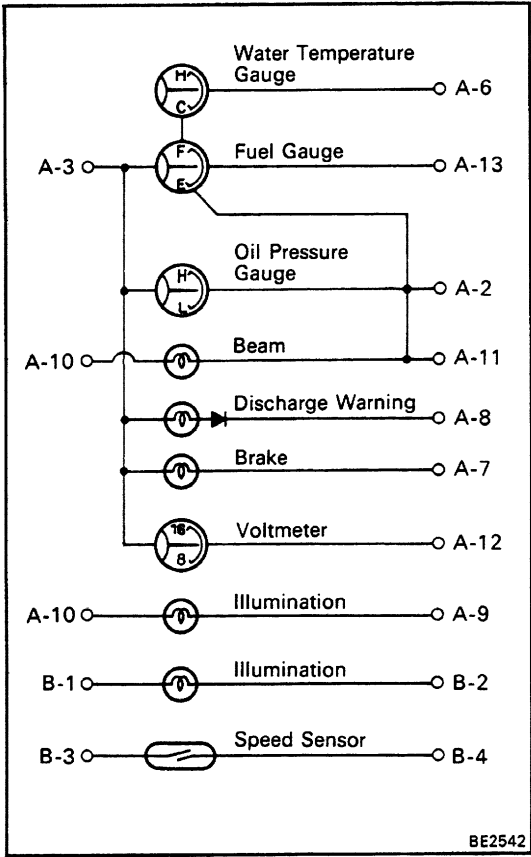
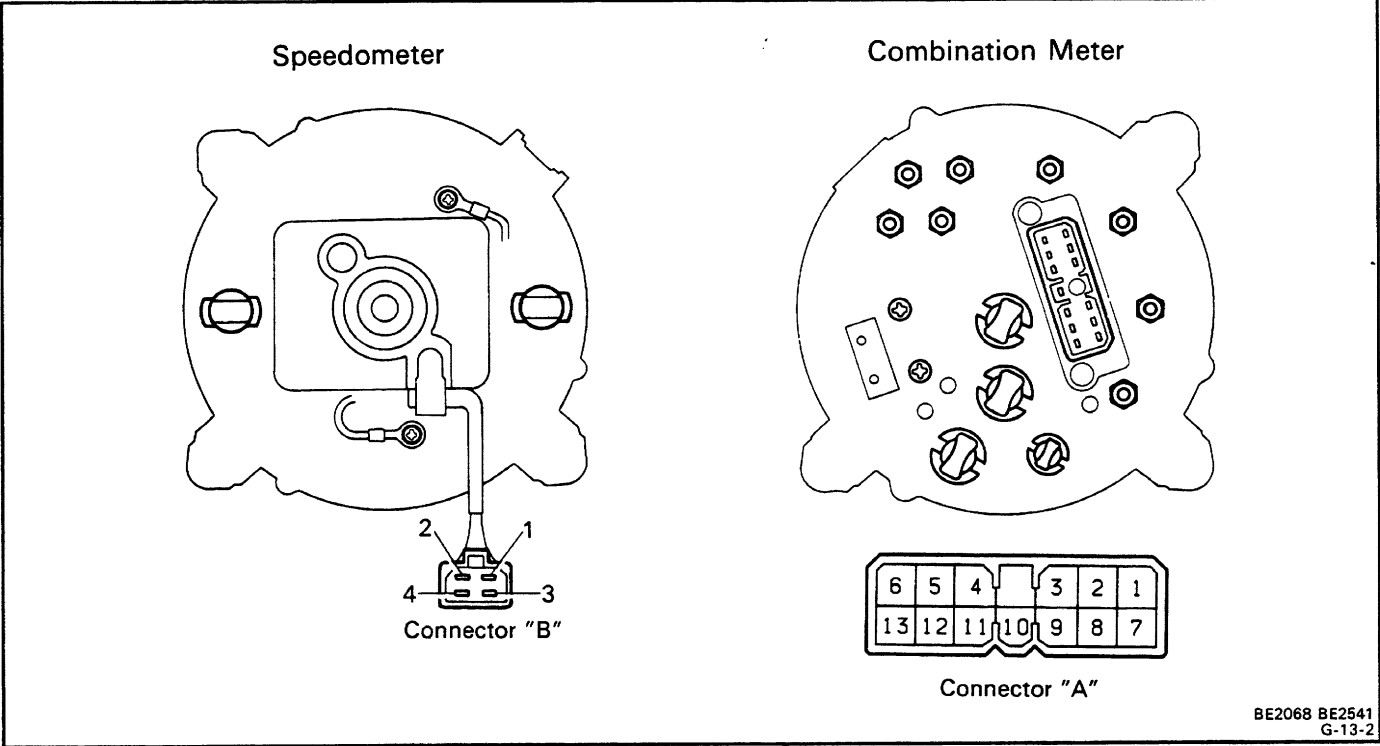


COMBINATION METER

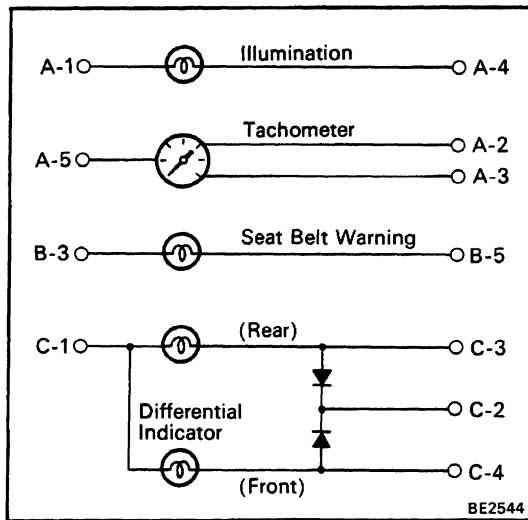
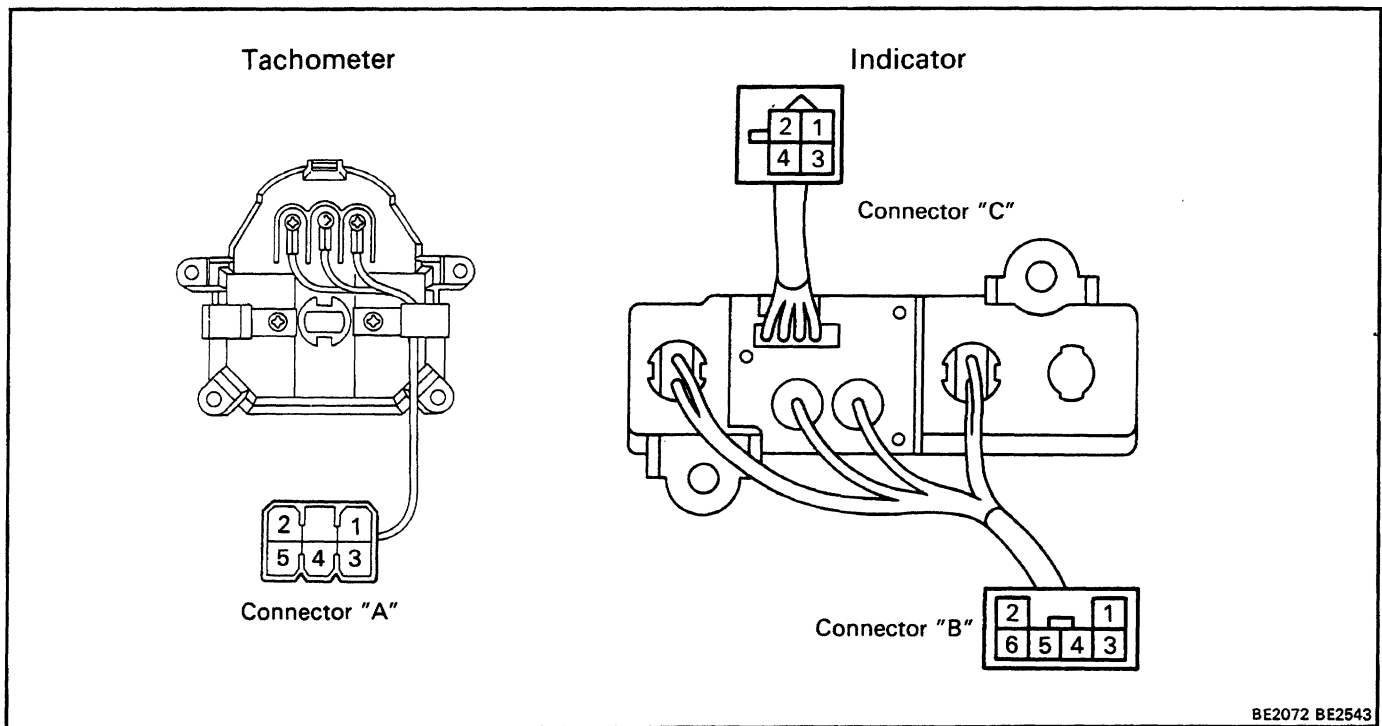
Troubleshooting

Problem	Possible cause	Remedy	Page
Tachometer does not operate	"GAUGE" fuse blown Tachometer faulty Wiring faulty	Replace fuse and check for short Check tachometer Repair as necessary	BE-3 BE-26
Fuel gauge does not operate	"GAUGE" fuse blown Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Replace fuse and check for short Check gauge Check gauge Repair as necessary	BE-3 BE-27 BE-28
Water temperature gauge does not operate	"GAUGE" fuse blown Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Replace fuse and check for short Check gauge Check gauge Repair as necessary	BE-3 BE-28 BE-29
Oil pressure gauge does not operate	"GAUGE" fuse blown Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Replace fuse and check for short Check gauge Check gauge Repair as necessary	BE-3 BE-29 BE-29
Brake warning light does not fight	"GAUGE" fuse blown Bulb burned out Brake fluid level warning switch faulty Parking brake switch faulty Wiring or ground faulty	Replace fuse and check for short Replace bulb Check switch Check switch Repair as necessary	BE-3 BE-30 BE-30 BE-30
Seat belt warning system does not operate	"GAUGE" fuse blown Bulb burned out Seat belt warning relay faulty Buckle switch faulty Courtesy switch (Front driver's side) faulty Wiring or ground faulty	Replace fuse and check for short Replace bulb Check relay Check switch Check switch Repair as necessary	BE-3 BE-30 BE-31 BE-30 BE-31

Meter Circuit



Connector	Terminal	Wiring Connector Side
A	1	Headlight Dimmer Switch terminal 6
	2	Oil Pressure Sender Gauge
	3	GAUGE Fuse
	4	Water Temperature Sender Gauge
	5	Parking Brake Switch and Brake
	6	Fluid Level Warning Switch
	7	Charge Light Relay terminal 2
	8	Ground
	9	TAIL Fuse
	10	Ground
	11	Ground
	12	Ground
	13	Fuel Sender Gauge
B	1	TAIL Fuse
	2	Ground
	3	ECU SPDM
	4	Ground



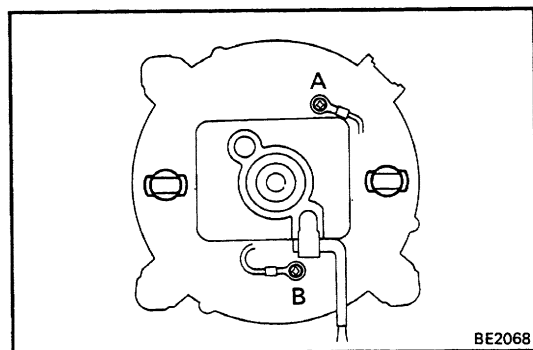
Connector	Terminal	Wiring Connector Side
A	1	TAIL Fuse
	2	Igniter
	3	Ground
	4	Ground
	5	GAUGE Fuse
B	1	GAUGE Fuse
	2	Seat Belt Warning Relay terminal 5
	3	
	4	
	5	
C	1	GAUGE Fuse
	2	Charge Light Relay terminal 2
	3	Differential Switch (Rear)
	4	Differential Switch (Front)

(mph)

Standard indication	Allowable range
20	20 – 23
40	40 – 43.5
60	60 – 64
80	80 – 84.5
100	100 – 110

(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



BE2068

DC 13 V 20°C (68°F)		rpm
Standard indication	Allowable range	
1,000	900 – 1,100	
2,000	1,875 – 2,125	
3,000	2,850 – 3,150	
4,000	3,850 – 4,150	

Parts Inspection

Speedometer System

1. INSPECT SPEEDOMETER

(On-Vehicle Operation)

- (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.

Tachometer-System

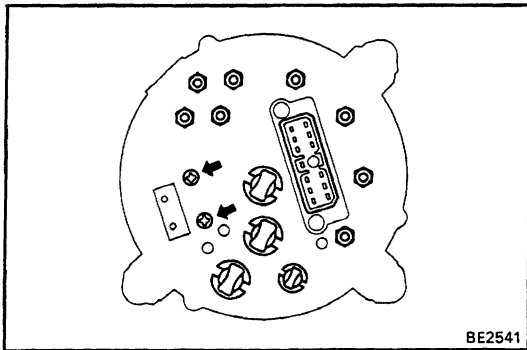
INSPECT TACHOMETER

(On-Vehicle Operation)

- (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.



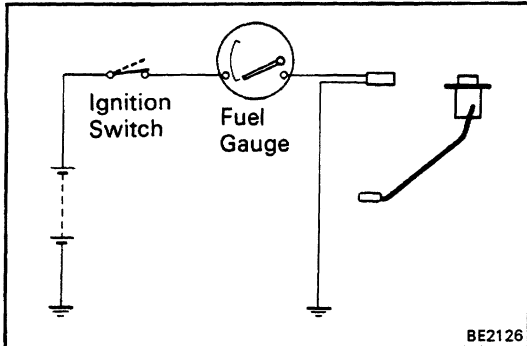
Voltmeter System

INSPECT RECEIVER GAUGE

Measure the resistance between terminals.

Resistance: Approx. 301Ω

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

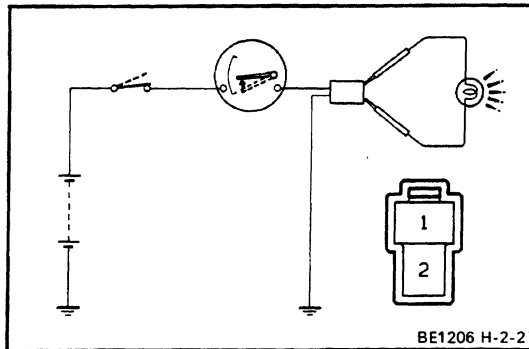


Fuel Gauge System –

1. INSPECT RECEIVER GAUGE

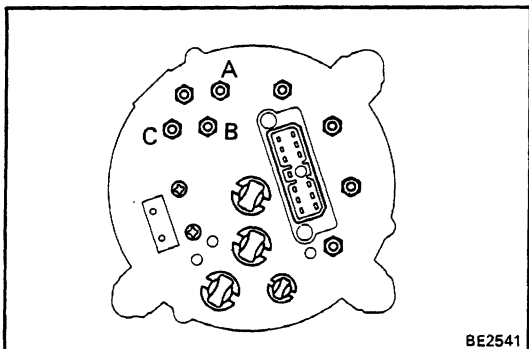
(Operation)

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



- Connect terminals 1 and 2 on the wire harness side connector through a 3.4 W test bulb.
- Turn the ignition switch ON, check that the bulb lights and receiver gauge needle moves towards the full side.

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



(Resistance)

Measure the resistance between terminals A and C

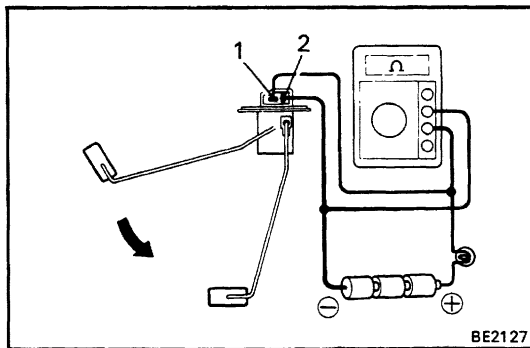
Resistance: Approx. 55Ω

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

(Voltage Regulator)

- Connect the positive (+) lead from the battery to terminal A and the negative (–) lead to terminal B.
- Connect the positive (+) lead from the voltmeter to terminal C and the negative (–) lead to terminal B, check that the voltmeter needle vibrates near the 4.5 V position.

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



2. INSPECT SENDER GAUGE

(Operation)

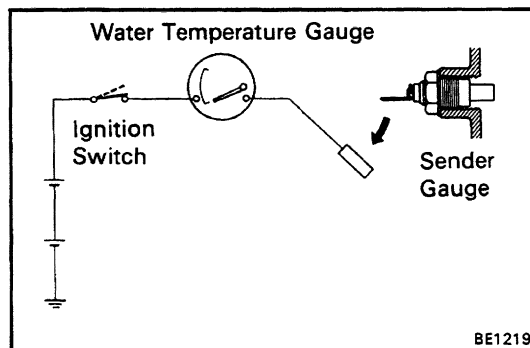
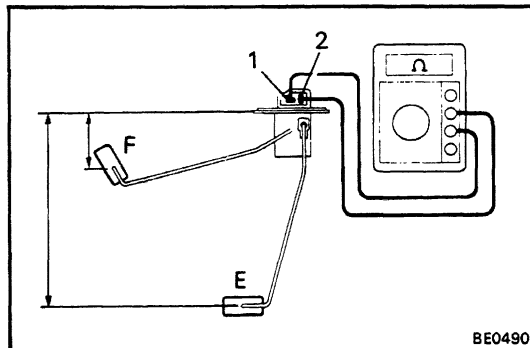
- Connect a series of three 1.5 V dry cell batteries.
- Connect the positive (+) lead from the dry cell battery to terminal 1 through a 3.4 W test bulb and the negative (-) lead to terminal 2.
- Check that the voltage rises between terminals 1 and 2 as the float is moved from the top to bottom position.

(Resistance)

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

Float position mm (in.)		Resistance (Ω)
F	Approx. 34.5 (1.36)	Approx. 17.0 ± 2.1
E	Approx. 160.5 (6.32)	Approx. 120 ± 6.5

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



Water Temperature Gauge System

1. INSPECT RECEIVER GAUGE

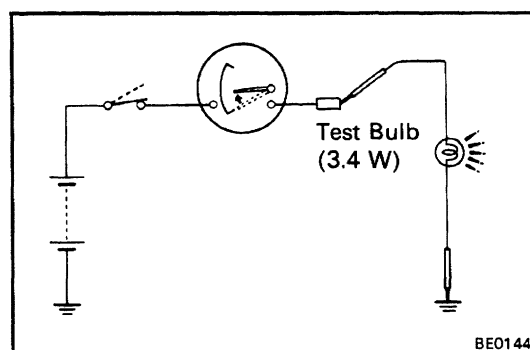
(Operation)

- 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 through a 3.4 W test bulb.

- Turn the ignition switch ON, check that the bulb lights and the receiver gauge needle moves to the hot side.

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

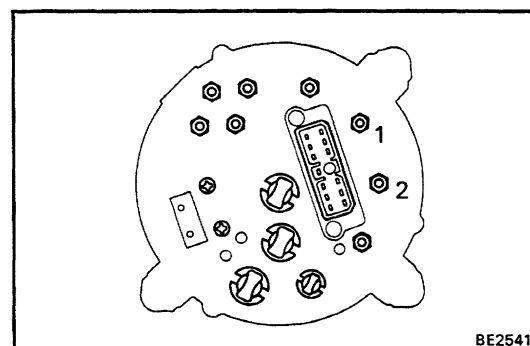


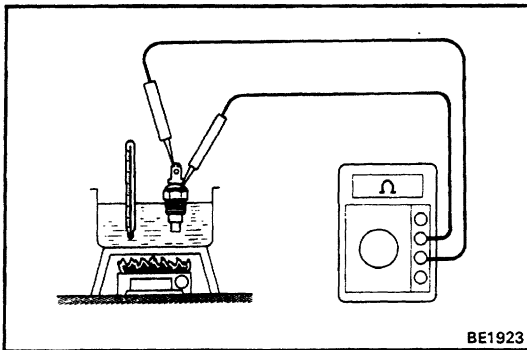
(Resistance)

Measure the resistance between terminals 1 and 2.

Resistance: Approx. 55 Ω

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





2. INSPECT SENDER GAUGE

Measure the resistance between terminal and the gauge body. .

Water temperature °C (°F)	Resistance (Ω)
50 (122)	226.0 ^{+33.6} - 36.6
115 (239)	26.4 ^{+1.71} - 2.21

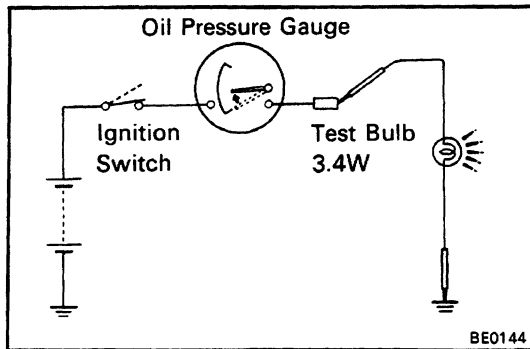
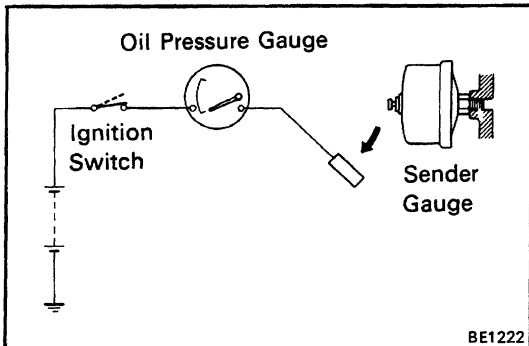
If resistance value is not as specified, replace the sender gauge.

Oil Pressure Gauge System

1. INSPECT RECEIVER GAUGE

(Operation)

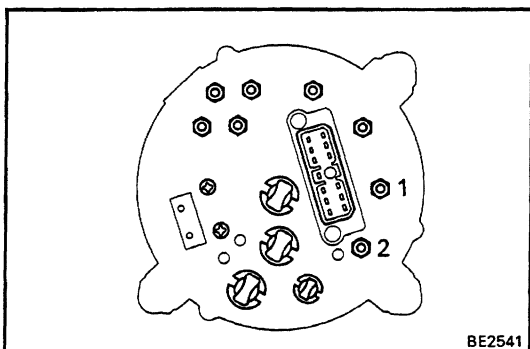
- Disconnect the connector from the sender gauge.
- Turn the ignition switch ON, check that the receiver gauge needle indicates LOW.



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

- Turn the ignition switch ON, check that the bulb lights and the receiver gauge needle moves to the high side.

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

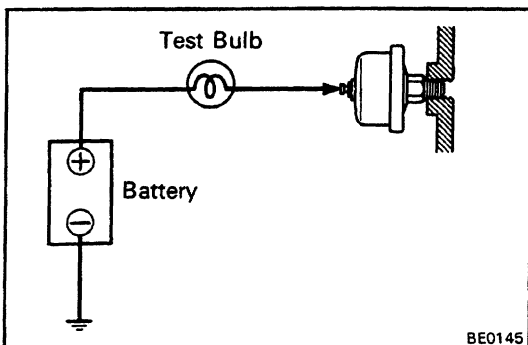


(Resistance)

Measure the resistance between terminals 1 and 2.

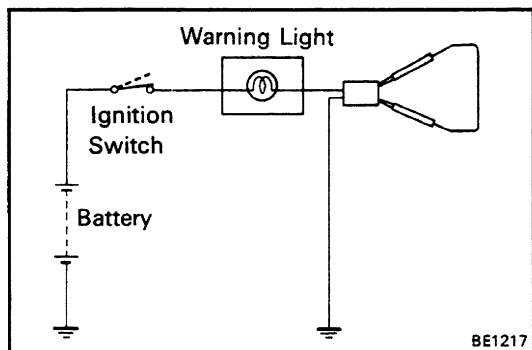
Resistance: Approx. 55Ω

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



2. INSPECT SENDER GAUGE

- Disconnect the connector from the sender gauge.
- Apply battery voltage to the sender gauge terminal through a 3.4 W test bulb.
- Check that the bulb does not light when the engine is stopped.
- Check that the bulb flashes when the engine is running. The number of flashes should vary with engine speed. If operation is not as specified, replace the sender gauge.



Brake Warning System

1. INSPECT WARNING LIGHT

- Disconnect the connectors from the level warning switch and parking brake switch.
- Connect terminals on the wire harness side connector of the level warning switch.
- Turn the ignition switch ON, check that the warning light lights.

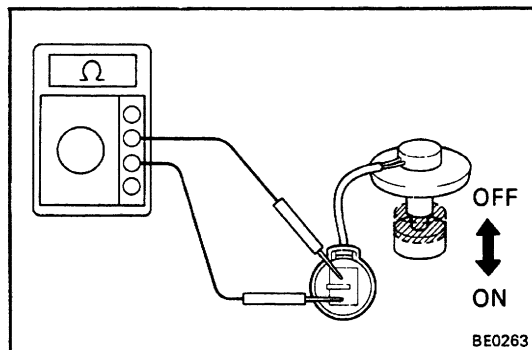
If the warning light does not light, test the bulb.

2. INSPECT SWITCHES

(Brake Fluid Level Warning Switch)

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

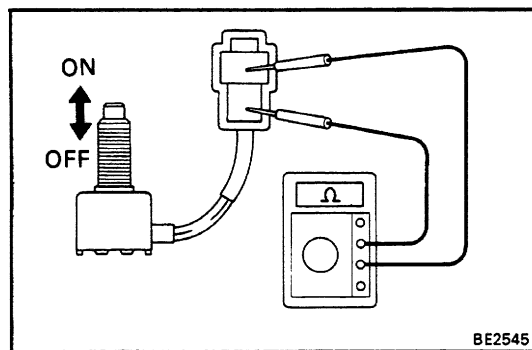
If operations are not as specified, replace the switch.



(Parking Brake Switch)

- Check that there is continuity between terminals with the switch pin released. (parking brake lever pulled up)
- Check that there is no continuity between terminals with the switch pin pushed in. (parking brake lever released)

If operation is not as specified, replace the switch.

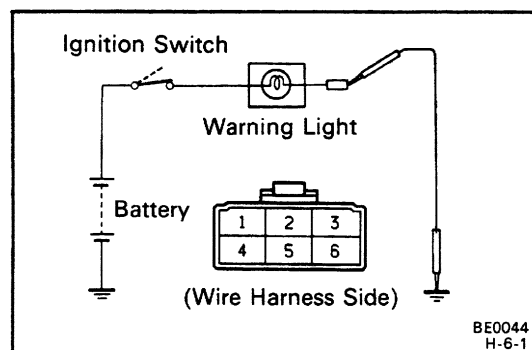


Seat Belt Warning System

1. INSPECT WARNING LIGHT

- Disconnect the connector from the seat belt warning relay and ground terminal 5 on the wire harness side.
- Turn the ignition switch ON, check that the warning light lights.

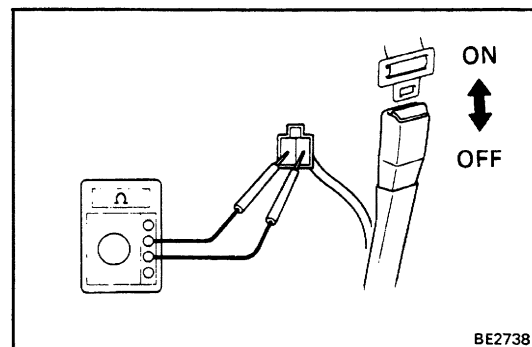
If warning light does not light, test the bulb.

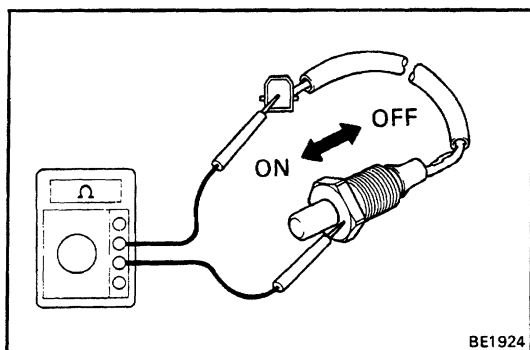


2. INSPECT SWITCHES

(Buckle Switch)

- Check that there is continuity between terminals on the switch side connector with the belt unfastened.
 - Check that there is no continuity between terminals on the switch side connector with the belt fastened.
- If operation is not as specified, replace the seat belt inner.



**(Courtesy Switch (Front driver's side))**

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

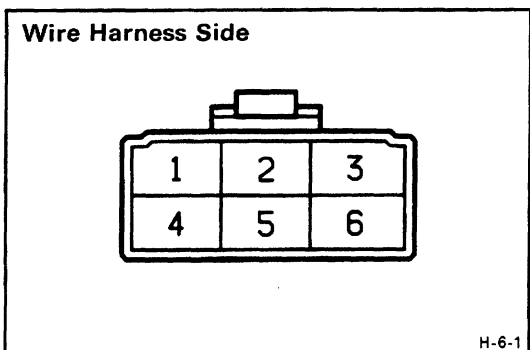
If operation is not as specified, replace the switch.

(Key Unlock Warning Switch)

See key unlock warning switch on page [BE-10](#).

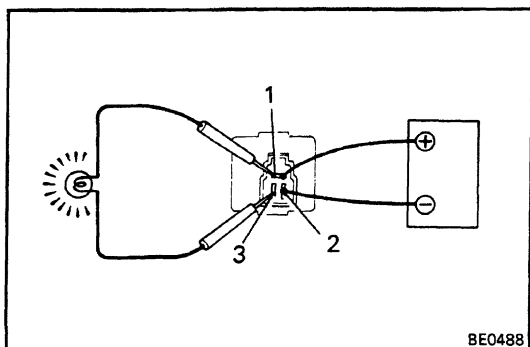
3. INSPECT SEAT BELT WARNING RELAY**(Relay Circuit)**

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



Check for	Tester connection	Condition		Specified value
Voltage	1 – Ground	Interior light switch at DOOR position or luggage room light switch at DOOR position	Courtesy switch OFF (Door closed)	Battery voltage
			Courtesy switch ON (Door opened)	No voltage
	2 – Ground	Turn ignition switch to LOCK or ACC		No voltage
		Turn ignition switch ON		Battery voltage
	3 – Ground	Unlock warning switch OFF (Ignition key removed)		No Voltage
		Unlock warning switch ON (ignition key set)	Courtesy switch OFF (Door closed)	Battery voltage
			Courtesy switch ON (Door opened)	No voltage
Continuity	4 – Ground	Constant		Continuity
Voltage	5 – Ground	Turn ignition switch to LOCK or ACC		No voltage
		Turn ignition switch ON		Battery voltage
Continuity	6 – Ground	Buckle switch OFF (Seat belt fastened)		No continuity
		Buckle switch ON (Seat belt unfastened)		Battery voltage

If circuit is as specified, replace the relay.

**Meter Illumination Control System****INSPECT LIGHT CONTROL RHEOSTAT**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
- Connect terminals 1 and 3 through a 3.4 W test bulb.
- Gradually turn the rheostat knob from dark side to bright side, check that the test bulb brightness changes from dark to bright.

If operation is not as specified, replace the rheostat.