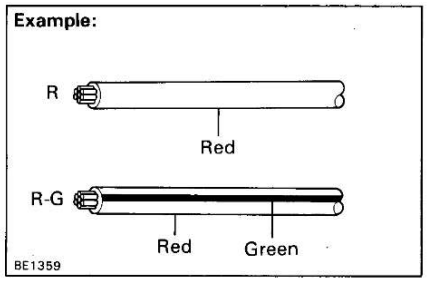
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GENERAL INFORMATION

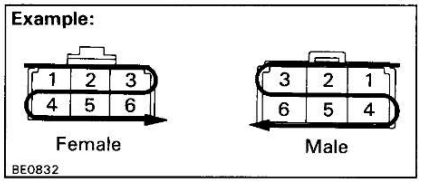
WIRING COLOR CODE

Wire colors are indicated by an alphabetical code.

B = Black	L = Blue	R = Red
BR = Brown	LG = Light Green	V = Violet
G = Green	O = Orange	W = White
GR = Gray	P = Pink	Y = Yellow

The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

CONNECTOR



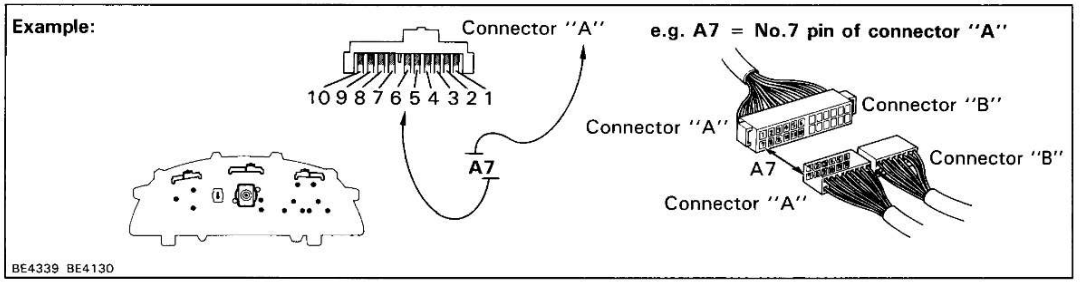
FEMALE CONNECTOR PIN NUMBER

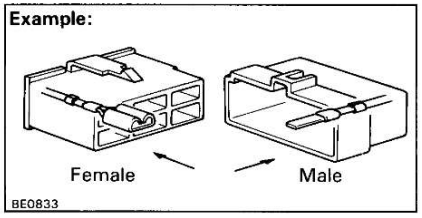
Numbered in order from upper left to lower right.

MALE CONNECTOR PIN NUMBER

Numbered in order from upper right to lower left.

HINT: When connectors with different or the same number of terminals are used with the same parts, each connector name (letter of the alphabet) and pin number is specified.





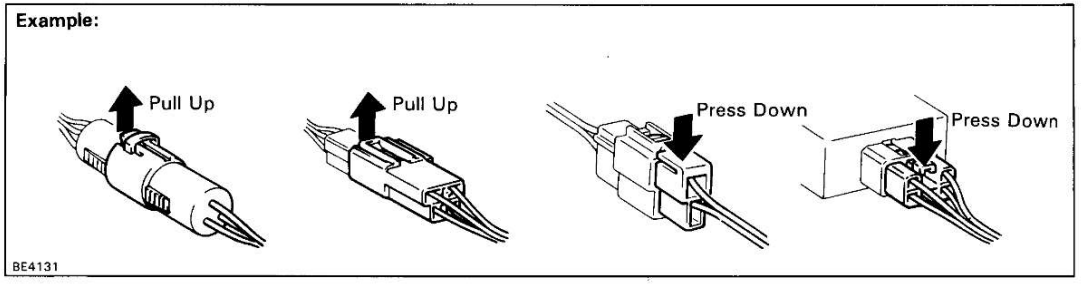
MALE AND FEMALE CONNECTORS DISTINCTION

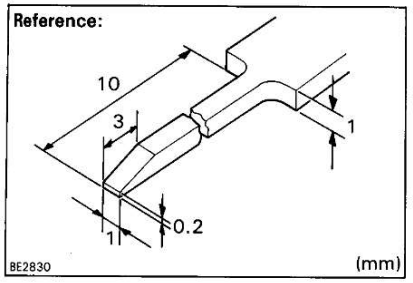
Male and female connectors are distinguished by shape of their internal pins.

(a) All connectors are shown from the open end, and the lock is on top.

(b) To pull apart the connectors, pull on the connector itself, not the wires.

HINT: Check to see what kind of connector you are disconnecting before pulling apart.

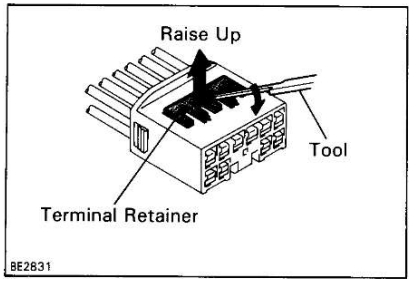




HOW TO REPLACE TERMINAL

WITH TERMINAL RETAINER TYPE

HINT: To remove the terminal for this type of connector, please construct and use the special tool or like object shown on the left.



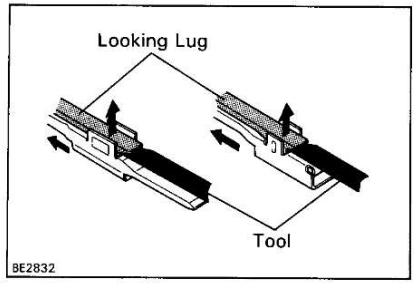
CONNECTOR DISCONNECTION

Disconnect the connector according to the instructions on BE-2.

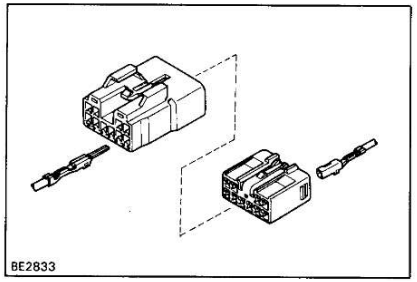
TERMINAL FROM CONNECTOR DISCONNECTION

(a) Using the special tool, raise the retainer up to the temporary lock position.

HINT: The needle insertion position varies according to the connector's shape (number of terminals, etc.), so check the position before inserting it.



(b) Using the special tool, release the locking lug and pull the terminal out from rear.

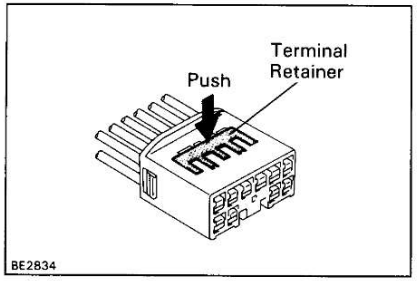


TERMINAL TO CONNECTOR INSTALLATION

(a) Insert the terminal.

HINT:

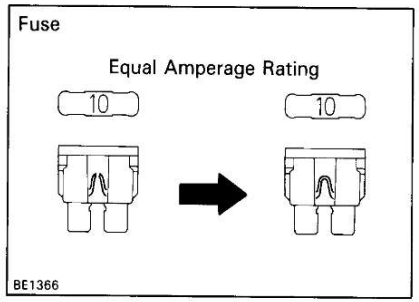
1. Make sure the terminal is positioned correctly.
2. Insert the terminal until the locking lug locks firmly.
3. Insert the terminal with retainer in the temporary lock position.

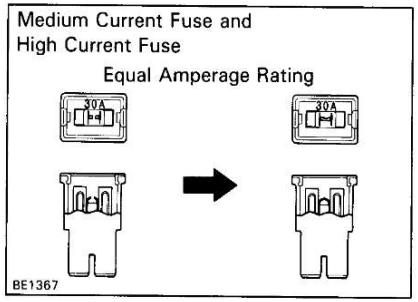


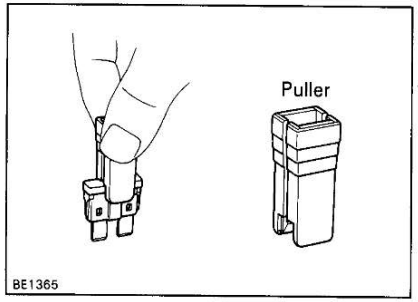
(b) Push the retainer in as far as the full lock position.

CONNECTOR CONNECTION

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FUSE REPLACEMENT

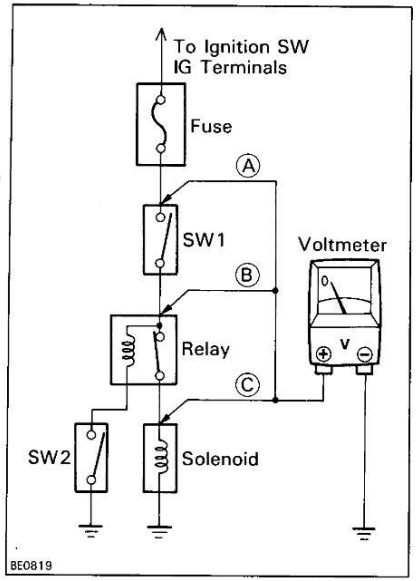
HINT: If replacing the fuse be sure to replace it with a fuse with an equal amperage rating.

NOTICE:

- **Turn off all electrical components and the ignition switch before replacing a fuse or fusible link. Do not exceed the fuse or fusible link amperage rating.**
- **Always use a fuse puller for removing an inserting a fuse. Remove and insert straight in and out without twisting. Twisting could force open the terminals too much, resulting in a bad connection.**

If a fuse or fusible link continues to blow, a short circuit is indicated. The system must be checked by a qualified technician.

HINT: The puller is located at Relay Block No.2.

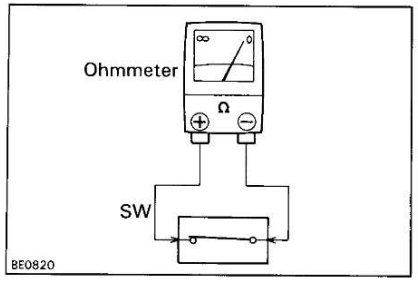


VOLTAGE CHECK

(a) Establish conditions in which voltage is present at the check point.

Example:
Ⓐ - Ignition SW on
Ⓑ - Ignition SW and SW 1 on
Ⓒ - Ignition SW, SW 1 and Relay on (SW 2 off)

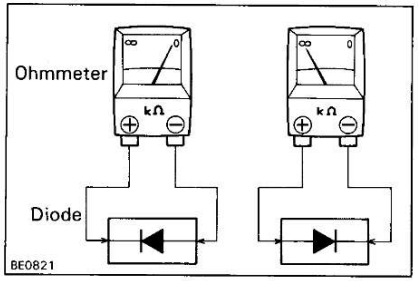
(b) Using a voltmeter, connect the negative (−) lead to a good ground point or negative(−) battery terminal and the positive (+) lead to the connector or component terminal. This check can be done with a test bulb instead of a voltmeter.



CONTINUITY AND RESISTANCE CHECK

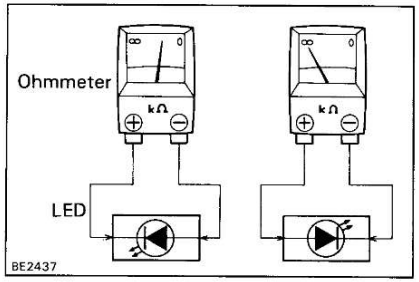
(a) Disconnect the battery terminal or wire so there is no voltage between the check points.

(b) Contact the two leads of an ohmmeter to each of the check points.



If the circuit has diodes, reverse the two leads and check again.
When contacting the negative (−) lead to the diode positive (+) side and the positive (+) lead to the negative (−) side, there should be continuity. When contacting the two leads in reverse, there should be no continuity.

HINT: Specifications may very depending on the type of tester, so refer to the tester's instruction manual before performing the inspection.

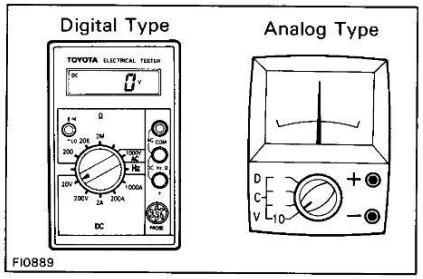


Check LED (Light Emitting Diode) in the same manner as that for diodes.

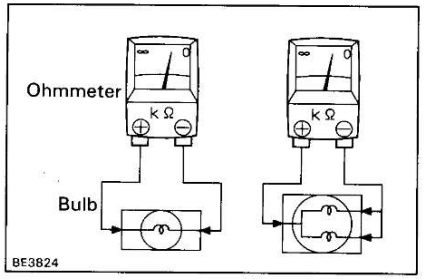
HINT:

- Use a tester with a power source of 3 V or greater to overcome the circuit resistance.
- If a suitable tester is not available, apply battery voltage and check that the LED lights up.

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(c) Use a volt/ohmmeter with high impedance (10 k/V minimum) for troubleshooting of the electrical circuit.



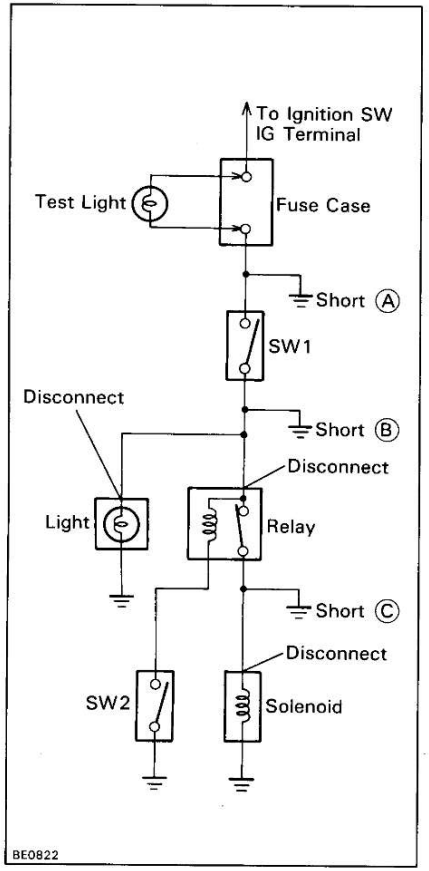
THE BULB CHECK

(a) Remove the bulb.

(b) There should be continuity between the respectire terminals of the bulb together with a certain amount of resistance.

(c) Apply the two leads of the ohmmeter to each of the terminals.

(d) Apply battery voltage and check that the bulb lights up.



SHORT CIRCUIT CHECK

(a) Remove the blown fuse and eliminate all loads from the fuse.

(b) Connect a test bulb in place of the fuse.

(c) Establish conditions in which the test bulb comes on.

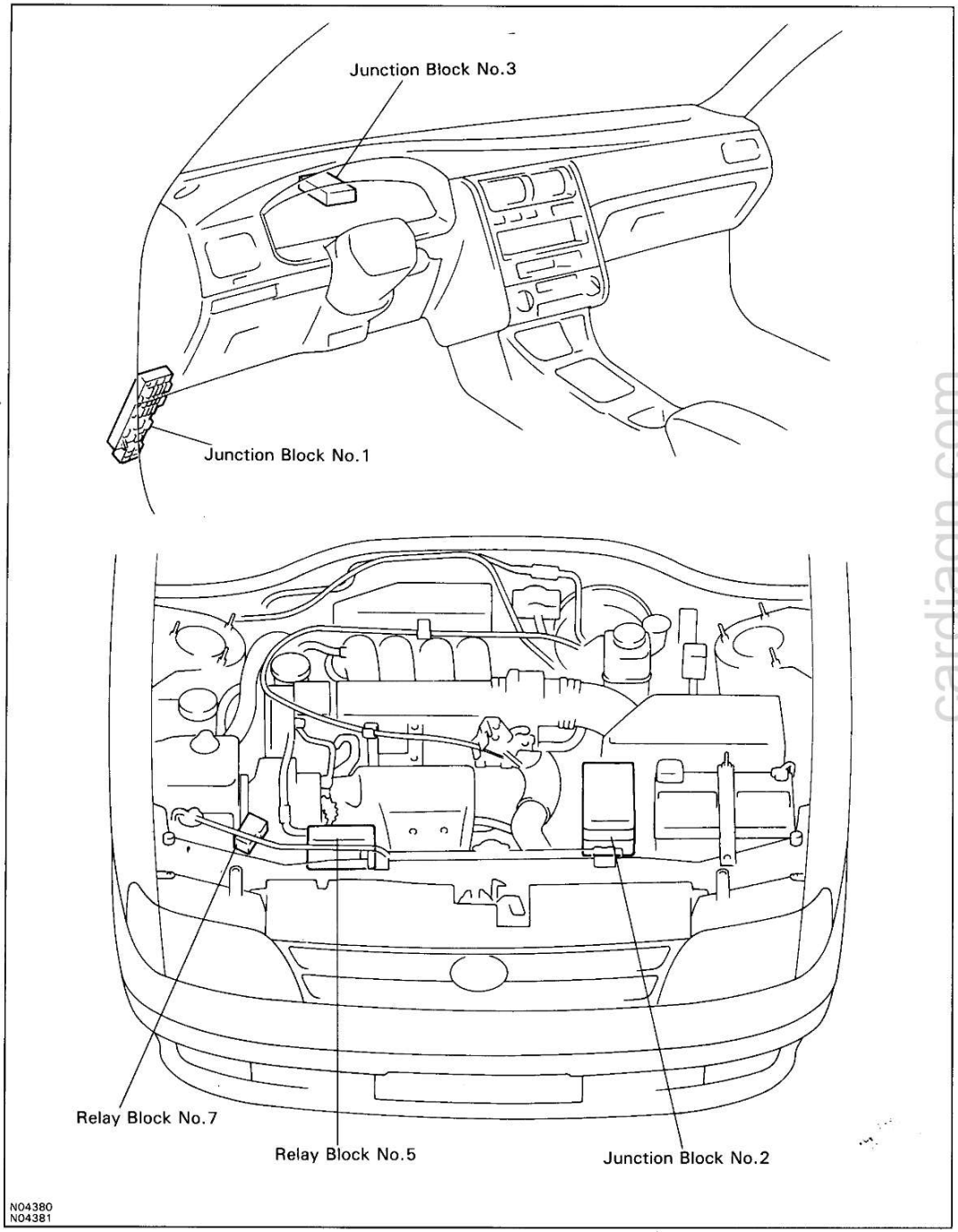
Example:
Ⓐ - Ignition SW on
Ⓑ - Ignition SW and SW 1 on
Ⓒ - Ignition SW, SW1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)

(d) Disconnect and reconnect the connectors while watching the test bulb. The short lies between the connector where the test bulb stays lit and the connector where the bulb goes out.

(e) Find the exact location of the short by lightly shaking the problem wire along the body.

POWER SOURCE

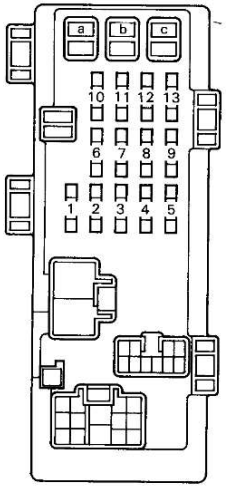
PARTS LOCATION



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PARTS LOCATION (CONT'D)

Junction Block No.1



FUSES
Medium Current Fuses

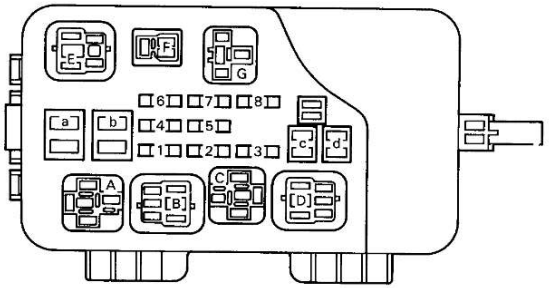
a.	AM1	40A
b.	POWER	30A
c.	DEF	40A

Fuses

1.	STOP	15A
2.	TAIL	10A
3.	TAIL MAIN	20A (RHD)
4.	ECU-IG	15A
5.	WIPER	20A
6.	ST	7.5A
7.	IGN	7.5A
8.	CIG & RAD	15A
9.	TURN	10A
10.	ECU-B	15A
11.	PANEL	7.5A
12.	Fr DEF	30A
13.	GAUGE	10A

Junction Block No.2

S type engine



FUSES
Medium Current Fuses

a.	HTR	50A
b.	MAIN	40A
c.	CDS	30A
d.	RRI	

Fuses

1.	HEAD RH	15A
2.	HEAD LH	15A
3.	EFI	15A
4.	—	
5.	—	
6.	HAZARD	15A
7.	HORN	10A
8.	—	

RELAY

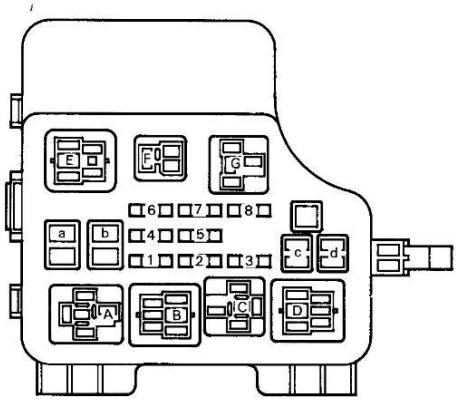
A.	STARTER
B.	HEATER
C.	EFI MAIN
D.	ENGINE MAIN
E.	HEAD
F.	HORN
G.	FM No.1

N04357
N04358

PARTS LOCATION (CONT'D)

Junction Block No.2

A type engine



FUSES
Medium Current Fuses

a.	HTR	50A
b.	MAIN	40A
c.	CDS	30A
d.	RDI	30A

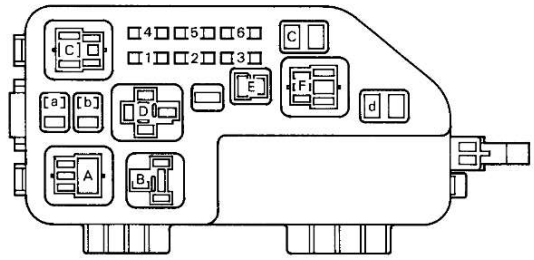
Fuses

1.	HEAD RH	15A
2.	HEAD LH	15A
3.	EFI	15A
4.	—	
5.	—	
6.	HAZARD	15A
7.	HORN	10A
8.	—	

RELAY

A.	STARTER
B.	HEATER
C.	EFI MAIN
D.	ENGINE MAIN
E.	HEAD
F.	HORN
G.	FM No.1

C type engine



FUSES
Medium Current Fuses

a.	CDS	30A
b.	RDI	30A
c.	MAIN	40A
d.	HTR	50A

Fuses

1.	—	
2.	HEAD LH	15A
3.	HORN	10A
4.	—	
5.	HEAD RH	15A
6.	HAZARD	15A

RELAY

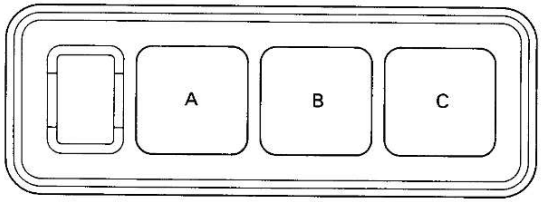
A.	ENGINE MAIN
B.	FAN No.1
C.	HEAD
D.	STARTER
E.	HORN
F.	HEATER

N04359
N04360

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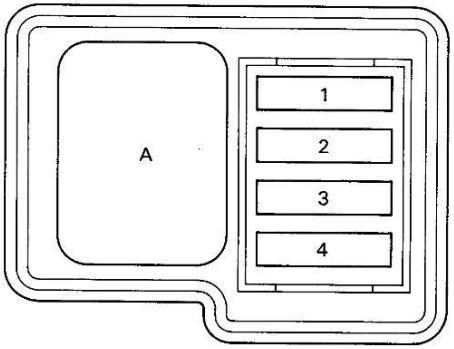
PARTS LOCATION (CONT'D)

Relay Block No.5



Relays
A. A/C FAN No.2 Relay
B. A/C FAN No.3 Relay
C. A/C MG CLT Relay

Relay Block No.7



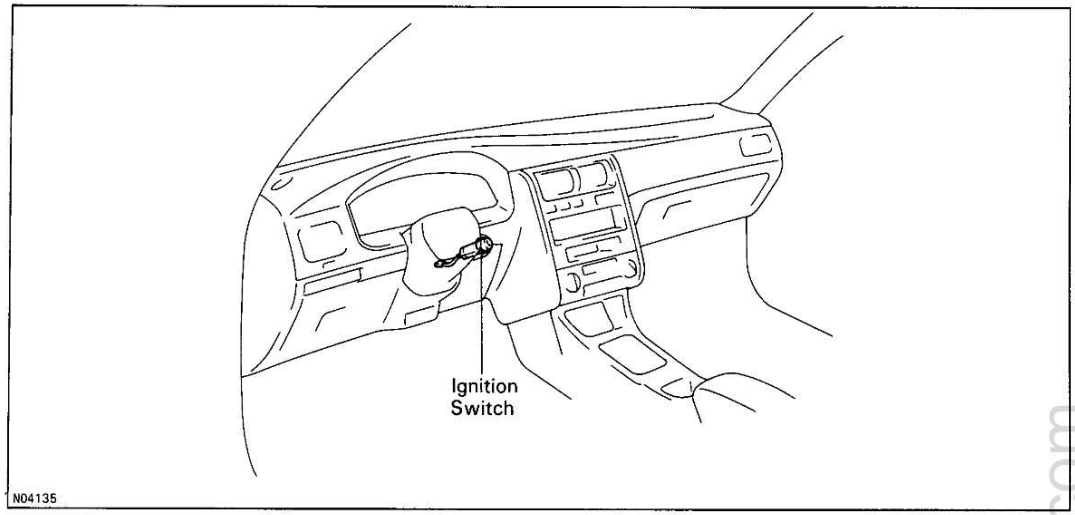
Relay
A. DIMMER (Head Light Dimmer Relay) [Europe LHD]

Fuses
1. HEAD HI(LH) 15A [Europe LHD]
2. HEAD HI(RH) 15A [Europe LHD]
3. HEAD LO(LH) 15A [Europe LHD]
4. HEAD LO(RH) 15A [Europe LHD]

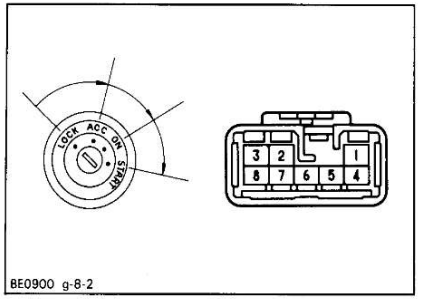
N04362
N04361

IGNITION SWITCH

PARTS LOCATION



N04135



BE0900 g-8-2

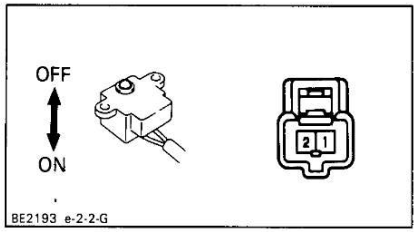
IGNITION SWITCH

IGNITION SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	1	2	3	4	5	7	8
LOCK							
ACC					O	O	
ON		O	O	O	O	O	
START	O	O	O	O		O	O

If continuity is not as specified, replace the switch.



BE2193 e-2-2-G

KEY UNLOCK WARNING SWITCH

KEY UNLOCK WARNING SWITCH INSPECTION

O—O CONTINUITY INSPECTION

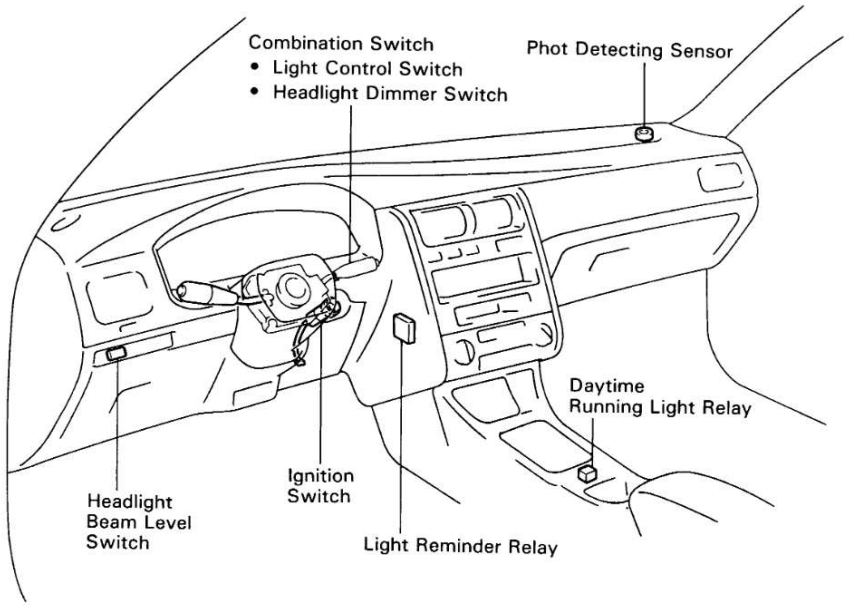
Terminal / Switch position	1	2
OFF (Key removed)		
ON (Key set)	O	O

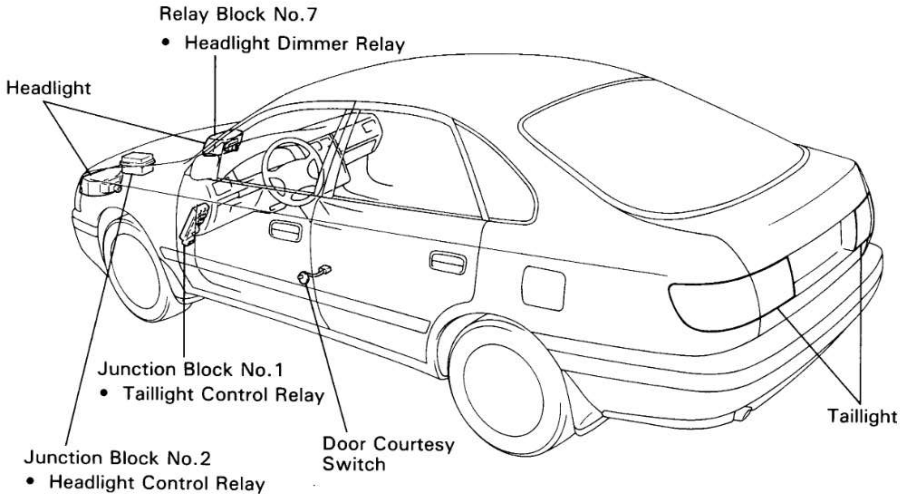
If continuity is not as specified, replace the switch.

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HEADLIGHT AND TAILLIGHT SYSTEM

PARTS LOCATION





N04504
N04372

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

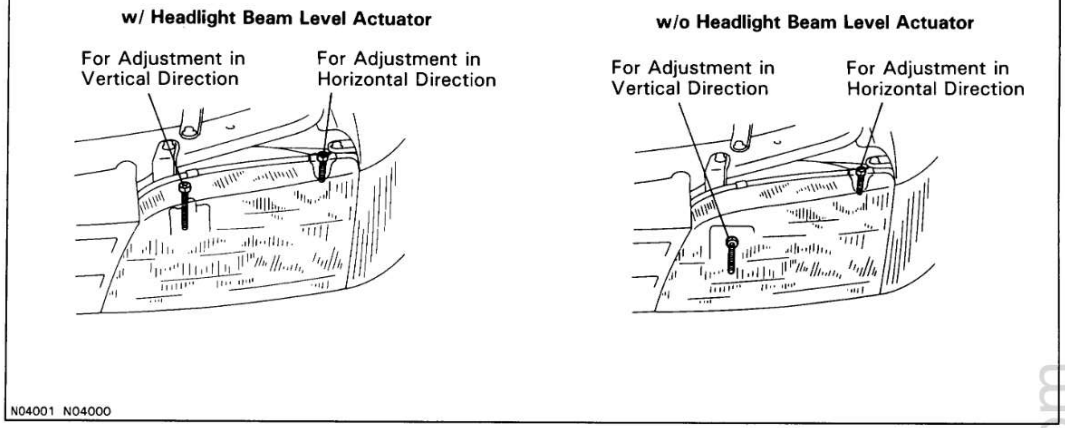
Trouble	Part name	See page
Headlight does not light up. (Taillight is normal.)	1. Headlight Bulb	–
	2. MAIN FL	–
	3. HEAD Fuse	BE-8
	4. Light Control Switch	BE-16
	5. Headlight Dimmer Switch	BE-16
	6. Light Control Sensor (with)	BE-21
	7. Wire Harness	–
Headlight does not light up. (Taillight does not light up.)	1. Headlight Bulb	–
	2. Light Control Switch	BE-16
	3. Headlight Dimmer Switch	BE-16
	4. Light Control Sensor (with)	BE-21
	5. Wire Harness	–
Only one light comes ON.	1. Headlight Bulb	–
	2. HEAD Fuse	BE-8
	3. Wire Harness	–
"Lo-Beam" does not light up.	1. Headlight Bulb	–
	2. Headlight Control Relay	BE-16
	3. Daytime Running Light Relay (with)	BE-21
	4. Headlight Dimmer Relay	BE-17
	5. Headlight Dimmer Switch	BE-16
	6. Wire Harness	–
"Hi-Beam" does not light up.	1. Headlight Bulb	–
	2. Headlight Control Relay	BE-16
	3. Daytime Running Light Relay (with)	BE-21
	4. Headlight Dimmer Relay	BE-17
	5. Headlight Dimmer Switch	BE-16
	6. Wire Harness	–
"Flash" does not light up.	1. Headlight Bulb	–
	2. Headlight Control Relay	BE-16
	3. Daytime Running Light Relay (with)	BE-21
	4. Headlight Dimmer Relay	BE-17
	5. Headlight Dimmer Switch	BE-16
	6. Wire Harness	–
Taillight does not light up. (Headlight is normal.)	1. Taillight Bulb	–
	2. TAIL Fuse	–
	3. Light Control Switch	BE-16
	4. Taillight Control Relay	BE-17
	5. Wire Harness	–
Taillight does not light up. (Headlight does not light up.)	1. Taillight Bulb	–
	2. MAIN FL	–
	3. TAIL Fuse	BE-8
	4. Light Control Switch	BE-16
	5. Light Control Sensor	BE-21
	6. Wire Harness	–

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Trouble	Part name	See page
Only one light goes out of does not light up.	1. Taillight Bulb	—
	2. Wire Harness	—
Rear Combination light does not light up.	1. Taillight Bulb	—
	2. TAIL Fuse	BE-8
	3. Wire Harness	—
Lights-on warning system does not operate.	1. CIG fuse	BE-8
	2. GAUG fuse	BE-8
	3. TAIL fuse	BE-8
	4. Light reminder relay	BE-19
	5. Door courtesy switch	BE-18
	6. Wire Harness	—

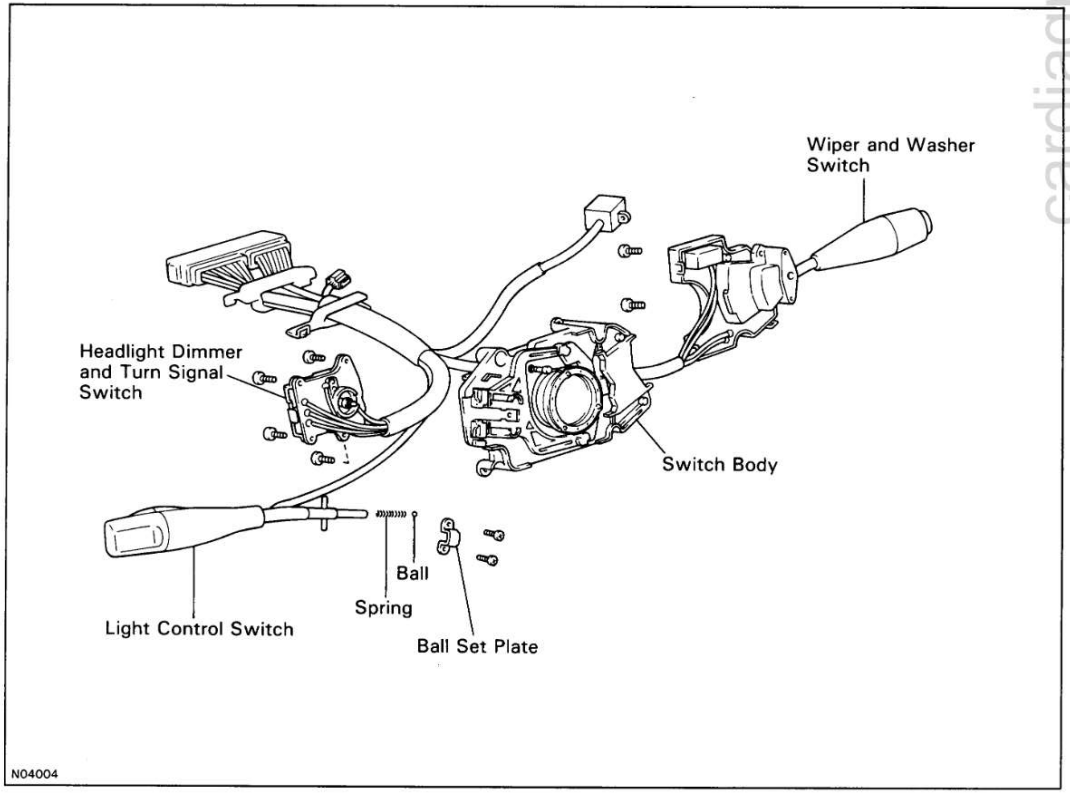
HEADLIGHT

HEADLIGHT AIMING ADJUSTMENT

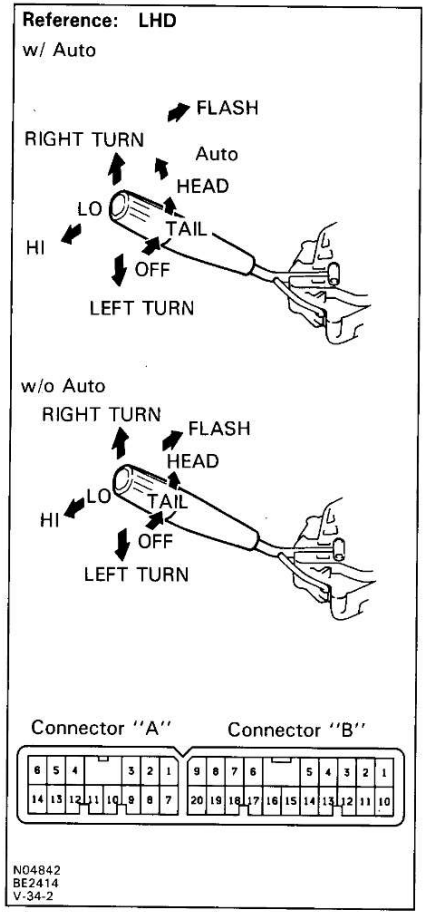


COMBINATION SWITCH

COMPONENTS



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COMBINATION SWITCH INSPECTION

LIGHT CONTROL SWITCH CONTINUITY

O—O CONTINUITY INSPECTION

Terminal / Switch position	A2	A11	A13	B19
OFF				
TAIL	O—O			
HEAD	O—O	O		
AUTO		O		O

HEADLIGHT DIMMER SWITCH CONTINUITY

O—O CONTINUITY INSPECTION

Terminal / Switch position	A3	A9	A12	A14
Flash		O	O	O
Low beam	O	O		
High beam		O	O	

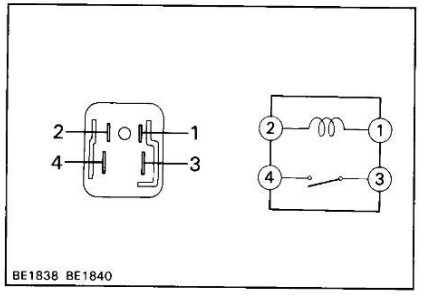
TURN SIGNAL SWITCH CONTINUITY

O—O CONTINUITY INSPECTION

Terminal / Switch position	A1	A5	A8
Left turn	O	O	
Neutral			
Right turn	O		O

If continuity is not as specified, replace the switch.

HEADLIGHT CONTROL RELAY

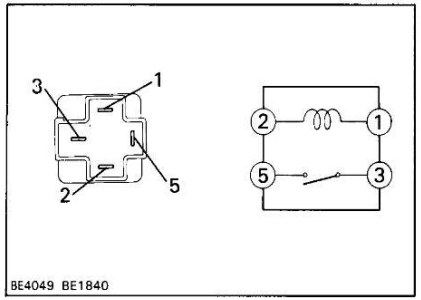


HEADLIGHT CONTROL RELAY INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Condition	1	2	3	4
Constant	O	O		
Apply battery voltage to terminals 1 and 2.			O	O

If continuity is not as specified, replace the relay.



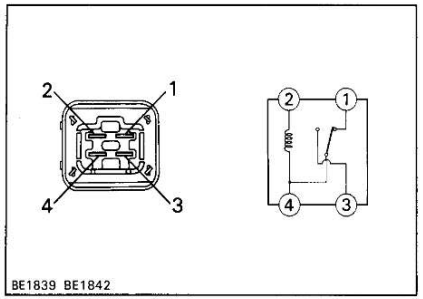
TAILLIGHT CONTROL RELAY

TAILLIGHT CONTROL RELAY INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Condition	1	2	3	5
Constant	O	O		
Apply battery voltage to terminals 1 and 2.			O	O

If continuity is not as specified, replace the relay.



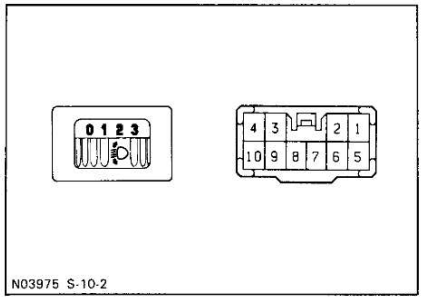
HEADLIGHT DIMMER RELAY

HEADLIGHT DIMMER RELAY INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Condition	1	2	3	4
Constant	O	O	O	O
Apply battery voltage to terminals 2 and 4.		O	O	O

If continuity is not as specified, replace the relay.



HEADLIGHT BEAM LEVEL CONTROL SYSTEM

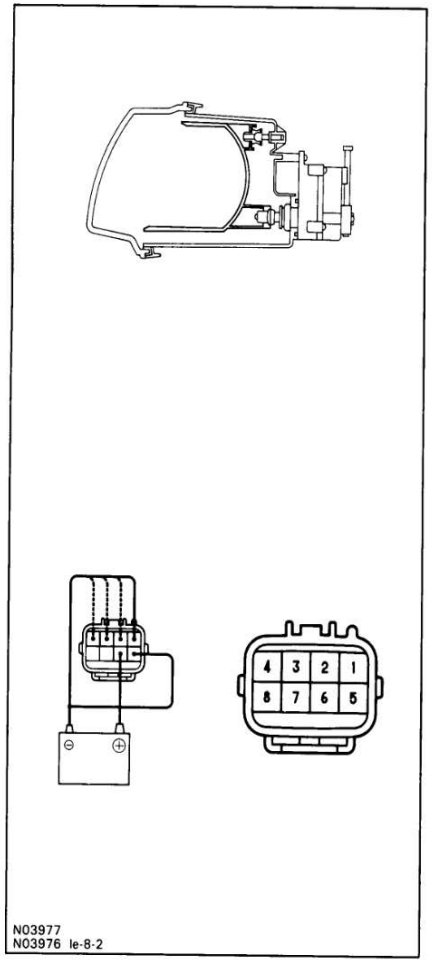
HEADLIGHT BEAM LEVEL SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	1	2	3	4	6	Illumination 7	Illumination 9
0	O				O		
1		O			O		
2			O		O		
3				O	O		

If continuity is not as specified, replace the switch.

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N03977
N03976 Ie-8-2

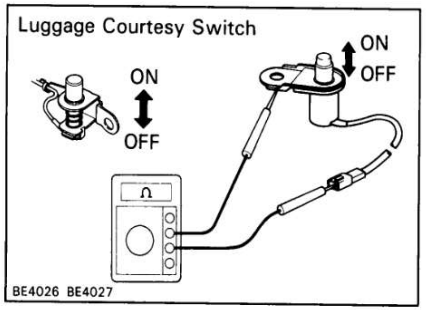
HEADLIGHT BEAM LEVEL ACTUATOR INSPECTION

(a) Connect the positive (+) lead from the battery to terminal 6 and the negative (—) lead to terminal 5.

(b) Ground each terminal and check that each mode operates as shown in the chart and illustration.

Terminal	Headlight Beam Level
1 — Ground	"0"
2 — Ground	"1"
3 — Ground	"2"
4 — Ground	"3"

If operation is not as specified, replace the actuator.



BE4026 BE4027

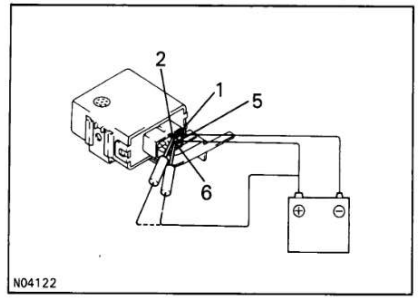
DOOR COURTESY SWITCH

DOOR COURTESY SWITCH INSPECTION

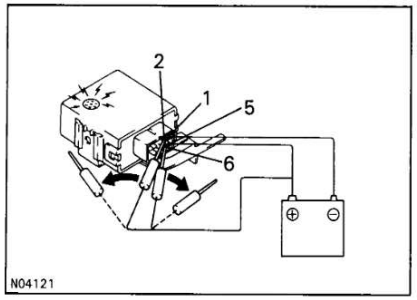
(a) Check that there is continuity between terminal and the switch body with the switch ON (switch pin released).

(b) Check that there is no continuity between terminal and the switch body with the switch OFF (switch pin pushed in).

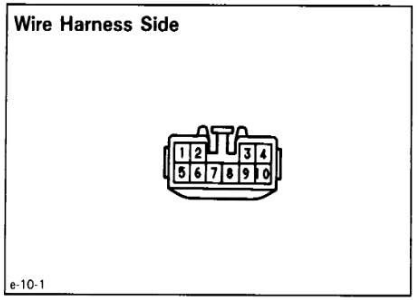
If operation is not as specified, replace the switch.



N04122



N04121



e-10-1

LIGHT-ON WARNING SYSTEM

DOOR COURTESY SWITCH INSPECTION
(See page BE-18)

LIGHT REMINDER RELAY INSPECTION

OPERATION

(a) Connect the positive (+) lead from the battery to terminal 5 and 7 and the negative (—) lead to terminal 1 and 4.

(b) Check that the buzzer does not sound when connected terminal 2 and 6 from the positive (+) lead.

(c) Check that the buzzer sounds when disconnecting terminal 2 and 6 from the positive (+) lead.

If operation is not as specified, replace the relay.

RELAY CIRCUIT

(a) Disconnect the light reminder relay from wire harness.

(b) Inspect wire harness and wire harness side as shown.

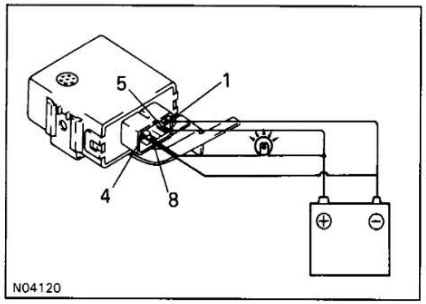
Tester connection	Condition	Specified value
1 — Ground	Constant	Continuity
2 — Ground	Ignition switch position LOCK or ACC	Below 1V
2 — Ground	Ignition switch position ON	10 ~ 14 V
3 — Ground	Courtesy switch position (Passenger) OFF	10 ~ 14 V
3 — Ground	Courtesy switch position (Passenger) ON	Continuity
4 — Ground	Courtesy switch position (Driver) OFF	10 ~ 14 V
4 — Ground	Courtesy switch position (Driver) ON	Continuity
5 — Ground	Constant	10 ~ 14 V
6 — Ground	Ignition switch position LOCK	Below 1 V
6 — Ground	Ignition ACC or ON	10 ~ 14 V
7 — Ground	Light control switch position OFF	Continuity
7 — Ground	Light control switch position TAIL or HEAD	10 ~ 14 V
8 — Ground	Constant	10 ~ 14 V

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ILLUMINATED ENTRY SYSTEM

DOOR COURTESY SWITCH INSPECTION

(See page BE-18)



LIGHT REMINDER RELAY INSPECTION

OPERATION

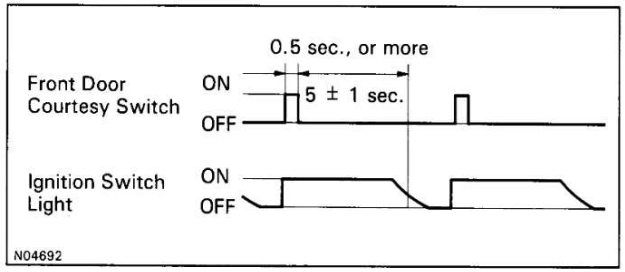
(a) Connect the positive (+) lead from the battery to terminal 5.

Connect the negative (−) lead to terminal 1.

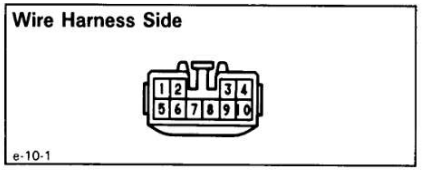
(b) Connect a 3.4 W bulb between terminal 8 and the battery positive (+).

(c) Connect the negative (−) lead from the battery to terminal 3 or 4, and then check that the bulb lights.

Disconnect the negative (−) lead from the battery to terminal 3 or 4, and check that the bulb goes out approx.5 seconds later as shown in the chart.



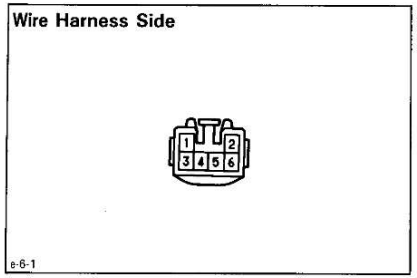
If operation is not as specified, replace the relay.



RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side as shown in the chart.

(See page BE-19)



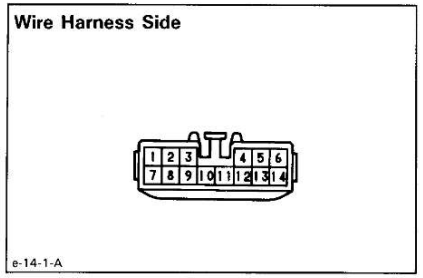
AUTOMATIC LIGHT CONTROL SENSOR

AUTOMATIC LIGHT CONTROL SENSOR INSPECTION

RELAY CIRCUIT

Disconnect the connector from relay and inspect the connector on the wire harness side as shown in the chart.

Tester connection	Condition	Specified value
1 — Ground	Ignition switch position LOCK or ACC	Below 1 V
1 — Ground	Ignition switch position ON or START	10 ~ 14 V
2 — Ground	Constant	10 ~ 14 V
3 — Ground	Courtesy switch position OFF Door closed	10 ~ 14 V
3 — Ground	Courtesy switch position ON Door opened	Continuity
4 — Ground	Light control switch Auto	Continuity
4 — Ground	Light control switch OFF, TAIL or HEAD	Below 1 V
5 — Ground	Light control switch HEAD	Continuity
5 — Ground	Light control switch OFF or TAIL	10 ~ 14 V
6 — Ground	Light control switch TAIL or HEAD	Continuity
6 — Ground	Light control switch OFF	10 ~ 14 V



DAYTIME RUNNING LIGHT RELAY

DAYTIME RUNNING LIGHT RELAY INSPECTION

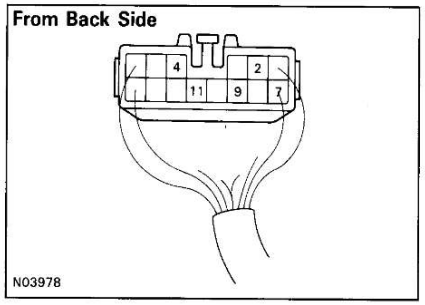
RELAY CIRCUIT

Disconnect the connector from relay and inspect the connector on the wire harness side as shown in the chart.

Tester connection	Condition	Specified value
1 — Ground	Ignition switch position LOCK or ACC	Below 1 V
1 — Ground	Ignition switch position ON or START	10 ~ 14 V
3 — Ground	Constant	10 ~ 14 V
5 — Ground	Constant	10 ~ 14 V
6 — Ground	Headlight dimmer switch position Low Beam or High Beam	No continuity
6 — Ground	Headlight dimmer switch position Flash	Continuity

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Tester connection	Condition	Specified value
8 — Ground	Engine stop	Below 1 V
8 — Ground	Engine running	10 ~ 14 V
10 — Ground	Constant	Continuity
13 — Ground	Headlight dimmer switch position Low beam	No continuity
13 — Ground	Headlight dimmer switch position High beam	Continuity
14 — Ground	Light control switch position OFF or TAIL	Below 1 V
14 — Ground	Light control switch position HEAD	10 ~ 14 V



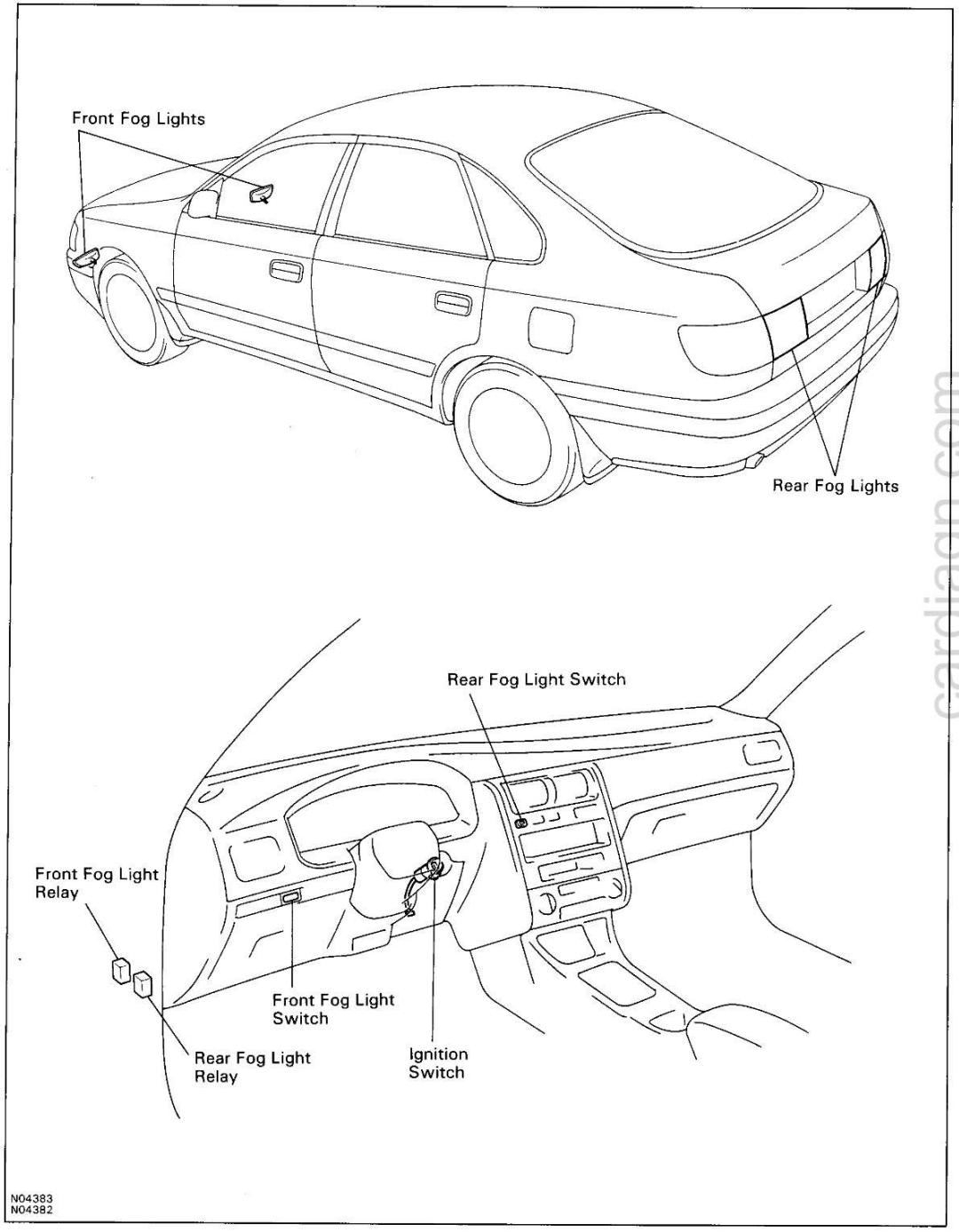
RELAY CIRCUIT (CONNECTOR CONNECTED)

Connect the wire harness side connector to the relay and inspect wire harness side connector from the back side as shown.

Tester connection	Condition	Specified value
2 — Ground	Light control switch position OFF	Below 1 V
2 — Ground	Light control switch position TAIL or HEAD	10 ~ 14 V
4 — Ground	Light control switch position OFF or TAIL	Below 1 V
4 — Ground	Light control switch position HEAD	10 ~ 14 V
7 — Ground	Light control switch TAIL or HEAD	10 ~ 14 V
7 — Ground	Light control switch OFF	Below 1 V
9 — Ground	Light control switch position front fog switch ON	10 ~ 14 V
9 — Ground	Light control switch position front fog switch OFF	Below 1 V
11 — Ground	Light control switch position rear fog switch ON	10 ~ 14 V
11 — Ground	Light control switch position rear fog switch OFF	Below 1 V

FOG LIGHT SYSTEM

PARTS LOCATION



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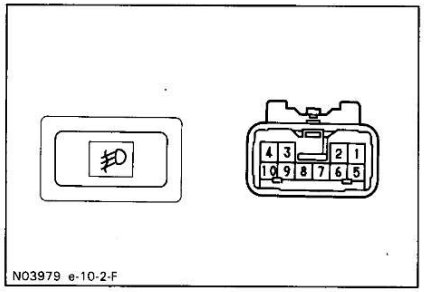
TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Fog light does not light with light control SW HEAD (Headlight is normal.)	1. FOG Fuse	BE-8
	2. Fog Light Relay	BE-17
	3. Fog Light Switch	BE-24
	4. Wire Harness	—
	5. Daytime Running Light Relay	BE-21
Fog light does not light with light control SW HEAD (Headlight does not light.)*1	1. Daytime Running Light Relay	BE-21
	2. Wire Harness	—
Only one light does not light.	1. Bulb	—
	2. Wire Harness	—

*1: Inspect Headlight System

FOG LIGHT SWITCH



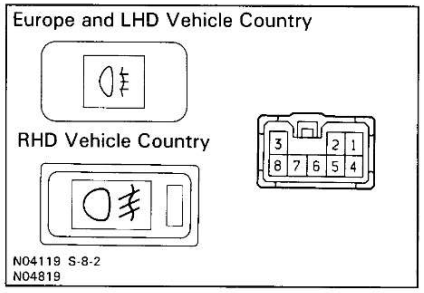
N03979 e-10-2-F

FRONT FOG LIGHT SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	2	3	7	8
OFF	O	O		
ON			O	O

If continuity is not as sepcified, replace the switch.



N04119 S-8-2
N04819

REAR FOG LIGHT SWITCH INSPECTION

(Europe and LHD Vehicle Country)

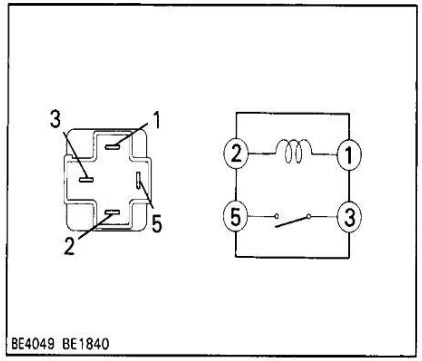
O—O CONTINUITY INSPECTION

Terminal / Switch position	2	6	5	8
OFF	O	O		
ON			O	O

(RHD Vehicle Country)

Terminal / Switch position	8	5	3	2	6
OFF				O	O
ON	O	O	O		

If continuity is not as sepcified, replace the switch.



BE4049 BE1840

FOG LIGHT RELAY

FOG LIGHT RELAY INSPECTION

O—O CONTINUITY INSPECTION

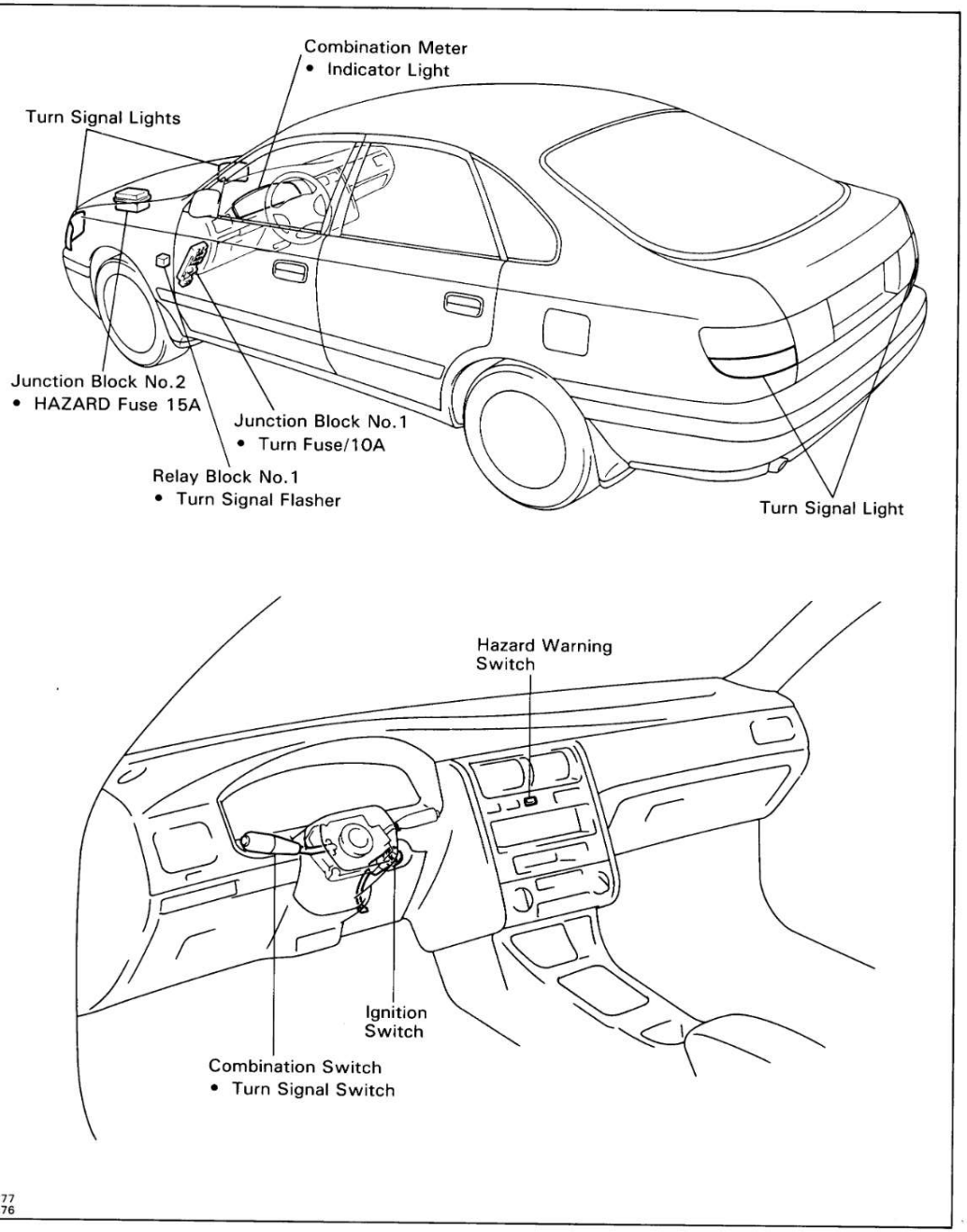
Terminal / Condition	1	2	3	5
Constant	O	O		
Apply battery voltage to terminals 1 and 2.			O	O

If continuity is not as specified, replace the relay.

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TURN SIGNAL AND HAZARD WARNING SYSTEM

PARTS LOCATION



N04377
N04376

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Hazard and Turn do not light up.	1. Hazard Warning Switch	BE-28
	2. Turn Signal Flasher	BE-28
	3. Wire Harness	–
No of blinks for Hazard, Turn is abnormal.	1. Bulb	–
	2. Turn Signal Flasher	BE-28
	3. Wire Harness	–
Hazard does not light up. (Turn is normal.)	1. HAZ - HORN Fuse	BE-8
	2. Wire Harness	–
Hazard light on one side only does not light up.	1. Hazard Warning Switch	BE-28
	2. Wire Harness	–
Turn signal on one side only does not light up.	1. Turn Signal Switch	BE-16
	2. Wire Harness	–
Only one bulb does not light up for hazard Turn.	1. Bulb	–
	2. Wire Harness	–
*1 Turn signal does not light up.	1. Ignition Switch	BE-11
	2. TURN Fuse	BE-8
	3. Turn Signal Switch	BE-16
	4. Wire Harness	–
*2 Turn signal does not light up.	1. TURN Fuse	BE-8
	2. Turn Signal Switch	BE-16
	3. Wire Harness	–

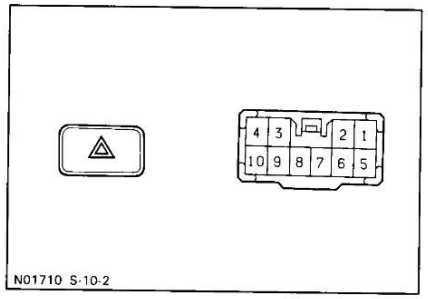
*1 Combination Meter, Wiper and Washer do not operate.
*2 Combination Meter, Wiper and Washer are normal.

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TURN SIGNAL SWITCH

TURN SIGNAL SWITCH INSPECTION

See Combination Switch on page BE-16



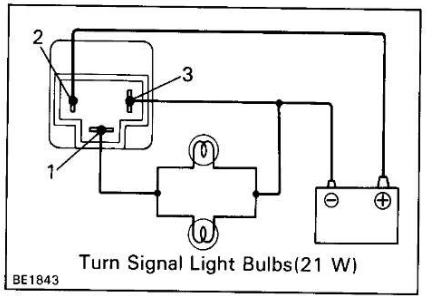
HAZARD WARNING SWITCH

HAZARD WARNING SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	4	5	6	7	8	9	10	Illumination 2	Illumination 3
OFF				O			O		
ON	O	O	O			O		O	O
				O	O				

If continuity is not as specified, replace the switch.



TURN SIGNAL FLASHER

TURN SIGNAL FLASHER INSPECTION

OPERATION

(a) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 3.

(b) Connect the two turn signal light bulbs parallel to each other to terminal 1 and 3, check that the bulbs flash.

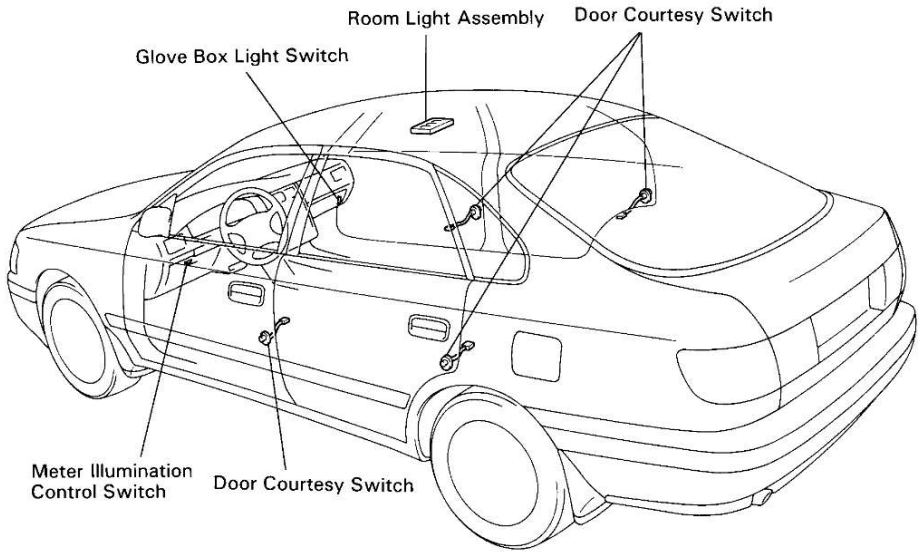
HINT: The turn signal lights should flash 60 to 120 times par minute.

If one of the front or rear turn signal light bulbs has an open circuit, the numbers of flashed will be more than 140 par minute.

If operation is not as specified, replace the flasher or check the wattage specification of the bulbs.

INTERIOR LIGHT SYSTEM

PARTS LOCATION

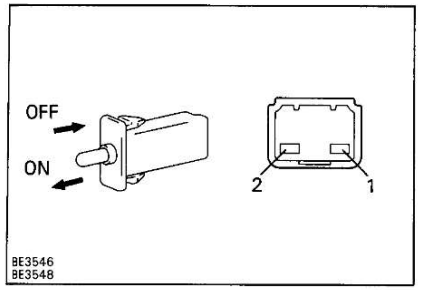


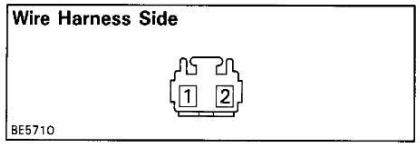
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TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Room light does not light up	1. DOME Fuse	BE-8
	2. Door Courtesy Switch	BE-18
	3. Wire Harness	—
	4. Bulb	—
Room light remains always on.	1. Door Courtesy Switch	BE-18
	2. Wire Harness	—





GLOVE BOX LIGHT SWITCH

GLOVE BOX LIGHT SWITCH INSPECTION

O—O Continuity Inspection

Terminal / Switch position	1	2
OFF (Closed)		
ON (Opened)	O	O

If continuity is not as specified, replace the switch.

SWITCH CIRCUIT

Disconnect the connector from the switch and inspect the connector on the wire harness side as shown.

Tester connection	Condition	Specified Valve
1 — Ground	Light control switch position OFF	Below 1 V
1 — Ground	Light control switch position TAIL or HEAD	10 ~ 14 V
2 — Ground	Constant	Continuity

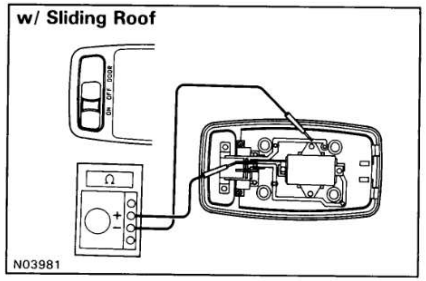
If the circuit is not as specified, refer to BE-76 wiring diagram and inspect the circuits connected to other parts.

DOOR COURTESY SWITCH

DOOR COURTESY SWITCH INSPECTION

(See page BE-18)

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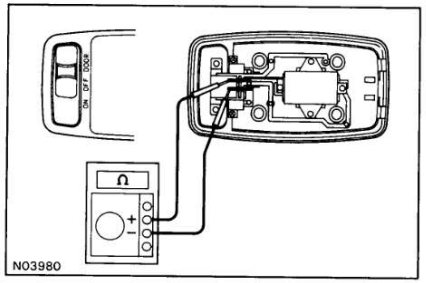
ROOM LIGHT ASSEMBLY

ROOM LIGHT ASSEMBLY INSPECTION

w/ SLIDING ROOF

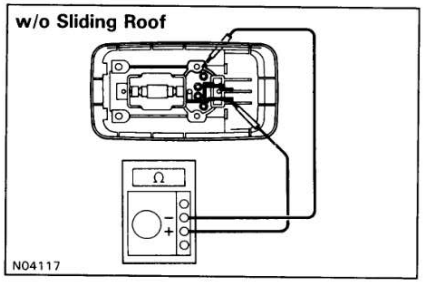
(a) Disconnect the connector from room light assembly.

(b) Turn the room light switch ON, check that there is continuity between terminal 2 and body ground.



(c) Turn the room light switch DOOR, check that there is continuity between terminal 1 and 2.

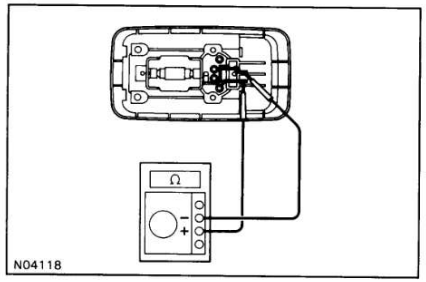
If operation is not as specified, replace the switch.



w/o SLIDING ROOF

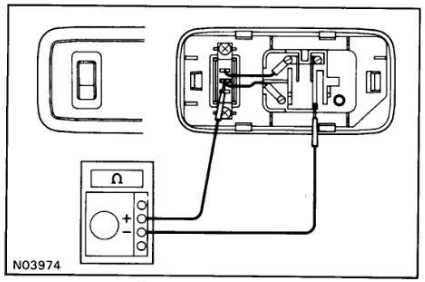
(a) Disconnect the connector from room light assembly.

(b) Turn the room light switch ON, check that there is continuity between terminal 2 and body ground.



(c) Turn the room light switch DOOR, check that there is continuity between terminal 1 and 2.

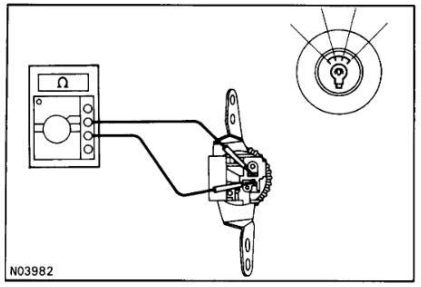
If operation is not as specified, replace the switch.



REAR ROOM LIGHT ASSEMBLY INSPECTION

(a) Disconnect the connector from room light assembly.

(b) Turn the room light switch ON, check that there is continuity between terminal 2 and body ground.



METER ILLUMINATION CONTROL SYSTEM

LIGHT CONTROL RHEOSTAT INSPECTION

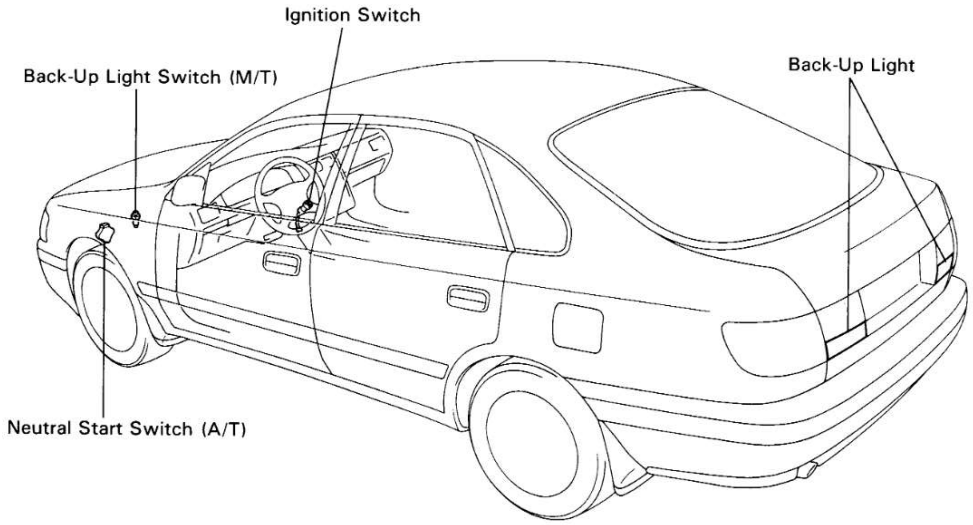
Gradually turn the rheostat knob from the bright side to dark side, check that the resistance between terminals increases from approximately 0 to 4.5 Ω.

If operation is not as specified, replace the rheostat.

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BACK-UP LIGHT SYSTEM

PARTS LOCATION

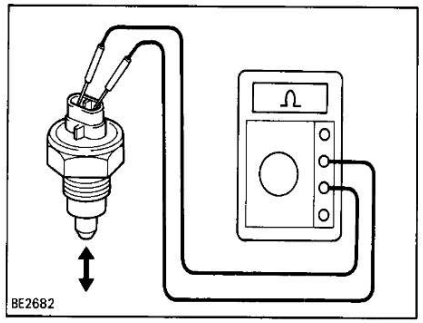


N04371

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Back-up light does not light up.	1. GAUGE Fuse	BE-8
	2. Ignition Switch	BE-11
	3. Wire Harness	–
	4. Bulb	–
Back-up light remains always on.	1. Wire Harness	–
Only one light does not light up.	1. Wire Harness	–
	2. Bulb	–



BACK UP LIGHT SWITCH

BACK UP LIGHT SWITCH INSPECTION

Check that there is continuity between terminals as shown.

Switch Position	Specified
Push	Continuity
Free	No continuity

If operation is not as specified, replace the switch.

NEUTRAL START SWITCH

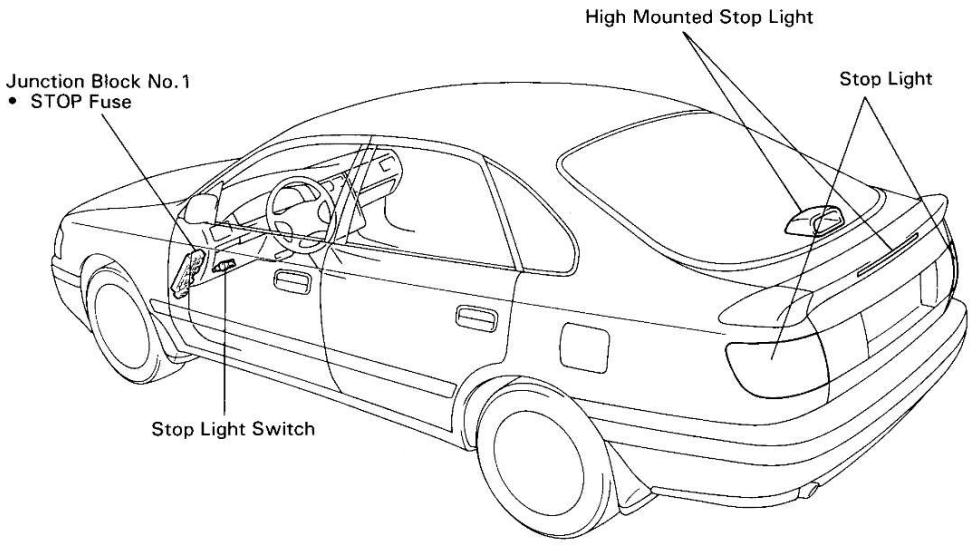
NEUTRAL START SWITCH INSPECTION

See AT section

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STOP LIGHT SYSTEM

PARTS LOCATION



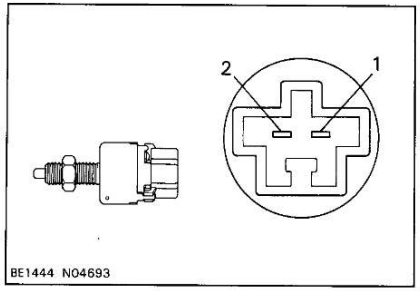
N04365

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Stop light does not light up.	1. STOP Fuse	BE-8
	2. Stop Light Switch	BE-37
	3. Wire Harness	–
	4. Bulb	–
Stop light remains always on.	1. Stop Light Switch	BE-37
	2. Wire Harness	–
Only one light does not light up.	1. Wire Harness	–
	2. Bulb	–

STOP LIGHT SWITCH



BE1444 N04693

STOP LIGHT SWITCH INSPECTION

O—O CONTINUITY INSPECTION

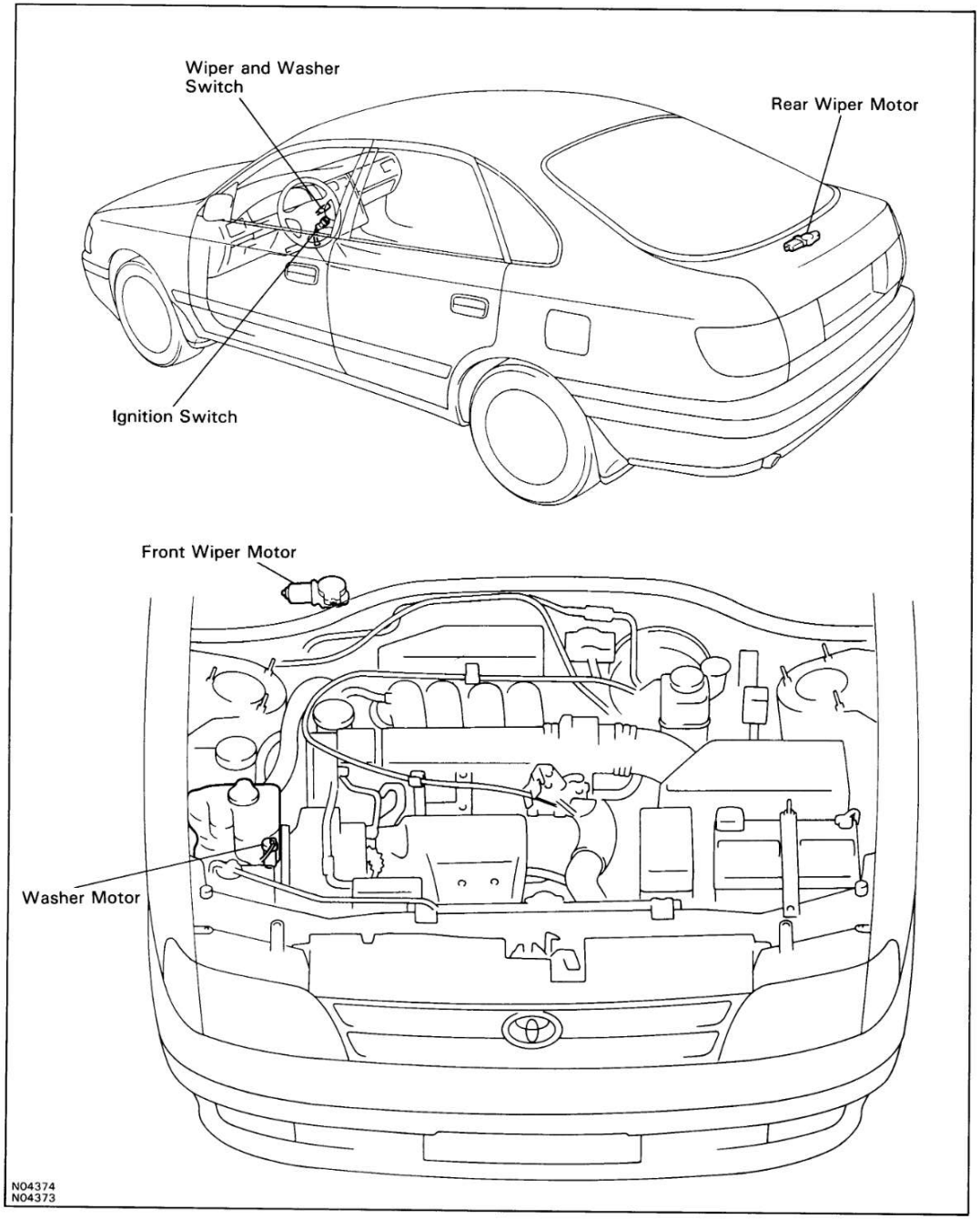
Terminal / Switch position	1	2
Switch pin free (Brake pedal depressed)	O	O
Switch pin pushed in (Brake pedal released)		

If continuity is not as specified, replace the switch.

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WIPER AND WASHER SYSTEM

PARTS LOCATION



TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

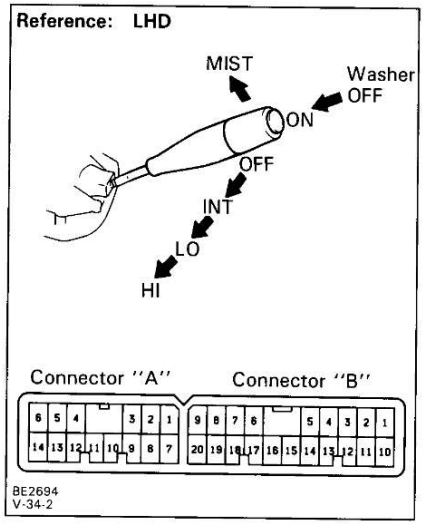
Trouble	Parts name	See page
Wipers do not operate or return to OFF position.	1. AM1 H-Fuse	BE-8
	2. WIPER Fuse	BE-8
	3. Ignition Switch	BE-11
	4. Wiper and Washer Switch	BE-40
	5. Wiper Motor	BE-41
	6. Wire Harness	—
Wipers do not operate in INT position.	1. Wiper and Washer Switch	BE-40
	2. Wiper Motor	BE-41
	3. Wire Harness	—
Washer do not operate.	1. Wiper and Washer Switch	BE-40
	2. Washer Hose and Nozzle	—
	3. Washer Motor	BE-42
	4. Wire Harness	—

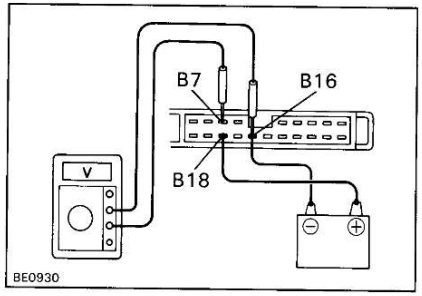
COMBINATION SWITCH

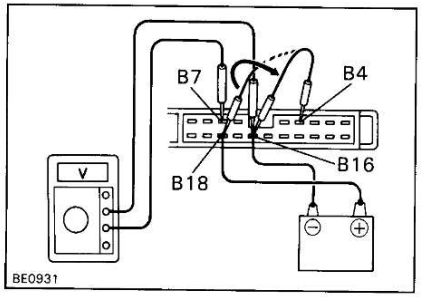
COMBINATION SWITCH DISASSEMBLY
(See page BE-15)

COMBINATION SWITCH ASSEMBLY
(See page BE-15)

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COMBINATION SWITCH INSPECTION

INSPECT WIPER AND WASHER SWITCH CONTINUITY

Switch position		B4	B7	B8	B13	B16	B18
OFF	OFF	○	○				
	MIST		○				○
INT	OFF	○	○				
	MIST		○				○
LO	OFF		○				○
	MIST		○				○
HI	OFF				○		○
	MIST		○		○		○
WASH	OFF						
	ON			○		○	

If continuity is not as specified, replace the switch.

OPERATION (INTERMITTENT WIPER)

(a) Turn the wiper switch to INT position.

(b) Turn the INT switch to FAST position. (Variable type)

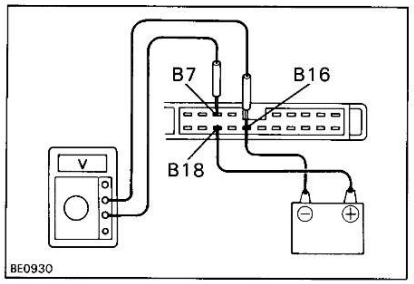
(c) Connect the positive (+) lead from the battery to terminal B18 and the negative (−) lead to terminal B16.

(d) Connect the positive (+) lead from the voltmeter to terminal B7 and the negative (−) lead to terminal B16, check that the meter needle indicates battery voltage.

(e) After connecting terminal B4 to terminal B18, connect it to terminal B16.
Then, check that the voltage rises from 0 V to batter voltage with in the times as shown in the table.

INT time control switch position	Voltage
FAST	Approx. 2 sec. — Battery voltage / 0 V
SLOW	10.7 ± 5 sec. — Battery voltage / 0 V
Non variable type	3.3 ± 1 sec. — Battery voltage / 0 V

If operation is not as specified, replace the wiper and washer switch.

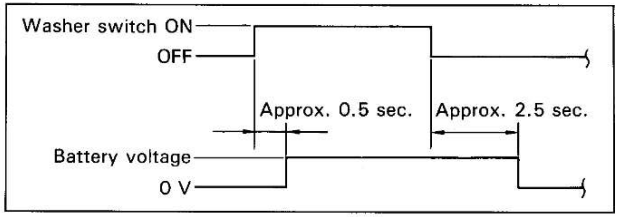


OPERATION (WASHER LINKED)

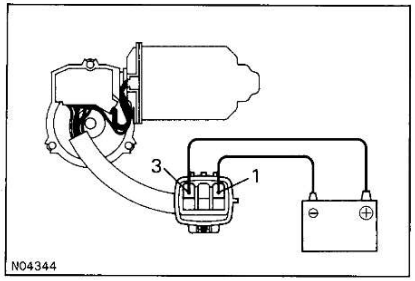
(a) Connect the positive (+) lead from the battery to terminal B18 and the negative (−) lead to terminal B16.

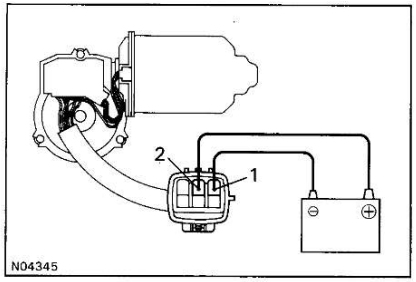
(b) Connect the positive (+) lead from the voltmeter to terminal B7 and the negative (−) lead to terminal B16.

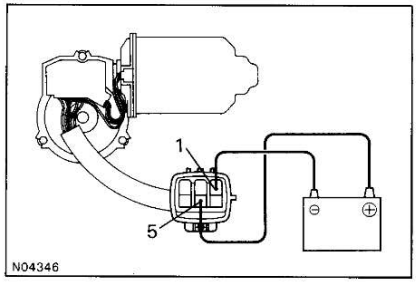
(c) Push in the washer switch, check that the voltage changes as shown in the table.



If operation is not as specified, replace the wiper and washer switch.







WIPER MOTOR

FRONT WIPER MOTOR INSPECTION

OPERATION (LOW SPEED)

Connect the positive (+) lead from the battery to terminal 3 and the negative (−) lead to terminal 1, check that the motor operates at low speed.

If operation is not as specified, replace the motor.

OPERATION (HIGH SPEED)

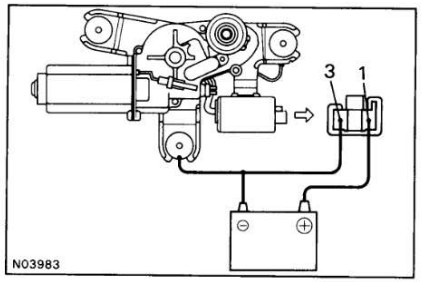
Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 1, check that the motor operates at high speed.

If operation is not as specified, replace the motor.

OPERATION (STOPPING AT STOP POSITION)

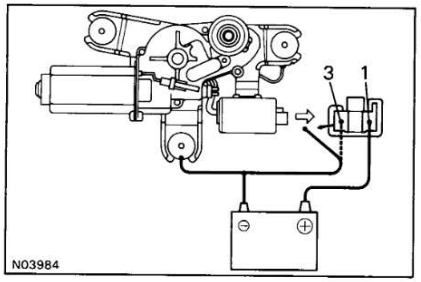
Operate the motor at low speed and stop the motor operation anywhere except at the stop position by disconnecting positive (+) lead from terminal 5.

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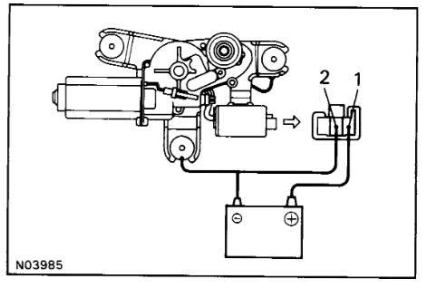
REAR WIPER MOTOR INSPECTION OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1, and the negative (−) leads to terminal 3 and the motor body, check that the motor operates.



(b) Disconnect the negative (−) lead from terminal 3, check that the motor stops running at the stop position.

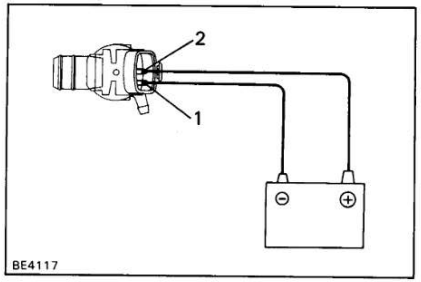
If operation is not as specified, replace the motor with the relay.



INTERMITTENT OPERATION

Connect the positive (+) lead from the battery to terminal 1, and the negative (−) leads to terminal 2 and the motor body, check that the motor operates intermittently for 9 — 15 seconds.

If operation is not as specified, replace the motor with the relay.



WASHER MOTOR

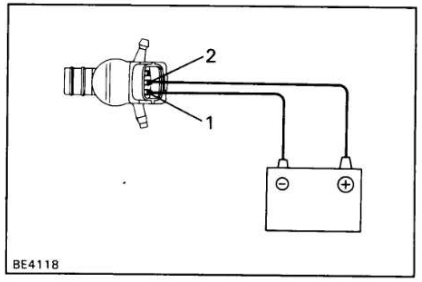
WASHER MOTOR INSPECTION

W/O REAR WIPER

Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 1, check that the motor operates.

NOTICE: These tests must be performed quickly (within 20 seconds) to prevent the coil from burning out.

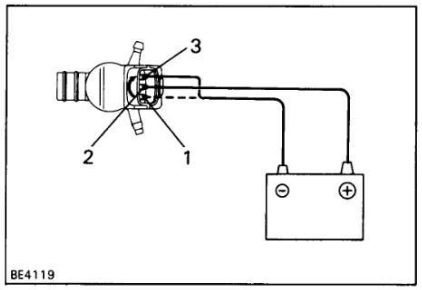
If operation is not as specified, replace the motor.



W/ REAR WIPER

(a) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 1, check that the motor operates.

NOTICE: These tests must be performed quickly (within 20 seconds) to prevent the coil from burning out.



(b) Disconnect the negative (−) lead from terminal 1, and connect the negative (−) lead from the battery to terminal 3, check that the motor operates.

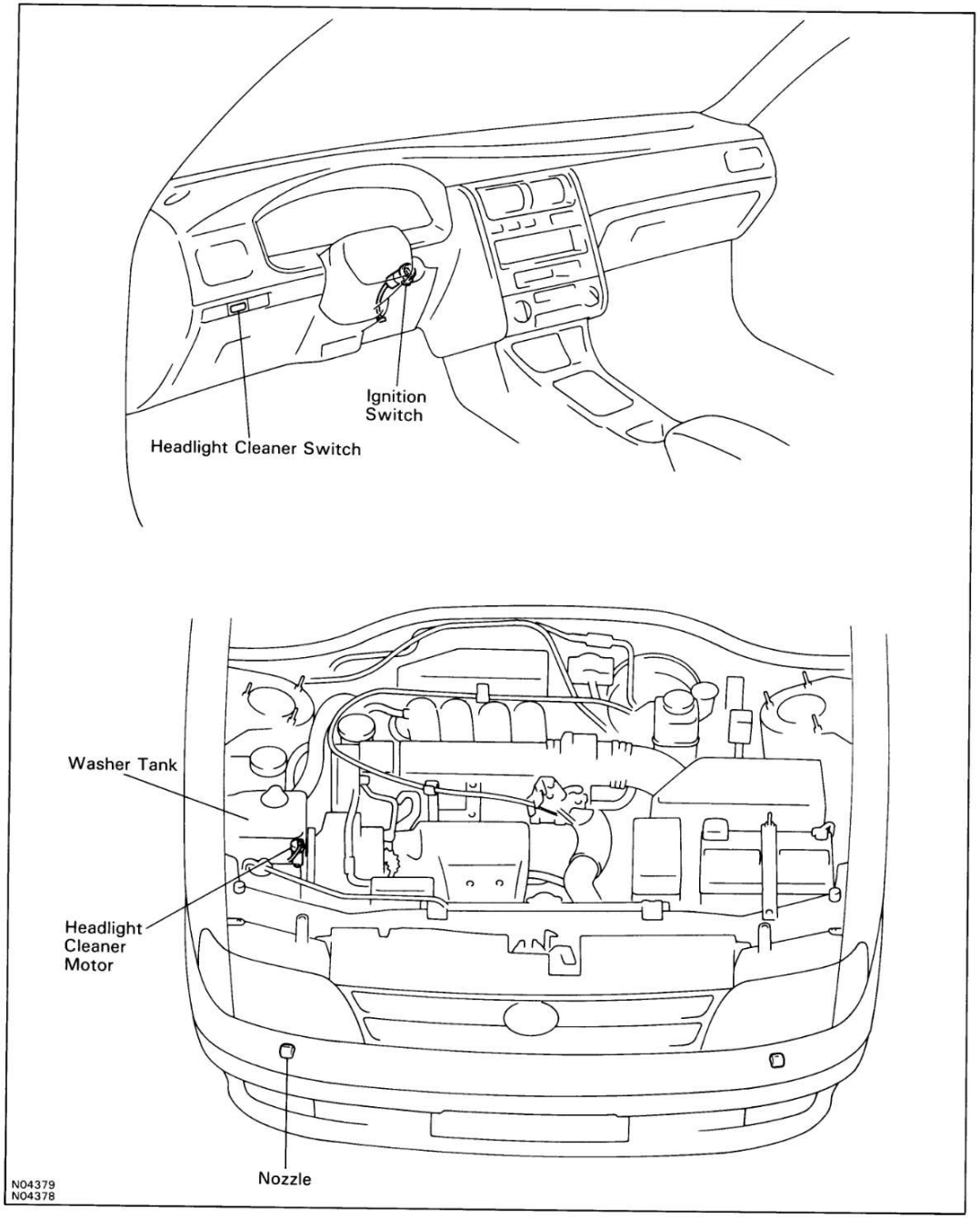
NOTICE: These tests must be performed quickly (within 20 seconds) to prevent the coil from burning out.

If operation is not as specified, replace the motor.

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HEADLIGHT CLEANER SYSTEM

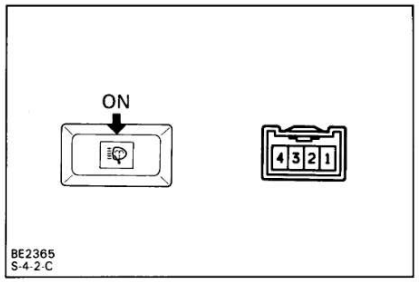
PARTS LOCATION



TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Part name	See page
Headlight cleaner do not operate	1. WIPER fuse	BE-8
	2. Cleaner hose or nozzle	—
	3. Cleaner motor	BE-45
	4. Cleaner switch	BE-45
	5. Wiring or ground	—



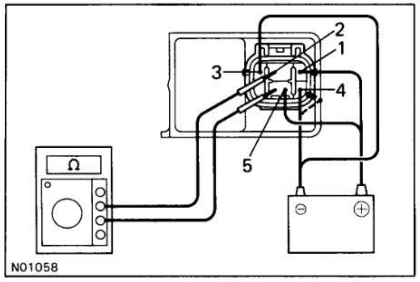
HEADLIGHT CLEANER SWITCH

1. HEADLIGHT CLEANER SWITCH INSPECTION

O—O Continuity Inspection

Terminal / Switch position	1	4	Illumination 2	Illumination 3
OFF			O—(⊗)—O	
ON	O——	——O		

If continuity is not as specified, replace the switch.

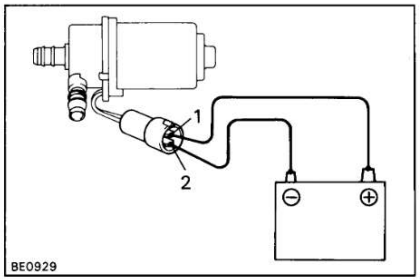


2. HEADLIGHT CLEANER RELAY INSPECTION

(a) Check that there is no continuity between terminals 2 and 5.

(b) Connect the positive (+) lead from the battery to terminals 1 and 5 and the negative (—) lead to terminal 3.

(c) Connect the negative (—) lead from the battery to terminal 4, check that there is continuity between terminals 2 and 5 for 0.4 — 0.6 seconds, then there is no continuity.



3. HEADLIGHT CLEANER MOTOR INSPECTION

Connect the positive (+) lead from the battery to terminal 1 and the negative (—) lead to terminal 2, check that the motor operates.

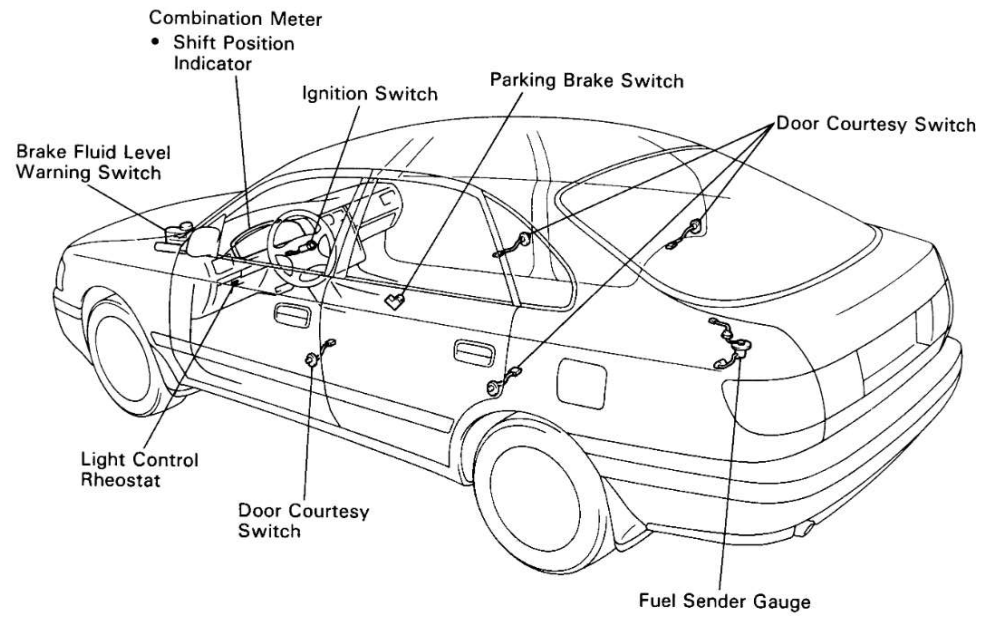
CAUTION: These test must be performed quickly (within 3 — 5 seconds) to prevent the coil from burning out.

If operation is not as specified, replace the motor.

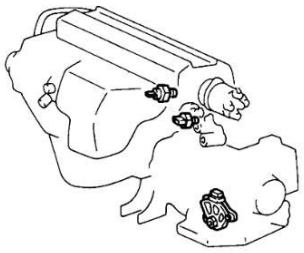
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COMBINATION METER

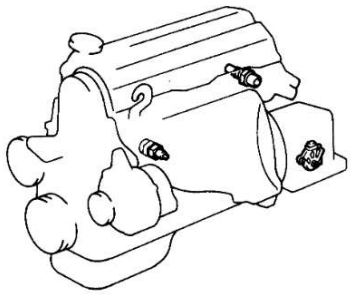
PARTS LOCATION



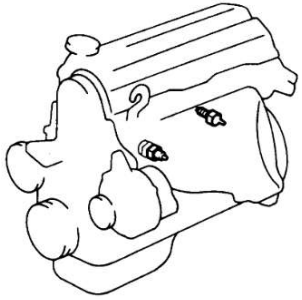
3S-FE Engine



4A-FE Engine

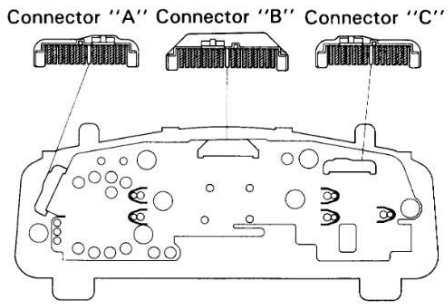


2C Engine

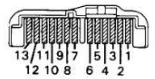


N04375
N02683 N04363 N04364

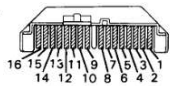
METER CIRCUIT (W/ TACHOMETER)



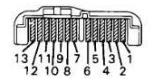
Connector "A"

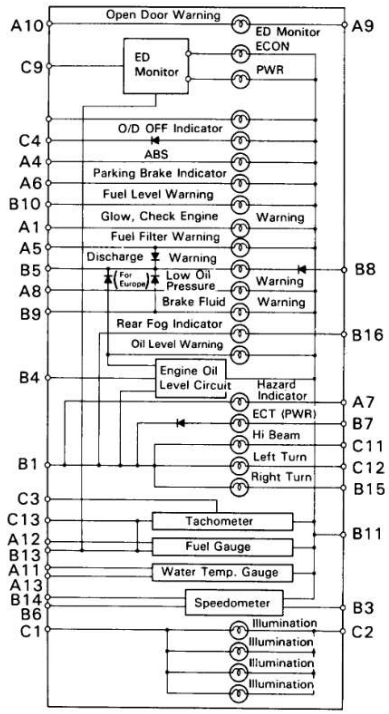


Connector "B"



Connector "C"



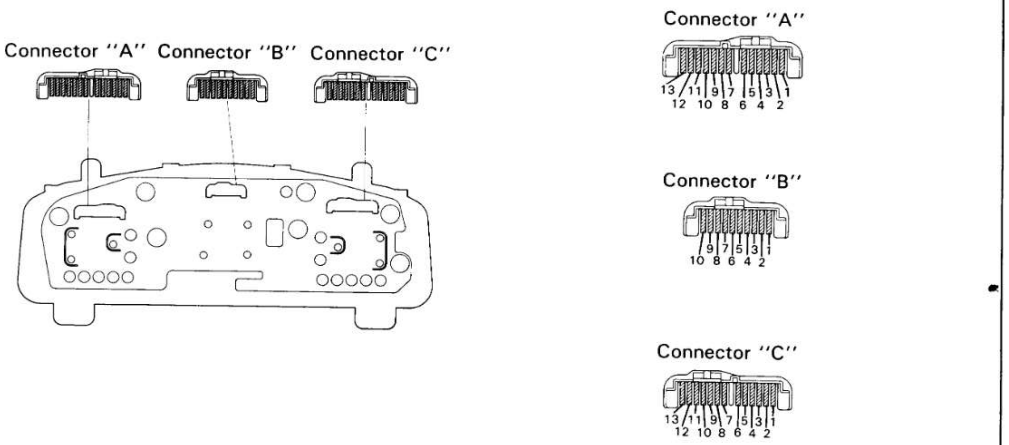


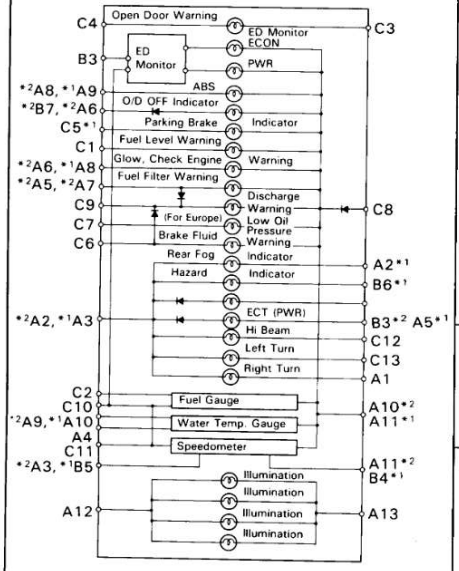
N03970
N04003 N03973
N04006 N03972

No.		Wiring Connector Side
A	1	Engine & ECT ECU
		Glow timer relay
	4	ABS
	5	Fuel filter warning, switch
	6	Parking brake switch
	7	Hazard warning switch
	8	Oil pressure switch
	9	Dome Fuse
	10	Door courtesy switch
	11	Ground
	12	Fuel sender gauge
	13	Water temperature sender gauge
B	1	Ground
	3	4 pulse output
	4	Oil level gauge
	5	Alternator
	6	Speed sensor
	7	ECT (PWR)
	8	Alternator
	9	Brake fluid level warning switch
	10	Fuel sender gauge
	11	IG
	13	Ground
	14	Ground
	15	Headlight dimmer and turn signal switch
	16	Rear fog light switch
C	1	Light control rheostat
	2	TAIL fuse
	3	Tacho pluse or Pickup ⊕
	4	O/D OFF
	9	ED Moniter
	11	Headlight dimmer and turn signal switch
	12	Headlight dimmer and turn signal switch
	13	Pickup ⊖

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METER CIRCUIT (CONT'D) (W/ TACHOMETER)





*1: Europe
*2: General

N03970
N04002 N03971
N04005 N03972

No.		Wiring Connector Side
A	1	Headlight dimmer and turn signal switch
	2	Ground (General), Rear fog light switch (Europe)
	3	Speed sensor (General), Ground (Europe)
	4	Water temperature sender gauge
	5	Fuel filter warning switch (Diesel only)
	6	O/D Main switch (Europe), Glow timer relay (General, Diesel), Engine & ECT ECU (General, Gasoline)
	8	ABS ECU (General), Glow timer relay (Europe, Diesel) Engine & ECT ECU (Europe)
	9	Ground (General), ABS ECU (Europe)
	10	Ignition switch (General), Ground (Europe)
	11	4 pulse output (General), Ignition switch (Europe)
	12	Light control rheostat
	13	TAIL Fuse
B	3	ECT (PWR) (General), E/G ECU (Europe, Gasoline)
	4	4 pulse output (Europe)
	5	Speed sensor (Europe)
	6	Hazard light switch (Europe)
	7	O/D Main switch (General)
C	1	Fuel sender gauge
	2	Fuel sender gauge
	3	DOME Fuse
	4	Door courtesy switch
	5	Parking brake switch (Europe)
	6	Brake fluid level warning switch
	7	Low oil pressure warning switch
	8	Alternator
	9	Ground
	10	Ground
	11	Ground
	12	Headlight dimmer and turn signal switch
	13	Headlight dimmer and turn signal switch

TROUBLESHOOTING

METERS, GAUGES AND ILLUMINATIONS

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble	Parts name	See page
Tachometer, Fuel Gauge and Water Temperature Gauge do not operate.	1. GAUGE Fuse	BE-8
	2. Combination Meter Wiring Circuit	BE-47
	3. Wire Harness	—
	4. Meter Circuit Plate	—
Speedometer does not operate.	1. Speed Sensor	BE-52
	2. Speedometer Driven Gear and Drive Gear	—
Tachometer does not operate.	1. Combination Meter Wiring Circuit	BE-47
	2. Wire Harness	—
	3. Igniter	—
	4. Meter Circuit Plate	—
Fuel Gauge does not operate or abnormal operation.	1. Fuel Receiver Gauge	BE-53
	2. Fuel Sender Gauge	BE-54
	3. Combination Meter Wiring Circuit	BE-47
	4. Wire Harness	—
Water Temperature Gauge does not operate or abnormal operation.	1. Water Temperature Receiver Gauge	BE-56
	2. Water Temperature Sender Gauge	BE-56
	3. Combination Meter Wiring Circuit	BE-47
	4. Wire Harness	—
All illumination lights do not light up.	1. TAIL Fuse	BE-8
	2. Light Control Rheostat	BE-33
	3. Wire Harness	—
Brightness does not change even when rheostat turned.	1. Bulb	—
	2. Wire Harness	—
Only one illumination light does not light up.	1. Bulb	—
	2. Wire Harness	—

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INDICATOR LIGHTS

Trouble	Parts name	See page
O/D OFF indicator light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. O/D OFF Switch	—
	4. Wire Harness	—
High beam indicator light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Wire Harness	—
	4. Headlight System	BE-12
Turn indicator light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Wire Harness	—
	4. Turn Signal and Hazard Warning System	BE-26
ECT PWR indicator light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. ECT Pattern Select Switch	—
	4. Wire Harness	—
Shift indicator lights do not light up. (All)	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Neutral Start Switch	—
	4. Wire Harness	—
Shift indicator lights do not light up. (L.2.D)	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Neutral Start Switch	—
	4. Light Control Rheostat	BE-33
	5. Wire Harness	—
Only one shift indicator does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
Indicator lights do not light up. (Except. Turn, Hi-beam)	1. GAUGE Fuse	BE-8
	2. Wire Harness	—

WARNING LIGHTS AND WARNING CHIME

Trouble	Parts name	See page
Warning lights do not light up. (Except. Discharge)	1. GAUGE Fuse	BE-8
	2. Combination Meter Wiring Circuit	BE-47
	3. Wire Harness	—
Low oil pressure warning light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Low Oil Pressure Warning Switch	BE-58
	4. Wire Harness	—
Fuel level warning light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Fuel Level Warning Switch	BE-55
Check engine warning light does not light up.	1. Bulb	—
	2. Engine & ECT ECU	—
	3. Wire Harness	—
Seat belt warning light does not light up.	1. Bulb	—
	2. Integration Relay	
	3. Wire Harness	—
Discharge warning light does not light up.	1. IG2 Fuse	BE-8
	2. Bulb	—
	3. Wire Harness	—
	4. Alternater	—
Light Failure warning light does not light up.	1. Bulb	—
	2. Light Failure Sensor	
	3. Wire Harness	—
	4. Taillight and Stop Light System	
Brake warning light does not light up.	1. Bulb	—
	2. Combination Meter Wiring Circuit	BE-47
	3. Parking Brake Switch	BE-57
	4. Brake Fluid Level Warning Switch	BE-57
Open door warning light does not light up.	1. DOME Fuse	BE-8
	2. Bulb	—
	3. Combination Meter Wiring Circuit	BE-47
	4. Door Courtesy Switch	BE-18
	5. Wire Harness	—

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(mph)

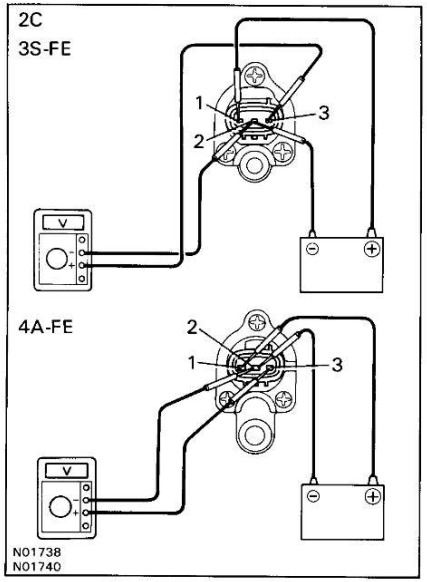
Standard Indication	Allowable range
20	21 ~ 23.5
40	41.5 ~ 44
60	62.5 ~ 66
80	83 ~ 87
100	104 ~ 108.5

(km/h)
Except Indonesia, Singapore

Standard Indication	Allowable range
20	21 ~ 25
40	41.5 ~ 46
60	62.5 ~ 67
80	83 ~ 88
100	104 ~ 109
120	125 ~ 130.5
140	145.5 ~ 151.5
160	166 ~ 173

Indonesia, Singapore

Standard Indication	Allowable range
20	18 ~ 23
40	40 ~ 44
60	60 ~ 64.5
80	80 ~ 85
100	100 ~ 105
120	120 ~ 125.5
140	140 ~ 146
160	160 ~ 167



SPEEDOMETER SYSTEM

SPEEDOMETER INSPECTION

ON-VEHICLE

(a) Using a speedometer tester, inspect the speedometer for allowable indication error and check the operation of the odometer.

HINT: Tire wear and tire over or under inflation will increase the indication error.

If error is excessive, replace the speedometer.

(b) Check the speedometer for pointer vibration and abnormal noise.

HINT: Pointer vibration can be caused by a loose speedometer cable.

SPEED SENSOR INSPECTION

(a) Connect the positive (+) lead from battery to terminal 1 and negative (−) lead to terminal 2.

(b) Connect the positive (+) lead from tester to terminal 3 and negative (−) lead to terminal 2.

(c) Revolve shaft.

(d) Check that there is voltage changer from approx. 0 V to 11 V or more between terminal 3 and 2.

HINT: The voltage change should be 20 times per each revolution of the speed sensor shaft.

If operation is not as specified, replace the sensor.

DC 13.5 V, 25°C (77°F) rpm	
Standard indication	Allowable range
700	610 ~ 750
1000	900 ~ 1100
2000	1875 ~ 2125
3000	2850 ~ 3150
4000	3850 ~ 4150
5000	4850 ~ 5150
6000	5820 ~ 6180
7000	6790 ~ 7210

TACHOMETER SYSTEM

TACHOMETER INSPECTION

(ON-VEHICLE)

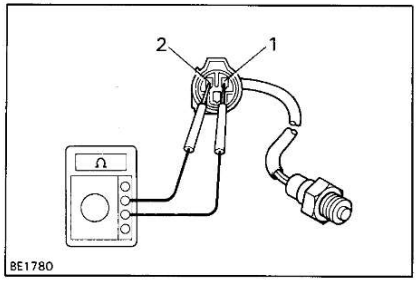
(a) Connect a tune-up test tachometer, and start the engine.

NOTICE:

- **Reversing the connection of the tachometer will damage the transistors and diodes inside.**
- **When removing or installing the tachometer, be careful not to drop or subject it to heavy shocks.**

(b) Compere the tester and tachometer indications.

If error is excessive, replace the tachometer.

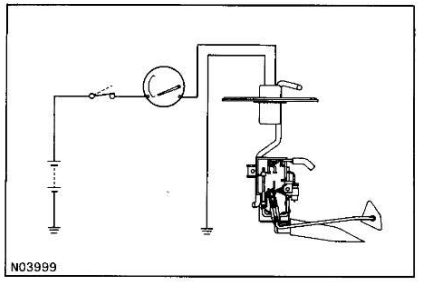


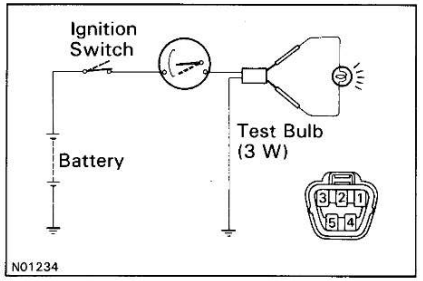
PICKUP SENSOR INSPECTION

Measure the resistance between terminals 1 and 2.

Resistance: Approx. 730 Ω

If resistance value is not as specified, replace the sensor.





FUEL GAUGE SYSTEM

FUEL RECEIVER GAUGE INSPECTION

OPERATION

(a) Disconnect the connector from the sub-wire harness of sender gauge.

(b) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.

(c) Connect terminals 2 and 3 on the wire harness side connector through a 3 W test bulb.

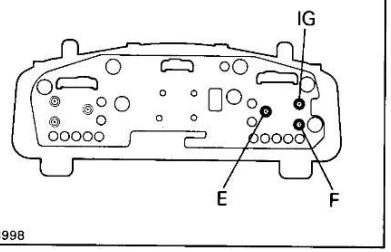
(d) Turn the ignition switch ON, check that the bulb lights up and receiver gauge needle moves toward the full side.

HINT: Because of the silicon oil in the gauge, it will take a short time for the needle to stabilize.

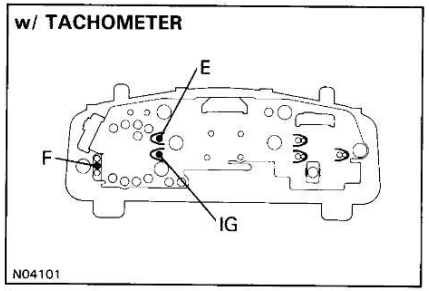
If operation is not as specified, inspect the receiver gauge resistance.

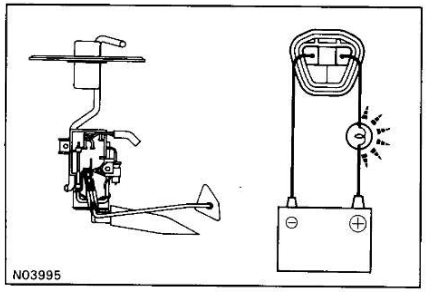
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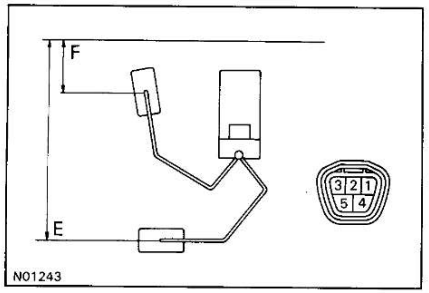
w/o TACHOMETER



w/ TACHOMETER







RESISTANCE

Measure the resistance between terminals.

w/o TACHOMETER

Between terminals	Resistance (Ω)
F — E	Approx.191
F — IG	Approx.109
IG — E	Approx.300

w/ TACHOMETER

Between terminals	Resistance (Ω)
F — E	Approx.181
F — IG	Approx.123
IG — E	Approx.304

If resistance value is not as specified, inspect the sender gauge.

FUEL SENDER GAUGE INSPECTION

OPERATION

(a) Disconnect the connector from the sender gauge.

(b) Connect a series of three 1.5 V dry cell batteries.

(c) Connect the positive (+) lead from the dry cellbatteries to terminal 2 through a 3.4 W test bulb and the negative (−) lead to terminal 3.

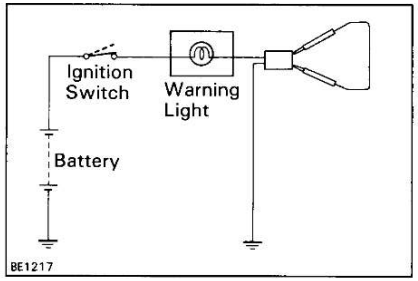
(d) Check that the voltage rises between terminals 2 and 3 as the float is moved from the top to bottom position.

RESISTANCE

Measure the resistance between terminals 2 and 3 for each float position.

	Float position mm (in.)	Resistance (Ω)
F	Approx.13 (0.51)	Approx.4
E	Approx.127 (5.00)	Approx.111

If resistance value is not as specified, replace the receiver gauge.



FUEL LEVEL WARNING SYSTEM

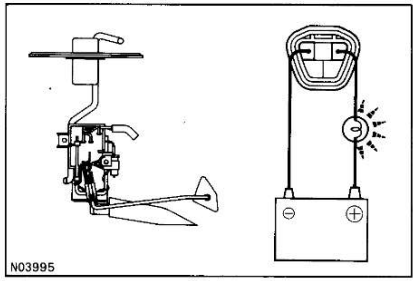
FUEL LEVEL WARNING LIGHT INSPECTION

(a) Disconnect the connector from the sender gauge.

(b) Connect terminals 1 and 3 on the wire harness side connector.

(c) Turn the ignition switch ON, check that the warning light lights up.

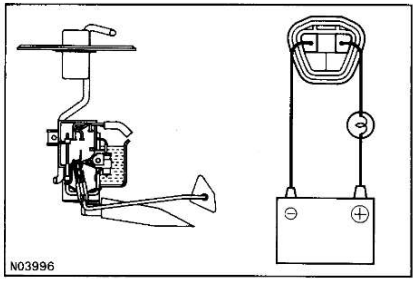
If the warning light does not light up, test the bulb.



FUEL LEVEL WARNING SWITCH INSPECTION

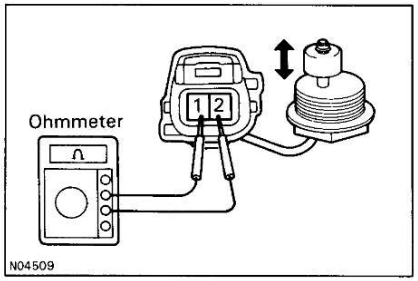
(a) Apply battery voltage between terminals 1 and 3 through a 3.4 W test bulb, check that the bulb lights up.

HINT: It will take a short time for the bulb to light up.



(b) Submerge the switch in fuel, check that the bulb goes out.

If operation is not as specified, replace the sender gauge.



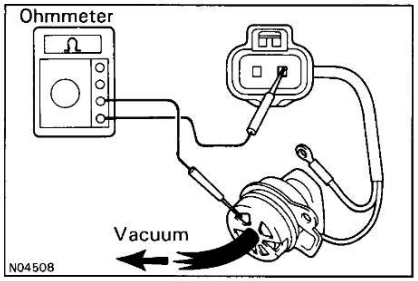
FUEL FILTER WARNING SWITCH

FUEL FILTER WARNING SWITCH INSPECTION

(a) Check that there is continuity between terminals when the warning switch is ON (float up).

(b) Check that there is no continuity between terminals when the warning switch is OFF (float down).

If operation is not as specified, replace the warning switch.



FUEL HEATER

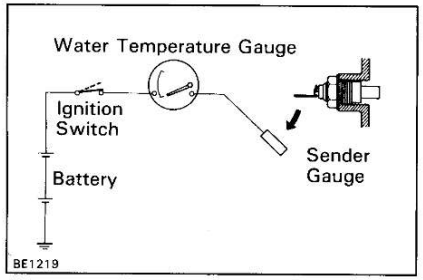
FUEL HEATER INSPECTION

(a) Apply a vacuum of 46.7 ± 86.7 kPa (350 ± 50 mmHg, 13.78 ± 1.97 in.Hg) or more to the vacuum switch port.

(b) Using an ohmmeter, check that there is continuity between terminal 1 and the switch body.

If operation is not as specified, replace the fuel heater and vacuum switch assembly.

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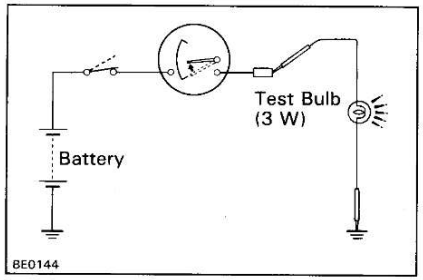
WATER TEMPERATURE GAUGE SYSTEM

WATER TEMPERATURE RECEIVER GAUGE INSPECTION

OPERATION

(a) Disconnect the connector from the sender gauge.

(b) Turn the ignition switch ON, check that the receiver gauge needle indicates COOL.

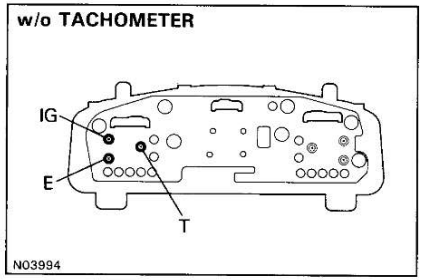


(c) Ground terminal on the wire harness side connector through a 3 W test bulb.

(d) Turn the ignition switch ON, check that the bulb lights up and receiver gauge needle moves toward the hot side.

If operation is as specified, replace the sender gauge. Then, recheck the system.

If operation is not as specified, measure the receiver gauge.



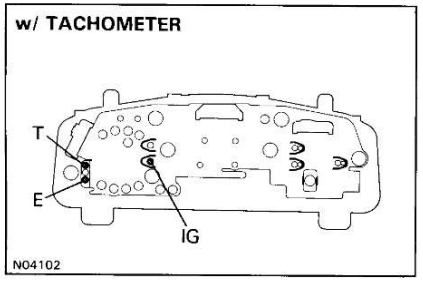
OPERATION

Measure the resistance between terminals.

HINT: Connect the test leads so that the current from the ohmmeter can flow according to the chart order.

w/o TACHOMETER

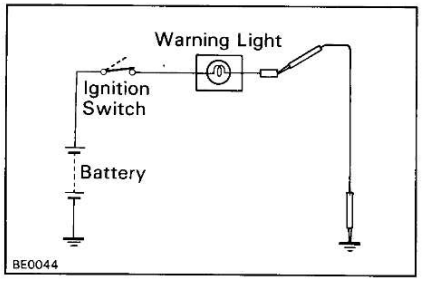
Between terminals	Resistance (Ω)
T — E	Approx.214
T — IG	Approx.75
E — IG	Approx.139



w/ TACHOMETER

Between terminals	Resistance (Ω)
T — E	Approx.214
T — IG	Approx.75
IG — E	Approx.139

If resistance value is not as specified, replace the receiver gauge.



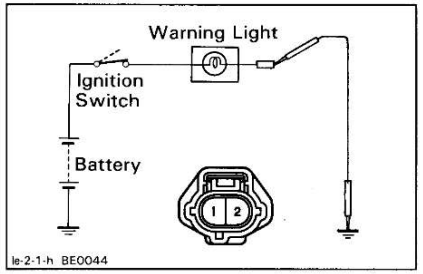
LOW OIL PRESSURE WARNING SYSTEM

LOW OIL PRESSURE WARNING LIGHT INSPECTION

(a) Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.

(b) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.

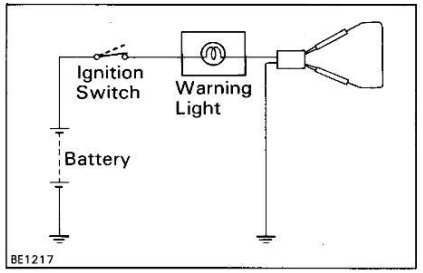


(c) Disconnect the connector from the switch.

(d) Ground terminal 1 on the wire harness connector.

(e) Turn the ignition switch ON. Check that the warning light lights up approximately 40 seconds later.

If the warning light does not light up, inspect bulb or wire harness.



BRAKE WARNING SYSTEM

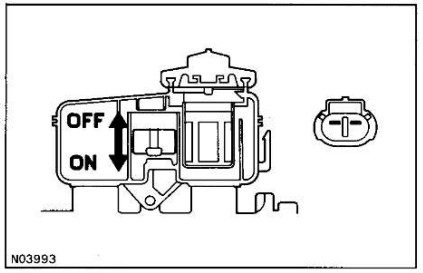
BRAKE WARNING LIGHT INSPECTION

(a) Disconnect connector from the brake fluid level warning switch and the parking brake switch.

(b) Turn the ignition switch to START, check that the warning light lights up.

(c) Start the engine, check that the warning light goes out.

If operation is not as specified, inspect the bulb and the bulb check relay.



BRAKE FLUID LEVEL WARNING SWITCH INSPECTION

(a) Remove the reservoir tank cap and strainer.

(b) Disconnect the connector.

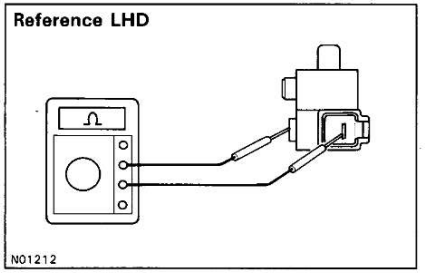
(c) Check that there is no continuity between terminals with the switch OFF (float up).

(d) Use syphon, etc. to take fluid out of the reservoir tank.

(e) Check that there is continuity between terminals with the switch ON (float down).

(f) Pour the fluid back in the reservoir tank.

If operation is not as specified, replace the switch.

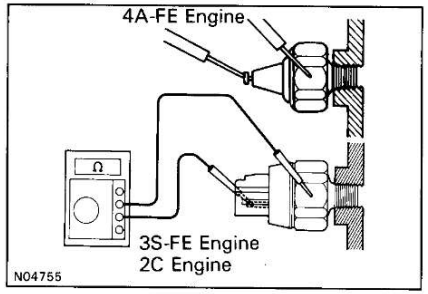


PARKING BRAKE SWITCH INSPECTION

(a) Check that there is continuity between terminals with the switch ON (switch pin released).

(b) Check that there is no continuity between terminals with the switch OFF (switch pin pushed in).

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LOW OIL PRESSURE WARNING SWITCH INSPECTION

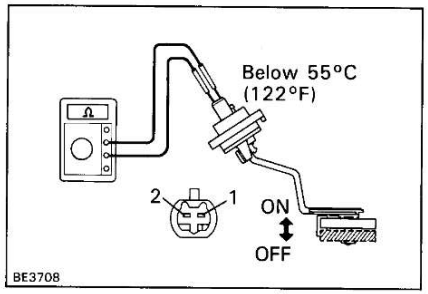
(a) Check that there is continuity between terminal and ground with the engine stopped.

(b) Check that there is no continuity between terminal and ground with the engine running.

HINT: Oil pressure should be over 49 kPa (0.5 kgf/cm, 7.1 psi).

If operation is not as specified, replace the switch.

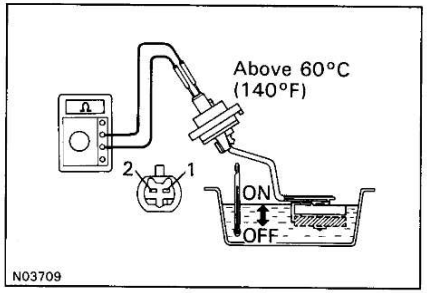
ENGINE OIL LEVEL WARNING SWITCH



ENGINE OIL LEVEL WARNING SWITCH INSPECTION

(a) Check that there is continuity between terminal with the switch each position.

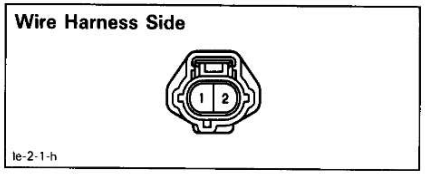
(b) Heat the switch to above 60°C (140°F) in an oil bath.



(c) Check that there is continuity between terminals with the switch ON (float up.)

(d) Check that there is no continuity between terminals with the switch OFF (float down).

If operation is not as specified, replace the switch.

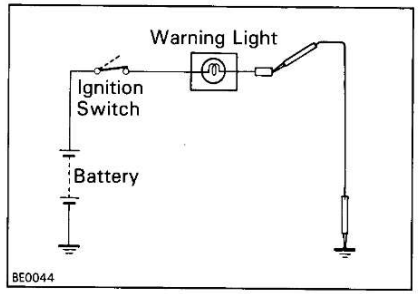


CIRCUIT

Disconnect the switch connector and inspect the connector on wire harness side as shown.

Check for	Tester connection	Condition	Specified value
Continuity	2 — Ground	Constant	Continuity

If continuity is not as specified, inspect the wire harness or ground point.



OPEN DOOR WARNING SYSTEM

OPEN DOOR WARNING LIGHT INSPECTION

(a) Disconnect the connector from the door courtesy switch and ground terminal on the wire harness side connector.

(b) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.

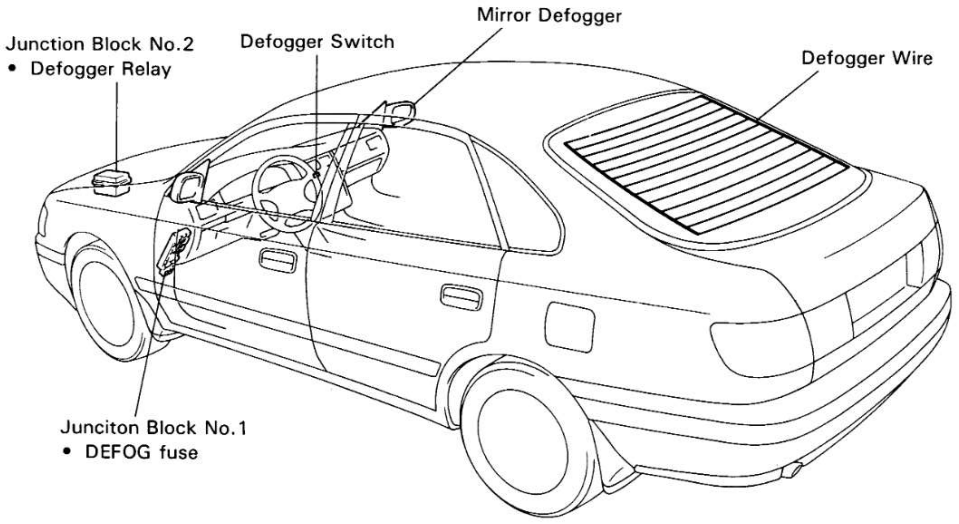
DOOR COURTESY SWITCH INSPECTION

(See page BE-18)

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DEFOGGER SYSTEM

PARTS LOCATION



N04369

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

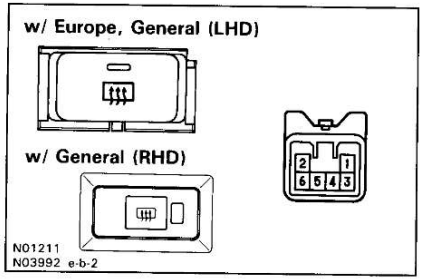
Trouble	Part name	See page
All defogger systems do not operate	1. GAUGE Fuse	BE-8
	2. CB DEFOG	–
	3. Defogger Switch	BE-62
	4. Wire Harness	BE-62
Rear Window defogger does not operate	1. Defogger Wire	BE-62
	2. Wire Harness	–

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PREPARATION

SSM (SPECIAL SERVICE MATERIALS)

Part Name	Part No.	Use etc.
Duppont Paste No.4817	—	Rear window defogger wire.



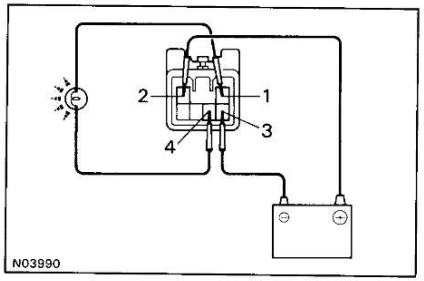
DEFOGGER SWITCH

DEFOGGER SWITCH INSPECTION

O—O: CONTINUITY INSPECTION

Terminal / Switch position	2	3	Illumination 1	Illumination 4
OFF				
ON	O—O		O—⊕—O	

If continuity is not as specified, replace the switch.



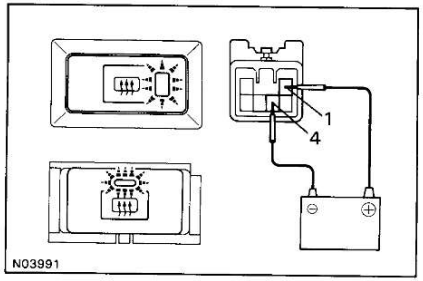
TIMER OPERATION

(a) Connect the positive(+) lead from the battery to terminal 2 and the negative (−) lead to terminal 3.

(b) Connect between terminals 1 and 4 through a 3.4 W test bulb.

(c) Push the defogger switch ON, check that the test bulb and the indicator light light up for 12 to 18 minutes, then the bulb and indicator light go out.

If operation is not as specified, replace the switch.



INDICATOR LIGHT OPERATION

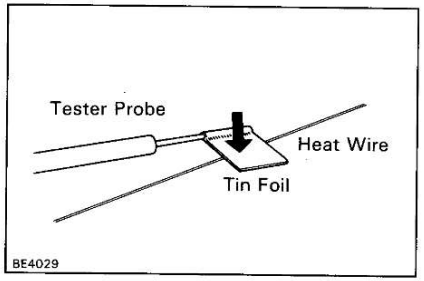
Connect the positive (+) lead from the battery to terminal 1 and the negative (−) lead to terminal 4, check that the indicator light lights up. If indicator light does not light up, replace switch.

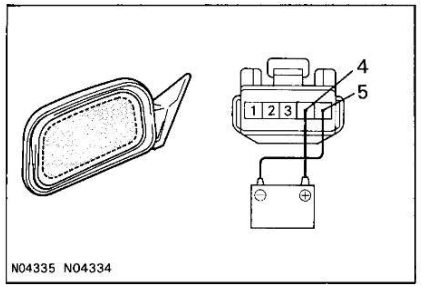
DEFOGGER WIRE

DEFOGGER WIRE INSPECTION

NOTICE:

- **When cleaning the glass, use a soft, dry cloth, and wipe the glass in the direction of the wire. Take care not to damage the wires.**
- **Do not use detergents or glass cleaners with abrasive ingredients.**
- **When measuring voltage, wind a piece of tin foil around the top of the negative probe and press the foil against the wire with your finger as shown.**





MIRROR DEFOGGER INSPECTION

INSPECT MIRROR DEFOGGER

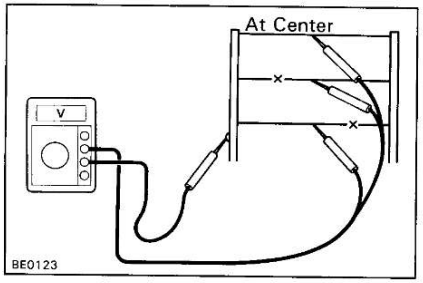
(a) Connect the positive (+) lead from the battery to terminal 4 and the negative (−) lead to terminal 5.

(b) Check that the mirror becomes warm.

HINT: It will take a short time for the mirror to become warm.

If the mirror does not become warm, replace the mirror assembly.

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WIRE BREAKAGE

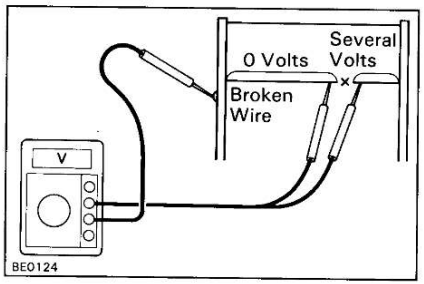
(a) Turn the ignition switch ON.

(b) Push in the defogger switch.

(c) Inspect the voltage at the center of each heat wire as shown.

Voltage	Criteria
Approx. 5 V	Okay (No break in wire)
Approx. 10 V or 0 V	Broken wire

HINT: If there is approximately 10 V, the wire is broken between the center of the wire and the positive (+) end. If there is no voltage, the wire is broken between the center of the wire and ground.



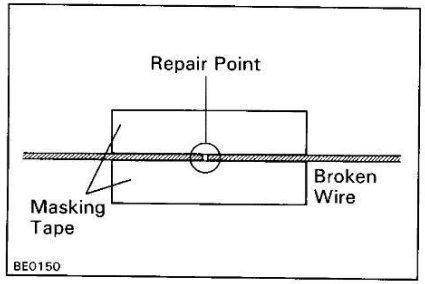
WIRE BREAKAGE POINT

(a) Place the voltmeter positive (+) lead against the defogger positive (+) terminal.

(b) Place the voltmeter negative (−) lead with the foil strip against the heat wire at the positive (+) terminal end and slide it toward the negative (−) terminal end.

(c) The point where the voltmeter deflects from zero to several volts is the place where the heat wire is broken.

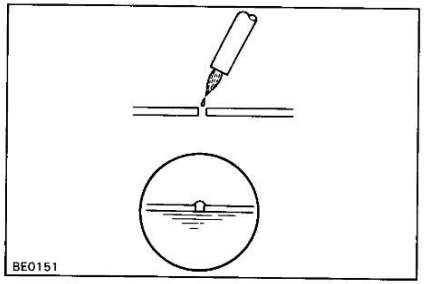
HINT: If the heat wire is not broken, the voltmeter indicates 0 V at the positive (+) end of the heat wire but gradually increases to about 12 V as the meter probe is moved to the other end.



DEFOGGER WIRES REPAIR

(a) Clean the broken wire tips with a grease, wax and silicone remover.

(b) Place the masking tape along both sides of the wire to be repaired.



(c) Throughly mix the repair agent (Dupont paste No.4817).

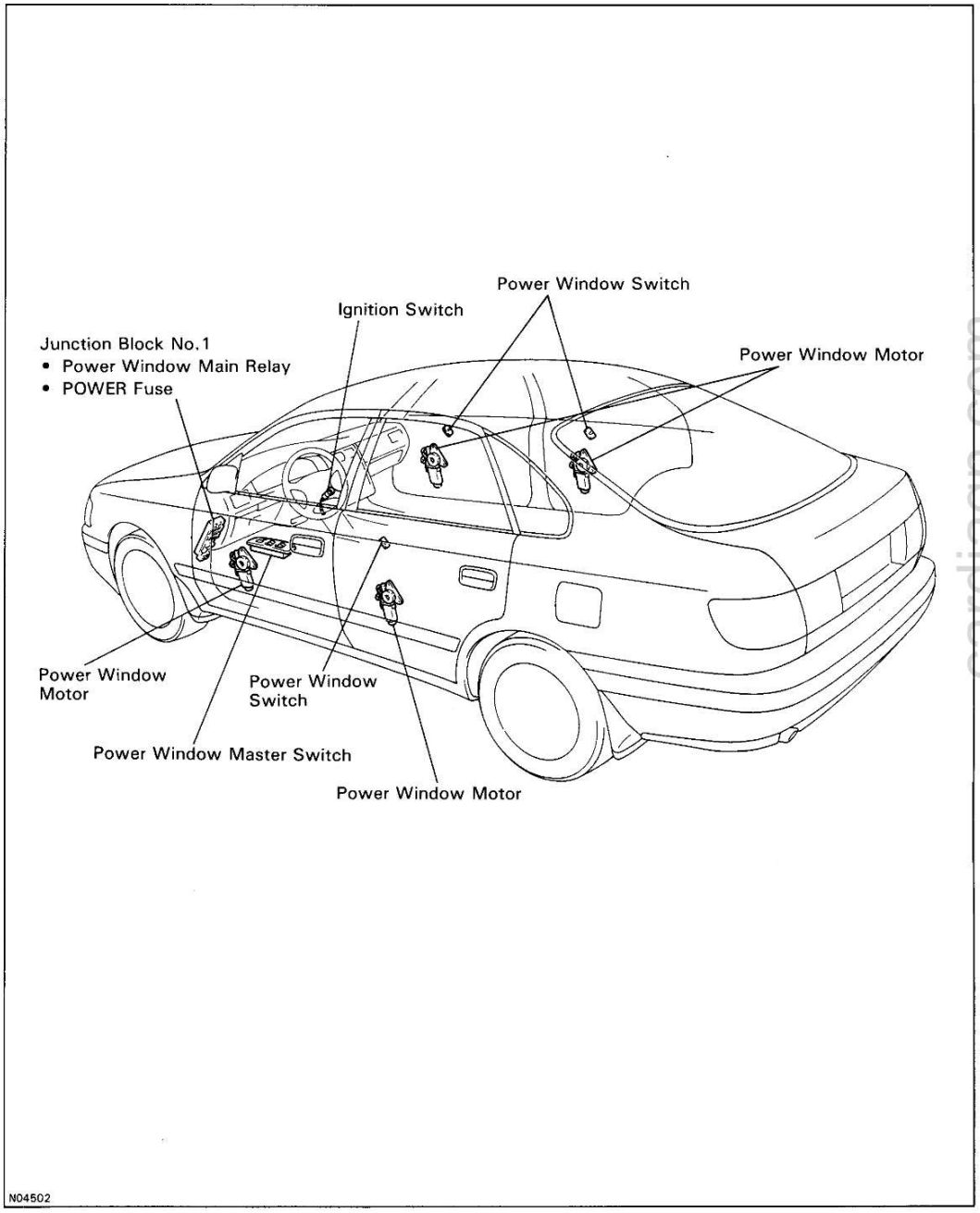
(d) Using a fine tip brush, apply a small amount to the wire.

(e) After a few minutes, remove the masking tape.

(f) Allow the repair to stand at least 24 hours.

POWER WINDOW CONTROL SYSTEM

PARTS LOCATION



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TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

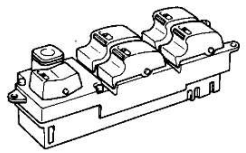
Trouble	Parts name	See page
Power Window does not operate.*1	1. AM1 FL	BE-8
	2. POWER Fuse	BE-8
	3. GAUGE Fuse	BE-8
	4. Power Main Relay	BE-17
	5. Ignition Switch	BE-11
	6. Power Window Master Switch	BE-67
	7. Wire Harness	—
Power Window does not operate.*2	1. POWER Fuse	BE-8
	2. GAUGE Fuse	BE-8
	3. Ignition Switch	BE-11
	4. Power Main Relay	BE-17
	5. Power Window Master Switch	BE-67
"One Touch Power Window System" does not operate.	1. Power Window Master Switch	BE-67
Only one window glass does not move.	1. Power Window Master Switch	BE-67
	2. Power Window Switch	BE-70
	3. Power Window Motor	BE-70
	4. Wire Harness	—
"Window Lock System" does not operate.	1. Power Window Master Switch	BE-67
"Window Lock illumination" does not light up.	1. Power Window Master Switch	BE-67

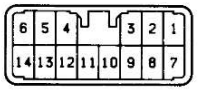
*1: Power door lock control system does not operate.
*2: Power door lock control is normal.

MASTER SWITCH

MASTER SWITCH INSPECTION

O—O CONTINUITY INSPECTION

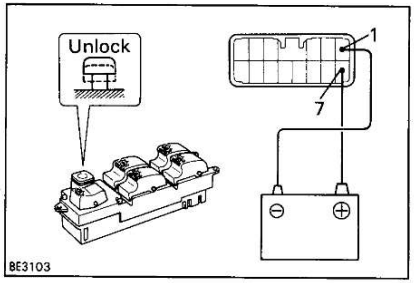




BE2594 S-14-2-8

Window operation		Front								Rear							
		Driver's				Passenger's				Left				Right			
Terminal	LHD	1 or 2	6	7 or 8	13	1 or 2	5	7 or 8	12	1 or 2	7 or 8	9	10	1 or 2	7 or 8	11	14
Switch position	RHD	5 or 6	1	13 or 14	8	5 or 6	2	13 or 14	9	5 or 6	13 or 14	7	10	5 or 6	13 or 14	11	12
Window unlock	UP	O—O	O—O—O		O	O—O	O—O		O—O	O—O	O—O—O		O—O	O—O	O—O—O		O
	OFF	O—O	O—O		O	O—O	O—O		O—O	O—O	O—O		O—O	O—O	O—O		O
	DOWN	O—O	O—O	O—O	O	O	O—O—O		O	O—O	O—O		O—O	O—O	O—O		O
Window lock	UP	O—O	O—O—O		O			O—O	O		O—O		O—O		O—O		O
	OFF	O—O	O—O		O		O—O		O			O—O	O			O—O	O
	DOWN	O—O	O—O	O—O	O		O—O				O—O				O		O

If continuity is not as specified, replace the master switch.



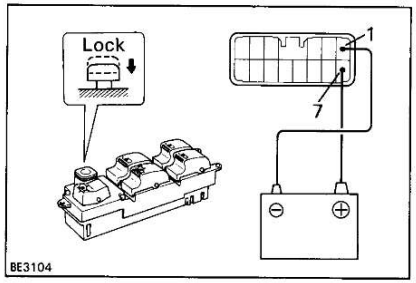
BE3103

LHD:

ILLUMINATION OPERATION

(a) Set the window lock switch to the unlock position.

(b) Connect the positive (+) lead from the battery to terminal 7 and the negative (−) lead to terminal 1, check that all the illuminations light up.

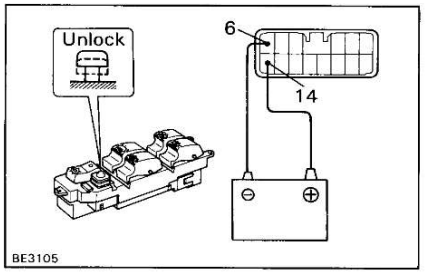


BE3104

(c) Set the window lock switch to the lock position, check that all the passenger's illuminations go out.

If operation is not as specified, replace the master switch.

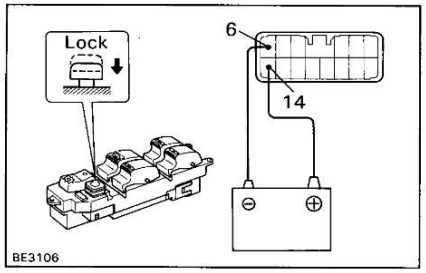
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RHD:

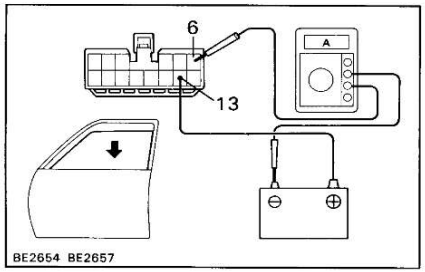
(a) Set the window lock switch to the unlock position.

(b) Connect the positive (+) lead from the battery to terminal 14 and the negative (−) lead to terminal 6, check that all the illuminations light up.



(c) Set the window lock switch to the lock position, check that all the passenger's illuminations go out.

If operation is not as specified, replace the master switch.



LHD:

ONE TOUCH POWER WINDOW SYSTEM

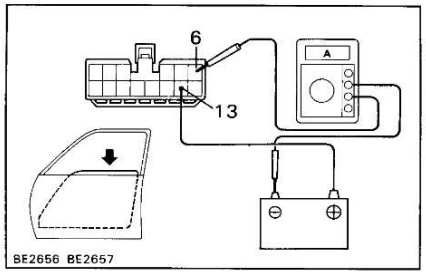
(Inspection using an ammeter)

(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the ammeter to terminal 6 on the wire harness side connector and the negative (−) lead to negative (−) terminal of the battery.

(c) Connect the positive (+) lead from the battery to terminal 13 on the wire harness side.

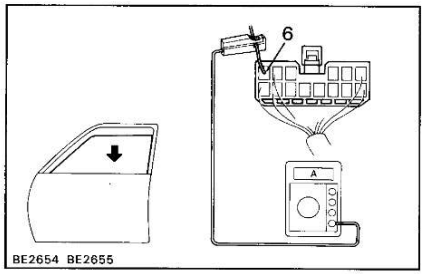
(d) As the window goes down, check that the current flows approximately 7 amperes.



(e) Check that the current increases approximately 14.5 amperes or more when the window stops going down.

HINT: The circuit breaker opens some 4 — 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.

If the operation is as specified, replace the master switch.



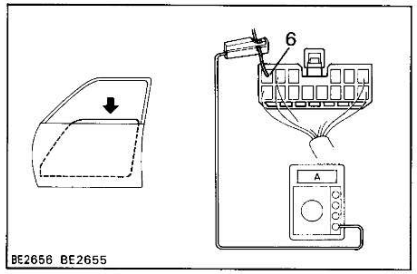
(Inspection using an ammeter with a current-measuring probe.)

(a) Remove the master switch with connector connected.

(b) Attach a current-measuring probe to terminal 6 of the wire harness.

(c) Turn the ignition switch ON and set the power wind switch in the down position.

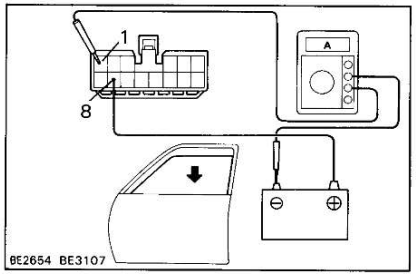
(d) As the window goes down, check that the current flows approximately 7 amperes.



(e) Check that the current increases approximately 14.5 amperes or more when the window stops going down.

HINT: The circuit breaker opens some 4 — 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.

If operation is as specified, replace the master switch.



RHD:

ONE TOUCH POWER WINDOW SYSTEM

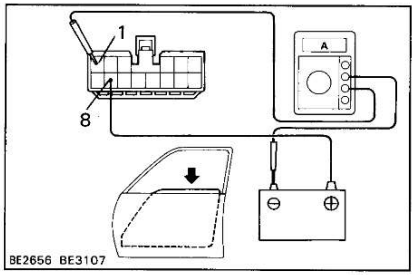
(Inspection using an ammeter)

(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the ammeter to terminal 1 on the wire harness side connector and the negative (−) lead to negative (−) terminal of the battery.

(c) Connect the positive (+) lead from the battery to terminal 8 on the wire harness side.

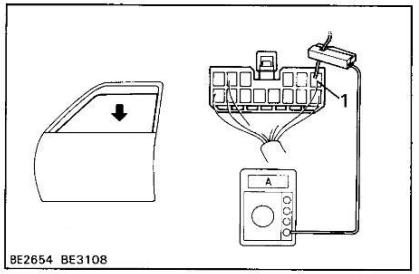
(d) As the window goes down, check that the current flows approximately 7 amperes.



(e) Check that the current increases approximately 14.5 amperes or more when the window stops going down.

HINT: The circuit breaker opens some 4 — 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.

If operation is as specified, replace the master switch.



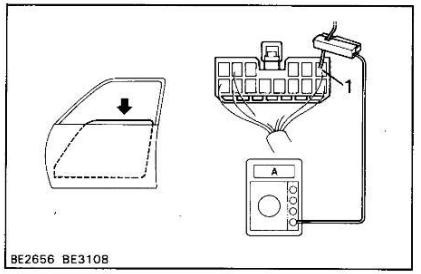
(Inspection using an ammeter with a current-measuring probe.)

(a) Remove the master switch with connector connected.

(b) Attach a current-measuring probe to terminal 1 of the wire harness.

(c) Turn the ignition switch ON and set the power wind switch in the down position.

(d) As the window goes down, check that the current flows approximately 7 amperes.



(e) Check that the current increases approximately 14.5 amperes or more when the window stops going down.

HINT: The circuit breaker opens some 4 — 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.

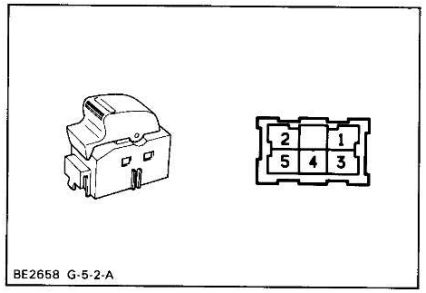
If operation is as specified, replace the master switch.

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POWER WINDOW SWITCH

POWER WINDOW SWITCH INSPECTION

O—O CONTINUITY INSPECTION



BE2658 G-5-2-A

Terminal / Switch position	1	2	3	4	5
UP	O—O			O—O	
OFF	O—O		O—O		
DOWN	O		O—O		O

If continuity is not as specified, replace these switch.

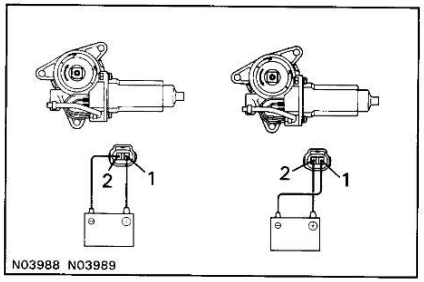
POWER WINDOW MOTOR

POWER WINDOW MOTOR INSPECTION LEFT SIDE DOOR MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (—) lead to terminal 2, check that the motor turns clockwise.

(b) Reverse the polarity, check that the motor turns counter clockwise.

If operation is not as specified, replace the motor.



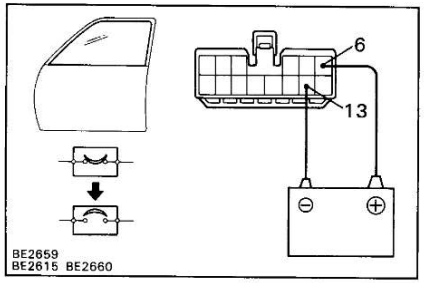
N03988 N03989

LEFT SIDE DOOR MOTOR CIRCUIT BREAKER OPERATION DRIVER'S DOOR

(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the battery to terminal 6 and the negative (—) lead to terminal 13 on the wire harness side connector, and raise the window to full closed position.

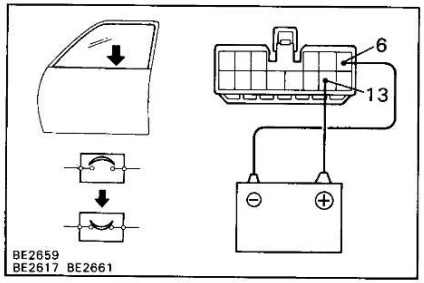
(c) Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.



BE2659
BE2615 BE2660

(d) Reverse the polarity, check that the window begins to desend within approximately 60 seconds.

If operation is not as specified, replace the motor.



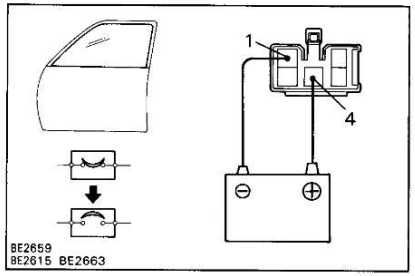
BE2659
BE2617 BE2661

PASSENGER'S DOOR

(a) Disconnect the connector from the power window switch.

(b) Connect the positive (+) lead from the battery to terminal 4 and the negative (—) lead to terminal 1 on the wire harness side connector, and raise the window to full closed position.

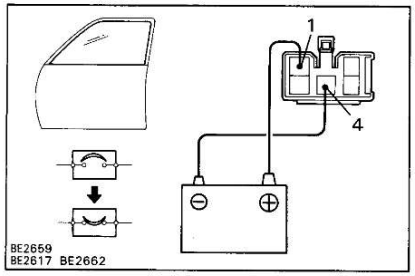
(c) Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.



BE2659
BE2615 BE2663

(d) Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.



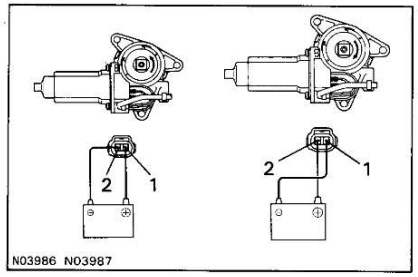
BE2659
BE2617 BE2662

RIGHT SIDE DOOR MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (—) lead to terminal 2, check that the motor turns counterclockwise.

(b) Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the motor.



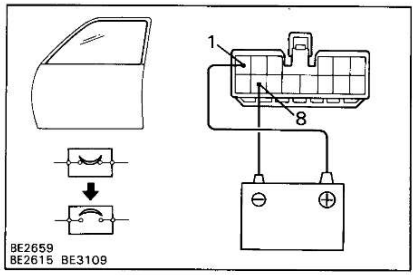
N03986 N03987

RIGHT SIDE DOOR MOTOR CIRCUIT BREAKER OPERATION DRIVER'S DOOR

(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the battery to terminal 1 and the negative (—) lead to terminal 8 on the wire harness side connector, and raise the window to full closed position.

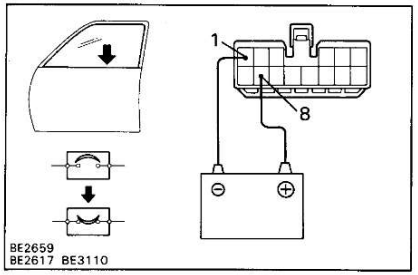
(c) Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.



BE2659
BE2615 BE3109

(d) Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.



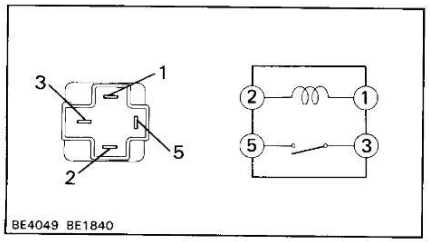
BE2659
BE2617 BE3110

PASSENGER'S DOOR

See LEFT SIDE DOOR MOTOR OPERATION on page BE-70

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POWER MAIN RELAY



POWER MAIN RELAY INSPECTION

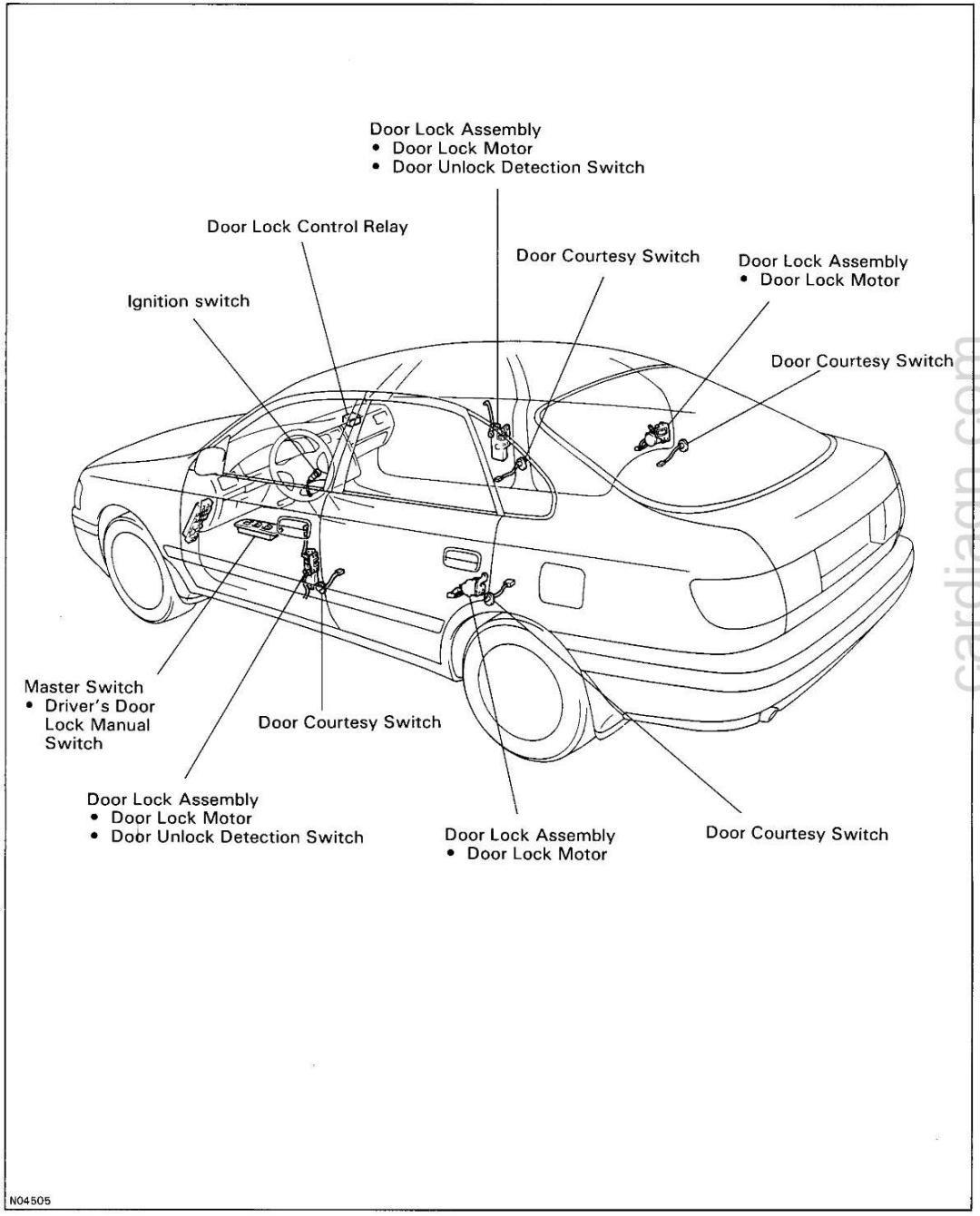
O—O CONTINUITY INSPECTION

Terminal / Condition	1	2	3	5
Constant	O∿∿∿O			
Apply battery voltage to terminals 1 and 2.			O—O	

If continuity is not as specified, replace the relay.

POWER DOOR LOCK CONTROL SYSTEM

PARTS LOCATION



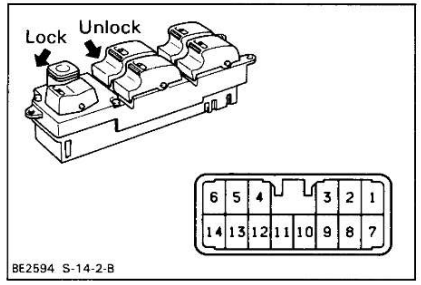
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TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number showns the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

Trouble		Parts name	See page
"Door lock control system" does not operate. (All)		1. Door Lock Control Relay (Door Lock Signal)	BE-78
		2. Door Lock Control Relay (Relay Circuit)	BE-78
		3. RADIO & CIG Fuse	BE-8
		4. P/W Fuse	BE-8
		5. Wire Harness	–
		6. Other Parts	–
Mulfunction in Door Lock/Unlock	Using door manual switch	1. Door Lock Manual Switch	BE-75
		2. Wire Harness	–
		3. Door Lock Control Relay (Relay Circuit)	BE-78
		4. Other Parts	–
	Using door manual switch and key	1. Wire Harness	–
		2. Door Lock Control Relay (Door Lock Signal)	BE-78
		3. Other Parts	–
	Using Key	1. Door Key Lock and Unlock Switch	BE-75
		2. Wire Harness	–
		3. Door Lock Control Relay (Relay Circuit)	BE-78
		4. Other Parts	–
Fault in 2-Operation unlock function of Driver's side door key lock and Unlock switch.		1. Door Key Lock and Unlock Switch	BE-75
		2. Wire Harness	–
		3. Door Lock Control Relay (Relay Circuit)	BE-78
		4. Other Parts	–
Fault in key confine prevention operation.		1. Key Unlock Warning Switch	BE-75
		2. Door Courtesy Switch	BE-11
		3. Door Lock Switch	BE-75
		4. Wire Harness	–
		5. Door Lock Control Relay (Relay Circuit)	BE-78
		6. Other Parts	–
Only one door lock does not operate.		1. Door Lock Motor	BE-76
		2. Wire Harness	–

MASTER SWITCH

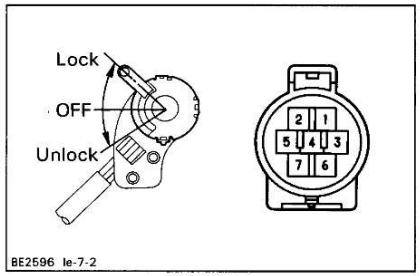


MASTER SWITCH INSPECTION

O—O CONTINUITY INSPECT

Terminal / Switch position	LHD / RHD	1 / 6	2 / 5	3 / 4	4 / 3
LOCK		O	O		O
OFF		O	O		
UNLOCK		O	O	O	

If continuity is not as specified, replace the switch.



DOOR KEY LOCK AND UNLOCK SWITCH

DOOR KEY LOCK AND UNLOCK SWITCH INSPECTION

O—O CONTINUITY INSPECT

Terminal / Switch position	1	2	3
LOCK		O	O
OFF			
UNLOCK	O	O	

If continuity is not as specified, replace the switch.

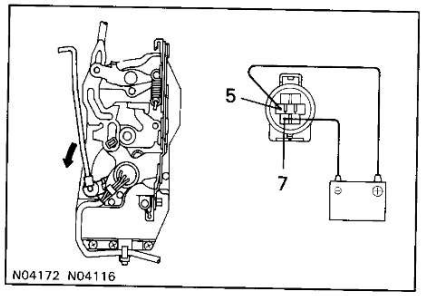
KEY UNLOCK WARNING SWITCH

KEY UNLOCK WARNING SWITCH INSPECTION
(See page BE-11)

DOOR COURTESY SWITCH

DOOR COURTESY SWITCH INSPECTION
(See page BE-18)

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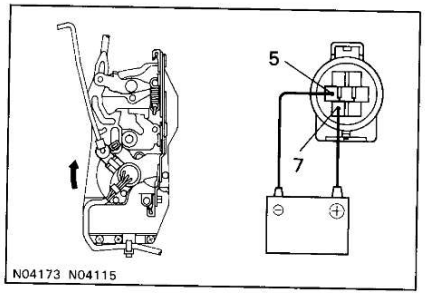


DOOR LOCK MOTOR

DOOR LOCK MOTOR INSPECTION

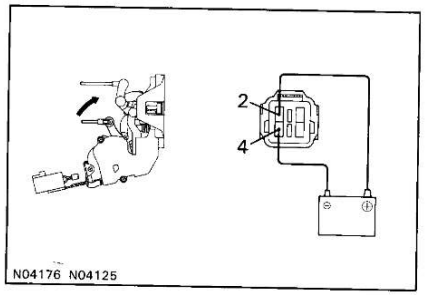
OPERATION (Front door lock)

(a) Connect the positive (+) lead from the battery to terminal 5 and the negative (−) lead to terminal 7, check that the door lock link moves to UNLOCK position.

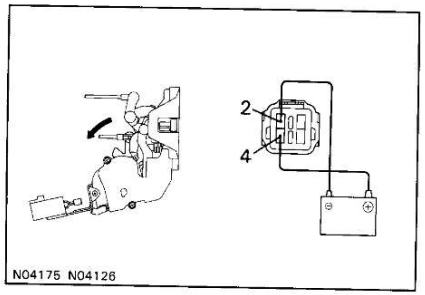


(b) Connect the positive (+) lead from the battery to terminal 7 and the negative (−) lead to terminal 5, check that the door lock link moves to LOCK position.

OPERATION (Rear door lock)

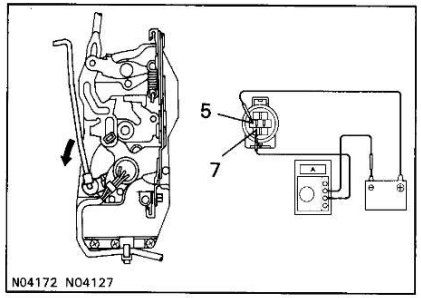


(a) Connect the positive (+) lead from the battery to terminal 2 and negative (−) lead to terminal 4, check that the door lock link moves to UNLOCK position.



(b) Reverse the polarity, check that the door lock link moves to LOCK position.

If operation is not as specified, replace the door lock assembly.

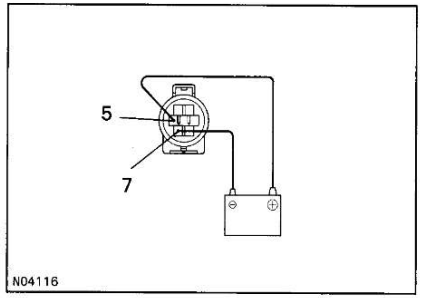


PTC THERMISTER OPERATION

(Inspection using an ammeter)

(a) Connect the positive (+) lead from the battery to terminal 5.

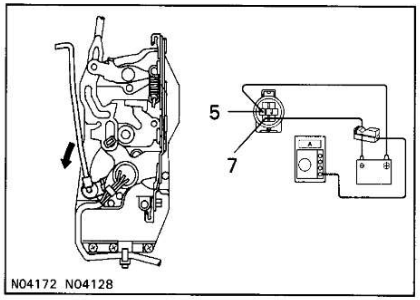
(b) Connect the positive (+) lead from the ammeter to terminal 7 and the negative (−) lead to battery negative (−) terminal, check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



(c) Disconnect the leads from terminals.

(d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 5 and the negative (−) lead to terminal 7, check that the door lock moves to LOCK position.

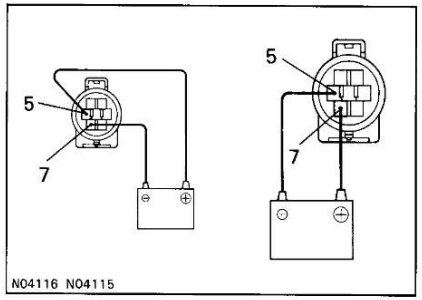
If operation is not as specified, replace the door lock assembly.



(Inspection using an ammeter with a current-measuring probe.)

(a) Connect the positive (+) lead from the battery to terminal 5 and the negative (−) lead to terminal 7.

(b) Attach a current-measuring probe to either the positive (+) lead or the negative (−) lead, check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.

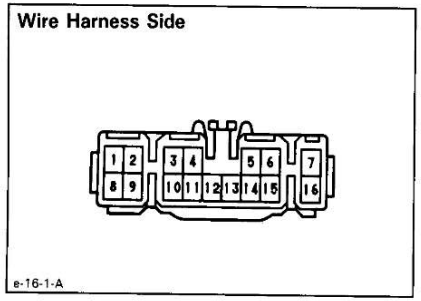


(c) Disconnect the leads from terminals.

(d) Approximately 60 seconds later, reverse the polarity, check that the door lock moves to LOCK position.

If operation is not as specified, replace the door lock assembly.

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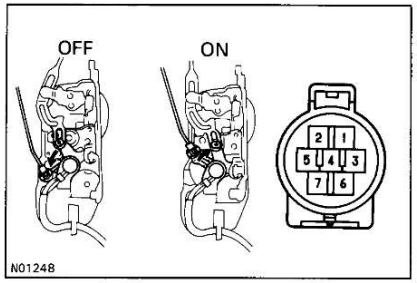
POWER DOOR LOCK CONTROL RELAY

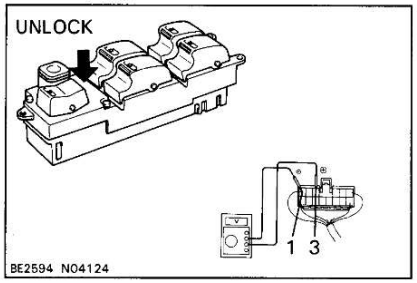
POWER DOOR LOCK CONTROL RELAY INSPECTION

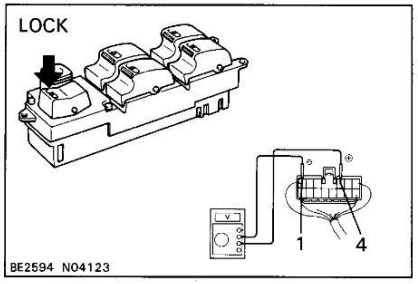
RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Continuity	5 — Ground	Passenger's door unlock detection switch position	OFF (Door locked)	No continuity
			ON (Door unlocked)	Continuity
	6 — Ground	Driver's door unlock detection switch position	OFF (Door locked)	No continuity
			ON (Door unlocked)	Continuity
	7 — Ground	Key unlock warning switch position	OFF (Ignition key removed)	No continuity
			ON (Ignition key set)	Continuity
	9 — Ground	Parking brake lever position	OFF (Release the PKB lever)	No continuity
			ON (Pull the PKB lever)	Continuity
	10 — Ground	Driver's door key lock and door lock manual switch position	ON (Driver's door key locked)	Continuity
			ON (Door lock manual switch locked)	Continuity
	11 — Ground	Driver's door key lock and door lock manual switch position	OFF (Driver's door key unlocked)	Continuity
			OFF (Door lock manual switch unlocked)	Continuity
	13 — Ground	Constant	—	Continuity
Voltage	2 — Ground	Driver's door courtesy switch position	ON (Door opened)	Battery voltage
	1 — Ground	Ignition switch position	LOCK	No voltage
			ACC or ON	Battery voltage
	8 — Ground	Constant	—	Battery voltage







DOOR UNLOCK DETECTION SWITCH

DOOR UNLOCK DETECTION SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	4	6
OFF (Door lock set to LOCK)		
ON (Door lock set to UNLOCK)	O	O

If continuity is not as specified, replace the door lock assembly.

DOOR LOCK SIGNAL

HINT: When the relay circuit is as specified, inspect the door lock signal.

(a) Connect the connector to the relay.

(b) Connect the positive (+) lead from the voltmeter to terminal 3 and the negative (—) lead to terminal 1.

(c) Set the door lock manual switch to UNLOCK, check that the voltage rises from 0 volts to battery voltage for approximately 0.2 seconds.

(d) Connect the positive (+) lead from the voltmeter to terminal 4 and the negative (—) lead to terminal 1.

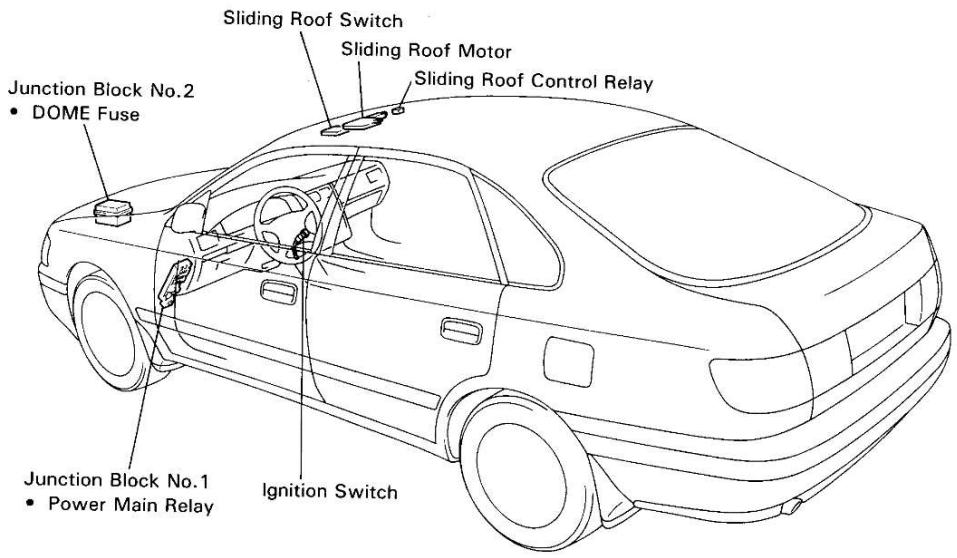
(e) Set the door lock manual switch to LOCK, check that the voltage rises from 0 volts to battery voltage for approximately 0.2 seconds.

If operation is not as specified, replace the relay.

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SLIDING ROOF SYSTEM

PARTS LOCATION



N04368

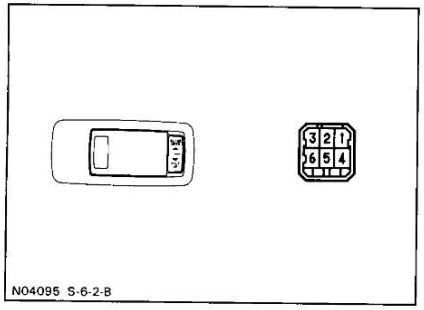
TROUBLESHOOTING

You will find the cause of trouble more easily be properly using the table shown below. In this table, the numbers indicate the order of priority of the causes of trouble. Check each part in the order shown. If necessary, replace the part.

Trouble			Parts name	See page
OPEN	Does not move.	*1	1. DOME Fuse	BE-8
			2. GAUGE Fuse	BE-8
			3. POWER Fuse	BE-8
			4. Ignition Switch	BE-11
			5. Power Main Relay	BE-17
			6. Sliding Roof Switch	BE-82
			7. Sliding Roof Control Relay	BE-83
			8. Sliding Roof Limit Switch	BE-82
			9. Sliding Roof Motor	BE-82
			10. Wire Harness	—
		*2	1. Sliding Roof Switch	BE-82
			2. Sliding Roof Control Relay	BE-83
			3. Sliding Roof Limit Switch	BE-82
			4. Sliding Roof Motor	BE-82
			5. Wire Harness	—
	Stops halfway.	—	1. Sliding Roof Limit Switch	BE-82
			2. Sliding Roof Control Relay	BE-83
			3. Sliding Roof Motor	BE-82
			4. Wire Harness	—
CLOSE	Does not move.	*1	1. DOME Fuse	BE-8
			2. GAUGE Fuse	BE-8
			3. POWER Fuse	BE-8
			4. Ignition Switch	BE-11
			5. Power Main Relay	BE-17
			6. Sliding Roof Switch	BE-82
			7. Sliding Roof Control Relay	BE-83
			8. Sliding Roof Limit Switch	BE-82
			9. Sliding Roof Motor	BE-82
			10. Wire Harness	—
		*2	1. Sliding Roof Switch	BE-82
			2. Sliding Roof Control Relay	BE-83
			3. Sliding Roof Limit Switch	BE-82
			4. Sliding Roof Motor	BE-82
			5. Wire Harness	—
	Stops halfway.	—	1. Sliding Roof Limit Switch	BE-82
			2. Sliding Roof Control Relay	BE-83
			3. Sliding Roof Motor	BE-82
			4. Wire Harness	—
	Does not stop at the stopping position.	—	1. Sliding Roof Limit Switch	BE-82
			2. Sliding Roof Control Relay	BE-83
	Returns and stop.	—	1. Sliding Roof Limit Switch	BE-82
			2. Sliding Roof Control Relay	BE-83

*1: Power window and power seat does not operate.
*2: Power window and power seat are normal operate.

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SLIDING ROOF SWITCH

SLIDING ROOF SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position		1	3	4	5
SLIDE	OPEN			O	O
	OFF	O		O	O
	CLOSE	O			O
TILT	DOWN	O	O		
	OFF	O		O	O
	UP		O	O	

If continuity is not as specified, replace the switch.

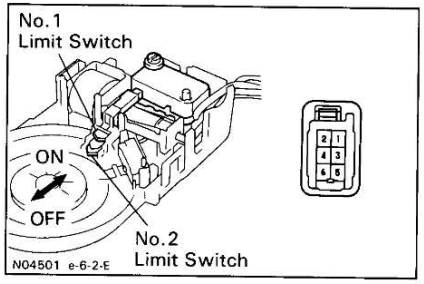
LIMIT SWITCH

LIMIT SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position		1	2	5
No.1 Limit switch	OFF (SW pin released)			
	ON (SW pin pushed in)		O	O
No.2 Limit switch	OFF (SW pin released)			
	ON (SW pin pushed in)	O		O

If continuity is not as specified, replace the motor.

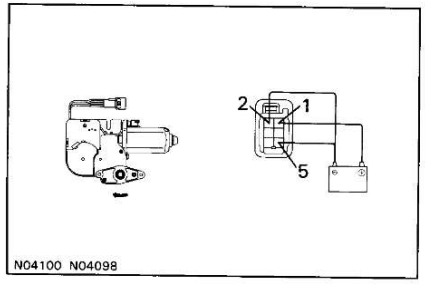


SLIDING ROOF MOTOR

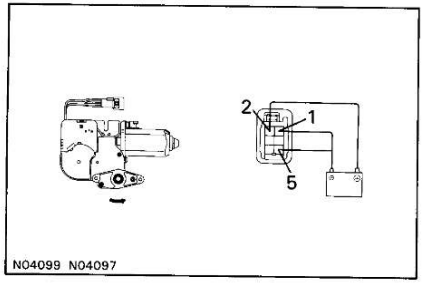
SLIDING ROOF MOTOR INSPECTION

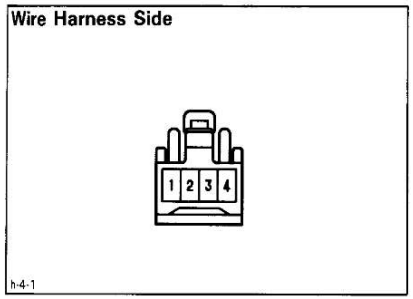
OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (−) lead to terminal 2 and 5, check that the motor turns to counterclockwise (moves to the close side.)



(b) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 1 and 5, check that the motor turns to clockwise (moves to the open side)





SLIDING ROOF CONTROL RELAY

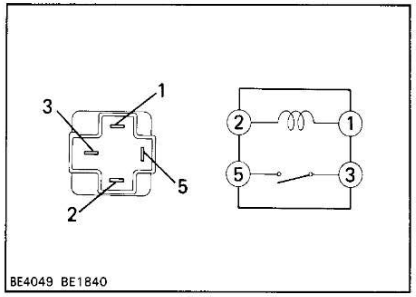
SLIDING ROOF CONTROL RELAY INSPECTION

RELAY CIRCUIT

Disconnect the relay connector and inspect the connector on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Voltage	1 — Ground	Constant		Battery voltage
	2 — Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	3 — Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	4 — Ground	Constant		No voltage

If circuit is as specified, replace the relay.



POWER MAIN RELAY

POWER MAIN RELAY INSPECTION

O—O CONTINUITY INSPECTION

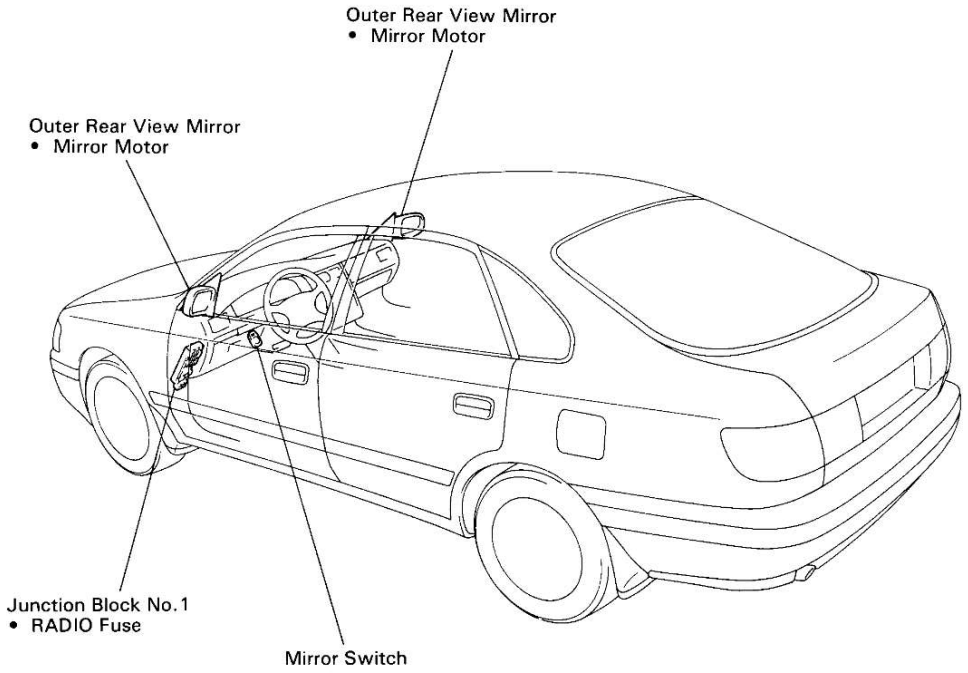
Terminal / Condition	1	2	3	5
Constant	O	O		
Apply battery voltage to terminals 1 and 2.			O	O

If continuity is not as specified, replace the relay.

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POWER MIRROR CONTROL SYSTEM

PARTS LOCATION



N04503

TROUBLESHOOTING

You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

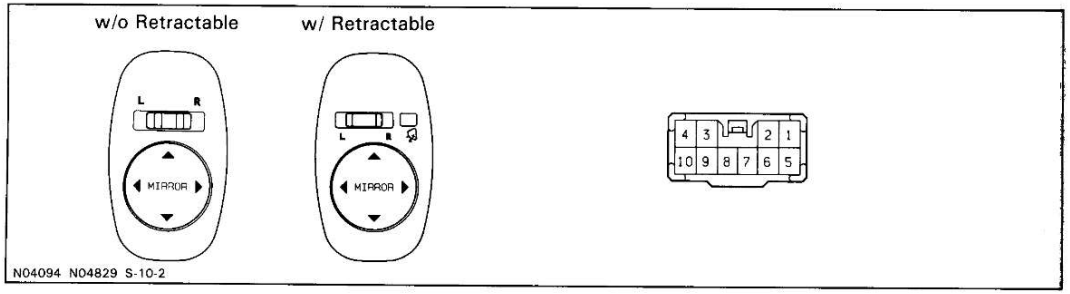
Trouble	Parts name	See page
Power mirror on each side does not operate at all.	• Fuse RADIO	BE-8
	• Mirror Switch	BE-86
	• Mirror Motor (Up/Down Control)	BE-87
	• Mirror Motor (Left/Right Control)	BE-87
	• Wiring and Ground	–
Left or right power mirror does not operate at all.	• Mirror Switch	BE-86
	• Mirror Motor (Up/Down Control)	BE-87
	• Mirror Motor (Left/Right Control)	BE-87
	• Wiring and Ground	–
Up/Down control of left or right power mirror does not operate.	• Mirror Motor (Up/Down Control)	BE-87
	• Wiring and Ground	–
Left/Right control of left or right power mirror does not operate.	• Mirror Motor (Left/Right Control)	BE-87
	• Wiring and Ground	–

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POWER MIRROR SWITCH

POWER MIRROR SWITCH INSPECTION

O—O CONTINUITY INSPECTION



w/o Retractable

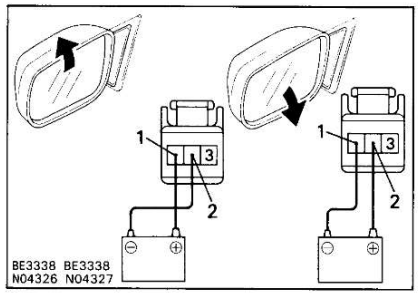
Left Right adjustment switch position	Left					Right				
Terminal / Control switch position	1	3	4	9	10	1	2	3	4	6
UP	O	O	O		O	O		O		O
DOWN	O	O	O		O	O		O	O	
LEFT	O	O		O		O	O		O	
RIGHT	O	O	O	O		O		O	O	

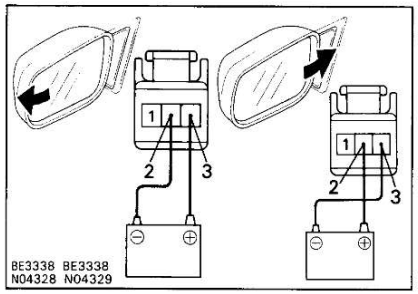
w/ Retractable

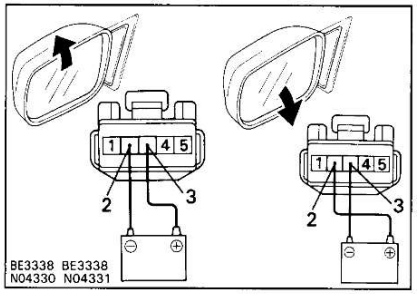
Left Right adjustment switch position	Left					Right				
Terminal / Control switch position	1	2	5	6	10	3	5	6	9	10
UP	O		O	O	O	O	O			O
DOWN	O	O		O	O	O	O			O
LEFT		O	O		O		O		O	O
RIGHT		O		O	O		O	O		O

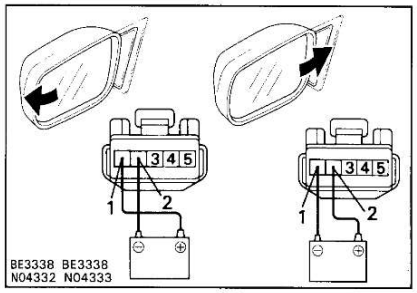
Terminal / Control switch position	4	10
Retractable	O	O

If continuity is not as specified, replace the switch.









POWER MIRROR MOTOR

POWER MIRROR MOTOR INSPECTION

OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (−) lead to terminal 2, check that the mirror turns to upward.

(b) Reverse the polarity, check that the mirror turns downward.

(c) Connect the positive (+) lead from the battery to terminal 3 and the negative (−) lead to terminal 2, check that the mirror turns to left side.

(d) Reverse the polarity, check that the mirror turns to right side.

If operation is not as specified, replace the mirror assembly.

w/ Defogger type

(a) Connect the positive (+) lead from the battery to terminal 3 and the negative (−) lead to terminal 2, check that the mirror turns to upward.

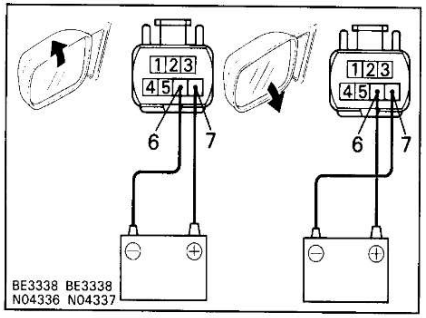
(b) Reverse the polarity, check that the mirror turns downward.

(c) Connect the positive (+) lead from the battery to terminal 1 and the negative (−) lead to terminal 2, check that the mirror turns left side.

(d) Reverse the polarity, check that the mirror turns to right side.

If operation is not as specified, replace the mirror assembly.

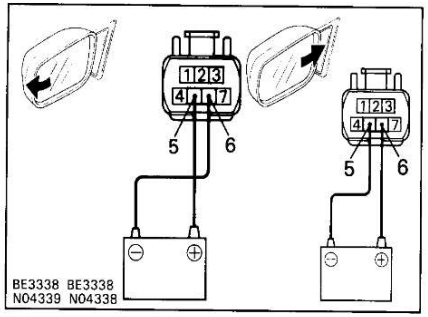
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w/ Retractable type

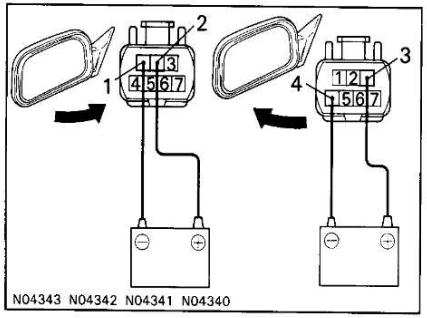
(a) Connect the positive (+) lead from the battery to terminal 7 and the negative (−) lead to terminal 6, check that the mirror turns to upward.

(b) Reverse the polarity, check that the mirror turns downward.



(c) Connect the positive (+) lead from the battery to terminal 5 and the negative (−) lead to terminal 6, check that the mirror turns to left side.

(d) Reverse the polarity, check that the mirror turns to right side.

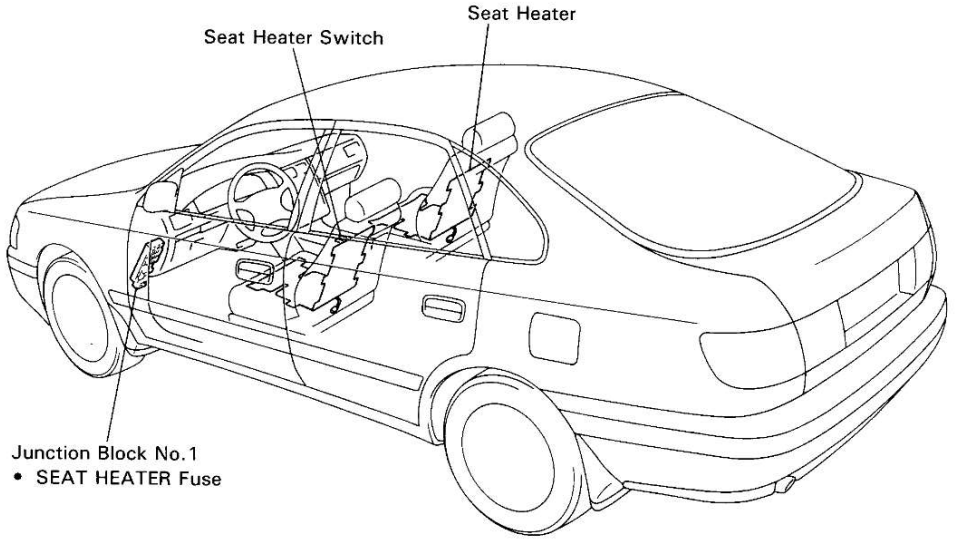


(e) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 1, check that the mirror turns to retractable.

(f) Connect the positive (+) lead from the battery to terminal 3 and the negative (−) lead to terminal 4, check that the mirror returns to its original position.

SEAT HEATER SYSTEM

PARTS LOCATION



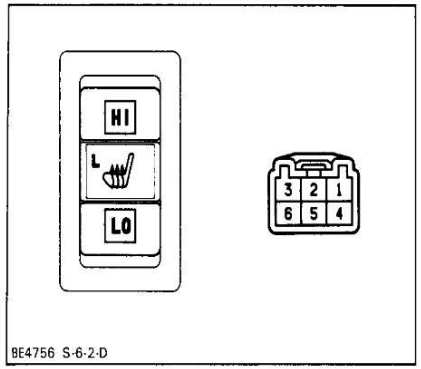
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TROUBLESHOOTING

You will find the cause of trouble more easily by properly using the table shown below. In this table, the numbers indicate the order priority of the causes of trouble. Check each part in the order shown. If necessary, replace the part.

Trouble	Parts name	See page
Seat heaters do not operate. (Driver's and Passenger's)	1. Fuse S/HTR	BE-8
	2. Engine Main Relay	—
	3. Seat Heater Switch	BE-91
	4. Wire Harness	—
	5. Seat Heater	BE-92
Driver's seat heater does not operate.	1. Seat Heater Switch	BE-91
	2. Seat Heater Relay (Left)	
	3. Wire Harness	—
Passenger's seat heater does not operate.	1. Seat Heater Switch	BE-91
	2. Seat Heater Relay (Right)	
	3. Wire Harness	—
Seat heater temperature is too hot.	1. Seat Heater	BE-92

SEAT HEATER SWITCH

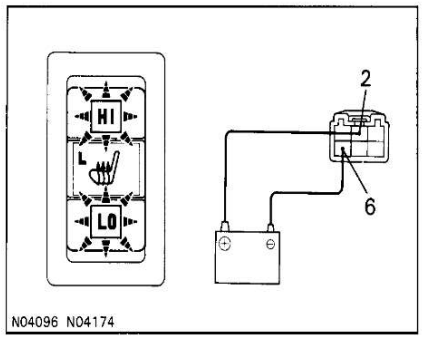


SEAT HEATER SWITCH INSPECTION

O—O CONTINUITY INSPECTION

Terminal / Switch position	2	3	5	6	Illumination 1	Illumination 4
HI	O—O		O—O			
OFF					O—(B)—O	
LO	O—	—O				

If continuity is not as specified, replace the switch.



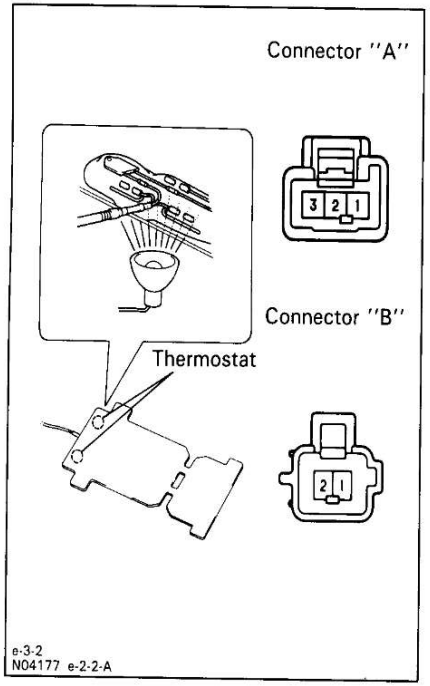
INDICATOR LIGHT OPERATION

(a) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 6.

(b) Push the switch to HI or LO, check that the indicator light of the pushed side lights up.

If operation is not as specified, replace the switch.

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SEAT HEATER INSPECTION

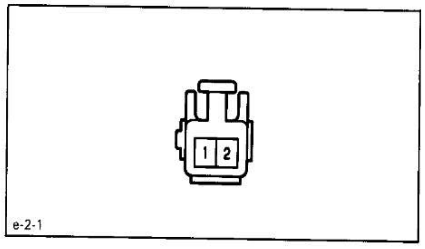
INSPECT SEAT HEATER
(Continuity/Seat Cushion)

(a) Heat the thermostat with a light.

(b) Inspect the seat heater continuity between term.

Check for	Tester connection	Condition	Specified value
Continuity	A1-B2	Seat heater temperature below 25°C (77°F)	Continuity
	A2-B2	Seat heater temperature below 35°C (95°F)	Continuity
	A3-B1	Constant	Continuity

If continuity is not as specified, replace the seat cushion pad.



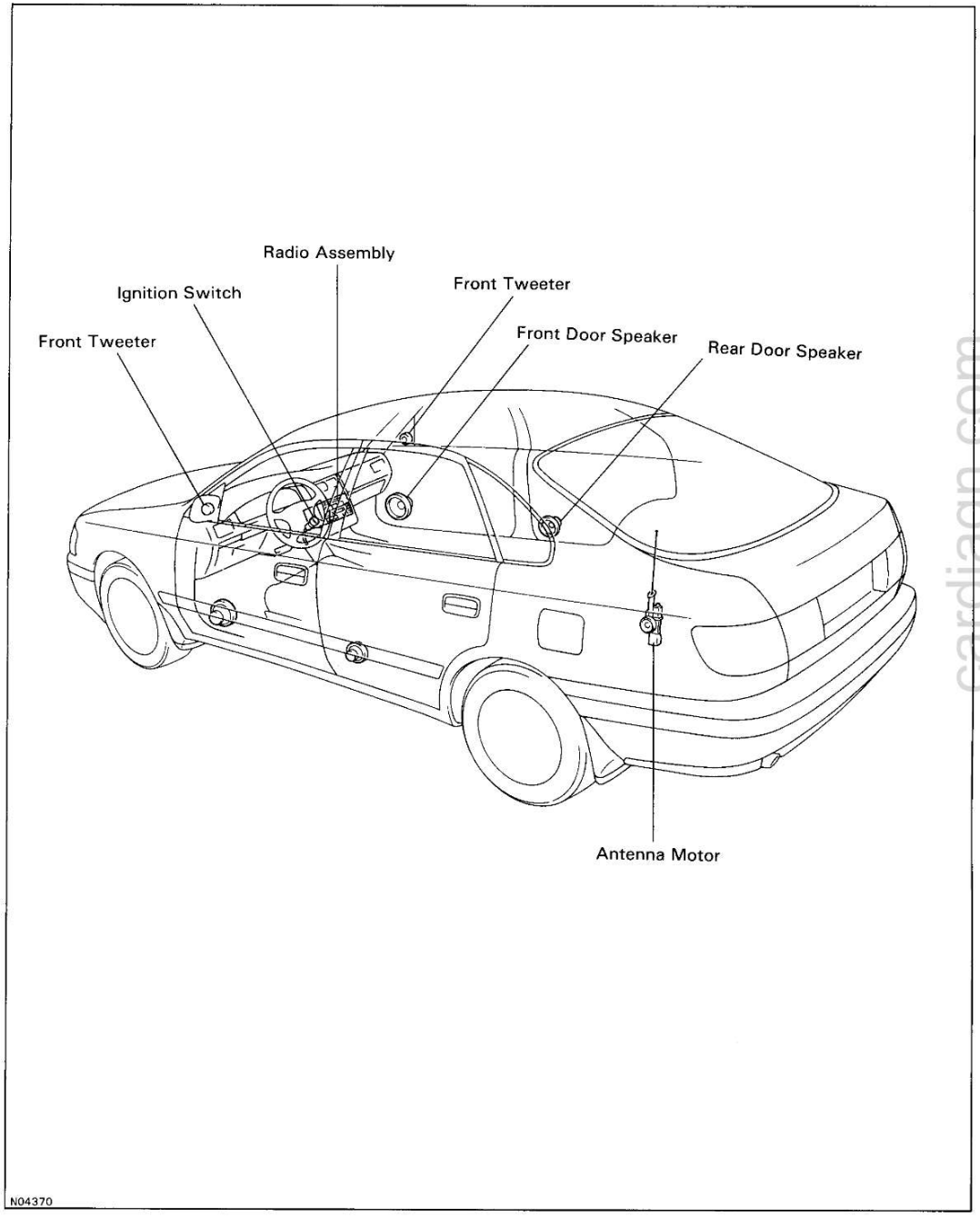
(Continuity/Seat Back)

Check that there is continuity between terminals.

If operation is not as specified, replace the seat back pad.

AUDIO SYSTEM

PARTS LOCATION



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SYSTEM DESCRIPTION

RADIO WAVE BAND

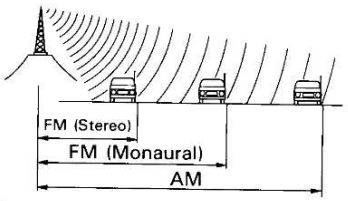
The radio wave bands used in radio broadcasting are as follows:

Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 MHz
Designation	LF	MF	HF	VHF	
Radio wave		AM		FM	
Modulation method	Amplitude modulation			Frequency modulation	

LF: Low Frequency MF: Medium Frequency HF: High Frequency VHF: Very High Frequency

SERVICE AREA

There is great difference in the size of the service area for AM, FM monaural, and FM stereo broadcasting. Thus it may happen that FM broadcast cannot be received even through AM comes in very clearly.
Not only does FM stereo have the smallest service area, but it also picks up static and other types of interference (''noise'') the most easily.



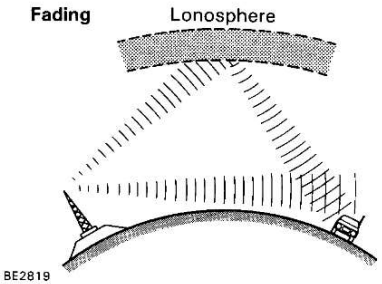
BE2818

RECEPTION PROBLEMS

Besides the problem of static, there are also the problems called ''fading'', ''multipath'', and ''fade out''. These problems are caused not by electrical noise but by the nature of the radio caves themselves.

Fading

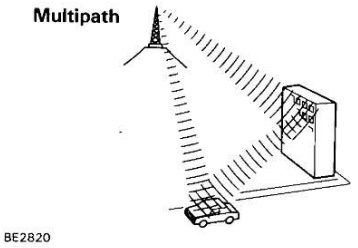
Besides electrical interference, AM broadcasts are also susceptible to other types interference, especially at night. This is because AM radio waves bounce off the ionosphere at night. These radio waves then interfere with the signals from the same transmitter that reach the vehicle's antenna directly. This type of interference is called ''fading''.



BE2819

Multipath

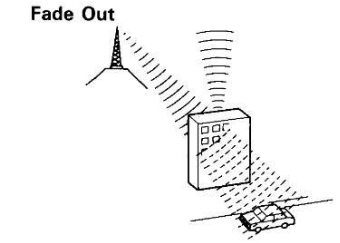
One type of interference caused by the bouncing of radio waves off of obstructions is called ''multipath''. Multipath occurs when a signal from the broadcast transmitter antenna bounces off of buildings and mountains and interferes with the signal that is received directly.



BE2820

Fade Out

Because FM radio waves are of higher frequencies than AM radio waves, they bounce off of buildings, mountains, and other obstructions. For this reason, FM signals often seem to gradually disappear or fade away as the vehicle goes behind a building or other obstruction. This is called ''fade out''.



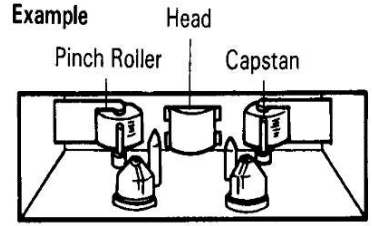
BE2821

MAINTENANCE OF TAPE PLAYER

Head Cleaning

(a) Raise the cassette door with your finger.
Next using a pencil or like object, push in the guide.

(b) Using a cleaning pen or cotton applicator soaked in cleaner, clean the head surface, pinch rollers and capstans.



C0192

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TROUBLESHOOTING

NOTICE: When replacing the internal mechanism (ECU part) of the audio system, be careful that no part of your body or clothing comes in contact with the terminals of the leads from the IC etc. of the replacement part (spare part).

HINT: This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).
Always inspect the trouble taking the following items into consideration.

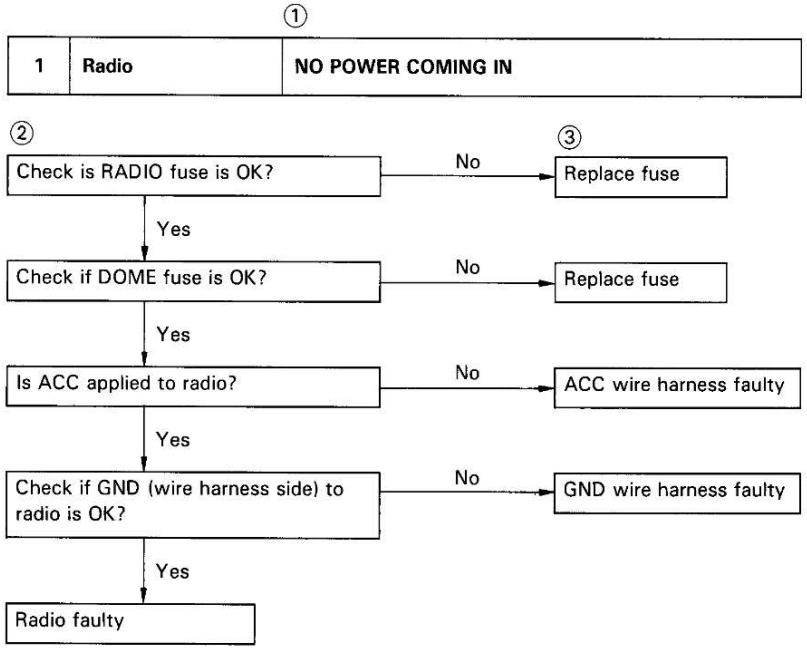
- Open or short circuit of the wire harness
- Connector or terminal connection fault

Problem		No.
Radio	Radio not operating when power switch turned to 'ON'.	1
	Display indicates when power switch turned to 'ON', but no sound (including 'noise') is produced.	2
	Noise present, but AM-FM not operating.	3
	Any speaker does not work.	4
	Reception poor.	5
	Sound quality poor.	6
	Preset memory disappears.	7
Tape player	Cassette tape cannot be inserted.	8
	Cassette tape inserts, but no power	9
	Power coming in, but tape player not operating.	10
	Any speaker does not work.	11
	Sound quality poor.	12
	Tape jammed, malfunction with tape speed or auto-reverse	13
	Cassette tape will not eject.	14
Antenna	Antenna-related.	15
Noise	Noise produced by vibration or shock white driving.	16
	Noise produced when engine starts.	17

The term "AM" includes LW, MW and SW, and the term "FW" includes UKW.

HOW TO USE DIAGNOSTIC CHART

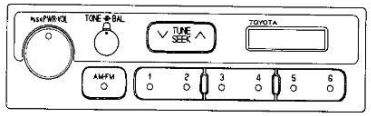
Reference:



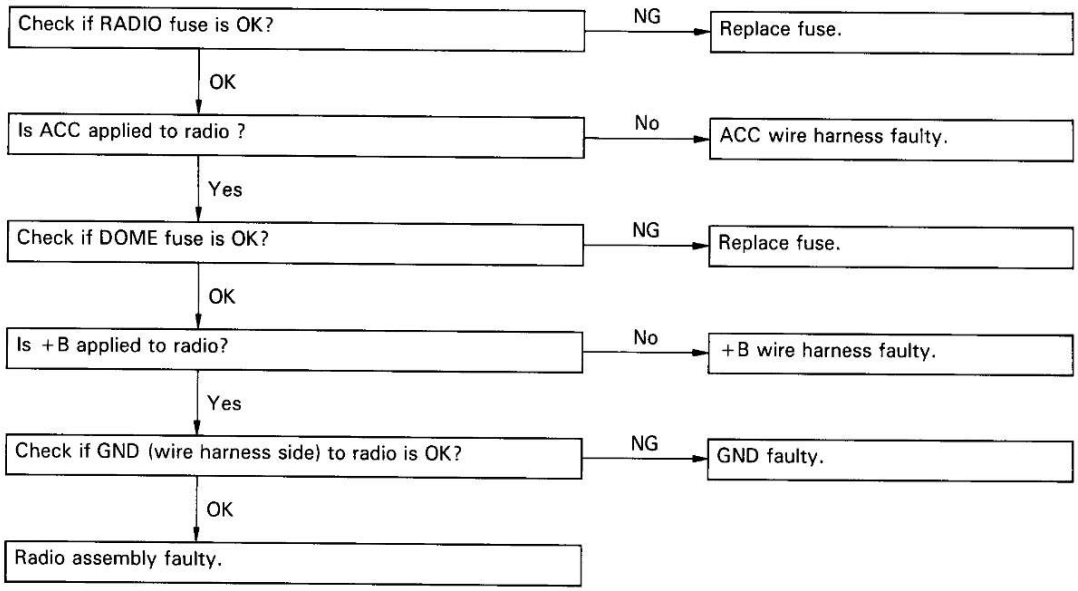
① : Phenomenon
: Problem
② : Check item
③ : Trouble part or disposal

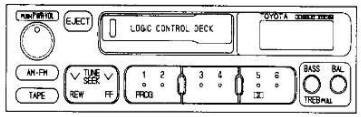
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1	Radio	RADIO NOT OPERATING WHEN POWER SWITCH TURNED TO 'ON'

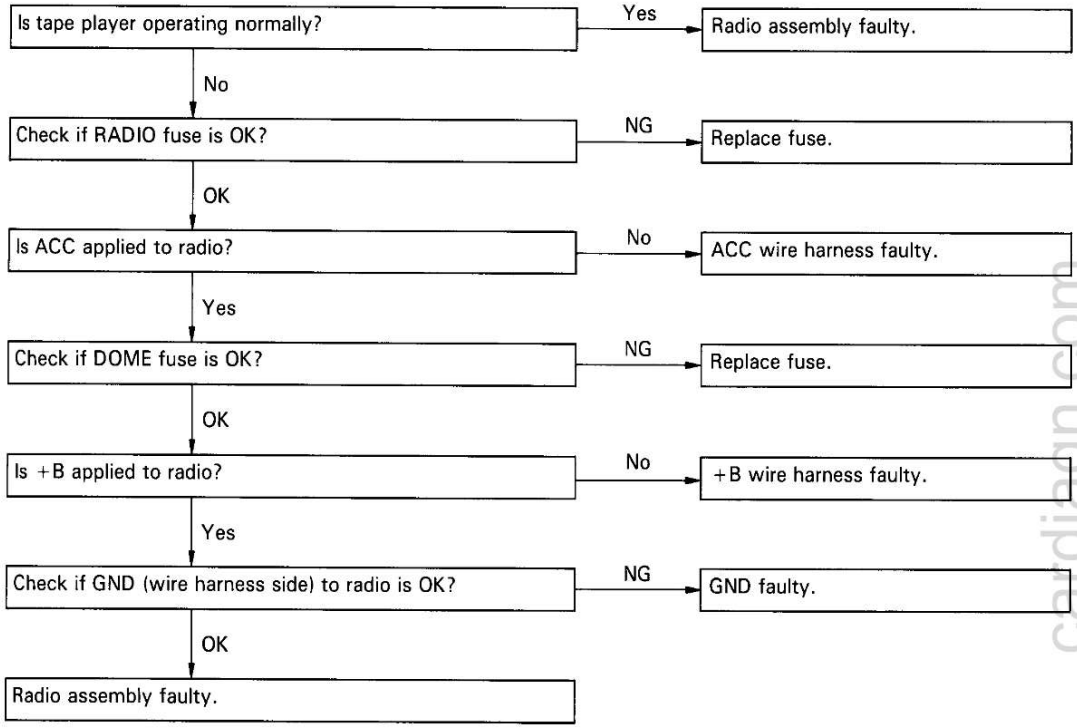


N04758



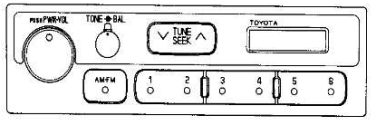


N04757



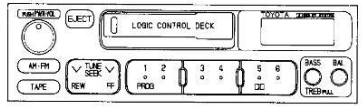
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2	Radio	DISPLAY INDICATES WHEN POWER SWITCH TURNED TO 'ON', BUT NO SOUND (INCLUDING 'NOISE') IS PRODUCED



N04758

- Check if RADIO fuse is OK?
  - NG → Replace fuse.
  - OK ↓
- Is ACC applied to radio?
  - No → ACC wire harness faulty.
  - Yes ↓
- Check if DOME fuse is OK?
  - NG → Replace fuse.
  - OK ↓
- Is +B applied to radio?
  - No → +B wire harness faulty.
  - Yes ↓
- Check if GND (wire harness side) to radio is OK?
  - NG → GND faulty.
  - OK ↓
- Is there continuity in speaker wire harness?
  - No → Speaker wire harness faulty.
  - Yes ↓
- Temporarily install another speaker.
  - Yes → Speaker faulty.
  - No ↓
- Radio faulty.



N04757

- Is tape player operating normally?
  - Yes → Radio faulty.
  - No ↓
- Check if RADIO fuse is OK?
  - NG → Replace fuse.
  - OK ↓
- Is ACC applied to radio?
  - No → ACC wire harness faulty.
  - Yes ↓
- Check if DOME fuse is OK?
  - NG → Replace fuse.
  - OK ↓
- Is +B applied to radio?
  - No → +B wire harness faulty.
  - Yes ↓
- Check if GND (wire harness side) to radio is OK?
  - NG → GND faulty.
  - OK ↓
- Is there continuity in speaker wire harness?
  - No → Speaker wire harness faulty.
  - Yes ↓
- Temporarily install another speaker.
  - Yes → Speaker faulty.
  - Yes ↓
- Radio faulty.

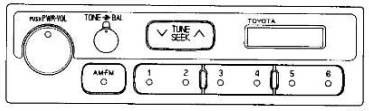
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3 Radio — NOISE PRESENT, BUT AM-FM NOT OPERATING

Go to No. 15

If radio side faulty → Radio faulty.

4 Radio — ANY SPEAKER DOES NOT WORK



N04758

Is hiss produced by non-functionimg speaker? — Yes → Radio faulty.

No

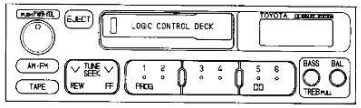
Is there continuity in speaker wire harness? — No → Speaker wire harness faulty.

Yes

Temporarily install another speaker. Functions OK? — Yes → Speaker faulty.

No

Radio faulty.



N04757

Is tape player operating normally? — Yes → Radio assembly faulty.

No

Is hiss produced by non-functioning speaker? — Yes → Radio assembly faulty.

No

Is there continuity in speaker wire harness? — No → Speaker wire harness faulty.

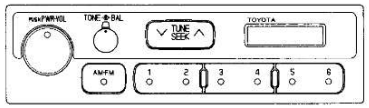
Yes

Temporarily install another speaker. Functions OK? — Yes → Speaker faulty.

No

Radio assembly faulty.

5 Radio — EITHER AM OR FM DOES NOT WORK, RECEPTION POOR (VOLUME FAINT), FEW PRESET TUNING BANDS



N04758

Problem with radio wave signals or location? — Yes → Poor signals, poor location.

No

Are both AM or FM defective? — No → Radio faulty.

Yes

Is power for the antenna being output from the radio? — No → Radio faulty.

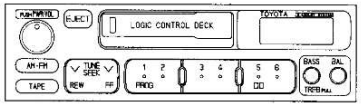
Yes

Go to No. 15

Temporarily install another speaker. Functions OK? — Yes → Speaker faulty.

No

Radio faulty.



N04757

Problem with radio wave signals or location? — Yes → Poor signals, poor location.

No

Are both AM or FM defective? — No → Radio assembly faulty.

Yes

Is power for the antenna being output from the radio assembly? — No → Radio assembly faulty.

Yes

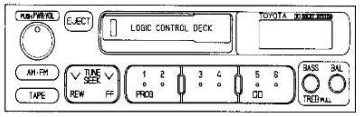
Go to No. 15

CONTINUED ON NEXT PAGE

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CONTINUED FROM PREVIOUS PAGE

Is tape player operating normally?
- Yes → Radio assembly faulty.
- No → Temporarily install another speaker. Functions OK?
  - Yes → Speaker faulty.
  - No → Radio assembly faulty.

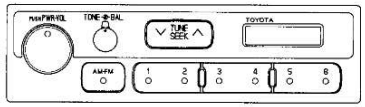


N04757

Problem with radio wave signals or location?
- Yes → Poor signals, poor location.
- No → Are both AM and FM defective?
  - No → Radio assembly faulty.
  - Yes → Is power for the antenna being output from the radio assembly?
    - No → Radio assembly faulty.
    - Yes → Go to No. 15

Is tape player operating normally?
- Yes → Radio assembly faulty.
- No → Temporarily install another speaker. Functions OK?
  - Yes → Speaker faulty.
  - No → Radio assembly faulty. Recheck system after repair.

6 Radio — SOUND QUALITY POOR



N04758

Is sound quality always bad?
- No → Is sound quality bad in certain area only?
  - Yes → Poor signals, poor location.
  - No → Radio faulty.
- Yes → Is speaker properly installed?
  - No → Install properly.
  - Yes → Temporarily install another speaker. Functions OK?
    - Yes → Speaker faulty.
    - No → Is power for the antenna being output from the radio?
      - No → Radio faulty.
      - Yes → Go to No. 15 → If radio side faulty → Radio faulty.



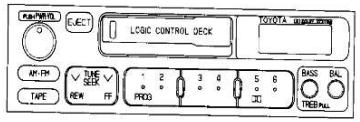
N04757

Is sound quality always bad?
- No → Is sound quality bad in certain area only?
  - Yes → Poor signals, poor location.
  - No → Radio assembly faulty.
- Yes → Is tape player operating normally?
  - Yes → Is power for the antenna being output from the radio assembly?
    - No → Radio assembly faulty.
    - Yes → Go to No. 15 → If radio side faulty → Radio assembly faulty.
  - No → Is speaker properly installed?
    - No → Install properly.
    - Yes → CONTINUED ON NEXT PAGE

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CONTINUED FROM PREVIOUS PAGE

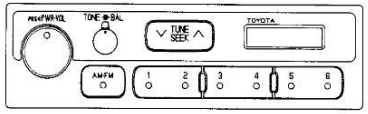
Temporarily install another speaker. Functions OK?
- Yes → Speaker faulty.
- No → Radio assembly faulty.



N04757

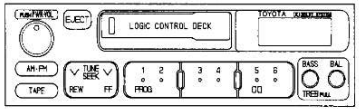
Is sound quality always bad?
- No → Is sound quality bad in certain areas only?
  - Yes → Poor signals, poor location.
  - No → Is tape player operating normally?
    - Yes → Radio assembly faulty.
    - No → Radio assembly faulty.
- Yes → Is tape player operating normally?
  - Yes → Is power for the antenna being output from the radio assembly?
    - No → Radio assembly faulty.
    - Yes → Is speaker properly installed?
      - No → Install properly.
      - Yes → Temporarily install another speaker. Functions OK?
        - Yes → Speaker faulty.
        - No → Radio assembly faulty. Recheck system after repair.
  - No → Is speaker properly installed?
    - No → Install properly.
    - Yes → Temporarily install another speaker. Functions OK?
      - Yes → Speaker faulty.
      - No → Radio assembly faulty. Recheck system after repair.

7 Radio — PRESET MEMORY DISAPPEARS



N04758

Check if DOME fuse is OK?
- NG → Replace fuse.
- OK → Is +B applied to radio?
  - No → +B wire harness faulty.
  - Yes → Check if GND (wire harness side) to radio?
    - NG → GND faulty.
    - OK → Radio faulty.

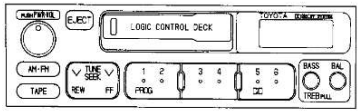


N04757

Can cassette tape be inserted in tape player?
- Yes → Radio assembly faulty.
- No → Check if DOME fuse is OK?
  - NG → Replace fuse.
  - OK → Is +B applied to radio assembly?
    - No → +B wire harness faulty.
    - Yes → Check if GND (wire harness side) to radio?
      - NG → GND faulty.
      - OK → Radio assembly faulty.

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8 Tape Player — CASSETTE TAPE CANNOT BE INSERTED



N04757

Is there a foreign object inside tape player?
- Yes → Remove foreign object.
- No →

Is auto search button of radio operating normally?
- Yes → Radio assembly faulty.
- No →

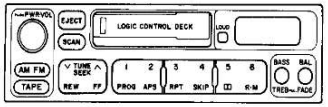
Check if DOME fuse is OK?
- NG → Replace fuse.
- OK →

Is +B applied to radio assembly?
- No → +B wire harness faulty.
- Yes →

Check if GND (wire harness side) to radio assembly?
- NG → GND faulty.
- OK →

Radio assembly faulty.

9 Tape Player — CASSETTE TAPE INSERTS, BUT NO POWER



N01721

Is radio operating normally?
- Yes → Radio assembly faulty.
- No →

Check if RADIO fuse is OK?
- NG → Replace fuse.
- OK →

Is ACC applied to radio assembly?
- No → ACC wire harness faulty.
- Yes →

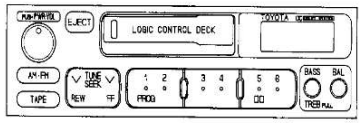
Check if DOME fuse is OK?
- NG → Replace fuse.
- OK →

Is +B applied to radio assembly?
- No → +B wire harness faulty.
- Yes →

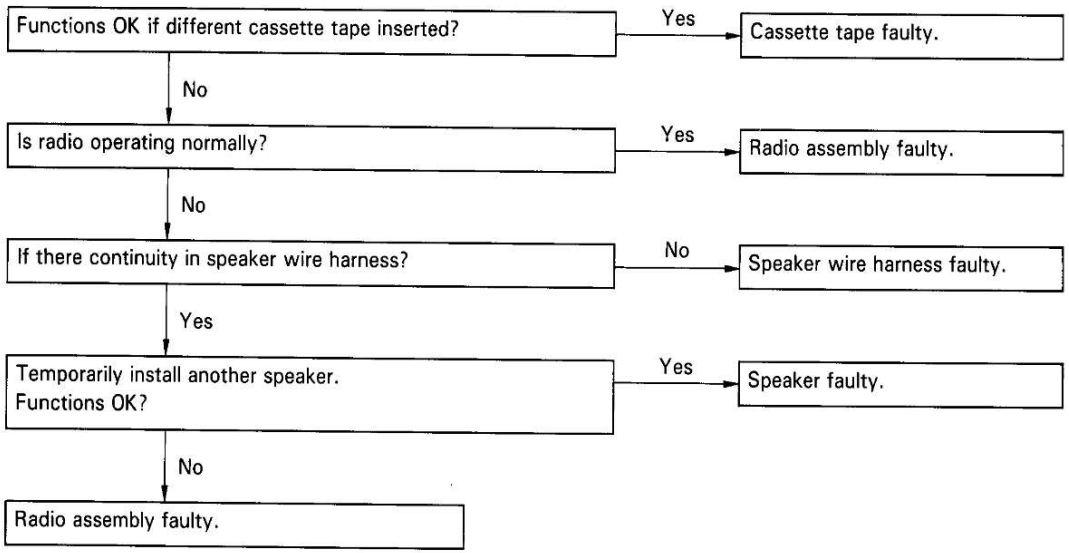
Radio assembly faulty.

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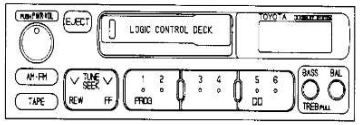
10	Tape Player	POWER COMING IN, BUT TAPE PLAYER NOT OPERATING



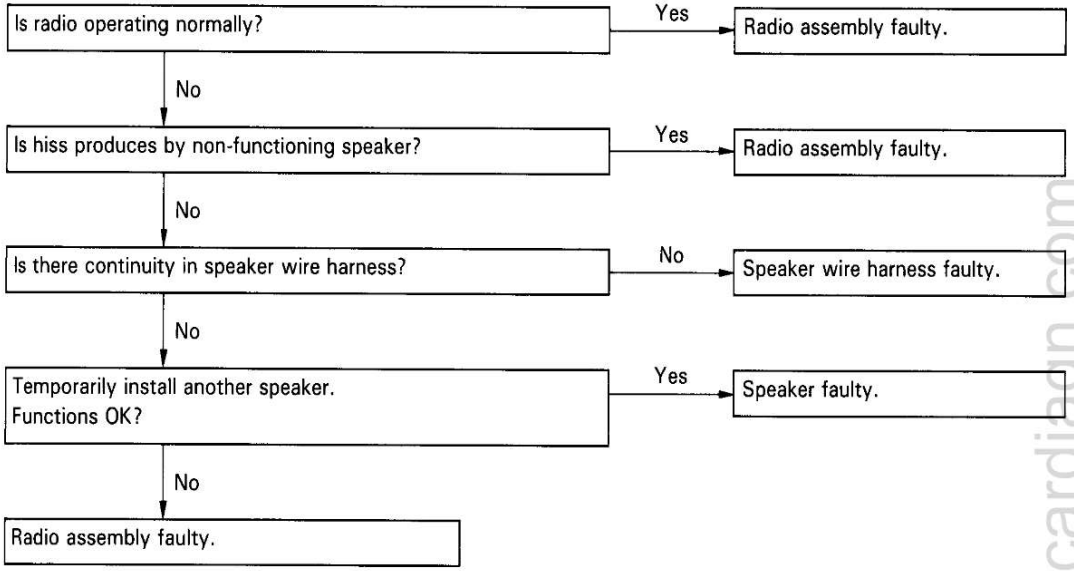
NO4757



11	Tape Player	EITHER SPEAKER DOES NOT WORK

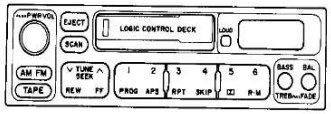


NO4757



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12 Tape Player — SOUND QUALITY POOR (VOLUME FAINT)



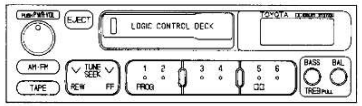
N01721

- Functions OK if different cassette tape inserted?
  - Yes → Cassette tape faulty.
  - No ↓
- Operates normally after cleaning the heads?
  - Yes → Head dirty.
  - No ↓
- Is radio operating normally?
  - Yes → Radio assembly faulty.
  - No ↓
- Is speaker properly installed?
  - No → Install properly.
  - Yes ↓
- Temporarily install another speaker. Function OK?
  - Yes → Speaker faulty.
  - No ↓
- Radio assembly faulty.

13 Tape Player — TAPE JAMMED MALFUNCTION WITH TAPE SPEED OR AUTO-REVERSE

- Function OK if different tape (less than 120 mins.) is inserted?
  - Yes → Cassette tape faulty.
  - No ↓
- Is there a foreign object inside tape player?
  - Yes → Remove foreign object.
  - No ↓
- Operates normally after cleaning the heads?
  - Yes → Head dirty.
  - No ↓
- Radio assembly faulty.

14 Tape Player — CASSETTE TAPE WILL NOT EJECT



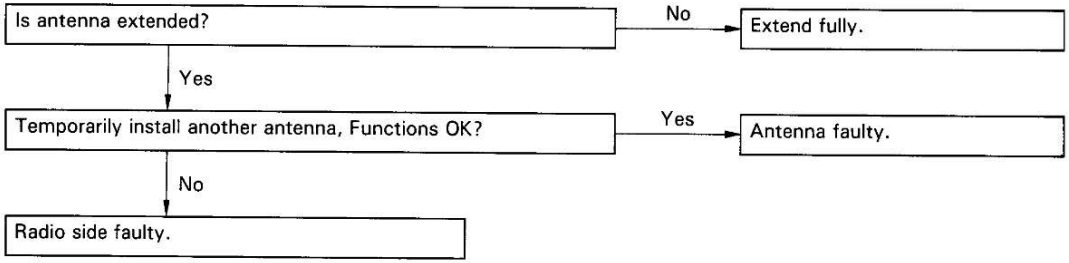
N04757

- Is tape player operating normally?
  - No → Cassette tape jammed.
  - Yes ↓
- Is auto search button of radio operating normally?
  - Yes → Radio assembly faulty.
  - No ↓
- Check if DOME fuse is OK?
  - NG → Replace fuse.
  - OK ↓
- Is +B applied to radio assembly?
  - No → +B wire harness faulty.
  - Yes ↓
- Radio assembly faulty.

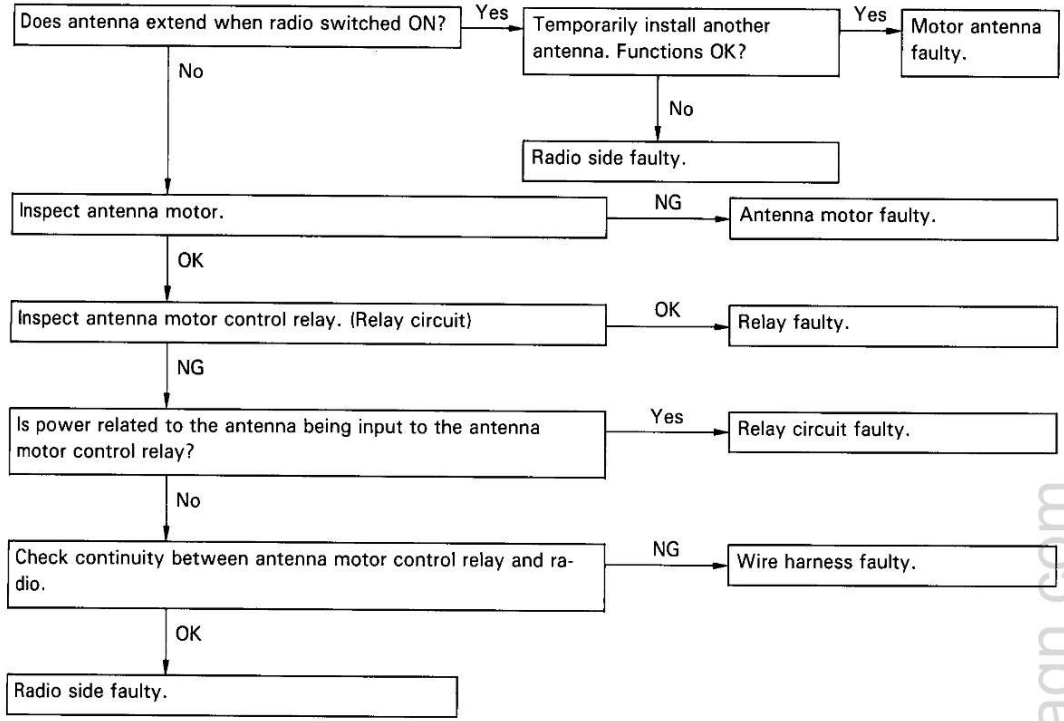
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15	Antenna	ANTENNA-RELATED

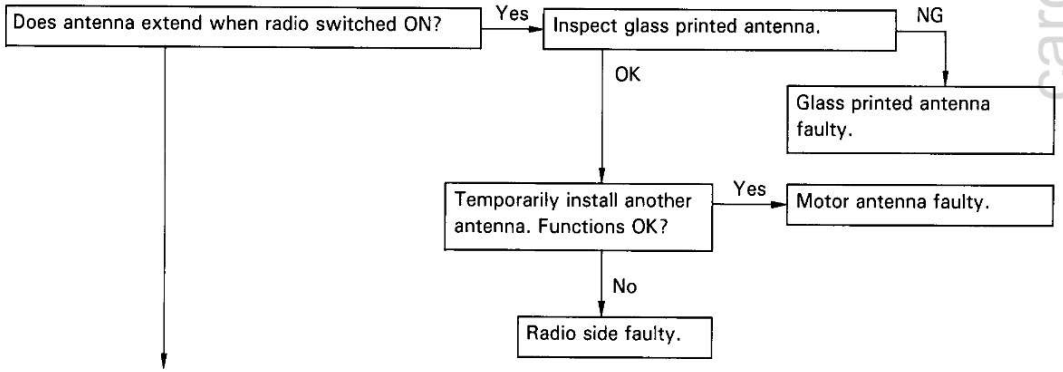
Antenna w/o Motor Type



Motor Antenna Type



Motor Antenna and Glass Printed Antenna Type



CONTINUED ON NEXT PAGE

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CONTINUED FROM PREVIOUS PAGE

- Inspect antenna motor.
  - NG → Antenna motor faulty.
  - OK ↓
- Inspect antenna motor control relay. (Relay circuit)
  - OK → Relay faulty.
  - NG ↓
- Is power related to the antenna being input to the antenna motor control relay?
  - Yes → Relay circuit faulty.
  - No ↓
- Check continuity between antenna motor control relay and radio.
  - NG → Wire harness faulty.
  - OK ↓
- Radio side faulty.

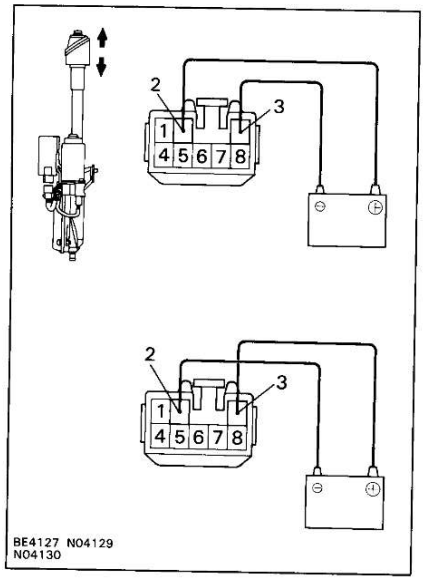
16 Noise — NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING

- Is speaker properly installed?
  - No → Install properly.
  - Yes ↓
- Is each system correctly installed?
  - No → Install properly.
  - Yes ↓
- With vehicle stopped lightly tap each system. Is noise produced?
  - Yes → Each system faulty.
  - No ↓
- Noise produced by static electricity accumulating in the vehicle body.

17 Noise — NOISE PRODUCED WHEN ENGINE STARTS

- Whisting noise which becomes high-pitched when accelerator strongly depressed, disappears shortly after engine stops.
  - Yes → Alternator noise.
  - No ↓
- Whining noise occurs when A/C is operating.
  - Yes → A/C noise.
  - No ↓
- Scratching noise occurs during sudden acceleration, driving on rough roads or when ignition switch is turned on.
  - Yes → Fuel gauge noise.
  - No ↓
- Clicking sound heard when horn button is pressed, then released. Whirring/grating sound when pushed continuously.
  - Yes → Horn noise.
  - No ↓
- Murmuring sound, stops when engine stops.
  - Yes → Ignition noise.
  - No ↓
- Tick-tock noise occurs in co-ordination with blinking of flasher.
  - Yes → Turn signal noise.
  - No ↓
- Noise occurs during window washer operation.
  - Yes → Washer noise.
  - No ↓
- Scratching noise occurs while engine is running, continues a while even after engine stops.
  - Yes → Water temp. gauge noise.
  - No ↓
- Scraping noise in time with wiper beat.
  - Yes → Wiper noise.
  - No ↓
- Other type of noise.

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ANTENNA MOTOR

ANTENNA MOTOR INSPECTION

(a) Connect the positive (+) lead from the battery to terminal 2 and the negative (−) lead to terminal 3.

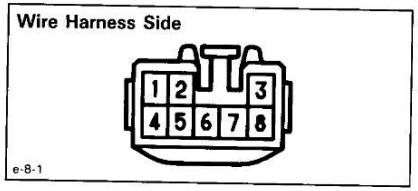
(b) Check that the motor turns (moves upward).

NOTICE: These tests must be performed quickly (within 3 — 5 seconds) to prevent the coil from burning out.

(c) Then, reverse the polarity, check that the motor turns the opposite way (moves downward).

NOTICE: These tests must be performed quickly (within 3 — 5 seconds) to prevent the coil from burning out.

If operation is not as specified, replace the motor.



ANTENNA MOTOR CONTROL RELAY

ANTENNA MOTOR CONTROL RELAY INSPECTION

RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on wire harness side as shown in the chart.

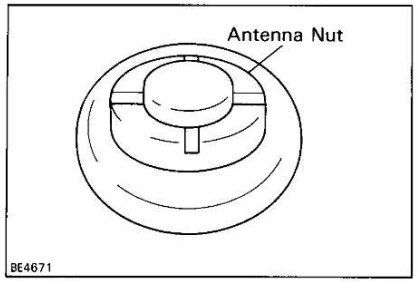
Check for	Tester connection	Condition			Specified value
Continuity	2 — 3	Constant			Continuity
	6 — Ground	Constant			Continuity
Voltage	1 — Ground	Constant			Battery voltage
	4 — Ground	Ignition switch position	LOCK or ACC		No voltage
			ON		Battery voltage
	5 — Ground	Ignition switch position	LOCK		No voltage
			ACC or ON		Battery voltage
	7 — Ground	Ignition switch position	LOCK		No voltage
			ACC or ON	Radio switch OFF or cassette ON	No voltage
				Radio switch ON and cassette OFF	Battery voltage
	8 — Ground	Ignition swich position	ACC or ON	Cassette ON or Radio switch on and cassette OFF	Battery voltage
			LOCK		No voltage

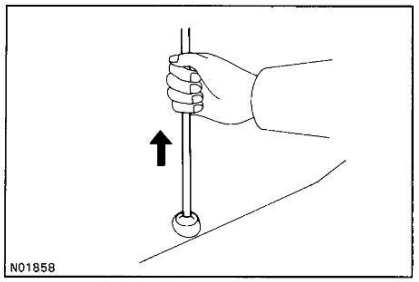
If circuit is as specified, replace the relay.

GLASS PRINTED ANTENNA

GLASS PRINTED ANTENNA INSPECTION

(Use same procedure as for "INSPECT DEFOGGER WIRES")





ANTENNA ROD REMOVAL AND INSTALLATION

ANTENNA ROD REMOVAL AND INSTALLATION

1. REMOVE ANTENNA ROD

HINT: Perform this operation with the battery negative (−) cable connected to the battery terminal.

(a) Turn the ignition switch to "LOCK" position.

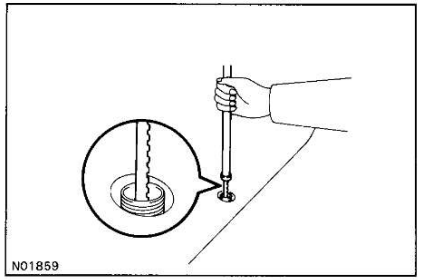
(b) Remove the antenna nut.

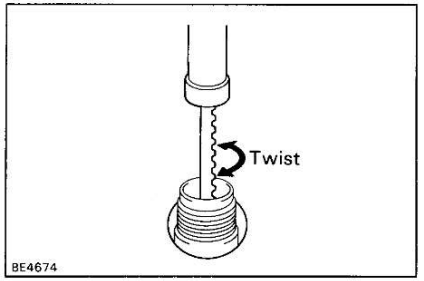
(c) Press the "AM" button on the radio receiver, and simultaneously turn the ignition switch to "ACC" positioin.

HINT:

- The rod will extend fully and be released from the motor antenna.
- After removing the antenna rod, leave the ignition switch at "ACC".

NOTICE: To prevent body damage when the antenna rod is released, hold the rod while comes out.





2. INSTALL ANTENNA ROD

(a) Insert the cable of the rod until it reaches the bottom.

HINT:

- When inserting the cable, the teeth on the cable must face toward the rear of the vehicle.
- Insert the antenna approx. 290 mm (11.4 in.)

(b) Wind the cable to retract the rod by turning the ignition switch to "LOCK" position.

HINT:

- If the ignition switch is already in "LOCK" position, perform step 1 (c) first, then turn the ignition switch to "ACC" position.
- In case the cable is not wound, twist it as shown in the illustration.
- Even if the rod has not retracted fully, install the antenna nut and inspect the antenna rod operation. It will finally retract fully.

(c) Inspect the antenna rod operation by pushing the radio wave band select buttons.

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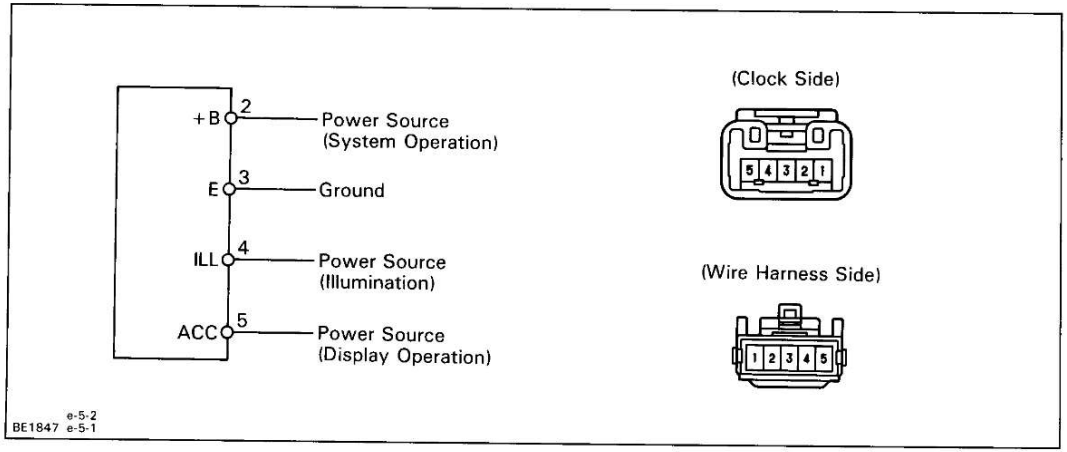
CLOCK

TROUBLESHOOTING

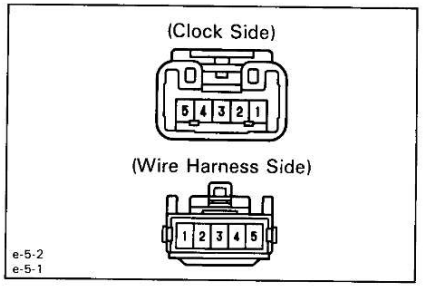
HINT: Troubleshoot the clock according to the table below.

Clock will not operate	1
Clock loses or gains time	2

± 1.5 seconds/day



1 CLOCK WILL NOT OPERATE



(a) Check that the battery voltage is 10 — 16 V.
If voltage is not as specified, replace the battery.

(b) Check that the DOME fuse is not blown.
If the fuse is blown, replace the fuse and check for short.

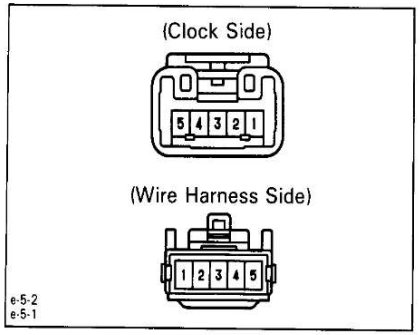
(c) Troubleshoot the clock as follows.
HINT: Inspect the connector on the wire harness side.

Is there battery voltage between terminal +B and body ground?
- No → Open or short circuit in wire harness between terminal +B and DOME fuse.
- Yes ↓

Is there continuity between terminal GND and body ground?
- No → Open circuit in wire harness between terminal GND and body ground.
- Yes ↓

Replay clock.

2 CLOCK LOSES OR GAINS TIME



(a) Check that the battery voltage is 10 — 16 V.
If voltage is not as specified, replace the battery.

(b) Inspect the error of the clock.

Allowable error (per day): ± 1.5 seconds

If the error exceeds the allowable error, replace the clock.

(c) Check that the clock adjusting button is sticking in position and has failed to return.
If the button is not returned, repair or replace the clock.

(d) Troubleshoot the clock as follws.
HINT: Inspect the connector on the wire harness side.

Is there 10 — 16 V between terminal +B and body ground?
- Below 10 V → Locate cause and repair, or recharge battery.
- Yes ↓

Adjust or replace clock.

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