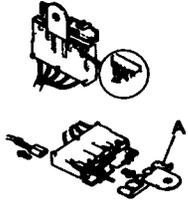
- Do not handle electrical components roughly or drop them. Do not alter the wiring or electrical equipment. Doing so can overload or short a circuit, which may cause a fire or damage the vehicle or components.

- Remove heat-sensitive components, such as relays, when performing maintenance where temperatures can exceed 80°C {176°F}, such as welding.

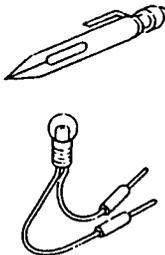
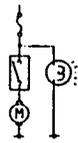
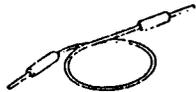
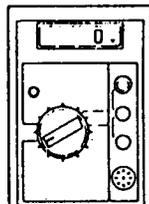
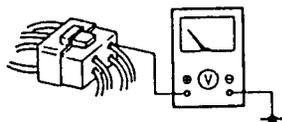
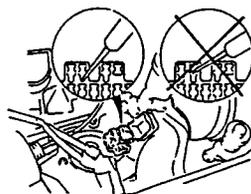
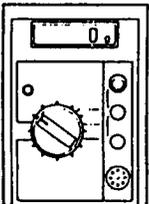
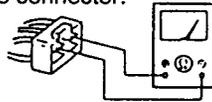
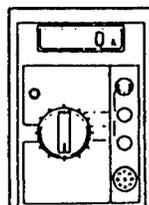
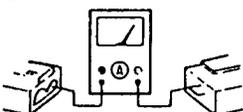
- Make sure connectors are fitted securely when installed.

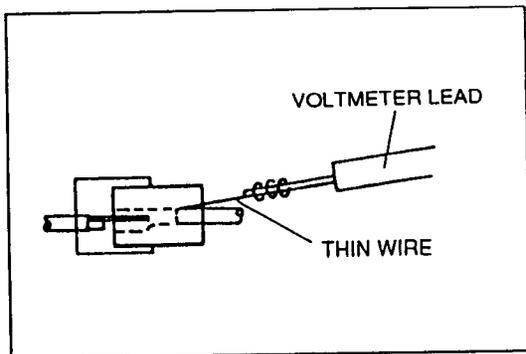
- When disconnecting two connectors, grasp the connectors, not the wires.

HANDLING CONNECTORS

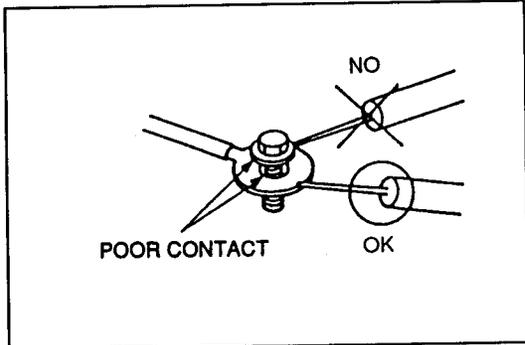
Removing connectors		Checking connector contacts	Checking for loose terminals	Removing terminals	
Push type		<p>When using a matching male terminal, make sure there is no looseness in the female terminal. Improperly engaged connectors will cause poor terminal contact.</p> 	<p>Lightly pull each wire to make sure the terminal does not pull out of the connector. A loose terminal will cause poor terminal contact.</p> 	<p><CPU connectors></p>  <ol style="list-style-type: none"> 1. Open the rear cover. 2. Lift the tab with a small screwdriver to remove the terminal. 	
				<p><General connectors></p>  <p>Lift the tab with a small screwdriver to remove the terminal.</p>	
				<p><Round connectors></p>  <ol style="list-style-type: none"> 1. Open the cover. 2. Lift the terminal to remove it. 3. Make sure the terminal is securely mounted in the connector when reinstalling. 	
				<p><Common ground connectors></p>  <ol style="list-style-type: none"> 1. Open the cover. 2. Remove A. 3. Lift the tab with a small screwdriver to remove the terminal. 	
Pull-up type					
Spring type					

USING ELECTRICAL TEST EQUIPMENT

Equipment	Purpose	Use	Handling
<p>Test light</p> 	Used to find open or short circuits.	<ul style="list-style-type: none"> Connect the test light between the circuit being measured and ground. The light will turn on if the circuit is energized to the point tested. 	<ul style="list-style-type: none"> Use test lights with 12V 1.4W or 3.4W bulbs or light-emitting diodes (LEDs). Using large-capacity bulbs may damage the CPU.
<p>Jumper wire</p> 	Used to create a temporary circuit.	<ul style="list-style-type: none"> Connect the jumper wire between the terminals of a circuit to bypass a switch. 	<ul style="list-style-type: none"> Do not connect the power side directly to ground. This may burn the harness or damage electrical components.
<p>Voltmeter</p> 	Used to find open or short circuits by measuring circuit voltage.	<ul style="list-style-type: none"> Set the range to the specified voltage. Connect the positive (+) lead to where voltage is to be measured and the negative (-) lead to ground. 	<ul style="list-style-type: none"> Connect the voltmeter in parallel with the circuit. Use the service hole when measuring the voltage at the diagnosis connector.  <ul style="list-style-type: none"> Tie a thin wire to the positive (+) lead to access narrow terminals.
<p>Ohmmeter</p> 	Used to find open or short circuits, to confirm continuity, and to check sensor resistance.	<ul style="list-style-type: none"> Make sure the ignition switch is off or the negative (-) battery cable is disconnected. Switch the ohmmeter to the appropriate measuring range. Set the ohmmeter to zero before connecting the leads to the connector. 	<ul style="list-style-type: none"> If current is flowing through the circuit, the ohmmeter could be burned.
<p>Ammeter</p> 	Used to check alternator output, current supplied to the starter, and dark current within a circuit. (Dark current is the current flowing through the circuit when the ignition switch is at OFF.)	<ul style="list-style-type: none"> Set the range to the desired amperage. Touch the positive (+) lead to the power-side terminal and the negative (-) lead to the ground-side terminal. 	<ul style="list-style-type: none"> Connect the ammeter in series with the circuit. The ammeter may be burned if it is connected in parallel.



47UGIX-528



47UGIX-529

MEASURING VOLTAGE

Connectors

When checking for improperly engaged connectors, poor terminal contacts, or loose terminals, wrap a thin wire around the voltmeter lead. A large voltmeter lead may momentarily contact another terminal when it is inserted into the connector and give an incorrect reading.

Ground

Touch the voltmeter to the ground wire when checking the ground circuit. If there is poor contact between the ground wire and ground and the voltmeter does not touch the wire, the voltmeter will give an incorrect reading.

Checkpoints

Use a voltmeter or test light to check for voltage at the measuring points.

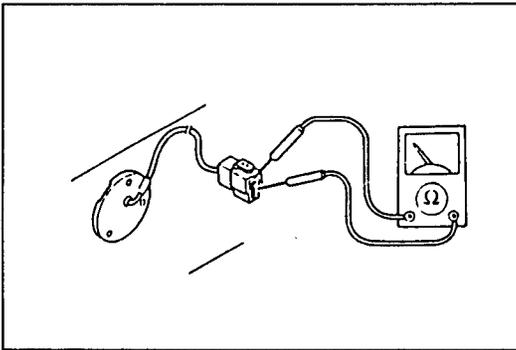
Measuring points	Circuit operation			
	Ignition switch: OFF	Ignition switch: ON		
		Thermoswitch: OFF	Thermoswitch: ON	
A	0V ×	12V ○	12V ○	
B	0V ×	12V ○	0V ×	
C	0V ×	0V ×	0V ×	
D	12V ○	12V ×	12V ○	
E	0V ×	0V ×	12V ○	
F	0V ×	0V ×	0V ×	

○ : Test light ON
× : Test light OFF

47UGIX-530

MEASURING CONTINUITY/RESISTANCE**Switches**

Touch the ohmmeter leads to the switch terminals to check for continuity.



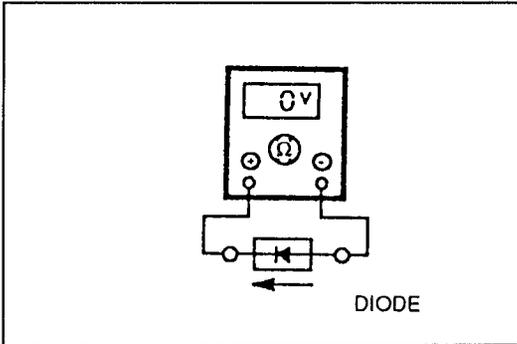
47UGIX-531

Diodes

Connect the ohmmeter leads as shown in the figure to check for continuity. If the leads are reversed, continuity will not be indicated by the ohmmeter.

Note

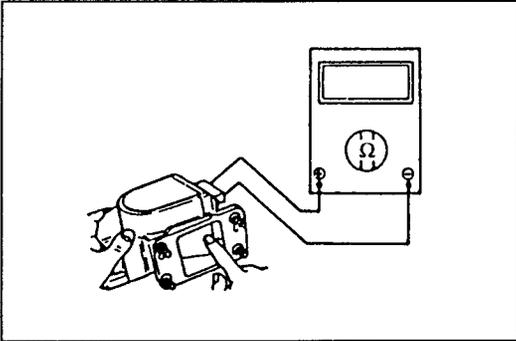
- The negative (-) lead of the ohmmeter is connected to the positive terminal of the internal ohmmeter battery; the positive (+) lead to the negative terminal of the battery.



47UGIX-532

Sensors and Solenoid Valves

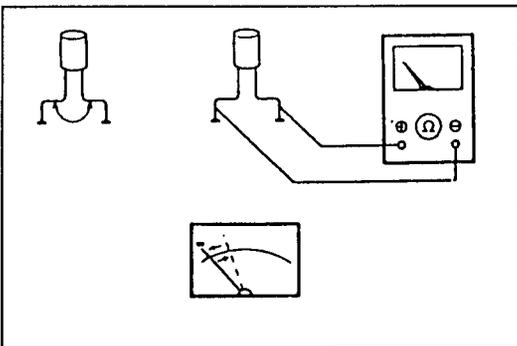
Touch the ohmmeter leads to the terminals of the sensor or solenoid valve to check the resistance.



47UGIX-533

Capacitors

1. Short between the terminals with a jumper wire to discharge the capacitor.
2. Set the ohmmeter range to $\times 10 \text{ k}\Omega$ and connect the ohmmeter leads to the capacitor terminals.
3. The capacitor is good if the needle of the ohmmeter swings once and returns to its original position.



47UGIX-534

FINDING SHORT CIRCUITS

Shorts occur between the power (positive) and ground (negative) sides of a circuit. Therefore, finding a short circuit requires determining how the circuit is routed.

Circuits Not Connected to Control Unit

Diagram	Example		Finding short circuits
	Short location	Indication	
	Short (A)	<ul style="list-style-type: none"> Fuse melts. 	<ol style="list-style-type: none"> Remove the fuse and main fuse of the circuit. Disconnect all connectors of electrical components in the circuit. Attach a voltmeter or test light to the fuse box and reconnect each connector, beginning nearest the power source. Check for voltage or see if the test light turns on as the connectors are connected.
	Short (B)	<ul style="list-style-type: none"> Main fuse melts. 	
	Short (C)	<ul style="list-style-type: none"> The motor operates regardless of whether the thermostat is on or off when the ignition switch is on. The fuse is not melted. 	
	Short (D)	<ul style="list-style-type: none"> The main fuse melts when the ignition switch and thermostat are on and the relay is operating. 	

Circuits Connected to Control Unit

Diagram	Example		Finding short circuits
	Short location	Indication	
	Short (A)	<ul style="list-style-type: none"> Fuse melts. 	<ol style="list-style-type: none"> Remove the fuse and main fuse of the circuit. Disconnect all connectors of electrical components in the circuit. Attach a voltmeter or test light to the fuse box and reconnect each connector, beginning nearest the power source. Check for voltage or see if the test light turns on as the connectors are connected.
	Short (B)	<ul style="list-style-type: none"> Solenoid A operates normally when the ignition switch is on, but switch A is off. 	
	Short (C)	<ul style="list-style-type: none"> The CPU transistor burns out when the ignition switch is turned on. 	
	Short (D)	<ul style="list-style-type: none"> The CPU thinks the switch is on because the same conditions exist when the switch is on. 	
	Short (E)	<ul style="list-style-type: none"> The CPU thinks the sensor has 0Ω because the same conditions exist as when there is no resistance. If the CPU is equipped with a self-diagnostic function, a malfunction code will be output. 	

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

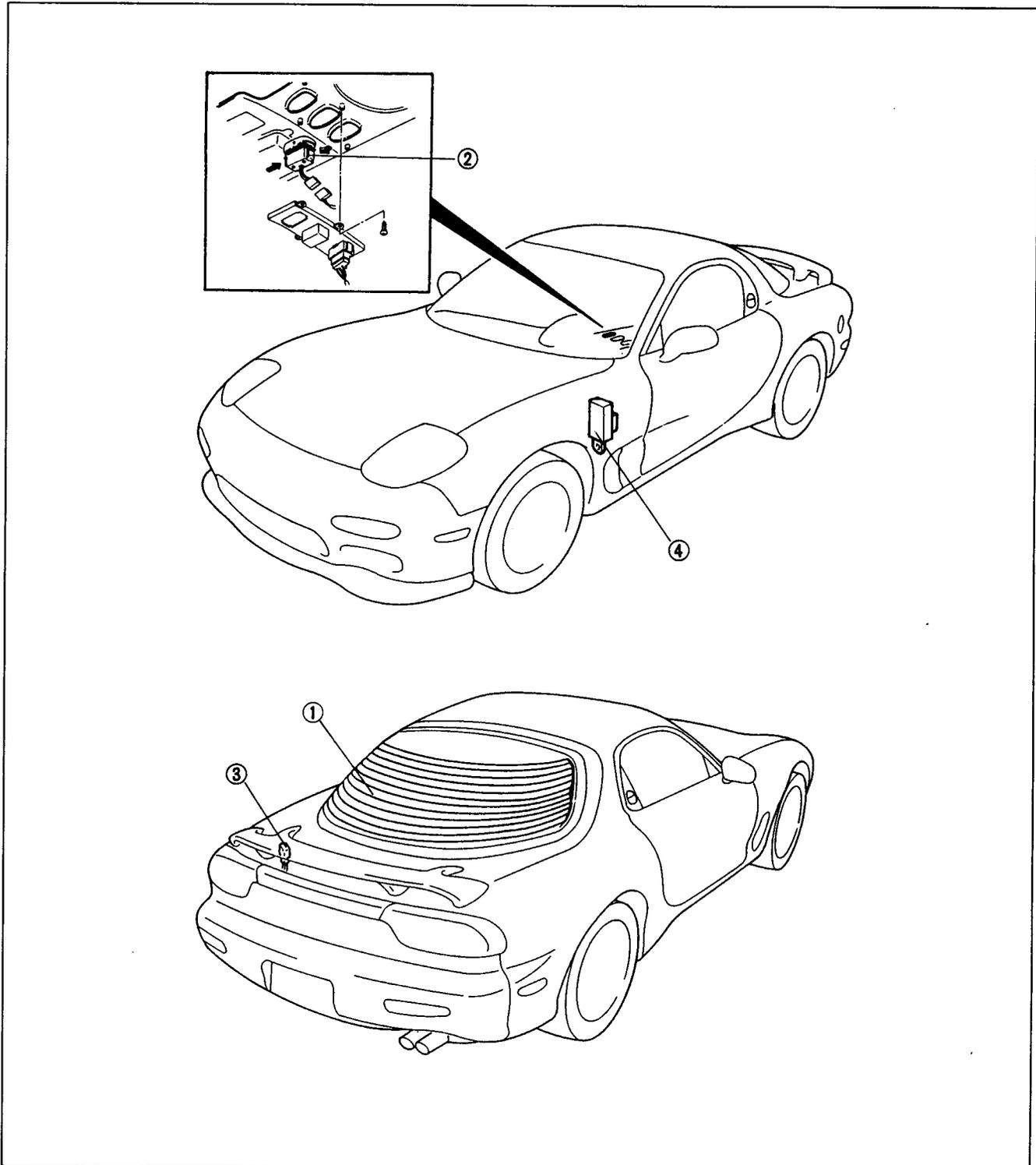
REAR WINDOW DEFROSTER

STRUCTURAL VIEW.....	11- 2
SYSTEM DIAGRAM	11- 3
TROUBLESHOOTING.....	11- 4
FILAMENT	11- 9
REAR WINDOW DEFROSTER RELAY	11- 9
REAR WINDOW DEFROSTER SWITCH.....	11-10

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REAR WINDOW DEFROSTER

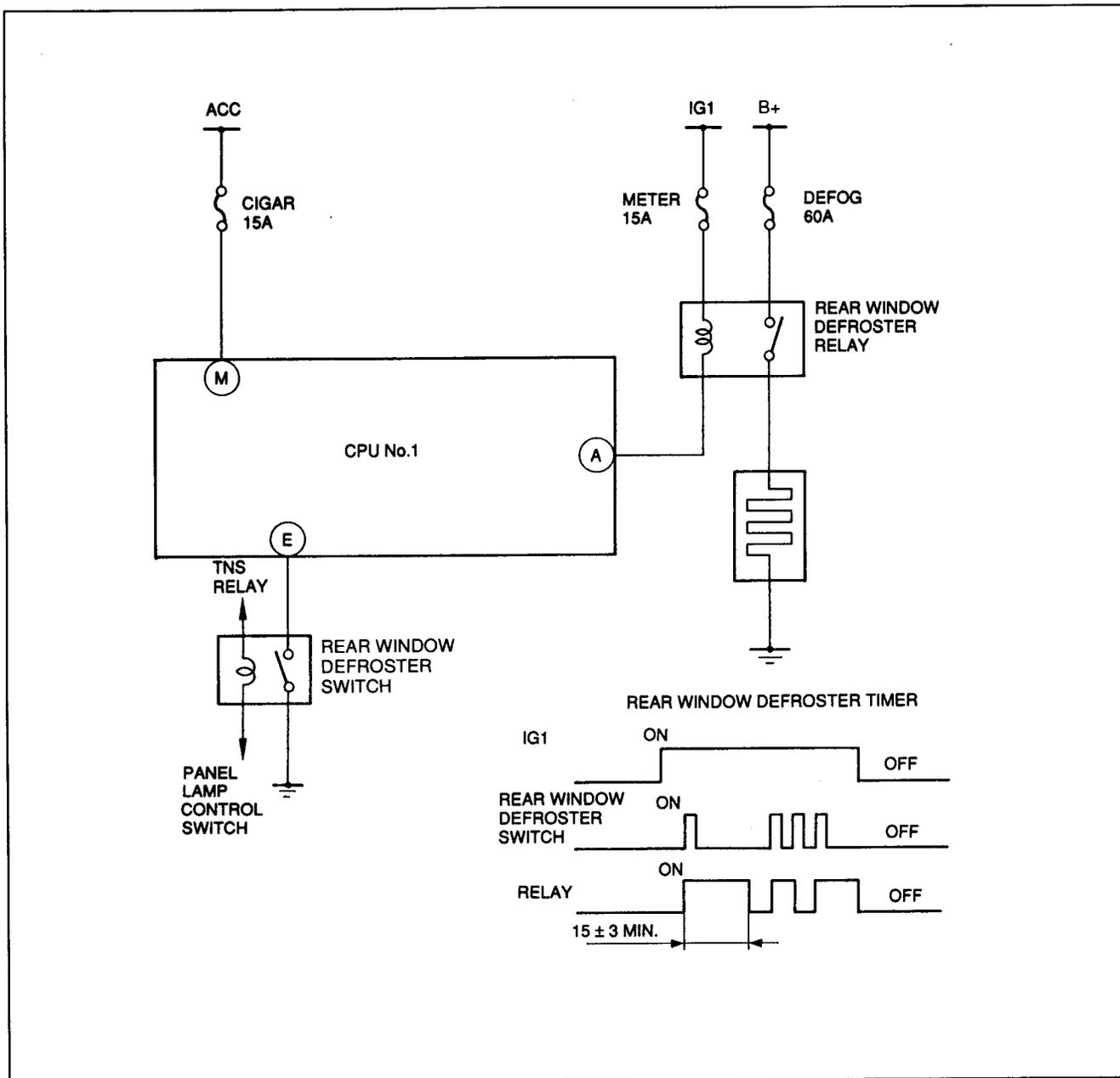
STRUCTURAL VIEW



47U11X-502

- | | |
|---|---|
| <p>1. Rear window defroster (filament)</p> <ul style="list-style-type: none"> Troubleshooting page I1- 4 Inspection..... page I1- 9 Repair page I1- 9 <p>2. Rear window defroster switch</p> <ul style="list-style-type: none"> Removal / Installation section Z4 Inspection..... page I1-10 | <p>3. Rear window defroster relay</p> <ul style="list-style-type: none"> Inspection..... page I1- 9 <p>4. CPU No.1</p> <ul style="list-style-type: none"> Removal / Installation section Z3 |
|---|---|

SYSTEM DIAGRAM



47U11X-503

Description

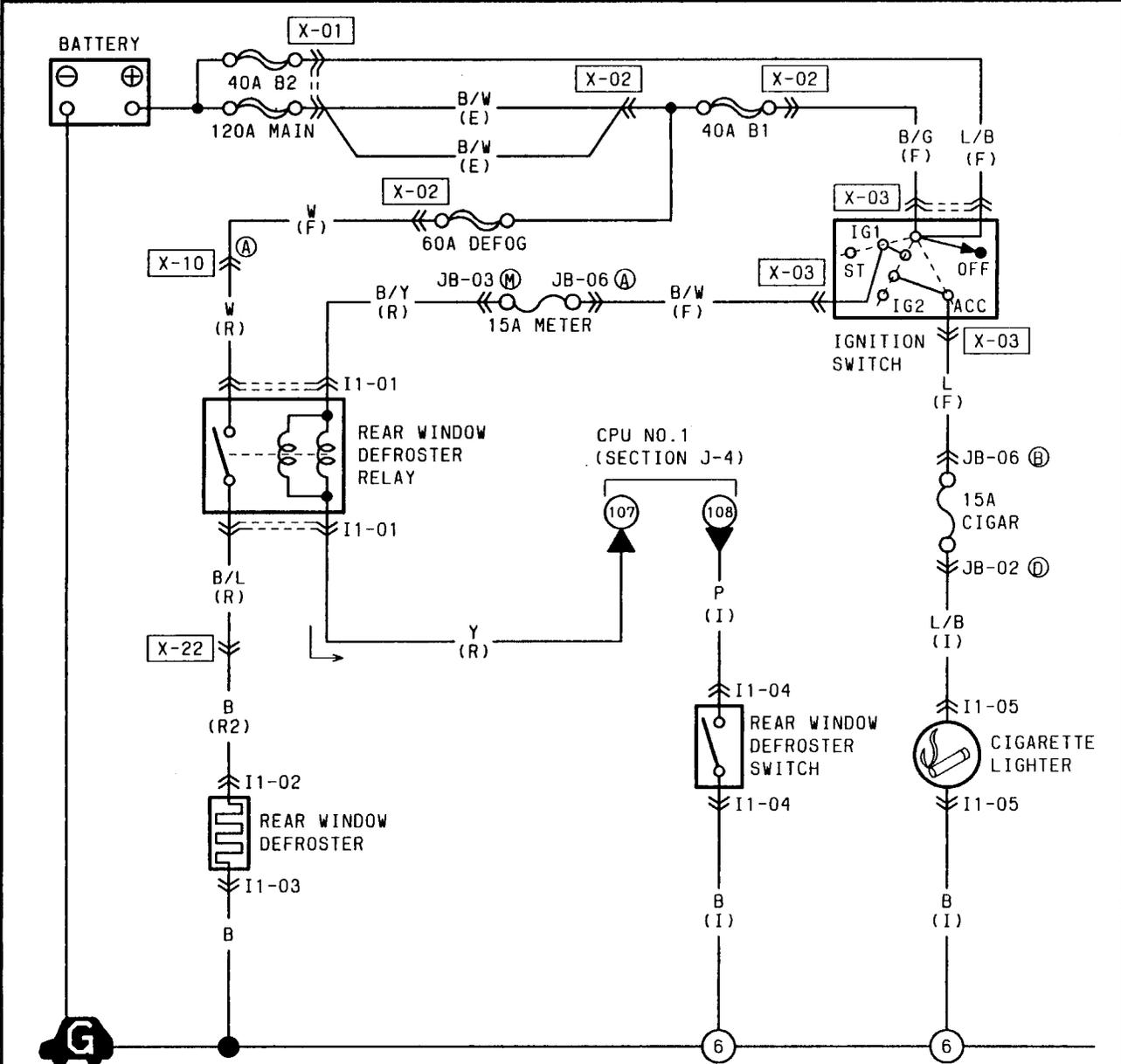
The rear window defroster system is equipped with a timer. To avoid battery discharge, power supply to the filament is stopped 12 to 18 minutes after the rear window defroster is turned on. If the rear window defroster is turned on again or the ignition switch is turned off after the timer is set, the timer will be reset. The timer is built in CPU No.1.

Operation

- When the rear window defroster switch is turned on with the ignition switch at ON, the defroster switch sends electrical signals to CPU No.1. The rear window defroster circuit in CPU No.1 is grounded and current flows to the rear window defroster relay coil. The relay contact is closed and the rear window defroster is activated.
- The rear window defroster timer operates 12—18 minutes after the rear window defroster is activated. Then the rear window defroster is turned off and the rear window defroster indicator light goes off. When the rear window defroster switch is turned off with the ignition switch at OFF, current to the rear window defroster relay coil is cut off. The relay contact opens, deactivating the rear window defroster.

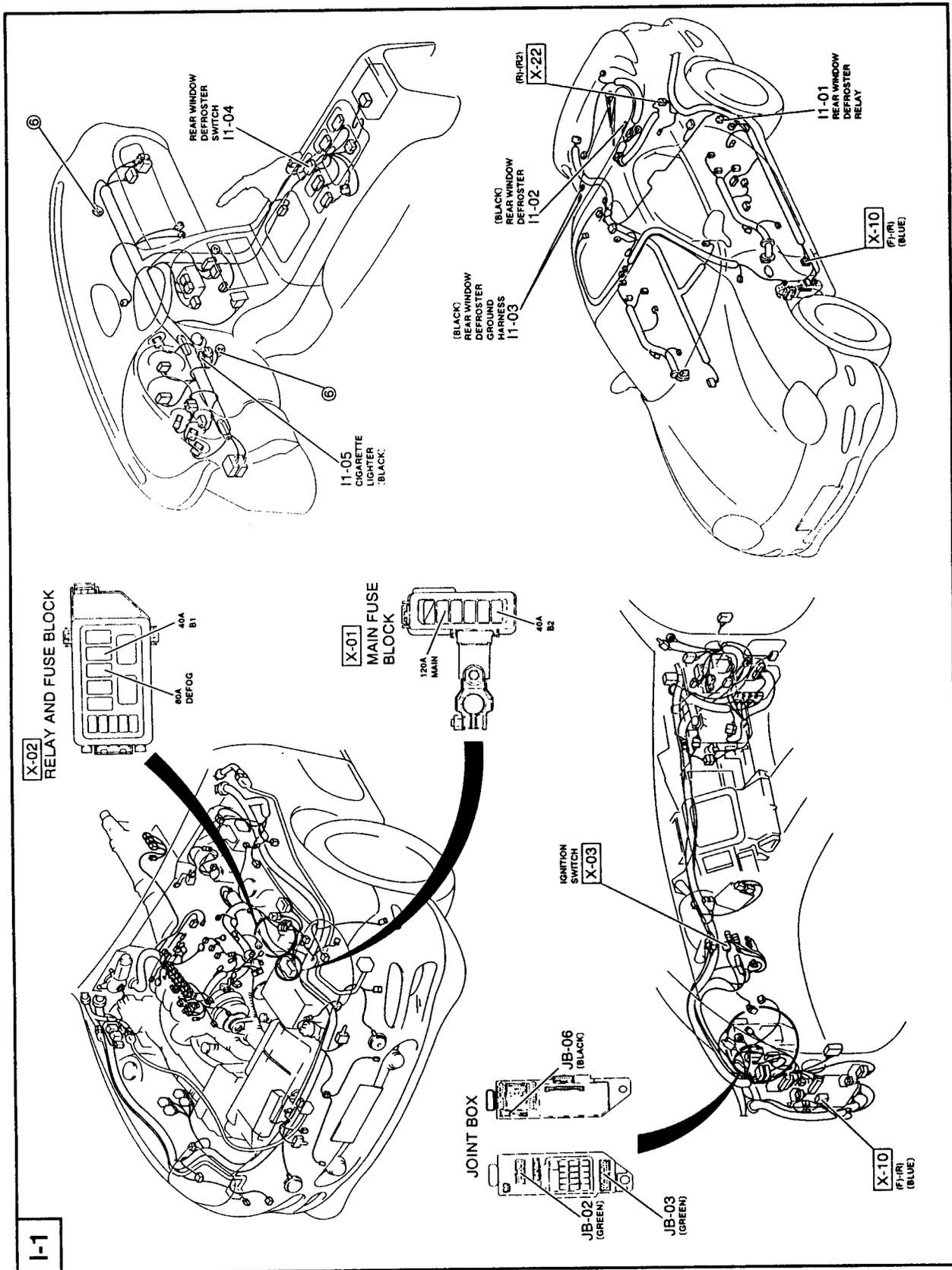
TROUBLESHOOTING
Circuit Diagram

I-1 ■ REAR WINDOW DEFROSTER ■ CIGARETTE LIGHTER



<p>I1-01 REAR WINDOW DEFROSTER RELAY (R)</p>	<p>I1-02 REAR WINDOW DEFROSTER (R2)</p>	<p>I1-03 REAR WINDOW DEFROSTER GROUND HARNESS</p>	<p>I1-04 REAR WINDOW DEFROSTER SWITCH (I)</p>
<p>I1-05 CIGARETTE LIGHTER (I)</p>			

Connector Locations



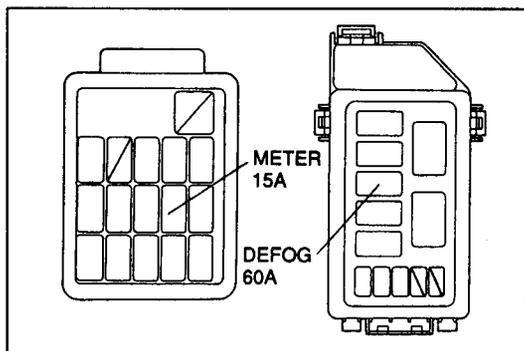
Z-81

Symptom Rear window defroster does not operate

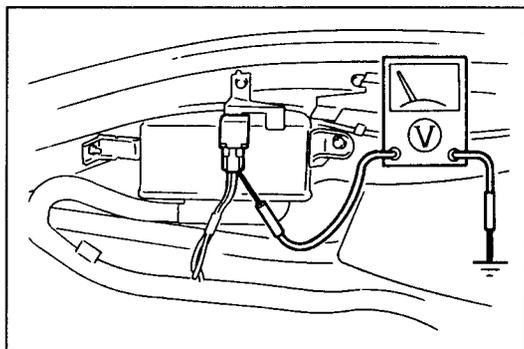
Possible cause

- Burnt DEFOG 60A fuse
- Burnt METER 15A fuse
- Damaged rear window defroster relay
- Damaged rear window defroster switch
- Damaged filament
- Damaged CPU No.1
- Open or short circuit in wiring harness
- Poor connection of connector

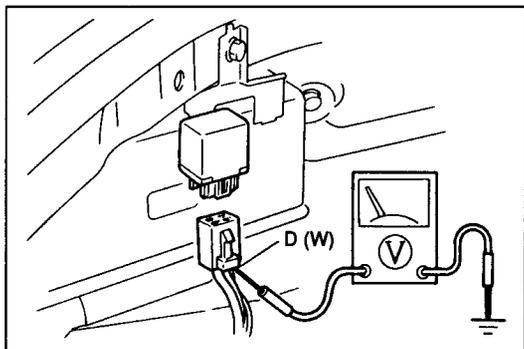
47U11X-504



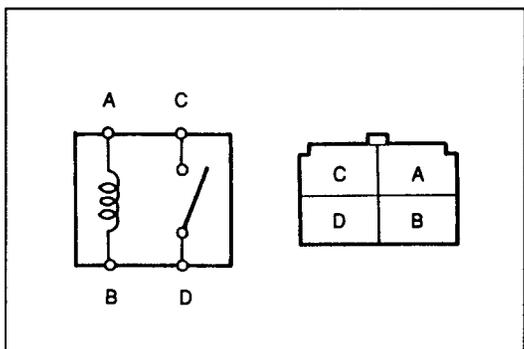
47U11X-505



47U11X-506



47U11X-507



47U11X-508

Step 1

Check the DEFOG 60A fuse in the relay and fuse block and the METER 15A fuse in the fuse block.

Fuse	Action
Burnt	Replace fuses after checking and repairing wiring harness
OK	Go to Step 2

Step 2

1. Remove the trunk end trim and trunk side trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at the (B/Y) terminal wire of the relay harness connector.

B+: Battery positive voltage

Fuse	Action
B+	Go to Step 3
Other	Repair wiring harness (METER fuse—Rear window defroster relay)

Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the rear window defroster relay connector.
3. Measure the voltage at the D (W) terminal wire of the relay harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (DEFOG fuse—Rear window defroster relay)

Step 4

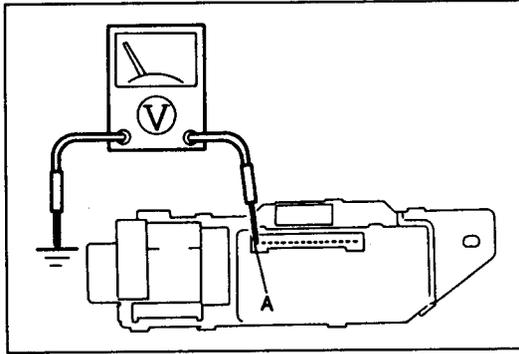
1. Apply battery positive voltage and check for continuity between the relay terminals.

B+: Battery positive voltage

Connection		Terminal			
B+	GND	A	B	C	D
—	—	○	○		
A	B			○	○

○—○ : Continuity

2. If correct, reinstall the rear window defroster relay and go to Step 5.
3. If not as specified, replace the rear window defroster relay.



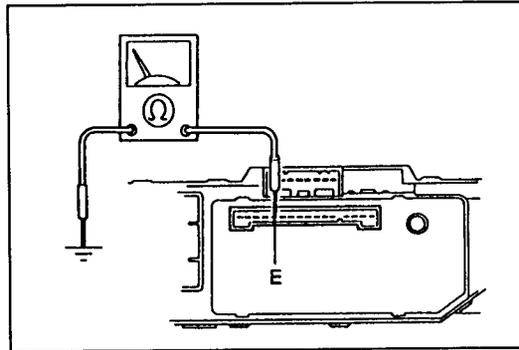
47U11X-509

Step 5

1. Remove CPU No.1 from the joint box.
(Refer to section Z3.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal A (Y) of the joint box (16-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 6
Other	Repair wiring harness (Rear window defroster relay—Joint box)

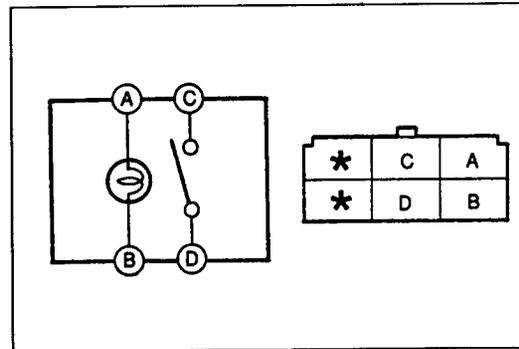


47U11X-510

Step 6

1. Remove CPU No.1 from the joint box.
(Refer to section Z3.)
2. Turn the rear window defroster switch on.
3. Check for continuity between terminal E (P) of the joint box connector (16-pin) and ground.

Fuse	Action
Yes	Reinstall CPU No.1 and go to Step 7
No	Repair wiring harness (Joint box—GND)



47U11X-511

Step 7

1. Remove the rear window defroster switch.
(Refer to section Z4.)
2. Check for continuity between the switch terminals.

Position	Terminal			
	A	B	C	D
OFF	○	⊗	○	○
ON	○	⊗	○	○

○—○ : Continuity

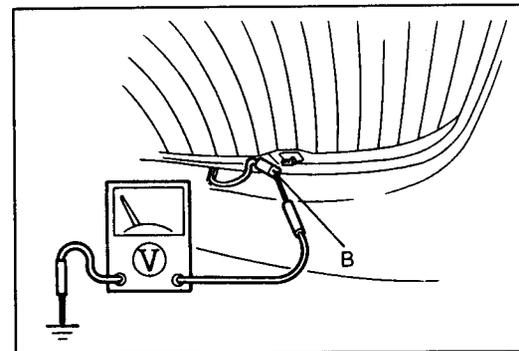
3. If correct, install the rear window defroster switch and go to Step 8.
4. If not as specified, replace the rear window defroster switch.

Step 8

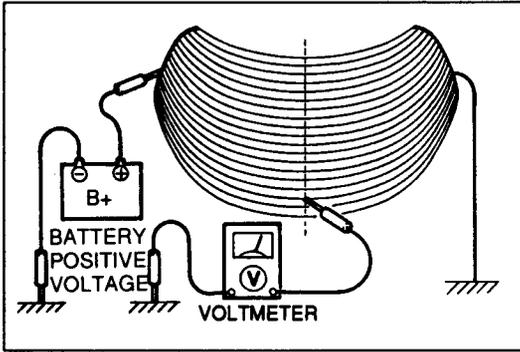
1. Turn the rear window defroster switch on.
2. Measure the voltage at the (B) terminal wire of the rear window defroster connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 9
Other	Repair wiring harness (Rear window defroster relay—Rear window defroster)



47U11X-512



47UI1X-513

Step 9

1. Measure the voltage of the filaments at the following points.

B+: Battery positive voltage

Point	Voltage
Left side	0V
Center	5—7V
Right side	B+

2. If correct, replace CPU No.1.
3. If not as specified, go to Step 10.

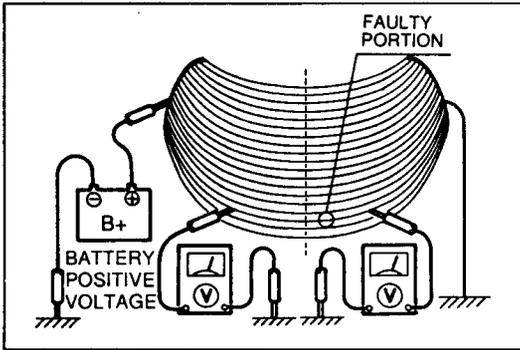
Step 10

1. Locate the damaged part of the filament by referring to the chart below.

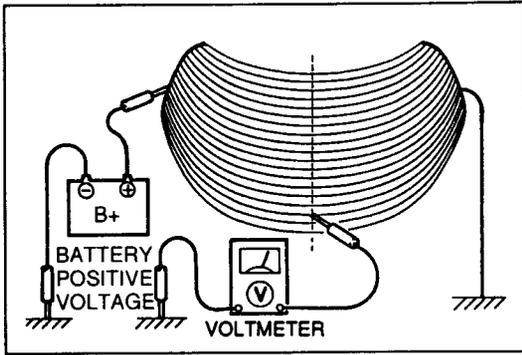
B+: Battery positive voltage

Voltage	Damage
Higher than specification or B+	Negative side
Lower than specification or 0V	Positive side

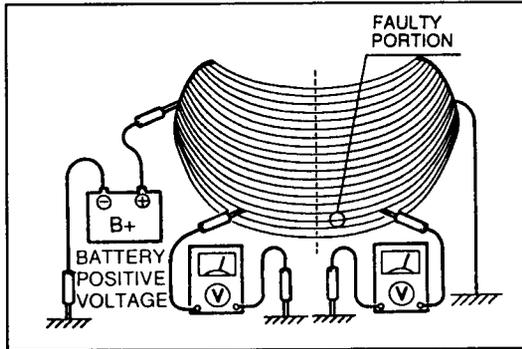
2. When the damaged part is found, repair it.
(Refer to page I1-9.)



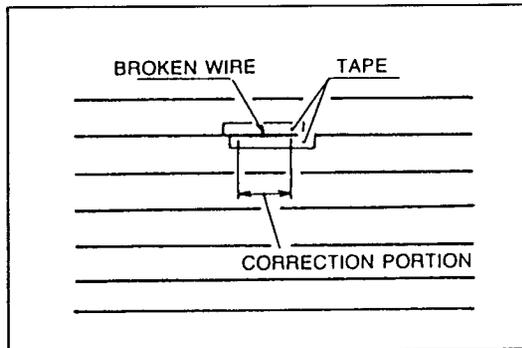
47UI1X-514



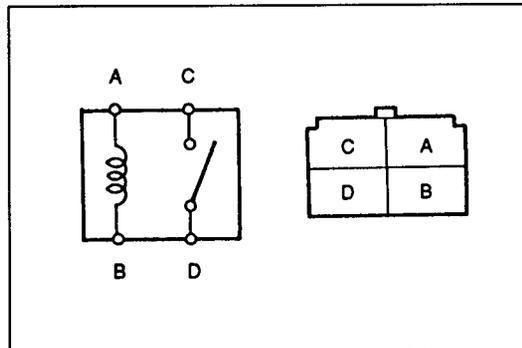
47U11X-515



47U11X-516



47U11X-517



47U11X-518

REAR WINDOW DEFROSTER (FILAMENT)

Inspection

1. Turn the rear window defroster switch on.
2. Connect the positive (+) lead of a voltmeter to the center of the filament, and ground the negative (-) lead.

Voltage specification: 5—7V

If the voltage is higher than specified, the damaged part is on the negative side of the filament. If the voltage is lower than specified or 0V is indicated, the damaged part is on the positive side of the filament.

Repair

Caution

- Use only paint thinner or ethyl alcohol for cleaning. Other solvents can damage the surrounding filament.

1. Clean the damaged part with paint thinner or ethyl alcohol.
2. Apply tape above and below the damaged part.
3. Repair the damaged part with silver paint by using a small brush or a marking pen.
4. Use a blow dryer heated to 150°C {302°F} for 30 minutes or let the paint set for 24 hours at 25°C {77°F} to allow it to dry completely. Do not use the defroster until the paint is dry.

REAR WINDOW DEFROSTER RELAY

Inspection

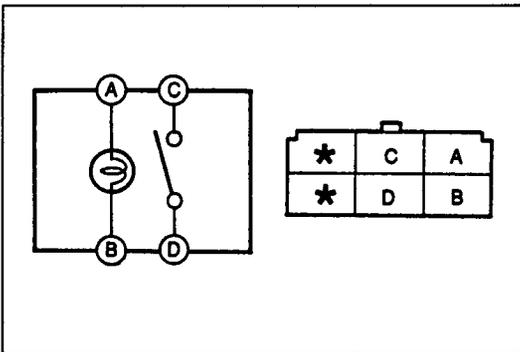
1. Disconnect the rear window defroster relay connector and remove the relay.
2. Apply battery positive voltage and check for continuity between the relay terminals.

B+: Battery positive voltage

Connection		Terminal			
B+	GND	A	B	C	D
—	—	○	○		
A	B			○	○

○—○ : Continuity

3. If not as specified, replace the relay.



47U1X-519

REAR WINDOW DEFROSTER SWITCH

Inspection

1. Remove the rear window defroster switch.
(Refer to section Z4.)
2. Check for continuity between the switch terminals.

Terminal	A	B	C	D
Position				
OFF	○	Ⓞ	○	
ON	○	Ⓞ	○	○

○—○ : Continuity

3. If not as specified, replace the rear window defroster switch.

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

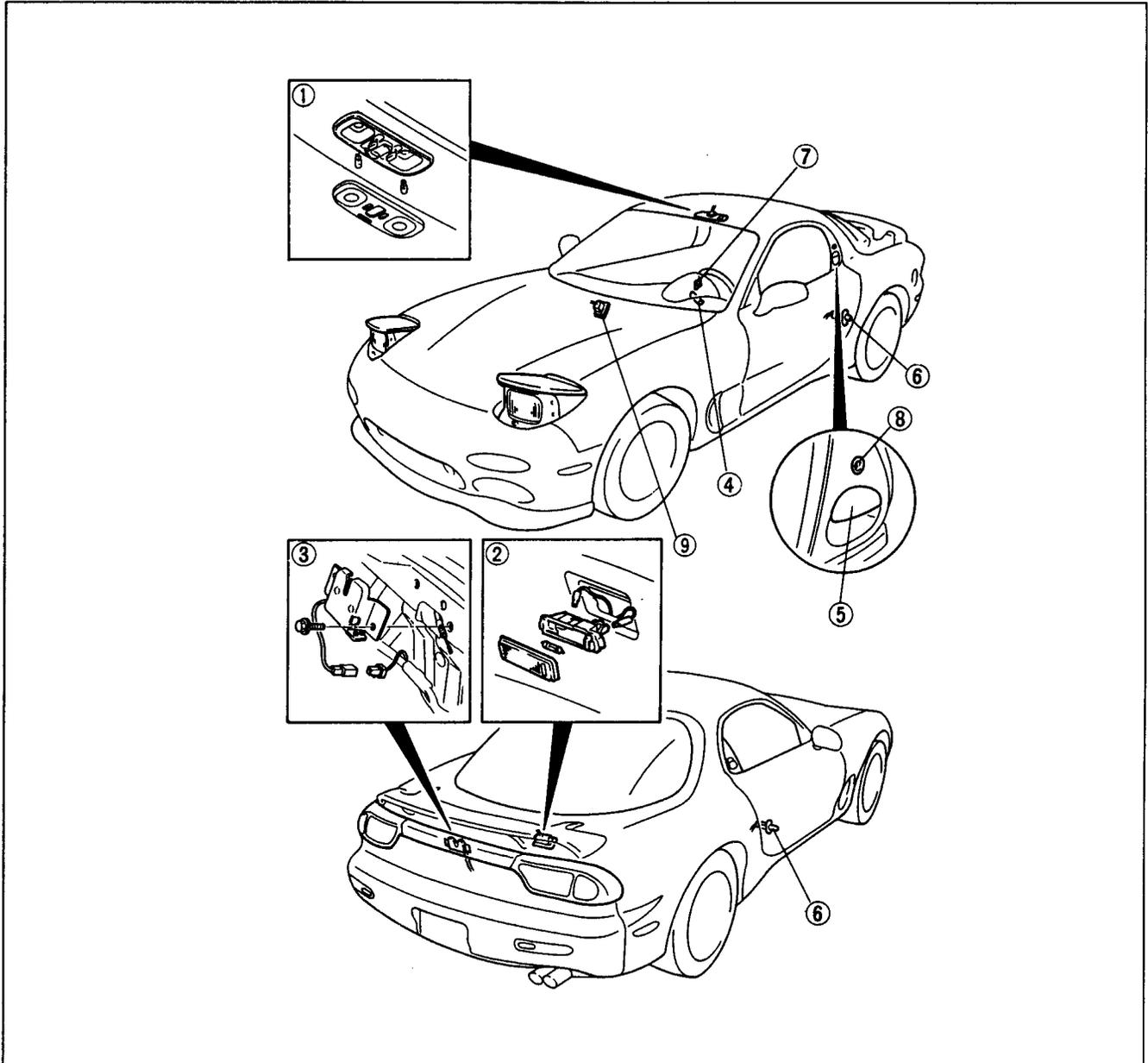
INTERIOR LIGHT SYSTEM

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47UI2X-501

INTERIOR LIGHT SYSTEM

STRUCTURAL VIEW



47U12X-502

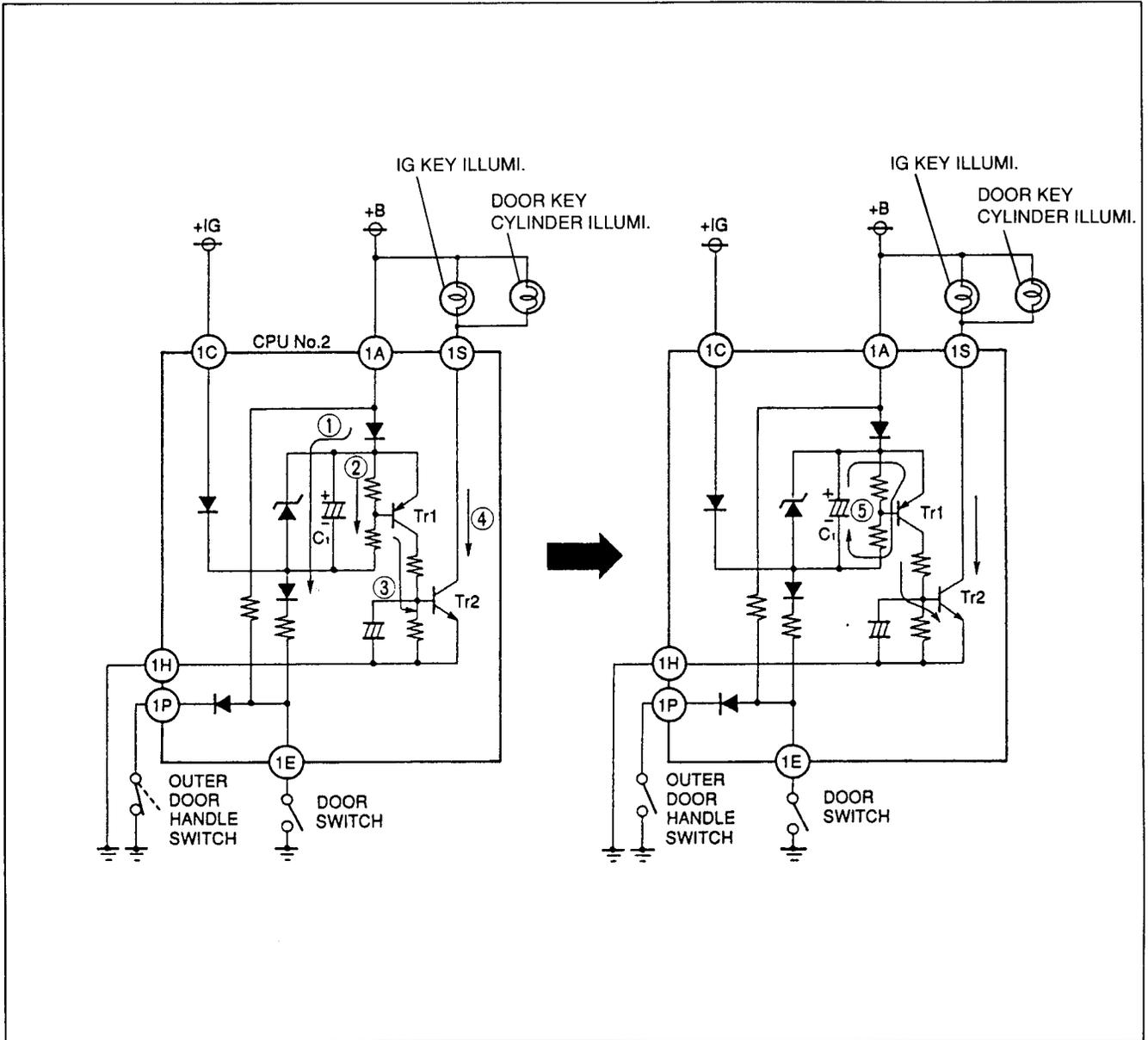
- | | |
|---|--|
| <p>1. Interior light
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Inspection..... page I2-14</p> <p>6. Door switch
Inspection..... page I2-15</p> <p>7. Ignition key illumination</p> <p>8. Door key cylinder illumination</p> <p>9. Glove compartment light</p> |
|---|--|

Specifications

Cargo compartment light	5W × 1
Glove compartment light	3.4W × 1
Interior light	5W × 2

47U12X-503

KEY ILLUMINATION TIMER
System Operation



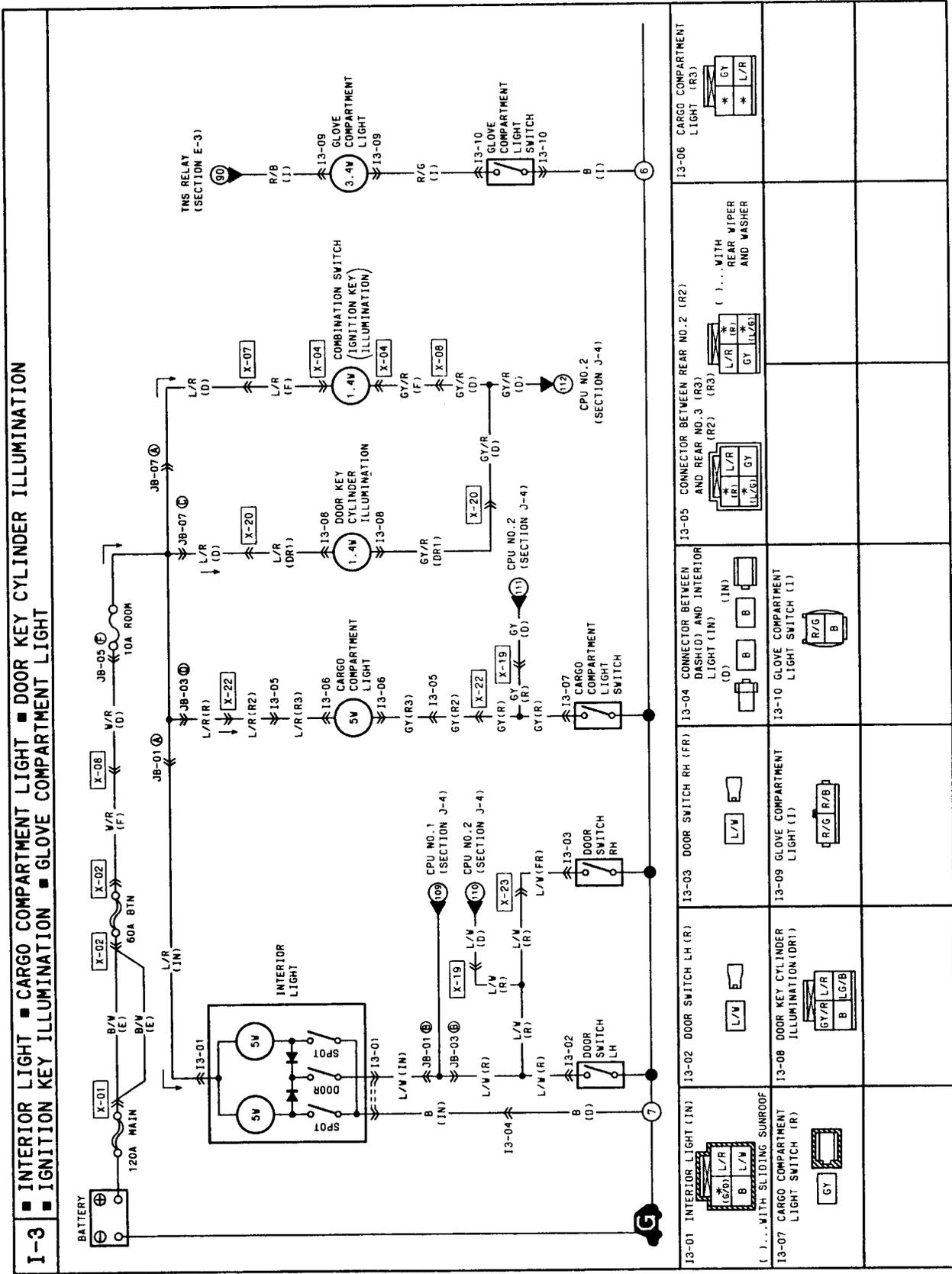
47U12X-504

- When either outer door handle is pulled or either door is opened, currents ① and ② flow. Current ① charges condenser C₁. Current ② flows to the base of Tr₁, turning the transistor on. When Tr₁ turns on, current ③ flows to the base of Tr₂, turning it on. The key illumination ground circuit is completed, and current ④ flows to turn on the ignition key illumination and door key cylinder illumination.
- When the outer door handle is released or the door is closed, current ① is cut. However, current ⑤ is discharged from C₁ and flows through Tr₁. Tr₂ remains on and current continues to illuminate the ignition key illumination and door key cylinder illumination. C₁ fully discharges after 15—21 seconds, and Tr₁ and Tr₂ turn off. As a result, the ignition key illumination and door key cylinder illumination also turn off.

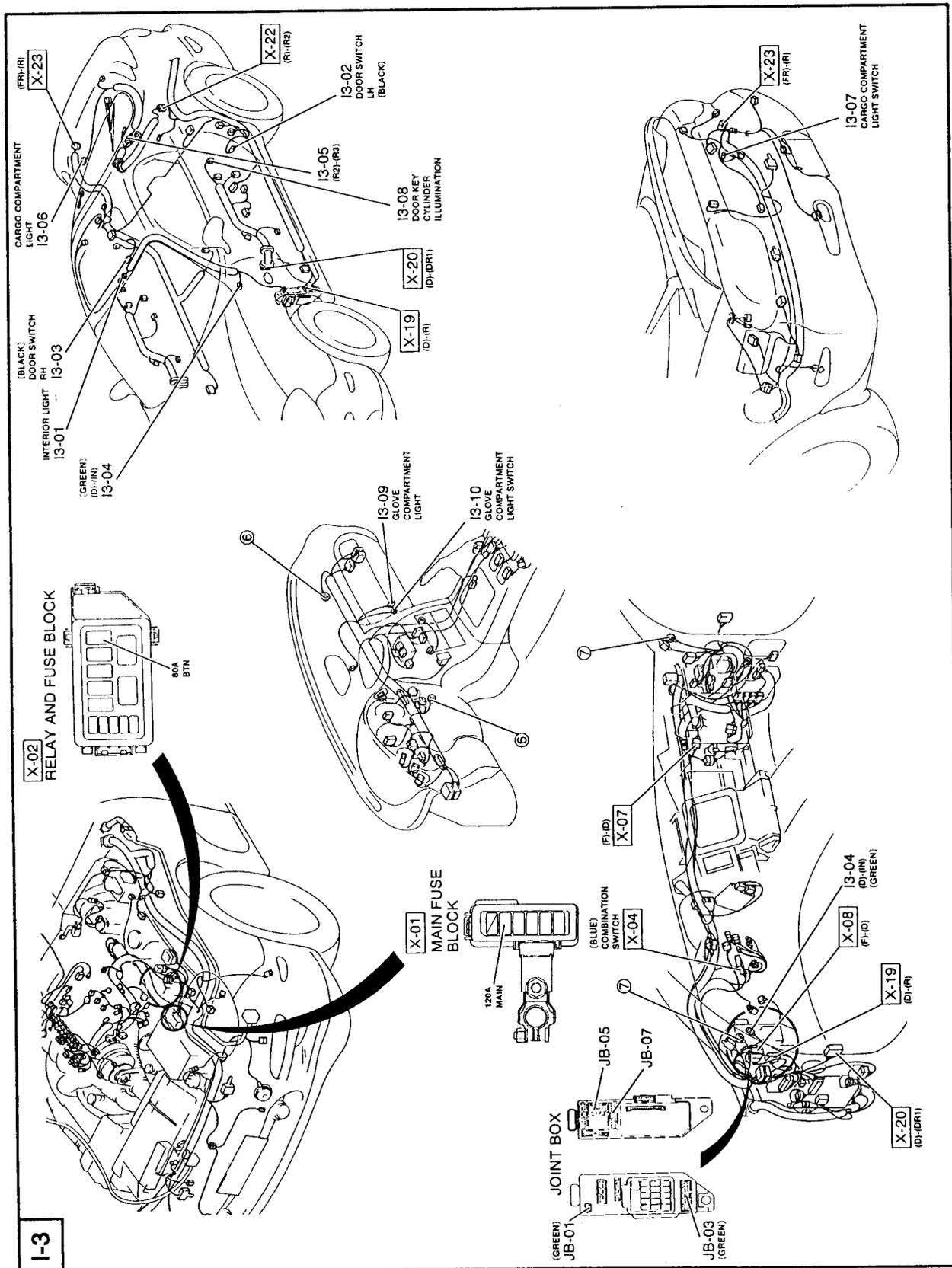
12

TROUBLESHOOTING

Interior Light, Ignition Key Illumination, Door Key Cylinder Illumination
Circuit diagram



Connector locations



Checklist

Procedure / Proper Operation	Symptom	Flowchart No.
1. Turn spot switch on and verify that interior lights illuminate. 2. Move interior light switch to DOOR and open either door. Verify that interior lights illuminate.	Interior lights do not illuminate	1
	Interior lights illuminate when interior light switch is at DOOR (door open), but do not illuminate when spot switch is turned on (door closed)	2
	Interior lights illuminate when spot switch is turned on (door closed), but do not illuminate when interior light switch is at DOOR (door open)	3
1. Remove ignition key. 2. Pull outer door handle or open either door and verify that ignition key illumination and door key cylinder illumination turn on for 15—21 seconds.	Ignition key illumination and door key cylinder illumination do not turn on	4
	Ignition key illumination turns on, but door key cylinder illumination does not turn on	5
	Door key cylinder illumination turns on, but ignition key illumination does not turn on	6

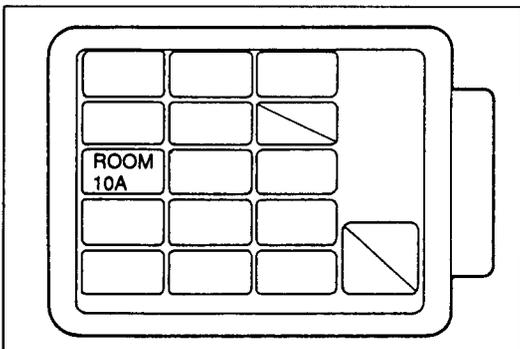
47UI2X-507

Flowchart No.1	Symptom	Interior lights do not illuminate
----------------	---------	-----------------------------------

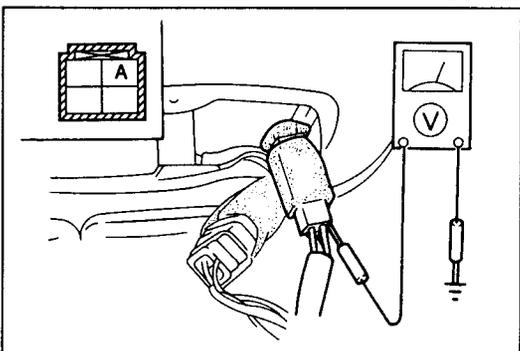
Possible cause

- Burnt ROOM 10A fuse
- Damaged interior light
- Open or short circuit in wiring harness
- Poor connection of connector

47UI2X-508



47UI2X-509



47UI2X-510

Step 1

Check the ROOM 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the interior light. (Refer to page I2-13.)
2. Measure the voltage at terminal A (L/R) of the interior light connector (4-pin).

B+: Battery positive voltage

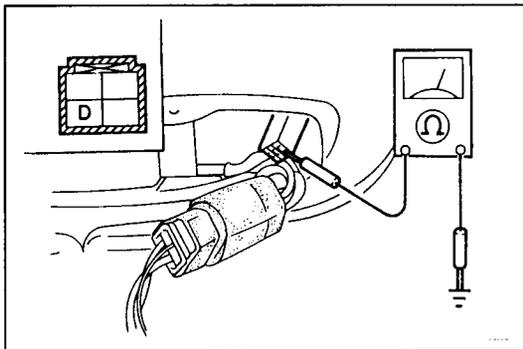
Voltage	Action
B+	Replace interior light (Refer to page I2-13)
Other	Repair wiring harness (ROOM 10A fuse—Interior light)

Flowchart No.2	Symptom	Interior lights illuminate when interior light switch is at DOOR (door open), but do not illuminate when spot switch is turned on (door closed)
-----------------------	----------------	---

47UI2X-511

Possible cause

- Damaged interior light
- Open or short circuit in wiring harness
- Poor connection of connector



47UI2X-512

Remedy

1. Remove the interior light. (Refer to page I2-13.)
2. Check for continuity between terminal D (B) of the interior light connector (4-pin) and ground.

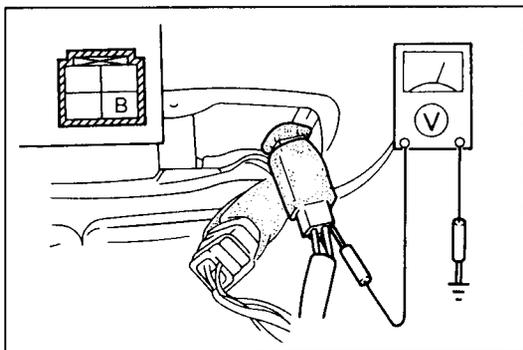
Continuity	Action
Yes	Replace interior light (Refer to page I2-13)
No	Repair wiring harness (Interior light—GND)

Flowchart No.3	Symptom	Interior lights illuminate when spot switch is turned on (door closed), but do not illuminate when interior light switch is at DOOR (door open)
-----------------------	----------------	---

Possible cause

- Damaged interior light
- Damaged door switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UI2X-513



47UI2X-514

Step 1

1. Remove the interior light. (Refer to page I2-13.)
2. Measure the voltage at terminal B (L/W) of the interior light connector (4-pin) with the interior light switch at DOOR (door closed).

B+ : Battery positive voltage

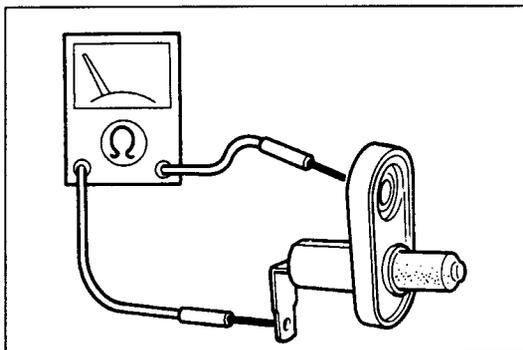
Voltage	Action
B+	Go to Step 2
Other	Replace interior light (Refer to page I2-13)

Step 2

1. Remove the door switch.
2. Check for continuity between the terminals of the door switch.

Switch	Continuity
Depressed	No
Released	Yes

3. If correct, repair the wiring harness (interior light—door switch).
4. If not as specified, replace the door switch.



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Flowchart No.4

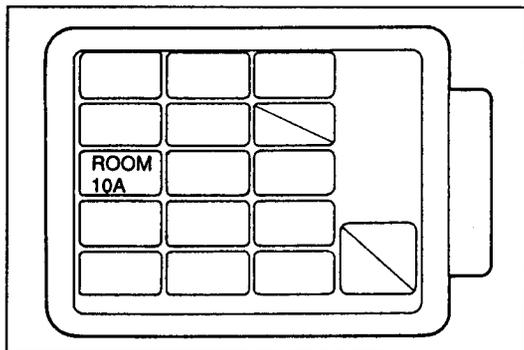
Symptom

Ignition key illumination and door key cylinder illumination do not turn on

Possible cause

- Burnt ROOM 10A fuse
- Damaged CPU No.2
- Damaged steering lock
- Damaged outer door handle
- Burnt bulbs
- Damaged door switch
- Damaged key reminder switch
- Open or short circuit in wiring harness
- Poor connection of connector

47UI2X-516

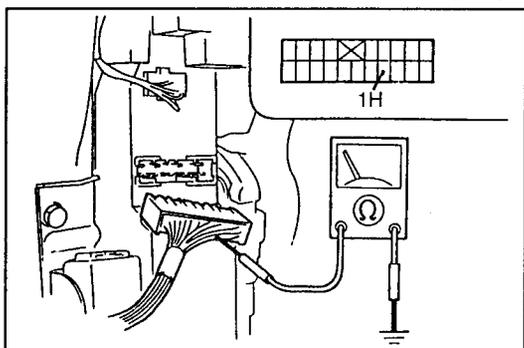


47UI2X-517

Step 1

Check the ROOM 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

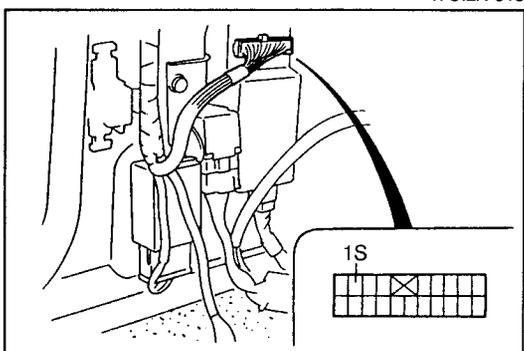


47UI2X-518

Step 2

1. Disconnect the CPU No.2 connector (20-pin).
2. Check for continuity between terminal 1H (B) of the CPU No.2 connector (20-pin) and ground.

Continuity	Action
Yes	Go to Step 3
No	Repair wiring harness (CPU No.2—GND)



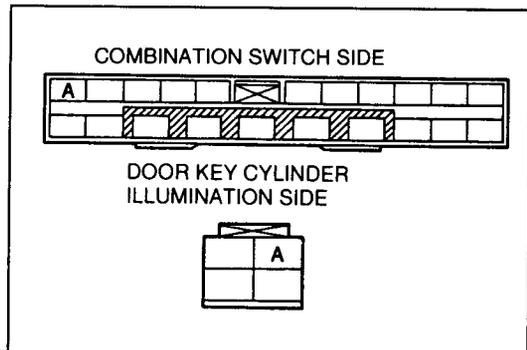
47UI2X-519

Step 3

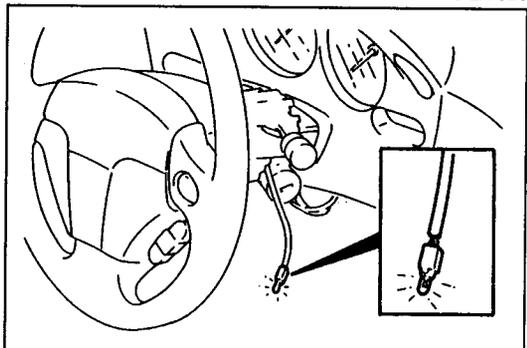
1. Connect the CPU No.2 connector (20-pin).
2. Measure the voltage at terminal 1S (GY/R) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

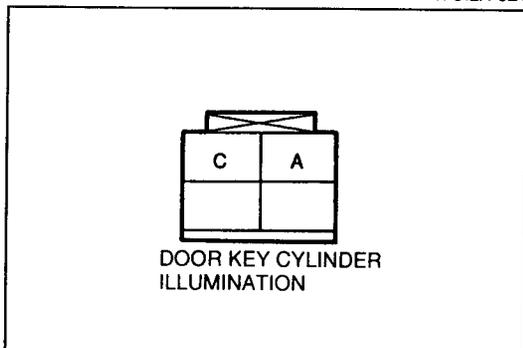
Voltage	Action
B+	Go to Step 7
Other	Go to Step 4



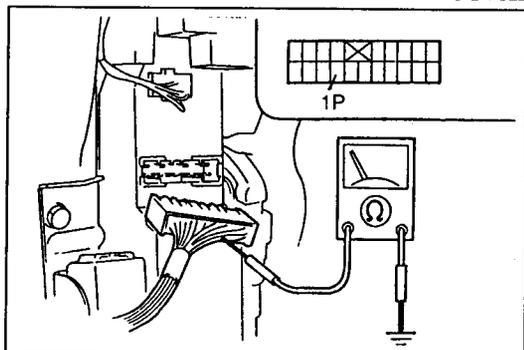
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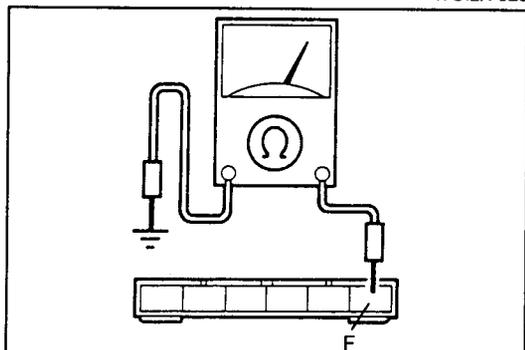
47UI2X-521



47UI2X-522



47UI2X-523



47UI2X-524

Step 4

1. Remove the side panel, lower panel, and driver-side door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at terminal A (L/R) of the combination switch connector and terminal A (L/R) of the door key cylinder illumination connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (ROOM 10A fuse—Ignition key illumination or ROOM 10A fuse—Door key cylinder illumination)

Step 5

1. Remove the column cover. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the bulb of the ignition key illumination, and check the bulb.

Bulb	Action
OK	Repair wiring harness (Ignition key illumination—CPU No.2) and go to Step 6
Burnt	Replace bulb and go to Step 6

12

Step 6

1. Disconnect the door key cylinder illumination connector.
2. Check for continuity between terminals A and C of the door key cylinder connector.

Continuity	Action
Yes	Repair wiring harness (Door key cylinder illumination—CPU No.2)
No	Replace outer door handle (Refer to 1994 RX-7 Workshop Manual, section S)

Step 7

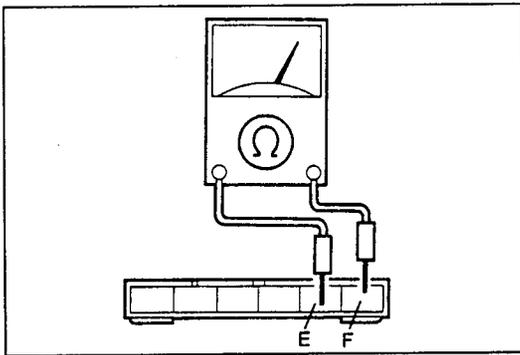
1. Connect the door key cylinder illumination connector.
2. Disconnect the CPU No.2 connector (20-pin).
3. Check for continuity between terminal 1P (Y) of the CPU No.2 connector (20-pin) and ground while pulling the outer door handle.

Continuity	Action
Yes	Go to Step 10
No	Go to Step 8

Step 8

1. Disconnect the outer door handle switch connector.
2. Check for continuity between terminal F (B) of the switch connector and ground.

Continuity	Action
Yes	Go to Step 9
No	Repair wiring harness (Outer door handle switch—GND)

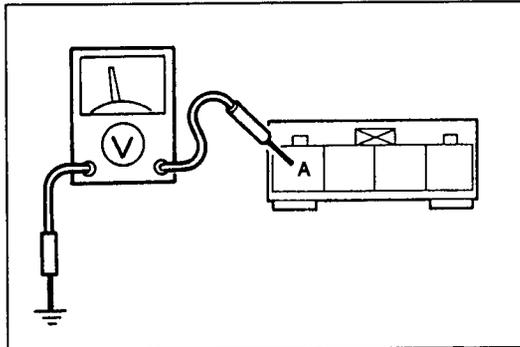


47UI2X-525

Step 9

Check for continuity between terminals E and F of the outer door handle switch connector while pulling the outer door handle.

Continuity	Action
Yes	Repair wiring harness (CPU No.2—Outer door handle switch)
No	Replace outer door handle (Refer to 1994 RX-7 Workshop Manual, section S)



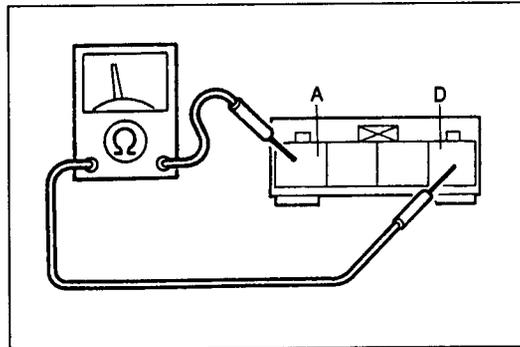
47UI2X-526

Step 10

Measure the voltage at terminal A (L/R) of the key reminder switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 11
Other	Repair wiring harness (ROOM 10A fuse—Key reminder switch)

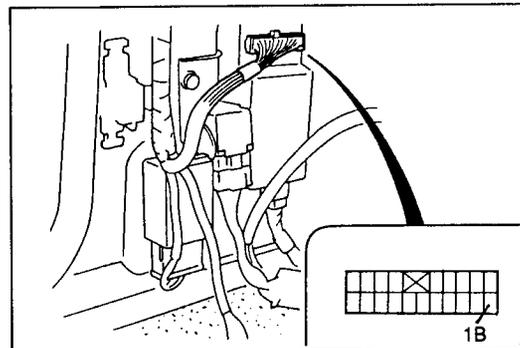


47UI2X-527

Step 11

Check for continuity between terminals A and D of the key reminder switch connector with the ignition key inserted.

Continuity	Action
Yes	Go to Step 12
No	Replace steering lock (Refer to 1994 RX-7 Workshop Manual, section N)



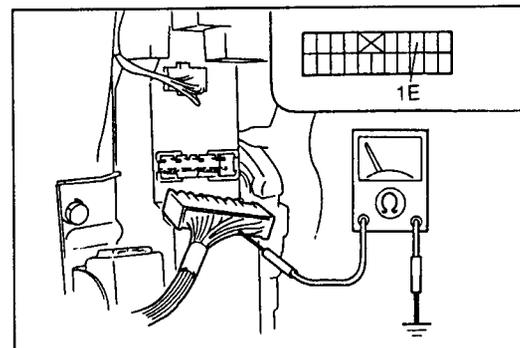
47UI2X-528

Step 12

1. Connect the CPU No.2 connector (20-pin).
2. Measure the voltage at terminal 1B (W) of the CPU No.2 connector (20-pin) with the ignition key inserted.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 13
Other	Repair wiring harness (Key reminder switch—CPU No.2)

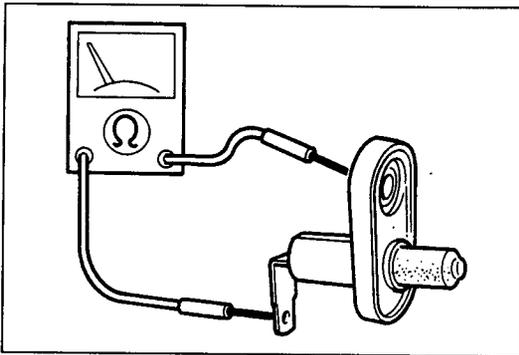


47UI2X-529

Step 13

1. Disconnect the CPU No.2 connector (20-pin).
2. Check for continuity between terminal 1E (L/W) of the CPU No.2 connector (20-pin) and ground with the driver-side door open.

Continuity	Action
Yes	Go to Step 15
No	Go to Step 14



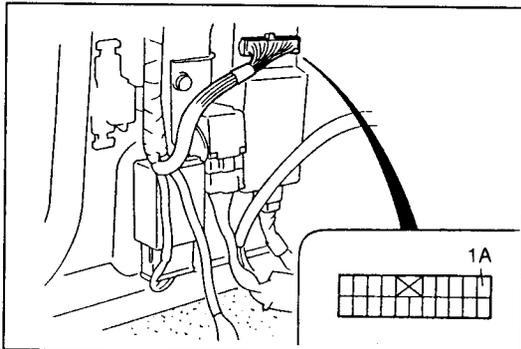
47UI2X-530

Step 14

1. Remove the door switch.
2. Check for continuity between the terminals of the door switch.

Switch	Continuity
Depressed	No
Released	Yes

3. If not as specified, replace the door switch.



47UI2X-531

Step 15

1. Connect the CPU No.2 connector (20-pin).
2. Measure the voltage at terminal 1A (L/R) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

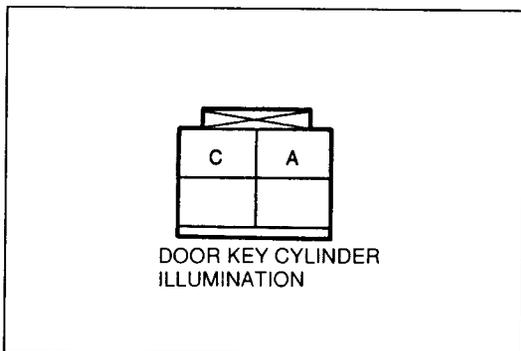
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (ROOM 10A fuse—CPU No.2)

Flowchart No.5	Symptom	Ignition key illumination turns on, but door key cylinder illumination does not turn on
-----------------------	----------------	---

Possible cause

- Burnt bulb
- Open or short circuit in wiring harness
- Poor connection of connector
- Damaged outer door handle
- Damaged CPU No.2

47UI2X-532

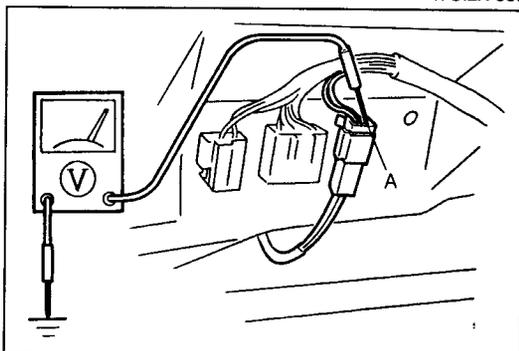


47UI2X-533

Step1

1. Remove the door trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the door key cylinder illumination connector.
3. Check for continuity between terminals A and C of the door key cylinder illumination connector.

Continuity	Action
Yes	Go to Step 2
No	Replace outer door handle (Refer to 1994 RX-7 Workshop Manual, section S)



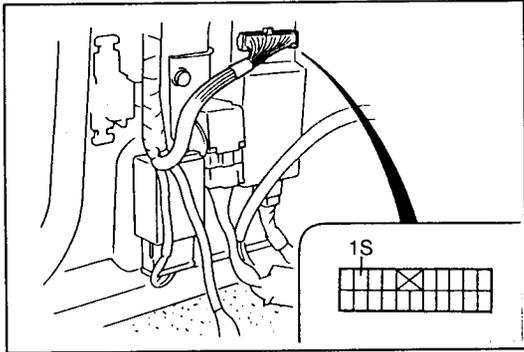
47UI2X-534

Step 2

Connect the door key cylinder illumination connector and measure the voltage at terminal A (L/R).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (ROOM 10A fuse—Door key cylinder illumination)



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Step 3

Measure the voltage at terminal 1S (GY/R) of the CPU No.2 connector (20-pin).

B+: Battery positive voltage

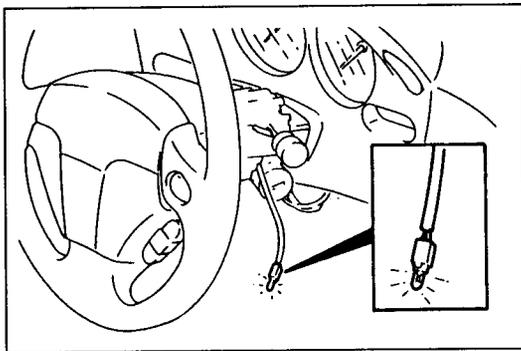
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Door key cylinder illumination—CPU No.2)

Flowchart No.6	Symptom	Door key cylinder illumination turns on, but ignition key illumination does not turn on
-----------------------	----------------	---

Possible cause

- Burnt bulb
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UI2X-536



47UI2X-537

Step 1

1. Remove the column cover.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the ignition key illumination bulb and inspect it.

Bulb	Action
OK	Go to Step 2
Burnt	Replace bulb

Step 2

1. Remove the side panel and lower panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at terminal A (L/R) of the combination switch connector.

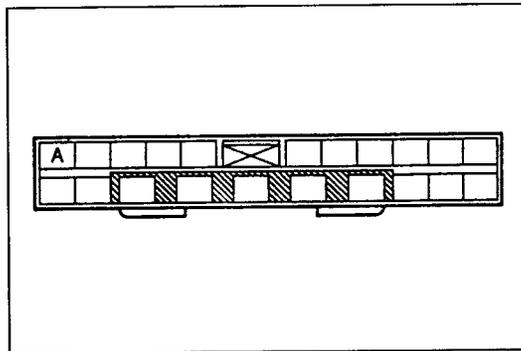
B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (ROOM 10A fuse—Ignition key illumination)

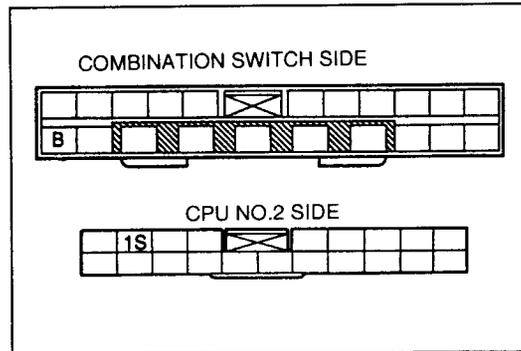
Step 3

1. Disconnect the combination switch connector and CPU No.2 connector (20-pin).
2. Check for continuity between terminal B (GY/R) of the combination switch connector and terminal 1S (GY/R) of the CPU No.2 connector.

Continuity	Action
Yes	Replace CPU No.2 (Refer to section Z3)
No	Repair wiring harness (Ignition key illumination—CPU No.2)



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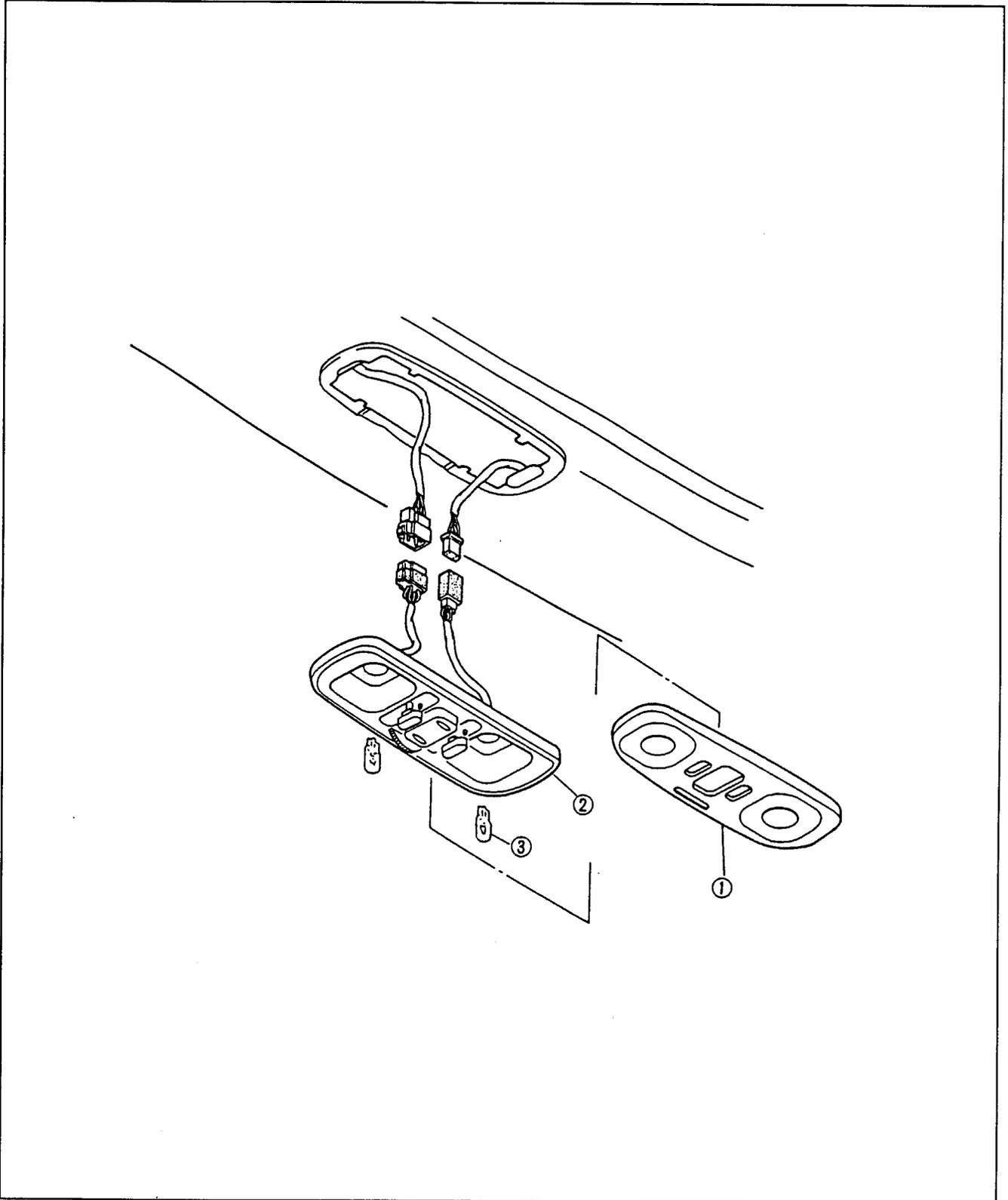


47UI2X-539

INTERIOR LIGHT

Removal / Inspection / Installation

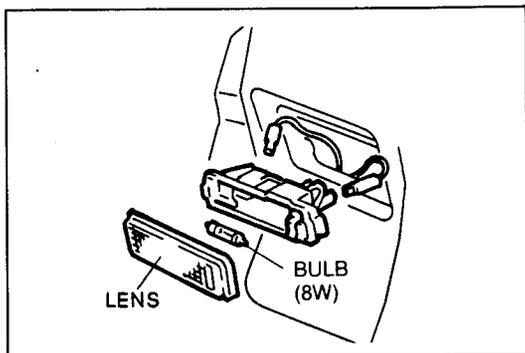
1. Remove in the order shown in the figure.
2. Inspect all parts and repair or replace as necessary.
3. Install in the reverse order of removal.



1. Lens
2. Overhead console

3. Bulb (5W)

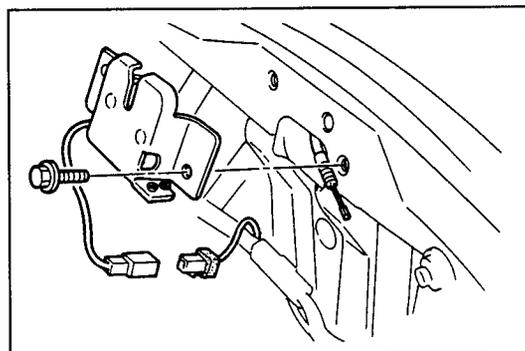
47UI2X-540



47UI2X-541

CARGO COMPARTMENT LIGHT
Removal / Inspection / Installation

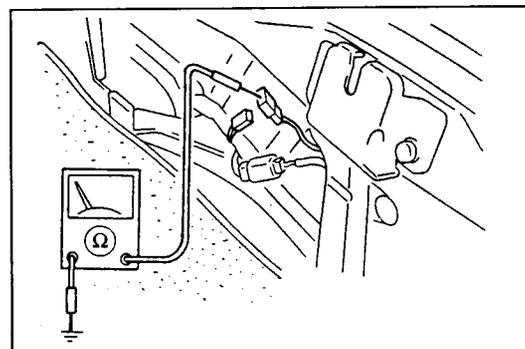
1. Remove the lens.
2. Remove the bulb.
3. Inspect all parts and repair or replace as necessary.
4. Install in the reverse order of removal.



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CARGO COMPARTMENT LIGHT SWITCH
Removal / Installation

1. Remove the trunk end trim.
 (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the trunk lid striker.
3. Remove the cargo compartment light switch.
4. Install in the reverse order of removal.



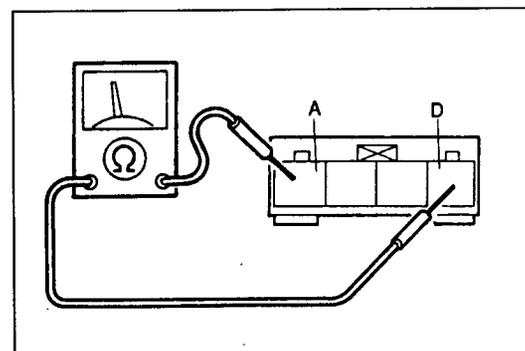
47UI2X-543

Inspection

1. Remove the trunk end trim.
 (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the cargo compartment light switch connector.
3. Check for continuity between the switch terminals.

Switch	Continuity
Depressed	No
Released	Yes

4. If not as specified, replace the rear hatch lock.



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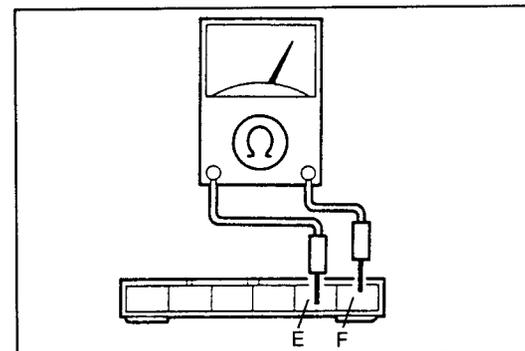
KEY REMINDER SWITCH

Inspection

1. Remove the side panel and lower panel.
 (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the key reminder switch connector.
3. Check for continuity between terminals A and D of the key reminder switch connector.

Key	Continuity
Inserted	Yes
Removed	No

4. If not as specified, replace the ignition switch.
 (Refer to section Z4.)

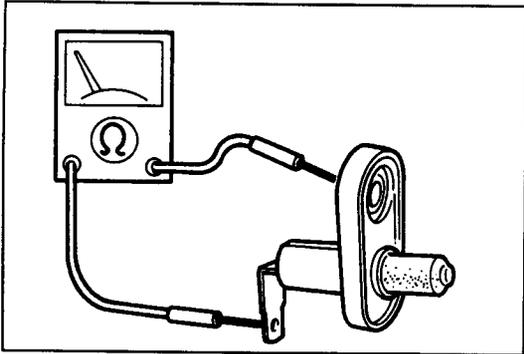


47UI2X-545

OUTER DOOR HANDLE SWITCH

Inspection

1. Remove the driver-side door trim.
 (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the outer door handle switch connector (6-pin).
3. Pull the outer door handle and verify that there is continuity between terminals E and F of the switch connector.
4. If there is no continuity, replace the outer door handle.
 (Refer to the 1994 RX-7 Workshop Manual, section S.)



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DOOR SWITCH

Inspection

1. Remove the door switch.
2. Check for continuity between the terminals of the door switch.

Switch	Continuity
Depressed	No
Released	Yes

3. If not as specified, replace the door switch.

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings.

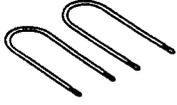
AUDIO

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ANTENNA FEEDER	J1-62
RADIO RELAY (TYPE 2)	J1-62
POWER ANTENNA	J1-63
ANTENNA MAST.....	J1-65

47UJ1X-501

AUDIO

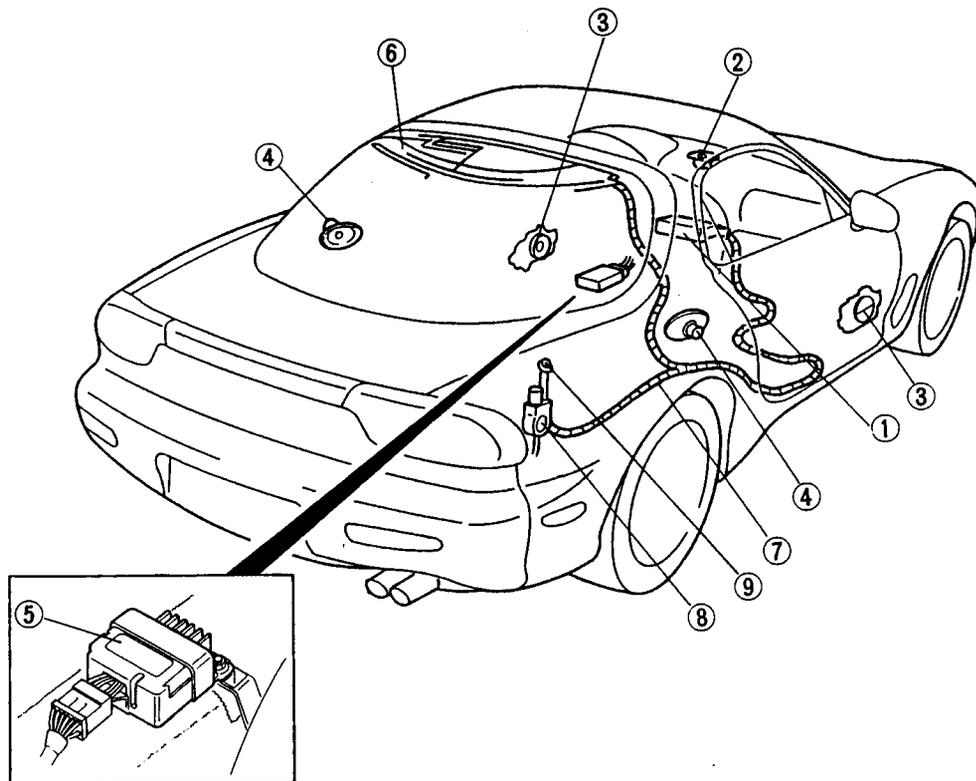
PREPARATION SST

<p>49 UN01 050</p> <p>Radio removing tool</p> 	<p>For removal of audio unit</p>
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47UJ1X-502

STRUCTURAL VIEW

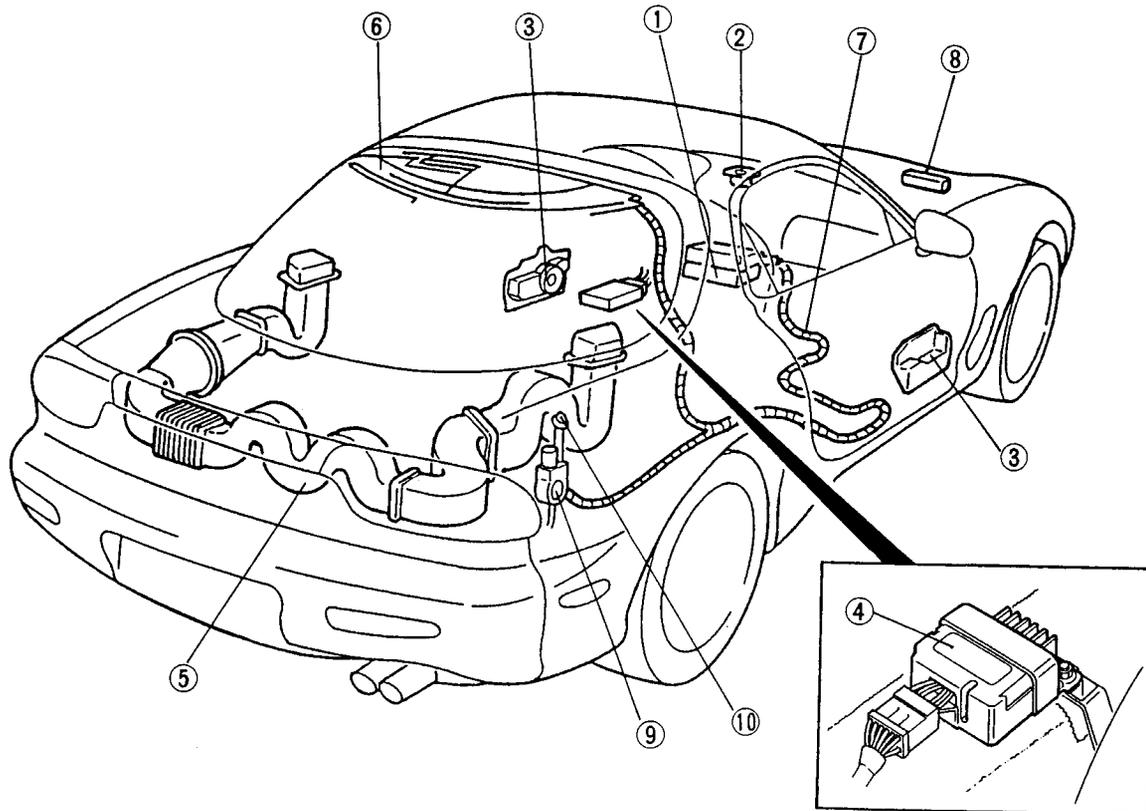
STANDARD SYSTEM (TYPE 1)



47UJ1X-503

1. Audio unit		6. Glass antenna	
Removal	page J1-56	Inspection	page J1-62
Installation	page J1-56	Repair	page J1-62
2. Center speaker		7. Antenna feeder	
Removal / Installation	page J1-57	Inspection	page J1-62
Inspection	page J1-57	8. Power antenna	
3. Door speaker		Removal / Installation	page J1-63
Removal / Installation	page J1-57	Disassembly / Assembly	page J1-64
Inspection	page J1-57	Inspection	page J1-65
4. Rear speaker		9. Antenna mast	
Removal / Installation	page J1-58	Removal / Inspection /	
Inspection	page J1-58	Installation	page J1-65
5. Center speaker amplifier			
Removal / Installation	page J1-58		

BOSE ACOUSTIC WAVE® MUSIC SYSTEM (TYPE 2)



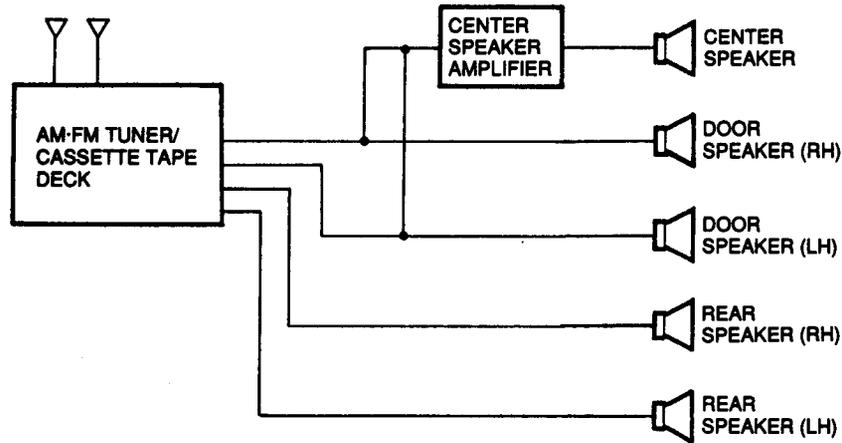
J1

1. Audio unit		
Removal	page J1-56	
Installation	page J1-56	
2. Center speaker		
Removal / Installation	page J1-57	
Inspection	page J1-57	
3. Door speaker/Amp module		
Removal / Installation	page J1-57	
4. Center speaker amplifier		
Removal / Installation	page J1-58	
5. Acoustic wave® guide assembly		
Removal / Installation	page J1-59	
Disassembly / Assembly	page J1-61	
6. Glass antenna		
Inspection	page J1-62	
Repair	page J1-62	
7. Antenna feeder		
Inspection	page J1-62	
8. Radio relay		
Inspection	page J1-62	
9. Power antenna		
Removal / Installation	page J1-63	
Disassembly / Assembly	page J1-64	
Inspection	page J1-65	
10. Antenna mast		
Removal / Inspection /		
Installation	page J1-65	

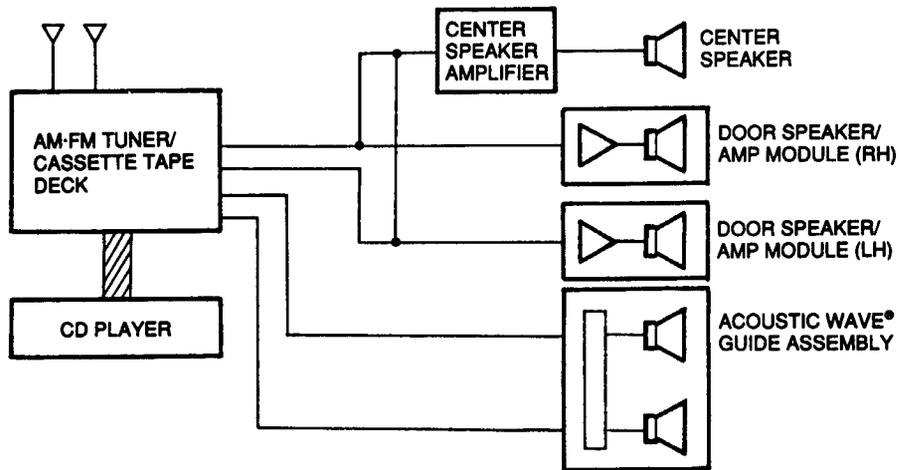
47UJ1X-504

SYSTEM CIRCUIT

TYPE 1

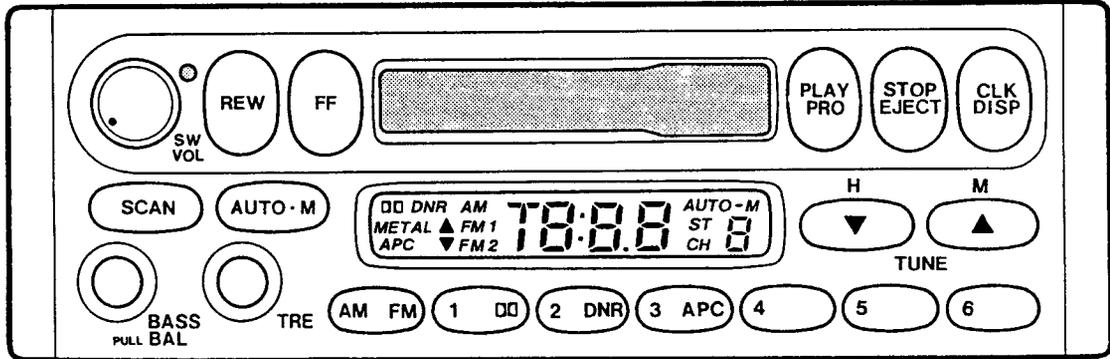


TYPE 2

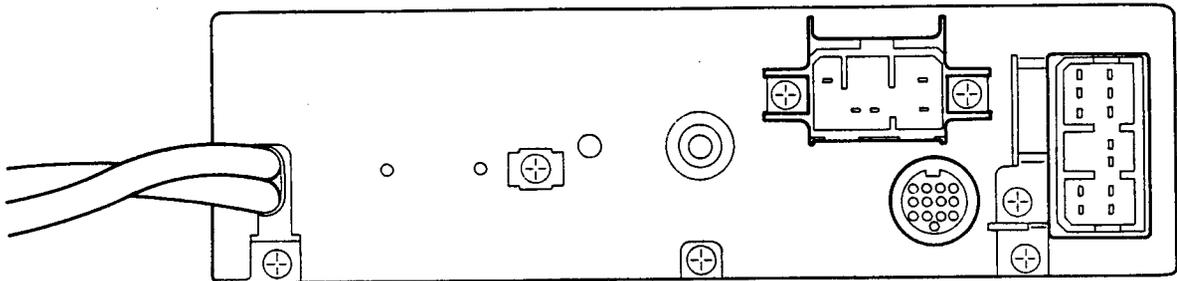


CONNECTOR SPECIFICATIONS
Audio Unit (Type 1 — without CD player)
AM-FM Tuner/Cassette Tape Deck

FRONT VIEW



REAR VIEW



47UJ1X-505

8-pin connector



2A	Rear speaker (LH) ⊕
2B	Rear speaker (LH) ⊖
2C	
2D	
2F	Rear speaker (RH) ⊕
2H	Rear speaker (RH) ⊖
2I	System mute (output)
2J	

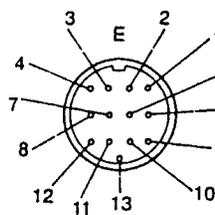
12-pin connector



B+: Battery positive voltage

1A	ACC
1B	
1C	Backup power (B+)
1D	Antenna switch (13.2V)
1E	TNS
1F	Illumi. ⊖
1H	
1J	Amp. control (13.2V)
1K	Front speaker (LH) ⊕
1L	Front speaker (LH) ⊖
1M	Front speaker (RH) ⊕
1N	Front speaker (RH) ⊖

DIN connector (13-pin)



1-pin connector



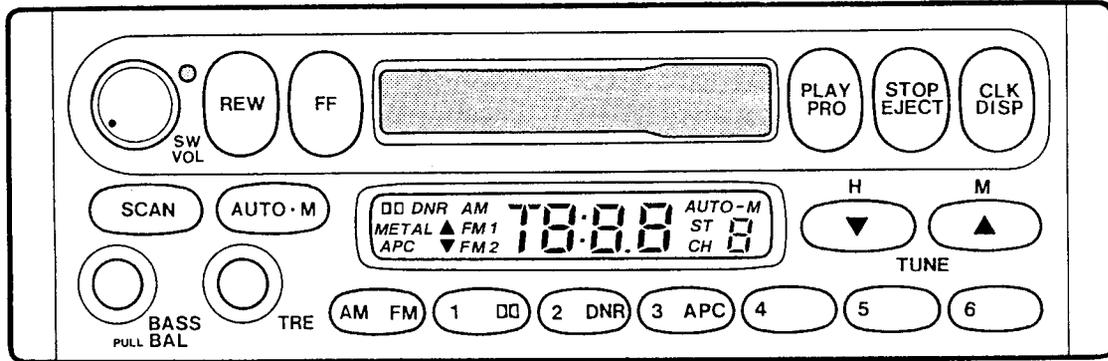
B+: Battery positive voltage

1	Output (LH) ⊕
2	Input (LH) ⊕
3	Output (RH) ⊕
4	Input (RH) ⊕
5	Signal ground
6	TNS
7	ACC
8	Backup power (B+)
9	System control ON
10	Illumi. ⊖
11	System control OFF
12	System control (play)
13	Mute (input)
E	Shield ground

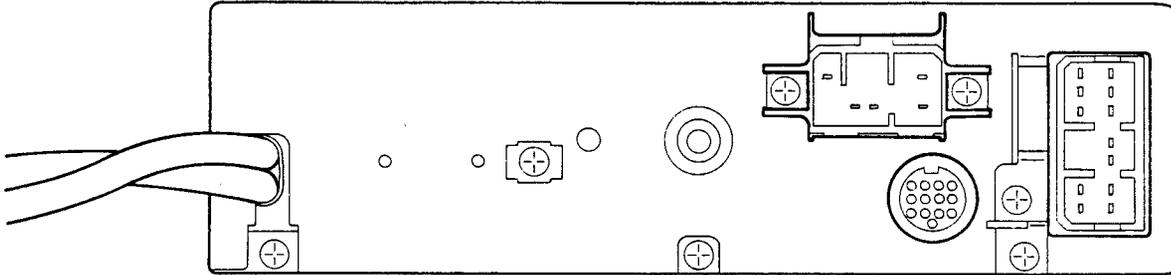
3A	Ground
----	--------

AM-FM Tuner/Cassette Tape Deck (Type 2 — with CD player)

FRONT VIEW

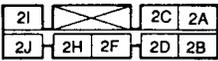


REAR VIEW



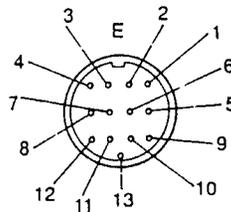
47UJ1X-506

8-pin connector



2A	Output (LH) ⊕
2B	Output (LH) ⊖
2C	
2D	
2F	Output (RH) ⊕
2H	Output (RH) ⊖
2I	System mute (output)
2J	

DIN connector (13-pin)



B+: Battery positive voltage

1	Output (LH) ⊕
2	Input (LH) ⊕
3	Output (RH) ⊕
4	Input (RH) ⊕
5	Signal ground
6	TNS
7	ACC
8	Backup power (B+)
9	System control ON
10	Illumi. ⊖
11	System control OFF (aux)
12	System control (play)
13	Mute (input)
E	Shield ground

12-pin connector



B+: Battery positive voltage	
1A	ACC
1B	
1C	Backup power (B+)
1D	Antenna switch (13.2V)
1E	TNS
1F	Illumi. ⊖
1H	Ground
1J	Amp. control (13.2V)
1K	Output (LH) ⊕
1L	Output (LH) ⊖
1M	Output (RH) ⊕
1N	Output (RH) ⊖

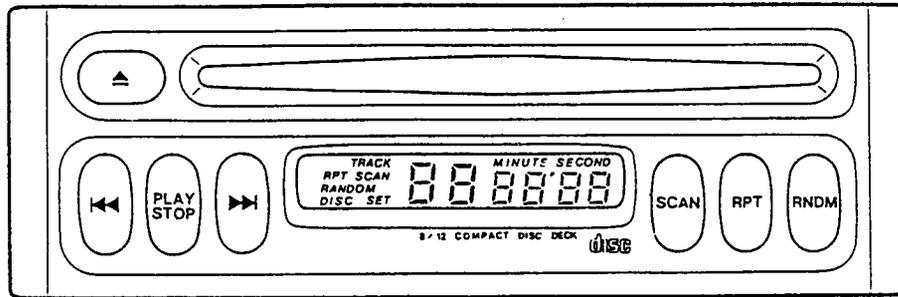
1-pin connector



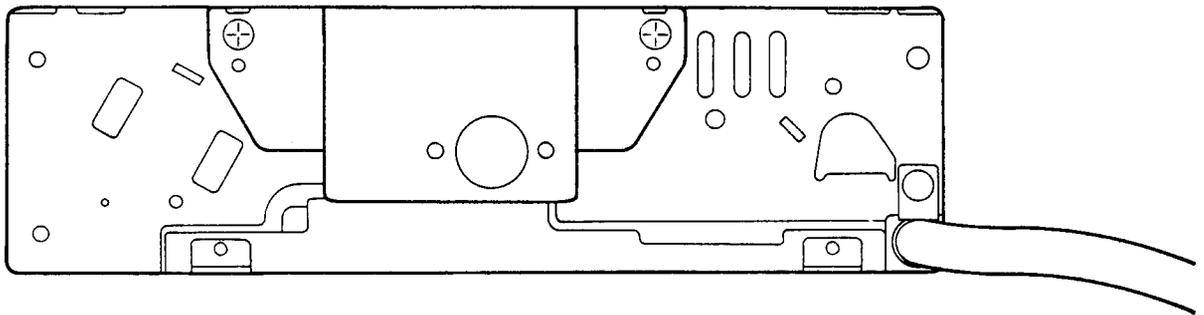
3A	ground
----	--------

CD Player

FRONT VIEW

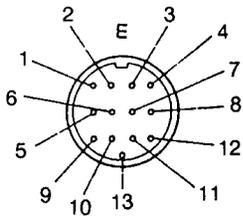


REAR VIEW



47UJ1X-507

DIN connector (13-pin)

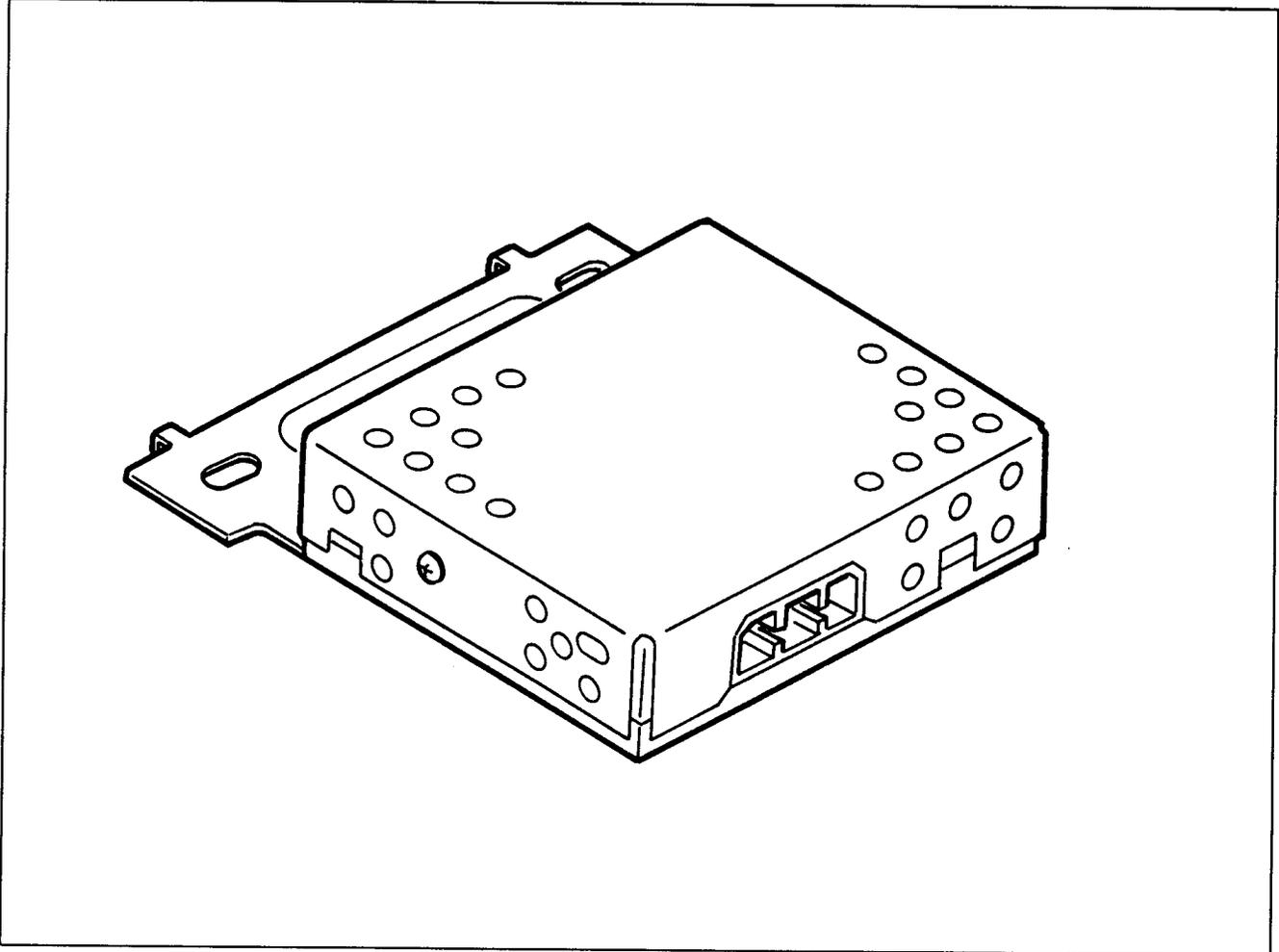


B+: Battery positive voltage

1	Input (LH) ⊕
2	Output (LH) ⊕
3	Input (RH) ⊕
4	Output (RH) ⊕
5	Signal ground
6	TNS
7	ACC
8	Backup power (B+)
9	System control OFF
10	Illumi. ⊖
11	System control ON (aux)
12	System control (play)
13	Mute (output)
E	Shield ground

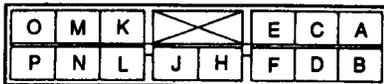
J1

Center Speaker Amplifier (Type 1)



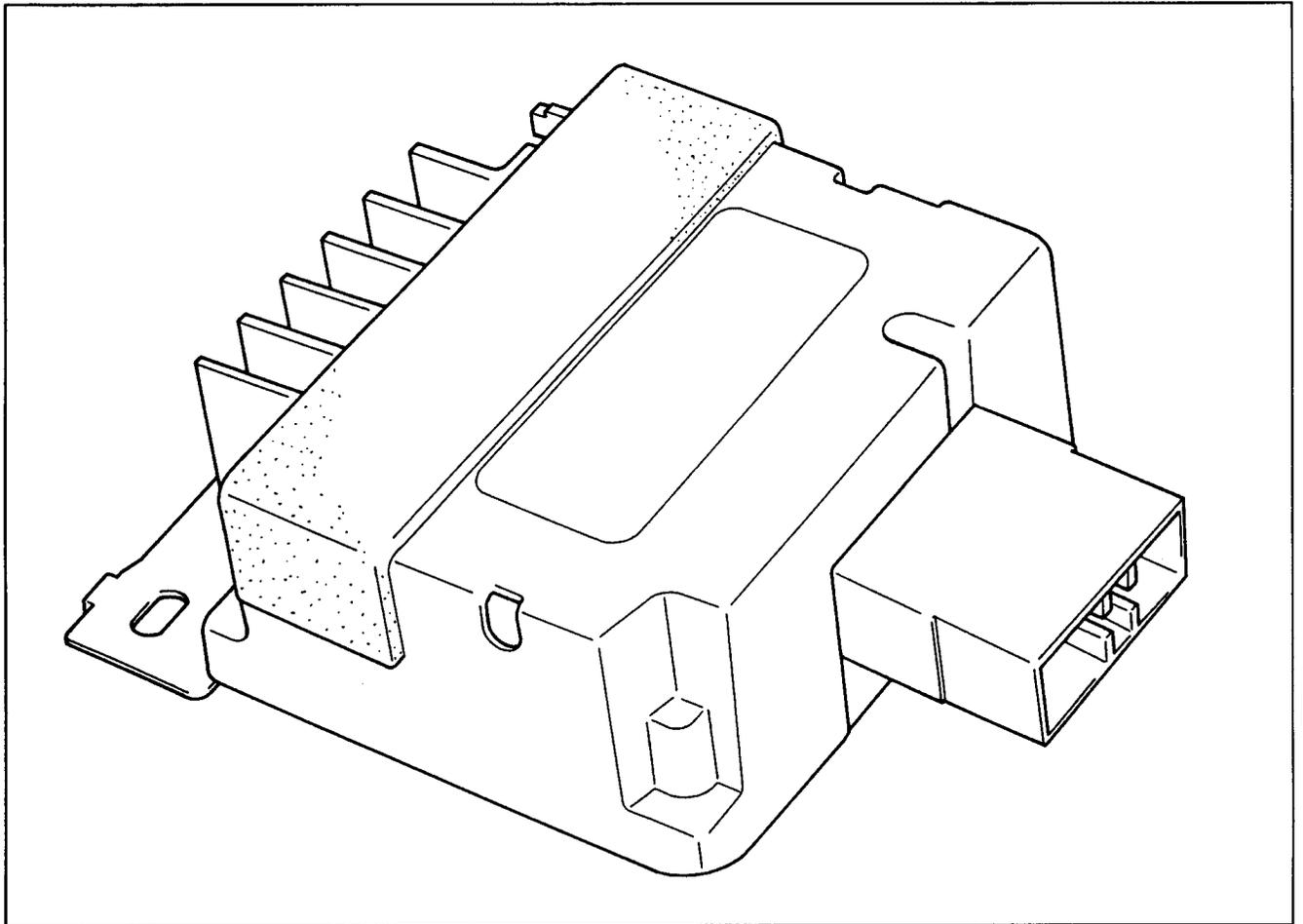
47UJ1X-508

14-pin connector



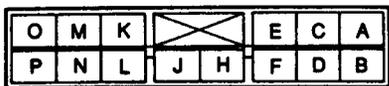
A	
B	
C	ACC
D	Amp. control (13.2V)
E	
F	Center speaker ⊕ (output)
H	Center speaker ⊖ (output)
J	System mute
K	
L	
M	Input (LH) ⊕
N	Input (LH) ⊖
O	Input (RH) ⊕
P	Input (RH) ⊖

Center Speaker Amplifier (Type 2)



47UJ1X-509

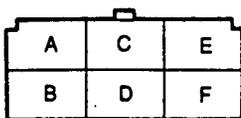
14-pin connector



A		J	
B	Earth (power)	K	
C		L	
D	Power (+B)	M	Input (LH) ⊕
E		N	Input (LH) ⊖
F	Center speaker ⊕ (output)	O	Input (RH) ⊕
H	Center speaker ⊖ (output)	P	Input (RH) ⊖

Radio Relay

6-pin connector



A	Audio unit
B	Ground
C	Power (ACC)
D	
E	Center speaker amp
F	

SPECIFICATIONS

AM-FM Tuner/Cassette Tape Deck (Type 1)

Rated voltage	12V
Frequency band	AM: 530—1710 KHz FM : 87.75—107.9 MHz
Maximum output	25W × 4

47UJ1X-510

AM-FM Tuner/Cassette Tape Deck (Type 2)

Rated voltage	12V
Frequency band	AM: 530—1710 KHz FM : 87.75—107.9 MHz

37U0T1-712

CD player

Rated voltage	12V
CD type	8 cm (single size) / 12 cm (regular size)

37U0T1-713

Center Speaker Amplifier

Maximum Output	Type 1	25W × 1
	Type 2	15W × 1

47UJ1X-511

Speaker (Type 1)

	Center speaker	Door speaker	Rear speaker
Structure	Single cone	Double cone	Double cone
Diameter cm {in}	8.0 {3.2}	16 {6.3}	14 × 19 {5.5 × 7.5}
Number equipped	1	2	2
Type	Mid-and high-range	Full-range	Full-range
Maximum input	15W × 1	25W × 2	25W × 2
Built-in amplifier	No	No	No
Impedance {Ω}	4	4	4

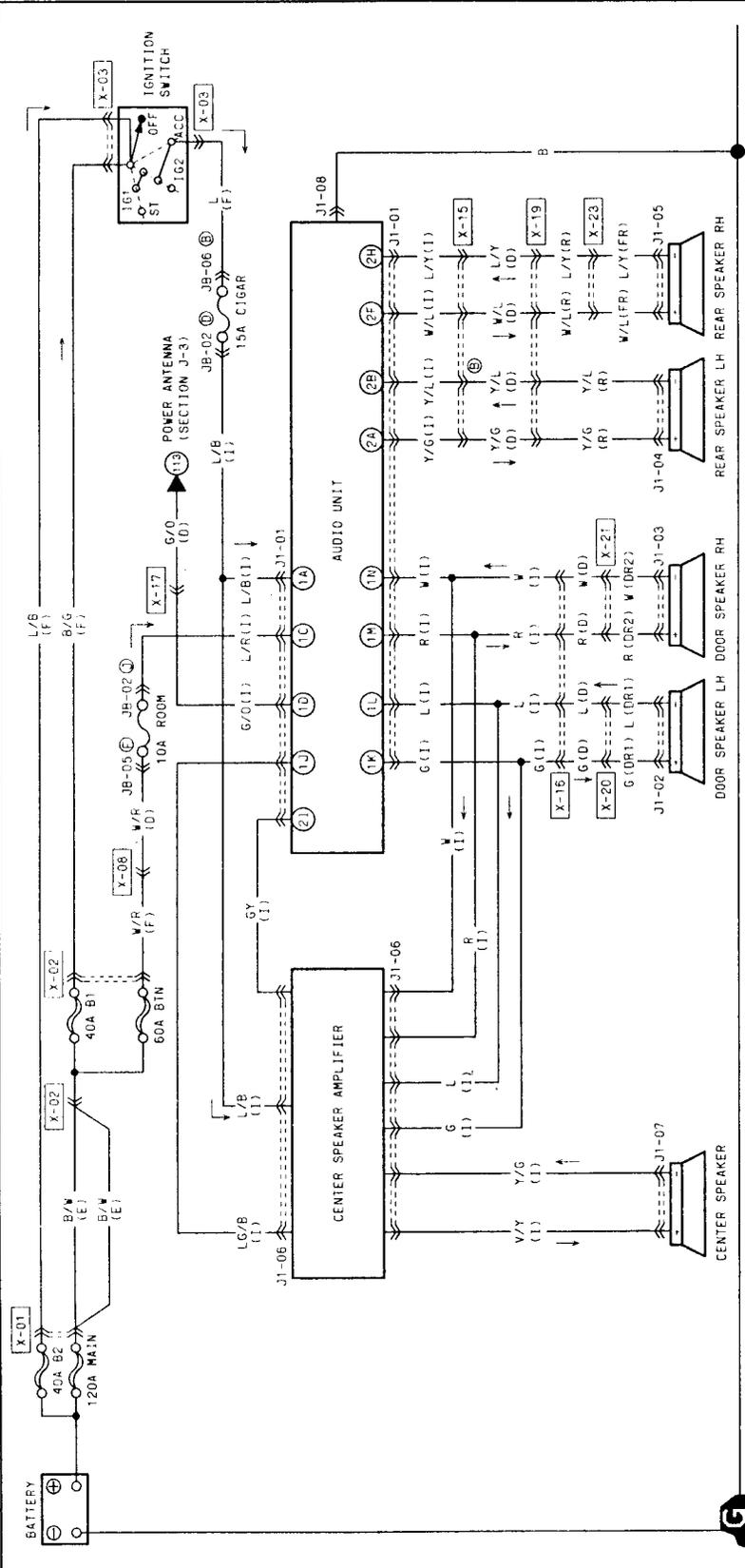
(Type 2)

	Center speaker	Door speaker/Amp module	Acoustic wave® guide assembly
Structure	Single cone	Single cone	Single cone
Diameter cm {in}	6.4 {2.5}	11 {4.5}	17 {6.5}
Number equipped	1	2	2
Type	Mid-and high-range	Full-range	Woofer
Impedance {Ω}	8	1	1
Amplifier location	External (console)	Internal	Internal
Amplifiers/Device	1	2	2
Max. amplifier input {V}	5.5	5.5	5.5
Amplifier output {W}	25	50	50 × 2

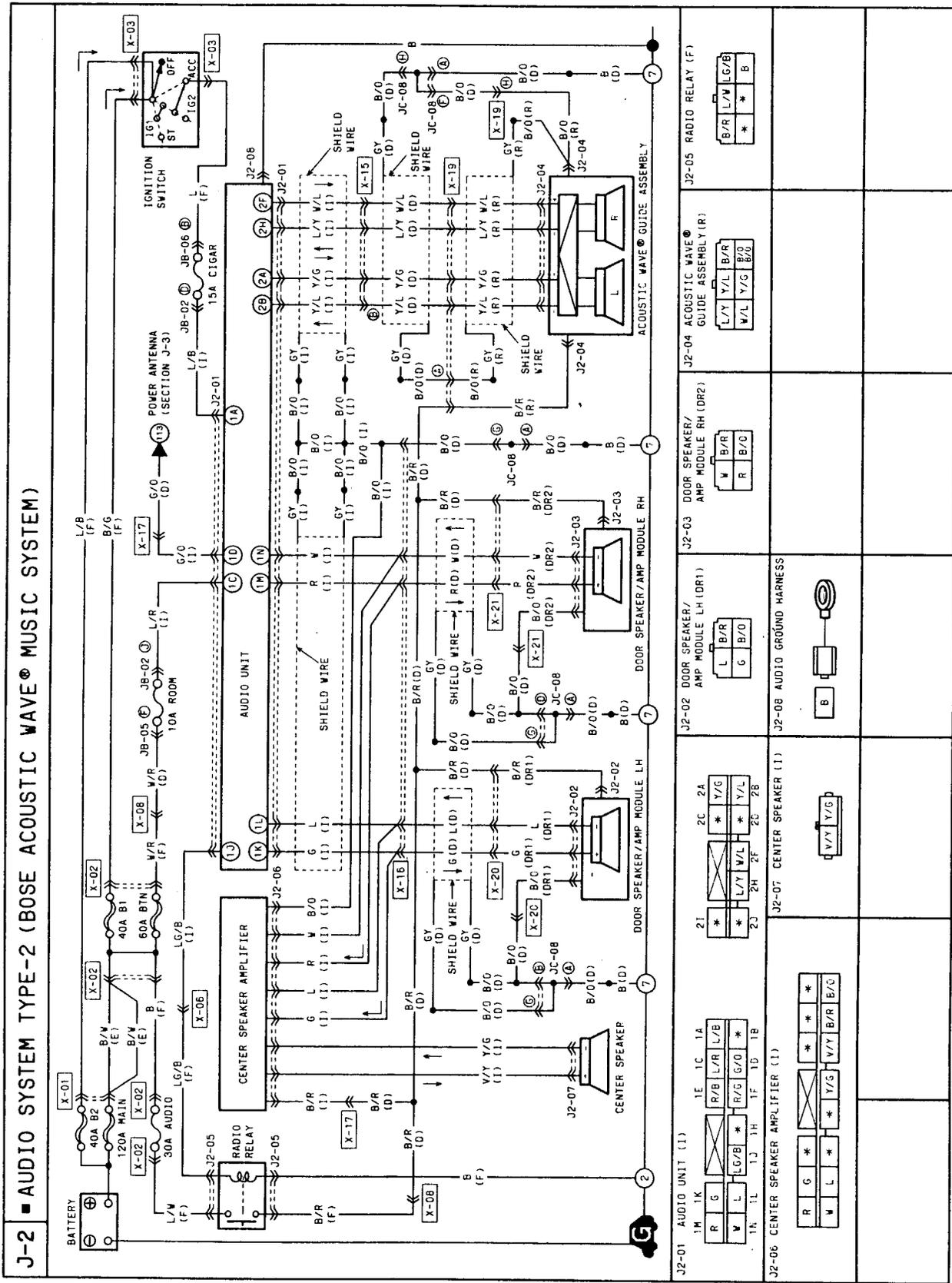
47UJ1X-512

TROUBLESHOOTING
Circuit Diagram

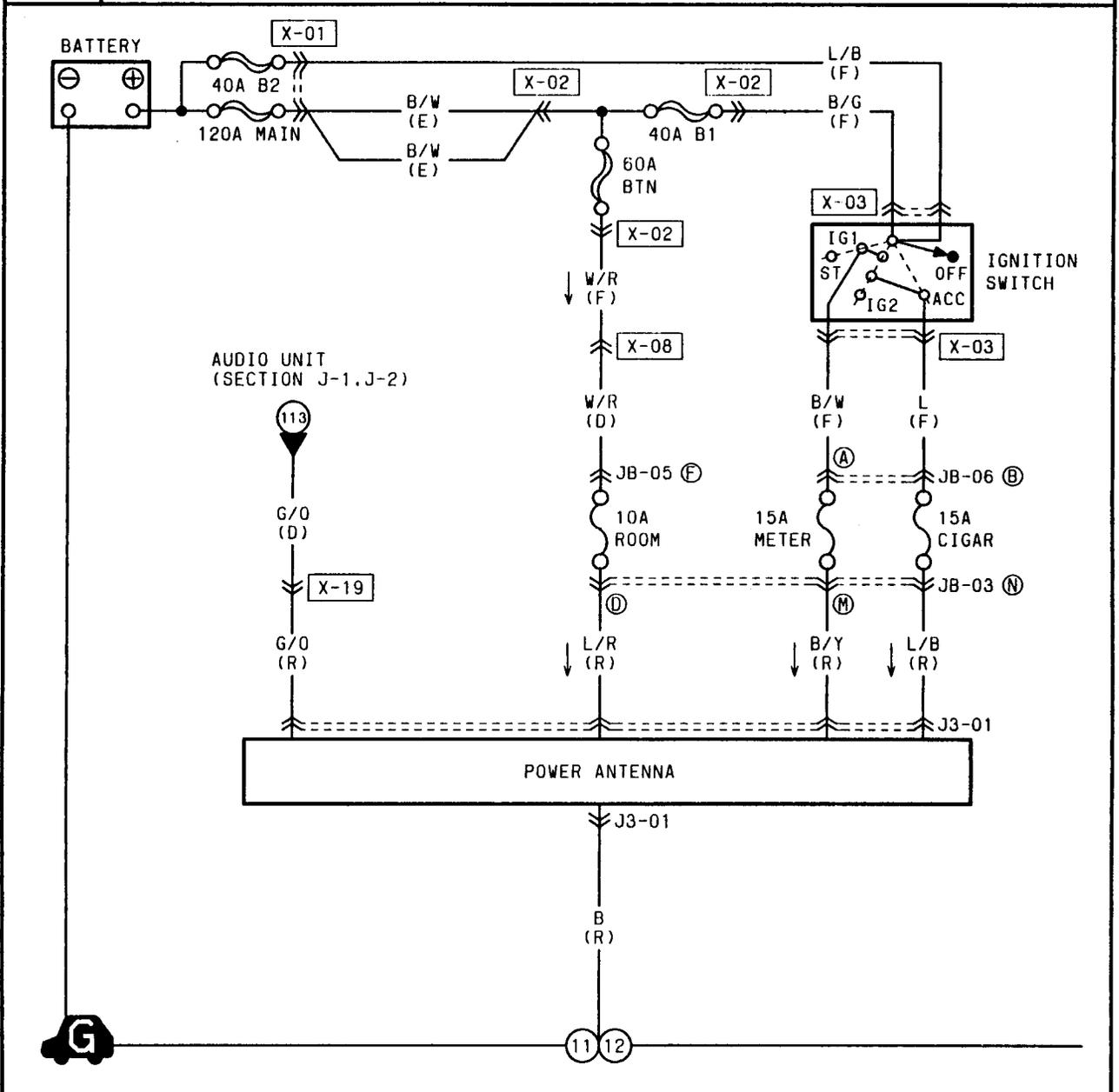
J-1 ■ AUDIO SYSTEM TYPE-1



J1-01 AUDIO UNIT (1)	1E 1C 1A R/G P/B L/R L/B W/L L/G/B * R/G G/O *	2C 2A * Y/G * Y/L	J1-02 DOOR SPEAKER LH(DR1)	J1-03 DOOR SPEAKER RH(DR2)	J1-04 REAR SPEAKER LH (R)	J1-05 REAR SPEAKER RH (FR)
J1-06 CENTER SPEAKER AMPLIFIER (1)	1E 1C 1A R/G P/B L/R L/B W/L L/G/B * R/G G/O *	2C 2A * Y/G * Y/L	L B/R G B/D	W B/R R B/G	Y/G Y/L	W/L L/X
J1-07 CENTER SPEAKER (1)	R G * W L *	V/Y Y/G G Y L/B * L G/B *	J1-08 AUDIO GROUND HARNESS			



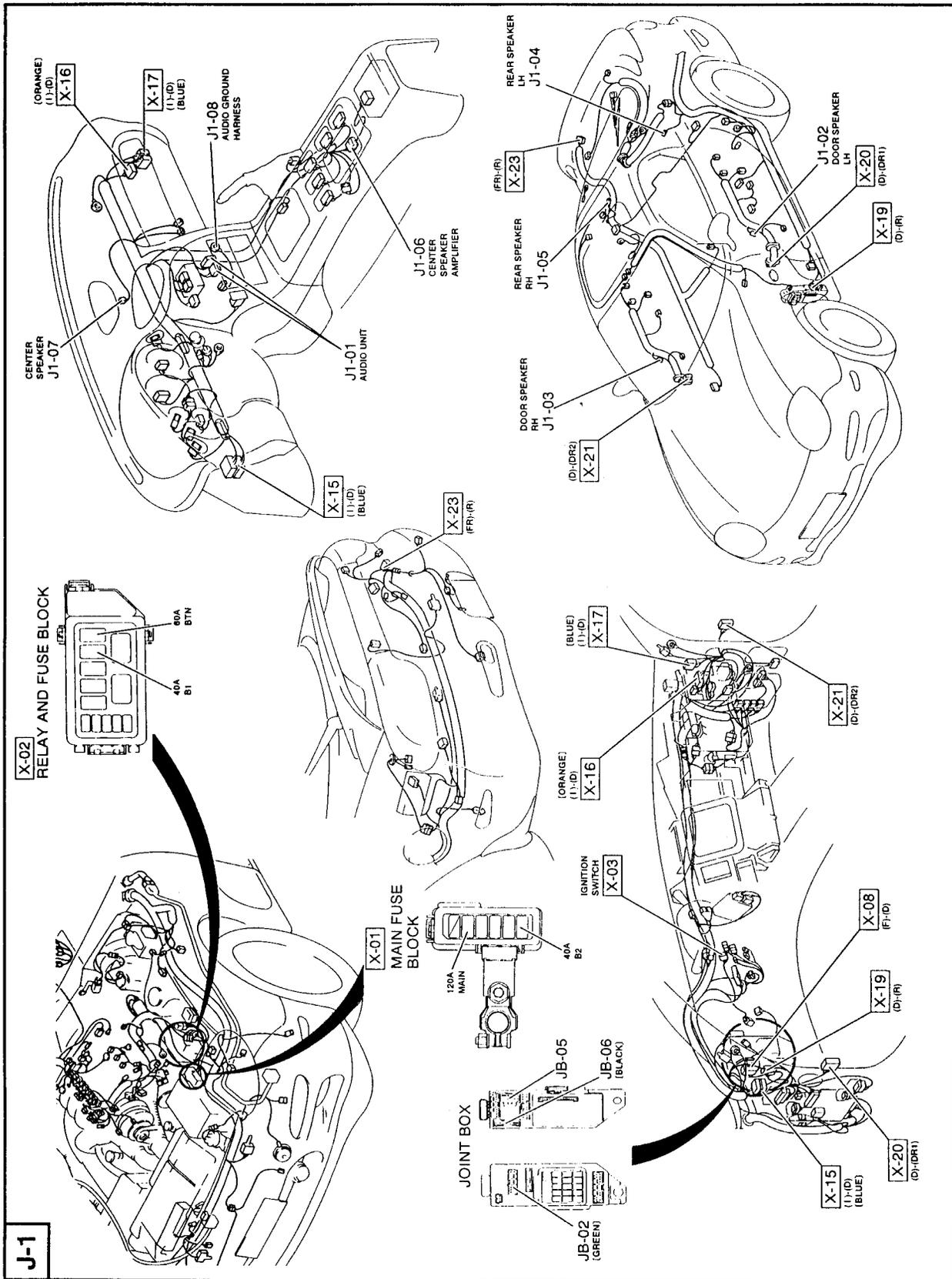
J-3 ■ POWER ANTENNA

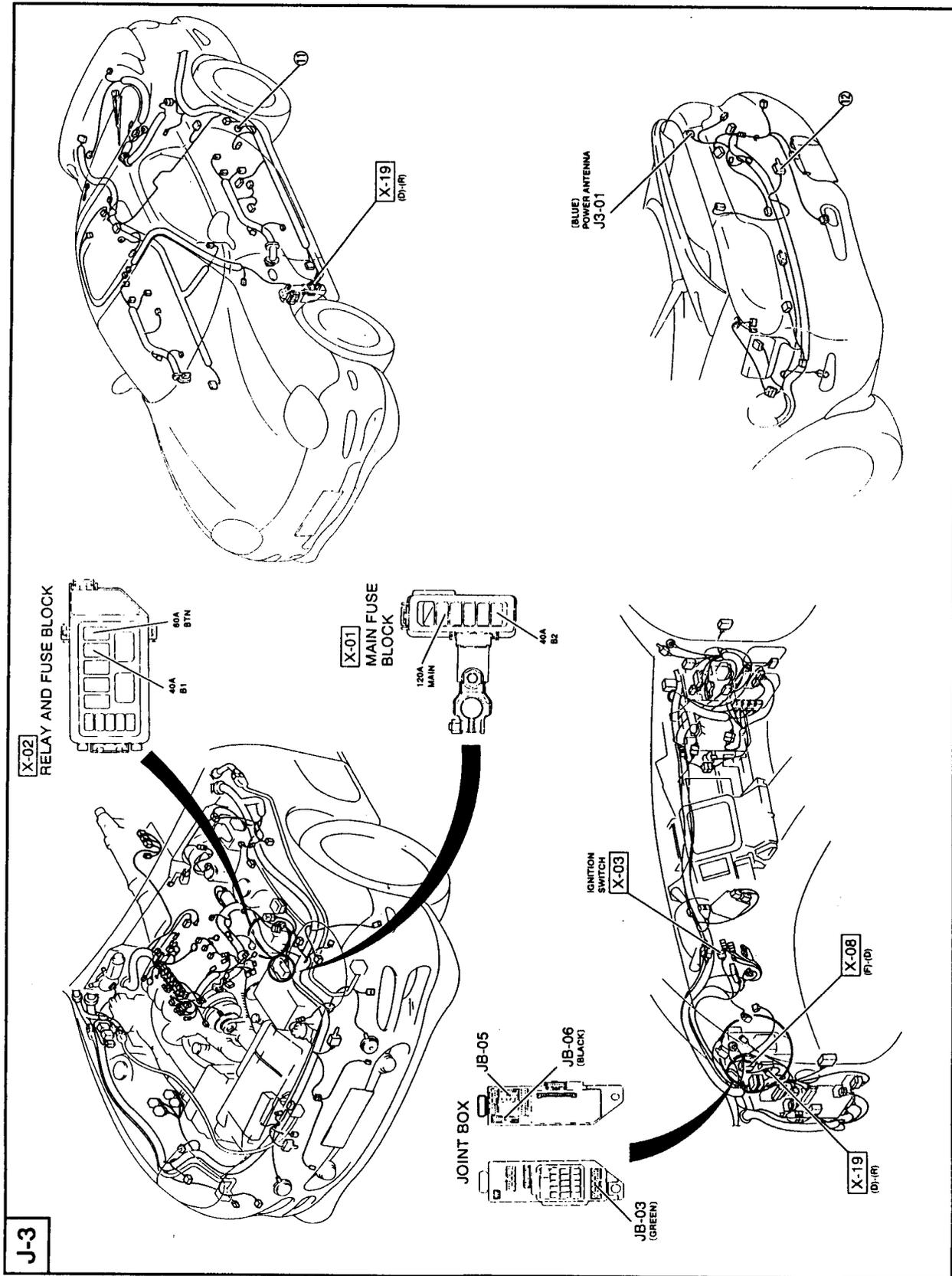


J3-01 POWER ANTENNA (R)

L/B		G/O
*	B/Y B	L/R

Connector Locations





ANTITHEFT SYSTEM**Alarm Conditions**

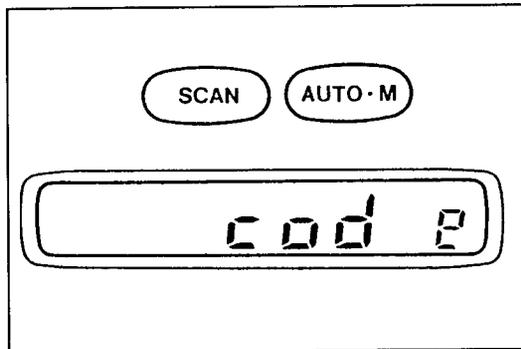
If the antitheft system protection has been activated, any one of the following conditions will trigger the system:

- Disconnected battery cable
- Discharged battery
- Disconnected audio unit connectors

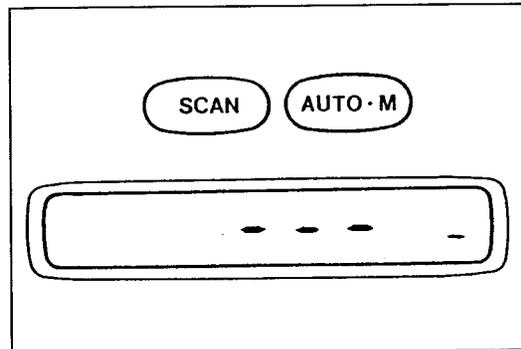
If the system is triggered, the audio unit will then be inoperative when it is reconnected to a power source, and “code” will flash on the display until the preselected code number is input. If the antitheft system is triggered, follow the procedures in “Cancelling Antitheft Operation” to reset the unit.

Operation	Reference page
Input code number to activate antitheft system	J1-17 Setting Code Number
Delete previous code number and set new number	J1-18 Canceling the Code Number
Resume audio unit operation after antitheft system is triggered	J1-20 Canceling Antitheft Operation

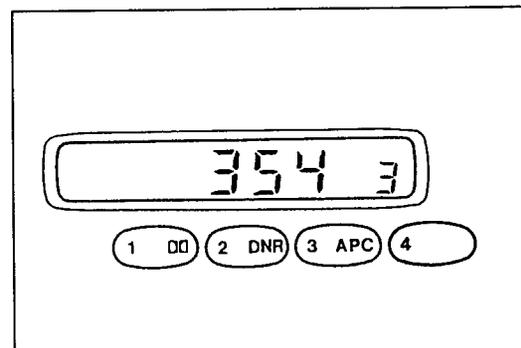
47UJ1X-513



47UJ1X-514



47UJ1X-515

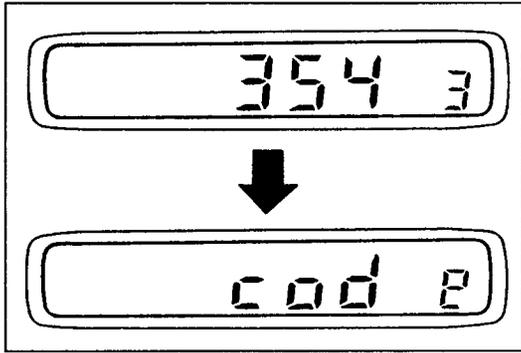


47UJ1X-516

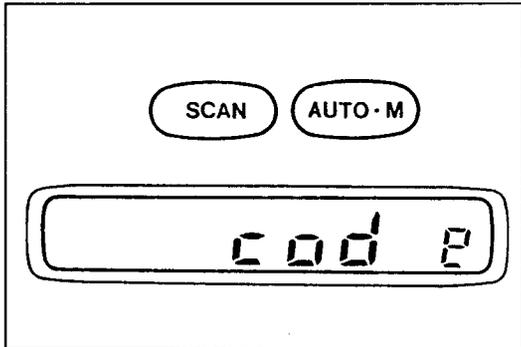
Setting the Code Number

Complete Steps 1—3 within 10 seconds or the setting procedure will be canceled.

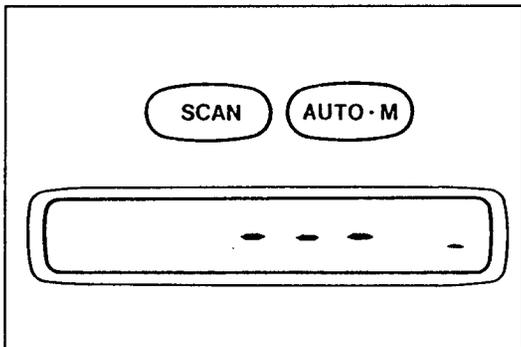
1. Turn the ignition switch to ACC and then turn off the audio unit.
2. Press and hold the SCAN and AUTO-M buttons simultaneously for approximately 1.5 seconds until “code” appears on the display.
3. Press the SCAN and AUTO-M buttons again until bars appear on the display.
4. Select a personal code number and record it before inputting it. If the number is input and then forgotten, it cannot be canceled, and if the unit is disconnected again, the audio unit will be inoperative.
5. Use channel buttons 1—4 to input the selected code number. Press button 1 for the first digit, 2 for the second, 3 for the third, and 4 for the last digit. Input the number within 10 seconds. If the display is deleted, repeat the procedure from Step 1.



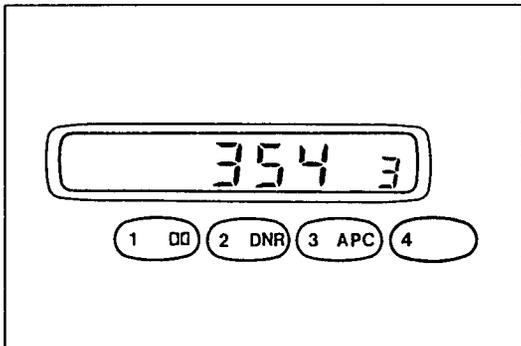
47UJ1X-517



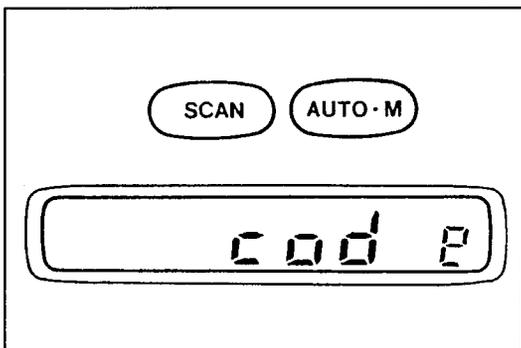
47UJ1X-518



47UJ1X-519



47UJ1X-520



47UJ1X-521

6. With the code number displayed, press and hold the SCAN and AUTO-M buttons for approximately 1.5 seconds until a beep is heard. "Code" will be displayed for approximately 5 seconds. After it disappears, the code number is set.
7. If "Err" (error) appears on the display, repeat the procedure from Step 1. If input error is repeated three times, turn the ignition switch to OFF and repeat the procedure from Step 1.

Canceling the Code Number

Complete Steps 1—3 within 10 seconds or the canceling procedure will be canceled.

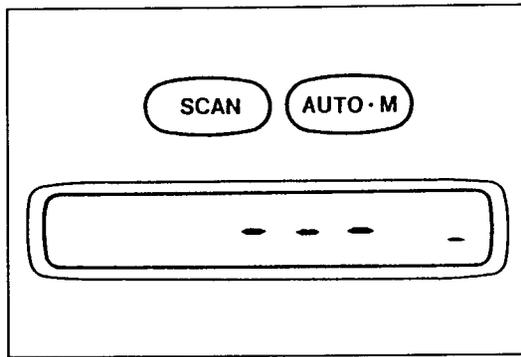
1. Turn the ignition switch to ACC and then turn off the audio unit.
2. Press and hold the SCAN and AUTO-M buttons simultaneously for approximately 1.5 seconds until "code" appears on the display.
3. Press the SCAN and AUTO-M buttons again until bars appears on the display.

4. Use channel buttons 1—4 to input the current code number. Press button 1 for the first digit, 2 for the second, 3 for the third, and 4 for the last digit. Input the number within 10 seconds. If the display is deleted, repeat the procedure from Step 1.
5. With the code number displayed, press and hold the SCAN and AUTO-M buttons for approximately 1.5 seconds until a beep is heard. "Code" will be displayed for approximately 5 seconds. After it disappears, the code number is canceled.

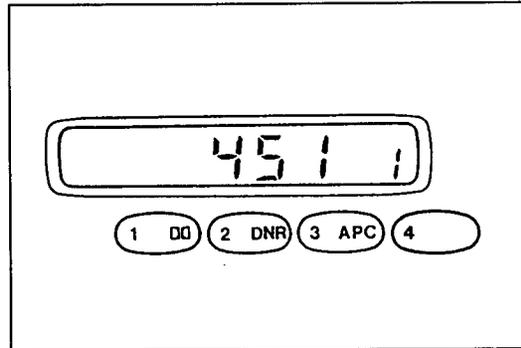
Caution

- **Three consecutive errors, including turning the ignition switch to OFF and disconnecting the audio unit, will activate the antitheft system and render the audio unit completely inoperative. If this occurs, contact Clarion Service Co.**

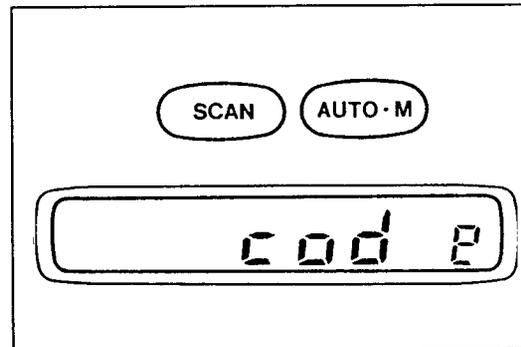
6. If "code" appears on the display, the code number is not canceled. Repeat the procedure from Step 3. If "Err" (error) appears on the display, repeat the procedure from Step 1.



47UJ1X-522



47UJ1X-523



47UJ1X-524

Resetting the Code number

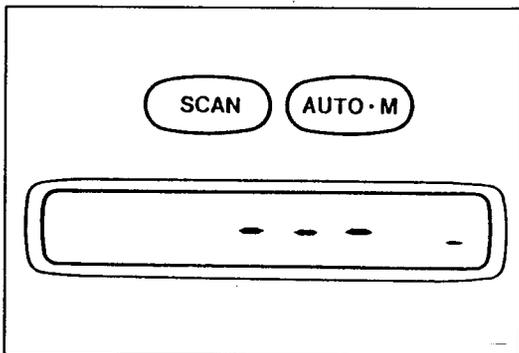
Use the following procedure to input a new code number when the previous one has been canceled. Complete Steps 1—3 within 10 seconds or the setting procedure will be canceled.

1. Press and hold the SCAN and AUTO-M buttons simultaneously until bars appear on the display.
2. Select a personal code number and record it before inputting it. If the number is input and then forgotten, it cannot be canceled, and if the unit is disconnected, again, the audio unit will be inoperative.
3. Use channel buttons 1—4 to input the selected code number. Press button 1 for the first digit, 2 for the second, 3 for the third, and 4 for the last digit. Input the number within 10 seconds. If the display is deleted, repeat the procedure from Step 1.
4. With the code number displayed, press and hold the SCAN and AUTO-M buttons for approximately 1.5 seconds until a beep is heard. "Code" will flash for approximately 15 seconds. After it disappears, the new code number is set.

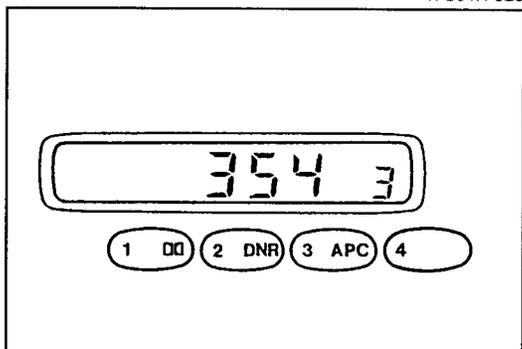
Caution

- Three consecutive errors, including turning the ignition switch to OFF and disconnecting the audio unit, will activate the antitheft system and render the audio unit completely inoperative. If this occurs, contact Clarion Service Co.

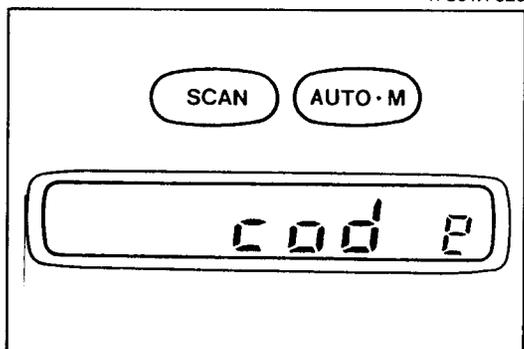
5. If "Err" (error) appears on the display, repeat the procedure from Step 1.



47UJ1X-525



47UJ1X-526



47UJ1X-527

Canceling Antitheft Operation

Properly input the selected code number to deactivate the antitheft system and resume normal audio operation.

1. Turn the ignition switch to ACC.
("Code" will flash on the display.)
2. Press the SCAN and AUTO-M buttons simultaneously for approximately 1.5 seconds until bars appear on the display.

3. Use channel buttons 1—4 to input the current code number. Press button 1 for the first digit, 2 for the second, 3 for the third, and 4 for the last digit. Input the number within 10 seconds. If the display is deleted, repeat the procedure from Step 1.

4. With the code number displayed, press and hold the SCAN and AUTO-M buttons for approximately 1.5 seconds until a beep is heard. "Code" will be displayed for approximately 5 seconds and then disappear to indicate that the audio unit is operative.

Caution

- Three consecutive errors, including turning the ignition switch to OFF and disconnecting the audio unit, will activate the antitheft system and render the audio unit completely inoperative. If this occurs, contact Clarion Service Co.

5. If "Err" (error) appears on the display, repeat the procedure from Step 1.

TROUBLESHOOTING GUIDE
Audio Unit (Type 1)

System part Symptom	Fuse		Audio unit	Center speaker amp	Center speaker	Door speaker	Rear speaker	Wiring harness	Refer to page (Step)
	CIGAR	ROOM							
Speakers have no sound	○	○	○					<ul style="list-style-type: none"> • Fuse—Audio unit • Audio unit—GND 	J1-25 (Step 1)
One door speaker has no sound			○			○		Audio unit—Door speaker	J1-28 (Step 2)
Center speaker has no sound	○	○	○	○	○			<ul style="list-style-type: none"> • Fuse—Audio unit • CIGAR fuse—Center speaker amp • Center speaker amp—Audio unit • Center speaker amp—Center Speaker 	J1-28 (Step 6)
One rear speaker has no sound			○				○	Audio unit—Rear speaker	J1-30 (Step 16)
Door speakers have no sound			○					Audio unit—Door speaker	J1-28 (Step 4)
Rear speakers have no sound			○					Audio unit—Rear speaker	J1-31 (Step 18)
Center speaker and door speakers have no sound			○					<ul style="list-style-type: none"> • Audio unit—Door speaker • Audio unit—Center speaker amp 	J1-31 (Step 20)

○: Possible malfunction

Audio Unit (Type 2)

System part Symptom	Fuse			Audio unit	Radio relay	Center speaker amp	Center speaker	Door speaker/ Amp module	GUIDE ASSEMBLY	Wiring harness	Refer to page
	CIGAR	ROOM	AUDIO								
Audio unit does not operate	○	○	○	○						<ul style="list-style-type: none"> • Fuse—Audio nit • Audio unit—GND 	J1-33
Speakers have no sound			○		○					<ul style="list-style-type: none"> • Audio unit—Radio relay • Radio relay—GND • Radio relay—Each speaker 	J1-34
One door speaker/amp module has no sound, but center speaker has sound			○					○		<ul style="list-style-type: none"> • Radio relay—Door speaker/ Amp module • Door speaker/ Amp module—GND • Audio unit—Door speaker/ Amp module 	J1-36
Center speaker has no sound, but door speaker/amp module has sound						○	○			<ul style="list-style-type: none"> • Radio relay—Center speaker amp • Center speaker—Center Speaker 	J1-37
Center speaker and one or both door speakers/amp modules have no sound										<ul style="list-style-type: none"> • Radio relay—Center speaker amp, Door speaker/Amp module • Center speaker—Center speaker, Door speaker/Amp module 	J1-38
Acoustic wave® guide assembly has no sound				○					○	<ul style="list-style-type: none"> • Audio unit—Door speaker/ Amp module • Door speaker/ Amp module—GND • Radio relay—GUIDE ASSEMBLY • GUIDE ASSEMBLY—GND • Audio unit—GUIDE ASSEMBLY 	J1-40
Acoustic wave® guide assembly has poor or reduced sound quality				○					○	<ul style="list-style-type: none"> • Audio unit—GUIDE ASSEMBLY 	J1-41

○: Possible malfunction

Checklist

Symptom	Refer to page
Poor sound quality when radio is played	(J1-43)
Poor sound quality when cassette tape is played	(J1-45)
Poor sound quality in all modes: radio, cassette tape, compact disc	(J1-46)
Noise occurs	(J1-48)
Compact disc skips	(J1-50)
Poor sound quality when compact disc is played	(J1-50)
Compact disc will not play	(J1-51)
Cassette tape playback not possible, tape does not unload, or reverse function works unintentionally	(J1-52)
Compact disc cannot be loaded	(J1-53)
Compact disc cannot be unloaded	(J1-53)
Tape does not load	(J1-54)
Power antenna does not raise or lower	(J1-55)

47UJ1X-530

Preinspection

An audio system malfunction can be caused by external factors such as improper operation or external noise. Before troubleshooting, consult the list below and correct such factors.

Symptom	Possible cause			
	Radio	Cassette Deck	CD player	Other
Speakers have no sound	Volume control at minimum	Player in pause mode	<ul style="list-style-type: none"> • Player in pause mode • Disc not loaded • Disc loaded upside down 	
Some speakers have no sound	Improperly set balance control knob(s)			Damaged speakers
Sound distorted (noise occurs)	<ul style="list-style-type: none"> • Incorrect tuning • Antenna not extended • Radio wave obstacle (fading or multipath receiving) 	<ul style="list-style-type: none"> • Faulty tape • Long-playing tape (90 or 120 min)*1 	Dirty, damaged, or warped disc	<ul style="list-style-type: none"> • Volume too high • Resonating door glass • Damaged speakers
Poor sound quality or stereophonic function does not work	<ul style="list-style-type: none"> • Incorrect turning • Improperly set sound control knobs 	<ul style="list-style-type: none"> • Faulty tape • Long-playing tape (90 or 120 min)*1 • Dolby mode playback for non-Dolby recorded tape 	Dirty, damaged, or warped disc	Damaged speakers

47UJ1X-531

Caution

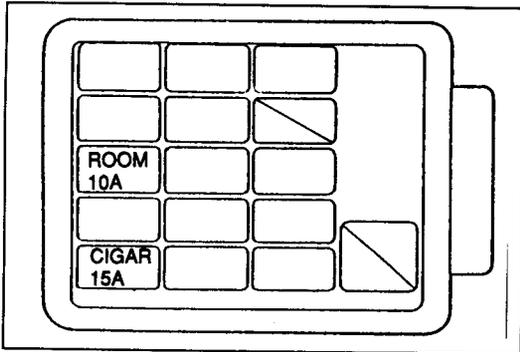
*1: A long-playing tape (90 or 120 minutes) can cause distorted or irregular sound. It may also become tangled in the cassette deck because it is very thin.

Symptom	Speakers have no sound (type 1)
----------------	---------------------------------

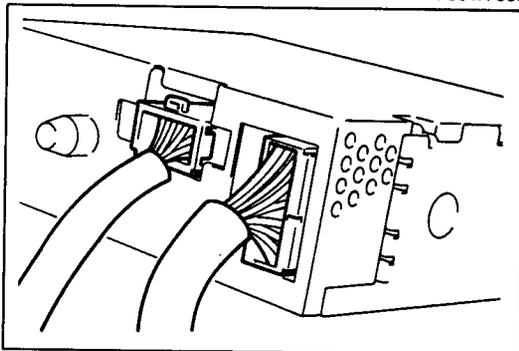
Possible cause

- Burnt CIGAR 15A or ROOM 10A fuse
- Damaged audio unit
- Open or short circuit in wiring harness
- Poor connection of connector

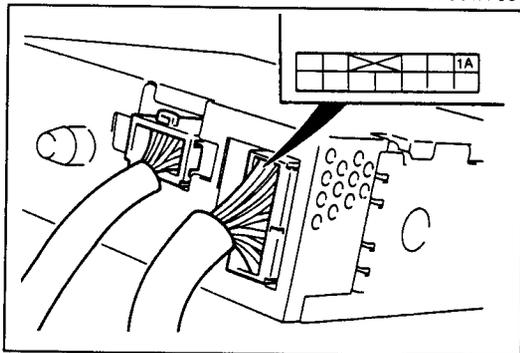
47UJ1X-532



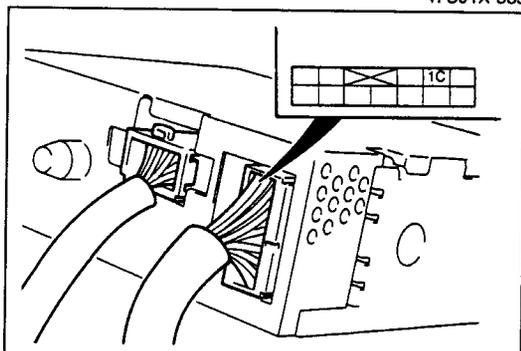
47UJ1X-533



47UJ1X-534



47UJ1X-535



47UJ1X-536

Step 1

Check the CIGAR 15A fuse and ROOM 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harness, if necessary.
3. If the connections are OK, go to Step 3.

Step 3

1. Turn the ignition switch to ACC.
2. Measure the voltage at terminal 1A (L/B) of the audio unit connector (12-pin).

B+: Battery positive voltage

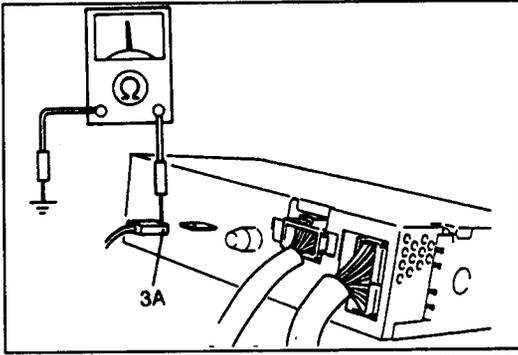
Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (CIGAR 15A fuse—Audio unit)

Step 4

Measure the voltage at terminal 1C (L/R) of the audio unit connector (12-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (ROOM 10A fuse—Audio unit)



47UJ1X-537

Step 5

Check for continuity between terminal 3A (B) of the audio unit connector and ground.

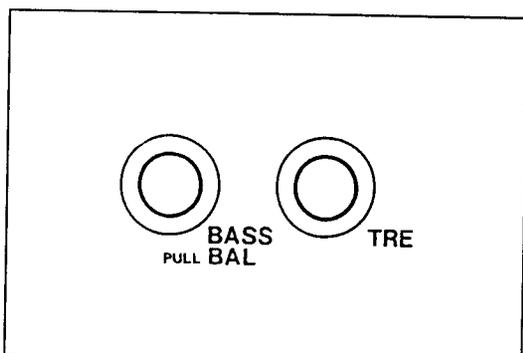
Continuity	Action
No	Repair wiring harness (Audio unit—GND)
Yes	Replace audio unit (Refer to page J1-56)

Symptom	Some speakers have no sound (type 1)
----------------	--------------------------------------

Possible cause

- Burnt CIGAR 15A or ROOM 10A fuse
- Damaged audio unit
- Damaged center speaker
- Damaged door speaker
- Damaged rear speaker
- Damaged center speaker amplifier
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-538



47UJ1X-539

Step 1

1. Turn the ignition switch to ACC.
2. Turn on the audio system power.
3. Play a recorded tape and set the volume control knob to proper position.
4. Set the bass/balance control knob and the treble/fader control as specified in Table 1.
5. Check the performance of each speaker. Refer to table 2 and follow the appropriate action.

Table 1

Speaker	Balance	Tone		Speaker operates
		Treble	Bass	
Right door	Left	MAX	MAX	Yes
				No
Left door	Right			Yes
				No
Center	Center			Yes
				No
Right rear	Left	Yes	No	
Left rear	Right	Yes	No	

37U0T1-744

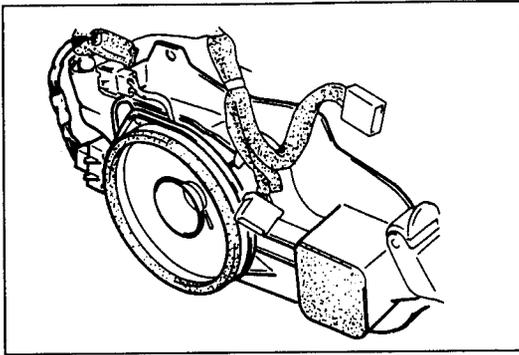
Table 2

When inspecting the center speaker, the other speakers also operate. Listen carefully to confirm center speaker operation.

Symptom					Action (Refer to)
Right door	Left door	Center	Right rear	Left rear	
x					Go to Step 2 (page J1-28)
	x				Go to Step 2 (page J1-28)
		x			Go to Step 6 (page J1-28)
			x		Go to Step 15 (page J1-30)
				x	Go to Step 15 (page J1-30)
x	x				Go to Step 4 (page J1-28)
			x	x	Go to Step 17 (page J1-31)
x	x	x			Go to Step 19 (page J1-31)

x: Inoperative

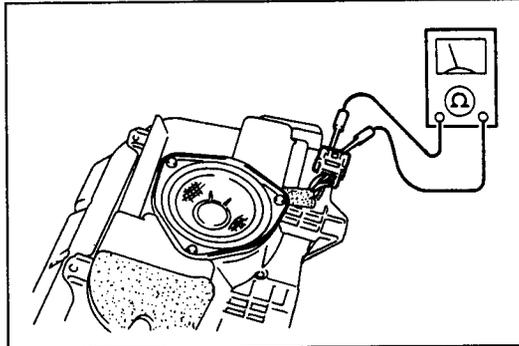
47UJ1X-540



47UJ1X-541

Step 2

1. Remove the door trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check the door speaker connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 3.

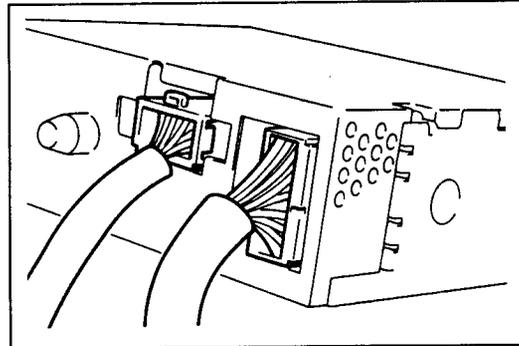


47UJ1X-542

Step 3

1. Remove the malfunctioning door speaker.
(Refer to page J1-57.)
2. Measure the resistance between the terminals of the door speaker connector.

Resistance	Action
4Ω	Go to Step 4
Other	Replace door speaker (Refer to page J1-57)



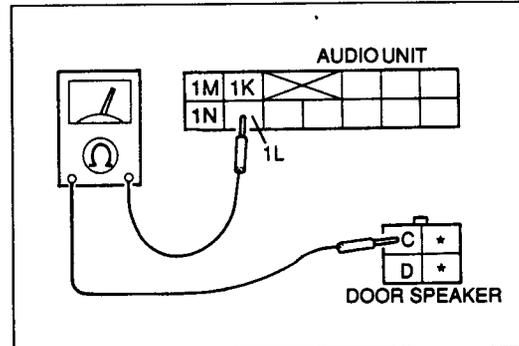
47UJ1X-543

Step 4

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harness, if necessary.
3. If the connections are OK, go to Step 5.

Step 5

1. Disconnect the audio unit connector (12-pin) and the door speaker connector (4-pin).
2. Check for continuity between the audio unit connector (12-pin) and the door speaker connector (4-pin).



47UJ1X-544

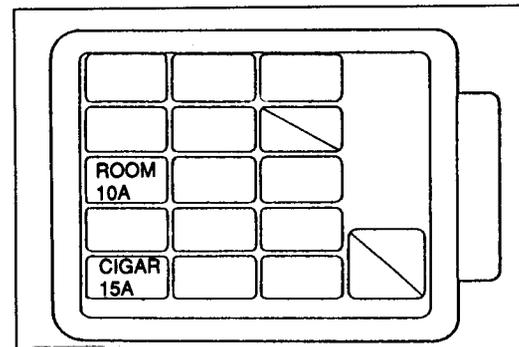
Speaker	Audio unit	Door speaker	Continuity
Right door	Terminal 1M (R) ↔	Terminal D (R)	Yes
	Terminal 1N (W) ↔	Terminal C (W)	Yes
Left door	Terminal 1K (G) ↔	Terminal D (G)	Yes
	Terminal 1L (L) ↔	Terminal C (L)	Yes

3. If correct, go to Step 6.
4. If not as specified, repair the wiring harness (audio unit —door speaker)

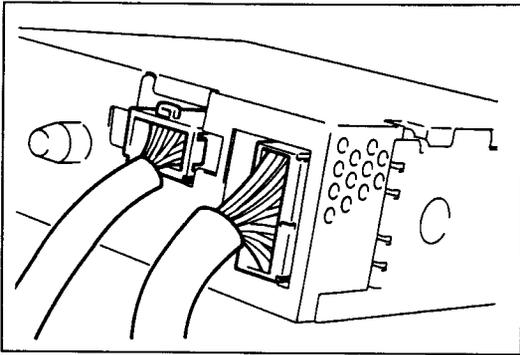
Step 6

Check the CIGAR 15A fuse and ROOM 10A fuse in the fuse block.

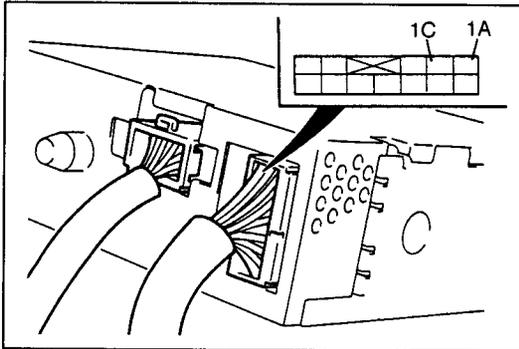
Fuse	Action
OK	Go to Step 7
Burnt	Replace fuse after checking and repairing wiring harness



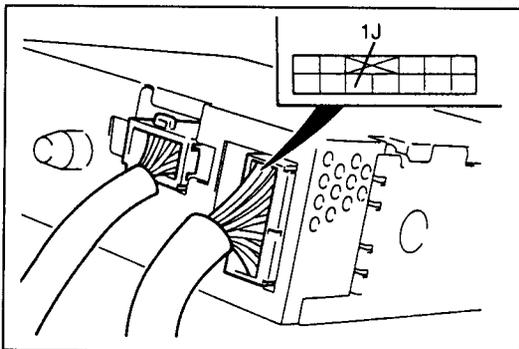
47UJ1X-545



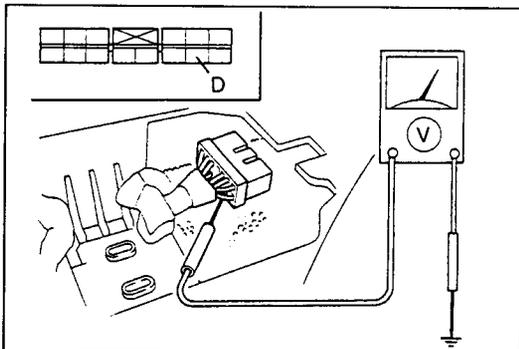
47UJ1X-546



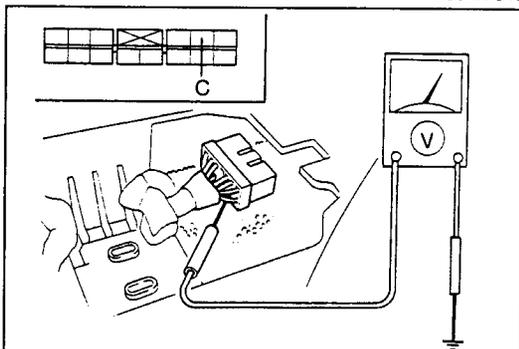
47UJ1X-547



47UJ1X-548



47UJ1X-549



47UJ1X-550

Step 7

1. Remove the audio unit. (Refer to page J1-56.)
2. Remove the center speaker amplifier. (Refer to page J1-58.)
3. Check the audio unit connector and the center speaker amplifier connector for damage or looseness. Replace the wiring harness, if necessary.
4. If the connections are OK, go to Step 8.

Step 8

1. Turn the ignition switch to ACC.
2. Measure the voltage at terminals 1A (L/B) and 1C (L/R) of the audio unit connector (12-pin).

B+: Battery positive voltage

Terminal	Voltage	Action
1A	B+	Measure voltage at terminal 1C
	Other	Repair wiring harness (CIGAR 15A fuse—Audio unit)
1C	B+	Go to Step 9
	Other	Repair wiring harness (ROOM 10A fuse—Audio unit)

Step 9

1. Turn on the audio system power.
2. Measure the voltage at terminal 1J (LG/B) of the audio unit connector (12-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 10
Other	Replace audio unit (Refer to page J1-56)

Step 10

1. Remove the console panel and lift the rear console. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the center speaker amplifier connector.
3. Measure the voltage at terminal D (LG/B) of the center speaker amplifier connector (14-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 11
Other	Repair wiring harness (Audio unit—Center speaker amplifier)

Step 11

1. Turn on the audio system power.
2. Measure the voltage at terminal C (L/B) of the center speaker amplifier connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 12
Other	Repair wiring harness (CIGAR 15A fuse—Center speaker amplifier)

Step 12

1. Check for continuity between the audio unit connector (12-pin) and the center speaker amplifier connector (14-pin).

Audio unit	Center speaker amp	Continuity
Terminal 1M (R)	Terminal O (R)	Yes
Terminal 1N (W)	Terminal P (W)	Yes
Terminal 1K (G)	Terminal M (G)	Yes
Terminal 1L (L)	Terminal N (L)	Yes

2. If correct, go to Step 13.
3. If not as specified, repair the wiring harness (audio unit—center speaker amplifier).

Step 13

1. Remove the center speaker. (Refer to page J1-57.)
2. Check the center speaker connector for damage or looseness. Replace the wiring harness if necessary.
3. If the connection is OK, go to Step 14.

Step 14

1. Disconnect the connector from the center speaker.
2. Measure the resistance between the terminals of the center speaker.

Resistance	Action
Other	Replace center speaker (Refer to page J1-57)
4Ω	Go to Step 15

Step 15

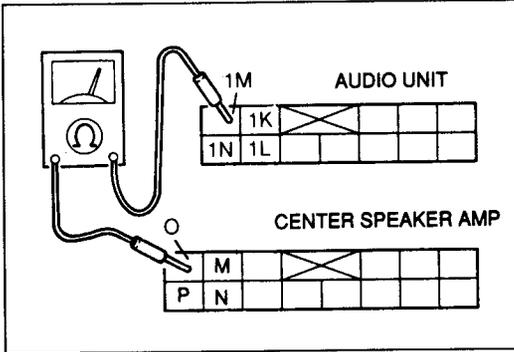
1. Check for continuity between the center speaker amplifier connector (14-pin) and the center speaker connector (2-pin).

Center speaker amp	Center speaker	Continuity
Terminal H (Y/G)	Terminal A (Y/G)	Yes
Terminal F (V/Y)	Terminal B (V/Y)	Yes

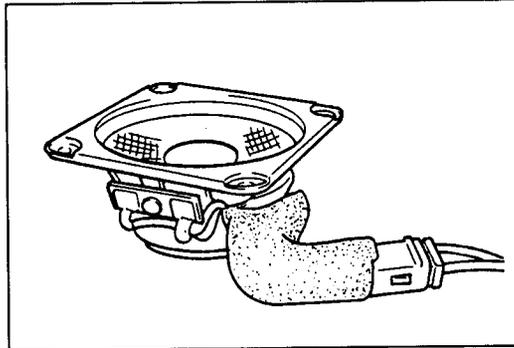
2. If correct, replace the center speaker amplifier.
3. If not as specified, repair the wiring harness (center speaker amplifier—center speaker).

Step 16

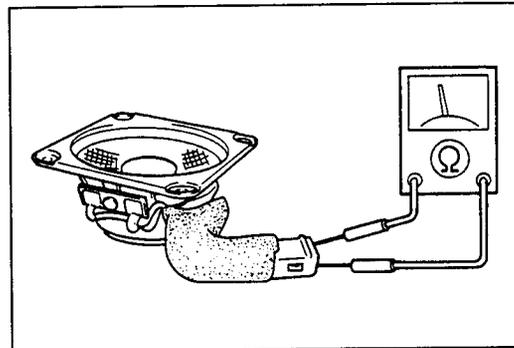
1. Remove the malfunctioning rear speaker. (Refer to page J1-58.)
2. Check the rear speaker connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 17.



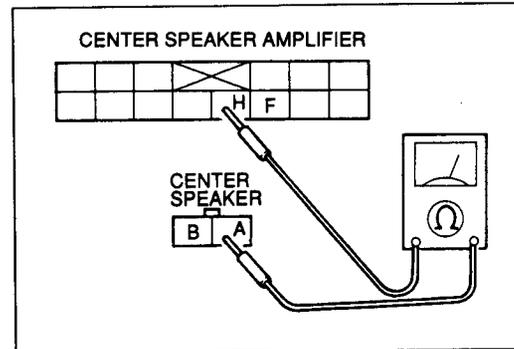
47UJ1X-551



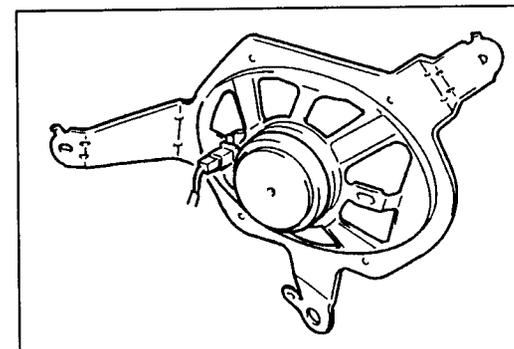
47UJ1X-552



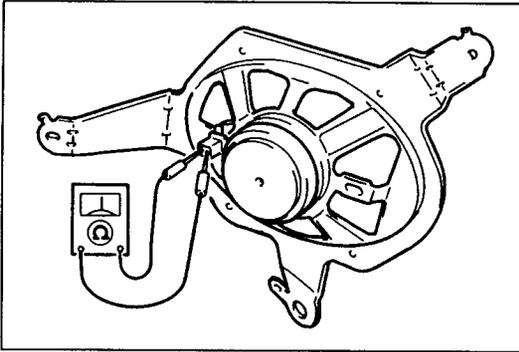
47UJ1X-553



47UJ1X-554



47UJ1X-555

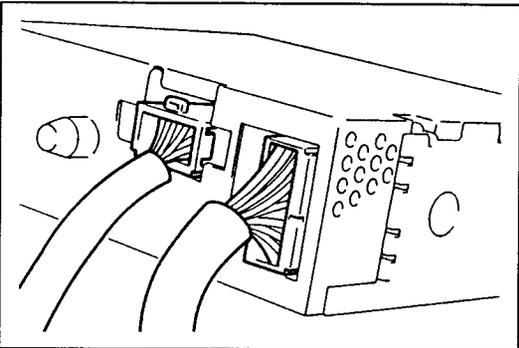


47UJ1X-556

Step 17

1. Disconnect the connector from the malfunctioning rear speaker.
2. Measure the resistance between the terminals of the rear speaker.

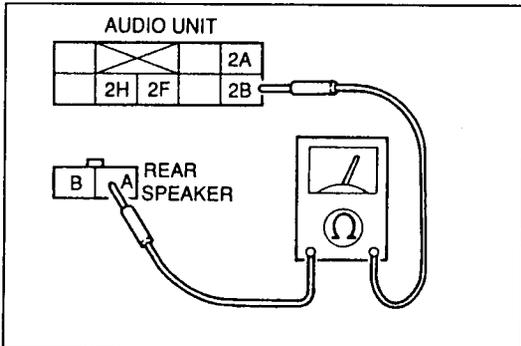
Resistance	Action
4Ω	Go to Step 18
Other	Replace rear speaker (Refer to page J1-58)



47UJ1X-557

Step 18

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harness, if necessary.
3. If the connections are OK, go to Step 19.



47UJ1X-558

Step 19

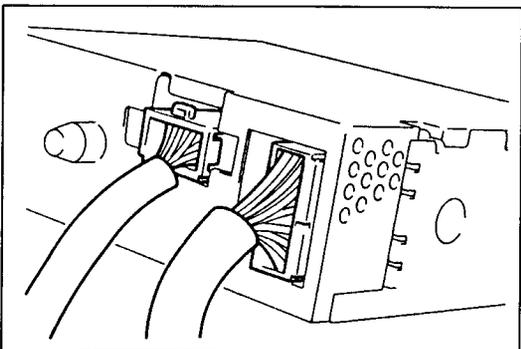
1. Check for continuity between the audio unit connector (8-pin) and the rear speaker connector (2-pin).

Speaker	Audio unit	Rear speaker	Continuity
Left rear	Terminal 2A (Y/G) ↔	Terminal B (Y/G)	Yes
	Terminal 2B (Y/L) ↔	Terminal A (Y/L)	Yes
Right rear	Terminal 2F (W/L) ↔	Terminal B (W/L)	Yes
	Terminal 2H (L/Y) ↔	Terminal A (L/Y)	Yes

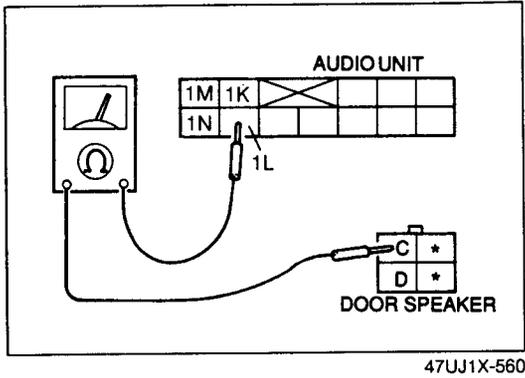
2. If correct, replace the audio unit. (Refer to page J1-56.)
3. If not as specified, repair the wiring harness (audio unit—rear speaker).

Step 20

1. Remove the audio unit. (Refer to page J1-56.)
2. Remove the center speaker amplifier. (Refer to page J1-58.)
3. Check the audio unit connector and the center speaker amplifier connector for damage or looseness. Replace the wiring harness, if necessary.
4. If the connections are OK, go to Step 21.



47UJ1X-559

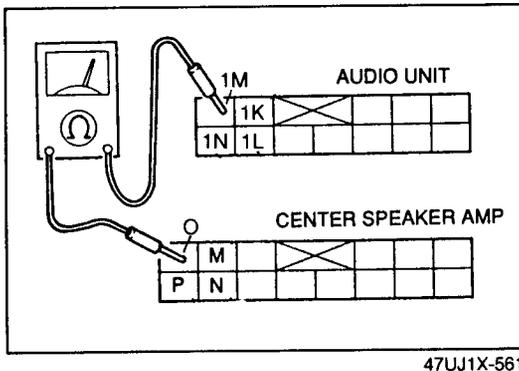


Step 21

1. Remove the door trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the door speaker and disconnect the door speaker connector.
3. Check for continuity between the audio unit connector (12-pin) and the door speaker connector (4-pin).

Speaker	Audio unit	Door speaker	Continuity
Right door	Terminal 1M (R)	↔ Terminal D (R)	Yes
	Terminal 1N (W)	↔ Terminal C (W)	Yes
Left door	Terminal 1K (G)	↔ Terminal D (G)	Yes
	Terminal 1L (L)	↔ Terminal C (L)	Yes

4. If correct, go to Step 22.
5. If not as specified, repair the wiring harness (audio unit—door speaker).



Step 22

1. Check for continuity between the audio unit connector (12-pin) and the center speaker amplifier connector (14-pin).

Audio unit	Center speaker amp	Continuity
Terminal 1M (R)	↔ Terminal O (R)	Yes
Terminal 1N (W)	↔ Terminal P (W)	Yes
Terminal 1K (G)	↔ Terminal M (G)	Yes
Terminal 1L (L)	↔ Terminal N (L)	Yes

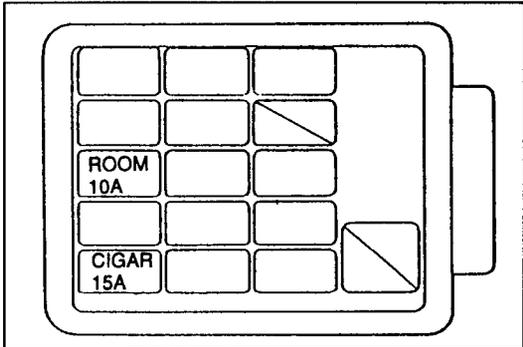
2. If correct, replace the audio unit.
3. If not as specified, repair the wiring harness (audio unit—center speaker amplifier)

Symptom	Audio unit does not operate (type 2)
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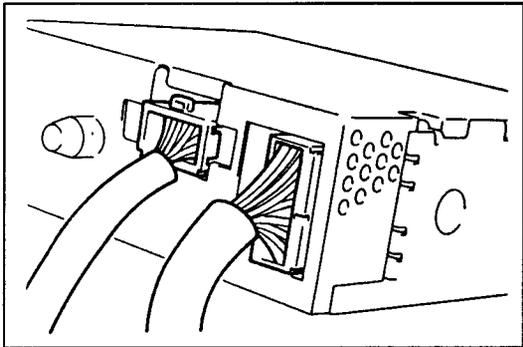
Possible cause

- Burnt CIGAR 15A or ROOM 10A fuse
- Damaged audio unit
- Open or short circuit in wiring harness
- Poor connection of connector

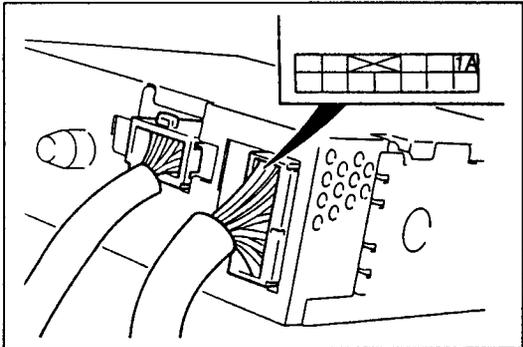
47UJ1X-562



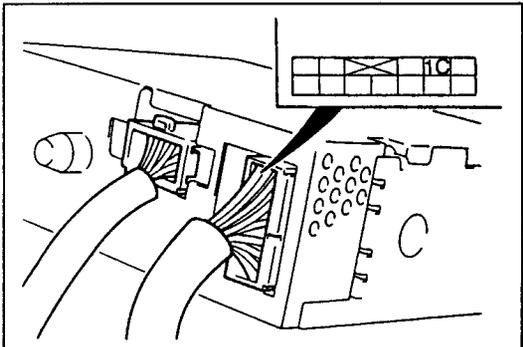
47UJ1X-563



47UJ1X-564



47UJ1X-565



47UJ1X-566

Step 1

Check the CIGAR 15A fuse and ROOM 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harnesses, if necessary.
3. If the connections are OK, go to Step 3.

Step 3

1. Turn the ignition switch to ACC.
2. Measure the voltage at terminal 1A (L/B) of the audio unit connector (12-pin).

B+: Battery positive voltage

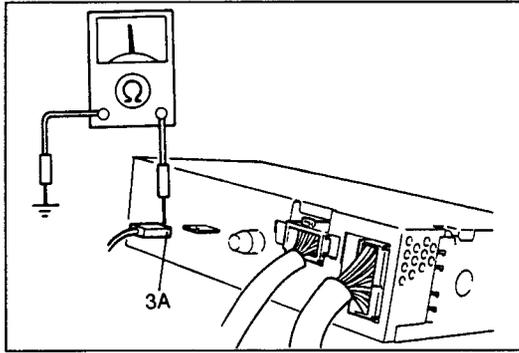
Voltage	Action
B+	Go to Step 4
Other	Repair wiring harness (CIGAR 15A fuse—Audio unit)

Step 4

Measure the voltage at terminal 1C (L/R) of the audio unit connector (12-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (ROOM 10A fuse—Audio unit)



47UJ1X-567

Step 5

Check for continuity between terminal 3A (B) of the audio unit connector and ground.

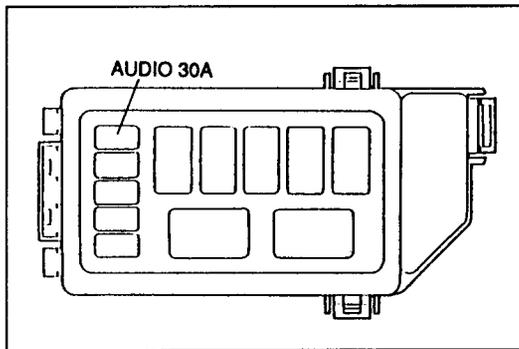
Continuity	Action
Yes	Replace audio unit (Refer to page J1-56)
No	Repair wiring harness (Audio unit—GND)

Symptom	Speakers have no sound (type 2)
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Possible cause

- Burnt AUDIO 30A fuse
- Damaged radio relay
- Damaged audio unit
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-568

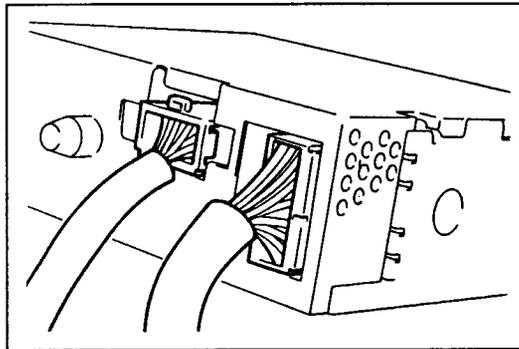


47UJ1X-569

Step 1

Check the AUDIO 30A fuse in the relay & fuse block.

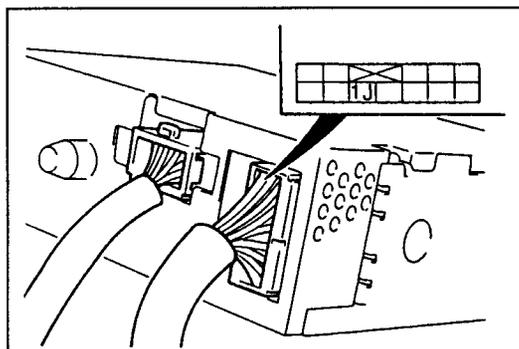
Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



47UJ1X-570

Step 2

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harnesses, if necessary.
3. If the connections are OK, go to Step 3.



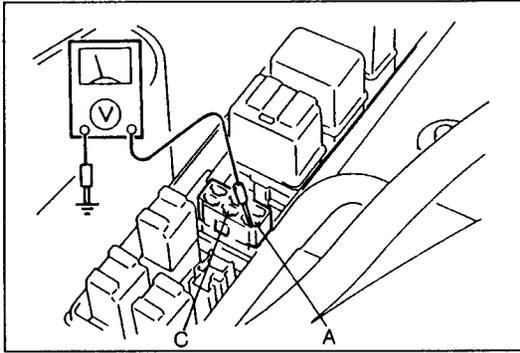
47UJ1X-571

Step 3

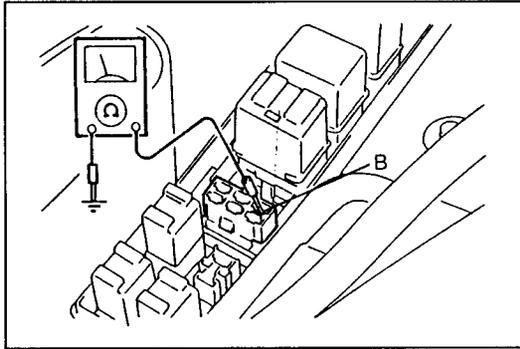
1. Turn the ignition switch to ACC.
2. Turn on the audio system power.
3. Measure the voltage at terminal 1J (LG/B) of the audio unit connector (12-pin).

B+: Battery positive voltage

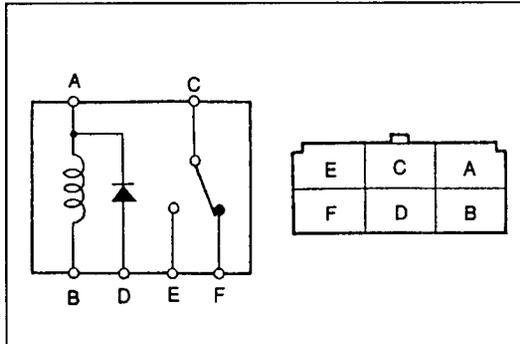
Voltage	Action
B+	Go to Step 4
Other	Replace audio unit (Refer to page J1-56.)



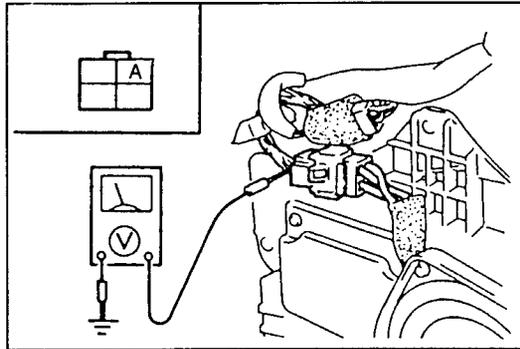
47UJ1X-572



47UJ1X-573



47UJ1X-574



47UJ1X-575

Step 4

1. Remove the radio relay.
2. Measure the voltage at terminals A (LG/B) and C (L/W) of the radio relay connector.

B+: Battery positive voltage

Terminal	Voltage	Action
A	B+	Measure voltage at terminal C
	Other	Repair wiring harness (Audio unit—Radio relay)
C	B+	Go to Step 5
	Other	Repair wiring harness (AUDIO 30A fuse—Radio relay)

Step 5

1. Turn off the audio system power.
2. Check for continuity between terminal B (B) of the radio relay connector and ground.

Continuity	Action
Yes	Go to Step 6
No	Repair wiring harness (Radio relay—GND)

Step 6

1. Check for continuity between the radio relay terminals.

B+: Battery positive voltage

Terminal		A	B	C	E	F
B+	Ground					
—	—	○	○	○	—	○
A	B			○	○	

○—○ : Continuity

2. If correct, install the radio relay and go to Step 7.
3. If not as specified, replace the radio relay.

Step 7

1. Remove the door trim. (Refer to section S.)
2. Turn on the audio system power.
3. Measure the voltage at terminal A (B/R) of the door speaker/amp module connector (4-pin).

B+: Battery positive voltage

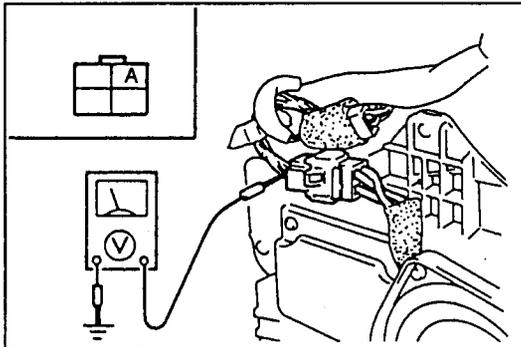
Voltage	Action
B+	Remove audio unit (Refer to page J1-56.)
Other	Repair wiring harness (Radio relay—Door speaker/amp module)

Symptom One door speaker/amp module has no sound, but center speaker has sound (type 2)

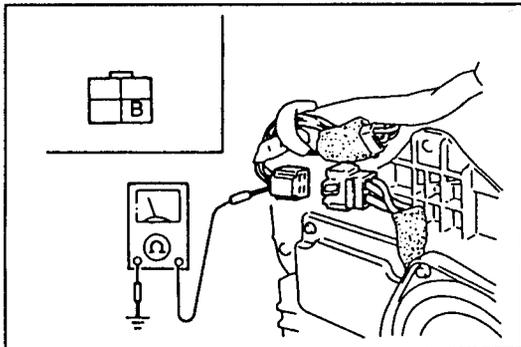
Possible cause

- Damaged door speaker/amp module
- Damaged audio unit
- Open or short circuit in wiring harness
- Poor connection of connector

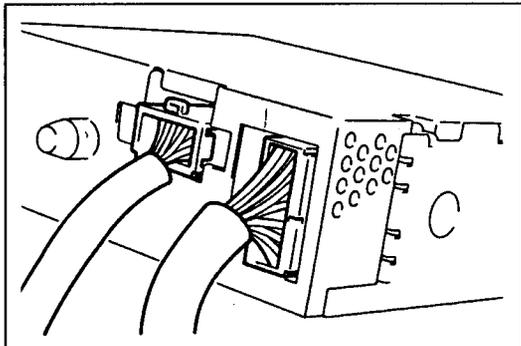
47UJ1X-576



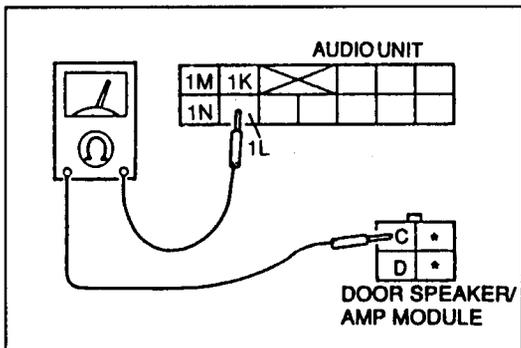
47UJ1X-577



47UJ1X-578



47UJ1X-579



47UJ1X-580

Step 1

1. Remove the malfunctioning door speaker/amp module. (Refer to page J1-57.)
2. Turn on the audio system power.
3. Measure the voltage at terminal A (B/R) of the door speaker/amp module connector (4-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (Radio relay—Door speaker/amp module)

Step 2

1. Disconnect the door speaker/amp module connector (4-pin).
2. Check for continuity between terminal B (B/O) of the door speaker/amp module connector (4-pin) and ground.

Continuity	Action
Yes	Go to Step 3
No	Repair wiring harness (Door speaker/amp module—GND)

Step 3

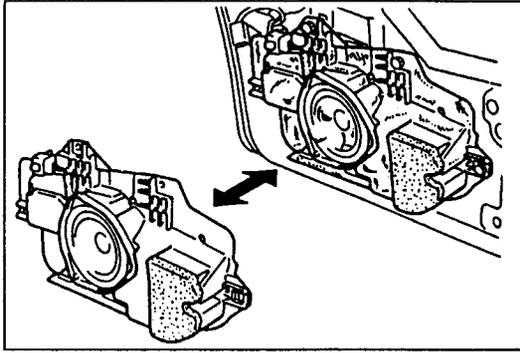
1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harnesses, if necessary.
3. If the connections are OK, go to Step 4.

Step 4

1. Check for continuity between the audio unit connector (12-pin) and door speaker/amp module connector (4-pin).

Speaker	Audio unit	Door speaker/Amp module	Continuity
Right door	Terminal 1M(R)	↔ Terminal D (R)	Yes
	Terminal 1N (W)	↔ Terminal C (W)	Yes
Left door	Terminal 1K (G)	↔ Terminal D (G)	Yes
	Terminal 1L (L)	↔ Terminal C (L)	Yes

2. If correct, go to Step 5.
3. If not as specified, repair the wiring harness (audio unit—door speaker/amp module).



47UJ1X-581

Step 5

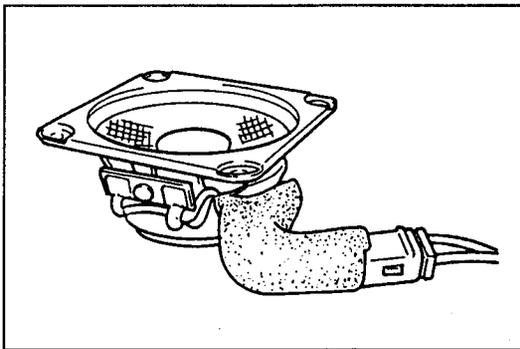
1. Replace the door speaker/amp module and verify that the new door speaker/amp module functions properly.
2. If correct, replace the door speaker/amp module. (Refer to page J1-57.)
3. If not as specified, replace the audio unit. (Refer to page J1-56.)

Symptom	Center speaker has no sound, but door speaker/amp module has sound (type 2)
----------------	---

Possible cause

- Damaged center speaker
- Damaged center speaker amplifier
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-582



47UJ1X-583

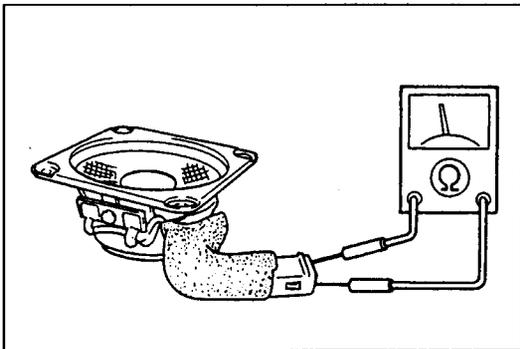
Step 1

1. Remove the center speaker. (Refer to page J1-57.)
2. Check the center speaker connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 2.

Step 2

1. Disconnect the connector from the center speaker.
2. Measure the resistance between the center speaker terminals.

Resistance	Action
8Ω	Go to Step 3
Other	Replace center speaker (Refer to page J1-57)

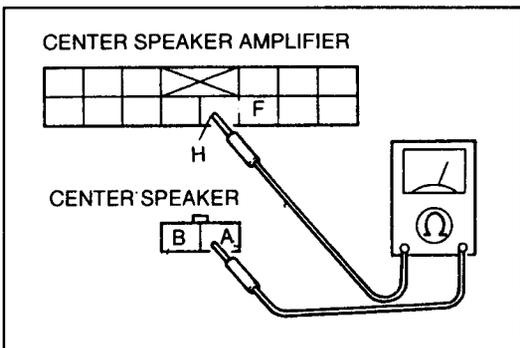


47UJ1X-584

Step 3

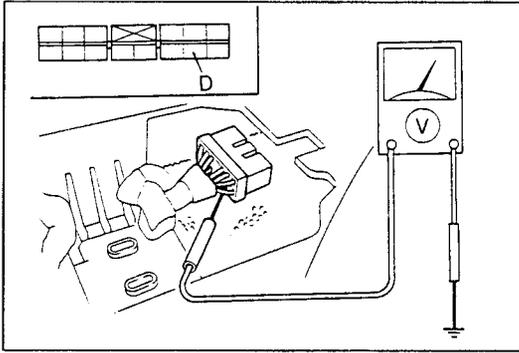
1. Remove the console panel and lift the rear console. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the center speaker amplifier connector.
3. Check for continuity between the center speaker amplifier connector (14-pin) and center speaker connector (2-pin).

Center speaker amp	Center speaker	Continuity
Terminal H (Y/G)	↔ Terminal A (Y/G)	Yes
Terminal F (V/Y)	↔ Terminal B (V/Y)	Yes

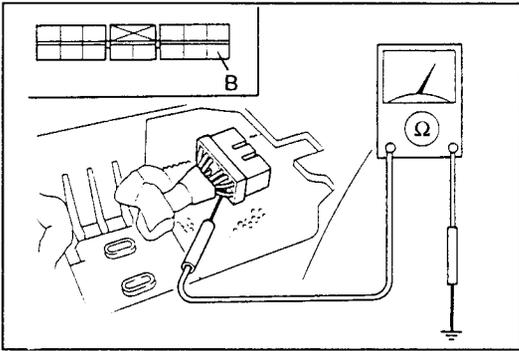


47UJ1X-585

4. If correct, go to Step 4.
5. If not as specified, repair or replace the wiring harness (center speaker amplifier—center speaker).



47UJ1X-586



47UJ1X-587

Step 4

1. Turn on the audio system power.
2. Measure the voltage at terminal D (B/R) of the center speaker amplifier connector (14-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 5
Other	Repair wiring harness (Radio relay—Center speaker amplifier)

Step 5

Check for continuity between terminal B (B/O) of the center speaker amplifier connector (14-pin) and ground.

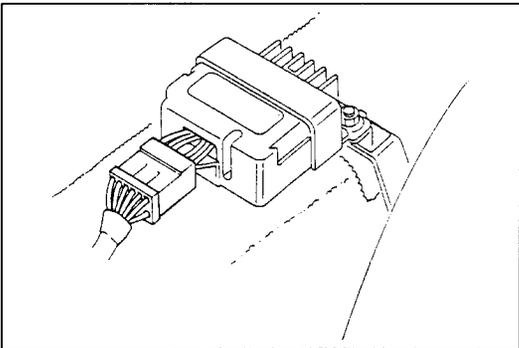
Continuity	Action
Yes	Replace center speaker amplifier (Refer to page J1-58)
No	Repair wiring harness (Center speaker amp—GND)

Symptom	Center speaker and one or both door speakers/amp modules have no sound (type 2)
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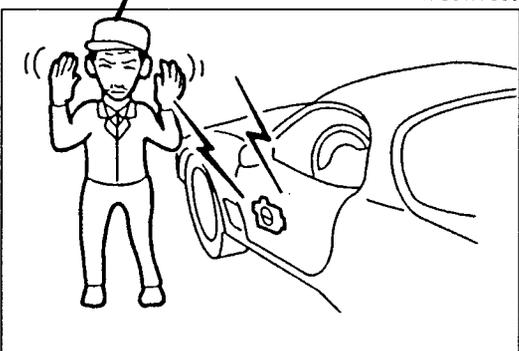
Possible cause

- Damaged audio unit
- Damaged center speaker amplifier
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-588



47UJ1X-589



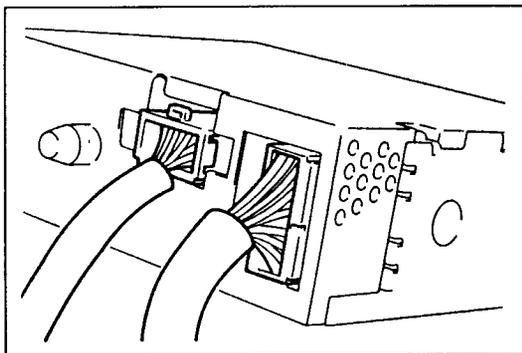
47UJ1X-590

Step 1

1. Remove the console panel and lift the rear console.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the center speaker amplifier connector.
3. Check the center speaker amplifier connector for damage or looseness. Replace the wiring harness, if necessary.
4. If the connection is OK, go to Step 2.

Step 2

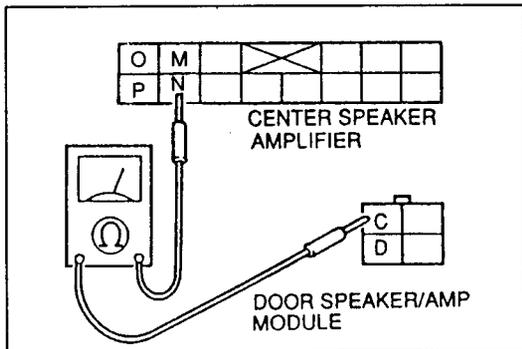
1. Disconnect the center speaker amplifier connector (14-pin).
2. Turn on the audio system power and verify that there is sound from the door speaker/amp modules.
3. If there is sound, replace the center speaker amplifier.
(Refer to page J1-58.)
4. If there is no sound, go to Step 3.



47UJ1X-591

Step 3

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 4.



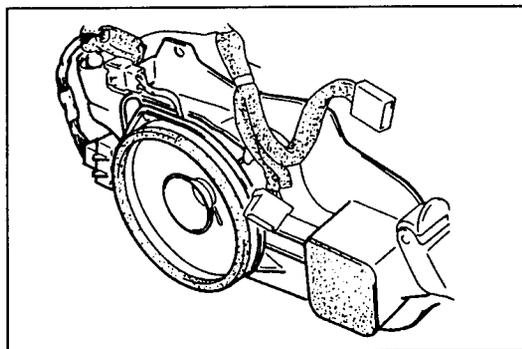
47UJ1X-592

Step 4

1. Check for continuity between the center speaker amplifier connector (14-pin) and door speaker/amp module connector (4-pin).

Speaker	Center speaker amp	Door speaker/Amp module	Continuity
Right door	Terminal O (R)	↔ Terminal D (R)	Yes
	Terminal P (W)	↔ Terminal C (W)	Yes
Left door	Terminal M (G)	↔ Terminal D (G)	Yes
	Terminal N (L)	↔ Terminal C (L)	Yes

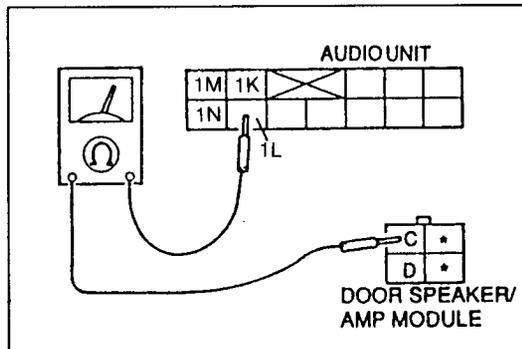
2. If correct, go to Step 5.
3. If not as specified, repair the wiring harness (center speaker amp—door speaker/amp module).



47UJ1X-593

Step 5

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check the door speaker/amp module connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 6.



47UJ1X-594

Step 6

1. Check for continuity between the audio unit connector (12-pin) and door speaker/amp module connector (4-pin).

Speaker	Audio unit	Door speaker/Amp module	Continuity
Right door	Terminal 1M (R)	↔ Terminal D (R)	Yes
	Terminal 1N (W)	↔ Terminal C (W)	Yes
Left door	Terminal 1K (G)	↔ Terminal D (G)	Yes
	Terminal 1L (L)	↔ Terminal C (L)	Yes

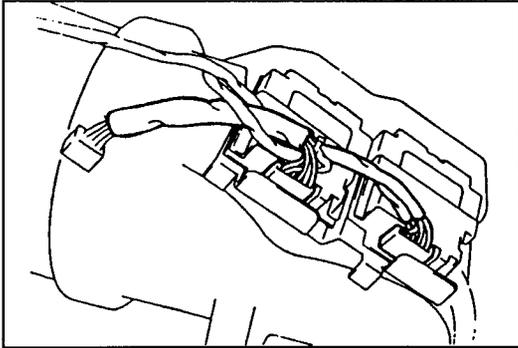
2. If correct, replace the audio unit. (Refer to page J1-56.)
3. If not as specified, repair the wiring harness (audio unit—door speaker/amp module).

Symptom Acoustic wave® guide assembly has no sound (type 2)

Possible cause

- Damaged audio unit
- Damaged Acoustic wave® guide assembly
- Open or short circuit in wiring harness
- Poor connection of connector

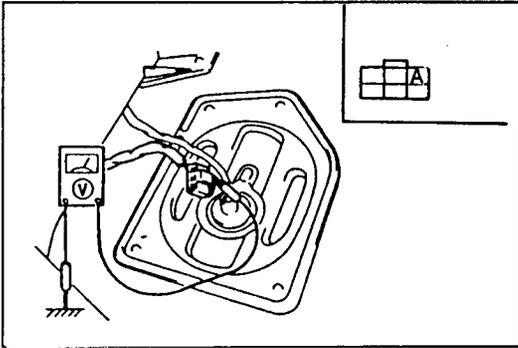
47UJ1X-595



47UJ1X-596

Step 1

1. Pull the Acoustic wave® guide assembly connector (6-pin).
2. Check the Acoustic wave® guide assembly connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 2.



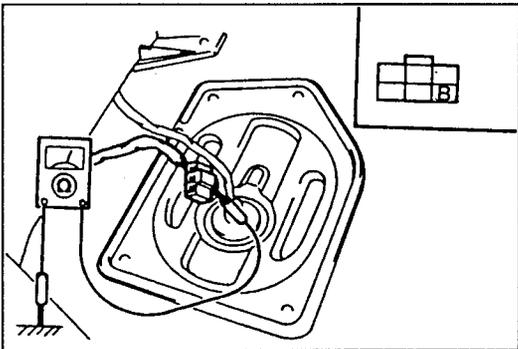
47UJ1X-597

Step 2

1. Turn on the audio system power.
2. Disconnect the Acoustic wave® guide assembly connector (6-pin).
3. Measure the voltage at terminal A (B/R) of the Acoustic wave® guide assembly connector (6-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Radio relay—Guide assembly)

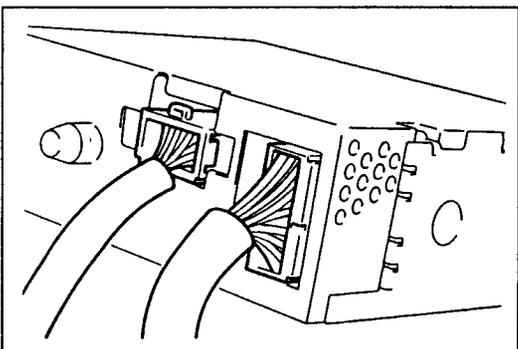


47UJ1X-598

Step 3

Check for continuity between terminal B (B/O) of the Acoustic wave® guide assembly connector and ground.

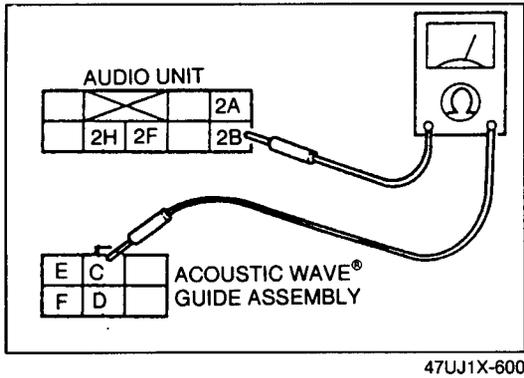
Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (Guide assembly—GND)



47UJ1X-599

Step 4

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connector for damage or looseness. Replace the wiring harness, if necessary.
3. If the connection is OK, go to Step 5.



Step 5

1. Check for continuity between the audio unit connector (8-pin) and Acoustic wave® guide assembly connector (6-pin).

Audio unit	Guide assembly	Continuity
Terminal 2A (Y/G)	↔ Terminal D (Y/G)	Yes
Terminal 2B (Y/L)	↔ Terminal C (Y/L)	Yes
Terminal 2F (W/L)	↔ Terminal F (W/L)	Yes
Terminal 2H (L/Y)	↔ Terminal E (L/Y)	Yes

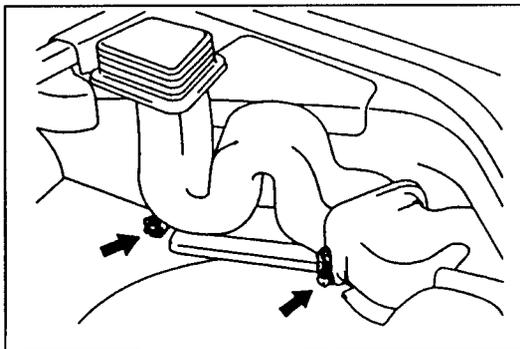
2. If correct, replace the Acoustic wave® guide assembly. (Refer to page J1-59.)
3. If not as specified, repair the wiring harness (audio unit—acoustic wave® guide assembly).

Symptom	Acoustic wave® guide assembly has poor or reduced sound quality (type 2)
----------------	--

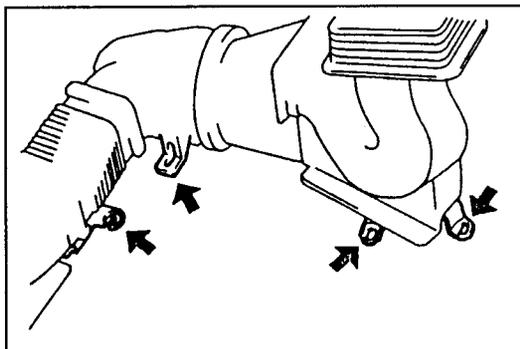
Possible cause

- Improper assembly or installation of the Acoustic wave® guide assembly
- Cracked Acoustic wave® guide assembly duct
- Damaged Acoustic wave® guide assembly
- Damaged audio unit
- Open or short circuit in wiring harness

47UJ1X-601

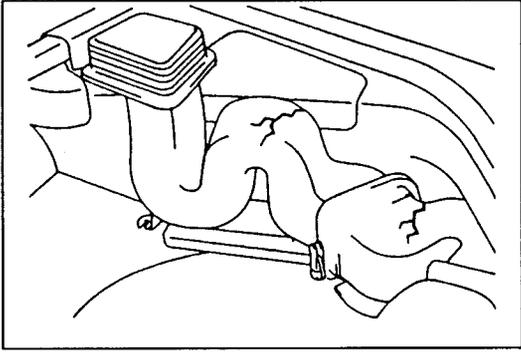


47UJ1X-602



Step 1

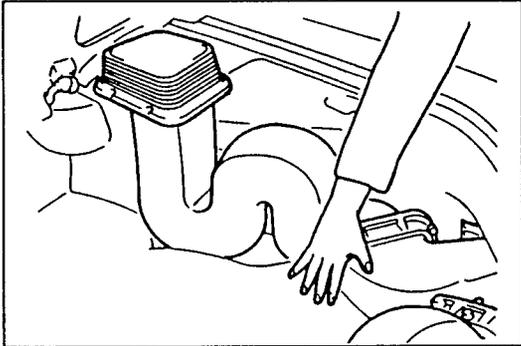
Make sure the Acoustic wave® guide assembly is properly mounted.



47UJ1X-603

Step 2

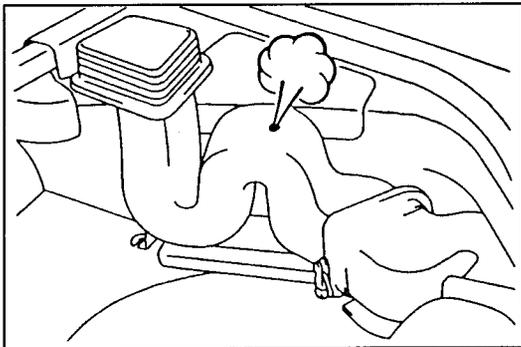
1. Inspect the ducts and flex adapter of the Acoustic wave® guide assembly for cracks or breakage.
2. If normal, go to Step 3.
3. If a problem is found, replace the damaged section of the Acoustic wave® guide assembly. (Refer to page J1-61.)



47UJ1X-604

Step 3

1. Turn on the audio system power.
2. Turn the bass control knob fully clockwise while playing very low bass notes (less than 100 Hz: bass guitar or concert pipe organ).
3. If air is felt or if it's difficult to be sure, go to Step 4.
4. If no air is felt, go to Step 5.



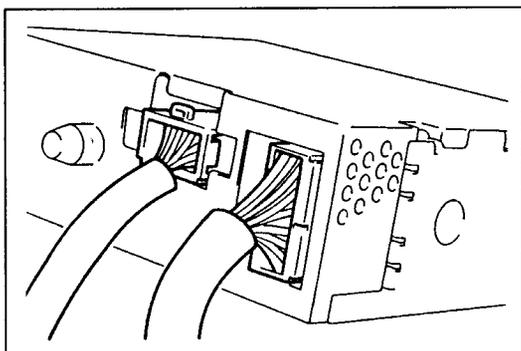
47UJ1X-605

Step 4

1. Listen closely along the system for air leakage.

Note

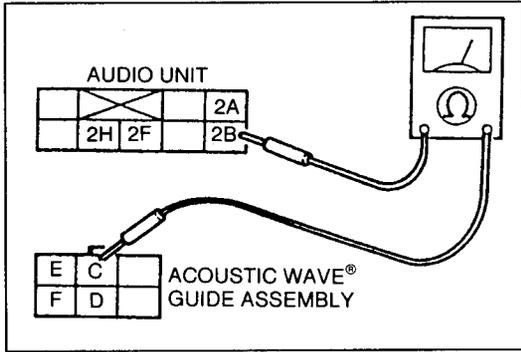
- A leak will be heard as hissing or buzzing.
2. If an air leak is found, replace that section of the Acoustic wave® guide assembly. (Refer to page J1-61.)
 3. If there is no air leakage, go to Step 5.



47UJ1X-606

Step 5

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit connectors for damage or looseness. Replace the wiring harnesses, if necessary.
3. If the sound quality is poor, go to Step 6.



47UJ1X-607

Step 6

1. Check for continuity between the audio unit connector (8-pin) and Acoustic wave® guide assembly connector (6-pin).

Audio unit	Guide assembly	Continuity
Terminal 2A (Y/G)	↔ Terminal D (Y/G)	Yes
Terminal 2B (Y/L)	↔ Terminal C (Y/L)	Yes
Terminal 2F (W/L)	↔ Terminal F (W/L)	Yes
Terminal 2H (L/Y)	↔ Terminal E (L/Y)	Yes

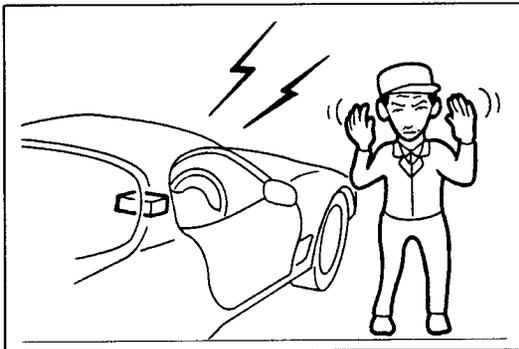
2. If correct, replace the Acoustic wave® guide assembly. (Refer to page J1-59.)
3. If not as specified, repair or replace the wiring harness (audio unit—Acoustic wave® guide assembly).

Symptom	Poor sound quality when radio is played
----------------	---

Possible cause

- Damaged pole antenna
- Damaged antenna feeder
- Damaged glass antenna filament
- Poor connection of connector

47UJ1X-608



47UJ1X-609

Step 1

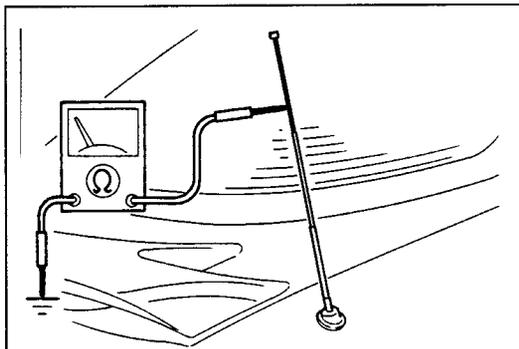
1. Tune to the strongest AM and FM stations by using the automatic memory function.
2. Refer below and go the related step.

Sound quality		Action
AM	FM	
Poor	OK	Go to Step 2
OK	Poor	Go to Step 6
Poor	Poor	Go to Step 2
OK	OK	Radio is OK

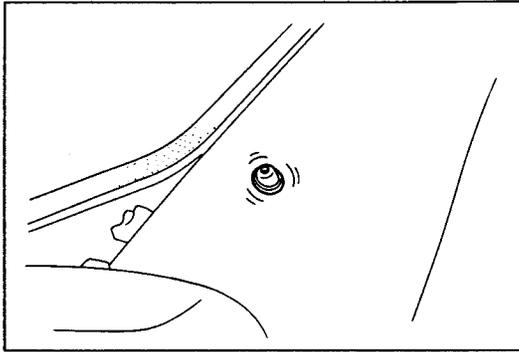
Step 2

Verify that there is continuity between the antenna mast and ground.

Continuity	Action
No	Go to Step 3
Yes	Replace antenna mast (Refer to page J1-65)



47UJ1X-610

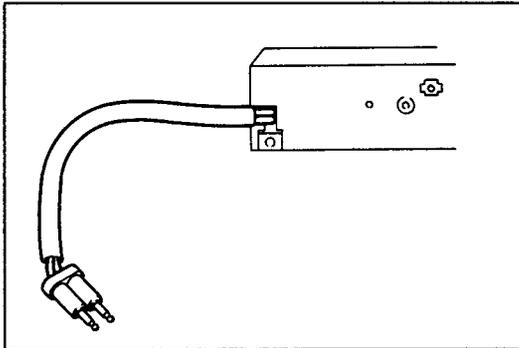


47UJ1X-611

Step 3

Check the antenna base for proper installation and tightness.

Installation	Action
OK	Go to Step 4
Improper	Tighten or reinstall

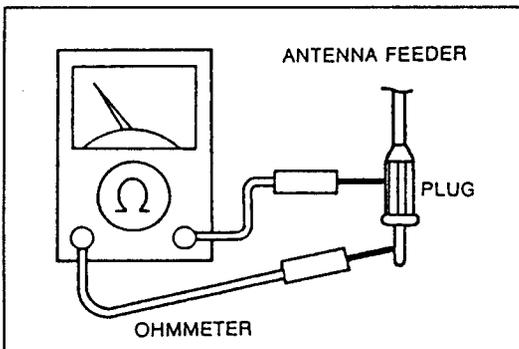


47UJ1X-612

Step 4

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the audio unit antenna feeder for proper connection and tightness.

Connection	Action
OK	Go to Step 5
Improper	Repair antenna feeder

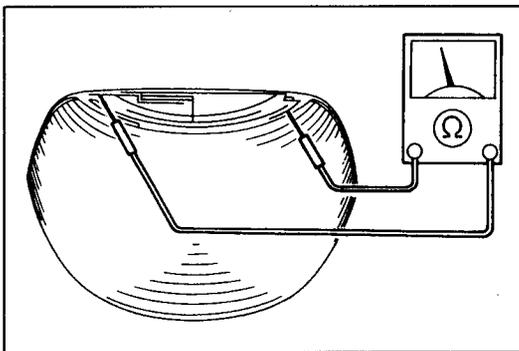


47UJ1X-613

Step 5

Check for continuity between the outer case and the center post of the feeder connector.

Continuity	Action
Yes	Replace antenna feeder
No	Go to Step 6

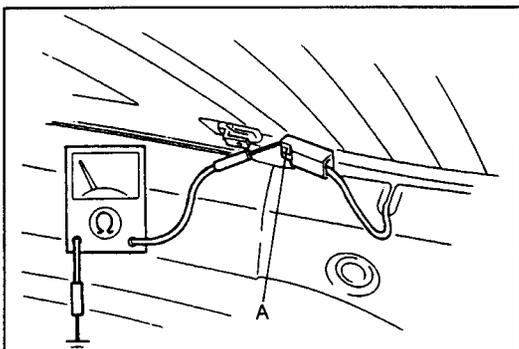


47UJ1X-614

Step 6

Check for continuity at the glass antenna filament.

Continuity	Action
Yes	Go to Step 7
No	Locate broken section and repair filament (Refer to page J1-62)



47UJ1X-615

Step 7

1. Disconnect the glass antenna connector.
2. Check for continuity between terminal A (B) of the glass antenna connector and ground.

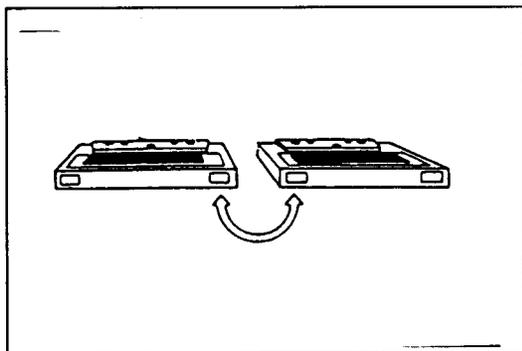
Continuity	Action
Yes	Repair antenna feeder
No	Replace audio unit (Refer to page J1-56)

Symptom	Poor sound quality when cassette tape is played
----------------	---

Possible cause

- Damaged cassette tape player
- Damaged audio unit
- Dirty heads and pinchroller

47UJ1X-616

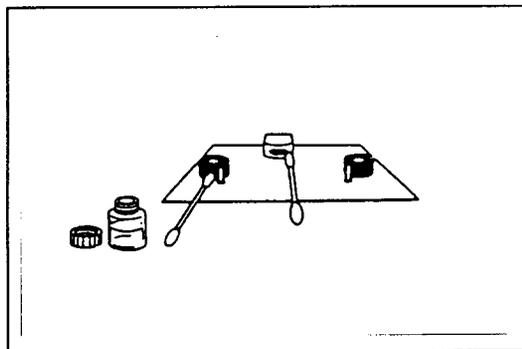


47UJ1X-617

Step 1

Play a known good tape and check the sound quality.

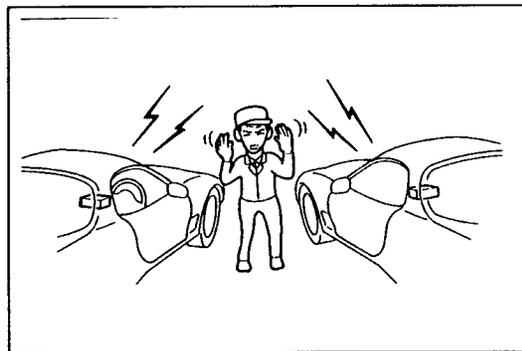
Sound quality	Action
Poor	Go to Step 2
Normal	Audio unit OK (previous tape defective)



37U0T1-807

Step 2

1. Clean the heads and pinchroller by using a cassette tape player cleaning kit (commercially available).
2. Play a good tape and check the sound quality.
3. If sound quality is still poor, go to Step 3.



37U0T1-808

Step 3

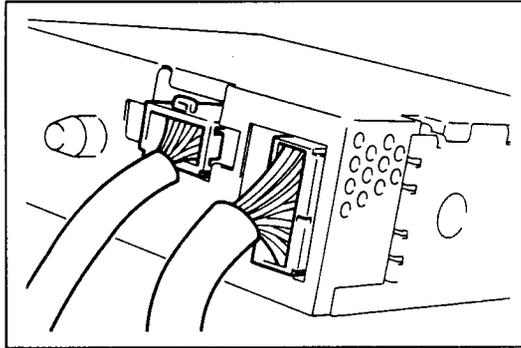
1. Compare the sound quality with that of another vehicle with the same type audio unit.
2. If the sound is inferior to the other unit, replace the audio unit.

Symptom	Poor sound quality in all modes: radio, cassette tape, compact disc
----------------	---

Possible cause

- Damaged speaker
- Damaged ground circuit
- Open or short circuit in wiring harness
- Damaged DIN cord
- Poor connection of connector
- Poor connection of DIN cord

47UJ1X-618



47UJ1X-619

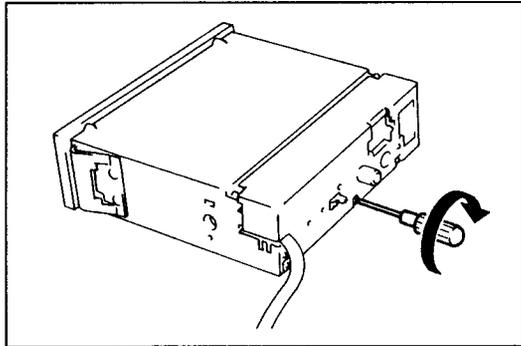
Step 1

1. Remove the audio unit. (Refer to page J1-56.)
2. Check the connectors and DIN cord connector for damage or looseness. Replace the wiring harness or DIN cord, if necessary. Recheck the sound quality.
3. If the sound is still poor, go to Step 2.

Step 2

Check the tightness of the audio unit mounting screws.

Screws	Action
OK	Go to Step 3
Loose	Tighten screws

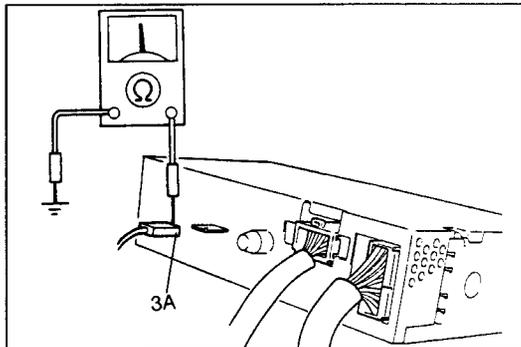


47UJ1X-620

Step 3

1. Check the related wiring harnesses. If the open or short circuit is found, repair it.
2. Check for continuity between terminal 3A (B) of the audio unit connector and ground.

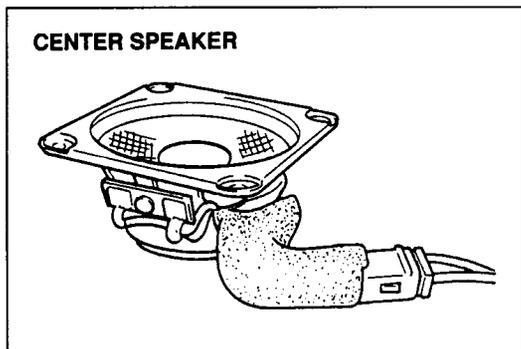
Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (Audio unit—GND)



47UJ1X-621

Step 4

1. Remove all speakers. (Refer to page J1-57.)
Check the speaker for damage.
2. Check the speaker connectors for damage or looseness. Replace the wiring harness, if necessary.
3. Disconnect the speaker connections and measure the resistance of each speaker.



47UJ1X-622

Speaker	Resistance
Center speaker (type 1)	4Ω
Center speaker (type 2)	8Ω
Door speaker (type 1)	4Ω
Rear speaker (type 1)	4Ω

4. Replace any speaker that has incorrect resistance or is damaged.
5. When all speakers are OK, the cause of the trouble may still be in the electrical system.
(Refer to page J1-48.)

47UJ1X-623

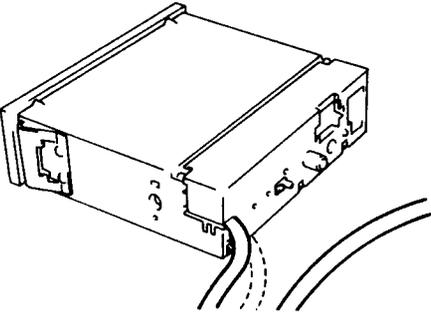
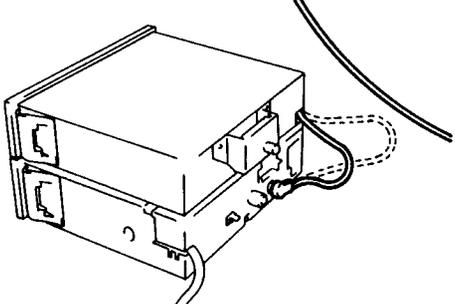
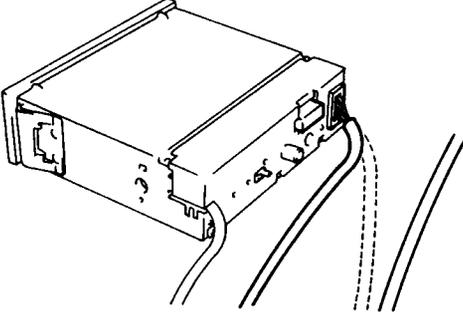
Symptom	Noise occurs
----------------	--------------

Possible cause

- Defective or improperly installed audio unit
- Ambient noise (radio wave obstacle or noise from neon signs)
- Vehicle noise (vehicle induced noise)

37U0T1-815

(1) Defective or improperly installed audio unit

Problem	Action
<p>Noise occurs only when radio is used</p> 	<p>1.Symptom: Poor sound quality when radio is played (Refer to page J1-43)</p> <p>2.Route antenna feeder away from other wiring harnesses</p>
<p>Noise occurs only when cassette tape is played</p>	<p>Symptom: Poor sound quality when cassette tape is played (Refer to page J1-45)</p>
<p>Noise occurs only when compact disc is played</p> 	<p>1. Symptom: Poor sound quality when compact disc is played (Refer to page J1-50)</p> <p>2.Route DIN cord connecting audio unit and CD player away from other wiring harnesses</p>
<p>Noise occurs in all cases</p> 	<p>1. Symptom: Poor sound quality in all modes; radio, cassette tape, compact disc (Refer to page J1-46)</p> <p>2.Route wiring harnesses between audio unit and speakers and between audio unit and amplifier and speaker away from other wiring harnesses</p>

47UJ1X-624

(2) Ambient noise (radio wave obstacle or noise from neon signs)

1. Fading (AM)

Obstacle (tall building, mountain) blocking AM waves.

2. Fast fading and multipath noise (FM)

Radio obstacles to the FM waves.

(Fast fading)

Noise or sound distortion caused by FM radio waves being obstructed by mountains or buildings.

(Multipath noise)

Noise caused when the radio on a vehicle picks up a direct wave and reflects a wave at the same time.

Note

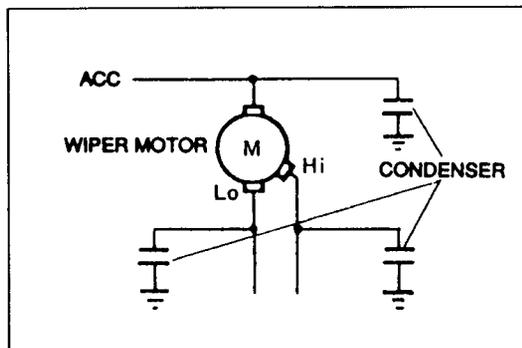
- Because ambient noise is only a temporary occurrence, it will be corrected when vehicle location changes.

47UJ1X-625

(3) Outside noise (vehicle induced noise)

Name of noise		Condition
Noise when engine is started	Fuel pump noise	Noise occurs immediately after ignition switch is turned to ON
	Ignition noise	Consecutive noise Tone changes when acceleration pedal is depressed
	Alternator noise	Whizzing noise occurs when acceleration pedal is depressed
Noise when electrical parts are operated	Wiper motor noise	Howling noise occurs synchronized with wiper operation
	Washer motor noise	Noise occurs when window washer is operated
	Power window noise	Noise occurs when power window is operated
	Fan motor noise	Noise occurs when fan is operated
	Stoplight noise	Noise occurs at beginning or end of brake operation
	Turn signal noise	Clicking noise occurs synchronized with signal flash
	Horn switch noise	Whizzing noise occurs when acceleration pedal is depressed
	Air conditioner noise	Howling noise occurs when air conditioner is operated

37U0T1-818



37U0T1-819

Before trying to eliminate such noises, check, and if necessary repair, the ground circuit of the system. If the noise persists, install a noise suppressor (capacitor) in the circuit near the electrical unit.

Example: Wiper motor noise

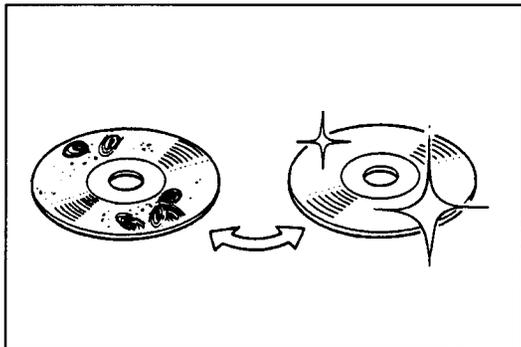
Install the noise suppressor near the wiper motor.

Symptom	Compact disc skips
----------------	--------------------

Possible cause

- Faulty compact disc
- Improper installation of CD player

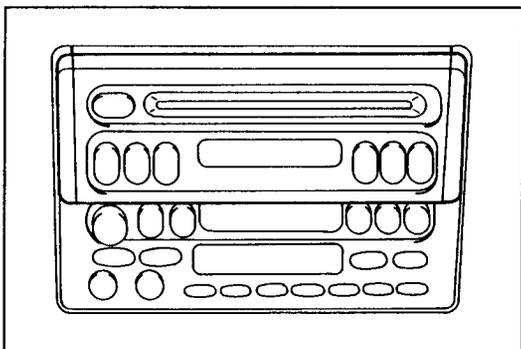
47UJ1X-626



47UJ1X-627

Step 1

1. Use a good compact disc and check for compact disc skipping.
2. If OK, the old compact disc is damaged.
3. If the new compact disc skips, go to Step 2.



47UJ1X-628

Step 2

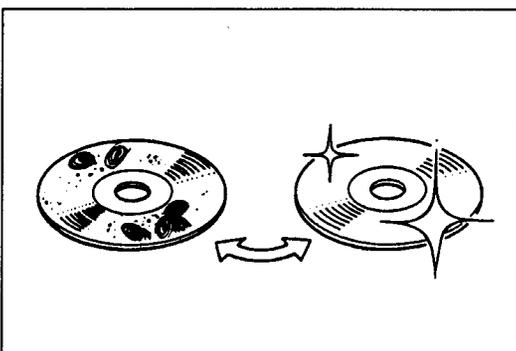
1. Check the CD player for proper installation.
2. If the player is not installed properly, reinstall it.
3. If OK, replace the CD player.

Symptom	Poor sound quality when compact disc is played
----------------	--

Possible cause

- Damaged compact disc
- Damaged CD player
- Damaged CD changer
- Damaged speaker system

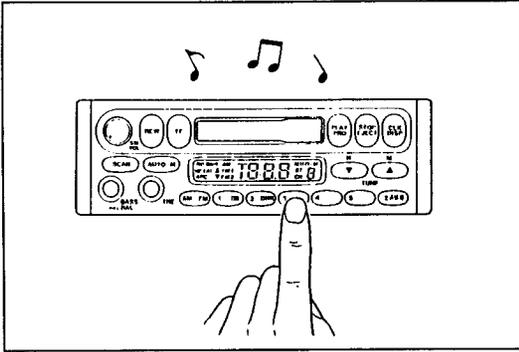
47UJ1X-629



47UJ1X-630

Step 1

1. Use a good compact disc and check the CD sound quality.
2. If the CD sounds good, the old compact disc is damaged.
3. If the CD sounds poor, go to Step 2.



47UJ1X-631

Step 2

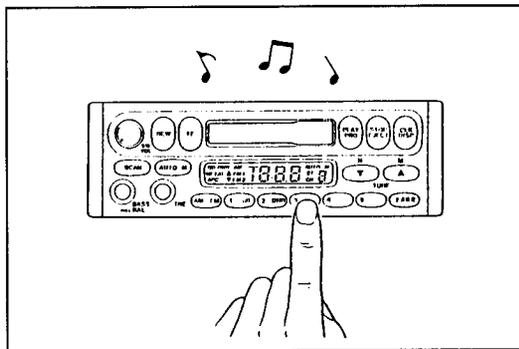
1. Check the sound quality of the radio or cassette tape.
2. If the sound is good, the CD player is damaged.
3. If the sound quality is poor, the speaker system may be damaged.

Symptom	Compact disc will not play
----------------	----------------------------

Possible cause

- Damaged compact disc
- Optical lens may be fogged
- Damaged audio unit
- Damaged CD player
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-632

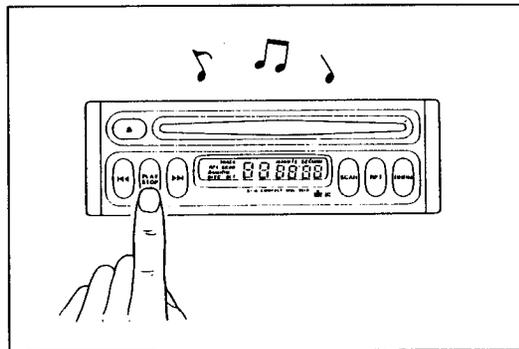


47UJ1X-633

Step 1

Check the radio operation.

Radio	Action
Operates	Go to Step 2
Does not operate	Refer to page J1-54

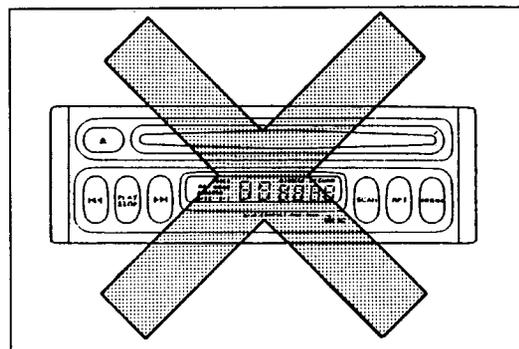


47UJ1X-634

Step 2

Check the operation of a known good compact disc.

CD	Action
Operates	Previous compact disc defective
Does not operate	Go to Step 3



47UJ1X-635

Step 2

1. The optical lens may be fogged. Wait for one hour after the power is turned on.
2. Press the PLAY button.
3. If the system operates, it is normal.
4. If the system still does not operate properly, the CD player may be damaged.

Symptom	Cassette tape playback not possible, tape does not unload, or reverse function works unintentionally
----------------	--

Problem	Possible cause	Action
Tape playback not possible (eject function works normally)	Tape is cut	Use good tape
	Tape is loosely wound *1	Eliminate sag in tape by using pencil
	Tape is stretched *1	Use good tape
Tape does not unload	<ul style="list-style-type: none"> • Cassette label has peeled off, keeping cassette caught in system • Tape is tangled in system • Cassette deck is damaged 	Do not insert screwdriver into tape slot
Reverse function works unintentionally	Tape is roughly wound	Fast forward or rewind tape to wind it uniformly and firmly

47UJ1X-636

Note

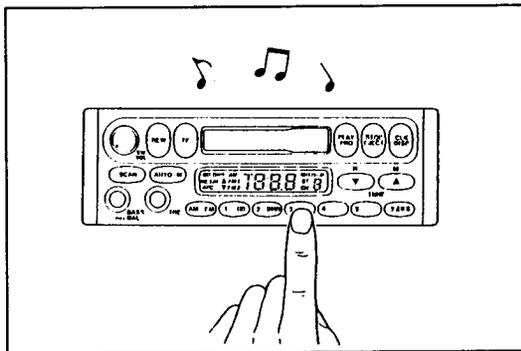
*1: Loosely wound or stretched tape can become tangled in the cassette deck and make unloading impossible.

Symptom	Compact disc cannot be loaded
----------------	-------------------------------

Possible cause

- Warped compact disc
- Damaged CD player
- Damaged audio unit
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ1X-637

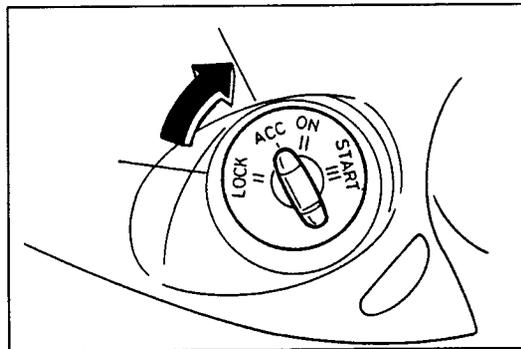


47UJ1X-638

Step 1

Check the radio operation.

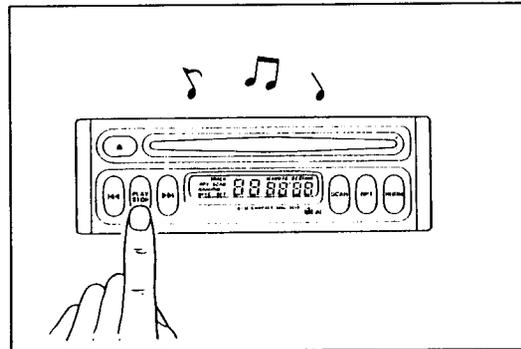
Radio	Action
Operates	Go to Step 2
Does not operate	Refer to page J1-43



47UJ1X-639

Step 2

1. Turn the ignition switch to LOCK and then turn it to ACC.
2. Load the compact disc again.
3. If the compact disc can be loaded, it is normal.
4. If not, go to Step 3.



47UJ1X-640

Step 3

1. Check the operation with a known good compact disc.
2. If OK, the previous compact disc is defective.
3. If not, replace the CD player.

Symptom	Compact disc cannot be unloaded
----------------	---------------------------------

Possible cause

- Damaged CD player
- Open or short circuit in wiring harness
- Poor connection of connector

Remedy

Check the CD player.

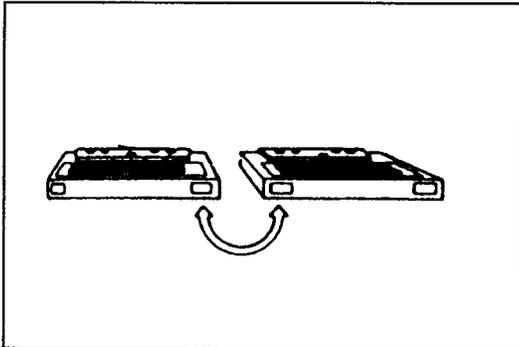
47UJ1X-641

Symptom	Tape does not load
----------------	--------------------

Possible cause

- Damaged cassette tape
- Damaged audio unit
- Damaged power antenna
- Open or short circuit wiring harness
- Poor connection of connector

47UJ1X-642

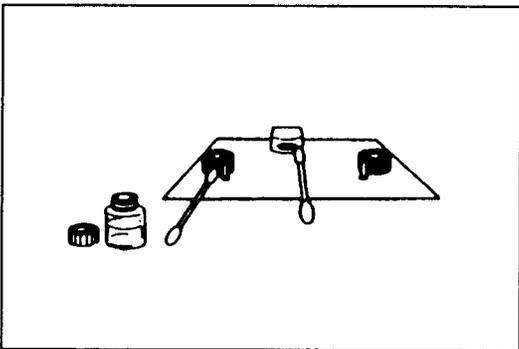


47UJ1X-643

Step 1

Replace the cassette tape with a known good one and check the tape operation.

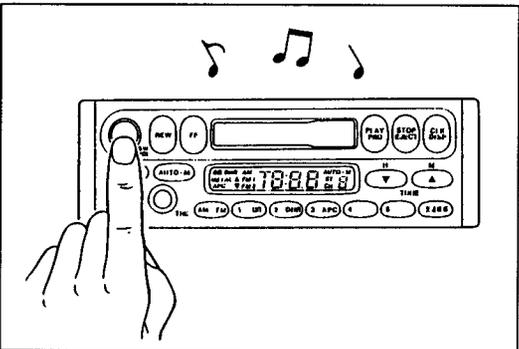
Tape	Action
Does not load	Go to Step 2
Loads	Replace old tape



47UJ1X-644

Step 2

1. Clean the heads and pinchroller by using a cassette tape player cleaning kit (commercially available).
2. Check the tape operation.
3. If the tape still does not play, go to Step 3.



47UJ1X-645

Step 3

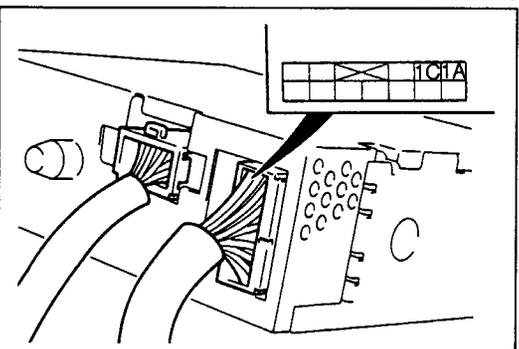
Check the radio operation.

Radio	Action
Operates	Replace audio unit (Refer to page J1-56)
Does not operate	Go to Step 4

Step 4

1. Remove the audio unit (Refer to page J1-56.)
2. Turn the ignition switch to ACC.
3. Measure the voltage at the audio unit connector (12-pin) and the ground wire.

B+: Battery positive voltage



47UJ1X-646

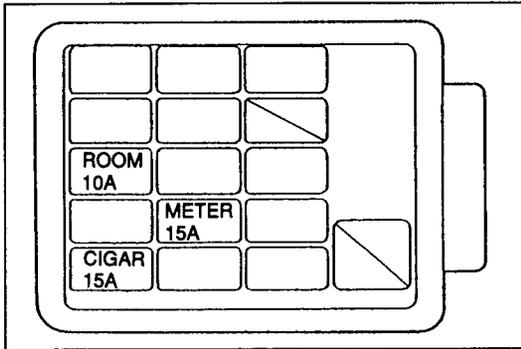
Terminals	Voltage	Action
1A (L/B)	B+	Check terminal 1C (L/R)
	Other	Repair wiring harness (CIGAR 15A fuse—Audio unit)
1C (L/R)	B+	Check GND wire
	Other	Repair wiring harness (ROOM 10A fuse—Audio unit)
GND	0V	Replace audio unit (Refer to page J1-56)
	Other	Repair GND wire

Symptom	Power antenna does not raise or lower
----------------	---------------------------------------

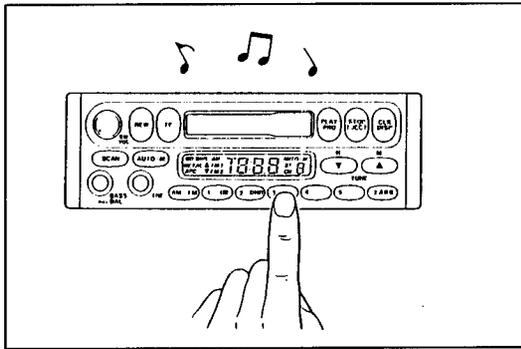
Possible cause

- Burnt METER 15A, CIGAR 15A, or ROOM 10A fuse
- Damaged audio unit
- Damaged power antenna
- Open or short circuit in wiring harness
- Poor connection of connector

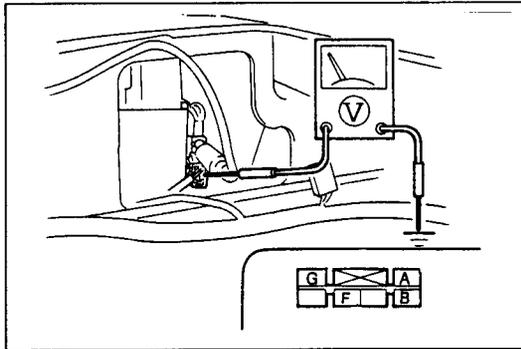
47UJ1X-647



47UJ1X-648



47UJ1X-649



47UJ1X-650

Step 1

Check the METER 15A fuse, CIGAR 15A fuse and ROOM 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Check the radio operation.
2. If OK, go to Step 3.
3. If it does not operate, replace the audio unit.
(Refer to page J1-56.)

Step 3

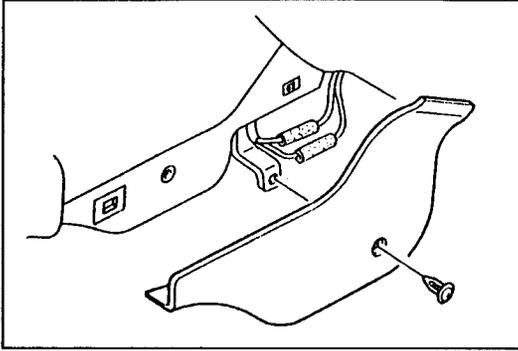
1. Turn the ignition switch to ACC.
2. Turn on the audio system power.
3. Measure the voltage at the power antenna connector (6-pin).

B+: Battery positive voltage

Terminals	Voltage	Action
Terminal B (L/R)	B+	Measure voltage at terminal F
	Other	Repair wiring harness (ROOM 10A fuse—Power antenna)
Terminal F (B/Y)	B+	Measure voltage at terminal G
	Other	Repair wiring harness (METER 15A fuse—Power antenna)
Terminal G (L/B)	B+	Measure voltage at terminal A
	Other	Repair wiring harness (CIGAR 15A fuse—Power antenna)
Terminal A (G/O)	B+	Replace power antenna or repair body ground
	Other	Repair wiring harness (Audio unit—Power antenna)

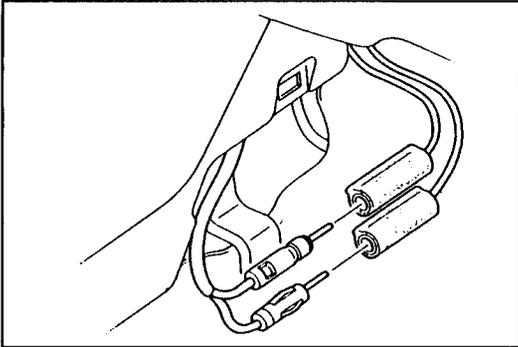
AUDIO UNIT Removal

1. Remove the right side wall.



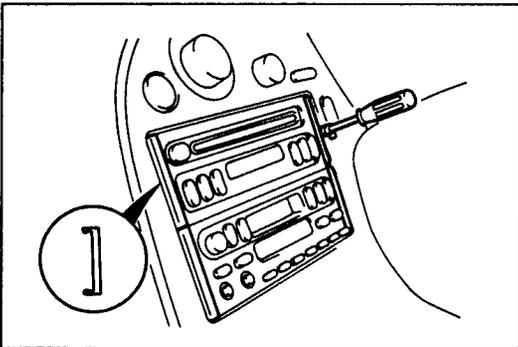
47UJ1X-651

2. Disconnect the two antenna jacks.



47UJ1X-652

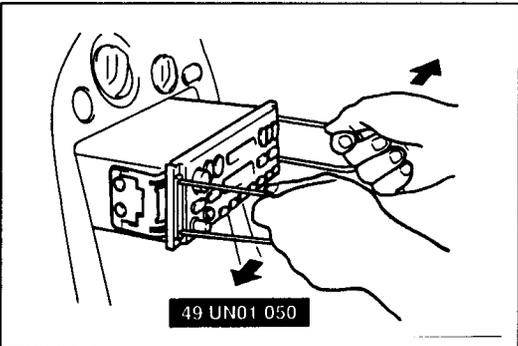
3. Remove the audio unit service hole covers by using a tape-wrapped screwdriver. Save the service hole covers for installation.



47UJ1X-653

4. While expanding the **SST** outward, pull the audio unit out of the center console. Remove the audio unit carefully to avoid damaging the wiring harness.

5. Disconnect the connectors and remove the audio unit.



47UJ1X-654

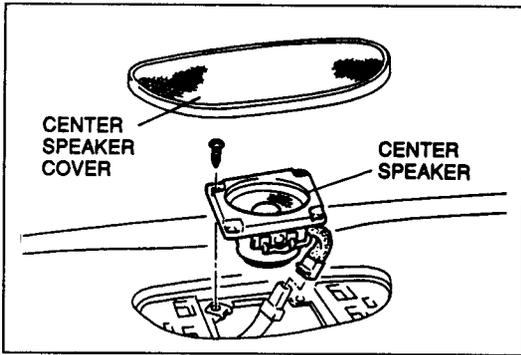
Installation

1. Install the audio unit service hole covers.

2. Connect the audio unit connectors and insert the audio unit. Do not trap the wiring harnesses.

3. Connect the antenna jacks and install the side wall.

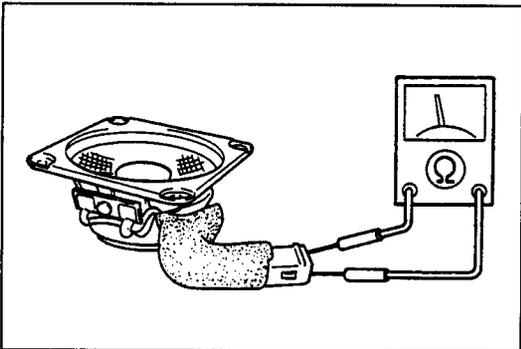
47UJ1X-655



37U0T1-848

**CENTER SPEAKER
Removal / Installation**

1. Remove the center speaker cover.
2. Remove the screws and the center speaker.
3. Install in the reverse order of removal.



47UJ1X-656

Inspection

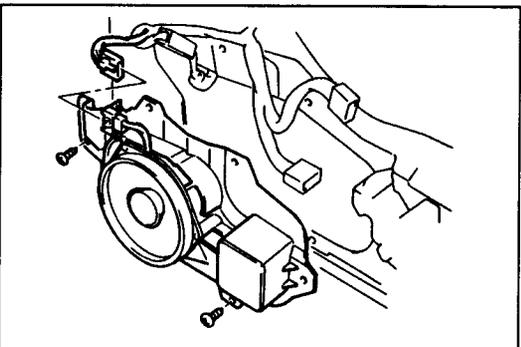
1. Measure the resistance between the speaker terminals.

**Resistance: 4Ω (type 1)
8Ω (type 2)**

2. Touch the ohmmeter leads to the speaker terminals several times and verify that the speaker clicks.

Range: ×1Ω

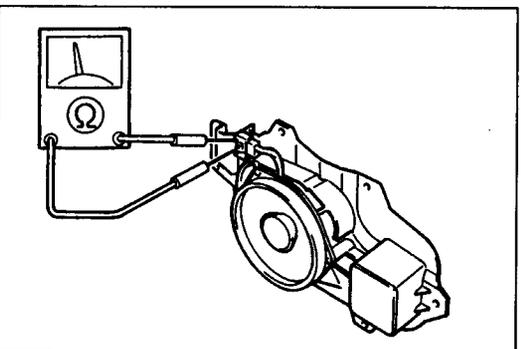
3. If not as specified, replace the center speaker.



47UJ1X-657

**DOOR SPEAKER (TYPE 1)
Removal / Installation**

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the screws and the door speaker.
3. Install in the reverse order of removal.



47UJ1X-658

Inspection

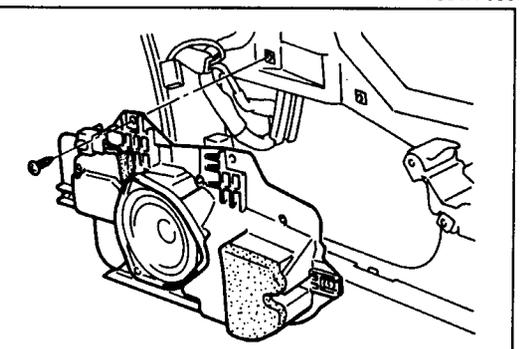
1. Measure the resistance between the speaker terminals.

Resistance: 4Ω

2. Touch the ohmmeter leads to the speaker terminals several times and verify that the speaker clicks.

Range: ×1Ω

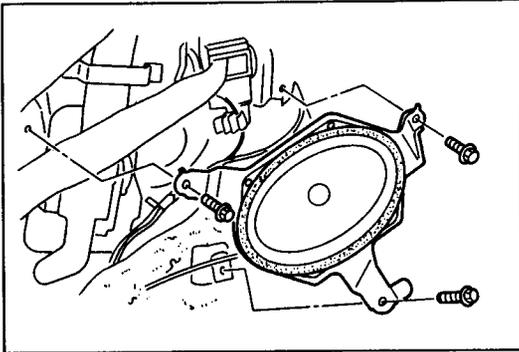
3. If not as specified, replace the speaker.



47UJ1X-659

**DOOR SPEAKER/AMP MODULE (TYPE 2)
Removal / Installation**

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the screws and the door speaker/amp module.
3. Install in the reverse of removal.

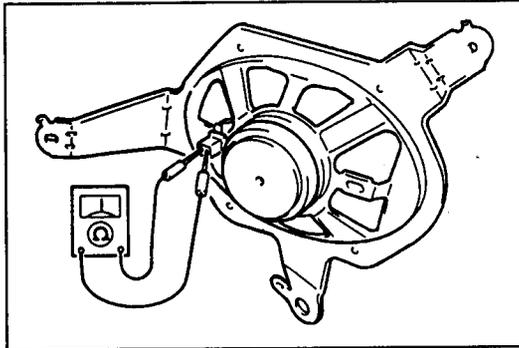


47UJ1X-660

REAR SPEAKER

Removal / Installation

1. Remove the B-pillar trim and the quarter trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the screws and the rear speaker.
3. Install in the reverse order of removal.



47UJ1X-661

Inspection

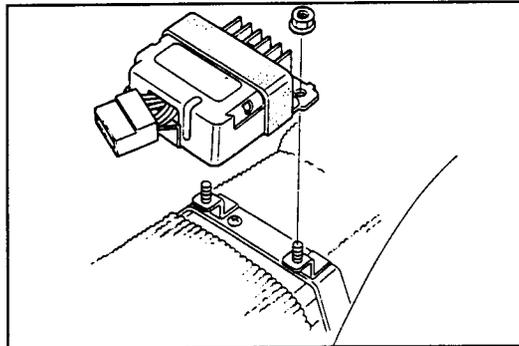
1. Measure the resistance between the speaker terminals.

Resistance: $\times 4\Omega$

2. Touch the ohmmeter leads to the speaker terminals several times and verify that the speaker clicks.

Range: $\times 1\Omega$

3. If not as specified, replace the rear speaker.



47UJ1X-662

CENTER SPEAKER AMPLIFIER

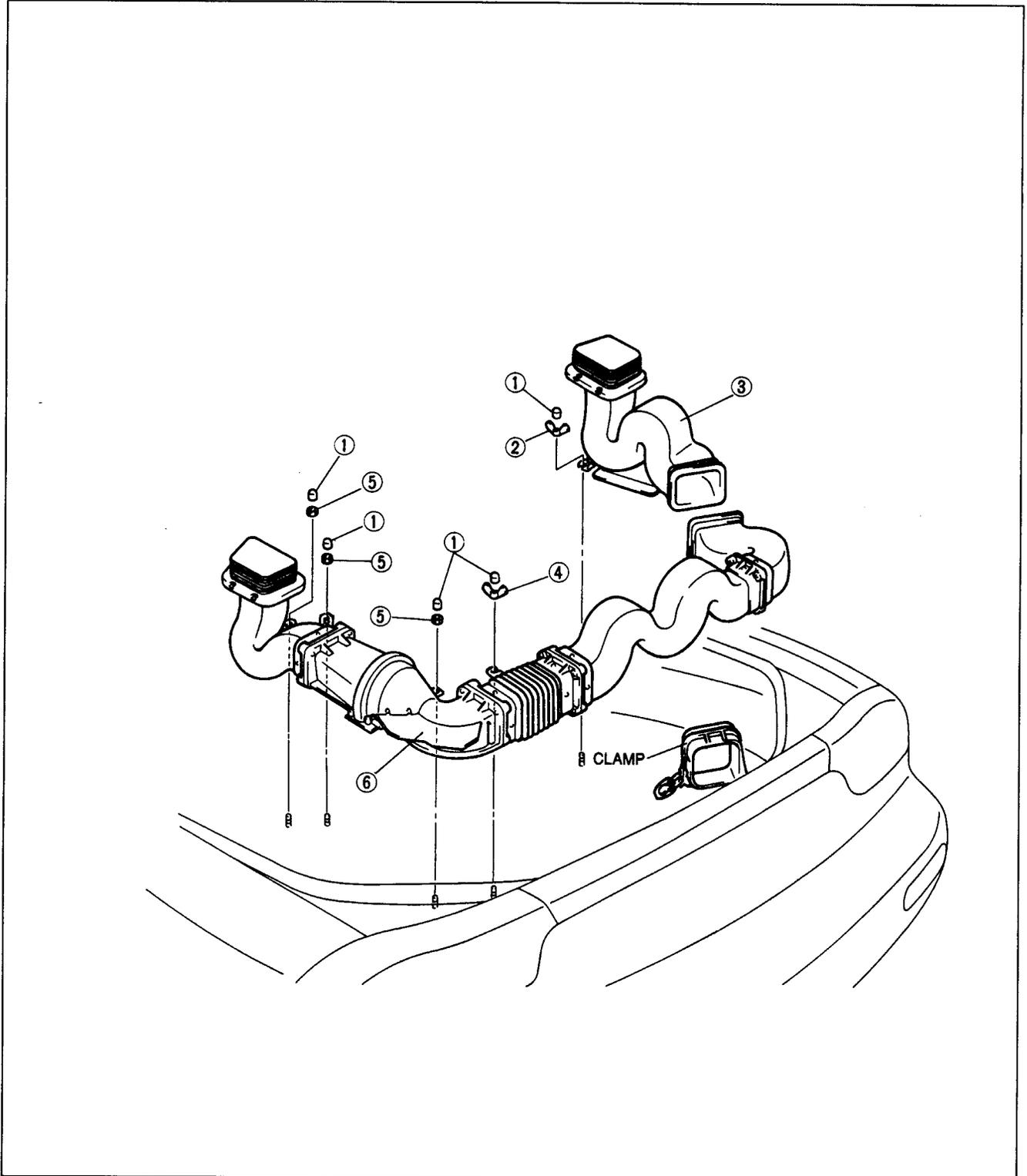
Removal / Installation

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Lift the rear console and disconnect the center speaker amplifier connector.
3. Remove the mounting bolts and center speaker amplifier.
4. Install in the reverse order of removal.

ACOUSTIC WAVE® GUIDE ASSEMBLY

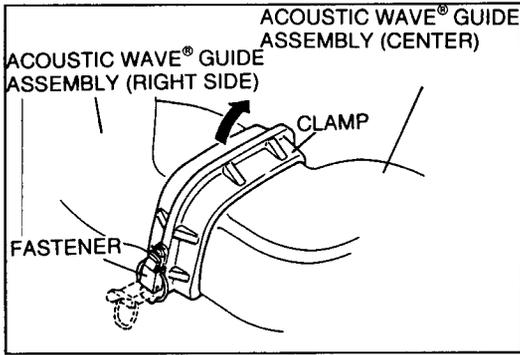
Removal / Installation

1. Remove in the order shown in the figure, referring to **Removal note**.
2. Install in the reverse order of removal, referring to **Installation note**.

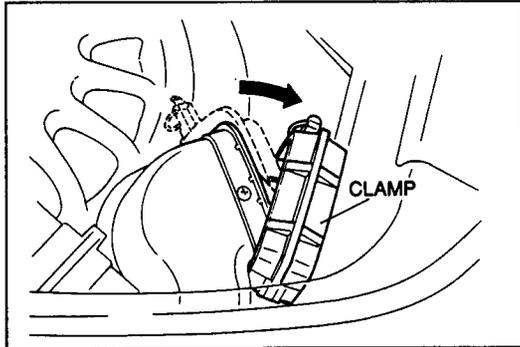


47UJ1X-663

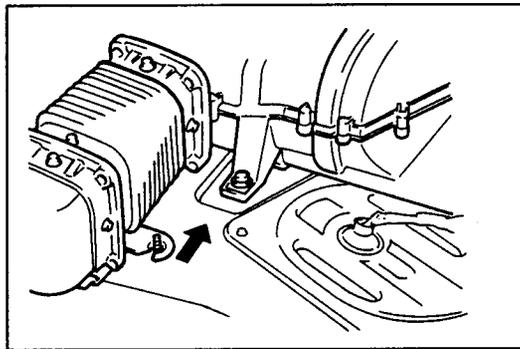
- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Cap 2. Wing nut 3. Acoustic wave® guide assembly (right side)
Removal note page J1-60
Installation note page J1-60 | <ol style="list-style-type: none"> 4. Wing nut 5. Nut 6. Acoustic wave® guide assembly (center) |
|---|--|



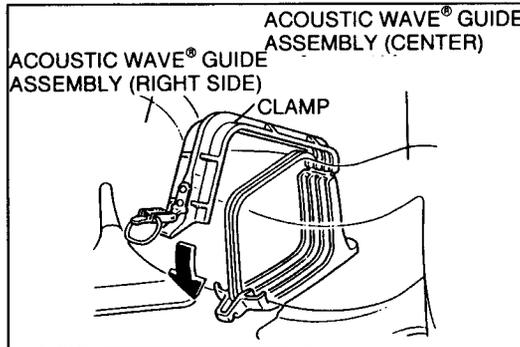
47UJ1X-664



47UJ1X-665



47UJ1X-666



47UJ1X-667

Removal note

1. Remove the clamp fastener and raise the clamp.
2. Remove the wing nut and the right side guide assembly carefully.
If the sealing sponge in the right side Acoustic wave® guide assembly becomes if damaged, the sound quality will be poor.

3. Rotate the clamp from the center Acoustic wave® guide assembly clockwise to remove it.

4. Remove the wing nut and nuts mounting the other parts of the center Acoustic wave® guide assembly.
5. Disconnect the connector.
6. Slide the center Acoustic wave® guide assembly to the left and remove it from the vehicle.

Installation note

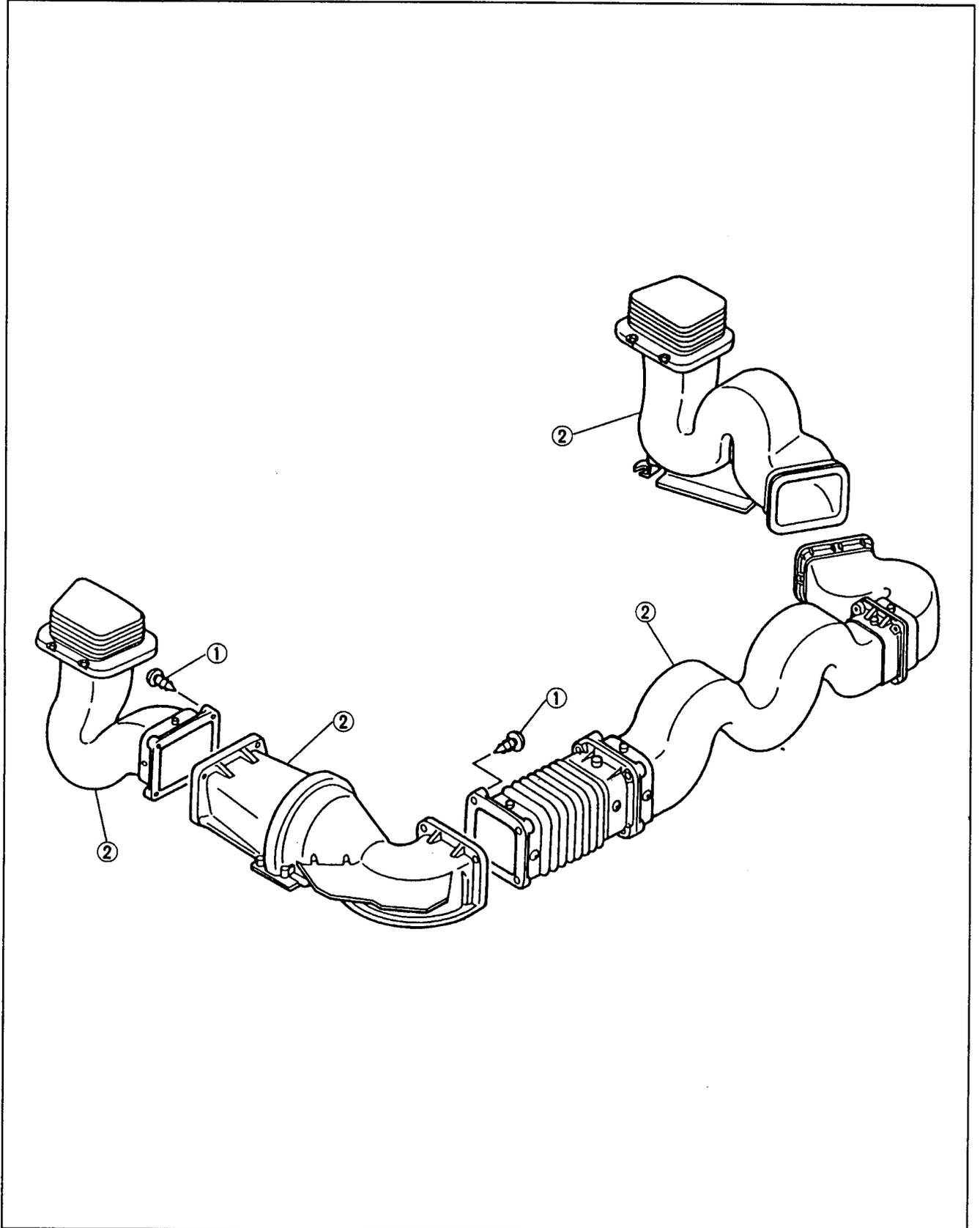
Caution

- If the guides are fitted in the opposite order, the seal packing on the center Acoustic wave® guide assembly could be damaged. This will affect the performance of the Acoustic wave® guide assembly. Fit the guides in the proper order.

1. Fit the center Acoustic wave® guide assembly into the groove of the clamp and then fit the right side Acoustic wave® guide assembly.
2. Close the clamp and fasten it with the fastener.

Disassembly / Assembly

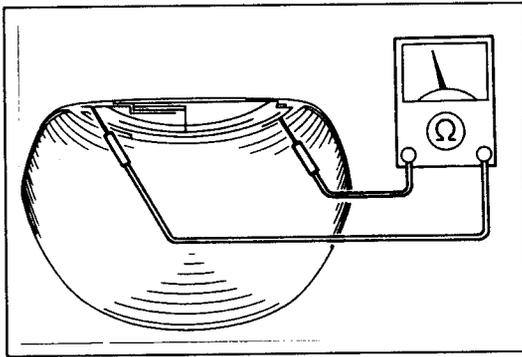
1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of disassembly.



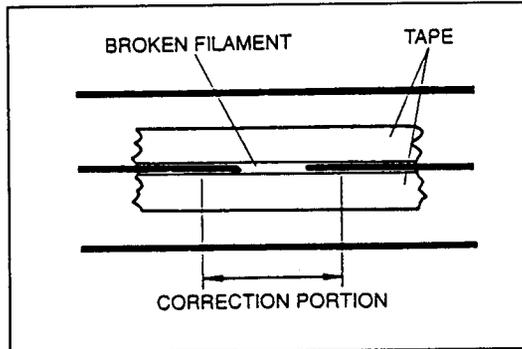
1. Screw

2. Acoustic wave[®] guide assembly

47UJ1X-668



47UJ1X-669



47UJ1X-670

GLASS ANTENNA

Inspection

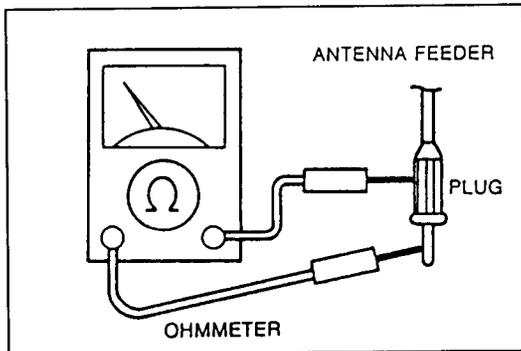
1. Check for continuity of the glass antenna filament as shown in the figure.
2. If there is no continuity, repair the glass antenna filament.

Repair

Caution

- Use only paint thinner or ethyl alcohol for cleaning. Other solvents can damage the surrounding filament.

1. Use paint thinner or ethyl alcohol to clean around the damaged section of the filament.
2. Attach tape above and below the damaged section of the filament.
3. Using a small brush or marking pen, repair the filament with silver paint (part no. 2835 77 600) or equivalent.
4. Use a blow dryer heated to 150°C {302°F} for 30 minutes or let the paint set for 24 hours at 25°C {77°F} to allow it to dry completely. Do not use the defroster until the paint is dry.



47UJ1X-671

ANTENNA FEEDER

Inspection

1. Remove the right side wall.
2. Disconnect the antenna jack.
3. Verify that there is no continuity (infinite ohms) between the outer plug and inner plug of antenna jack.
4. If there is continuity, replace the antenna feeder.

RADIO RELAY (TYPE 2)

Inspection

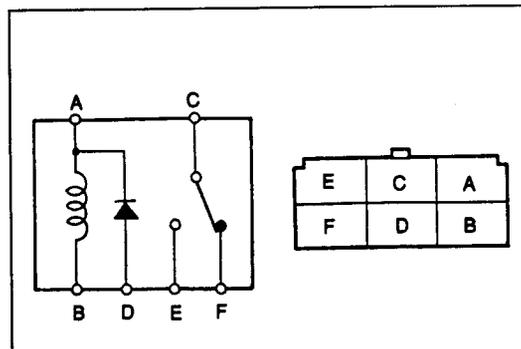
1. Remove the radio relay. (Refer to section Z2.)
2. Check for continuity between the terminals of the radio relay.

B+: Battery positive voltage

Connection		A	B	C	D	E	F
B+	GND						
—	—	○—○		○—○			○—○
A	B			○—○		○—○	

○—○ : Continuity

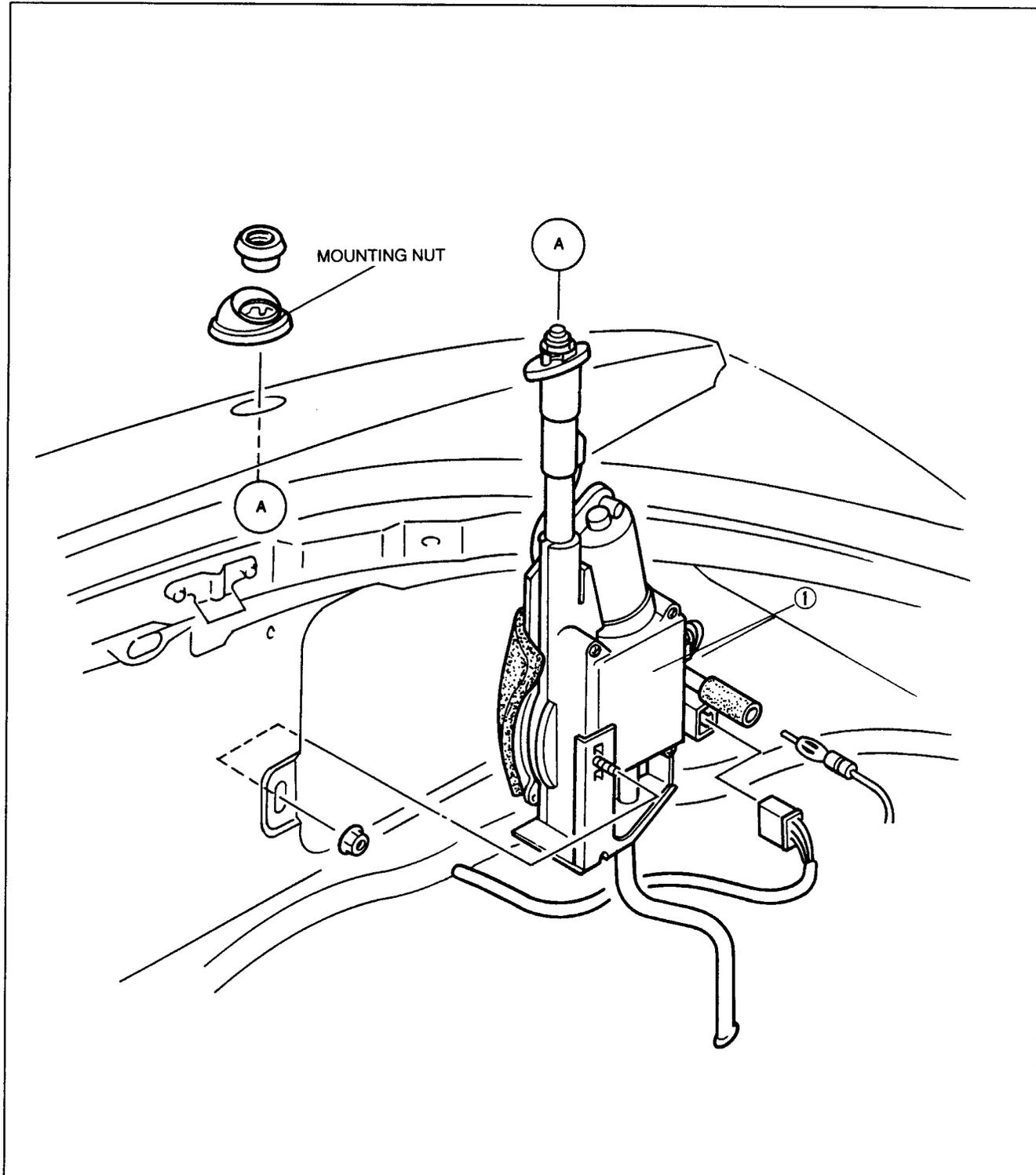
3. If not as specified, replace the radio relay.



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**POWER ANTENNA
Removal / Installation**

1. Remove the Acoustic wave® guide assembly if installed. (Refer to page J1-59.)
2. Remove the trunk side trim and disconnect the power antenna connector and the antenna feeder.
3. Use snap-ring pliers to remove the mounting nut. (Refer to page J1-65.)
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.

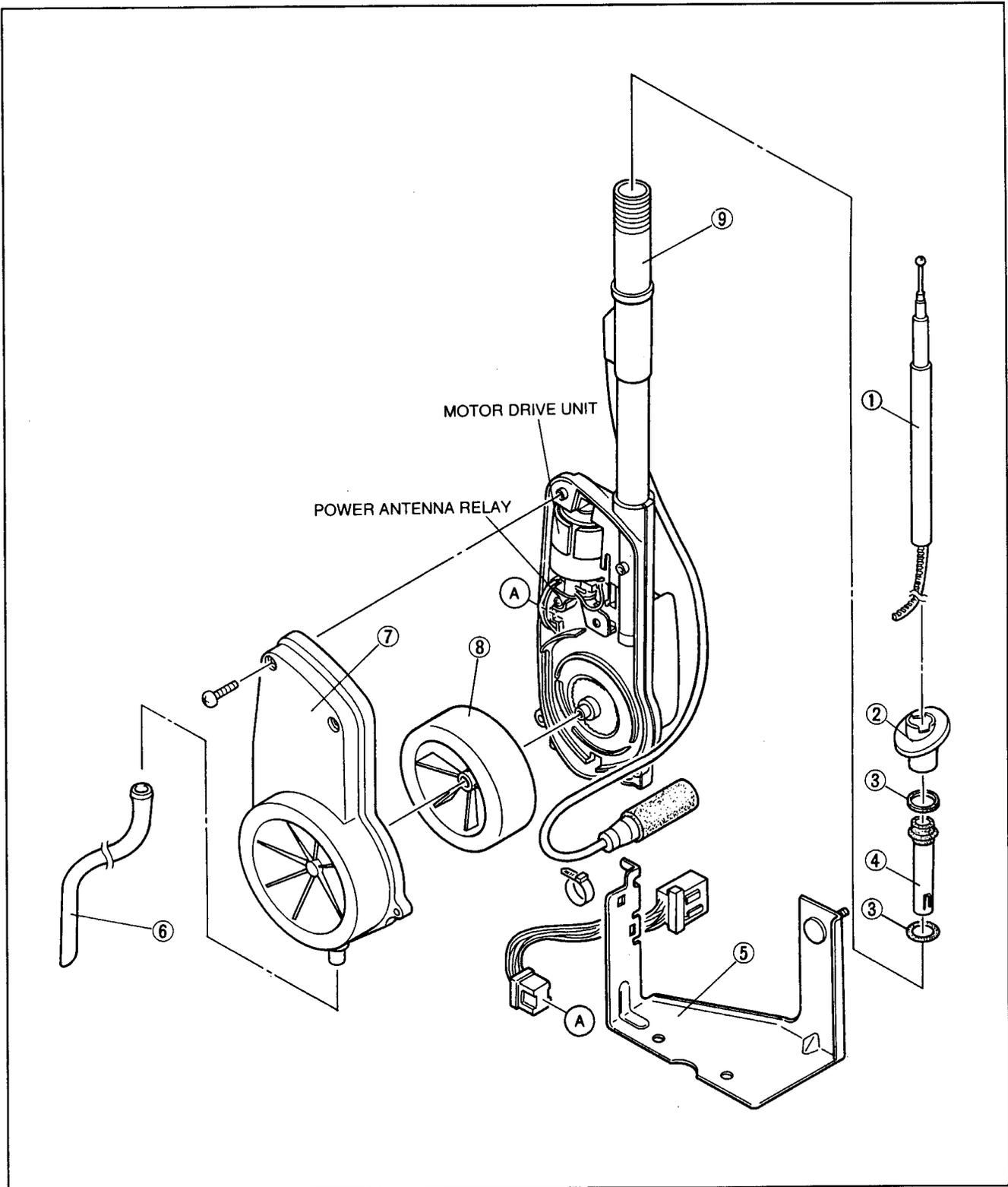


47UJ1X-673

1. Power antenna
 Disassembly / Assembly page J1-64
 Inspection..... page J1-65

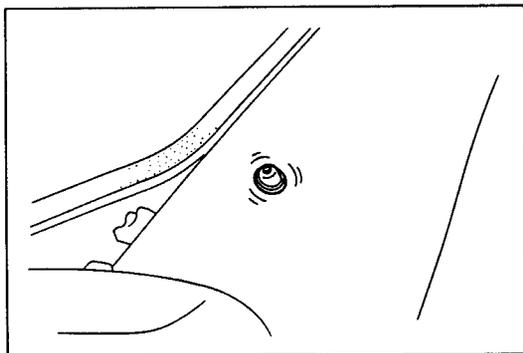
Disassembly / Assembly

1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of disassembly.

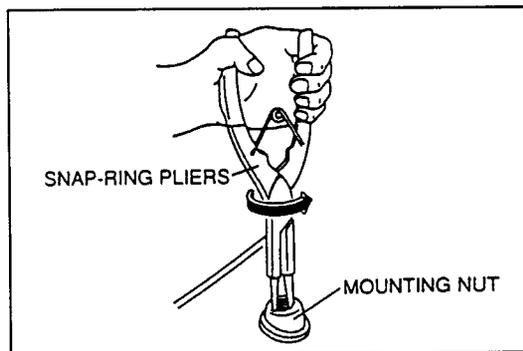


47UJ1X-674

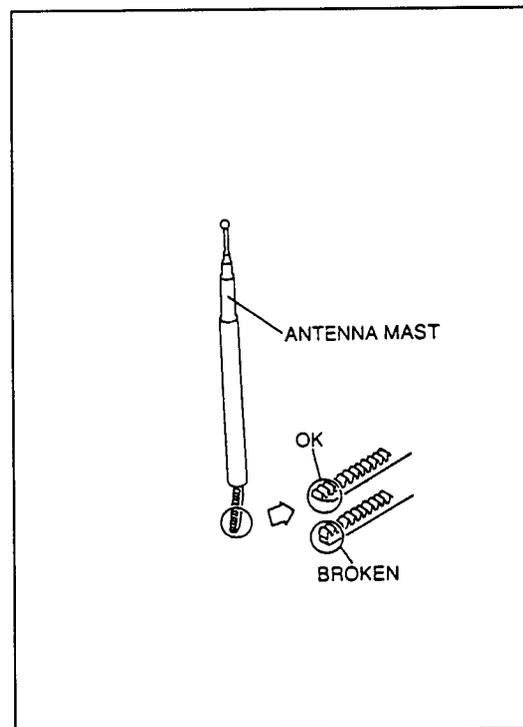
- | | |
|------------------|--------------------------|
| 1. Antenna mast | 6. Drain hose |
| 2. Ground plate | 7. Drive mechanism cover |
| 3. O-ring | 8. Drive mechanism |
| 4. Rod insulator | 9. Power antenna |
| 5. Bracket | |



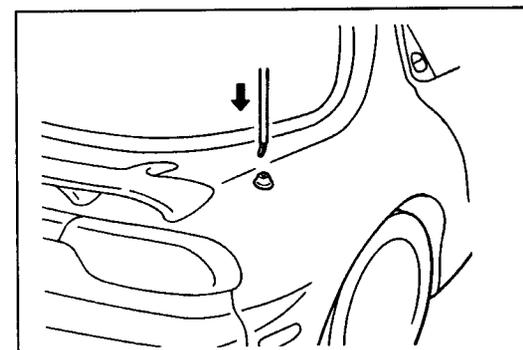
47UJ1X-675



47UJ1X-676



47UJ1X-677



47UJ1X-678

Inspection

1. Check the power antenna operation.

Terminal	Condition							
A	Radio SW	OFF	OFF	OFF	ON	ON	ON	ON
B	+B	ON	ON	ON	ON	ON	ON	ON
C	ACC	OFF	OFF	ON	OFF	ON	ON	OFF
D	IG 1	OFF	ON	ON	OFF	OFF	ON	ON
	Power antenna operation	DOWN	DOWN	DOWN	DOWN	UP	UP	STOP

2. If not as specified, replace the power antenna.
(Refer to page J1-63.)

ANTENNA MAST

Removal / Inspection / Installation

1. Use snap-ring pliers to remove the mounting nut.

2. With the ignition switch at ACC or ON, turn on the radio and pull out the antenna mast. Do not disassemble the antenna mast.

3. Check the end of the plastic rack for damage. If it is kinked or broken, replace the antenna mast.

4. With the ignition switch at ACC or ON and the radio on, feed the rack of the new mast into the motor with the toothed side facing the front of the vehicle.

5. Turn the radio switch off. While the motor is retracting the rack, feed the mast into the motor.

6. Reinstall the mounting nut.

7. With the ignition switch at ACC or ON, turn the radio on and off a few times and verify that the antenna operates smoothly.

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

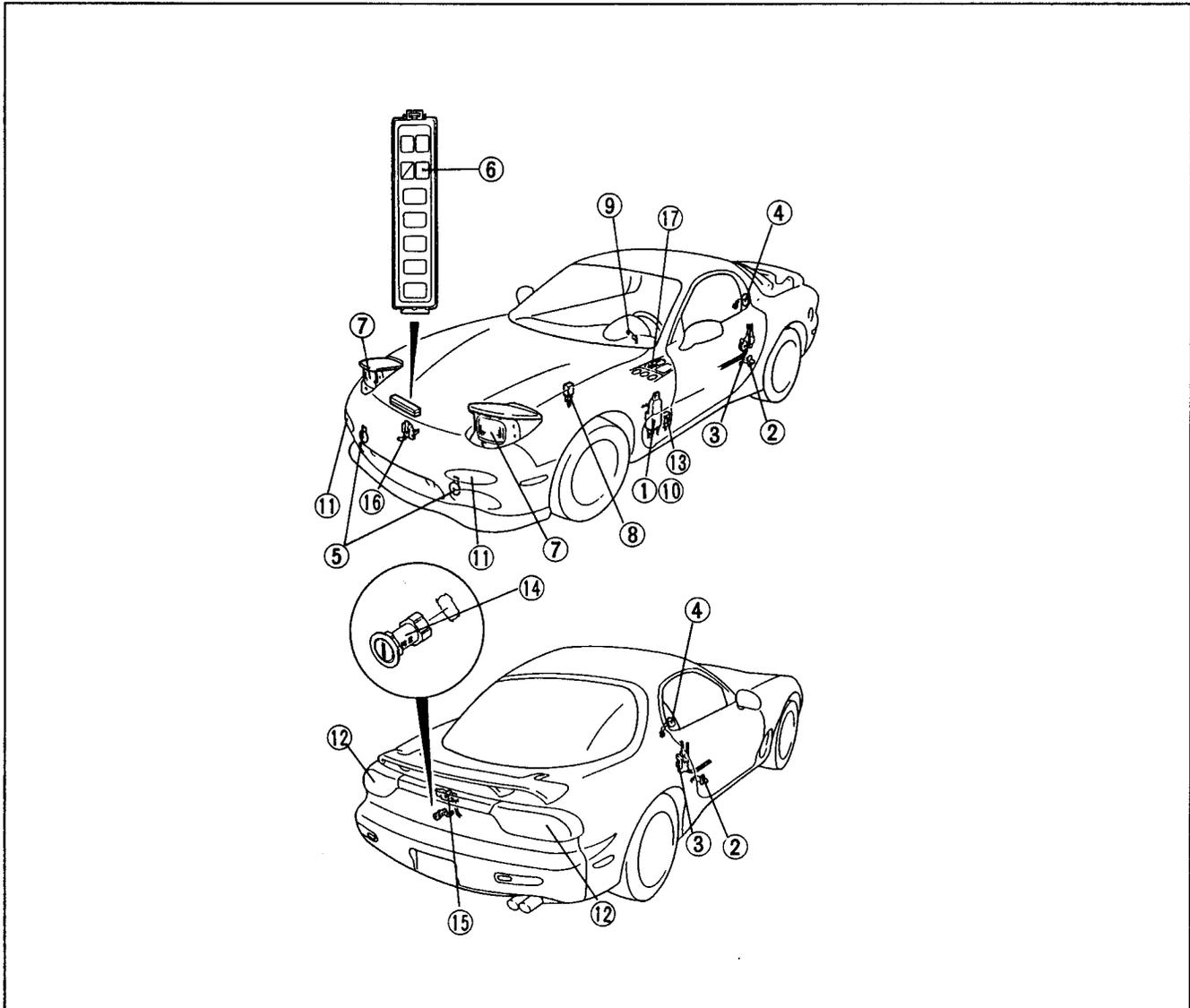
THEFT-DETERRENT SYSTEM

STRUCTURAL VIEW.....	J2- 2
SYSTEM DESCRIPTION.....	J2- 3
TROUBLESHOOTING.....	J2- 7
CPU No.2.....	J2-20
DOOR SWITCH.....	J2-22
DOOR LOCK SWITCH.....	J2-22
DOOR KEY CYLINDER SWITCH.....	J2-22
HORN RELAY.....	J2-22
HEADLIGHT RELAY.....	J2-23
KEY REMINDER SWITCH.....	J2-23
STARTER CUT RELAY.....	J2-23
REAR HATCH KEY CYLINDER SWITCH.....	J2-23
CARGO COMPARTMENT LIGHT SWITCH.....	J2-24
HOOD SWITCH.....	J2-24

47UJ2X-501

THEFT-DETERRENT SYSTEM

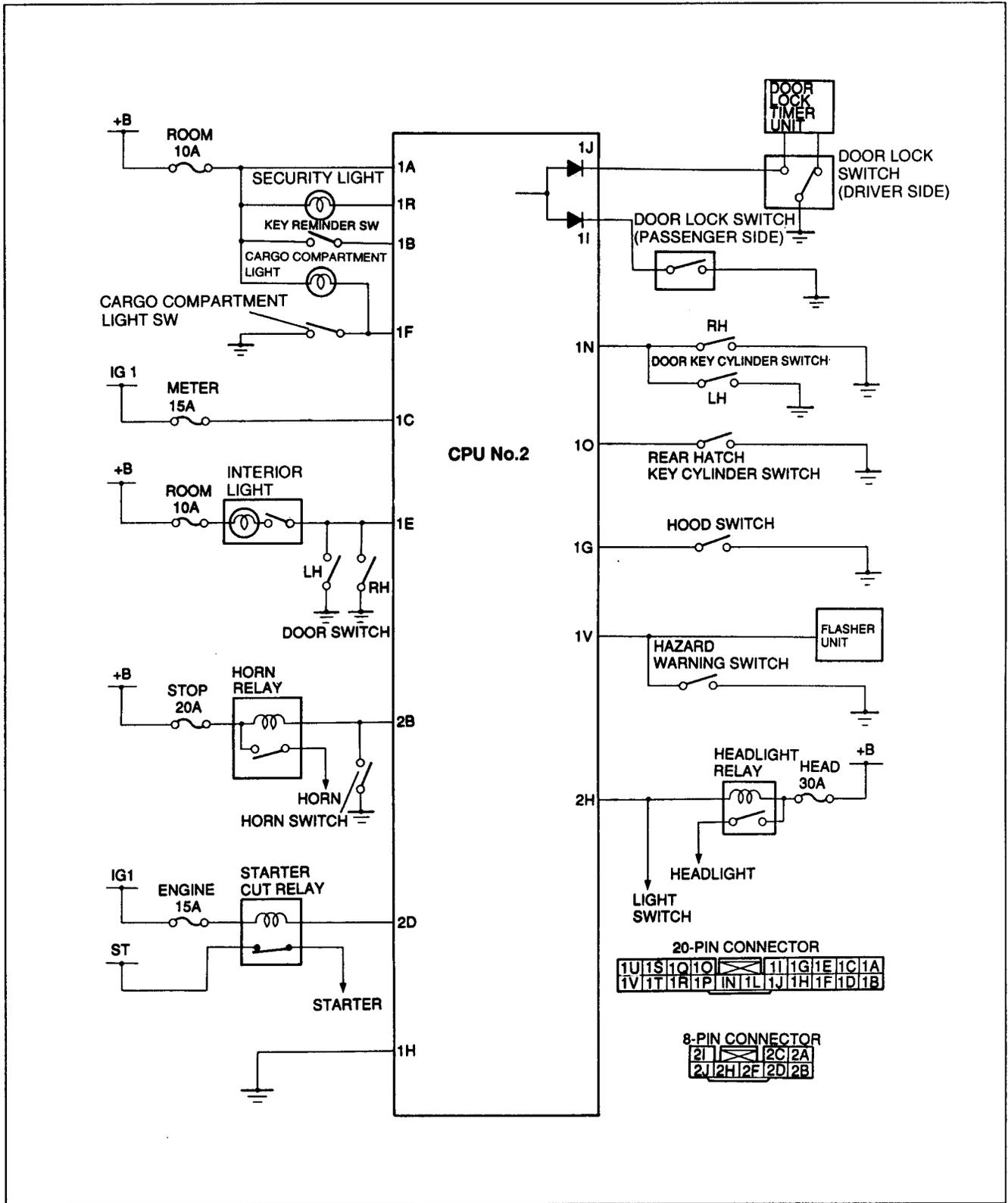
STRUCTURAL VIEW



47UJ2X-502

- | | |
|---|--|
| 1. CPU No.2
Terminal voltage..... page J2-20 | 10. Flasher unit (in CPU No.2)
Terminal voltage..... page J2-20 |
| 2. Door switch
Inspection..... page J2-22 | 11. Front combination light
Removal / Inspection /
Installation..... section E |
| 3. Door lock switch
Inspection..... page J2-22 | 12. Rear combination light
Removal / Inspection /
Installation..... section E |
| 4. Door key cylinder switch
Inspection..... page J2-22 | 13. Starter cut relay
Inspection..... page J2-23 |
| 5. Horn
Removal / Installation..... section F2 | 14. Rear hatch key cylinder switch
Inspection..... page J2-23 |
| 6. Horn relay
Inspection..... page J2-22 | 15. Cargo compartment light switch
Removal / Installation..... page J2-24
Inspection..... page J2-24 |
| 7. Retractable headlight
Removal / Inspection /
Installation..... section E | 16. Hood switch
Inspection..... page J2-24 |
| 8. Headlight relay
Inspection..... page J2-23 | 17. Security light
Bulb replacement..... section C2 |
| 9. Key reminder switch
Inspection..... page J2-23 | |

SYSTEM DESCRIPTION
System Diagram



J2

47UJ2X-503

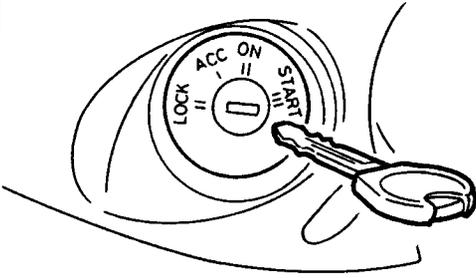
Outline

The theft-deterrent system sounds the horn and flashes the headlights and hazard warning lights when the hood, the rear hatch, or either door is opened by means other than the key. When the ignition key is inserted into the rear hatch key cylinder or either door key cylinder and is turned to UNLOCK, the alarms stop.

System Operation

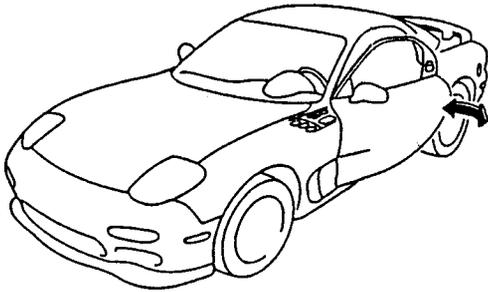
INITIAL PHASE

REMOVE THE KEY.



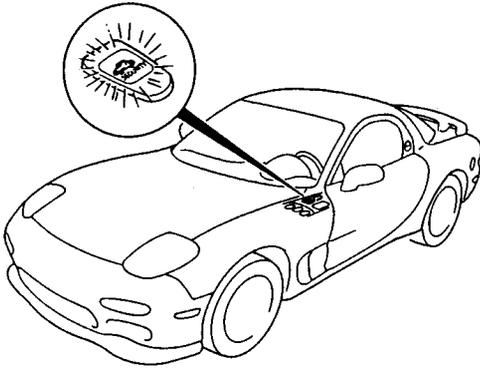
PRE-ARMING PHASE 1

OPEN EITHER DOOR WHILE THE HOOD AND REAR HATCH ARE CLOSED.



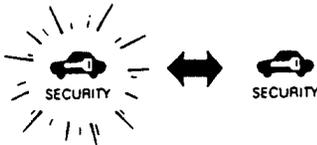
PRE-ARMING PHASE 2

CLOSE AND LOCK ALL DOORS. AFTER THE SECURITY LIGHT STAYS LIT FOR TEN SECONDS, THE SYSTEM PROCEEDS TO ARMING PHASE 1.

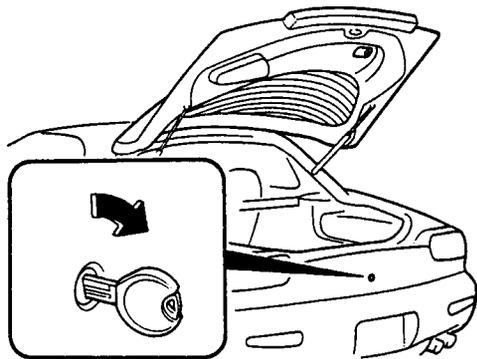


ARMING PHASE 1

THE SECURITY LIGHT FLASHES EVERY THREE SECONDS, AND THE SYSTEM IS ARMED.

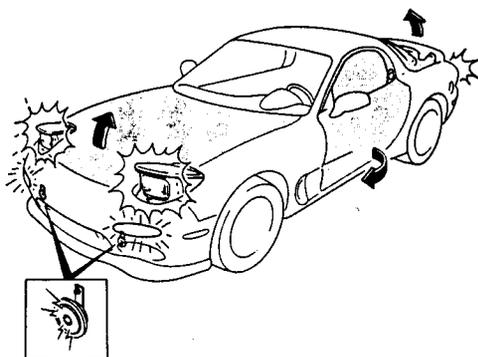


ARMING PHASE 2



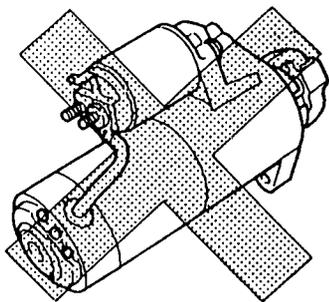
THE REAR HATCH MAY BE OPENED BY USING THE KEY DURING ARMING PHASE 1. THE SECURITY LIGHT SHOULD KEEP FLASHING. THE PROCESS RETURNS TO ARMING PHASE 1 AFTER THE REAR HATCH IS CLOSED.

ALARM PHASE 1



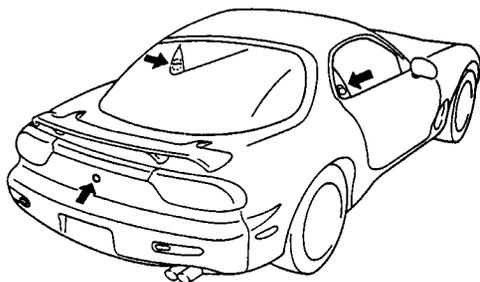
IF EITHER DOOR, THE HOOD, OR THE REAR HATCH IS OPENED WITHOUT A KEY OR THE IGNITION SWITCH IS FORCED ON, THE ALARM IS ACTIVATED. THE HORN SOUNDS INTERMITTENTLY AND THE RETRACTABLE HEADLIGHTS AND HAZARD WARNING LIGHTS FLASH FOR 3 MINUTES. THE STARTER DOES NOT WORK.

ALARM PHASE 2



THE ALARM WARNINGS STOP. THE STARTER DOES NOT WORK.

ALARM STOP PHASE



UNLOCK EITHER DOOR OR THE REAR HATCH WITH THE KEY.

J2

INPUT / OUTPUT

Phase	Input									Output	
	Timer period	Key reminder switch	IG switch	Door switch	Hood switch	Cargo compartment light switch	Door lock switch	Door key cylinder switch	Rear hatch key cylinder switch	Warning	Security light
Dead	—	ON (at least one is ON)		—	—	—	—	—	—	—	OFF
Initial	—	OFF	OFF	OFF	OFF	OFF	—	—	—	—	OFF
Pre-arming 1	—	OFF	OFF	ON (at least one is ON)			—	—	—	—	OFF
Pre-arming 2	10 sec	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	—	ON
Arming 1	—	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	—	Flashes
Arming 2	—	OFF	OFF	OFF	OFF	OFF	OFF	OFF	—	—	Flashes
Alarm 1	3 min	—	ON (at least one is ON)					OFF	OFF	Horn, headlights, & hazard warning lights activated; starter won't operate	OFF
Alarm 2	—	—	Alarm 1 condition					OFF	OFF	Starter won't operate	OFF

47UJ2X-506

Explanation of phases

Dead:

The condition before the key is removed from the ignition switch. (The ignition switch is at ON, ACC, or LOCK.)

The SECURITY light is off.

Initial:

The condition after the key has been removed from the ignition switch (doors, hood, and rear hatch closed).

The SECURITY light is off.

Pre-arming 1:

The condition in which the key is removed from the ignition switch and a door is open.

The SECURITY light is off.

Pre-arming 2:

The condition in which the hood, rear hatch, and both doors are closed and locked.

The SECURITY light is on for 10 seconds.

Arming 1:

The condition after the security light has been on for 10 seconds in the "Pre-arming 2" phase.

The SECURITY light flashes every 3 seconds. The alarm system is fully set.

Arming 2:

The condition in which the rear hatch may be opened by using the key while in the "Arming 1" phase.

The SECURITY light flashes.

Alarm 1:

The condition in which a door, the hood, or the rear hatch is opened without using the key or the ignition circuit is short-circuited. The horn sounds intermittently and the retractable headlights and the hazard warning lights flash for 3 minutes.

The starter cannot be operated unless the key is used.

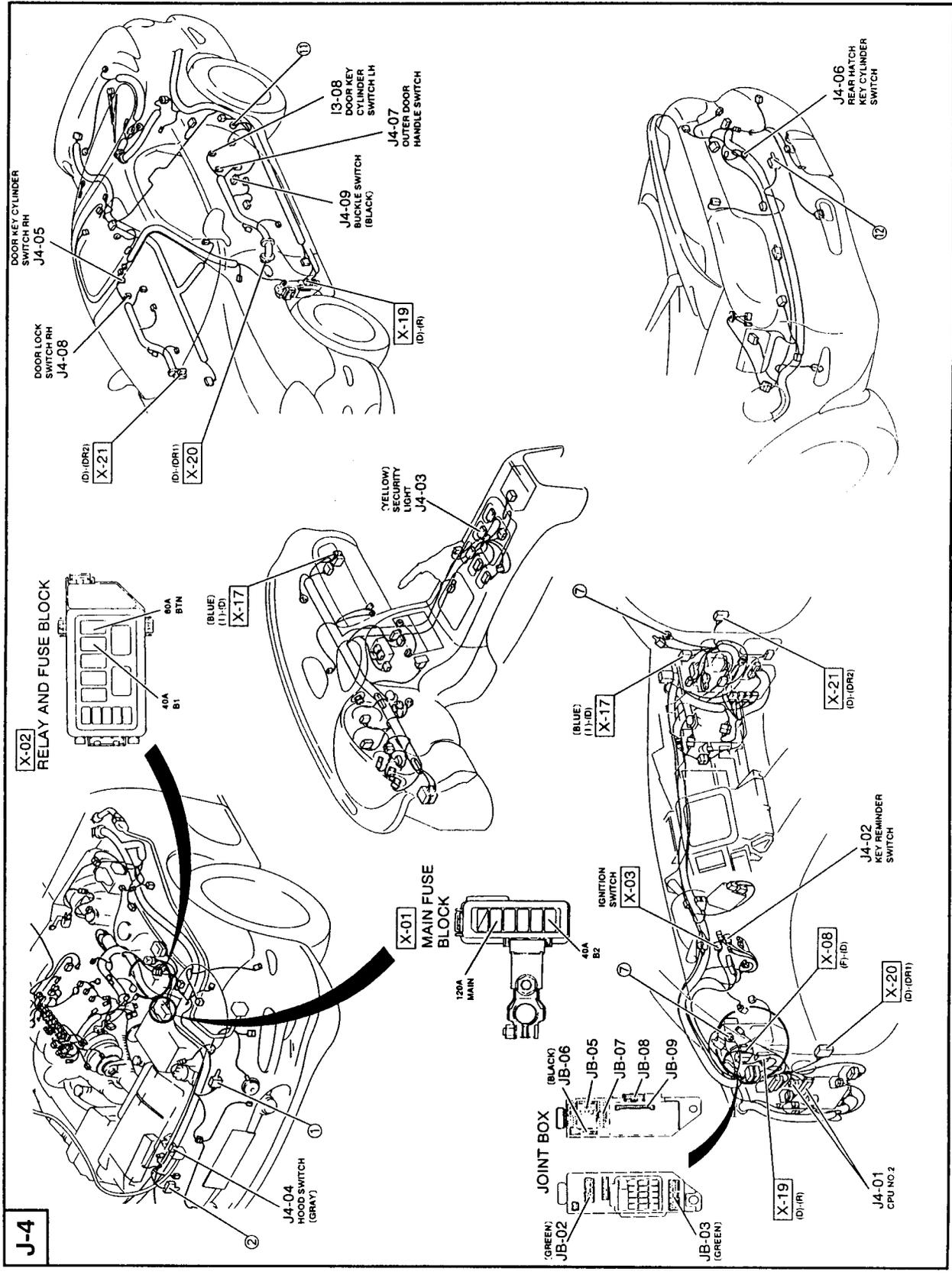
Alarm 2:

The condition, 3 minutes after alarm 1 is activated, in which the warning system horn and lights stops.

The starter cannot be operated unless the key is used.

47UJ2X-507

Connector Locations



Checklist

	Procedure / Proper operation	Symptom	Flowchart No.
1	1. Open any door window, close both doors, and pull out key. (Initial) 2. With hood and rear hatch closed, open any door, and verify that security light illuminates and buzzer sounds once. (Pre-arming 1)	Security light does not illuminate and buzzer does not sound	1
		Buzzer sounds but security light does not illuminate	2
		Security light illuminates but buzzer does not sound	3
2	1. Insert key and turn ignition switch to ON. 2. Verify that security light goes out. (Cancel)	Security light does not go out	4
3	1. Do step 1 above. (Pre-arming 1) 2. Close and lock all doors. (Pre-arming 2) 3. Wait 10 seconds. (Arming 1) 4. Unlock any door lock knob 5. Verify that security light goes out, horn sounds, and retractable headlights and hazard warning lights flash. 6. Turn ignition switch to START. 7. Verify that starter does not operate.	Security light does not go out	
		Horns do not sound	
		Headlights do not illuminate	
		Hazard warning lights do not flash	
		Starter works	
4	1. Turn any door key cylinder to "unlock" or open rear hatch by key. (Alarm stop) 2. Verify that horn sounds stop retractable headlights and hazard warning lights go out. 3. Verify that starter works when ignition switch is turned to START.	Warning is not canceled when door key cylinder is turned to unlock position	9
		Warning is not canceled when rear hatch is opened with key	10
5	1. Remove STOP 20A fuse and HEAD 30A fuse, and retest 1, 2, and 3. 2. Verify that hazard warning lights flash for 3 min.	Hazard warning lights do not flash for 3 min.	11
		Hazard warning lights do not go out after 3 min.	

J2

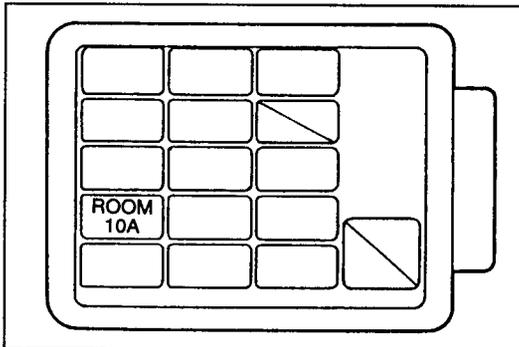
47UJ2X-508

Flowchart No.1	Symptom	Security light does not illuminate and buzzer does not sound
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Possible cause

- Burnt ROOM 10A fuse
- Damaged key reminder switch
- Damaged door switch
- Damaged cargo compartment light switch
- Damaged hood switch
- Burnt security light bulb
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-509



47UJ2X-510

Step 1

Check the ROOM 10A fuse in the fuse block.

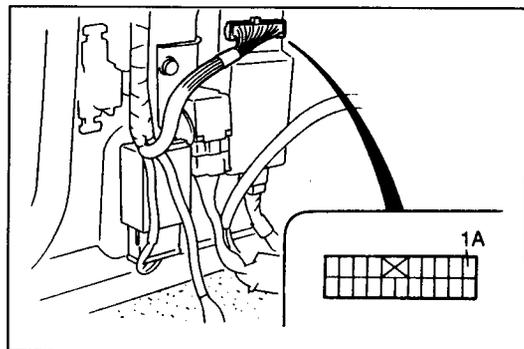
Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

Measure the voltage at terminal 1A (L/R) of the CPU No.2 connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step3
Other	Repair wiring harness (ROOM 10A fuse—CPU No.2)

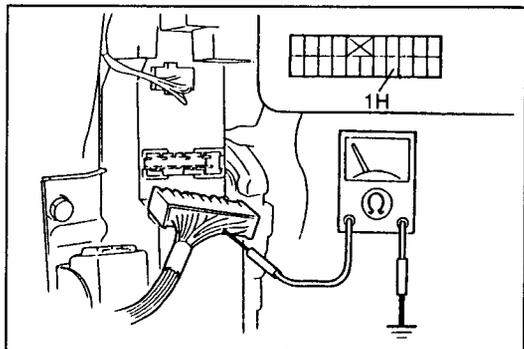


47UJ2X-511

Step 3

1. Disconnect the CPU No.2 connector.
2. Check for continuity between terminal 1H (B) of the CPU No.2 connector and ground.

Continuity	Action
Yes	Connect CPU No.2 connector and go to Step 4
No	Repair wiring harness (CPU No.2—GND)



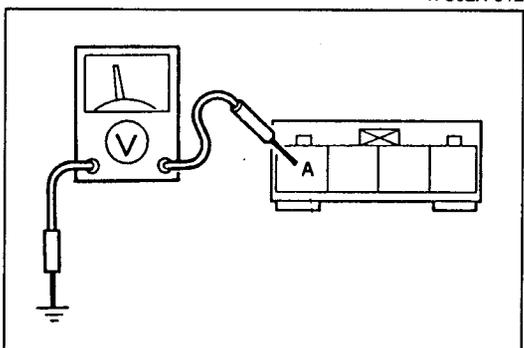
47UJ2X-512

Step 4

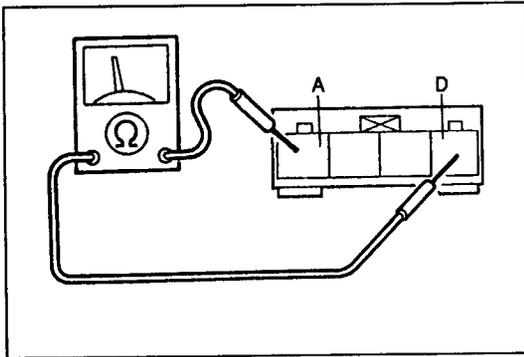
1. Remove the side panel and the lower panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at terminal A (L/R) of the key reminder switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step5
Other	Repair wiring harness (ROOM 10A fuse—Key reminder switch)



47UJ2X-513

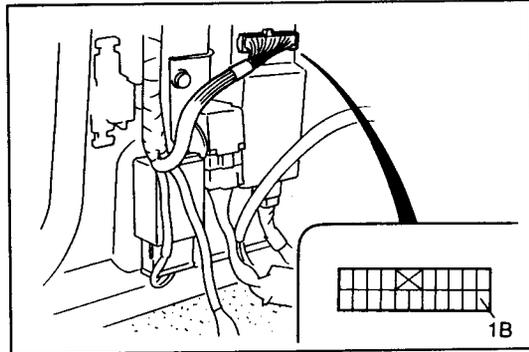


47UJ2X-514

Step 5

1. Disconnect the key reminder switch connector.
2. Check for continuity between terminals A and D of the key reminder switch with the key inserted.

Continuity	Action
Yes	Connect key reminder switch connector go to Step 6
No	Replace steering lock assembly (Refer to 1994 RX-7 Workshop Manual, section N)



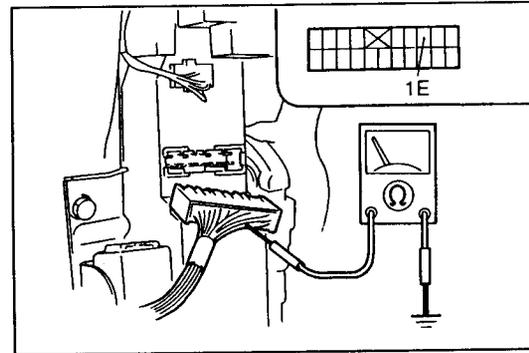
47UJ2X-515

Step 6

1. Connect the key reminder switch connector.
2. Measure the voltage at terminal 1B (W) of the CPU No.2 connector with the key inserted.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 7
Other	Repair wiring harness (Key reminder switch—CPU No.2)

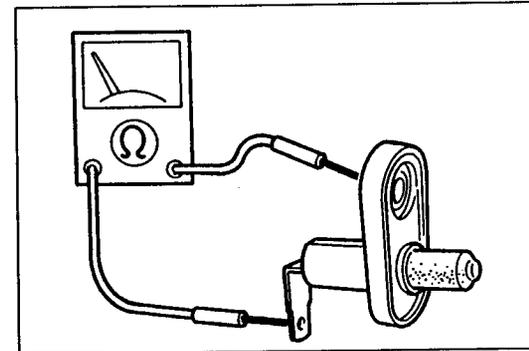


47UJ2X-516

Step 7

1. Disconnect the CPU No.2 connector.
2. Close the passenger-side door.
3. Open the driver-side door and check for continuity between terminal 1E (L/W) of the CPU No.2 connector and ground.

Continuity	Action
Yes	Go to Step 9
No	Go to Step 8

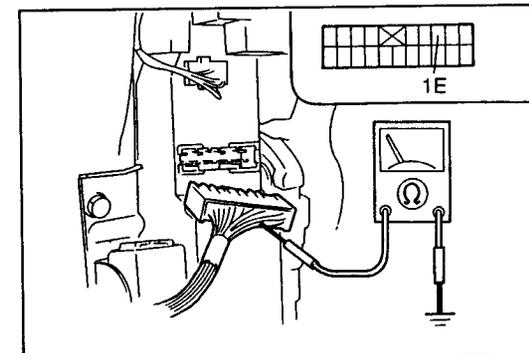


47UJ2X-517

Step 8

1. Remove the driver-side door switch.
2. Check for continuity between the door switch terminals with the door switch on (not pressed).

Continuity	Action
Yes	Repair wiring harness (CPU NO.2—Door switch)
No	Replace door switch

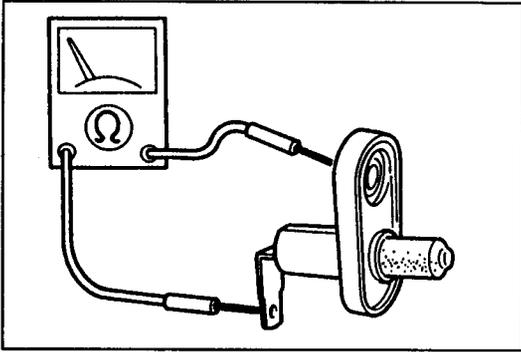


47UJ2X-518

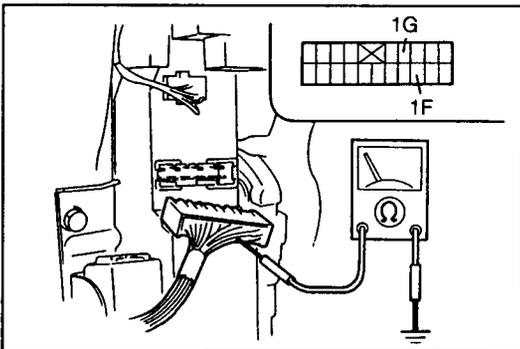
Step 9

1. Close the driver-side door.
2. Open the passenger-side door and check for continuity between terminal 1E (L/W) of the CPU No.2 connector and ground.

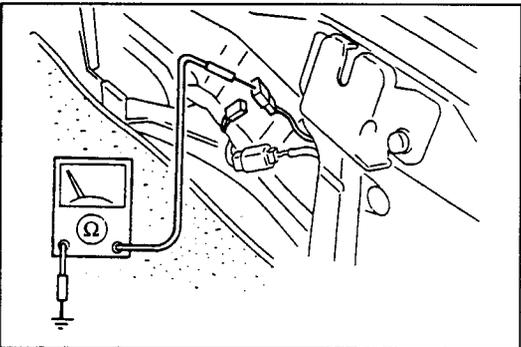
Continuity	Action
Yes	Go to Step 10
No	Go to Step 11



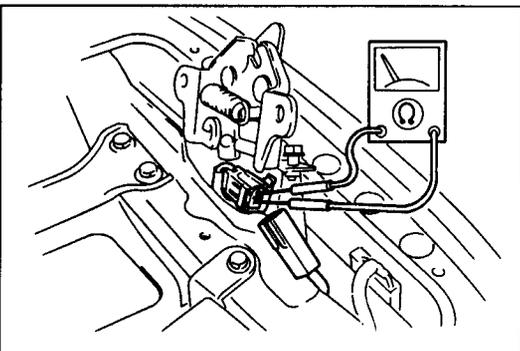
47UJ2X-519



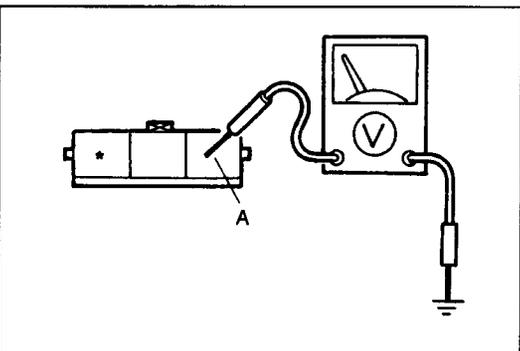
47UJ2X-520



47UJ2X-521



47UJ2X-522



47UJ2X-523

Step 10

1. Remove the passenger-side door switch.
2. Check for continuity between the door switch terminals with the door switch on (not pressed).

Continuity	Action
Yes	Repair wiring harness (CPU No.2—Door switch)
No	Replace door switch

Step 11

With the rear hatch and hood open, check for continuity between the ground and terminal 1F (GY). Repeat for terminal 1G (BR/Y).

Terminal	Continuity	Action
1F (GY) (cargo compartment light switch)	Yes	Check terminal 1G
	No	Go to Step 12
1G (BR/Y) (hood switch)	Yes	Go to Step 14
	No	Go to Step 13

Step 12

1. Remove the trunk end trim.
- (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the cargo compartment light switch connector. (Refer to page J2-24.)
3. Check for continuity between the switch terminals.

Switch	Continuity
Pushed	No
Released	Yes

4. If not as specified, replace the cargo compartment light switch. (Refer to page J2-24.)
5. If the switch is OK, repair the wiring harness (CPU No.2—cargo compartment light switch).

Step 13

1. Disconnect the hood switch connector.
2. Check for continuity between the switch terminals.

Switch	Continuity
Pushed	No
Released	Yes

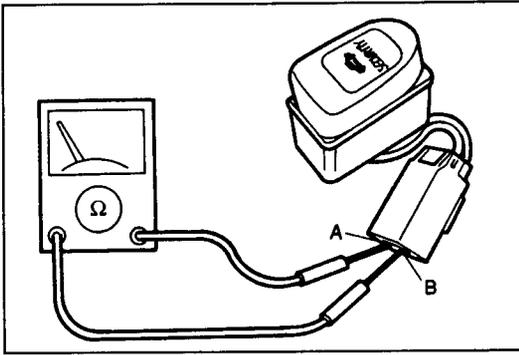
3. If not as specified, replace the lock assembly. (Refer to the 1994 RX-7 Workshop Manual, section S.)
4. If the switch is OK, repair the wiring harness (CPU No.2—hood switch).

Step 14

1. Remove the console panel.
- (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the security light. (Refer to section Z4.)
3. Measure the voltage at terminal A (L/R) of the security light connector (3-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 15
Other	Repair wiring harness (ROOM 10A fuse—Security light)

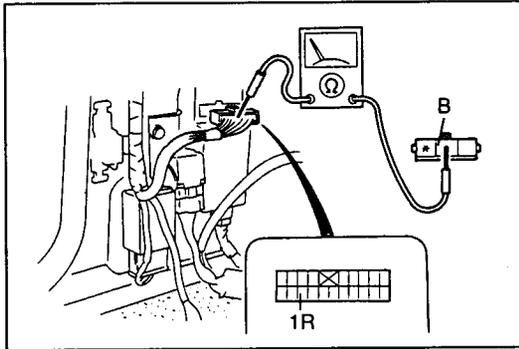


47UJ2X-524

Step 15

Check for continuity between terminals A and B of the security light connector.

Continuity	Action
Yes	Go to Step 16
No	Replace security light



47UJ2X-525

Step 16

Check for continuity between terminal B (V/G) of the security light connector and terminal 1R (V/G) of the CPU No.2 connector.

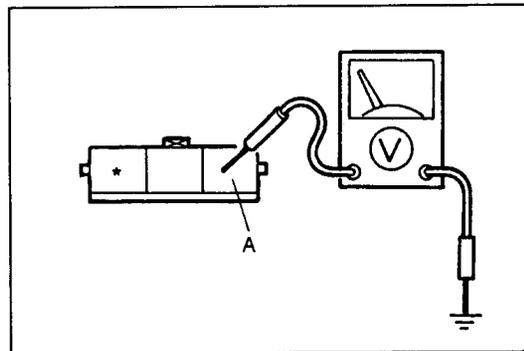
Continuity	Action
Yes	Replace CPU No.2
No	Repair wiring harness (Security light—CPU No.2)

Flowchart No.2	Symptom	Buzzer sounds but security light does not illuminate
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Possible cause

- Burnt security light bulb
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-526



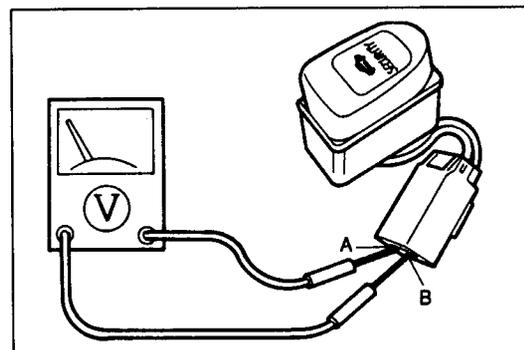
47UJ2X-527

Step 1

1. Remove the console panel. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the security light. (Refer to section Z4.)
3. Measure the voltage at terminal A (L/R) of the security light connector (3-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 2
Other	Repair wiring harness (ROOM 10A fuse—Security light)

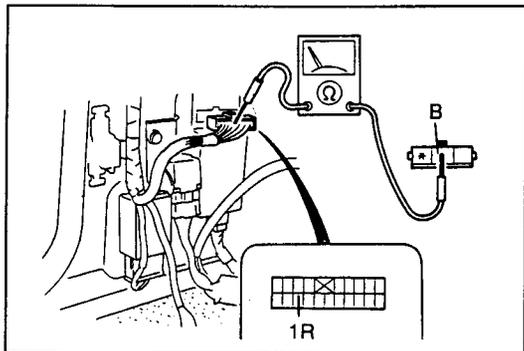


47UJ2X-528

Step 2

Check for continuity between terminals A and B of the security light connector.

Continuity	Action
Yes	Go to Step 3
No	Replace security light



47UJ2X-529

Step 3

1. Disconnect the CPU No.2 connector.
2. Check for continuity between terminal B (V/G) of the security light connector and terminal 1R (V/G) of the CPU No.2 connector.

Continuity	Action
Yes	Replace CPU No.2
No	Repair wiring harness (Security light—CPU No.2)

Flowchart No.3	Symptom	Security light illuminates but buzzer does not sound
-----------------------	----------------	--

Possible cause

- Damaged CPU No.2

Remedy

Replace CPU No.2. (Refer to section Z3.)

47UJ2X-530

Flowchart No.4	Symptom	Security light does not go out
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Possible cause

- Damaged CPU No.2

Remedy

Replace CPU No.2. (Refer to section Z3.)

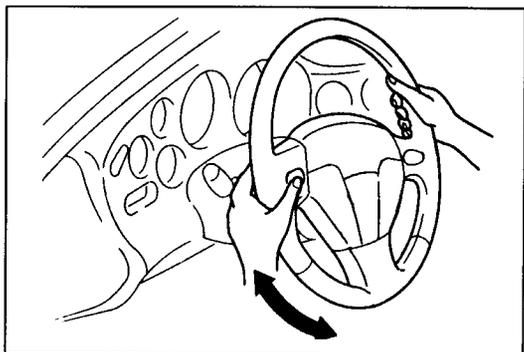
47UJ2X-531

Flowchart No.5	Symptom	Horns do not sound
-----------------------	----------------	--------------------

Possible cause

- Damaged horn circuit
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-532

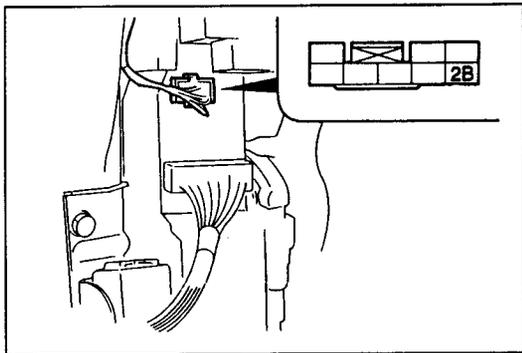


47UJ2X-533

Step 1

Verify that the horn sounds when the horn button is pressed.

Horn	Action
Sounds	Go to Step 2
Does not sound	Inspect horn circuit (Refer to section F2)



47UJ2X-534

Step 2

Measure the voltage at terminal 2B (G/O) of the CPU No.2 connector (8-pin) with the horn switch off.

B+: Battery positive voltage

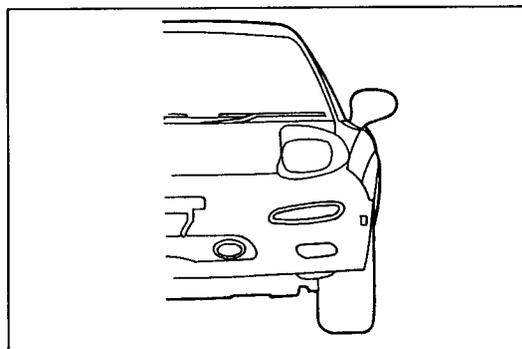
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Horn relay—CPU No.2)

Flowchart No.6	Symptom	Headlights do not illuminate
-----------------------	----------------	------------------------------

Possible cause

- Damaged headlight circuit
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-535

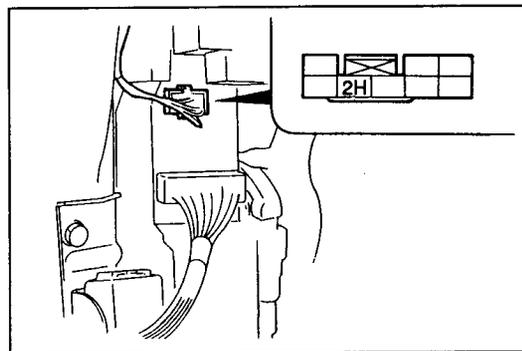


47UJ2X-536

Step 1

Turn the headlight switch on and verify that the headlights illuminate.

Headlights	Action
Illuminate	Go to Step 2
Do not illuminate	Troubleshoot headlight circuit (Refer to section E)



47UJ2X-537

Step 2

Measure the voltage at terminal 2H (W/L) of the CPU No.2 connector with the headlight switch off.

B+: Battery positive voltage

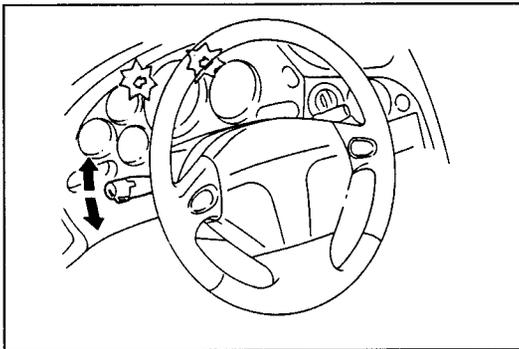
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Headlight relay—CPU No.2)

Flowchart No.7	Symptom	Hazard warning lights do not flash
-----------------------	----------------	------------------------------------

Possible cause

- Damaged hazard warning light circuit
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-538

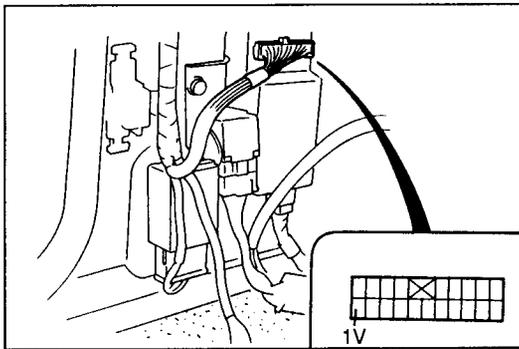


47UJ2X-539

Step 1

Turn the hazard warning switch on and verify that the warning lights flash.

Hazard warning lights	Action
Flash	Go to Step 2
Do not flash	Troubleshoot hazard warning light circuit (Refer to section F1)



47UJ2X-540

Step 2

Measure the voltage at terminal 1V (O) of the CPU No.2 connector with the hazard warning switch off.

B+: Battery positive voltage

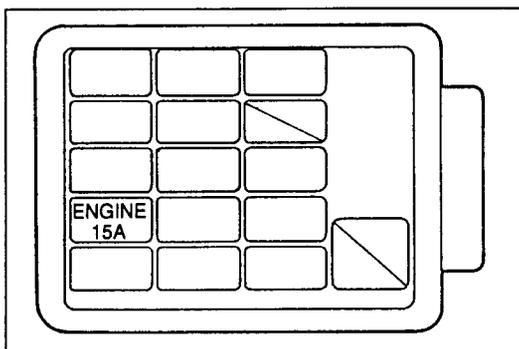
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Flasher unit—CPU No.2)

Flowchart No.8	Symptom	Starter works
-----------------------	----------------	---------------

Possible cause

- Burnt ENGINE 15A fuse
- Damaged starter cut relay
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-541

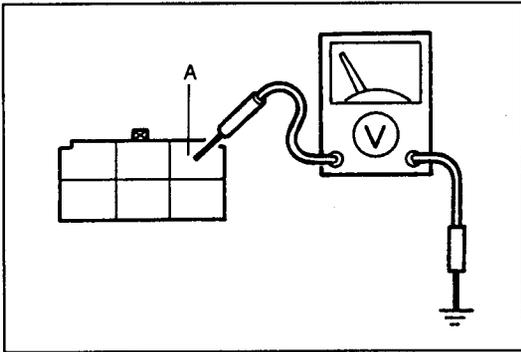


47UJ2X-542

Step 1

Check the ENGINE 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



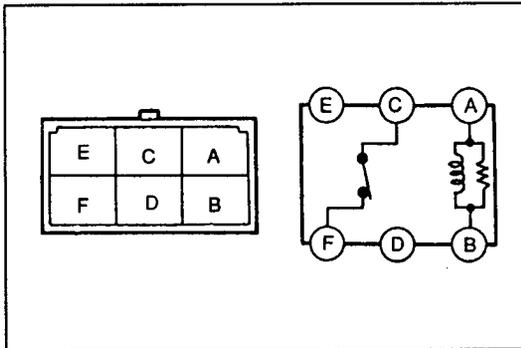
47UJ2X-543

Step 2

1. Remove the driver-side front side trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Turn the ignition switch to ON.
3. Measure the voltage at terminal A (B/LG) of the starter cut relay connector (6-pin).

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (ENGINE 15A fuse—Starter cut relay)



47UJ2X-544

Step 3

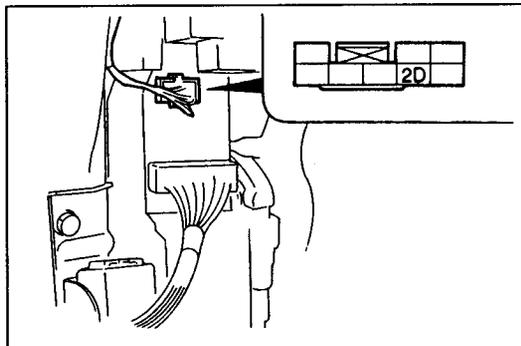
1. Turn the ignition switch to OFF.
2. Disconnect the starter cut relay connector.
3. Check for continuity between the terminals of the starter cut relay.

B+: Battery positive voltage

Connection		A	B	C	F
B+	GND				
—	—	○	○	○	○
A	B				

○-○ : Continuity

4. If correct, reconnect the connector and go to Step 4.
5. If not as specified, replace the starter cut relay.



47UJ2X-545

Step 4

1. Turn the ignition switch to ON.
2. Measure the voltage at terminal 2D (LG/R) of the CPU No.2 connector.

B+: Battery positive voltage

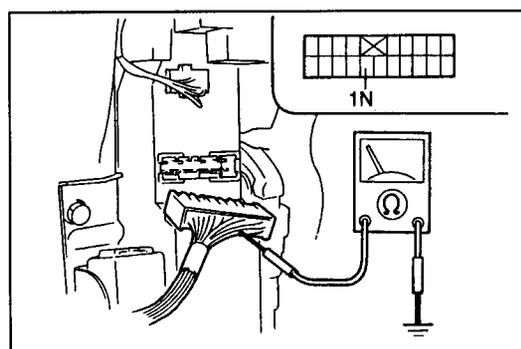
Voltage	Action
B+	Replace CPU No.2 (Refer to section Z3)
Other	Repair wiring harness (Starter cut relay—CPU No.2)

Flowchart No.9	Symptom	Warning is not canceled when door key cylinder is turned to unlock position
-----------------------	----------------	---

Possible cause

- Damaged door key cylinder switch
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-546

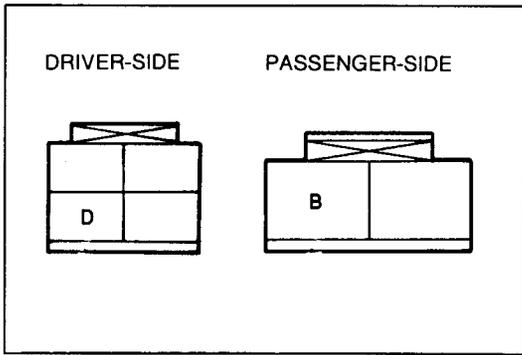


47UJ2X-547

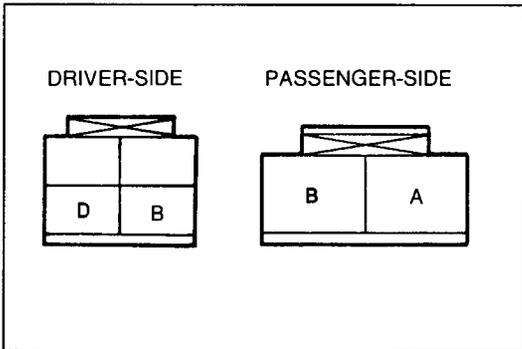
Step 1

1. Disconnect the CPU No.2 connector (20-pin).
2. Lock the passenger-side (driver-side) door lock.
3. Check for continuity between terminal 1N (LG/B) of the CPU No.2 connector and ground with the door key cylinder switch unlocked.

Continuity	Action
Yes	Replace CPU No.2 (Refer to section Z3)
No	Go to Step 2



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47UJ2X-549

Step 2

1. Remove the door trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the door key cylinder switch connector.
3. Check for continuity between terminal D (B) or B (B) of the door key cylinder switch connector and ground.

Continuity	Action
Yes	Go to Step 3
No	Repair wiring harness (Door key cylinder switch—GND)

Step 3

Check for continuity between terminals B and D (driver-side) or A and B (passenger-side) of the door key cylinder switch with the door unlocked.

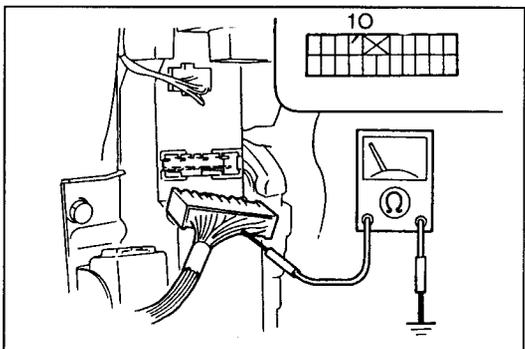
Continuity	Action
Yes	Repair wiring harness (CPU No.2—Door key cylinder switch)
No	Replace lock cylinder (Refer to 1994 RX-7 Workshop Manual, section S)

Flowchart No.10	Symptom	Warning is not canceled when rear hatch is opened with key
------------------------	----------------	--

Possible cause

- Damaged rear hatch key cylinder switch
- Damaged CPU No.2
- Open or short circuit in wiring harness
- Poor connection of connector

47UJ2X-550



47UJ2X-551

Step 1

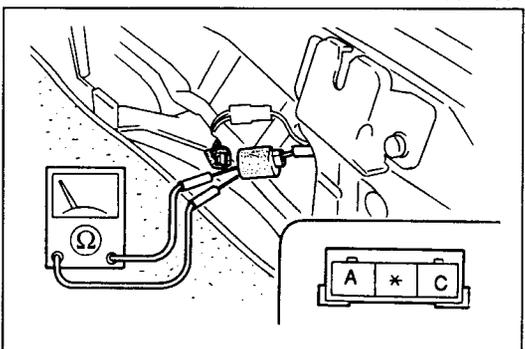
1. Disconnect the CPU No.2 connector.
2. Check for continuity between terminal 10 (LG/R) of the CPU No.2 connector and ground with the rear hatch key cylinder switch turned to unlock.

Continuity	Action
Yes	Replace CPU No.2 (Refer to section Z3)
No	Go to Step 2

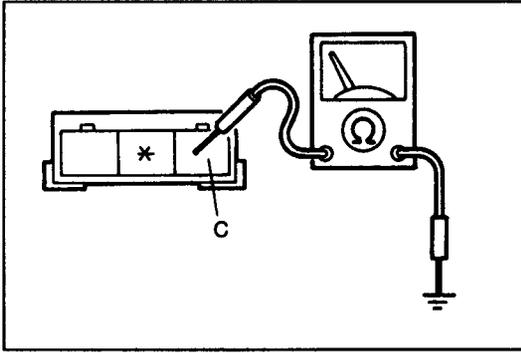
Step 2

1. Remove the trunk lid trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the rear hatch key cylinder switch connector.
3. Check for continuity between terminals A and C of the cylinder switch connector with the rear hatch key cylinder switch turned to unlock.

Continuity	Action
Yes	Go to Step 3
No	Replace rear hatch lock (Refer to 1994 RX-7 Workshop Manual, section S)



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Step 3

Check for continuity between terminal C (B) of the rear hatch key cylinder switch connector and ground.

Continuity	Action
Yes	Repair wiring harness (CPU No.2—Rear hatch key cylinder switch)
No	Repair wiring harness (Rear hatch key cylinder switch—GND)

Flowchart No.11	Symptom	Hazard warning lights do not flash for 3 min.
		Hazard warning lights do not go out after 3min.

Possible cause

- Damaged CPU No.2

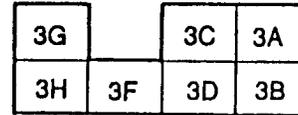
Remedy

Replace CPU No.2. (Refer to section Z3.)

47UJ2X-554

CPU No.2 Terminal Voltage

B+: Battery positive voltage



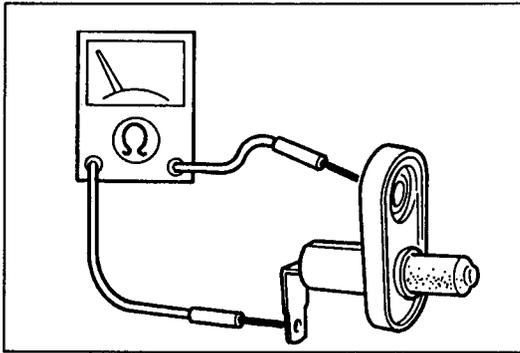
Terminal	Connection	Test condition		Voltage (V)	Inspection area
1B	Key reminder switch	Ignition key in ignition switch		B+	<ul style="list-style-type: none"> ROOM 10A fuse Key reminder switch Wiring harness (Fuse—Key reminder switch—CPU No.2)
		Other		0	
1E	Door switch	Continuity inspection	Door open	Yes	<ul style="list-style-type: none"> Door switch Wiring harness (CPU No.2—Door switch)
			Door closed	No	
1F	Cargo compartment light switch	Continuity inspection	Rear hatch open	Yes	<ul style="list-style-type: none"> Cargo compartment light switch Wiring harness (CPU No.2—Cargo compartment light switch)
			Rear hatch closed	No	
1G	Hood switch	Continuity inspection	Hood open	Yes	<ul style="list-style-type: none"> Hood switch Wiring harness (CPU No.2—Hood switch—GND)
			Hood closed	No	
1I	Door lock switch (passenger side)	Locked		Approx. 5	<ul style="list-style-type: none"> DOOR LOCK 10A fuse Door lock switch (passenger side) Door lock timer unit Wiring harness (Fuse—Door lock timer unit—CPU No.2, CPU No.2—Door lock switch—GND)
		Unlocked		0	
1J	Door lock switch (driver side)	Locked		B+	<ul style="list-style-type: none"> DOOR LOCK 10A fuse Door lock switch (driver side) Door lock timer unit Wiring harness (Fuse—Door lock timer unit—CPU No.2, CPU No.2—Door lock switch—GND)
		Unlocked		0	
1N	Door key cylinder switch	Locked		5	<ul style="list-style-type: none"> ROOM 10A fuse Door key cylinder illumination Ignition key illumination Door key cylinder switch Wiring harness (Fuse—Door key cylinder illumination—CPU No.2, Fuse—Ignition key illumination—CPU No.2, CPU No.2—Door key cylinder switch—GND)
		Unlocked		0	
1O	Rear hatch key cylinder switch	Continuity inspection	Locked	No	<ul style="list-style-type: none"> Rear hatch key cylinder switch Wiring harness (CPU No.2—Rear hatch key cylinder switch—GND)
			Unlocked	Yes	

47UJ2X-555

Cont'd

B+: Battery positive voltage

Terminal	Connection	Test condition	Voltage (V)	Inspection area
1V	Hazard warning switch	Hazard warning switch on	0	<ul style="list-style-type: none"> HAZARD 15A fuse Flasher unit Hazard warning switch Wiring harness (Fuse—Flasher unit—CPU No.2, CPU No.2—Hazard warning switch)
		Hazard warning switch off	B+	
2B	Horn relay	Horn switch on	0	<ul style="list-style-type: none"> HAZARD 15A fuse Horn relay Air bag module (horn switch) Wiring harness (Fuse—Horn relay—CPU No.2, CPU No.2—Horn switch)
		Alarm sounds	0	
		Other	B+	
2D	Starter cut relay	Ignition switch at ON	B+	<ul style="list-style-type: none"> ENGINE 15A fuse Starter cut relay Wiring harness (Fuse—Starter cut relay—CPU No.2)
		Ignition switch at OFF	0	
3A	Turn signal light (right)	Turn signal light (right) illuminated	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse HAZARD 15A fuse Combination switch (Turn switch) Hazard warning switch Wiring harness (METER fuse—Turn switch—Flasher unit, HAZARD fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning light illuminated		
		Other	0	
3B	GND	—	0	Wiring harness (Flasher unit—GND)
3C	Turn switch (right)	Ignition switch at ON and right turn switch on	B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
		Other	0	
3D	Turn switch (left)	Ignition switch at ON and left turn switch on	B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
		Other	0	
3E	—	—	—	—
3F	+B	Constant	B+	<ul style="list-style-type: none"> HAZARD 15A fuse Wiring harness (Fuse—Flasher unit)
3G	Hazard warning switch	Hazard warning switch on	0	<ul style="list-style-type: none"> HAZARD 15A fuse Hazard warning switch Wiring harness (Fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning switch off	B+	
3H	Turn signal light (left)	Turn signal light (left) illuminated	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse HAZARD 15A fuse Combination switch (turn switch) Hazard warning switch Wiring harness (METER fuse—Turn switch—Flasher unit, HAZARD fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning light illuminated		
		Other	0	



47UJ2X-557

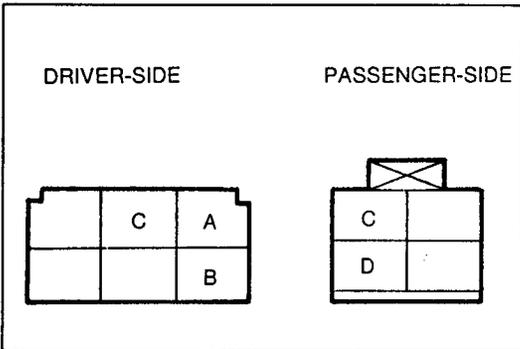
DOOR SWITCH

Inspection

1. Remove the door switch.
2. Check for continuity between the switch terminals.

Switch	Continuity
Pressed	No
Released	Yes

3. If not as specified, replace the door switch.



47UJ2X-558

DOOR LOCK SWITCH

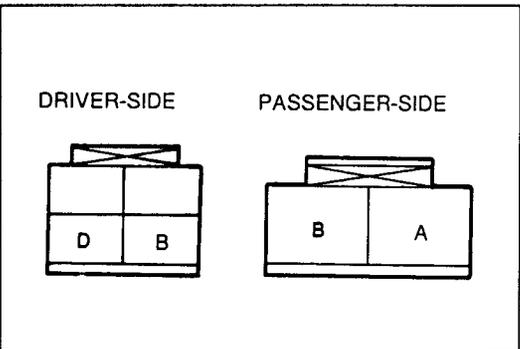
Inspection

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check for continuity between the switch terminals.

Terminal / Switch condition	Driver-side			Passenger-side	
	A	B	C	C	D
Locked	○—○				
Unlocked	○		○	○	○

○—○ : Continuity

3. If not as specified, replace the door lock.
(Refer to the 1994 RX-7 Workshop Manual, section S.)



47UJ2X-559

DOOR KEY CYLINDER SWITCH

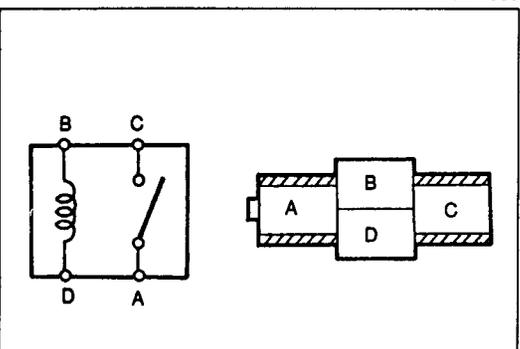
Inspection

1. Check for continuity between the switch terminals.

Terminal / Switch condition	Driver-side		Passenger-side	
	B	D	A	B
Locked	○—○			
Unlocked	○	○	○	○

○—○ : Continuity

2. If not as specified, replace the lock cylinder.
(Refer to the 1994 RX-7 Workshop Manual, section S.)



47JJ2X-560

HORN RELAY

Inspection

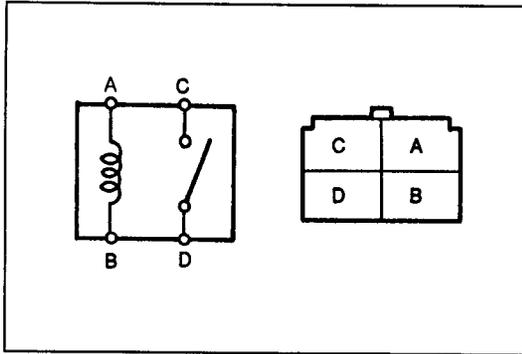
1. Remove the horn relay.
2. Check for continuity between the relay terminals.

B+ : Battery positive voltage

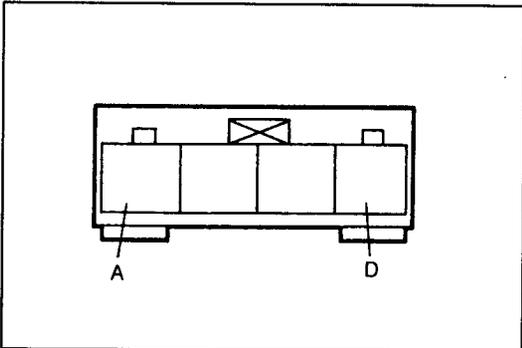
Connection		B	D	A	C
B+	GND				
—	—	○—○			
B	D			○—○	

○—○ : Continuity

3. If not as specified, replace the horn relay.



47UJ2X-561



47UJ2X-568

HEADLIGHT RELAY

Inspection

1. Disconnect the headlight relay connector and remove the relay.
2. Check for continuity between the relay terminals.

B+: Battery positive voltage

Connection		A	B	C	D
B+	GND				
—	—	○—○			
A	B			○—○	

○—○ : Continuity

3. If not as specified, replace the headlight relay.

KEY REMINDER SWITCH

Inspection

1. Remove the column cover. (Refer to section Z4.)
2. Disconnect the key reminder switch connector.
3. Check for continuity between terminals A and D of the key reminder switch connector.

Switch	Continuity
Key inserted	Yes
Key removed	No

4. If not as specified, replace the steering lock assembly. (Refer to the 1994 RX-7 Workshop Manual, section N.)

STARTER CUT RELAY

Inspection

1. Disconnect the starter cut relay connector and remove the relay.
2. Check for continuity between the relay terminals.

B+: Battery positive voltage

Connection		A	B	C	F
B+	GND				
—	—	○—○		○—○	
A	B				

○—○ : Continuity

3. If not as specified, replace the starter cut relay.

REAR HATCH KEY CYLINDER SWITCH

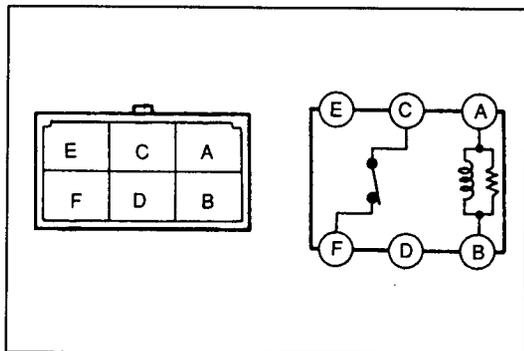
Inspection

1. Disconnect the rear hatch key cylinder switch connector.
2. Check for continuity between the switch terminals.

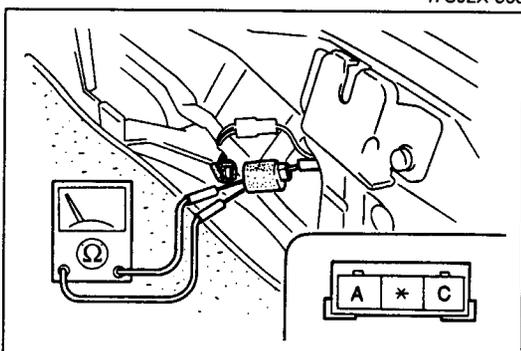
Switch condition	Terminal	
	A	C
Locked		
Unlocked	○—○	○—○

○—○ : Continuity

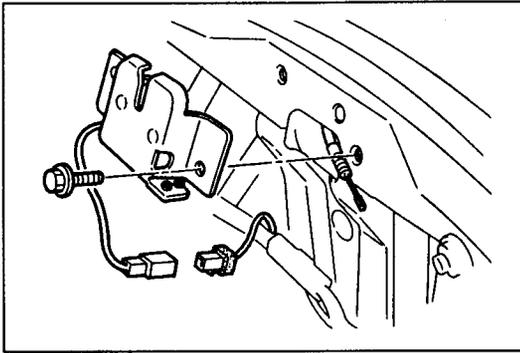
3. If not as specified, replace the rear hatch lock. (Refer to the 1994 RX-7 Workshop Manual, section S.)



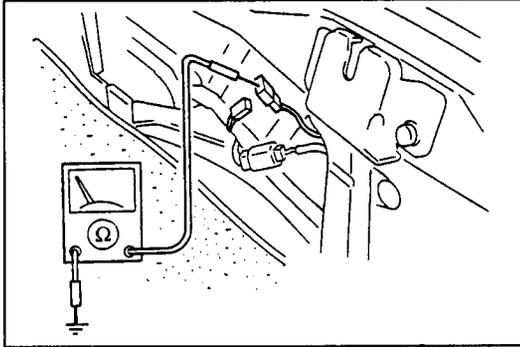
47UJ2X-563



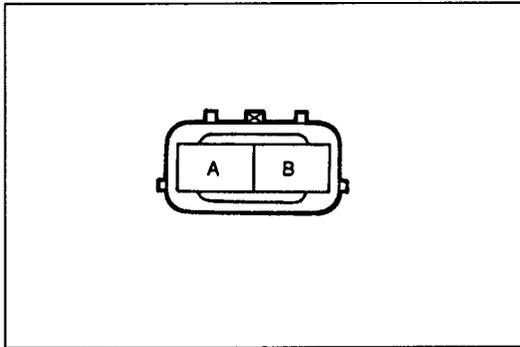
47UJ2X-564



47UJ2X-565



47UJ2X-566



47UJ2X-567

CARGO COMPARTMENT LIGHT SWITCH

Removal / Installation

1. Remove the end upper trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Remove the trunk lid striker.
3. Remove the cargo compartment light switch.
4. Install in the reverse order of removal.

Tightening torque:

16—22 N·m {1.6—2.3 kgf·m, 12—16 ft·lb}

Inspection

1. Remove the trunk end trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the cargo compartment light switch connector.
3. Check for continuity between the switch terminals.

Switch	Continuity
Pressed	No
Released	Yes

4. If not as specified, replace the cargo compartment light switch.

HOOD SWITCH

Inspection

1. Disconnect the hood switch connector.
2. Check for continuity between the hood switch terminals.

Switch condition	Terminal	
	A	B
Locked		
Unlocked	○—○	○—○

○—○ : Continuity

3. If not as specified, replace the lock assembly.
(Refer to the 1994 RX-7 Workshop Manual, section S.)

JOINT BOX

INTERCONNECTING DIAGRAM OF
JOINT BOX **JB- 2**
JOINT BOX **JB- 3**

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

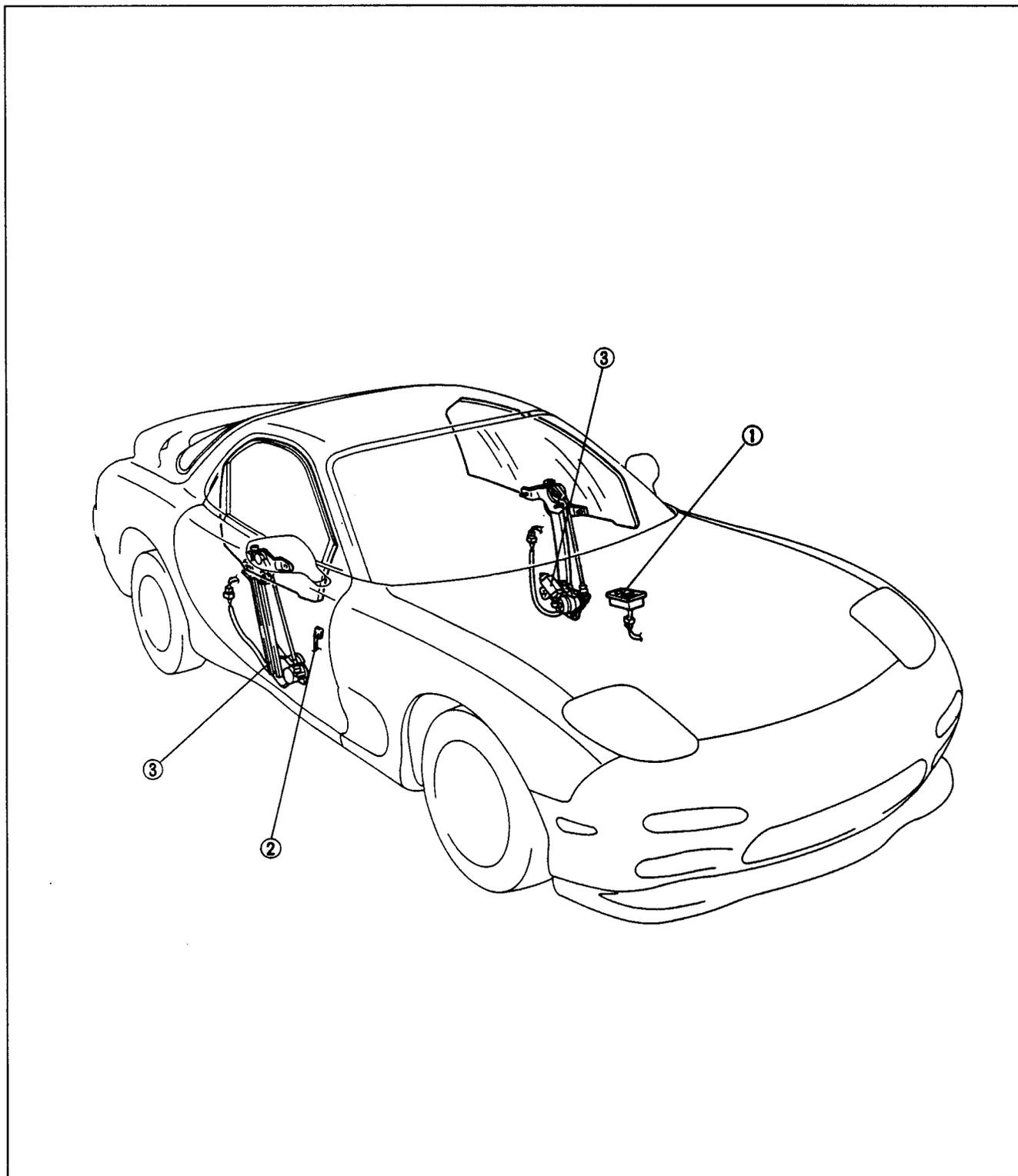
POWER WINDOW SYSTEM

STRUCTURAL VIEW..... **K1- 2**
SYSTEM DIAGRAM..... **K1- 3**
TROUBLESHOOTING **K1- 5**
POWER WINDOW MAIN SWITCH ,
ASSEMBLY **K1-13**
POWER WINDOW SUBSWITCH **K1-13**
POWER WINDOW REGULATOR..... **K1-13**
COMPONENTS..... **K1-14**

47UK1X-501

POWER WINDOW SYSTEM

STRUCTURAL VIEW

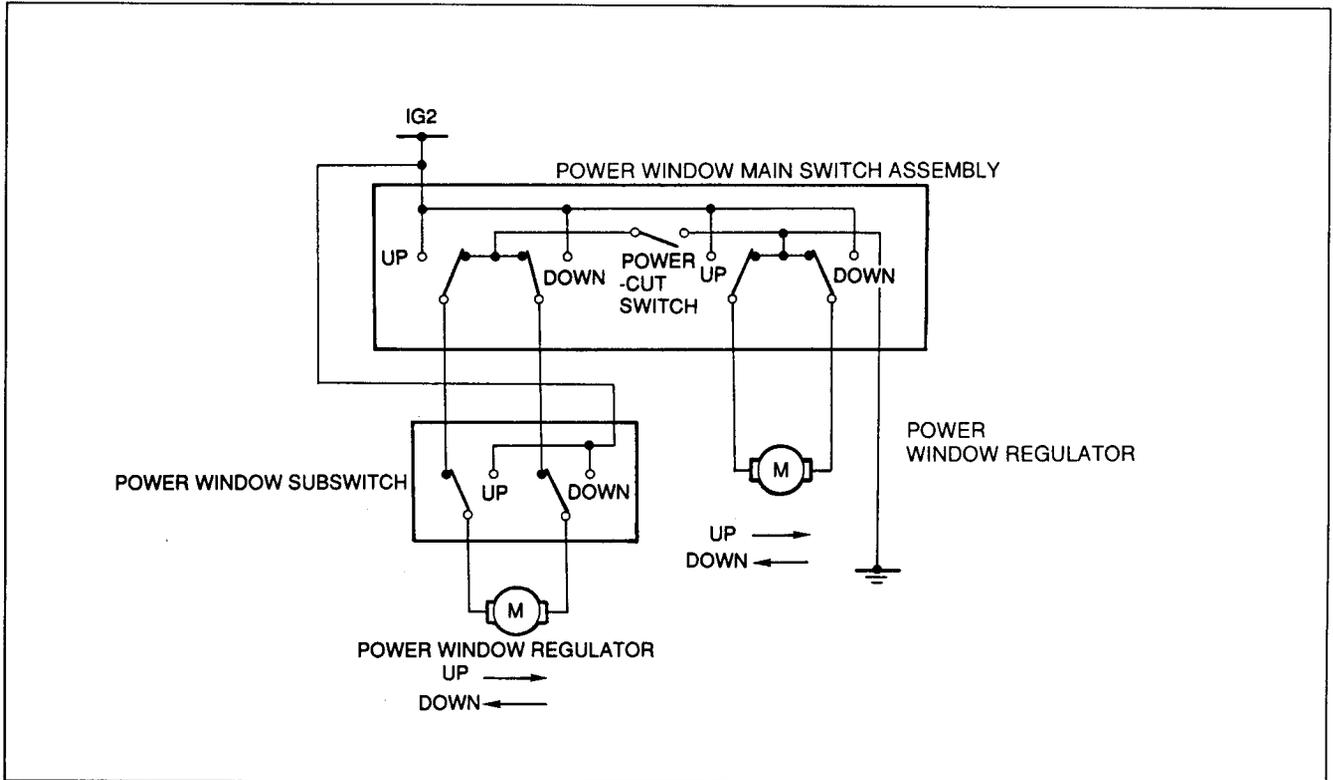


47UK1X-502

- 1. Power window main switch assembly
 - Inspection page K1-13
 - Removal / Installation page K1-14
- 2. Power window subswitch
 - Inspection page K1-13
 - Removal / Installation page K1-14

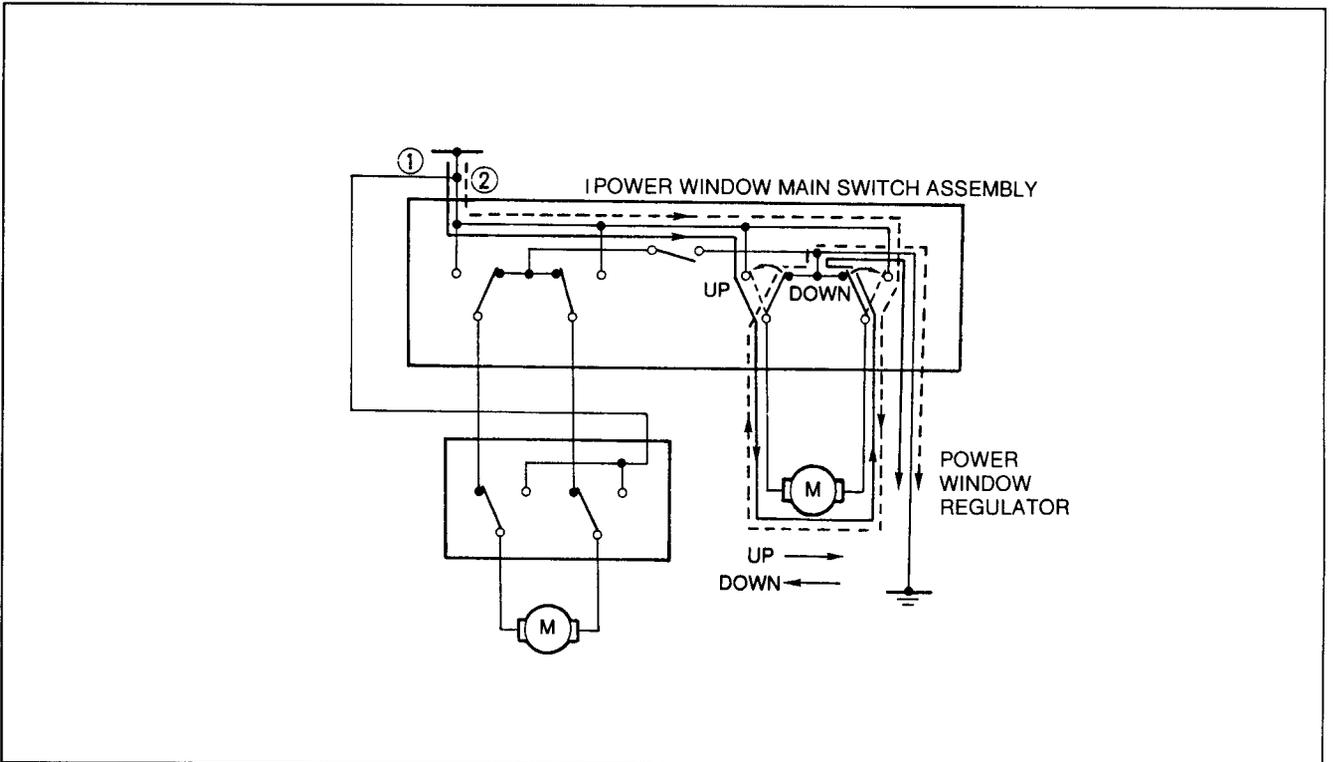
- 3. Power window regulator
 - Inspection page K1-13
 - Removal / Installation page K1-14

SYSTEM DIAGRAM



1PE0SX-535

K1

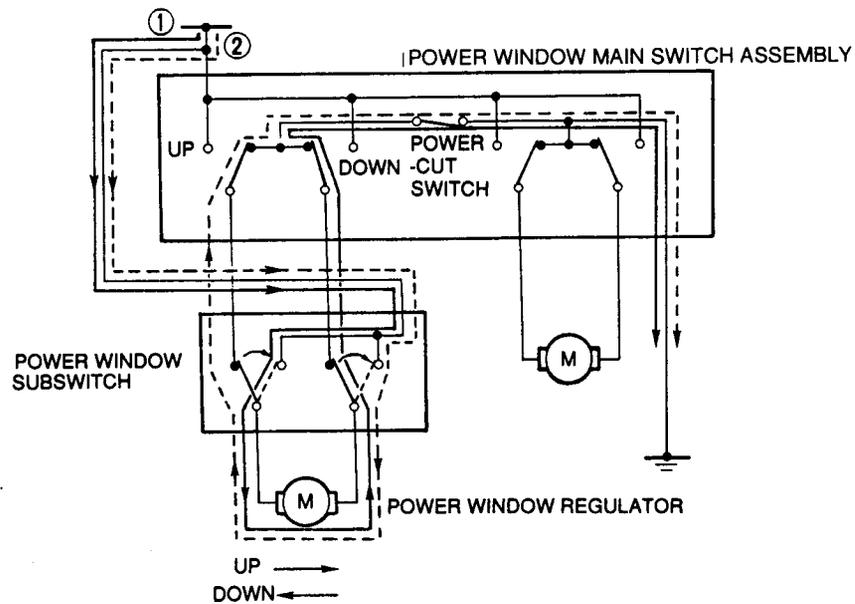


47UK1X-503

System Operation

1. Main switch

- When one of the switches on the main switch assembly is pressed with the ignition switch at ON, current flows as shown by the solid line (arrow 1). The motor rotates and the window opens.
- When the switch is lifted, current flows as shown by the broken line (arrow 2). The motor rotates in the opposite direction and the window closes.



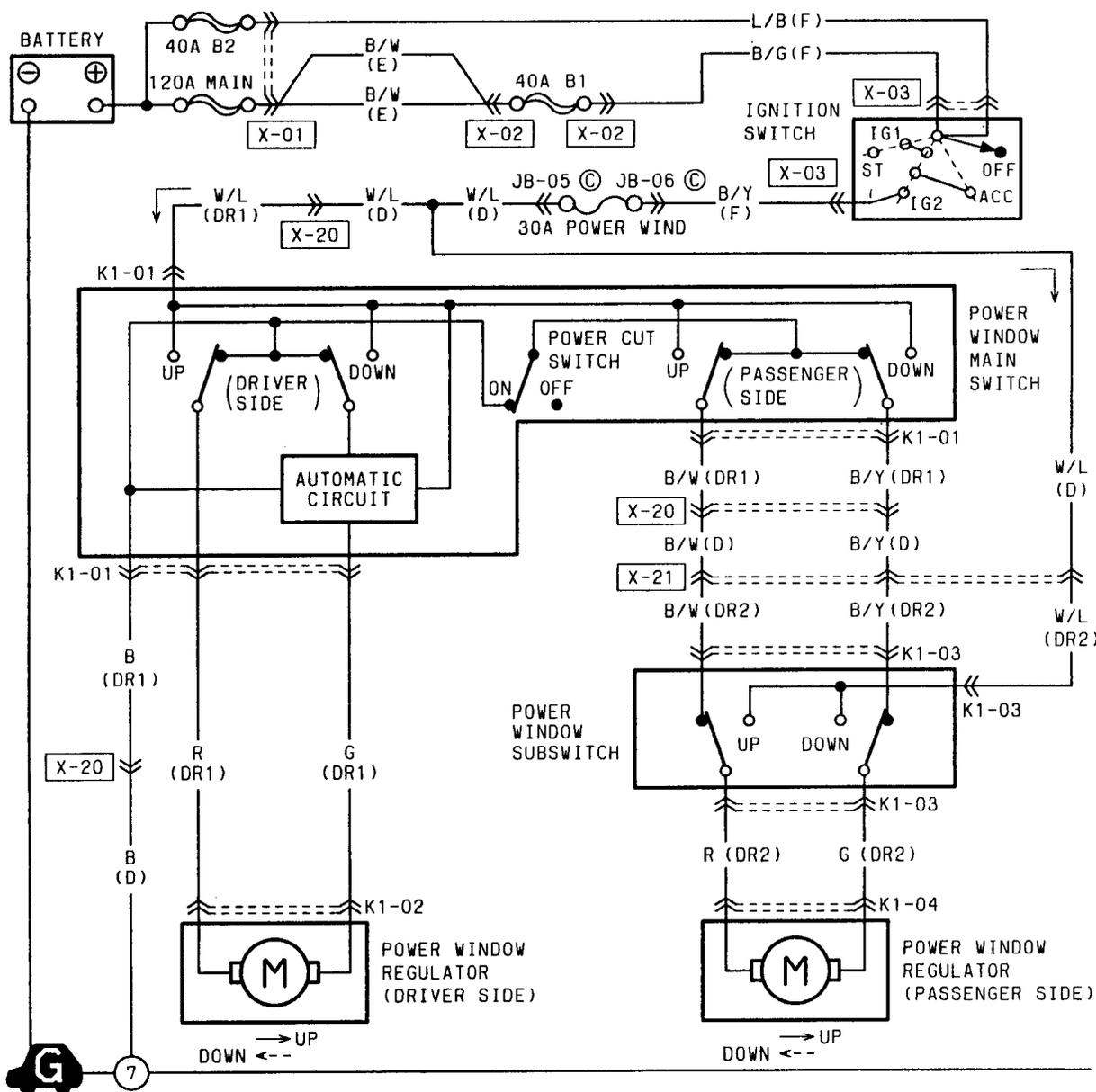
47UK1X-504

2. Subswitch

- When the top of the subswitch is pressed with the power-cut switch and ignition switch ON, current flows as shown by the solid line (arrow 1). The motor rotates and the passenger window opens.
- When the bottom of the subswitch is pressed, current flows as shown by the broken line (arrow 2). The motor rotates in the opposite direction and the window closes.

TROUBLESHOOTING
Circuit Diagram

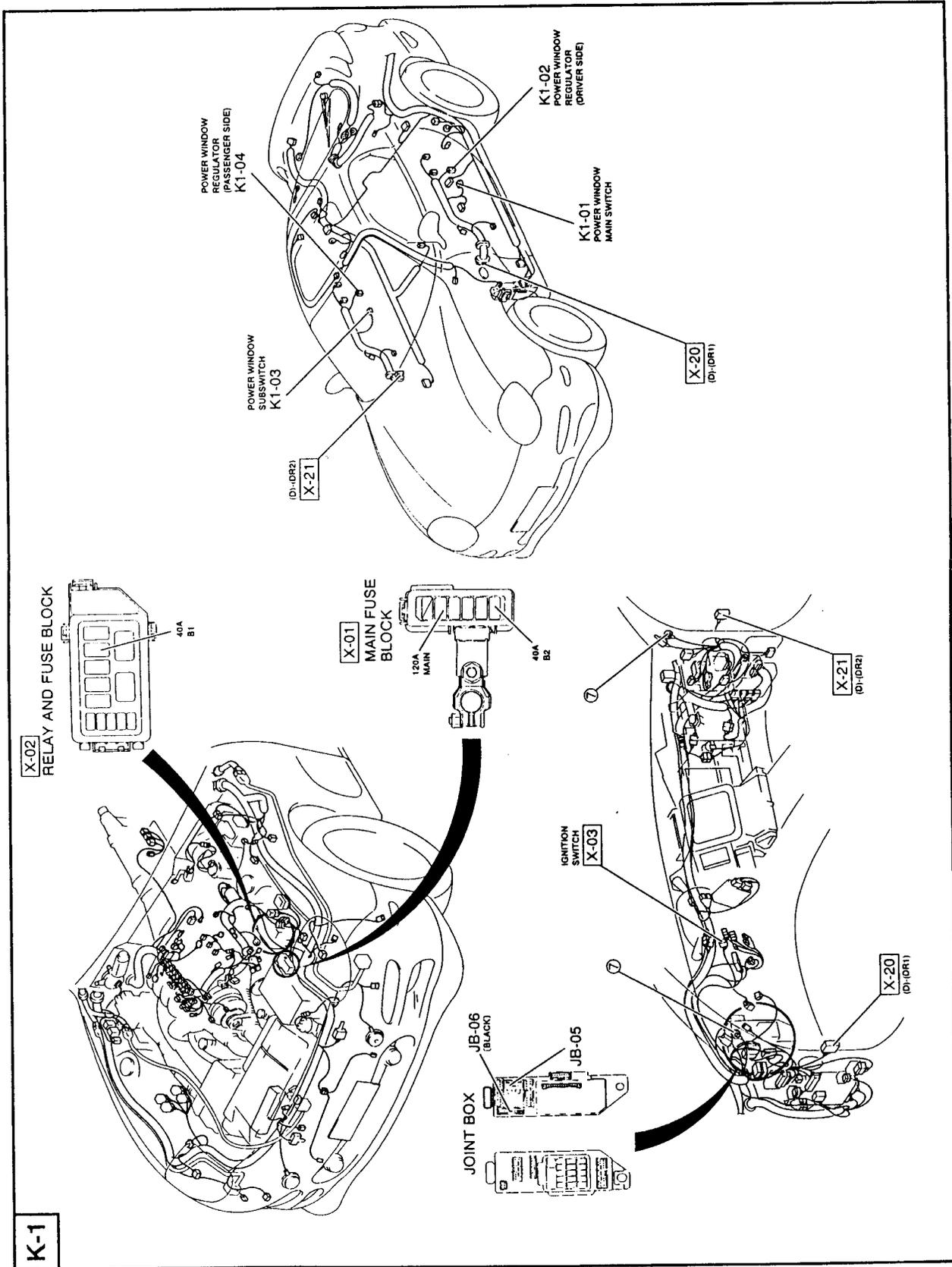
K-1 ■ POWER WINDOW



K1

<p>K1-01 POWER WINDOW MAIN SWITCH (DR1)</p> <table border="1"> <tr> <td>R</td> <td>*</td> <td>W/L</td> </tr> <tr> <td>G</td> <td>B/Y</td> <td>B/W</td> </tr> </table>	R	*	W/L	G	B/Y	B/W	<p>K1-02 POWER WINDOW REGULATOR (DRIVER SIDE) (DR1)</p> <table border="1"> <tr> <td>R</td> </tr> <tr> <td>G</td> </tr> </table>	R	G	<p>K1-03 POWER WINDOW SUBSWITCH (DR2)</p> <table border="1"> <tr> <td>W/L</td> <td>B/W</td> </tr> <tr> <td>G</td> <td>B/Y</td> </tr> <tr> <td></td> <td>*</td> </tr> <tr> <td></td> <td>R</td> </tr> </table>	W/L	B/W	G	B/Y		*		R	<p>K1-04 POWER WINDOW REGULATOR (PASSENGER SIDE) (DR2)</p> <table border="1"> <tr> <td>R</td> </tr> <tr> <td>G</td> </tr> </table>	R	G
R	*	W/L																			
G	B/Y	B/W																			
R																					
G																					
W/L	B/W																				
G	B/Y																				
	*																				
	R																				
R																					
G																					

Connector Locations



K-1

Checklist

	Procedure / Proper operation	Symptom	Flowchart No.
1	Operate power window main switch assembly and verify that both power windows move up/down.	Power windows do not operate	1
		Driver-side power window does not operate	2
		Passenger-side power window does not operate by power window main switch operation	3
		Driver-side power window does not operate with one-touch operation	4
2	Operate power window subswitch and verify that power window on passenger side moves up/down.	Passenger-side power window can be operated by power window main switch, but cannot be operated by power window subswitch	5
		Passenger-side power window can be operated by power window subswitch when power-cut switch is at OFF	6

47UK1X-505

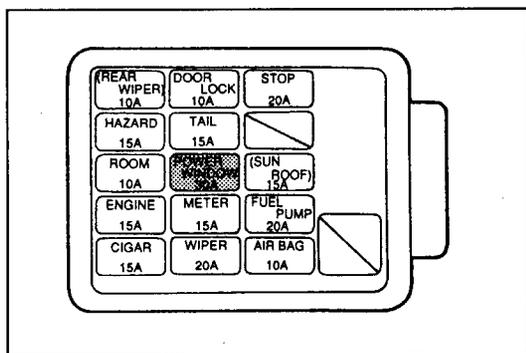
Flowchart No.1	Symptom	Power windows do not operate
----------------	---------	------------------------------

Possible cause

- Burnt POWER WINDOW 30A fuse
- Damaged power window main switch assembly
- Damaged power window subswitch
- Damaged power window regulator
- Open or short circuit in wiring harness
- Poor connection of connector

K1

47UK1X-506

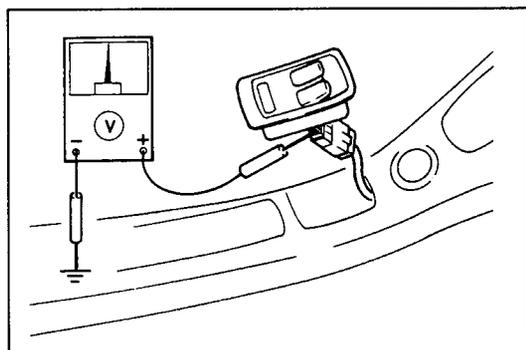


1PE0SX-024

Step 1

Check the POWER WINDOW 30A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing the wiring harness



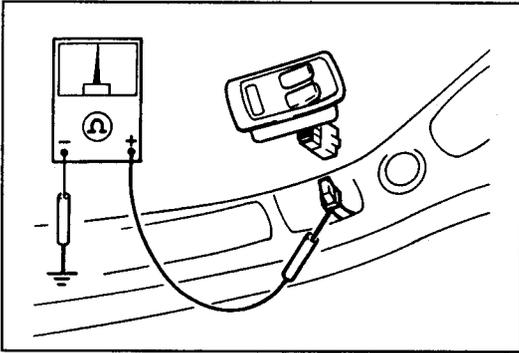
47UK1X-507

Step 2

1. Turn the ignition switch to ON.
2. Measure the voltage at the (W/L) terminal wire of the power window main switch assembly harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Fuse block—Main switch assembly)

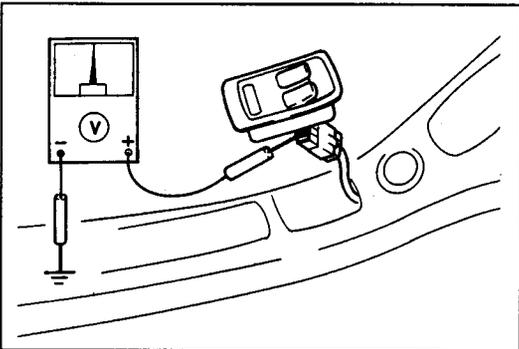


47UK1X-508

Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the power window main switch assembly harness connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Reconnect connector and go to Step 4
No	Repair wiring harness (Main switch assembly—GND)



47UK1X-509

Step 4

1. Turn the ignition switch to ON.
2. Measure the voltage at the power window main switch assembly harness connector with the main switches in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire (driver side)	B+
	(B/W) wire (passenger side)	B+
DOWN	(G) wire (driver side)	B+
	(B/Y) wire (passenger side)	B+

3. If correct, go to Step 5.
4. If not as specified, check the power window main switch assembly. (Refer to page K1-13.)

Step 5

1. Remove the driver-side door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the power window regulator harness connector on the driver-side door with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

3. If correct, check the power window regulator (page K1-13) and go to Step 6.
4. If not as specified, repair the wiring harness (main switch assembly—regulator).

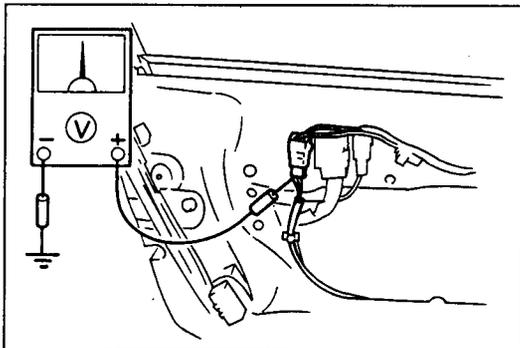
Step 6

1. Measure the voltage at the power window subswitch harness connector with the main switch in the following positions.

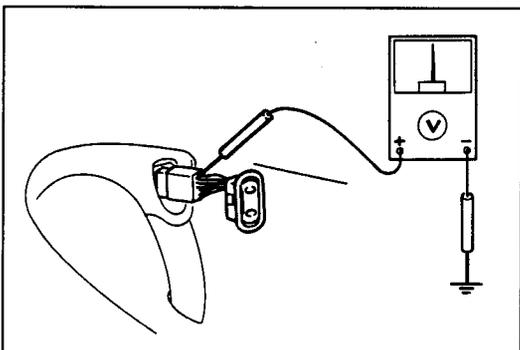
B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(B/W) wire	B+
DOWN	(B/Y) wire	B+

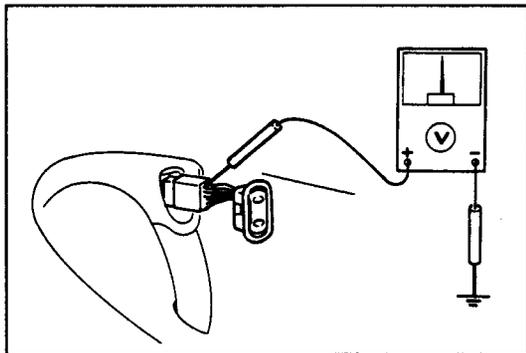
2. If correct, go to Step 7.
3. If not as specified, repair the wiring harness (main switch assembly—subswitch).



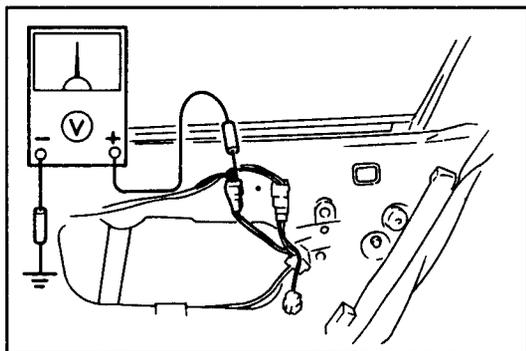
47UK1X-510



47UK1X-511



47UK1X-512



47UK1X-513

Step 7

1. Measure the voltage at the power window subswitch harness connector with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

2. If correct, go to Step 8.
3. If not as specified, check the power window subswitch. (Refer to page K1-13.)

Step 8

1. Remove the passenger-side door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the power window regulator harness connector on the passenger-side door with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

3. If correct, check the power window regulator. (Refer to page K1-13.)
4. If not as specified, repair the wiring harness (sub-switch—regulator).

K1

Flowchart No.1	Symptom	Driver-side power window does not operate
-----------------------	----------------	---

Possible cause

- Damaged power window main switch assembly
- Damaged power window regulator (driver-side door)
- Open a short circuit in wiring harness
- Poor connection of connector

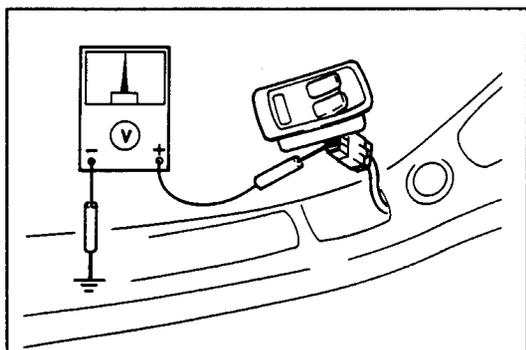
49UK1X-514

Step 1

1. Turn the ignition switch to ON.
2. Measure the voltage at the power window main switch assembly harness connector with the main switches in the following positions.

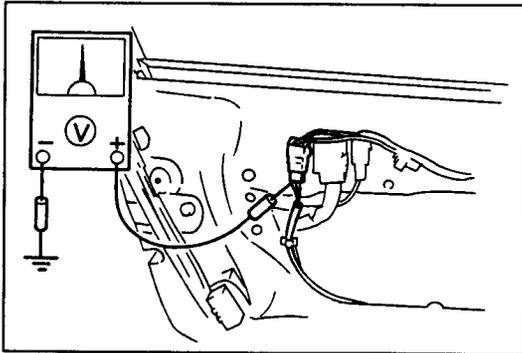
B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire (driver side)	B+
	(B/W) wire (passenger side)	B+
DOWN	(G) wire (driver side)	B+
	(B/Y) wire (passenger side)	B+



47UK1X-515

3. If correct, go to Step 2.
4. If not as specified, check the power window main switch assembly. (Refer to page K1-13.)



47UK1X-516

Step 2

1. Remove the driver-side door trim.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the power window regulator harness connector on the driver-side door with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

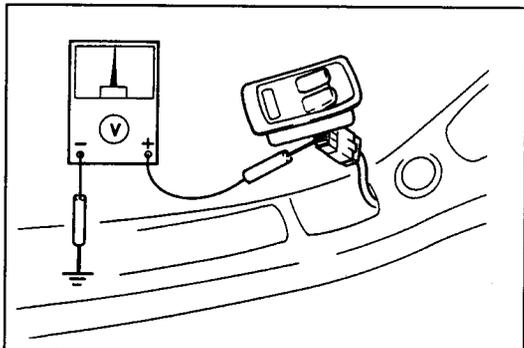
3. If correct, check the power window regulator.
(Refer to page K1-13.)
4. If not as specified, repair the wiring harness (main switch assembly—regulator).

Flowchart No.2	Symptom	Passenger-side power window does not operate by power window main switch operation

Possible cause

- Damaged power window main switch assembly
- Damaged power window subswitch
- Damaged power window regulator (passenger-side door)
- Open or short circuit in wiring harness
- Poor connector of connector

47UK1X-517



47UK1X-518

Step 1

1. Turn the ignition switch to ON.
2. Measure the voltage at the power window main switch assembly harness connector with the main switches in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire (driver side)	B+
	(B/W) wire (passenger side)	B+
DOWN	(G) wire (driver side)	B+
	(B/Y) wire (passenger side)	B+

3. If correct, go to Step 2.
4. If not as specified, check the power window main switch assembly. (Refer to page K1-13.)

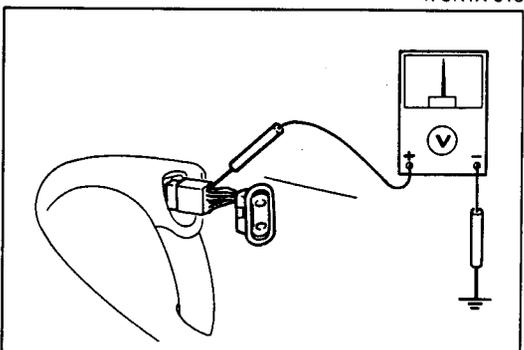
Step 2

1. Measure the voltage at the power window subswitch harness connector with the main switch in the following positions.

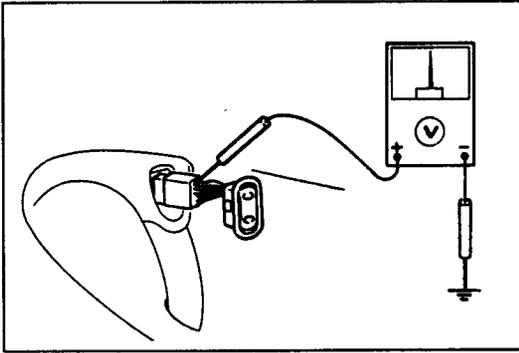
B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(B/W) wire	B+
DOWN	(B/Y) wire	B+

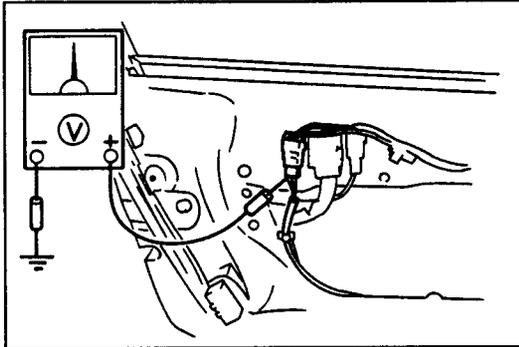
2. If correct, go to Step 3.
3. If not as specified, repair the wiring harness (main switch assembly—subswitch).



47UK1X-519



47UK1X-520



47UK1-521

Step 3

1. Measure the voltage at the power window subswitch harness connector with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

2. If correct, go to Step 4.
3. If not as specified, check the power window subswitch. (Refer to page K1-13.)

Step 4

1. Remove the passenger-side door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the power window regulator harness connector on the passenger-side door with the main switch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(R) wire	B+
DOWN	(G) wire	B+

3. If correct, check the power window regulator. (Refer to page K1-13.)
4. If not as specified, repair the wiring harness (sub-switch—regulator).

Flowchart No.4	Symptom	Driver-side power window does not operate with one-touch operation
-----------------------	----------------	--

Possible cause

- Damaged power window main switch assembly

Remedy

Check the power window main switch assembly. (Refer to page K1-13.)

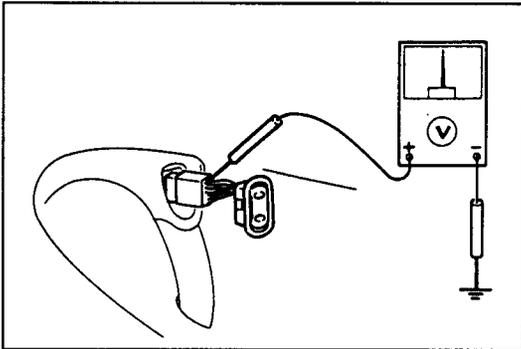
47UK1X-522

Flowchart No.5	Symptom	Passenger-side power window can be operated by power window main switch, but cannot be operated by power window subswitch
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Possible cause

- Damaged power window subswitch
- Open a short circuit in wiring harness
- Poor connection of connector

47UK1X-523



47UK1X-524

Step 1

1. Turn the ignition switch to ON.
2. Turn the power-cut switch to ON.
3. Measure the voltage at the power window subswitch harness connector with the subswitch in the following positions.

B+: Battery positive voltage

Switch position	Terminal	Voltage
UP	(W/L) wire	B+
DOWN		

4. If correct, check the power window subswitch. (Refer to page K1-13.)
5. If not as specified, repair the wiring harness (fuse block—subswitch).

Flowchart No.6	Symptom	Passenger-side power window can be operated by power window subswitch when power-cut switch is at OFF
-----------------------	----------------	---

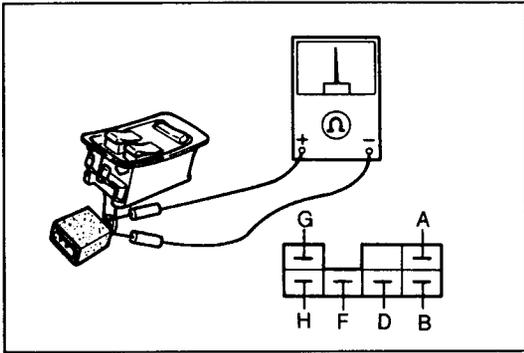
Possible cause

- Damaged power-cut switch

Remedy

Replace the power window main switch assembly.

47UK1X-525



47UK1X-526

POWER WINDOW MAIN SWITCH ASSEMBLY

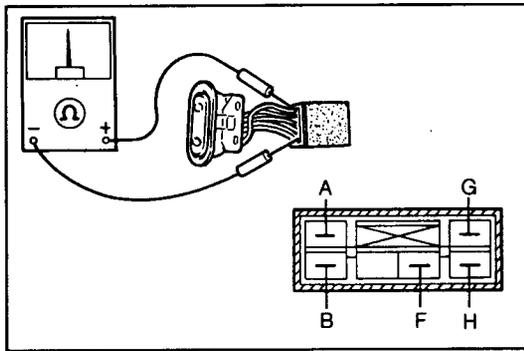
Inspection

1. Remove the power window main switch assembly.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Make sure the power-cut switch is at ON.
3. Check for continuity between the main switch assembly terminals with the main switches in the following positions.

Switch position \ Switch Terminal	Driver				Passenger			
	A	B	G	H	A	B	D	F
UP	○	○	○	○	○	○	○	○
OFF		○	○	○		○	○	○
DOWN	○	○		○	○	○		○

○-○ : Continuity

4. If not as specified, replace the power window main switch assembly.



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POWER WINDOW SUBSWITCH

Inspection

1. Remove the power window subswitch.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check for continuity between the subswitch terminals with the subswitch in the following positions.

Switch position \ Terminal	A	B	F	G	H
UP		○		○	○
OFF	○	○	○	○	○
DOWN	○	○		○	

○-○ : Continuity

3. If not as specified, replace the power window sub-switch.

POWER WINDOW REGULATOR

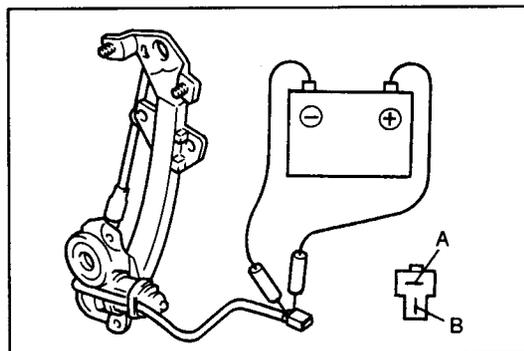
Inspection

1. Remove the power window regulator.
(Refer to page K1-14.)
2. Disconnect the power window regulator connector.
3. Apply battery positive voltage and check the operation of the power window motor as indicated below.

B+ : Battery positive voltage

Connection		Operation
B+	GND	
A	B	UP
B	A	DOWN

4. If not as specified, replace the power window regulator.



47UK1X-528

COMPONENTS

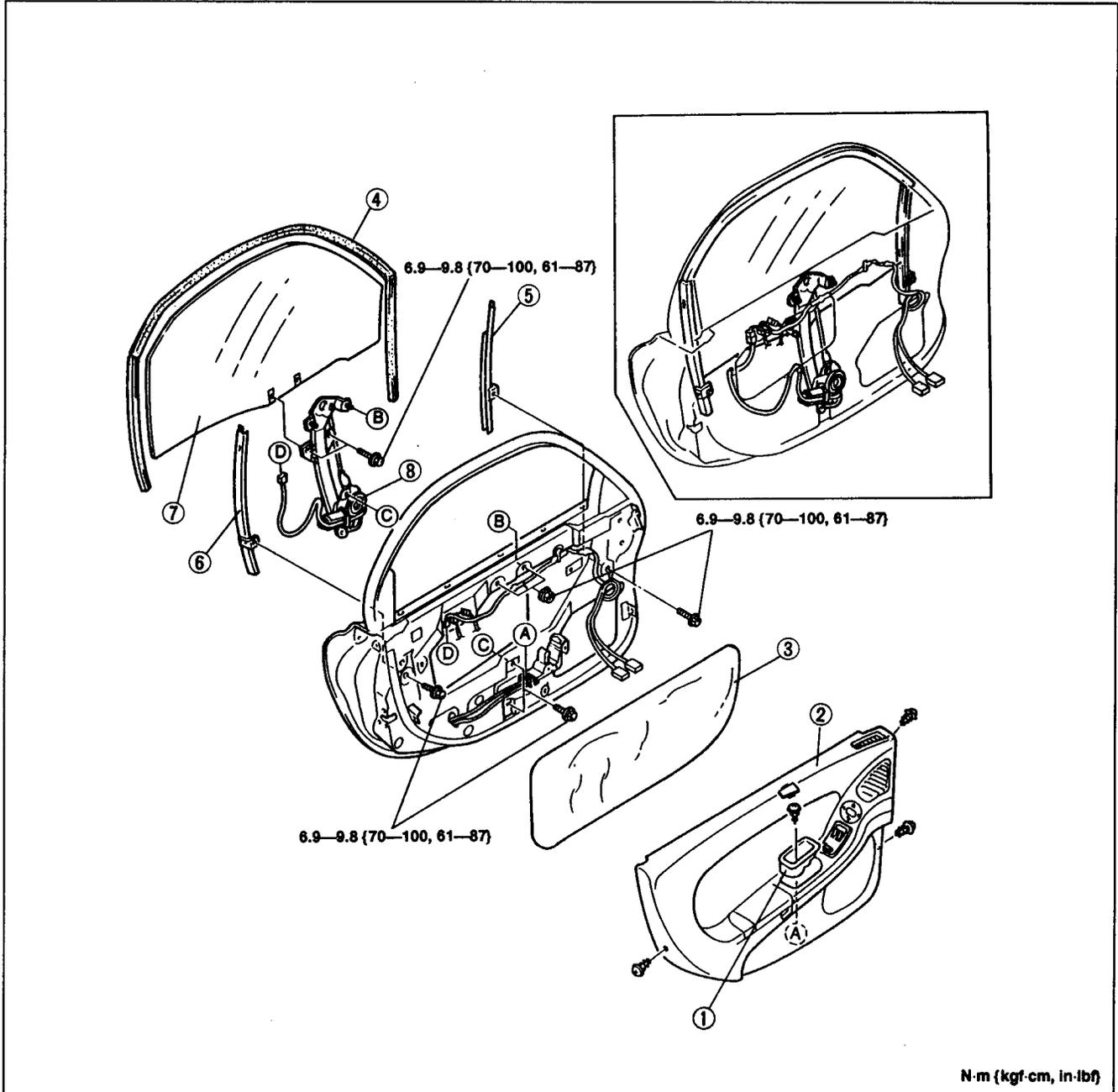
Removal / Installation

1. Lower the door glass 280 mm {11.0 in} from the fully raised position.
2. Disconnect the negative battery cable.

Note

- Remove the door screen carefully so that it may be reused.

3. Remove in the order shown in the figure. (Refer to the 1994 RX-7 Workshop Manual, section S, when removing the door trim.)
4. Install in the reverse order of removal.



N·m (kgf·cm, in·lbf)

47UK1X-529

1. Inner handle cover
2. Door trim
3. Door screen
4. Glass run channel

5. Glass guide A
6. Glass guide B
7. Door glass
8. Power window regulator

Inspection page K1-13

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

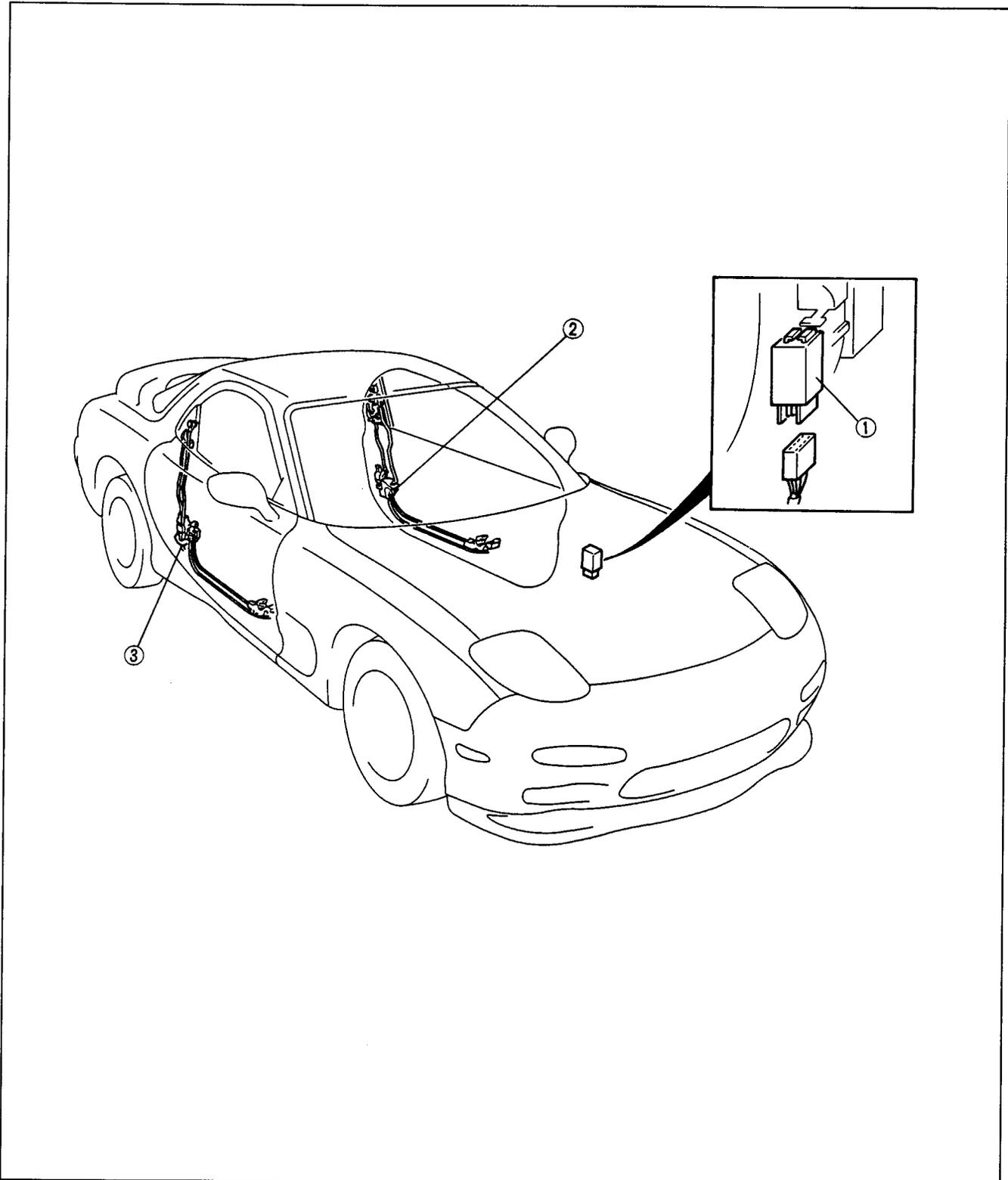
POWER DOOR LOCK SYSTEM

STRUCTURAL VIEW.....	K2- 2
SYSTEM DIAGRAM.....	K2- 3
TROUBLESHOOTING	K2- 5
DOOR LOCK SWITCH.....	K2-10
DOOR LOCK TIMER UNIT	K2-10
POWER DOOR LOCK ACTUATOR.....	K2-10

47UK2X-501

POWER DOOR LOCK SYSTEM

STRUCTURAL VIEW

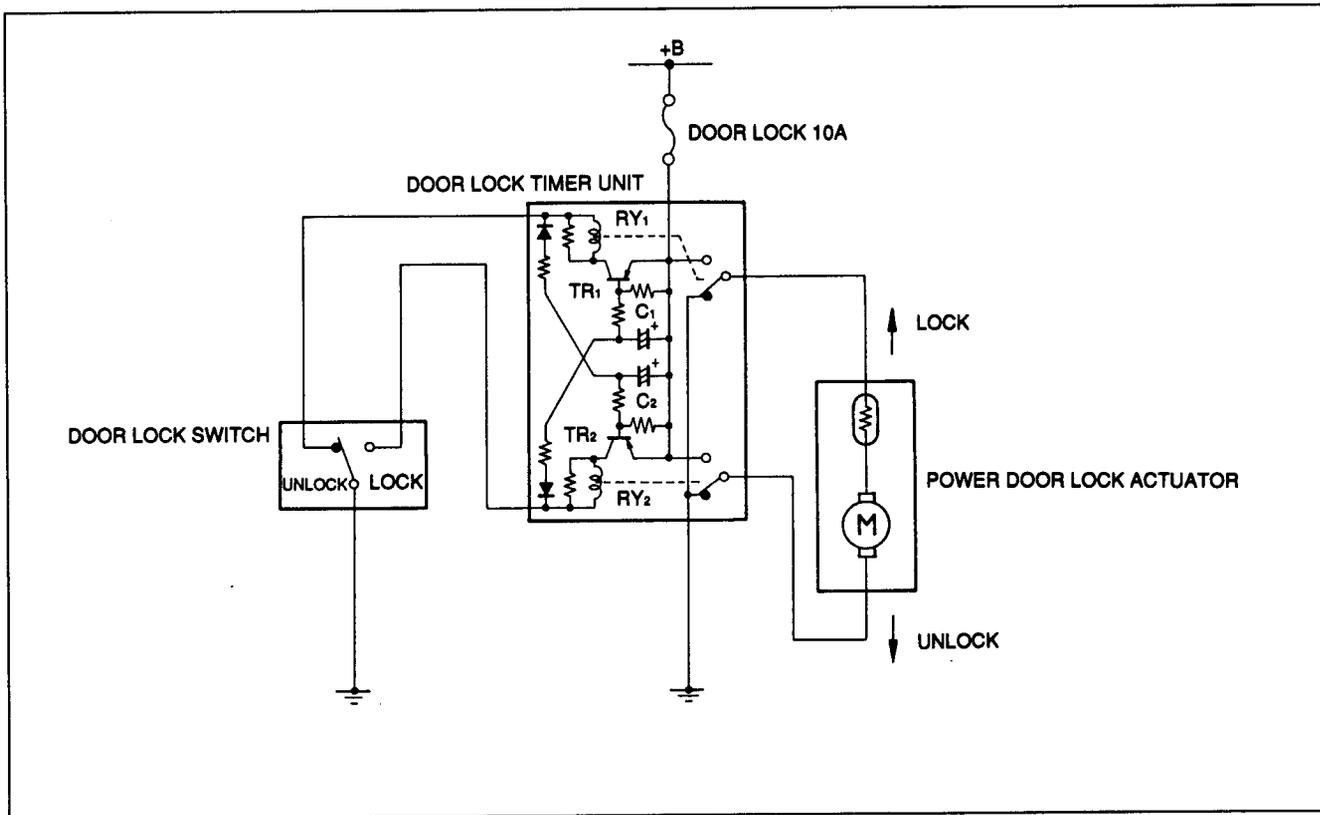


37U0SX-744

- 1. Door lock timer unit
Inspection page K2-10
- 2. Door lock switch (door lock)
Inspection page K2-10
Removal / Installation page K2-11

- 3. Power door lock actuator (door lock)
Inspection page K2-10
Removal / Installation page K2-11

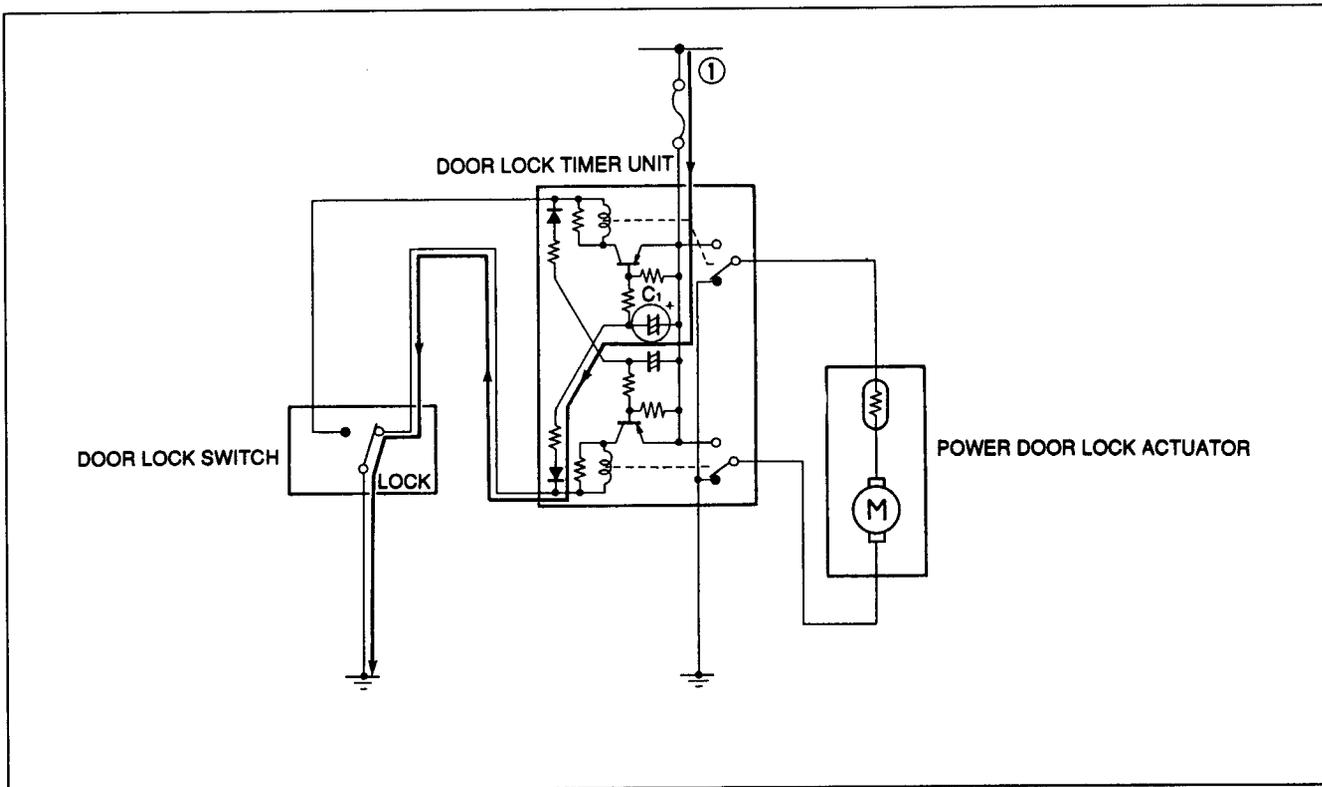
Circuit Diagram



K2

1PE0SX-527

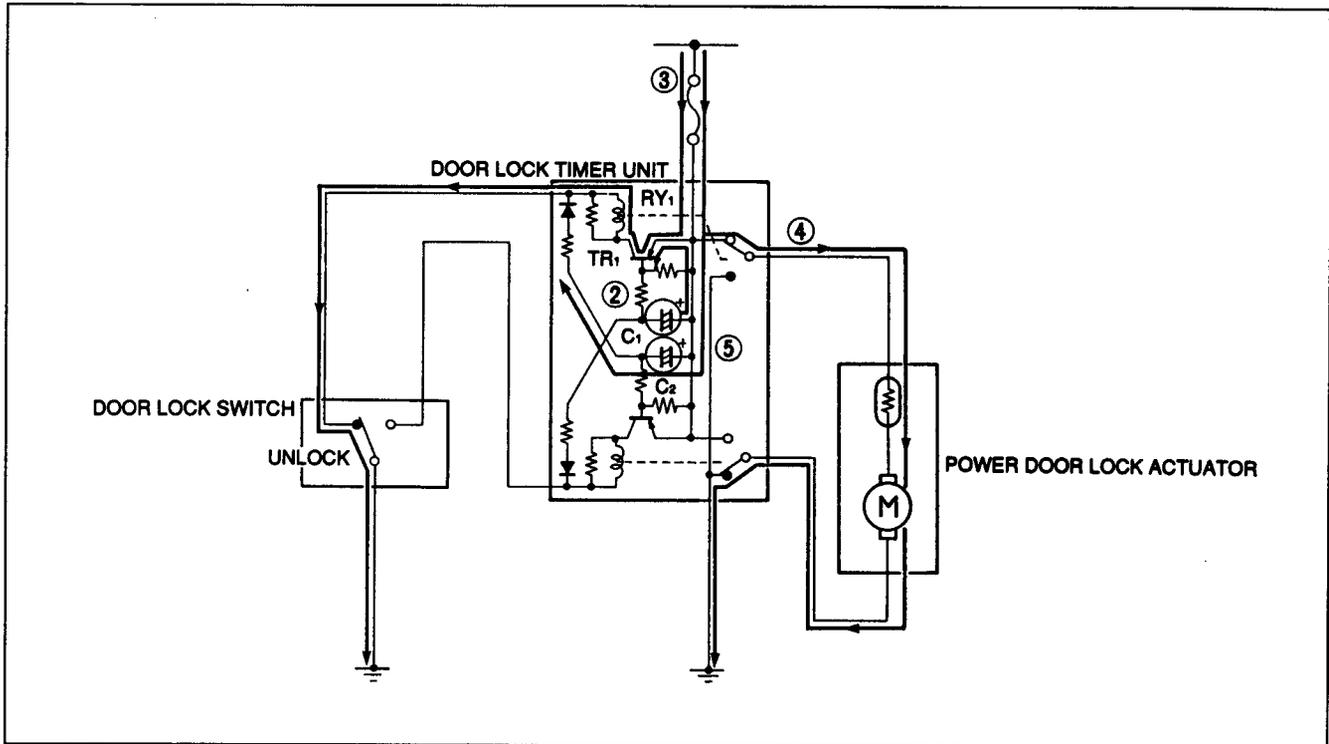
System Operation



47UK2X-502

1. Locked condition

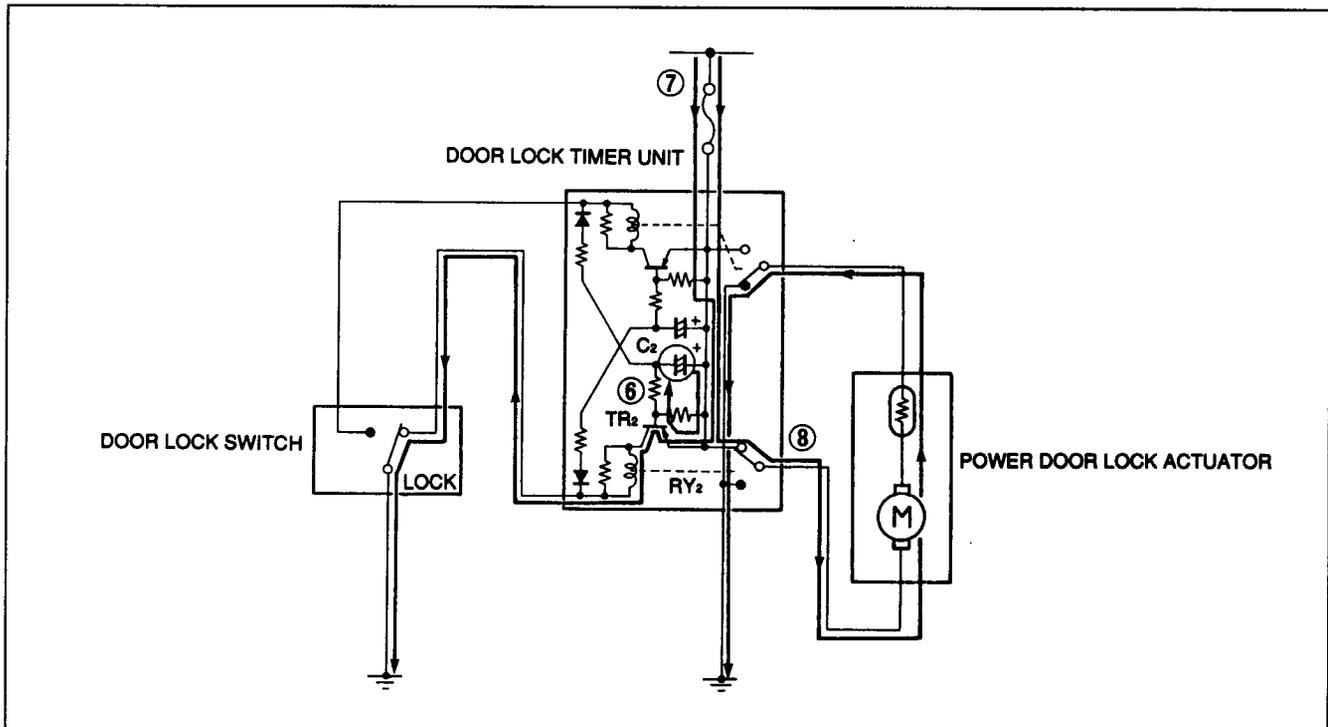
When the door lock switch is in the LOCK position, current ① flows through condenser C₁ of the door lock timer unit to ground.



47UK2X-503

2. Operation from locked to unlocked

- When the door lock switch is moved to the UNLOCK position, condenser C₁ discharge current ② turns on transistor TR₁. Current ③ turns on relay RY₁, and current ④ activates the power door lock actuator.
- Current ⑤ fully charges condenser C₂.



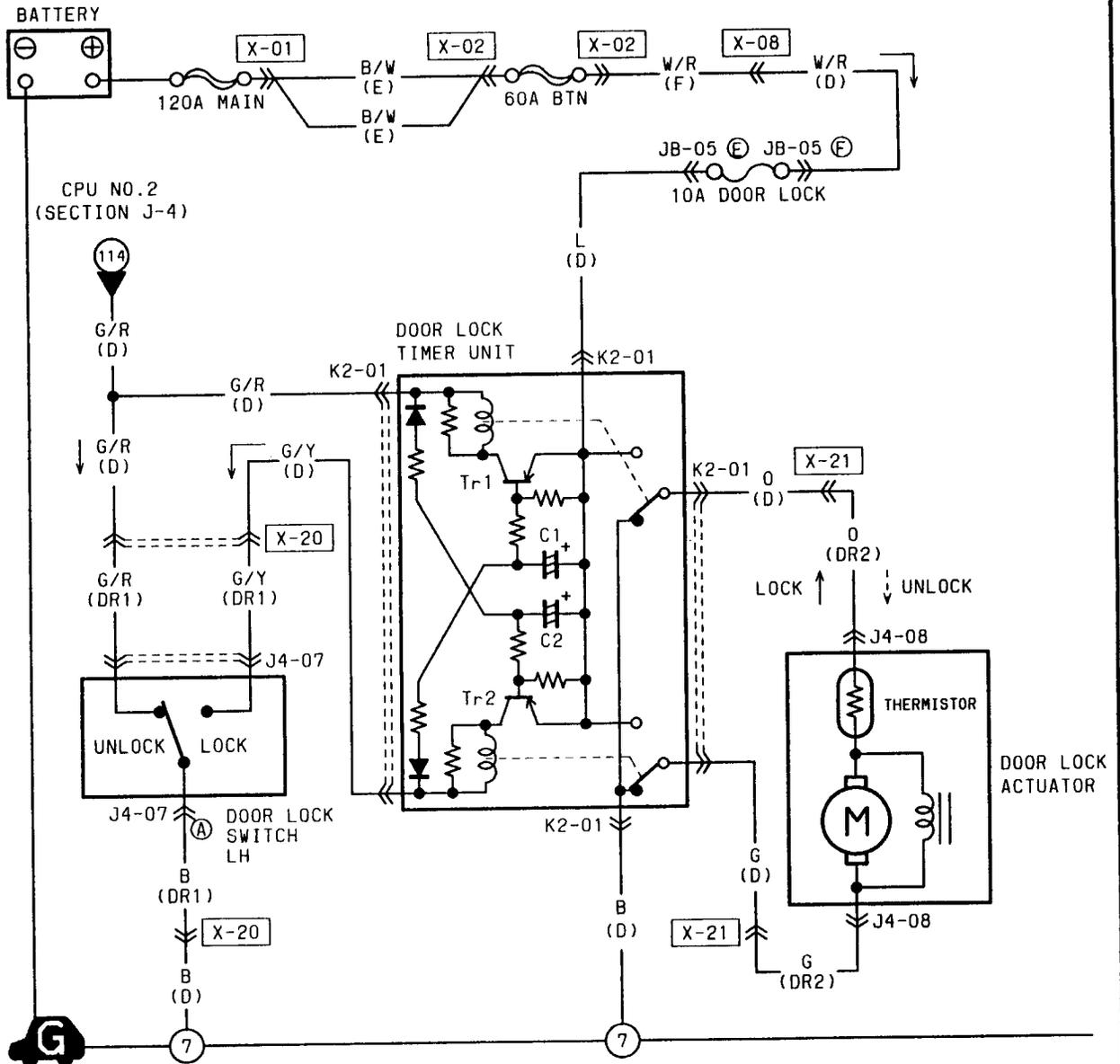
47UK2X-504

3. Operation from unlocked to locked

- When the door lock switch is moved from the UNLOCK to the LOCK position, condenser C₂ discharge current ⑥ turns on transistor TR₂. Current ⑦ turns on relay RY₂, and current ⑧ activates the power door lock actuator.

TROUBLESHOOTING
Circuit Diagram

K-2 ■ POWER DOOR LOCK



K2-01 DOOR LOCK TIMER UNIT (D)

*	G	G/R	B
*	O	G/Y	L

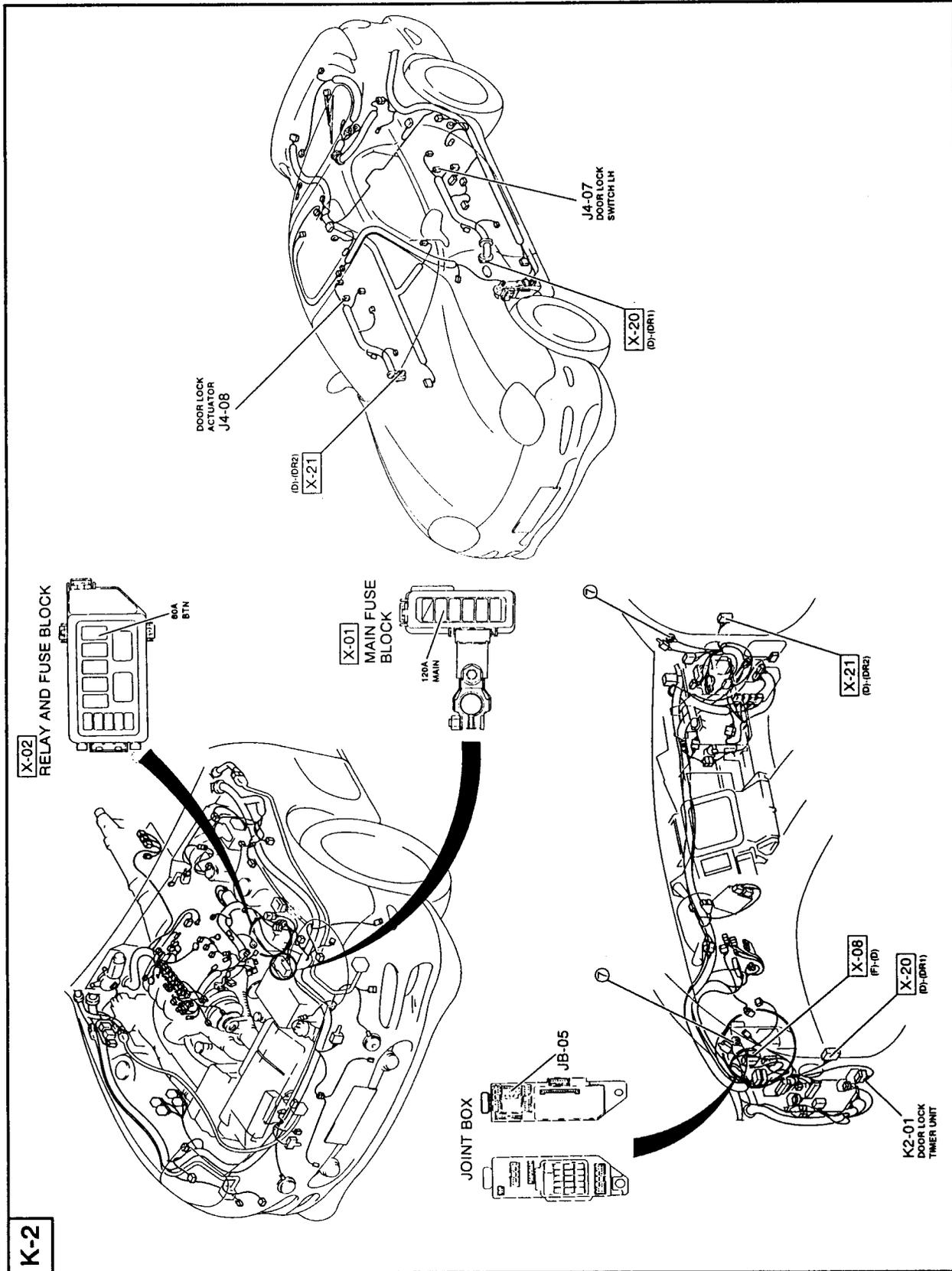
J4-07 DOOR LOCK SWITCH LH (DR1)

(A)	B	G/Y	G/R	*	Y	(E)	B
-----	---	-----	-----	---	---	-----	---

J4-08 DOOR LOCK ACTUATOR (DR2)

G/B	O
B	G

Connector Locations



Checklist

	Procedure / Proper operation	Symptom	Flowchart No.
	<p>Key lock interlock system: Operate driver-side door lock cylinder with key, and verify that passenger-side door locks and unlocks.</p> <p>Lock knob interlock system: Operate driver-side door lock knob, and verify that passenger-side door locks and unlocks.</p>	Power door lock system on passenger side does not function	1

47UK2X-505

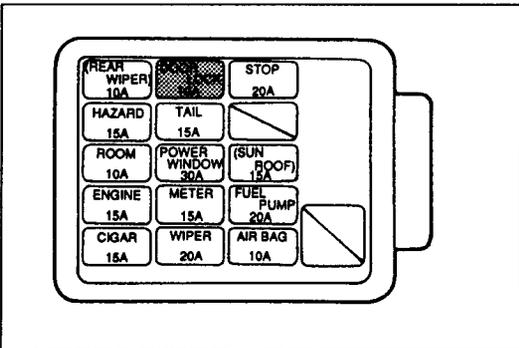
Flowchart No.1	Symptom	Power door lock system on passenger side does not function
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Possible cause

- Burnt DOOR LOCK 10A fuse
- Damaged door lock timer unit
- Damaged door lock switch
- Damaged power door lock actuator
- Open or short circuit in wiring harness
- Poor connection of connector

K2

47UK2X-506

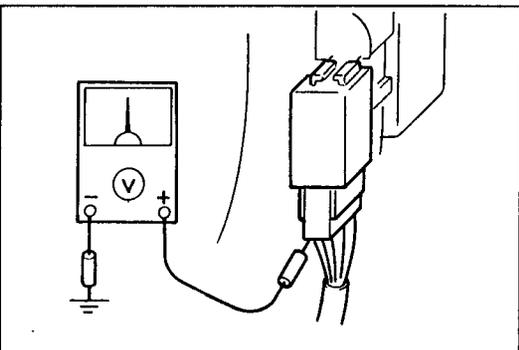


37U0SX-731

Step 1

Check the DOOR LOCK 10A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



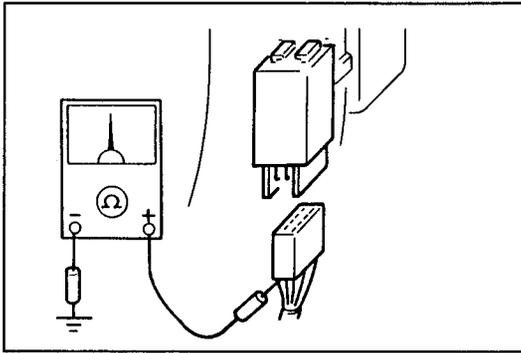
47UK2X-507

Step 2

1. Remove the front side trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the (L) terminal wire of the door lock timer unit.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Fuse block—Door lock timer unit)



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Step 3

1. Disconnect the door lock timer unit harness connector.
2. Check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (Door lock timer unit—GND)

Step 4

1. Check for continuity between the (G/Y) and (G/R) terminal wires of the door lock timer unit harness connector and ground with the door lock knob in the following positions.

Knob position \ Terminal	(G/Y) wire	(G/R) wire
Locked	○	×
Unlocked	×	○

○: Continuity

2. If correct, go to Step 7.
3. If not as specified, go to Step 5.

Step 5

1. Remove the door trim. (Refer to page K2-11.)
2. Disconnect the door lock switch harness connector.
3. Check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Go to Step 6
No	Repair wiring harness (Door lock switch—GND)

Step 6

1. Check for continuity between the terminals of the door lock switch harness connector.

Switch condition \ Terminal	A	B	C
Locked	○—○	○—○	
Unlocked	○—○		○—○

○—○: Continuity

2. If correct, repair the wiring harness (door lock timer unit—door lock switch)
3. If not as specified, the door lock switch.

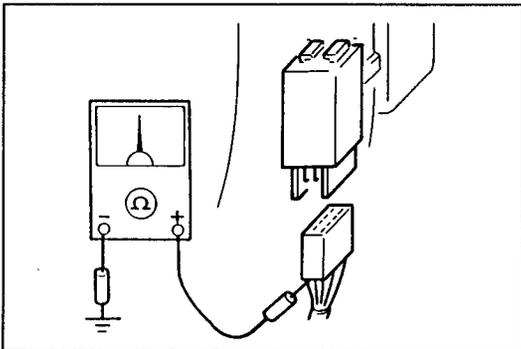
Step 7

1. Measure the voltage at the (G) and (O) terminal wires of the door lock timer unit harness connector with the door lock knob in the following positions.

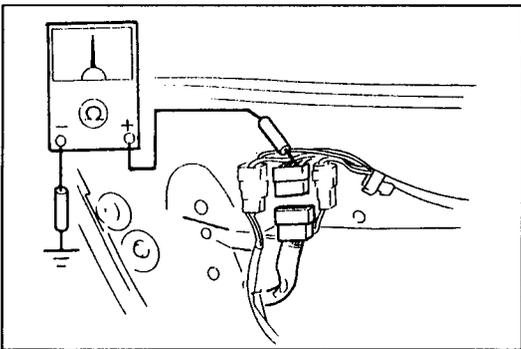
B+: Battery positive voltage

Knob position	Terminal	Voltage
Unlocked → Locked	(G) wire	0V → B+ → 0V
Locked → Unlocked	(O) wire	0V → B+ → 0V

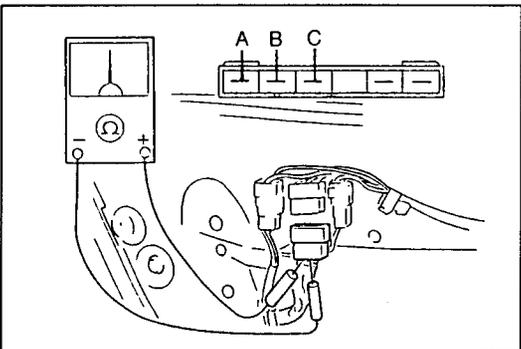
2. If correct, go to Step 8.
3. If not as specified, replace the door lock timer unit



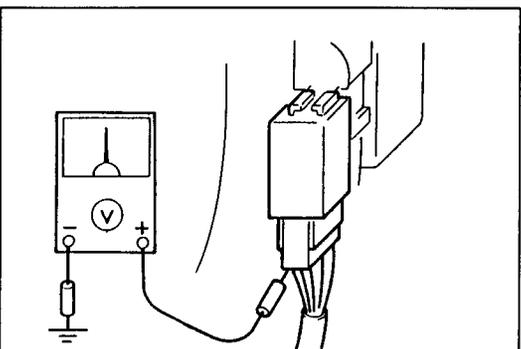
47UK2X-509



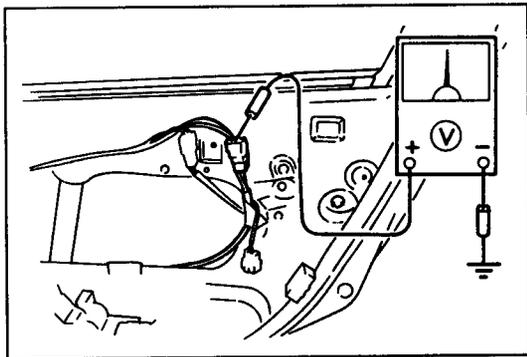
47UK2X-510



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47UK2X-512



47UK2X-513

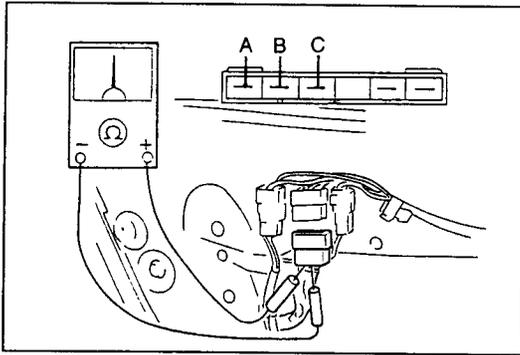
Step 8

1. Measure the voltage at the terminal wires of the power door lock actuator harness connector with the door lock knob in the following positions.

B+: Battery positive voltage

Knob position	Terminal	Voltage
Unlocked → Locked	(G) wire	0V → B+ → 0V
Locked → Unlocked	(O) wire	0V → B+ → 0V

2. If correct, check the power door lock actuator. (Refer to page K2-10.)
3. If not as specified, repair the wiring harness (door lock timer unit—power door lock actuator).



47UK2X-514

DOOR LOCK SWITCH

Inspection

1. Remove the door trim and door screen. (Refer to page K2-11.)
2. Check for continuity between the terminals of the door lock switch harness connector.

Terminal	A	B	C
Switch condition			
Locked	○—○	○—○	
Unlocked	○—○		○—○

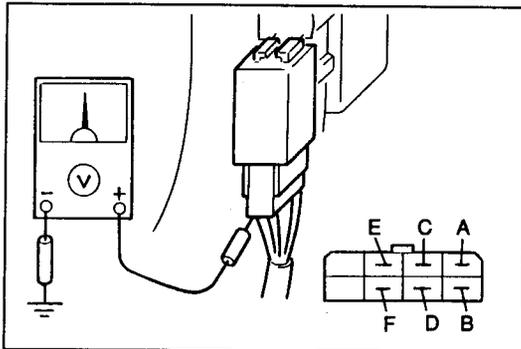
○—○ : Continuity

3. If not as specified, replace the door lock switch.

DOOR LOCK TIMER UNIT

Inspection

1. Remove the front side trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage between the door lock timer unit terminals as indicated below.
3. If not as specified, replace the door lock timer unit.

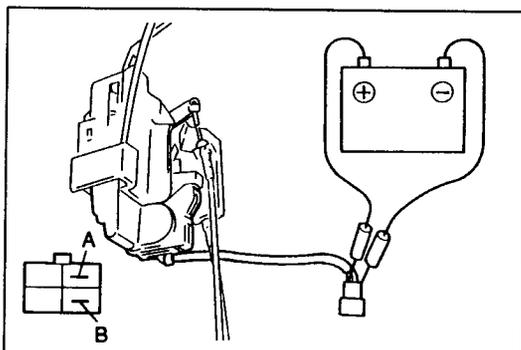


47UK2X-515

B+: Battery positive voltage

Terminal	Connection	Test condition	Voltage
A	Ground	Constant	0V
B	Door lock 10A fuse	Constant	B+
C	Door lock switch	Door lock switch unlocked	0V
		Other	B+
D	Door lock switch	Door lock switch locked	0V
		Other	B+
E	Power door lock actuator	Unlocked → Locked	0V → B+ → 0V
		Other	0V
F	Power door lock actuator	Locked → Unlocked	0V → B+ → 0V
		Other	0V

47UK2X-516



47UK2X-517

POWER DOOR LOCK ACTUATOR

Inspection

1. Remove the door trim and door screen. (Refer to page K2-11.)
2. Disconnect the door lock actuator connector.
3. Apply battery positive voltage and check the operation of the actuator.

B+: Battery positive voltage

Connection		Actuator operation
B+	Ground	
B	A	Lock
A	B	Unlock

DOOR LOCK AND OPENER

COMPONENTS

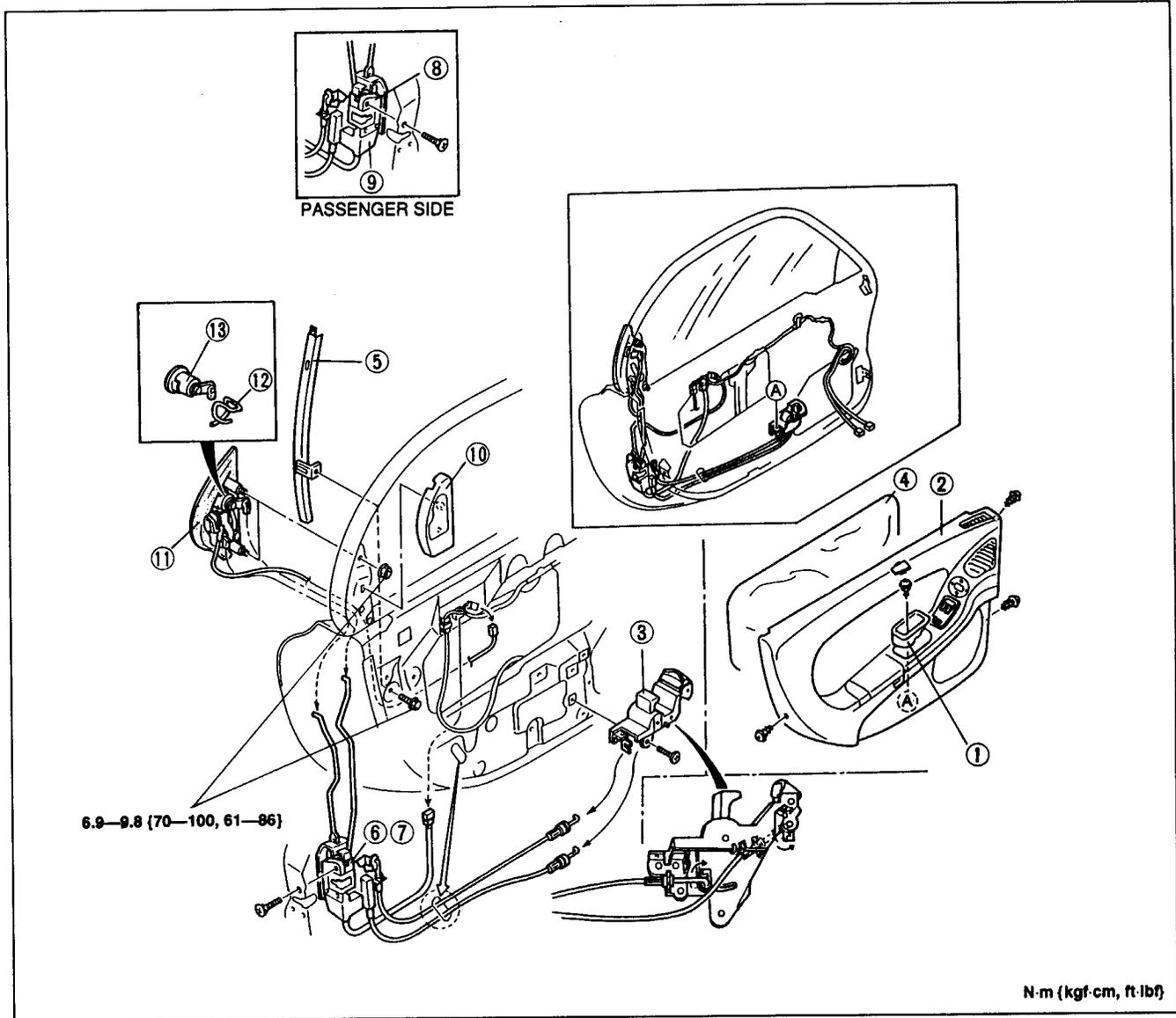
Removal / Installation

1. Raise the front door glass fully.
2. Disconnect the negative battery cable.

Note

- Remove the door screen carefully so that it may be reused.

3. Remove in the order shown in the figure. (Refer to the 1994 RX-7 Workshop Manual, section S, when removing the door trim.)
4. Install in the reverse order of removal.



47UK2X-518

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Inner handle cover 2. Door trim 3. Inner handle 4. Door screen 5. Glass guide B 6. Door lock 7. Door lock switch (door lock)
Inspection page K2-10 | <ol style="list-style-type: none"> 8. Door lock 9. Power door lock actuator (door lock)
Inspection page K2-10 10. Inner garnish 11. Outer handle 12. Lock cylinder retainer 13. Lock cylinder |
|---|---|

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

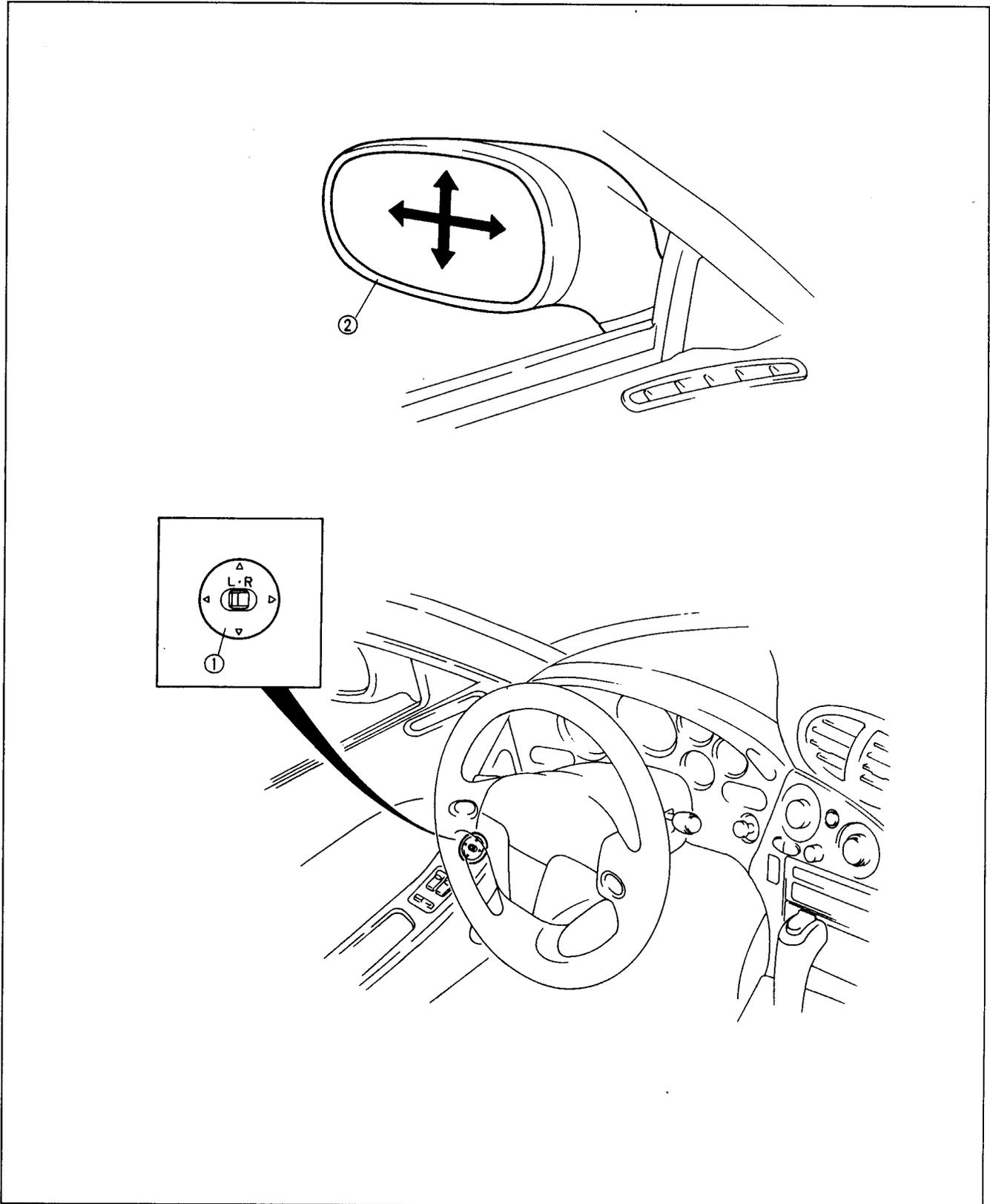
POWER OUTSIDE MIRROR

STRUCTURAL VIEW L- 2
SYSTEM DIAGRAM L- 3
TROUBLESHOOTING..... L- 5
POWER OUTSIDE MIRROR SWITCH' L-10
POWER OUTSIDE MIRROR..... L-10
COMPONENTS L-11

47U0LX-501

POWER OUTSIDE MIRROR

STRUCTURAL VIEW

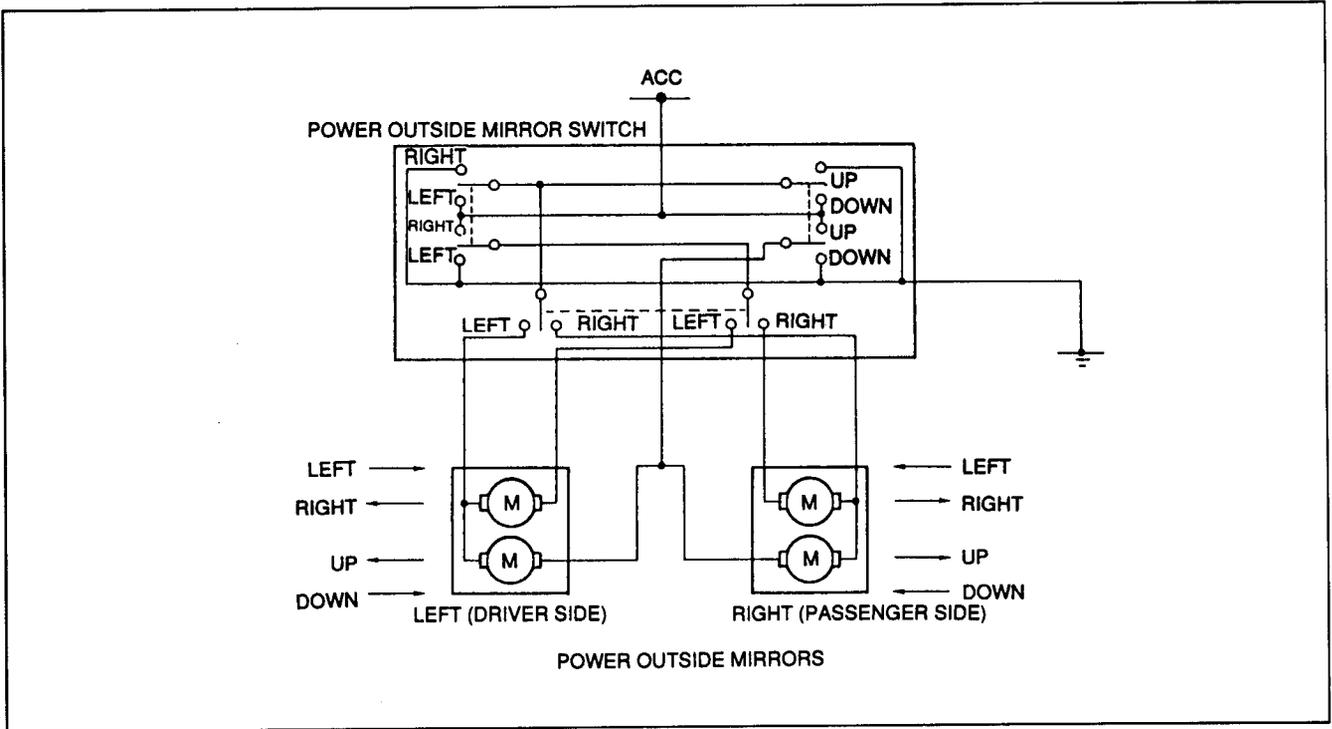


2PU0SX-661

1. Power outside mirror switch
Inspection..... page L-10
Removal / Installation..... page L-11

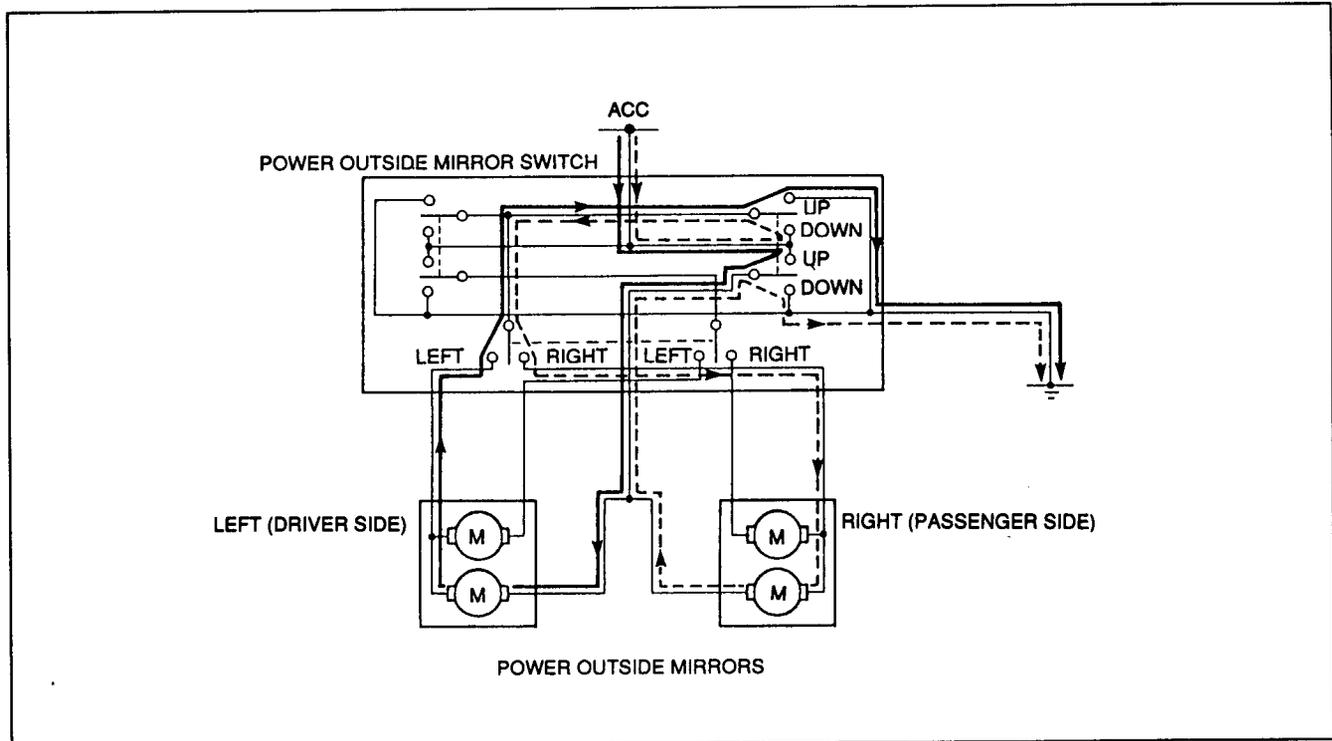
2. Power outside mirror
Inspection..... page L-10
Removal / Installation..... page L-11

SYSTEM DIAGRAM



2PU0SX-673

System Operation

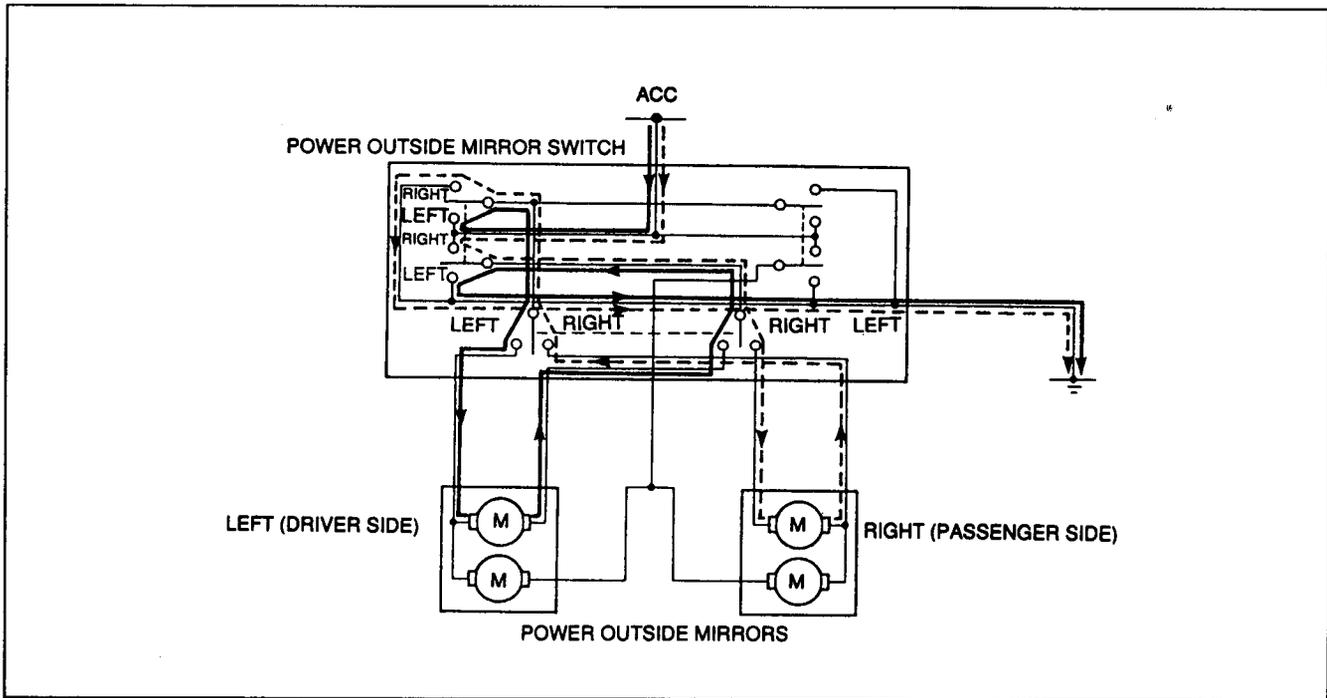


2PU0SX-662

1. Vertical adjustment

- When the selector switch is set to the left and the top of the power outside mirror switch is pressed, current flows (solid line), the motor turns, and the left mirror glass angles upward. (Right mirror operation is similar.)
- When the selector switch is set to the right and the bottom of the power outside mirror switch is pressed, current flows (broken line), the motor turns, and the right mirror glass angles downward. (Left mirror operation is similar.)

POWER OUTSIDE MIRROR



2PU0SX-663

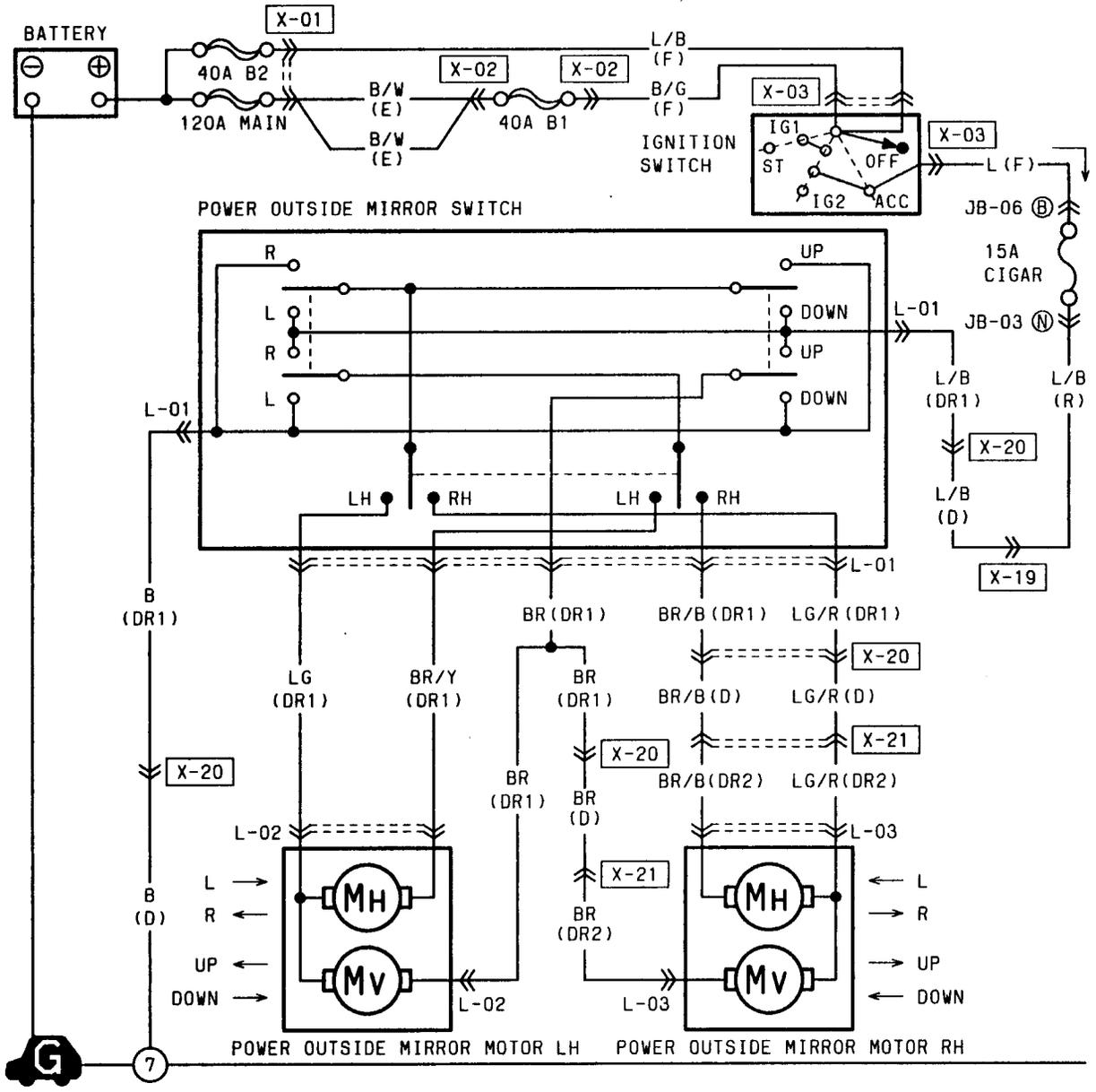
2. Horizontal adjustment

- When the selector switch is set to the left and the right side of the power outside mirror switch is pressed, current flows (solid line), the motor turns, and the left mirror glass angles to the right. (Right mirror operation is similar.)
- When the selector switch is set to the right and the left side of the power outside mirror switch is pressed, current flows (broken line), the motor turns, and the right mirror glass angles to the left. (Left mirror operation is similar.)

POWER OUTSIDE MIRROR

TROUBLESHOOTING Circuit Diagram

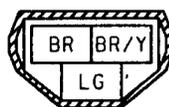
L ■ POWER OUTSIDE MIRROR



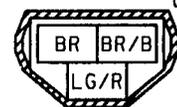
L-01 POWER OUTSIDE MIRROR SWITCH (DR1)

*	L/B		LG	LG/R
BR	B	BR/Y BR/B	*	*

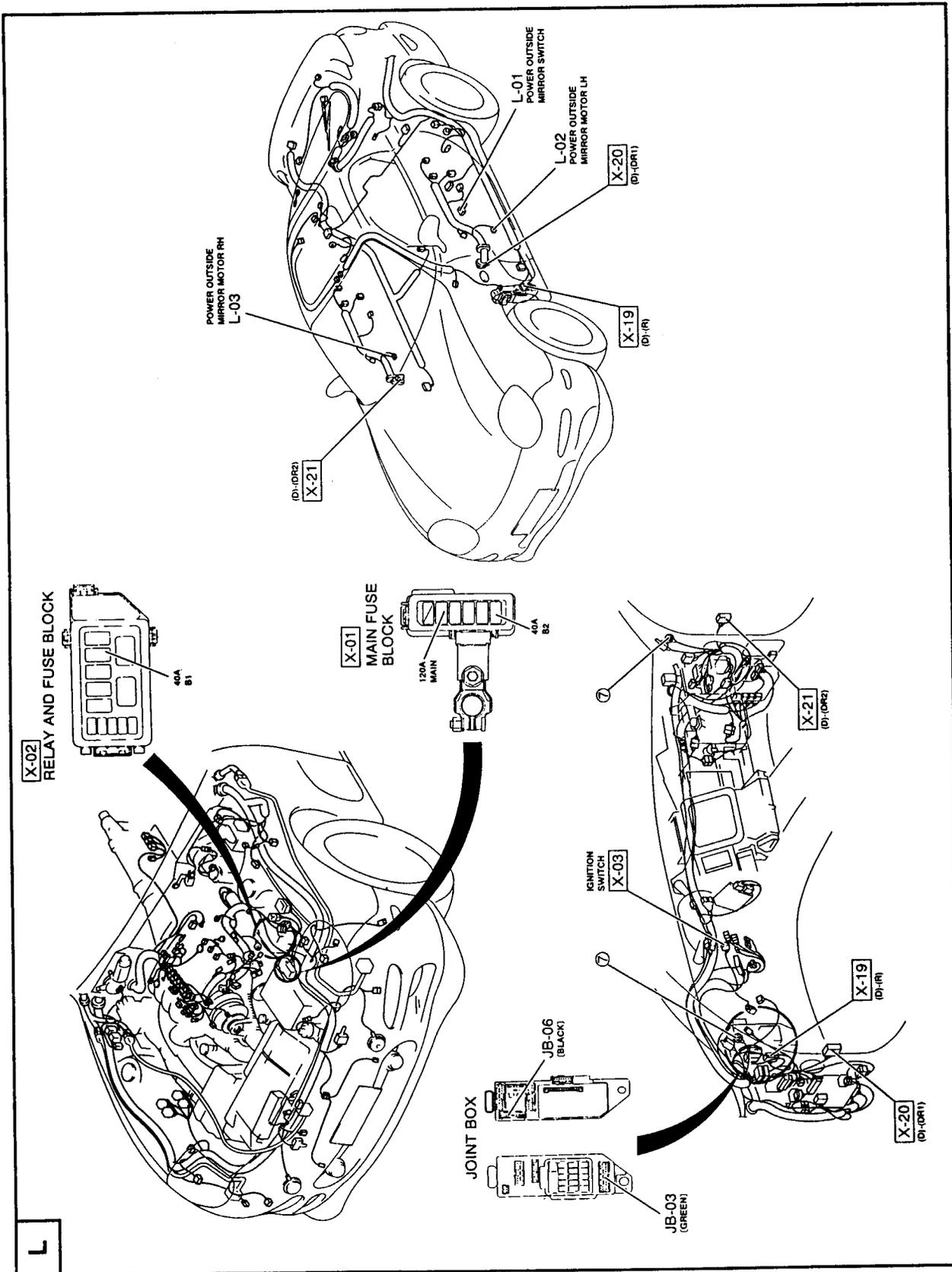
L-02 POWER OUTSIDE MIRROR MOTOR LH (DR1)



L-03 POWER OUTSIDE MIRROR MOTOR RH (DR2)



Connector Locations



Checklist

Procedure / Proper operation	Symptom	Flowchart No.
Operate power outside mirror switch and verify that outside mirrors move vertically and horizontally.	Power outside mirrors do not function	1
	One power outside mirror does not function	2
	Right power outside mirror does not move vertically or horizontally	
	Left power outside mirror does not move vertically or horizontally	

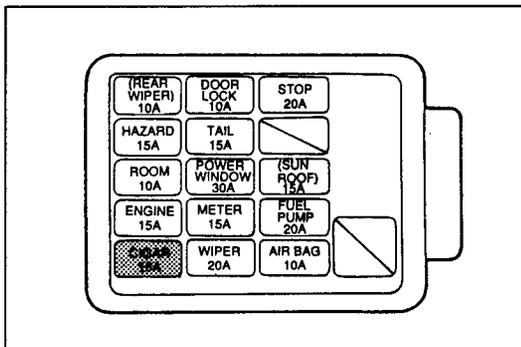
47U0LX-502

Flowchart No.1	Symptom	Power outside mirrors do not function
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Possible cause

- Burnt CIGAR 15A fuse
- Damaged power outside mirror
- Damaged power outside mirror switch
- Open or short circuit in wiring harness
- Poor connection of connector

47U0LX-503

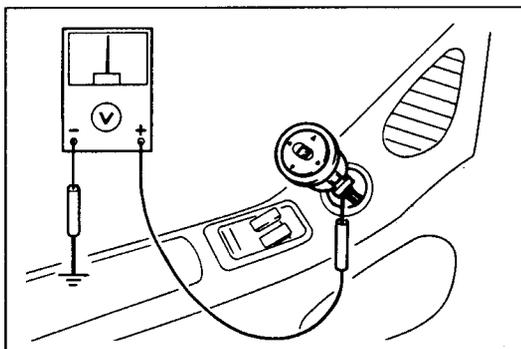


37U0SX-721

Step 1

Check the CIGAR 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



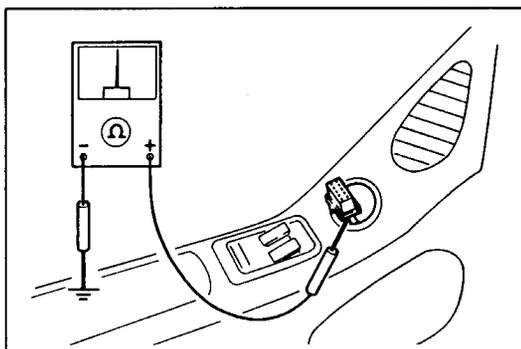
47U0LX-504

Step 2

1. Turn the ignition switch to ON.
2. Measure the voltage at the (L/B) terminal wire of the power outside mirror switch connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Replace wiring harness (Fuse block—Power outside mirror switch)

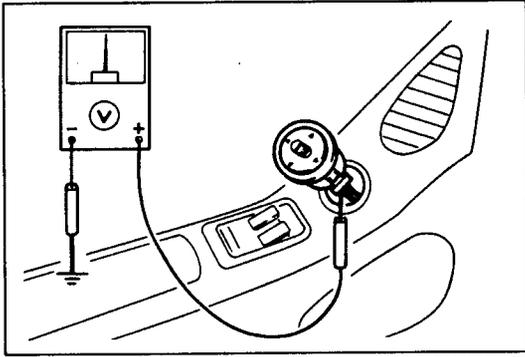


47U0LX-505

Step 3

Disconnect the power outside mirror switch connector and check for continuity between the (B) terminal wire and ground.

Continuity	Action
Yes	Go to Step 4
No	Repair wiring harness (Power outside mirror switch—GND)



47U0LX-506

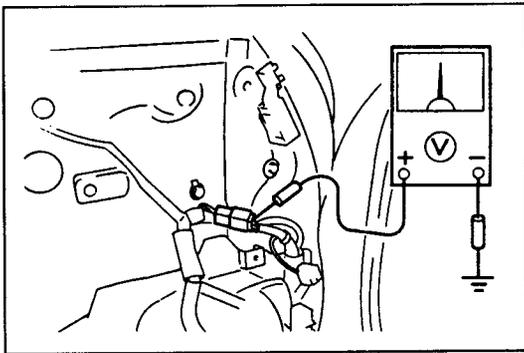
Step 4

1. Measure the voltage at the terminal wires of the power outside mirror switch connector with the mirror switch in the following positions.

B+: Battery positive voltage

Switch position		Terminal	Voltage
Right	UP	(BR) wire	B+
	DOWN	(LG/R) wire	B+
	LEFT	(LG/R) wire	B+
	RIGHT	(BR/B) wire	B+
Left	UP	(BR) wire	B+
	DOWN	(LG) wire	B+
	LEFT	(LG) wire	B+
	RIGHT	(BR/Y) wire	B+

2. If correct, go to Step 5.
3. If not as specified, check the power outside mirror switch. (Refer to page L-10.)



47U0LX-507

Step 5

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the terminal wires of the power outside mirror connector with the mirror switch in the following positions.

B+: Battery positive voltage

Switch position		Terminal	Voltage
Right	UP	(BR) wire	B+
	DOWN	(LG/R) wire	B+
	LEFT	(LG/R) wire	B+
	RIGHT	(BR/B) wire	B+
Left	UP	(BR) wire	B+
	DOWN	(LG) wire	B+
	LEFT	(LG) wire	B+
	RIGHT	(BR/Y) wire	B+

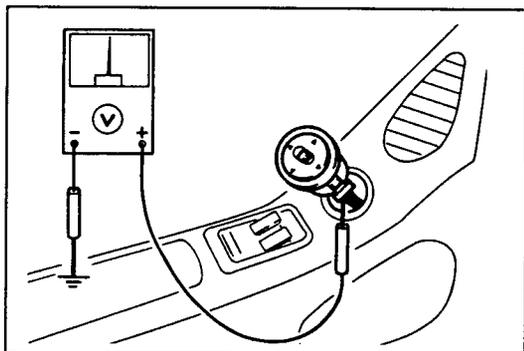
3. If correct, check the power outside mirror. (Refer to page L-10.)
4. If not as specified, repair the wiring harness (power outside mirror switch—power outside mirror).

Flowchart No.2	Symptom	One power outside mirror does not function
		Right power outside mirror does not move vertically or horizontally
		Left power outside mirror does not move vertically or horizontally

Possible cause

- Damaged power outside mirror
- Damaged power outside mirror switch
- Open or short circuit in wiring harness
- Poor connection of connector

1PE0SX-112



47U0LX-508

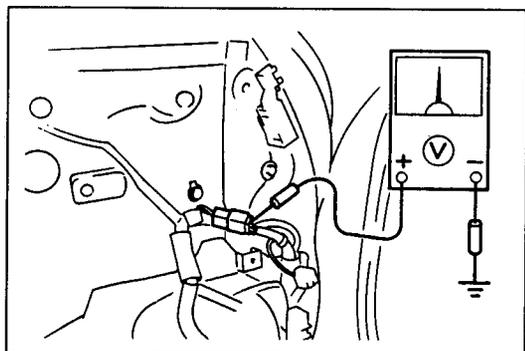
Step 1

1. Measure the voltage at the terminal wires of the power outside mirror switch connector with the mirror switch in the following positions.

B+: Battery positive voltage

Switch position		Terminal	Voltage
Right	UP	(BR) wire	B+
	DOWN	(LG/R) wire	B+
	LEFT	(LG/R) wire	B+
	RIGHT	(BR/B) wire	B+
Left	UP	(BR) wire	B+
	DOWN	(LG) wire	B+
	LEFT	(LG) wire	B+
	RIGHT	(BR/Y) wire	B+

2. If correct, go to Step 2.
3. If not as specified, check the power outside mirror switch. (Refer to page L-10.)



47U0LX-509

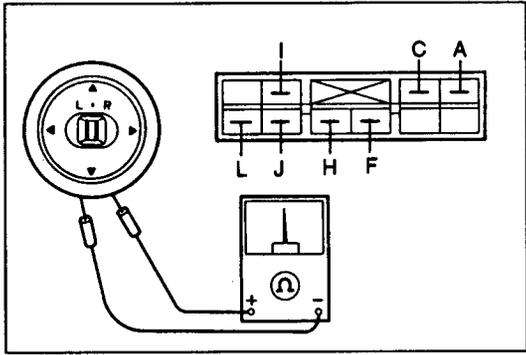
Step 2

1. Remove the door trim. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the terminal wires of the power outside mirror connector with the mirror switch in the following positions.

B+: Battery positive voltage

Switch position		Terminal	Voltage
Right	UP	(BR) wire	B+
	DOWN	(LG/R) wire	B+
	LEFT	(LG/R) wire	B+
	RIGHT	(BR/B) wire	B+
Left	UP	(BR) wire	B+
	DOWN	(LG) wire	B+
	LEFT	(LG) wire	B+
	RIGHT	(BR/Y) wire	B+

3. If correct, check the power outside mirror. (Refer to page L-10.)
4. If not as specified, repair the wiring harness (power outside mirror switch—power outside mirror).



47U0LX-508

POWER OUTSIDE MIRROR SWITCH

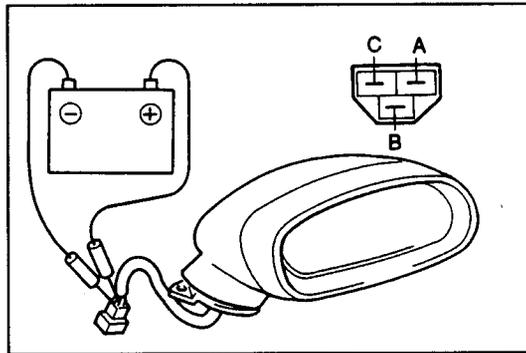
Inspection

1. Remove the power outside mirror switch.
(Refer to page L-11.)
2. Check for continuity between the mirror switch terminals.

Switch position		Terminal						
		I	J	C	H	A	F	L
Right	UP	○				○	○	
	DOWN	○				○		
	LEFT	○				○	○	
	RIGHT	○				○	○	
Left	UP	○						○
	DOWN	○		○				○
	LEFT	○		○				
	RIGHT	○		○				○

○-○ : Continuity

3. If not as specified, replace the power outside mirror switch.



47U0LX-509

POWER OUTSIDE MIRROR

Inspection

1. Remove the power outside mirror. (Refer to page L-11.)
2. Apply battery positive voltage to the terminals of the power outside mirror motor and check each operation.

B+: Battery positive voltage

Terminal connections		Operation
B+	Ground	
C	B	UP
B	C	DOWN
B	A	LEFT
A	B	RIGHT

3. If not as specified, replace the power outside mirror.

COMPONENTS

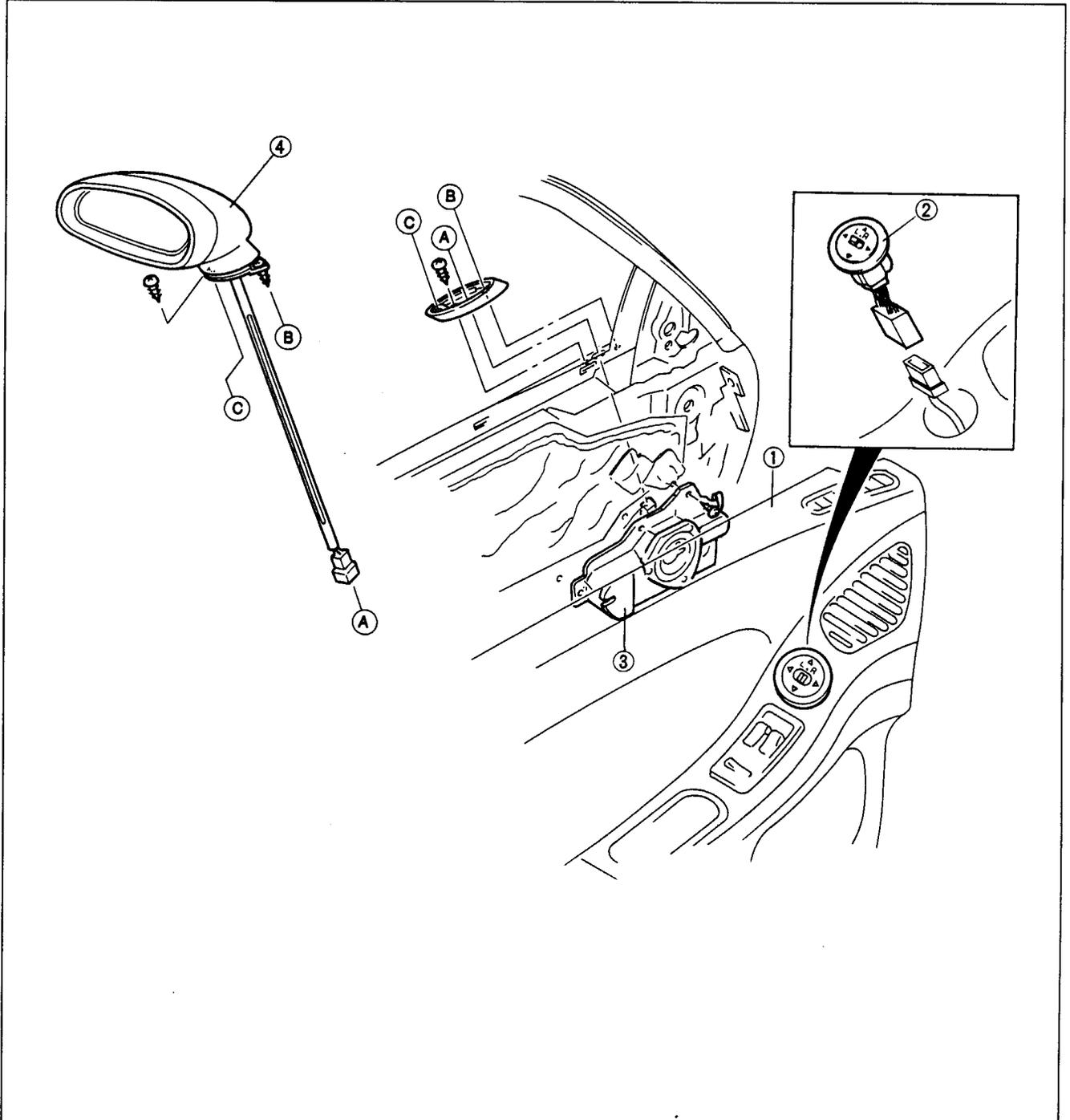
Removal / Installation

1. Disconnect the negative battery cable.

Note

- Remove the plastic surrounding the harness carefully so that it may be reused.

2. Remove in the order shown in the figure. (Refer to the 1994 RX-7 Workshop Manual, section S, when removing the door trim.)
3. Install in the reverse order of removal.



47U0LX-510

1. Door trim
2. Power outside mirror switch

3. Door speaker
Removal / Installation section J1
4. Power outside mirror

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

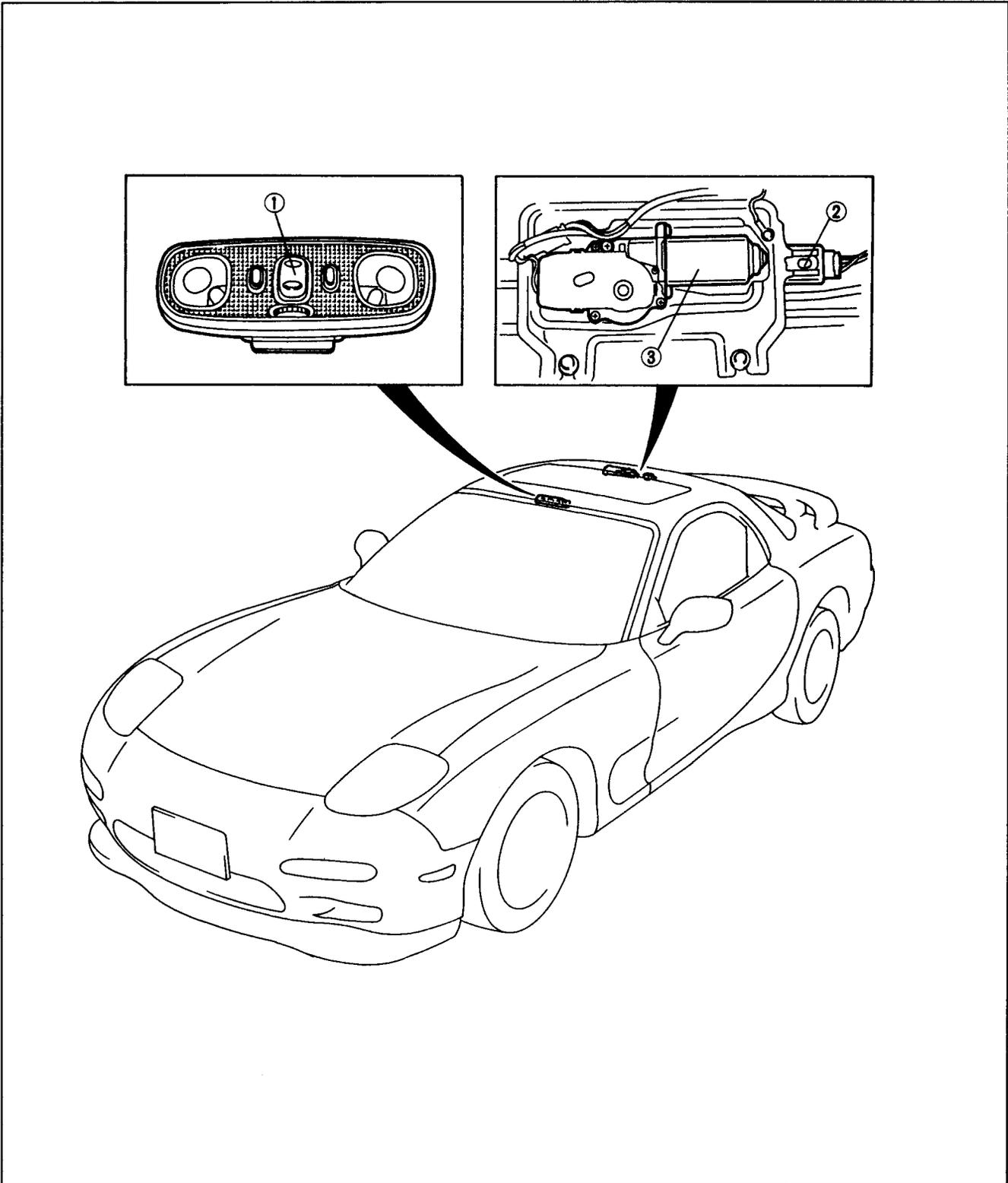
SLIDING SUNROOF

STRUCTURAL VIEW.....	M- 2
SYSTEM DIAGRAM	M- 3
TROUBLESHOOTING.....	M- 6
SUNROOF SWITCH.....	M-11
SUNROOF RELAY	M-12
SUNROOF MOTOR ASSEMBLY	M-12
SUNROOF DRIVE UNIT ASSEMBLY	M-13

47U0MX-501

SLIDING SUNROOF

STRUCTURAL VIEW

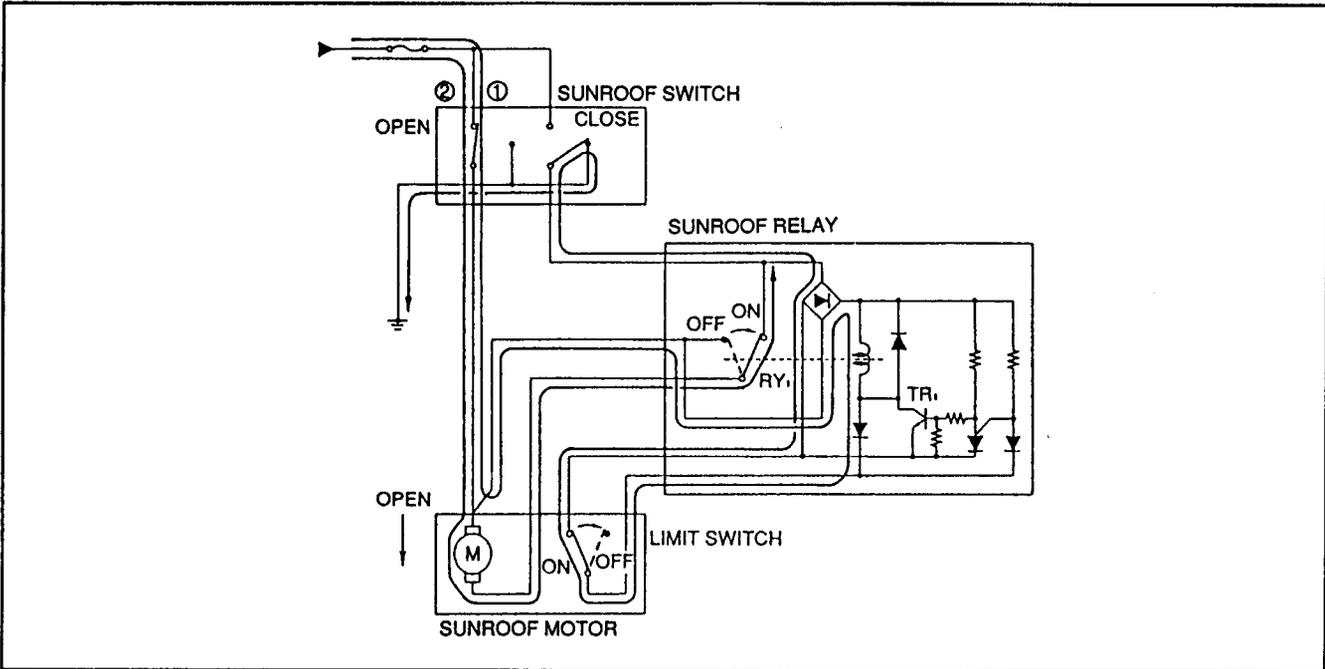


37U0SX-771

- 1. Sunroof switch
Inspection..... page M-11
- 2. Sunroof relay
Inspection..... page M-12
Removal / Installation..... page M-13

- 3. Sunroof motor
Inspection..... page M-12
Removal / Installation..... page M-13

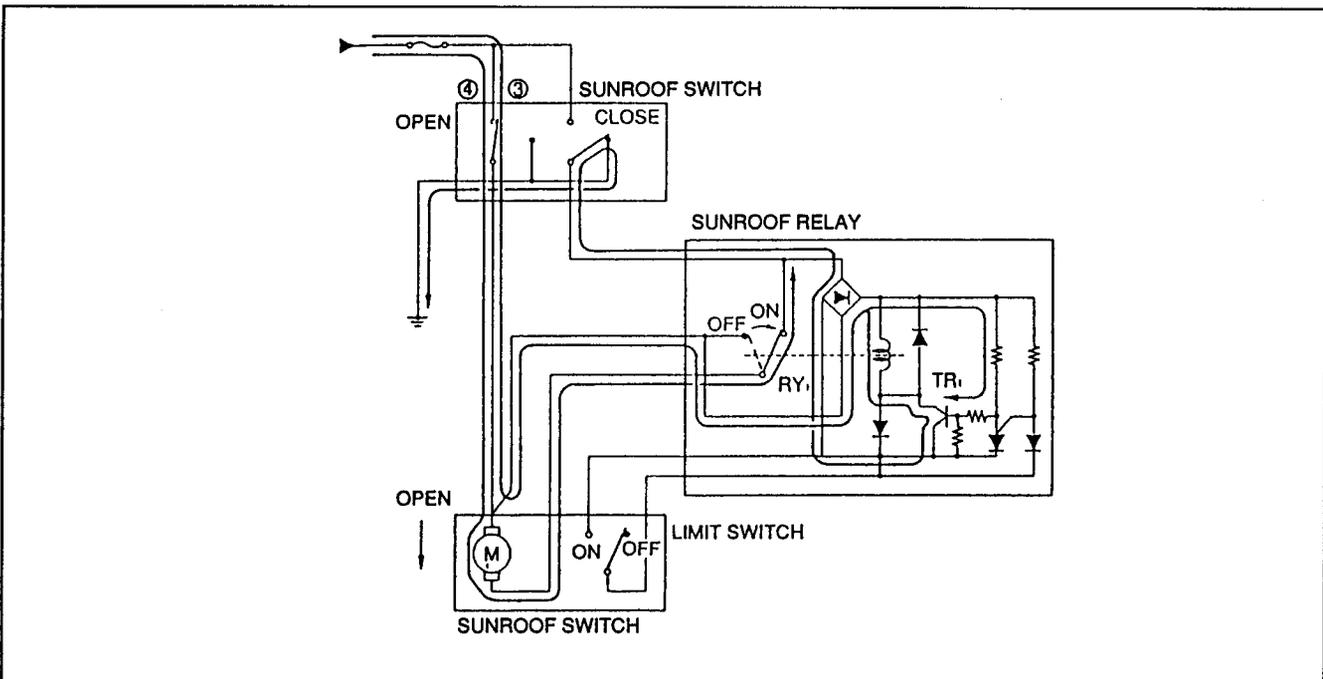
System Operation



47U0MX-502

1. Tilt-up

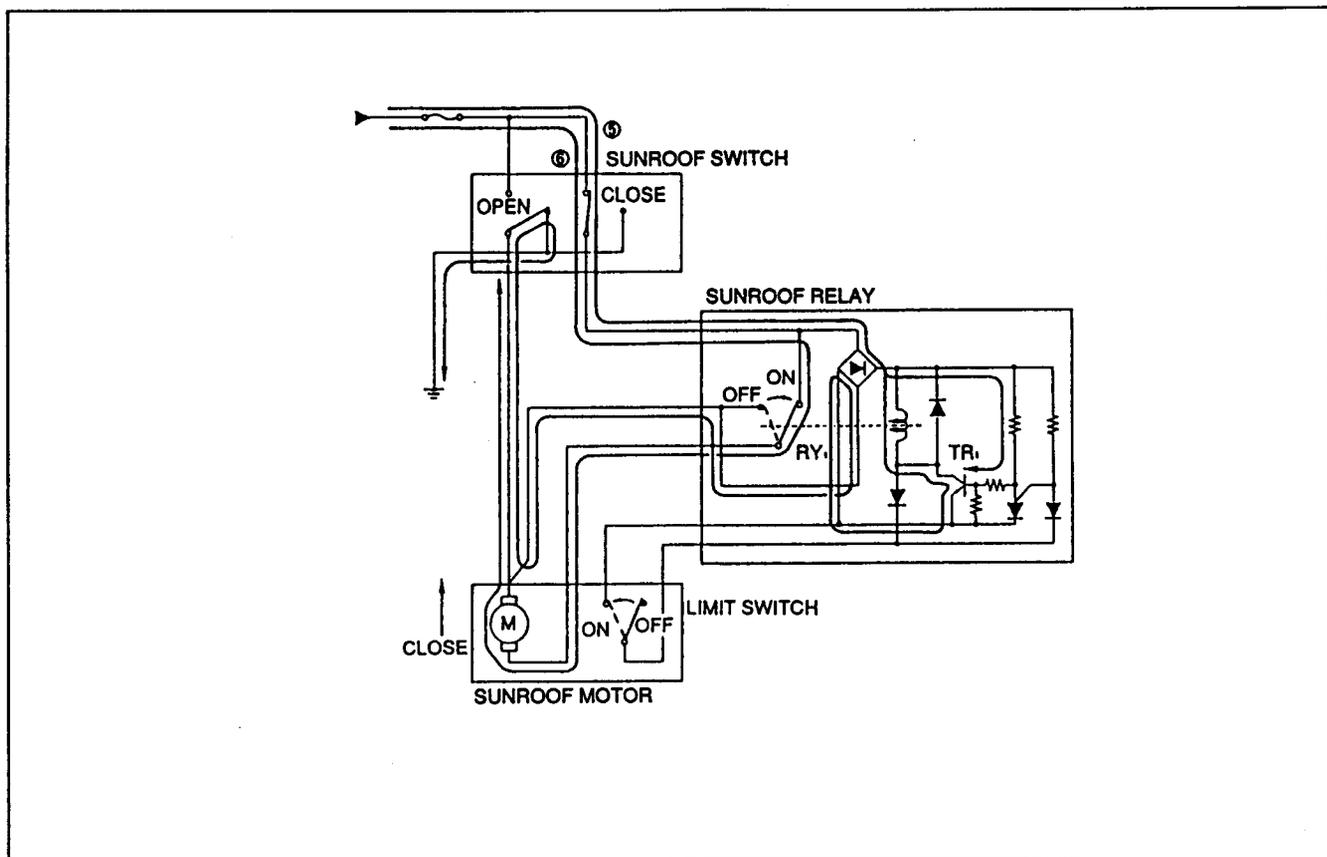
- The sunroof motor limit switch is on.
- When the back of the sunroof switch is pressed, current ① flows to coil RY₁ and turns the RY₁ switch on. Current ② also flows. The sunroof motor rotates, and the slide panel tilts up.
- After the slide panel tilts up, the limit switch in the sunroof motor turns off, stopping current flow and the sunroof motor.



47U0MX-503

2. Slide open

- The sunroof motor limit switch is off.
- When the back of the sunroof switch is pressed with the slide panel tilted up, current ③ flows to coil RY₁ and transistor TR₁, turning the RY₁ switch on. Current ④ then flows, causing the sunroof motor to rotate. The tilted-up slide panel opens.



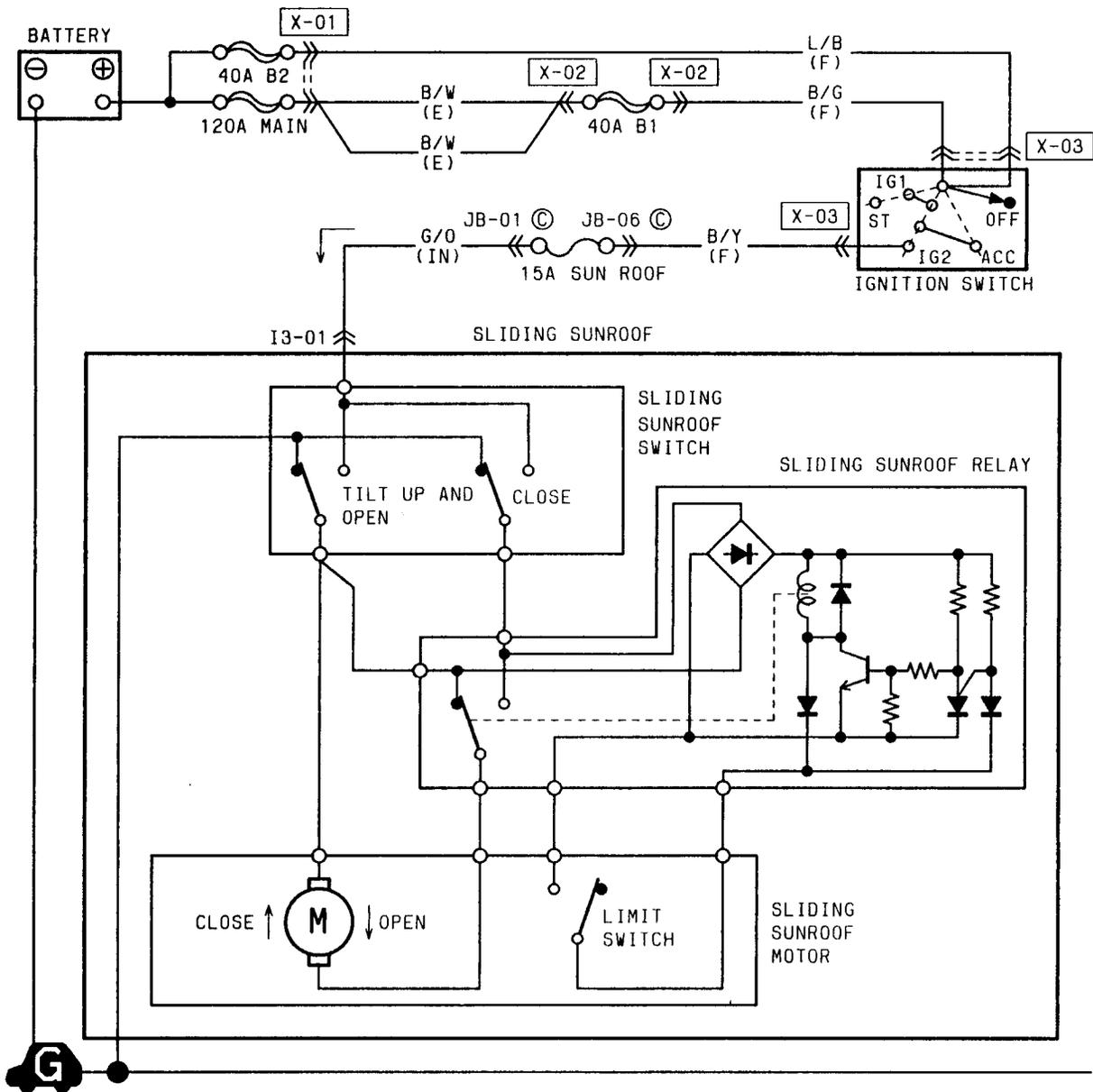
47U0MX-504

3. Close

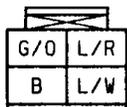
- The sunroof motor limit switch is off.
- When the front of the sunroof switch is pressed with the slide panel tilted up or fully open, current ⑤ flows to coil RY₁ and transistor TR₁, turning the RY₁ switch on. Current ⑥ then flows, causing the sunroof motor to rotate. The sunroof panel closes.
- After the sunroof closes, the limit switch turns on again.

TROUBLESHOOTING Circuit Diagram

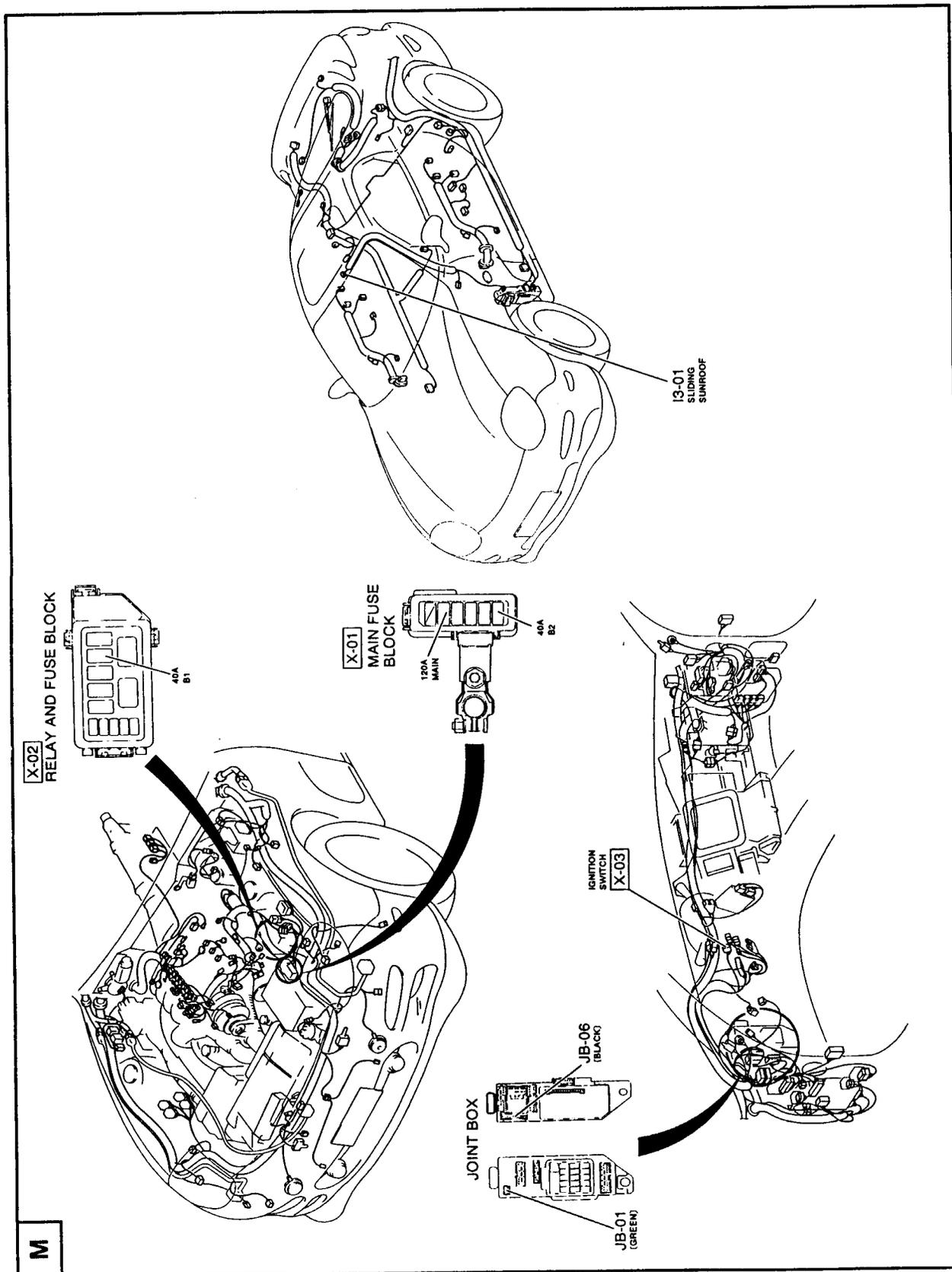
M ■ SLIDING SUNROOF



I3-01 SLIDING SUNROOF
(IN)



Connector Locations



M

Checklist

Procedure / Proper operation	Symptom	Flowchart No.
Operate sunroof switch and verify that sunroof tilts up and slides open.	Sliding sunroof does not move	1
	Sunroof tilts up, but does not slide open	2
	Sliding sunroof does not stop temporarily at tilted-up position	3

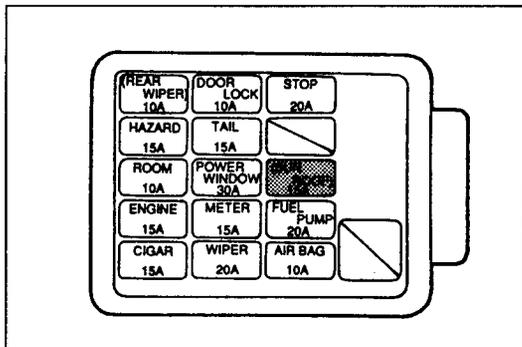
47U0MX-505

Flowchart No.1	Symptom
	Sliding sunroof does not move

Possible cause

- Burnt SUNROOF 15A fuse
- Damaged sunroof switch
- Damaged sunroof relay
- Damaged sunroof motor
- Open or short circuit in wiring harness
- Poor connection of connector

47U0MX-506

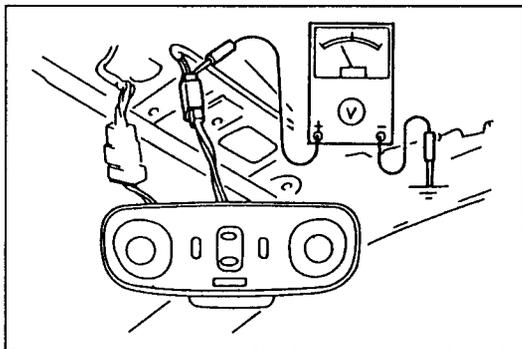


37U0SX-787

Step 1

Check the SUNROOF 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness



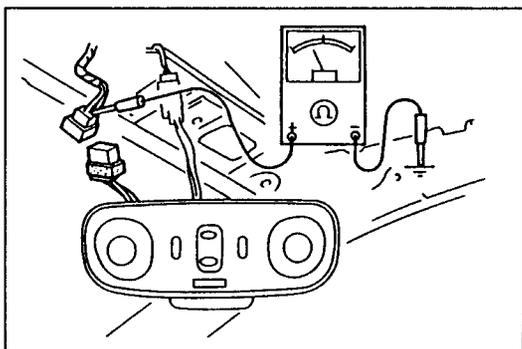
47U0MX507

Step 2

1. Remove the overhead console. (Refer to section I2.)
2. Turn the ignition switch to ON.
3. Measure the voltage at the (G/O) terminal wire of the sunroof switch harness connector.

B+: Battery positive voltage

Voltage	Action
B+	Go to Step 3
Other	Repair wiring harness (Fuse block—Sunroof switch)

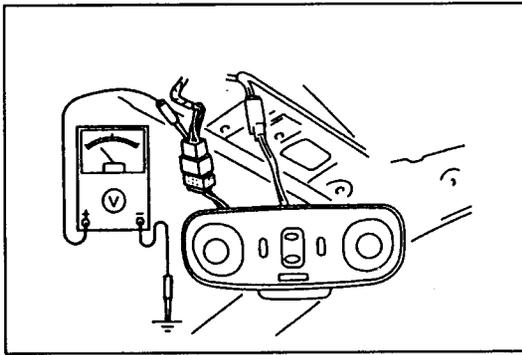


47U0MX-508

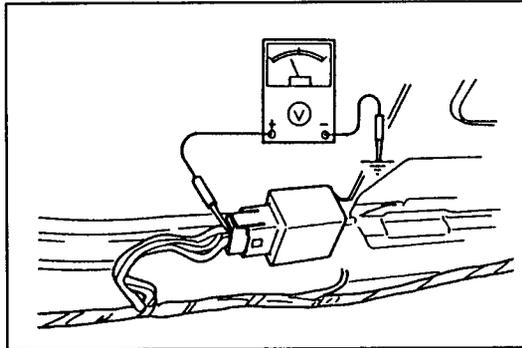
Step 3

1. Turn the ignition switch to OFF.
2. Disconnect the sunroof switch harness connector and check for continuity between the (B) terminal wire and ground.

Voltage	Action
Yes	Reconnect the connector and go to Step 4
No	Repair wiring harness (Sunroof switch—GND)



47U0MX-509



47U0MX-510

Step 4

1. Turn the ignition switch to ON.
2. Measure the voltage at the terminal wires of the sunroof switch harness connector.

B+: Battery positive voltage

Switch position		Terminal	Voltage
OPEN	TILT	(Y/R) wire	B+
	SLIDE		
CLOSE		(Y/L) wire	B+

3. If correct, go to Step 5.
4. If not as specified, check the sunroof switch.
(Refer to page M-11.)

Step 5

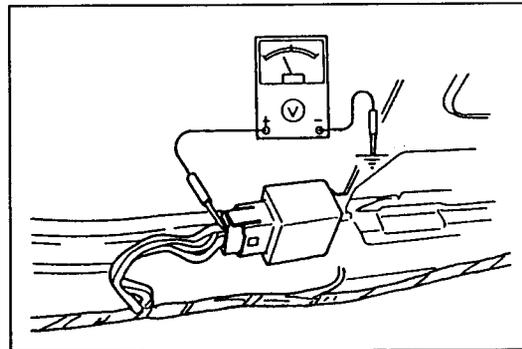
1. Remove the headliner.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the terminal wires of the sunroof relay harness connector.

B+: Battery positive voltage

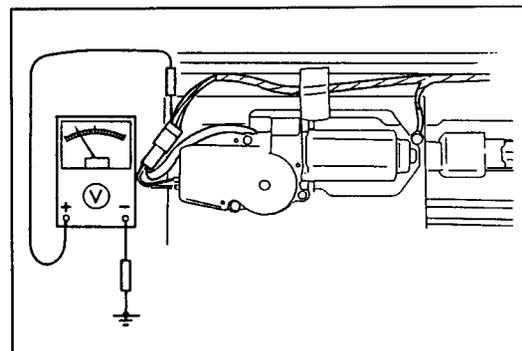
Switch position		Terminal	Voltage
OPEN	TILT	(Y/R) wire	B+
	SLIDE		
CLOSE		(Y/L) wire	B+

3. If correct, go to Step 6.
4. If not as specified, repair the wiring harness (sunroof switch—sunroof relay).

M



47U0MX-511



47U0MX-512

Step 6

1. Measure the voltage at the terminal wires of the sunroof relay harness connector.

B+: Battery positive voltage

Switch position		Terminal	Voltage
OPEN	TILT	(LG) wire	B+
	SLIDE	(Y/L) wire	B+
CLOSE		(Y) wire	B+

2. If correct, go to Step 7.
3. If not as specified, check the sunroof relay.
(Refer to page M-12.)

Step 7

1. Measure the voltage at the terminal wires of the sliding sunroof motor harness connector.

B+: Battery positive voltage

Switch position		Terminal	Voltage
OPEN	TILT	(Y/R) wire	B+
	SLIDE		
CLOSE		(Y) wire	B+

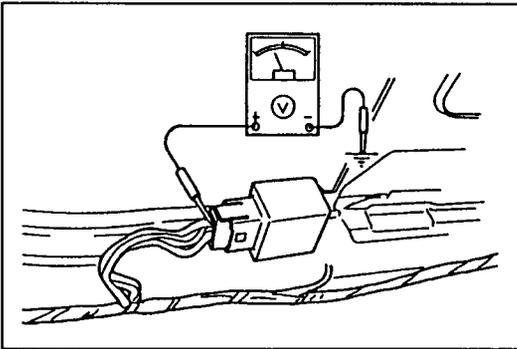
2. If correct, check the sunroof motor assembly.
(Refer to page M-12.)
3. If not as specified, repair the wiring harness (sunroof relay—sunroof motor assembly).

Flowchart No.2	Symptom	Sunroof tilts up, but does not slide open
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Possible cause

- Damaged sunroof relay
- Open or short circuit in wiring harness
- Poor connection of connector

47U0MX-513



47U0MX-515

Step 1

1. Remove the headliner.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Measure the voltage at the terminal wires of the sunroof relay harness connector.

B+: Battery positive voltage

Switch position		Terminal	Voltage
OPEN	TILT	(Y/R) wire	B+
	SLIDE		
CLOSE		(Y/L) wire	B+

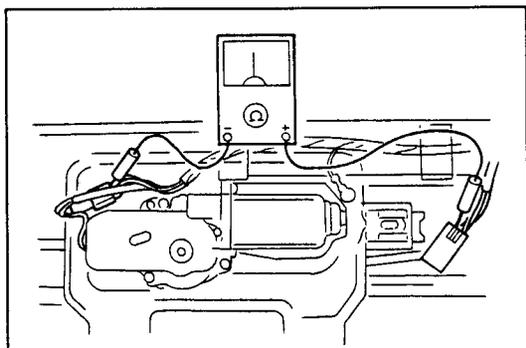
3. If correct, check the sunroof relay.
(Refer to page M-12.)
4. If not as specified, repair the wiring harness (sunroof switch—sunroof relay).

Flowchart No.1	Symptom	Sliding sunroof does not stop temporarily at tilted-up position
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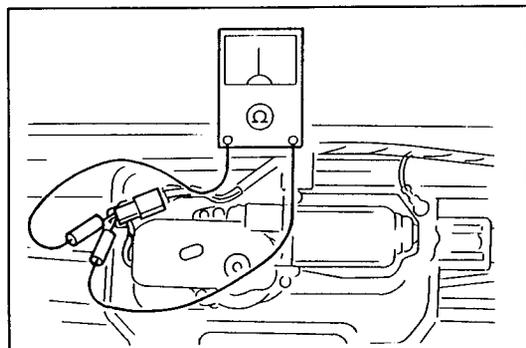
Possible cause

- Damaged sunroof relay
- Damaged sunroof motor
- Open or short circuit in wiring harness
- Poor connection of connector

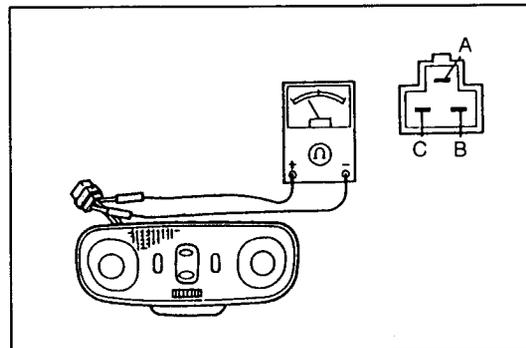
47U0MX-516



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Step 1

1. Remove the headliner.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Move the sliding sunroof to the tilt-up position by using the emergency handle.
3. Disconnect the sunroof relay and sunroof motor connectors, and check for continuity between the (L/G) and (L) terminal wires.

Continuity	Action
Yes	Go to Step 2
No	Repair wiring harness (Sunroof relay—Sunroof motor)

Step 2

Check for continuity between the (L/G) and (L) terminal wires of the sunroof motor connector.

Continuity	Action
Yes	Check the sunroof relay (Refer to page M-12)
No	Replace the sunroof motor (Refer to page M-12)

SUNROOF SWITCH

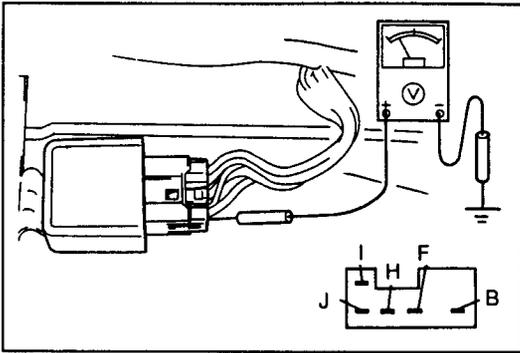
Inspection

1. Remove the overhead console.
(Refer to section I2.)
2. Disconnect the sunroof switch harness connector and check for continuity between the switch terminals as indicated below.

Switch Operation \ Terminal		A	B	C
OPEN	TILT	○—○		
	SLIDE			
CLOSE			○—○	○—○

○—○ : Continuity

3. If not as specified, replace the overhead console.



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SUNROOF RELAY

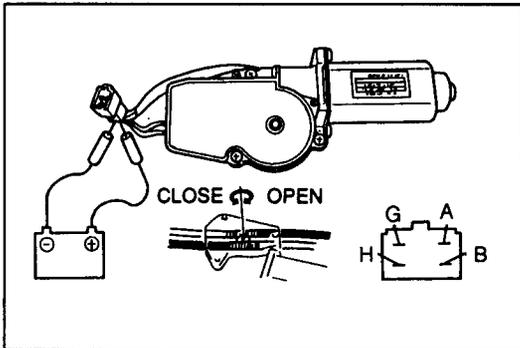
Inspection

1. Measure the voltage between the sunroof relay terminals as indicated below.
2. If correct, replace the sunroof relay.
3. If not as specified, repair the wiring harness.

B+: Battery positive voltage

Connector	Terminal	Connection	Test condition	Voltage
5-pin	B	Sunroof switch	Sunroof closing	B+
			Other	0V
	F	Sunroof switch	Sunroof tilting up or opening	B+
			Other	0V
	H	Limit switch	Sunroof tilting up	B+
			Other	0V
	I	Sunroof motor	Sunroof closing	B+
			Other	0V
	J	Limit switch	Constant	B+

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SUNROOF MOTOR ASSEMBLY

Inspection

Motor

1. Disconnect the sunroof motor harness connector.
2. Apply battery positive voltage to terminal G and ground to terminal H. Verify that the motor rotates in the opening direction.
3. Reverse the above connections and verify that the motor rotates in the closing direction.
4. If not as specified, replace the sunroof motor.

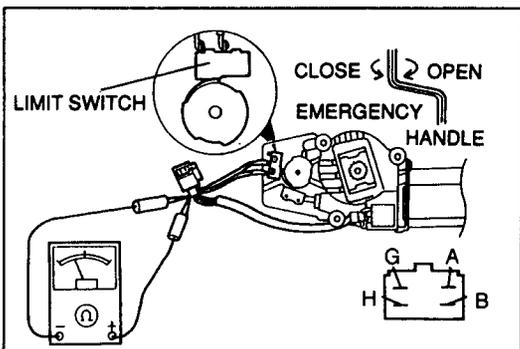
LIMIT SWITCH

1. Operate the slide panel by using the emergency handle (hex-head wrench). Check for continuity between terminals A and G of the sunroof motor.

Panel position	Terminal A	Terminal G
Open		
Closed		
Tilted up	○	○

○-○ : Continuity

2. If not as specified, replace the sunroof motor.

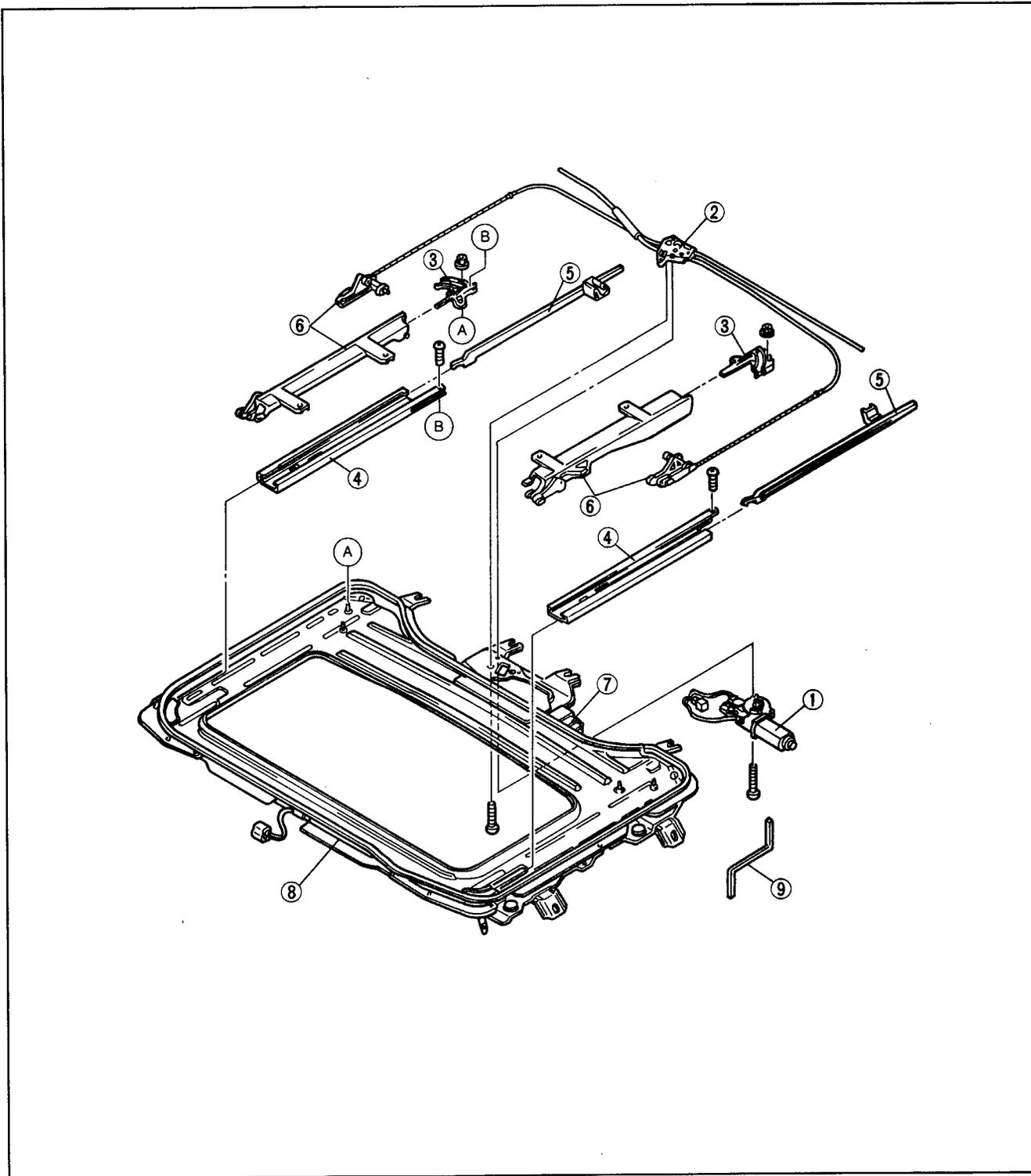


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SUNROOF DRIVE UNIT ASSEMBLY

Disassembly / Assembly

1. Disassemble in the order shown in the figure. To remove the sunroof drive unit assembly, remove the headliner. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Assemble in the reverse order of disassembly.



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1. Sunroof motor
2. Drive unit assembly
3. Guide plate
4. Guide rail
5. Shutting assembly

6. Shutting
7. Sunroof relay
8. Sunroof frame
9. Emergency handle

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

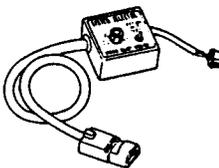
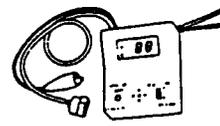
CRUISE CONTROL SYSTEM

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ACTUATOR CABLE	Q-15
VEHICLE SPEEDOMETER SENSOR	Q-15
SPEEDOMETER.....	Q-15
PARK / NEUTRAL SWITCH (AT)	Q-16
CLUTCH SWITCH (MT).....	Q-16
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BRAKE PEDAL	Q-18
CRUISE CONTROL MAIN SWITCH.....	Q-19
CRUISE CONTROL SWITCH.....	Q-19

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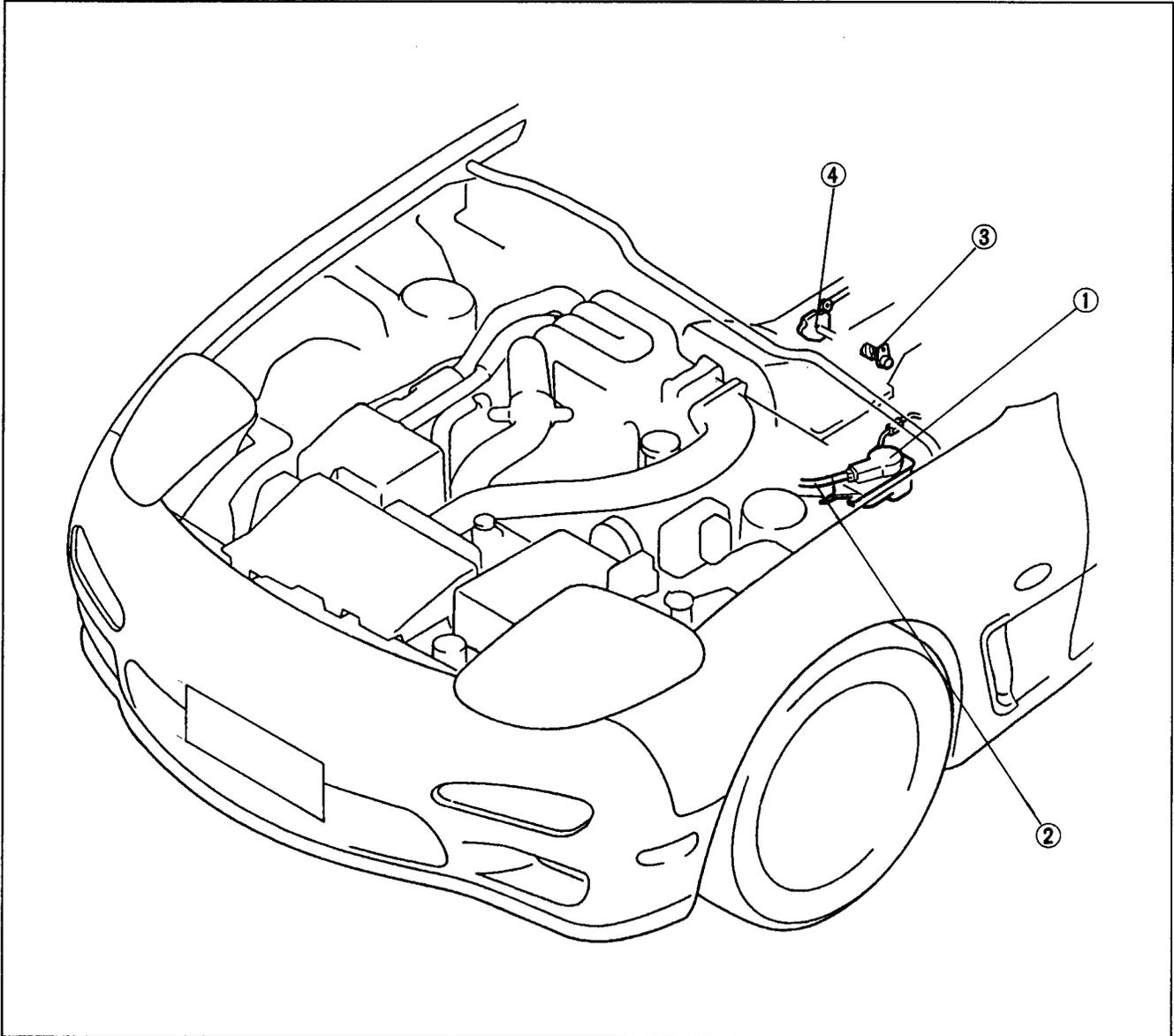
CRUISE CONTROL SYSTEM

**PREPARATION
SST**

<p>49 B019 9A0 System Selector</p> 	<p>For diagnosis of cruise control system</p>	<p>49 H018 9A1 Self-Diagnosis Checker</p> 	<p>For diagnosis of cruise control system</p>
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**STRUCTURAL VIEW
Exterior Side**

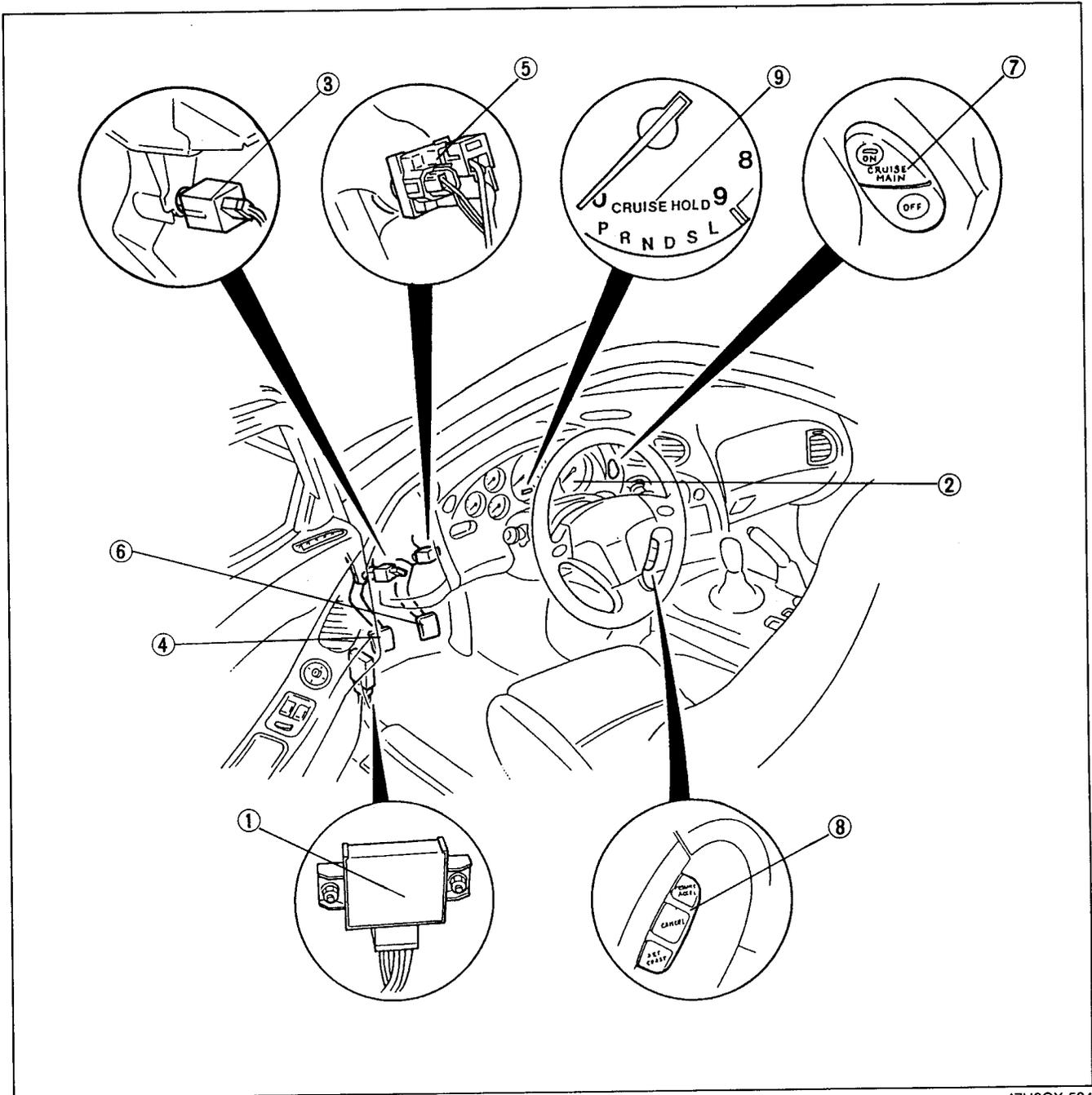


47U0QX-503

- 1. Cruise actuator
Removal / Installation..... page Q-14
Inspection..... page Q-15
- 2. Actuator cable
Adjustment page Q-15

- 3. Vehicle speedometer sensor
Inspection..... page Q-15
- 4. Park / Neutral switch (AT) (USA only)
Inspection..... page Q-16

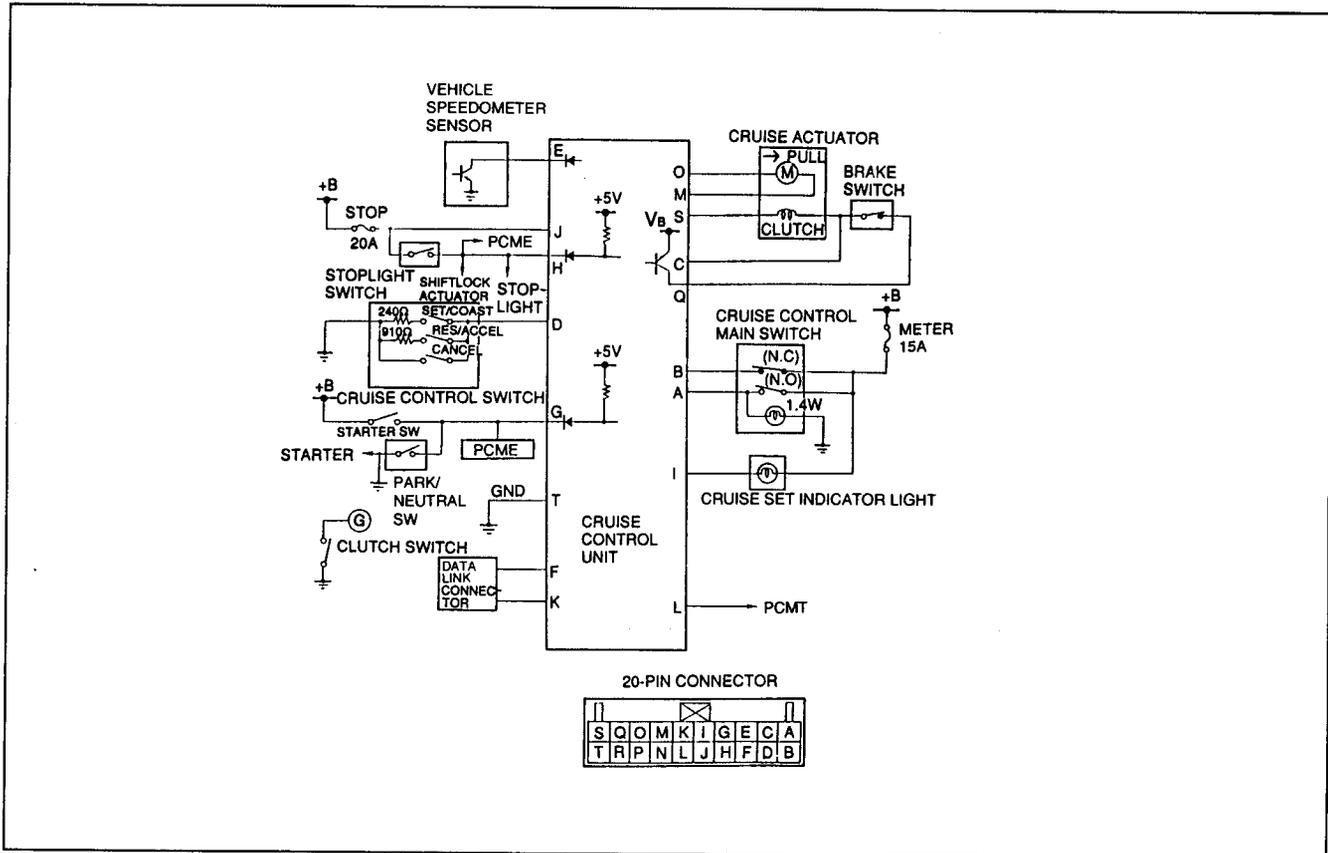
Interior Side



47U0QX-504

- | | |
|---|--|
| <p>1. Cruise control unit
 Removal / Installation..... page Q-12
 Terminal voltage..... page Q-12</p> <p>2. Speedometer
 Removal / Installation..... section C1
 Inspection..... page Q-15</p> <p>3. Clutch switch (MT)
 Removal / Installation..... page Q-16
 Inspection..... page Q-16</p> <p>4. Clutch pedal (MT)
 Inspection..... page Q-17
 Adjustment..... page Q-17</p> <p>5. Stoplight / Brake switch
 Inspection..... page Q-18</p> | <p>6. Brake pedal
 Inspection..... page Q-18</p> <p>7. Cruise control main switch
 Removal / Installation..... section Z4
 Inspection..... page Q-19</p> <p>8. Cruise control switch
 Removal / Installation..... section Z4
 Inspection..... page Q-19</p> <p>9. Cruise set indicator light</p> |
|---|--|

SYSTEM DIAGRAM



47U0QX-505

Description

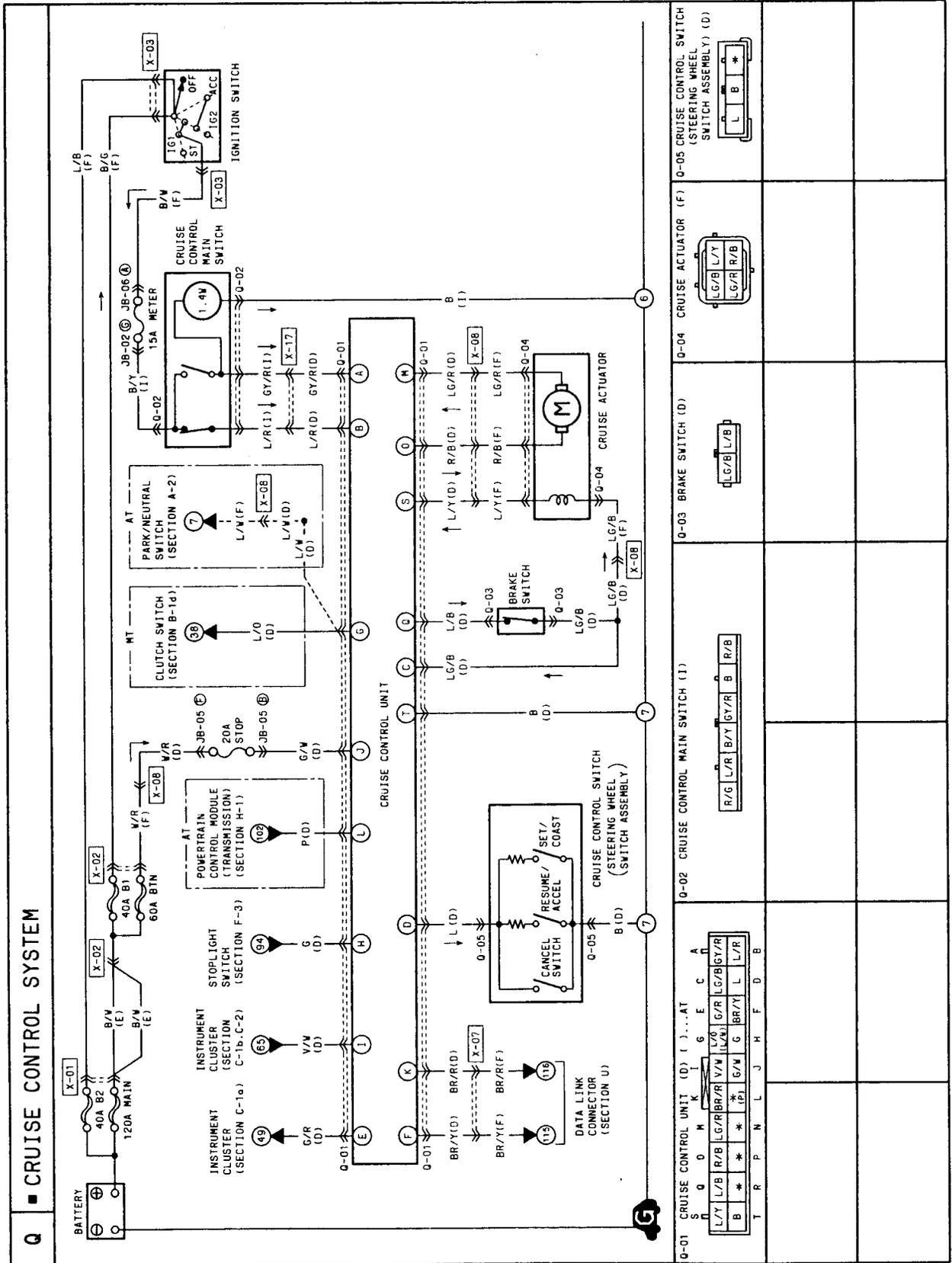
- The cruise control system enables the operator to maintain vehicle speed without operating the accelerator.
- A cruise actuator controls vehicle speed by using a throttle link pull.

SYSTEM COMPONENTS

Component	Description	Remarks
Speedometer	AC signals sent from the speedometer sensor (attached to the transmission) are transformed into pulse signals in the instrument cluster speedometer. The transformed vehicle speed signals are sent to the cruise control unit.	
Cruise control unit	A microcomputer centrally controls all functions including vehicle speed set, resume, coast (decelerate), and cancel. The unit contains a self-diagnosis function.	
Cruise actuator	Operates the accelerator pedal and adjusts vehicle speed based on control unit signals.	Motor type
Cruise control main switch	Controls the cruise control system's main power.	
SET/COAST switch	SET Determines cruise control speed. COAST Pressing and holding this switch decreases the set speed.	Cruise control switch in steering wheel
RESUME/ACCEL switch	RESUME Returns to the set speed if vehicle speed is 40 km/h {25 MPH} or more when cruise control is temporarily cancelled. ACCEL Pressing and holding this switch increases the set speed.	
CANCEL switch	Pressing this switch cancels the cruise control setting.	
Stoplight / brake switch	Cancels cruise control and slows vehicle speed when pressed	
Clutch switch (MT)	Cancels cruise control setting when clutch pedal is pressed	
Park / neutral switch (AT)	Cancels cruise control setting when selector lever shifted to P or N range	

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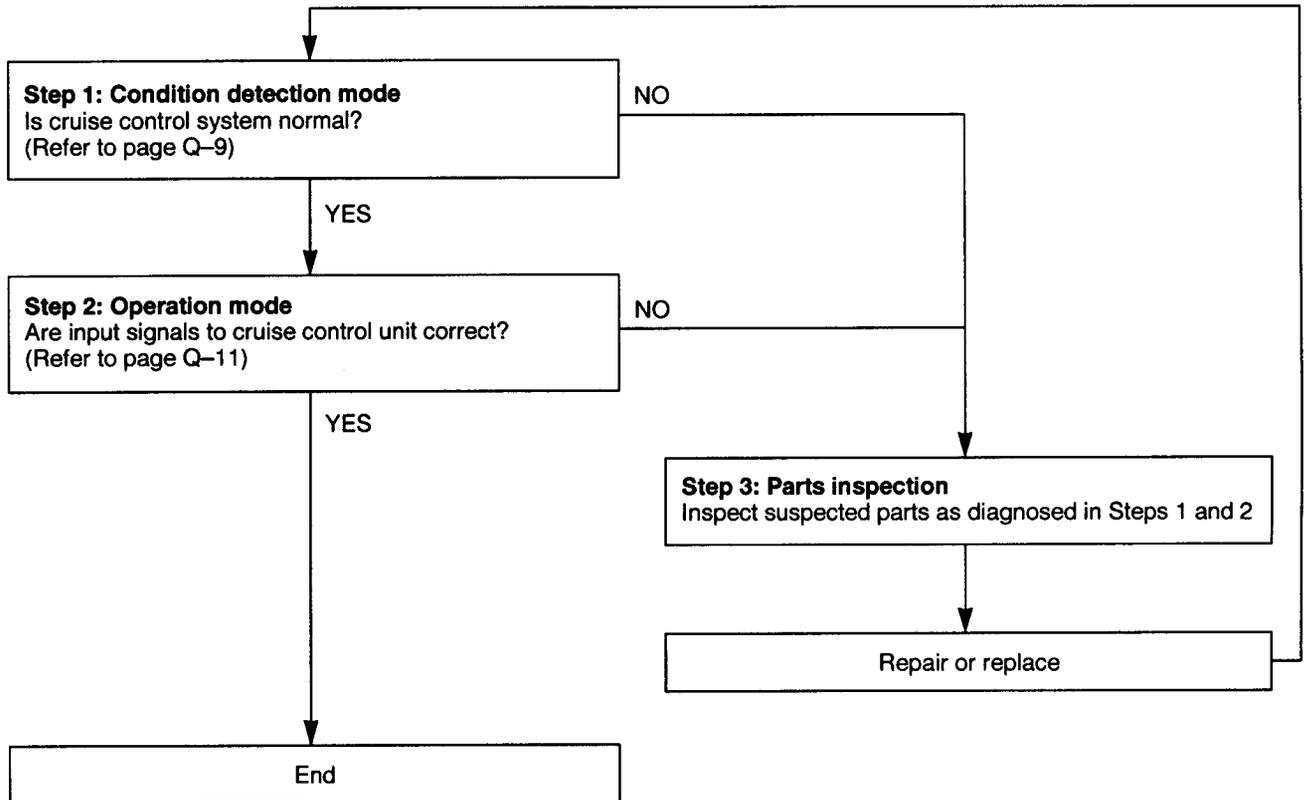
TROUBLESHOOTING Circuit Diagram



On-Board Diagnosis System

- The cruise control unit contains a on-board diagnosis function that easily detects problems within the system.
- The function operates in two modes: condition detection mode, which indicates trouble in the system, and operation mode, which checks the operation of input signals to the cruise control unit.
- The on-board diagnosis system outputs code signals to indicate the results of its on-board diagnosis check. The signals appear as a flashing pattern of the cruise set indicator light in the instrument cluster or as code numbers if the appropriate **SSTs** (self-diagnosis checker, system selector) are connected to the data link connector.

Inspection Order

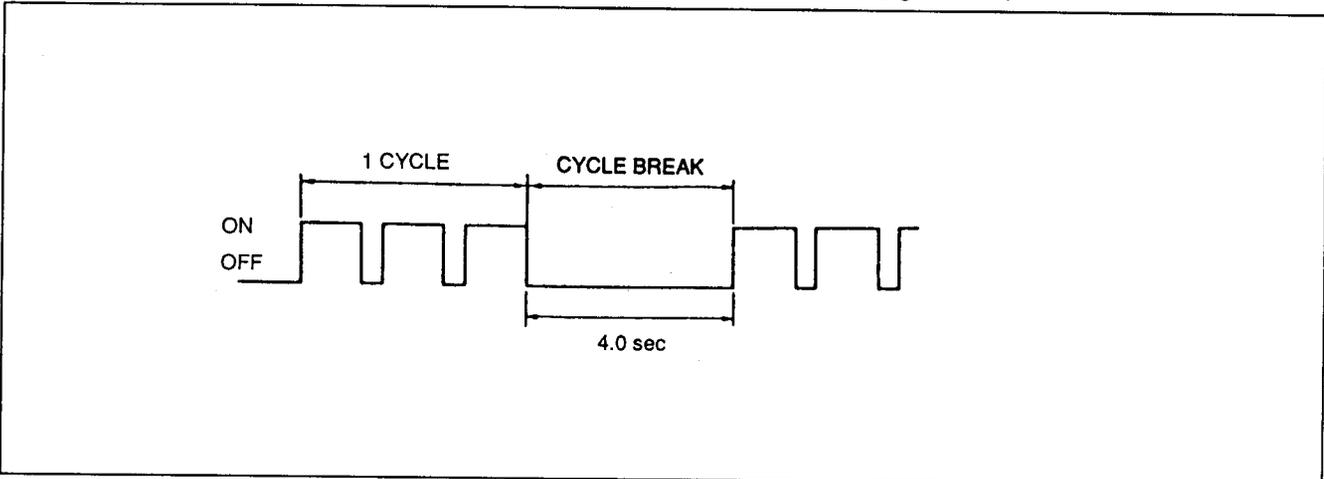


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Cruise set indicator light

1. Code cycle break

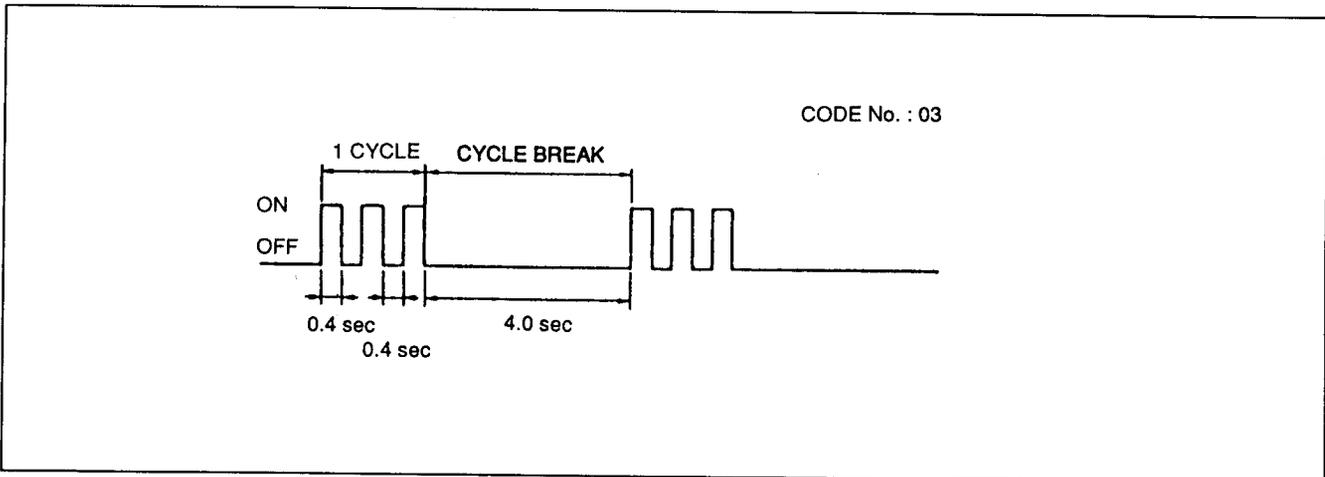
The time between condition/operation code cycles is 4.0 seconds (light is off).



47U0QX-510

2. Second digit of condition/operation code (ones position)

The digit in the ones position of the condition/operation code represents the number of times the light is on 0.4 seconds during one cycle.

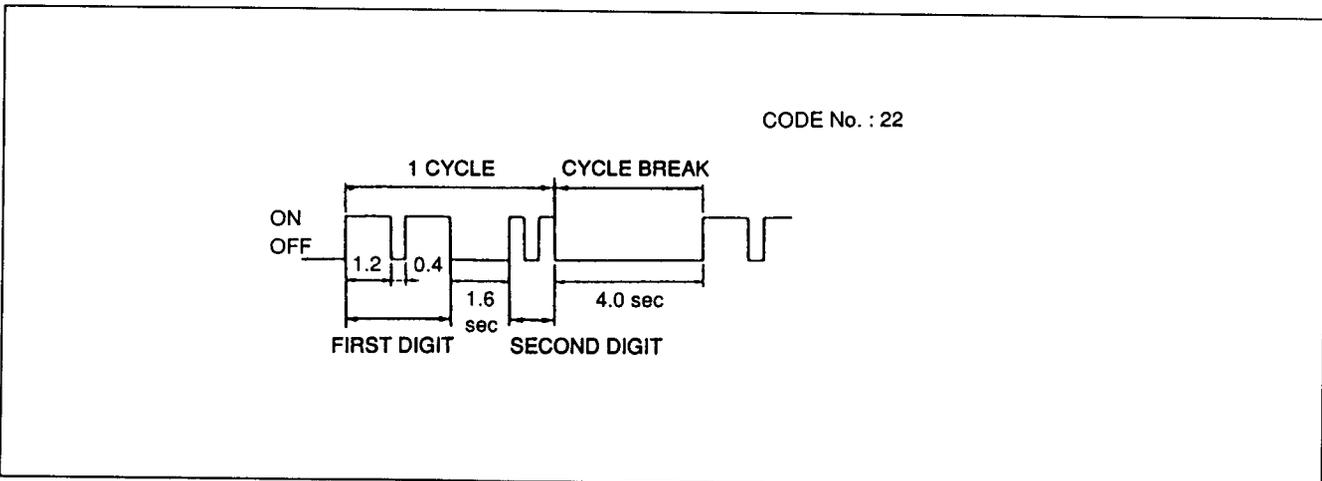


CODE No. : 03

47U0QX-511

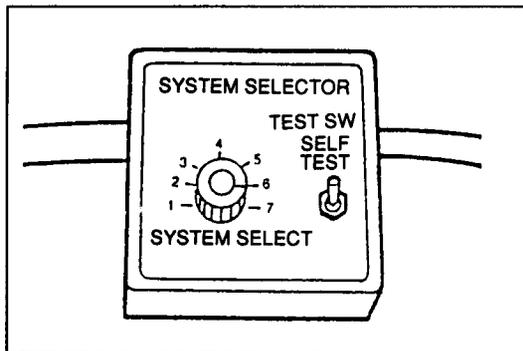
3. First digit of condition/operation codes (tens position)

The digit in the tens position of the condition/operation code represents the number of times the light is on 1.2 seconds during one cycle. The light remains off for 1.6 seconds between long and short flashes.

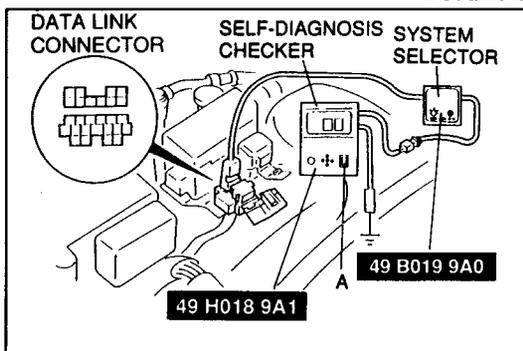


CODE No. : 22

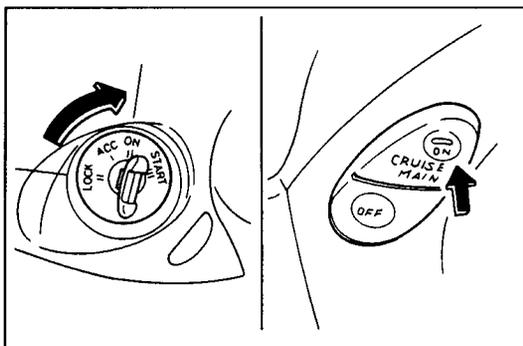
47U0QX-512



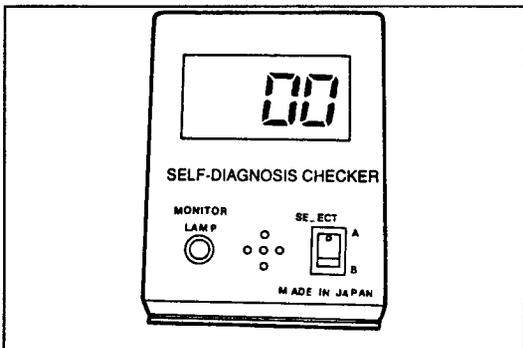
47U0QX-513



37U0TX-261



47U0QX-514



47U0QX-515

Condition detection mode Using self-diagnosis checker

Preparation

1. Connect the **SST** (System Selector) to the data link connector.
2. Set the System Select switch at **6**.
3. Set the test switch at **SELF-TEST**.
4. Connect the **SST** (Self-Diagnosis Checker) to the System Selector and ground the black clip to the vehicle.
5. Set the Self-Diagnosis Checker switch to position **A**.

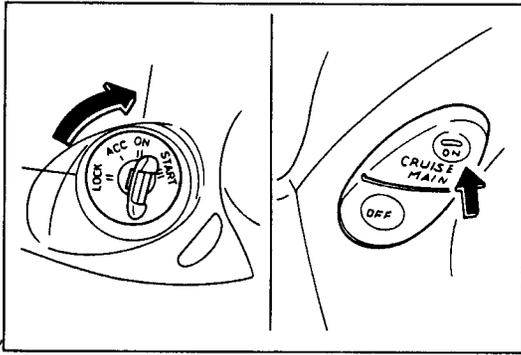
Procedure

1. Press and hold the cruise control main switch and turn the ignition switch to ON.
2. Verify that the buzzer sounds and **88** flashes on the digital display for **3 seconds**.
3. If **00** is indicated, the system is normal.
4. If **88** does not flash, check the power supply circuit and data link connector wiring.
5. If **88** flashes and the buzzer sounds continuously for more than **20 seconds**, check for a short circuit between cruise control unit terminal K and the data link connector. Replace the cruise control unit if necessary and perform Step 1 again.
6. If there is a problem within the system, a condition code number will be indicated by the Self-Diagnosis Checker.
7. Follow the action corresponding to the code number as outlined in the diagnostic trouble code table. (Refer to page Q-10.)

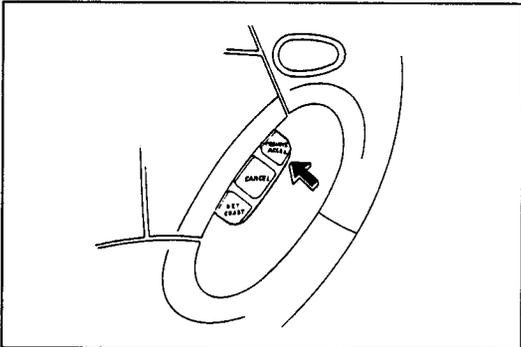
Cancel

To cancel condition detection mode, do one of the following:

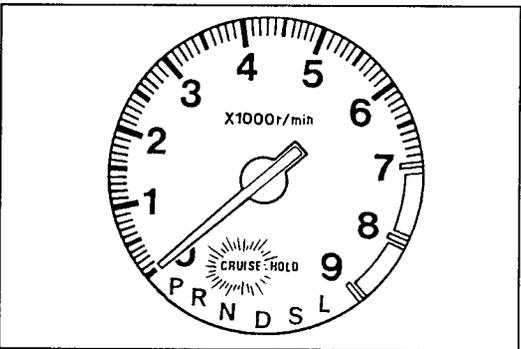
- Disconnect the **SSTs**.
- Turn the cruise control main switch off.
- Drive the vehicle at more than 16 km/h {10 mph}.
- Turn the ignition switch to off.



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47U0QX-517



47U0QX-518

Using cruise set indicator light

Procedure

1. Press and hold the cruise control main switch and turn the ignition switch to ON.

2. Press and hold the RESUME/ACCEL switch for at least **3 seconds**. (The cruise set indicator light will turn on for 3 seconds, go out for 2 seconds, and then begin flashing if a problem is present.)

3. If there is a problem within the system, an output signal pattern will be indicated by the cruise set indicator light.
 4. Follow the action corresponding to the pattern as outlined in the diagnostic trouble code table. (Refer below.)

Cancel

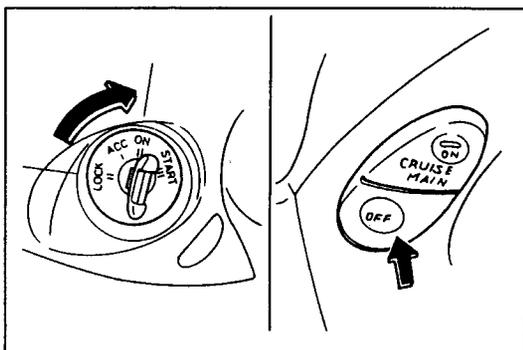
To cancel condition detection mode, do one of the following:

- Turn the cruise control main switch off.
- Drive the vehicle over 16 km/h {10 mph}.
- Turn the ignition switch to OFF.

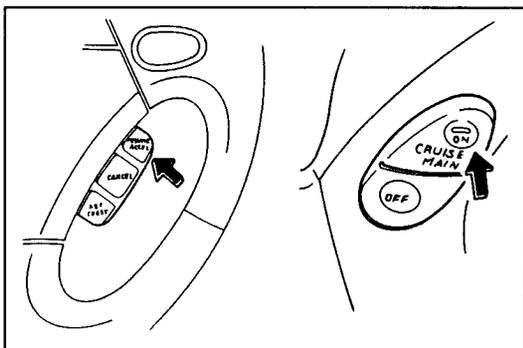
Diagnostic trouble code table

Output signal pattern (cruise set indicator light)	Code No.	Possible Cause	Action
ON OFF	01	Defective wiring harness (Cruise actuator—Cruise control unit; Brake switch—Cruise control unit) Defective cruise actuator or brake switch	Repair wiring harness Inspect cruise actuator (Refer to page Q-15) Inspect brake switch (Refer to page Q-18)
ON OFF	05	Burnt STOP 20A fuse Defective wiring harness (Fuse—Cruise control unit)	Replace fuse Repair wiring harness
ON OFF	07	Two switches in the stoplight switch/brake switch are on simultaneously	Inspect stoplight switch/brake switch (Refer to page Q-18)
ON OFF	11	Defective cruise control switch (ON)	Inspect cruise control switch (Refer to page Q-19)
ON OFF	15	Defective cruise control unit	Replace cruise control unit (Refer to page Q-12)

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47U0QX-520



47U0QX-521

Operation mode

Procedure

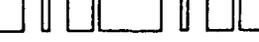
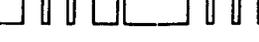
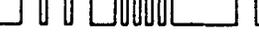
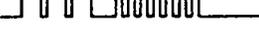
1. Turn the ignition switch to ON.
2. Verify that the cruise control main switch is off (MAIN indicator light is off).
3. (AT) Shift the selector lever to D or R range.
(MT) Shift to any gear except neutral.
4. Press the RESUME/ACCEL switch and cruise control main switch simultaneously to activate the system inspection (MAIN indicator light will turn on).
5. Operate each switch as described below and verify the operation codes.

Cancel

To cancel operation mode, turn the cruise control main switch off (MAIN indicator light will turn off).

Inspection of cruise control system

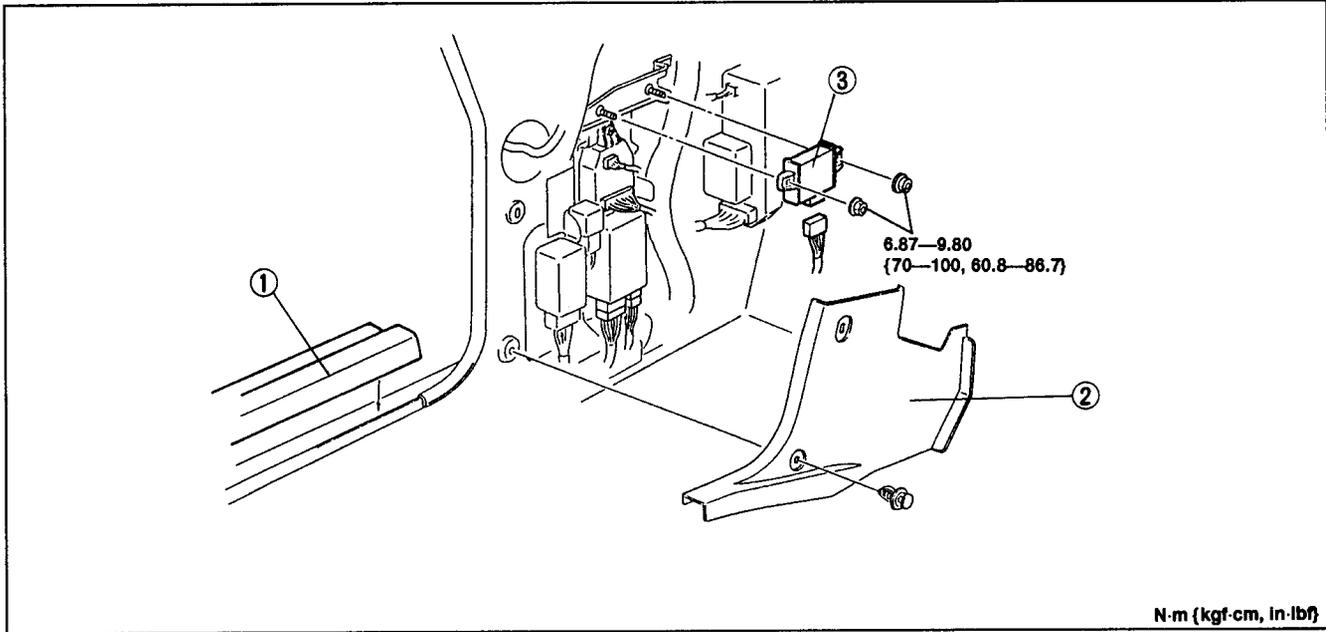
The cruise set indicator light will flash in the pattern shown if the system is operating correctly. If the light fails to flash as described, inspect the system as indicated.

Procedure	Normal		Faulty	
	Output signal pattern (cruise set indicator light)	Code No.	Possible Cause	Action
Press SET/COAST switch.	ON  OFF 	21	Defective cruise control switch (SET/COAST switch) Defective wiring harness (Cruise control unit—SET/COAST switch—GND)	Inspect cruise control switch (Refer to page Q-19) Repair wiring harness
Press RESUME/ACCEL switch.	ON  OFF 	22	Defective cruise control switch (RESUME/ACCEL switch) Defective wiring harness (Cruise control unit—RESUME/ACCEL switch—GND)	Inspect cruise control switch (Refer to page Q-19) Repair wiring harness
Press brake pedal.	ON  OFF 	31	Defective stoplight switch Defective brake switch Defective wiring harness (Cruise control unit—Stoplight switch or clutch—GND)	Inspect stoplight/brake switch (Refer to page Q-18) Repair wiring harness
AT (USA only) Shift the selector lever to P or N range.	ON  OFF 	35	Defective park/neutral switch Defective wiring harness (Cruise control unit—Park/Neutral switch—Starter)	Inspect park/neutral switch (Refer to page Q-16) Repair wiring harness
MT Depress clutch pedal or shift the lever to the neutral position.			Defective clutch switch Defective wiring harness (Cruise control unit—Clutch switch—GND)	Inspect clutch switch (Refer to page Q-16) Repair wiring harness
Drive vehicle above 40 km/h {25 mph}.	ON  OFF 	37	Defective vehicle speedometer sensor or speedometer Defective wiring harness (Cruise control unit—Speedometer—Vehicle speedometer sensor)	Inspect vehicle speedometer sensor (Refer to page Q-15) Inspect speedometer (Refer to page Q-15) Repair wiring harness

CRUISE CONTROL UNIT

Removal / Installation

1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.
3. Turn the ignition switch to ON and turn the cruise control main switch on. Verify that the cruise set indicator light in the instrument cluster illuminates.



N·m {kgf·cm, in·lbf}

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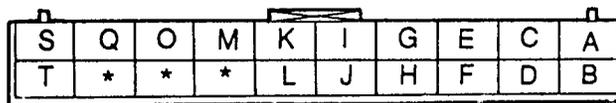
1. Scuff plate
2. Front side trim

3. Cruise control unit

Terminal Voltage

1. If the terminal voltages are correct, replace the cruise control unit.
2. If not as specified, check the inspection area.

B+: Battery positive voltage



Terminal	Connection	Test condition	Voltage (V)	Inspection area
A	Cruise control main switch (NO side)	Ignition switch at ON and cruise control main switch on	B+	<ul style="list-style-type: none"> • METER 15A fuse • Cruise control main switch • Wiring harness (Fuse—Cruise control main switch—Cruise control unit)
B	Cruise control main switch (NC side)	Ignition switch at ON	0	
C	Brake switch	Ignition switch at ON	0	<ul style="list-style-type: none"> • METER 15A fuse • Cruise control main switch • Brake switch • Wiring harness (Fuse—Cruise control main switch—Cruise control unit, Cruise control unit—Brake switch—Cruise control unit)
		Ignition switch at ON and cruise control main switch on	9	

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CRUISE CONTROL SYSTEM



Cont'd

B+: Battery positive voltage

Terminal	Connection	Test condition		Voltage (V)	Inspection area
D	Cruise control switch	Ignition switch at ON and cruise control main switch on		5	<ul style="list-style-type: none"> METER 15A fuse Cruise control main switch Cruise control switch Wiring harness (Fuse—Cruise control main switch—Cruise control unit, Cruise control unit—Cruise control switch—GND)
		Ignition switch at ON	SET/COAST switch on	2	
			RESUME/ACCEL switch on	3	
			CANCEL switch on	0	
E	Instrument cluster (vehicle speed sensor)	Rear tires rotating		Alternates 2V and 3V	Wiring harness (Cruise control unit—Instrument cluster—Vehicle speed sensor)
F	Data link connector	—		—	—
G	Park/Neutral switch (AT)	Ignition switch at ON	N or P range	0	<ul style="list-style-type: none"> Starter cut relay Park/Neutral switch Wiring harness (Ignition switch—Starter cut relay—Cruise control unit, Cruise control unit—Park/Neutral switch—Electrical load unit—GND)
			Other range	B+	
	Clutch switch (MT)	Ignition switch at ON	Clutch pedal released	B+	<ul style="list-style-type: none"> Clutch switch Wiring harness (Cruise control unit—PCME, Cruise control unit—Clutch switch—GND)
			Clutch pedal pressed	0	
H	Stoplight switch	Brake pedal pressed		B+	<ul style="list-style-type: none"> STOP 20A fuse Stoplight switch Wiring harness (Fuse—Stoplight switch—Cruise control unit)
		Other		0	
I	Instrument cluster (cruise set indicator light)	Ignition switch at ON and cruise control main switch on		B+	<ul style="list-style-type: none"> METER 15A fuse Cruise control main switch Cruise set indicator light bulb Wiring harness (Fuse—Cruise control main switch—Cruise control unit)
		Cruise set indicator light illuminated		0	
J	STOP 20A fuse	Constant		B+	<ul style="list-style-type: none"> STOP 20A fuse Wiring harness (Fuse—Cruise control unit)
K	Data link connector	—		—	—
L	PCMT (ATX)	Ignition switch at ON		B+	<ul style="list-style-type: none"> METER 15A fuse PCMT Wiring harness (Fuse—PCMT—Cruise control unit)
M	Cruise actuator (motor)	Ignition switch at ON and cruise control main switch on		B+	<ul style="list-style-type: none"> METER 15A fuse Cruise control main switch Wiring harness (Fuse—Cruise control main switch—Cruise control unit)
		Other		0	
O	Cruise actuator (motor)	Ignition switch at ON and cruise control main switch on		B+	<ul style="list-style-type: none"> METER 15A fuse Cruise control main switch Wiring harness (Fuse—Cruise control main switch—Cruise control unit)
		Other		0	
Q	Brake switch	Ignition switch at ON and cruise control main switch on		9	<ul style="list-style-type: none"> METER 15A fuse Cruise control main switch Brake switch Wiring harness (Fuse—Cruise control main switch—Cruise control unit, Cruise control unit—Brake switch—Cruise control unit)
		Brake pedal pressed		0	

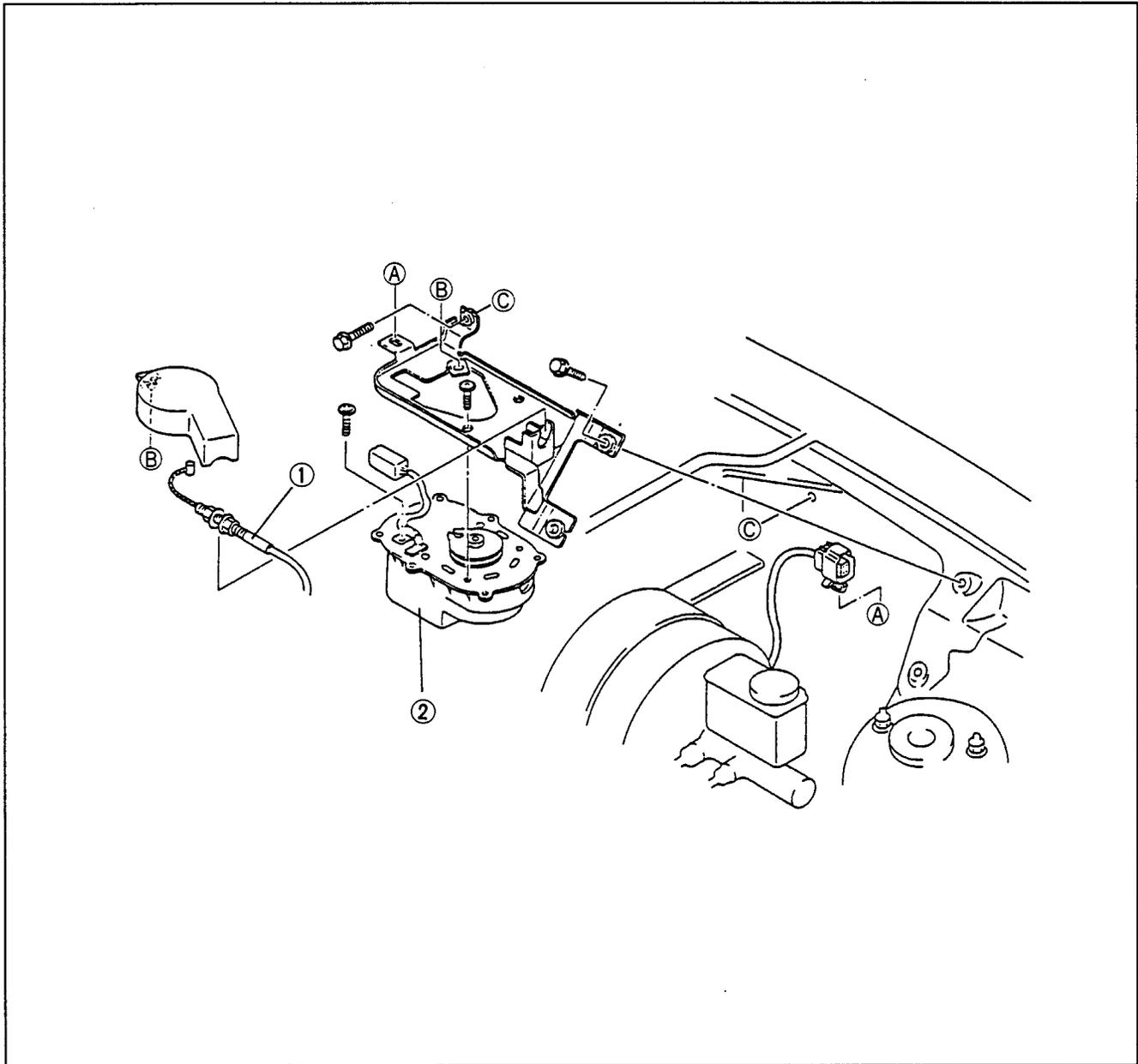
47U0QX-525

Cont'd

Terminal	Connection	Test condition	Voltage (V)	Inspection area
S	Cruise actuator (clutch)	Ignition switch at ON and cruise control main switch on	9	<ul style="list-style-type: none"> • METER 15A fuse • Cruise control main switch • Wiring harness (Fuse—Cruise control main switch—Cruise control unit)
		Other	0	
T	Ground	Constant	0	Wiring harness (Cruise control unit—GND)

**CRUISE ACTUATOR
Removal / Installation**

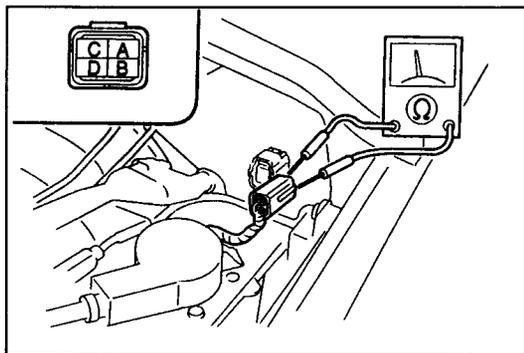
1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.



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1. Actuator cable
Adjustment pag Q-15

2. Cruise actuator



47U0QX-528

Inspection

1. Disconnect the cruise actuator connector.
2. Measure the cruise actuator resistance.

Terminal	Resistance
A—C	Approx. 26.0 kΩ
B—D	Approx. 11.2 kΩ

3. Connect battery positive voltage and ground to the terminals as indicated below and verify the operation of the actuator cable.

B+: Battery positive voltage

Step	Terminal connection				Operation of actuator cable
	D	B	A	C	
1	GND	B+	GND	B+	Pull
2	—	B+	GND	B+	Hold
3	B+	GND	GND	B+	Extend
4	—	—	—	—	Release

4. If not as specified, replace the cruise actuator. (Refer to page Q-14.)

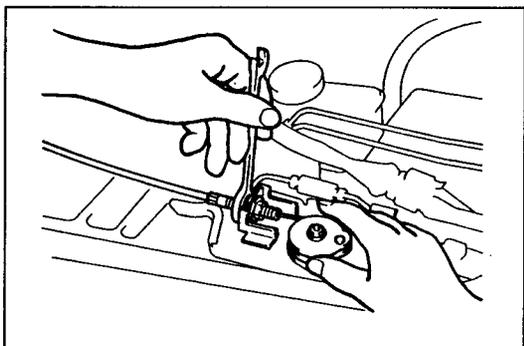
ACTUATOR CABLE

Adjustment

1. Turn the ignition switch to OFF.
2. Rotate the actuator link and verify that the actuator cable free play is as specified.

Free play: 1—5 mm {0.04—0.20 in}

3. If not as specified, loosen the nuts and adjust to specification.



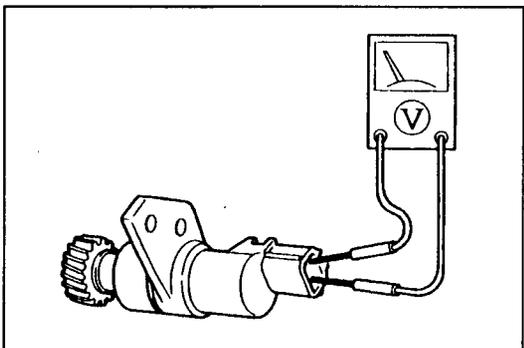
47U0QX-529

VEHICLE SPEEDOMETER SENSOR

Inspection

1. Remove the vehicle speedometer sensor. (Refer to section C1.)
2. Turn the tip of the vehicle speedometer sensor and verify that magnetic resistance is felt.
3. Measure the voltage between terminals A and B of the vehicle speedometer sensor while rotating the driven gear.

Meter needle	Action
Moves slightly under 5V	Normal
Does not move	Replace vehicle speedometer sensor (Refer to section C1)



47U0QX-530

Standard indication {km/h}	Allowable indication {km/h}
40	40—43
80	80—84
120	120—126

Standard indication {mph}	Allowable indication {mph}
20	20—23
60	60—63
100	100—105

47U0QX-531

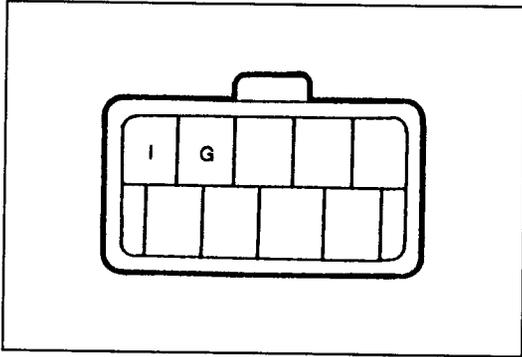
SPEEDOMETER

Inspection

Note

- Tire wear and improper tire inflation will increase speedometer error.

1. Using a speedometer tester, check the speedometer for indication error, and check the operation of the odometer.
2. Replace the speedometer, if necessary. (Refer to section C1.)



47U0QX-532

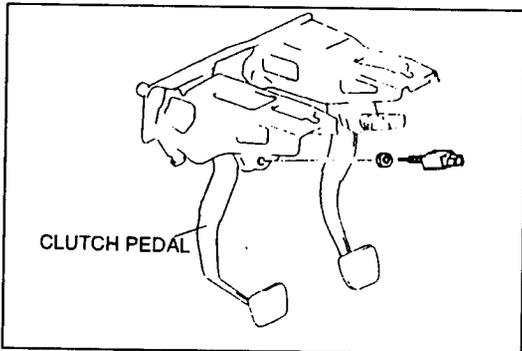
PARK / NEUTRAL SWITCH (AT)

Inspection

1. Disconnect the negative battery cable and disconnect the park/neutral switch connector.
2. Remove the park/neutral switch connector from the bracket.
3. Check for continuity between terminals I and G of the park/neutral switch.

AT shift range	Continuity
Reverse	Yes
Other	No

4. If not as specified, adjust or replace the park/neutral switch. (Refer to the 1994 RX-7 Workshop Manual, section K.)
5. Install the park/neutral switch connector to the bracket.
6. Connect the park/neutral switch connector and the negative battery cable.



47U0QX-533

CLUTCH SWITCH (MT)

Removal / Installation

1. Remove the extension housing. (Refer to the 1994 RX-7 Workshop Manual, section J.)
2. Remove the clutch switch.
3. Install the clutch switch.
4. Check the pedal height. Adjust it, if necessary. (Refer to page Q-17.)
5. Tighten the adjust nut.

Tightening torque:

13.8—17.6 N·m {140—180 kgf·cm, 122—156 in·lb}

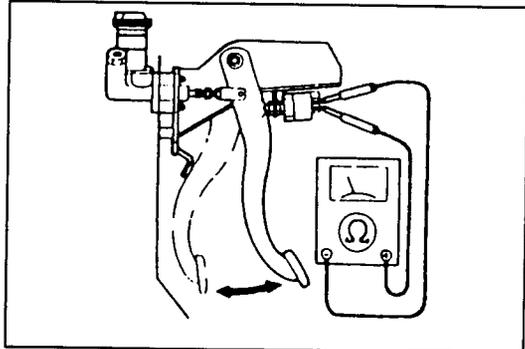
Inspection

1. Remove the undercover. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check the pedal height. Adjust it, if necessary. (Refer to page Q-17.)
3. Disconnect the clutch switch connector.
4. Depress the clutch pedal and check for continuity between the switch terminals.

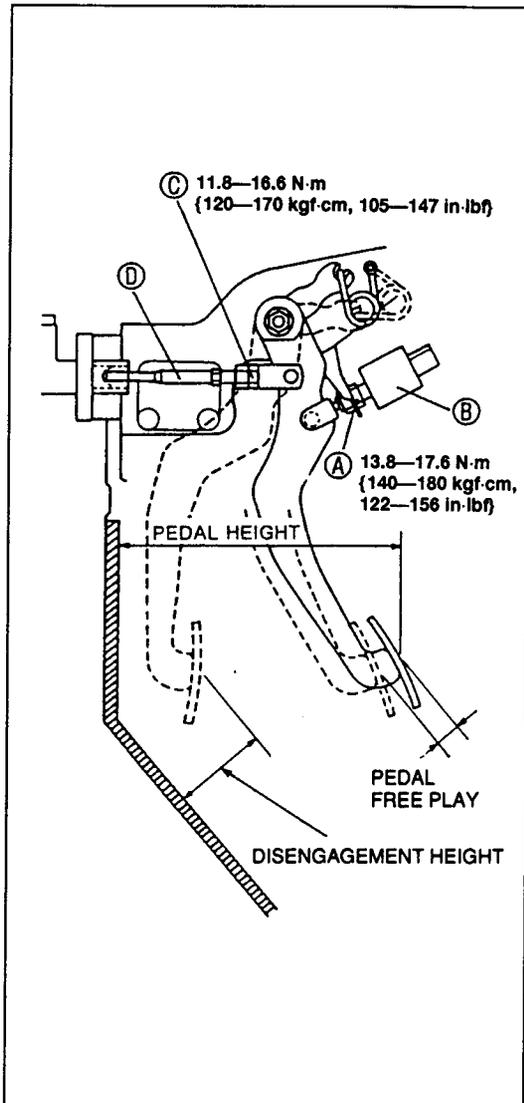
Terminal	Continuity	
	A	B
Depressed	○—○	○—○
Released		

○—○ : Continuity

5. If not as specified, replace the clutch switch.



47U0QX-534



CLUTCH PEDAL (MT)

Inspection

Clutch pedal height

1. Measure the distance from the upper surface of the pedal to the carpet.

**Pedal height: 165.5—177.0 mm {6.516—6.968 in}
(with carpet)**

2. If necessary, adjust the pedal height.

Clutch pedal free play

1. Depress the clutch pedal by hand until clutch resistance is felt.

**Pedal free play: 0.6—3.2 mm {0.02—0.13 in}
Total pedal free play: 5.1—14 mm {0.20—0.55 in}**

2. If necessary, adjust the pedal free play.

Adjustment

Clutch pedal height

1. Disconnect the clutch switch connector.
2. Loosen locknut A and turn clutch switch B until the pedal height is correct.
3. Tighten locknut A.

Tightening torque:

13.8—17.6 N·m {140—180 kgf·cm, 122—156 in·lbf}

4. After the adjustment, inspect the pedal free play.

Clutch pedal free play

1. Loosen locknut C and turn push rod D until pedal free play is correct.
2. Verify that the disengagement height from the upper surface of the pedal height to the carpet is correct when the pedal is fully depressed.

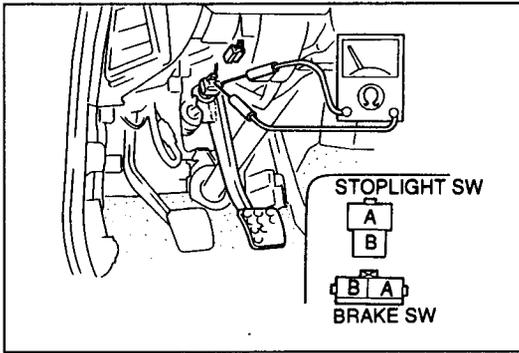
**Minimum disengagement height: 48 mm {1.9 in}
(with carpet)**

3. Tighten locknut C.

Tightening torque:

11.8—16.6 N·m {120—170 kgf·cm, 105—147 in·lbf}

4. After adjustment, inspect the pedal height.



47U0QX-536

STOPLIGHT / BRAKE SWITCH

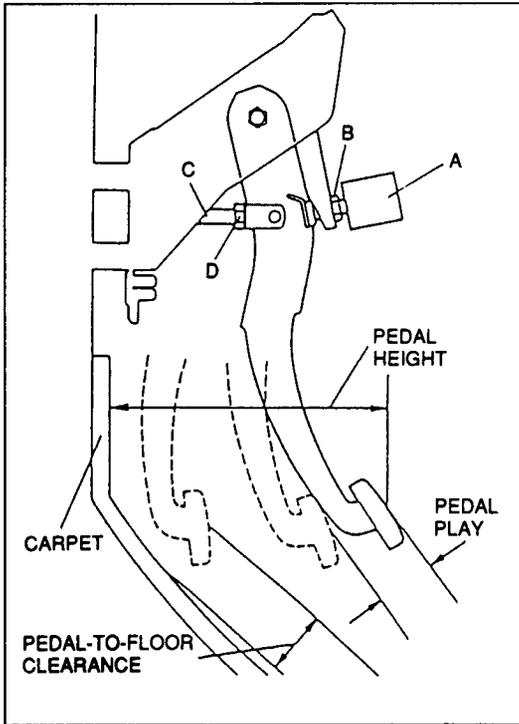
Inspection

1. Remove the undercover. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check the pedal height. Adjust it, if necessary. (Refer to the 1994 RX-7 Workshop Manual, section P.)
3. Disconnect the stoplight / brake switch connector.
4. Depress the brake pedal and check for continuity between the switch terminals.

Pedal / Terminal	Brake switch		Stoplight switch	
	A	B	A	B
Depressed			○—○	○—○
Released	○—○			

○—○ : Continuity

5. If not as specified, replace the stoplight / brake switch. (Refer to the 1994 Rx-7 Workshop Manual, section P.)



47U0QX-537

BRAKE PEDAL

Inspection (on-vehicle)

Pedal height inspection

Verify that the distance from the center of the upper surface of the pedal pad to the carpet is as specified.

Pedal height: 164.5—176.0 mm {6.48—6.92 in} (with carpet)

Pedal height adjustment

1. Disconnect the stoplight switch connector.
2. Loosen locknut B and turn switch A until it does not contact the pedal arm.
3. Loosen locknut D and turn rod C to adjust the height.
4. Adjust the pedal free play and tighten locknut D. (Refer below.)
5. Turn switch A until it contacts the pedal arm; then turn an additional 1/2 turn.
6. Tighten locknut B.

Tightening torque:

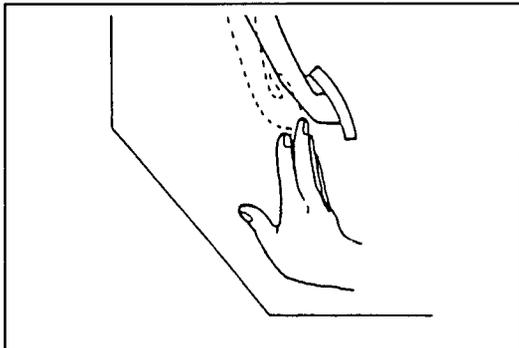
13.8—17.6 N·m {140—180 kgf·cm, 122—156 in·lb}

7. Connect the stoplight switch connector.

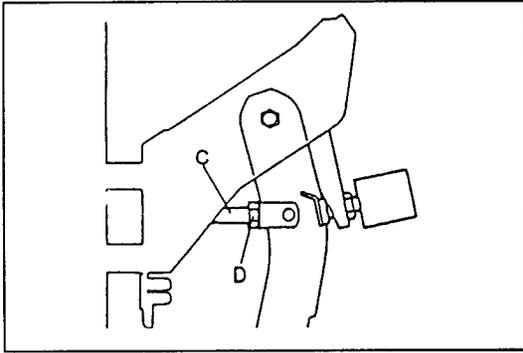
Pedal play inspection

1. Depress the pedal a few times to eliminate the vacuum in the system.
2. Lightly depress the pedal by hand until resistance is felt and check the free play.

Free play: 3—8 mm {0.12—0.31 in}



37U0TX-293



37U0TX-294

Pedal play adjustment

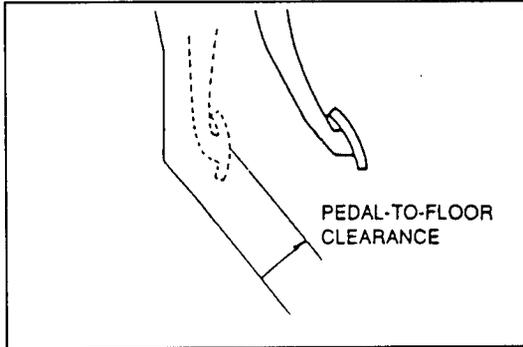
1. Loosen locknut D and turn rod C to adjust the free play.

Free play: 3—8 mm {0.12—0.31 in}

2. Tighten locknut D.

Tightening torque:

24—34 N·m {2.4—3.5 kgf·m, 17—25 ft·lbf}



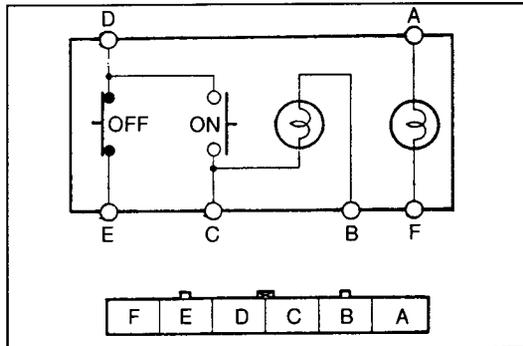
47U0QX-538

Pedal-to-floor clearance

1. Verify that the distance from the floor panel to the center of the upper surface of the pedal pad is as specified when the pedal is depressed with a force of **589 N {60 kgf, 132 lbf}**.

Pedal-to-floor clearance: 100 mm {3.94 in} min. (without carpet)

2. If the distance is less than specified, inspect for air in the brake system.



47U0QX-539

CRUISE CONTROL MAIN SWITCH

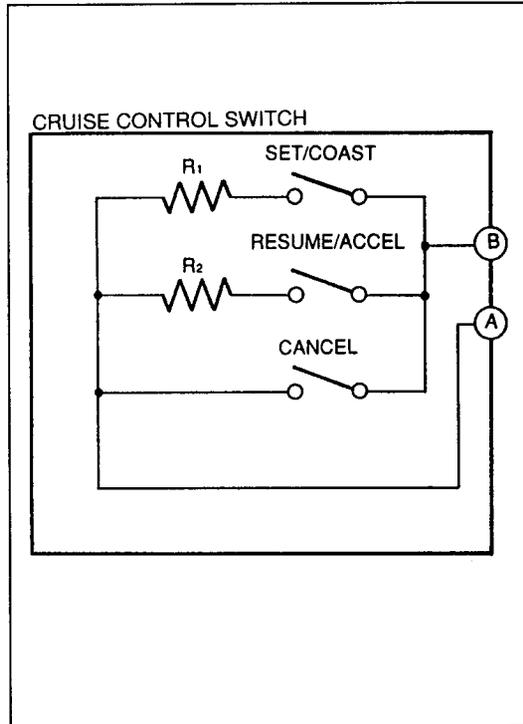
Inspection

1. Remove the cruise control main switch. (Refer to section Z4.)
2. Check for continuity between the terminals of the cruise control main switch.

Terminal	A	F	B	C	D	E
Position						
OFF	○—Ⓜ—○		○—Ⓜ—○		○—○	○—○
ON	○—Ⓜ—○		○—Ⓜ—○	○—○		

○—○ : Continuity

3. If not as specified, replace the cruise control main switch. (Refer to section Z4.)



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CRUISE CONTROL SWITCH

Inspection

1. Remove the cruise control switch. (Refer to section Z4.)
2. Check for continuity between the switch terminals.

Switch position	Terminal	A	B
SET/COAST		○—R ₁ —○	
RESUME/ACCEL		○—R ₂ —○	
CANCEL		○—○	

○—W—○ : Resistance, ○—○ : Continuity, R₁: 240Ω, R₂: 910Ω

3. If not as specified, replace the cruise control switch. (Refer to section Z4.)

Before beginning any service procedure, refer to section J1 of this manual for audio antitheft system alarm conditions.

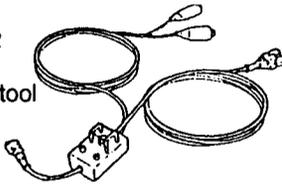
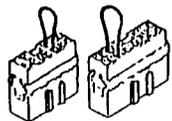
AIR BAG SYSTEM

PREPARATION	S- 2
STRUCTURAL VIEW	S- 2
COMPONENT DESCRIPTION	S- 3
SYSTEM DIAGRAM	S- 4
SERVICE WARNINGS	S- 5
TROUBLESHOOTING	S- 6
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PASSENGER-SIDE AIR BAG MODULE.....	S-21
DIAGNOSTIC MODULE	S-22
CLOCK SPRING CONNECTOR ASSEMBLY ...	S-23
CRASH SENSOR (D-SENSOR)	S-25
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AIR BAG MODULE DISPOSAL	
PROCEDURE	S-30
INSPECTION OF SST	
(DEPLOYMENT TOOL)	S-33

47U0SX-501

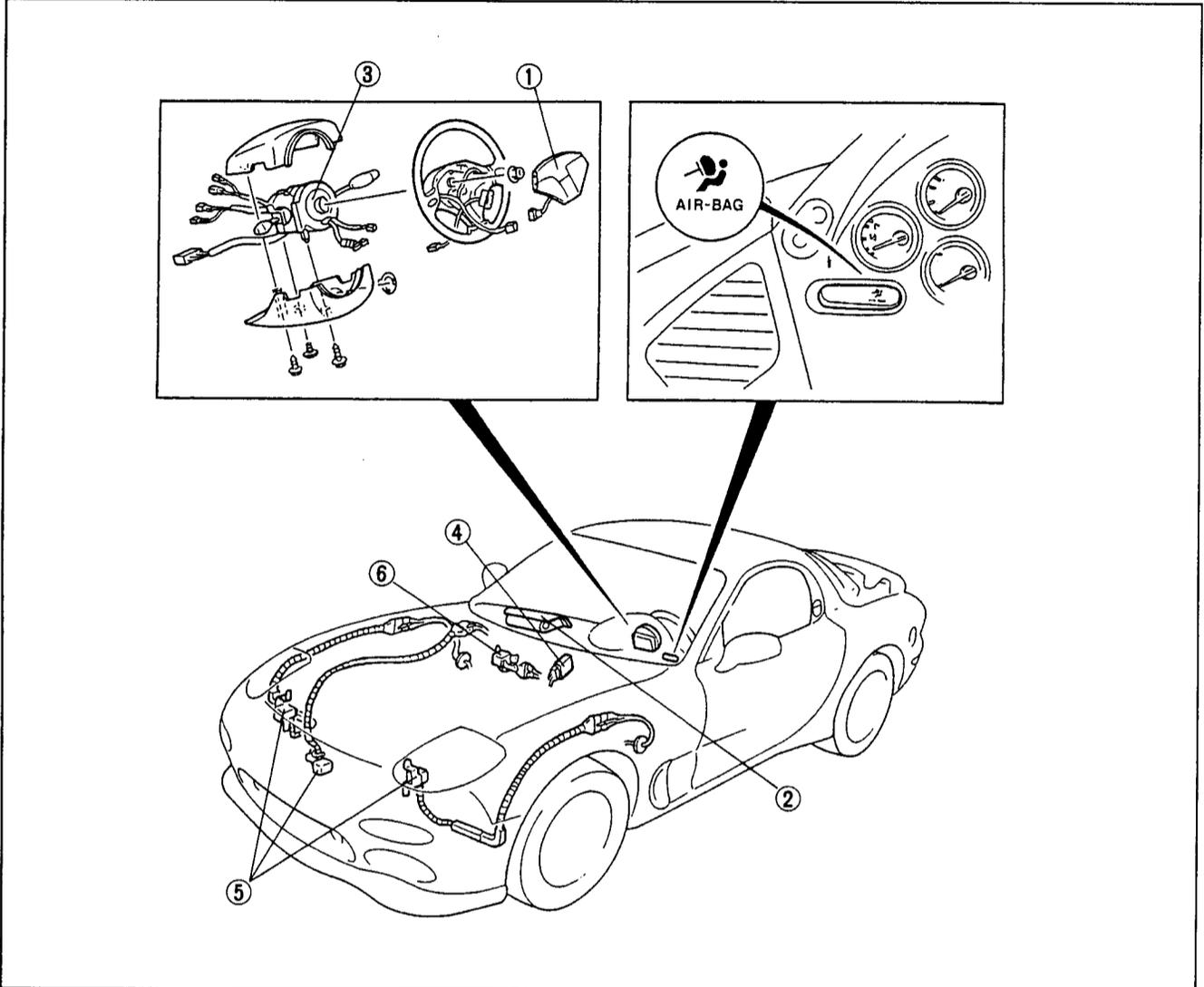
AIR BAG SYSTEM

PREPARATION SST

<p>49 H066 002 Deployment tool</p> 	<p>For deployment of air bag module</p>	<p>49 H066 004 Short-circuit connector</p> 	<p>For deactivation of live air bag module</p>
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29U0TX-260

STRUCTURAL VIEW



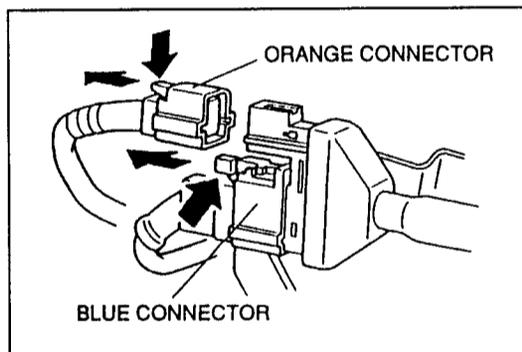
47U0SX-502

- | | |
|---|--|
| <p>1. Driver-side air bag module
Removal / Installation page S-20
Disposal procedure page S-30</p> <p>2. Passenger-side air bag module
Removal / Installation page S-21
Disposal procedure page S-30</p> <p>3. Clock spring connector assembly
Removal / Installation page S-23
Inspection page S-24
Adjustment page S-24</p> | <p>4. Diagnostic module
Removal / Installation page S-22</p> <p>5. Crash sensor (D-sensor)
Removal / Installation page S-25
Inspection page S-27</p> <p>6. Crash sensor (S-sensor)
Removal / Installation page S-28
Inspection page S-29</p> |
|---|--|

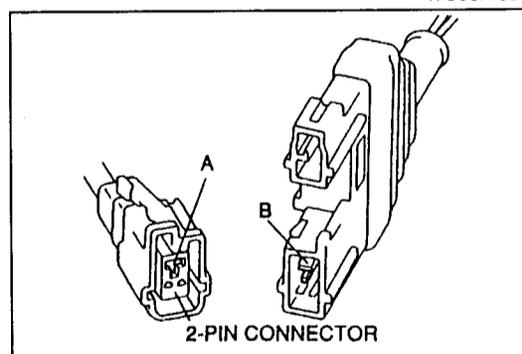
COMPONENT DESCRIPTION

Component		Function	Remarks
Air bag system warning light		Light illuminates or flashes if malfunction occurs in air bag system	Located in instrument cluster
Air bag module		Deploys air bag when current flows to integrated igniter	Location: Driver-side...In steering wheel hub Passenger-side...Above glove compartment
Clock spring connector assembly		Ensures uninterrupted electrical connection to air bag module while allowing steering wheel to turn	Part of combination switch
Crash sensor	D-sensor	Activated (closed) when crash impact detected Acting with S-sensor, completes circuit to inflator	Located in front part of vehicle (center, RH, and LH)
	S-sensor	Activated (closed) when crash impact detected Acting with D-sensor, completes circuit to inflator	Located behind heater unit in passenger compartment
Diagnostic module		Monitors components and harnesses in air bag system Indicates system malfunction by flashing or illuminating air bag system warning light If warning light is burnt, sounds warning buzzer Detects short circuit between air bag module and ground or crash sensor malfunction and melts system fuse to prevent unintended air bag deployment	Contains back-up battery

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47U0SX-504



47U0SX-505

Double Lock Connectors

The connectors in the air bag system are double lock connectors. Disconnect them as follows:

1. Push the knob of the orange connector down and pull the connector out.
2. Push the knob of the blue connector in and pull the connector out.

Note

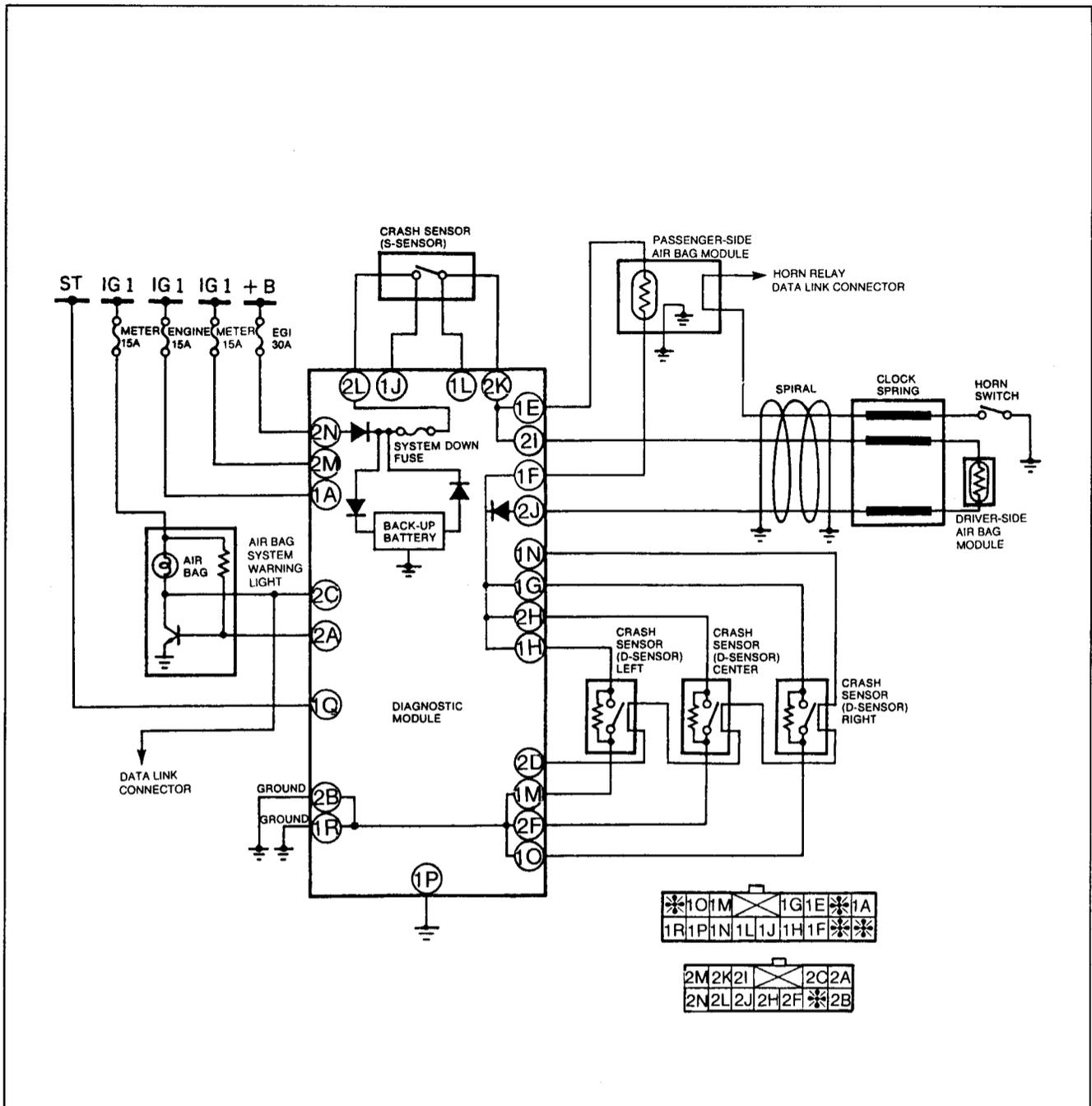
- When the 2-pin connector of the air bag module and clock spring is disconnected, a short occurs that will prevent the air bag from deploying during servicing.

Warning

- Reconnecting the 2-pin connector of the air bag module and clock spring with pin B broken can be dangerous. In an accident, the air bag will not deploy, causing serious injury or death. If pin B is broken, replace the combination switch or harness.

3. Connect the connectors in the reverse order of disconnection, make sure pin B is inserted properly into part A. This will fix the short caused by disconnection and allow current to flow to the air bag module again.

SYSTEM DIAGRAM



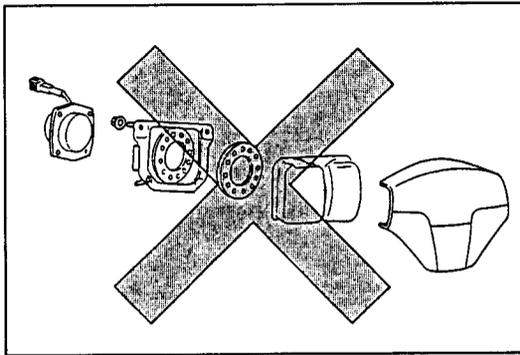
47U0SX-506

System Operation**During collision**

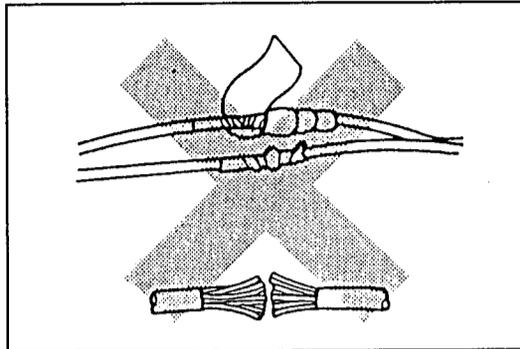
- When either of the D-sensors and the S-sensor are activated (closed) simultaneously by the shock of a collision, the circuit to the inflator is completed. The inflator creates nitrogen gas and the air bags are deployed.
- The air bags release the nitrogen gas from a vent hole in the back of the bag to reduce shock to the driver and passenger and to allow easier exit from the vehicle.

During normal condition and malfunction

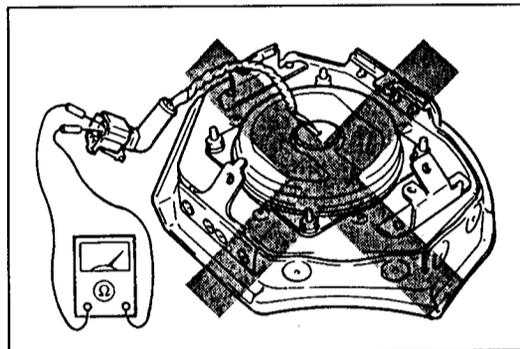
- The diagnostic module constantly monitors the components and wiring of the air bag system for malfunction, open circuits, and short circuits.
- If a malfunction is detected, the diagnostic module illuminates or flashes the warning light.
- If there is a short circuit in the sensors or sensor harnesses, the diagnostic module activates the warning light and shuts down the system to prevent accidental deployment of the air bags.



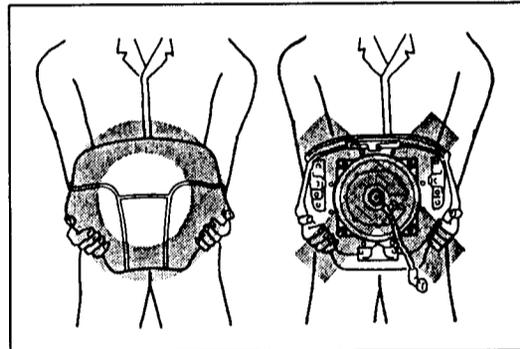
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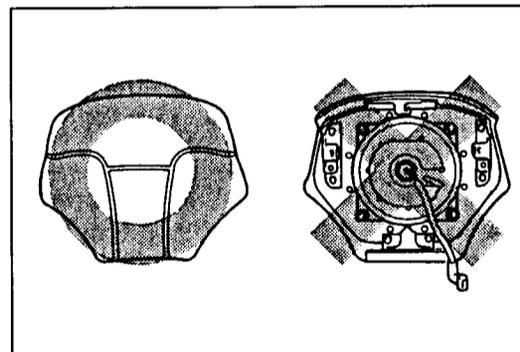
47U0SX-508



47U0SX-509



47U0SX-510



47U0SX-511

SERVICE WARNINGS

Component Disassembly

- Disassembling and reassembling the components of the air bag system can render the system inoperative, which may result in serious injury or death in the event of an accident. Do not disassemble any air bag system components.

Wiring Harness Repair

- Incorrectly repairing an air bag system wiring harness can accidentally deploy the air bag, which can cause serious injury. If a problem is found in the system wiring, replace the wiring harness. Do not try to repair it.

Air Bag Module Inspection

- Inspecting the air bag module with an ohmmeter can deploy the air bag, which can cause serious injury. Do not use an ohmmeter to inspect the air bag module.

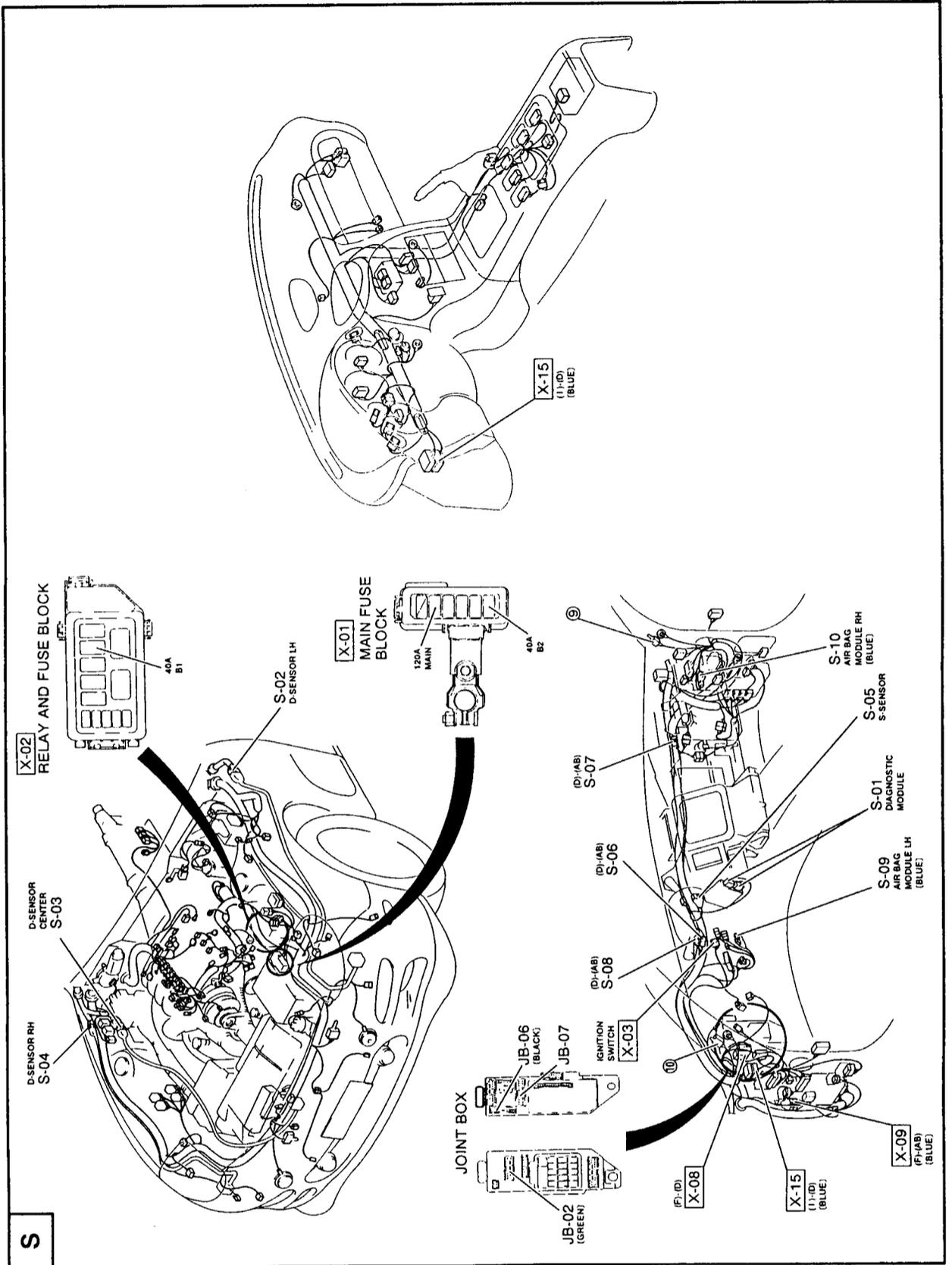
Air Bag Module Handling

- A live (undeployed) air bag may accidentally deploy when it is handled and cause serious injury. When carrying a live air bag module, point the trim cover away from your body to lessen the chance of injury in case it deploys.

- A live air bag placed face down on a surface is dangerous. If the air bag deploys, the motion of the module can cause serious injury. Always face the trim cover up to reduce the motion of the module in case it accidentally deploys.

S

Connector Locations

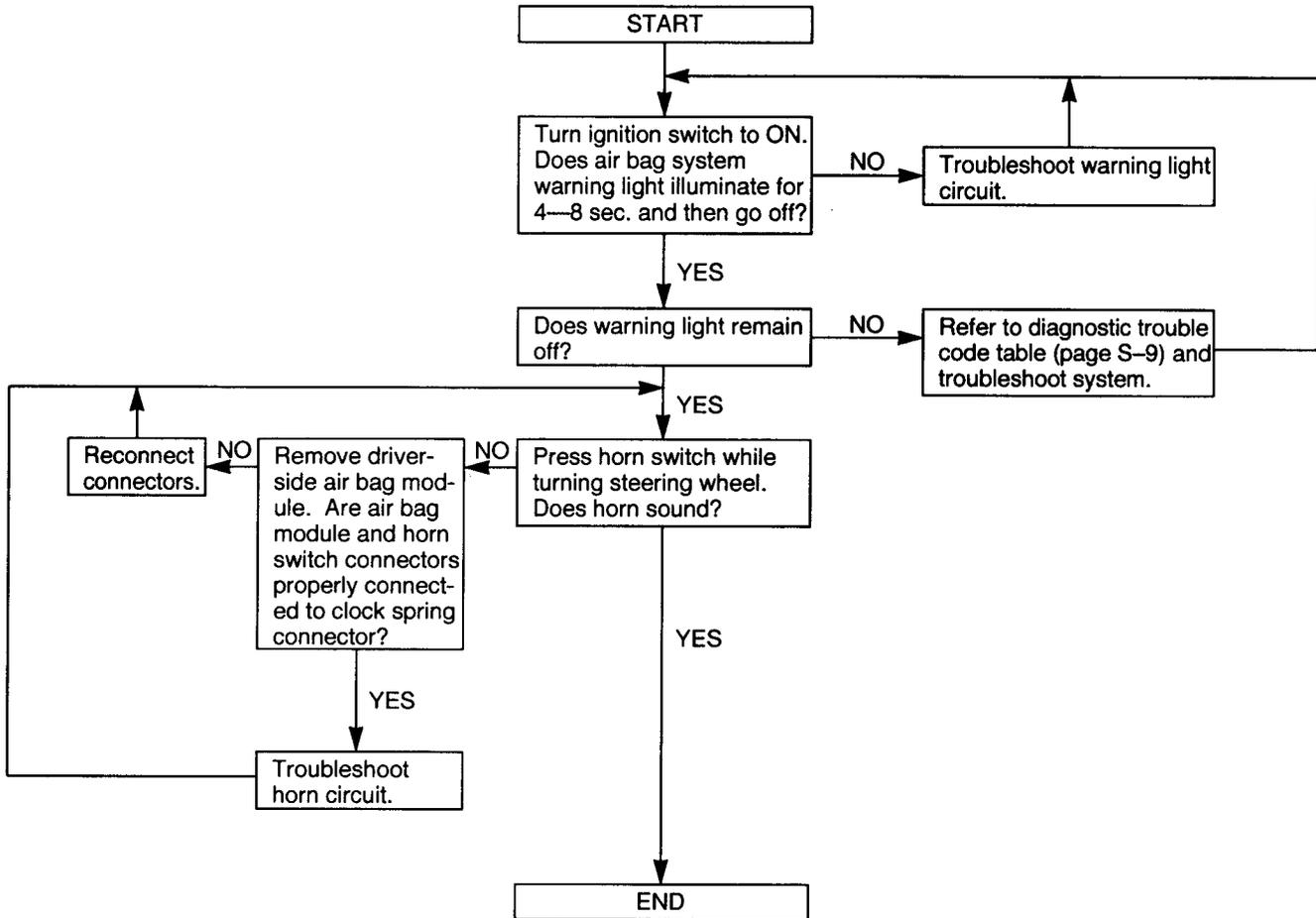


S

S

Troubleshooting Procedure

The diagnostic module has a on-board diagnosis system function that flashes or illuminates the air bag system warning light to indicate trouble in the air bag system. The trouble can be determined by the warning light illumination or flashing pattern. If the light does not illuminate but the system still has trouble, a warning buzzer will sound 5 cycles of 5 times each.

Flowchart

47U0SX-512

Diagnostic trouble code table

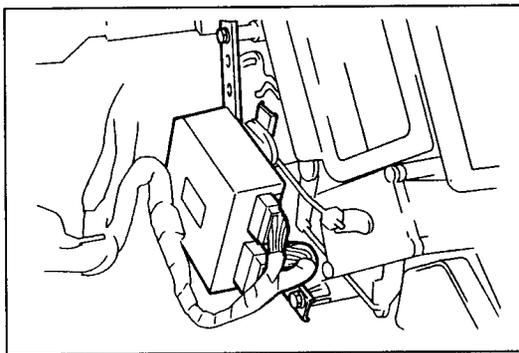
If there are two or more problems in the air bag system, the warning light indicates the problem with the highest priority.

Priority	Warning light	Possible cause	Flowchart No.	Refer to page
1	Remains on	Damaged diagnostic module Poor connection of diagnostic module connector	1	S-9
2	Flashes three times	Burnt ENGINE 15A and EGI 30A fuse Open or short in power supply circuit	2	S-10
3	Flashes five times	Damaged D-sensor Open or short circuit in wiring harness	3	S-12
4	Flashes four times	Damaged S-sensor Damaged diagnostic module Open or short circuit in S-sensor system wiring harness Poor connection of S-sensor connector	4	S-13
5	Flashes six times	Damaged driver-side air bag module Damaged combination switch Damaged diagnostic module Damaged wiring harness	5	S-14
6	Flashes seven times	Damaged passenger-side air bag module Damaged wiring harness	6	S-16
7	Flashes ten times	Burnt system-down fuse in diagnostic module Damaged D-sensor(s) (center, RH, and LH)	7	S-17
8	Flashes nine times	Open or short circuit in wiring harness Poor connection of D-sensor connector	3	S-12
	Remains off	Burnt warning light bulb Damaged diagnostic module	8	S-18

47U0SX-513

Flowchart No.	• Fault indication	Warning light remains on
1	• Damaged system	Diagnostic module internal circuit
	• Possible cause	Damaged diagnostic module
		Poor connection of diagnostic module connector

47U0SX-514



47U0SX-515

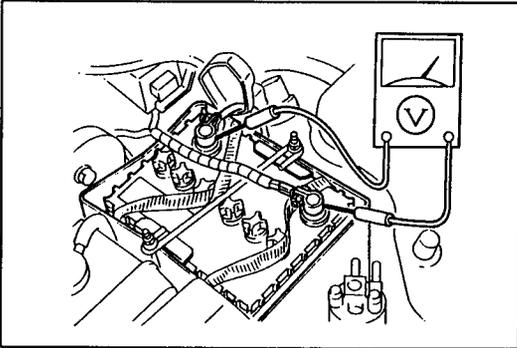
Remedy

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Make sure the diagnostic module connectors are properly connected.

Connection	Action
OK	Replace diagnostic module
Loose	Reconnect connector and check warning light operation

Flowchart No.	<ul style="list-style-type: none"> • Fault indication Warning light flashes three times • Damaged system Diagnostic module power supply system • Possible cause Burnt fuse
2	Open or short in power supply circuit

47U0SX-516

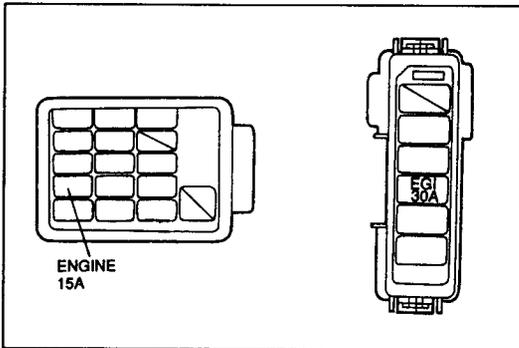


47U0SX-517

Step 1

Measure the battery positive voltage.

Battery	Action
More than 9V	Go to Step 2
Less than 9V	Check charging system (Refer to 1994 RX-7 Workshop Manual, section G)

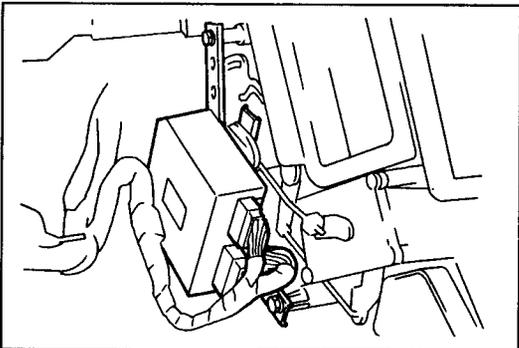


47U0SX-518

Step 2

Check ENGINE 15A fuse in the fuse block and the EGI 30A fuse in the main fuse block No.1.

Fuse	Action
OK	Go to Step 3
Burnt	Replace fuse after checking and repairing wiring harness

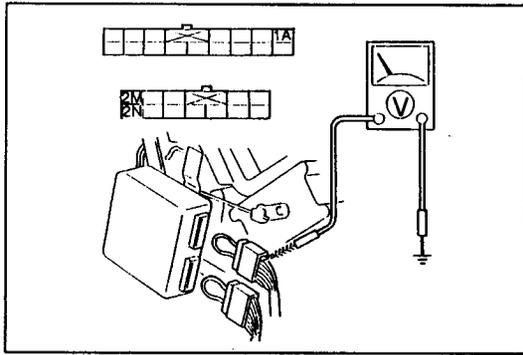


47U0SX-519

Step 3

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Make sure the diagnostic module connectors are properly connected.

Connector	Action
OK	Go to Step 4
Loose	Reconnect connector and check warning light operation



47U0SX-520

Step 4

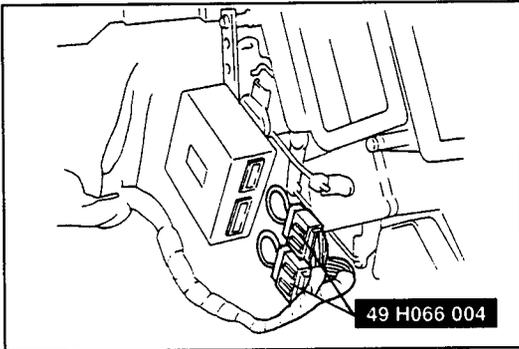
1. Disconnect the diagnostic module connector.
2. Connect the negative battery cable.
3. Turn the ignition switch to ON.
4. Measure the voltage at terminals 1A (B/LG), 2M (G/B) and 2N (W/G) of the diagnostic module connector.

B+: Battery positive voltage

Terminal	Voltage	Action
1A (B/LG)	B+	Check terminal 2M (G/B)
	Other	Replace wiring harness (ENGINE 15A fuse—Diagnostic module)
2M (G/B)	B+	Check terminal 2N (W/G)
	Other	Replace wiring harness (METER 15A fuse—Diagnostic module)
2N (W/G)	B+	Replace diagnostic module
	Other	Replace wiring harness (EGI 30A fuse—Diagnostic module)

Flowchart No.	• Fault indication	Warning light flashes five times or nine times
	• Damaged system	D-sensor system
3	• Possible cause	Flashes five times— Damaged D-sensor Open or short circuit in wiring harness
		Flashes nine times— Open or short circuit in wiring harness Poor connection of D-sensor connector

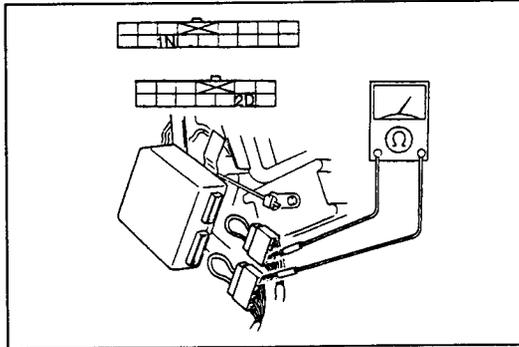
47U0SX-521



47U0SX-522

Step 1

1. Deactivate the audio antitheft system, if installed.
(Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connectors and connect the **SST** to it as shown in the figure.

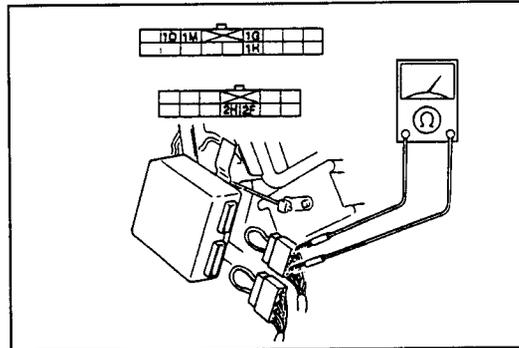


47U0SX-523

Step 2

Check for continuity between terminals 1N (B/Y) and 2D (B/O) of the diagnostic module connector.

Continuity	Action
Yes	Go to Step 3
No	Go to Step 5

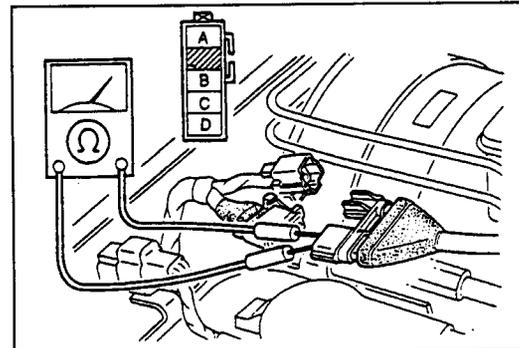


47U0SX-524

Step 3

Measure the resistance between the terminals of the diagnostic module connector.

Terminal	Resistance	Action
1H (Y)	1M (BR)	Approx. 1.2 kΩ Measure resistance between 1G and 1O
	Other	Go to Step 4
1G (W)	1O (V)	Approx. 1.2 kΩ Measure resistance between 2H and 2F
	Other	Go to Step 4
2H (L)	2F (GY)	Approx. 1.2 kΩ Replace diagnostic module
	Other	Go to Step 4

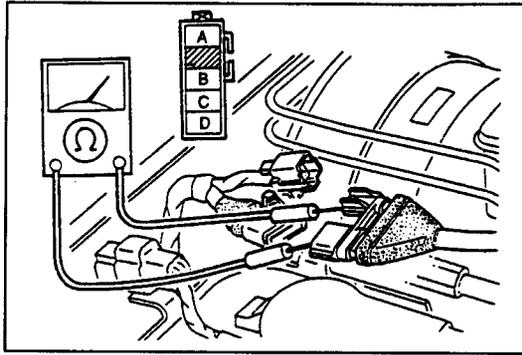


47U0SX-525

Step 4

1. Disconnect the D-sensor connectors (center, RH and LH).
2. Measure the resistance between terminals C and D of the D-sensor.

Resistance	Action
Approx. 1.2 kΩ	Go to Step 5
Other	Replace D-sensor



47U0SX-526

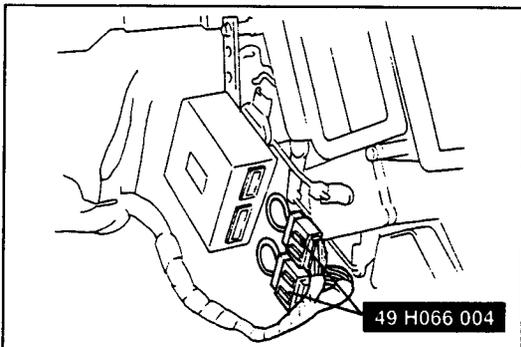
Step 5

Check for continuity between terminals A and B of the D-sensor.

Continuity	Action
Yes	Replace wiring harness
No	Replace D-sensor

Flowchart No.	<ul style="list-style-type: none"> Fault indication Warning light illuminates four times Damaged system S-sensor system Possible cause Damaged S-sensor
4	<ul style="list-style-type: none"> Damaged diagnostic module Open or short circuit in S-sensor system wiring harness Poor connection of S-sensor connector

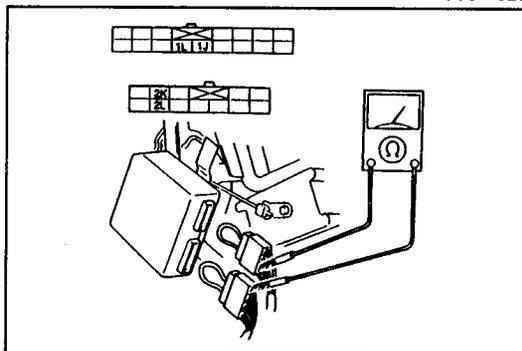
47U0SX-527



47U0SX-528

Step 1

1. Deactivate the audio antitheft system, if installed.
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connectors and connect the **SST** to it as shown in the figure.

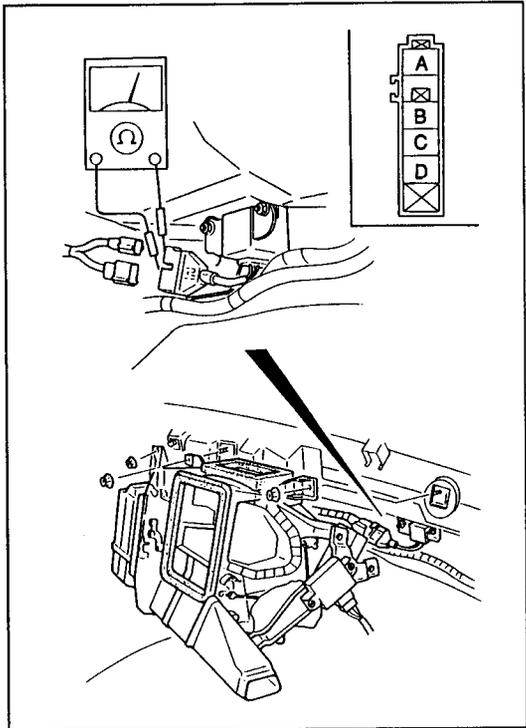


47U0SX-529

Step 2

Check for continuity between the terminals of the diagnostic module connector.

Terminal	Continuity	Action
1J (G) 2L (O)	Yes	Check for continuity between 1L and 2K
	No	Go to Step 3
1L (P) 2K (LG)	Yes	Replace diagnostic module
	No	Go to Step 3
2L (O) 2K (LG)	Yes	Check for continuity between 2L or 2K and ground
	No	Go to Step 3
2L (O) or 2K (LG) GND	Yes	Replace diagnostic module
	No	Go to Step 3



47U0SX-530

Step 3

1. Disconnect the S-sensor connector.
2. Check for continuity between the terminals of the S-sensor.

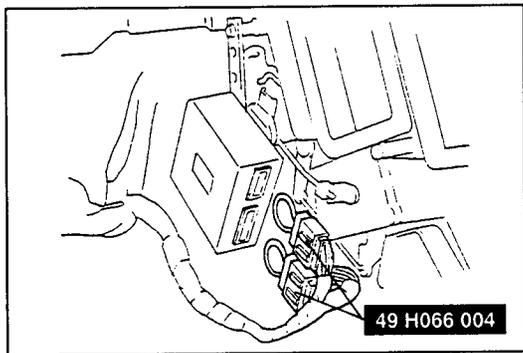
Terminal	Continuity	Action	
A	B	Yes	Check for continuity between C and D
	B	No	
C	D	Yes	Check for continuity between A and C
	D	No	
A	C	Yes	Replace S-sensor
	C	No	Replace wiring harness (Diagnostic module—S-sensor)

Flowchart No.	• Fault indication	Warning light flashes six times
	• Damaged system.....	Driver-side air bag module (inflator system)
5	• Possible cause	Damaged driver-side air bag module
		Damaged combination switch
		Damaged diagnostic module
		Damaged wiring harness

Warning

- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, page S-5, before handling the air bag module.

47U0SX-531



47U0SX-532

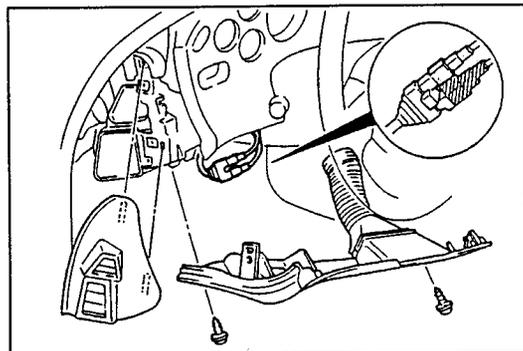
Step 1

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.

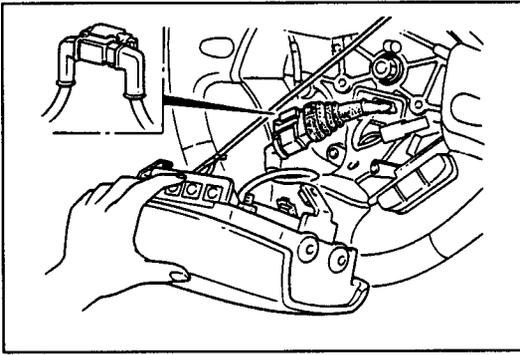
Step 2

Check the connection of the clock spring connector.

Connection	Action
OK	Go to Step 3
Loose	Reconnect connector



47U0SX-533

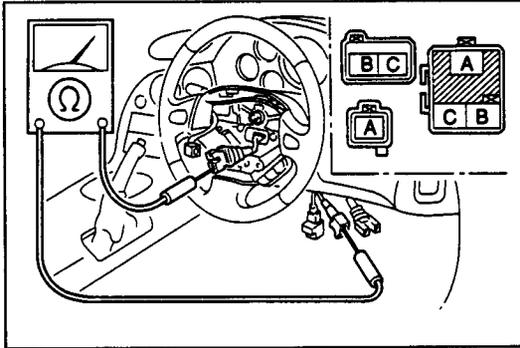


47U0SX-534

Step 3

1. Remove the driver-side air bag module.
2. Check the connection of the driver-side air bag module connector.

Connection	Action
OK	Go to Step 4
Loose	Reconnect connector

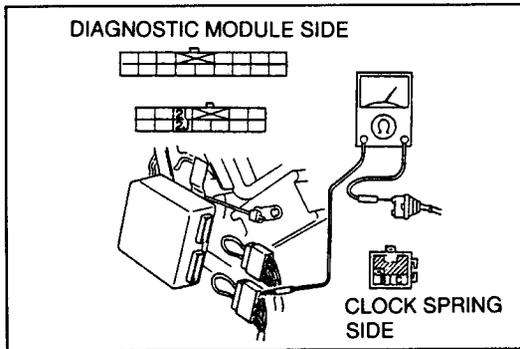


47U0SX-535

Step 4

Check for continuity between the terminals of the clock spring connector.

Terminal	Continuity	Action	
A	3A	Yes	Check for continuity between B and 2A
		No	Replace combination switch
B	2A	Yes	Check for continuity between C and 2B
		No	Replace combination switch
C	2B	Yes	Go to Step 5
		No	Replace combination switch



47U0SX-536

Step 5

Check for continuity between the terminal diagnostic module connector and clock spring connector.

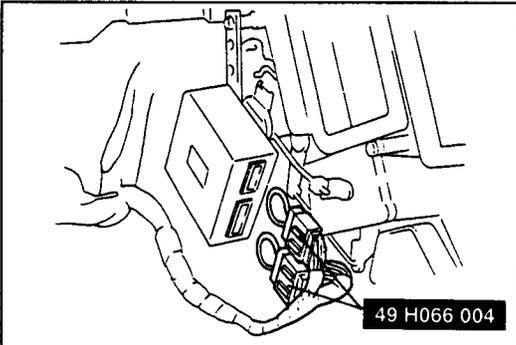
Terminal		Continuity	Action
Diagnostic module side	Clock spring side		
2I (G/W)	B (G/W)	Yes	Check for continuity between 2J and C
		No	Replace wiring harness
2J (R)	C (R)	Yes	Replace driver-side air bag module and check warning light operation. If warning light flashes six times, replace diagnostic module
		No	Replace wiring harness

Flowchart No. 6	• Fault indication	Warning light flashes seven times
	• Damaged system.....	Passenger-side air bag module (inflator system)
	• Possible cause	Damaged passenger-side air bag module Damaged wiring harness

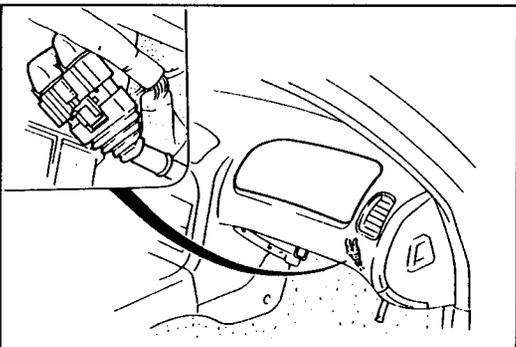
Warning

- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, page S-5, before handling the air bag module.

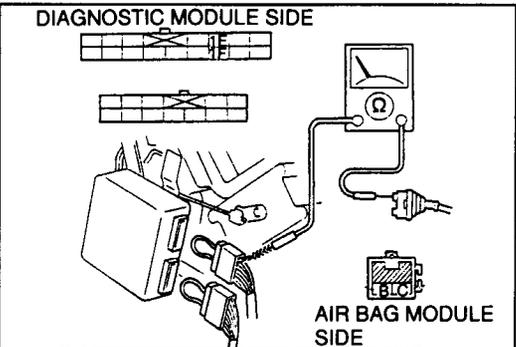
47U0SX-537



47U0SX-538



47U0SX-539



47U0SX-540

Step 1

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.

Step 2

1. Remove the glove compartment. (Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Check the connection of the passenger-side air bag module connectors.

Connection	Action
OK	Go to Step 3
Loose	Reconnect connector

Step 3

1. Disconnect the passenger-side air bag module connectors.
2. Check for continuity between the terminals of the diagnostic module connector and passenger-side air bag module connector.

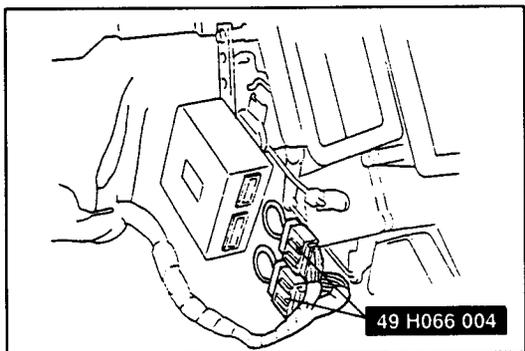
Terminal		Continuity	Action
Diagnostic module side	Air bag module side		
1E (R/B)	B (R/B)	Yes	Check for continuity between 1F and C
		No	
1F (LG/R)	C (LG/R)	Yes	Replace air bag module and check warning light operation. If warning light flashes seven times, replace diagnostic module.
		No	

Flowchart No.	<ul style="list-style-type: none"> • Fault indication Warning light flashes ten times • Damaged system Diagnostic module system D-sensor system (burnt system-down fuse)
7	<ul style="list-style-type: none"> • Possible cause Burnt system-down fuse in diagnostic module Damaged D-sensor(s) (center, RH, and LH)

Note

- To prevent the fail-safe system from unintentionally operating, the system-down fuse in the diagnostic module will burn if the module detects one of the following:
 1. Damaged D-sensors (center, RH and LH).
 2. Open or short circuit in air bag system

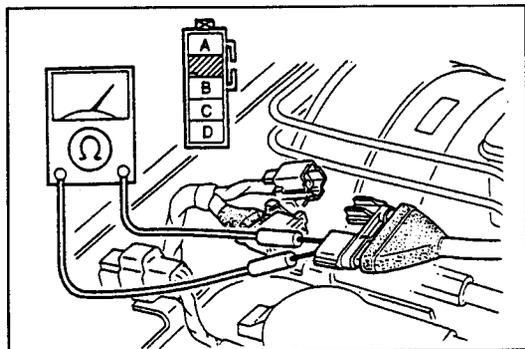
47U0SX-541



47U0SX-542

Step 1

1. Deactivate the audio antitheft system, if installed.
(Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.

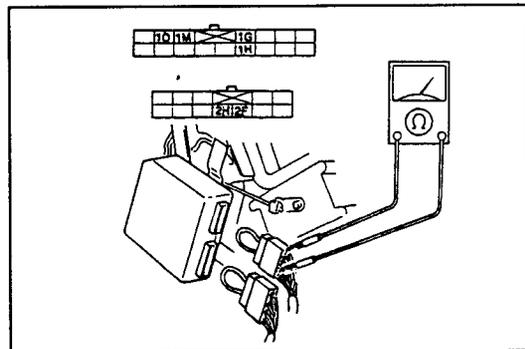


47U0SX-543

Step 2

1. Disconnect the D-sensor connectors (center, RH and LH).
2. Measure the resistance between terminals C and D of each sensor connector.

Resistance	Action
Approx. 1.2 kΩ	Go to Step 3
Other	Replace D-sensor



47U0SX-544

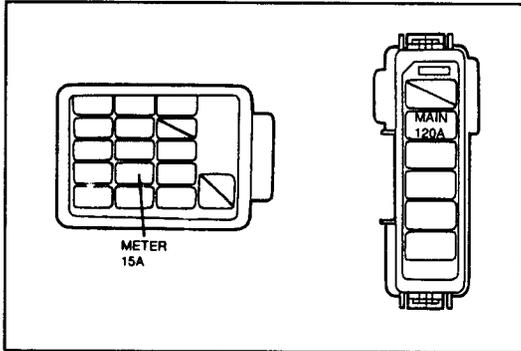
Step 3

1. Connect the D-sensor connectors (center, RH and LH).
2. Measure the resistance between the diagnostic module connector terminals.

Terminal	Resistance	Resistance	Action
1H (Y)	1M (BR)	Approx. 1.2 kΩ	Measure resistance between 1G and 1O
		Other	Replace wiring harness
1G (W)	1O (V)	Approx. 1.2 kΩ	Measure resistance between 2H and 2F
		Other	Replace wiring harness
2H (L)	2F (GY)	Approx. 1.2 kΩ	Replace diagnostic module
		Other	Replace wiring harness

Flowchart No. 8	• Fault indication	Warning light does not illuminate
	• Damaged system.....	Warning light illumination circuit system
	• Possible cause	Burnt warning light bulb Damaged diagnostic module

47U0SX-545



47U0SX-546

Step 1

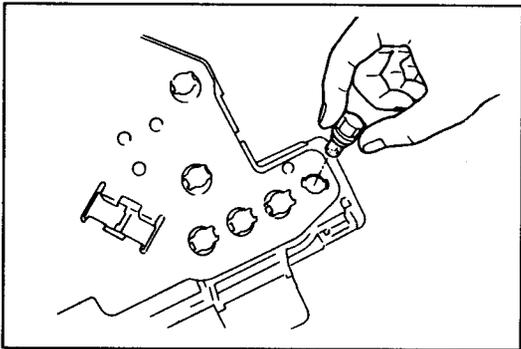
Check the MAIN 120A fuse in the main fuse block and the METER 15A fuse in the fuse block.

Fuse	Action
OK	Go to Step 2
Burnt	Replace fuse after checking and repairing wiring harness

Step 2

1. Remove the instrument cluster.
2. Check the air bag system warning light bulb.

Warning light	Action
OK	Go to Step 3
Burnt	Replace warning light bulb

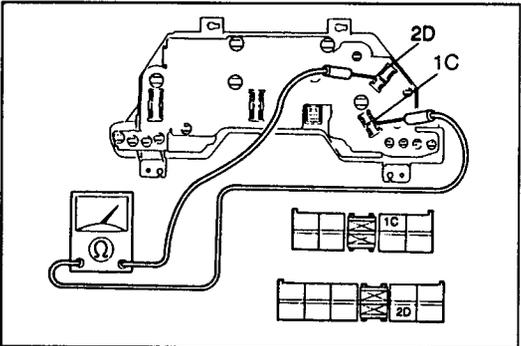


47U0SX-547

Step 3

Check for continuity between terminals 2D and 1C of the instrument cluster connectors.

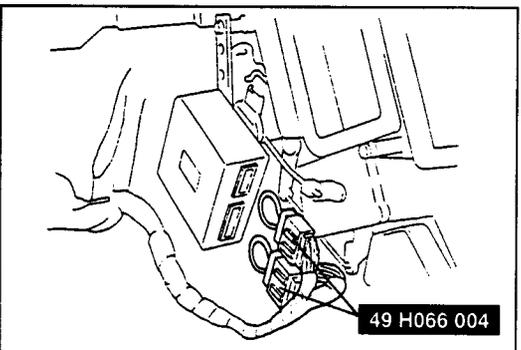
Continuity	Action
Yes	Go to Step 4
No	Replace print circuit



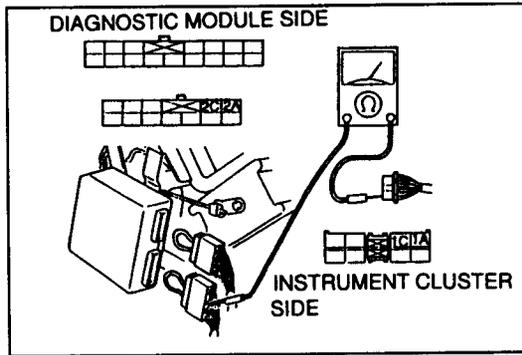
47U0SX-548

Step 4

1. Deactivate the audio antitheft system if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the SST to it as shown in the figure.



47U0SX-549



47U0SX-550

Step 5

Check for continuity between the terminals of the diagnostic module connector and instrument cluster connector.

Terminal		Continuity	Action
Diagnostic module connector	Instrument cluster connector		
2A (R/Y)	1A (R/Y)	Yes	Check for continuity between 2C and 1C
		No	Replace wiring harness between 2A and 1A (R/Y)
2C (G/Y)	1C (G/Y)	Yes	Replace diagnostic module
		No	Replace wiring harness between 2C and 1C (G/Y)

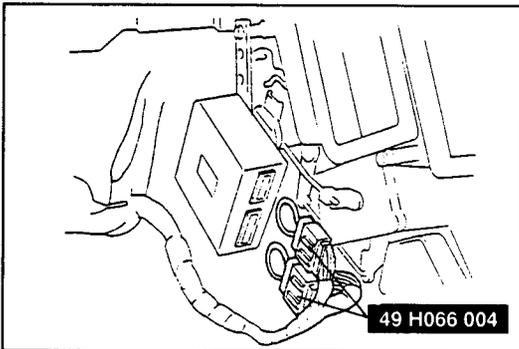
DRIVER-SIDE AIR BAG MODULE

Removal / Installation

Warning

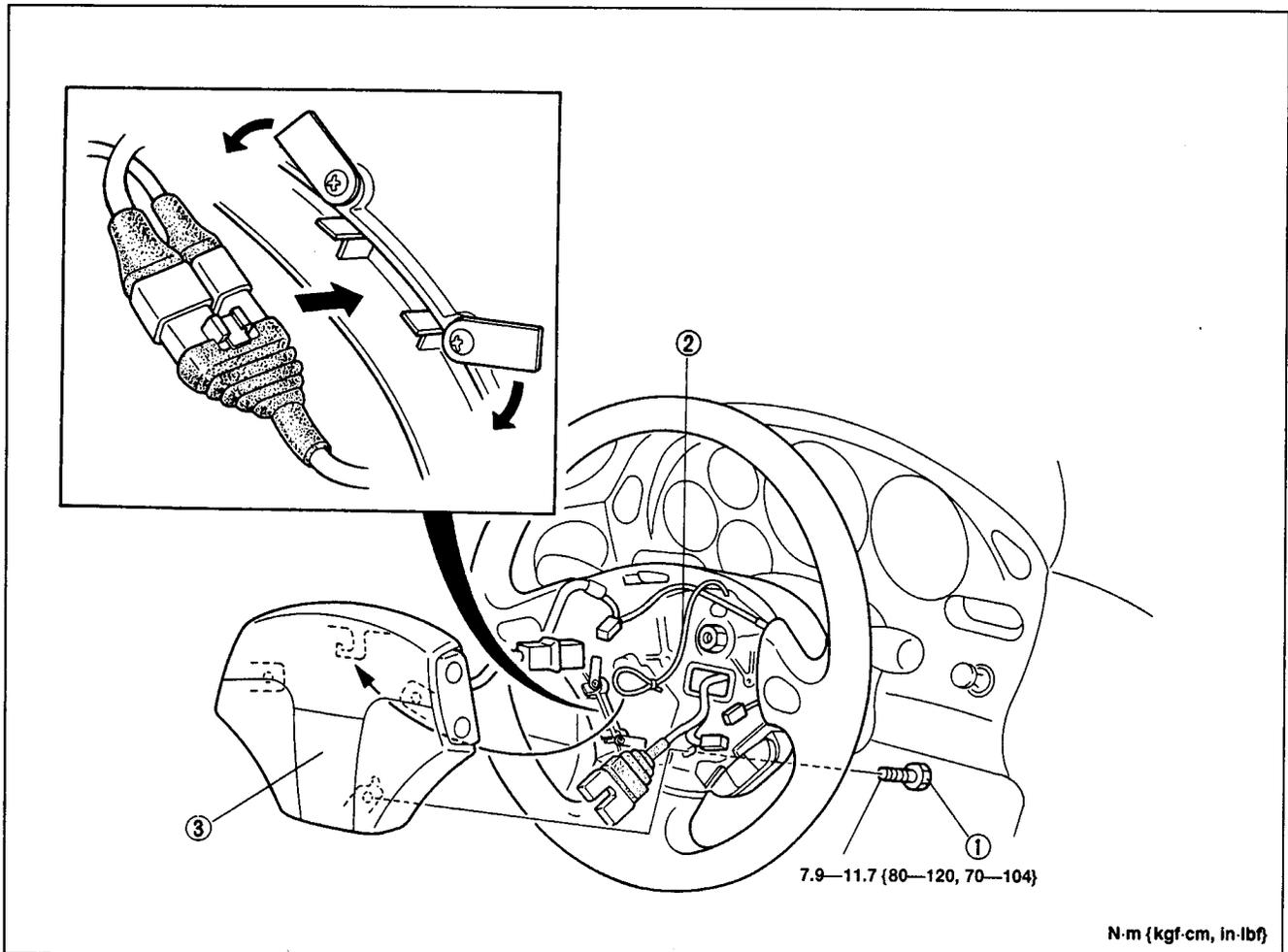
- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, page S-5, before handling the air bag module.

47U0SX-551



47U0SX-552

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.
6. Follow the troubleshooting flowchart (page S-8) to verify that the air bag system is operating normally.



N·m (kgf·cm, in·lbf)

47U0SX-553

1. Bolt
2. Support rope

3. Driver-side air bag module
Disposal procedure page S-30

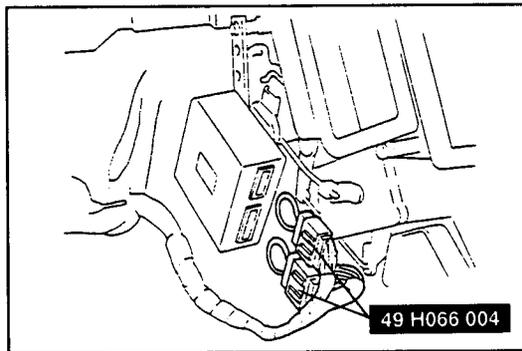
PASSENGER-SIDE AIR BAG MODULE

Removal / Installation

Warning

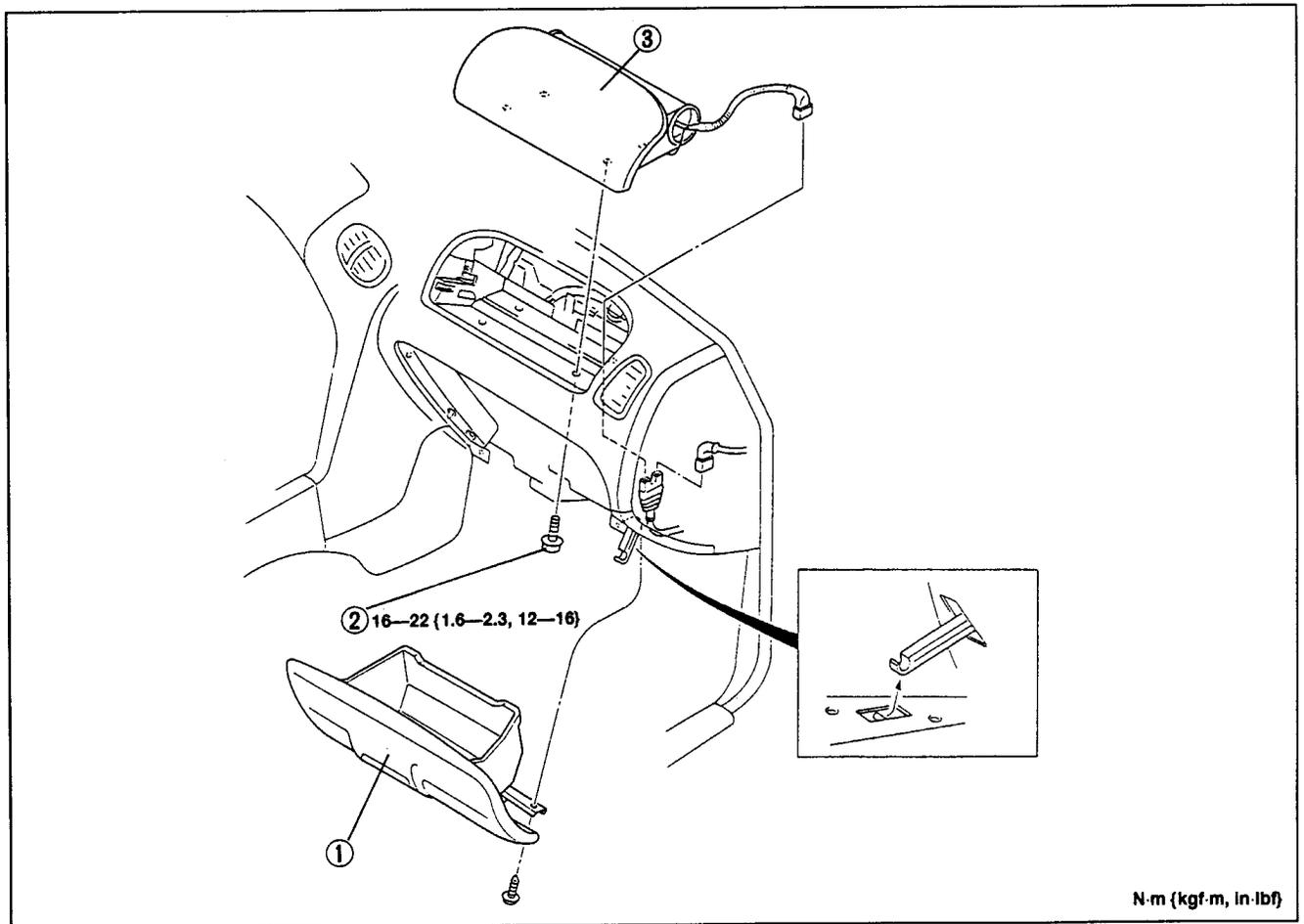
- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, page S-5, before handling the air bag module.

47U0SX-554



47U0SX-555

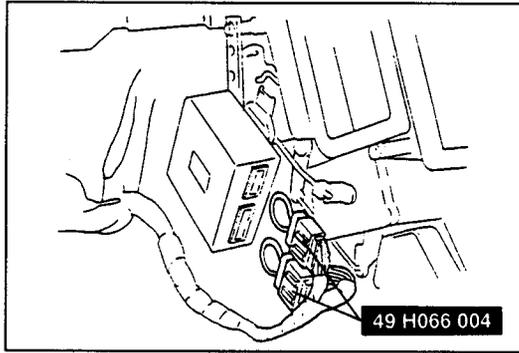
1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.
6. Follow the troubleshooting flowchart (page S-8) to verify that the air bag system is operating normally.



47U0SX-556

1. Glove compartment
2. Bolt

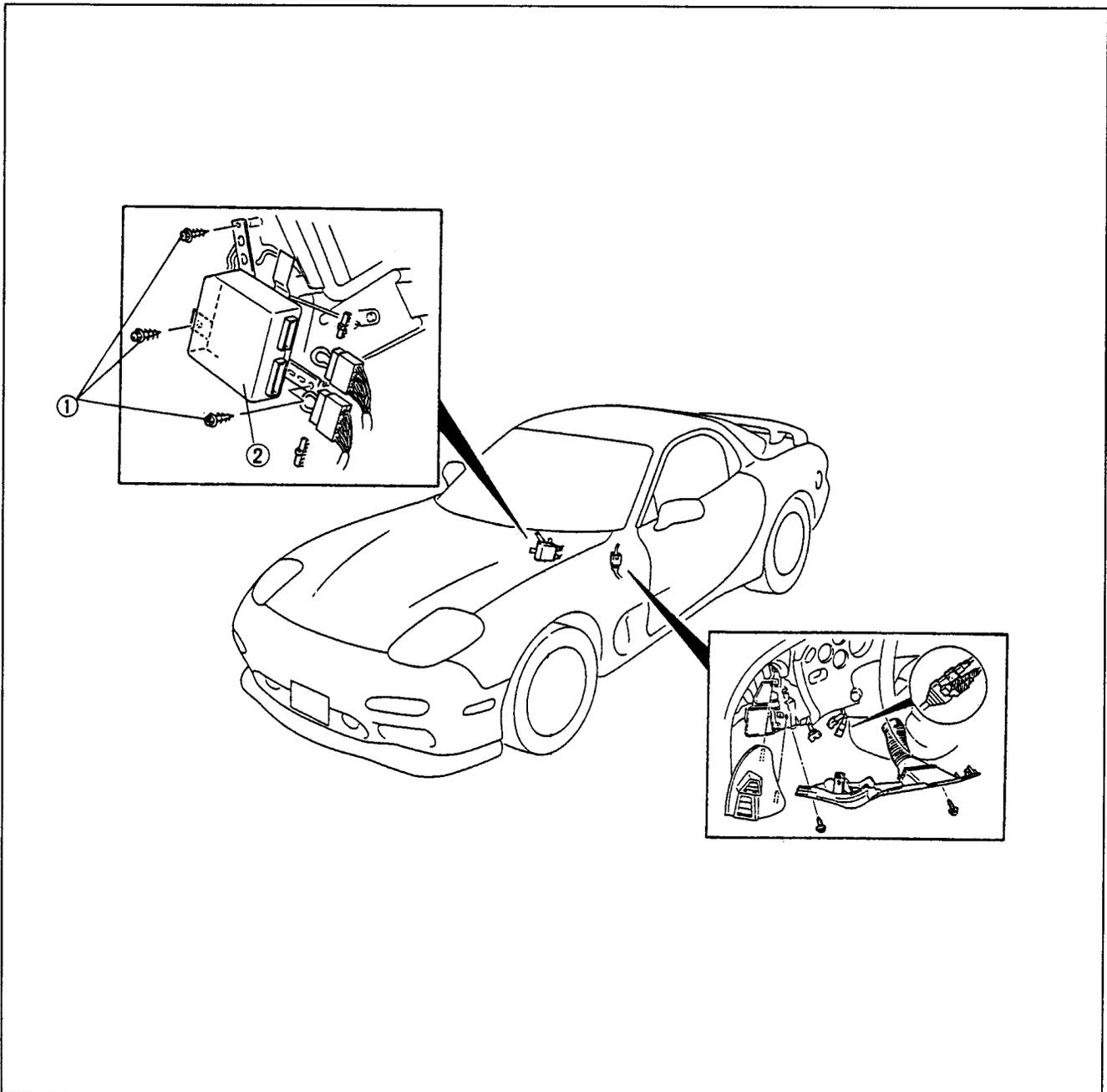
3. Passenger-side air bag module.
Disposal procedure page S-30



47U0SX-557

DIAGNOSTIC MODULE**Removal / Installation**

1. Deactivate the audio antitheft system, if installed.
(Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.
6. Follow the troubleshooting flowchart (page S-8) to verify that the air bag system is operating normally.



47U0SX-558

1. Screw
2. Diagnostic module

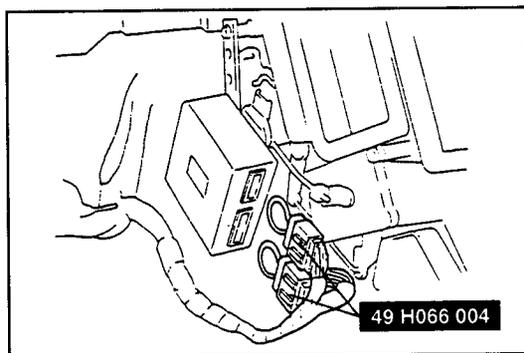
CLOCK SPRING CONNECTOR ASSEMBLY

Removal / Installation

Warning

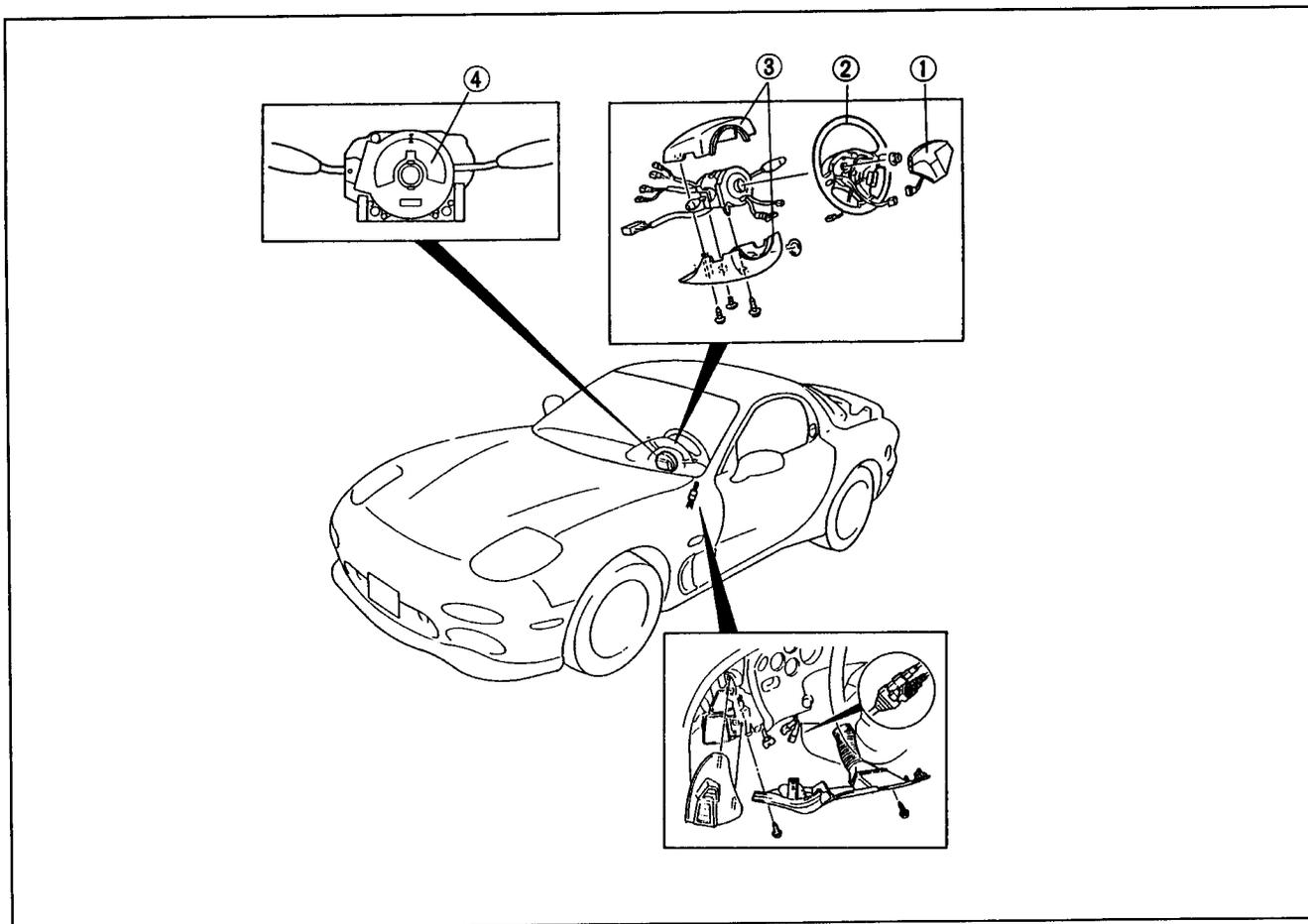
- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, page S-5, before handling the air bag module.

47U0SX-559



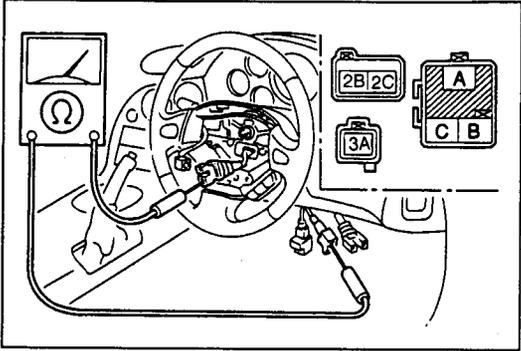
47U0SX-560

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.
6. Follow the troubleshooting flowchart (page S-8) to verify that the air bag system is operating normally.



47U0SX-561

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Driver-side air bag module
Removal / Installation page S-20
Disposal procedure page S-30 2. Steering wheel | <ol style="list-style-type: none"> 3. Column cover 4. Clock spring connector assembly
Inspection page S-24
Adjustment page S-24 |
|--|---|



47U0SX-562

Inspection

1. Check for continuity between the terminals of the clock spring connector.

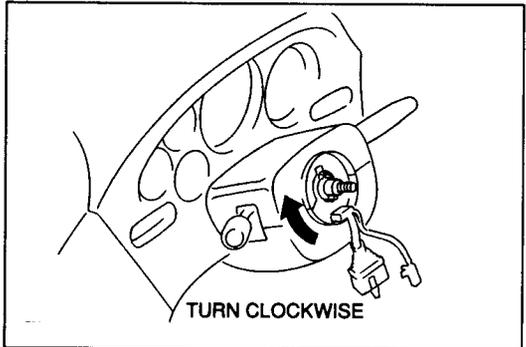
Terminal	Continuity
A—3A	Yes
B—2B	Yes
C—2C	Yes

2. If not as specified, replace the clock spring connector assembly.

Adjustment

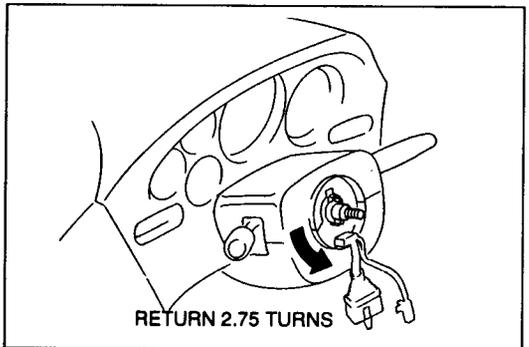
Before installing the steering wheel, adjust the clock spring.

1. Set the front wheels straight ahead.
2. Turn the clock spring clockwise until it stops.
Do not force it.



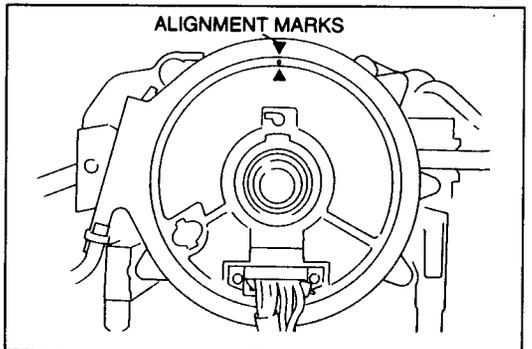
47U0SX-563

3. Turn the clock spring counterclockwise 2.75 turns.

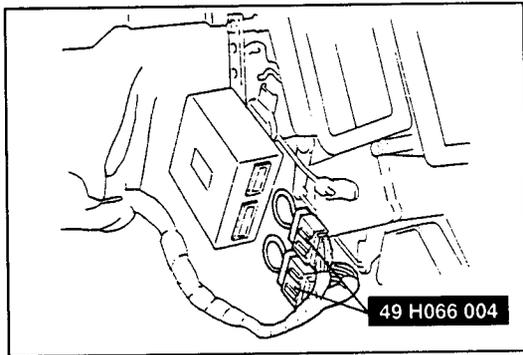


47U0SX-564

4. Align the mark on the clock spring connector with that on the outer housing.



47U0SX-565

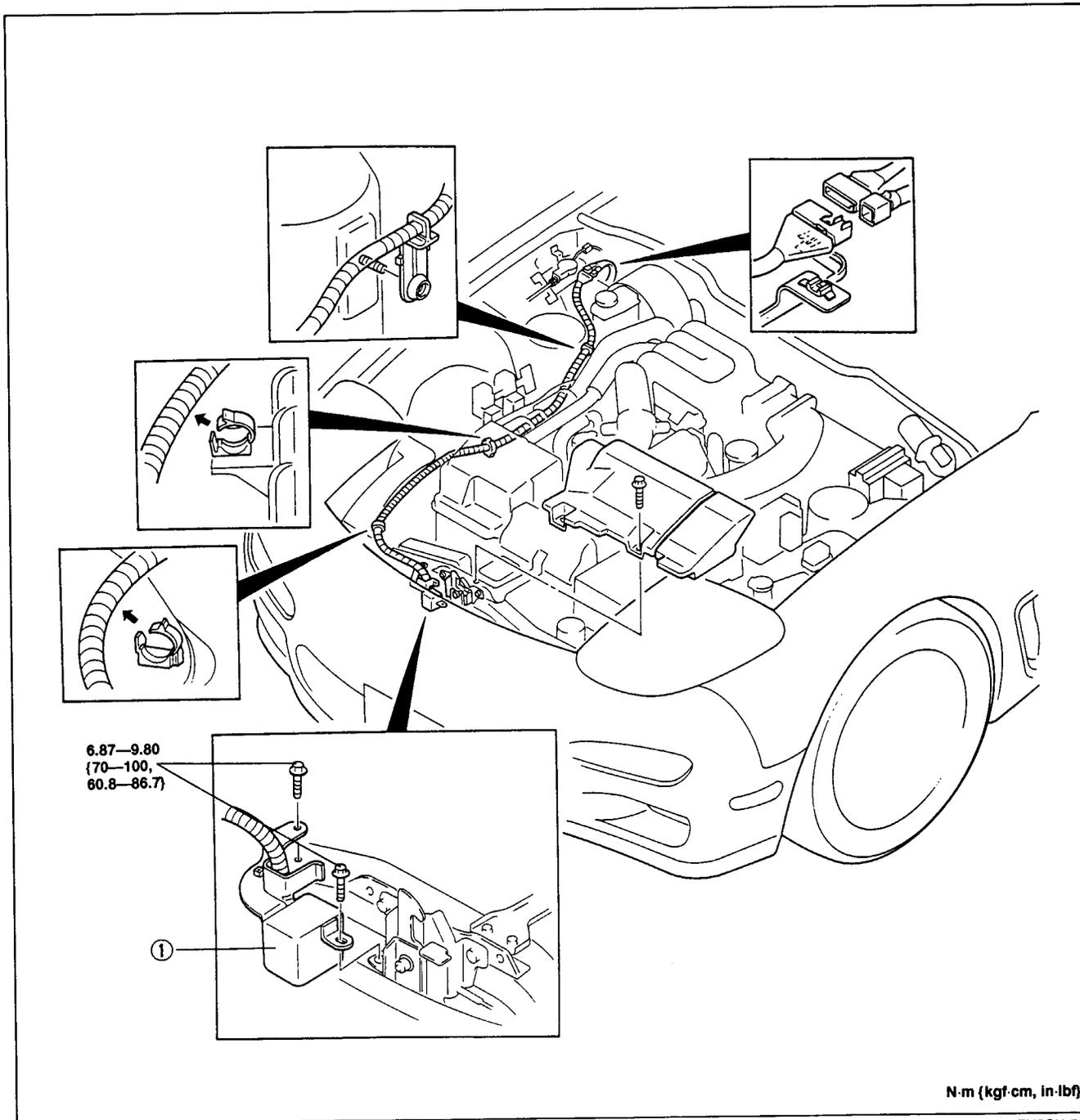


47U0SX-566

CRASH SENSOR (D-SENSOR)

Removal / Installation

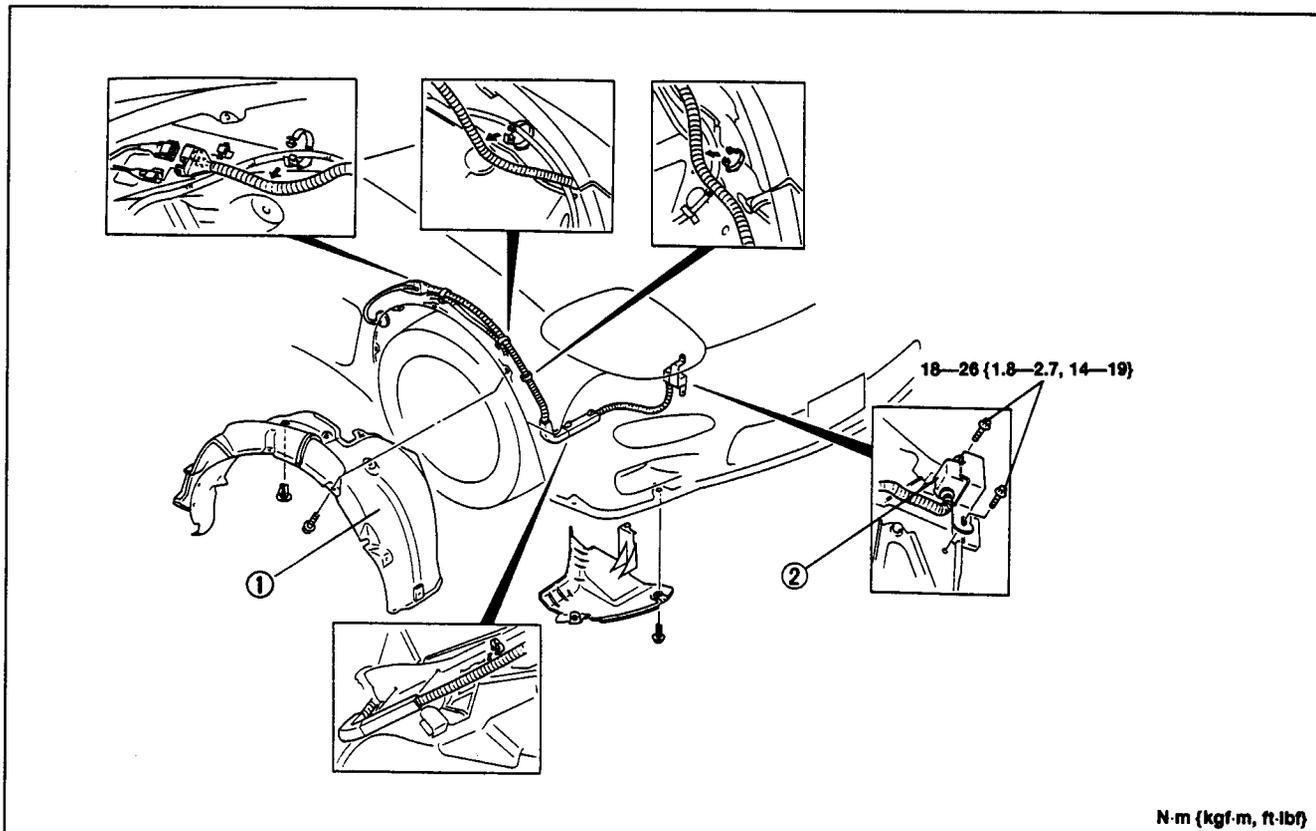
1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove in the order shown in the figure.
5. Install in the reverse order of removal, referring to **Installation note**.



N·m (kgf·cm, in·lbf)

47U0SX-567

1. Crash sensor (D-sensor, center)
Inspection page S-27

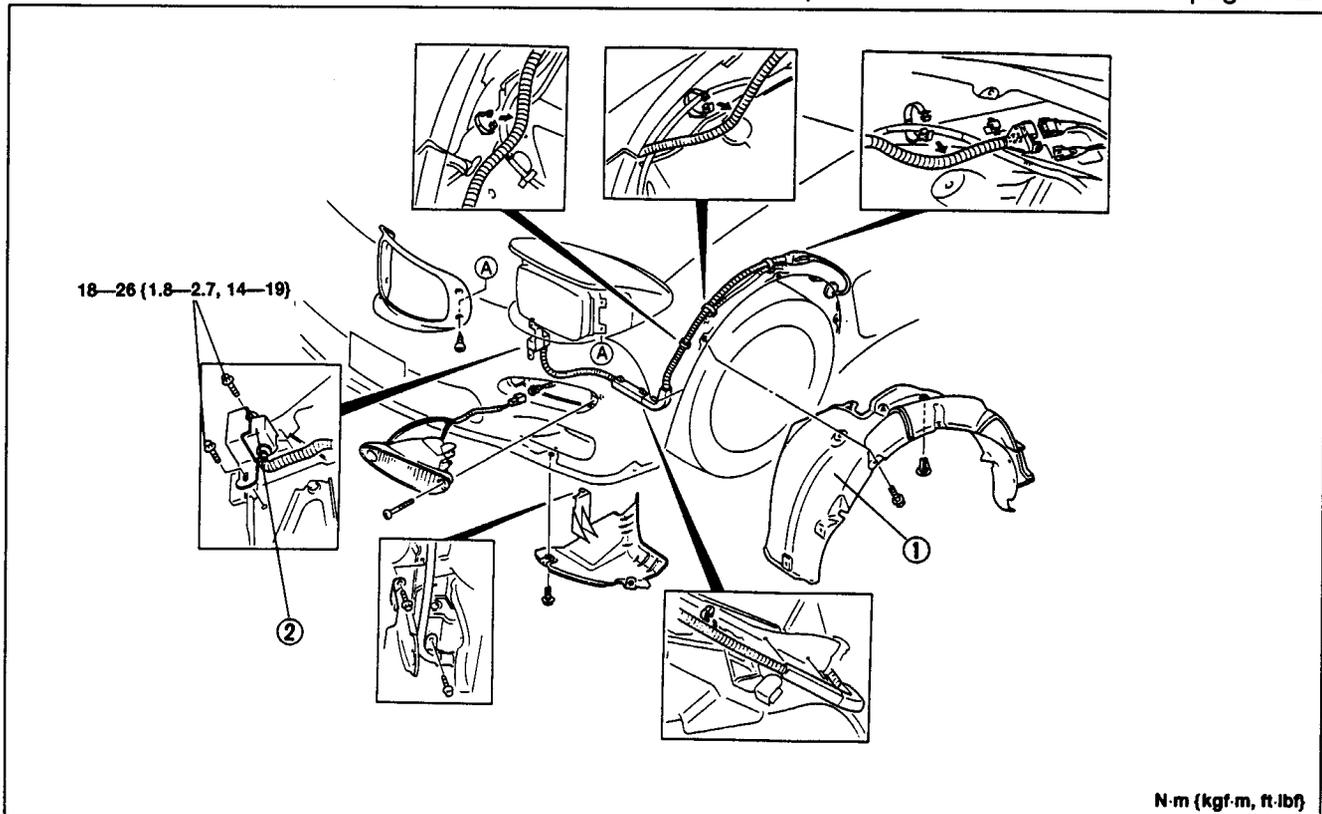


47U0SX-568

1. Mud guard

2. Crash sensor (D-sensor, right)

Inspection page S-27

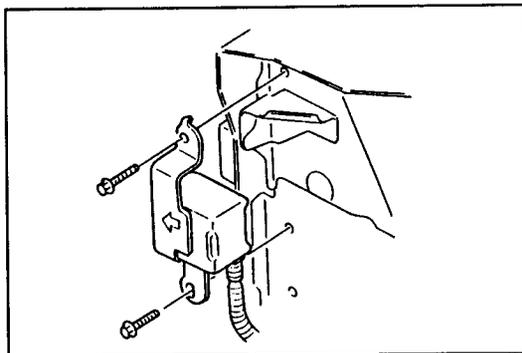


47U0SX-569

1. Mud guard

2. Crash sensor (D-sensor, left)

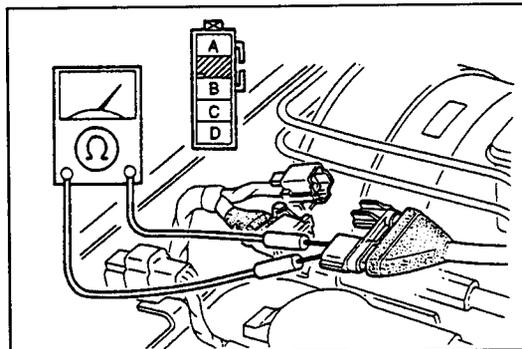
Inspection page S-27



47U0SX-570

Installation note

1. If the crash sensor mounting area is damaged, repair the area to its original shape before reinstalling the sensor.
2. Point the arrow on the crash sensor toward the front of the vehicle.



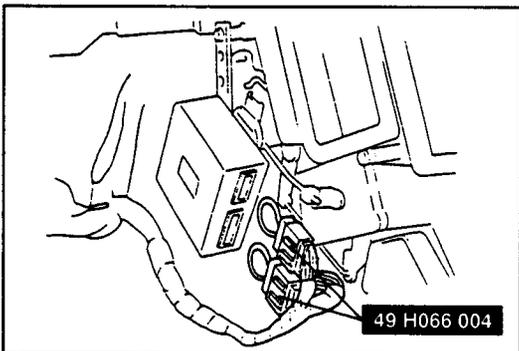
47U0SX-571

Inspection

1. Disconnect the D-sensor connectors (center, RH and LH).
2. Measure the resistance between terminals C and D of each sensor connector.

Resistance: Approx. 1.2k Ω

3. Check for continuity between terminals A and B of each sensor connector.
4. If not as specified, replace the crash sensor.

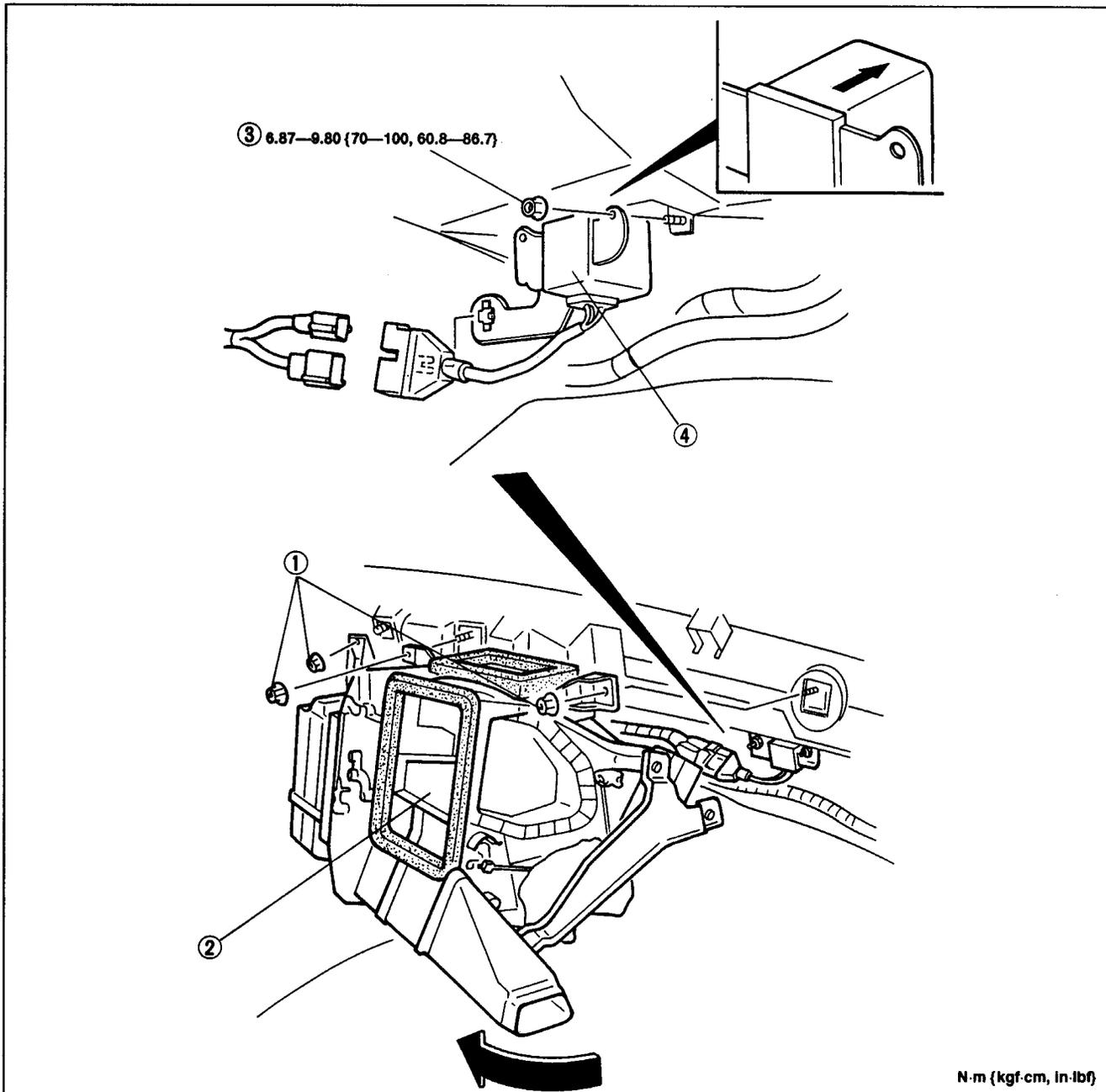


47U0SX-572

CRASH SENSOR (S-SENSOR)

Removal / Installation

1. Deactivate the audio antitheft system, if installed. (Refer to section J1.)
2. Disconnect the negative battery cable.
3. Disconnect the diagnostic module connector and connect the **SST** to it as shown in the figure.
4. Remove the cooling unit. (Refer to section G.)
5. Remove in the order shown in the figure.
6. Install in the reverse order of removal, referring to **Installation note**.

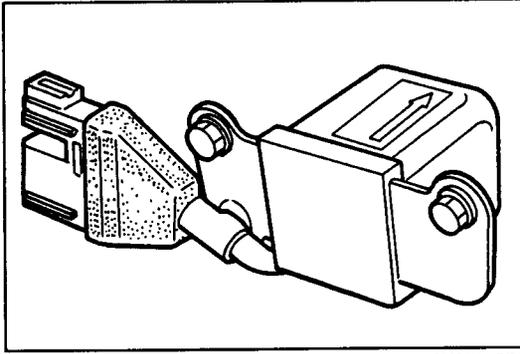


N.m (kgf-cm, in-lbf)

47U0SX-573

1. Nut
2. Heater unit
3. Nut

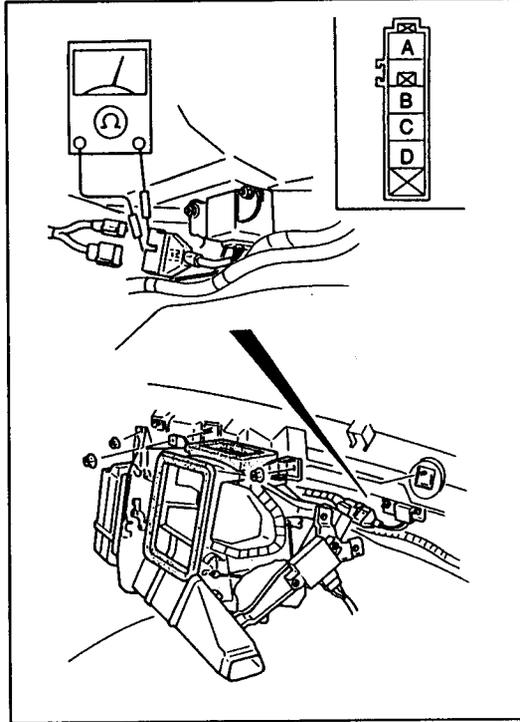
4. Crash sensor (S-sensor)
Inspection page S-29



47U0SX-574

Installation note

1. If the crash sensor mounting area is damaged, repair the area to its original shape before reinstalling the sensor.
2. Point the arrow on the crash sensor toward the front of the vehicle.



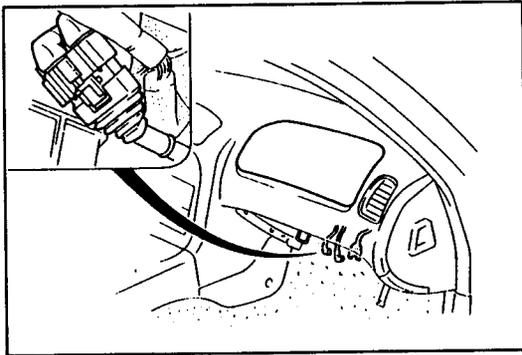
47U0SX-575

Inspection

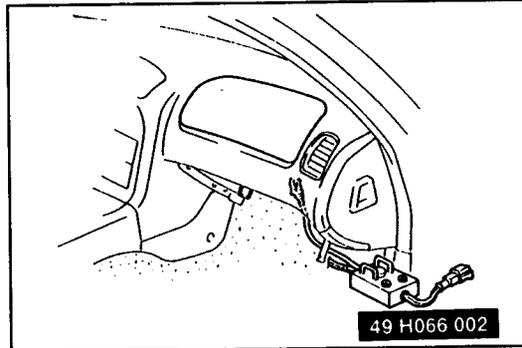
1. Disconnect the S-sensor connector.
2. Check for continuity between the terminals of the S-sensor connector.

Terminal		Continuity
A	B	Yes
C	D	Yes

3. If not as specified, replace the S-sensor.

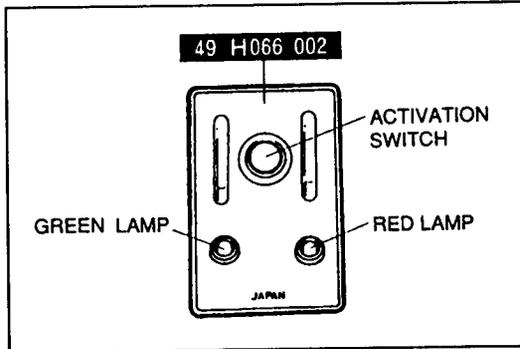


47U0SX-579

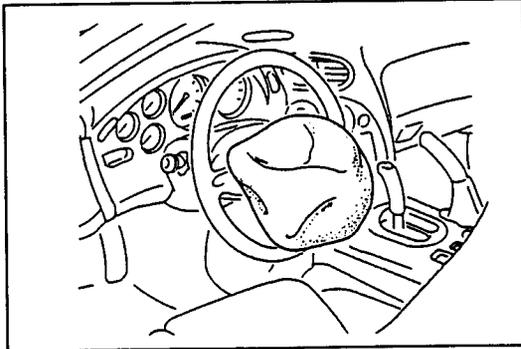


49 H066 002

47U0SX-580



47U0SX-581



47U0SX-582

(Passenger-side)

4. Make sure the air bag module is firmly mounted to the dashboard.
5. Remove the glove compartment.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
6. Disconnect the orange and blue air bag module connectors.

7. Inspect the **SST**. (Refer to gage S-33.)
8. Connect the **SST** to the air bag module as shown in the figure.

9. Connect the red clip of the **SST** to the positive battery terminal and the black clip to the negative terminal.
10. Verify that the red light on the **SST** is illuminated.

11. Make sure all persons are standing at least 6 m {20 ft} from the vehicle.
12. Press the activation switch on the **SST** to deploy the air bag.

Air Bag Disposal**Warning**

- The air bag is very hot immediately after it deploys. You can be burned. Do not touch the air bag module for at least 15 minutes after deployment.

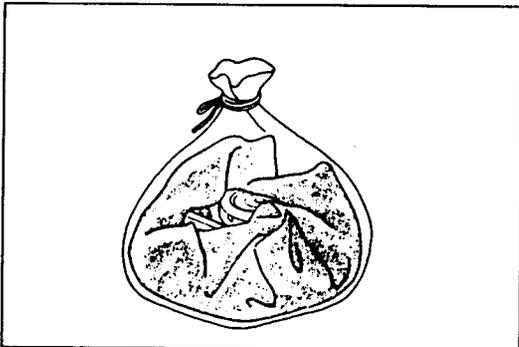
Warning

- Pouring water on a deployed air bag is dangerous. The water will mix with the residual gases to form a gas that can make breathing difficult if inhaled. Do not pour water on the deployed air bag module.

Warning

- A deployed air bag module may contain deposits of sodium hydroxide, a caustic by-product of the gas-generated combustion. If this substance gets in your eyes or on your hands, it can cause irritation and itching. When handling a deployed air bag module, wear gloves and safety glasses.

47U0SX-583

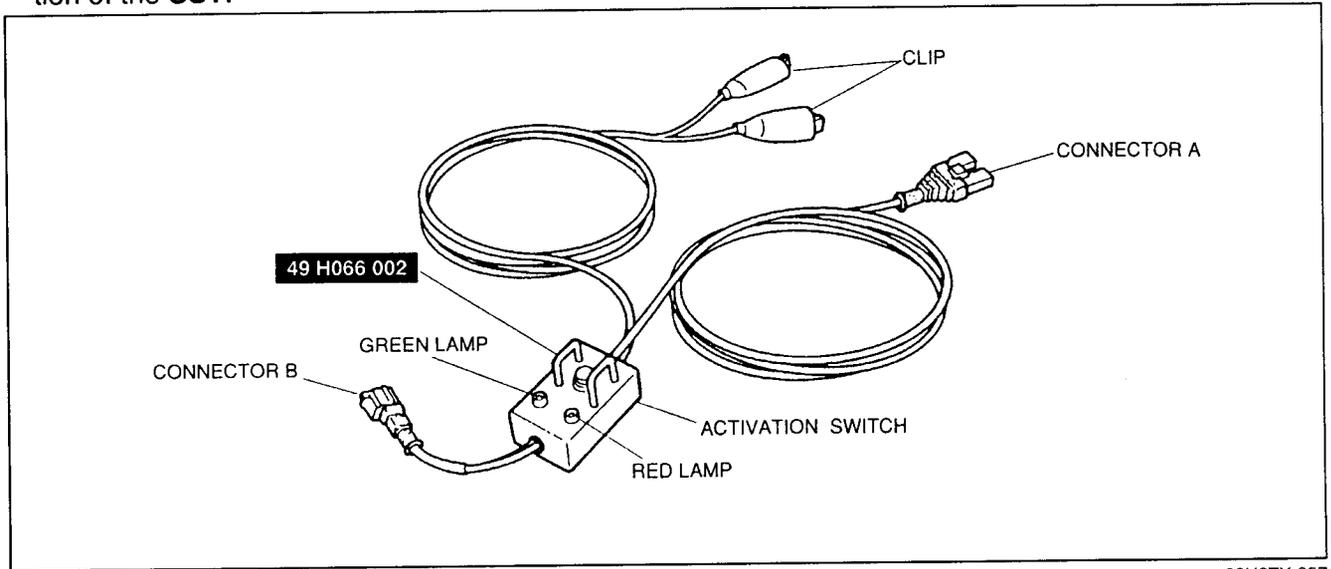


47U0SX-584

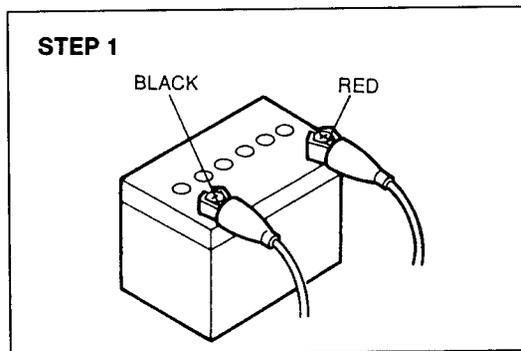
1. Put on gloves and safety glasses.
2. Place the deployed air bag module in a plastic bag, seal it, and then dispose of it.
3. Wash your hands after removing your gloves.

INSPECTION OF SST (DEPLOYMENT TOOL)

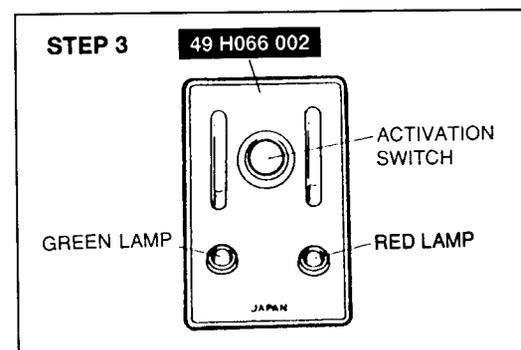
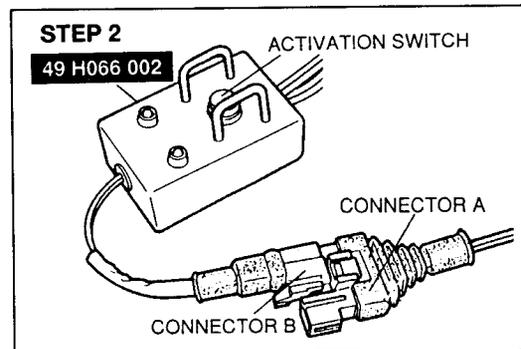
- Use the **SST** (deployment tool) to deploy a live air bag module before disposing of it.
- Before connecting the **SST** to the clock spring connector or air bag module connector, inspect operation of the **SST**.



29U0TX-357



29U0TX-358



Inspection Procedure

1. Inspect operation of the **SST** by following the steps below.

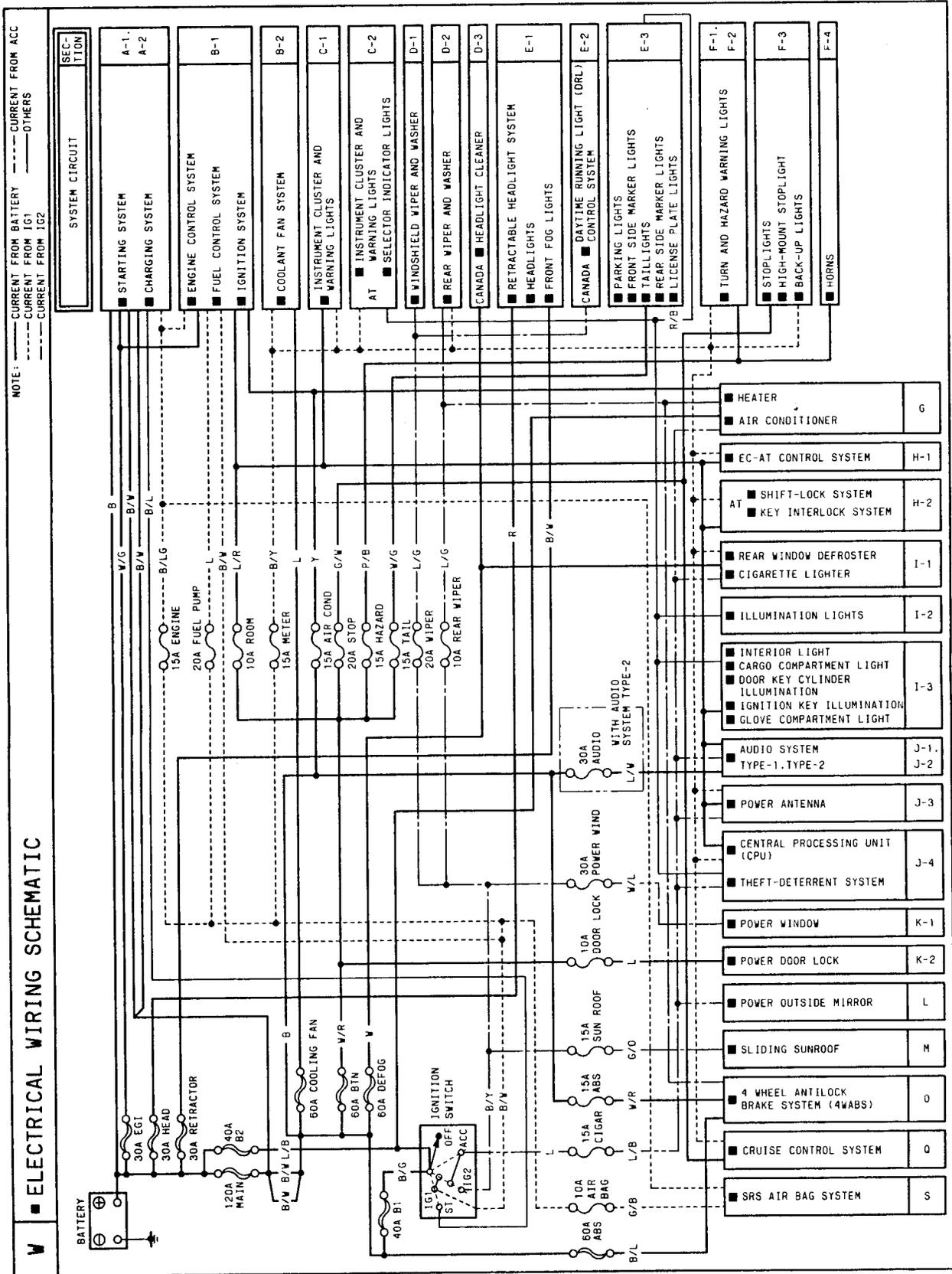
Step	Inspection procedure	Light condition	
		Green	Red
1	Connect red clip to positive battery terminal and black clip to negative battery terminal	ON	OFF
2	Connect connectors A and B of SST	OFF	ON
3	Press activation switch	ON	OFF

2. If not as specified, do not use the **SST** because it may cause the air bag to unexpectedly deploy upon connection to the module.

ELECTRICAL WIRING SCHEMATIC

ELECTRICAL WIRING SCHEMATIC W-2

ELECTRICAL WIRING SCHEMATIC

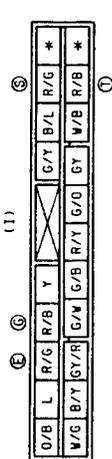


COMMON CONNECTORS

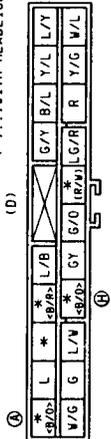
COMMON CONNECTOR LIST X-2

X-3 ■ COMMON CONNECTOR LIST

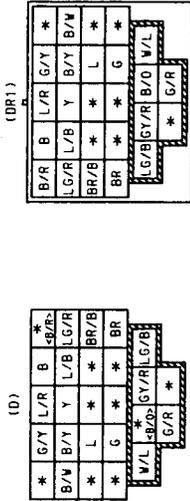
X-18 CONNECTOR BETWEEN INSTRUMENT PANEL (1) AND INSTRUMENT PANEL NO.2 (12)



X-19 CONNECTOR BETWEEN DASH (D) AND REAR (R) < >...WITH AUDIO SYSTEM TYPE-2 ()...WITH HEADLIGHT CLEANER



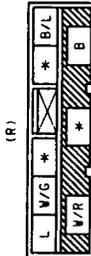
X-20 CONNECTOR BETWEEN DASH (D) AND DOOR NO.1 (DR1) < >...WITH AUDIO SYSTEM TYPE-2



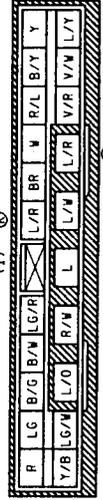
X-22 CONNECTOR BETWEEN REAR (R) AND REAR NO.2 (R2) ()...WITH REAR WIPER AND WASHER



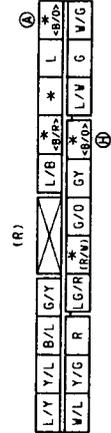
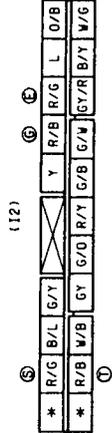
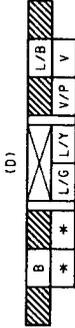
X-24 CONNECTOR BETWEEN REAR (R) AND FUEL PUMP (FP)



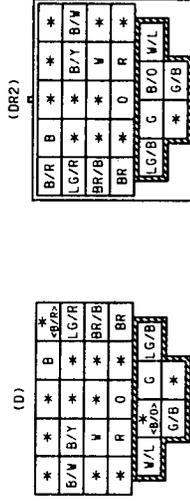
X-25 CONNECTOR BETWEEN INSTRUMENT PANEL (1) AND A/C (AC)



X-26 CONNECTOR BETWEEN DASH (D) AND A/C (AC)



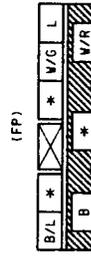
X-21 CONNECTOR BETWEEN DASH (D) AND DOOR NO.2 (DR2) < >...WITH AUDIO SYSTEM TYPE-2



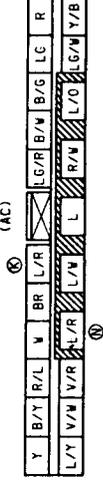
X-23 CONNECTOR BETWEEN REAR (R) AND FLOOR (FR) < >...WITH AUDIO SYSTEM TYPE-2



X-24 CONNECTOR BETWEEN REAR (R) AND FUEL PUMP (FP)



X-25 CONNECTOR BETWEEN INSTRUMENT PANEL (1) AND A/C (AC)



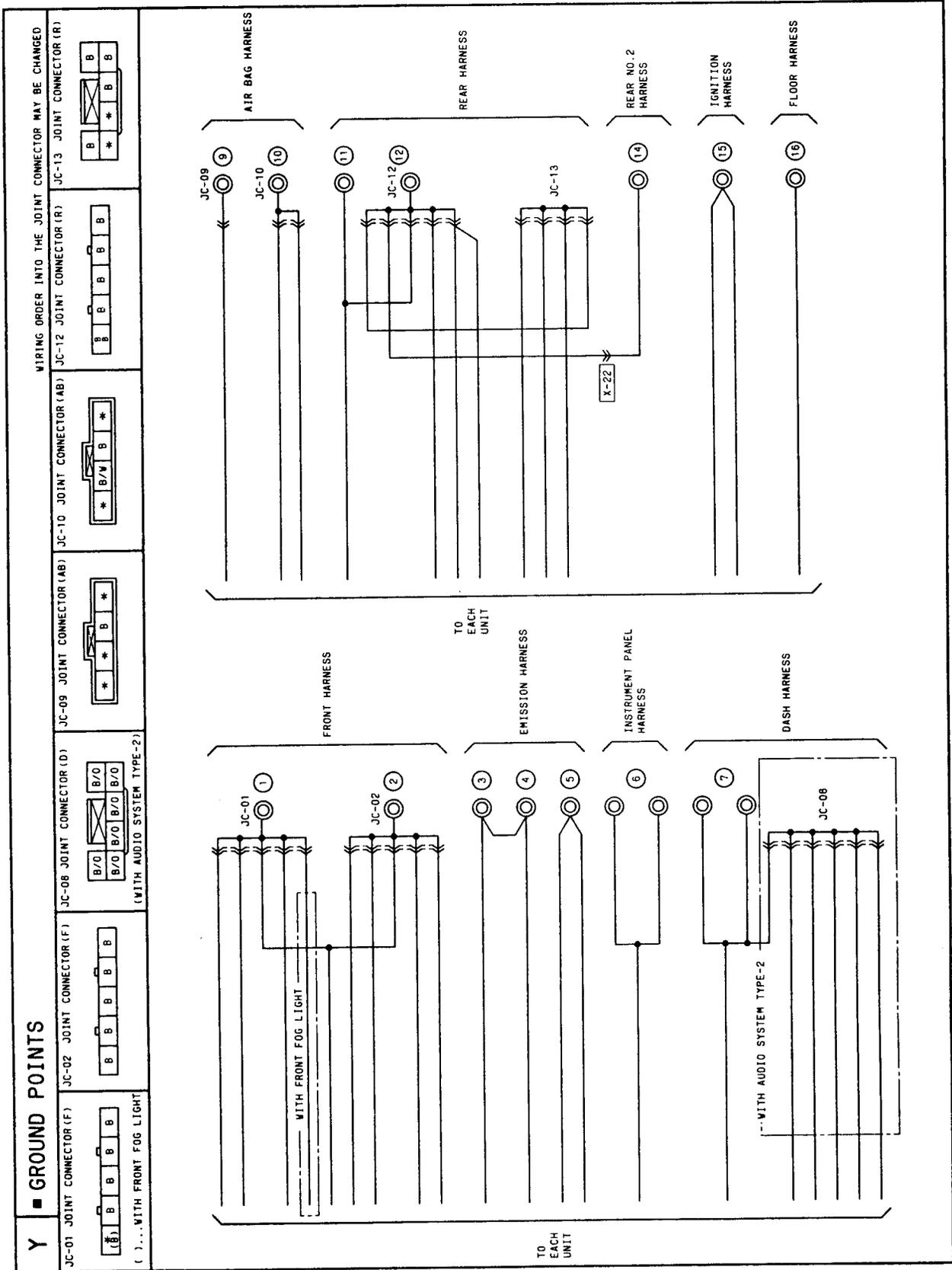
X-26 CONNECTOR BETWEEN DASH (D) AND A/C (AC)

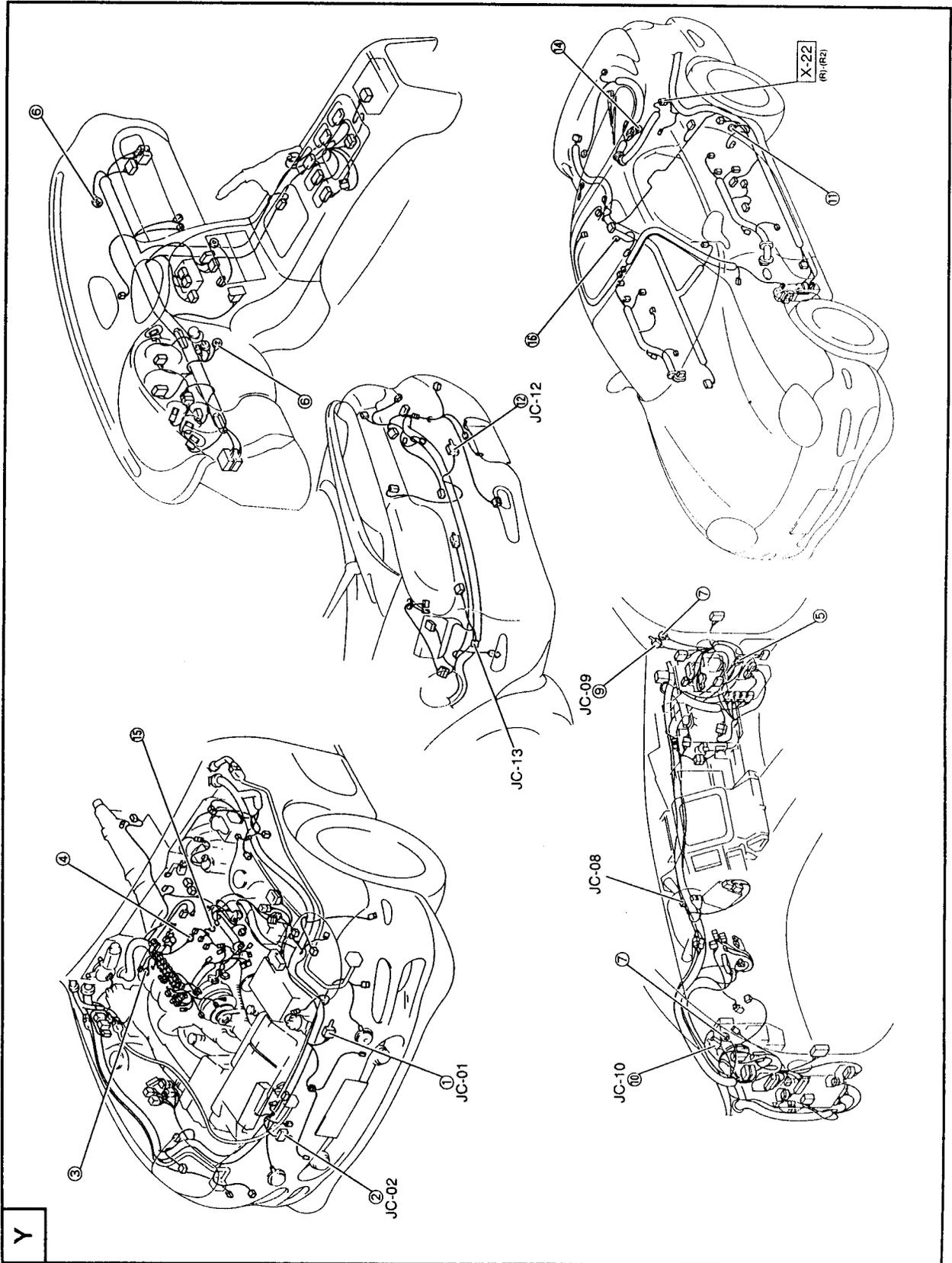


GROUND POINTS

GROUND POINTS Y-2

GROUND POINTS





Y

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

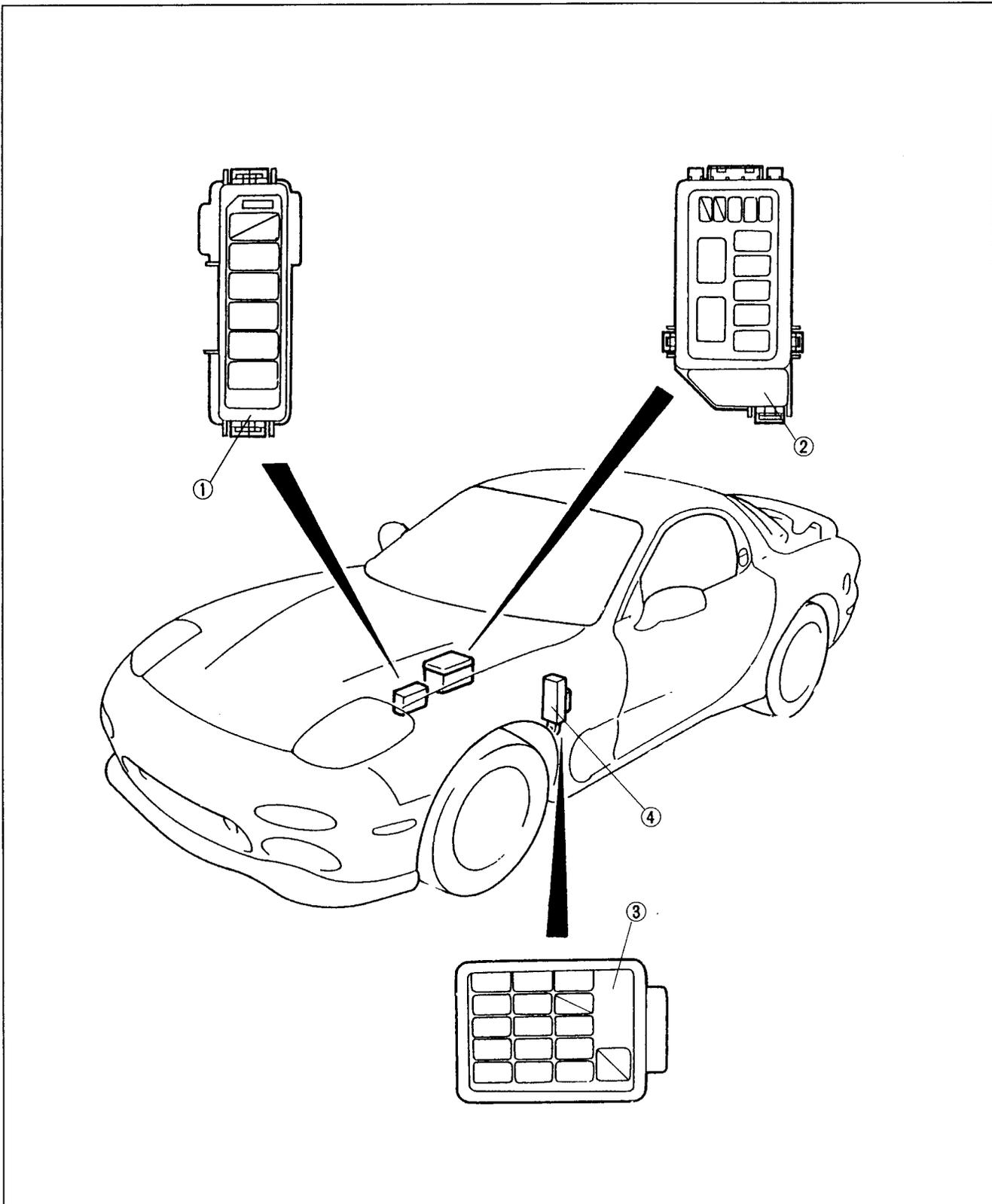
FUSE AND JOINT BOX

STRUCTURAL VIEW	Z1-2
FUSES.....	Z1-3
MAIN FUSE BLOCK.....	Z1-5
RELAY & FUSE BLOCK.....	Z1-5
FUSE BLOCK.....	Z1-5
JOINT BOX.....	Z1-6

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FUSE AND JOINT BOX

STRUCTURAL VIEW



47UZ1X-502

- 1. Main fuse block
Removal / Installation page Z1-5
- 2. Relay & fuse block
Removal / Installation page Z1-5

- 3. Fuse block
Removal / Installation page Z1-5
- 4. Joint box
Removal / Installation page Z1-6

FUSES

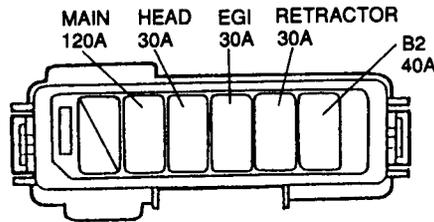
Main Fuse Block Specification

	Fuse	Amperes	Color	Protected circuit
MAIN FUSE BLOCK	MAIN	120A	Blue	Relay & fuse block, Alternator
	HEAD	30A	Pink	Light switch, Headlight relay, Retractor switch
	EGI	30A	Pink	Alternator, EGI main relay, Diagnostic module
	RETRACTOR	30A	Pink	Retractable headlight actuator (RH and LH)
	B2	40A	Green	Ignition switch
RELAY & FUSE BLOCK	ABS	60A	Yellow	ABS hydraulic unit
	DEFOG	60A	Yellow	Rear window defroster relay
	B1	40A	Green	Ignition switch
	BTN	60A	Yellow	All fuses (B+)
	(AUDIO)	30A	Green	Radio relay
	AIR COND	15A	Blue	A/C relay, Air pump magnetic clutch
	ABS	15A	Blue	ABS warning light
	COOLING FAN	60A	Yellow	Cooling fan relays No.1, No.2, No.4

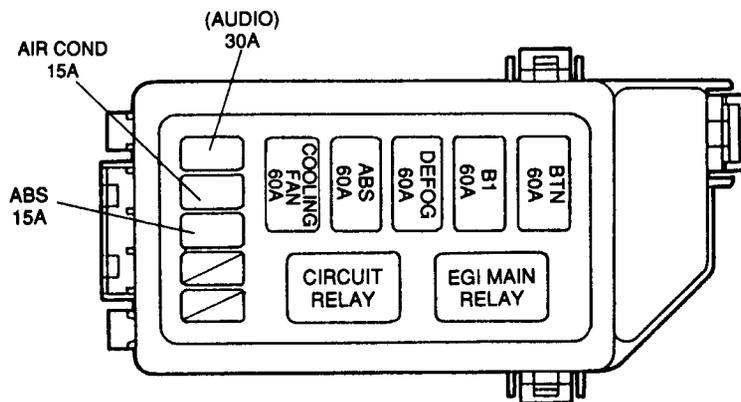
Z1

47UZ1X-503

MAIN FUSE BLOCK (CARTRIDGE TYPE)



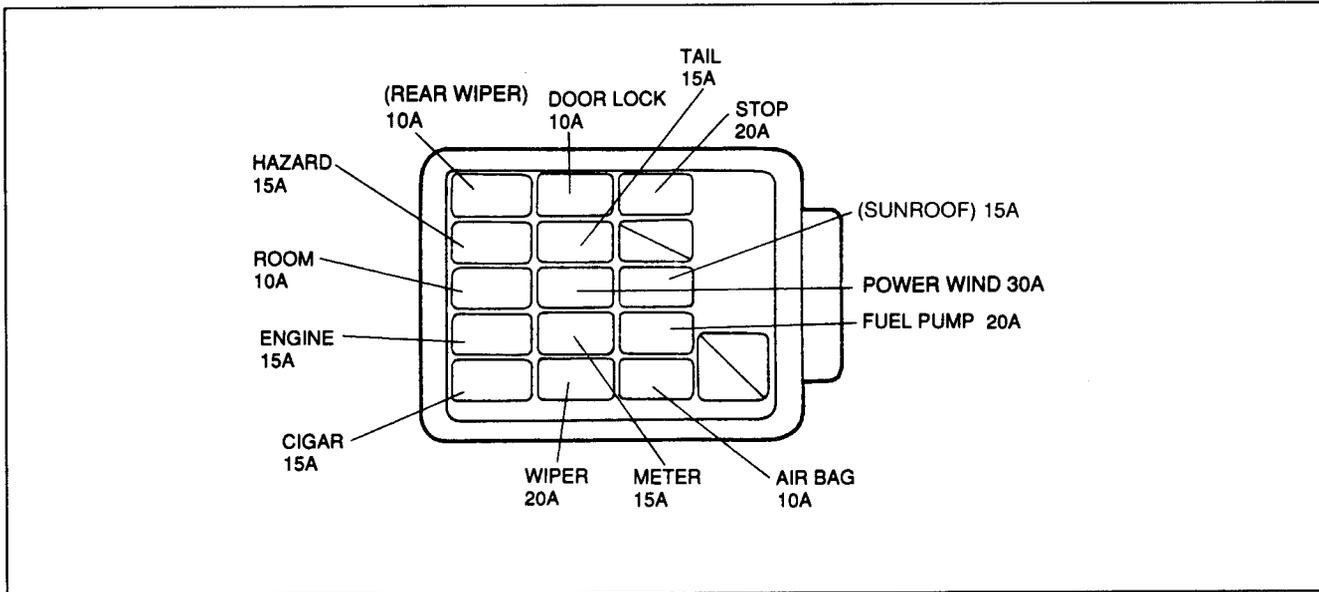
RELAY & FUSE BLOCK (CARTRIDGE TYPE, PLATE TYPE)

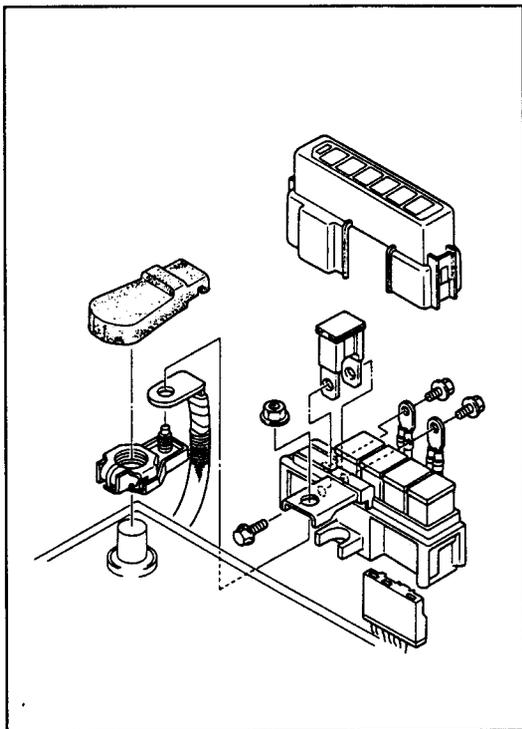


Fuse Block (Plate Type) Specification

	Fuse	Amperes	Color	Protected circuit
+B	ROOM	10A	Red	Instrument cluster, key interlock solenoid, Cargo compartment light, Key reminder switch, IG key illumination, Door key cylinder illumination, PCMT, Interior light, Power antenna, Audio unit, PCME, CPU No.2, Security light
	STOP	20A	Yellow	Stoplight switch, Cruise control unit
	DOOR LOCK	10A	Red	Door lock timer unit
	HAZARD	15A	Blue	Horn relay, Flasher unit (in CPU No.2)
	TAIL	15A	Blue	TNS relay
ACC	CIGAR	15A	Blue	CPU No.1, A/C relay, Blower relay (A/C), Cigar lighter, Power outside mirror switch, Power antenna, Audio unit
IG1	ENGINE	15A	Blue	EGI main relay, Diagnostic module, Starter cut relay, Fuel pump relay, Fuel pump relay (Speed)
	METER	15A	Blue	Instrument cluster, Combination switch, CPU No.1, PCMT, Cruise control main switch, Cooling fan relays No.1, No.2, No.3, No.4, Power antenna, Rear window defroster relay, Rear washer motor, Park/Neutral switch, Shift lock actuator
	FUEL PUMP	20A	Yellow	Fuel pump relay
	AIR BAG	10A	Red	Diagnostic module
IG2	(SUNROOF)	15A	Blue	Sunroof switch
	WIPER	20A	Yellow	Combination switch, Wiper motor
	(REAR WIPER)	10A	Red	Rear wiper motor, Heater control unit, ABS control unit
	POWER WIND	30A	Green	Power window main switch

47UZ1X-504





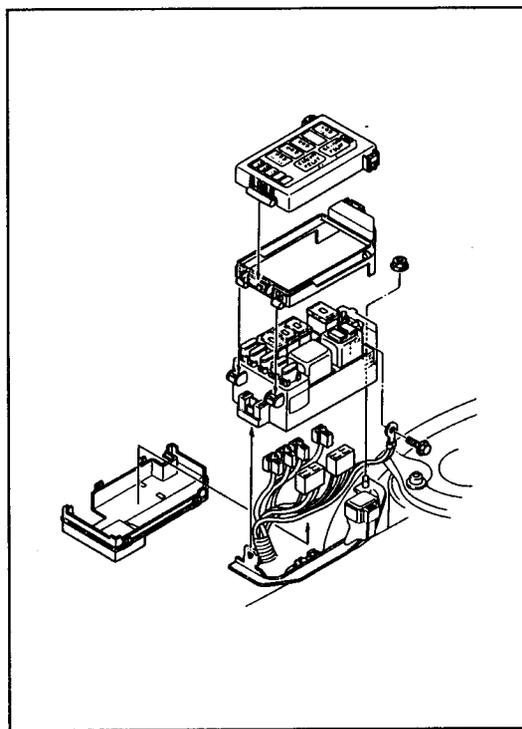
47UZ1X-505

MAIN FUSE BLOCK

Removal / Installation

1. Disconnect the positive battery cable.
2. Remove the main fuse block cover.
3. Remove the MAIN 120A fuse mounting bolt.
4. Remove the main fuse block after removing the MAIN 120A fuse.
5. Install in the reverse order of removal.

Z1

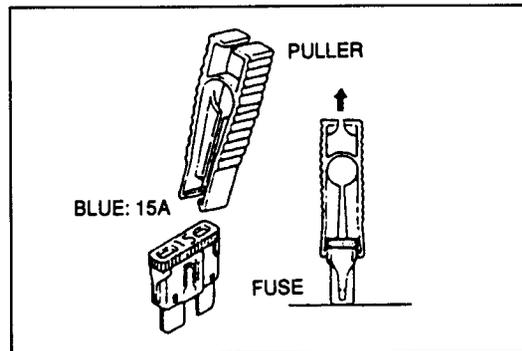


47UZ1X-506

RELAY & FUSE BLOCK

Removal / Installation

1. Remove the relay & fuse block mounting bolt.
2. Remove the relay & fuse block cover and the installation bolt.
3. Remove the relay & fuse block.
4. Install in the reverse order of removal.



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FUSE BLOCK

Removal / Installation

1. Remove the fuse block cover.
2. Use the puller found on the back of the fuse block cover to remove the fuses. If one or more of the fuses are burnt, check for a short in the harness.

Caution

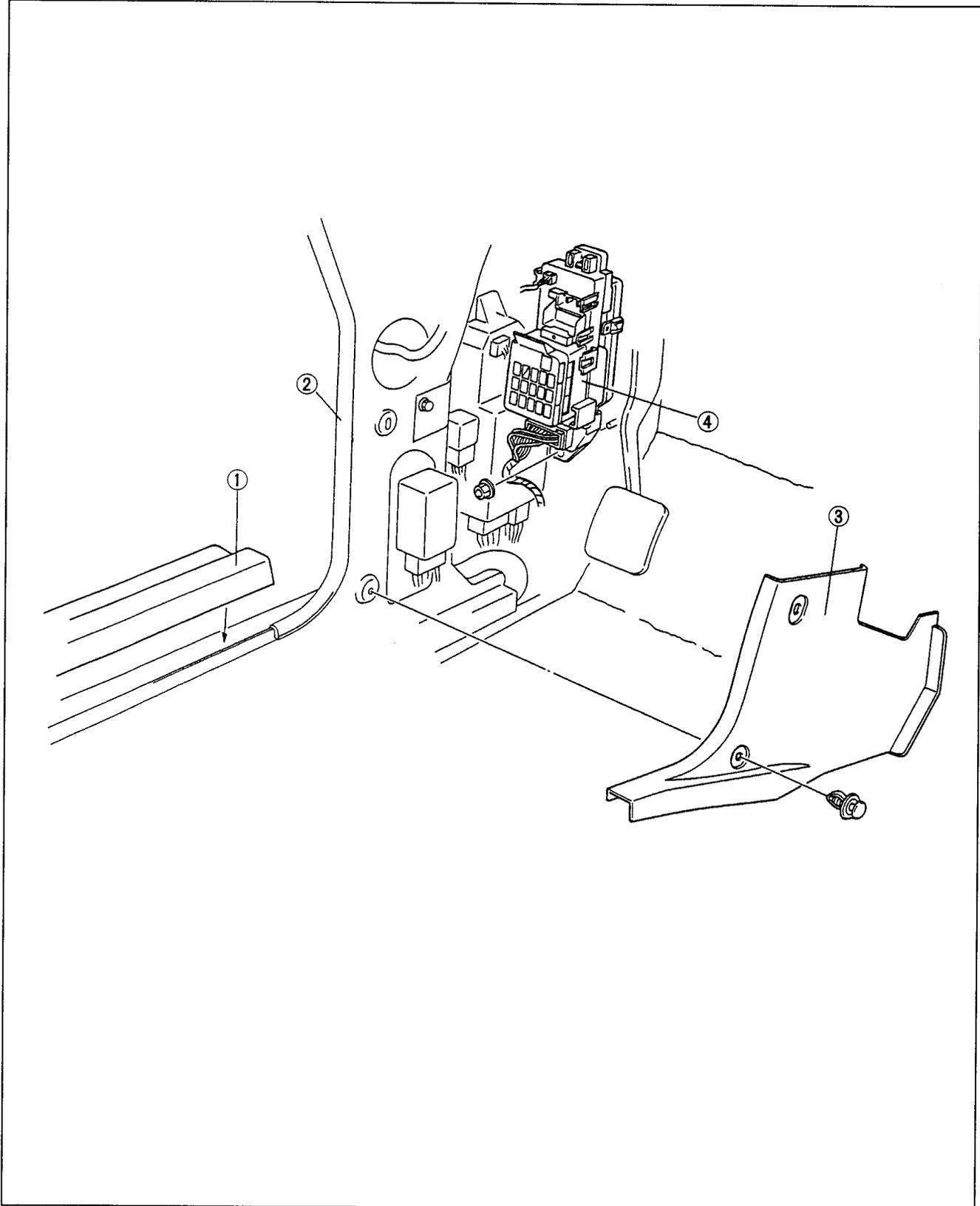
- Determine and correct the cause of the burnt fuse before replacing it. If the fuse is replaced before doing this, it may burn again.

3. Install in the reverse order of removal.

JOINT BOX

Removal / Installation

1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.



1. Scuff plate
2. Seaming welt

3. Front side trim
4. Joint box

47UZ1X-508

Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

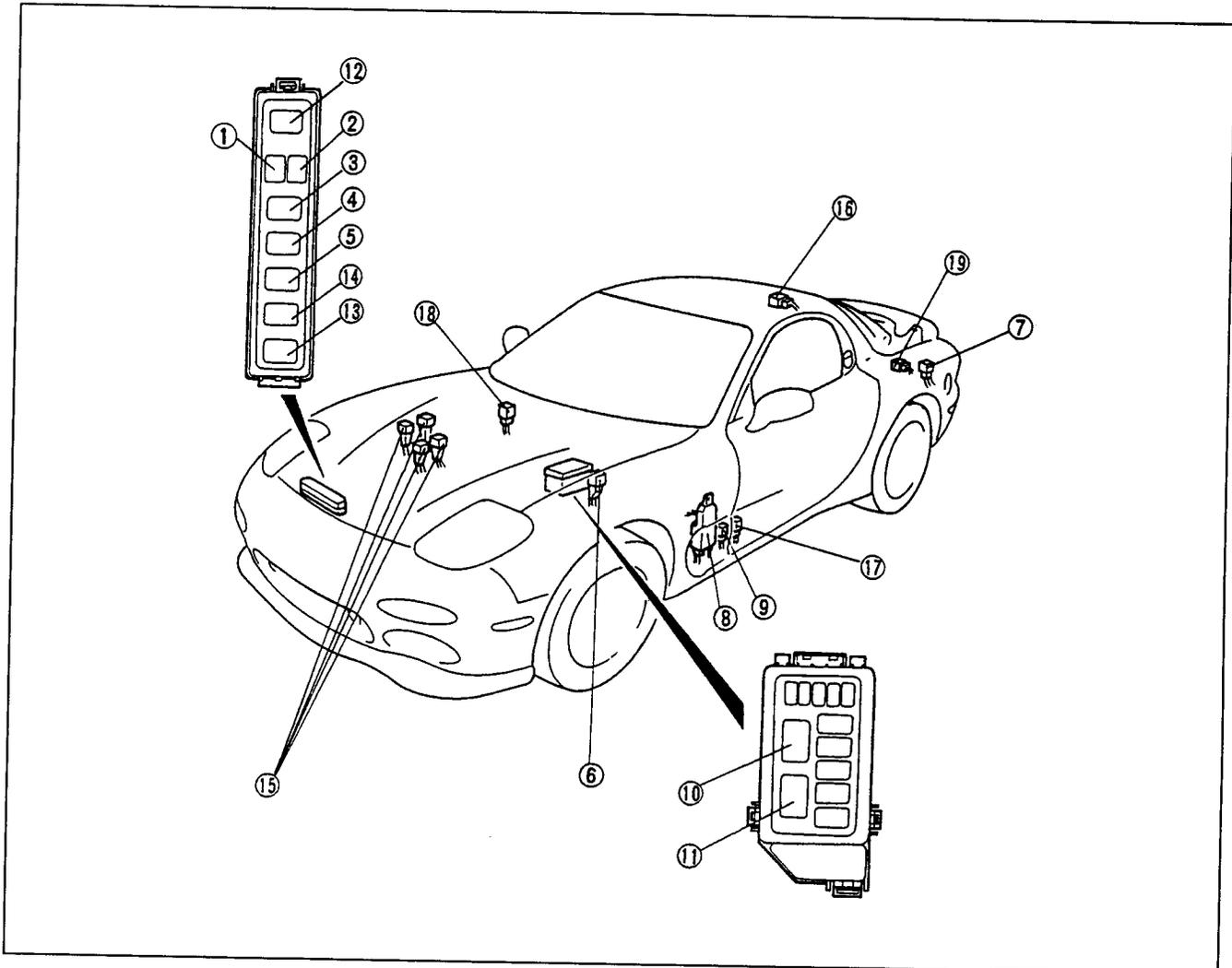
RELAY

STRUCTURAL VIEW Z2-2
FRONT FOG LIGHT RELAY Z2-3
HORN RELAY..... Z2-3
RADIO RELAY Z2-3
RETRACTABLE HEADLIGHT RELAY..... Z2-3
TNS RELAY Z2-4
HEADLIGHT RELAY..... Z2-4
REAR WINDOW DEFROSTER RELAY Z2-4
STARTER CUT RELAY Z2-4
FLASHER UNIT (IN CPU No.2)..... Z2-5

47UZ2X-501

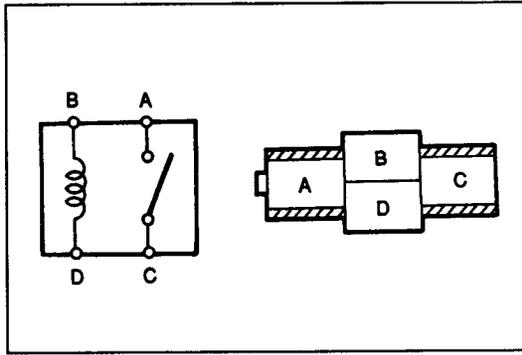
RELAY

STRUCTURAL VIEW



47UZ2X-502

- | | |
|---|---|
| 1. Front fog light relay
Inspection page Z2-3 | 11. EGI main relay
Service 1994 RX-7 Workshop Manual
section F |
| 2. Horn relay
Inspection page Z2-3 | 12. Air pump relay
Service 1994 RX-7 Workshop Manual
section F |
| 3. Radio relay
(BOSE acoustic wave® music system only)
Inspection page Z2-3 | 13. Fuel pump relay (Speed)
Service 1994 RX-7 Workshop Manual
section F |
| 4. TNS relay
Inspection page Z2-4 | 14. A/C relay
Service section G |
| 5. Retractable headlight relay
Inspection page Z2-3 | 15. Cooling fan relay
Service 1994 RX-7 Workshop Manual
section E |
| 6. Headlight relay
Inspection page Z2-4 | 16. Sunroof relay
Service section M |
| 7. Rear window defroster relay
Inspection page Z2-4 | 17. Door lock timer unit
Service section K2 |
| 8. Flasher unit (in CPU No.2)
Terminal voltage page Z2-5 | 18. Blower relay
Service section G |
| 9. Starter cut relay
Inspection page Z2-4 | 19. Headlight cleaner motor and relay
Service section D3 |
| 10. Fuel pump relay
Service 1994 RX-7 Workshop Manual
section F | |



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FRONT FOG LIGHT RELAY

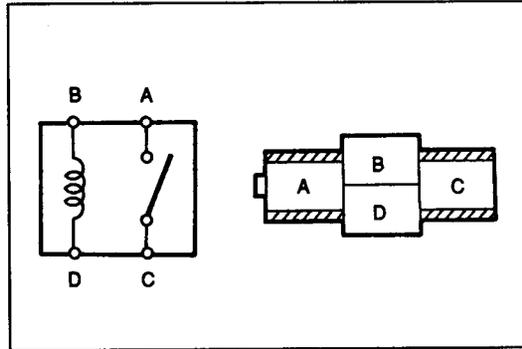
Inspection

1. Remove the front fog light relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		B	D	A	C
B+	GND				
—	—	○—○			
B	D			○—○	

○—○ : Continuity



47UZ2X-504

HORN RELAY

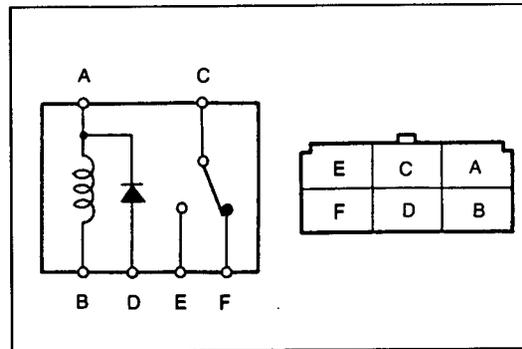
Inspection

1. Remove the horn relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		B	D	A	C
B+	GND				
—	—	○—○			
B	D			○—○	

○—○ : Continuity



47UZ2X-505

RADIO RELAY

(BOSE acoustic wave® music system only)

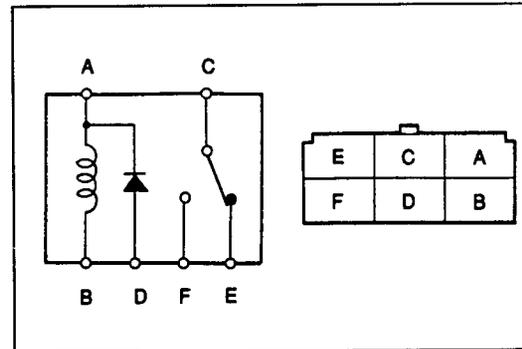
Inspection

1. Remove the radio relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	D	E	F
B+	GND						
—	—	○—○	○—○				○—○
A	B			○—○		○—○	

○—○ : Continuity



47UZ2X-506

RETRACTABLE HEADLIGHT RELAY

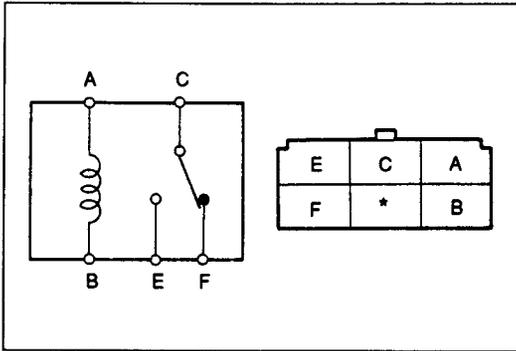
Inspection

1. Remove the retractable headlight relay.
2. Check for continuity between terminals of the relay.

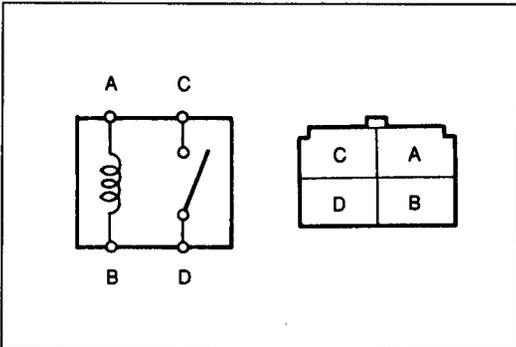
B+: Battery positive voltage

Connection		A	B	C	D	E	F
B+	GND						
—	—	○—○	○—○	○—○		○—○	
A	B			○—○			○—○

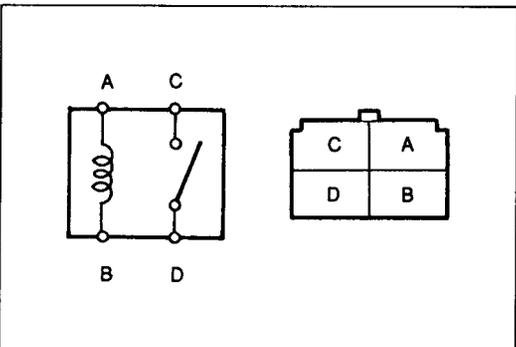
○—○ : Continuity



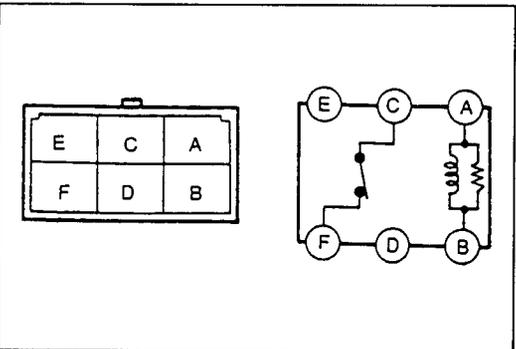
47UZ2X-507



47UZ2X-508



47UZ2X-509



47UZ2X-510

TNS RELAY

Inspection

1. Remove the TNS relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	E	F
B+	GND					
—	—	○—○	○—○	○—○	○—○	○—○
A	B			○—○		

○—○ : Continuity

HEADLIGHT RELAY

Inspection

1. Disconnect the headlight relay connector and remove the relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	D
B+	GND				
—	—	○—○	○—○		
A	B			○—○	○—○

○—○ : Continuity

REAR WINDOW DEFROSTER RELAY

Inspection

1. Disconnect the rear window defroster relay connector and remove the relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	D
B+	GND				
—	—	○—○	○—○		
A	B			○—○	○—○

○—○ : Continuity

STARTER CUT RELAY

Inspection

1. Disconnect the starter cut relay connector and remove the relay.
2. Check for continuity between terminals of the relay.

B+: Battery positive voltage

Connection		A	B	C	F
B+	GND				
—	—	○—○	○—○	○—○	○—○
A	B				

○—○ : Continuity

FLASHER UNIT (IN CPU No. 2)
Terminal voltage

B+: Battery positive voltage

3G		3C	3A
3H	3F	3D	3B

Terminal	Connection	Test condition	Voltage (v)	Inspection area
3A	Turn signal light (right)	Turn signal light (right) illuminated	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse HAZARD 15A fuse Flasher unit Combination switch (Turn switch) Hazard warning switch Wiring harness (METER fuse—Turn switch—Flasher unit, HAZARD fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning light illuminated		
		Other	0	
3B	GND	—	0	Wiring harness (Flasher unit—GND)
3C	Turn switch (right)	Ignition switch at ON and right turn switch on	B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
		Other	0	
3D	Turn switch (left)	Ignition switch at ON and left turn switch on	B+	<ul style="list-style-type: none"> METER 15A fuse HAZARD 15A fuse Flasher unit Combination switch (turn switch) Hazard warning switch Wiring harness (METER fuse—Turn switch—Flasher unit, HAZARD fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Other	0	
3E	—	—	—	—
3F	+B	Constant	B+	<ul style="list-style-type: none"> HAZARD 15A fuse Wiring harness (Fuse—Flasher unit)
3G	Hazard warning switch	Hazard warning switch on	0	<ul style="list-style-type: none"> HAZARD 15A fuse Hazard warning switch Wiring harness (Fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning switch off	B+	
3H	Turn signal light (left)	Turn signal light (left) illuminated	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse HAZARD 15A fuse Flasher unit Combination switch (turn switch) Hazard warning switch Wiring harness (METER fuse—Turn switch—Flasher unit, HAZARD fuse—Flasher unit, Flasher unit—Hazard warning switch—GND)
		Hazard warning light illuminated		
		Other	0	

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Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

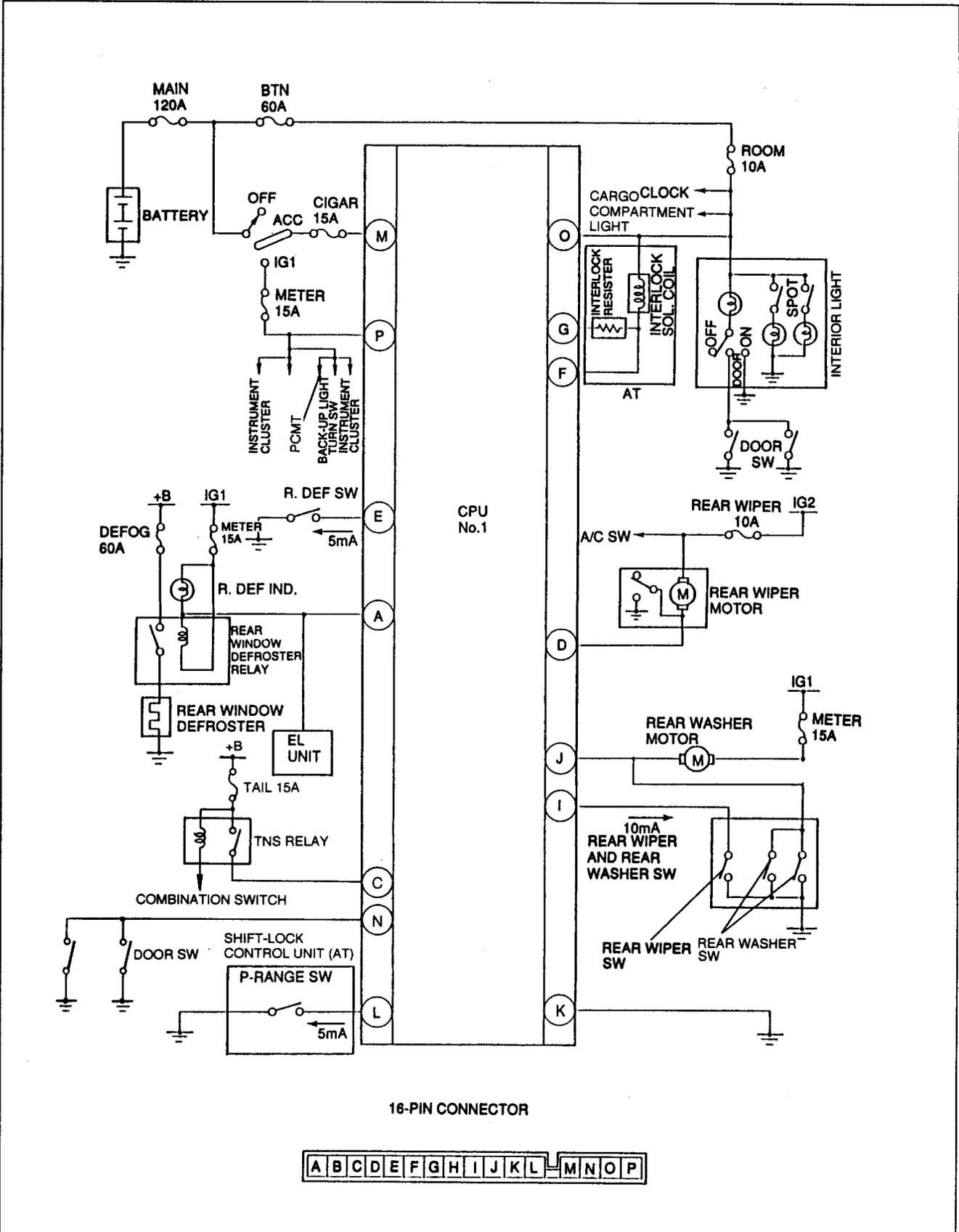
CENTRAL PROCESSING UNIT (CPU)

SYSTEM DIAGRAM	Z3- 2
SPECIFICATION	Z3- 4
CPU NO.1	Z3- 7
CPU NO.2	Z3-10

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CPU

SYSTEM DIAGRAM CPU No.1



SPECIFICATION CPU No.1

Function	Load/Rating	Activated condition	Remark
Rear window defroster timer	Rear window defroster relay: 200 mA	IG1 ON. Rear window defroster switch ON.	Operation time: 12—18 min.
Rear wiper intermittent timer	Rear wiper motor: 3A	With rear wiper switch ON, wiper motor rotates three times, pauses, then repeats single rotation and pausing.	Intermittence (pause): 13—15 sec.
Rear wiper washer continuous operation	Rear washer motor: 3A	With rear washer switch ON, motor is rotates. When rear washer switch turned OFF, rear wiper motor continues rotating for programmed period.	Time lag: 0.2—0.8 sec Memory time: 1.6—3.6 sec. Operation time: 0.2—0.8 sec.
Key interlock (AT) (USA only)	Key interlock solenoid 1.5A	<ul style="list-style-type: none"> • With ignition switch at ACC or IG1 position and selector lever at P range, key interlock function operates. (Key interlock solenoid turns OFF after programmed period.) • When ignition switch is turned OFF during interlock operation, function is deactivated. • When selector lever is shifted to other than P range during interlock operation, function is deactivated. • When ignition switch at ACC position and selector lever at P range during interlock operation, key interlock resistor turns OFF after programmed period. 	Operation time: 2—3 sec. (Key interlock solenoid) 0.9—1.1 hour (Key interlock resistor)

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CPU No. 2

Function	Load/Rating	Activated condition	Remark
Turn signal and hazard warning lights	(Turn signal and hazard warning lights) Front turn signal light: 27W × 2 Rear turn signal light: 27W × 2	(Turn signal light) IG1 ON and turn signal switch ON. (Hazard warning light) Hazard warning switch ON.	Flashing frequency: 75—100 cycles/min.
Power window cancel relay (USA only)	Power window relay (in CPU No.2): 200 mA	IG1 ON and relay ON When IG1 is turned OFF, relay turns OFF after programmed period.	Operation time: 37—43 sec.
Key illumination timer	Ignition key illumination: 1.4W × 2	<ul style="list-style-type: none"> With door switch ON or outer door handle switch ON, ignition key illumination comes ON. When door switch or outer door handle switch is turned OFF, ignition key illumination remains ON for programmed period. 	Operation time: 15—21 sec.
Seat belt warning timer	Seat belt indicator light: 1.4W	IG1 OFF → ON Seat belt indicator light illuminates for programmed period. When buckle switch ON (seat belt buckle tongue not inserted), warning alarm sounds during programmed operation time.	Operation time: 4—8 sec.
Theft-deterrent system	Security light: 1.4W Starter cut relay: 200 mA Headlight relay: 200 mA Horn relay: 150 mA Retractable headlight relay: 200 mA Warning buzzer: 20 mA Hazard output: 200 mA	(Refer to section J2)	Security light flash condition
Daytime running lights (DRL) (Canada only)	Front turn signal light: 27W × 2 Brake system warning light: 1.4W	DRL comes on when IG2 ON.	

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Cont'd

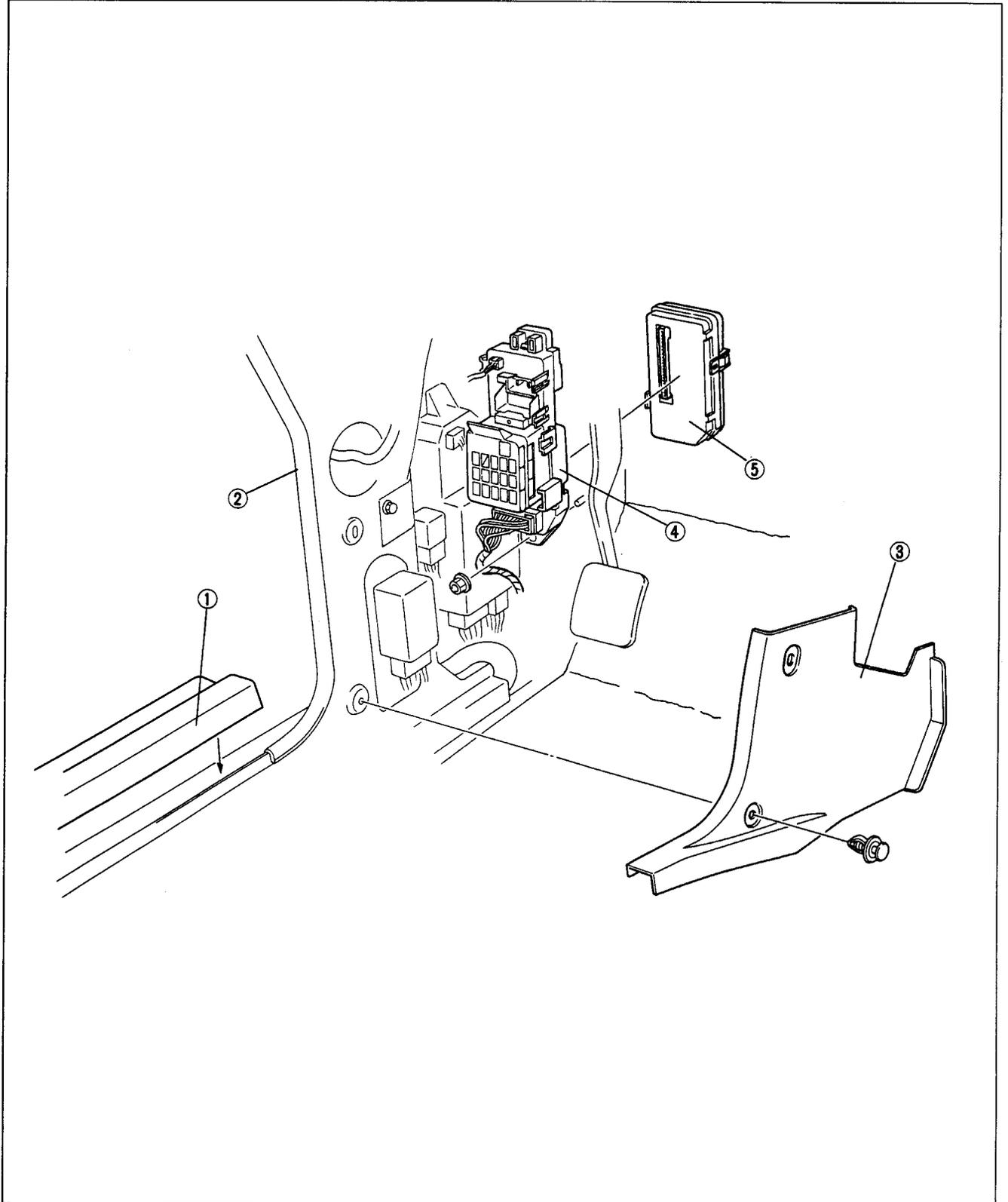
Function	Activated condition	Remark	
Warning alarms	Key reminder	Intermittently sounds when: <ul style="list-style-type: none"> • Key reminder switch ON, • IG1 OFF, • Any door switch ON. 	<p>$t_1: 250 \pm 50 \text{ m sec.}$ $t_2: 125 \pm 25 \text{ m sec.}$</p>
	Lights-on reminder	Intermittently sounds when: <ul style="list-style-type: none"> • Light switch ON, • IG1 OFF, • Any door switch ON. 	
	Seat belt warning	Intermittently sounds when: <ul style="list-style-type: none"> • Seat belt timer ON, • Buckle switch ON. 	
	Over revolution warning	Buzzer sounds continuously when engine speed exceeds approximately: <ul style="list-style-type: none"> (AT) 6,800—7,000 rpm (MT) 7,300—7,500 rpm 	
	Coolant level warning	Buzzer sounds continuously and light comes on when: <ul style="list-style-type: none"> • Coolant level sensor ON, • IG1 ON. 	

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CPU No.1

Removal / Installation

1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.



1. Scuff plate
2. Seaming welt
3. Front side trim

4. Joint box
5. CPU No.1

Terminal voltage list page Z3-8

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Terminal Voltage List

Remove CPU No.1 when measuring the terminal voltage of the CPU No.1 connector.

B+: Battery positive voltage

A B C D E F G H I J K L M N O P

Terminal	Connection	Test condition		Voltage (V)	Inspection area
A	Rear window defroster relay	Ignition switch at ON		B+	<ul style="list-style-type: none"> METER 15A fuse Rear window defroster relay Wiring harness (Fuse—Rear window defroster relay—CPU No.1)
		Other		0	
B	—	—		—	—
C	TNS relay	Light switch on		B+	<ul style="list-style-type: none"> TAIL 15A fuse TNS relay Combination switch (light switch) Wiring harness (Fuse—TNS relay—Light switch—GND, TNS relay—CPU No.1)
		Other		0	
D	Rear wiper motor	Ignition switch at ON		B+	<ul style="list-style-type: none"> REAR WIPER 10A fuse Rear wiper motor Wiring harness (Fuse—Rear wiper motor—CPU No.1)
		Other		0	
E	Rear window defroster switch	Ignition switch at ON	Rear window defroster switch on	0	<ul style="list-style-type: none"> METER 15A fuse Rear window defroster relay Rear window defroster switch Wiring harness (Fuse—Rear window defroster relay—CPU No.1, CPU No.1—Rear window defroster switch—GND)
			Other	B+	
F	Key interlock solenoid (AT) (USA only)	Ignition switch at ACC or ON	Transmission at P range	B+	<ul style="list-style-type: none"> ROOM 10A fuse Key interlock solenoid (Refer to the 1994 RX-7 Workshop Manual, section K) Wiring harness (Fuse—Key interlock solenoid—CPU No.1)
			After 2 to 3 seconds	0	
		Other		0	
G	Key interlock resistor (AT) (USA only)	Ignition switch at ON	Transmission at P range	B+	<ul style="list-style-type: none"> ROOM 10A fuse Key interlock solenoid Key interlock resistor (Refer to the 1994 RX-7 Workshop Manual, section K) Wiring harness (Fuse—Key interlock solenoid—Key interlock resistor—CPU No.1)
			After 0.9 to 1 hour	0	
		Other		0	
H	—	—		—	—

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Cont't

B+: Battery positive voltage

Terminal	Connection	Test condition		Voltage (V)	Inspection area
I	Rear wiper switch	Ignition switch at ON	Rear wiper switch OFF	B+	<ul style="list-style-type: none"> • REAR WIPER 10A fuse • Rear wiper motor • Combination switch (rear wiper switch) • Wiring harness (Fuse—Rear wiper motor—CPU No.1, CPU No.1—Rear wiper switch—GND)
			Rear wiper switch ON	0	
J	Rear washer motor	Ignition switch at ON		B+	<ul style="list-style-type: none"> • METER 15A fuse • Rear washer motor • Wiring harness (Fuse—Rear washer motor—CPU No.1)
		Other		0	
K	Ground	Constant		B+	Wiring harness (CPU No.1—GND)
L	Shift-lock control unit (AT) (USA only)	Ignition switch at ON	Transmission at P range	B+	<ul style="list-style-type: none"> • METER 15A fuse • Shift-lock control unit • Wiring harness (Fuse—Shift-lock control unit—CPU No.1)
			After 0.9 to 1 hour	0	
		Other		0	
M	Ignition switch	Ignition switch at ACC		B+	<ul style="list-style-type: none"> • CIGAR 15A fuse • Wiring harness (Fuse—CPU No.1)
		Other		0	
N	Door switch	Interior light switch at DOOR		B+	<ul style="list-style-type: none"> • Door switch • Wiring harness (Door switch—CPU No.1)
		Other		0	
O	+B	Constant		B+	<ul style="list-style-type: none"> • ROOM 10A fuse • Wiring harness (Fuse—CPU No.1)
P	Ignition switch	Ignition switch at ON		B+	<ul style="list-style-type: none"> • METER 15A fuse • Wiring harness (Fuse—CPU No.1)
		Other		0	

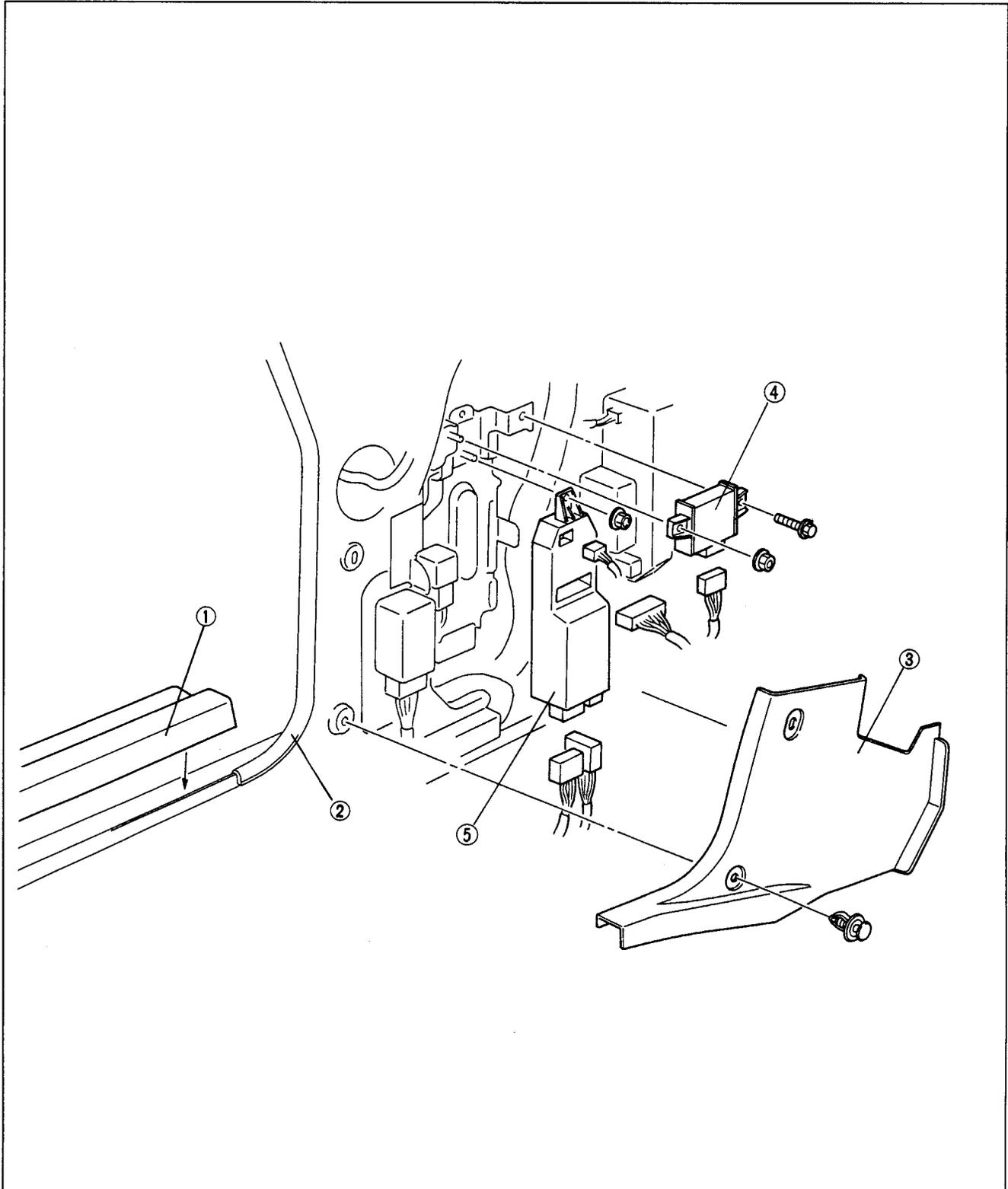
47UZ3X-509

Z3

CPU No.2

Removal / Installation

1. Remove in the order shown in the figure.
2. Install in the reverse order of removal.



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1. Scuff plate
2. Seaming welt
3. Front side trim

4. Cruise control unit
Removal / Installation section Q
5. CPU No.2
Terminal voltage list page Z3-11

Terminal Voltage List

B+: Battery positive voltage



Terminal	Connection	Test condition		Voltage (V)	Inspection area
1A	+B	Constant		B+	<ul style="list-style-type: none"> ROOM 10A fuse Wiring harness (Fuse—CPU No.2)
1B	Key reminder switch	Ignition key in ignition switch		B+	<ul style="list-style-type: none"> ROOM 10A fuse Key reminder switch Wiring harness (Fuse—Key reminder switch—CPU No.2)
		Other		0	
1C	Ignition switch	Ignition switch at ON		B+	<ul style="list-style-type: none"> METER 15A fuse Wiring harness (Fuse—CPU No.2)
		Other		0	
1D	TNS relay	Light switch on		B+	<ul style="list-style-type: none"> TAIL 15A fuse TNS relay Wiring harness (Fuse—TNS relay—CPU No.2)
		Other		0	
1E	Door switch	Continuity inspection	Door open	Yes	<ul style="list-style-type: none"> Door switch Wiring harness (CPU No.2—Door switch)
			Door closed	No	
1F	Cargo compartment light switch	Continuity inspection	Rear hatch open	Yes	<ul style="list-style-type: none"> Cargo compartment light switch Wiring harness (CPU No.2—Cargo compartment light switch)
			Rear hatch closed	No	
1G	Hood switch	Continuity inspection	Hood open	Yes	<ul style="list-style-type: none"> Hood switch Wiring harness (CPU No.2—Hood switch—GND)
			Hood closed	No	
1H	Ground	Constant		0	Wiring harness (CPU No.2—GND)
1I	Door lock switch (passenger side)	Locked		Approx. 5	<ul style="list-style-type: none"> DOOR LOCK 10A fuse Door lock switch (passenger side) Door lock timer unit Wiring harness (Fuse—Door lock timer unit—CPU No.2, CPU No.2—Door lock switch—GND)
		Unlocked		0	
1J	Door lock switch (driver side)	Locked		B+	<ul style="list-style-type: none"> DOOR LOCK 10A fuse Door lock switch (driver side) Door lock timer unit Wiring harness (Fuse—Door lock timer unit—CPU No.2, CPU No.2—Door lock switch—GND)
		Unlocked		0	
1L	Instrument cluster	Ignition switch at ON		B+	<ul style="list-style-type: none"> METER 15A fuse Instrument cluster Wiring harness (Fuse—Instrument cluster—CPU No.2)
		Other		0	

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Cont'd

B+: Battery positive voltage

Terminal	Connection	Test condition		Voltage (V)	Inspection area
1N	Door key cylinder switch	Locked		5	<ul style="list-style-type: none"> ROOM 10A fuse Door key cylinder illumination Ignition key illumination Door key cylinder switch Wiring harness (Fuse—Door key cylinder illumination—CPU No.2, Fuse—Ignition key illumination—CPU No.2, CPU No.2—Door key cylinder switch—GND)
		Unlocked		0	
1O	Rear hatch key cylinder switch	Continuity inspection	Locked	No	<ul style="list-style-type: none"> Rear hatch key cylinder switch Wiring harness (CPU No.2—Rear hatch key cylinder switch—GND)
			Unlocked	Yes	
1P	Outer door handle switch	Outer door handle pulled		0	<ul style="list-style-type: none"> Outer door handle switch Wiring harness (Outer door handle switch—CPU No.2)
		Other		Approx. 4	
1Q	Buckle switch	Ignition switch at ON	Seat belt buckled	0	<ul style="list-style-type: none"> Buckle switch Wiring harness (Buckle switch—CPU No.2)
			Other	B+	
1R	Security light	Constant		B+	<ul style="list-style-type: none"> ROOM 10A fuse Security light Wiring harness (Fuse—Security light—CPU No.2)
1S	Ignition key illumination, Door key cylinder illumination	Constant		B+	<ul style="list-style-type: none"> ROOM 10A fuse Ignition key illumination Door key cylinder illumination Wiring harness (Fuse—Each illumination—CPU No.2)
1T	Seat belt warning light	For 4 to 8 seconds from ignition switch at ON		0	<ul style="list-style-type: none"> METER 15A fuse Seat belt warning light Wiring harness (Fuse—Seat belt warning light—CPU No.2)
		After 4 to 8 seconds from ignition switch at ON		B+	
1U	Power window relay	Ignition switch at ON		B+	<ul style="list-style-type: none"> POWER WIND 30A fuse Power window relay Wiring harness (Fuse—Power window relay—CPU No.2)
		Other		0	
1V	Hazard warning switch	Hazard warning switch on		0	<ul style="list-style-type: none"> HAZARD 15A fuse Flasher unit Hazard warning switch Wiring harness (Fuse—Flasher unit—CPU No.2, CPU No.2—Hazard warning switch)
		Hazard warning switch off		B+	

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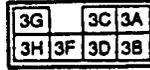
B+: Battery positive voltage



Terminal	Connection	Test condition		Voltage (V)	Inspection area
2A	HOLD indicator light	Ignition switch at ON	Hold switch on	0	<ul style="list-style-type: none"> HAZARD 15A fuse HOLD switch HOLD indicator light PCMT (Refer to the 1994 RX-7 Workshop Manual, section K) Wiring harness (Fuse—Instrument cluster—CPU No.2, CPU No.2—PCMT—Hold switch)
			Hold switch off	B+	
2B	Horn relay	Hold switch on		0	<ul style="list-style-type: none"> HAZARD 15A fuse Horn relay Air bag module (horn switch) Wiring harness (Fuse—Horn relay—CPU No.2, CPU No.2—Horn switch)
		Alarm sounds		0	
		Other		B+	
2C	PCMT	Ignition switch at ON	Hold switch on	0	<ul style="list-style-type: none"> PCMT (Refer to the 1994 RX-7 Workshop Manual, section K) Wiring harness (CPU No.2—PCMT)
			Hold switch off	B+	
2D	Starter cut relay	Ignition switch at ON		B+	<ul style="list-style-type: none"> ENGINE 15A fuse Starter cut relay Wiring harness (Fuse—Starter cut relay—CPU No.2)
		Ignition switch at OFF		0	
2F	—	—		—	—
2H	Headlight relay	Constant		B+	<ul style="list-style-type: none"> HEAD 30A fuse Headlight relay Wiring harness (Fuse—Headlight relay—CPU No.2)
2I	Data link connector	—		—	—
2J	Option switch	—		—	—

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B+: Battery positive voltage



Terminal	Connection	Test condition		Voltage (V)	Inspection area
3A	Turn signal light (right)	Ignition switch at ON	Turn switch on (right)	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
			Other	0	
3B	Ground	Constant		0	Wiring harness (Flasher unit—GND)
3C	Turn switch (right)	Ignition switch at ON	Turn switch on (right)	B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
			Other	0	
3D	Turn switch (left)	Ignition switch at ON	Turn switch on (right)	B+	
			Other	0	
3F	+B	Constant		B+	<ul style="list-style-type: none"> HAZARD 15A fuse Wiring harness (Fuse—Flasher unit)
3G	Hazard warning switch	Hazard warning switch on; Check for continuity to body ground		Yes	<ul style="list-style-type: none"> Hazard warning switch Wiring harness (Flasher unit—Hazard warning switch)
		Other		No	
3H	Turn signal light (left)	Ignition switch at ON	Turn switch on (left)	Alternates 0V and B+	<ul style="list-style-type: none"> METER 15A fuse Combination switch (turn switch) Wiring harness (Fuse—Turn switch—Flasher unit)
			Other	0	

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(Canada only)

B+: Battery positive voltage



Terminal	Connection	Test condition		Voltage (V)	Inspection area
4A	Ground	Constant		0	Wiring harness (DRL control unit—GND)
4B	Headlight relay	Light switch on		B+	<ul style="list-style-type: none"> • HEAD 30A fuse • Headlight relay • Combination switch (light switch) • Wiring harness (Fuse—Headlight relay—Light switch, Headlight relay—DRL control unit)
		Light switch off		0	
4C	Parking brake switch	Parking brake switch on; check for continuity to body ground		Yes	<ul style="list-style-type: none"> • Parking brake switch • Wiring harness (DRL control unit—Parking brake switch)
		Other		No	
4D	Brake system warning light	Ignition switch at ON		B+	<ul style="list-style-type: none"> • METER 15A fuse • Brake system warning light • Wiring harness (Fuse—Brake system warning light—DRL control unit)
		Other		0	
4F	Turn signal light (right)	Ignition switch at ON	Turn switch on (right)	Alternates 0V and B+	<ul style="list-style-type: none"> • METER 15A fuse • Combination switch (turn switch) • Wiring harness (Fuse—Turn switch—Flasher unit, Flasher unit—DRL control unit)
			Other	0	
4H	Turn signal light (left)	Ignition switch at ON	Turn switch on (left)	Alternates 0V and B+	<ul style="list-style-type: none"> • METER 15A fuse • Combination switch (turn switch) • Wiring harness (Fuse—Turn switch—Flasher unit, Flasher unit—DRL control unit)
			Other	0	
4I	Front side marker light (right)	Ignition switch at ON	Turn switch on (right)	Alternates 0V and B+	<ul style="list-style-type: none"> • METER 15A fuse • Combination switch (turn switch) • Wiring harness (Fuse—Turn switch—Flasher unit, Flasher unit—DRL control unit)
			Light switch off	B+	
			Light switch on	0	
4J	—	—		—	—
4K	Front side marker light (left)	Ignition switch at ON	Turn switch on (left)	Alternates 0V and B+	<ul style="list-style-type: none"> • METER 15A fuse • Combination switch (turn switch) • Wiring harness (Fuse—Turn switch—Flasher unit, Flasher unit—DRL control unit)
			Light switch off	B+	
			Light switch on	0	
4L	Ignition switch	Ignition switch at on		B+	<ul style="list-style-type: none"> • WIPER 20A fuse • Wiring harness (Fuse—DRL control unit)
		Other		0	

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Before beginning any service procedure, refer to section S of this manual for air bag system service warnings and section J1 for audio antitheft system alarm conditions.

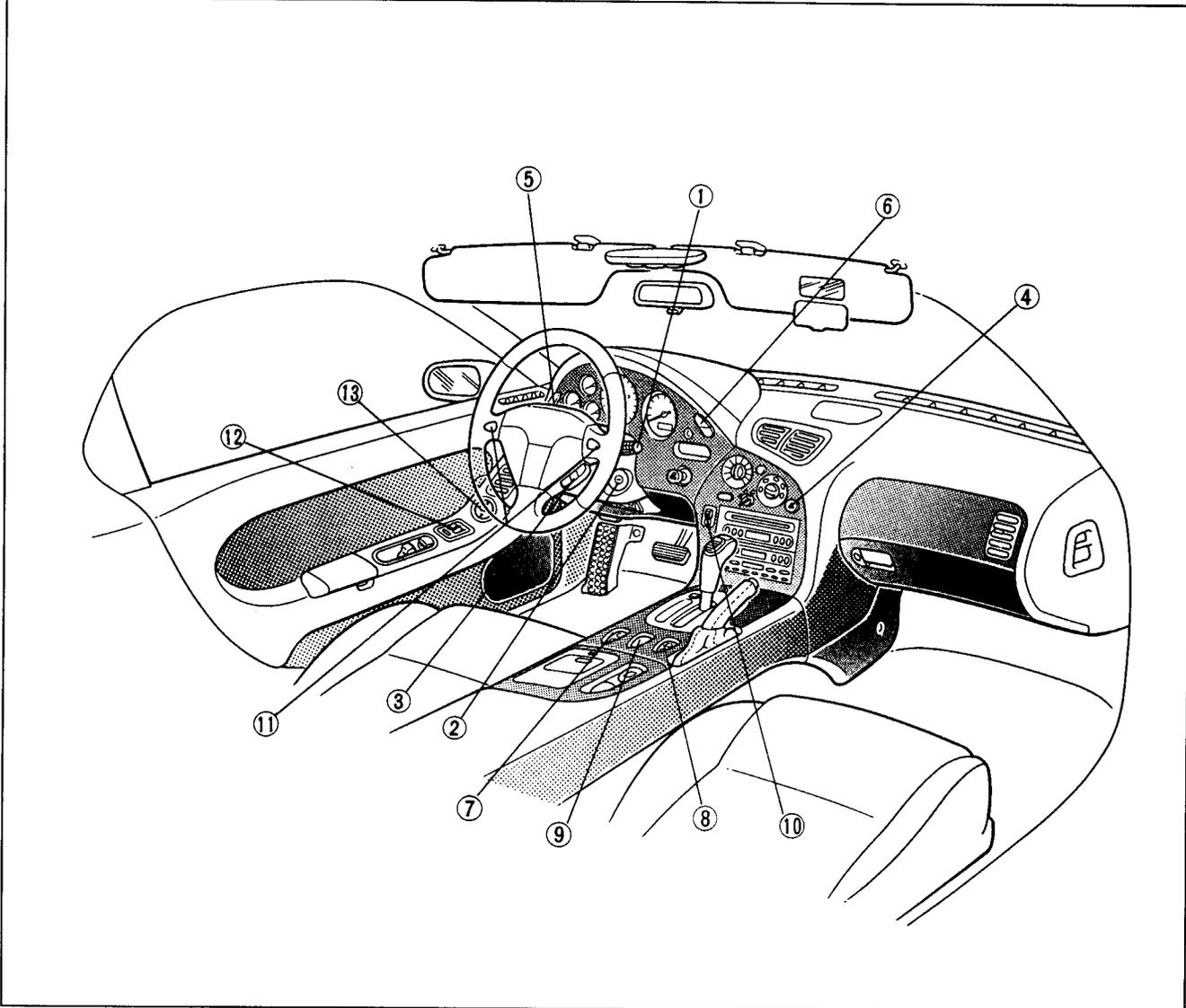
SWITCHES

STRUCTURAL VIEW	Z4-2
COMBINATION SWITCH	Z4-3
IGNITION SWITCH.....	Z4-5
CRUISE CONTROL SWITCH	Z4-5
HAZARD WARNING SWITCH	Z4-6
RETRACTOR SWITCH	Z4-6
CRUISE CONTROL MAIN SWITCH	Z4-7
FRONT FOG LIGHT SWITCH.....	Z4-7
REAR WINDOW DEFROSTER SWITCH.....	Z4-7
HEADLIGHT CLEANER SWITCH.....	Z4-8
PANEL LIGHT CONTROL SWITCH.....	Z4-8

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SWITCHES

STRUCTURAL VIEW



47UZ4X-502

- | | | | |
|-------------------------------|------------|---|------------|
| 1. Combination switch | | 7. Front fog light switch | |
| Removal / Installation | page Z4- 3 | Removal / Installation | page Z4- 7 |
| Inspection | page Z4- 4 | Inspection | page Z4- 7 |
| 2. Ignition switch | | 8. Rear window defroster switch | |
| Removal / Installation | page Z4- 5 | Removal / Installation | page Z4- 7 |
| Inspection | page Z4- 5 | Inspection | page Z4- 8 |
| 3. Cruise control switch | | 9. Headlight cleaner switch (Canada only) | |
| Removal / Installation | page Z4- 5 | Removal / Installation | page Z4- 8 |
| Inspection | page Z4- 6 | Inspection | page Z4- 8 |
| 4. Hazard warning switch | | 10. Panel light control switch | |
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| Inspection | page Z4- 6 | 11. Horn switch | |
| 5. Retractor switch | | Inspection | section F2 |
| Removal / Installation | page Z4- 6 | 12. Power window switch | |
| Inspection | page Z4- 6 | Removal / Installation | section K1 |
| 6. Cruise control main switch | | Inspection | section K1 |
| Removal / Installation | page Z4- 7 | 13. Power outside mirror switch | |
| Inspection | page Z4- 7 | Removal / Installation | section L |
| | | Inspection | section L |

COMBINATION SWITCH

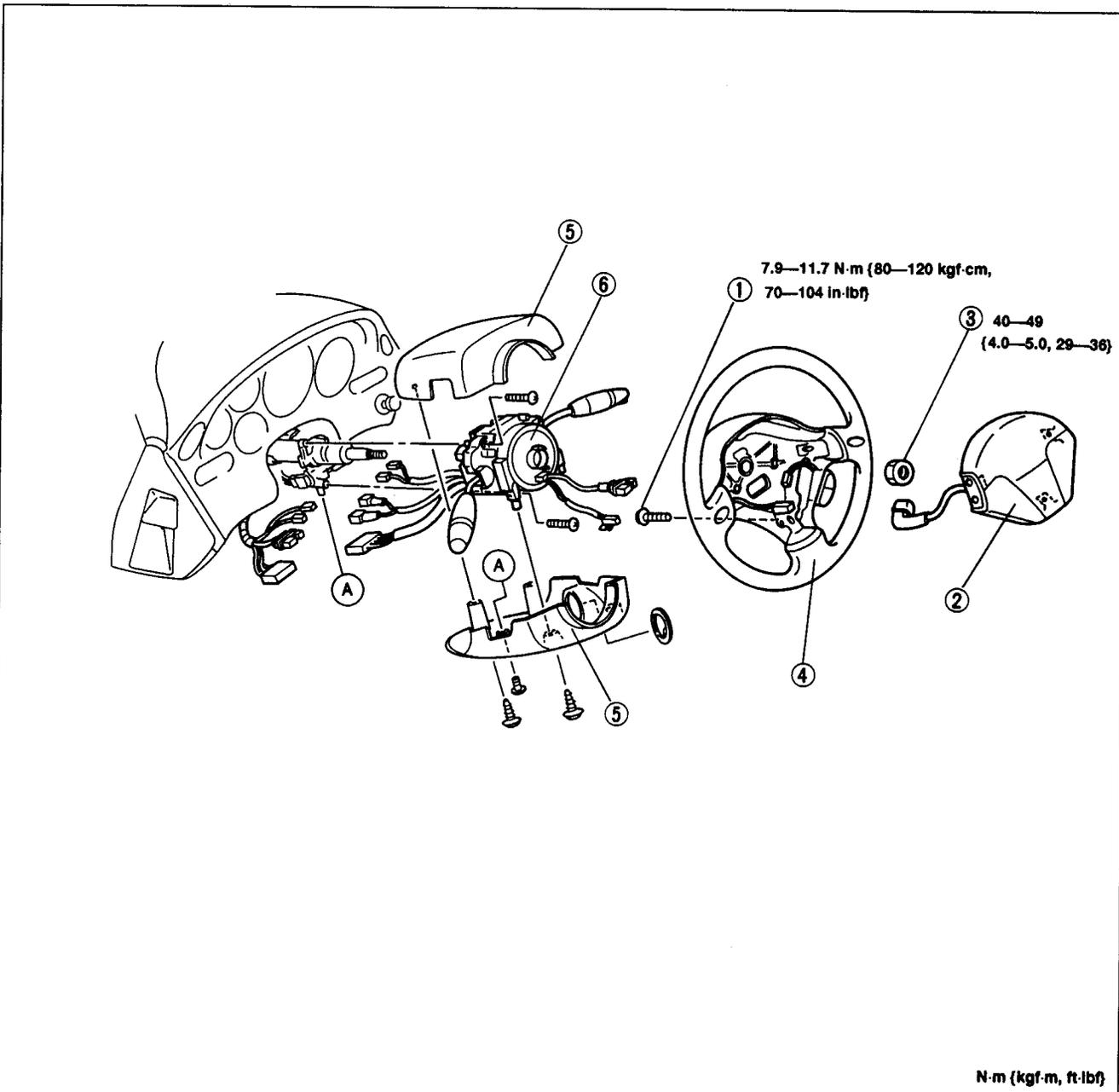
Removal / Installation

1. Disconnect the negative battery cable.
2. Remove the driver-side undercover and lower panel.
3. Disconnect the clock spring connector, which is part of the combination switch.

Warning

- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, section S, before handling the air bag module.

4. Remove in the order shown in the figure.
5. Install in the reverse order of removal.

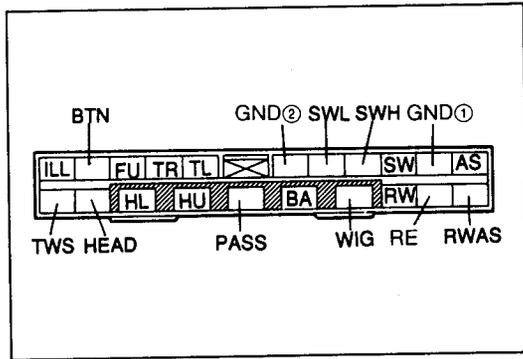


47UZ4X-503

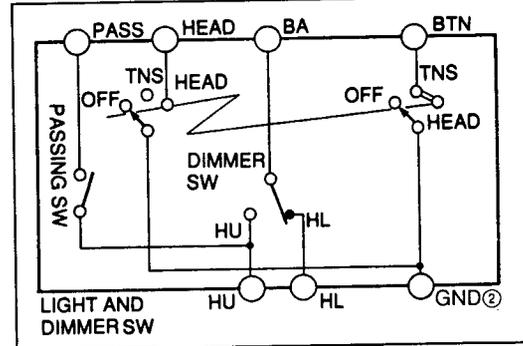
1. Bolt
2. Air bag module
3. Nut
4. Steering wheel

5. Column cover
6. Combination switch

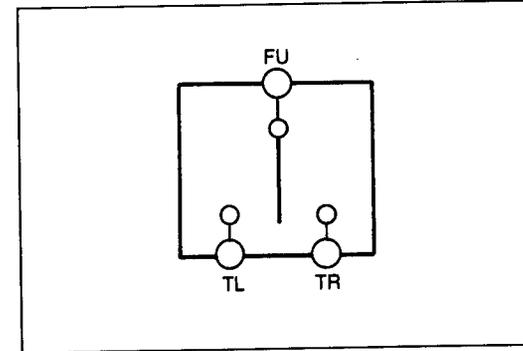
Inspection page Z4-4



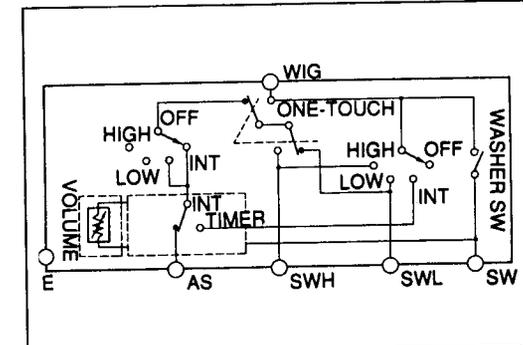
47UZ4X-504



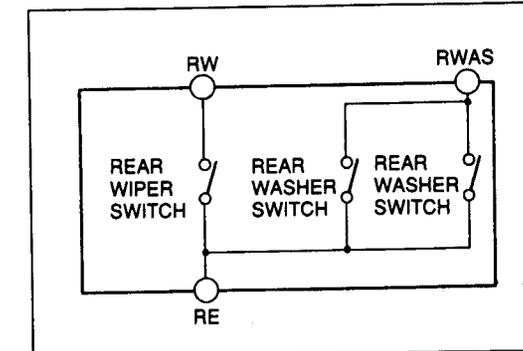
47UZ4X-505



47UZ4X-506



37U0TX-208



37U0TX-209

Inspection

1. Check for continuity between the terminals of the switches as indicated.
2. If not as specified, replace the switch.

Light and dimmer switch

Terminal		GND(2)	BTN	HEAD	BA	HL	HU	PASS
Position								
OFF					○—○	○—○		
Parking		○—○	○—○					
Headlight	Low	○—○	○—○	○—○	○—○	○—○		
	High	○—○	○—○	○—○	○—○		○—○	
Flash-to-pass							○—○	○—○

○—○ : Continuity

Turn switch

Terminal		FU	TL	TR
Position				
Left		○—○	○—○	
OFF				
Right		○—○		○—○

○—○ : Continuity

Windshield wiper and washer switch

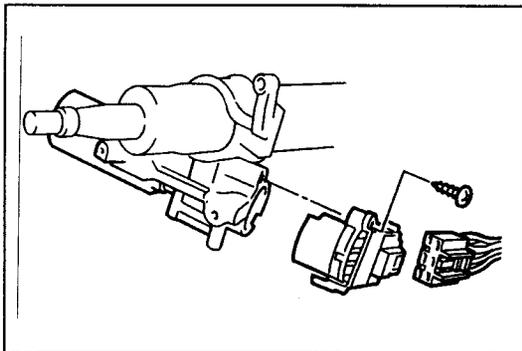
Terminal		AS	SWL	SWH	WIG	SW
Position						
Wiper switch	OFF	One-touch OFF	○—○			
		One-touch ON			○—○	
	INT	○—○	○—○			
	I (LOW)		○—○	○—○	○—○	
II (HIGH)				○—○	○—○	
Washer ON					○—○	○—○

○—○ : Continuity

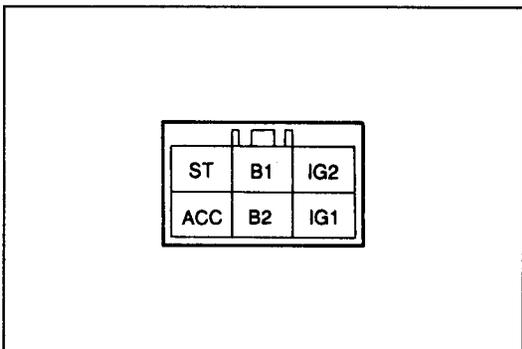
Rear wiper and washer switch

Terminal		RW	RWAS	RE
Position				
Wash (forward)			○—○	○—○
OFF				
Wiper (INT)		○—○		○—○
Wash (rearward)			○—○	○—○

○—○ : Continuity



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47UZ4X-508

IGNITION SWITCH

Removal / Installation

1. Disconnect the negative battery cable.
2. Remove the column cover.
3. Disconnect the ignition switch connector and remove the screw.
4. Remove the ignition switch.
5. Install in the reverse order of removal.

Inspection

1. Check for continuity between the terminals of the ignition switch.

Position \ Terminal	B1	B2	ACC	IG1	IG2	ST
ACC	○		○			
ON	○	○	○	○		
START	○			○		○

○-○ : Continuity

2. If not as specified, replace the ignition switch.

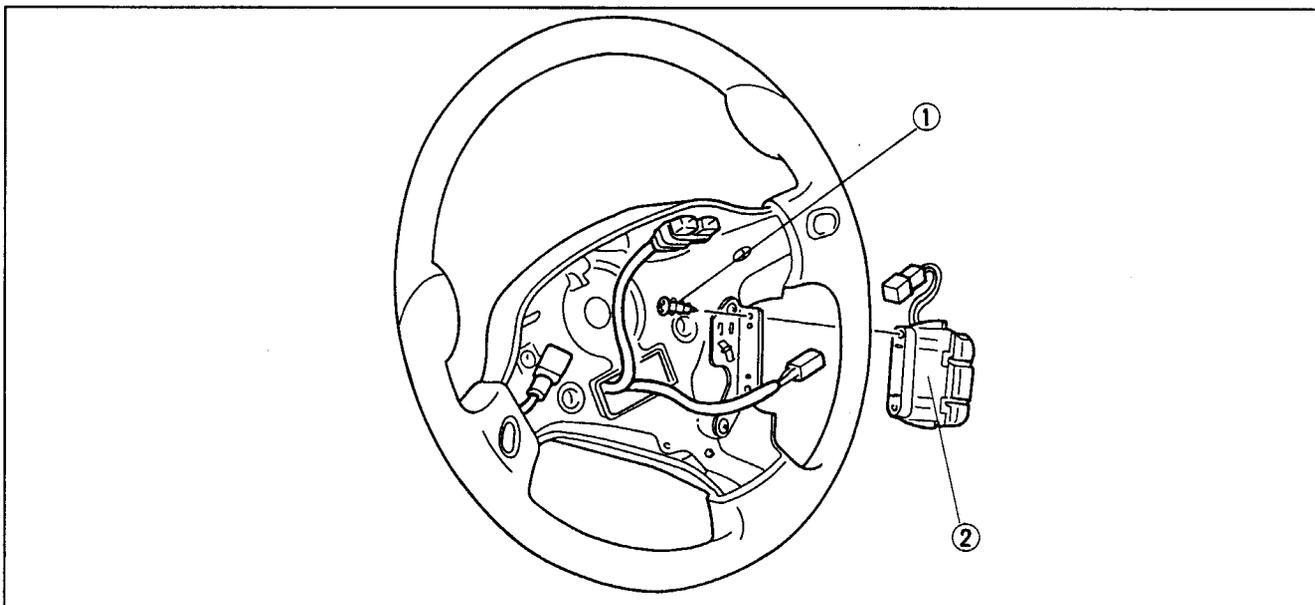
CRUISE CONTROL SWITCH

Removal / Installation

Warning

- Handling the air bag module improperly can accidentally deploy the air bag, which may seriously injure you. Read **SERVICE WARNINGS**, section S, before handling the air bag module.

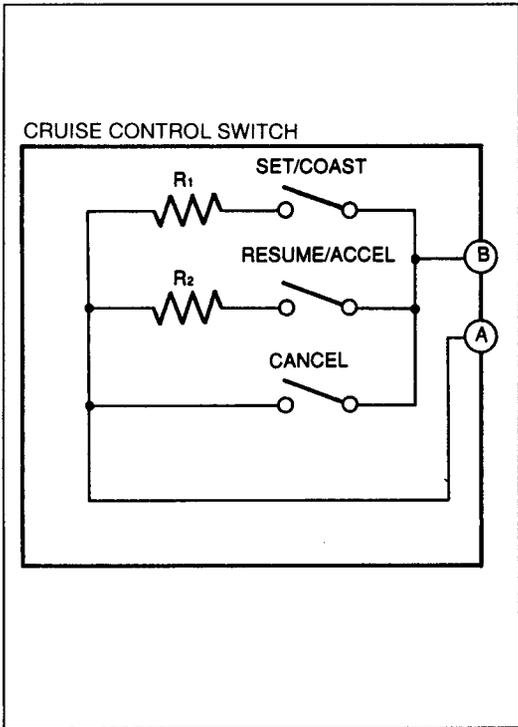
1. Remove the driver-side air bag module. (Refer to section S.)
2. Remove in the order shown in the figure.
3. Install in the reverse order of removal.



1. Screw

2. Cruise control switch

Inspection page Z4-6



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Inspection

1. Remove the cruise control switch.
2. Check for continuity between the terminals of the cruise control switch.

Terminal	A	B
Position		
SET/COAST	○—R ₁ —○	
RESUME/ACCEL	○—R ₂ —○	
CANCEL	○—○	

○—R : Resistance, ○—○ : Continuity, R₁: 240Ω, R₂: 910Ω

3. If not as specified, replace the cruise control switch.
(Refer to page Z4-5.)

HAZARD WARNING SWITCH

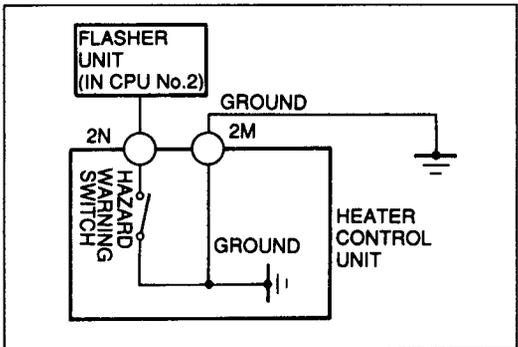
Inspection

1. Remove the center panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the heater control unit connector.
3. Check for continuity between terminals 2M and 2N.

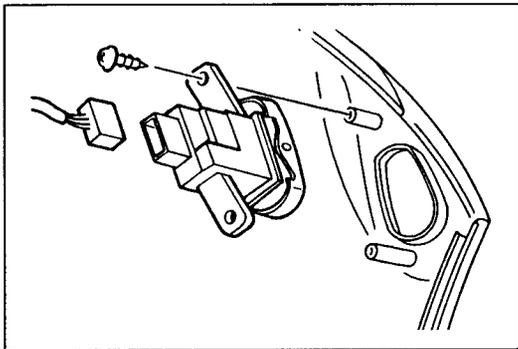
Terminal	2M	2N
Position		
OFF		
ON	○—○	○—○

○—○ : Continuity

4. If not as specified, replace the hazard warning switch.
(Refer to section G.)



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47UZ4X-512

RETRACTOR SWITCH

Removal / Installation

1. Remove the meter hood.
(Refer to section C1.)
2. Disconnect the retractor switch connector and remove the screw.
3. Remove the retractor switch.
4. Install in the reverse order of removal.

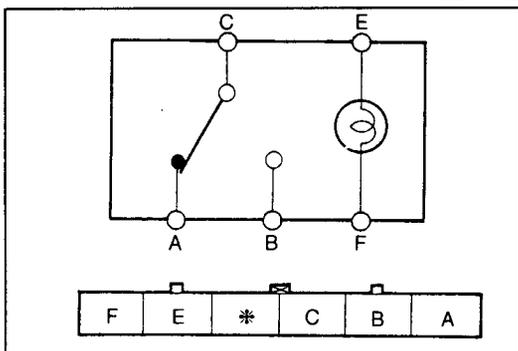
Inspection

1. Remove the retractor switch.
2. Check for continuity between the terminals of the retractor switch.

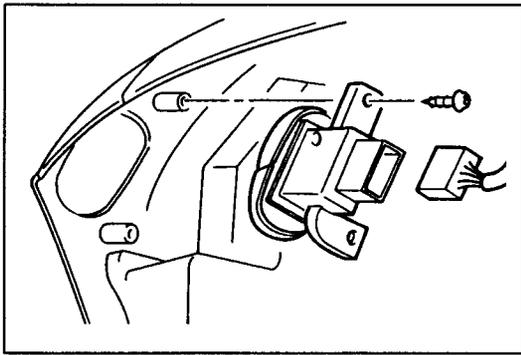
Terminal	A	B	C	E	F
Position					
OFF	○—○		○—○	○—○	○—○
ON		○—○	○—○	○—○	○—○

○—○ : Continuity

3. If not as specified, replace the retractor switch.



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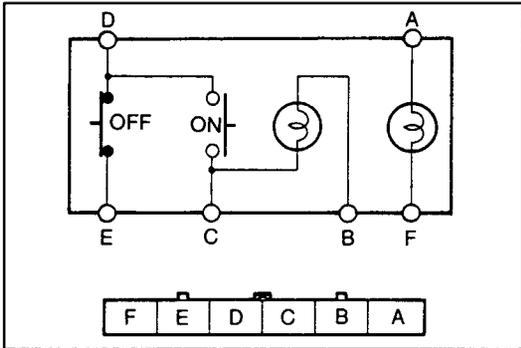


47UZ4X-514

CRUISE CONTROL MAIN SWITCH

Removal / Installation

1. Remove the meter hood.
(Refer to section C1.)
2. Remove the cruise control main switch.
3. Install in the reverse order of removal.



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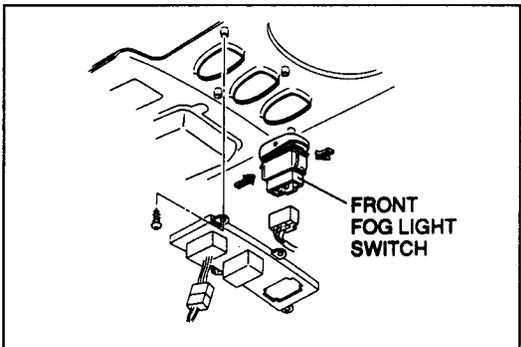
Inspection

1. Remove the cruise control main switch.
2. Check for continuity between the terminals of the cruise control main switch.

Position \ Terminal	A	F	B	C	D	E
OFF	○—(M)—○		○—(M)—○		○—○	
ON	○—(M)—○		○—(M)—○	○—○		

○—○ : Continuity

3. If not as specified, replace the cruise control main switch.

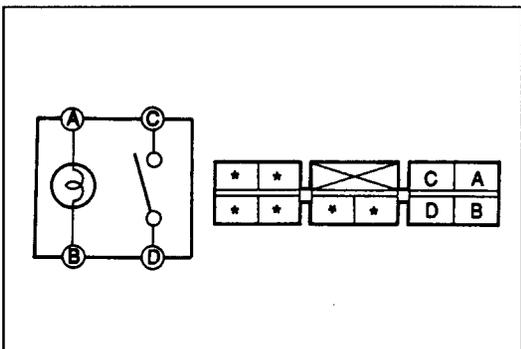


47UZ4X-516

FRONT FOG LIGHT SWITCH

Removal / Installation

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the front fog light switch connector and remove the screws.
3. Remove the front fog light switch.
4. Install in the reverse order of removal.



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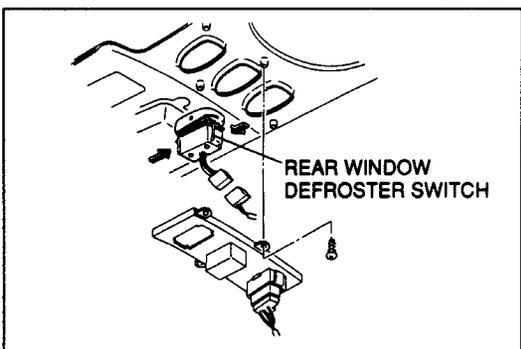
Inspection

1. Remove the front fog light switch.
2. Check for continuity between the terminals of the front fog light switch.

Position \ Terminal	A	B	C	D
OFF	○—(M)—○			
ON	○—(M)—○		○—○	

○—○ : Continuity

3. If not as specified, replace the front fog light switch.

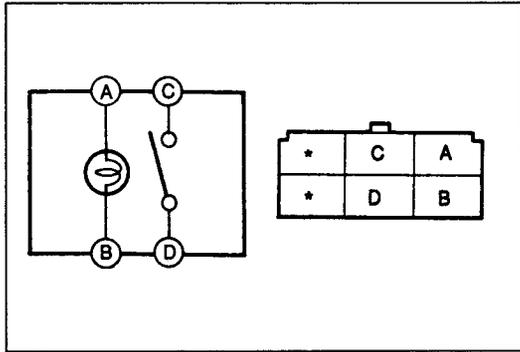


47UZ4X-518

REAR WINDOW DEFROSTER SWITCH

Removal / Installation

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the rear window defroster switch connector and remove the screws.
3. Remove the rear window defroster switch.
4. Install in the reverse order of removal.



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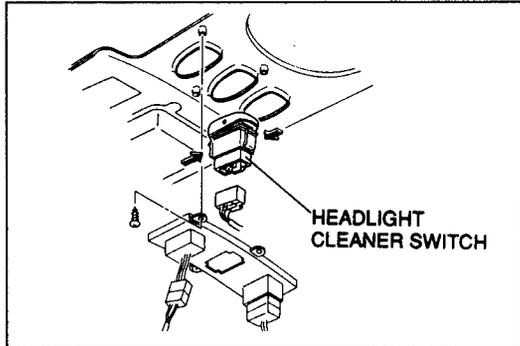
Inspection

1. Remove the rear window defroster switch.
2. Check for continuity between the terminals of the rear window defroster switch.

Position \ Terminal	A	B	C	D
OFF	○	Ⓜ	○	
ON	○	Ⓜ	○	○

○—○ : Continuity

3. If not as specified, replace the rear window defroster switch. (Refer to page Z4-7.)

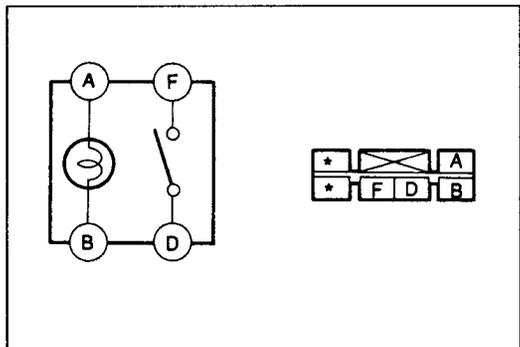


47UZ4X-520

HEADLIGHT CLEANER SWITCH

Removal / Installation

1. Remove the console panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the headlight cleaner switch connector and remove the screws.
3. Remove the headlight cleaner switch.
4. Install in the reverse order of removal.



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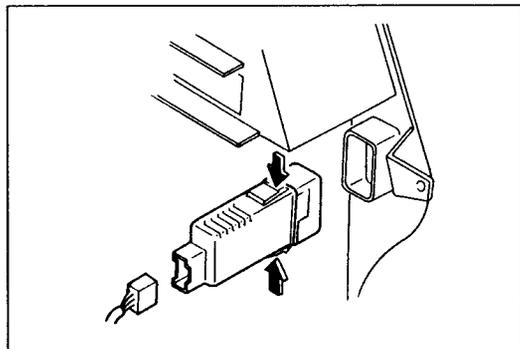
Inspection

1. Remove the headlight cleaner switch.
2. Check for continuity between the terminals of the headlight cleaner switch.

Position \ Terminal	A	B	F	D
OFF	○	Ⓜ	○	
ON	○	Ⓜ	○	○

○—○ : Continuity

3. If not as specified, replace the headlight cleaner switch.



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PANEL LIGHT CONTROL SWITCH

Removal / Installation

1. Remove the center panel.
(Refer to the 1994 RX-7 Workshop Manual, section S.)
2. Disconnect the panel light control switch connector and remove the panel light control switch.
3. Install in the reverse order of removal.