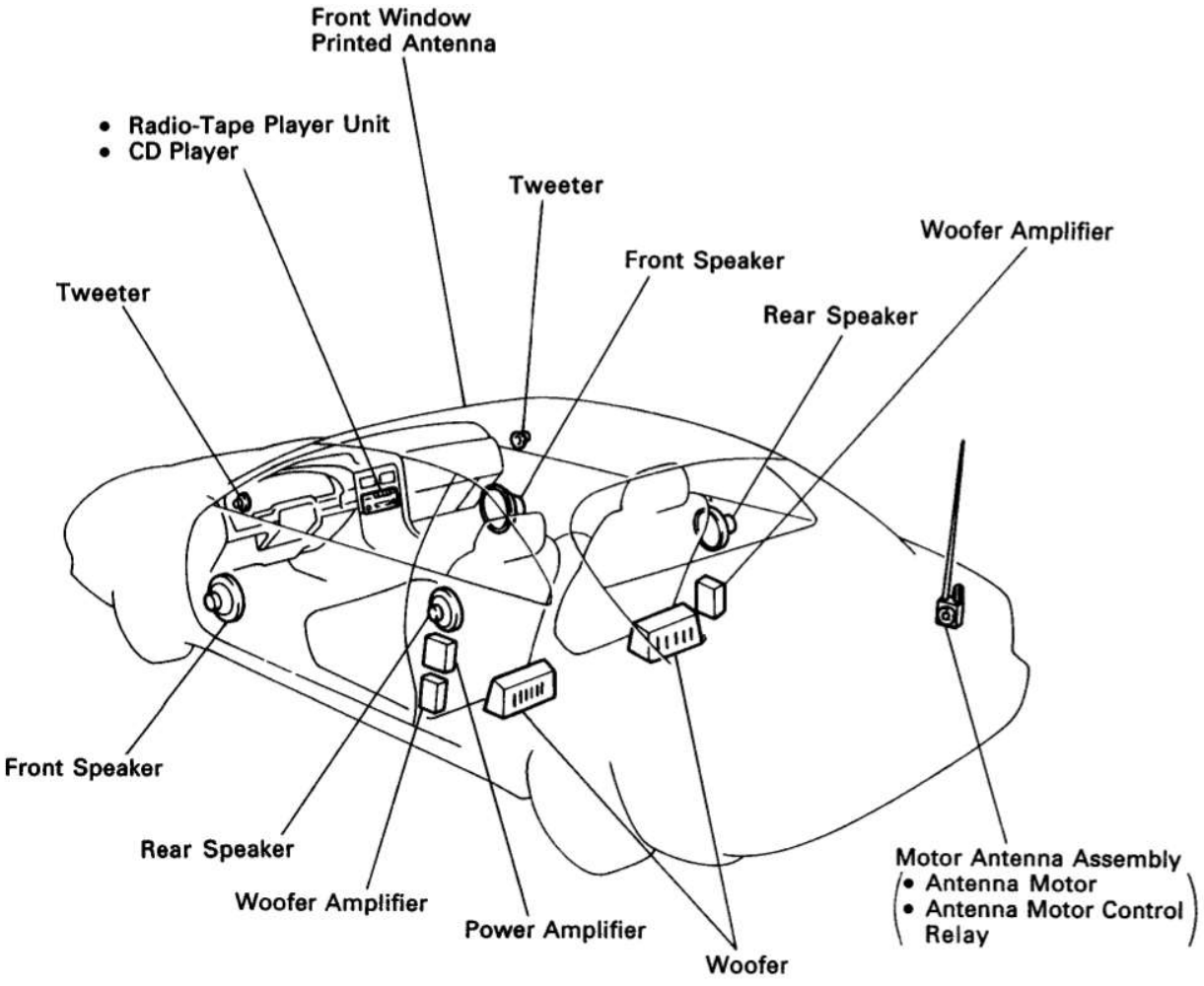
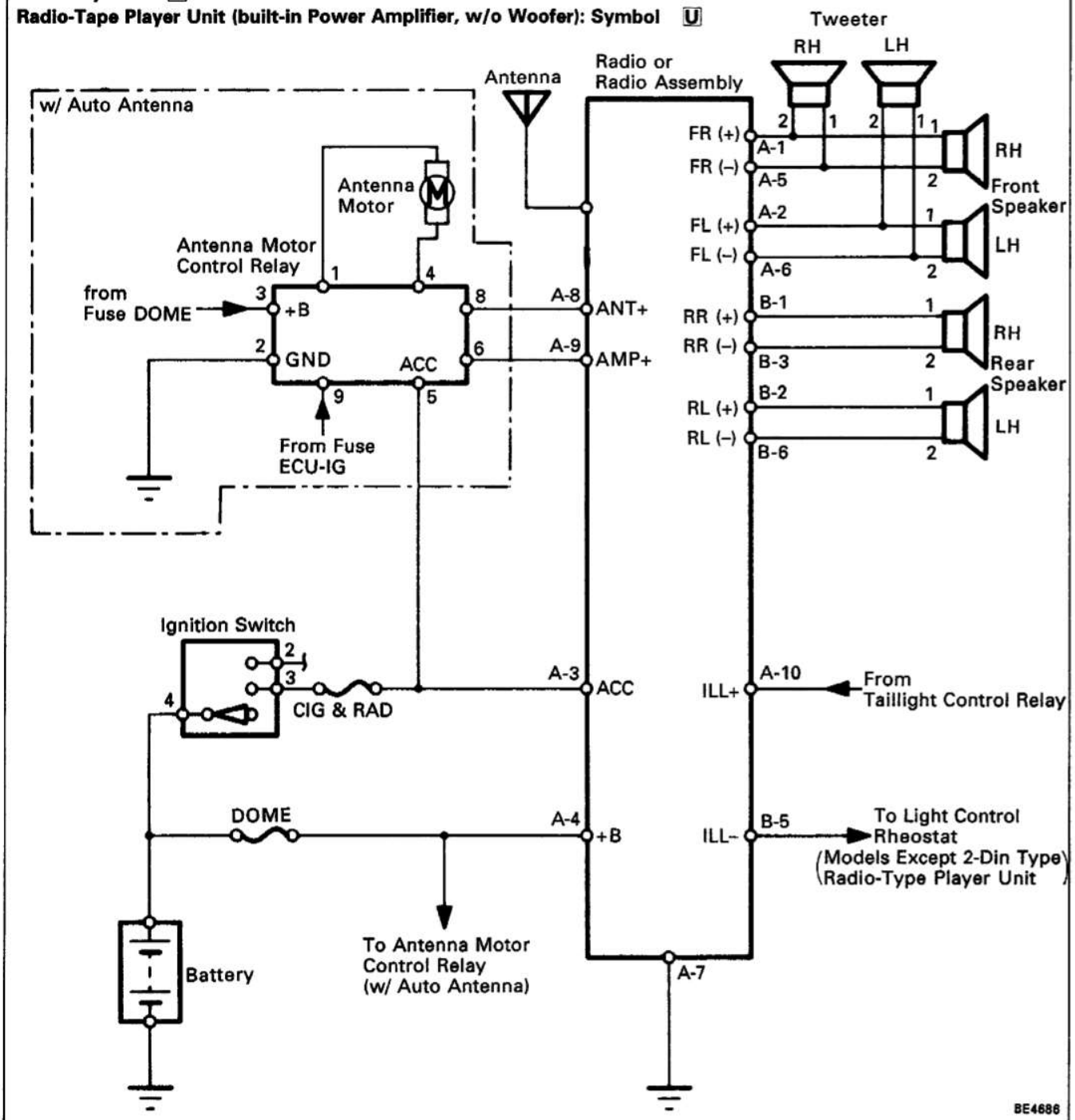
AUDIO SYSTEM
PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS

Radio: Symbol R
Radio-Tape Player Unit (built-in Power Amplifier, w/o Woofer): Symbol U

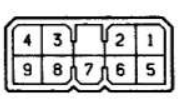


The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Radio Assembly
Connector "A" Connector "B"



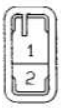
Antenna Motor
Control Relay



Front Speaker



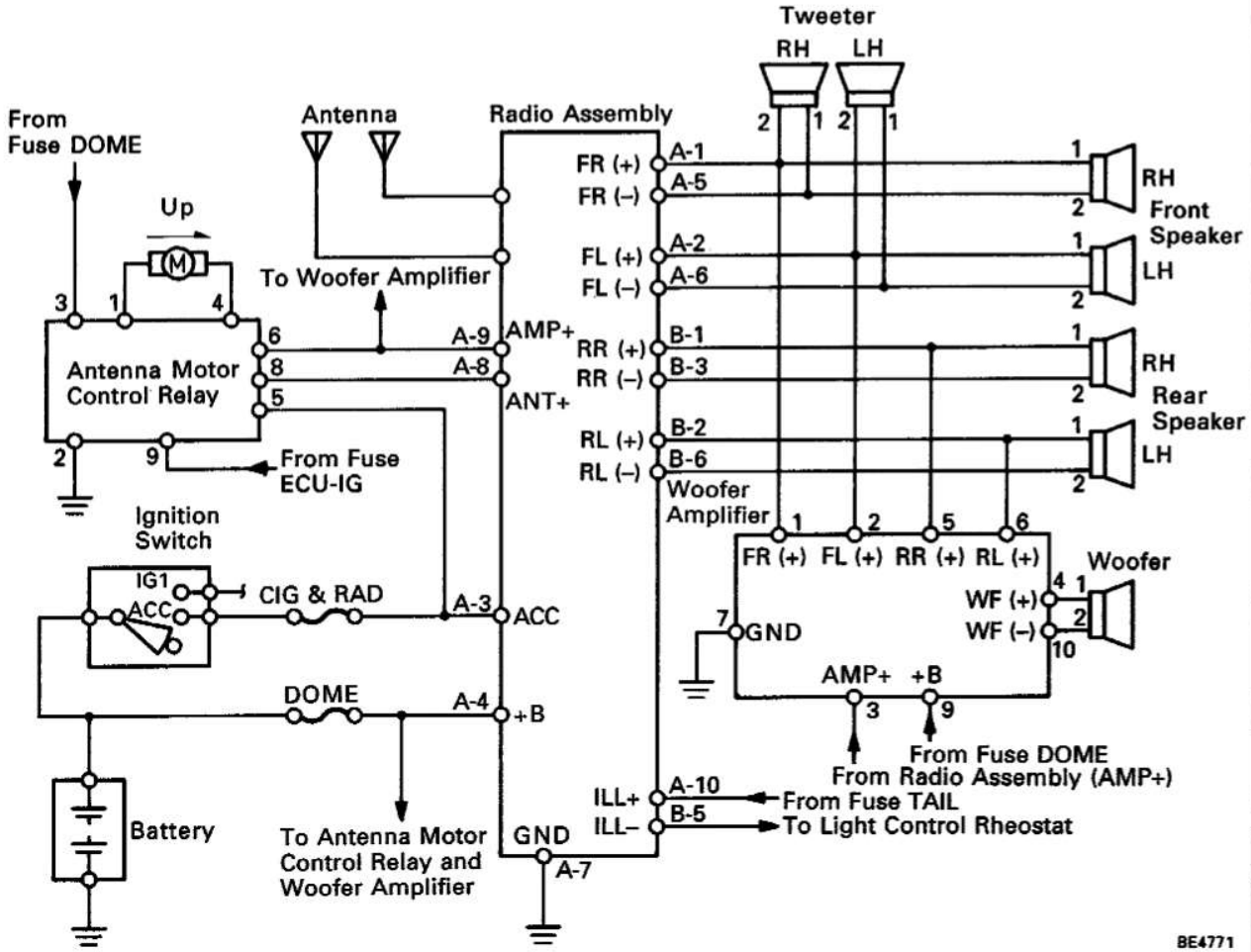
Rear Speaker



Tweeter



Radio-Tape Player Unit (built-in Power Amplifier, w/ Woofer): Symbol U



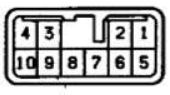
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Radio Assembly Connector "A" Connector "B"



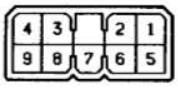
S-10-2-A S-6-2-E

Woofer Amplifier



S-10-2-A

Antenna Motor Control Relay



G-8-2

Front Speaker



Ie-2-2-J

Rear Speaker and Woofer



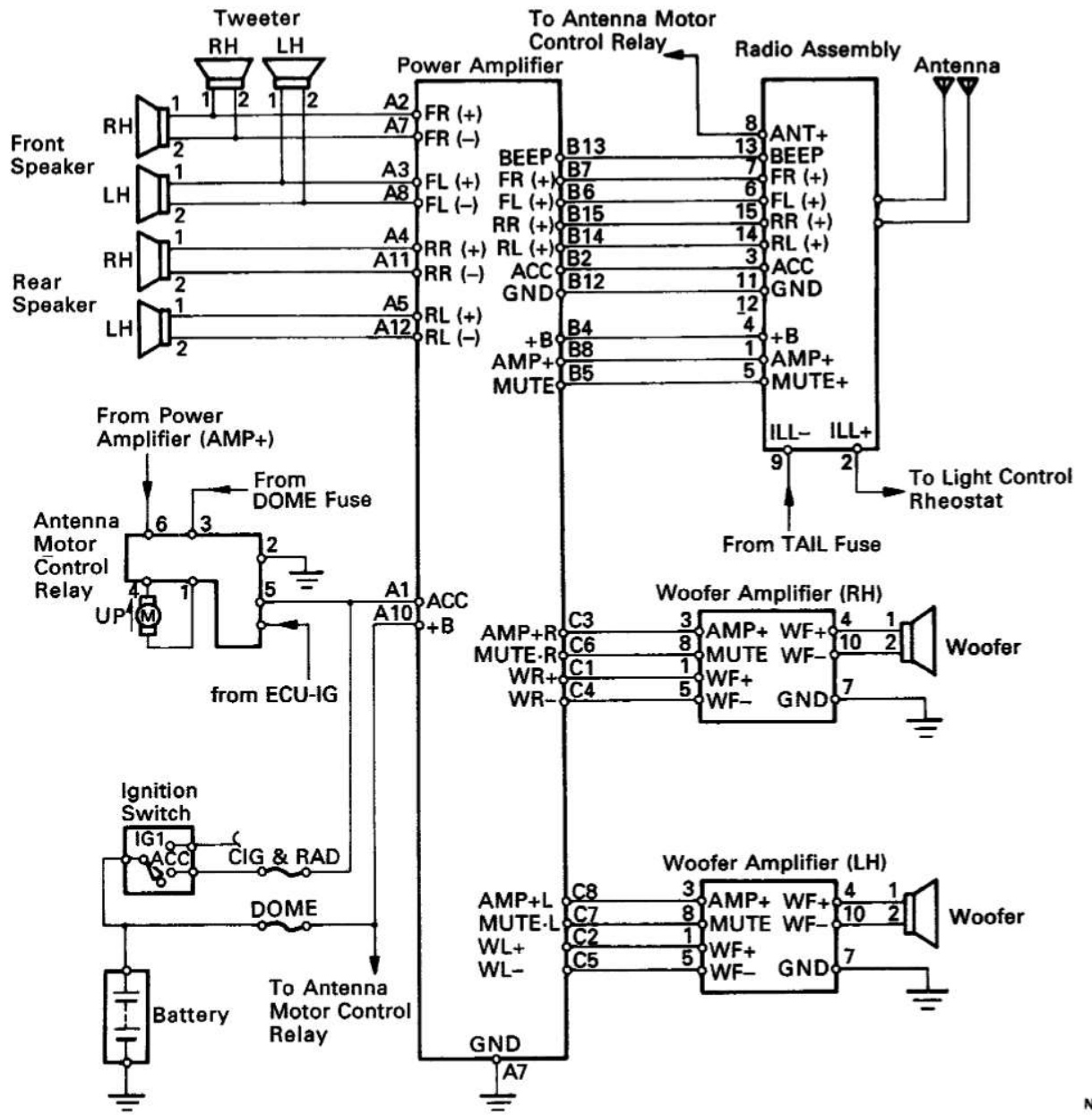
BE4123

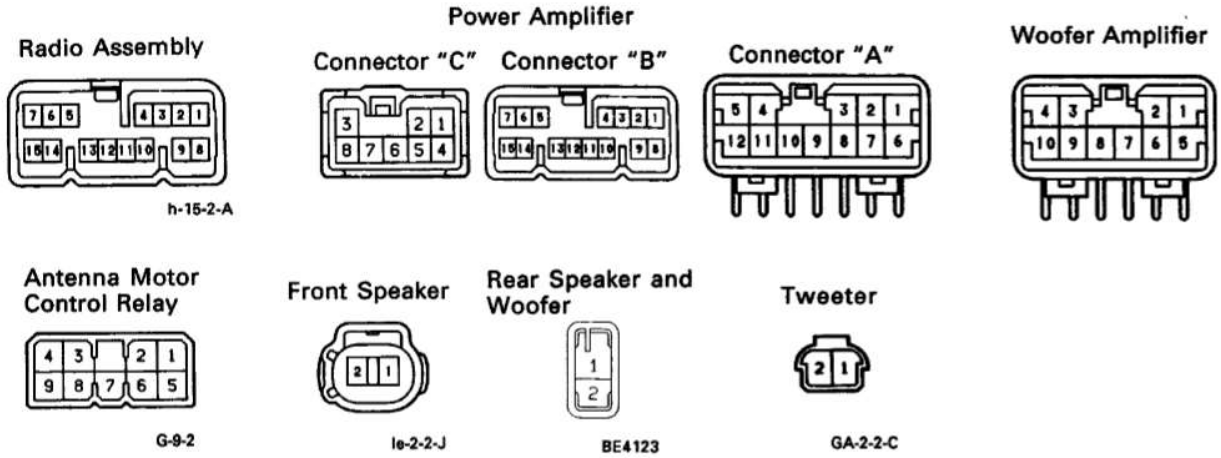
Tweeter



GA-2-2-C

Radio-Tape Player Unit (separate Power Amplifier, w/ Woofer): Symbol P
Radio-Tape-CD Player Unit: Symbol C





The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

SYSTEM DESCRIPTION

RADIO WAVE BAND

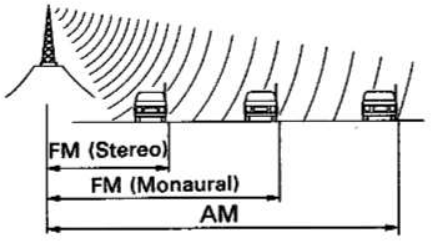
The radio wave bands used in radio broadcasting are as follows:

Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 M Hz
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 though 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.



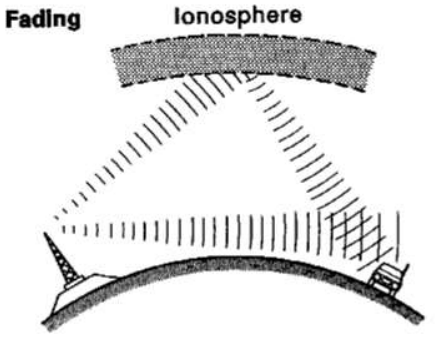
BE2818

RECEPTION PROBLEMS

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

Fading

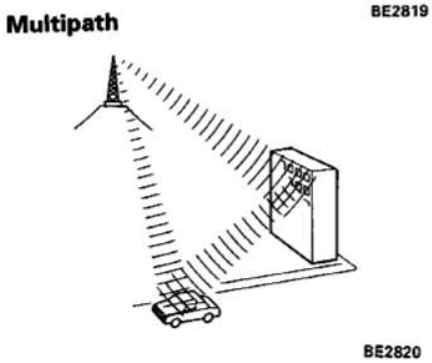
Besides electrical interference, AM broadcasts are also susceptible to other types of interference, especially at night. This is because AM radio waves bounce off the ionosphere at night. These radio waves then interfere with the signals from the same transmitter that reach the vehicle’s antenna directly.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



BE2819

Multipath

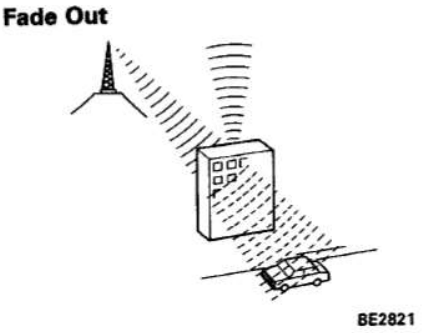
One type of interference caused by the bouncing of radio waves off of obstructions is called ”multipath”. Multipath occurs when a signal from the broadcast transmitter antenna bounces off of buildings and moun–tains and interferes with the signal that is received d i rectly.



BE2820

Fade Out

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



BE2821

COMPACT DISC PLAYER

Compact Disc (hereafter called "CD") players use a laser beam pick–up to read the digital signals recorded on the CD and reproduce analog signals of the music, etc. There are 4.7 in. (12 cm) and 3.2 in. (8 cm) CD available.

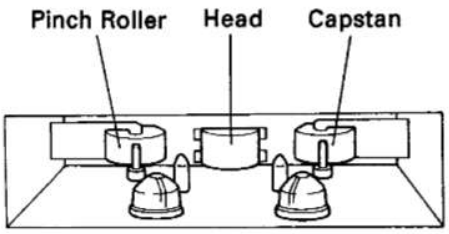
HINT: Never attempt to disassemble or oil any part of the player unit. Do not insert any object other than a disc into the slot.

NOTICE: CD players use invisible laser beam which could cause hazardous radiation exposure if directed. Be sure to operate the player correctly as instructed.

MAINTENANCE

(Tape Player)

Example:



N02844

Head Cleaning

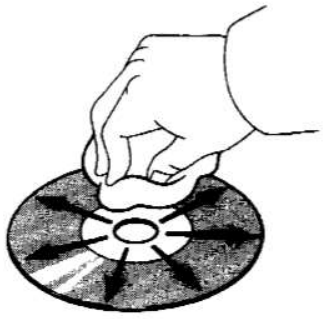
(a) Raise the cassette door with your finger.
Next using a pencil or like object, push in the guide.
(b) Using a cleaning pen or cotton applicator soaked in cleaner, clean the head surface, pinch rollers and capstans.

(CD Player)

Disc Cleaning

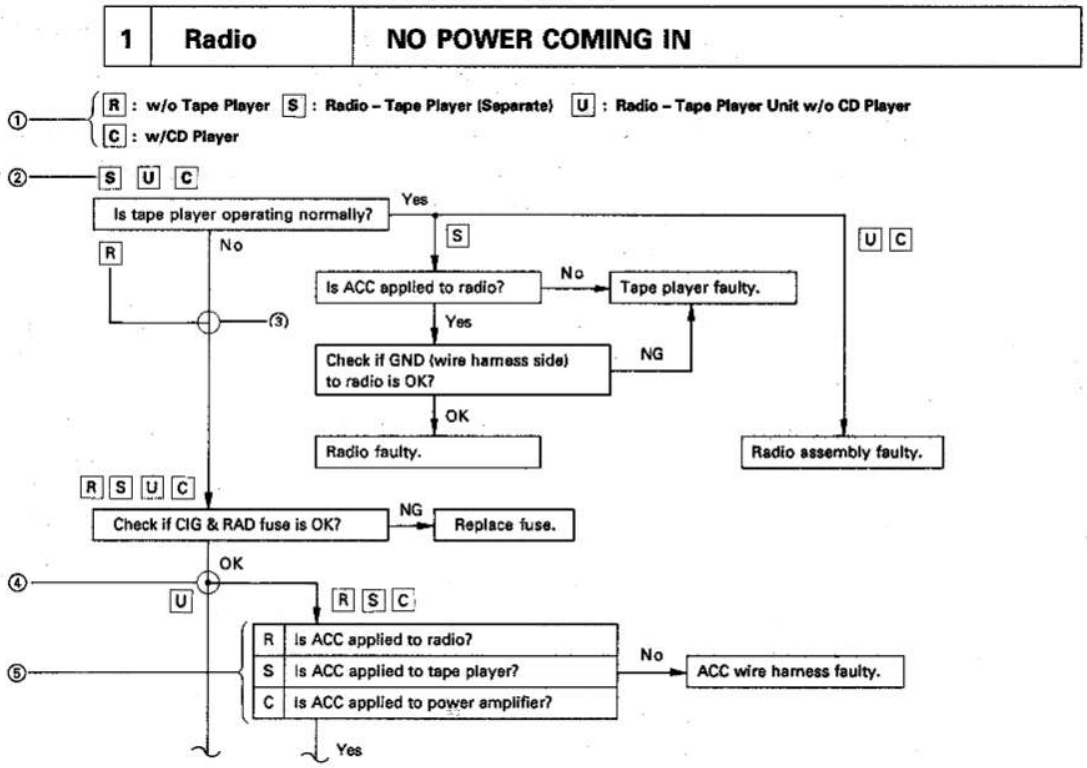
If the Disc gets dirty, clean the Disc by wiping the surfaces from the center to outside in the radial directions with a soft cloth.

NOTICE: Do not use a conventional record cleaner or anti–static record preservative.



BE4331

HOW TO USE DIAGNOSTIC CHART



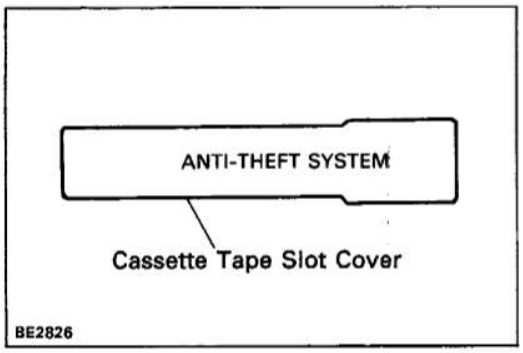
Audio system type and symbol used.
HINT: Confirm the applicable type of audio system. (See page BE–158).

(2) Symbol for type of audio system the question applies to.
HINT: If the audio system type is not applicable, proceed to next question below.

(3) Junction without black circle.
HINT: Proceed to next question below.

(4) Junction with black circle.
HINT: Proceed to question for applicable audio system type.

(5) HINT: Select question for applicable audio system type.



ANTI–THEFT SYSTEM

The anti–theft system is only provided for audio sys–tems equipped with an Acoustic Flavor function.

HINT: The words ”ANTI–THEFT SYSTEM” are dis–played on the cassette tape slot cover.
For operation instructions for the anti–theft system, please consult the audio system section in the Owner’s Manual.

SETTING SYSTEM

The system is in operation once the customer has pushed the required buttons and entered the customer–selected 3–digit ID number.
(Refer to the Owner’s Manual ”SETTING THE ANTI–THEFT SYSTEM”)

HINT:
- When the audio system is shipped the ID number has not been input, so the anti–theft system is not in operation.
- If the ID number has not been input, the audio system remains the same as a normal audio system.

2. ANTI–THEFT SYSTEM OPERATION

If the normal electrical power source (connector or battery terminal) is cut off, the audio system becomes inoperable, even if the power supply resumes.

3. CANCELLING SYSTEM

The ID number chosen by the customer is input to cancel the anti–theft system.
(Refer to the Owner’s Manual ”IF THE SYSTEM IS ACTIVATED”)

HINT: To change or cancel the ID number, please. refer to the owner’s Manual ”CANCELLING THE SYSTEM”.

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).

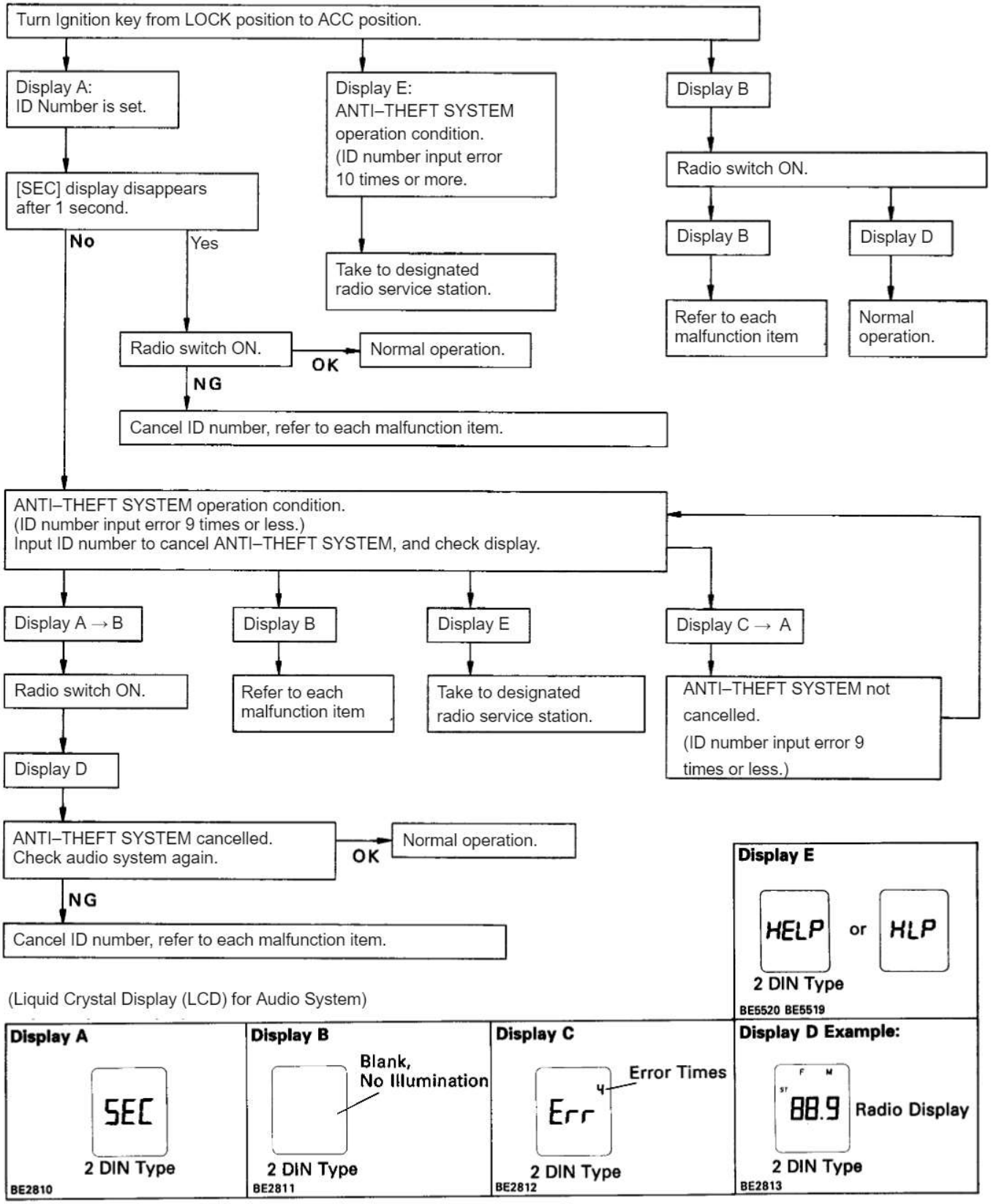
HINT: This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.)

Always inspect the trouble taking the following items into consideration.

- Open or short circuit of the wire harness
- Connector or terminal connection fault
- For audio systems with anti–theft system, troubleshooting items marked (*)indicate that "Troubleshooting for ANTI–THEFT SYSTEM" should be carried out first.

Problem		No.
Radio	No power coming in.	*1
	Power coming in, but radio not operating.	*2
	Noise present, but AM – FM not operating.	3
	Either speaker does not work.	4
	Either AM or FM does not work.	5
	Reception poor (Volume faint).	5
	Few preset tuning bands.	5
	Sound quality poor.	6
	Cannot set station select button.	7
	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
	Either speaker does not work.	11
	Sound quality poor (Volume faint).	12
	Tape jammed, malfunction with tape speed or auto–reverse.	13
	APS, SKIP, RPT buttons not operating.	14
	Cassette tape will not eject.	*15
CD Player	CD cannot be inserted.	16
	CD inserts, but no power.	17
	Power coming in, but CD player not operating.	18
	Sound jumps.	19
	Sound quality poor (Volume faint).	20
	Either speaker does not work.	21
	CD will not eject.	22
Antenna	Antenna – related.	23
Noise	Noise produced by vibration or shock while driving.	24
	Noise produced when engine starts.	25

TROUBLESHOOTING FOR ANTI–THEFT SYSTEM

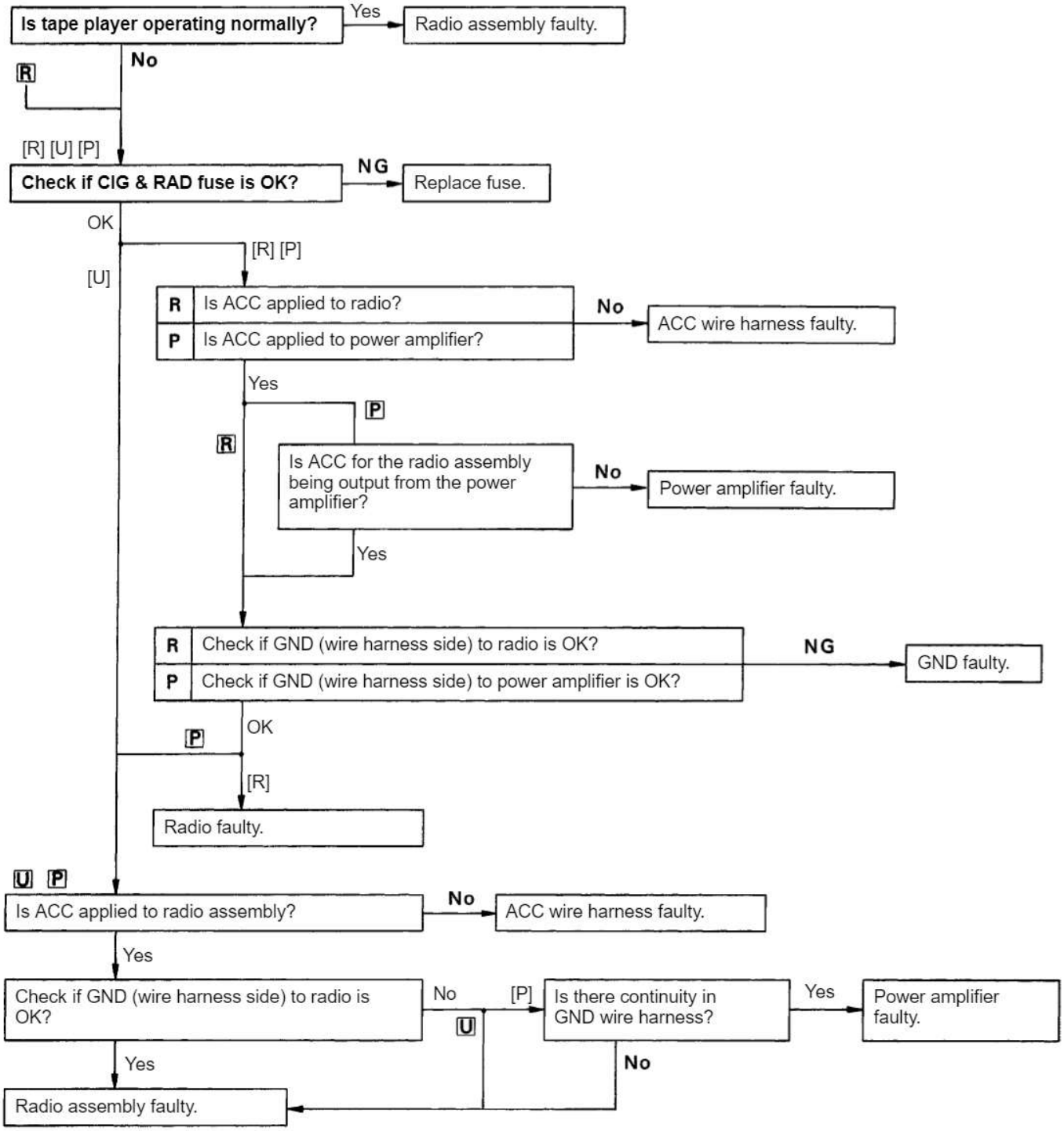


HINT:

- Refer to Owner's Manual for operation details of ANTI–THEFT SYSTEM.
- When the ID number has been cancelled, reset the same number after completing the operation, or inform the customer that it has been cancelled.

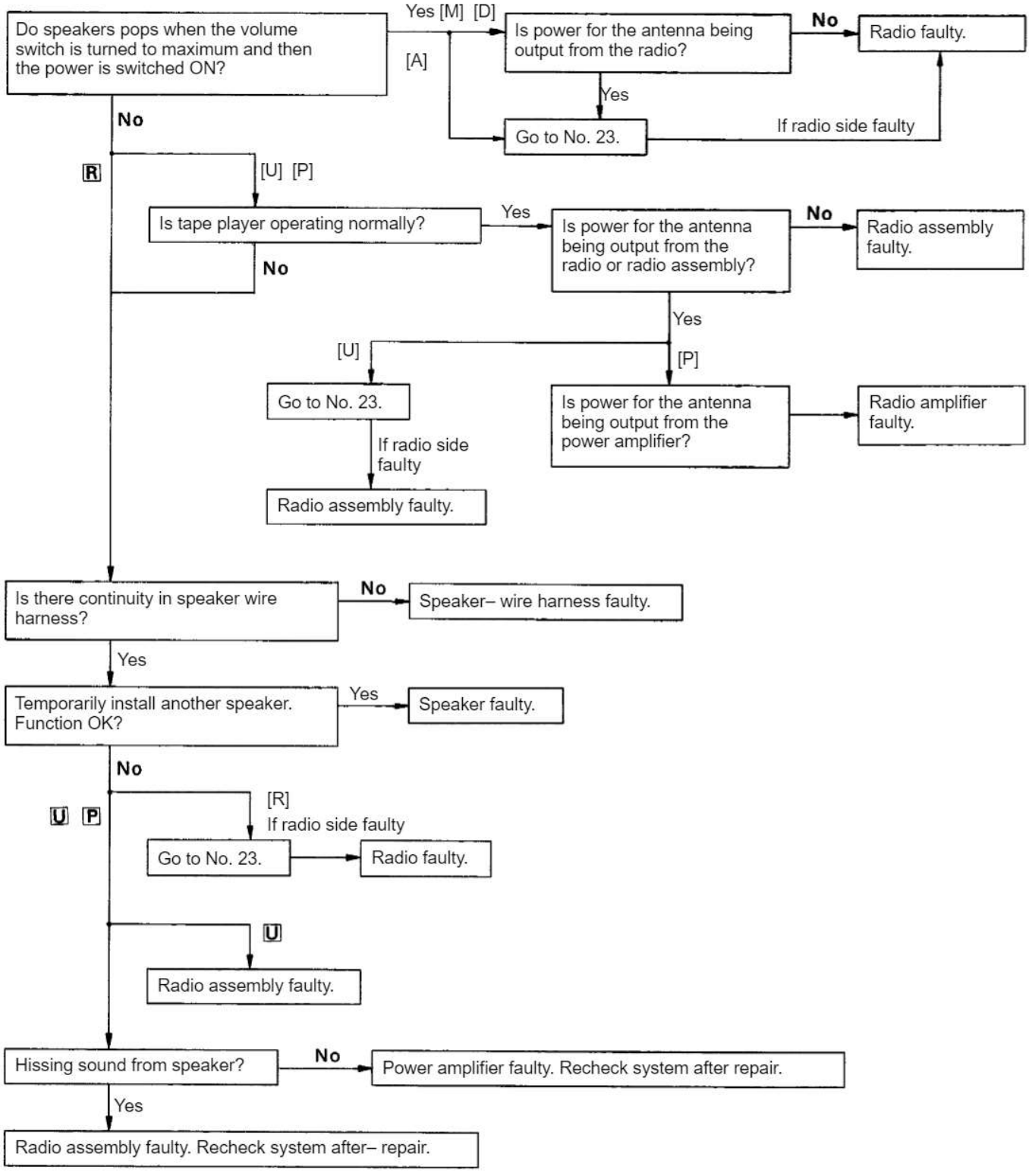
1 Radio NO POWER COMING IN

[R] : Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



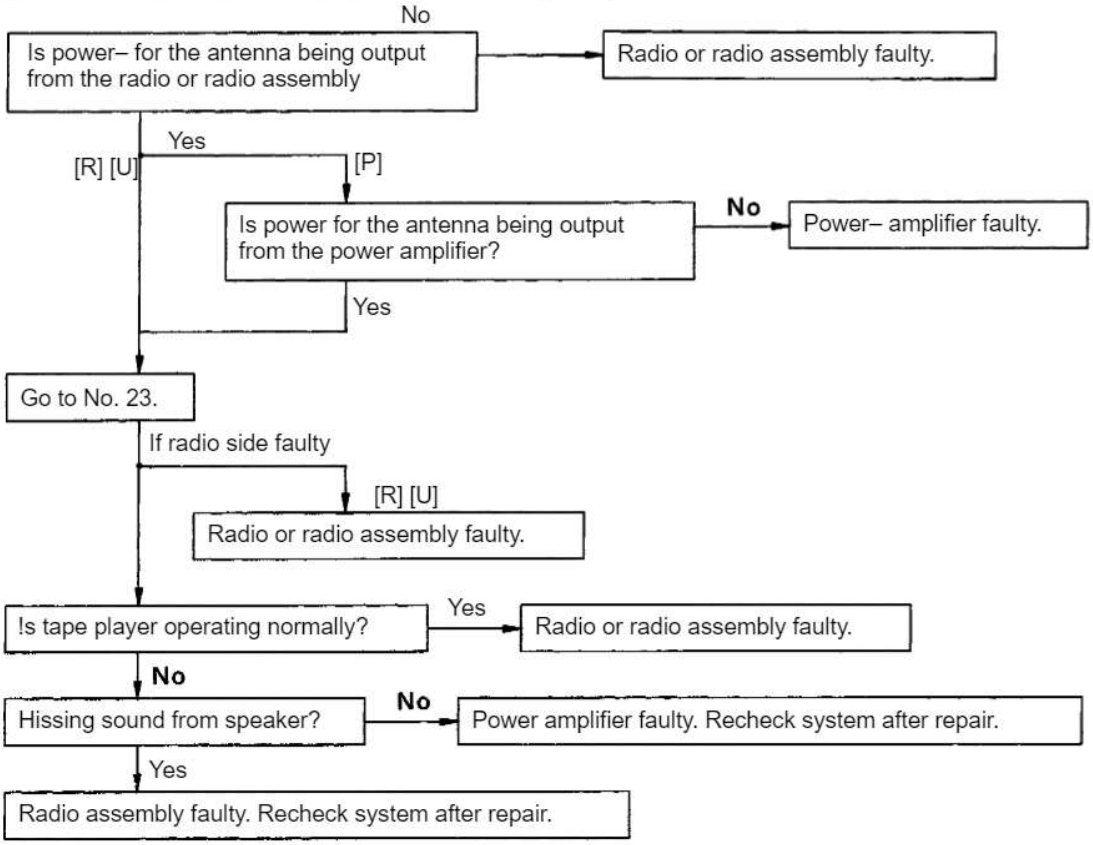
2 Radio — POWER COMING IN, BUT RADIO NOT OPERATING

[R] : Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)
[A] : Antenna w/o Motor [M] : Motor Antenna [D]: Motor Antenna and Glass Printed Antenna



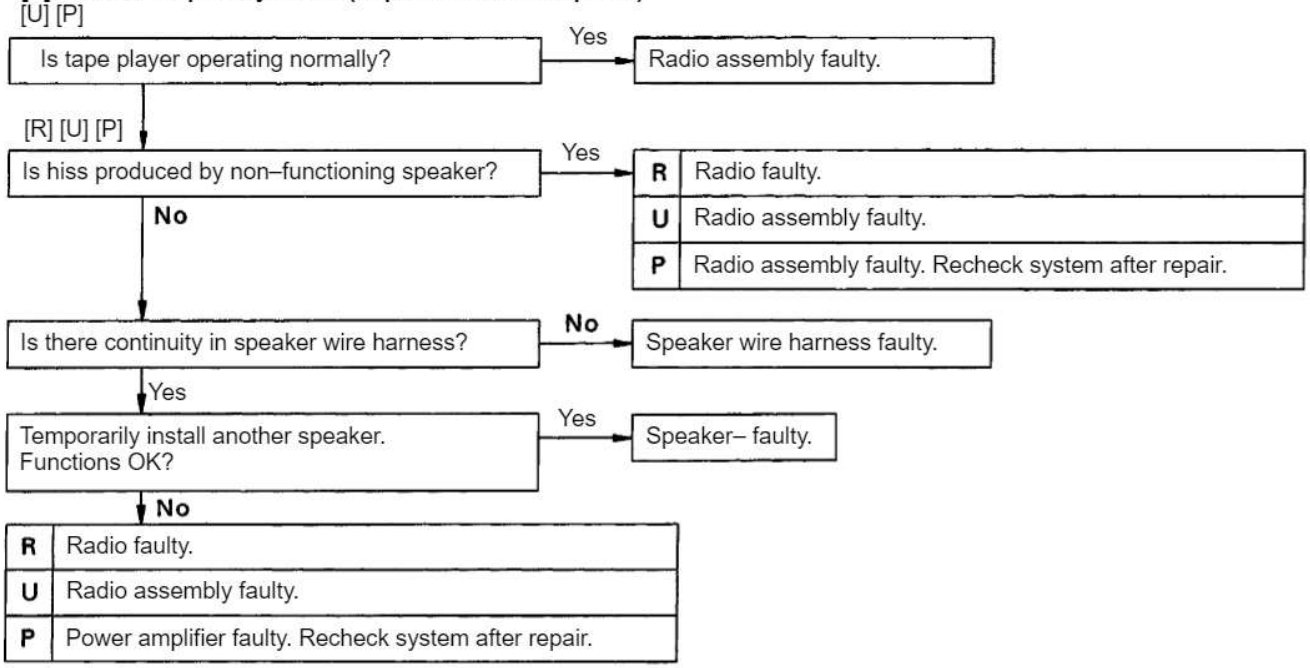
3 Radio NOISE PRESENT, BUT AM–FM NOT OPERATING

[R]: Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



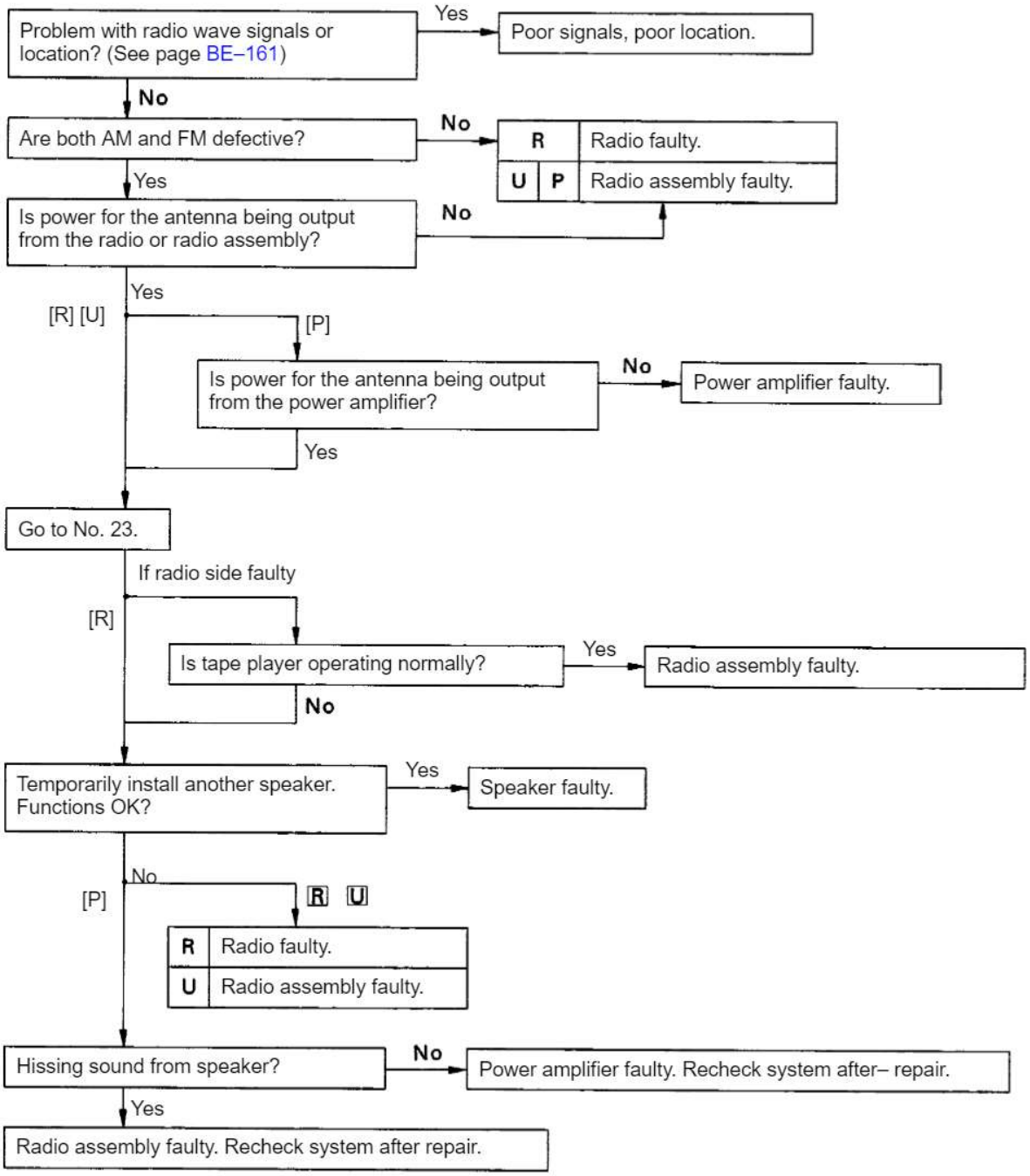
4 Radio EITHER SPEAKER DOES NOT WORK

[R] : Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



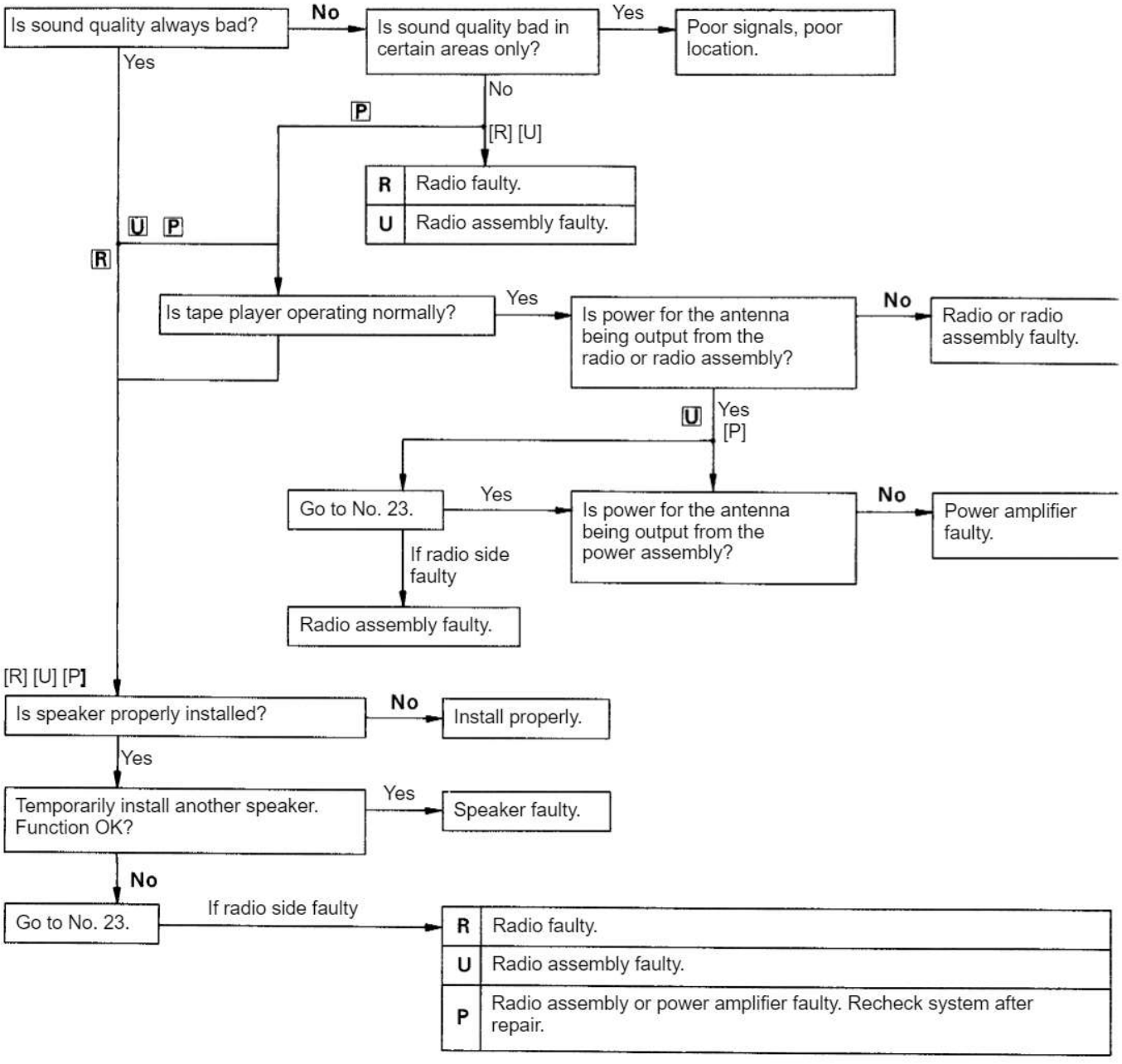
5	Radio	EITHER AM OR FM DOES NOT WORK, RECEPTION POOR (VOLUME FAINT), FEW PRESET TUNING BANDS

[R]: Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P]: Radio – Tape Player Unit (Separate Power Amplifier)



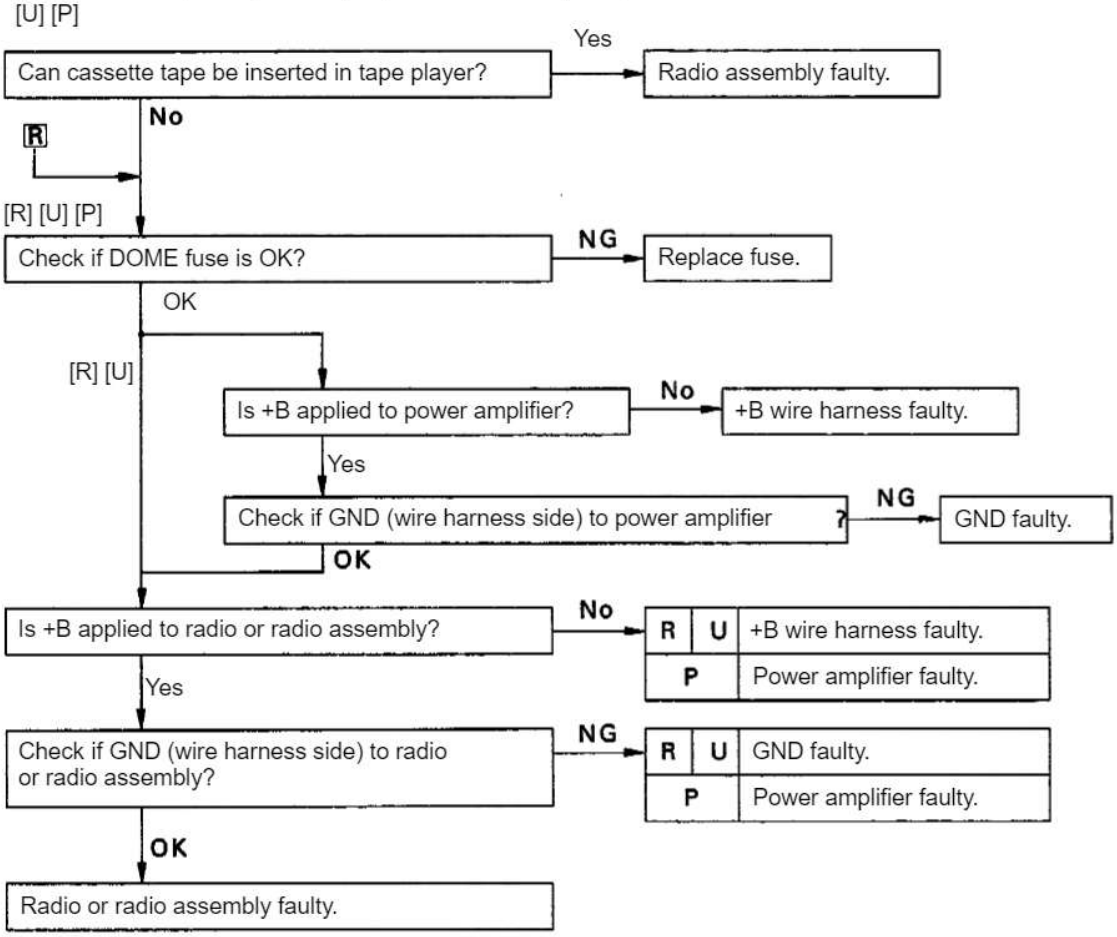
6 Radio — SOUND QUALITY POOR

[R]: Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P]: Radio – Tape Player Unit (Separate Power Amplifier)



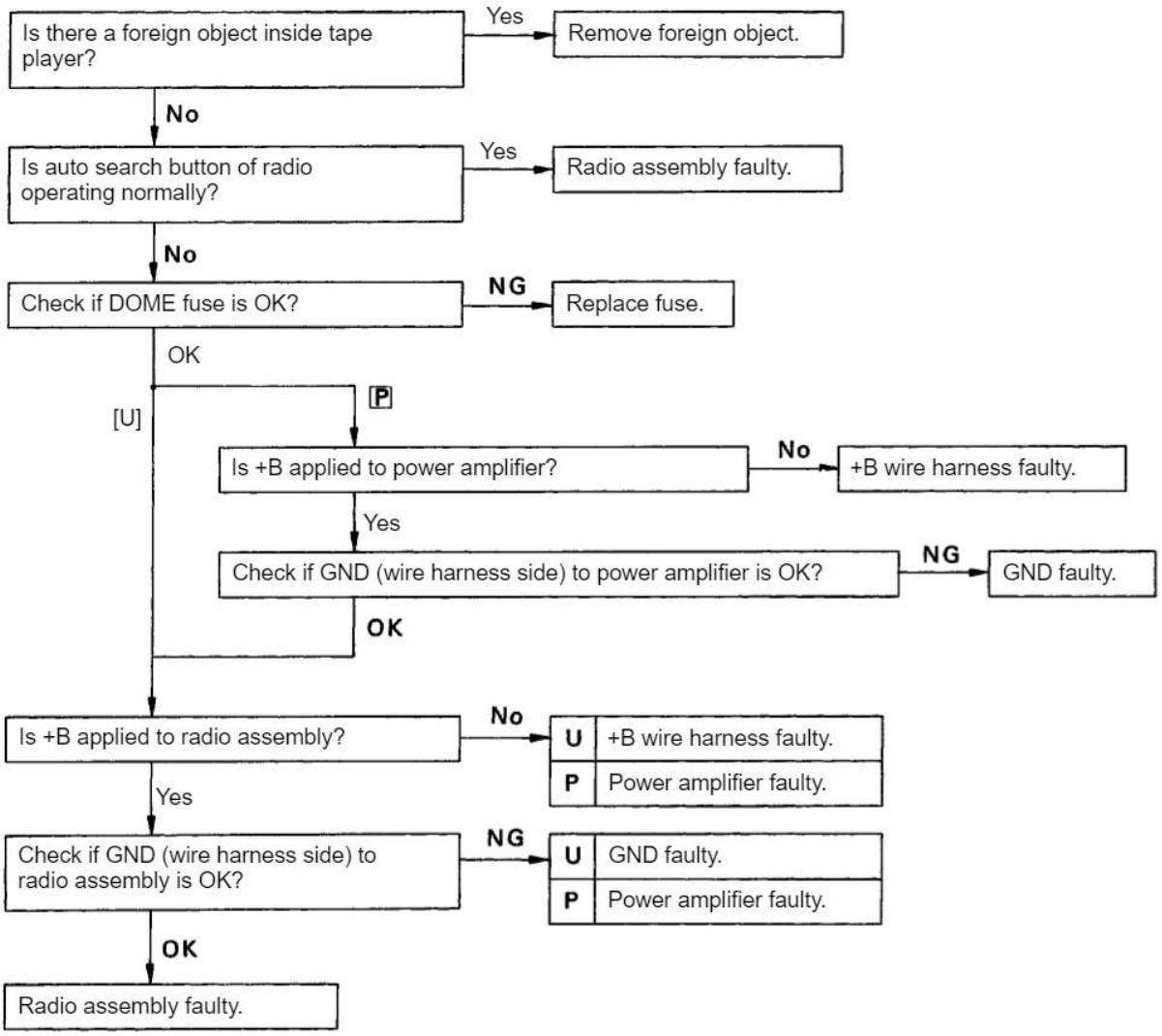
7 Radio — CANNOT SET STATION SELECT BUTTON, PRESET MEMORY DISAPPEARS

[R] : Radio [U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



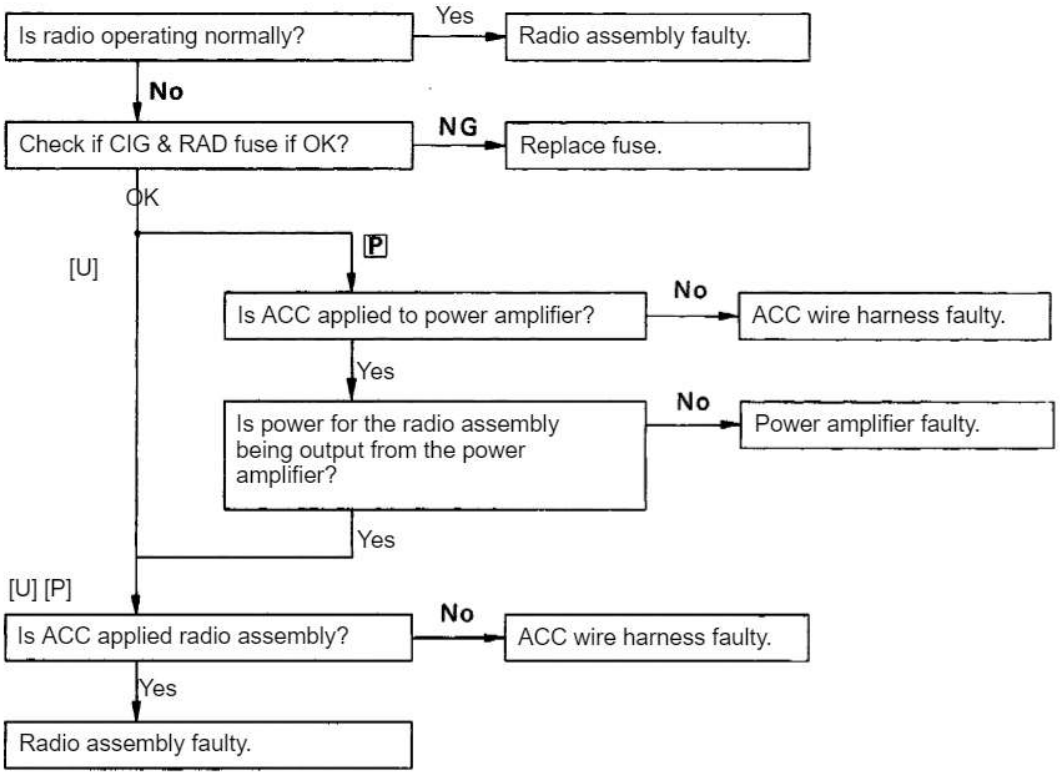
8 Tape Player CASSETTE TAPE CANNOT BE INSERTED

[U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)
[U] [P]



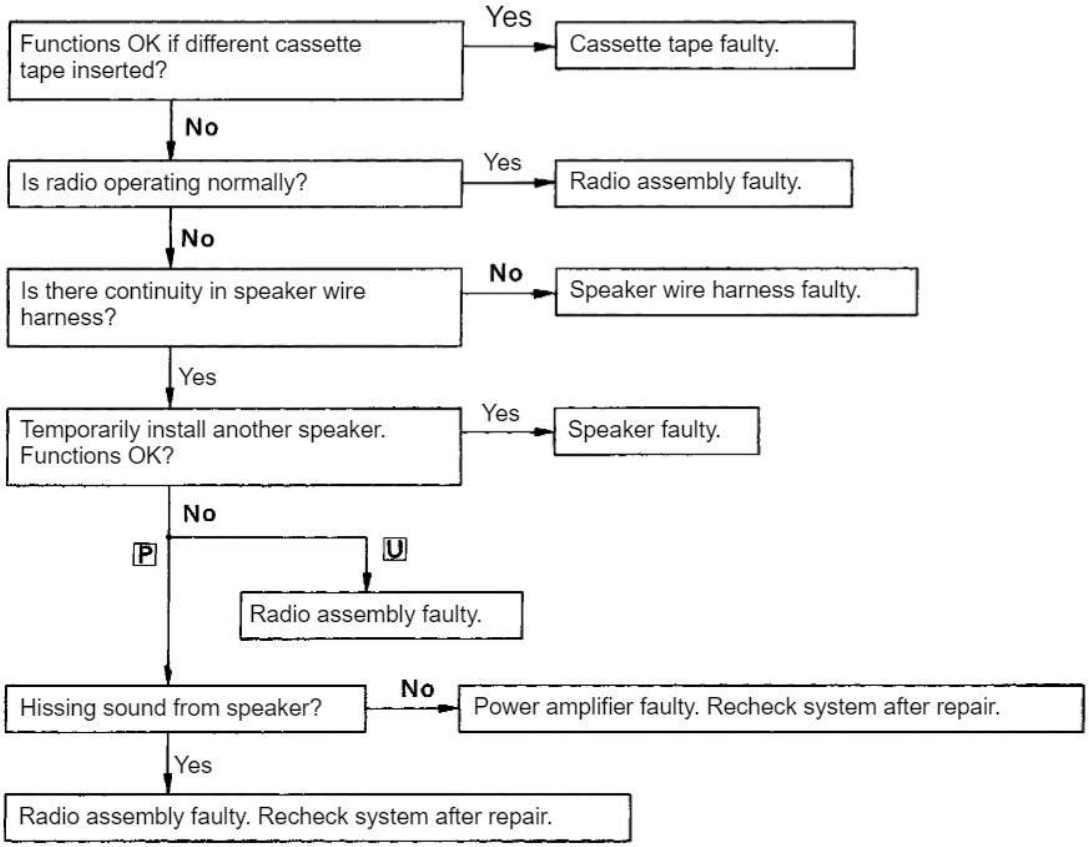
9 Tape Player CASSETTE TAPE INSERTS, BUT NO POWER

[U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player, Unit (Separate Power Amplifier)



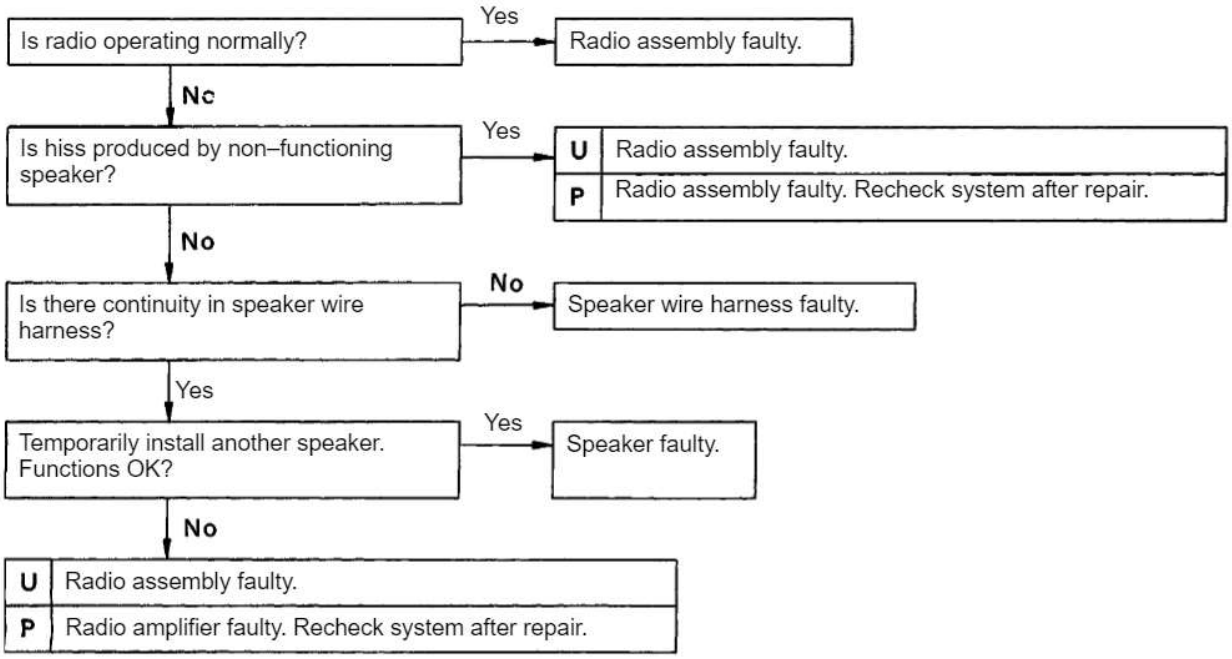
10 Tape Player — POWER COMING IN, BUT TAPE PLAYER NOT OPERATING

[U] Radio – Tape Player Unit (Built–in Power Amplifier
[P]: Radio – Tape Player Unit (Separate Power Amplifier)



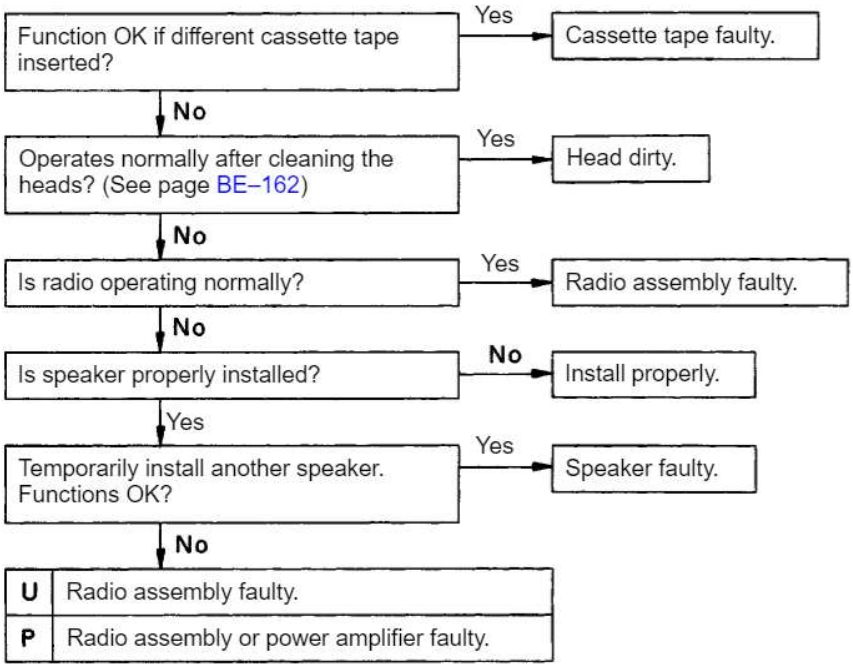
11 Tape Player — EITHER SPEAKER DOES NOT WORK

[U] : Radio – Tape Player Unit (Built–in Power Amplifier
[P] : Radio – Tape Player Unit (Separate Power Amplifier)

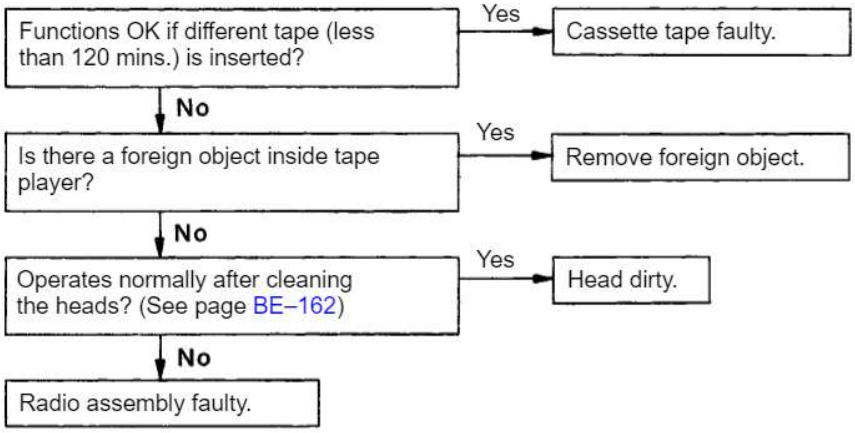


12 Tape Player SOUND QUALITY POOR (VOLUME PAINT)

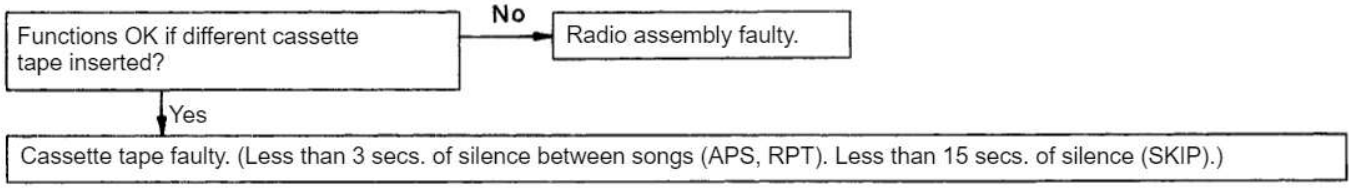
[U]: Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



13 Tape Player TAPE JAMMED, MALFUNCTION WITH TAPE SPEED OR AUTO–REVERSE



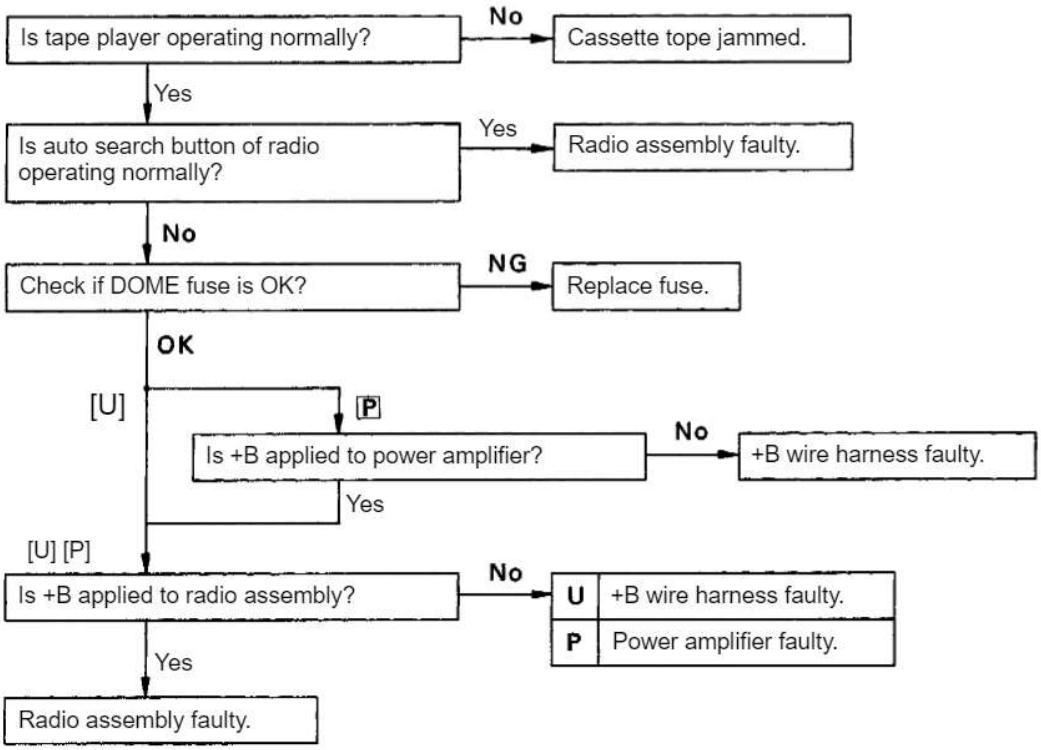
14 Tape Player APS, SKIP, RPT BUTTONS NOT OPERATING



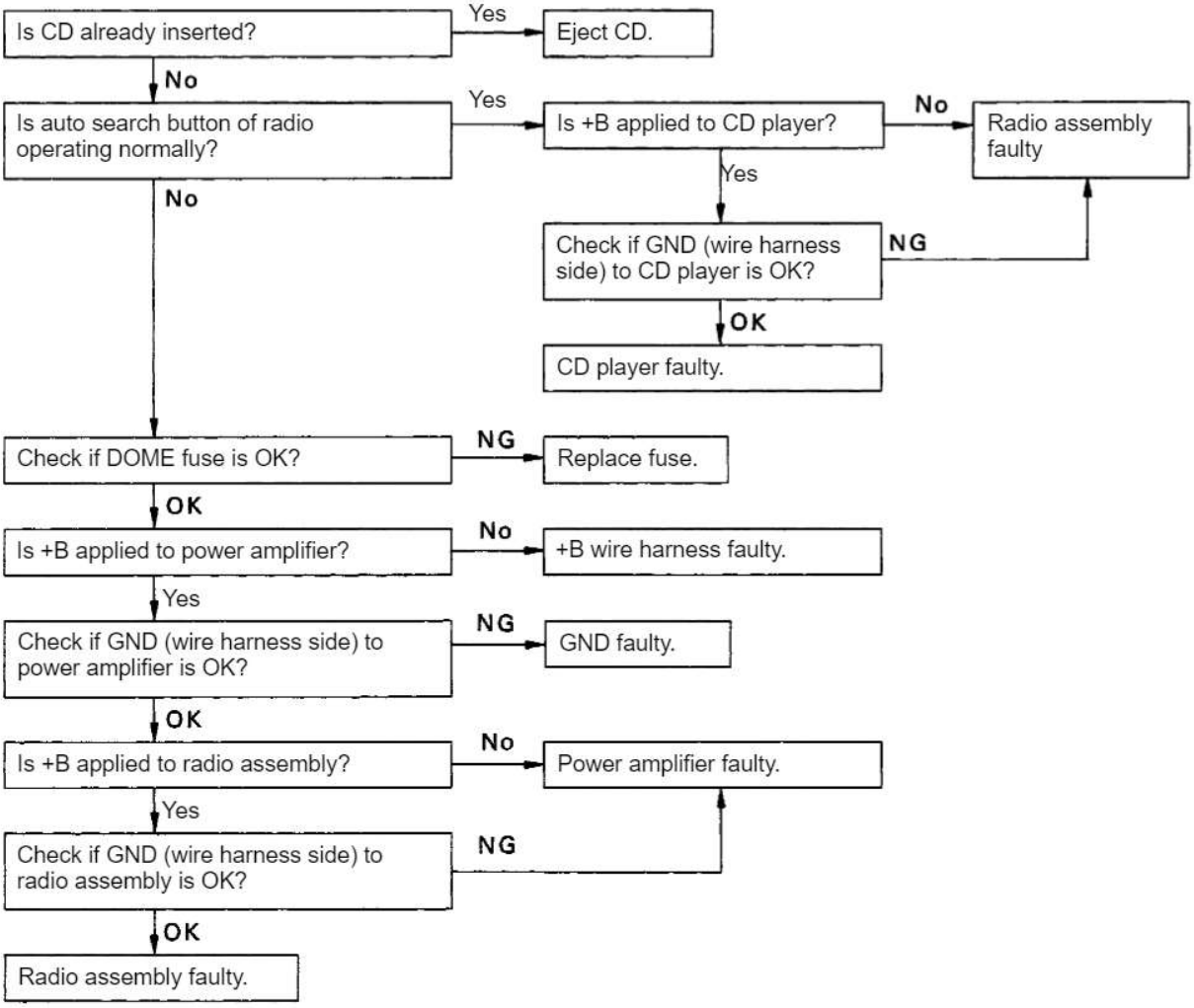
[U] [P]

15 Tape Player CASSETTE TAPE WILL NOT EJECT

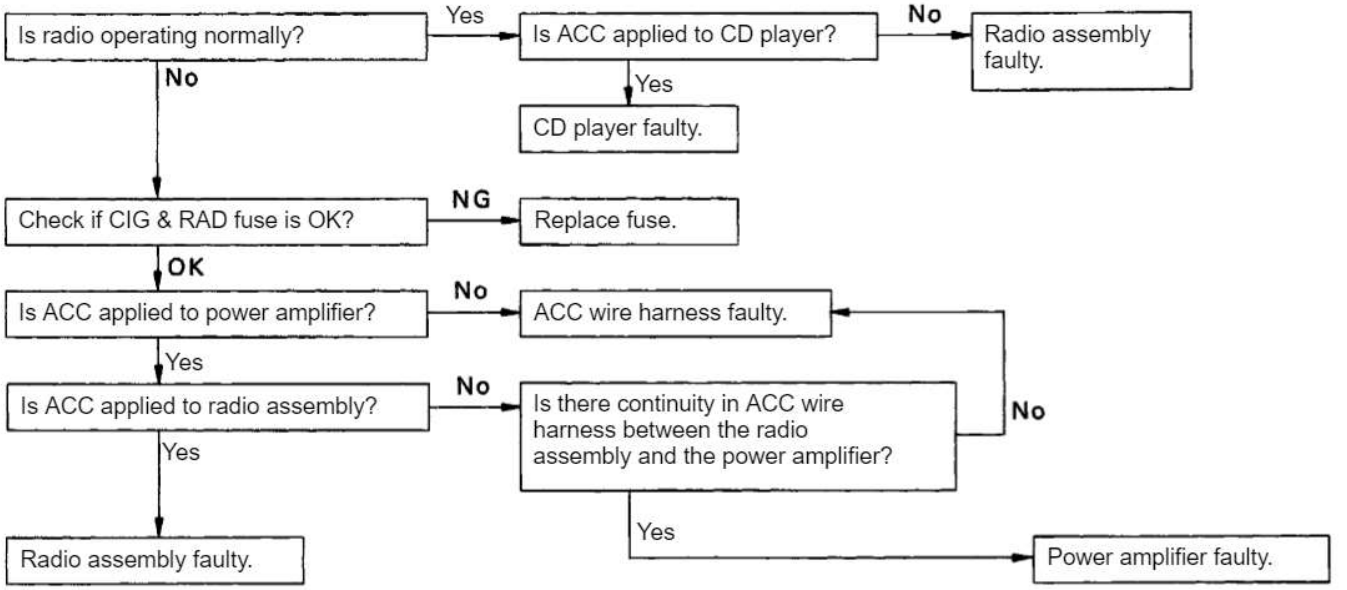
[U] : Radio – Tape Player Unit (Built–in Power Amplifier)
[P] : Radio – Tape Player Unit (Separate Power Amplifier)



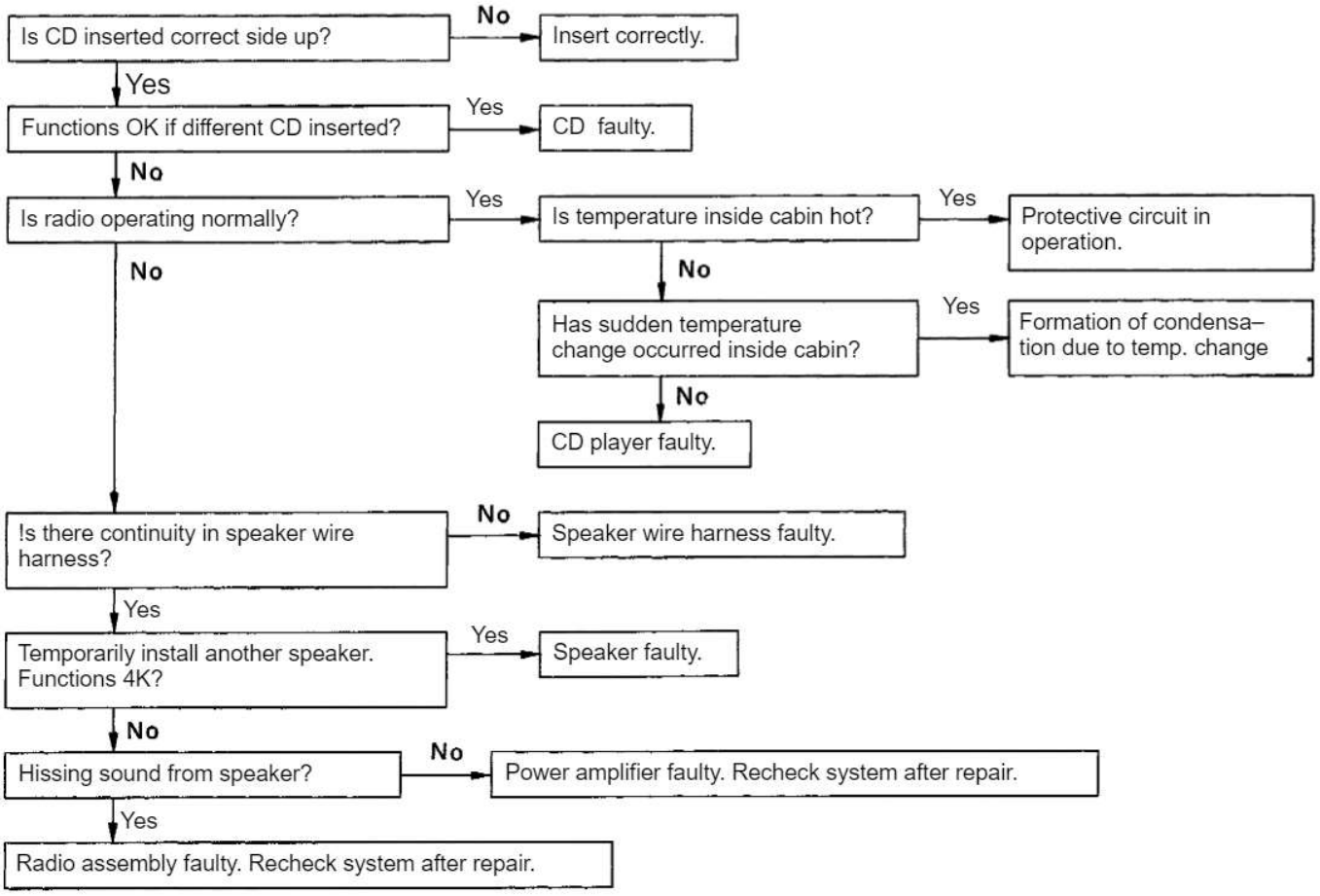
16 CD Player — CD CANNOT BE INSERTED



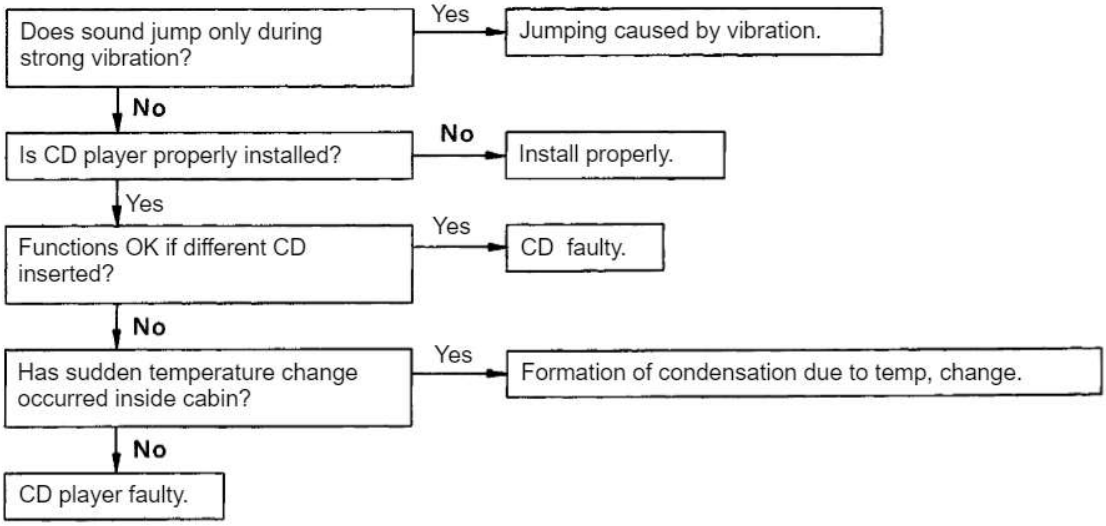
17 CD Player — CD INSERTS, BUT NO POWER



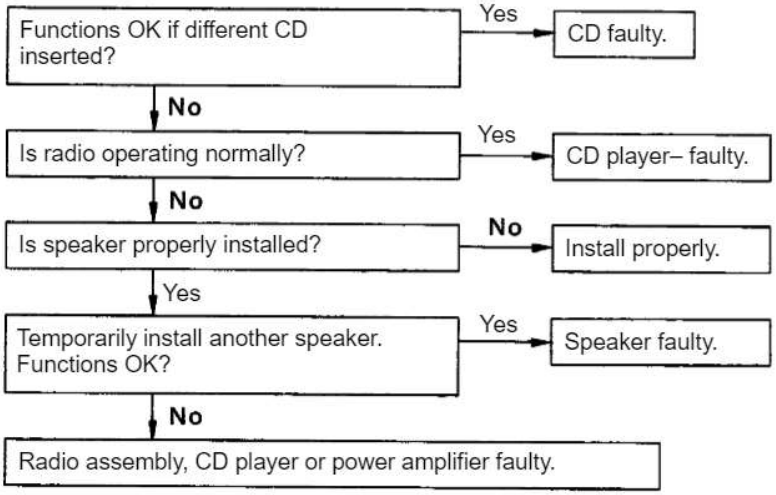
18 CD Player | POWER COMING IN, BUT CD PLAYER NOT OPERATING



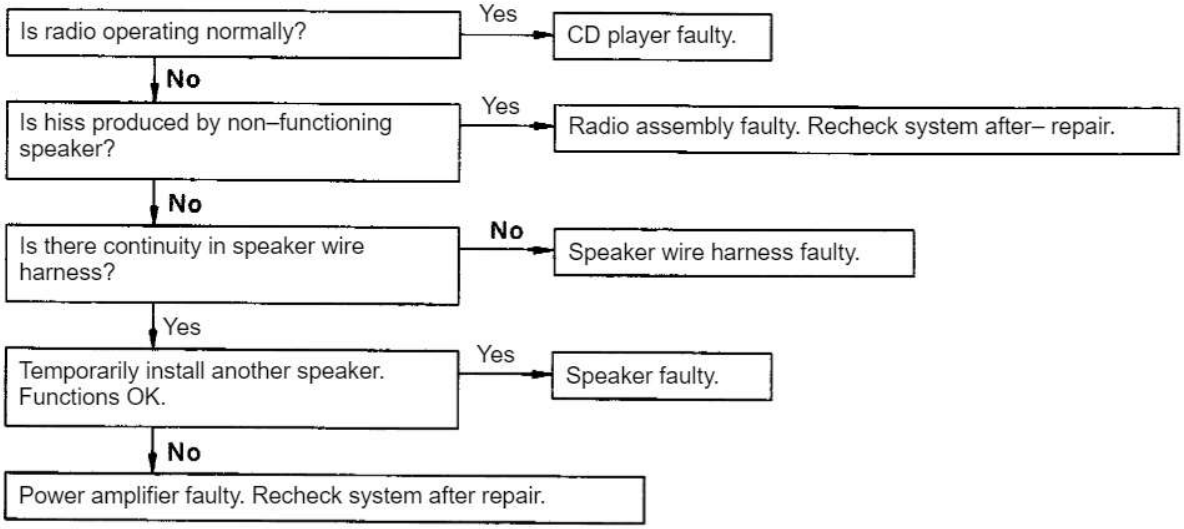
19 CD Player | SOUND JUMPS



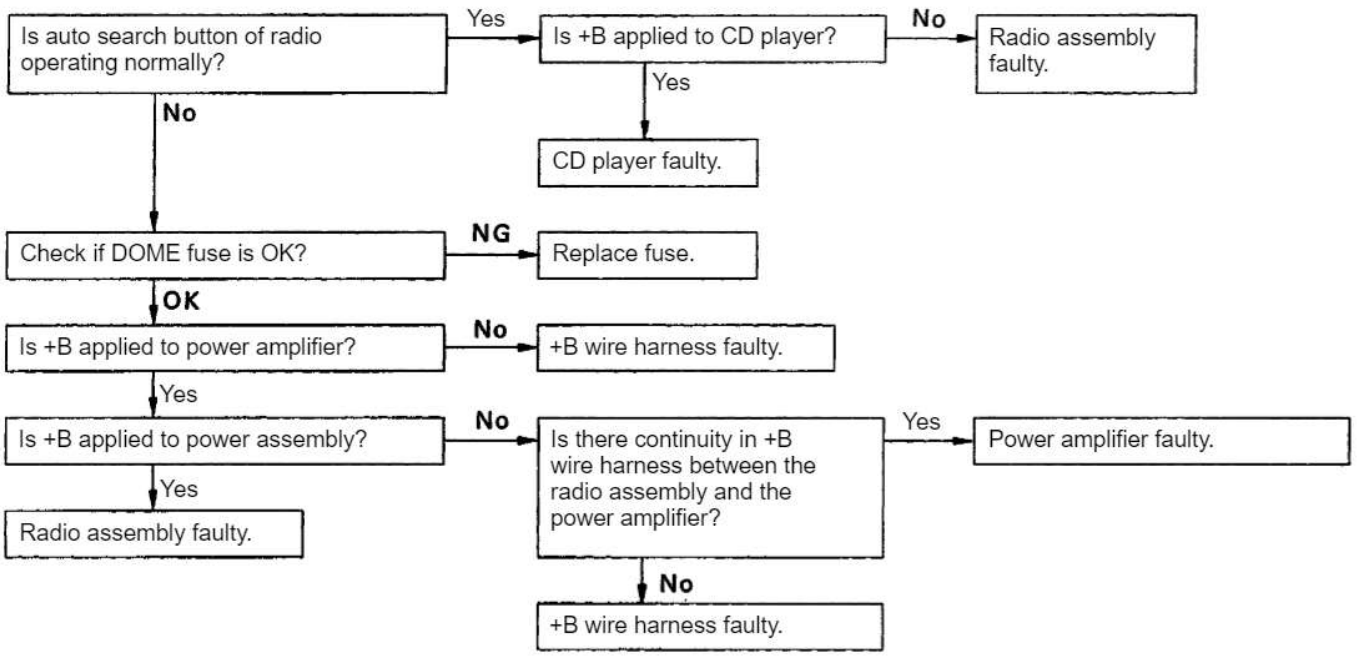
20 CD Player SOUND QUALITY POOR (VOLUME FAINT)



21 CD Player EITHER SPEAKER DOES NOT WORK

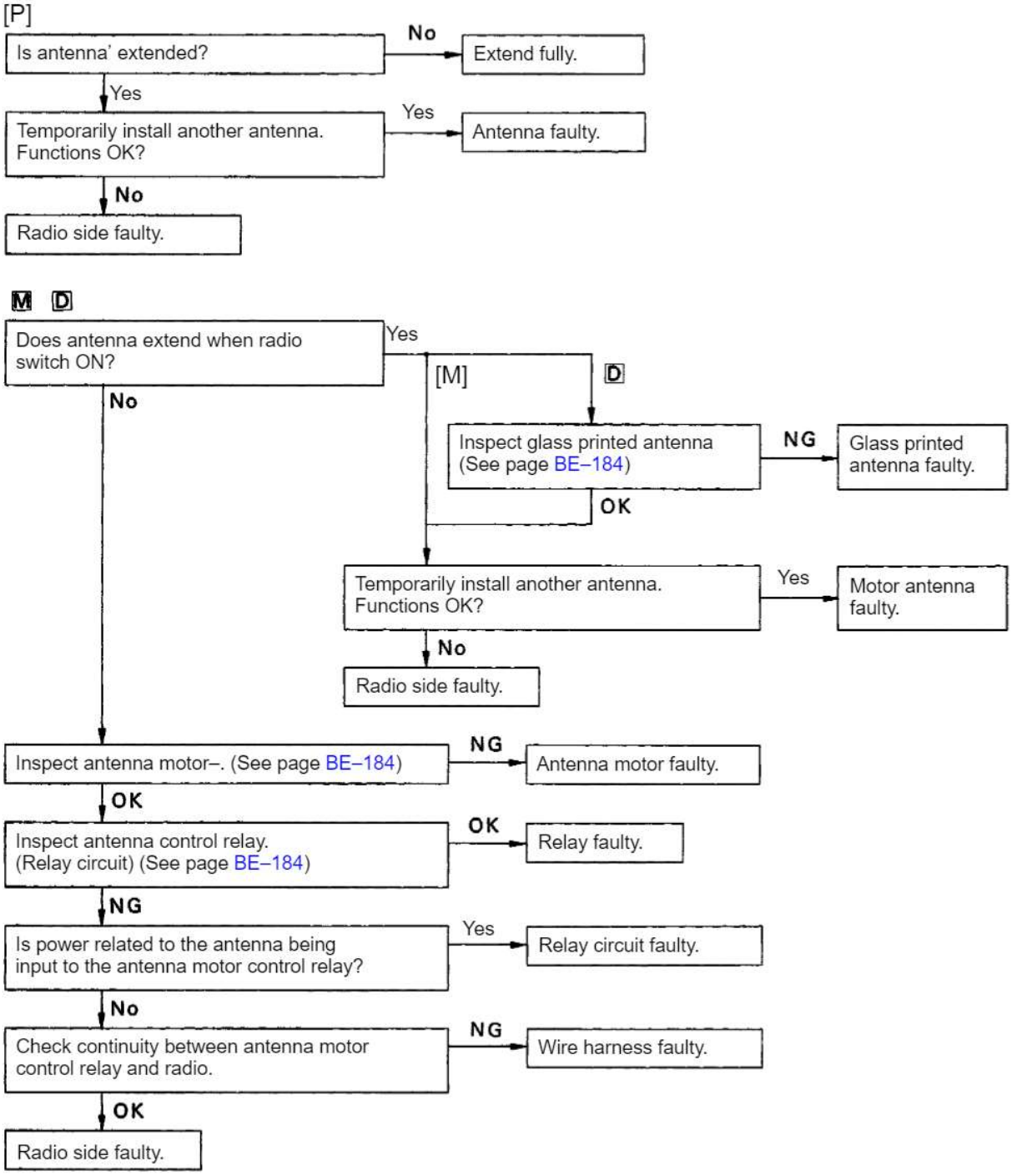


22 CD Player CD WILL NOT EJECT



23 Antenna — ANTENNA–RELATED

[P] : Antenna w/o Motor [M] : Motor Antenna D : Motor Antenna and Glass Printed Antenna

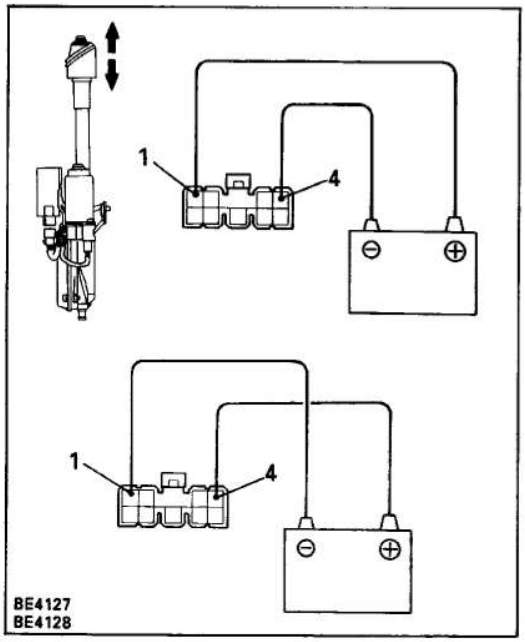


24 Noise — NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING

- 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.

25 Noise — NOISE PRODUCED WHEN ENGINE STARTS

- Whistling 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 nose.
- No → Other type of noise.



ANTENNA MOTOR

ANTENNA MOTOR INSPECTION

INSPECT ANTENNA MOTOR

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

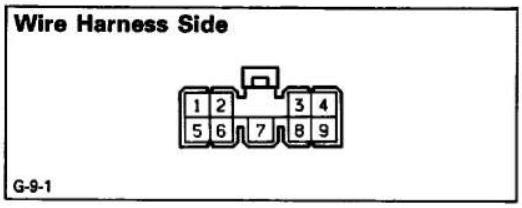
(b) Check that the motor turns (moves upward).

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	1–4	Constant			Continuity
	2 – Ground	Constant			Continuity
Voltage	3 – Ground	Constant			Battery voltage
	5 – Ground	Ignition switch position	LOCK		No voltage
			ACC or ON		Battery voltage
	6 – Ground	Ignition switch position	LOCK		No voltage
			ACC or ON	Radio switch and cassette OFF	No voltage
				Radio switch or cassette ON	Battery voltage
	8 – 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
	9 – Ground	Ignition switch position	LOCK or ACC		No voltage
			ON		Battery voltage

If circuit is as specified, replace the relay.

GLASS PRINTED ANTENNA

GLASS PRINTED ANTENNA INSPECTION

INSPECT GLASS PRINTED ANTENNA

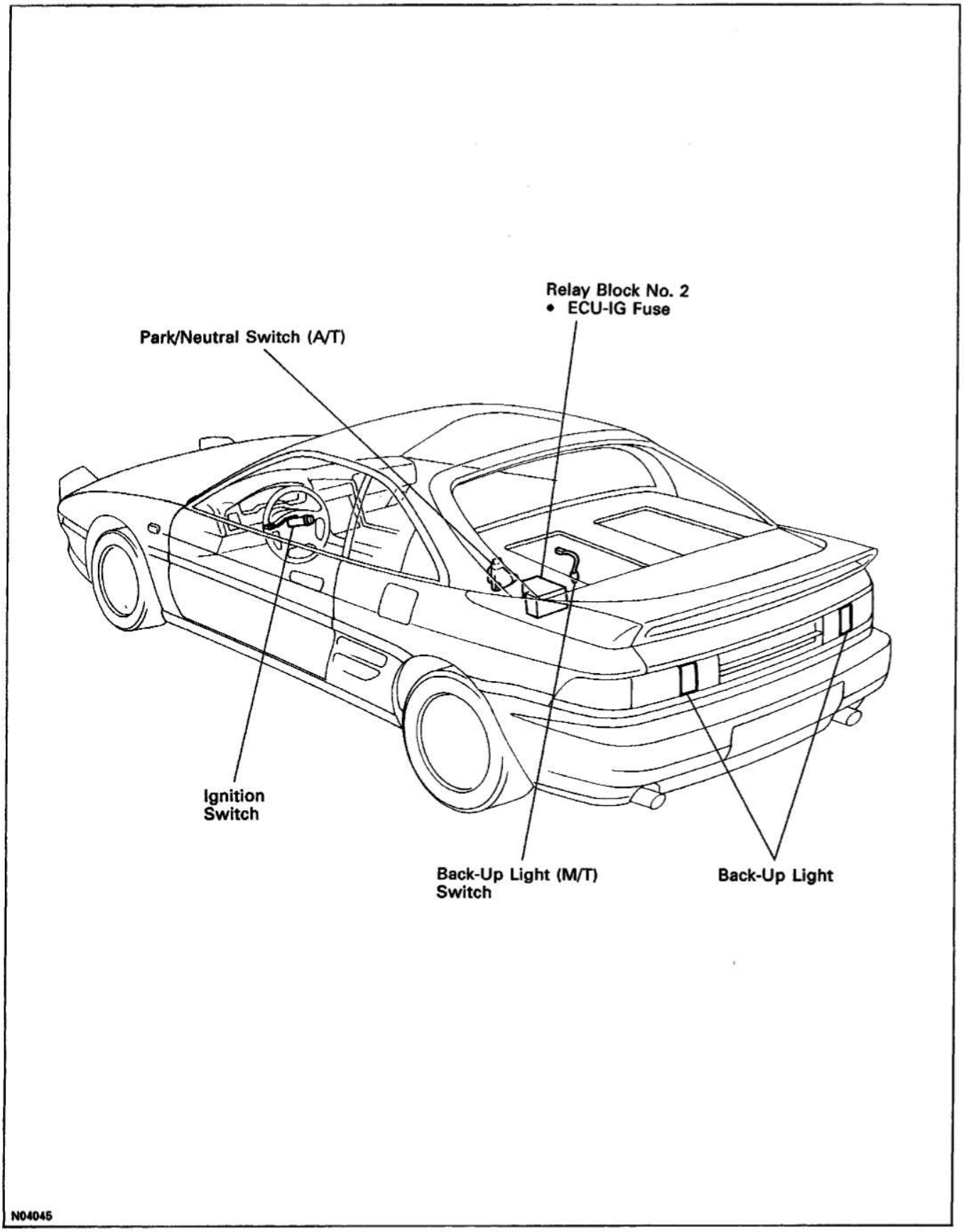
(Use same procedure as for "INSPECT DEFOGGER WIRES" or page BE–87.)

REPAIR GLASS PRINTED ANTENNA

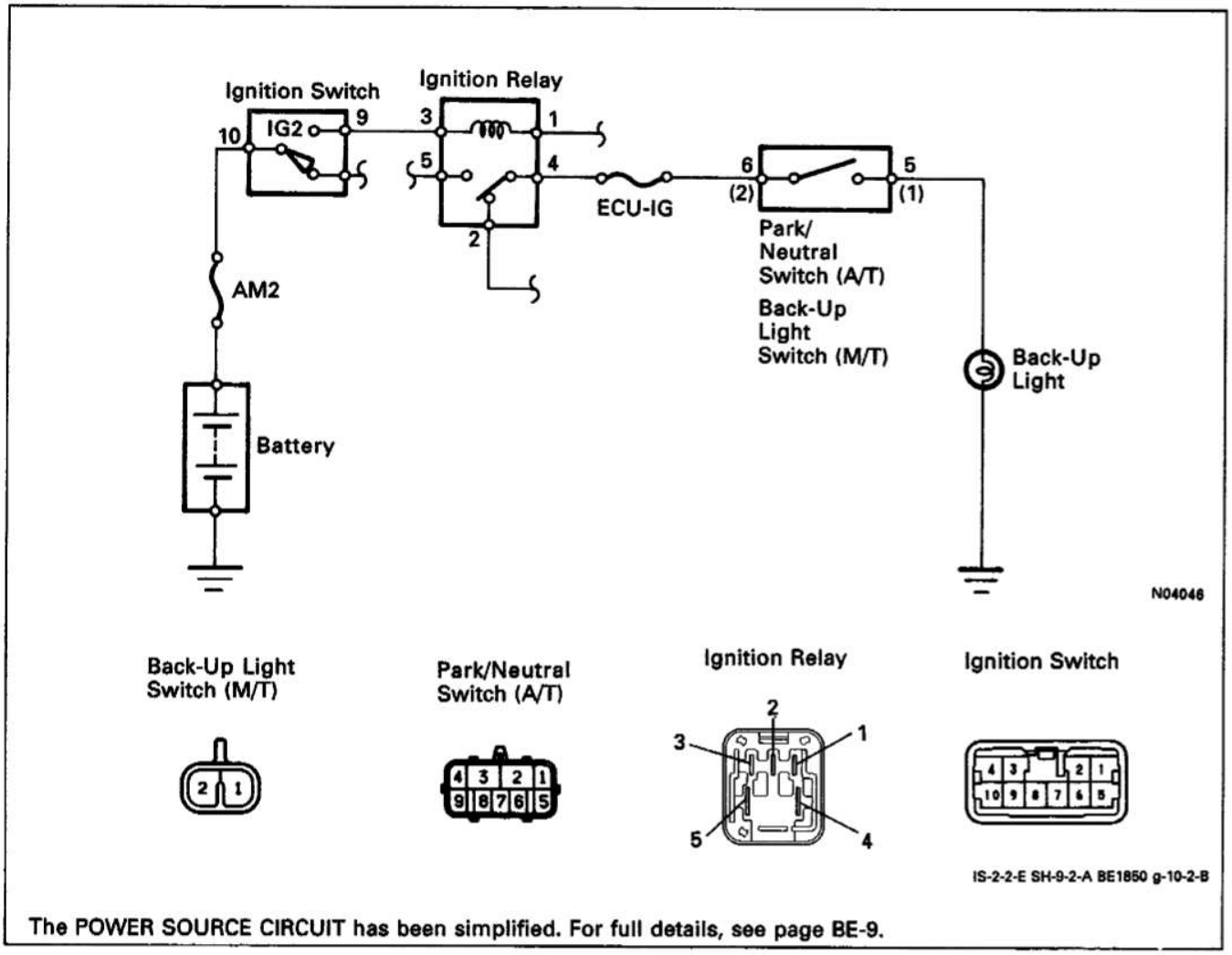
(Use same procedure as for "REPAIR DEFOGGER WIRES" or page BE–87)

BACK–UP LIGHT SYSTEM

PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS

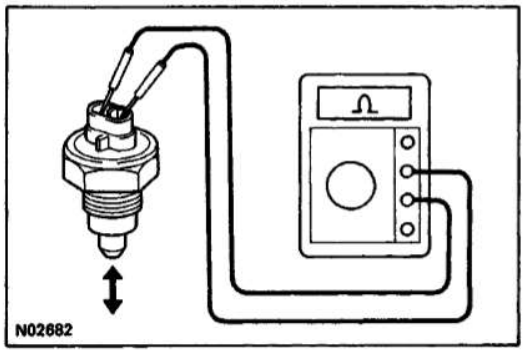


The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

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	BE–11 Ignition Switch	BE–3 ECU–IG Fuse	BE–58 Ignition Relay	BE–58 AX–35 Back–Up Light Switch (M/T) Park/Neutral Switch (A/T)	Bulb	Wire Harness
Back–Up light does not light up.	**2**	**1**	**3**	**4**	**6**	**5**
Back–Up light remains always on.						**1**
Only one light does not light up.						**1**



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 switch.

PARK/NEUTRAL SWITCH

PARK/NEUTRAL SWITCH INSPECTION

See page AX–35.

IGNITION SWITCH

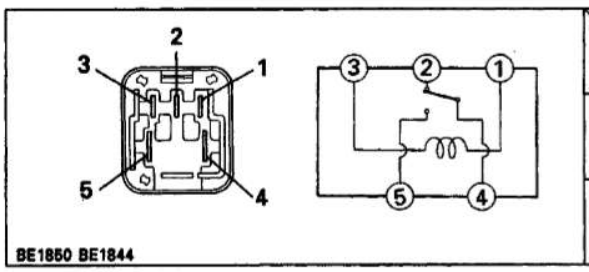
IGNITION SWITCH INSPECTION

See page BE–11.

IGNITION RELAY

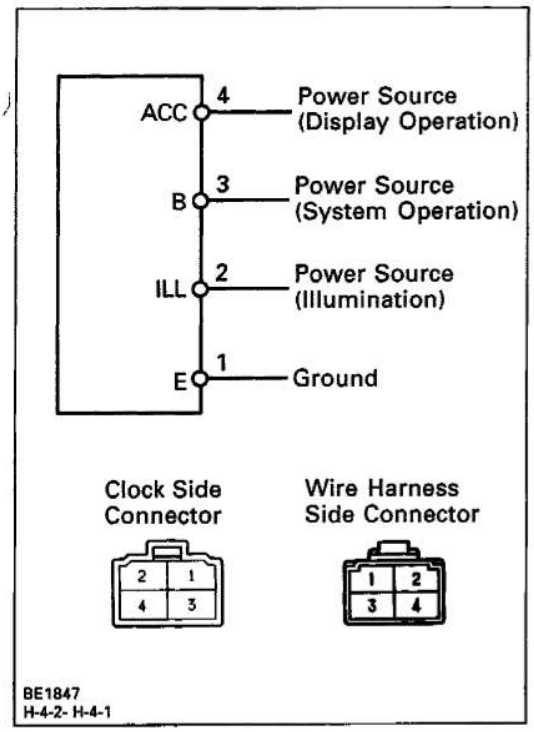
IGNITION RELAY INSPECTION

CONTINUITY



Terminal / Condition	1	2	3	4	5
Constant	○	○	○		
		○		○	
Apply battery voltage to terminals 1 and 3.				○	○

If continuity is not as specified, replace the relay.



CLOCK

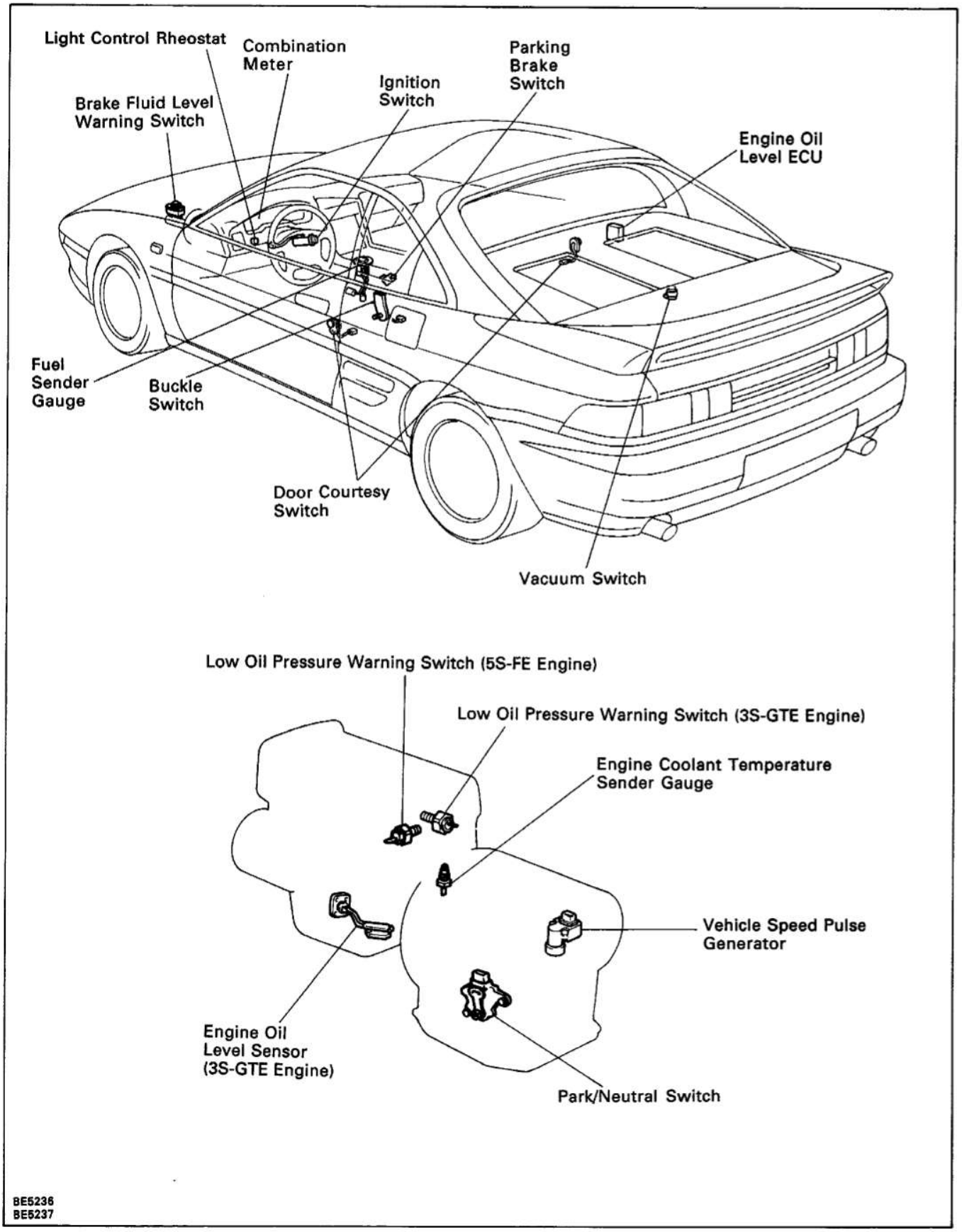
TROUBLESHOOTING

As shown in the illustration, those are clock circuit and connector diagrams. Inspect each terminal for applica–ble trouble.

Terminal		Condition	Specified value
1	E	Constant	Continuity
2	ILL	Turn light control switch ON	Battery Voltage
3	B	Constant	
4	ACC	Turn ignition switch ON	

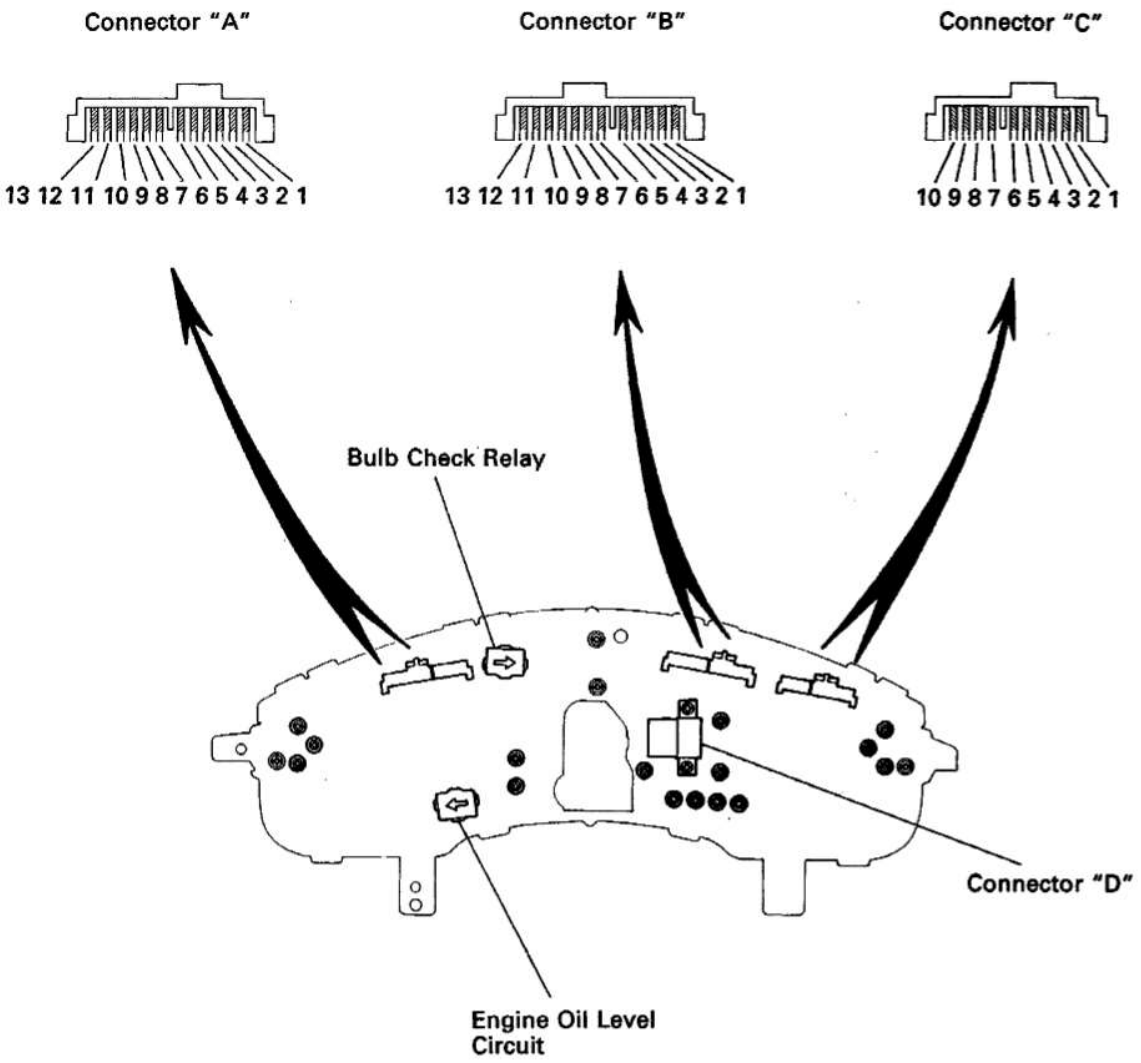
Allowable error: ±1.5 seconds/day

COMBINATION METER
PARTS LOCATION

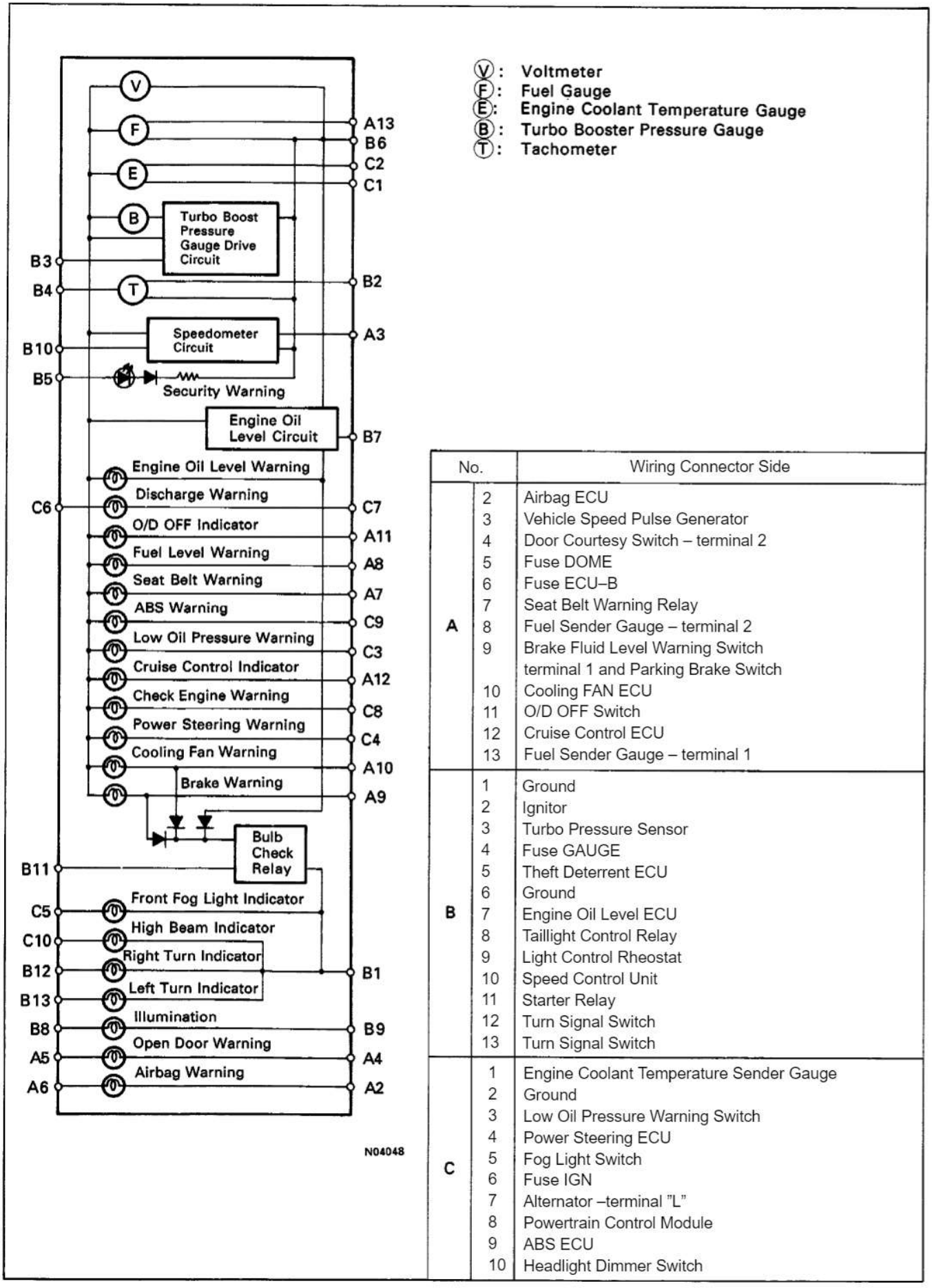


BE5236
BE5237

METER CIRCUIT

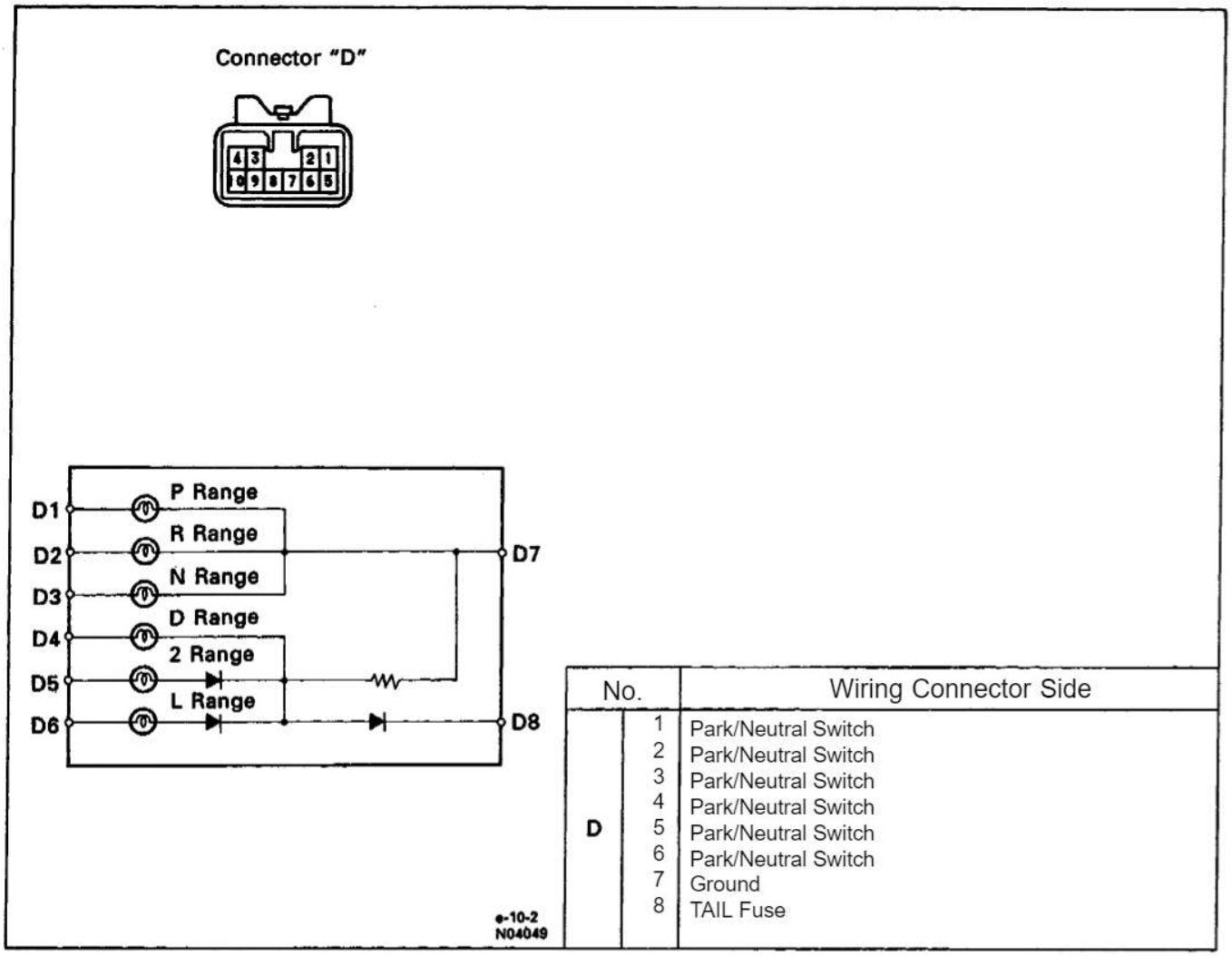


BE1266 BE1267 BE1270
N04047



No.		Wiring Connector Side
A	2	Airbag ECU
	3	Vehicle Speed Pulse Generator
	4	Door Courtesy Switch – terminal 2
	5	Fuse DOME
	6	Fuse ECU–B
	7	Seat Belt Warning Relay
	8	Fuel Sender Gauge – terminal 2
	9	Brake Fluid Level Warning Switch terminal 1 and Parking Brake Switch
	10	Cooling FAN ECU
	11	O/D OFF Switch
	12	Cruise Control ECU
	13	Fuel Sender Gauge – terminal 1
B	1	Ground
	2	Ignitor
	3	Turbo Pressure Sensor
	4	Fuse GAUGE
	5	Theft Deterrent ECU
	6	Ground
	7	Engine Oil Level ECU
	8	Taillight Control Relay
	9	Light Control Rheostat
	10	Speed Control Unit
	11	Starter Relay
	12	Turn Signal Switch
	13	Turn Signal Switch
C	1	Engine Coolant Temperature Sender Gauge
	2	Ground
	3	Low Oil Pressure Warning Switch
	4	Power Steering ECU
	5	Fog Light Switch
	6	Fuse IGN
	7	Alternator –terminal "L"
	8	Powertrain Control Module
	9	ABS ECU
	10	Headlight Dimmer Switch

SHIFT POSITION INDICATOR



No.		Wiring Connector Side
D	1	Park/Neutral Switch
	2	Park/Neutral Switch
	3	Park/Neutral Switch
	4	Park/Neutral Switch
	5	Park/Neutral Switch
	6	Park/Neutral Switch
	7	Ground
	8	TAIL Fuse

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.

See page / Part name / Trouble	BE–3 GAUGE Fuse	BE–68 Combination Meter Wiring Circuit	BE–73 Vehicle Speed Pulse Generator	IG–6, 26 Igniter	BE–75 Fuel Sender Gauge	BE–74 Fuel Receiver Gauge	BE–74 Voltmeter	BE–76 Engine Coolant Temperature Sender Gauge	BE–76 Engine Coolant Temperature Receiver Gauge	BE–81 Turbo Boost Pressure Gauge	BE–82 Turbo Pressure Sensor	BE–81 Turbo Meter Drive Circuit	BE–3 TAIL Fuse	BE–83 Light Control Rheostat	– Bulb	– Wire Harness	– Other Parts
Tachometer, Fuel Gauge and Water Temperature Gauge do not operate	1	2														3	4*1
Speedometer does not operate.			1													2	3*2
Tachometer does not operate.		1*3		3												2	4*4
Voltmeter does not operate.							1									2	3
Fuel Gauge does not operate or abnormal operation.		3			2	1										4	
Engine Coolant Temperature Gauge does not operate or abnormal operation.		3						2	1							4	
Turbo boost pressure gauge does not operate.										1	2	3				4	5
All illumination lights do not light up.													1	2		3	4*5
Brightness does not change even when rheostat turned.														1		2	
Only one illumination light does not light up.															1	2	

*1 Refer to BE–68 inspect the meter circuit plate.

*2 Inspect the speedometer driven gear and drive gear or try another speedometer.

*3 Inspect the B4 terminal.

*4 Refer to BE–68 inspect the meter circuit plate or try another tachometer.

*5 Refer to BE–13 inspect the "Taillight System".

WARNING LIGHTS AND WARNING CHIME

See page / Part name / Trouble	BE–3 GAUGE Fuse	BE–3 IG2 Fuse	BE–3 ECU–B Fuse	BE–3 DOME Fuse	BE–78 Low Oil Presspre Warning Switch	BE–75 Fuel Level Warning Switch	BE–77 Engine Oil Level Sensor	BE–77 Engine Oil Level ECU	BE–83 Light Control Rheostat	BE–79 Brake Fluid Level Warning Switch	BE–79 Parking Brake Switch	BE–49 Door Courtesy Switch	BE–68 Combination eter Wiring Circuit	– Bulb	– Wire Harness	– Other Parts
Warning lights do not light up. (Except. Discharge, Airbag Door	1												2*1		3	
Low oil pressure warning light does not light up.					3								2*2	1	4	
Fuel level warning light does not light up.						3							2*3	1	4	
ABS Warning light does not light up.														1	3	2*4
Check engine warning light does not light up.														1	3	2*5
Seat belt warning light does not light up.														1	2	
Discharge warning light does not light up.		1												2	3	4*6
Engine oil level warning light does not light up.							2	3						1	4	
Meter illumination lights do not light up.									1					2	3	
Brake warning light does not light up.										4	3		2*8	1	6	5*9
Airbag warning light does not light up.			1											2	3	4*10
Open door warning light does not light up.				1								4	3	2	5	

*1 Inspect B4 terminal.
*2 Inspect C3 terminal.
*3 Inspect A8 terminal.
*4 Inspect ABS ECU.
*5 Inspect Powertrain Control Module
*6 Inspect Bulb Check Relay and Alternator.
*7 Inspect the "Taillight System", "Stop Light System".
*8 Inspect A9 terminal.
*9 Inspect Bulb Check Relay.
*10 Inspect Airbag ECU.

INDICATOR LIGHTS

See page / Part name / Trouble	BE–3 GAUGE Fuse	I Bulb	AX–34 O/D OFF Switch	AX–35 Park/Neutral Switch	BE–83 Light Control Rheostat	BE–68 Combination Meter Wiring Circuit	I Wire Harness	I Other Parts
O/D OFF indicator light does not light up.		1	3			2*1	4	
Cruise control indicator light does not light up.		1					3	2*2
High beam indicator light does not light up.		1				2*3	3	4*4
Turn indicator light does not light up.		1				2*5	3	4*6
Shift indicator lights do not light up. (All)		1		3		2*8	4	
Shift indicator lights do not light up. (L. 2. D)		1		3	4	2*9	5	
Only one shift indicator does not light up.		1				2	3	
Indicator lights do not light up. (Except. Turn, HI–beam)	1						2	

*1 Inspect Terminal A11.
*2 Inspect Cruise Control ECU.
*3 Inspect C10 and B1 terminal.
*4 Inspect "Headlight System".
*5 Inspect B12, B13 and B1 terminal.
*6 Inspect "Turn Signal and Hazard Warning System".
*7 Inspect terminal 13 and 1.
*8 Inspect terminal 1, 2, 3, 4, 5, 6, 7 and 8.
*9 Inspect terminal 4, 5, 6 and 8.

SPEEDOMETER SYSTEM

SPEEDOMETER INSPECTION

INSPECT SPEEDOMETER (ON–VEHICLE)

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

HINT: The 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.

(mph)

Standard indication	Allowable range	
	3S–GTE	5S–FE
20	18.5 – 21.5	18.5 – 21.5
40	38 – 41.5	38 – 41.5
60	58 – 62	57.5 – 61.5
80	78 – 82.5	77.5 – 82
100	98 – 103	97 – 102
120	118 – 123.5	116.5 – 122
140	138 – 144	136.5 – 142.5

(km/h)

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
180	180 – 188
200	200 – 209
220	220 – 230
240	240 – 251

VEHICLE SPEED PULSE GENERATOR

VEHICLE SPEED PULSE GENERATOR INSPECTION

INSPECT VEHICLE SPEED PULSE GENERATOR

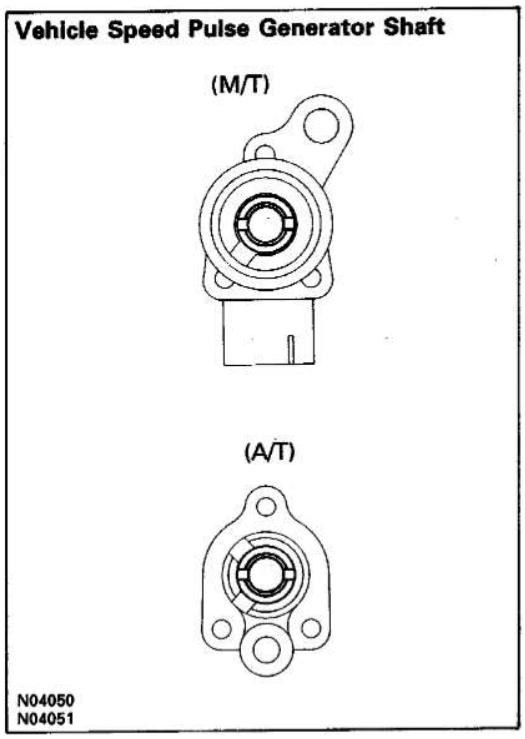
(a) Connect the positive (+) lead from battery to terminal 1 and negative (–) lead to terminal 2.

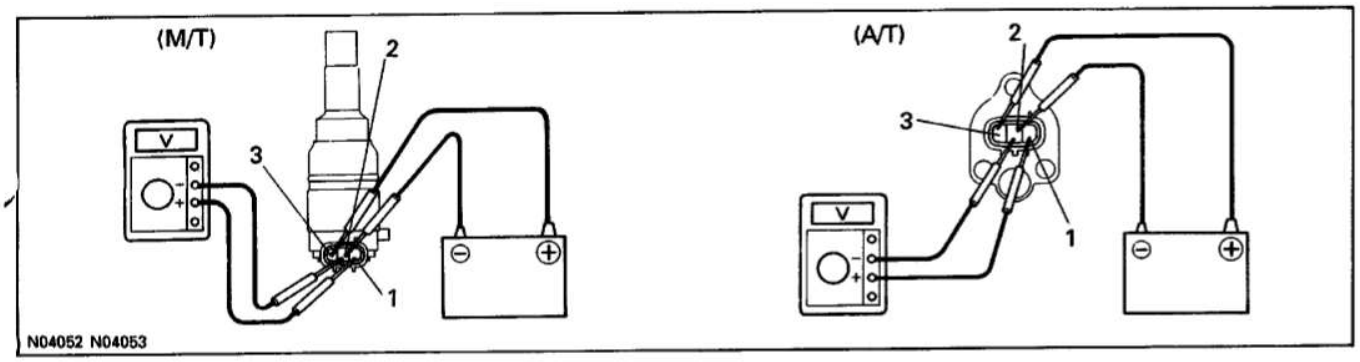
(b) Connect the positive (+) lead from tester to terminal 3 and negative (–) lead to terminal 2.

(c) Revolve shaft.

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

HINT: The voltage change should be 4 times per each revolution of the vehicle speed pulse generator shaft. If operation is not as specified, replace the generator.





DC 13.5V, 25°C (77°F) rpm	
Standard indication	Allowable range
700	630 – 770
3,000	2,800 – 3,200
5,000	4,800 – 5,200
7,000	6,700 – 7,300

TACHOMETER SYSTEM

TACHOMETER INSPECTION

INSPECT TACHOMETER (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.

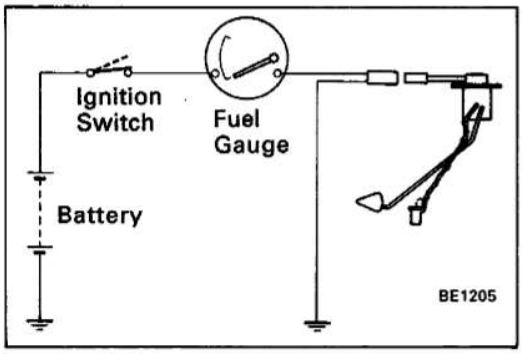
(b) Compare the tester and tachometer indications.
If error is excessive, replace the tachometer.

VOLTMETER SYSTEM

VOLTMETER INSPECTION

INSPECT VOLTMETER (ON–VEHICLE)

Compare the tester and voltmeter indications.
If error is excessive, replace the voltmeter.

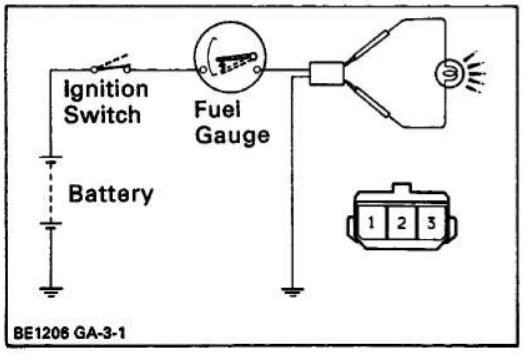


FUEL GAUGE SYSTEM

FUEL RECEIVER GAUGE INSPECTION

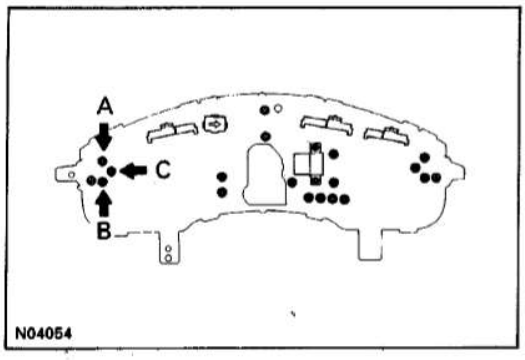
OPERATION

(a) Disconnect the connector from the sender gauge.
(b) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.



(c) Connect terminals 1 and 3 on the wire harness side con–nector through a 3.4 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.

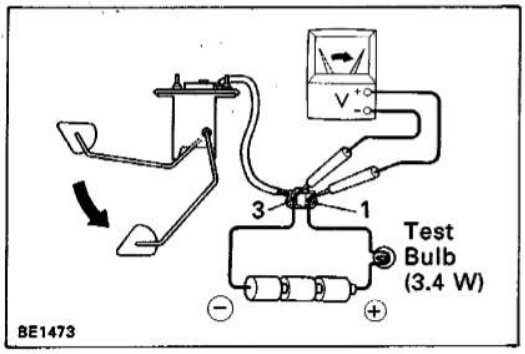


RESISTANCE

Measure the resistance between terminals.

Between terminals	Resistance (Ω)
A–B	Approx. 101.9
A–C	Approx. 203.2
B–C	Approx. 101.3

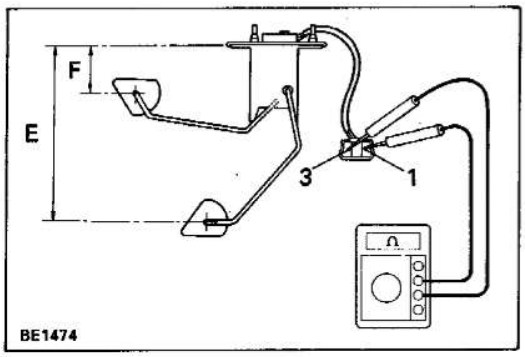
If resistance value is not as specified, replace the receiver gauge.



FUEL SENDER GAUGE INSPECTION

OPERATION

(a) Connect a series of three 1.5V dry cell batteries.
(b) Connect the positive W lead from the dry cell batteries to terminal 1 through a 3.4 w test bulb and the negative H lead to terminal 3.
(c) Check that the voltage rises between terminals 1 and 3 as the float is moved from the top to bottom position.

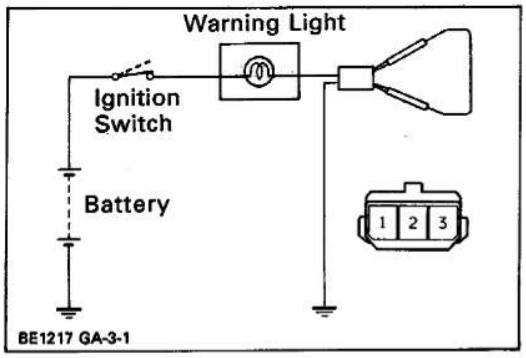


RESISTANCE

Measure the resistance between terminals 1 and 3 for each float position.

Float position mm (in.)		Resistance (Ω)
F	Approx. 59.9 (2.358)	3 ± 1.0
E	Approx. 228.1 (8.980)	110 ± 7.7

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

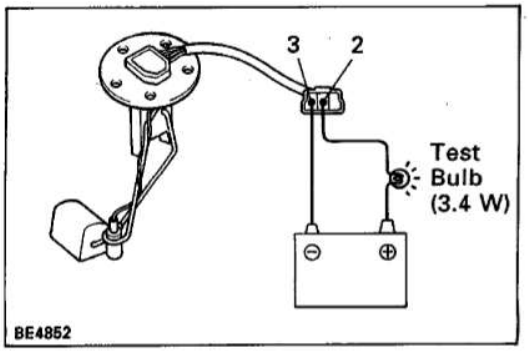


FUEL LEVEL WARNING SYSTEM

FUEL LEVEL WARNING LIGHT INSPECTION

INSPECT WARNING LIGHT

(a) Disconnect the connector from the sender gauge.
(b) Connect terminals 2 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.

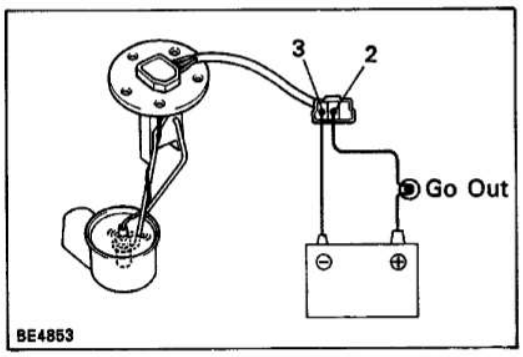


FUEL LEVEL WARNING SWITCH INSPECTION

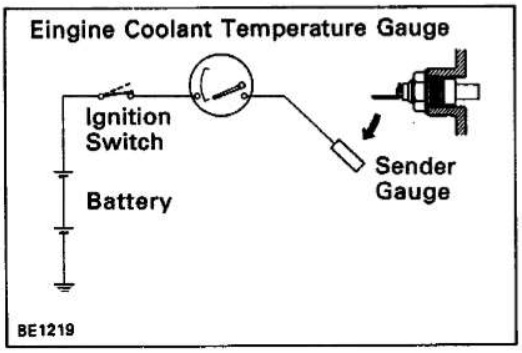
INSPECT WARNING SWITCH

(a) Apply battery voltage between terminals 2 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.

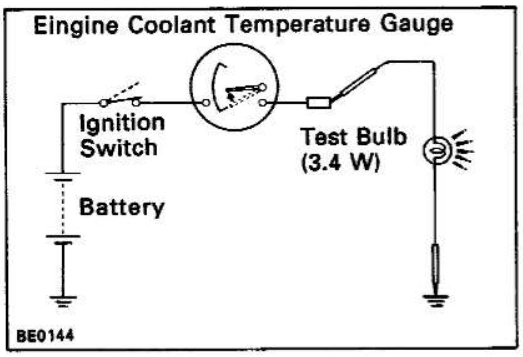


ENGINE COOLANT TEMPERATURE GAUGE SYSTEM

ENGINE COOLANT TEMPERATURE RECEIVER GAUGE INSPECTION

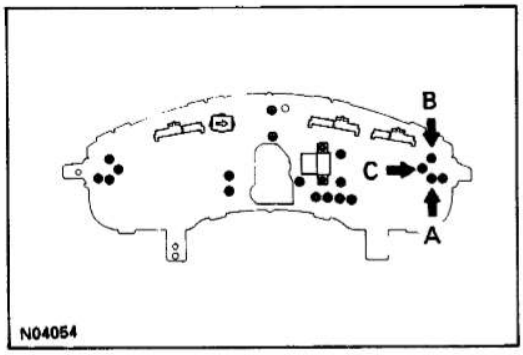
OPERATION

(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 3.4 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 resistance.

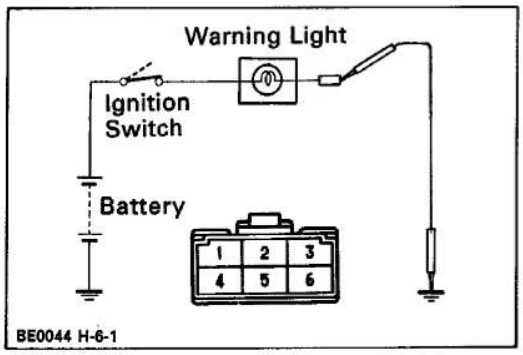


RESISTANCE

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

Between terminals	Resistance (Ω)
A–B	Approx. 54
A–C	Approx. 146.2
B–C	Approx. 200.2

If resistance value is not as specified, replace the re–ceiver gauge.

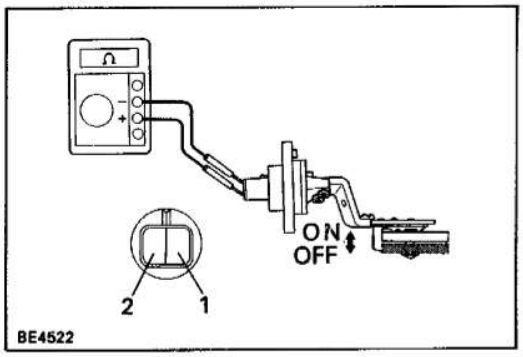


ENGINE OIL LEVEL WARNING SYSTEM

ENGINE OIL LEVEL WARNING LIGHT INSPECTION

INSPECT WARNING LIGHT

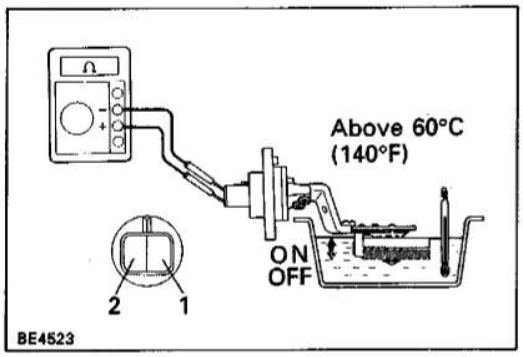
(a) Disconnect the connector from the engine oil level ECU.
(b) Ground terminal 1 on the wire harness side connector.
(e) Turn the ignition switch ON, check that the warning light lights up.
If the warning light does not light up, test the bulb.



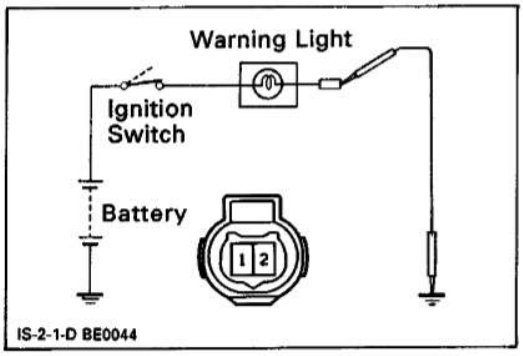
ENGINE OIL LEVEL WARNING SENSOR INSPECTION

INSPECT ENGINE OIL LEVEL WARNING SENSOR

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



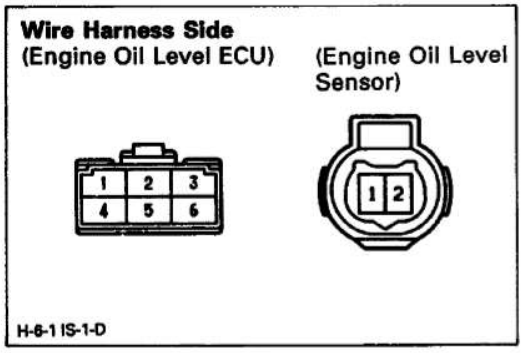
(b) Heat the switch to above 60°C 114°F) in an oil bath.
(c) Check that there is continuity between terminals with the switch ON (float up).
(d) Check that there is no continuity between terminals with the switch OFF (float down).
If operation is not as specified, replace the switch.



ENGINE OIL LEVEL ECU INSPECTION

OPERATION

(a) Disconnect the connector from the engine oil level sensor.
(b) Ground terminal 1 on the wire harness side connector.
(c) Turn the ignition switch ON, check that the warning light lights up approximately 40 seconds later.
If operation is not as specified, inspect the relay circuit.



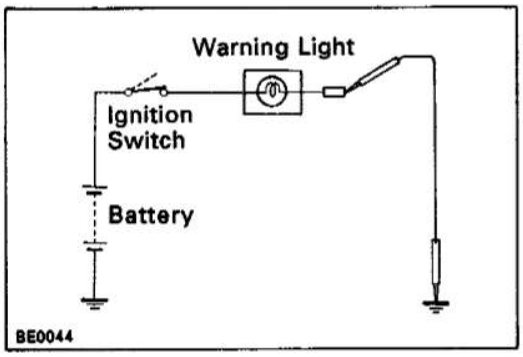
RELAY CIRCUIT

(a) Disconnect the connectors from the engine oil level ECU and engine oil level sensor.

(b) Inspect the connectors on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Continuity	2/6–1/2	Constant		Continuity
	5/6–2/2	Constant		Continuity
Voltage	3I6 – Ground	Engine condition	Stopped	No voltage
			Running	Battery voltage
	6/6 – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage

If circuit is as specified, replace the engine oil level ECU,



LOW OIL PRESSURE WARNING SYSTEM

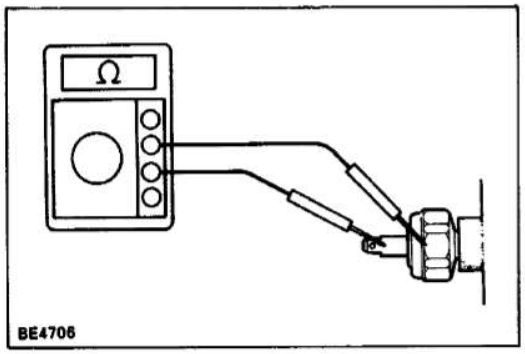
LOW OIL PRESSURE WARNING LIGHT INSPECTION

INSPECT WARNING LIGHT

(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.



LOW OIL PRESSURE WARNING SWITCH INSPECTION

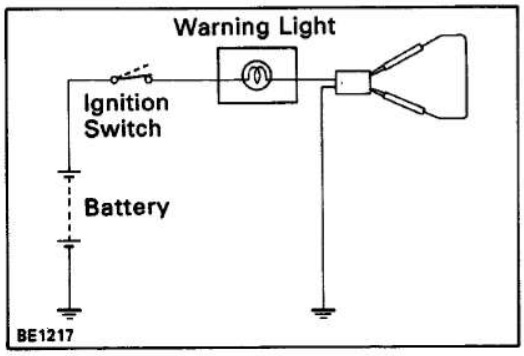
INSPECT LOW OIL PRESSURE WARNING SWITCH

(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/cm2, 7.1 psi).

If operation is not as specified, replace the switch.



BRAKE WARNING SYSTEM

BRAKE WARNING LIGHT INSPECTION

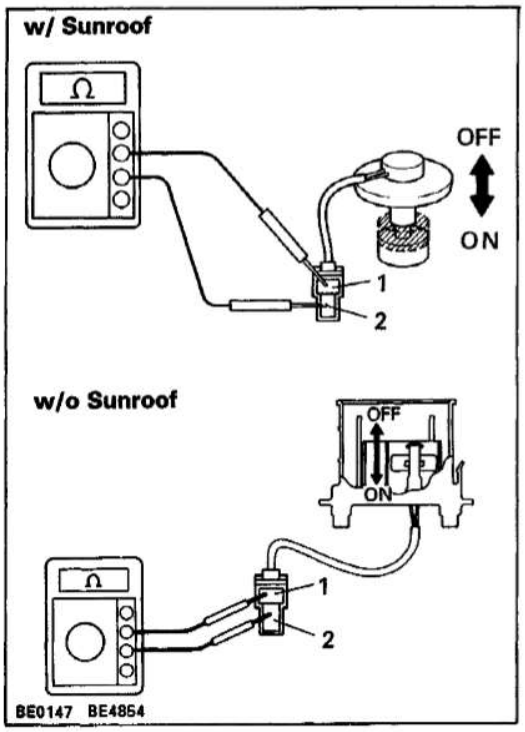
INSPECT WARNING LIGHT

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

(b) Connect terminals on the wire harness side of the level warning switch connector.

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

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



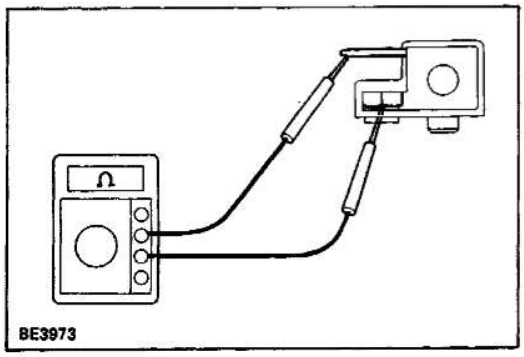
BRAKE FLUID LEVEL WARNING SWITCH INSPECTION

INSPECT BRAKE FLUID LEVEL WARNING SWITCH

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

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

If operation is not as specified, replace the switch.



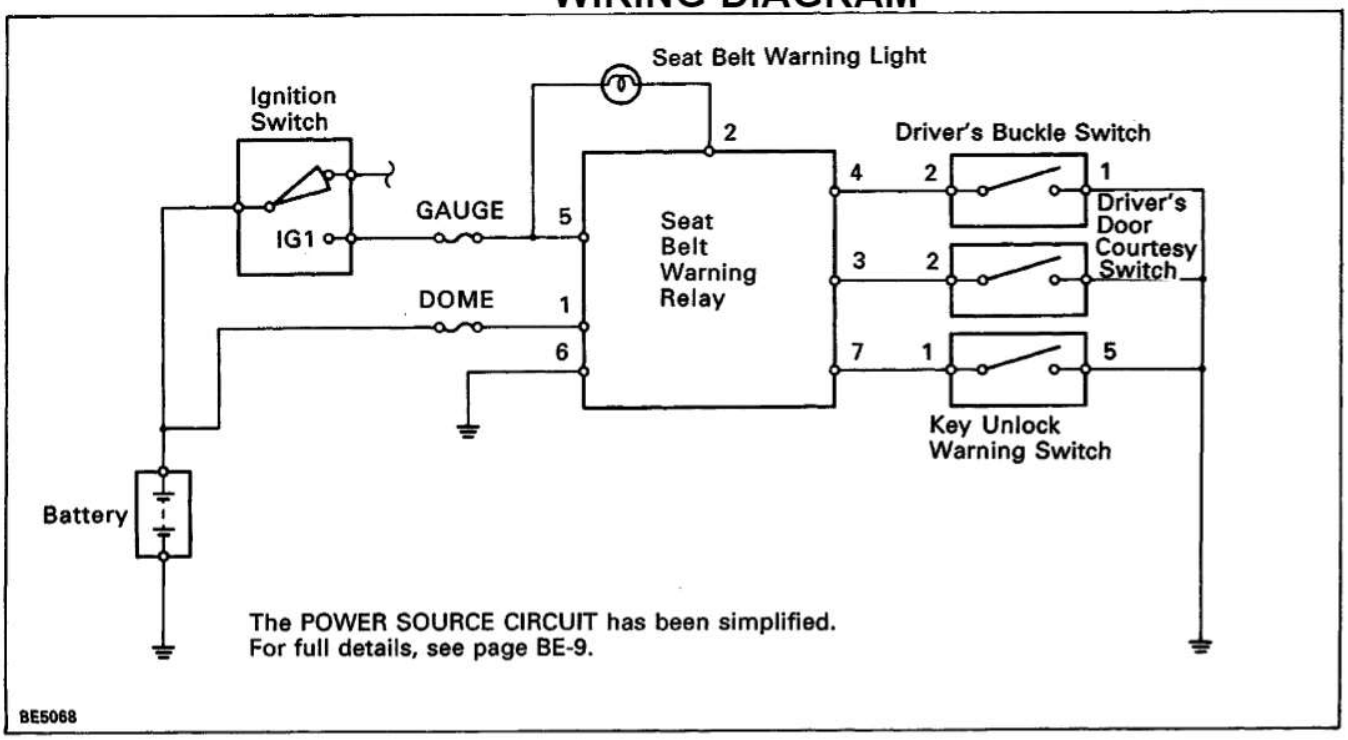
PARKING BRAKE SWITCH INSPECTION

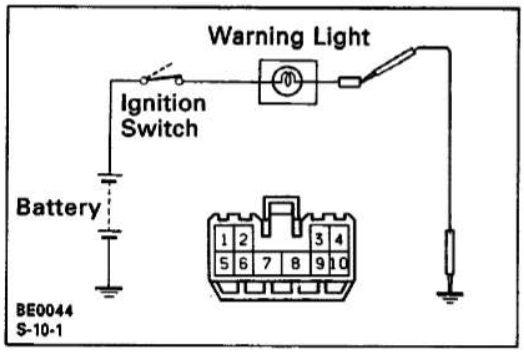
INSPECT PARKING BRAKE SWITCH

(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).

SEAT BELT WARNING SYSTEM WIRING DIAGRAM

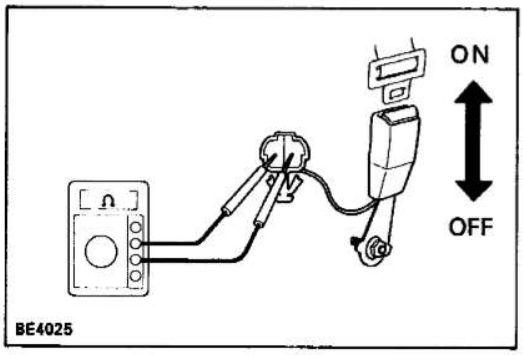




SEAT BELT LEVEL WARNING LIGHT INSPECTION

INSPECT WARNING LIGHT

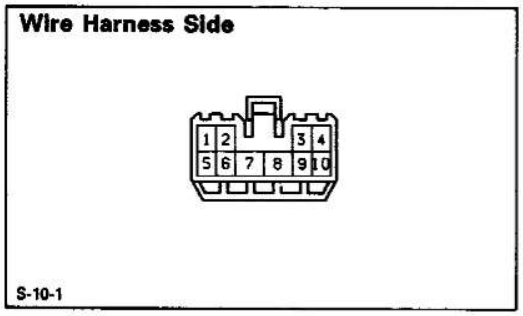
(a) Disconnect the connector from the seat belt warning relay.
(b) Ground terminal 5 on the wire harness side.
(c) Turn the ignition switch ON, check that the warning light lights up.
If the warning lights does not light up, test the bulb.



BUCKLE SWITCH INSPECTION

INSPECT BUCKLE SWITCH

(a) Check that there is continuity between terminals on the switch side connector with the switch ON (belt fastened).
(b) Check that there is no continuity between terminals on the switch side connector with the switch OFF (belt unfastened).
If operation is not as specified, replace the seat belt inner.



SEAT BELT WARNING RELAY INSPECTION

RELAY CIRCUIT

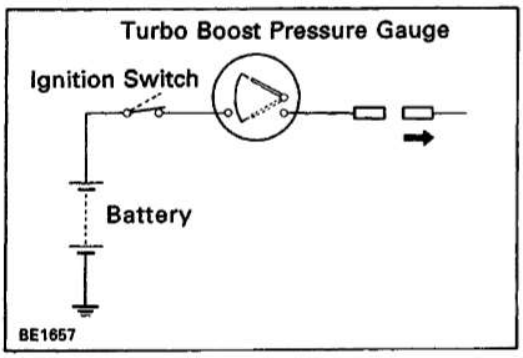
Disconnect connector and inspect connector on wire harness side as shown in the chart.

Check for–	Tester connection	Condition		Specified value
Continuity	3 – Ground	Driver's door courtesy switch position	OFF (door closed)	No continuity
			ON (door– opened)	Continuity
	4 – Ground	Driver's buckle switch position	OFF (seat belt unfastened)	No continuity
			ON (seat belt fastened)	Continuity
	6 – Ground	Constant		Continuity
	7 – Ground	Key unlock warning switch position	OFF (ignition key removed)	No continuity
			ON (ignition key set)	Continuity
Voltage	1– Ground	Constant		Battery voltage
	2 – Ground 5 – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage

If circuit is as specified, replace the relay.

DOOR COURTESY SWITCH INSPECTION

See Interior Light System on page BE–49.

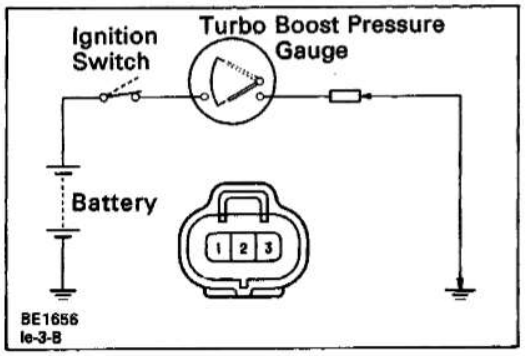


TURBO BOOST PRESSURE GAUGE SYSTEM

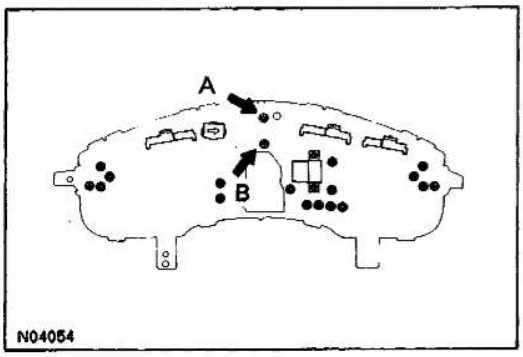
TURBO BOOST PRESSURE GAUGE INSPECTION

OPERATION

(a) Disconnect the connector from the pressure sensor.
(b) Turn the ignition switch ON, check that the gauge needle moves to upper position.

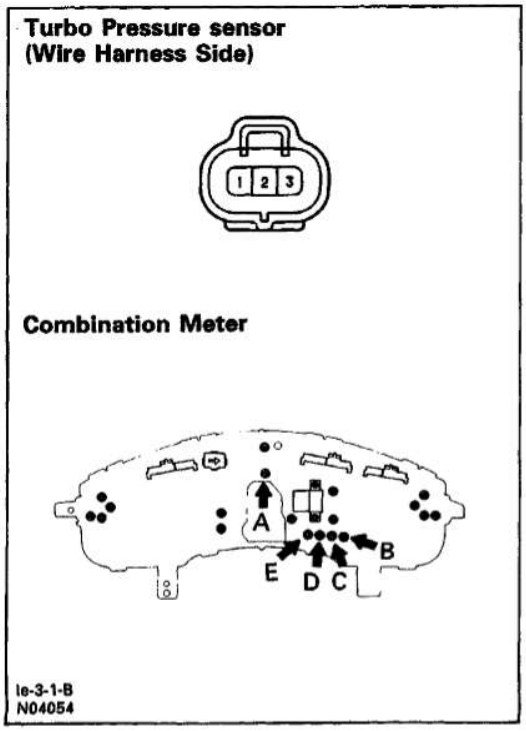


(c) Ground terminal 2 on the wire harness side.
Check that the gauge needle moves to lower position.
If operation is not as specified, inspect the turbo boost pressure gauge drive circuit and resistance.



RESISTANCE

Measure the resistance between terminals A and B.
Resistance: Approx. 72 Ω
If resistance value is not as specified, replace the turbo boost pressure gauge.

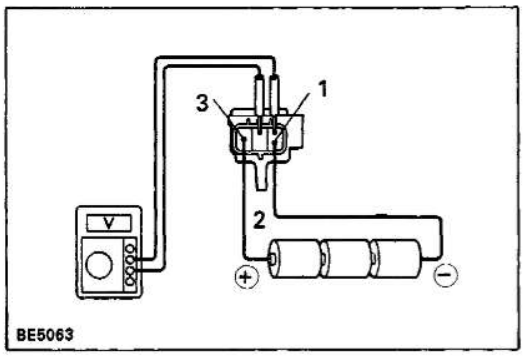


DRIVE CIRCUIT

(a) Disconnect the connector from the turbo pressure sensor.
(b) Remove the combination meter with connected three connectors.
(c) Inspect the connector on the wire harness side and terminals of the turbo boost pressure gauge drive circuit as shown in the chart.

Check for	Tester– connection	Condition		Specified value
Continuity	A–B	Constant		Continuity
	C–2	Constant		Continuity
	D – Ground	Constant		Continuity
	1 – Ground	Constant		Continuity
Voltage	E – 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

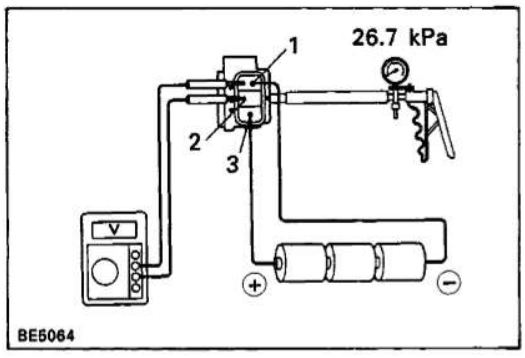
If circuit is as specified, replace the drive circuit.

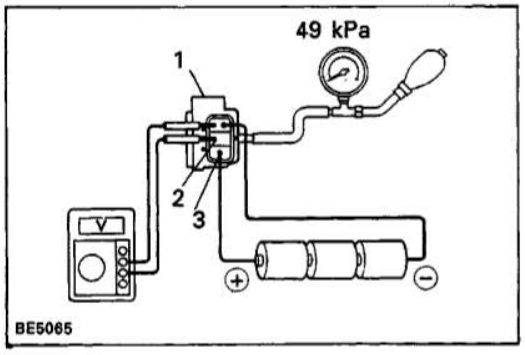


TURBO PRESSURE SENSOR INSPECTION

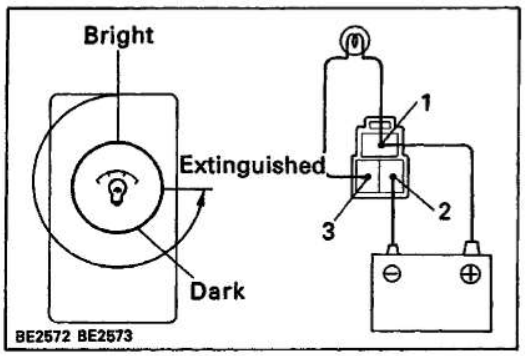
INSPECT TURBO PRESSURE SENSOR

(a) Connect a series of three 1.5 V dry cell batteries.
(b) Connect the positive (+) lead from the dry cell batteries to terminal 3 and the negative (–) lead to terminal 1.
(c) Connect the positive (+) lead from the voltmeter to ter–minal 2 and the negative (–) lead to terminal 1.
(d) Check that the voltage between terminals 2 and 1.
Voltage: Approx. 2.4 V
(e) Apply 26.7 kPa (200 mmHg, 7.87 in.Hg) of vacuum.
Check that the voltage drops below approximately 2.4 V.





(f) Using SST, apply 49 kPa (0.5 kgf/cm2, 7.2 psi) of pres–sure.
Check that the voltage rises approximately 2.4 V.
SST 09992–00241
If operations are not as specified, replace the sensor.

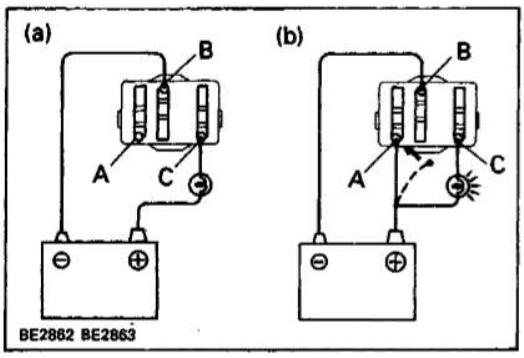


METER ILLUMINATION CONTROL SYSTEM

LIGHT CONTROL RHEOSTAT INSPECTION

INSPECT LIGHT CONTROL RHEOSTAT

(a) Connect terminals 1 and 3 through a 3.4 W test bulb.
(b) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2.
(c) Turn the rheostat knob to fully counterclockwise, check that the test bulb goes out.
(d) Gradually turn the rheostat knob to clockwise, check that the test bulb brightness changes from dark to bright.
If operation is not as specified, replace the rheostat.

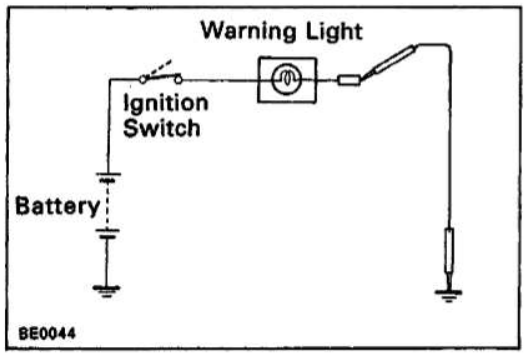


BULB CHECK SYSTEM

BULB CHECK RELAY INSPECTION

INSPECT BULB CHECK RELAY

(a) Connect the positive (+) lead from the battery to terminal C through a 1.4 W test bulb and the negative (–) lead to terminal B, check that the test bulb does not light up.
(b) Connect the positive (+) lead from the battery to terminal A, check that the test bulb lights up.
If operation is not as specified, replace the relay.



OPEN DOOR WARNING SYSTEM

OPEN DOOR WARNING LIGHT INSPECTION

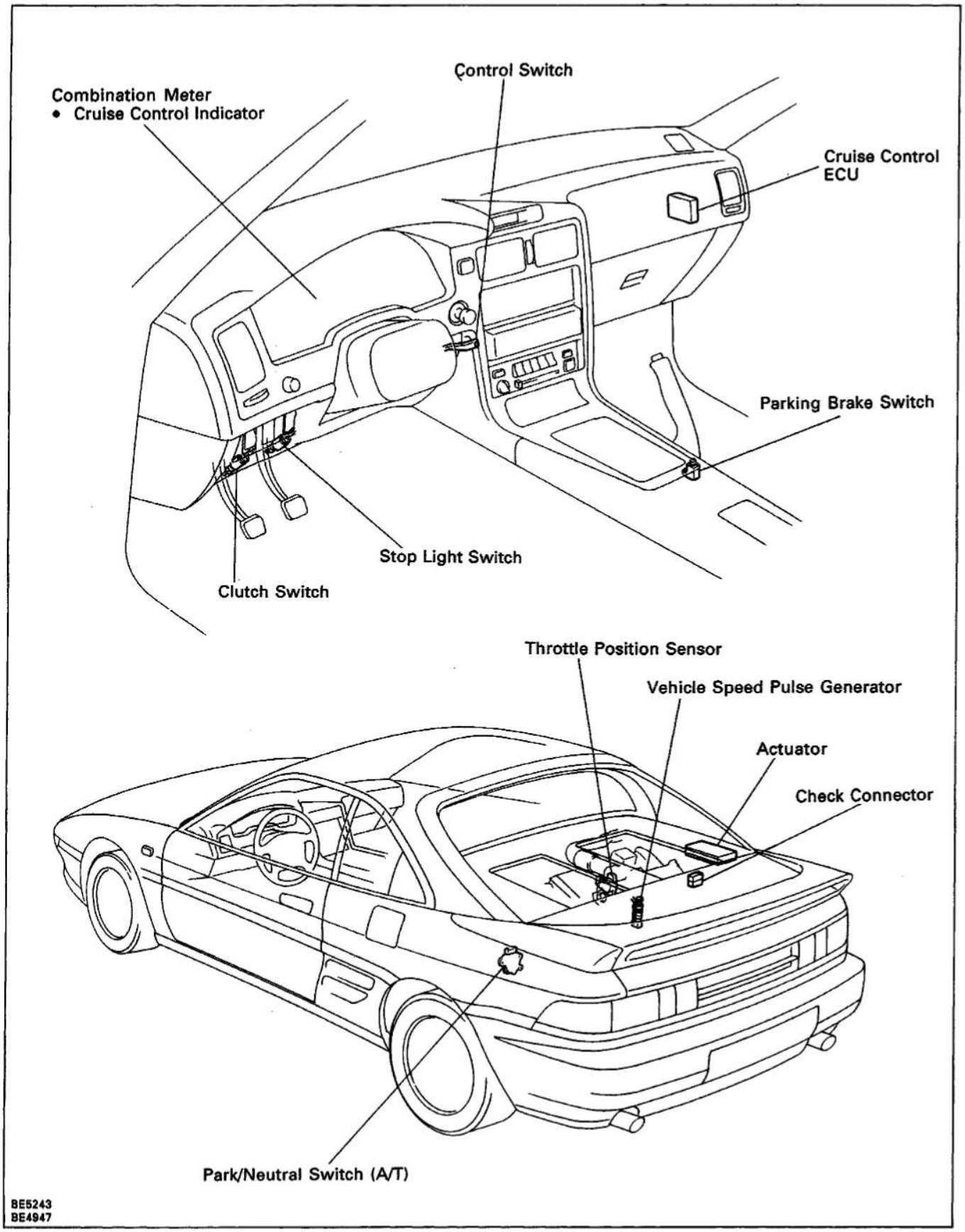
INSPECT WARNING LIGHT

(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 does not light up, test the bulb.

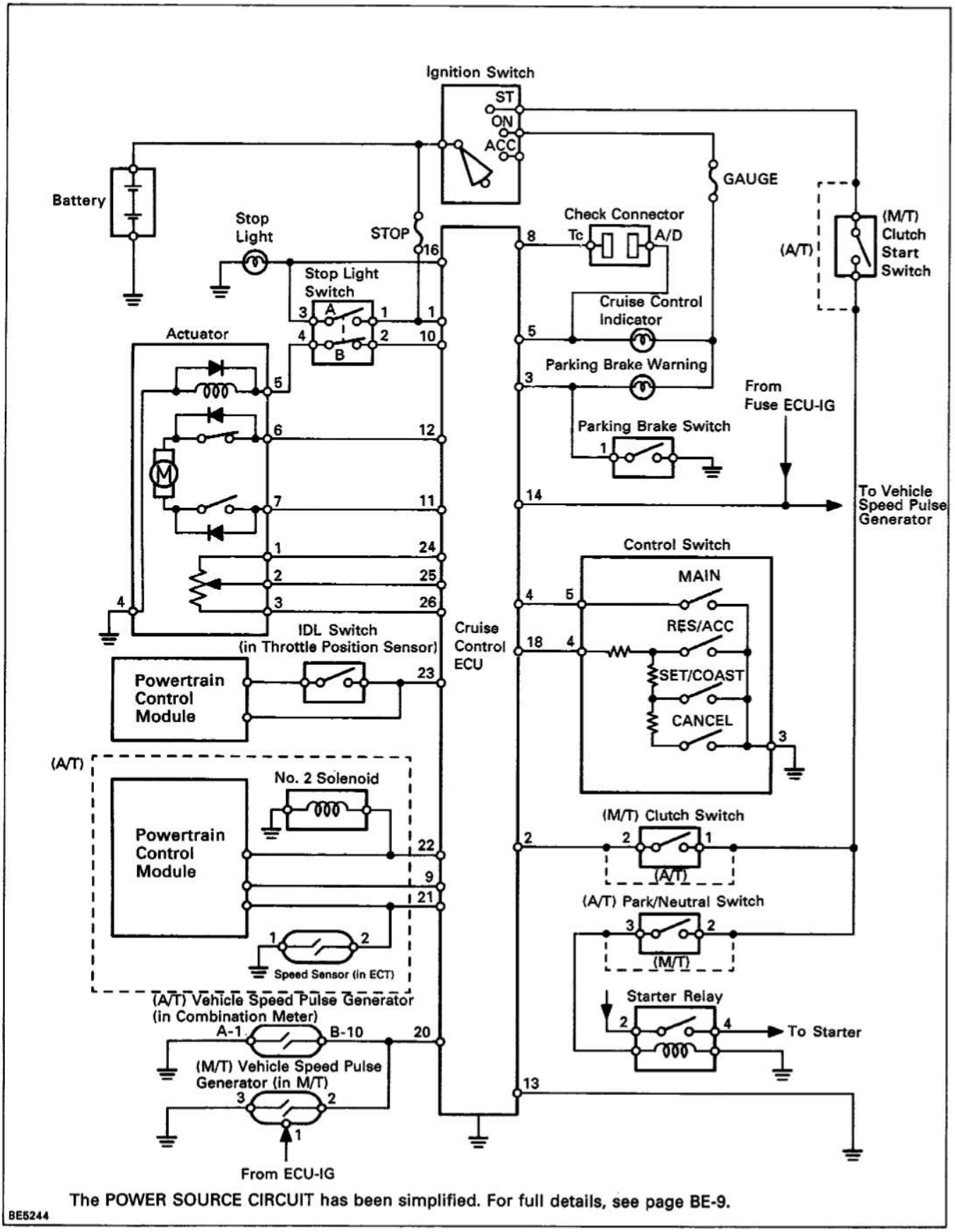
DOOR COURTESY SWITCH INSPECTION

See Interior Light System on page BE–49.

CRUISE CONTROL SYSTEM
PARTS LOCATION



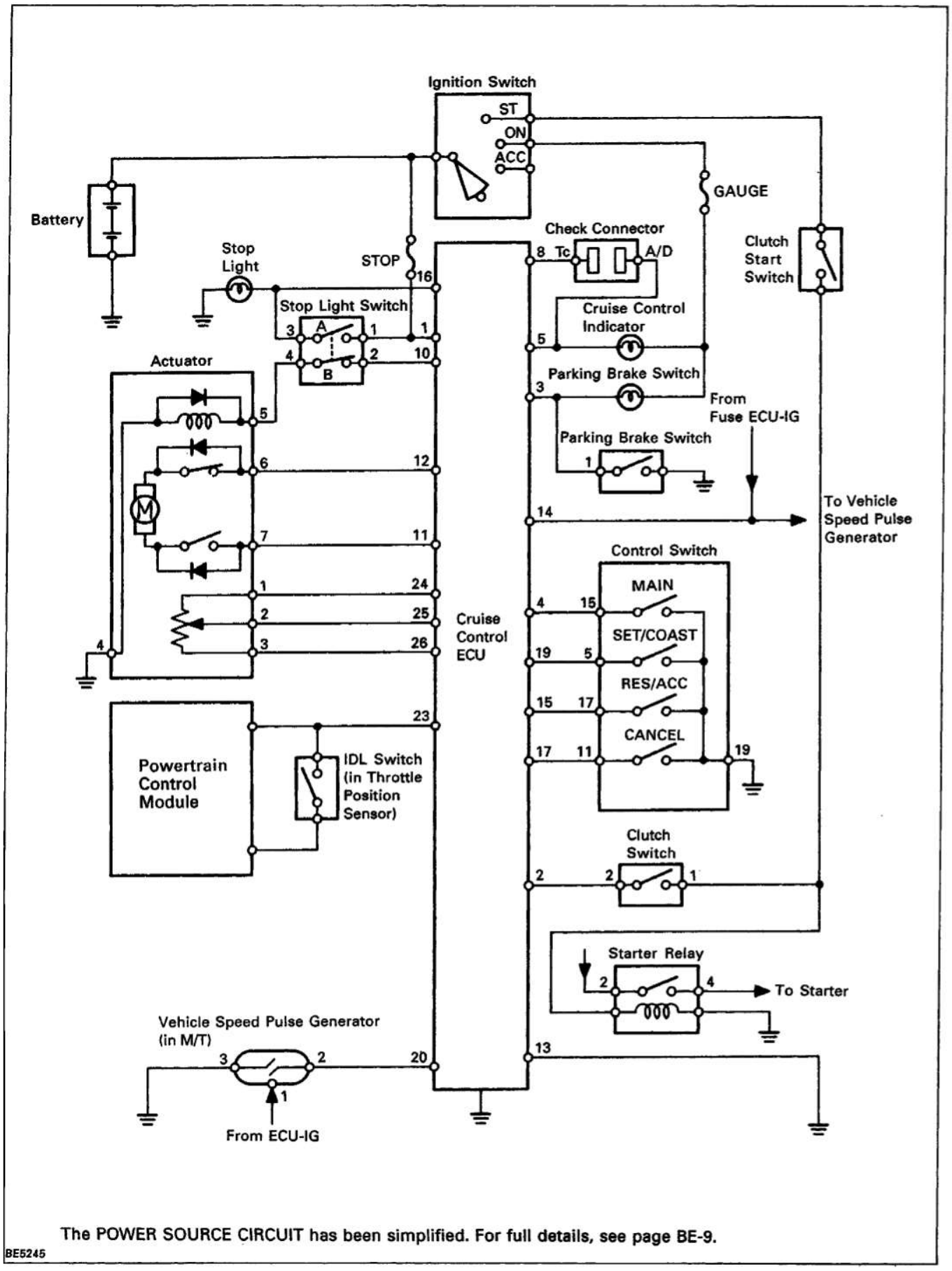
WIRING DIAGRAM
(USA)



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

BE5244

(CANADA)



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

BE5245

CONNECTOR DIAGRAMS

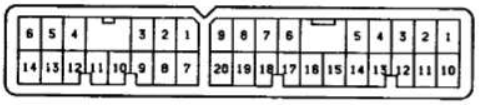
Cruise Control Switch

(USA)



e-6-1-C

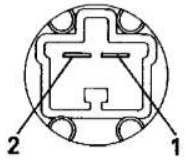
(CANADA)



Connector "A" Connector "B"

V-34-2

Stop Light Switch



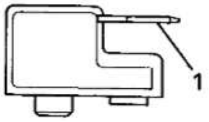
BE5656

Clutch Switch (M/T)



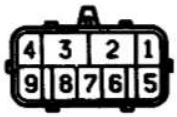
G-2-2

Parking Brake Switch



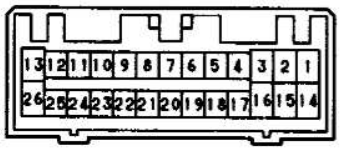
BE1412

Park/Neutral Switch (A/T)



SH-9-2-A

Cruise Control ECU



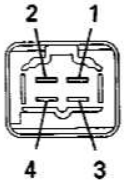
Vd-26-2-B

Actuator



Ie-7-2

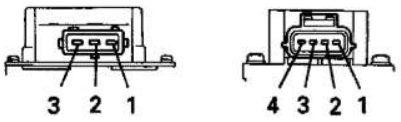
Starter Relay



ST0280

Throttle Position Sensor

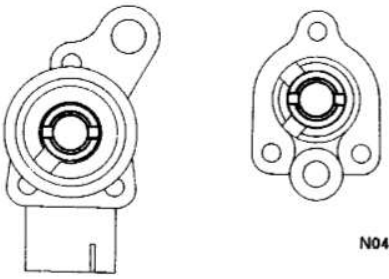
(3-Pin Type) (4-Pin Type)



AC2241

Vehicle Speed Pulse Generator

(M/T) (A/T)



N04051

N04050

SYSTEM DESCRIPTION

- When the ignition switch is turned ON, current flows from the battery to terminal 14 of the cruise control (CC) ECU.
- Terminal 13 of the CC ECU is always grounded.

BASIC OPERATION

HINT: For all explanations below, the ignition switch is in the ON position.

1. CONTROL SWITCH OPERATION

- The CC switch controls MAIN switch, SET/COAST, RESUME/ACCEL and CANCEL functions.

(USA)

(a) MAIN switch

When the main switch is pushed ON, current flows from terminal 4 of the CC ECU – terminal 5 of the control switch – terminal 3 of the switch – ground.
As a result, the CC ECU is on standby and terminal 5 of the CC ECU is grounded. Therefore the CC indicator lights up.

(b) SET/COAST, RESUME/ACCEL and CANCEL switch

The control switch controls the SET, COAST, RESUME, ACCEL and CANCEL functions. When the control switch is turned to each position, current flows from terminal 18 of the CC ECU – terminal 4 of the control switch→ (each resistance) → terminal 3 of the switch→ ground.
In the way, the CC ECU detects each position the control switch is turned to, and starts operation.

HINT: The SET function is detected by the CC ECU when the control switch released from SET/COAST.

(CANADA)

(a) MAIN switch

When the main switch is pushed ON, current flows from terminal 4 of the CC ECU→ terminal 15 of the control switch → terminal 19 of the switch → ground.
As a result, the CC ECU is on standby and terminal 5 of the CC ECU is grounded. Therefore the CC indicator lights up.

b) SET/COAST switch

When the control switch is turned to SET/COAST position, the current flows from terminal 19 of the CC ECU → terminal 5 of the CC switch→ terminal 19 of the CC switch→ ground.

c) RESUME/ACCEL switch

When the control switch is turned to RESIACC position, the current flows from terminal 18 of the CC ECU→ terminal 17 of the CC switch → terminal 19 of the CC switch→ ground.

d) CANCEL switch

When the control switch is turned to CANCEL position, the current flows from terminal 17 of the CC ECU→ terminal 11 of the CC switch → terminal 19 of the CC switch→ ground.

SPEED CONTROL OPERATION

When the vehicle speed is set by the control switch, the ECU sends signal from terminal 10→terminal 2 of the stop light switch → terminal 4 of the switch → terminal 5 of the actuator→ (safety magnetic clutch) – terminal 4 of the actuator → ground.
When the actual vehicle speed drops below the set speed, the CC ECU sends a signal (voltage) from terminal 12 → terminal 6 of actuator→ (motor) → terminal 7 of actuator→ terminal 11 of CC ECU. This causes the motor to rotate the actuator arm in the throttle opening direction, increasing the vehicle speed. Then, when the arm reaches the prescribed angle, the CC ECU detects this at terminal 25 and stops the signal from 12.
When the actual vehicle speed rises above the set speed, the CC ECU sends a signal from terminal 11, turning the motor in the opposite direction so that the vehicle speed is reduced.
The CC ECU sends approx. 5 V from terminal 24 → terminal 1 of the actuator →(position sensor) →terminal 3 of the actuator → terminal 26 of the CC ECU. When the occurs, the position sensor sends the position of the actuator arm as a signal (voltage) from terminal 2 of the actuator to terminal 25 of the CC ECU.

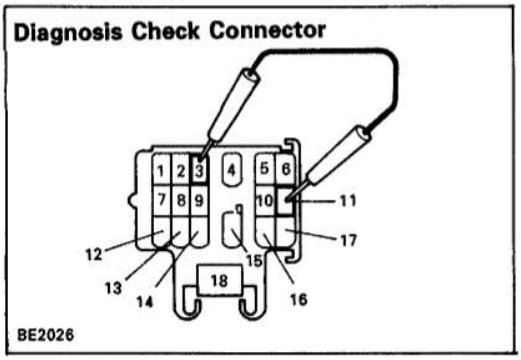
3. MANUAL CANCEL OPERATION

The CC system has the following methods of cancellation:

- **Speed Control Switch (CANCEL)**
  When the control switch is turned to CANCEL position.
- **Parking Brake Switch**
  When the parking brake lever is pulled, the parking brake switch is turned ON and sends a cancellation signal (ground voltage) to terminal 3 of the CC ECU.
- **Park/Neutral Switch (A/T)**
  When the shift lever is set to ”N” or ”P” range, the park/neutral switch is turned ON and sends a cancellation signal (ground voltage) to terminal 2 of the CC ECU.
- **Clutch Switch (M/T)**
  When the clutch pedal is depressed, the clutch switch is turned ON and sends a cancellation signal (ground voltage) to terminal 2 of the CC ECU.
- **Stop Light Switch**
  When the brake pedal is depressed, SW B of the stop light switch is turned OFF, the safety magnetic clutch (in actuator) is released, and SW A of the stop light switch is turned ON and sends a cancellation signal (battery voltage) to terminal 16 of the CC ECU.

  When the CC ECU detects any of the above signals, it stops output of signals to the actuator, and cancels cruise control.

CC: Cruise Control



DIAGNOSIS SYSTEM

OUTPUT OF DIAGNOSIS CODE

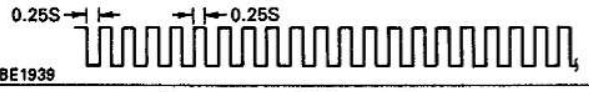
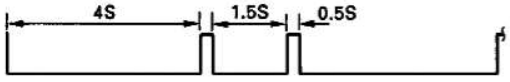
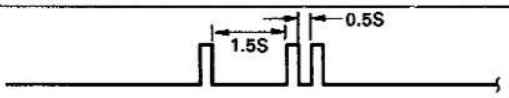
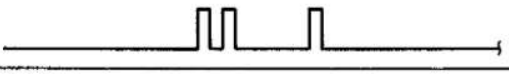
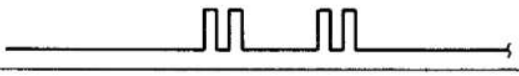
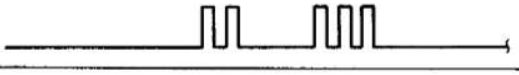
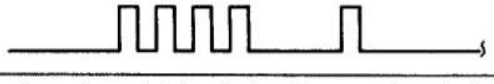
READ DIAGNOSIS CODE

(a) If while driving with the cruise control on, the system is canceled by a malfunction in either the actuator, speed sensor or speed control switch circuit, the cruise control indicator light "CRUISE" will blink 5 times.

(b) While stopped, connect terminals 3 and 11 of the check connector.

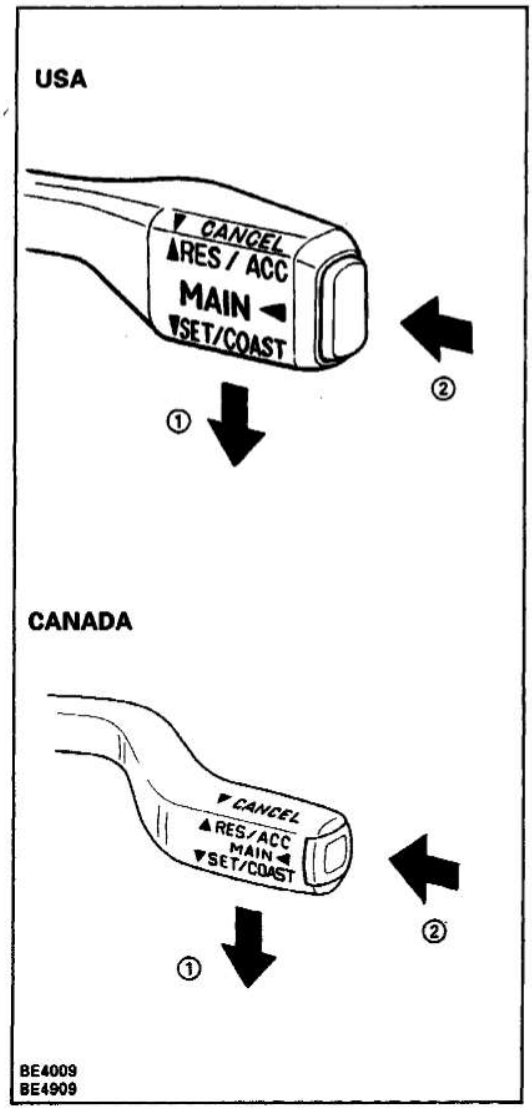
HINT: If the ignition switch is turned oft, the diag–nostic code will be erased from the computer memory.

(e) Read the diagnostic code on the indicator light "CRUISE".

	Indicator code	Diagnosis
		Normal
11		Excessive current flowed to motor or safety magnetic clutch drive circuit.
12		Open circuit in safety magnetic clutch circuit.
13		Position sensor circuit abnormal. Open circuit in motor.
21		Vehicle speed signal not sent for 140 msec. or longer.
22		Vehicle speed pulse generator (in Powertrain Control Module) circuit is abnormal.
23		(A/T) Vehicle speed has decreased by 16 km/h (10 mph) or more from the set speed during cruising.
31		(CANADA) RESUME/ACCEL switch is ON always when MAIN switch is pushed ON.
32		(USA) Short circuit in control switch circuit.
33		(CANADA) SET/COAST switch signal and RES/ACC switch signal turned on simultaneously.
34		(USA) Control switch does not turn o¿¿ before switching.
41		ECU malfunction.
If the set speed can be maintained when the speed control switch is again set at SET/COAST, there is no malfunction.		

HINT:

- Indication codes appear in order from No. 11.
- If there is no indication code, perform troubleshooting and inspection. (See page BE–124).

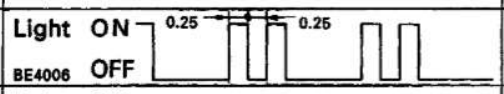
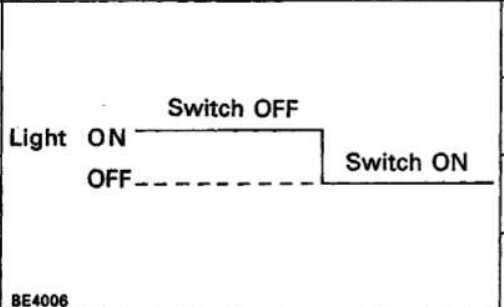
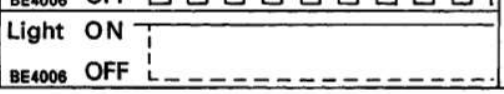


INPUT SIGNAL CHECK

Output Code

1. (a) For check No. 1 – No. 2
   Turn the ignition switch on.
   (b) For check No. 3 – No. 4
   Jack up the vehicle.
   Start the engine.
2. Turn the control switch to SET/COAST position and hold it down (1).
3. Push the main switch on (2).
4. Check that the CRUISE MAIN indicator light blinks twice repeatedly.
5. Turn the SET/COAST switch off.
6. Operate each switch as listed in the table below.
7. Read the blinking pattern of the CRUISE MAIN indicator light.
8. After performing the check, turn the main switch off.

HINT: When two or more signals are input to the ECU, only the lowest–numbered code is displayed.

No.	Operation Method	CRUISE MAIN Indicator Light Blinking Pattern	Diagnosis
1	Turn SET/COAST switch ON.		SET/COAST switch circuit is normal.
2	Turn RES/CC switch ON.		RES/ACC switch circuit is normal.
3	Turn CANCEL switch ON.		CANCEL switch circuit is normal.
	Turn stop fight switch ON. (Depress brake pedal)		Stop fight switch circuit is normal.
	Turn parking brake switch ON. (Release parking brake)		Parking brake switch circuit is normal.
	Turn park/neutral switch ON. (Shift to N or P range)		Park/neutral switch circuit is normal.
4	Drive at 40 km/h (25 mph) or higher.		Vehicle speed pulse generator is normal.
	Drive at 40 km/h (25 mph) or below.		

TROUBLESHOOTING

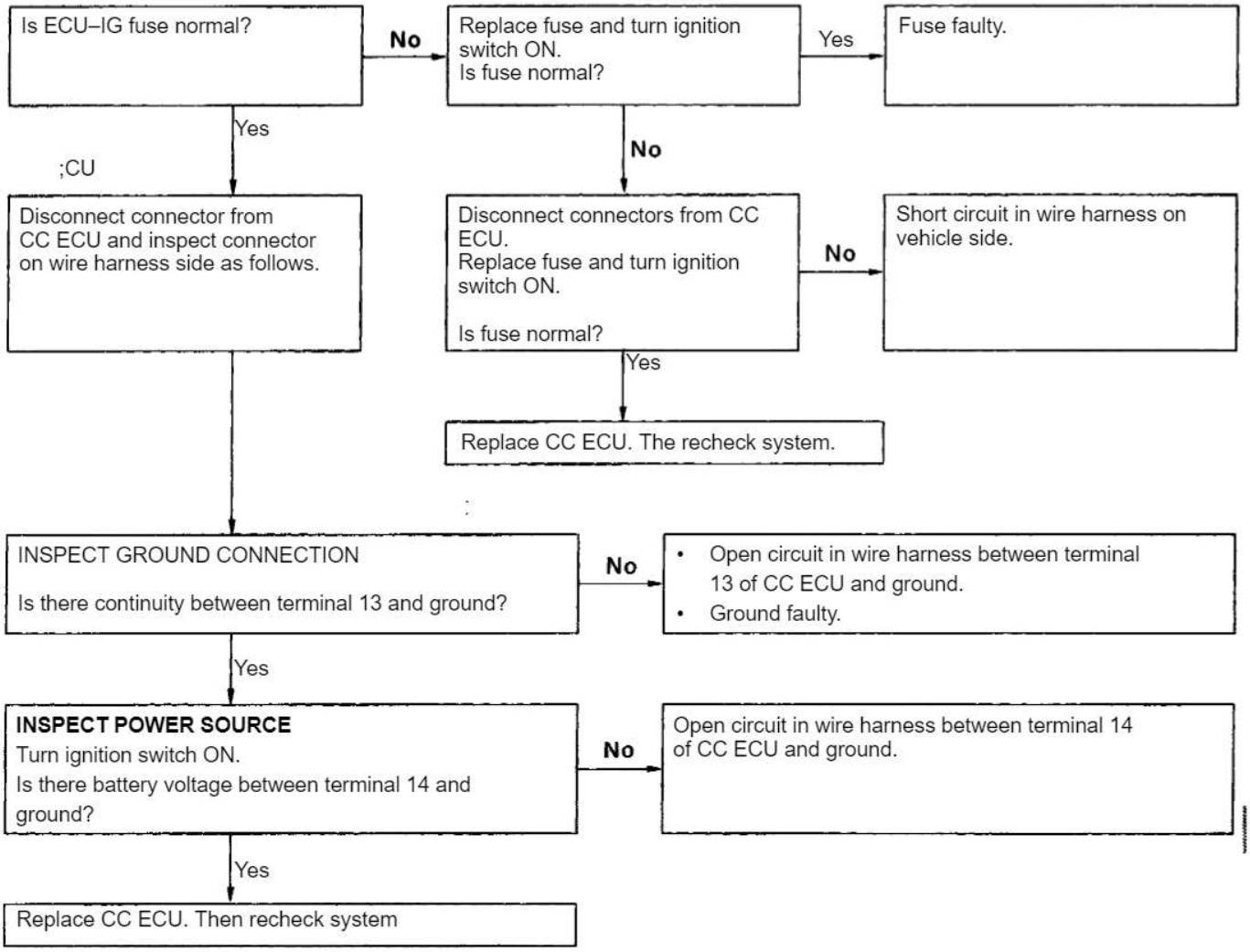
You will find the source of the trouble more easily be properly using the table shown below. In this table, the numbers indicate the order of priority of the causes of trouble. Check each part in the order shown.

Chart No.					H	*1	*2	L	N, 0	M	*3	P	Q		
Inspection Item / Diagnosis Code / Problem	Type B	Type A		CC ECU	Actuator	Main Switch (in Control Switch)	Control Switch	Stop Light Switch	Clutch Switch or Park/Neutral Switch	Parking Brake Switch	Vehicle Speed Pulse Generator or Speedometer Cable	ECT Solenoid No. 2 Circuit	Throttle Position Sensor (IDL)	Speed Control Cable Function	Wire Harness
• "CRUISE" Indicator light blinks 5 times. • Cruise control system does not set. • Cruise control system does not operate	11			3	2										1
	12			4	2			3							1
	13			3	2										1
	21			3							2				1
	22			2							1				
	23			4	3						2			1	
	31			3			2								1
	32			2			1								
	33			3			2								1
	34			2			1								
	41			1											
	Normal	4	OK	9	8	2	3	4	5	6				7	1
			NG	2							7				
Set speed deviates on high or low side				4	3						1			2	
Large speed drop when the speed control switch turned to SET.				4	3								2	1	
Vehicle speed fluctuates when speed control switch turned to SET.				4	3						1			2	
Acceleration response is sluggish when speed control switch turned to "ACCEL" or "RESUME'				4	3						2			1	
During autodrive operation, shift operation occurs frequently without control				2								1			
Set speed does not cancel when brake pedal depressed.	3	OK		1											
		NG		2				1							
Set speed does not cancel when parking brake lever pulled.	3	OK		1											
		NG		2						1					
Set speed does not cancel when clutch pedal depressed.	3	OK		1											
		NG		2					1						
Set speed does not cancel when speed control switch turned to CANCEL.	3	OK		1											
		NG		2			1								
Vehicle speed does not decrease when speed control switch turned to COAST.	1	OK		4	1						3			2	
		NG		2			1								
Vehicle speed does not accelerate when speed control switch turned to ACCEL.	2	OK		4	1						3			2	
		NG		2			1								
Vehicle speed does not return to memorized speed when control switch turned on RESUME	2	OK		4	1						3			2	
		NG		2			1								
Speed can be set below about 40 km/h (25 mph.)	4	OK		1											
		NG		2							1				
Cruise control will not disengage even at about 40 km/h (25 mph).	4	OK		1											
		NG		3							1			2	

*1 USA : C
CANADA : D
*2 USA : C
CANADA : E, F, G
*3 M/T : I
A/T : J, K

A POWER SOURCE CIRCUIT

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.



CC: Cruise Control

B CRUISE CONTROL INDICATOR CIRCUIT

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

Is GAUGE fuse normal?
- No → Replace fuse and turn ignition switch ON. Is fuse normal?
  - Yes → Fuse faulty.
  - No → Short circuit in wire harness on vehicle side.
- Yes → COMBINATION METER: Disconnect connector "B" from combination meter and inspect connector on wire harness side as follow.

INSPECT POWER SOURCE
Turn ignition switch ON.
Is there battery voltage between terminal B–5 and ground?
- No → Open circuit in wire harness between terminal "B" and GAUGE fuse.
- Yes

INSPECT BULB CONDITION
Is bulb condition normal?
- No → Replace bulb. Then recheck system.
- Yes

CC ECU: Install bulb and connect connector to combination meter.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT INDICATOR CIRCUIT
Is there continuity between terminal 5 and ground?
- No →
  - Short circuit in wire harness between terminals 5 of CC ECU and A–11 of combination meter.
  - Short circuit in circuit plate of combination meter between terminal A–11 and CC indicator bulb.
- Yes

Turn ignition switch ON.
Is there battery voltage between terminal 5 and ground?
- No →
  - Open circuit in wire harness between terminals 5 of CC ECU and A–11 of combination meter.
  - Open circuit in circuit plate of combination meter between terminal A–11 and CC indicator bulb or between terminal B–5 and CC indicator bulb.
- Yes → Replace CC ECU. Then recheck system.

CC: Cruise Control

C CONTROL SWITCH CIRCUIT (USA)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

CONTROL SWITCH

Disconnect connector from control switch and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 3 and ground?

No →
- Open circuit in wire harness between terminal 3 of control switch and ground.
- Ground faulty.

Yes

INSPECT CONTROL SWITCH (See page BE–137)
Is control switch operation normal?

No → Replace control switch. Then recheck system.

Yes

CC ECU

Connect connector to control switch.
Disconnect connectors from CC ECU and inspect connectors on wire harness side as follows.

INSPECT MAIN SWITCH CIRCUIT
Is there continuity between terminal 4 and ground with main switch OFF?

Yes → Short circuit in wire harness between terminals 4 of CC ECU and 5 of control switch.

No

!s there continuity between terminal 4 and ground with main switch ON?

No → Open circuit in wire harness between terminals 4 of CC ECU and 5 of control switch.

Yes

INSPECT CONTROL SWITCH CIRCUIT
Is there continuity between terminal 18 and ground with control switch OFF?

Yes → Short circuit in wire harness between terminals 18 of CC ECU and 4 of control switch.

No

Is there resistance as shown in table below between terminal 18 and ground when control switch is turned to each position?

No → Open circuit in wire harness between terminals 18 of CC ECU and 4 of control switch.

Position	Resistance (S
RESIACC	Approx. fib
SET/COAST	Approx. 198
CANCEL	Approx. 418

Yes

Replace CC ECU. Then recheck system.

CC: Cruise Control

D MAIN SWITCH CIRCUIT (CANADA)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected,

CONTROL SWITCH

Disconnect connector from control switch and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 19 and ground?

No →
- Open circuit in wire harness between terminal 19 of control switch and ground.
- Ground faulty.

Yes ↓

INSPECT CONTROL SWITCH (See page BE–137)
Is control switch operation normal?

No → Replace control switch. Then recheck system.

Yes ↓

CC ECU

Connect connector to control switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT MAIN SWITCH CIRCUIT

Is there continuity between terminal 4 and ground with MAIN switch ON?

No → Open circuit in wire harness between terminal 4 of CC ECU and terminal 15 of control switch.

Yes ↓

Is there continuity between terminal 4 and ground with MAIN switch OFF?

Yes → Short circuit in wire harness between terminal 4 of CC ECU and terminal 15 of control switch.

No ↓

Replace CC ECU.
Then recheck system.

CC: Cruise Control

E SET/COAST SWITCH CIRCUIT (CANADA)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

CONTROL SWITCH

Disconnect connector from control switch and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 19 and ground?

No → • Open circuit in wire harness between terminal 19 of control switch and ground.
• Ground faulty.

Yes

INSPECT CONTROL SWITCH
(See page BE–137)
Is control switch operation normal?

No → Replace control switch. Then recheck system.

Yes

CC ECU

Connect connector to control switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT SET/COAST SWITCH CIRCUIT .
Is there continuity between terminal 19 and ground with control switch turned to SET/COAST position?

No → Open circuit in wire harness between terminal 19 of CC ECU and terminal 5 of control switch.

Yes

Is there continuity between terminal 19 and ground when control switch released?

Yes → Short circuit in wire harness–between terminal 19 of CC ECU and terminal 5 of control switch.

No

Replace CC ECU.
Then recheck system.

CC: Cruise Control

F RES/ACC SWITCH CIRCUIT (CANADA)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

CONTROL SWITCH

Disconnect connector from control switch and inspect connector on wire harness side as follows.

↓

INSPECT GROUND CONNECTION
Is there continuity between terminal 19 and ground?

No → • Open circuit in wire harness between terminal 19 of control switch and ground.
• Ground faulty.

Yes ↓

INSPECT CONTROL SWITCH
(See page BE–137)
Is control switch operation normal?

No → Replace control switch. Then recheck system.

Yes ↓

CC ECU

Connect connector to control switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

↓

INSPECT RESUME/ACCEL CIRCUIT
Is there continuity between terminal 18 and ground with control switch turned to RES/ACC position?

No → Open circuit in wire harness between terminal 18 of CC ECU and terminal 17 of control switch.

Yes ↓

Is there continuity between terminal 18 and ground with control switch released?

Yes → Short circuit in wire harness between terminal 18 of CC ECU and terminal 17 of control switch.

No ↓

Replace CC ECU.
Then recheck system.

CC: Cruise Control

G CANCEL SWITCH CIRCUIT (CANADA)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

CONTROL SWITCH

' Disconnect connector from control switch and inspect connector on wire harness side as follows.

↓

INSPECT GROUND CONNECTION
Is there continuity between terminal 19 and ground?

No → • Open circuit in wire harness between terminal 19 of control switch and ground.
• Ground faulty.

↓ Yes

INSPECT CONTROL SWITCH
(See page BE–137)
Is control switch operation normal?

No → Replace control switch. Then recheck system.

↓ Yes

CC ECU

Connect connector to control switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

↓

INSPECT CANCEL CIRCUIT
Is there continuity between terminal 17 and ground with control switch turned to CANCEL position?

No → Open circuit in wire harness between terminal 17 of CC ECU and terminal 11 of control switch.

↓ Yes

Is there continuity between terminal 17 and ground with control switch released?

Yes → Short circuit in wire harness between terminal 17 of CC ECU and terminal 11 of control switch.

↓ No

Replace CC ECU.
Then recheck system.

CC: Cruise Control

H ACTUATOR CIRCUIT

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

ACTUATOR

Disconnect connector from actuator and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 4 and ground?

No → • Open circuit in wire harness between terminal 4 of actuator and ground.
• Ground faulty.

Yes

INSPECT ACTUATOR (See page BE–139)
Is actuator operation normal?

No → Replace actuator. Then recheck system.

Yes

STOP LIGHT SWITCH

INSPECT STOP LIGHT SWITCH INSTALLATION
Is stop light switch installed properly?

No → Reinstall stop light switch properly. Then recheck system.

Yes

Connect connector to actuator.
Disconnect connector from stop light switch and inspect connector on wire harness side as follows.

INSPECT SAFETY MAGNETIC CLUTCH CIRCUIT
Is there approx. 38.5 Ω between terminal 4 and ground?

No → Open or short circuit in wire harness between terminals 4 of stop light and 5 of actuator.

Yes

INSPECT STOP LIGHT SWITCH (See page BE–137)
Is stop light switch operation normal?

No → Replace stop light switch. Then recheck system.

Yes

CONTINUED ON NEXT PAGE

CC: Cruise Control

CONTINUED FROM PREVIOUS PAGE

CC ECU

Connect connector to stop light switch.
Disconnect connectors from CC ECU and inspect connector on wire harness side as follows.

INSPECT SAFETY MAGNETIC CLUTCH CIRCUIT
Is there approx. 38.5Ω between terminal 10 and ground?

No → Open or short circuit in wire harness between terminals 10 of CC ECU and 4 of actuator.

Yes

INSPECT MOTOR CIRCUIT
Is there continuity between terminal 12 and ground?

Yes → Short circuit in wire harness between terminals 12 of CC ECU and 6 of actuator.

No

Is there continuity between terminal 11 and ground?

Yes → Short circuit in wire harness between terminals 11 of CC ECU and 7 of actuator.

No

Is there continuity between terminals 11 and 12 with actuator arm in a position except max. open or max. close?

No → Open circuit in wire harness between terminals 12 of CC ECU and 6 of actuator or between terminals 11 of CC ECU and 7 of actuator.

Yes

INSPECT POSITION CIRCUIT
Is there continuity between terminal 24 and ground?

Yes → Short circuit in wire harness between terminals 24 of CC ECU and 1 of actuator.

No

Is there approx. 2 kΩ between terminals 24 and 26

No →
- Open circuit in wire harness between terminals 26 of CC ECU and 3 of actuator.
- Open circuit in wire harness between terminals 24 of CC ECU and 1 of actuator.

Yes

Does resistance change even between terminals 25 and 26?

No → Open or short circuit in wire harness between terminals 25 of CC ECU and 2 of actuator.

Yes

Replace CC ECU. Then recheck system.

CC: Cruise Control

VEHICLE SPEED PULSE GENERATOR CIRCUIT (with M/T)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

VEHICLE SPEED PULSE GENERATOR

Disconnect connector from vehicle speed pulse generator and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 3 and ground?

No →
- Open circuit in wire harness between terminal 3 of vehicle speed pulse generator and ground.
- Ground faulty.

Yes

INSPECT VEHICLE SPEED PULSE GENERATOR (See page BE–138)
Is vehicle speed pulse generator operation normal?

No → Replace vehicle speed pulse generator. Then recheck system.

Yes

CC ECU

Connect connector to vehicle speed pulse generator
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT VEHICLE SPEED PULSE GENERATOR CIRCUIT
Is there continuity repeatedly between terminal 20 and ground?

No →
- Open or short circuit in wire harness between terminals 20 of CC ECU and 2 of vehicle speed pulse generator

Yes

Replace CC ECU. Then recheck system.

CC: Cruise Control

J VEHICLE SPEED PULSE GENERATOR CIRCUIT (with A/T: COMBINATION METER)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

COMBINATION METER

Disconnect connector "A" from combination meter and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal A–1 and ground?

No →
- Open circuit in wire harness between terminal A–1 of combination meter and ground.
- Ground faulty.

Yes ↓

INSPECT CONTROL SWITCH (See page BE–137)
Is speed sensor operation normal?

No → Replace speedometer. Then recheck system.

Yes ↓

CC ECU

Connect connector "A" to combination meter. Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT VEHICLE SPEED PULSE GENERATOR CIRCUIT
Is there continuity repeatedly between terminal 20 and ground?

No →
- Open or short circuit in wire harness between terminals 20 of CC ECU and B–10 of combination meter.
- Open or short circuit in circuit plate of combination meter between terminal B–10 and vehicle speed pulse generator.
- Open circuit in circuit plate of combination meter between terminal A–1 and vehicle speed pulse generator.

Yes ↓

Replace CC ECU. Then recheck system.

CC: Cruise Control

K VEHICLE SPEED PULSE GENERATOR CIRCUIT (with AM ECT)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected,

VEHICLE SPEED PULSE GENERATOR

Disconnect connector from vehicle speed pulse generator and inspect connector on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 1 and ground?

No → • Open circuit in wire harness between terminal 1 of vehicle speed pulse generator and ground.
• Ground faulty.

Yes

INSPECT VEHICLE SPEED PULSE GENERATOR (See page BE–138)
Is there continuity between terminal 1 and ground?

No → Replace vehicle speed pulse generator. Then recheck system.

Yes

CC ECU

Connect connector to vehicle speed pulse generator
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT VEHICLE SPEED PULSE GENERATOR CIRCUIT
Is there continuity repeatedly between terminal 21 and ground?

No → • Open or short circuit in wire harness between terminals 21 of CC ECU and of vehicle speed pulse generator

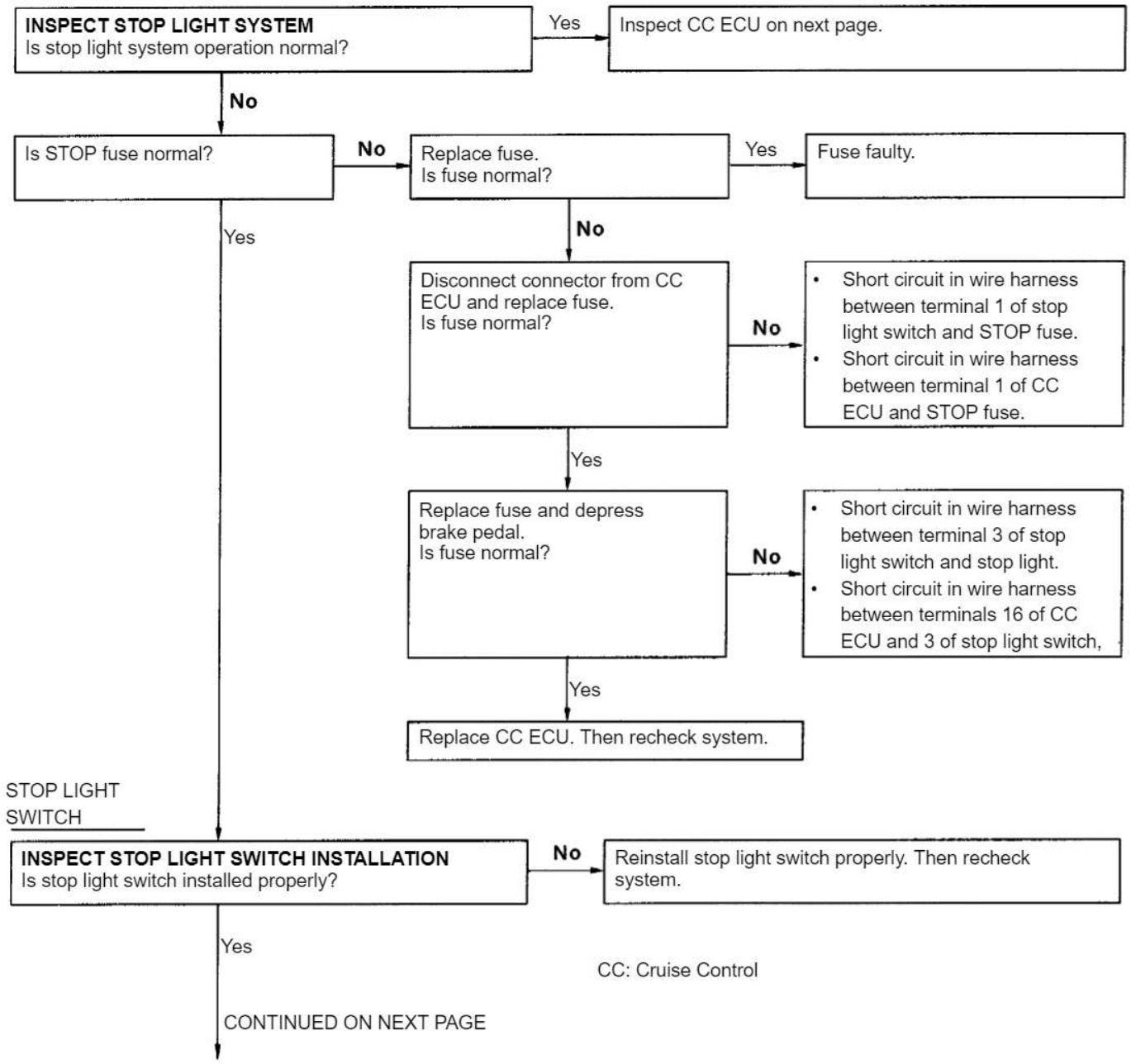
Yes

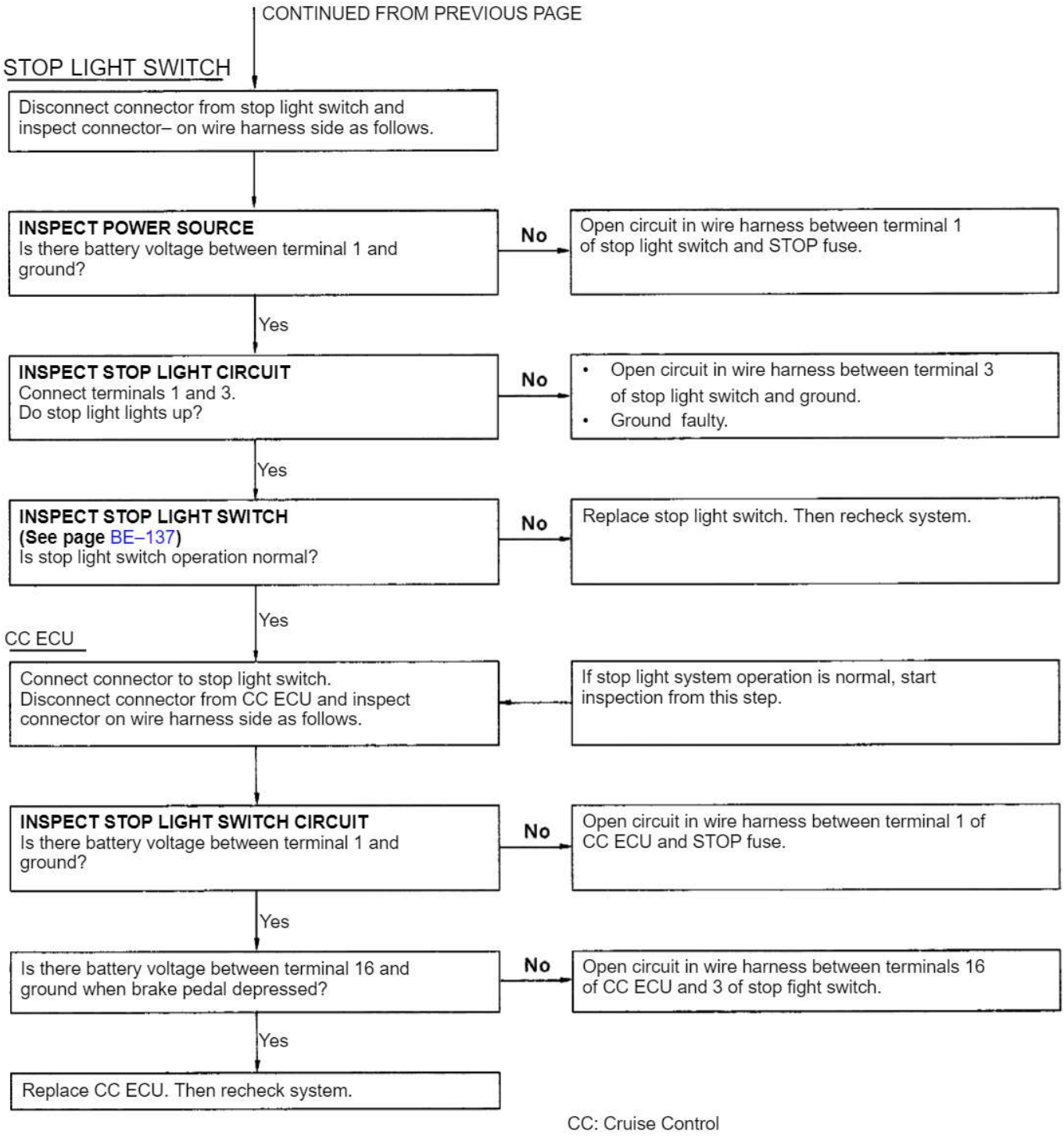
Replace CC ECU. Then recheck system.

CC: Cruise Control

L STOP LIGHT SWITCH CIRCUIT

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.





CC: Cruise Control

M PARKING BRAKE SWITCH CIRCUIT

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

INSPECT PARKING BRAKE SWITCH
(See page BE–79)
Is parking brake switch operation normal?

No → Replace parking brake switch. Then recheck system.

Yes

CC ECU

Connect connector to parking brake switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT PARKING BRAKE SWITCH CIRCUIT
Is there continuity between terminal 3 and ground when parking brake lever is released?

Yes → Short circuit in wire harness between terminal 3 of CC ECU and parking brake switch.

No

Is there continuity between terminal 3 and ground when parking brake lever is pulled?

No → Open circuit in wire harness between terminal 3 of CC ECU and parking brake switch.

Yes

Replace CC ECU. Then recheck system.

CC: Cruise Control

N CLUTCH SWITCH CIRCUIT (with M/T)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

CLUTCH SWITCH

INSPECT CLUTCH SWITCH INSTALLATION
Is clutch switch installed properly?
- No → Reinstall clutch switch properly. Then recheck system.
- Yes ↓

Disconnect connector from clutch switch and inspect connector– on wire harness side as follows.

INSPECT GROUND CONNECTION
Is there continuity between terminal 1 and ground?
- No → • Open. circuit in wire harness between terminal 1 of clutch switch and ground. • Ground faulty.
- Yes ↓

INSPECT CLUTCH SWITCH (See page BE–138)
Is clutch switch operation normal?
- No → Replace clutch switch. Then recheck system.
- Yes ↓

CC ECU

Connect connector to switch.
Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT CLUTCH SWITCH CIRCUIT
Is there continuity between terminal 2 and ground when clutch pedal released?
- Yes → Short circuit in wire harness between terminals 2 of CC ECU and 2 of clutch switch.
- No ↓

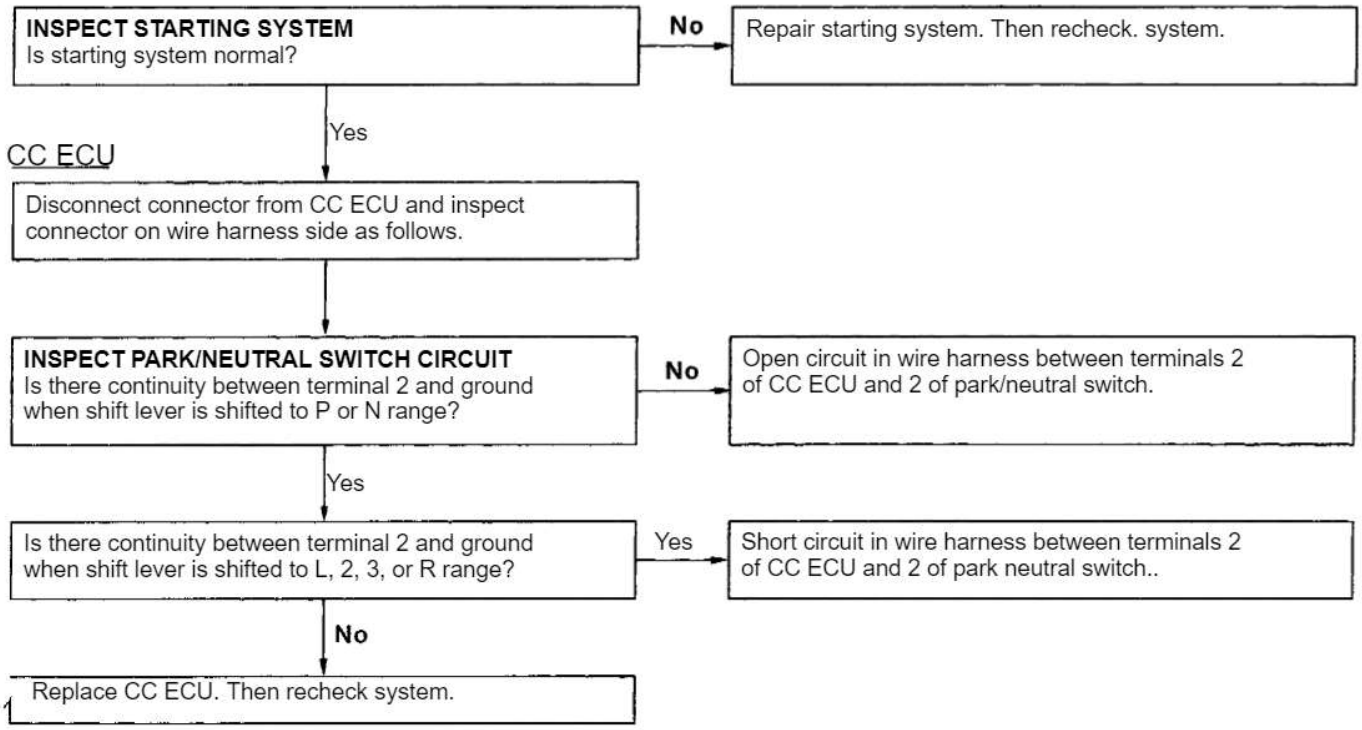
Is there continuity between terminal 2 and ground when clutch pedal depressed?
- No → Open circuit in wire harness between terminal 2 of CC ECU and 2 of clutch switch.
- Yes ↓

Replace CC ECU. Then recheck system.

CC: Cruise Control

O PARK/NEUTRAL SWITCH CIRCUIT (with A/T)

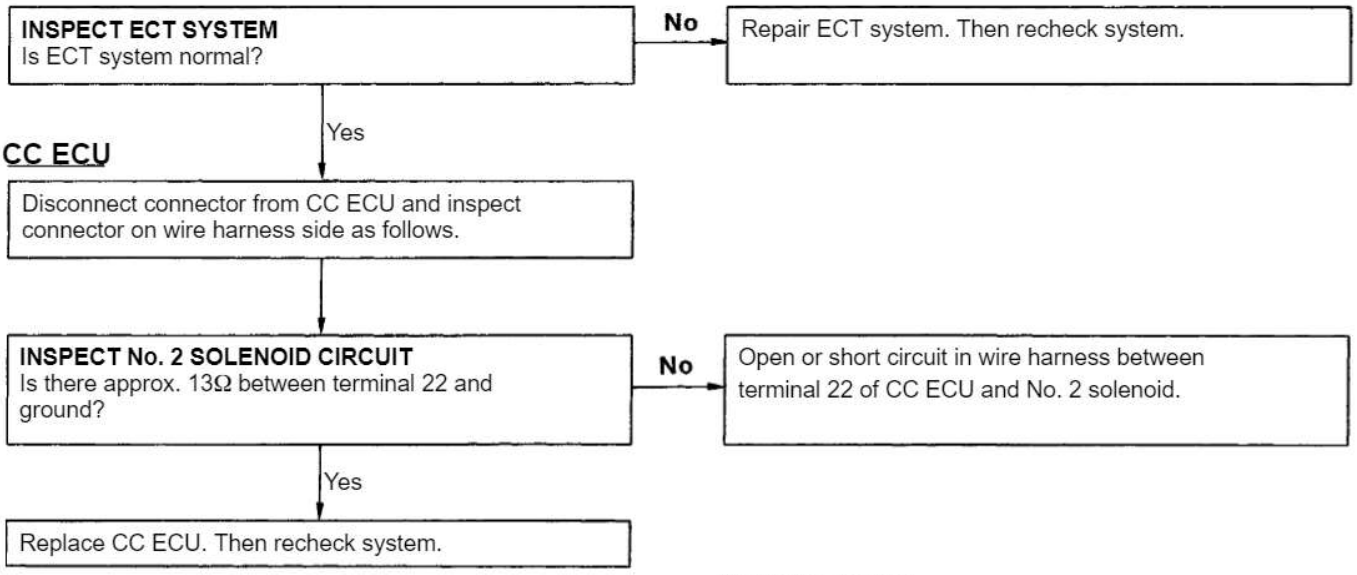
HINT: While carrying out the following inspection, make certain that the connectors and terminals are properly connected.



CC: Cruise Control

P ECT SOLENOID No. 2 CIRCUIT (with A/T)

HINT: While carrying out the following inspection, make certain that the connectors and terminals are)properly connected.



CC: Cruise Control

Q IDL SIGNAL CIRCUIT

HINT:. While carrying out the following inspection, make certain that the connectors and terminals are properly connected.

THROTTLE POSITION SENSOR

INSPECT THROTTLE POSITION SENSOR ADJUSTMENT
Is throttle position sensor adjustment normal?

No → Adjust position sensor position. Then recheck system.

Yes ↓

INSPECT THROTTLE POSITION SENSOR
Is throttle position sensor operation normal?

No → Replace throttle position. Then recheck system.

Yes ↓

CC ECU

Connect connector to throttle position sensor. Disconnect connector from CC ECU and inspect connector on wire harness side as follows.

INSPECT IDL SIGNAL CIRCUIT
Is there continuity between terminal 23 and ground when acceleration pedal is released?

No → Open circuit in wire harness between terminals 23 of CC ECU and 2 of throttle position sensor.

Yes ↓

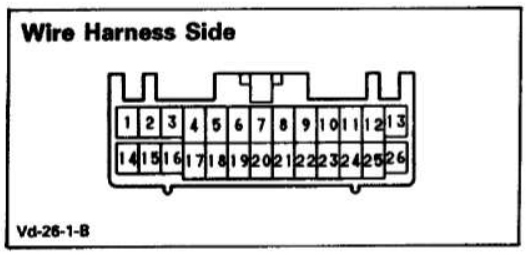
Is there continuity between terminal 23 and ground when acceleration pedal is depressed?

Yes → Short circuit in wire harness between terminals 23 of CC ECU and 2 of throttle position sensor.

No ↓

Replace CC ECU. Then recheck system.

CC: Cruise Control



CRUISE CONTROL ECU

CRUISE CONTROL ECU INSPECTION

ECU CIRCUIT

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

(USA)

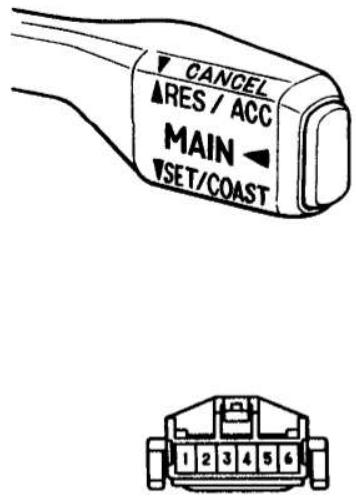
Check for	Measured item	Tester connection	Condition		Specified Value
Continuity	Clutch Switch (M/T)	2 – ground	Clutch pedal position	released	No continuity
				depressed	Continuity
	Park/Neutral switch (Alt)	2 – ground	Shift lever position	Nor P	Continuity
				L,2,D or R	N o continuity
	Parking brake switch	3 – ground	Parking brake lever position	released	No continuity
				pulled	Continuity
	Control switch	4 – ground	Main switch position	pushed	Continuity
				released	No continuity
	Actuator (motor)	11–12	Actuator arm position: max. OPEN		**(12 → 11) Continuity**
					(11 → 12) No continuity
			Actuator arm position: max. CLOSE		**(11 → 12) Continuity**
					(12 → 11) No continuity
			Actuator arm position: any position except above position		**(11 → 12) Continuity**
	Ground connection	13 – ground	Constant		Continuity
Resistance	Actuator (Safety magnetic clutch)	10 – ground	Brake pedal position	released	Approx. 38.5 92
				depressed	No continuity
	Control switch	18 – ground	Control switch position	OFF	No continuity
				RES/ACC	Approx. 68Ω
				SET/COAST	Approx. 198Ω
				CANCEL	Approx. 418 92
	ECT No. 2 solenoid valve (A/T)	22 – ground	Constant		Approx. 13Ω
	Actuator (position sensor)	24–26	Constant		Approx. 2 kΩ
		25–26	Actuator arm turned		Resistance change even
Voltage	STOP fuse	1 – ground	Constant		Battery voltage
	Power source	14 – ground	Ignition switch position	LOCK or ACC	No voltage
				ON	Battery voltage
	Stop light	16 – ground	Brake pedal position	released	No voltage
				depressed	Battery voltage
	Vehicle speed pulse generator	20 – ground	With ignition switch ON, speedometer shaft or speed sensor shaft turned.		Voltage changes repeatedly

(CANADA)

Check for	Measured item	Tester connection	Condition		Specified Value
Continuity	Clutch switch	2 – ground	Clutch pedal position	released	No continuity
				depressed	Continuity
	Parking brake switch	3 – ground	Parking brake lever position	released	No continuity
				pulled	Continuity
	MAIN switch"	4 – ground	Main switch position	pushed	Continuity
				released	No continuity
	Actuator (motor)	11–12	Actuator arm position: max. OPEN		**(12 → 11) Continuity**
					(11 → 12) No continuity
			Actuator arm position: max. CLOSE		**(11 → 12) Continuity**
					(12 → 11) No continuity
			Actuator arm position: any position except above position		**(11 ↔ 12) Continuity**
	Ground connection	13 – ground	Constant		Continuity
	CANCEL switch*1	17 – ground	Cruise control switch position	turned to "CANCEL"	Continuity
				released	No continuity
	RES/ACC switch*1	18 – ground		turned to "RES/ACC"	Continuity
				released	No continuity
	SET/COAST switch *1	19 – ground		turned to "SET/COAST"	Continuity
				released	No continuity
Resistance	Actuator (Safety magnetic clutch)	10 – ground	Brake pedal position	released	Approx. 38.5Ω
				depressed	No continuity
	Actuator (position sensor)	24–26	Constant		Approx. 2 Ω
		25–26	Actuator arm turned		Resistance change even
Voltage	STOP fuse	1 – ground	Constant		Battery voltage
	Power– source	14 – ground	Ignition switch position	LOCK or ACC	No voltage
				ON	Battery voltage
	Stop light	16 – ground	Brake pedal position	released	No voltage
				depressed	Battery voltage
	Vehicle speed pulse generator	20 – ground	With ignition switch ON, speedometer shaft or vehicle speed pulse generator shaft turned.		Voltage changes repeatedly

*' There is on cruise control switch.

USA



BE4009
e-6-1-C

CRUISE CONTROL SWITCH

CRUISE CONTROL SWITCH INSPECTION

CONTINUITY: USA Models

(a) Check continuity between terminals 3 and 5.

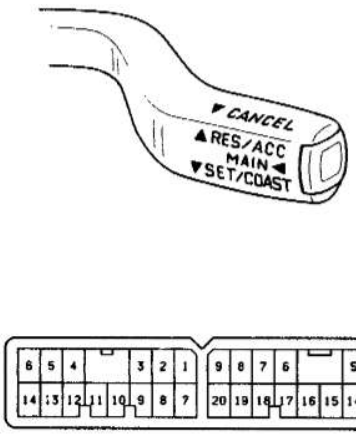
Main switch position	Condition
OFF	No continuity
ON	Continuity

(b) Measure resistance between terminals 3 and 4.

Control switch position	Resistance (Ω)
OFF	∞ (No continuity)
RES/ACC	Approx. 68
SET/COAST	Approx. 198
CANCEL	Appox. 418

If resistance value is not as specified, replace the control switch.

CANADA



Connector "A" Connector "B"

BE4909
V-34-2

CONTINUITY: CANADA Models

Terminal / Switch Position	B–5	B–11	B–15	B–17	6–19
OFF					
RES/ACC				○	○
MAIN			○		○
SET/COAST	○				○
CANCEL		○			○

If continuity is not as specified, replace the switch.

PARKING BRAKE SWITCH

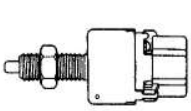
PARKING BRAKE SWITCH INSPECTION

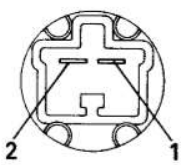
See Brake Warning System on page BE–79.

STOP LIGHT SWITCH

STOP LIGHT SWITCH INSPECTION

CONTINUITY





BE1444 BE5656

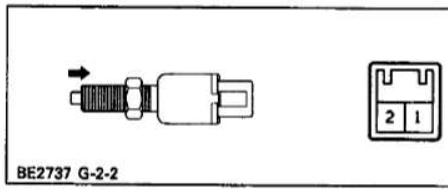
Terminal / Switch position	1	2
Switch pin free (Brake pedal depressed)	○	○
Switch pin pushed i n (Brake pedal released)		

If continuity is not as specified, replace the stop light switch.

CLUTCH SWITCH

CLUTCH SWITCH INSPECTION

CONTINUITY: M/T Models



Terminal / Condition	1	2
Switch pin free (Clutch pedal depressed)	○	○
Switch pin pushed in (Clutch pedal released)		

If continuity is not as specified, replace the switch.

PARK/NEUTRAL SWITCH

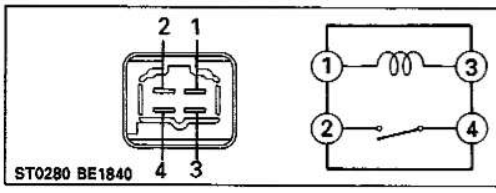
PARK/NEUTRAL SWITCH INSPECTION

See page AX–35.

STARTER RELAY

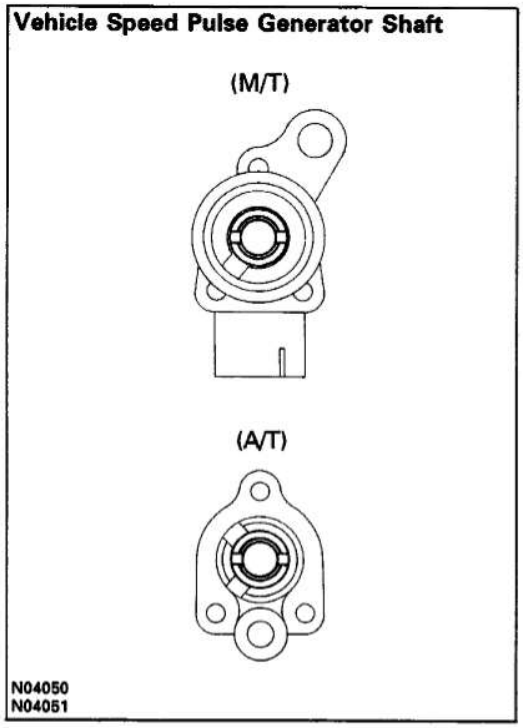
STARTER RELAY INSPECTION

CONTINUITY



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

If continuity is not as specified, replace the relay.



VEHICLE SPEED PULSE GENERATOR

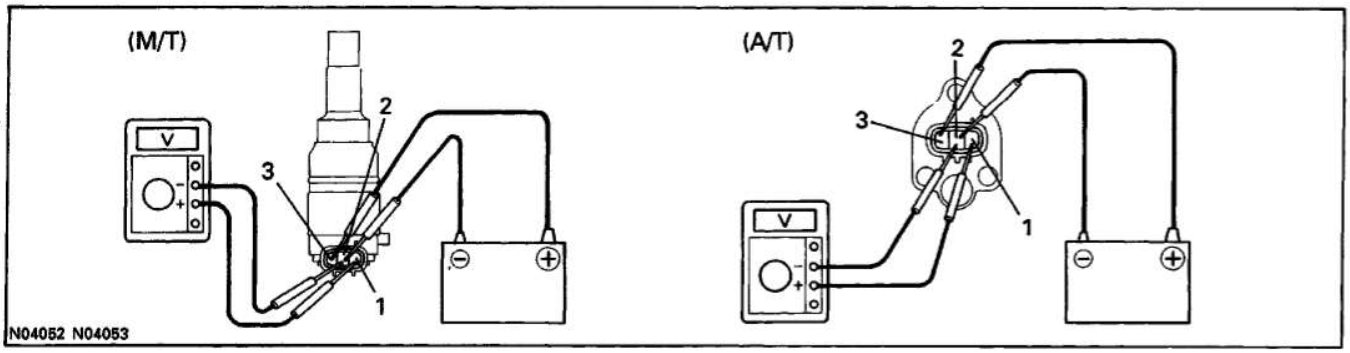
VEHICLE SPEED PULSE GENERATOR INSPECTION

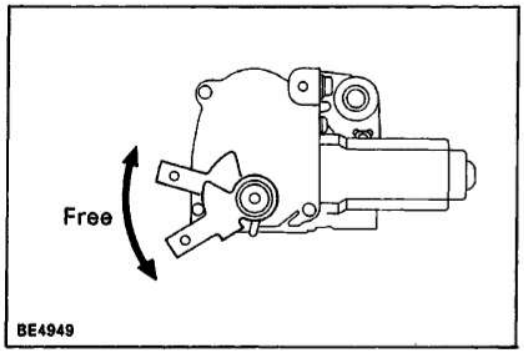
INSPECT VEHICLE SPEED PULSE GENERATOR

(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 change from approx. 0V to 11V or more between terminal 3 and 2.

HINT: The voltage change should be 4 times per each revolution of the vehicle speed pulse generator shaft.

If operation is not as specified, replace the generator.



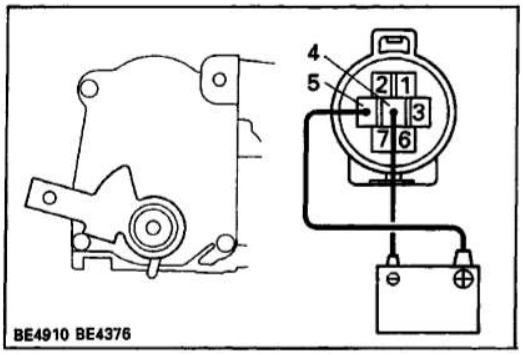


ACTUATOR

ACTUATOR INSPECTION

SAFETY MAGNET CLUTCH

(a) Check that the arm moves smoothly by hand.

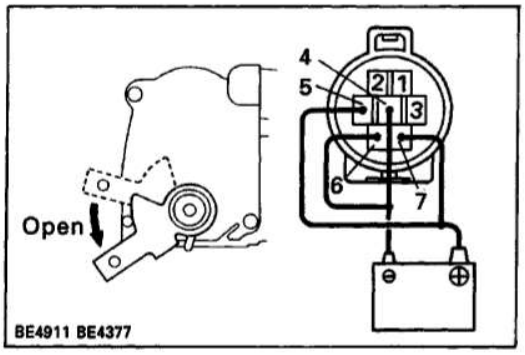


(b) Connect the positive (+) lead from the battery to terminal 5 and the negative H lead to terminal

4. (Safety Magnetic Clutch turned ON)

(c) Check that the arm does not move by hand.

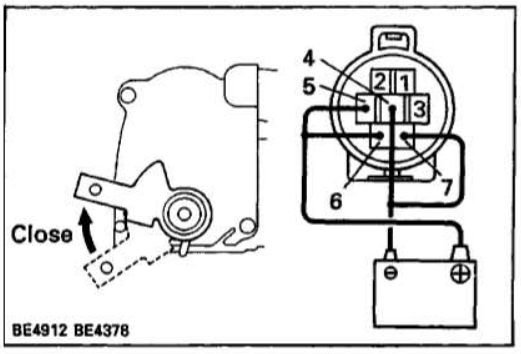
If operation is not as specified, replace the motor.



MOTOR

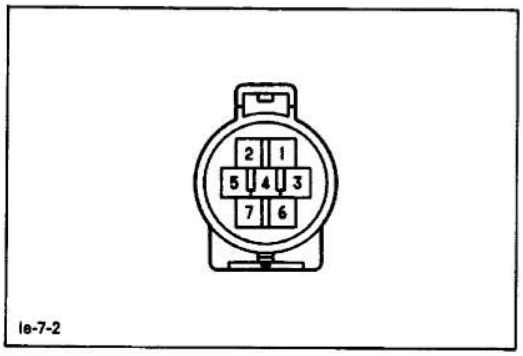
(a) With the safety magnetic clutch ON, connect the positive (+) lead from the battery to terminal 6 and the negative (–) lead to terminal 7, check that the arm moves to the open side.

(b) When the arm reached to the open position, check that the motor operation stops.



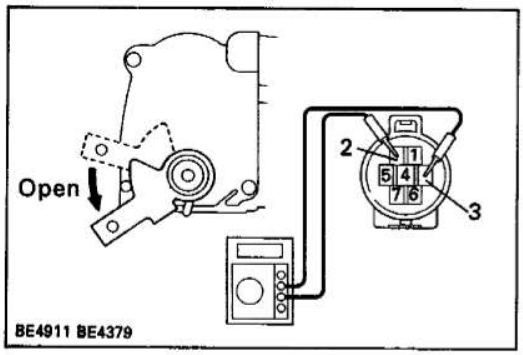
(c) With the safety magnetic clutch ON, connect the positive (+) lead from the battery to terminal 7 and the negative (–) lead to terminal 6, check that the arm moves to the close side.

(d)When the arm reaches to the closed position, check that the motor operation stops.



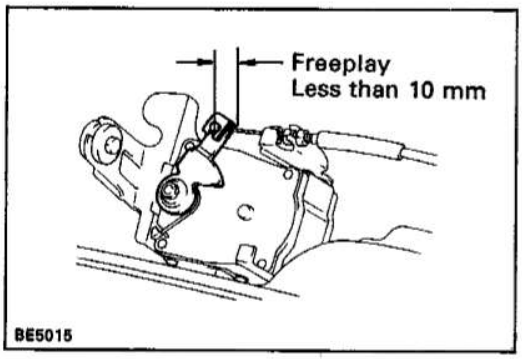
POSITION SENSOR

(a) Measure the resistance between terminals 1 and 3.
Resistance: Approx. 2 Ω



(b) When the arm is moving from the closed to open position, check that resistance between terminals 2 and 3 increases from approx. 0.5 to 1.7 kΩ.

If operation is not as specified, replace the motor.



CRUISE CONTROL CABLE

(a) Check that the cruise control cable freeplay is less than 10 mm (0.39 in.).
(b) If necessary adjust the cruise control cable freeplay.

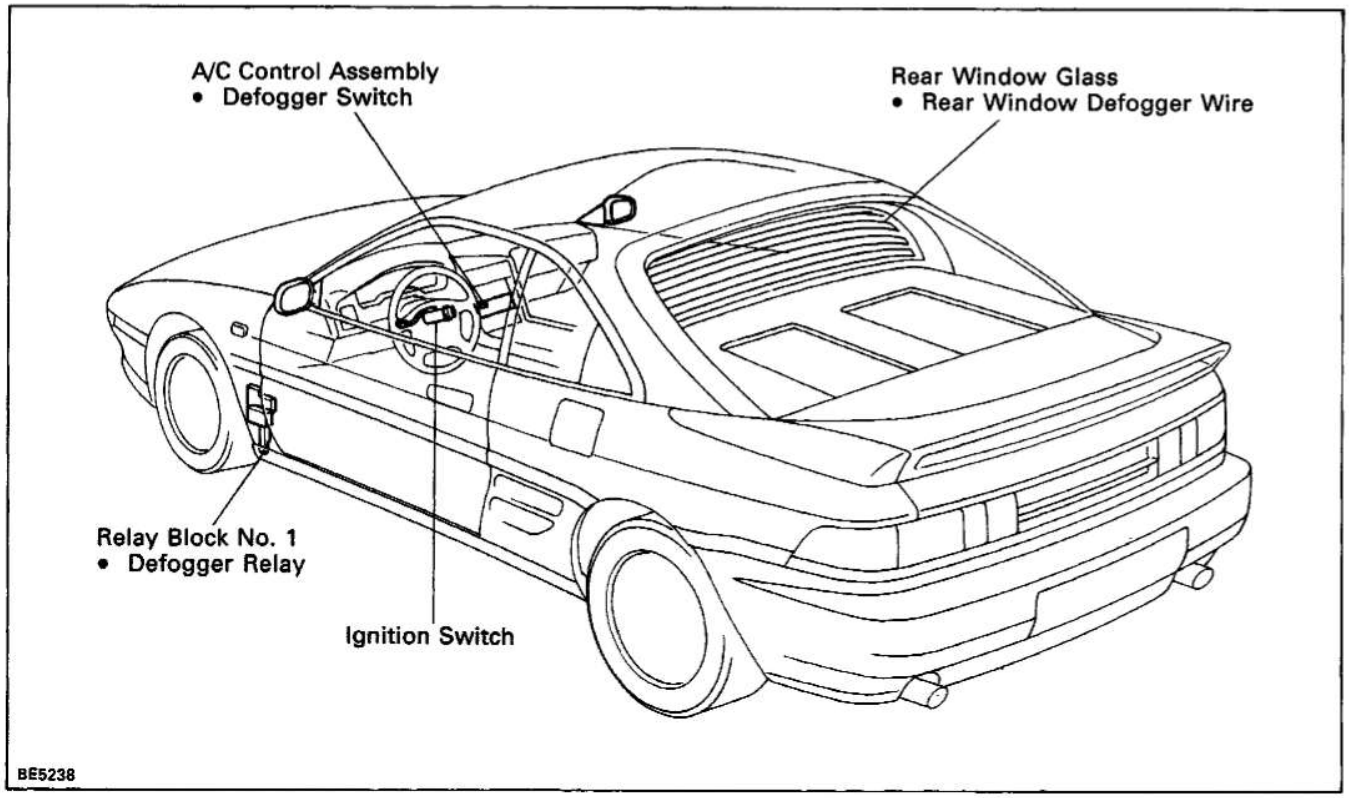
THROTTLE POSITION SENSOR

THROTTLE POSITION SENSOR INSPECTION

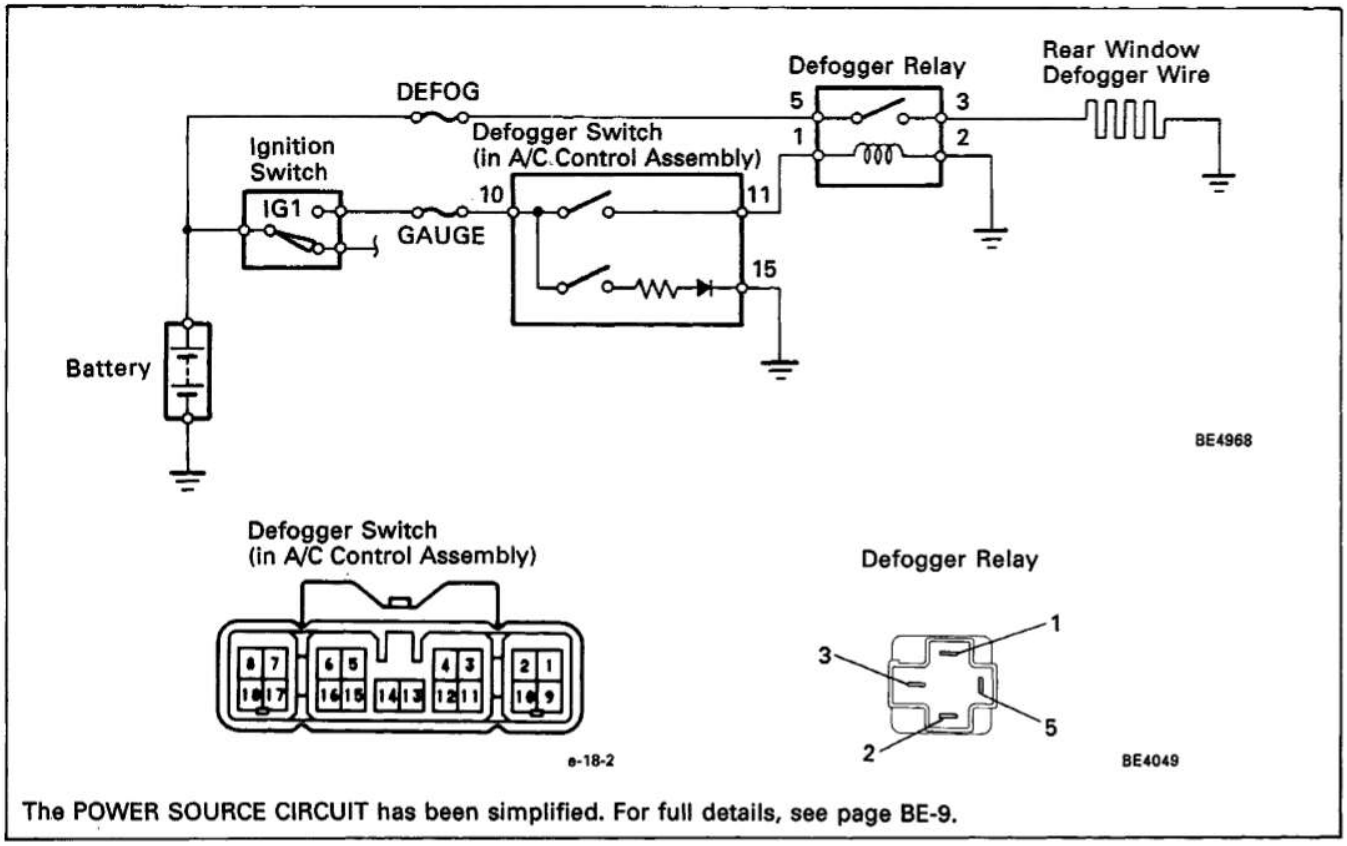
See page FI–134 and FI–141.

DEFOGGER SYSTEM

PARTS LOCATION



WIRING AND CONNECTOR DIAGRAM



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

TROUBLESHOOTING

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

See page / Part name / Trouble	BE–3 DEFOG Fuse	BE–3 GAUGE Fuse	BE–86 Defogger Switch	BE–86 Defogger Relay	BE–87 Defogger Wire	I Wire Harness
Rear window defogger does not operate	1	2	3	4	5	6

ON–VEHICLE INSPECTION

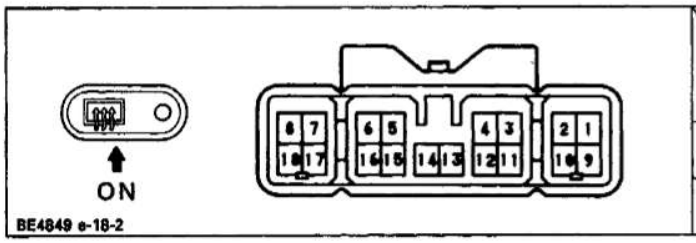
DEFOGGER IDLE–UP SYSTEM

Set the defogger switch ON, check that the engine revo–lutions increase.

REAR WINDOW DEFOGGER SYSTEM

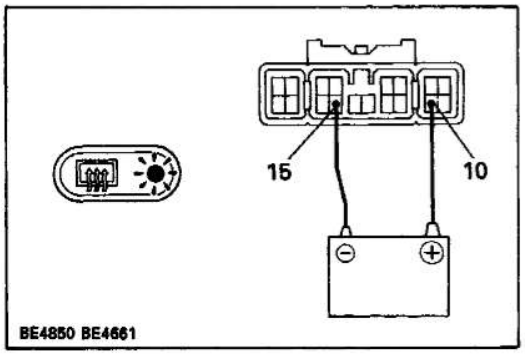
REAR WINDOW DEFOGGER SWITCH INSPECTION

CONTINUITY



Terminal / Switch position	10	11
OFF		
ON	○——	——○

If continuity is not as specified, replace the switch.



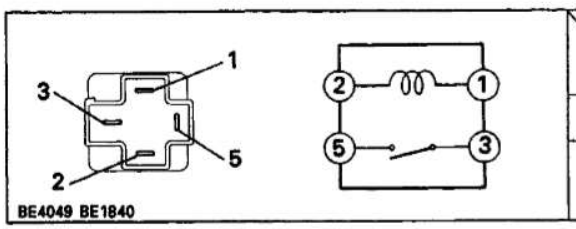
INDICATOR LIGHT/OPERATION

(a) Connect the positive (+) lead from the battery to termi–nal 10 and the negative (–) lead to terminal 15.
(b) Push the defogger switch ON.
(c) Check that the indicator light lights up.
If the indicator light does not light up, replace the switch.

DEFOGGER RELAY

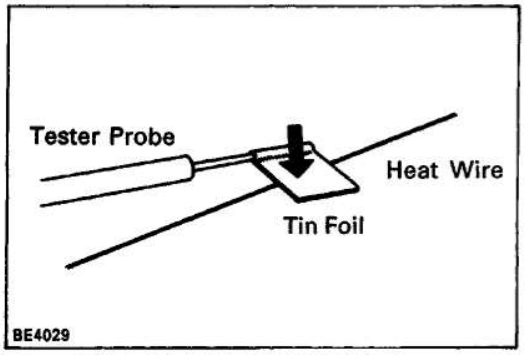
DEFOGGER RELAY INSPECTION

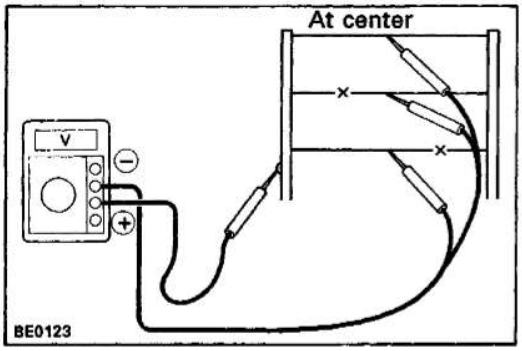
CONTINUITY

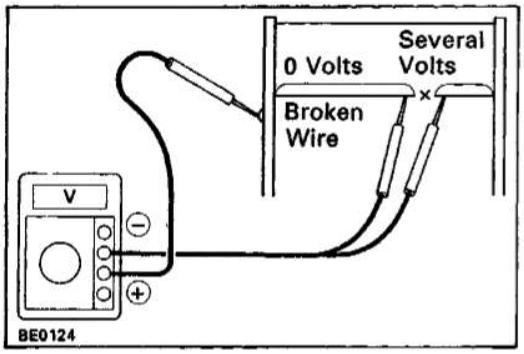


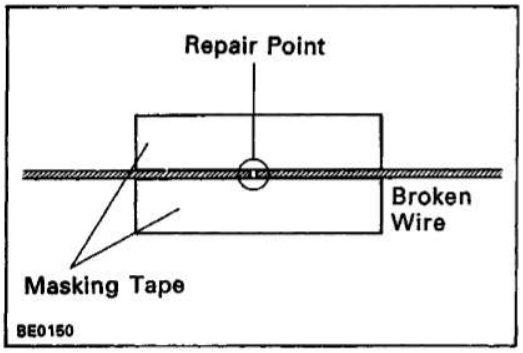
Terminal / Condition	1	2	3	5
Constant	○—∿∿∿—○			
Apply battery voltage to terminals 1 and 2.			○——	——○

If continuity is not as specified, replace the relay.









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.**

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.

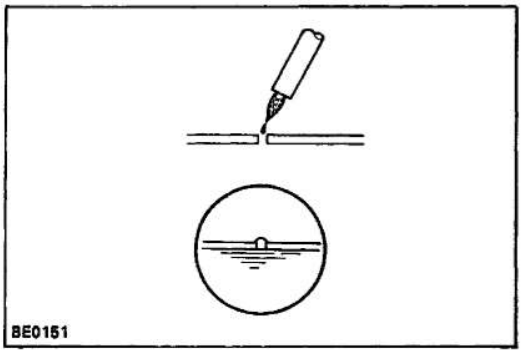
Voltage	Criteria
Approx. 5V	Okay (No break in wire)
Approx. 10V or 0V	Broken Wire

HINT: If there is approximately 10 volts, the wire is broken between the center of the wire and the positive W 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 W 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.

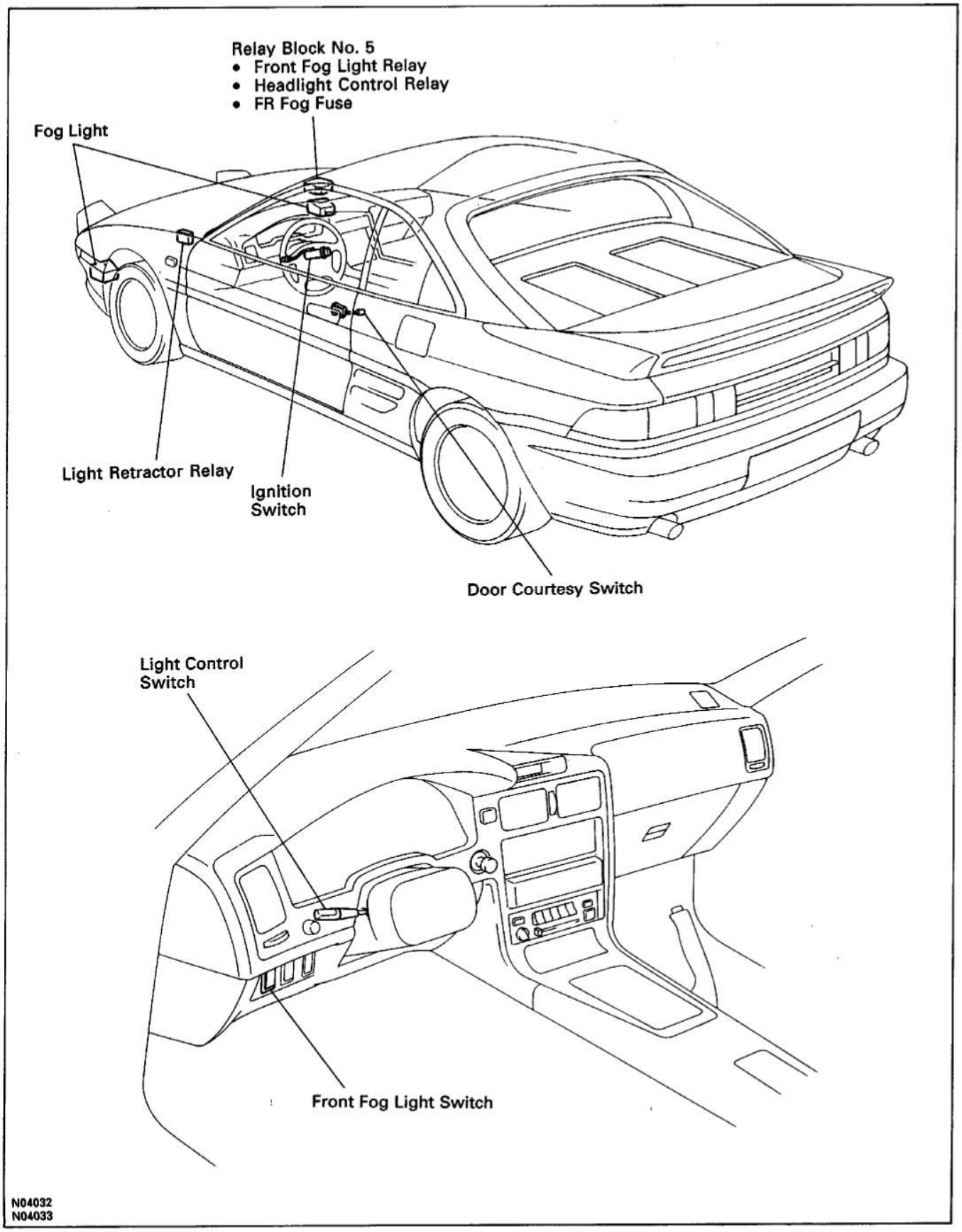
HINT: If the heat wire is not broken, the voltmeter indicates 0 volts at the positive (+) end of the heat wire but gradually increases to about 12 volts as the meter probe is moved to the other end.



DEFOGGER WIRE REPAIR

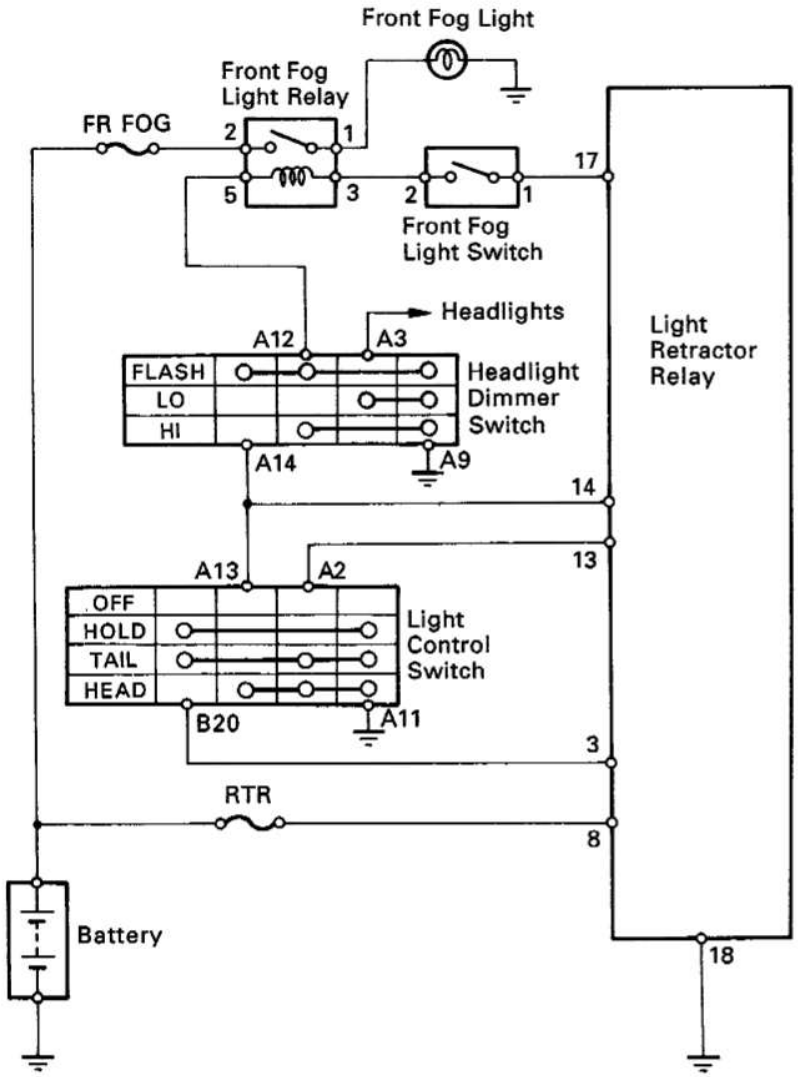
(a) Clean the broken wire tips with a grease, wax and silicone remover.
(b) Place the masking tape along both sides of the wire to be repaired.
(c) Thoroughly mix the repair agent (Dupont paste No. 4817).
(d) Using a fine tip brush, apply a small amount to the wire.
(e) After a few minutes, remove the masking tape.
(f) Allow the repair to stand at least 24 hours.

FRONT FOG LIGHT SYSTEM
PARTS LOCATION



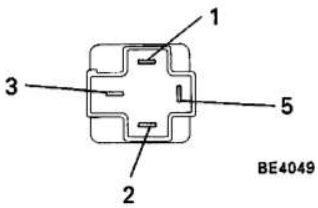
WIRING AND CONNECTOR DIAGRAMS

(USA)



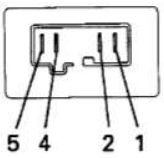
N04035

Front Fog Light Relay



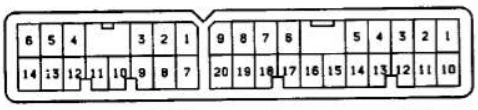
BE4049

Front Fog Light Switch



BE4707

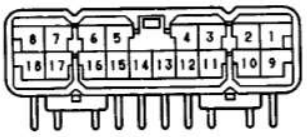
Light Control Switch Headlight Dimmer Switch



Connector "A" Connector "B"

V-34-2

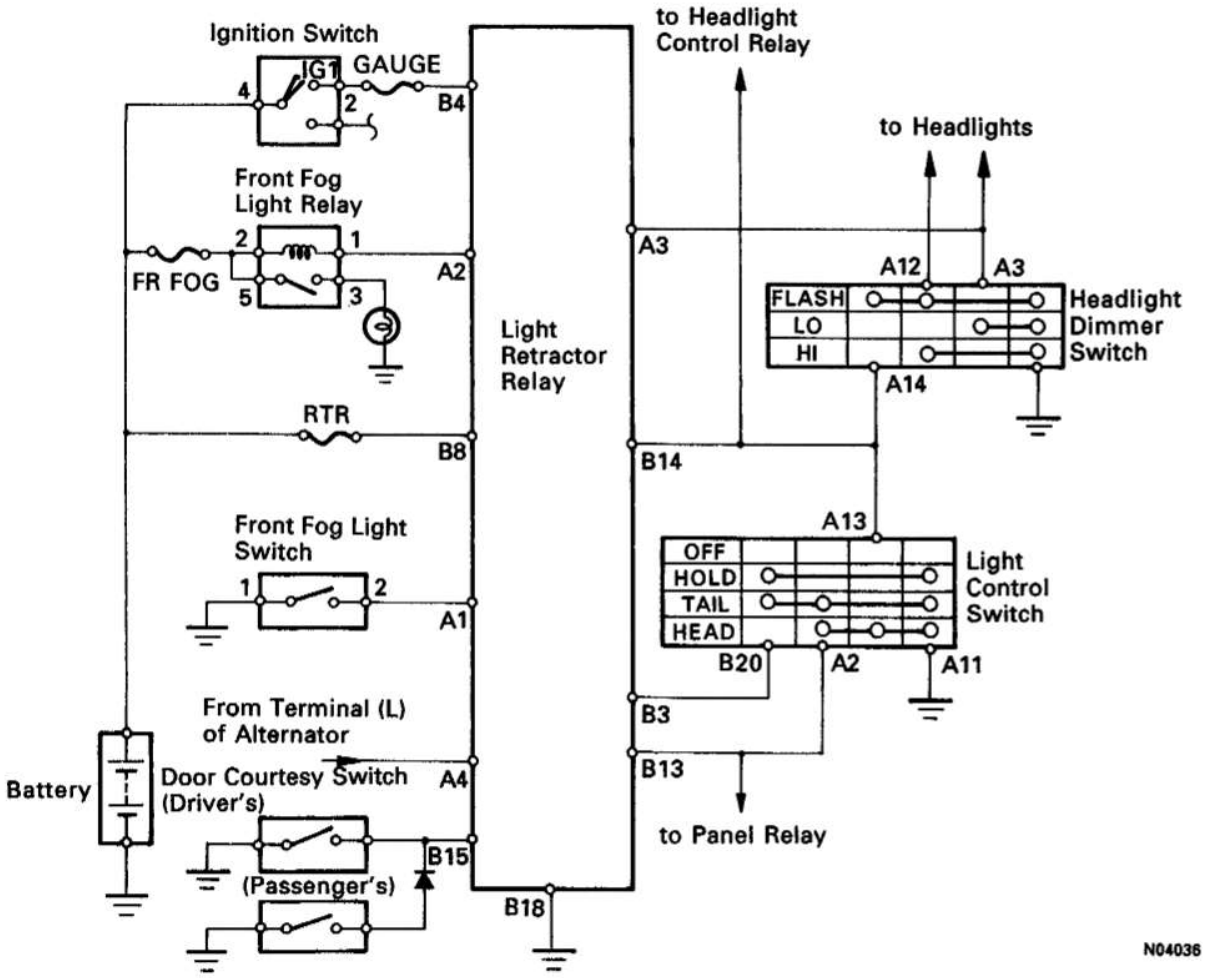
Light Retractor Relay



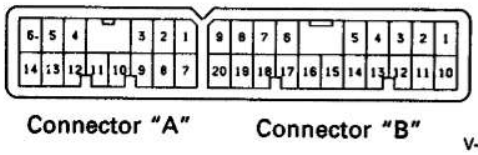
e-18-2-A

The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

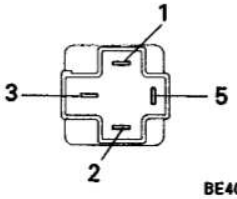
(CANADA)



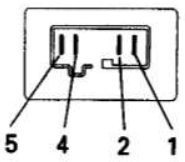
Light Control Switch, Headlight Dimmer Switch



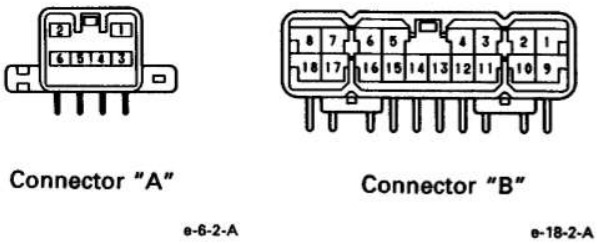
Front Fog Light Relay



Front Fog Light Switch



Light Retractor Relay



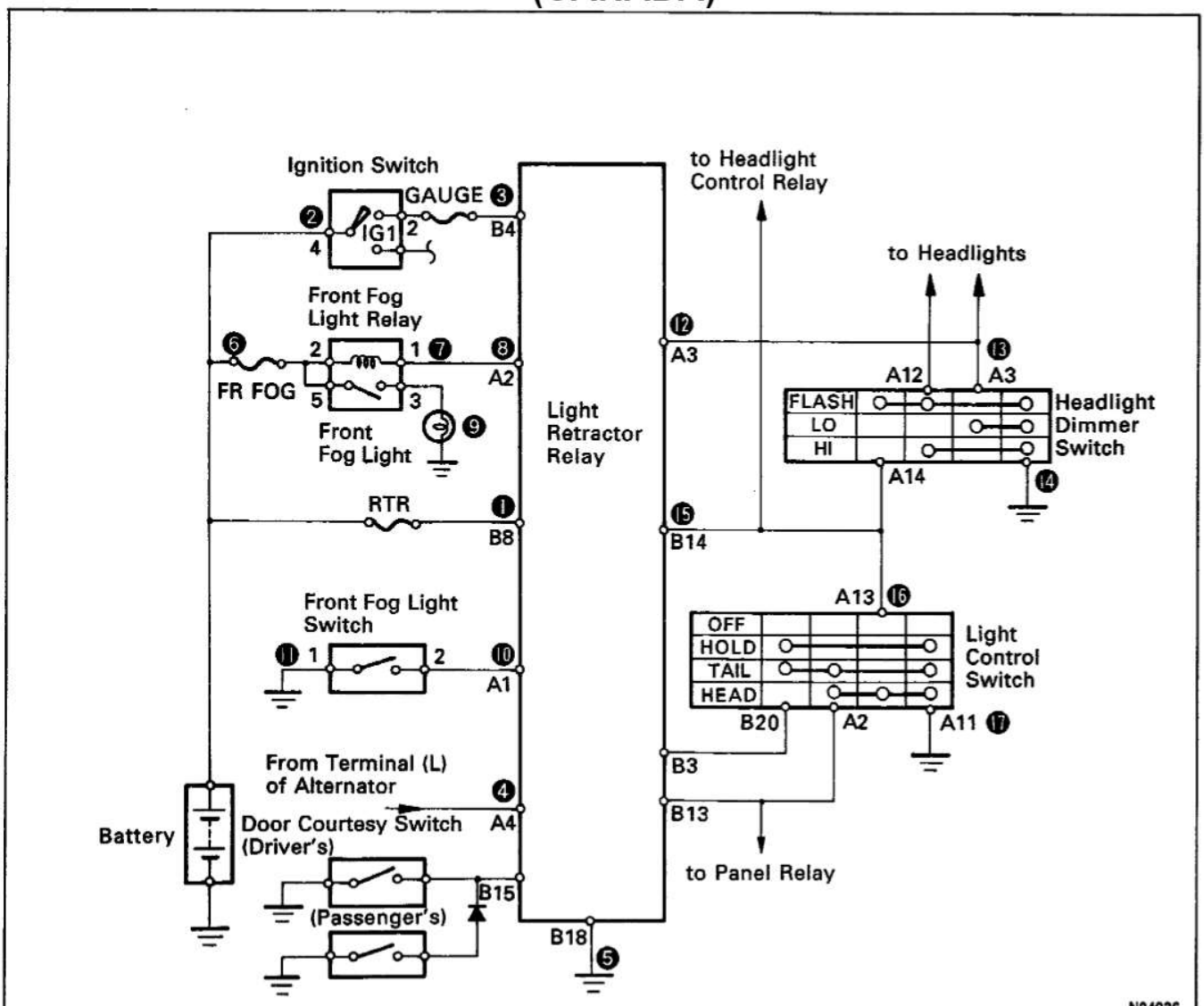
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE–9.

SYSTEM DESCRIPTION

DAYTIME RUNNING LIGHT SYSTEM

The Daytime Running Light (DRL) system is activated when engine is started (However, if the parking brake lever is engaged when the engine is started, the DRL will not light up after the engine has started. Once the parking brake is released, the DRL will then light up and will remain on regardless of operation of the parking brake lever).
The DRL remain on until the ignition switch is turned off.

(CANADA)



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

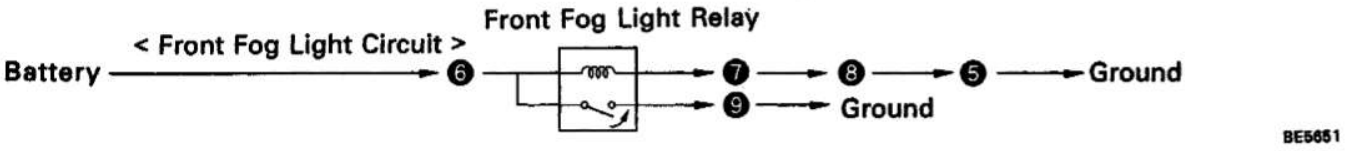
OPERATION EXAMPLE (CURRENT FLOW TABLE)

1. DAYTIME RUNNING LIGHT LIGHTS UP

Switch	Position
Ignition Switch	*ON
Light Control Switch	OFF
Headlight Dimmer Switch	LO or HI
*Door Courtesy Switch	ON

* with Engine Running

Condition: Battery voltage → ❶, Battery voltage → ❷ → ❸, Battery voltage → ❹
Continuity: ❺ → Ground

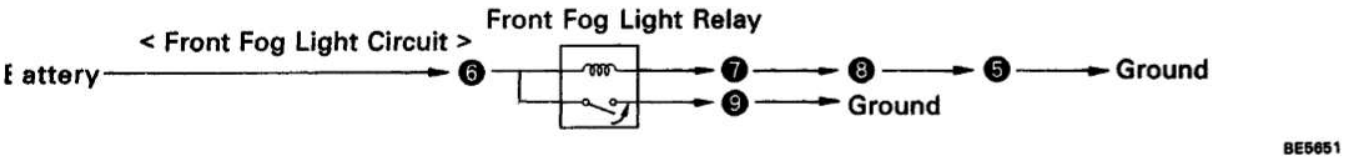


BE5651

2. FRONT FOG LIGHT LIGHTS UP

Switch	Position
Ignition Switch	OFF or ON
Light Control Switch	HEAD
Headlight Dimmer Switch	LO
* Door Courtesy Switch	ON
Front Fog Light Switch	ON

Condition: Battery voltage → ❶, Battery voltage → ❷ → ❸, Battery voltage → ❹
Continuity: ❺ → Ground
❿ → ⓫ → Ground
⓬ → ⓭ → ⓮ → Ground
⓯ → ⓰ → ⓱ → Ground



BE5651

TROUBLESHOOTING

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

See page / Part name / Trouble	BE–3 FR FOG Fuse	BE–3 HEAD Fuse	BE–41 Front Fog Light Relay	BE–30 Headlight Control Relay	BE–31 * Light Retractor Relay	BE–41 Front Fog Light Switch	Bulb	Wire Harness	Other Parts
Fog light does not light with light control SW HEAD (Headlight is normal).	**1**	**2**	**3**	**4**	**5**	**6**		**7**	
Fog light does not light with light control SW HEAD (Headlight does not light).								**2**	1 *2
Only one light does not light.							**1**	**2**	

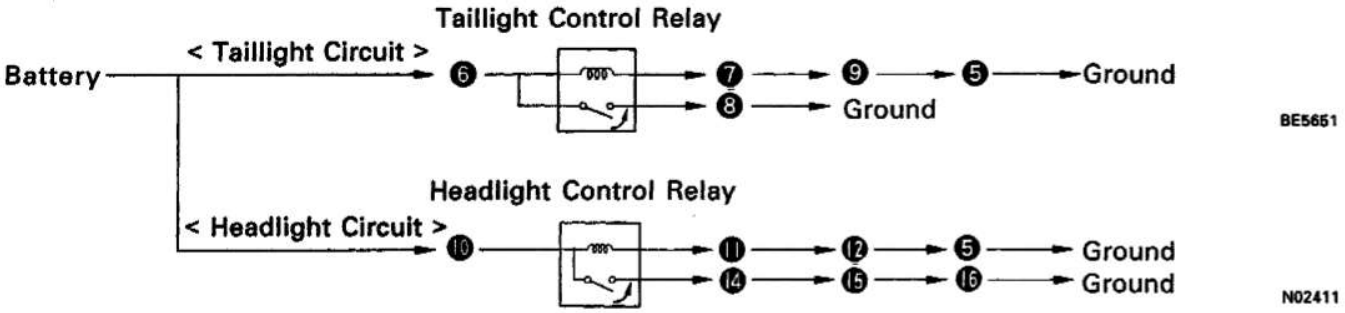
*: w/o Daytime Running Light Relay
*: w/ Daytime Running Light Relay
*: Inspect Headlight System

OPERATION EXAMPLE (CURRENT FLOW TABLE
1. DAYTIME RUNNING LIGHT LIGHTS UP

Switch	Position
Ignition Switch	*ON
Light Control Switch	OFF
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹
Continuity: ❺ ⟶ Ground

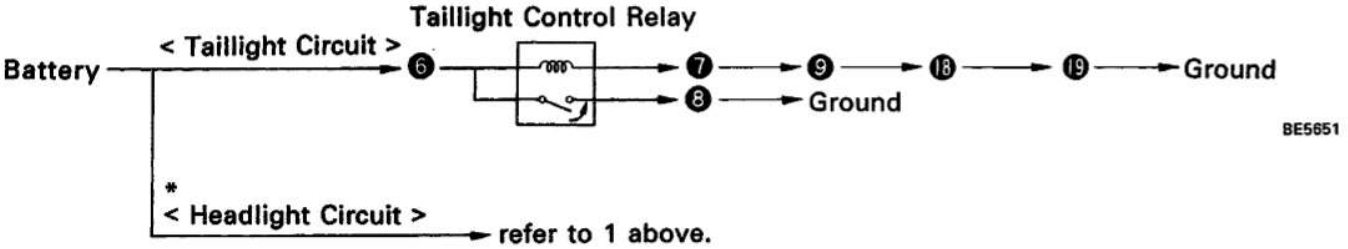


2. TAILLIGHT LIGHTS UP

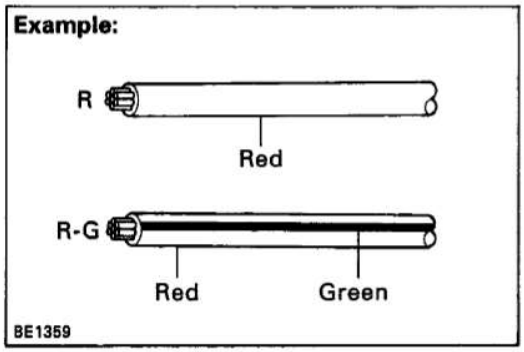
Switch	Position
Ignition Switch	OFF* or ON
Light Control Switch	TAIL
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

* with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground



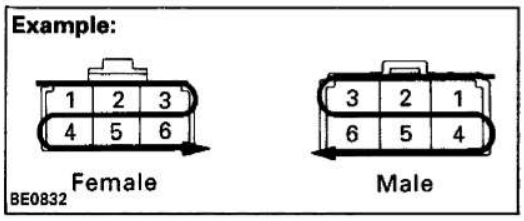
BODY ELECTRICAL SYSTEM



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 0 = Orange W = White
GR = Gray P = Pink = Yellow
The first letter indicates the basic wire color and the second letter indicates the color of the stripe.



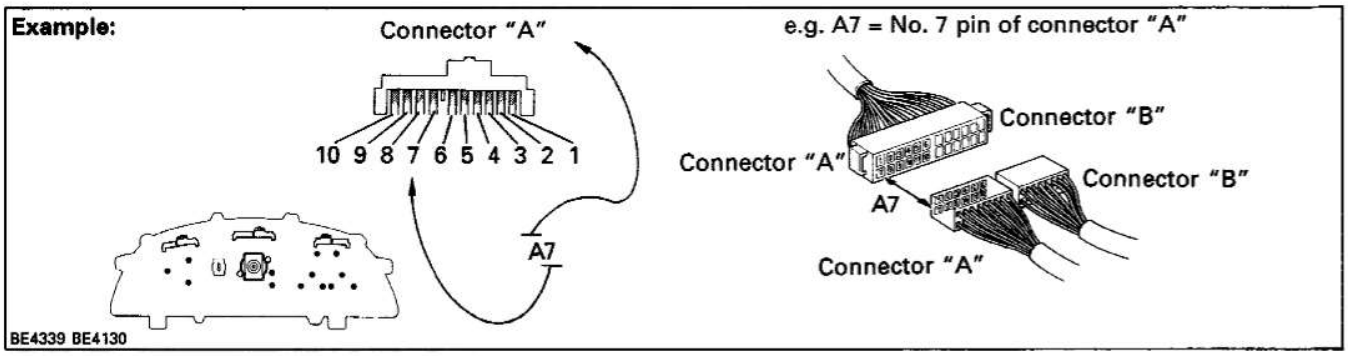
CONNECTOR

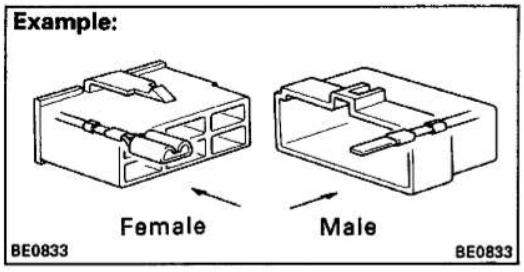
1. PIN NUMBER OF FEMALE CONNECTOR

Numbered in order from upper left to lower right.

2. PIN NUMBER OF MALE CONNECTOR

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.



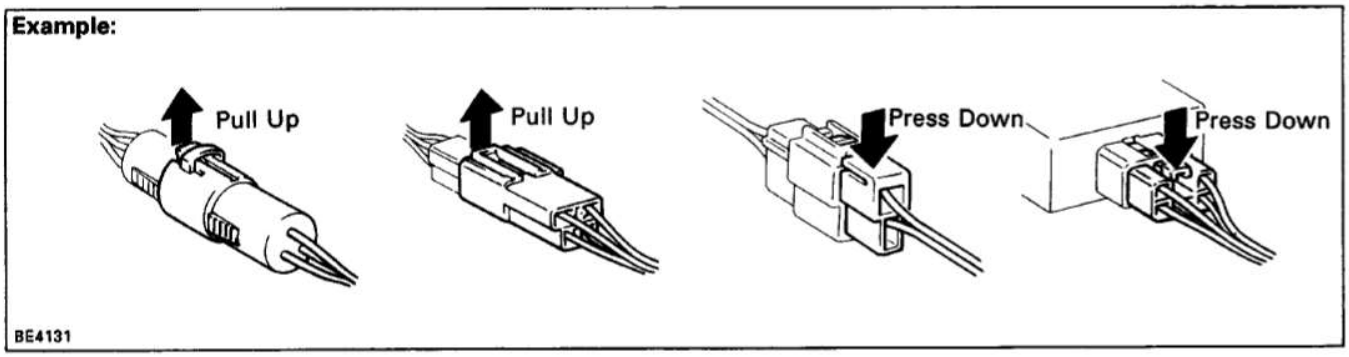


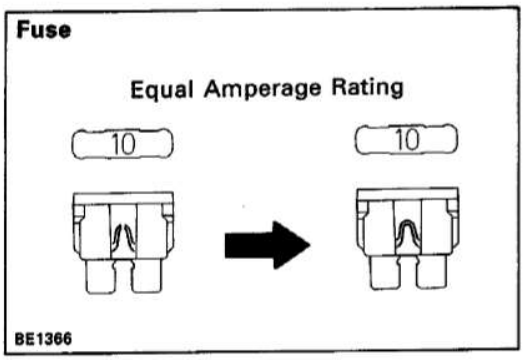
3. DISTINCTION OF MALE AND FEMALE CONNECTORS

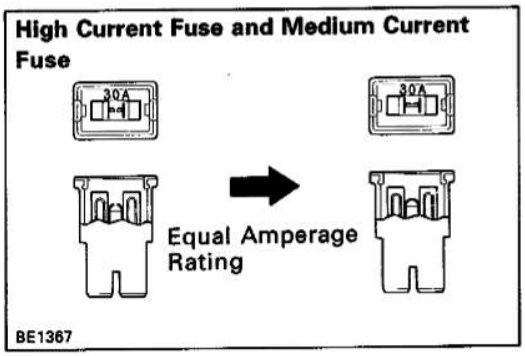
Male and female connectors are distinguished by shape of their internal pins.

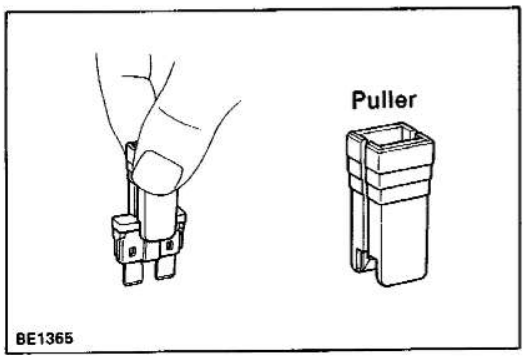
(a) All connectors are shown from the open end, and the lock is on top.
(b) To pull apart the connectors, pull on the connector itself, not the wires.

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









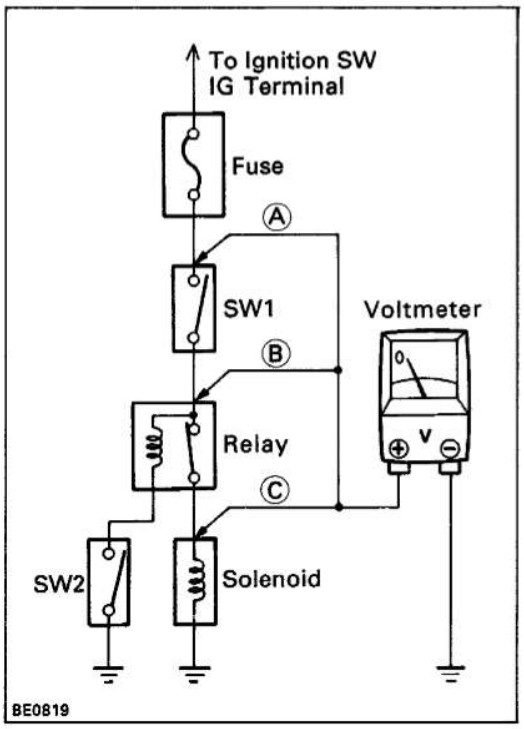
REPLACEMENT OF FUSE

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

NOTICE:

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

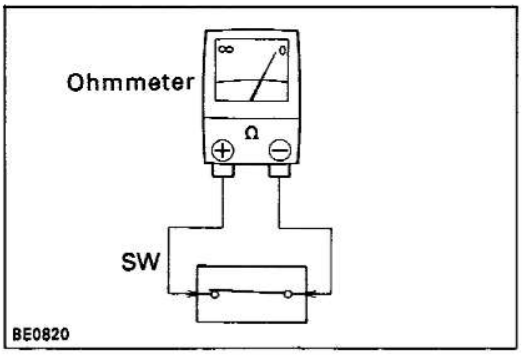
If a fuse continues to blow, a short circuit is indicated. The system must be checked by a qualified technician.



CHECK FOR VOLTAGE

(a) Establish conditions in which voltage is present at the check point.
Example:
(A) – Ignition switch on.
(B) – Ignition switch and switch 1 (SW1) on.
(C) – Ignition switch, switch 1 (SW1) and relay on (switch 2 (SW2) off).

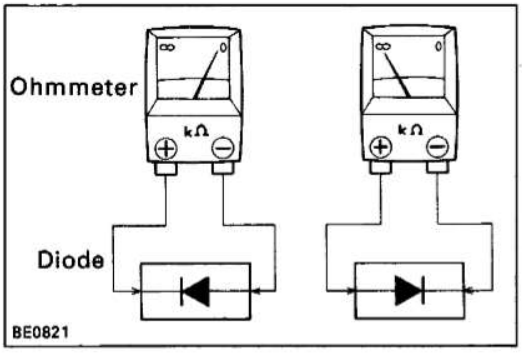
(b) Using a voltmeter, connect the negative (–) lead to a good ground point or negative (–) battery terminal and the positive (+) lead to the connector or component terminal. This check can be done with a test bulb instead of a voltmeter.



CHECK FOR CONTINUITY AND RESISTANCE

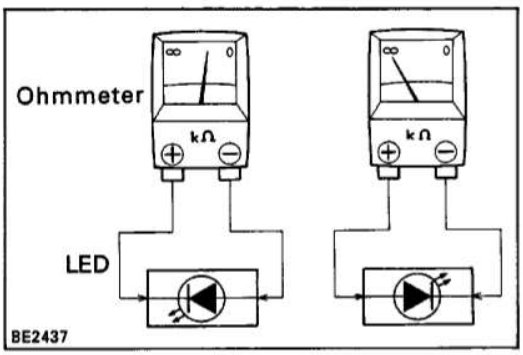
(a) Disconnect the battery terminal or wire so there is no voltage between the check points.

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



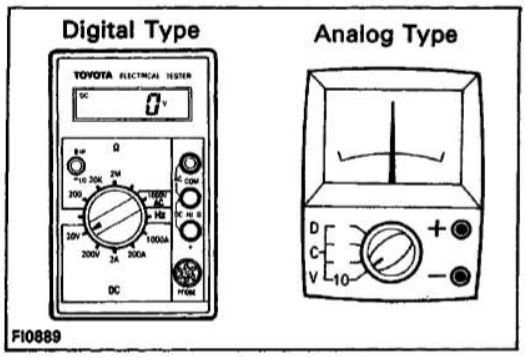
If the circuit has diodes, reverse the two leads and check again.
When contacting the negative(–) lead to the diode positive (+) side and the positive (+) lead to the negative (–) side, there should be continuity. When contacting the two leads in reverse, there should be no continuity.

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

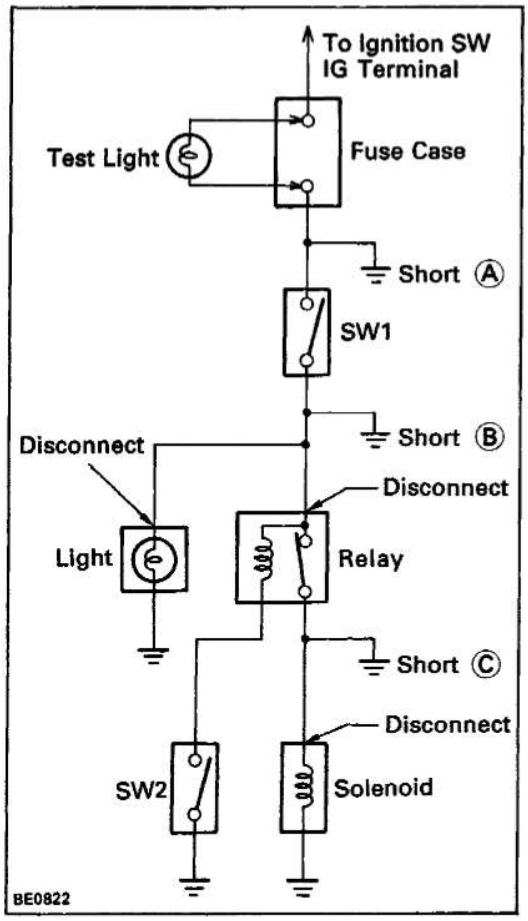


Check LED (Light Emitting Diode) in the same manner as that for diodes.

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



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



CHECK FOR SHORT CIRCUIT

(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:
(A) – Ignition switch on.
(B) – Ignition switch and switch 1 (SW1) on.
(C) – Ignition switch, switch 1 (SW1) and relay on (connect the relay) and switch 2 (SW2) off (or disconnect switch 2 (SW2)).
(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.

ELECTRICAL PARTS

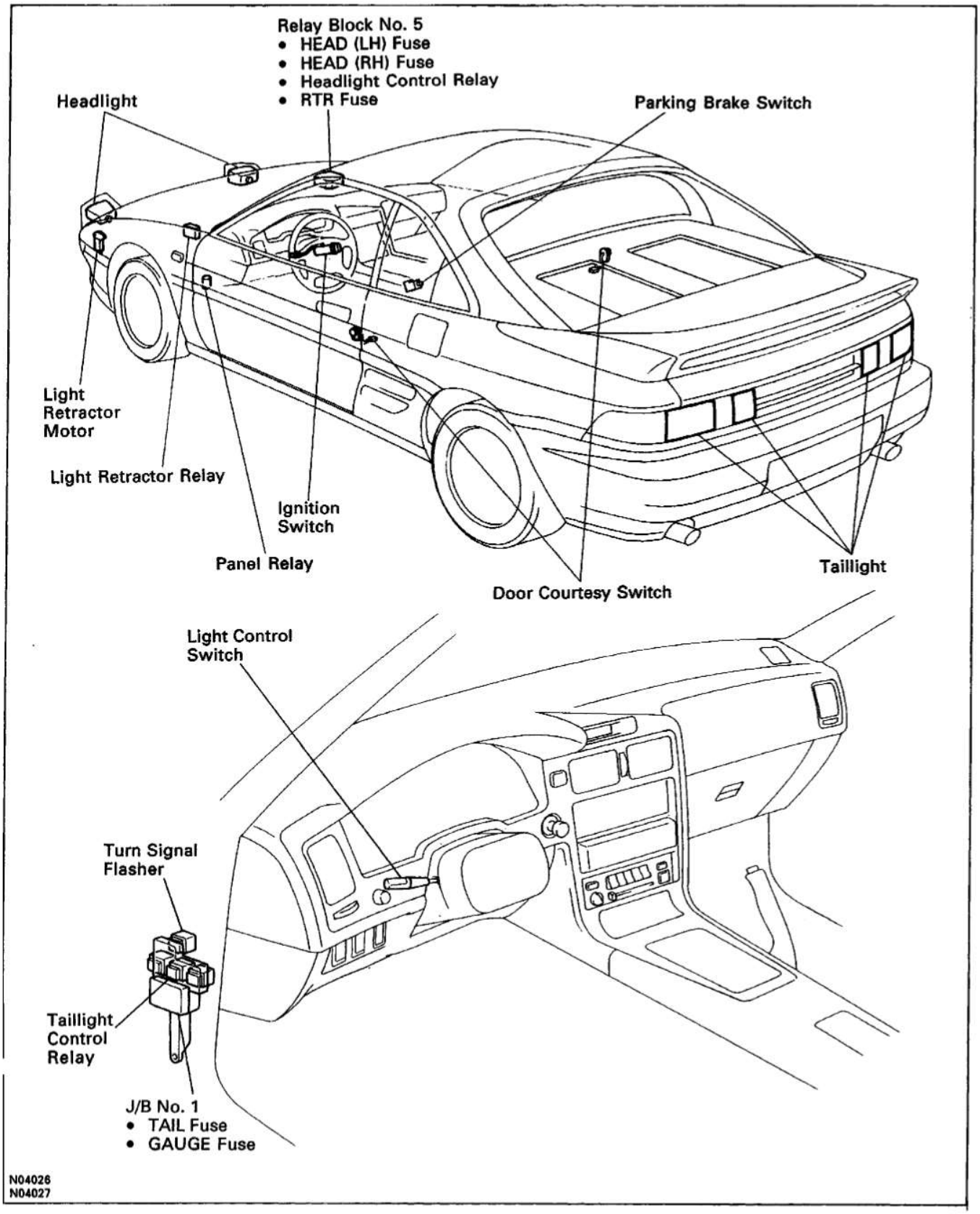
Before removing and inspecting the electrical parts, set the ignition switch to the LOCK position and disconnect the negative (–) terminal cable from the battery.
CAUTION: Work must not be started until after at least 20 seconds or longer from the time the negative (–) terminal cable is disconnected.

SRS AIR–BAG SYSTEM

Failure to carry out service operations in the correct sequence could cause the airbag system to deploy, possibly leading to a serious accident.
When removal or installation of the parts and the yellow wire harness and connector for the airbag is necessary, refer to the precautionary notices in the AB section before performing the operation.

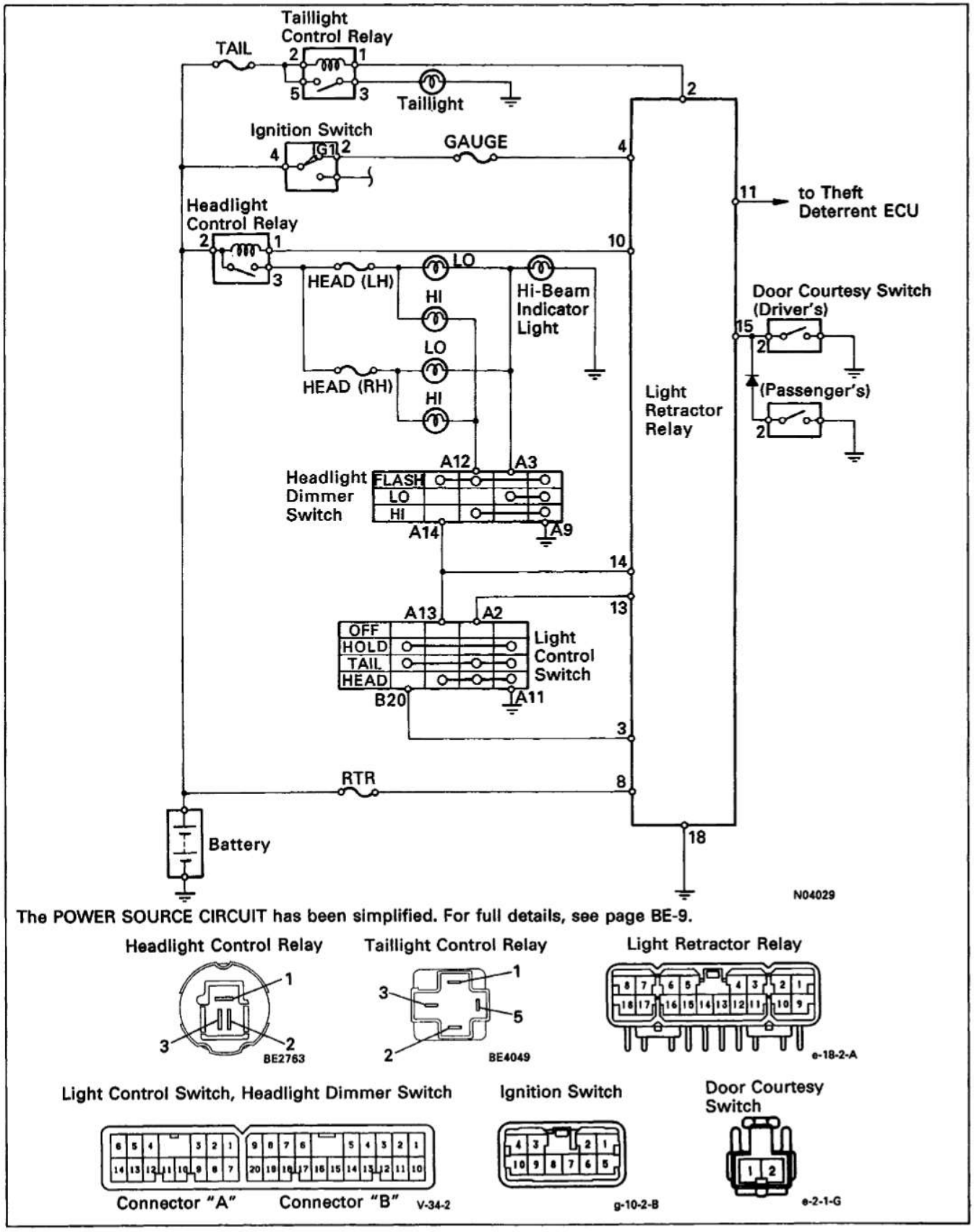
HEADLIGHT AND TAILLIGHT SYSTEM

PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS

(USA)



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Headlight Control Relay

Taillight Control Relay

Light Retractor Relay

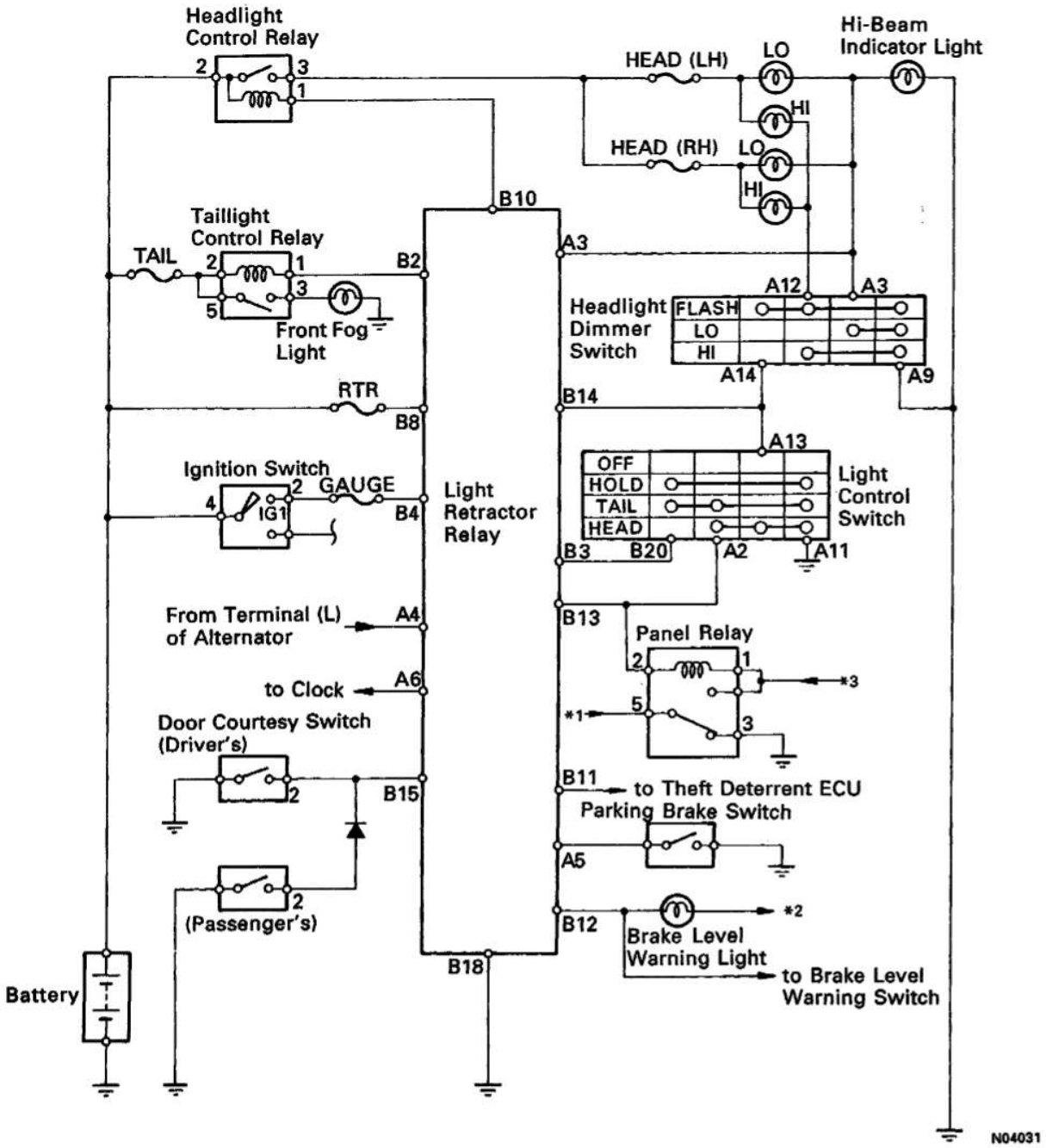
Light Control Switch, Headlight Dimmer Switch

Ignition Switch

Door Courtesy Switch

(CANADA)

Daytime Running Light System

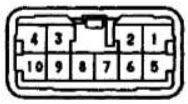


*1 Front Indicator Lights (Light Control Switch: TAIL or HEAD) to Illumination (Light Control Switch: OFF)
*2 from GAUGE Fuse
*3 from Terminal 3 of Taillight Control Relay

The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

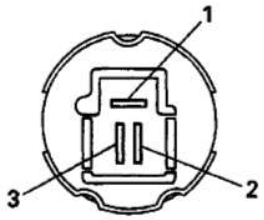
CONNECTOR DIAGRAMS

Ignition Switch



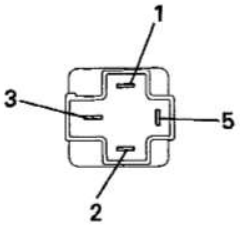
g-10-2-B

Headlight Control Relay



BE2763

Taillight Control Relay



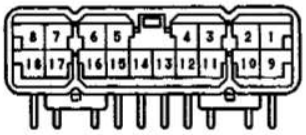
BE4049

Light Retractor Relay



Connector "A"

e-6-2-A



Connector "B"

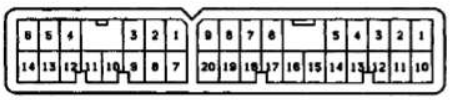
e-18-2-A

Door Courtesy Switch



e-2-1-G

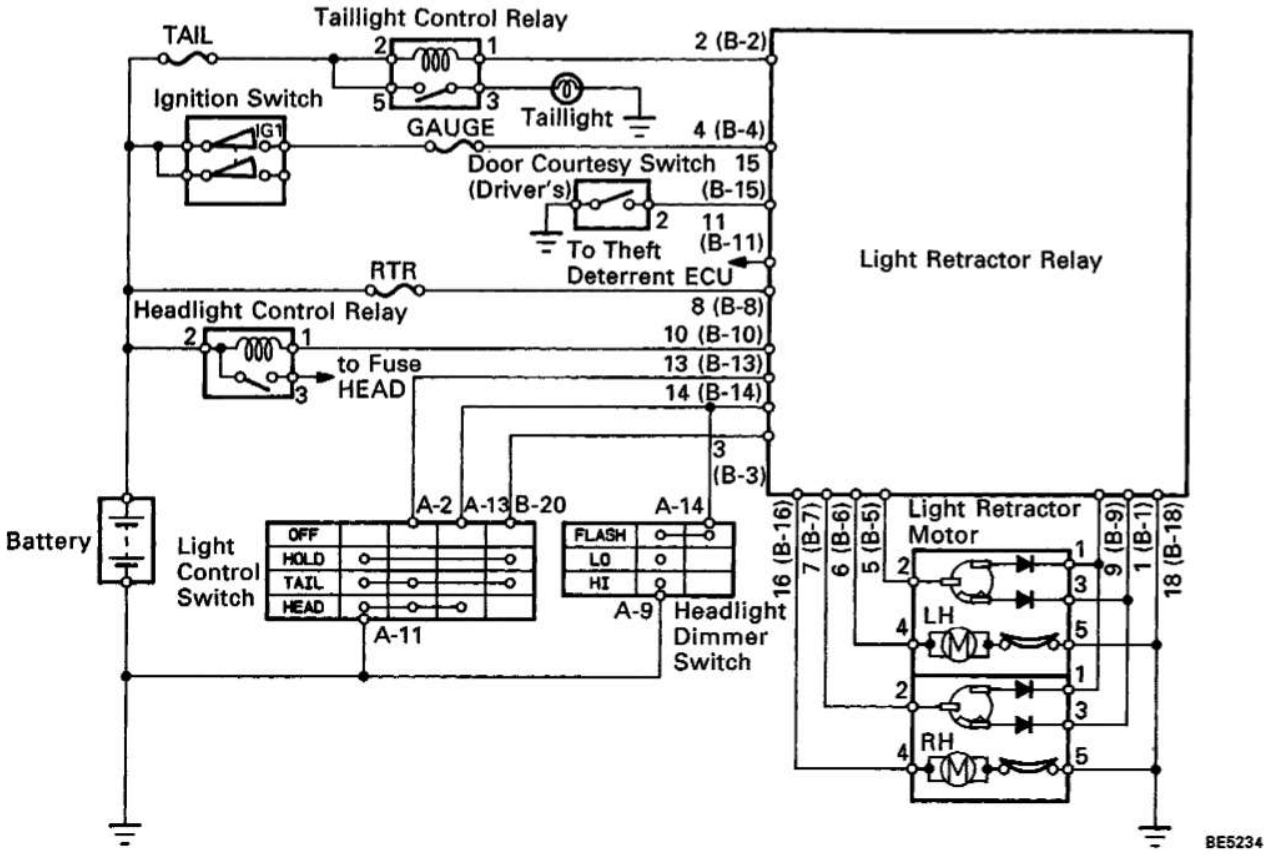
Light Control Switch, Headlight Dimmer Switch



Connector "A" Connector "B"

V-34-2

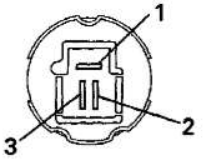
LIGHT RETRACTABLE SYSTEM



The terminals indicated in brackets ( ) are for CANADA models.

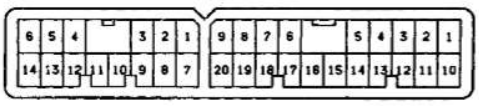
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Headlight Control Relay



BE2763

Light Control Switch, Headlight Dimmer Switch



Connector "A" Connector "B"

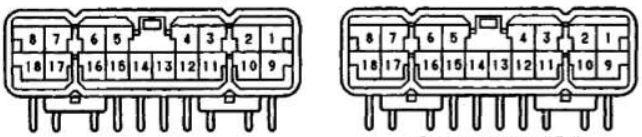
V-34-2

Light Retractor Motor



IJ-5-2-A

Light Retractor Relay



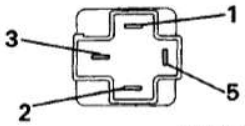
(USA) e-18-2-A

Connector "B" (CANADA) e-18-2-A



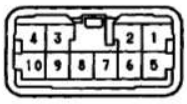
Connector "A" e-6-2-A

Taillight Control Relay



BE4049

Ignition Switch



g-10-2-B

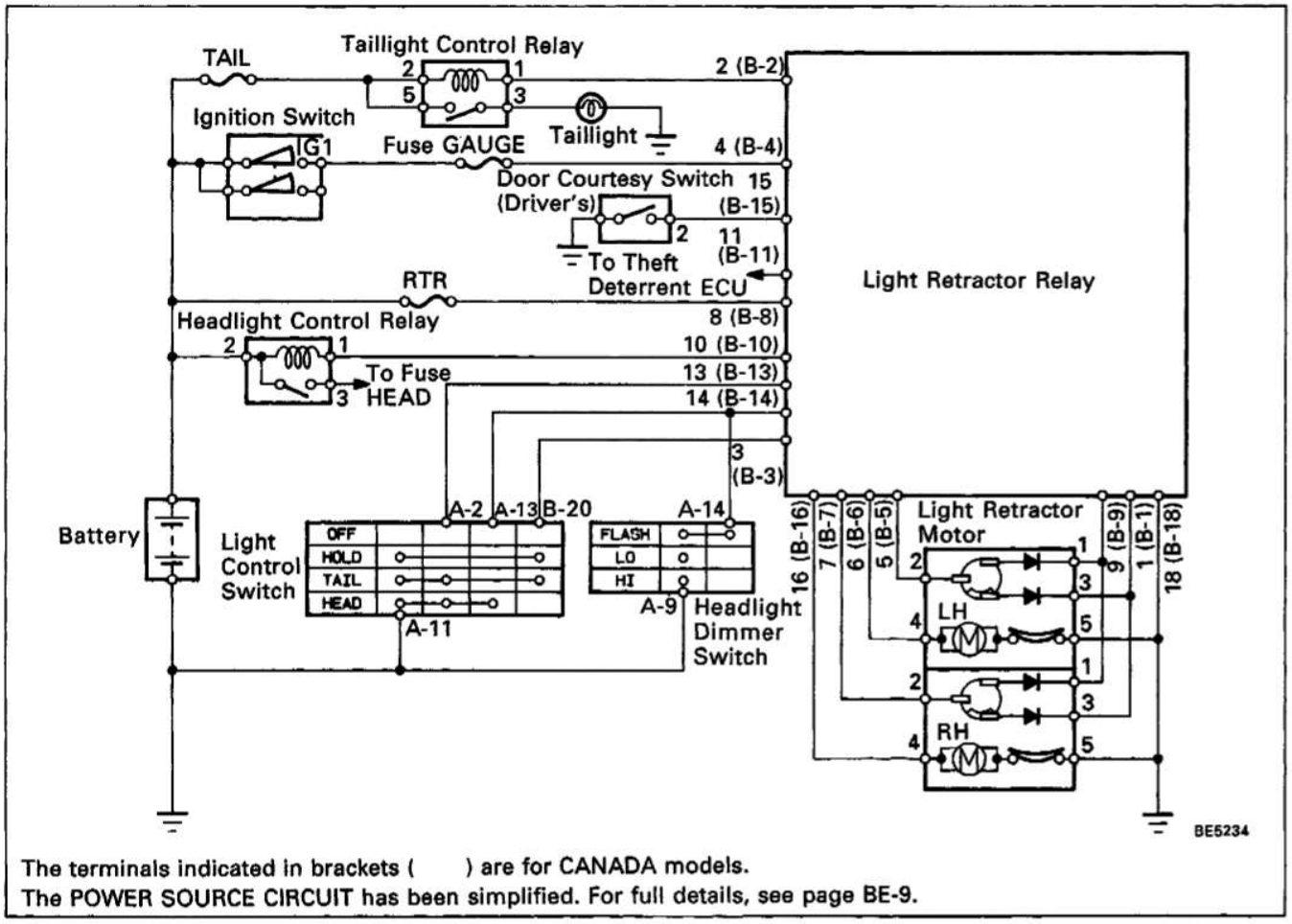
Door Courtesy Switch



e-2-1-G

SYSTEM DESCRIPTION

LIGHT RETRACTABLE SYSTEM



The terminals indicated in brackets ( ) are for CANADA models.
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

- Current flows from the battery to terminal 8 (B–8) of the light retractor relay.
- Battery voltage is applied to terminal 5 (B–5) and 7 (B–7) of the light retractor relay.

Operation examples of the switch are shown below;
HINT: The numbers in [ ] are for the left side headlight.

1. LIGHT CONTROL SWITCH IN "TAIL"

When the switch is set continuity is produced between terminal 13 (B–13) of the light retractor relay (hereafter called LRR) and the body ground. Also, because continuity is produced between terminal 2 (B–2) of the LRR and the body ground, the taillight control relay (hereafter called TCR) is turned on. Then the taillights light up.

2. LIGHT CONTROL SWITCH IN "HEAD"

When the switch is set continuity is produced between terminal 13 (B–13) of the LRR and the body-ground, and 14 (B–14) of the LRR and the body ground of the LRR.

- Also continuity is produced between terminals 9 (B–9) and 18 (B–18) of the LRR. Then the LRR operates to lead current from terminal 8→ terminal 16 (B–16) [6 (B–6)] of the LRR→ terminal 4 of the light retractor motor→terminal 5 of the motor →the body ground, and the motor starts, to run in order to raise the headlights.

When the headlights rise, the limit switch operates, so that continuity is broken between terminals 2 and1 of the motor, and continuity is produced between terminals 2 and 3.
As a result, because the LRR is interrupted, the headlights stay in position.

- Also, because continuity is produced between terminal 2 (B–2) of the LRR and the body ground, and 10 (B–10) of the LRR and the body ground, the TCR and the headlight control relay (hereafter called HCR) are turned on.

  Then the taillights and the headlights light up.

3. LIGHT CONTROL SWITCH CHANGED FROM "HEAD" TO "TAIL"

When the switch is set continuity is broken between terminal 14 (B–14) of the LRR and the body ground, and continuity is produced between terminal 3 (B–3) of the LRR and body ground.

- As a result, the headlights are kept in position.
- By breaking continuity between terminal 14 (B–14) of the LRR and the body ground, continuity is broken between terminal 10 (B–10) and the body ground.
  Then the headlights go out.

4. LIGHT CONTROL SWITCH CHANGED FROM "TAIL" TO "HOLD"

When the switch is set, continuity is broken between terminal 13 (B–13) of the LRR and the bodyground. Also, because continuity is broken between terminal 2 (B–2) of the LRR and the bodyground, the TCR is turned off.

Then the taillights go out.

The headlights are kept in position, because continuity is kept between terminal 3 (B–3) of the LRR and the body ground.

5. LIGHT CONTROL SWITCH CHANGED FROM "HOLD" TO "OFF"

When the switch is set, continuity is broken between terminal 3 (B–3) of the LRR and the body ground, so that continuity is produced between terminal 1 (B–1) and 18 (B–18) of the LRR.

Then the LRR operates so that the current flows from terminal 8 (B–8)→ terminal 16 (B–16) [6 (B–6)] of the LRR→terminal 4 of the light retractor motor → terminal 5 of the motor→ the body ground, and the motor starts to run in order to retract the headlights.

When the headlights are retracted, the limit switch operates, so that continuity is broken between terminals 2 and 3 of the motor, and continuity is proceeded between terminals 2 and 1.

As a result, because the LRR is interrupted, the headlights stay in position.

6. IGNITION SWITCH TURNED FROM "ON" TO "ACC" OR "LOCK" AND DRIVER'S DOOR OPEN WITH LIGHT CONTROL SWITCH IN "HEAD" (Light Auto Turn Off system)

When the switches are set, current does not flow from the battery to terminal 4 (B–4) of the LRR, and continuity is produced between terminal 15 (B–15) of the LRR and the body ground. Also because continuity is broken between terminals 2 (B–2) of the LRR and the body ground, and 10 (B–1 0) of the LRR and the body ground, the TCR and the HCR –are turned off.

Then the taillights and the headlights go out.

Also with the light control switch in "TAIL", the taillights go out.

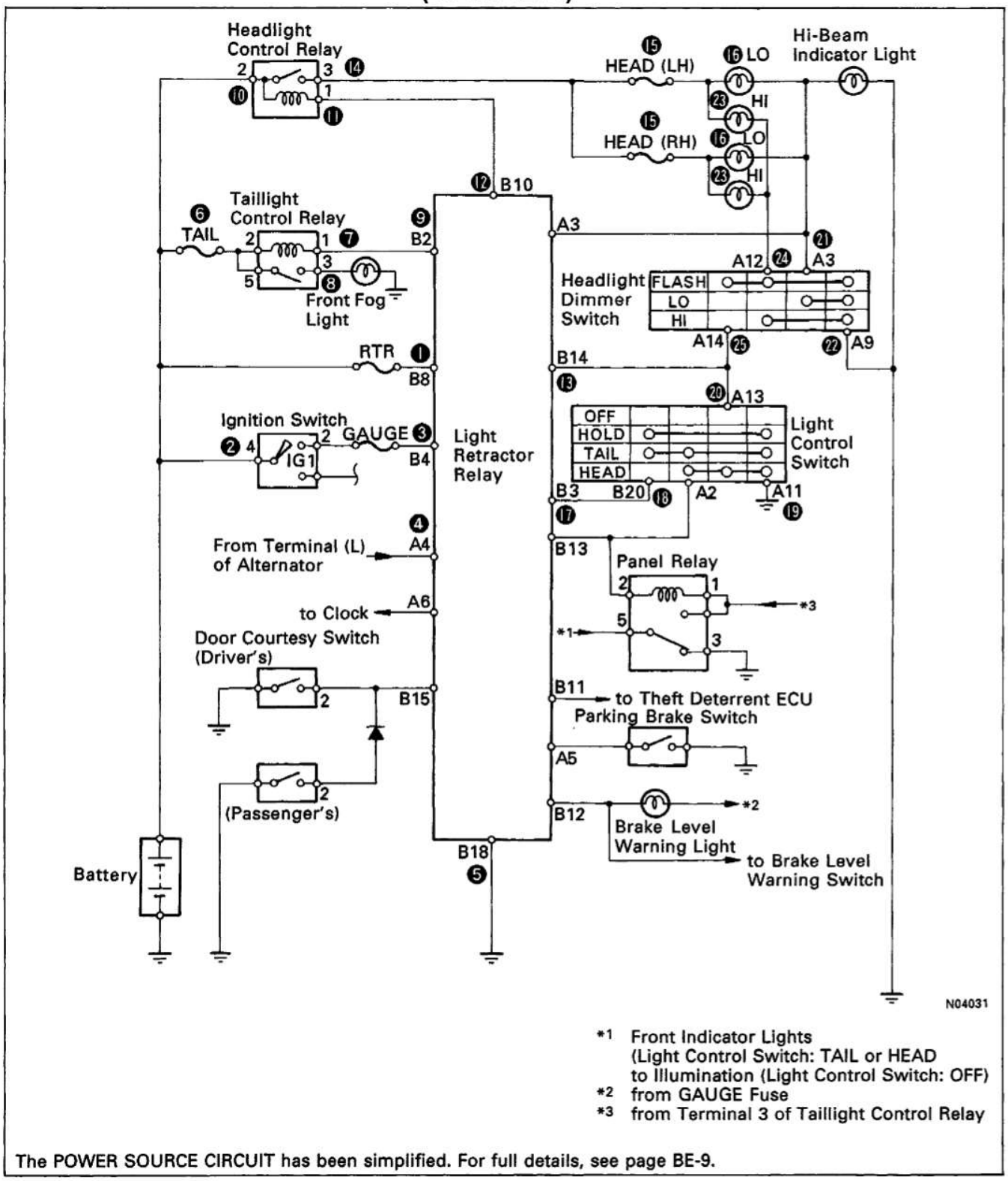
When the ignition switch is turned on again, the taillights and headlights light normally.

During light auto turn off operation, if the light switch is turned first to "HOLD" or "OFF", then turned to "TAIL" or "HEAD", both sets of lights will come on again.

DAYTIME RUNNING LIGHT SYSTEM

The Daytime Running Light (DRL) system is activated when engine is started (However, if the parking brake lever is engaged when the engine is started, the DRL will not light up after the engine has started Once the parking brake is released, the DRL will then light up and will remain on regardless of operation of the parking brake lever).
The DRL remain on until the ignition switch is turned off.

(CANADA)



*1 Front Indicator Lights (Light Control Switch: TAIL or HEAD to Illumination (Light Control Switch: OFF)
*2 from GAUGE Fuse
*3 from Terminal 3 of Taillight Control Relay

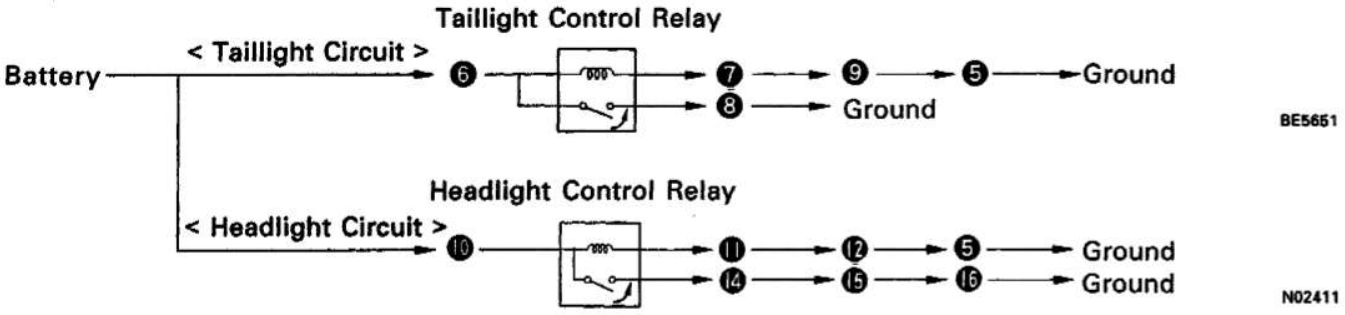
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

OPERATION EXAMPLE (CURRENT FLOW TABLE
1. DAYTIME RUNNING LIGHT LIGHTS UP

Switch	Position
Ignition Switch	*ON
Light Control Switch	OFF
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹
Continuity: ❺ ⟶ Ground

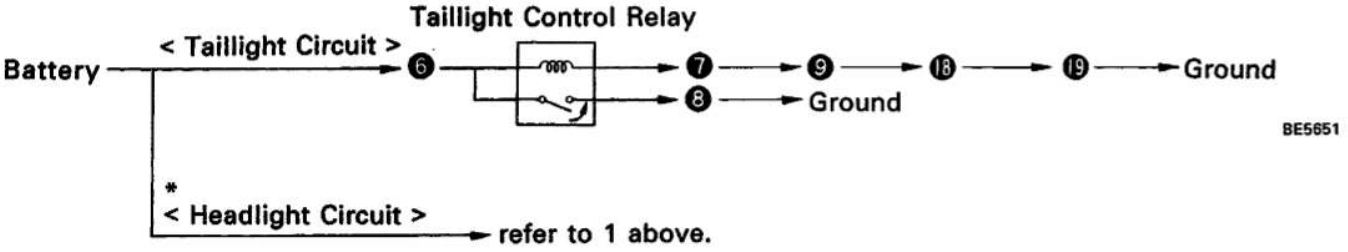


2. TAILLIGHT LIGHTS UP

Switch	Position
Ignition Switch	OFF* or ON
Light Control Switch	TAIL
Headlight Dimmer Switch	LO or HI
*1 Door Courtesy Switch	ON

* with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground

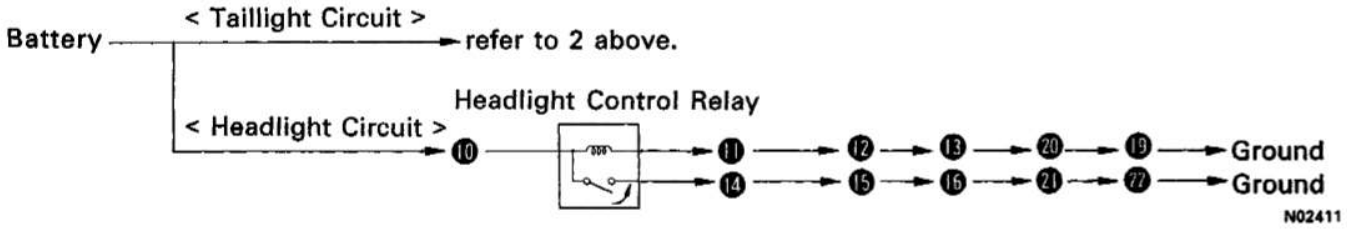


3. HEADLIGHT LOW BEAM LIGHTS UP

Switch	Position
Ignition Switch	OFF* or ON
Light Control Switch	HEAD
Headlight Dimmer Switch	LO
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground

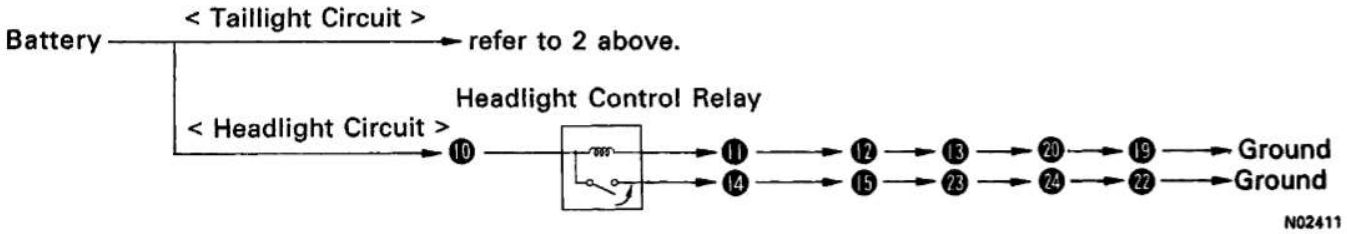


4. HEADLIGHT HIGH BEAM LIGHT UP

Switch	Position
Ignition Switch	OFF or *ON
Light Control Switch	HEAD
Headlight Dimmer Switch	HI
*1 Door Courtesy Switch	ON

with Engine Running

Condition: Battery voltage ⟶ ❶, *(Battery voltage ⟶ ❷ ⟶ ❸, Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground

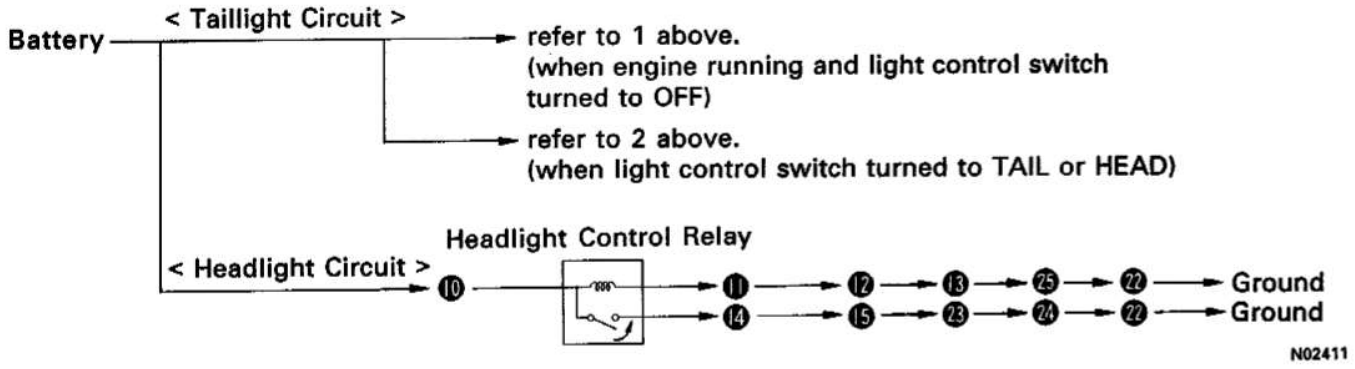


5. HEADLIGHT FLASH

Switch	Position
Ignition Switch	OFF or *ON
Light Control Switch	OFF or TAIL or HEAD
Headlight Dimmer Switch	Flash
*1 Door Courtesy Switch	0 N

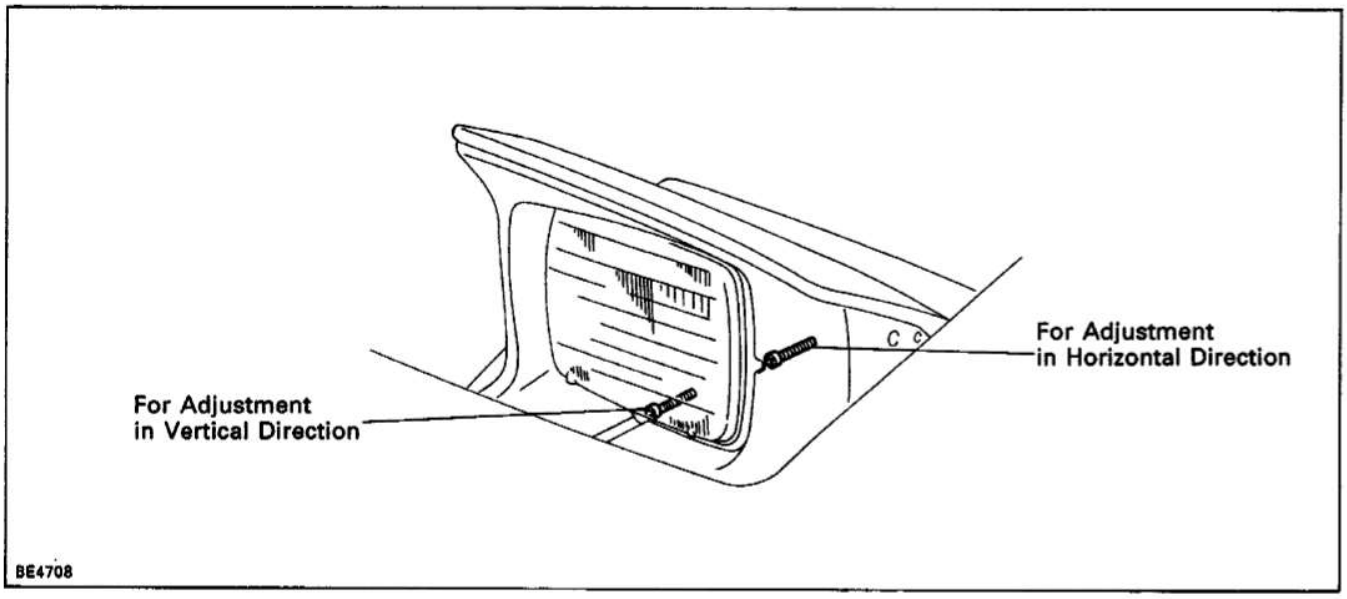
with Engine Running

Condition: Battery voltage ⟶ ❶ , *(Battery voltage ⟶ ❷ ⟶ ❸ , Battery voltage ⟶ ❹)
Continuity: ❺ ⟶ Ground



HEADLIGHT

HEADLIGHT AIMING ADJUSTMENT



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.

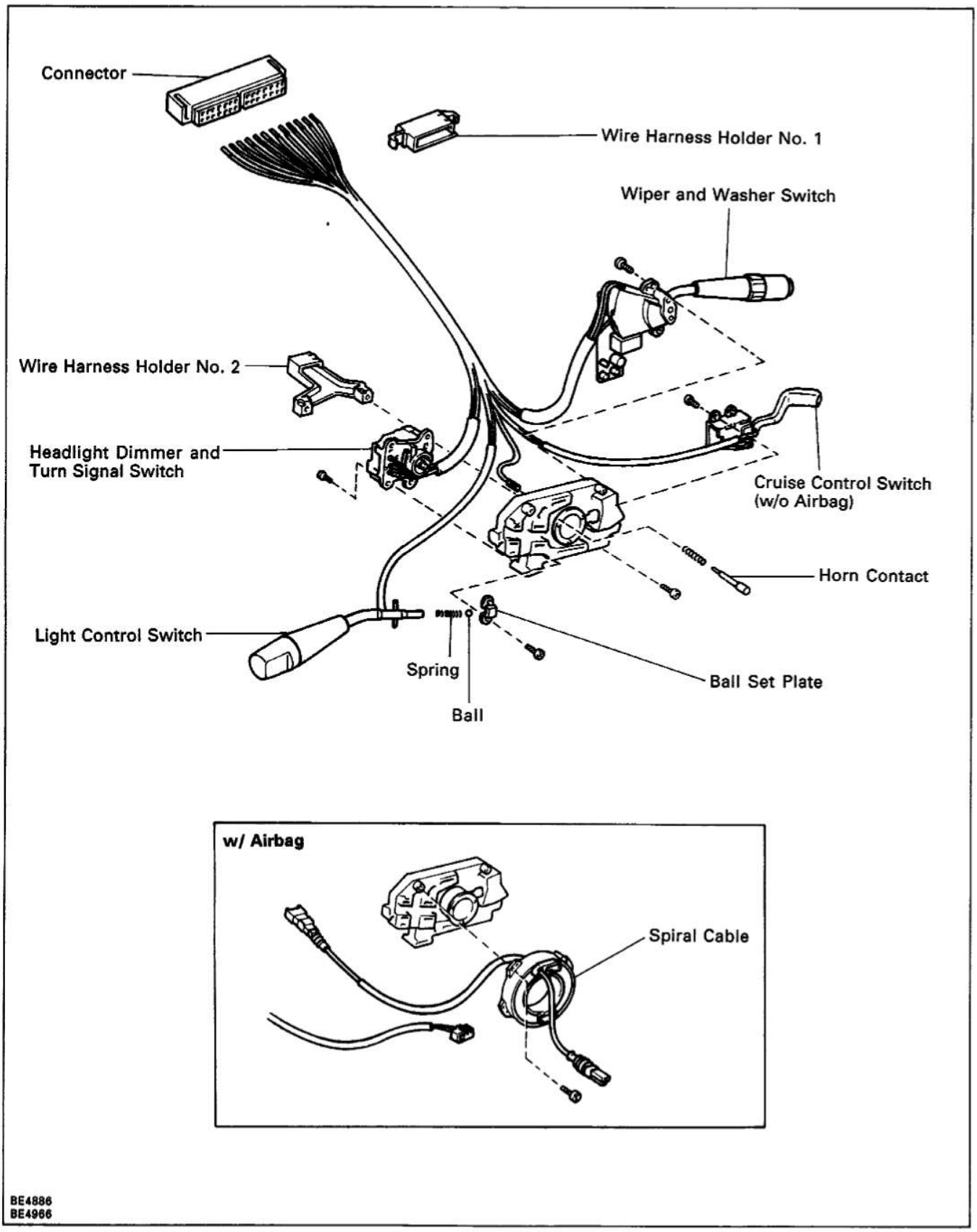
	See page	BE–3	BE–3	BE–3	BE–3	BE–3	BE–30	BE–30	BE–30	BE–30	BE–11	BE–49	BE–33	BE–34	–	–	–
	Pa its name / Trouble	MAIN FL	RTR Fuse	GAUGE Fuse	HEAD Fuse	TAIL Fuse	Light Control Switch	Dimmer Switch	Headlight Control Relay	Taillight Control Relay	Ignition Switch	Door Courtesy Switch	Light Retractor Relay	Light Retractor Motor	Wire Harness	Headlight Bulb*	Taillight Bulb
Headlight	Headlight does not light up. (Taillight is normal.)	1			2		3	4							5	6	
	Headlight does not light up. (Taillight does not light up.)						1	2							3	4	
	Only one light comes ON.				1										2	3	
	"Lo–Beam" does not light up.							3	1				2		4	5	
	"Hi–Beam" does not light up.							3	1				2		4	5	
	"Flash" does not light up.							3	1				2		4	5	
	Light Retractable System does not operate						2	3	4				6	5	7	8	
Taillight	Taillight does not light up. (Headlight does not light up.)	1				2	3								4	5	
	Taillight does not light up. (Headlight does not light up.)					1	2			3					4		5
	Only one light goes out or does not light up.														1		2
	Rear Combination light does not light up.					1									2		3
Daytime running light system does not operate.							4	5	1	2			3		6		
Light Auto Turn Off does not operate.				1							2	3	4		5		

* Sculptured Type: If operation is not as specified, replace the Headlight Bulb.
Rectangular Type: If operation is not as specified, replace the Headlight Assembly.

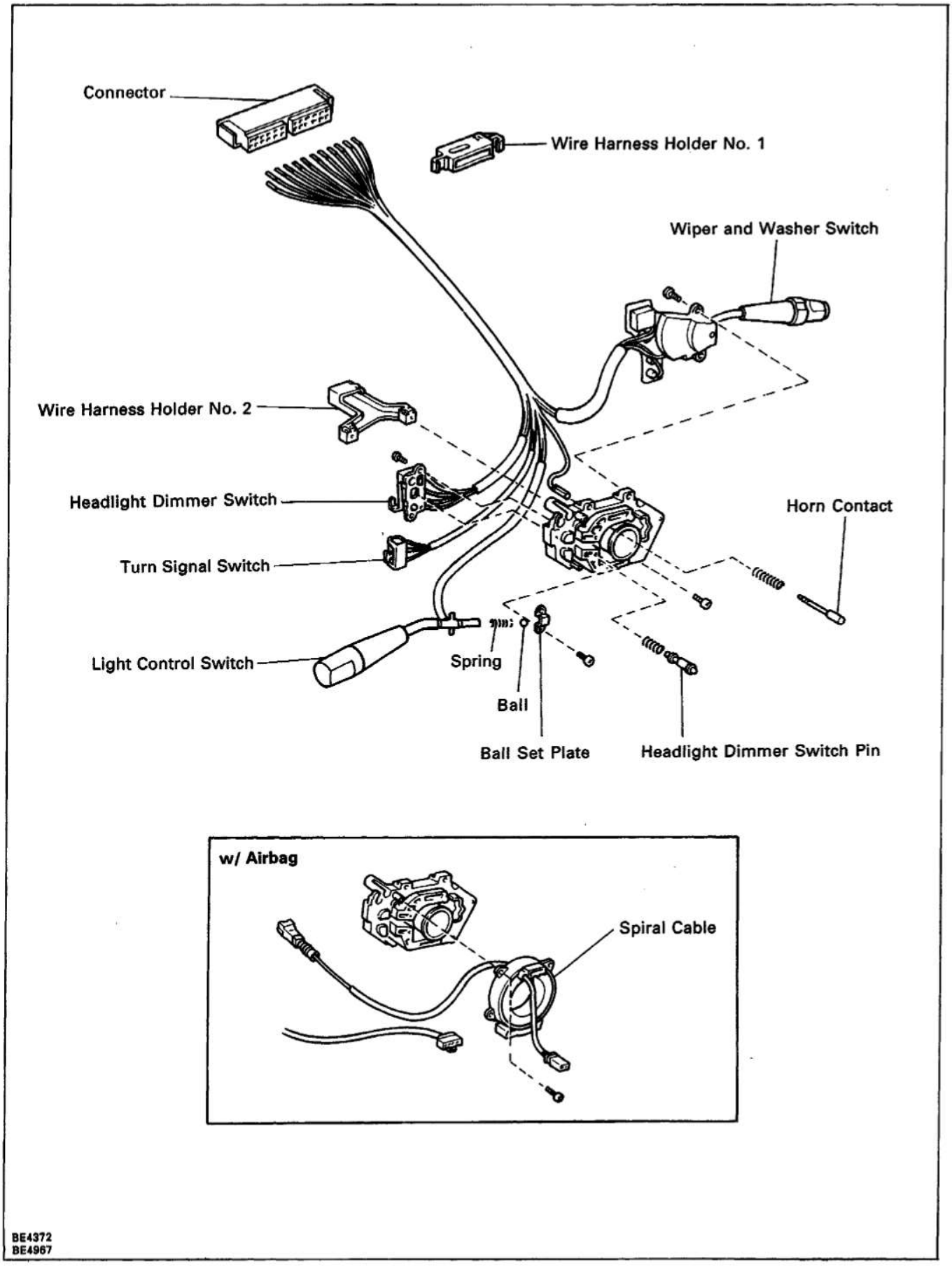
COMBINATION SWITCH

COMPONENTS

(A Type)



(B Type)


Connector
Wire Harness Holder No. 1
Wiper and Washer Switch
Wire Harness Holder No. 2
Headlight Dimmer Switch
Turn Signal Switch
Horn Contact
Light Control Switch
Spring
Ball
Ball Set Plate
Headlight Dimmer Switch Pin
w/ Airbag
Spiral Cable
BE4372
BE4967

COMBINATION SWITCH DISASSEMBLY

1. REMOVE WIRE HARNESS HOLDER NO. 1

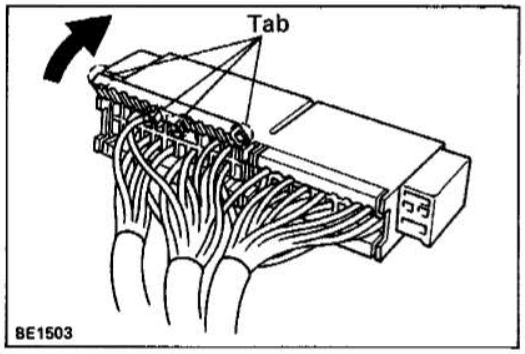
2. REMOVE WIRE HARNESS HOLDER NO. 2

3. 1w/Airbag)

REMOVE SPIRAL CABLE SUBASSEMBLY

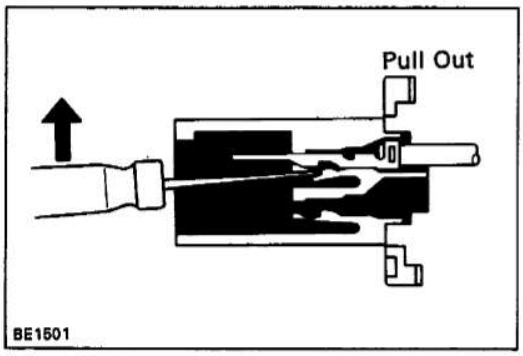
(a) Remove the four screws.

(b) Disconnect the connector and remove the spiral cable subassembly.



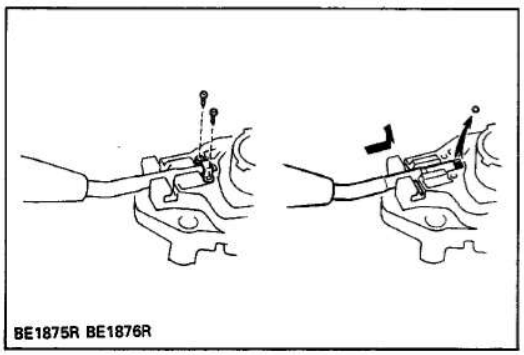
4. REMOVE TERMINALS FROM CONNECTOR

(a) Release four tabs and open the terminal cover.



(b) From the open end, insert a miniature screwdriver between the locking lug and terminal.

(c) Pry down the locking lug with the screwdriver and pull the terminal out from the rear.



5. REMOVE LIGHT CONTROL SWITCH

(a) Remove two screws and the ball set plate from the switch body.

(b) Remove the ball and slide out the switch from the switch body with the spring.

6. REMOVE HEADLIGHT DIMMER AND TURN SIGNAL SWITCH

(A Type)

Remove four screws and the switch from the switch body.

(B Type)

(a) Pry loose two locking lugs and remove the turn signal switch from the switch body.

(b) Remove two screws and the headlight dimmer switch from the switch body.

(c) Remove the headlight dimmer switch pin from the switch body with the spring.

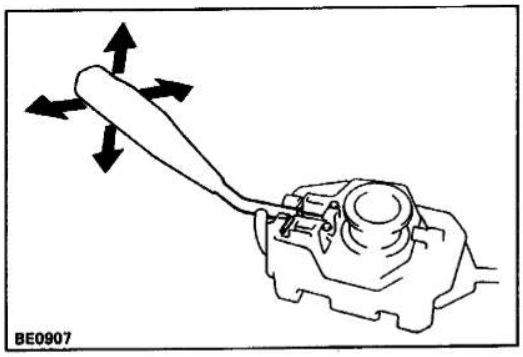
7. REMOVE WIPER AND WASHER SWITCH

Remove two screws and the switch from the switch body.

8. (A Type)
REMOVE CRUISE CONTROL SWITCH

Remove two screws and the switch from the body.

9. REMOVE HORN CONTACT

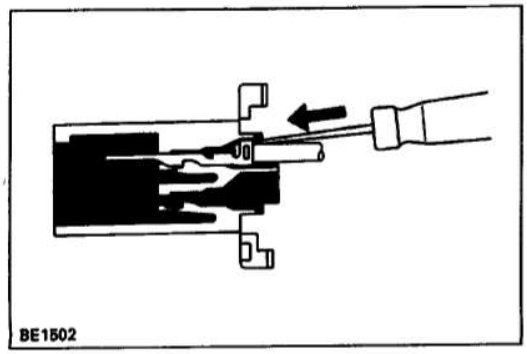


COMBINATION SWITCH ASSEMBLY

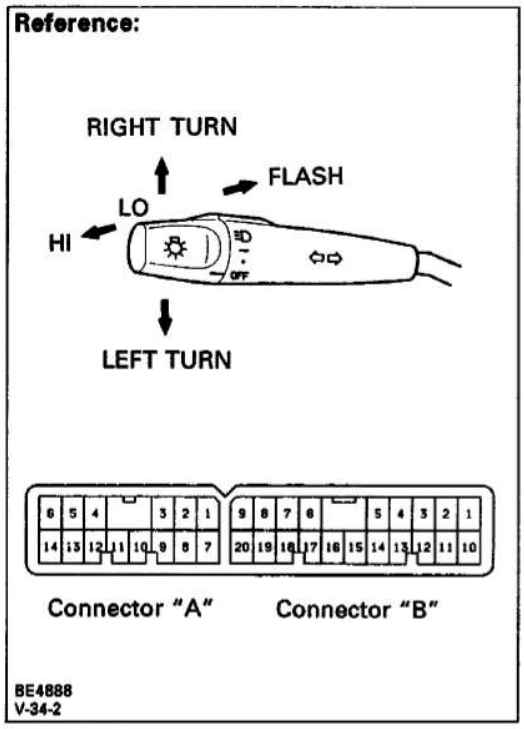
INSTALL PARTS OF COMBINATION SWITCH IN REVERSE SEQUENCE OF DISASSEMBLY

HINT:

- After installing the light control switch to the switch body, insure that the switch operation is smoothly.



- Push in the terminal until it is securely locked in the connector lug.



COMBINATION SWITCH INSPECTION
LIGHT CONTROL SWITCH CONTINUITY

Terminal (Color) / Switch position	A–2	A–11	A–13	B–20
OFF				
HOLD (•)		○		○
TAIL (–)	○	○		○
HEAD	○	○	○	

HEADLIGHT DIMMER SWITCH CONTINUITY

Terminal (Color) / Switch position	A–3	A–9	A–12	A–14
Flash		○	○	○
Low beam	○	○		
High beam		○	○	

TURN SIGNAL SWITCH CONTINUITY

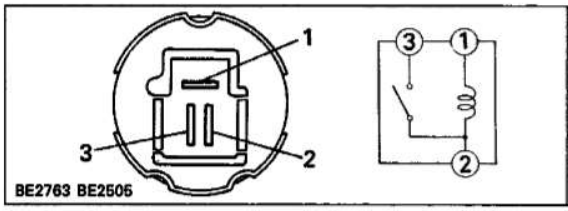
Terminal (Color) / Switch position	A–1	A–5	A-8
Left turn	○	○	
Neutral			
Right turn	○		○

If continuity is not as specified, replace the switch.

HEADLIGHT CONTROL RELAY

HEADLIGHT CONTROL RELAY INSPECTION

CONTINUITY



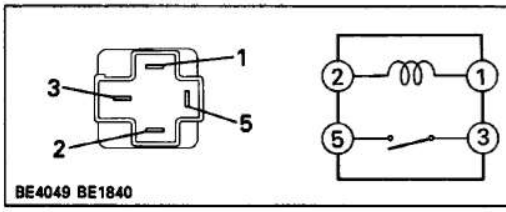
Terminal / Condition	1	2	3
Constant	○	○	
Apply battery voltage to terminals 1 and 2.		○	○

If continuity is not as specified, replace the relay.

TAILLIGHT CONTROL RELAY

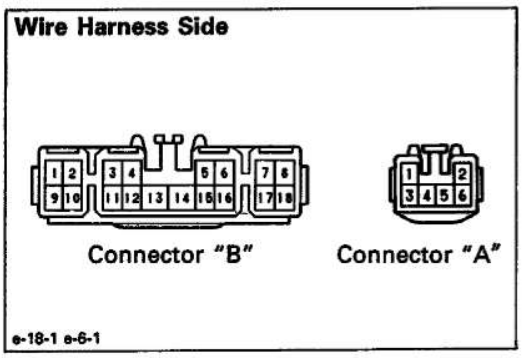
TAILLIGHT CONTROL RELAY INSPECTION

CONTINUITY



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

If continuity is not as specified, replace the relay.



DAYTIME RUNNING LIGHT SYSTEM

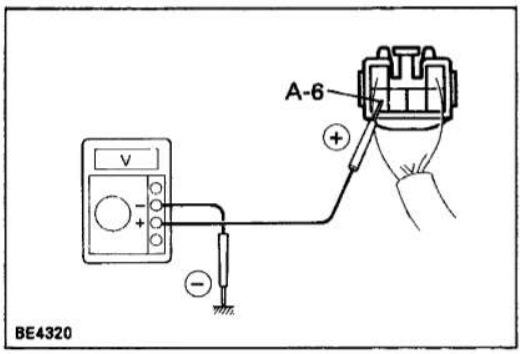
LIGHT RETRACTOR RELAY INSPECTION

RELAY CIRCUIT

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

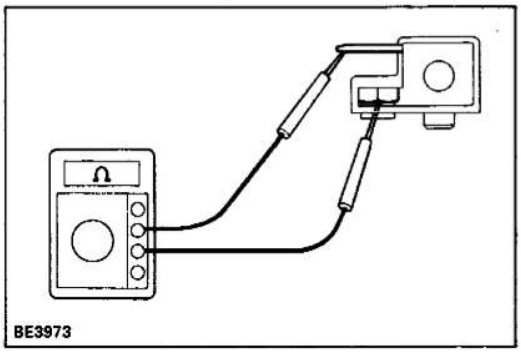
Check for	Tester connection	Condition		Specified value
Continuity	B-3 — Ground	Light control switch position	OFF or HOLD	No continuity
			HOLD or TAIL	Continuity
	A-5 — Ground	Parking brake switch position	OFF (Parking brake lever released)	No continuity
			ON (Parking brake lever engaged)	Continuity
	B-13 — Ground	Light control switch position	OFF or HOLD	No continuity
			TAIL o r HEAD	Continuity
	B-14 — Ground	Light control switch position: OFF, HOLD or TAIL		
		Headlight dimmer switch position	Low beam or High beam	No continuity
			Flash	Continuity
		Light control switch position: HEAD		Continuity
	B-18 — Ground	Constant		Continuity
Voltage	A-3 — Ground	Light control switch HEAD and Dimmer switch LO		No voltage
		Light control switch HEAD and Dimmer switch HI		Battery voltage
	A-4 — Ground	Engine	Stop	No voltage
			Running	Battery voltage
	A-12 — Ground	Constant		Battery voltage
	B-2 — Ground	Constant		Battery voltage
	B-4 — Ground	Ignition switch position	LOCK or ACC	No voltage
			O N o r START	Battery voltage
	B-8 — Ground	Constant		Battery voltage
	B-10 — Ground	Constant		Battery voltage

If circuit is as specified, inspect relay operation.



RELAY OPERATION

(a) Connect the positive W lead from the voltmeter to terminal A–6 and negative (–) lead to the ground.
(b) Check that there is battery voltage with light control switch is turned on.
If operation is not as specified, replace the relay.



PARKING BRAKE SWITCH

PARKING BRAKE SWITCH INSPECTION

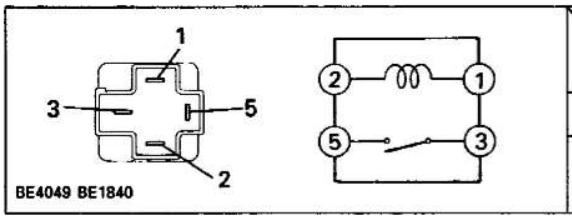
INSPECT PARKING BRAKE

(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).
If operation is not as specified, replace the switch.

PANEL RELAY

PANEL RELAY INSPECTION

CONTINUITY



Terminal / Condition	1	2	3	5
Consistent	○—〰—○			
Apply battery voltage to terminals 1 and 2.			○—○	

If continuity is not as specified, replace the relay.

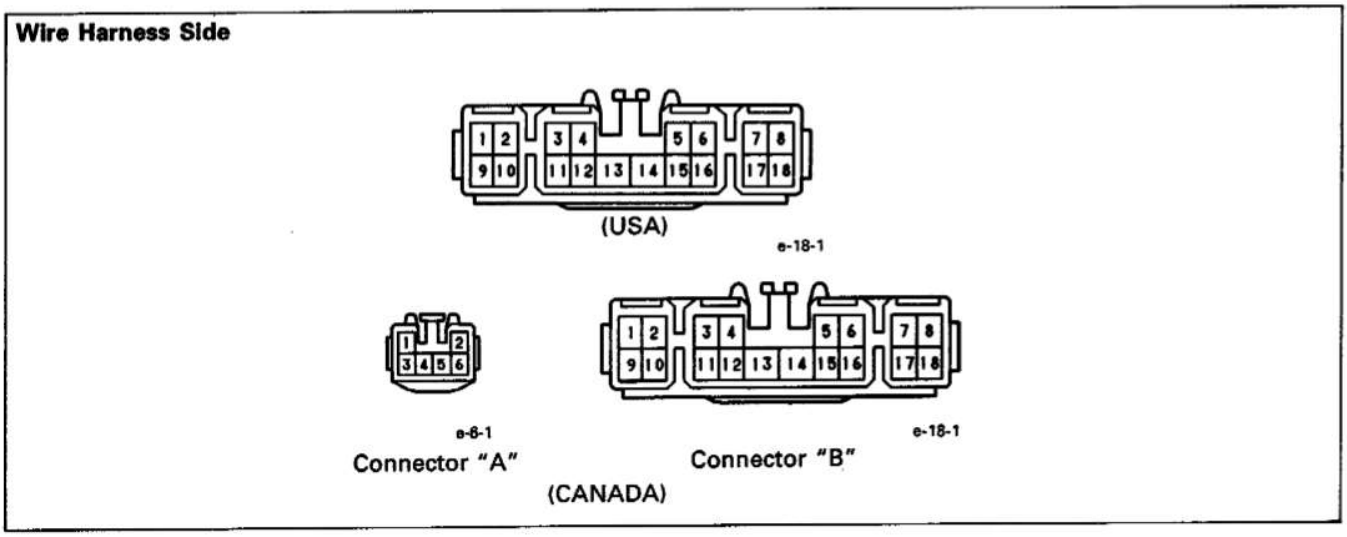
LIGHT RETRACTABLE SYSTEM

LIGHT RETRACTOR RELAY INSPECTION

RELAY CIRCUIT

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

Wire Harness Side

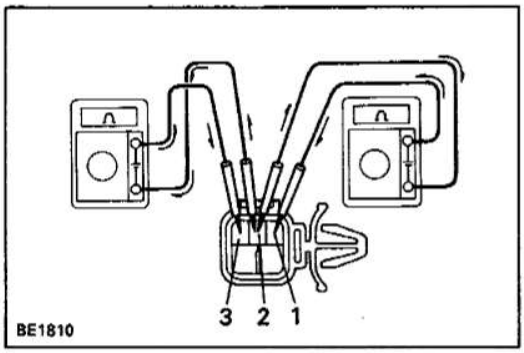


Check for	Tester connection	Condition		Specified value
Continuity	**3 (B-3) – Ground**	Light control switch position	OFF or HEAD	No continuity
			HOLD or TAIL	Continuity
	6 (B-6) – Ground **16 (B-16) – Ground**	Constant		*1 Continuity
	13 (B-13) – Ground	Light control switch position	OFF or HOLD	No continuity
			TAIL or HEAD	Continuity
	14 (B-14) – Ground	Light control switch position: OFF, HOLD or– TAIL		
		Headlight dimmer switch position	Low beam or High beam	No continuity
			Flash	Continuity
		Light control switch position: HEAD		Continuity
	18 (B-18) – Ground	Constant		Continuity
	***2 5 (B-5) – 1 (B-1)**	Headlight position	Any position ex. lowermost	Continuity
	***2 7 (B-7) – 1 (B-1)**		Lowermost	No continuity
	***2 5 (B-5) – 9 (B-9)**	Headlight position	Any position ex. uppermost	Continuity
	7 (B-7) – 9 (B-9)		Uppermost	No continuity

Check for	Tester connection	Condition		Specified value
Voltage	2 (B–2) – Ground	Constant		Battery voltage
	4 (B–4) – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	8 (B–8) – Ground	Constant		Battery voltage
	10 (B–10) – Ground	Constant		Battery voltage
	15 (6–15) – Ground	Door– position	Closed (Courtesy switch OFF)	Battery voltage
			Opened (Courtesy switch ON)	No voltage

The number in ( ) mean for CANADA vehicle.
*1: There is resistance because this circuit is grounded through the motor.
: Connect the test leads so that the current from the ohmmeter can flow according to the above orders.

If circuit is as specified, replace the relay.

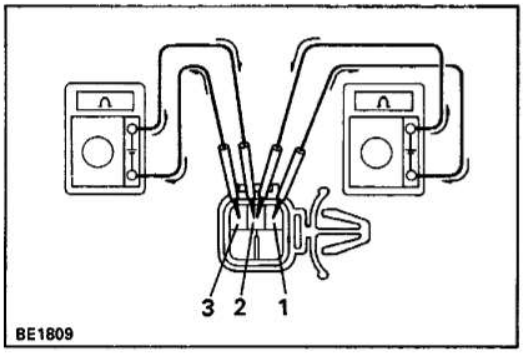


LIGHT RETRACTOR MOTOR

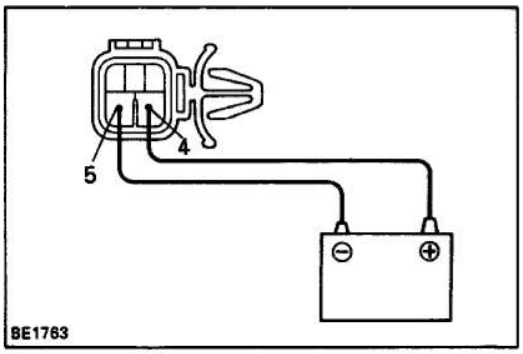
LIGHT RETRACTOR MOTOR INSPECTION

DIODE CONTINUITY

(a) Set the motor to any position except the uppermost or lowermost position.
(b) Connect the ohmmeter test lead so that the current from the meter can flow from terminal 1 to 2, check that there is no continuity.



(c) Connect the ohmmeter test lead so that the current from the meter can flow from terminal 3 to 2, check that there is no continuity.
(d) Reverse the test leads of ohmmeter, check that there is continuity.
If continuity is not as specified, replace the motor.

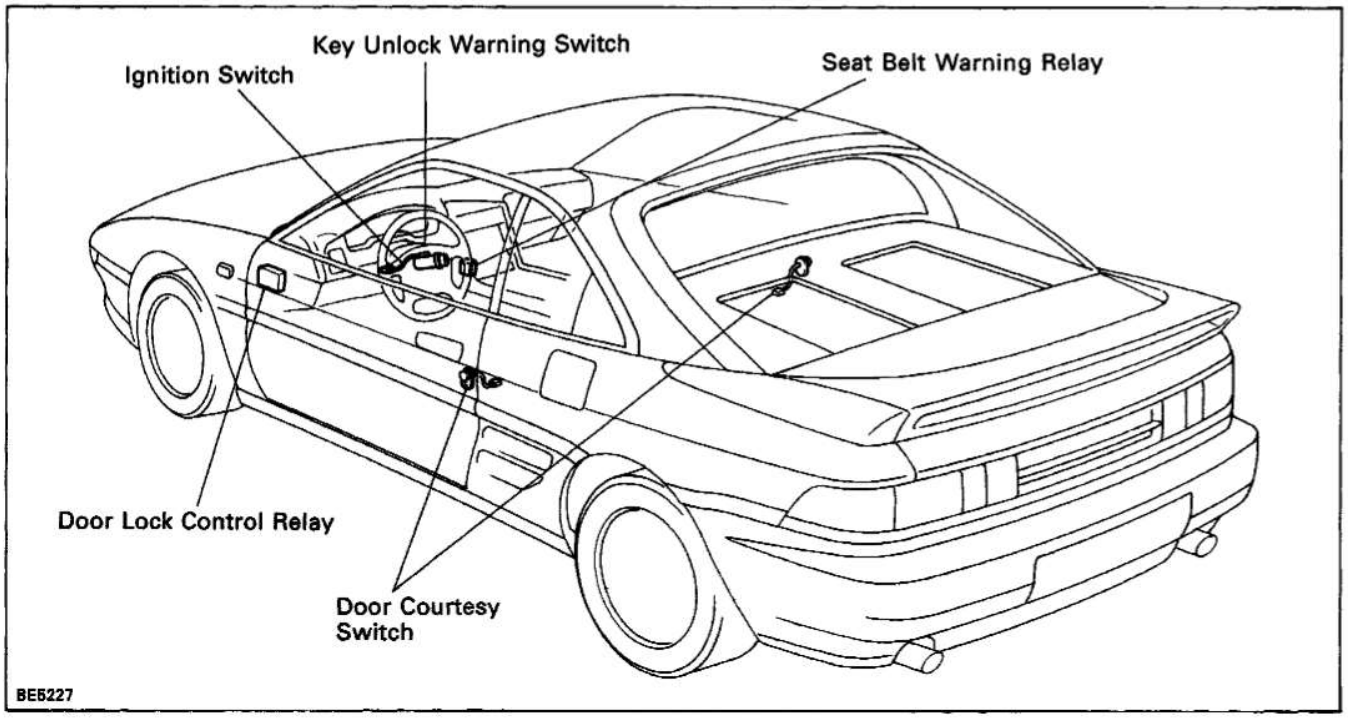


OPERATION

Connect the positive W lead from the battery to terminal 4 and the negative (–) lead to terminal 5, check that the motor operates.
If operation is not as specified, replace the motor.

IGNITION SWITCH

PARTS LOCATION



WIRING DIAGRAM

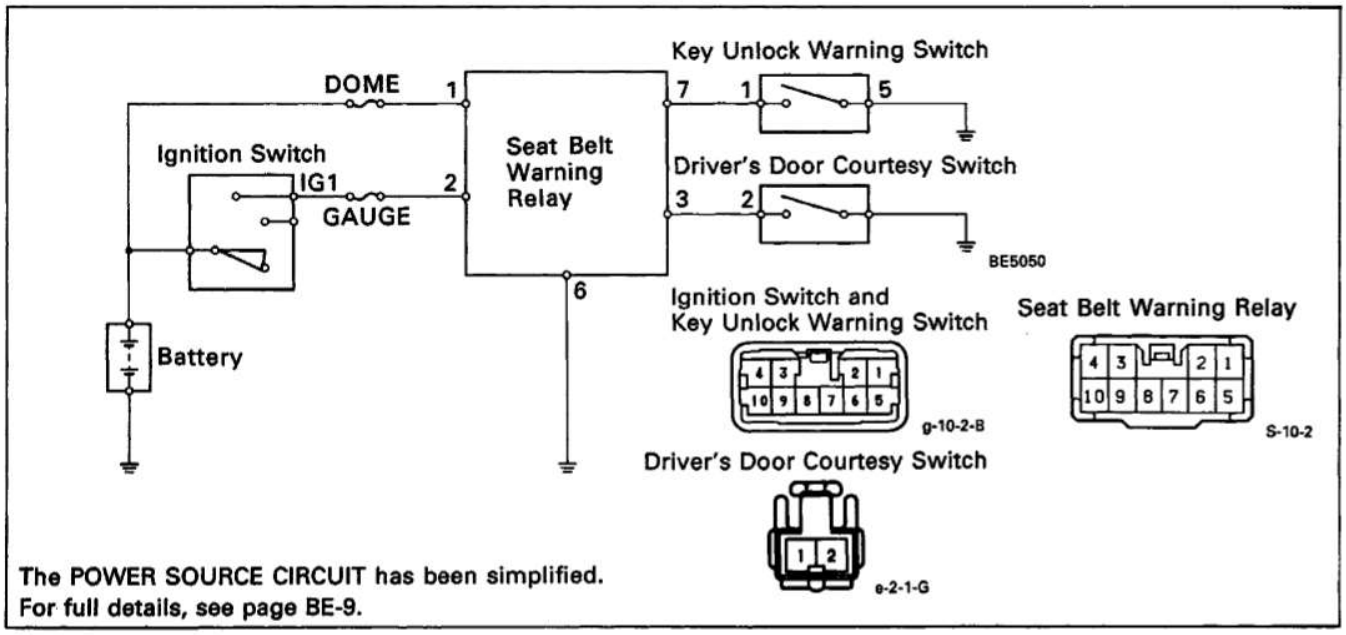
IGNITION SWITCH

See Power Source Section on page BE–9.

KEY CONFINE PREVENTION SYSTEM

See Power Door Lock Control System on page BE–96.

KEY UNLOCK WARNING SYSTEM



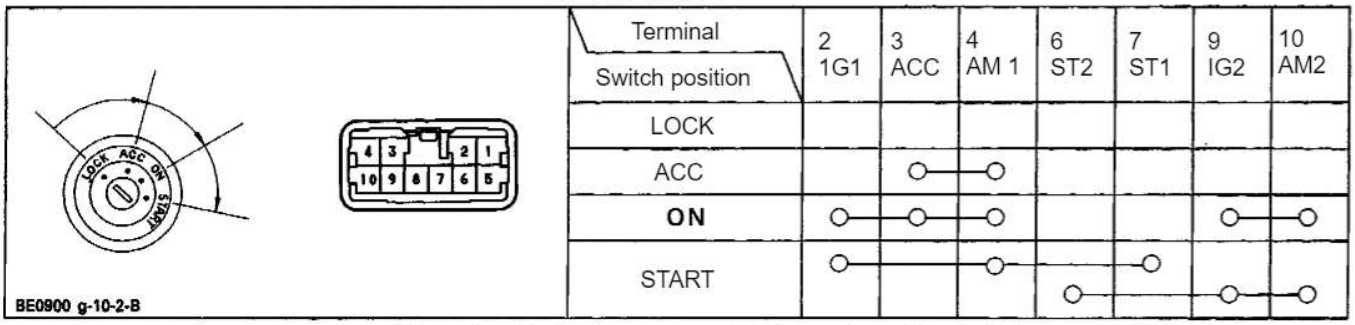
TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Ignition switch is not seat to each position	Ignition switch faulty Power source circuit faulty	Check switch Repair as necessary	BE–1 1 BE–9
Key confine prevention system does not operate	Key unlock warning switch faulty Door courtesy switch faulty Door lock control relay faulty Wiring faulty	Check switch Check switch Check relay Repair– as necessary	BE–1 1 BE–49 BE–1 02
Key unlock warning system does not operate	Key unlock warning switch faulty Door courtesy switch faulty Seat Belt Warning Relay faulty Wiring faulty	Check switch Check switch Check relay Repair as necessary	BE–1 1 BE–49 BE–12

IGNITION SYSTEM

IGNITION SWITCH INSPECTION

CONTINUITY



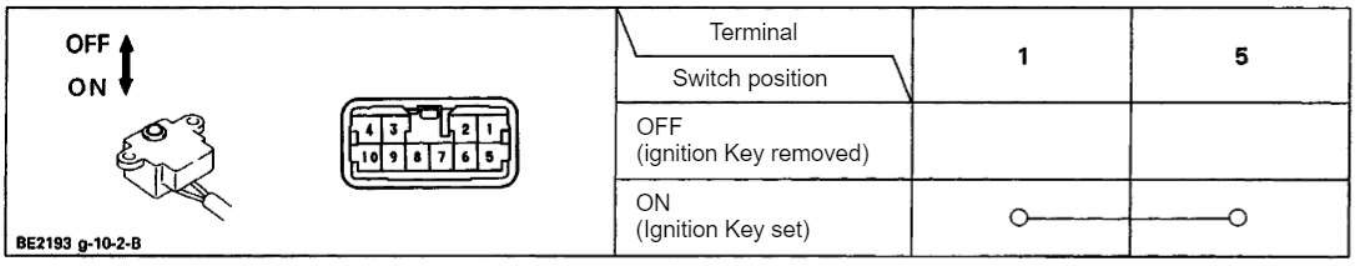
Terminal / Switch position	2 1G1	3 ACC	4 AM 1	6 ST2	7 ST1	9 IG2	10 AM2
LOCK							
ACC		○—○					
ON	○	○—○	○			○	○
START	○		○	○—○	○	○	○

If continuity is not as specified, replace the switch.

KEY CONFINE PREVENTION SYSTEM

KEY UNLOCK WARNING SWITCH INSPECTION

CONTINUITY



Terminal / Switch position	1	5
OFF (ignition Key removed)		
ON (Ignition Key set)	○	○

If continuity is not as specified, replace the switch.

DOOR COURTESY SWITCH

DOOR COURTESY SWITCH INSPECTION

See page BE–49.

DOOR LOCK CONTROL RELAY

DOOR LOCK CONTROL RELAY INSPECTION

See page BE–102.

KEY UNLOCK WARNING SYSTEM

KEY UNLOCK WARNING SWITCH INSPECTION

See page BE–11.

DOOR COURTESY SWITCH INSPECTION

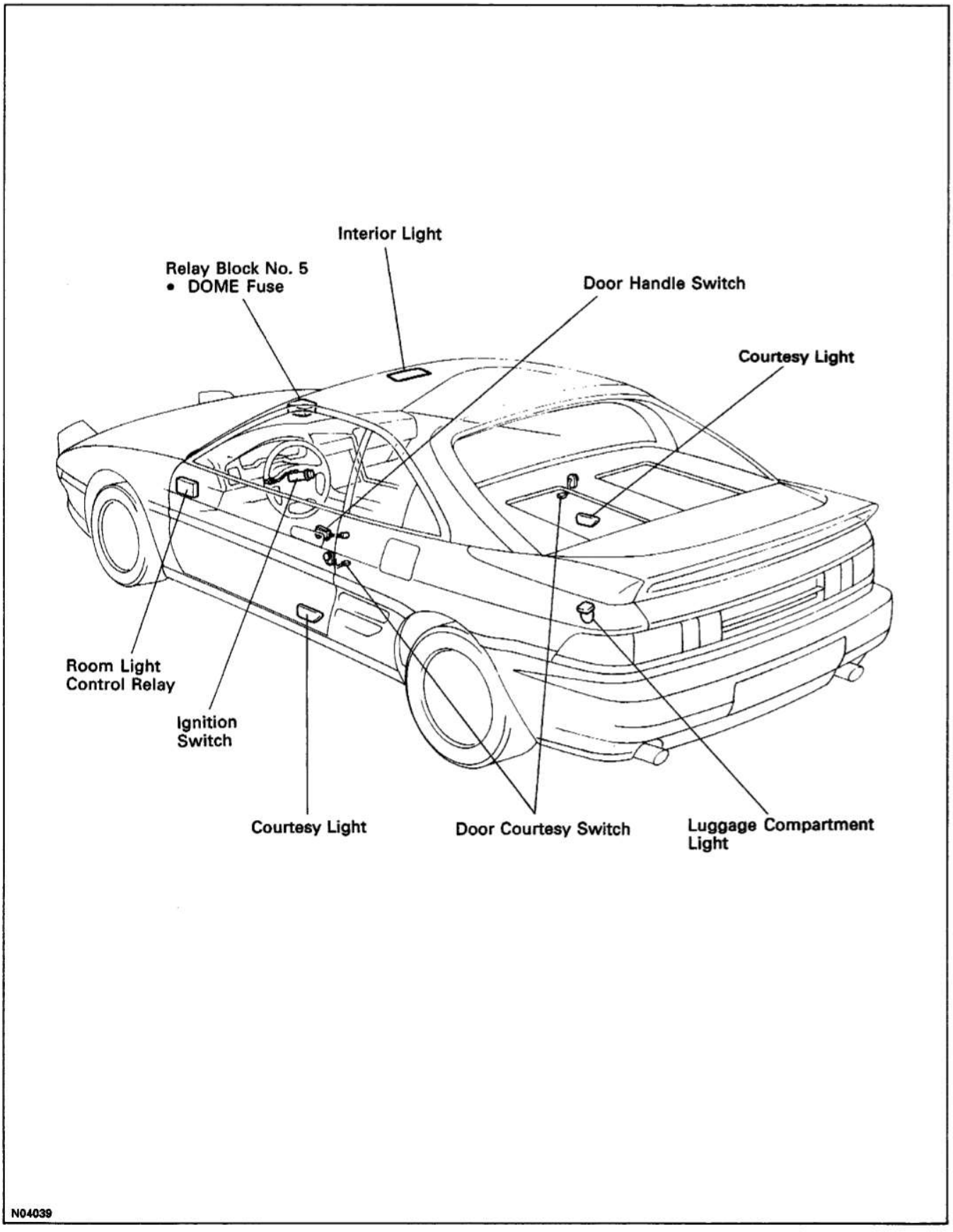
See page BE–49.

SEAT BELT WARNING RELAY INSPECTION

See page BE–80.

INTERIOR LIGHT SYSTEM

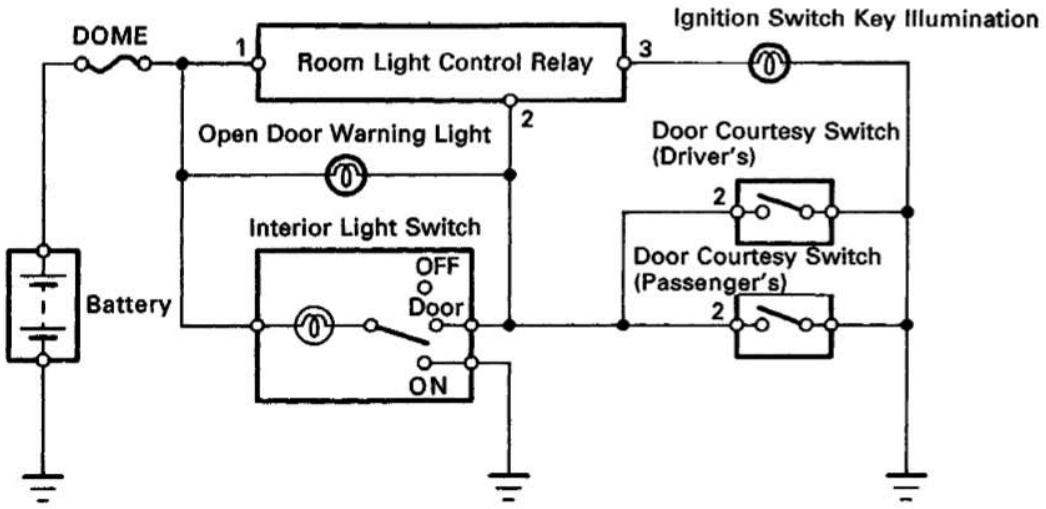
PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS

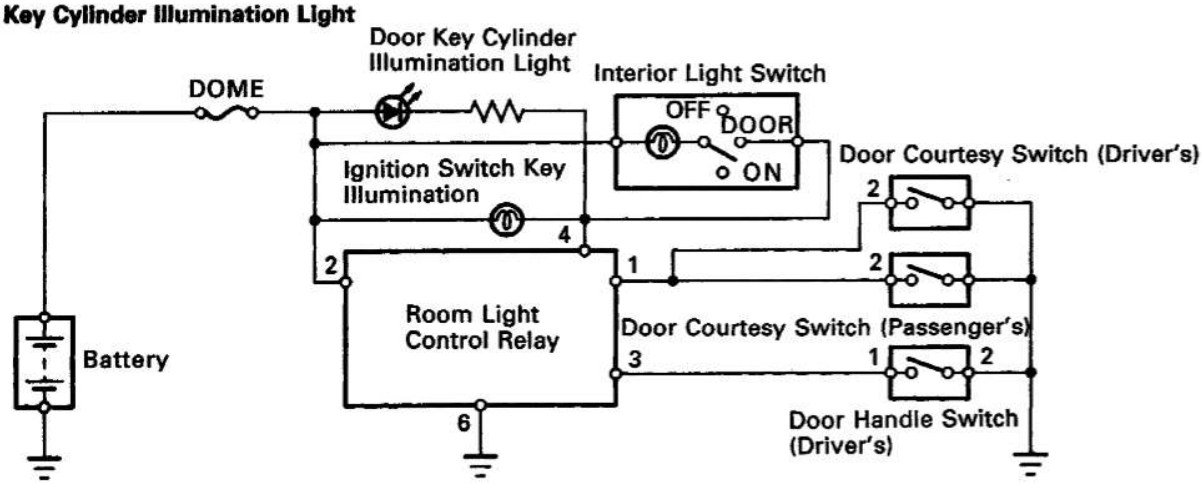
ILLUMINATED ENTRY SYSTEM

w/o Door Key Cylinder Illumination Light



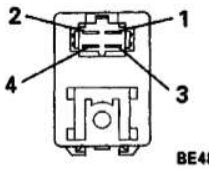
The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

w/ Door Key Cylinder Illumination Light

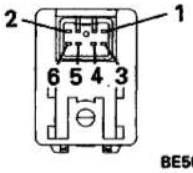


The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

Room Light Control Relay



(w/o Door Key Cylinder Illumination Light)



(w/ Door Key Cylinder Illumination Light)

Door Courtesy Switch



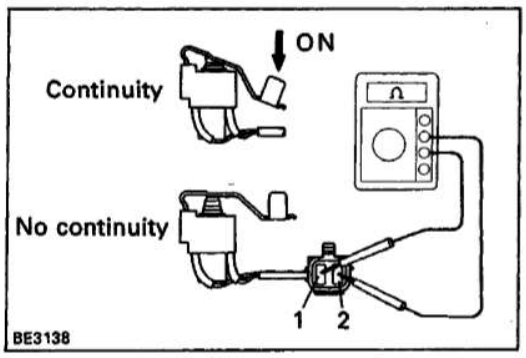
Door Handle Switch



TROUBLESHOOTING

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

See page / Part name / Trouble	BE–3 DOME Fuse	BE–49 Door Courtesy Switch	BE–49 Door Outside Handle Switch	BE–50 Room Light Control Relay	BE–49 Interior Light Switch	I Wire Harness	I Bulb
Only one interior light does not light up.						2	1
Interior light does not light up. (All)	1					2	
"Illuminated Entry System" does not operate.		2	3	1		4	
Interior light does not light up. (in front personal light)					2	3	



DOOR OUTSIDE HANDLE SWITCH

DOOR OUTSIDE HANDLE SWITCH INSPECTION

CONTINUITY

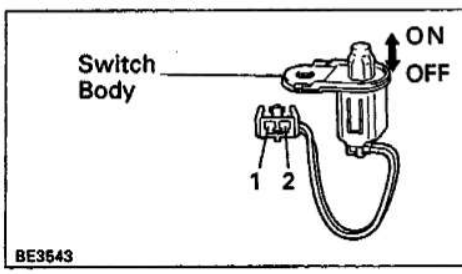
(a) Check that there is continuity between terminals 1 and 2 when door outside handle is pulled.

(b) Check that there is no continuity between terminals 1 and 2 when door outside handle is released.

DOOR COURTESY SWITCH

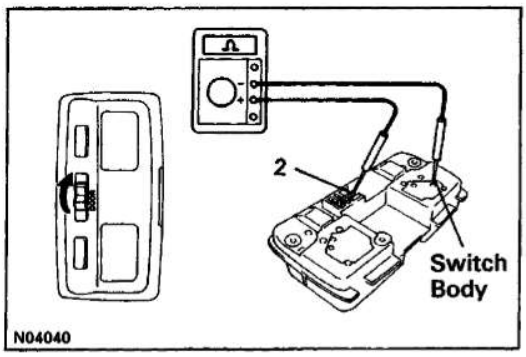
DOOR COURTESY SWITCH INSPECTION

CONTINUITY



Terminal / Switch position	1	2	Switch body
ON (Switch pin released)	○	○	○
		○	○
OFF (Switch pin pushed in)			

If continuity is not as specified, replace the switch.

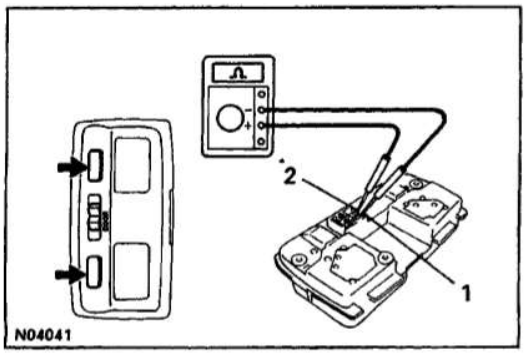


INTERIOR LIGHT SWITCH

INTERIOR LIGHT SWITCH INSPECTION

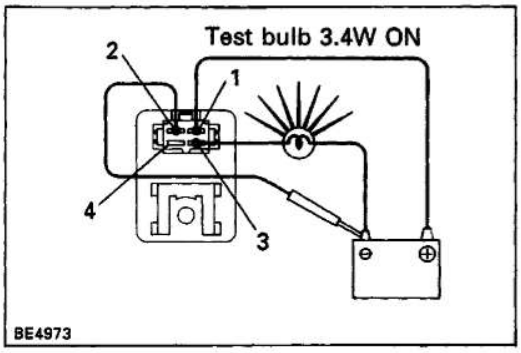
(a) Disconnect the connector from interior light assembly.

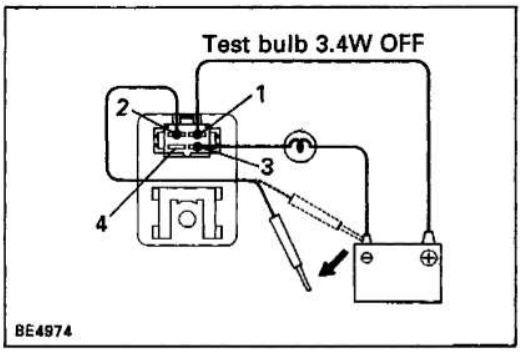
(b) Turn the interior light switch DOOR, check that there is continuity between terminal switch body and 2.



(c) Turn the interior light switch OFF.

(d) Push the interior light switch ON, check that there is continuity between terminal 1 and 2.





ROOM LIGHT CONTROL RELAY

ROOM LIGHT CONTROL RELAY INSPECTION

OPERATION

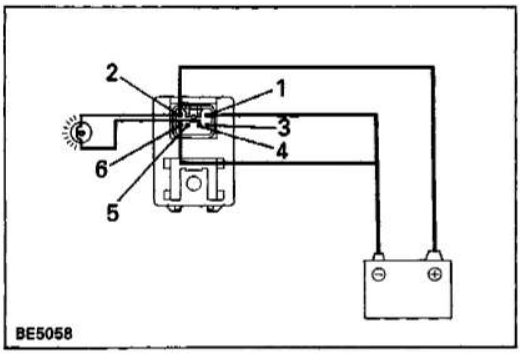
(w/o Door Key Illumination Light)

Connect the positive (+) lead from the battery to terminal 1. Connect the negative (–) lead to terminal 2. Connect a 3.4 W test bulb between terminal 3 and the negative (–) lead.

(a) Check that the bulb lights.

(b) Disconnect the negative (–) lead from the battery and check that the bulb goes out 5 seconds later.

If operation is not as specified, replace the relay.

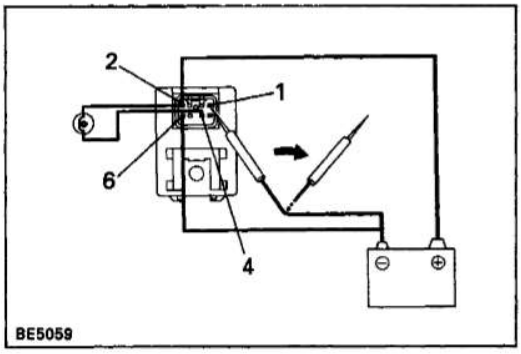


(w/ Door Key Illumination Light)

COURTESY SWITCH CIRCUIT/OPERATION

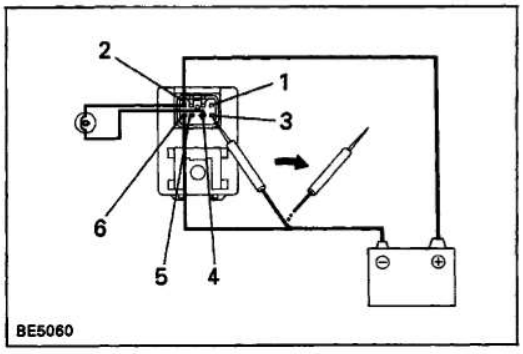
Connect the positive (+) lead from the battery to terminal 2. Connect the negative H lead to terminals 1 and 6. Connect a 3.4 W test bulb between terminals 2 and 4.

(a) Check that the bulb lights.



(b) Disconnect the negative (–) lead from terminal 1, and check that the bulb fades out about 8.5 seconds later.

If operation is not as specified, replace the relay.



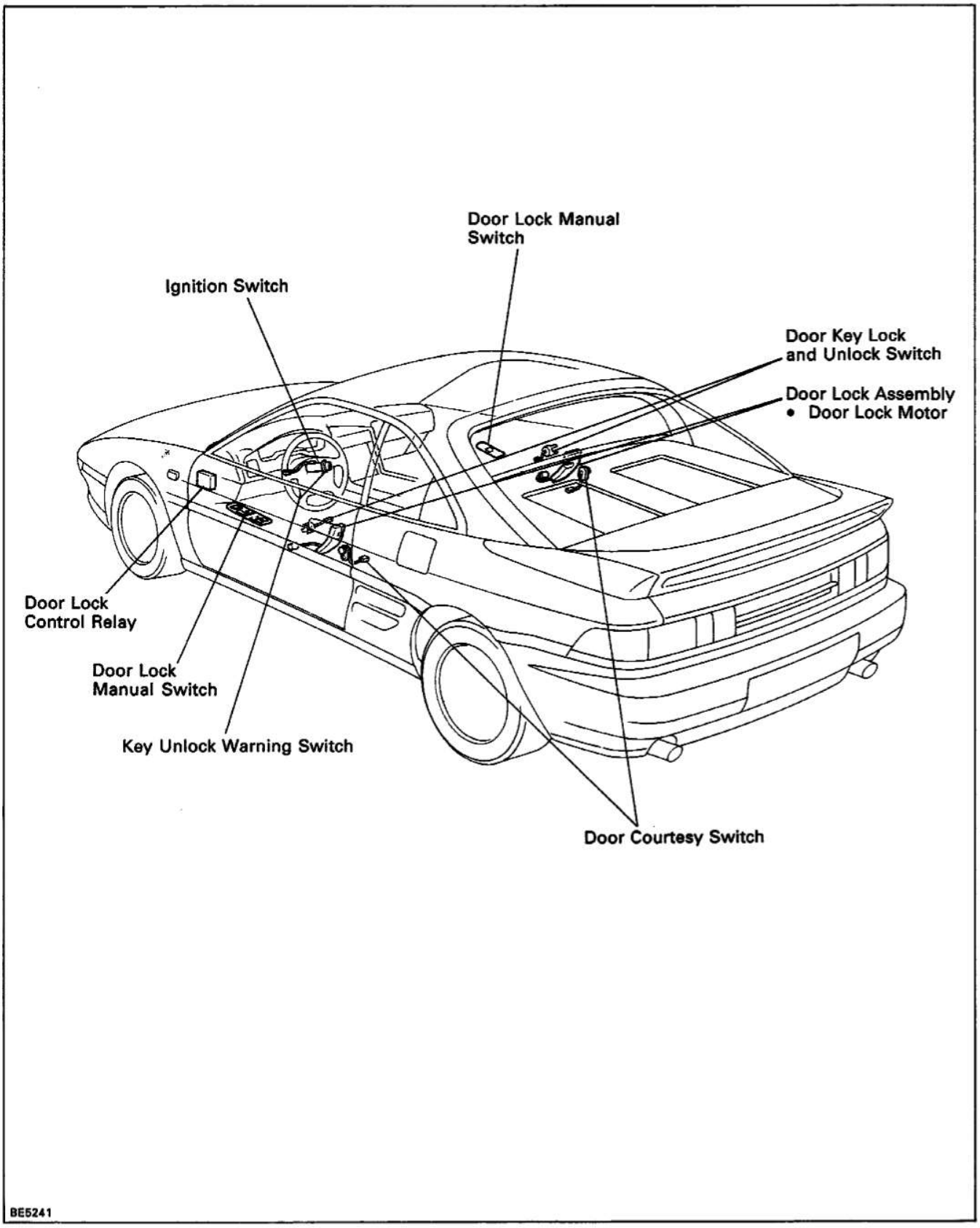
OUTSIDE HANDLE SWITCH CIRCUIT/OPERATION

Connect the positive (+) lead from battery to terminal 2. Connect the negative(–) lead to terminals 3 and6. Connect a 3.4 W test bulb between terminals 2 and 4. Disconnect the negative (–) lead from terminal 3, and check that the bulb fades out about 8.5 seconds later.

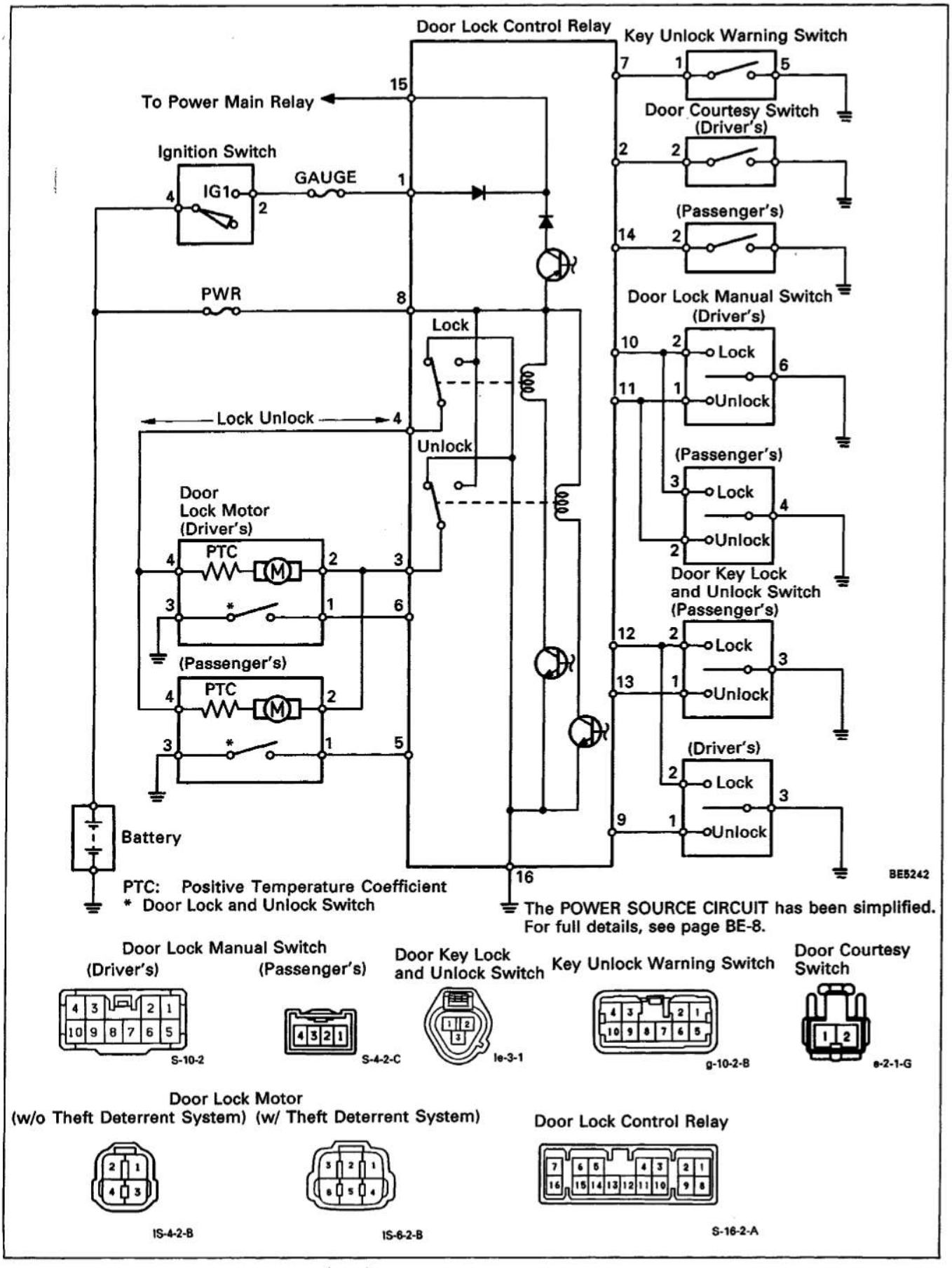
If operation is not as specified, replace the relay.

POWER DOOR LOCK CONTROL SYSTEM

PARTS LOCATION



WIRING AND CONNECTOR DIAGRAM



TROUBLESHOOTING

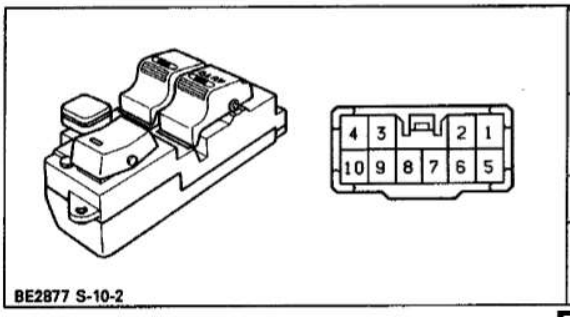
You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

See page / Part name / Trouble		BE–3 P/W Fuse (M–Fuse	BE–3 RADIO & CIG Fuse	BE–99 Door Lock Manual Switch	BE–99 Door Key Lock and Unlock Switch	BE–100 Door Lock Motor	BE–11 Key Unlock Warning Switch	BE–49 Door Courtesy Switch	BE–101 Door Lock and Unlock Switch	BE–102 Door Lock Control Relay (Relay Circuit)	BE–103 Door Lock Control Relay (Door Lock Signal)	– Wire Harness	– Other Parts
"Door lock control system" does not operate. (All)		4	3							2	1	5	6
Malfunction in Door Lock/Unlock	Using door manual switch			1						3		2	4
	Using door manual switch and key										2	1	3
	Using key				1					3		2	4
Fault in 2–Operation unlock function of Driver's side door key lock and Unlock switch.					1					3		2	4
Fault in key confine prevention operation.							1	2	3	5		4	6
Only one door lock does not operate.					1							2	

MASTER SWITCH

DRIVER'S DOOR LOCK MANUAL SWITCH INSPECTION

DRIVER'S DOOR LOCK MANUAL SWITCH: IN MASTER SWITCH/CONTINUITY

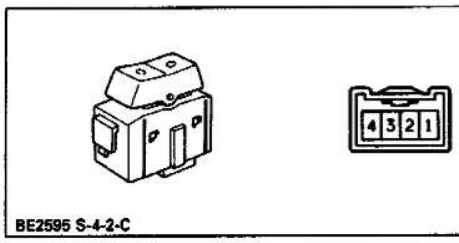


Terminal / Switch position	1	2	5	6
LOCK	○	○	○	○
OFF				
UNLOCK	○	○	○	○

PASSENGER'S DOOR LOCK MANUAL SWITCH

PASSENGER'S DOOR LOCK MANUAL SWITCH INSPECTION

CONTINUITY

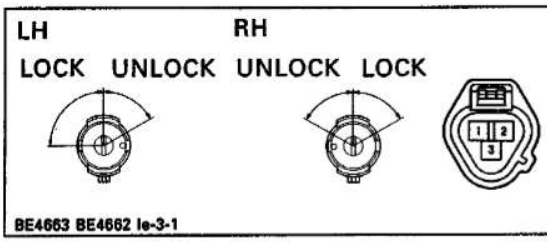


Terminal / Switch position–	2	3	4
LOCK		○	○
OFF			
UNLOCK	○		○

DOOR KEY LOCK AND UNLOCK SWITCH

DOOR KEY LOCK AND UNLOCK SWITCH INSPECTION

CONTINUITY



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

If continuity is not as specified, replace the switch.

KEY UNLOCK WARNING SWITCH

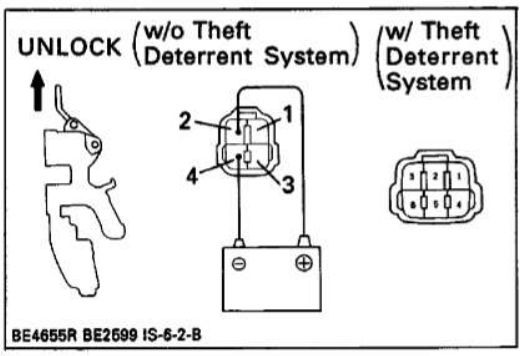
KEY UNLOCK WARNING SWITCH INSPECTION

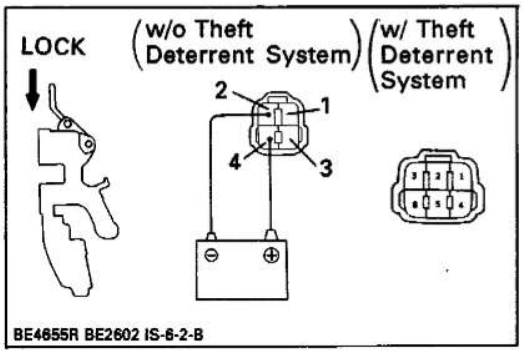
See Key Confine Prevention System on page BE–11.

DOOR COURTESY SWITCH

DOOR COURTESY SWITCH INSPECTION

See Interior Light System .on page BE–49.





DOOR LOCK MOTOR

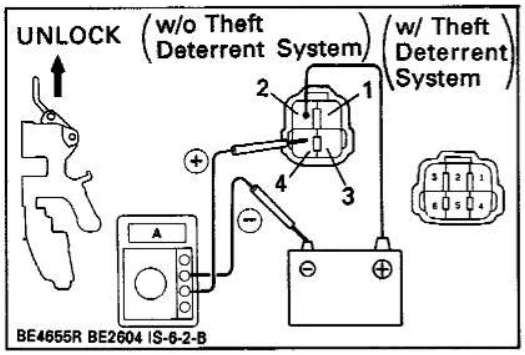
DOOR LOCK MOTOR INSPECTION

MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 2 (2) and the negative (–) lead to terminal 4 (5), check that the door lock link moves to UNLOCK position.

HINT: The number in brackets ( ) applies to vehicles w/ Theft Deterrent System.

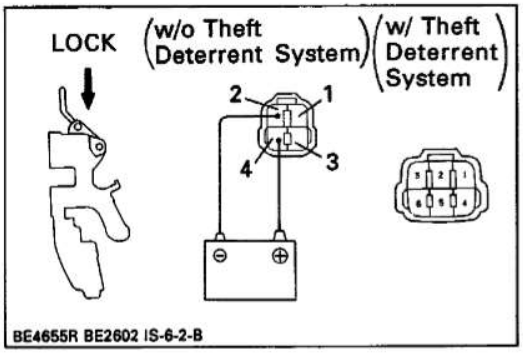
(b) Reverse the polarity, check that the door lock link moves to LOCK position.
If operation is not as specified, replace the door lock assembly.



PTC THERMISTER OPERATION
INSPECTION USING AN AMMETER

(a) Connect the positive (+) lead from the battery to terminal 2 (2).

(b) Connect the positive (+) lead from the ammeter to terminal 4 (5) and the negative H lead to battery negative (–) terminal, check that the current changes from approximately 3.2 ampere to less than 0.5 ampere within 10 to 60 seconds.

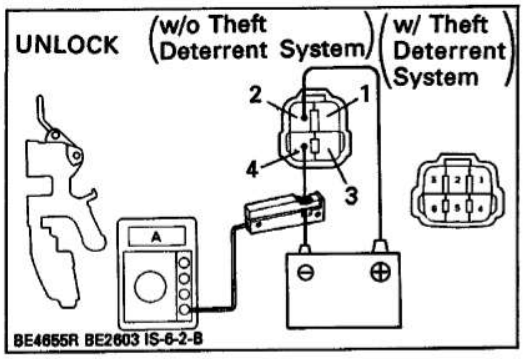


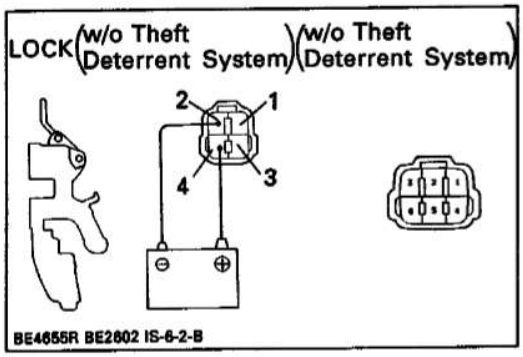
(c) Disconnect the leads from terminals.

(d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 4 (5) and the negative (–) lead to terminal 2 (2), check that the door lock moves to LOCK position.

HINT: The number in brackets ( ) applies to vehicles w/ Theft Deterrent System.

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 2

(2) and the negative H lead to terminal 4 (5).

(b) Attach a current–measuring probe to either the positive (+) lead or the negative (–) lead, check that the current changes from approximately 3.2 ampere to less than 0.5 ampere within 10 to 60 seconds.

HINT: The number in brackets¿) applies to vehicles w/ Theft Deterrent System.

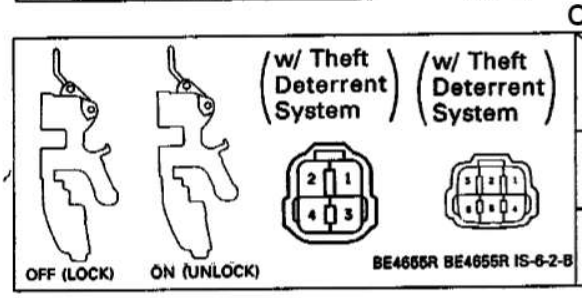
(c) Disconnect the leads from terminals.

(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.

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH INSPECTION

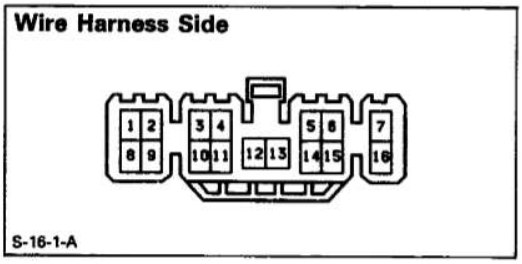
CONTINUITY



Terminal / Switch position	1 (1)	3 (4)
OFF (Door lock set to LOCK)		
ON (Door lock set to UNLOCK)	○—	—○

HINT: The number in brackets ( ) applies to vehicles w/ Theft Deterrent System.

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



DOOR LOCK CONTROL RELAY

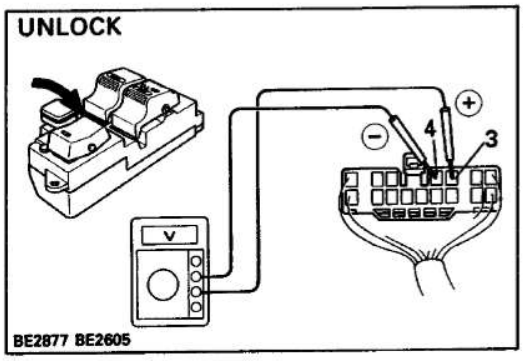
DOOR LOCK CONTROL RELAY INSPECTION

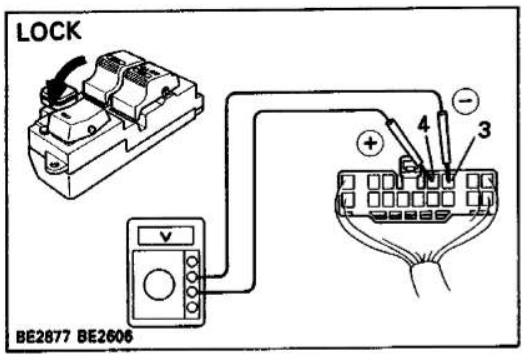
RELAY CIRCUIT

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	2 – Ground	Driver's door courtesy switch position	OFF (Door– closed)	No continuity
			ON (Door– opened)	Continuity
	5 – Ground	Passenger's door lock and unlock switch position	OFF (Door locked)	No continuity
			ON (Door unlocked)	Continuity
	6 – Ground	Driver's door lock and unlock 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	Driver's door key lock and unlock switch position	OFF or LOCK (Door– key free or turned to lock)	No continuity
			UNLOCK (Door key turned to unlock)	Continuity
	10 – Ground	Door lock manual switch position	OFF or UNLOCK	No continuity
			LOCK	Continuity
	11 –Ground	Door lock manual switch position	OFF or LOCK	No continuity
			UNLOCK	Continuity
	12 – Ground	Door key lock and Unlock switch position	OFF or UNLOCK (Door key free or turned to unlock)	No continuity
			LOCK (Door key turned to lock)	Continuity
	13 – Ground	Passenger's door key lock and unlock switch position	OFF or LOCK (Door key free or turned to lock)	No continuity
			UNLOCK (Door key turned to unlock)	Continuity
	14– Ground	Passenger's door courtesy switch position	OFF (Door closed)	No continuity
			ON (Door opened)	Continuity
	16 – Ground	Constant		Continuity
Voltage	1 – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	8 – Ground	Constant		Battery voltage
Resistance	15 – Ground	Constant		Approx. 600

If circuit is as specified, inspect the door lock signal.





DOOR LOCK SIGNAL

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

(a) Connect the connector to the relay.
(by Connect the positive (+) lead from the voltmeter to terminal 3 and the negative (–) lead to terminal 4.

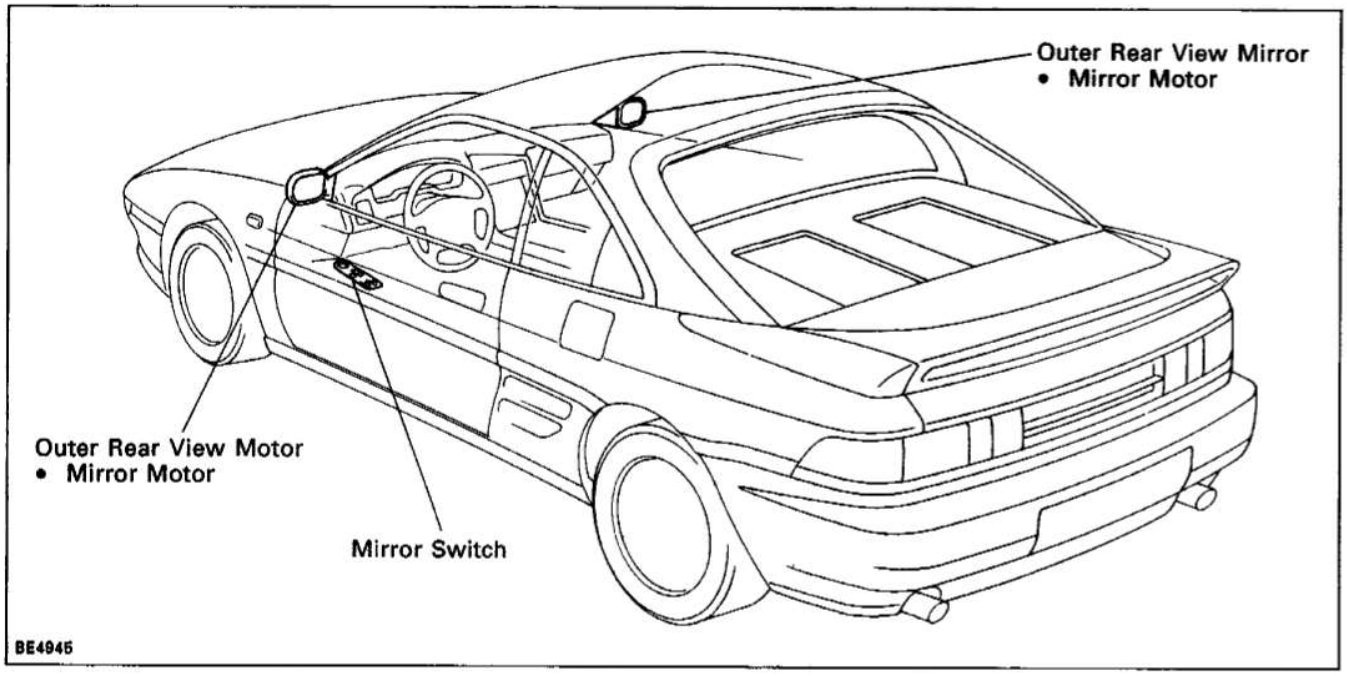
(c) Set the door lock manual switch to UNLOCK, check that the voltage rises from 0 volts to battery voltage for approximately 0.2 seconds.

(d) Reverse the polarity of the voltmeter leads.

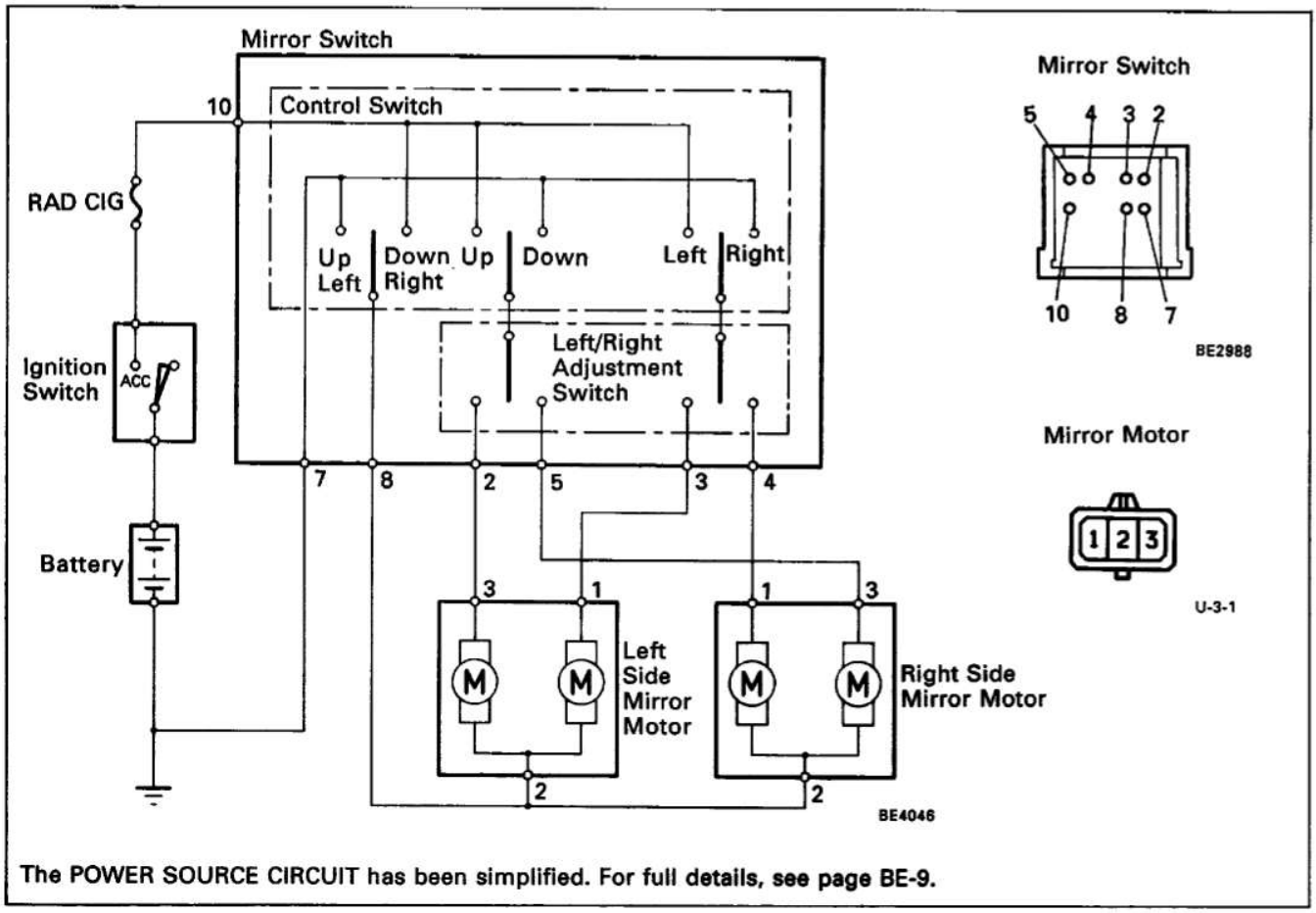
(e) Set the door lock manual switch to LOCK, check that the voltage rises from 0 volts to battery voltage for approximately 0.2 seconds.
If operation is not as specified, replace the relay.

POWER MIRROR CONTROL SYSTEM

PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

TROUBLESHOOTING

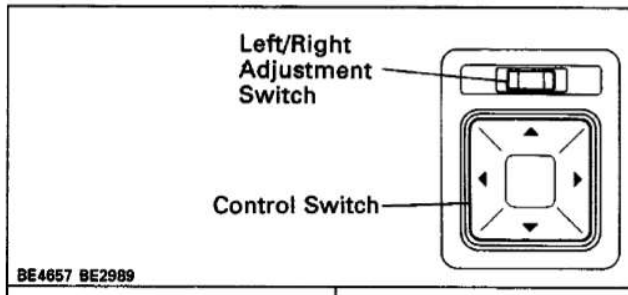
You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these parts.

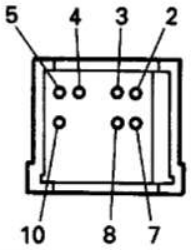
See page / Part name / Trouble	BE–3	BE–106	BE–106	BE–106	
	Fuse RADIO	Mirror Switch	Mirror Motor (Up/Down Control)	Mirror Motor (Left or Right Control	Wiring and Ground
Power mirror on each side does not operate at all.	1	2	3	3	3
Left or right power mirror does not operate at all.		1	2	2	3
Up/Down control of left or right power mirror does not operate.			1		2
Left or Right control of left or right power mirror does not operate.				1	2

MIRROR SWITCH

MIRROR SWITCH INSPECTION

CONTINUITY





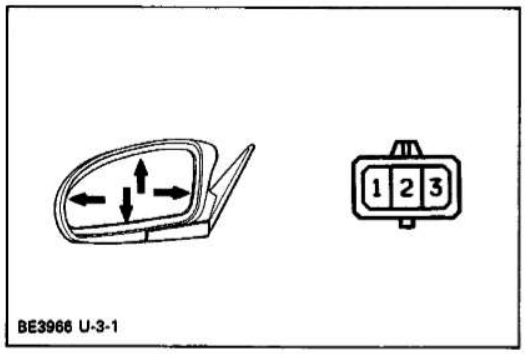
Left/Right adjustment switch position	LEFT SIDE					OFF			RIGHT SIDE				
Terminal / Control switch position	2	3	7	8	10	7	8	10	4	5	7	8	10
OFF													
UP	○		○	○	○	○	○			○	○	○	○
DOWN	○		○	○	○		○	○		○	○	○	○
LEFT		○	○	○	○	○	○		○		○	○	○
RIGHT		○	○	○	○		○	○	○	○		○	○

If continuity is not as specified, replace the switch.

MIRROR MOTOR

MIRROR MOTOR INSPECTION

INSPECT MIRROR MOTOR



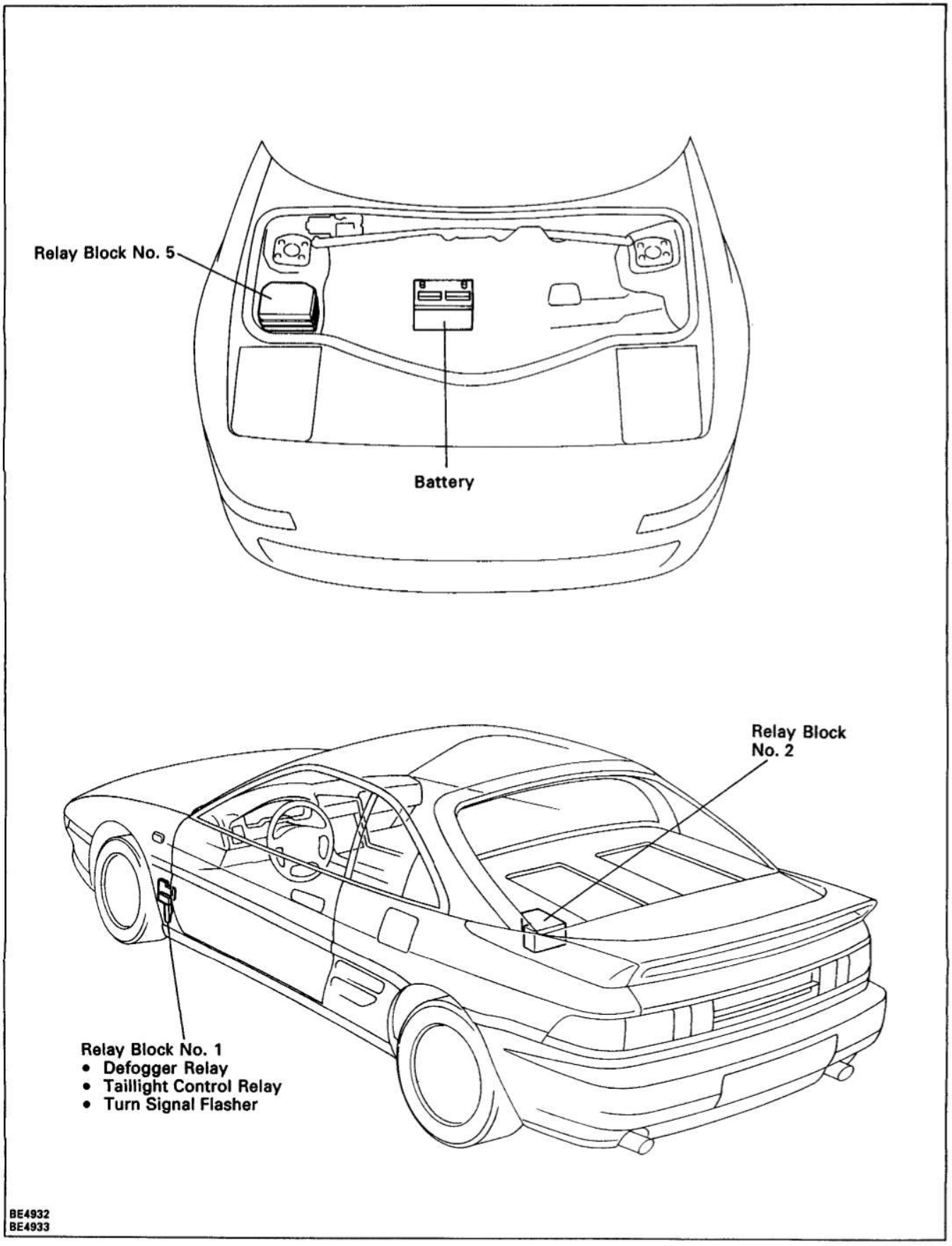
Connect the positive (+) lead from the battery to terminal is column "A" and the negative (–) lead to terminal in column "B", check that the mirror operates in column "C."

A (+)	B (–)	C (Operation)
3	2	Mirror turns upward
2	3	Mirror turns downward
1	2	Mirror turns to left side
2	1	Mirror turns to right side

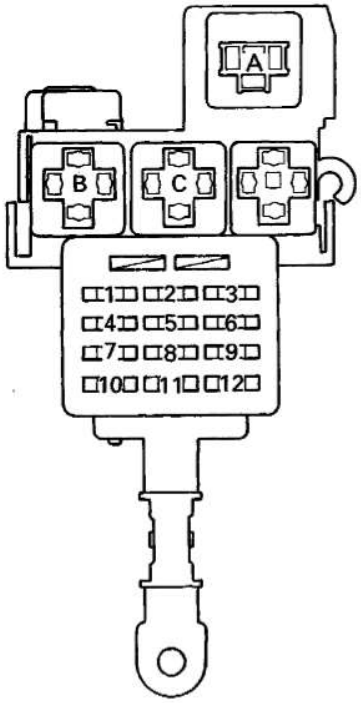
If operation is not as specified, replace the mirror assembly.

POWER SOURCE

PARTS LOCATION



RELAY BLOCK NO. 1

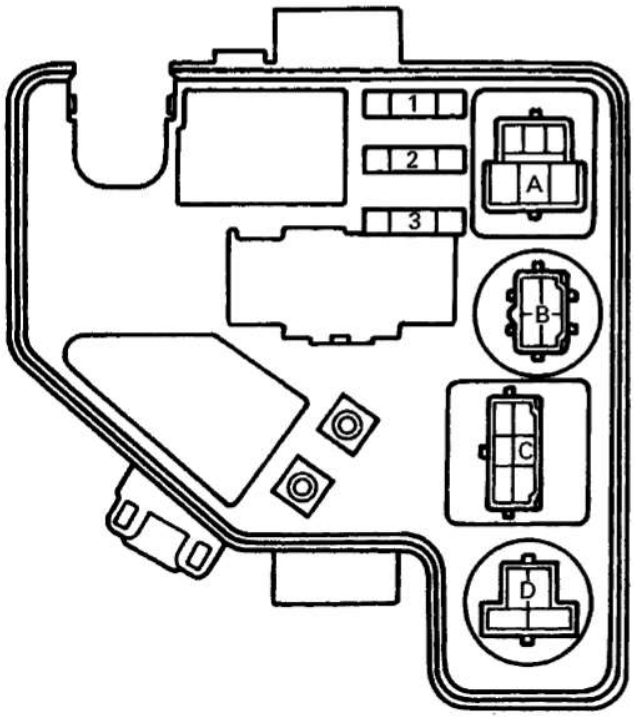


	Fuse	
1.	RAD CIG	15 A
2.	GAUGE	7.5 A
3.	STOP	15 A
4.	PWR	30 A
5.	TURN	7.5 A
6.	DEFOG	20 A
7.	DOOR	20 A
8.	WIPER	20 A
9.	TAIL	15 A
10.	PANEL	7.5 A
11.	–	–
12.	–	

Relays

A. TURN SIGNAL FLASHER
B. DEFOGGER
C. TAIL (Taillight Control)

RELAY BLOCK NO. 2



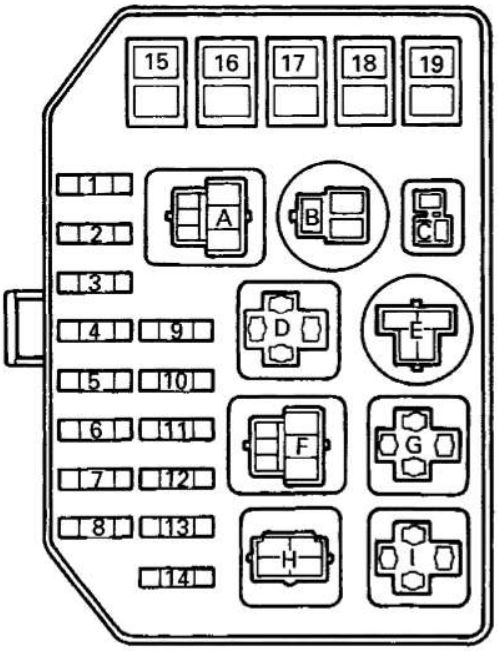
	Fuse	
1.	EFI	15 A
2.	VENT	20 A
3.	ECU-IG	7.5 A

Relays

A. IGN
B. EFI
C. C/OPN
D. VENT

BE4935
BE4934

RELAY BLOCK NO. 5



Fuses and High Current Fuses

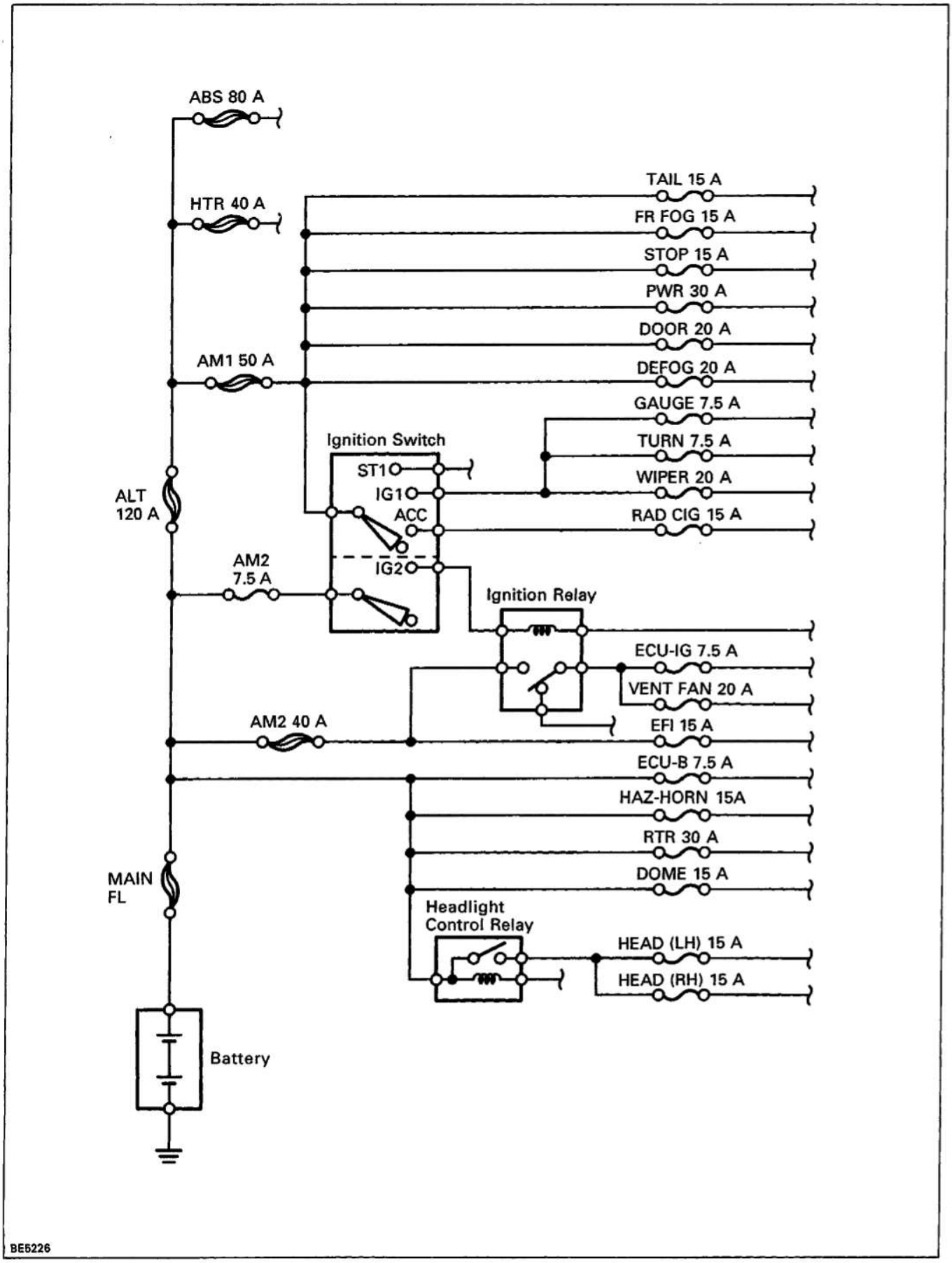
1.	ALT SENCING	7.5 A	
2.	CDS FAN	30 A	
3.	RAD FAN	30 A	
4.	FR FOG	15 A	
5.	–		
6.	–		
7.	HEAD (LH)	15 A	
8.	HEAD (RH)	15 A	
9.	A.C.	10 A	
10.	ECU-B	7.5 A	
11.	AM2	7.5 A	
12.	HAZ-HORN	15 A	
13.	RTR	30 A	
14.	DOME	15 A	
15.	AM1	50 A	H-Fuse
16.	HTR	40 A	H-Fuse
17.	A.B.S.	80 A	H-Fuse
18.	ALT	120A	H-Fuse
19.	AM2	40 A	H-Fuse

Relays

A. HTR
B. H-LP (Headlight Control)
C. HORN
D. FAN NO. 2
E. FAN NO. 1
F. FAN MAIN
G. FAN NO. 3
H. –
I. FR FOG

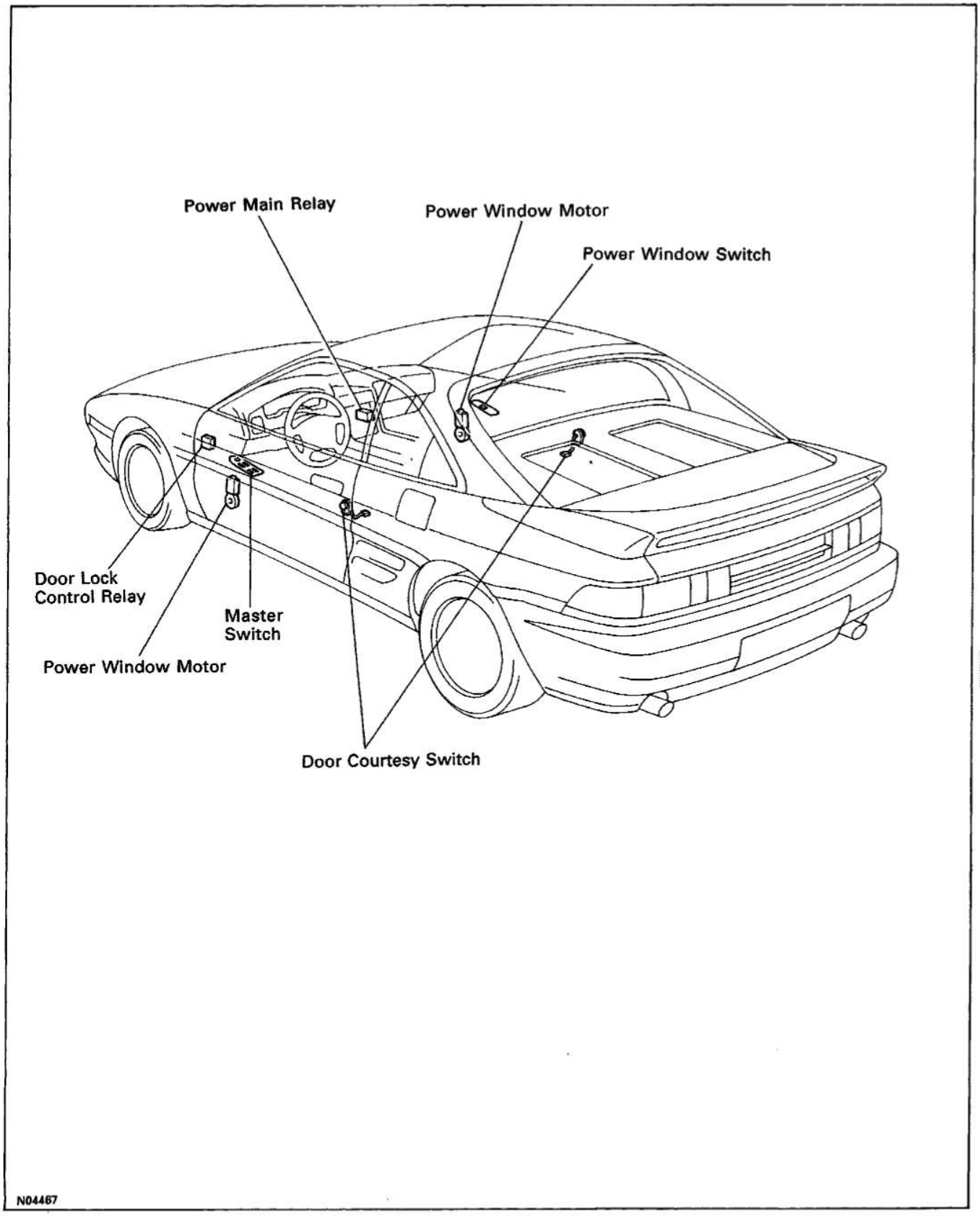
BE4937

WIRING DIAGRAM

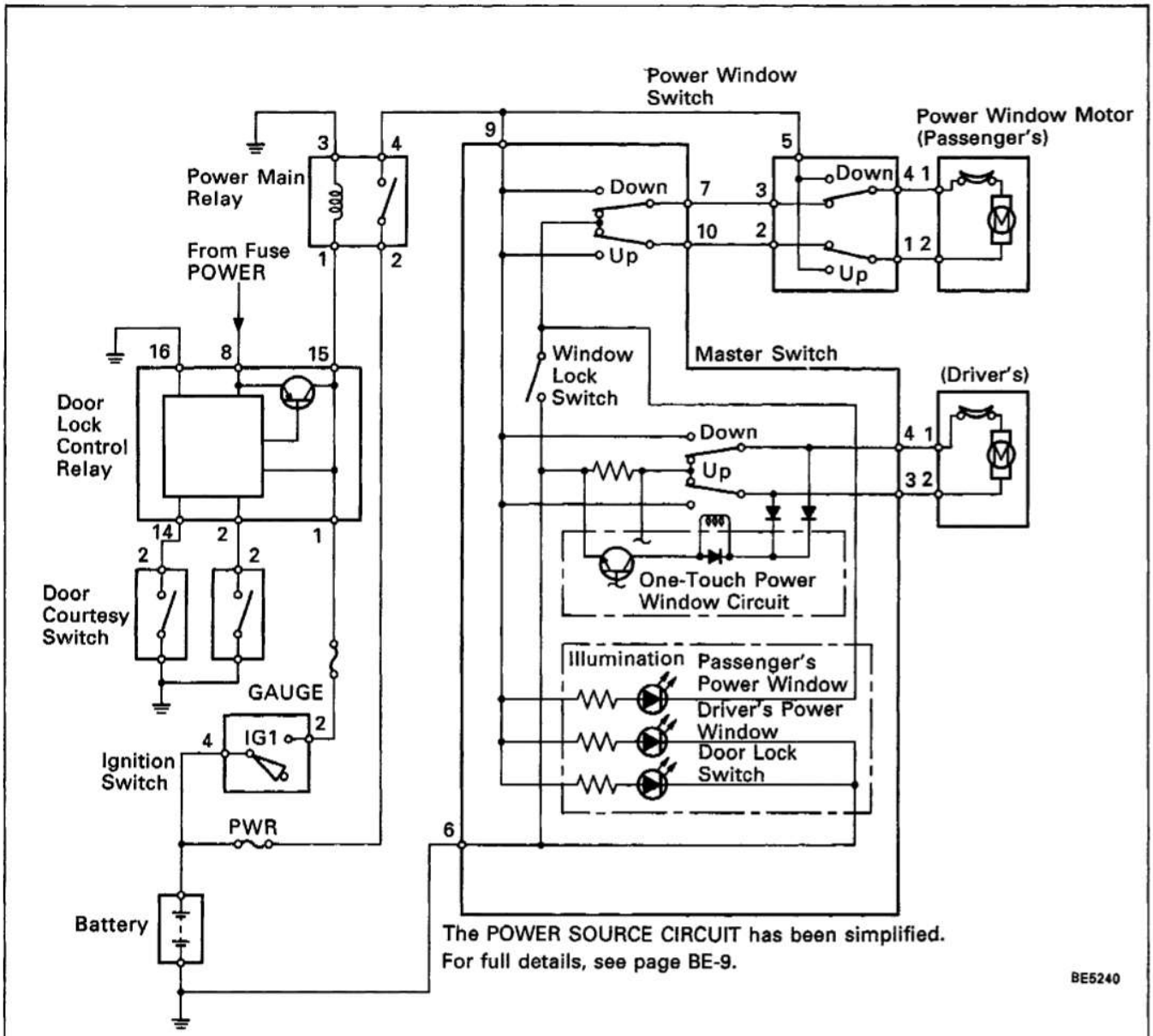


POWER WINDOW CONTROL SYSTEM

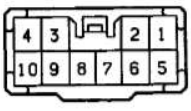
PARTS LOCATION



WIRING AND CONNECTOR DIAGRAMS

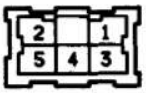


Master Switch



S-10-2

Power Window Switch



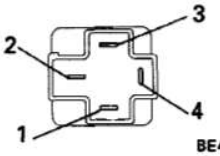
G-5-2-A

Power Window Motor



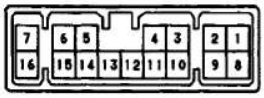
rl-2-2

Power Main Relay



BE4049

Door Lock Control Relay



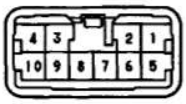
S-16-2-A

Door Courtesy Switch



e-2-1-G

Ignition Switch



g-10-2-B

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.

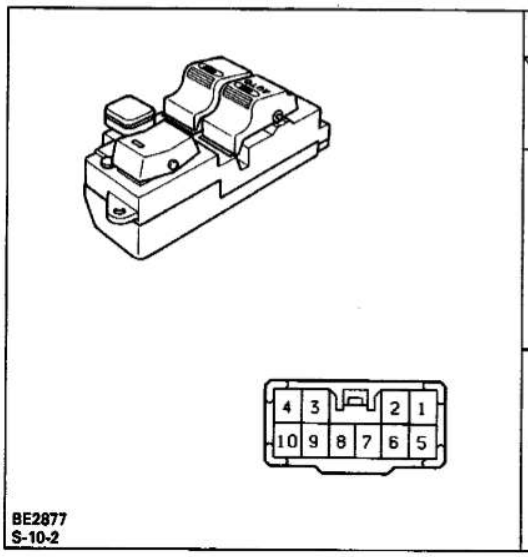
See page / Part name / Trouble	BE–3 POWER Fuse (M–Fuse)	BE–3 GAUGE Fuse	BE–95 Power Main Relay	BE–92 Power Window Master Switch	BE–94 Power Window Switch	BE–94 Power Window Motor	– Wire Harness	BE–95 Door Lock Control Relay	BE–11 Ignition Switch
Power Window does not operate. *1	1	2	3	6			7	5	4
Power Window does not operate." *2	1	2	5	6			7	4	3
"One Touch Power Window System" does not operate.				1					
Only one window glass does not move.				1	2	3	4		
"Window Lock System" does not operate.				1					
"Window Lock Illumination" does not light up.				1					

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

POWER WINDOW MASTER SWITCH

POWER WINDOW MASTER SWITCH INSPECTION

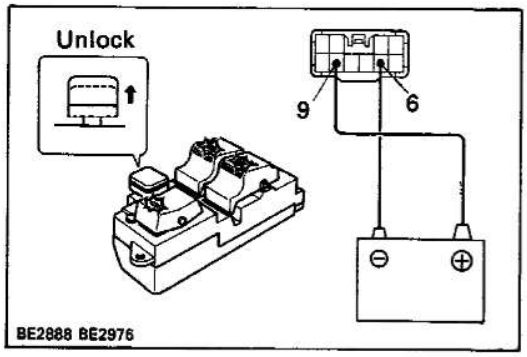
CONTINUITY



Window operation		Driver's				Passenger's			
Terminal / Switch position		3	4	6	9	6	7	9	10
Window unlock	UP	○	○	○	○	○	○	○	○
	OFF	○	○	○		○	○		○
	DOWN	○		○	○		○	○	
Window lock	UP	○	○	○	○			○	○
	OFF	○	○	○			○		○
	DOWN	○		○	○		○	○	

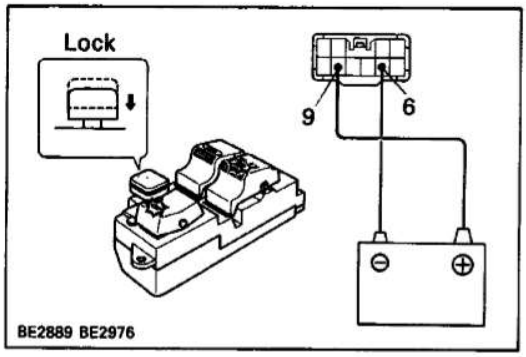
If continuity is not as specified, replace the switch.

ILLUMINATION



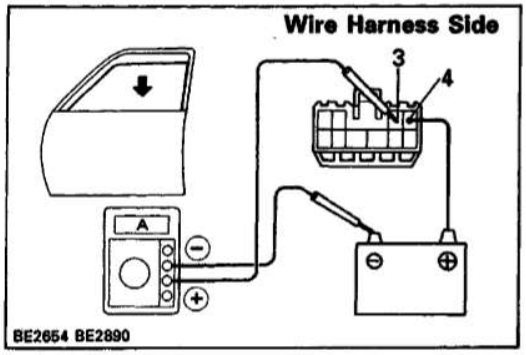
(a) Set the window lock switch to the unlock position.

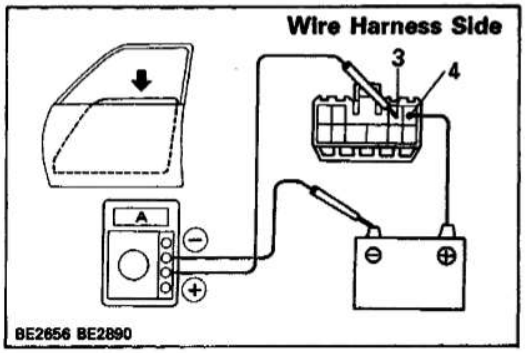
(b) Connect the positive (+) lead from the battery to terminal 9 and the negative (–) lead to terminal 6, check that all the illuminations light up.



(c) Set the window lock switch to the lock position, check that the passenger's power window switch illumination goes out.

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





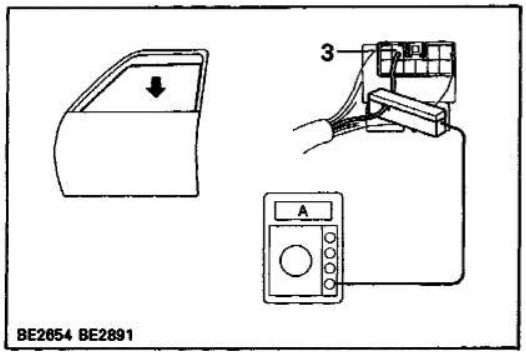
ONE TOUCH POWER WINDOW SYSTEM/CURRENT OF CIRCUIT

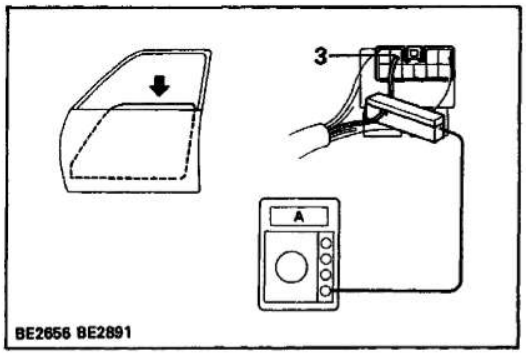
INSPECTION USING AN AMMETER:

(a) Disconnect the connector from the master switch.
(b) Connect the positive (+) lead from the ammeter to terminal 3 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 4 on the wire harness side connector.
(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 MEASUREMENT PROBE:

(a) Remove the master switch with connector connected.
(b) Attach a current–measuring probe to terminal 3 of the wire harness.
(e) Turn the ignition switch ON and set the power window 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.

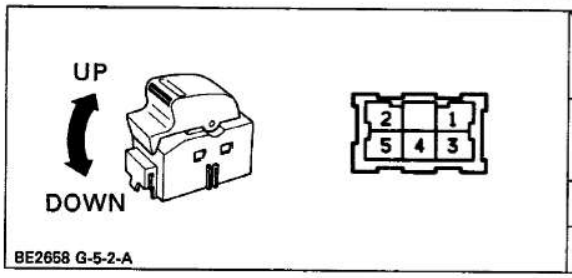
HINT: The circuit breaker opens some 4 – 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.

If operation is as specified, replace the master switch.

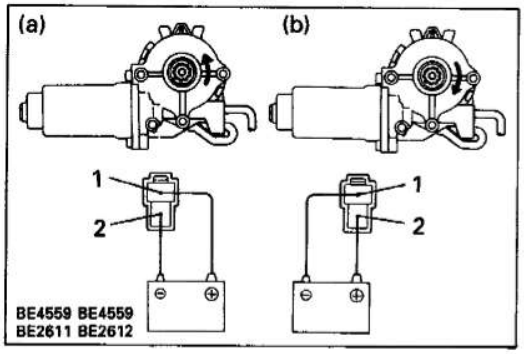
POWER WINDOW SWITCH

POWER WINDOW SWITCH INSPECTION

CONTINUITY



Terminal / Condition	1	2	3	4	5
UP	○		○	○	○
OFF	○	○	○	○	
DOWN	○	○		○	○



If continuity is not as specified, replace the switch.

POWER WINDOW MOTOR

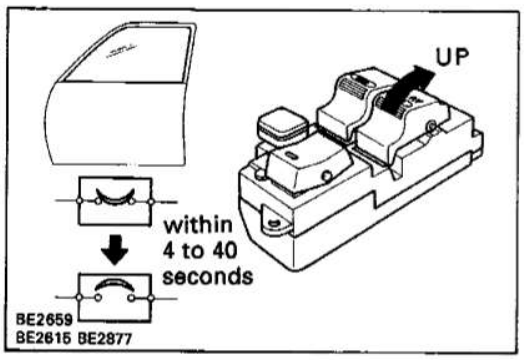
POWER WINDOW MOTOR INSPECTION

LEFT SIDE DOOR MOTOR/MOTOR OPERATION

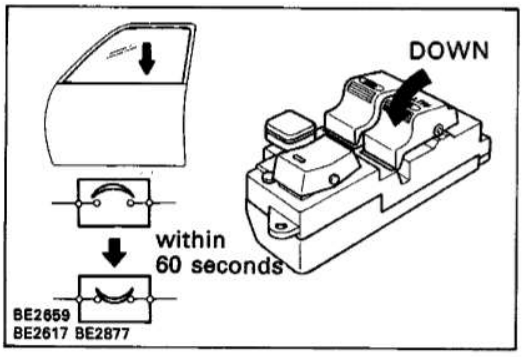
(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2, check that the motor turns counterc ckwise.
(b) Reverse the polarity, check that the motor turns clockwise.
If operation is not as specified, replace the motor.

LEFT SIDE DOOR MOTOR/CIRCUIT BREAKER OPERATION

(a) With the window in the full closed position, hold the power window switch in "UP" position and check that there is a circuit breaker operation noise within 4 to 40 seconds.

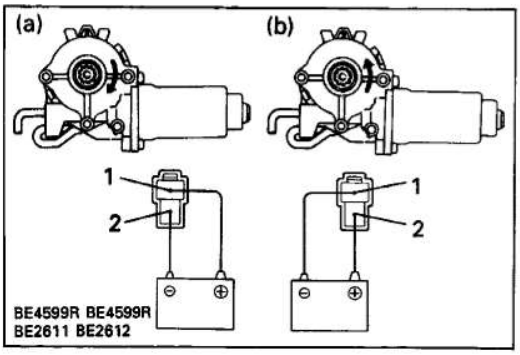


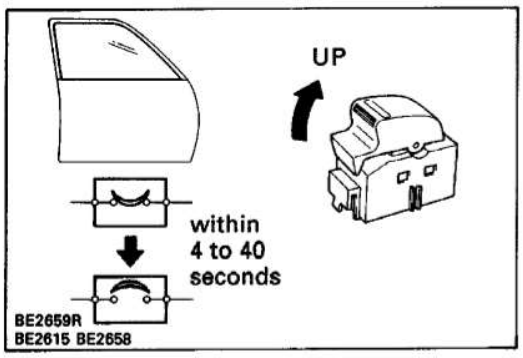
(b) With the window in the full closed position, hold the switch in "DOWN" and check that the window begins to descend with in 60 seconds.
If operation is not as specified, replace the motor.



RIGHT SIDE DOOR MOTOR/MOTOR OPERATION

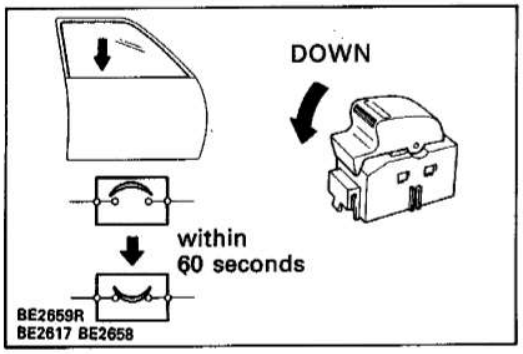
(a) Connect the positive W lead from the battery to terminal 1 and the negative H lead to terminal 2, check that the motor turns clockwise.
(b) Reverse the polarity, check that the motor turns counterclockwise.
If operation is not as specified, replace the motor.





RIGHT SIDE DOOR MOTOR/CIRCUIT BREAKER OPERATION

(a) With the window in the full closed position, hold the power window switch in "UP" position and check that there is a circuit breaker operation noise within 4 to 40 seconds.



(b) With the window in the full closed position, hold the switch in "DOWN" and check that the window begins to descend within 60 seconds.
If operation is not as specified, replace the motor.

DOOR LOCK CONTROL RELAY

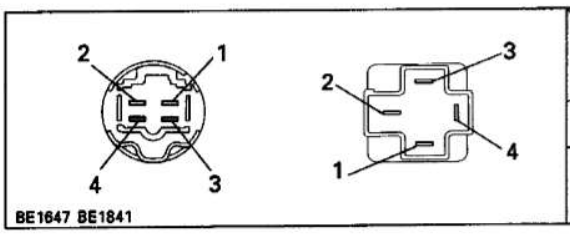
DOOR LOCK CONTROL RELAY INSPECTION

See Door Lock Control System on page BE–102.

POWER MAIN RELAY

POWER MAIN RELAY INSPECTION

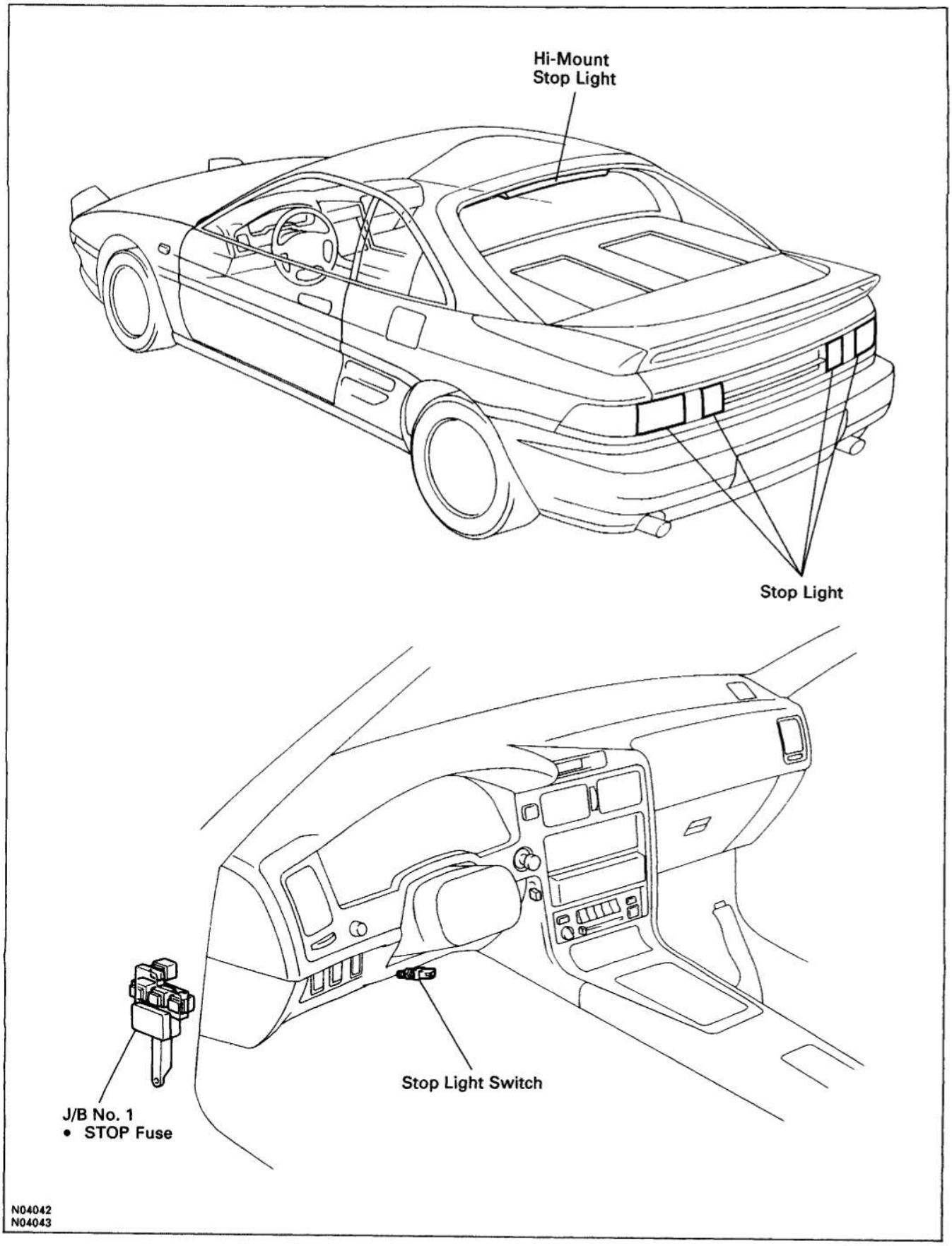
CONTINUITY



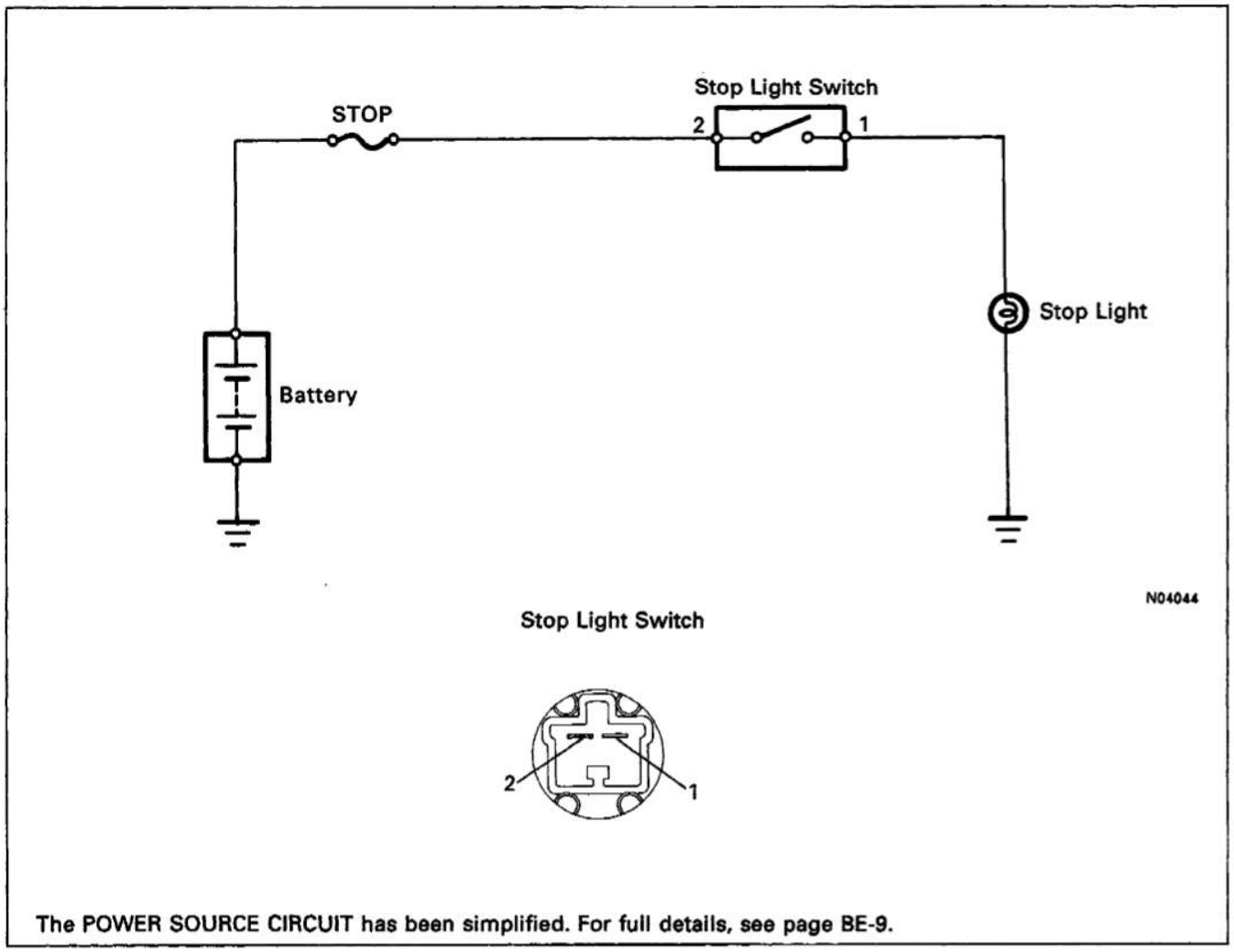
Terminal / Condition	1	2	3	4
Constant	○	∿	○	
Apply battery voltage to terminals 1 and 3.		○		○

If continuity is not as specified, replace the relay.

STOP LIGHT SYSTEM
PARTS LOCATION



WIRING AND CONNECTOR DIAGRAM



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

TROUBLESHOOTING

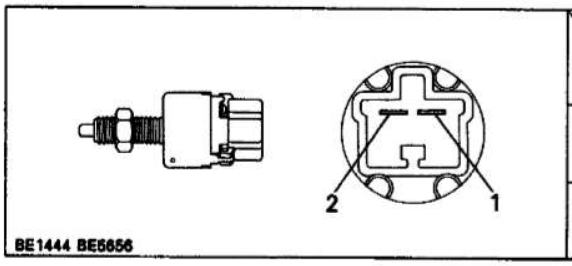
You will find the troubles easier using the table well shown below. In this table, each number shows the priority of causes in troubles. Check each part in order. If necessary, replace these pans.

See page / Part name / Trouble	BE–3	BE–54	I	I
	STOP Fuse	Stop Light Switch	Bulb	Wire Harness
Stop light does not light up.	1	2	4	3
Stop light remains always on.		1		2
Only one light does not fight up.			2	1

STOP LIGHT SWITCH

STOP LIGHT SWITCH INSPECTION

CONTINUITY

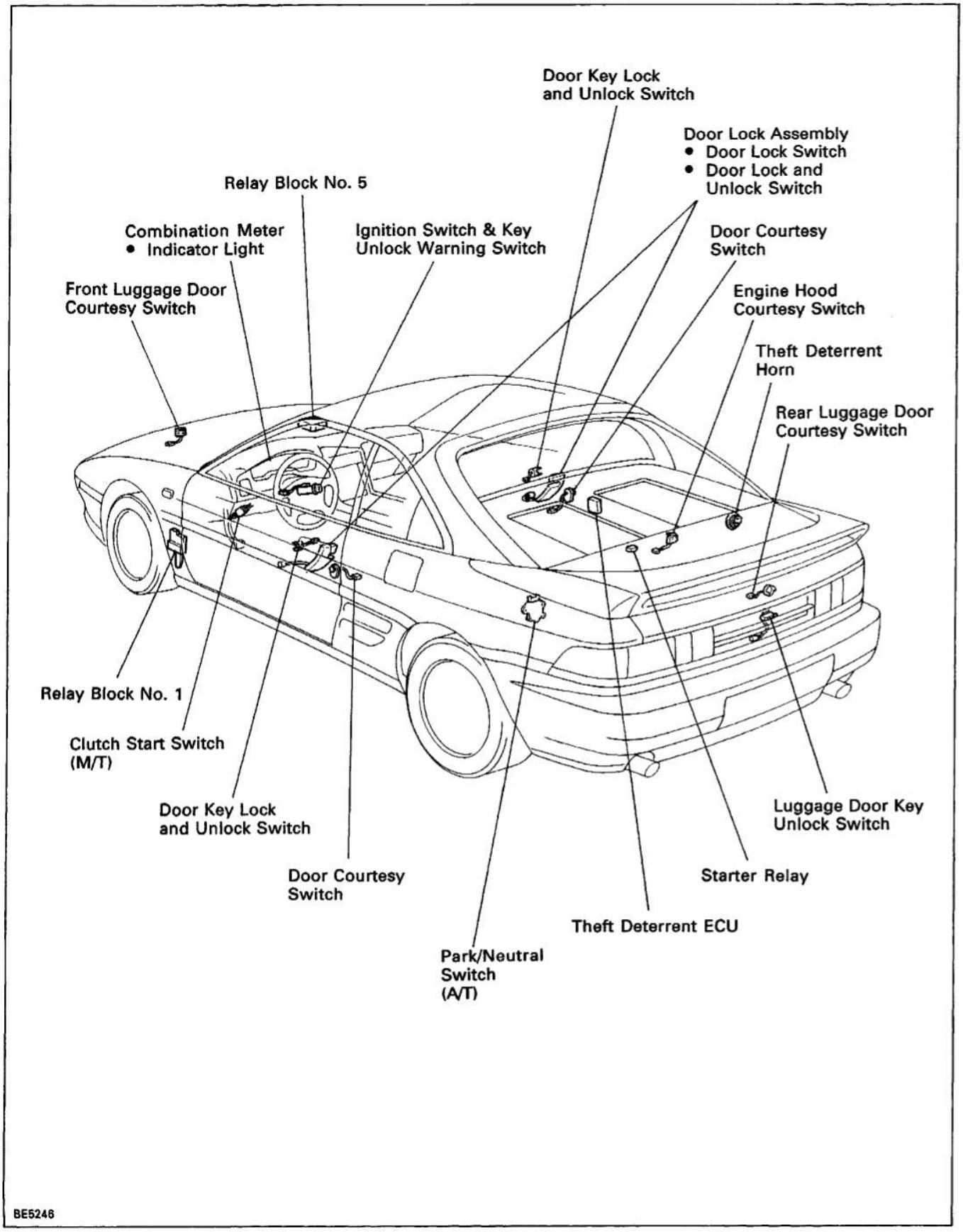


Terminal / Switch position	1	2
Switch pin free (Brake pedal depressed)	○	○
Switch pin pushed in (Brake pedal released)		

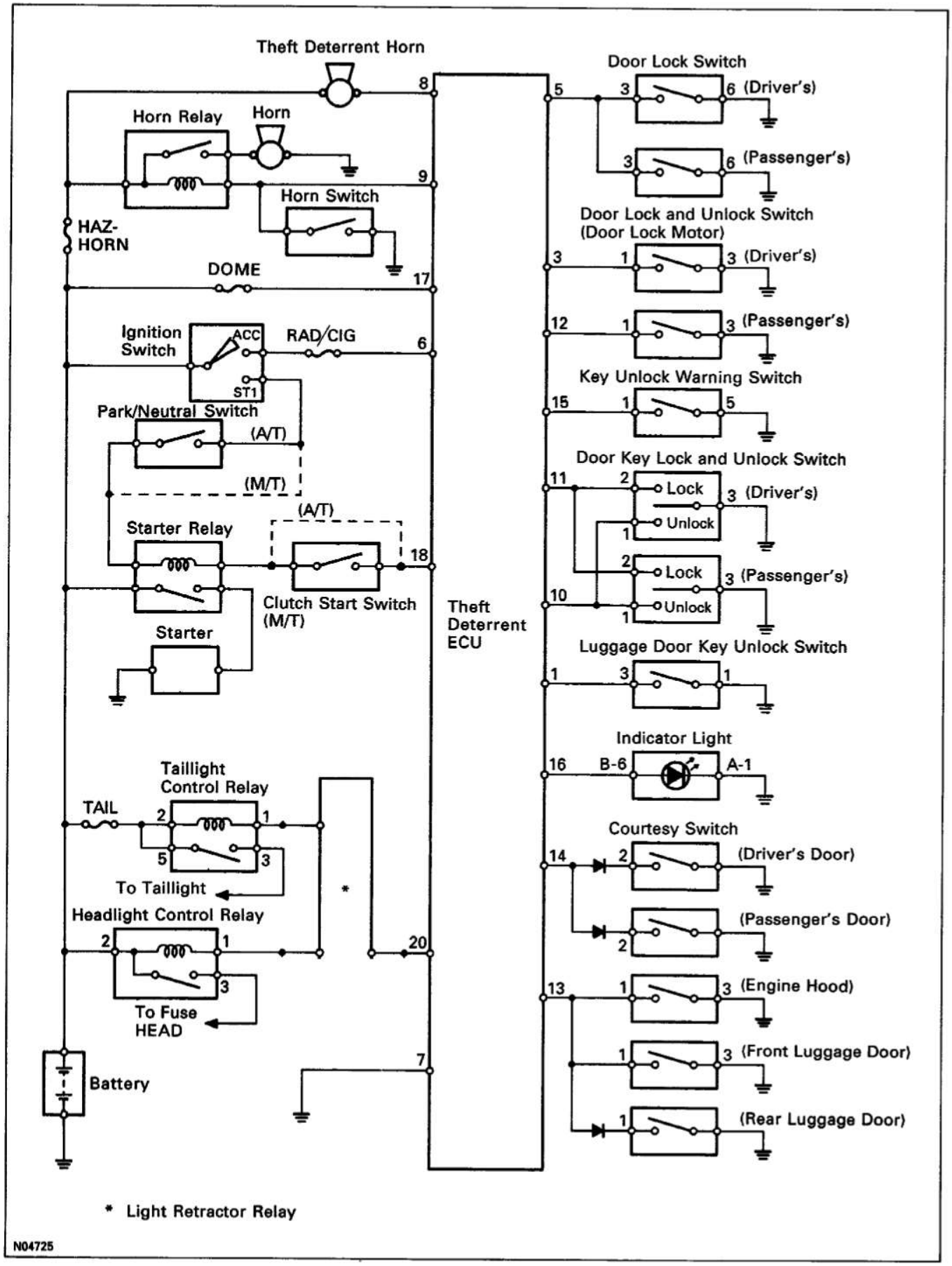
If continuity is not as specified, replace the switch.

THEFT DETERRENT SYSTEM

PARTS LOCATION

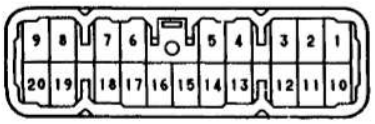


WIRING DIAGRAM



CONNECTOR DIAGRAMS

Theft Deterrent ECU



e-20-2-C

Door Key Lock and Unlock Switch



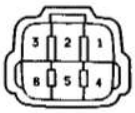
Ie-3-1

Luggage Door Key Unlock Switch



GA-3-1

Door Lock Assembly



IS-6-2-B

Theft Deterrent Horn



IA-2-2

Courtesy Switch

(Engine Hood)



IU-3-2

(Front Luggage Door)



IU-3-2

(Rear Luggage Door)



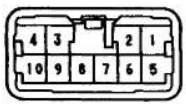
e-1-1

(Door)



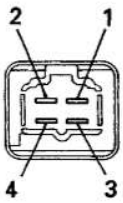
e-2-1-G

Ignition Switch
• Key Unlock Warning Switch



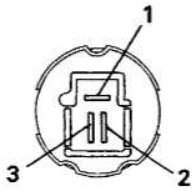
g-10-2-B

Starter Relay



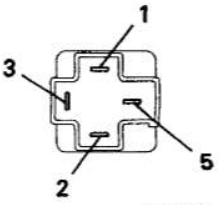
ST0280

Headlight Control Relay



BE2763

Taillight Control Relay



BE4049

TROUBLESHOOTING

- Check that the operation of Power Door Lock Control System is normal.
- When the system is not operating, lower the door glass and confirm under what conditions it does not operate, or malfunctions.

Problem	Inspection Item	Section
Theft deterrent system can not be set.	Power source circuit	A
Indicator light does not light even if theft deterrent system operated.	Indicator light circuit	B
Theft deterrent system does not operate when driver's and passenger's doors opened.	Door lock and unlock switch circuit Door lock switch circuit Door courtesy switch circuit	C D E
Theft deterrent system does not operate when front and rear luggage doors opened.	Luggage door courtesy switch circuit	E
Theft deterrent system does not operate when engine hood opened.	Engine hood courtesy switch circuit	E
Theft deterrent system does not cancel when driver's and passenger's doors unlocked with key.	Door key lock and unlock switch circuit	F
Theft deterrent system does not cancel when rear luggage door unlocked with key.	Luggage door key unlock switch circuit	G
Theft deterrent system does not cancel when ignition switch turned to ON or ACC position.	Ignition switch circuit Key unlock warning switch circuit	H I
Starter cut system does not operate even if theft deterrent system operated.	Starter cut system circuit	J
Starter cut system does not cancel even if theft deterrent system canceled.	Starter cut system circuit	J
Horn does not blow even if theft deterrent system operated.	Theft deterrent horn circuit Standard equipment horns circuit	K
Theft deterrent horn blows even if system is not set.	Theft deterrent horn circuit	K
Headlights do not flash even if theft deterrent system operated.	Light retractor relay circuit	L
Taillights do not flash even if theft deterrent system operated.	Light retractor relay circuit	L
Headlights flash even if system is not set.	Light retractor relay circuit	L
Taillights flash even if system is not set.	Light retractor relay circuit	L

A POWER SOURCE CIRCUIT

Turn ignition switch off.

Is DOME fuse normal?
- No → Replace fuse. Is operation normal?
  - No → Short circuit in wire harness between fuse and terminal 17 of TD ECU.
  - Yes → Fuse faulty.
- Yes

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT POWER SOURCE
Is there battery voltage between terminal 17 and ground.
- No → Open circuit in wire harness between fuse and terminal 17 of TD ECU.
- Yes

INSPECT GROUND CONNECTION
Is there continuity between terminal 7 and ground.
- No →
  - Open circuit in wire harness between terminal 7 of TD ECU and ground.
  - Ground faulty.
- Yes

INSPECT FOLLOWING SECTIONS:

Door Lock and Unlock Switch Circuit .: .	Section C
Door Lock Switch Circuit	Section D
Courtesy Switch Circuit	Section E
Door Key Lock and Unlock Switch Circuit	Section F
Luggage Door Key Unlock Switch Circuit	Section G
Ignition Switch Circuit	Section H
Key Unlock Warning Switch	Section I

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

B INDICATOR LIGHT CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT INDICATOR LIGHT CIRCUIT
Connect the negative lead from the ohmmeter to terminal 16 and positive lead to ground.
* Is there continuity between terminal 16 and ground?

No → Open circuit in indicator light circuit.

Yes

Replace TD ECU. Then recheck system.

*: This circuit includes the LED. If the circuit shows no continuity, change the positive and negative probes and recheck the circuit.

TD: Theft Deterrent

C DOOR LOCK AND UNLOCK SWITCH CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT DRIVER'S DOOR LOCK AND UNLOCK SWITCH CIRCUIT
Is there continuity between terminal 3 and ground with driver's door unlocked?

No → Open circuit in driver's door lock and unlock switch circuit.

Yes

INSPECT PASSENGER'S DOOR LOCK AND UNLOCK SWITCH CIRCUIT
Is there continuity between terminal 12 and ground with passenger's door unlocked?

No → Open circuit in passenger's door lock and unlock switch circuit.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

D DOOR LOCK SWITCH CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT DRIVER'S DOOR LOCK SWITCH CIRCUIT
Is there continuity between terminal 5 and ground with driver's door opened?

No → Open circuit in driver's door lock switch circuit.

Yes

INSPECT PASSENGER'S DOOR LOCK SWITCH CIRCUIT
Is there continuity between terminal 5 and ground with passenger's door opened?

No → Open circuit in passenger's door lock switch circuit.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

E COURTESY SWITCH CIRCUIT

Turn ignition switch off.

*: This circuit includes the diode. If the circuit shows no continuity, change the positive and negative probes and recheck the circuit.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

Driver's and Passenger's Door

INSPECT DRIVER'S DOOR COURTESY SWITCH CIRCUIT
Close passenger's door.
* Is there continuity between terminal 14 and ground with driver's door opened?

No → Open circuit in driver's door courtesy switch circuit.

Yes

INSPECT PASSENGER'S DOOR COURTESY SWITCH CIRCUIT
Close driver's door.
* Is there continuity between terminal 14 and ground with passenger's door opened?

No → Open circuit in passenger's door courtesy switch circuit.

Yes

Engine Hood

INSPECT ENGINE HOOD COURTESY SWITCH CIRCUIT
Close front and rear luggage doors.
Is there continuity between terminal 13 and ground with engine hood opened

No → Open circuit in engine hood courtesy switch circuit.

Yes

Luggage Door

INSPECT FRONT LUGGAGE DOOR COURTESY SWITCH CIRCUIT
Close engine hood and rear luggage door.
Is there continuity between terminal 13 and ground with front luggage door opened?

No → open circuit in front luggage door courtesy switch circuit.

Yes

INSPECT REAR LUGGAGE DOOR COURTESY SWITCH CIRCUIT
Close engine hood and front luggage door.
* Is there continuity between terminal 13 and ground with rear luggage door opened?

No → Open circuit in rear luggage door courtesy switch circu it.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

F DOOR KEY LOCK AND UNLOCK SWITCH CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

DRIVER'S DOOR

INSPECT KEY LOCK SWITCH CIRCUIT
Is there continuity between terminal 11 and ground with driver's door locked with key?
No → Open circuit in driver's door key lock switch circuit.

Yes

Is there continuity between terminal 11 and ground with driver's door unlocked with key?
Yes → Short circuit in driver's door key lock switch circuit.

No

INSPECT KEY UNLOCK SWITCH CIRCUIT
Is there continuity between terminal 10 and ground with driver's door unlocked with key?
No → Open circuit in driver's door key unlock switch circuit.

Yes

Is there continuity between terminal 10 and ground with driver's door locked with key?
Yes → Short circuit in driver's door key unlock switch circuit.

No

PASSENGER'S DOOR

INSPECT KEY LOCK SWITCH CIRCUIT
Is there continuity between terminal 11 and ground with passenger's door locked with key?
No → Open circuit in passenger's door key lock switch circuit.

Yes

Is there continuity between terminal 11 and ground with passenger's door unlocked with key?
Yes → Short circuit in passenger's door key lock switch circuit.

No

INSPECT KEY UNLOCK SWITCH CIRCUIT
Is there continuity between terminal 10 and ground with passenger's door unlocked with key?
No → Open circuit in passenger's door key unlock switch circuit.

Yes

Is there continuity between terminal 10 and ground with passenger's door locked with key?
Yes → Short circuit in passenger's door key unlock switch circuit.

No

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

G LUGGAGE DOOR KEY UNLOCK SWITCH CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT LUGGAGE DOOR KEY UNLOCK SWITCH CIRCUIT
Is there continuity between terminal 1 and ground with luggage door key free?

Yes → Short circuit in luggage door key unlock switch circuit.

No

Is there continuity between terminal 1 and ground with luggage door unlocked with key?

No → Open circuit in luggage door key unlock switch circuit.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

H IGNITION SWITCH CIRCUIT

Turn ignition switch off.

Is RAD/CIG fuse normal?

No → Replace fuse. Is operation normal?

No → Short circuit in wire harness between fuse and terminal 6 of TD ECU.

Yes → Fuse faulty.

Yes

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT IGNITION SWITCH CIRCUIT
Is there battery voltage between terminal 6 and ground with ignition switch turned to ACC or ON.

No → Open circuit in wire harness between fuse and terminal 6 of TD ECU.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

I KEY UNLOCK WARNING SWITCH CIRCUIT

Turn ignition switch OFF.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT KEY UNLOCK WARNING SWITCH CIRCUIT
Ignition key set to ignition switch.
Is there continuity between terminal 15 and ground?

No → Open circuit in key unlock warning switch circuit.

Yes

Ignition key removed from ignition switch.
Is there continuity between terminal 15 and ground?

Yes → Short circuit in key unlock warning switch circuit.

No

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

J STARTER CUT SYSTEM CIRCUIT

Turn ignition switch off.

HINT: if starter does not operate, even when system is cancelled, before checking the circuit, use the key to turn the door lock to the unlock position and recheck starter operation.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT STARTER CUT SYSTEM CIRCUIT

Turn ignition switch to ST position (*1 with shift lever at N or P position or *2 with clutch pedal depressed).
Is there battery voltage between terminal 18 and ground?

No → Short or open circuit in starter relay circuit.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent
*1 A/T
*2 M/T

K THEFT DETERRENT HORN CIRCUIT

Turn ignition switch off.

THEFT DETERRENT HORN

INSPECT THEFT DETERRENT HORN OPERATION
Disconnect connector from horn.
Is horn operation normal? (See page BE–156)

No → Replace theft deterrent horn.

Yes

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

INSPECT THEFT DETERRENT HORN CIRCUIT
Is there battery voltage between terminal 8 and ground?

No → Open or short circuit in theft deterrent horn circuit.

Yes

INSPECT STANDARD EQUIPMENT HORN CIRCUIT
Is there battery voltage between terminal 9 and ground?

No → Open or short circuit in standard horn circuit.

Yes

Replace TD ECU. Then recheck system.

TD: Theft Deterrent

L LIGHT RETRACTOR RELAY CIRCUIT

Turn ignition switch off.

TD ECU

Disconnect TD ECU connector and inspect connector on wire harness side as follows.

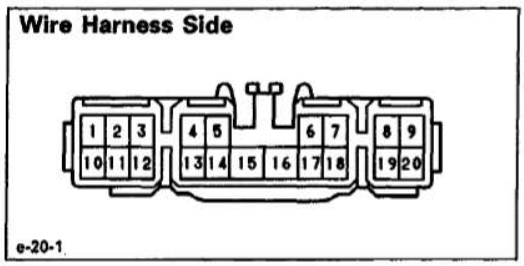
INSPECT LIGHT RETRACTOR RELAY CIRCUIT
Ground the terminal 20 and check that the headlights and taillights light up.

No →
- Open circuit in light retractor relay circuit.
- Check the light retractor relay.

Yes

Replace TD ECU.

TD: Theft Deterrent



THEFT DETERRENT ECU

THEFT DETERRENT ECU INSPECTION

ECU CIRCUIT

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

Check for	Tester connection	Condition	Specified value
Continuity	1 – ground	Luggage door unlocked with key	Continuity
		Other position	No continuity
	3 – ground	Driver's door lock lever unlocked	Continuity
		Driver's door lock lever locked	No continuity
	5 – ground	Driver's and passenger's door closed	No continuity
		Others	Continuity
	7 – ground	Constant	Continuity
	10 – ground	Driver's or passenger's door unlocked with key	Continuity
		Others	No continuity
	11 –ground	Driver's or passenger's door locked with key	Continuity
		Others	No continuity
	12 – ground	Passenger's door lock lever unlocked	Continuity
		Passenger's door lock lever locked	No continuity
	*' 13 –ground	Engine hood, front luggage door and rear luggage door closed	No continuity
		Others	Continuity
	*' 14 –ground	Driver's and passenger's door closed	No continuity
		Others	Continuity
	15 – ground	Ignition key set to ignition switch	Continuity
		Ignition key removed from ignition switch	No continuity
	*' 16 – ground	Constant	Continuity
Voltage	6 – ground	Turn ignition switch to ACC or ON	Battery voltage
	8 – ground	Constant	Battery voltage
	9 – ground	Constant	Battery voltage
	17 – ground	Constant	Battery voltage
	18 – ground	(M/T) Turn ignition switch to START with clutch pedal depressed. (A/T) Turn ignition switch to START with shift lever at P or N position	Battery voltage
	20 – ground	Constant	Battery voltage

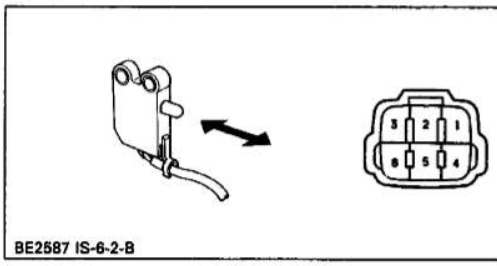
*1This circuit includes the LED or diode. If the circuit shows no continuity, change the positive and negative probes and recheck the circuit.

If circuit is correct, replace the theft deterrent ECU.

DOOR LOCK SWITCH

DOOR LOCK SWITCH INSPECTION

CONTINUITY



Terminal / Condition	3	6
Door closed (Switch pin pushed in)		
Door opened (Switch pin released)	○—○	

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

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH INSPECTION

See Power Door Lock Control Switch on page BE–101.

KEY UNLOCK WARNING SWITCH

KEY UNLOCK WARNING SWITCH INSPECTION

See Key Confine Prevention System on page BE–11.

IGNITION SWITCH

IGNITION SWITCH INSPECTION

See Ignition Switch on page BE–11.

DOOR KEY LOCK AND UNLOCK SWITCH

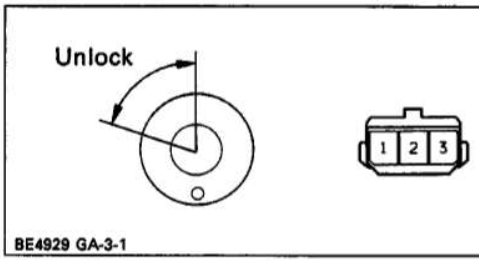
DOOR KEY LOCK AND UNLOCK SWITCH INSPECTION

See Power Door Lock Control System on page BE–99.

LUGGAGE DOOR KEY UNLOCK SWITCH

LUGGAGE DOOR KEY UNLOCK SWITCH INSPECTION

CONTINUITY

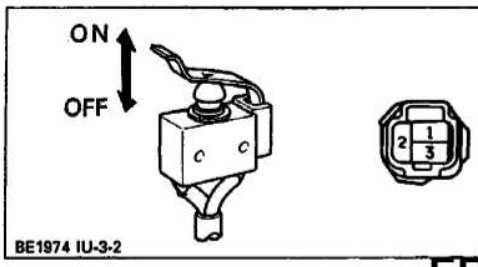


Terminal / Condition	1	3
OFF		
UNLOCK	○—○	

ENGINE HOOD COURTESY SWITCH

ENGINE HOOD COURTESY SWITCH INSPECTION

CONTINUITY



Terminal / Condition	1	2	3
OFF (Closed)			
ON (Opened)	○		○

FRONT LUGGAGE DOOR COURTESY SWITCH

FRONT LUGGAGE DOOR COURTESY SWITCH INSPECTION

See Engine Hood Courtesy Switch on this page.

DOOR COURTESY SWITCH

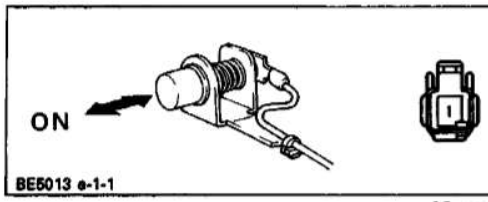
DOOR COURTESY SWITCH INSPECTION

See Interior Light System on page BE–49.

REAR LUGGAGE DOOR COURTESY SWITCH

REAR LUGGAGE DOOR COURTESY SWITCH INSPECTION

CONTINUITY



Terminal / Condition	1	Switch Body
OFF (Closed)		
ON (Opened)	○	○

If continuity is not as specified, replace the switch.

PARK/NEUTRAL SWITCH

PARK/NEUTRAL SWITCH INSPECTION

See page AX–35.

CLUTCH START SWITCH

CLUTCH START SWITCH INSPECTION

See page CL–5.

STARTER RELAY

STARTER RELAY INSPECTION

See Cruise Control System on page BE–138.

HEADLIGHT CONTROL RELAY

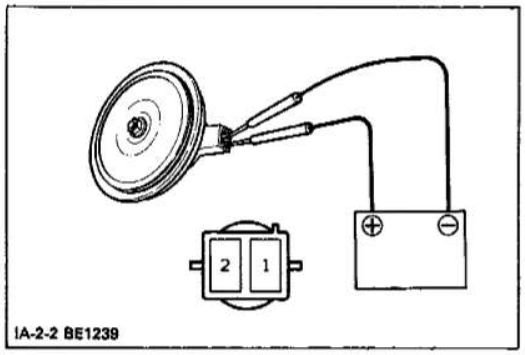
HEADLIGHT CONTROL RELAY INSPECTION

See page BE–30.

TAILLIGHT CONTROL RELAY

TAILLIGHT CONTROL RELAY INSPECTION

See page BE–30.

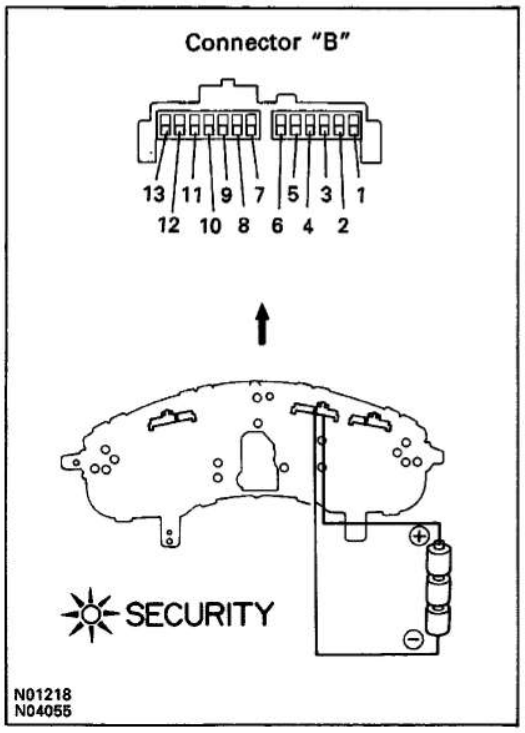


THEFT DETERRENT HORN

THEFT DETERRENT HORN INSPECTION

OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2.
(b) Check that the horn blows.
If operation is not as specified, replace the horn.



THEFT DETERRENT INDICATOR LIGHT

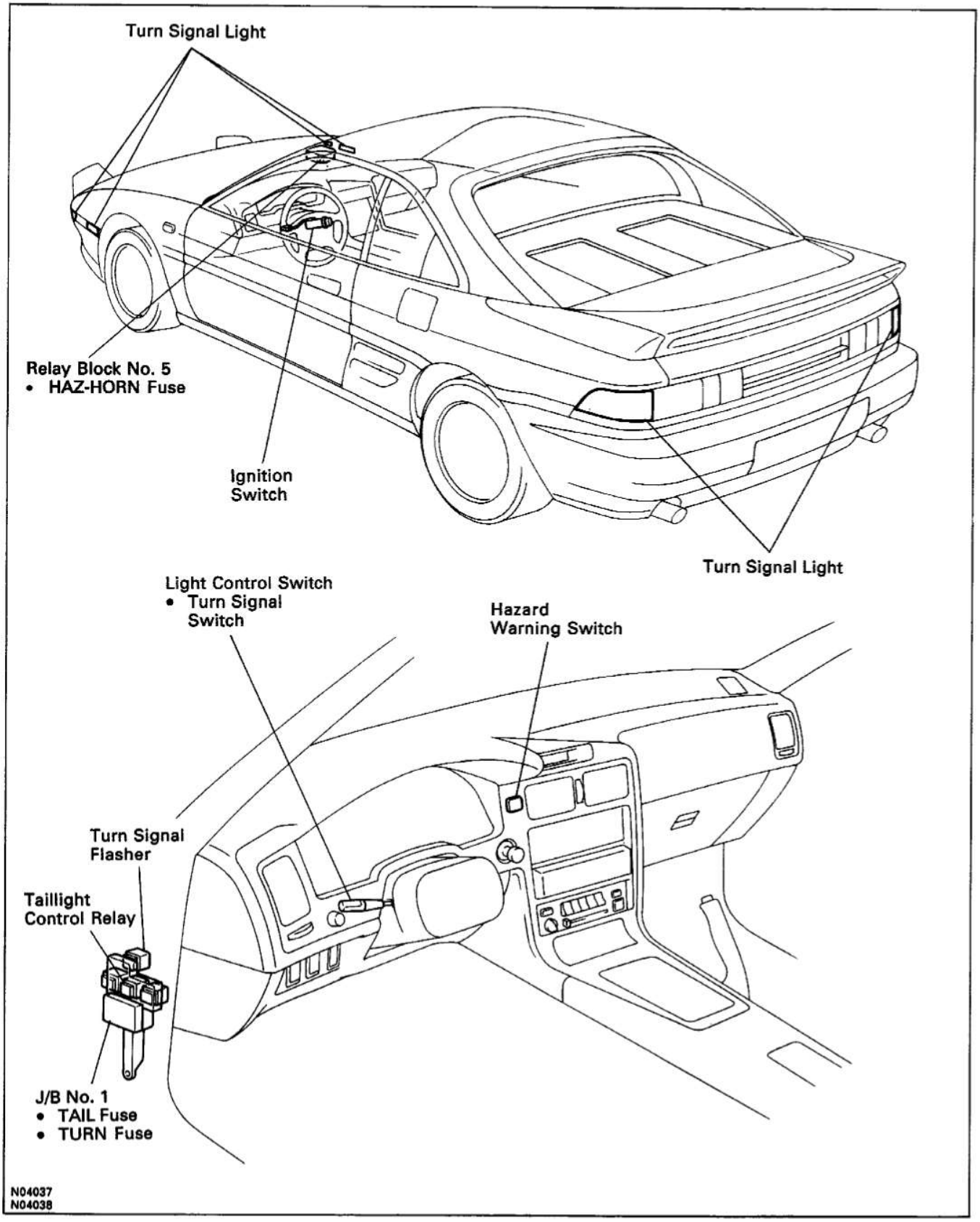
THEFT DETERRENT INDICATOR LIGHT

INSPECTION

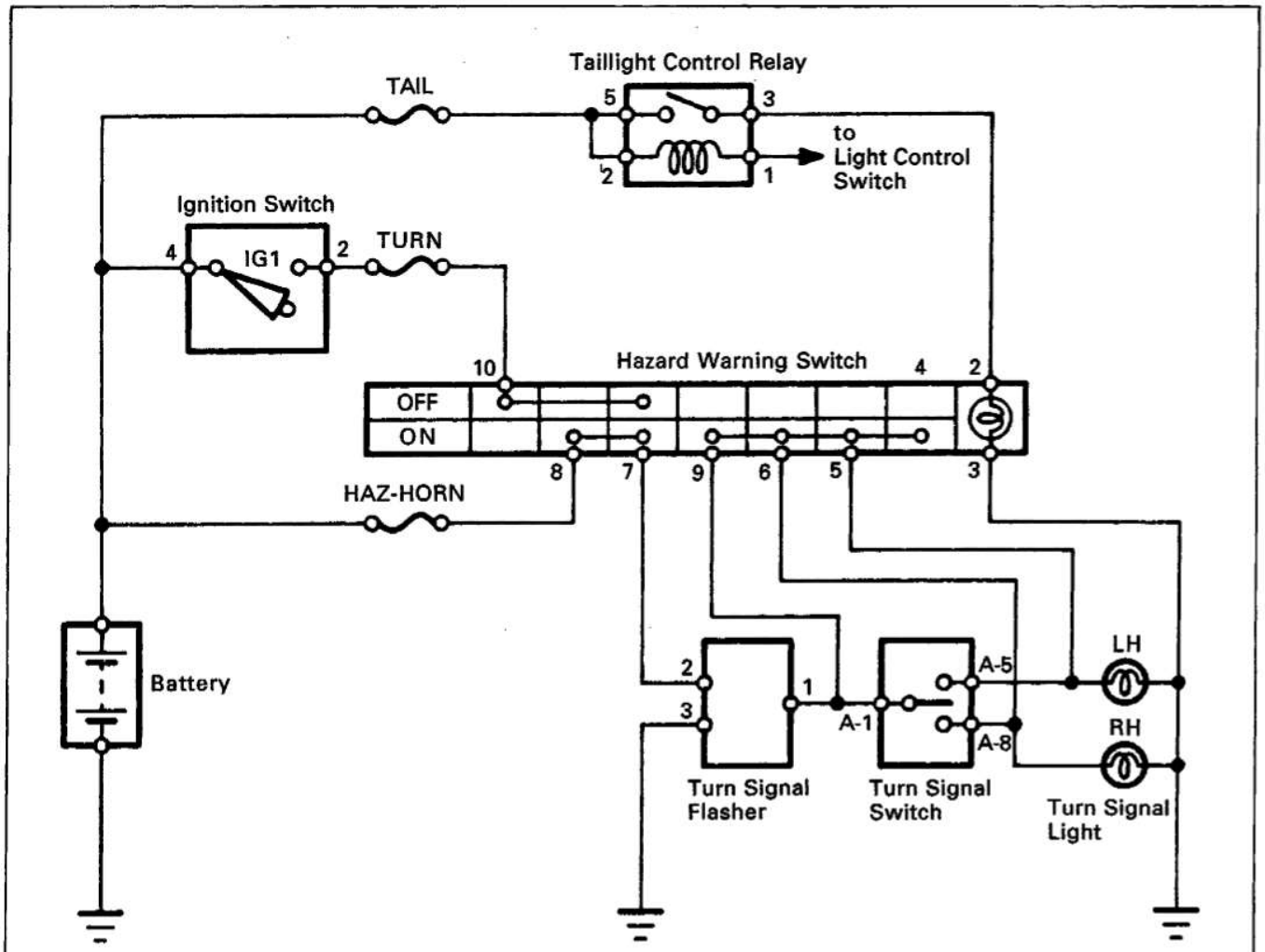
(a) Connect a series of three 1.5 V dry cell batteries.
(b) Connect the positive (+) lead from the dry cell batteries to terminal 5 of connector "B" and the negative (–) lead to terminal 6 of connector "B".
(e) Check that the indicator light lights up.
If the indicator light does not light up, replace the indicator light.

TURN SIGNAL AND HAZARD WARNING SYSTEM

PARTS LOCATION



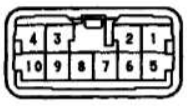
WIRING AND CONNECTOR DIAGRAM



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

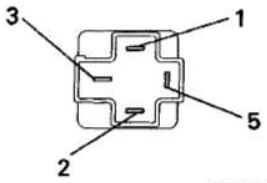
BE5067

Ignition Switch



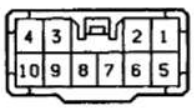
g-10-2-B

Taillight Control Relay



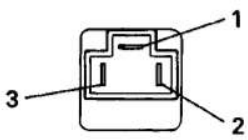
BE4049

Hazard Warning Switch



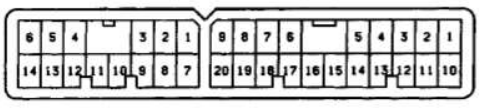
S-10-2

Turn Signal Flasher



BE2896

Turn Signal Switch



Connector "A" Connector "B"

V-34-2

TROUBLESHOOTING

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

See page / Part name / Trouble	BE–3 HAZ–HORN Fuse	BE–3 TURN Fuse	BE–11 Ignition Switch	BE–45 Hazard Warning Switch	BE–45 Turn Signal Flasher	BE–30 Turn Signal Switch	– Wire Harness	– Bulb
"Hazard" and "Turn" do not light up.				1	2		3	
The flashing frequency is abnormal.					2		3	1
Hazard warning light does not light up. (Turn is normal.)	1						2	
Hazard warning light does not light up in one direction.				1			2	
*1 Turn signal does not light up.		2	1			3	4	
*2 Turn signal does not light up.		1				2	3	
Turn signal does not light up in one direction.						1	2	
Only one bulb does not light.							2	1

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

TURN SIGNAL SWITCH

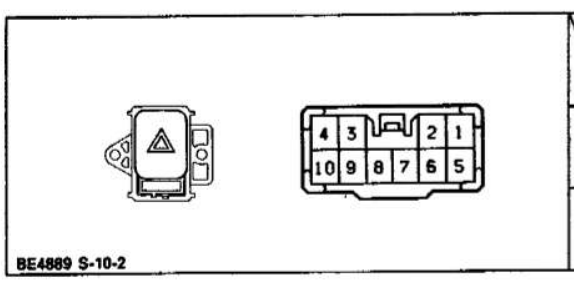
TURN SIGNAL SWITCH INSPECTION

See combination switch on page BE–30.

HAZARD WARNING SWITCH

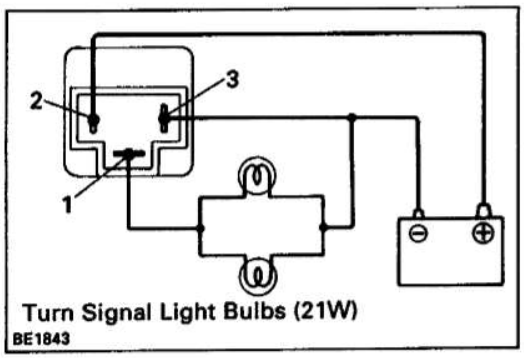
HAZARD WARNING SWITCH INSPECTION

CONTINUITY



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

If continuity is not as specified, replace the switch.



TURN SIGNAL FLASHER

TURN SIGNAL FLASHER INSPECTION

OPERATION

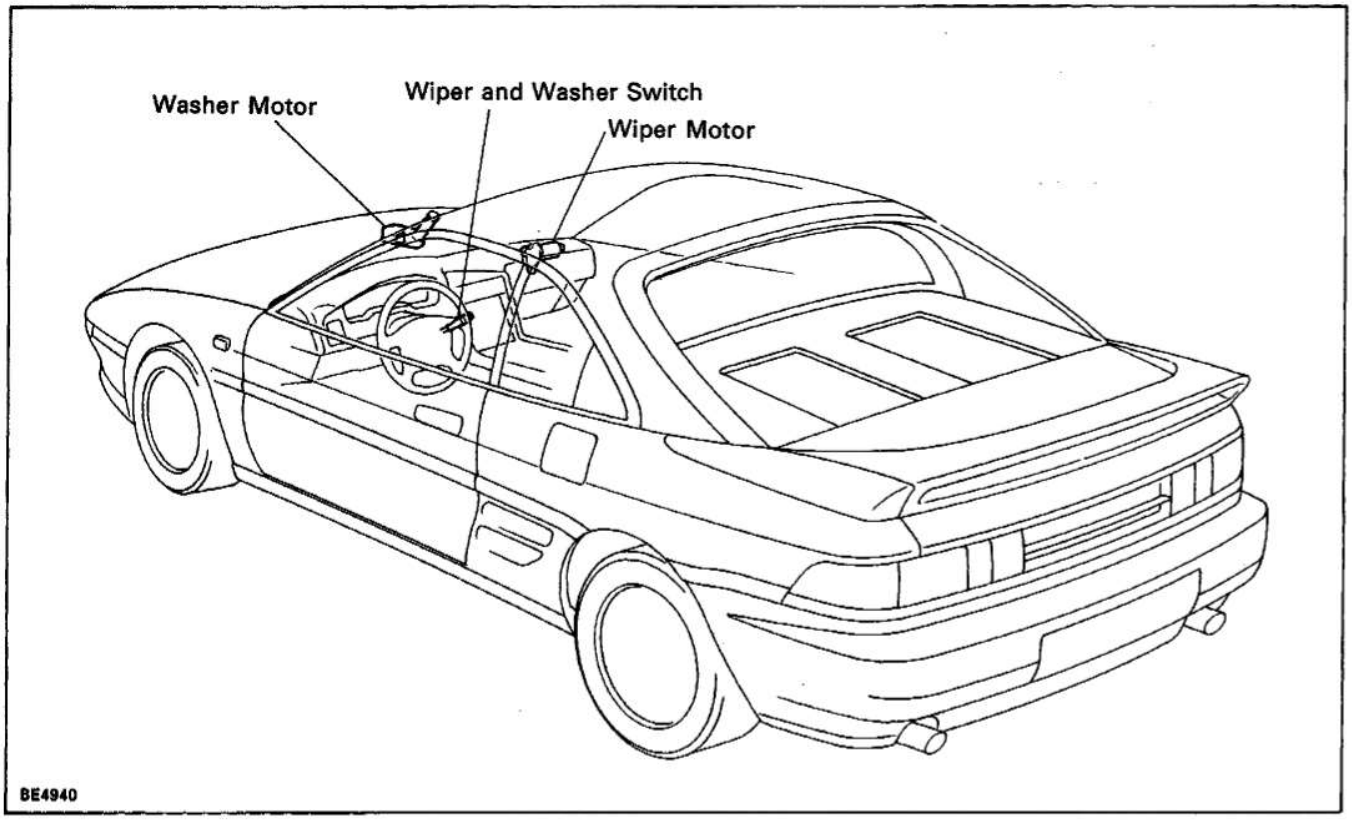
(a) Connect the positive (+) lead from the battery to terminal 2 and the negative (–1 lead to terminal 3.

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

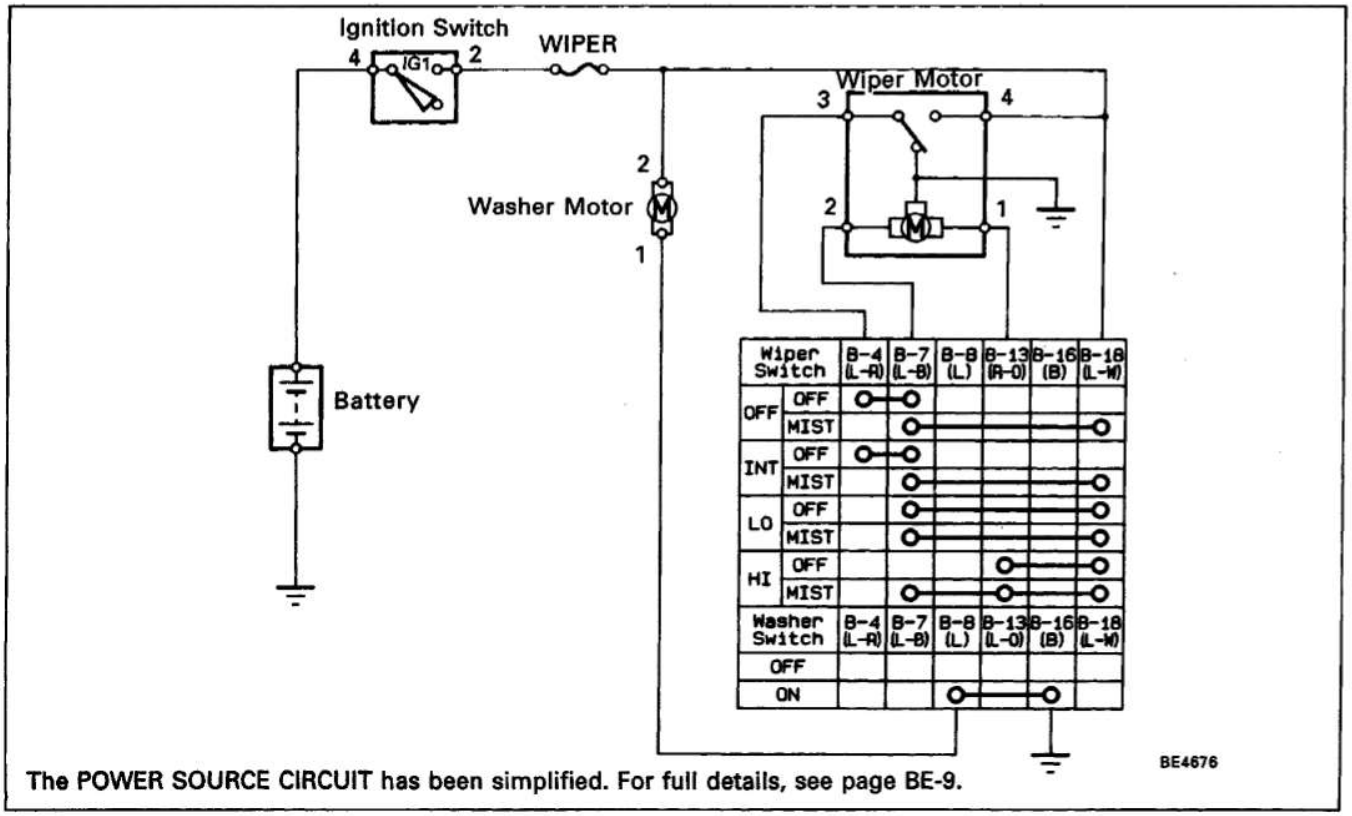
HINT: The turn signal lights should flash 60 to 120 times per minute.
If one of the front or rear turn signal lights has an open circuit, the flash rate will be more than 140 times per minute.
If operation is not as specified, replace the flasher.

WIPER AND WASHER SYSTEM

PARTS LOCATION



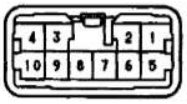
WIRING DIAGRAM



The POWER SOURCE CIRCUIT has been simplified. For full details, see page BE-9.

CONNECTOR DIAGRAMS

Ignition Switch



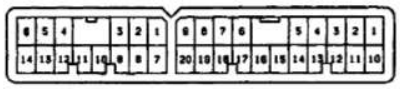
g-10-2-B

Wiper Motor



H-4-2

Wiper and Washer Switch



Connector"A" Connector "B"

V-34-2

Washer Motor

(All vehicles for CANADA.
USA vehicles w/ Cold Area Spec.)



BE4107

(USA vehicles w/o Cold Area Spec.)



IS-2-2-E

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.

See page / Part name / Trouble	BE–11 Ignition Switch	BE–3 WIPER Fuse	BE–62 Wiper and Washer Switch	BE–64 Wiper Motor	I Washer Hose and Nozzle	I Wire Harness	BE–65 Washer motor
Wipers do not operate or return to OFF position.	2	1	3	4		5	
Wipers do not operate in INT position.			1	2		3	
Washers do not operate.			1		2	4	3

PARTS REPLACEMENT

See Combination Switch on page BE–26.

COMBINATION SWITCH

COMBINATION SWITCH REMOVAL

See page BO–72.

COMBINATION SWITCH INSTALLATION

See page BO–72.

COMBINATION SWITCH DISASSEMBLY

See page BE–28.

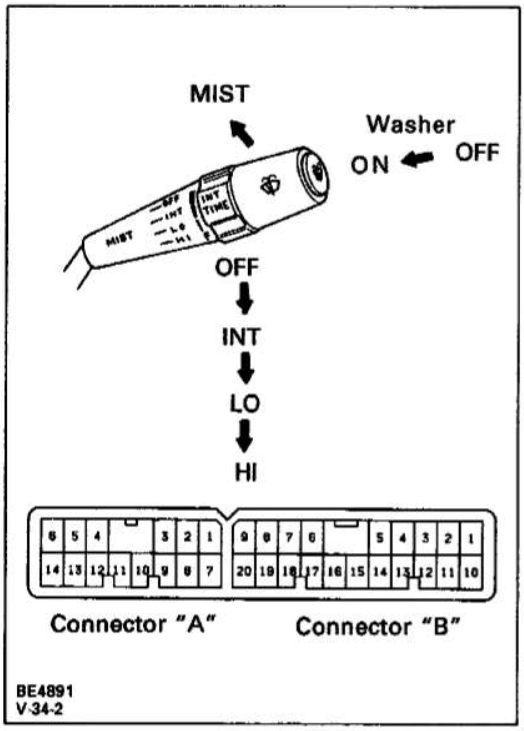
COMBINATION SWITCH ASSEMBLY

See page BE–29.

COMBINATION SWITCH INSPECTION

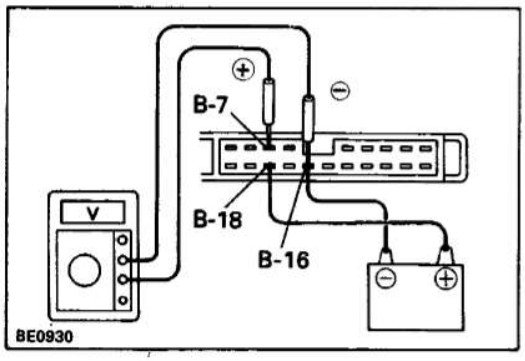
INSPECTION WIPER AND WASHER SWITCH CONTINUITY

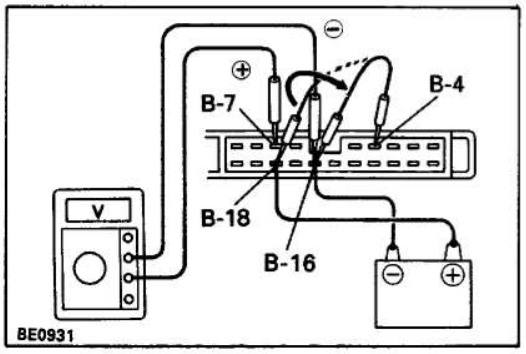
Inspect the switch continuity between terminals.



Terminal (Color) / Switch position			B–4 (L–R)	B–7 (L–B)	B–8 W	B–13 (R–Q)	B–16 I6Y	e–1s (L–W)
Wiper	OFF	OFF	○	○				
		MIST		○				○
	INT	OFF	○	○				
		MIST		○				○
	LO	OFF		○				○
		MIST		○				○
	HI	OFF				○		○
		MIST		○		○		○
Washer	OFF							
	ON				○		○	

If continuity is not as specified, replace the switch.





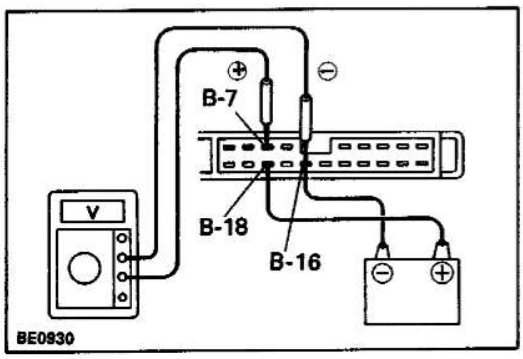
INTERMITTENT WIPER OPERATION

(a) Turn the wiper switch to INT position.
(b) (Variable Type)
Turn the Intermittent time control switch to FAST position.
(c) Connect the positive (+) lead from the battery to terminal B–18 and the negative (–) lead to terminal B–16.
(d) Connect the positive (+) lead from the battery to terminal B–18 and the negative (–) lead to terminal B–16, check that the meter needle indicates battery voltage.

(e) After connecting terminal B–4 to terminal B–18, connect to terminal B–16.
Then, check that the voltage rises from 0 volts to battery voltage within the times as shown in the table.

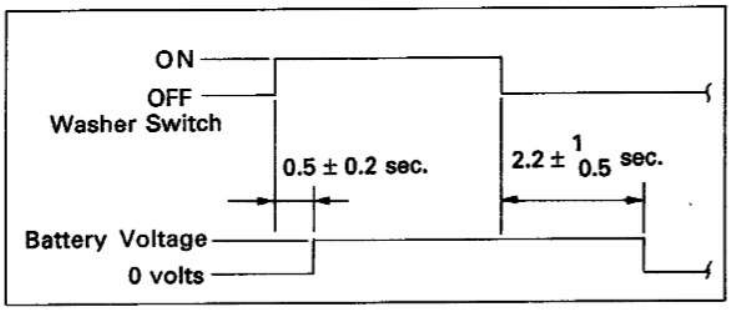
INT time control switch position	Voltage
FAST	1.6 ± 1 sec. — Battery voltage / 0 volts
SLOW	10.7 ± 5 sec. — Battery voltage / 0 volts
Non variable type	3.3 ± 1 sec. — Battery voltage / 0 volts

If operation is not as specified, replace the switch.

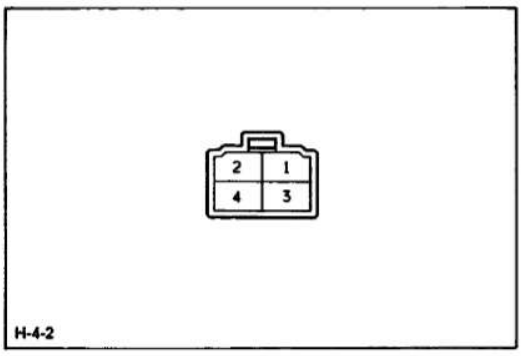


WASHER LINKED WIPER OPERATION

(a) Connect the positive (+) lead from the battery to terminal B–18 and the negative (–) lead to terminal B–16.
(b) Connect the positive (+) lead from the voltmeter to terminal B–7 and the negative (–) lead to terminal B–16.
(c) Push in the washer switch. Check that the voltage changes as shown in the table.

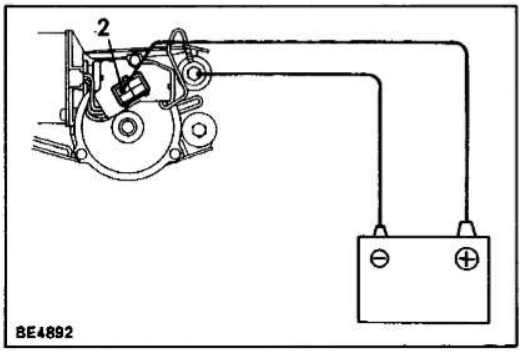


If operation is not as specified, replace the switch.



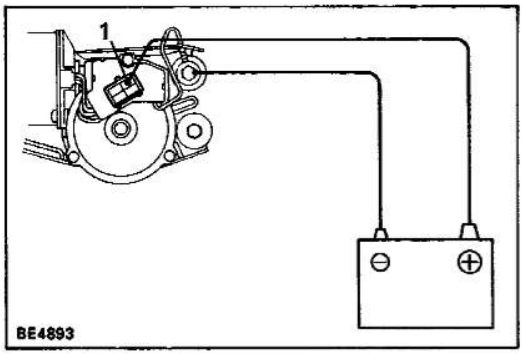
WIPER MOTOR

WIPER MOTOR INSPECTION



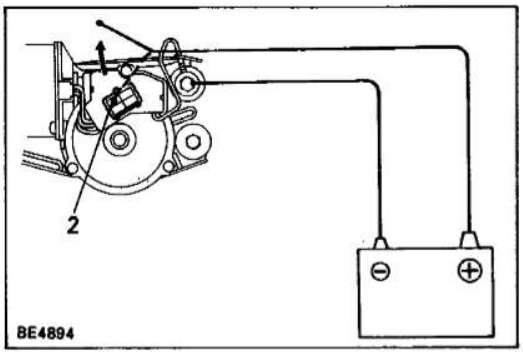
OPERATION AT LOW SPEED

Connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to the motor body, check that the motor operates at low speed.
If operation is not as specified, replace the motor.



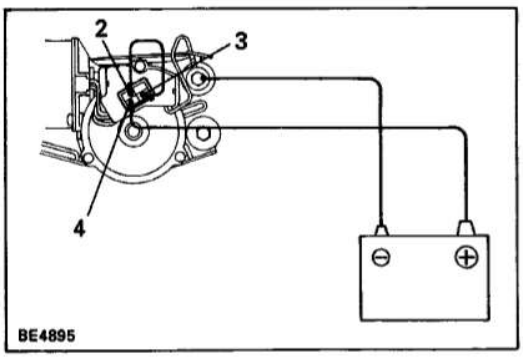
OPERATION AT HIGH SPEED

Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to the motor body, check that the motor operates at high speed.
If operation is not as specified, replace the motor.



OPERATION, STOPPING AT STOP POSITION

(a) Operate the motor at low speed and stop the motor operation anywhere except at the stop position by disconnecting positive W lead from terminal 2.



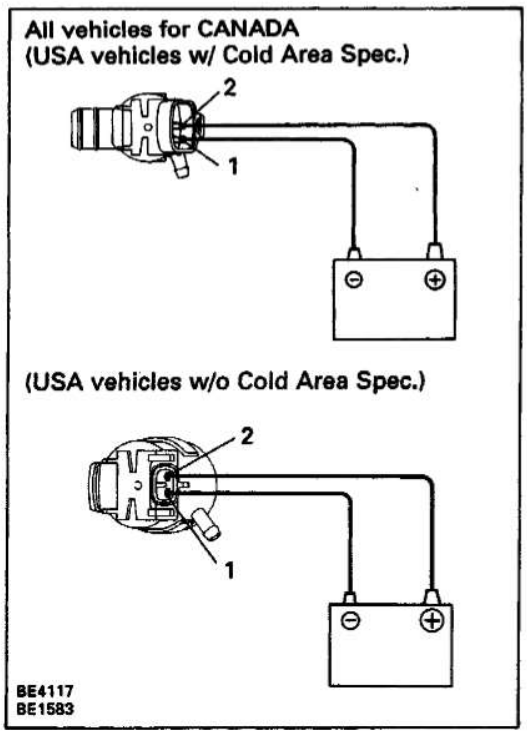
(b) Connect terminals 2 and 3.

tcy Connect the positive (+) lead from the battery to terminal 4 and the negative (–) lead to the motor body, check that the motor stops running at the stop position after the motor operates again. If operation is not as specified, replace the motor.

WASHER SWITCH

WASHER SWITCH INSPECTION

See (Wiper and Washer Switch/Continuity) on page BE–62.



WASHER MOTOR

WASHER MOTOR INSPECTION

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.