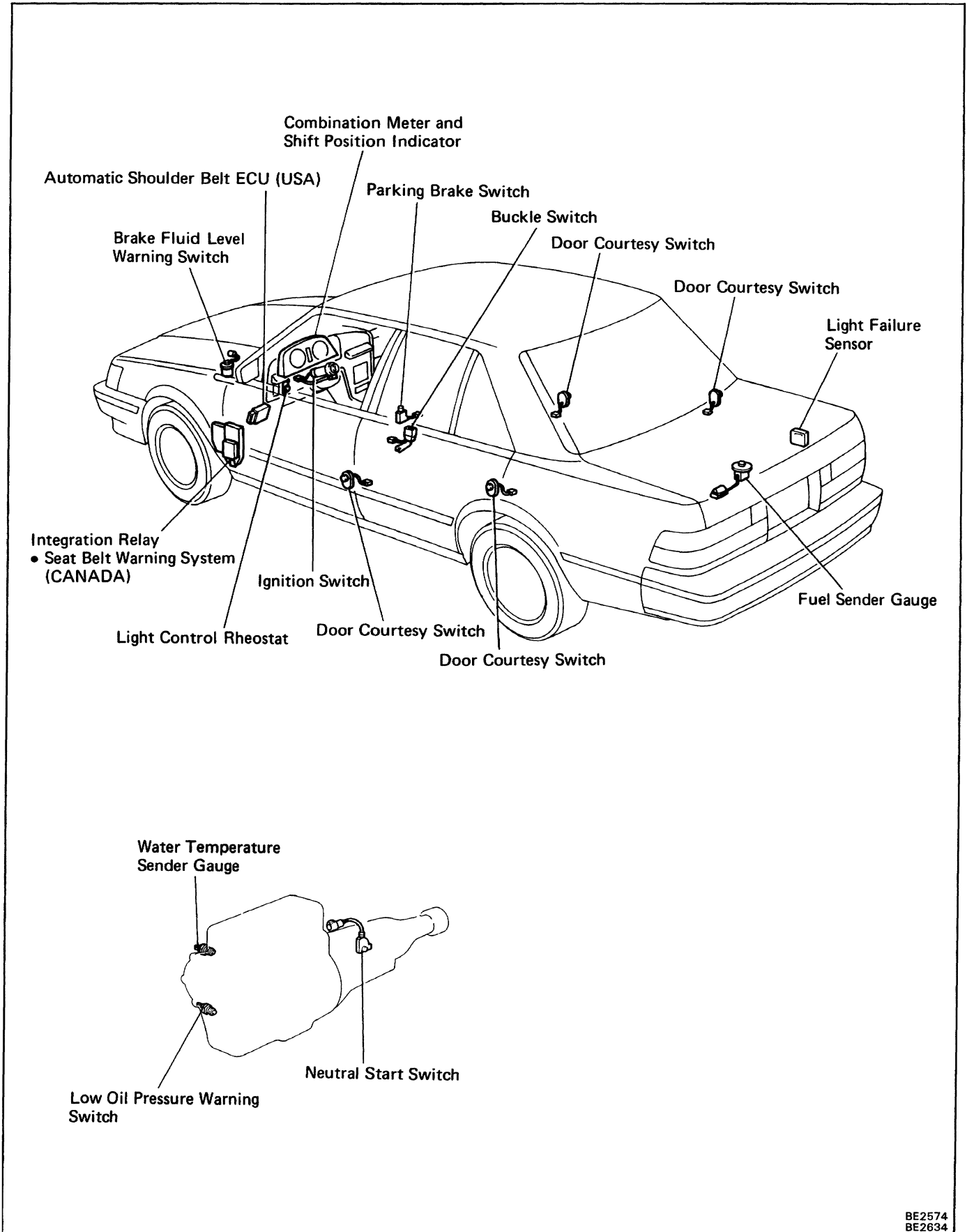
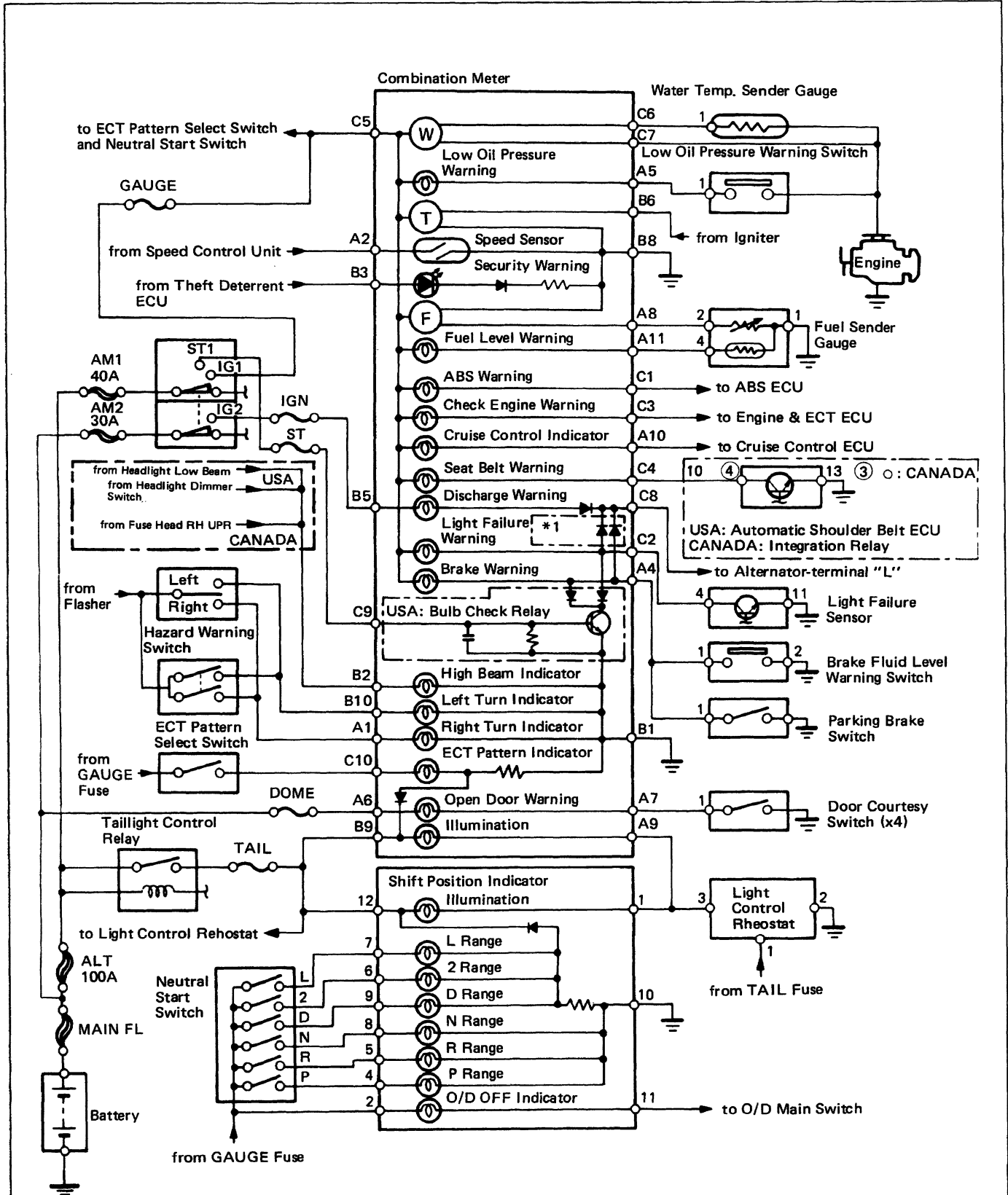


COMBINATION METER

Parts Location



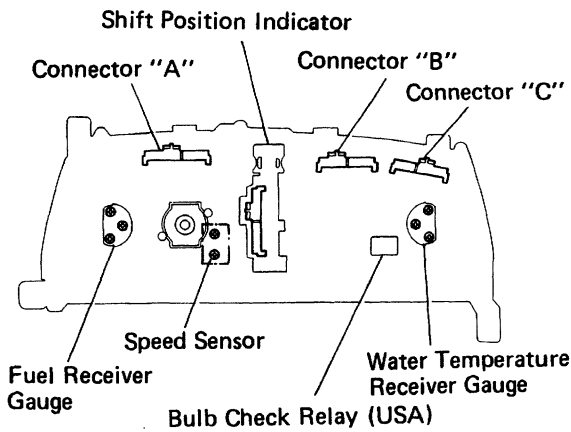
Wiring Diagram



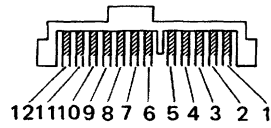
- *1 : CANADA
- W : Water Temperature Receiver Gauge
- T : Tachometer
- F : Fuel Receiver Gauge

Connector Diagrams

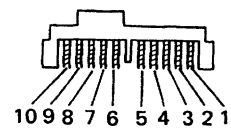
Combination Meter



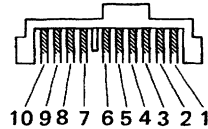
Connector "A"



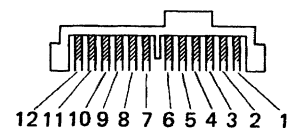
Connector "B"



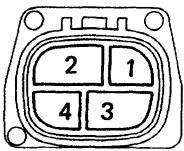
Connector "C"



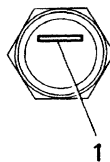
Shift Position Indicator



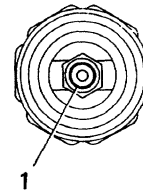
Fuel Sender Gauge



Water Temperature Sender Gauge



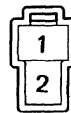
Low Oil Pressure Warning Switch



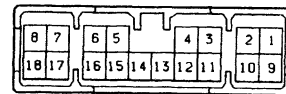
Brake Fluid Level Warning Switch



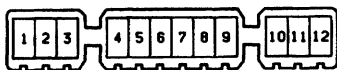
Parking Brake Switch



Automatic Shoulder Belt ECU (USA)



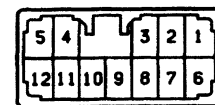
Integration Relay (CANADA)



Door Courtesy Switch



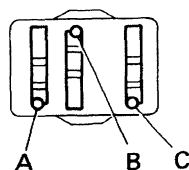
Light Failure Sensor



Light Control Rheostat



Bulb Check Relay (USA)



BE2565 BE1266 BE2576
BE1270 BE1267
BE2562 BE2563 BE2564
IS-2-2-A H-2-2 S-18-2
S-12-1-A S-1-1-B S-12-2
H-3-2 BE2861

Troubleshooting

Problem	Possible cause	Remedy	Page
*Gauges and indicator lights do not operate	"GAUGE" fuse faulty Wiring faulty	Replace fuse and check for short Repair as necessary	BE-3
Tachometer does not operate	Tachometer faulty Wiring or ground faulty	Check tachometer Repair as necessary	BE-39
Fuel gauge does not operate	Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Check gauge Check gauge Repair as necessary	BE-40 BE-40
Water temperature gauge does not operate	Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Check gauge Check gauge Repair as necessary	BE-41 BE-42
Low oil pressure warning light does not light up	Bulb burned out Low oil pressure warning switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	BE-42
Brake warning light does not light up	Bulb burned out Brake fluid level warning switch faulty Parking brake switch faulty Wiring or ground faulty	Replace bulb Check switch Check switch Repair as necessary	BE-43 BE-43
Seat belt warning light does not light up	Bulb burned out (USA) Automatic shoulder belt ECU faulty (CANADA) Integration relay faulty Wiring or ground faulty	Replace bulb Check ECU Check relay Repair as necessary	BE-83 BE-44
Open door warning light does not light up	Bulb burned out Door courtesy switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	BE-45
Light failure warning light does not light up	Bulb burned out Light failure sensor faulty Wiring or ground faulty	Replace bulb Check sensor Repair as necessary	BE-46

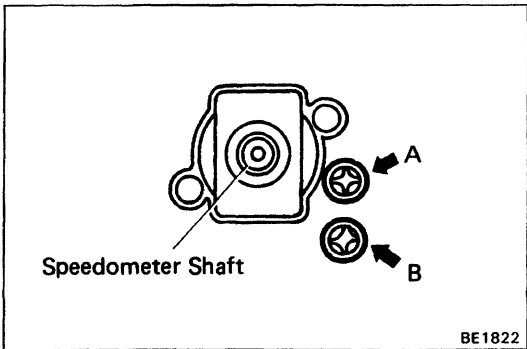
* Tachometer, Fuel Gauge, Water Temperature Gauge, Brake Warning Light, Low Oil Pressure Warning Light, Fuel Level Warning Light, Antilock Warning Light, Check Engine Warning Light, Seat Belt Warning Light, Light Failure Warning Light and Cruise Control Indicator Light

(mph)

Standard indication	Allowable range
20	20 – 23
40	40 – 43.5
60	60 – 64
80	80 – 84.5
100	100 – 105
120	120 – 125.5

(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



Parts Inspection

Speedometer System

1. INSPECT SPEEDOMETER (ON-VEHICLE)

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

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

If error is excessive, replace the speedometer.

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

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

2. INSPECT SPEED SENSOR

Check that there is continuity between terminals A and B four times per each revolution of the speedometer shaft.

If operation is not as specified, replace the speedometer.

DC 13.5V, 25°C (77°F) rpm	
Standard indication	Allowable range
680	610 – 750
3,000	2,800 – 3,200
5,000	4,800 – 5,200
7,000	6,700 – 7,300

Tachometer System

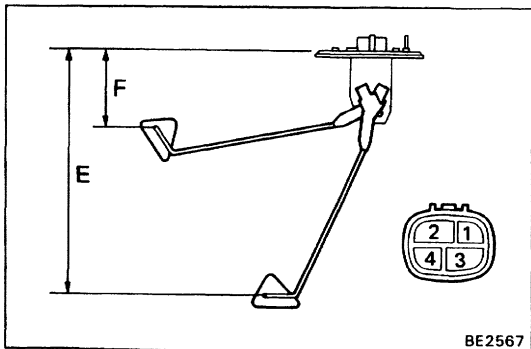
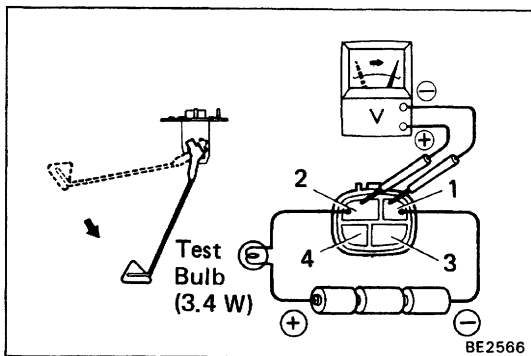
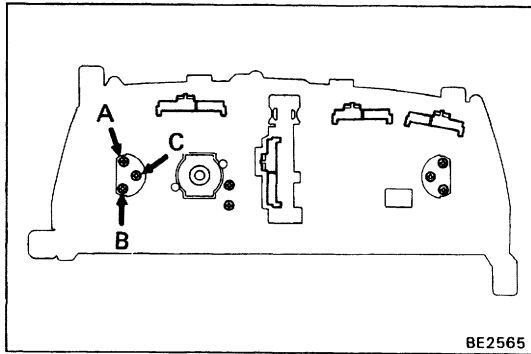
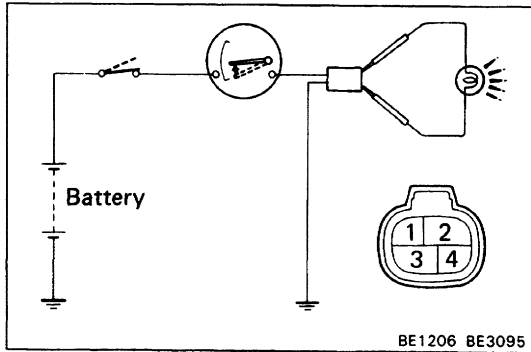
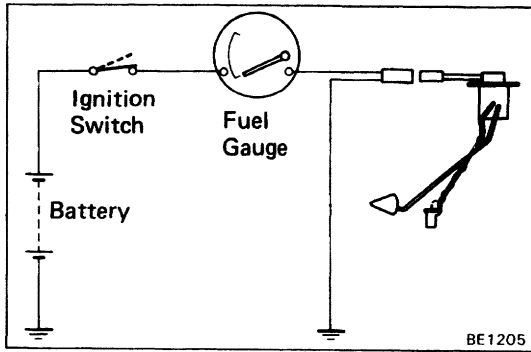
INSPECT TACHOMETER (ON-VEHICLE)

- (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.



Fuel Gauge System

1. INSPECT RECEIVER GAUGE

(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 2 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 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. 102
A - C	Approx. 203
B - C	Approx. 101

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

2. INSPECT SENDER GAUGE

(Operation)

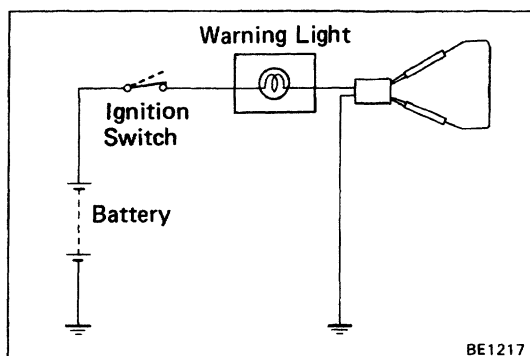
- (a) Connect a series of three 1.5 V dry cell batteries.
- (b) Connect the positive (+) lead from the dry cell batteries to terminal 2 through a 3.4 W test bulb and the negative (-) lead to terminal 1.
- (c) Check that the voltage rises between terminals 1 and 2 as the float is moved from the top to bottom position.

(Resistance)

Measure the resistance between terminals 1 and 2 for each float position.

Float position mm (in.)	Resistance (Ω)
F	Approx. 73 (2.87)
E	Approx. 221 (8.70)

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

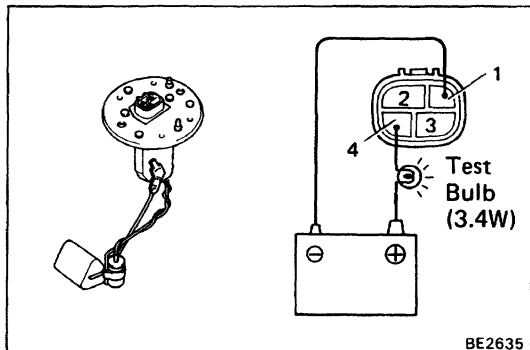


Fuel Level Warning System

1. INSPECT WARNING LIGHT

- Disconnect the connector from the sender gauge.
- Connect terminals 1 and 4 on the wire harness side connector.
- Turn the ignition switch ON, check that the warning light lights up.

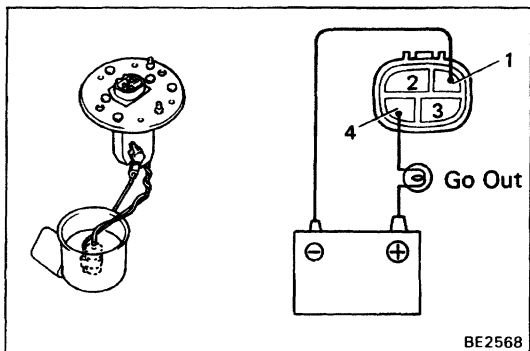
If the warning light does not light up, test the bulb.



2. INSPECT WARNING SWITCH

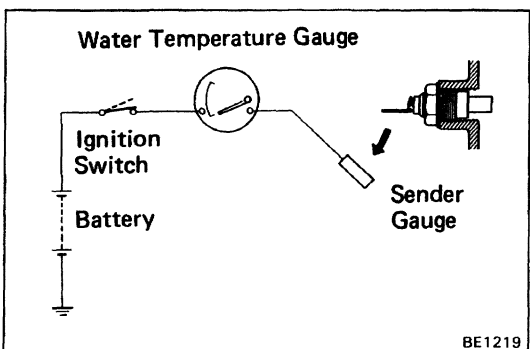
- Apply battery voltage between terminals 1 and 4 through a 3.4 W test bulb, check that the bulb lights up.

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



- Submerge the switch in fuel, check that the bulb goes out.

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

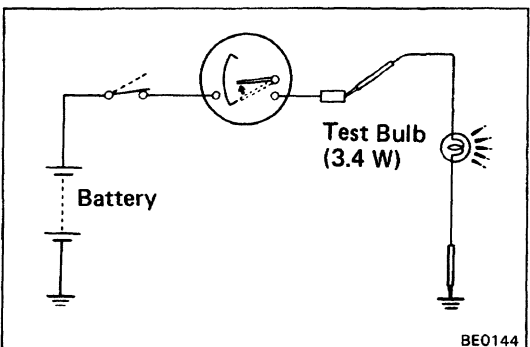


Water Temperature Gauge System

1. INSPECT RECEIVER GAUGE

(Operation)

- Disconnect the connector from the sender gauge.
- Turn the ignition switch ON, check that the receiver gauge needle indicates COOL.

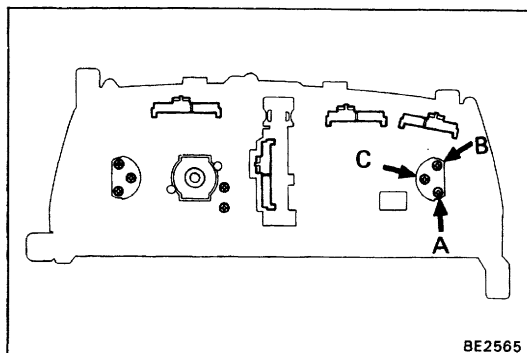


- Ground terminal on the wire harness side connector through a 3.4 W test bulb.

- 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.

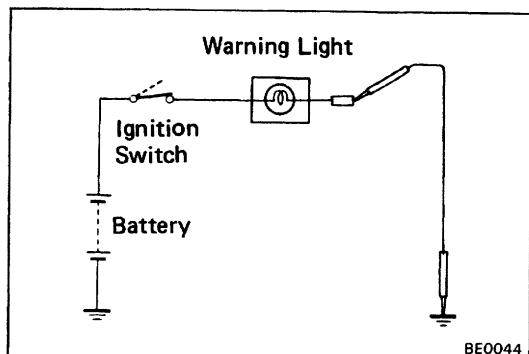
**(Resistance)**

Measure the resistance between terminals.

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

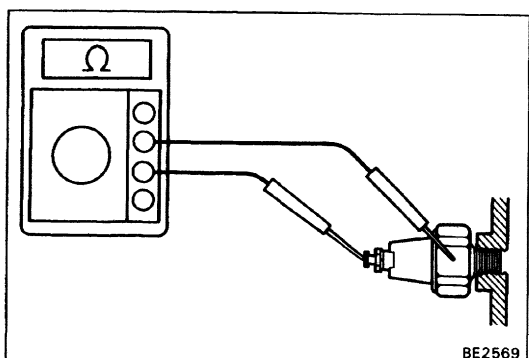
Between terminals	Resistance (Ω)
A \rightarrow B	Approx. 54
A \rightarrow C	Approx. 146
B \rightarrow C	Approx. 200

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

**Low Oil Pressure Warning System****1. INSPECT WARNING LIGHT**

- Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.
- Turn the ignition switch ON, check that the warning light lights up.

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

**2. INSPECT LOW OIL PRESSURE WARNING SWITCH**

- Check that there is continuity between terminal and ground with the engine stopped.
- Check that there is no continuity between terminal and ground with the engine running.

HINT: Oil pressure should be over 0.3 kg/cm (4.3 psi, 29 kPa).

If operation is not as specified, replace the switch.

Brake Warning System

1-1. (USA)

INSPECT WARNING LIGHT

- (a) Disconnect connector from the brake fluid level warning switch and the parking brake switch.
- (b) Turn the ignition switch to START, check that the warning light lights up.
- (c) Start the engine, check that the warning light goes out.

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

1-2. (CANADA)

INSPECT WARNING LIGHT

- (a) Disconnect the connectors from the brake fluid warning switch and parking brake switch.
- (b) Connect terminals on the wire harness side of the level warning switch connector.
- (c) Start the engine, check that the warning light lights up.

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

2. INSPECT SWITCHES

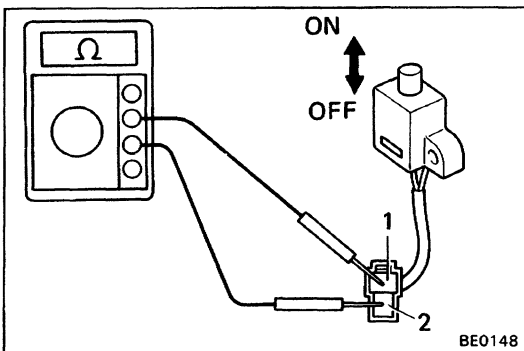
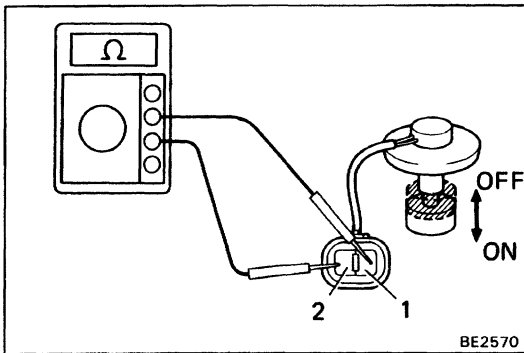
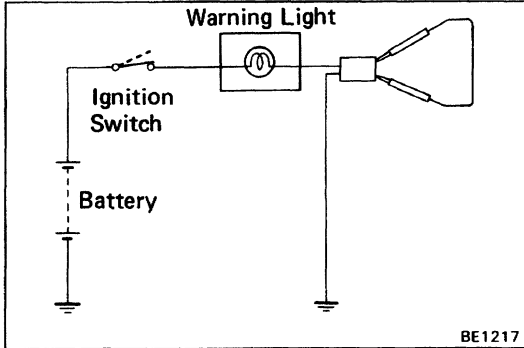
(Brake fluid Level Warning Switch)

- (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).

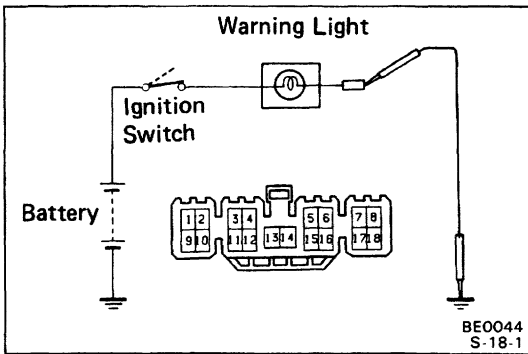
If operation is not as specified, replace the switch.

(Parking Brake Switch)

- (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

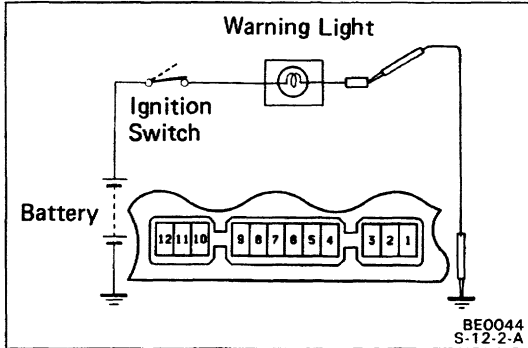


1-1. (USA)

INSPECT WARNING LIGHT

- (a) Disconnect the connector from the automatic seat belt ECU.
- (b) Ground terminal 10 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.



1-2. (CANADA)

INSPECT WARNING LIGHT

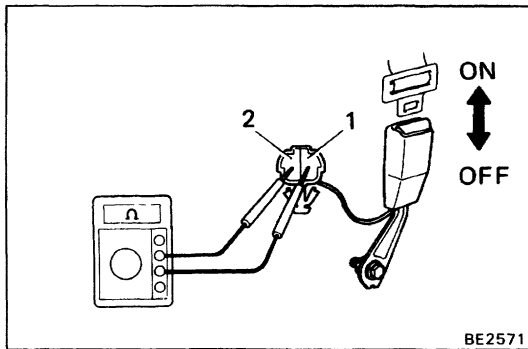
- (a) Remove the integration relay from the junction block.
- (b) Ground terminal 4 on the junction block side connector.
- (c) Turn the ignition switch ON, check that the warning light lights up.

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

2. INSPECT BUCKLE SWITCH

- (a) Check that there is continuity between terminals on the switch side connector with the switch ON (belt unfastened).
- (b) Check that there is no continuity between terminals on the switch side connector with the switch OFF (belt fastened).

If operation is not as specified, replace the seat belt inner.



3-1. (USA)

INSPECT AUTOMATIC SHOULDER BELT ECU

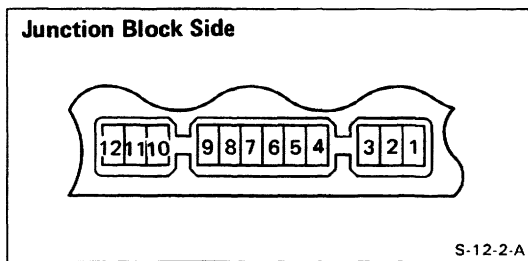
See step 4 of Automatic Shoulder Belt System on page [BE-85](#).

3-2. (CANADA)

INSPECT INTEGRATION RELAY

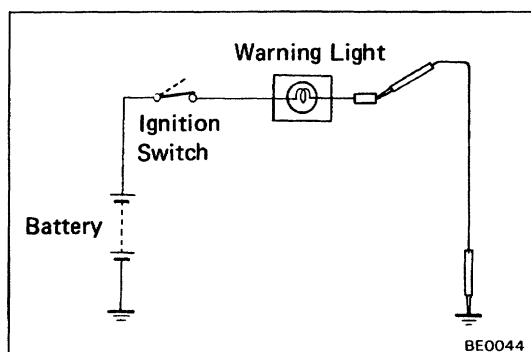
(Relay Circuit)

Remove the integration relay from the junction block and inspect the connector on the junction side as shown.



Check for	Tester connection	Condition		Specified value
Continuity	3 - Ground	Constant		Continuity
	5 - Ground	Buckle switch position	OFF (belt fastened)	No continuity
ON (belt unfastened)			Continuity	
Voltage	4 - Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	6 - Ground	Ignition switch position	LOCK or Ace	No voltage
			ON	Battery voltage
12 - Ground	position Constant	Battery voltage		

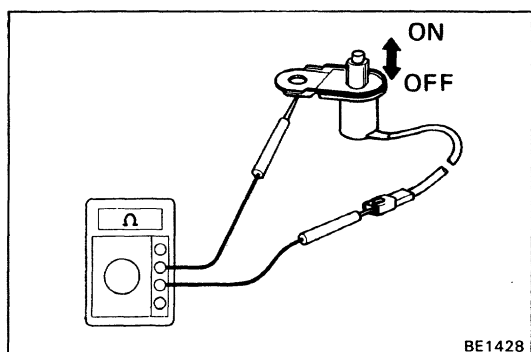
If circuit is as specified, replace the relay.



Open Door Warning System

1. INSPECT WARNING LIGHT

- Disconnect the connector from the door courtesy switch and ground terminal on the wire harness side connector.
 - Turn the ignition switch ON, check that the warning light lights up.
- If the warning light does not light up, test the bulb.



2. INSPECT COURTESY SWITCH

- Check that there is continuity between terminal and the switch body with the switch ON (switch pin released).
 - Check that there is no continuity between terminal and the switch body with the switch OFF (switch pin pushed in).
- If operation is not as specified, replace the switch.

Light Failure Warning System

1-1. (USA)

INSPECT WARNING LIGHT

- Disconnect the connector from the light failure sensor.
- Turn the ignition switch ON, check that the warning light lights up.
- Start the engine, check that the warning light goes out.

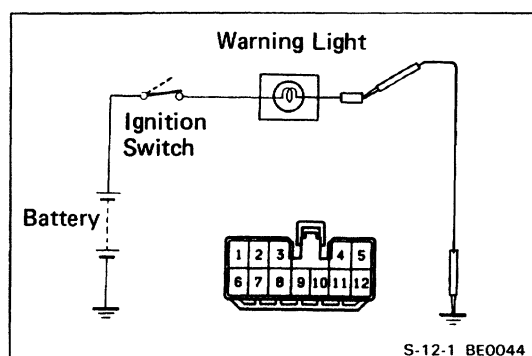
If operation is not as specified, inspect the bulb and the bulb check relay.

1-2. (CANADA)

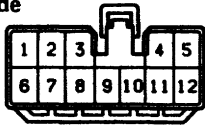
INSPECT WARNING LIGHT

- Disconnect the connector from the light failure sensor and ground terminal 4 on the wire harness side connector.
- Start the engine, check that the warning light lights up.

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



Wire Harness Side



S-12-1

2. INSPECT LIGHT FAILURE SENSOR (Relay Circuit)

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

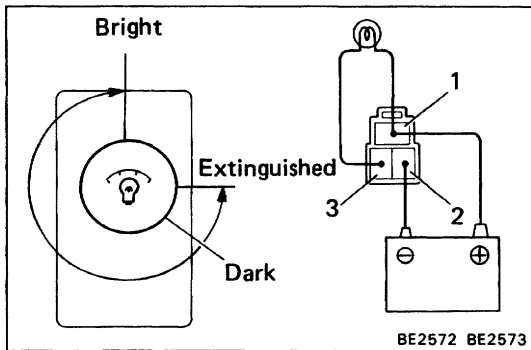
Check for	Tester connection	Condition		Specified value
Continuity	1 - Ground	Constant		*Continuity
	2 - Ground	Constant		*Continuity
	9 - Ground	Constant		*Continuity
	11 - Ground	Constant		Continuity
Voltage	3 - Ground	Light control switch position	OFF	No voltage
			TAIL or HEAD	Battery voltage
	4 - Ground	Engine condition	OFF	No voltage
			ON	Battery voltage
	7 - Ground	Stop light switch position	OFF (brake pedal released)	No voltage
			ON (brake pedal depressed)	Battery voltage
	8 - Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage

* : There is resistance because this circuit is grounded through the bulb.

If circuit is as specified, replace the sensor.

Meter Illumination Control System

INSPECT LIGHT CONTROL RHEOSTAT



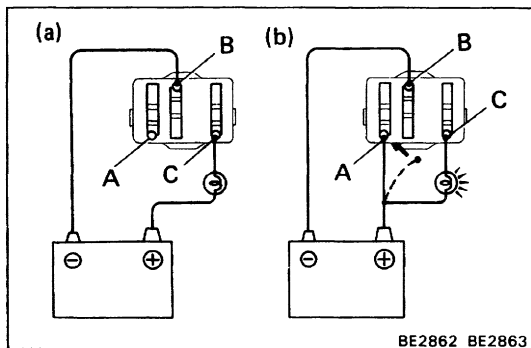
BE2572 BE2573

- Connect terminals 1 and 3 through a 3.4 W test bulb.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
- Turn the rheostat knob to fully counterclockwise, check that the test bulb goes out.
- 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 (USA)

INSPECT BULB CHECK RELAY



BE2862 BE2863

- 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.
 - 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.