

INSPECTION

1. INSPECT SPEEDOMETER ON-VEHICLE

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.

USA (mph)		CANADA (km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
20	18 - 24	20	17 - 24
40	38 - 44	40	38 - 46
60	56 - 66	60	57.5 - 67
80	78 - 88	80	77 - 88
100	98 - 110	100	96 - 109
120	118 - 132	120	115 - 130
		140	134 - 151.5
		160	153 - 173

2. w/ Tachometer:

INSPECT TACHOMETER ON-VEHICLE

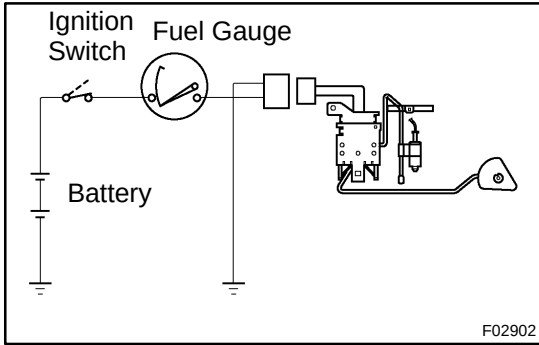
(a) Connect a tune-up test tachometer, and start the engine.

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.**

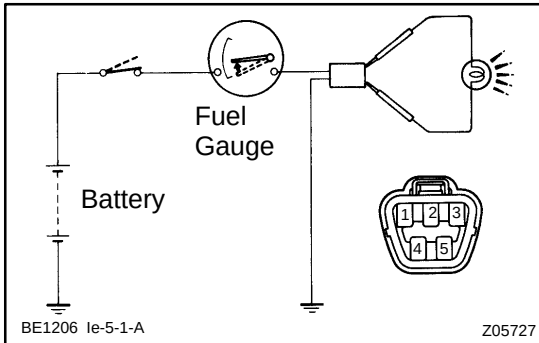
(b) Compare the tester and tachometer indications.

Standard indication	Allowable range
700	630 - 770
1,000	900 - 1,100
2,000	1,850 - 2,150
3,000	2,800 - 3,200
4,000	3,800 - 4,200
5,000	4,800 - 5,200
6,000	5,750 - 6,250
7,000	6,700 - 7,300



3. INSPECT FUEL 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 up and the receiver gauge needle moves towards the full side.

HINT:

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

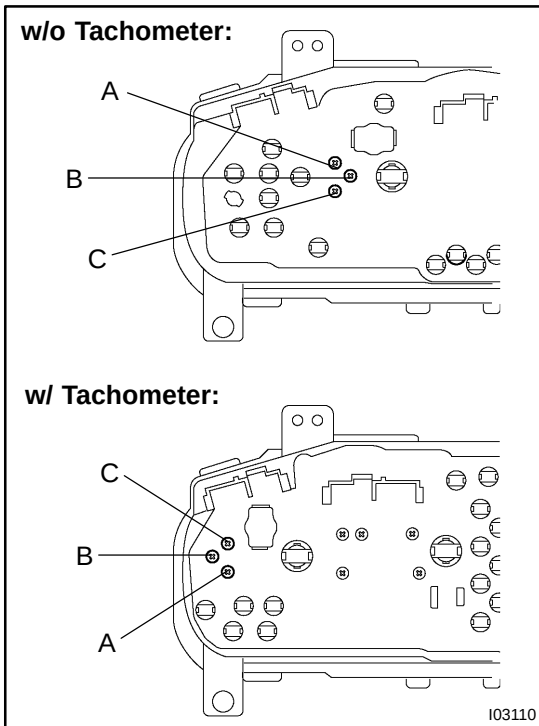
If operation is not as specified, inspect the receiver gauge resistance.

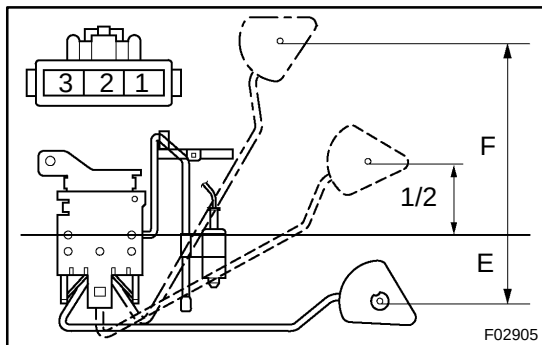
4. INSPECT FUEL RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals.

Tester connection	Resistance (Ω)
A - B	Approx. 261.5
A - C	Approx. 107.2
B - C	Approx. 154.3

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



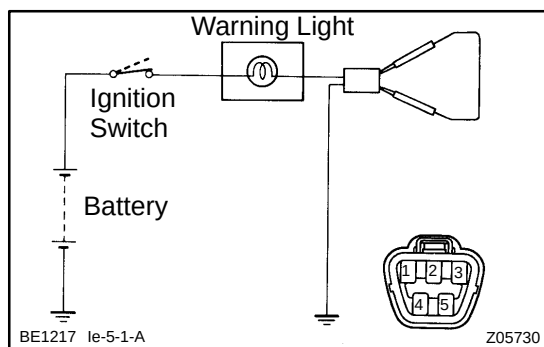


5. INSPECT FUEL SENDER GAUGE RESISTANCE

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

Float position mm (in.)	Resistance (Ω)
F: Approx. 80.3 (3.161)	Approx. 3.0
1/2: Approx. 23.0 (0.906)	Approx. 31.5
E: Approx. 36.0 (1.417)	Approx. 110.0

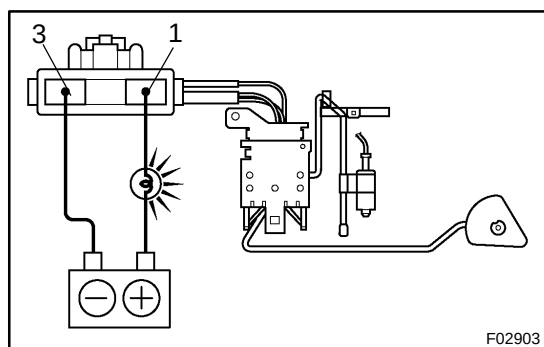
If resistance value is not as specified, replace the sender gauge.



6. INSPECT FUEL LEVEL WARNING LIGHT

- Disconnect the connector from the sender gauge.
- Connect terminals 1 and 3 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 or inspect wire harness.

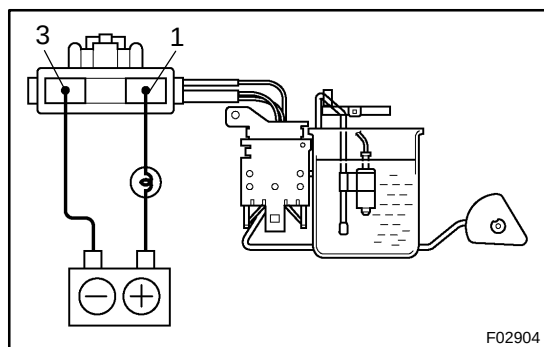


7. INSPECT FUEL LEVEL WARNING SWITCH

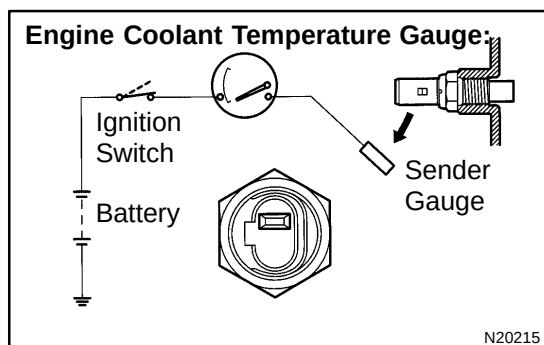
- Apply battery positive voltage between terminals 1 and 3 through a 3.4-W test bulb, check that the bulb lights up.

HINT:

It takes a short time for the bulb to light up.

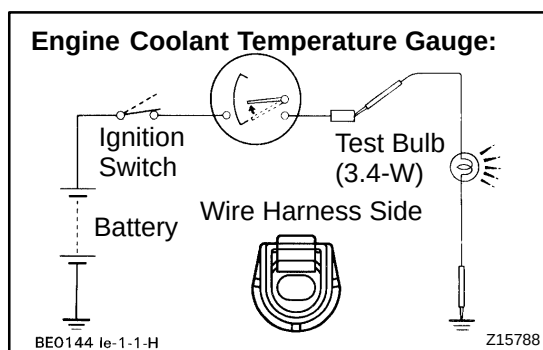


- Submerge the switch in fuel, check that the bulb goes out. If operation is not as specified, replace the sender gauge.

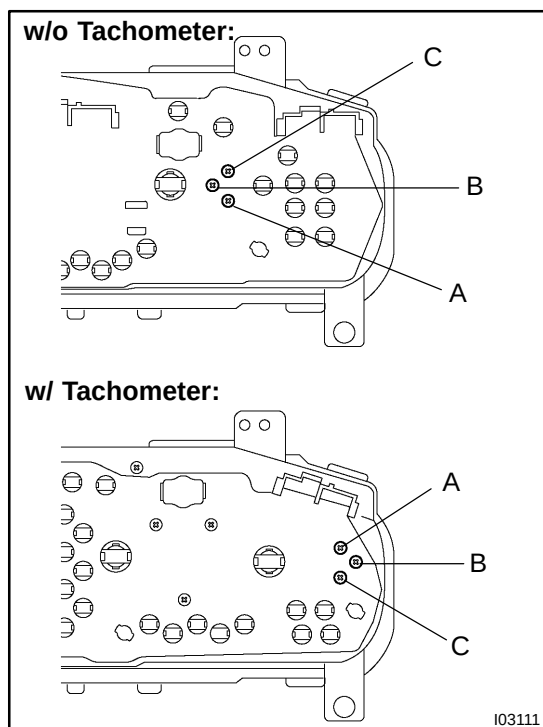


8. INSPECT ENGINE COOLANT TEMPERATURE RECEIVER GAUGE OPERATION

- Disconnect the connector from the sender gauge.
- Turn the ignition switch ON and 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, and check that the bulb lights up and the receiver gauge needle moves to 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.



9. INSPECT ENGINE COOLANT TEMPERATURE RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals.

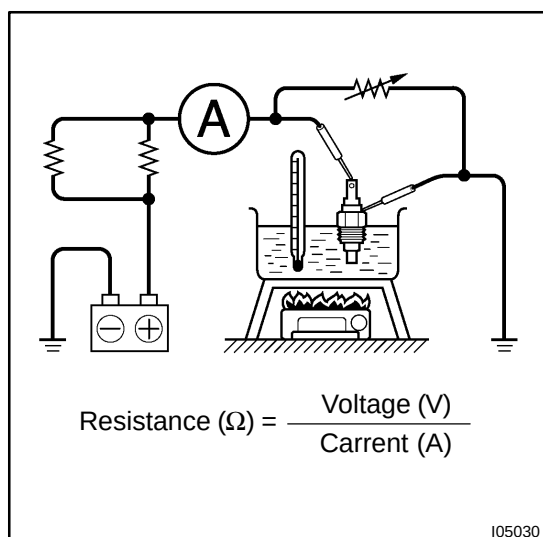
Tester connection	Resistance (Ω)
A - B	Approx. 175.7
A - C	Approx. 54.0
B - C	Approx. 229.7

HINT:

Connect the test leads so that the current from the ohmmeter can flow according to the above order.

This circuit includes the diode.

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

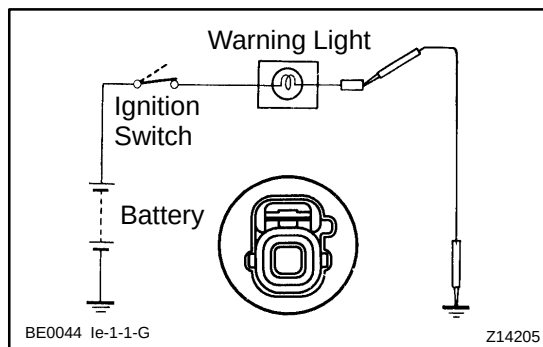


10. INSPECT ENGINE COOLANT TEMPERATURE SENDER GAUGE RESISTANCE

Connect the wire harness as shown in the illustration, and enter the value in the left formula. Check the resistance conforms to the values in the table below.

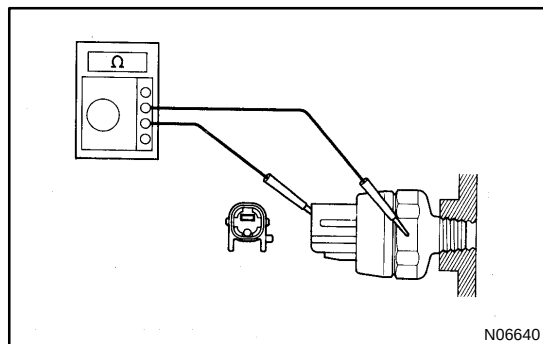
Temperature $^{\circ}\text{C}$ ($^{\circ}\text{F}$)	Resistance (Ω)
50 (122.0)	160 - 240
120 (248.0)	17.1 - 21.2

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

**11. INSPECT LOW OIL PRESSURE WARNING LIGHT**

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

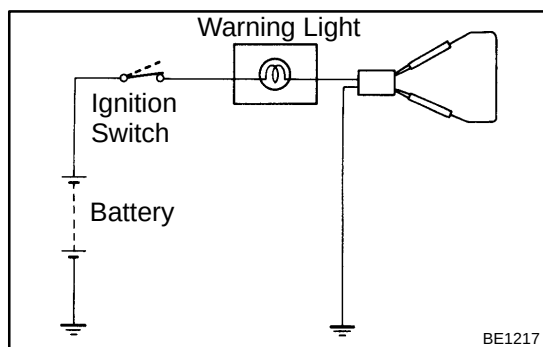
If the warning light does not light up, test the bulb.

**12. INSPECT LOW OIL PRESSURE SWITCH**

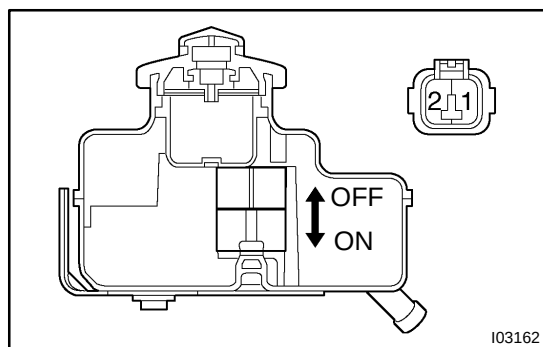
- Disconnect the connector from the switch.
- Check that continuity exists between terminal and ground with the engine stopped.
- Check that no continuity exists between terminal and ground with the engine running.

HINT:

Oil pressure should be over 24.5 kPa (0.25 kgf·cm², 3.55 psi).
If operation is not as specified, replace the switch.

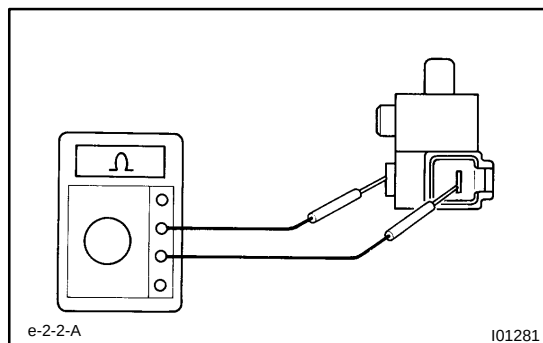
**13. INSPECT BRAKE SYSTEM WARNING LIGHT**

- Disconnect the connector from the brake fluid warning switch.
 - Release the parking brake pedal.
 - Connect the terminals on the wire harness side of the level warning switch connector.
 - Start the engine, check that the warning light lights up.
- If the warning light does not light up, test the bulb or wire harness.

**14. INSPECT BRAKE FLUID LEVEL WARNING SWITCH**

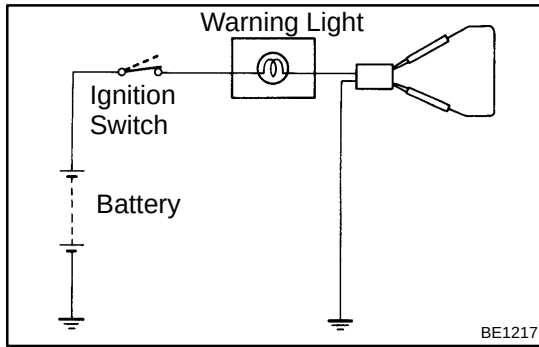
- Remove the reservoir tank cap and strainer.
- Disconnect the connector.
- Check that no continuity exists between the terminals with the switch OFF (float up).
- Use syphon, etc. to take fluid out of the reservoir tank.
- Check that continuity exists between the terminals with the switch ON (float down).
- Pour the fluid back in the reservoir tank.

If operation is not as specified, replace the switch.

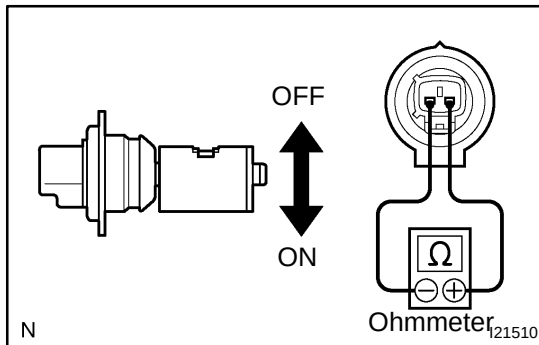
**15. INSPECT PARKING BRAKE SWITCH CONTINUITY**

- Check that continuity exists between terminals with the switch ON (switch pin released).
- Check that no continuity exists between terminals with the switch OFF (switch pin pushed in).

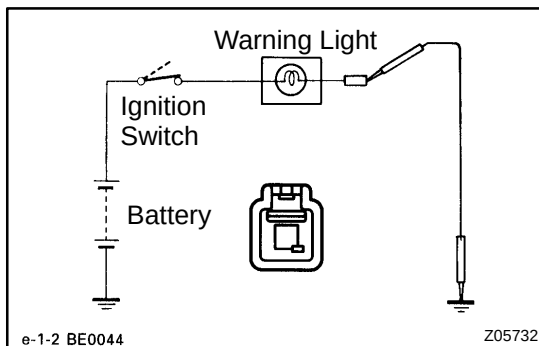
If operation is not as specified, replace the switch.

**16. INSPECT WASHER LEVEL 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 connector.
 - Remove the GAUGE fuse and turn the ignition switch ON, and check that the warning light comes on.
- If the warning light does not light up, test the bulb.

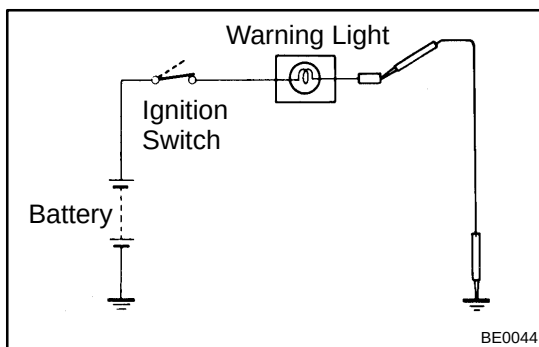
**17. INSPECT WASHER LEVEL WARNING SWITCH**

- Check that no continuity exists between terminals with the switch OFF (float up).
 - Check that continuity exists between terminals with the switch ON (float down).
- If operation is not as specified, replace the switch.

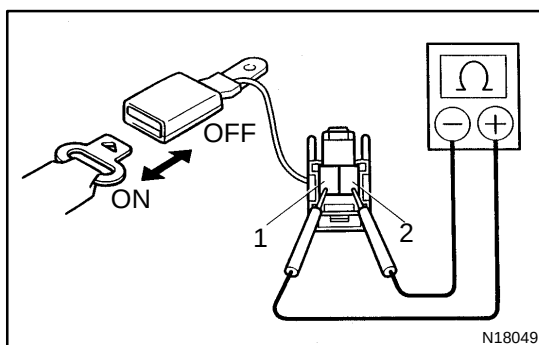
**18. INSPECT OPEN DOOR WARNING LIGHT**

Disconnect the connector from the door courtesy switch and ground terminal 1 on the wire harness side, and check that the warning light lights up.

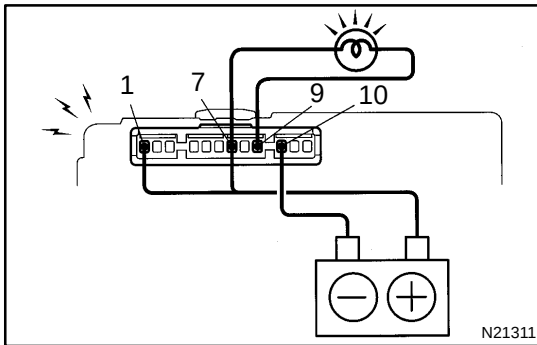
If the warning light does not light up, inspect the bulb or wire harness.

**19. INSPECT SEAT BELT WARNING LIGHT**

- Remove the integration relay from the instrument panel junction block.
 - Ground terminal 2 on the integration relay with the connectors still connected.
 - Turn the ignition switch ON and check that the warning light lights up.
- If the warning light does not light up, inspect the bulb or wire harness.

**20. INSPECT BUCKLE SWITCH CONTINUITY**

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



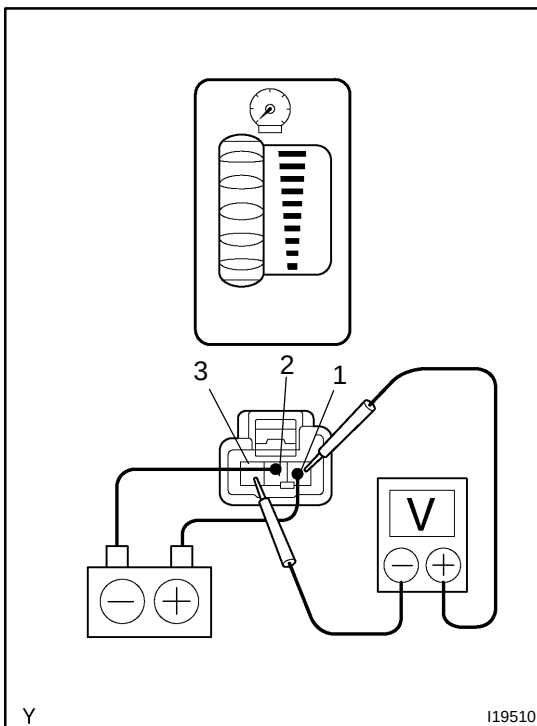
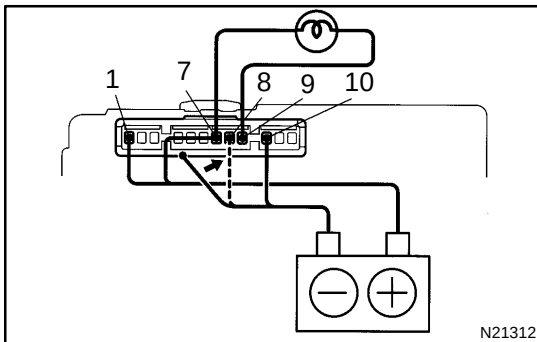
21. INSECT INTEGRATION RELAY SEAT BELT WARNING SYSTEM OPERATION

- Connect the positive (+) lead from the battery to terminals 1 and 7.
- Connect the terminal 7 to terminal 9 through the 3.4-W test bulb.
- Connect the negative (-) lead from the battery to terminal 10.
- Check that the bulb flashes and the buzzer sounds for 4 - 8 seconds.
- Return to step (a) and operate the buzzer again.
- Connect the negative (-) lead from the battery to terminal 8.
- Check that the buzzer stops sounding.

HINT:

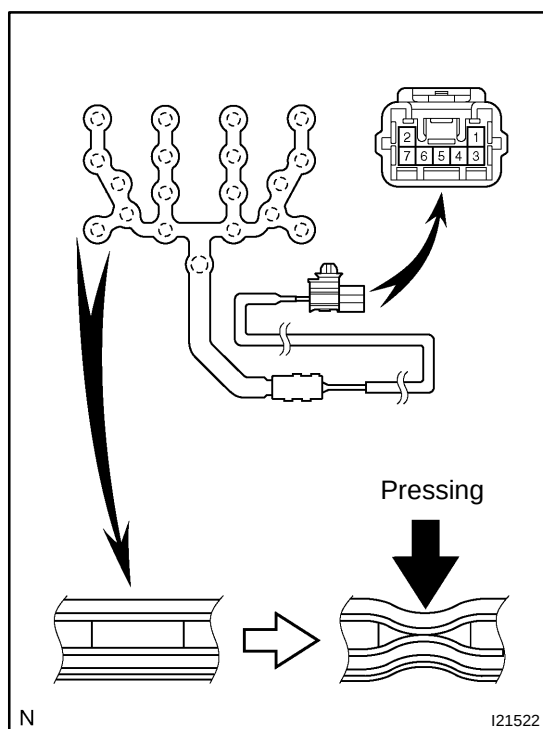
Check the buzzer within a period of 4 to 8 seconds.

If operation is not as specified, replace the relay.



22. INSPECT LIGHT CONTROL RHEOSTAT

- Connect the positive (+) lead from the battery to terminal 1 and negative lead (-) to terminal 2.
- Connect the positive (+) lead from the voltmeter to terminal 1 and negative lead to terminal 3.
- Turn the rheostat knob and check that the voltage changes.



23. Passenger seat only:
INSPECT SEAT BELT WARNING OCCUPANT DETECTION SENSOR CONTINUITY

Check that continuity exists between the terminals 1 and 2 when pressing the sensing part.

If operation is not as specified, replace the sensor.