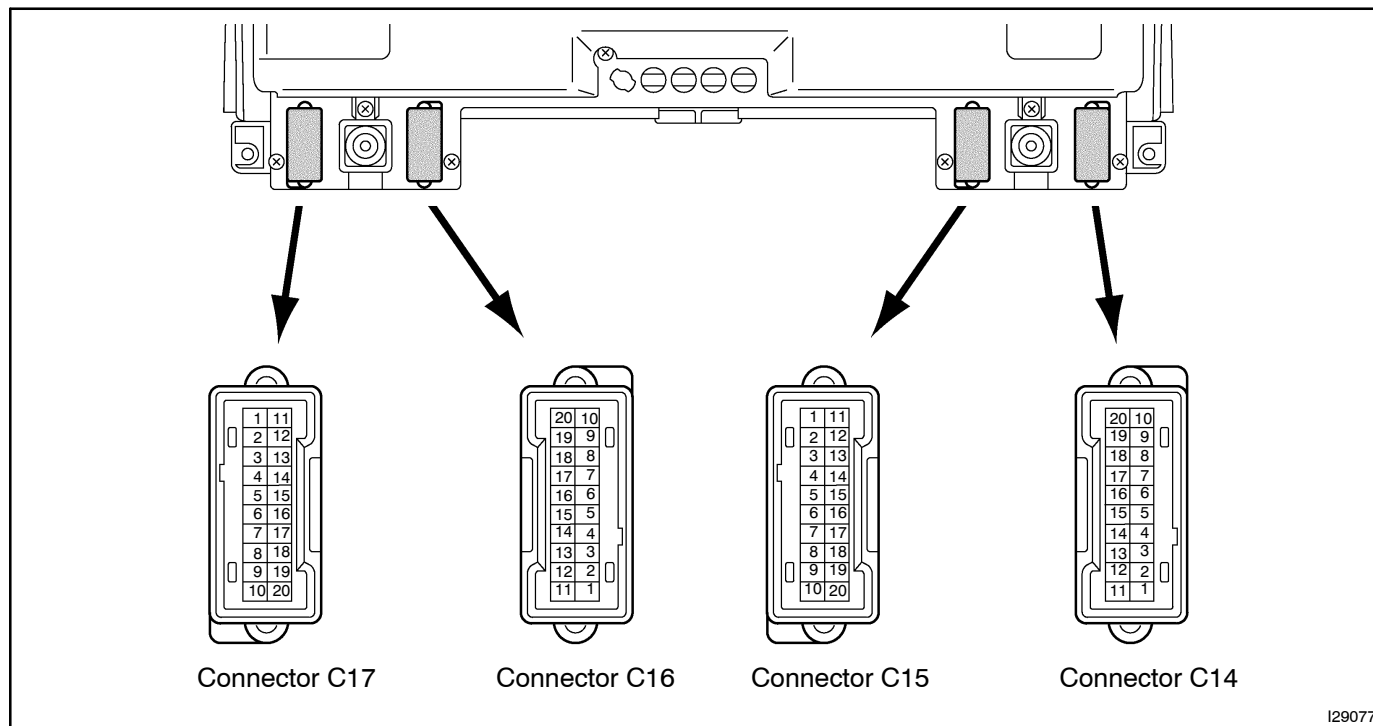


INSPECTION

1. INSPECT COMBINATION METER CIRCUIT

Connect the connector C14, C15, C16 and C17 to the combination meter and inspect the wire harness side connectors from the back side as shown in the table.



I29077

Tester connection	Condition	Specified condition
C14-3 (DOOR-) - Ground	Either door is opened	Below 1 V
	Either door is closed	10 - 14 V
C14-4 (TURN-L) - Ground	Ignition switch ON and turn signal switch OFF or RIGHT	Below 1 V
	Ignition switch ON and turn signal switch LEFT	Pulse signal is output 10 - 14 V ↔ Below 1 V
C14-5 (BEAM+) - Ground	Ignition switch ON, light control switch OFF	Below 1 V
	Ignition switch ON, light control switch ON	10 - 14 V
C14-6 (TURN-R) - Ground	Ignition switch ON and turn signal switch OFF or LEFT	Below 1 V
	Ignition switch ON and turn signal switch RIGHT	Pulse signal is output 10 - 14 V ↔ Below 1 V
C14-7 (BEAM-) - Ground	Ignition switch ON, light control switch ON	Below 1 V
C14-10 (CHG+) - Ground	Ignition switch OFF	Below 1 V
	Ignition switch ON	10 - 14 V
C14-11 (WASHER) - Ground	Ignition switch ON and window washer level warning switch float UP	Below 1 V
	Ignition switch ON and window washer level warning switch float DOWN	10 - 14 V
C14-12 (ABS) - Ground	Ignition switch ON and ABS warning light comes on	Below 1 V
	Ignition switch ON and ABS warning light does not come on	10 - 14 V

BODY ELECTRICAL – COMBINATION METER

C14-20 (HEAD LIGHT+) – Ground	Ignition switch ON, light control switch OFF	Below 1 V
	Ignition switch ON, light control switch ON	10 – 14 V
C15-8 (ILL+) – Ground	Ignition switch OFF	Below 1 V
	Ignition switch ON	10 – 14 V
C15-11 (CHECK E/G) – Ground	Ignition switch ON and engine is stopped	Below 1 V
	Ignition switch ON and engine is running	10 – 14 V
C15-14 (CTR DIFF/4WD) – Ground	Ignition switch ON and center diff. lock switch OFF	Below 1 V
C15-14 (CTR DIFF/4WD) – Ground	Ignition switch ON and center diff. lock switch ON	Battery positive voltage
C15-15 (SLIP) – Ground	Ignition switch ON, SLIP warning light ON	Below 1.5 V
	Ignition switch ON, SLIP warning light OFF	10 – 14 V
C15-16 (VSC TRC) – Ground	Ignition switch ON, VSC TRC indicator light ON	Below 1.5 V
	Ignition switch ON, VSC TRC indicator light OFF	10 – 14 V
C15-17 (VSC OFF) – Ground	Ignition switch ON, VSC OFF indicator light ON	Below 1.5 V
	Ignition switch ON, VSC OFF indicator light OFF	10 – 14 V
C15-18 (ACTIVE TRC) – Ground	Ignition switch ON, TRC OFF indicator light ON	Below 1.5 V
	Ignition switch ON, TRC OFF indicator light OFF	10 – 14 V
C15-19 (RSCA OFF) – Ground	Ignition switch ON, RSCA warning light ON	Below 2.0 V
	Ignition switch ON, RSCA warning light OFF	10 – 14 V
C16-4 (AIR BAG-) – Ground	Ignition switch ON and SRS indicator light lights up	Below 1 V
C16-4 (AIR BAG-) – Ground	Ignition switch ON and SRS indicator does not come on	10 – 14 V
C16-7 (OIL PRS SDR) – Ground	Ignition switch ON and indicator ON	Below 1 V
	Ignition switch ON and indicator OFF	10 – 14 V
C16-10 (T/M PULSE) – Ground	Engine is Running	Pulse generation
C16-11 (D-BKL SW) – Ground	Ignition switch ON and seat belt is unfastened	Below 1 V
	Ignition switch ON and seat belt is fastened	10 – 14 V
C16-18 (PKB SW) – Ground	Ignition switch ON and parking brake lever is pulled	Below 1 V
	Ignition switch ON and parking brake lever is released	10 – 14 V
C16-20 (BRAKE) – Ground	Ignition switch ON and brake system indicator ON	Below 1 V
	Ignition switch ON and brake system indicator OFF	10 – 14 V
C17-1 (E/G EARTH) – Ground	Always	Continuity
C17-2 (MAIN FE) – Ground	Always	Continuity
C17-4 (MAIN FV) – Ground	Ignition switch ON	4.5 – 5.5 V
C17-6 (MAIN FR) – Ground	Ignition switch ON and fuel sender gauge float UP	Approx. 0.5 V
	Ignition switch ON and fuel sender gauge float DOWN	Approx. 5.5 V
C17-7 (ILL-) – Ground	Ignition switch ON and light control rheostat volume minimum	Below 1 V
	Ignition switch ON and light control rheostat volume maximum	10 – 14 V

C17-9 (KEY SW) – Ground	Key unlock warning switch ON (Key is inserted)	Below 1 V
	Key unlock warning switch OFF (Key is removed)	10 – 14 V
C17-10 (D-CTY SW) – Ground	Ignition switch ON and driver door is opened	Below 1 V
	Ignition switch ON and driver door is closed	10 – 14 V
C17-11 (IGN+) – Ground	Ignition switch OFF	Below 1 V
	Ignition switch ON	10 – 14 V
C17-12 (ECU-B2) – Ground	Always	10 – 14 V
C17-13 (ACC+) – Ground	Ignition switch OFF	Below 1 V
	Ignition switch ACC or ON	10 – 14 V
C17-14 (DOOR+) – Ground	Always	10 – 14 V
C17-15 (SP IN) – Ground	Ignition switch ON and slowly move the wheel	Pulse signal is output below 1.5 V ↔ battery positive voltage
C17-16 (4P OUT) – Ground	Ignition switch ON and slowly move the wheel	Pulse signal is output below 1.5 V ↔ approx. 5 V or below 1.5 V ↔ battery positive voltage
C17-17 (NIGHT VIEW) – Ground	Ignition switch ON, remove night view projector bulb and night view system operating	Below 1 V

If a circuit is not as specified, inspect the applicable circuit.

2. INSPECT SPEEDOMETER/ ON-VEHICLE

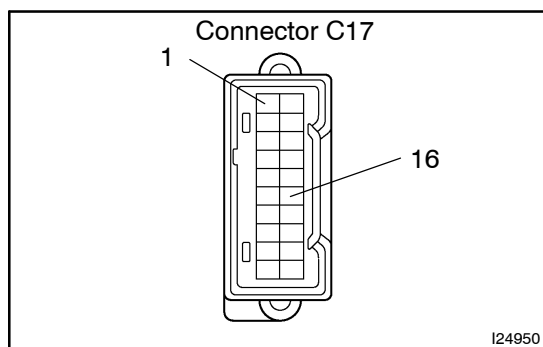
Using a speedometer tester, inspect the speedometer for allowable indication error and check the operation of the odometer.

HINT:

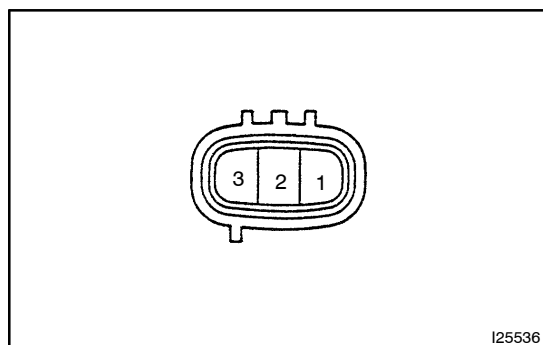
Tire wear and tire over-or under-inflation will widen the indication error range.

USA (mph)		CANADA and TAIWAN (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

If the error exceeds the allowable range, replace the combination meter.



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3. INSPECT SPEEDOMETER VOLTAGE

While driving the vehicle at the speed of 10 km/h, check the voltage between the terminal 16 and 1 of the combination meter assy.

STANDARD: Fluctuation between 10 V to 14 V or less is repeated 7 times within 1 sec.

4. INSPECT VEHICLE SPEED SENSOR OPERATION

- Connect the battery positive (+) lead to terminal 1 and the battery negative (-) lead to terminal 2.
- Connect the tester positive (+) lead to terminal 3 and the tester negative (-) lead to terminal 2.
- Rotate the shaft.
- Check that there is voltage change from approx. 0 V to 11 V or more between terminals 2 and 3.

HINT:

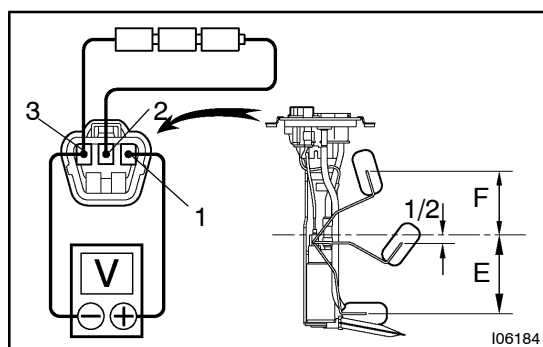
The voltage change should be performed 4 times for every revolution. If it doesn't, replace the sensor.

5. INSPECT TACHOMETER / ON-VEHICLE

- Connect a tune-up test tachometer, and start the engine.
- Compare the tester and the tachometer indications.

DC 13.5 V 25 °C at (77 °F):

Standard indication (rpm)	Allowable range (rpm) (): estimated reference values
700	617 - 757
1,000	(881) - (1,081)
2,000	(1,837) - (2,087)
3,000	2,793 - 3,093
4,000	(3,775) - (4,075)
5,000	4,756 - 5,058



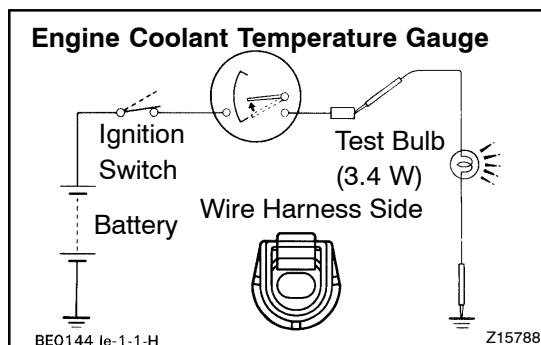
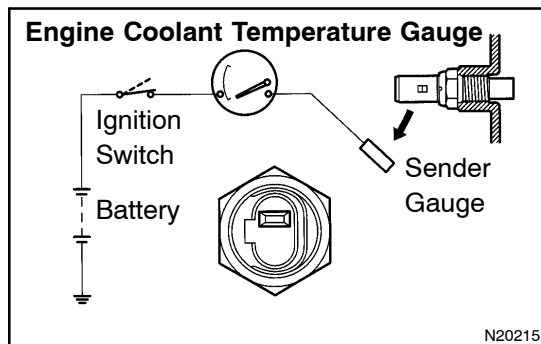
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6. INSPECT FUEL SENDER GAUGE VOLTAGE

- Apply voltage (4.5 V - 5.0 V) between terminal 2 and 3.
- Measure voltage between terminal 1 and 2 for each floating position.

Float position mm (in.)	Voltage (V)
F: Approx. 85.3 (3.36)	Approx. 4.6 ± 0.1
1/2: Approx. 1.7 (0.67)	Approx. 2.45 ± 0.1
E: Approx. 91.9 (3.62)	Approx. 0.3 ± 0.1

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

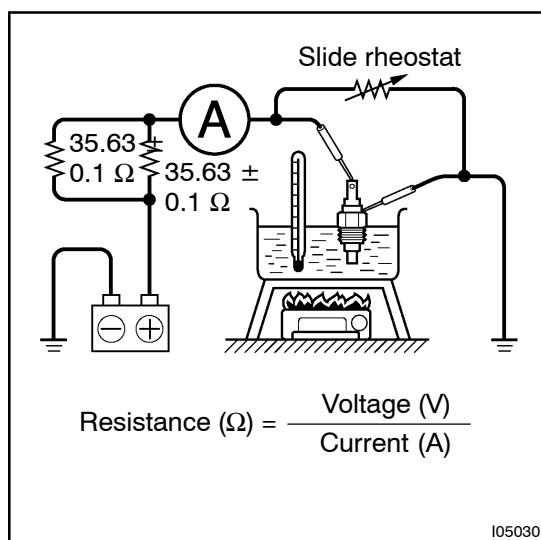


7. INSPECT ENGINE COOLANT TEMPERATURE RECEIVER GAUGE OPERATION

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

- Ground terminal on the wire harness side connector through a 3.4 W test bulb.
- Turn the ignition switch ON, and check that the bulb comes on and the receiver gauge needle moves to the hot side.

If operation is as specified, replace the sender gauge.

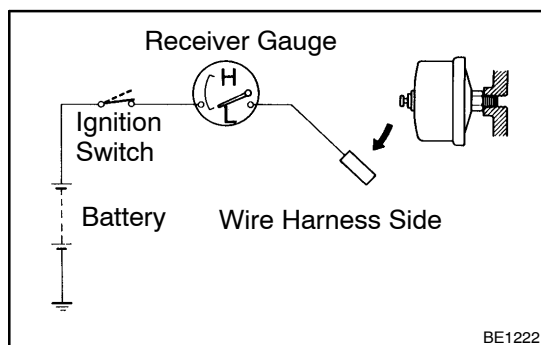


8. INSPECT ENGINE COOLANT TEMPERATURE SENDER GAUGE RESISTANCE

Connect the wire harness as shown in the illustration, and enter the value using the formula on the left. Check the resistance is within the values in the table below.

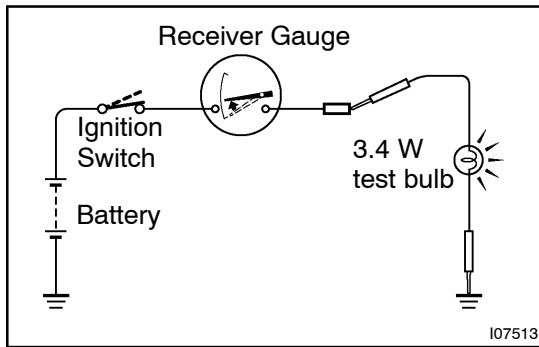
Temperature °C (°F)	Resistance (Ω)
50 (122.0)	160 - 240
120 (248.0)	17.1 - 21.2

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



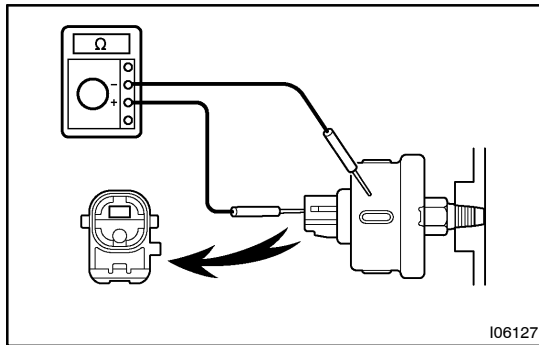
9. INSPECT OIL PRESSURE RECEIVER GAUGE OPERATION

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



- (c) Ground terminal on the wire harness side 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 HIGH side.

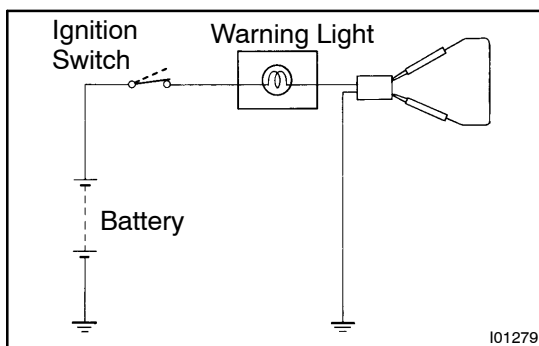
If operation is as specified, replace the sender gauge.



10. INSPECT OIL PRESSURE SENDER GAUGE OPERATION

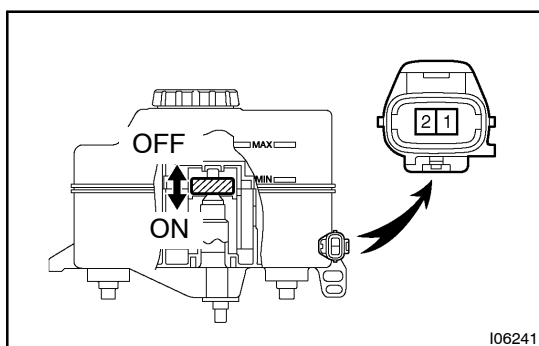
- (a) Stop the engine.
- (b) Disconnect the connector from the sender gauge.
- (c) Check that no continuity exists between the terminal and the sender gauge body.
- (d) Start the engine.
- (e) Check that continuity exists between the terminal and the sender gauge body.

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



11. INSPECT BRAKE WARNING LIGHT

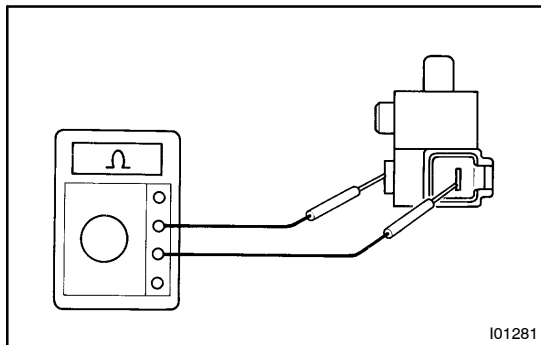
- (a) Disconnect the connector from the brake fluid warning switch.
 - (b) Release the parking brake pedal.
 - (c) Connect the terminals on the wire harness side of the level warning switch connector.
 - (d) Start the engine, check that the warning light comes on.
- If the warning light does not come on, test the bulb or the wire harness.



12. INSPECT BRAKE FLUID LEVEL WARNING SWITCH CONTINUITY

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

If operation is not as specified, replace the switch.

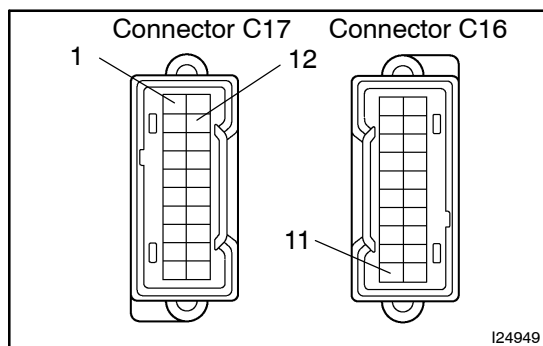
**13. INSPECT PARKING BRAKE SWITCH CONTINUITY**

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

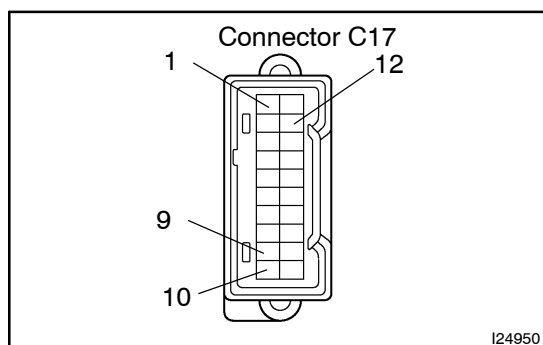
If operation is not as specified, replace the switch.

14. INSPECT OPEN DOOR WARNING LIGHT

- (a) Disconnect the connector from the driver door courtesy switch, and ground terminal on the wire harness side connector.
- (b) Turn the ignition switch ON and check that the warning light lights up.

**15. INSPECT SEAT BELT WARNING BUZZER**

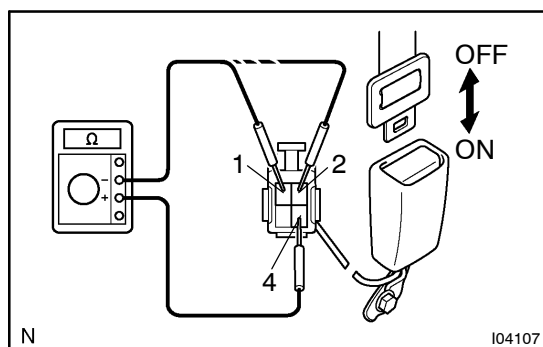
- (a) Disconnect the connector from the combination meter.
- (b) Connect the battery positive (+) lead to terminal 12 and the battery negative (-) lead terminal 1.
- (c) Check that the buzzer stop after 4 to 8 seconds.
- (d) Check that buzzer stops when connecting the terminal 11 to the GND.

**16. INSPECT KEY UNLOCK WARNING BUZZER**

- (a) Disconnect the connector from the combination meter.
- (b) Connect the battery positive (+) lead to terminal 12 and the battery negative (-) lead to terminal 1.
- (c) Connect the battery negative (-) lead to terminal 9 and 10, and check that the buzzer sound.

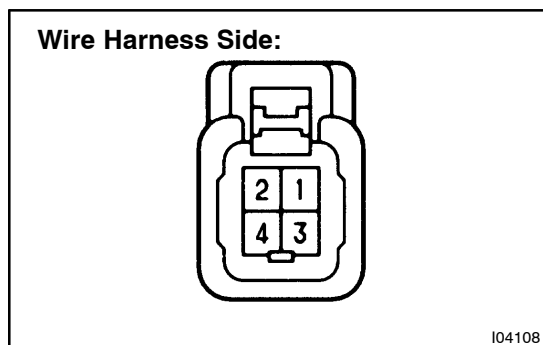
17. INSPECT SEAT BELT WARNING LIGHT

- (a) Disconnect the connector from the seat belt buckle switch and ground terminal on the wire harness side connector.
- (b) Turn the ignition switch ON and check that the warning light comes on.

**18. INSPECT SEAT BELT BUCKLE SWITCH CONTINUITY**

	Tester connection	Belt fastened (Belt unfastened)
Seat belt buckle SW (D)	1 - 4	ON (OFF)
Seat belt buckle SW(P)	2 - 4	OFF (ON)

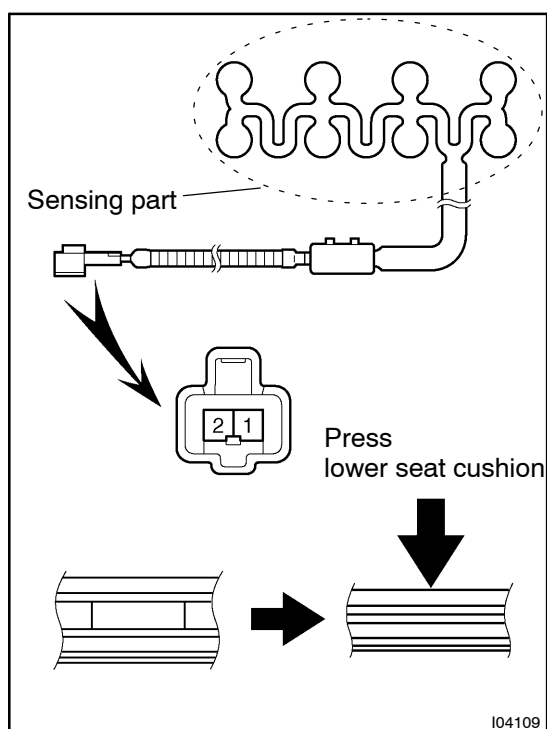
If operation is not as specified, replace the switch.

**19. INSPECT SEAT BELT BUCKLE SWITCH CIRCUIT**

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

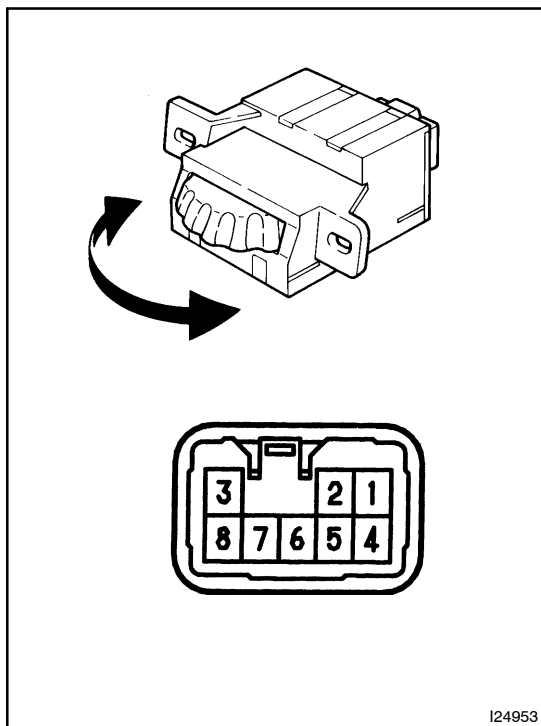
Tester connection	Condition	Specified condition
4 - Ground	Always	Continuity

If continuity is not as specified, inspect the ground circuit.

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

Check that continuity exists between the terminal 1 and 2 when pressing the sensing part of the lower seat cushion.

If operation is not as specified, replace the sensor.



21. INSPECT LIGHT CONTROL RHEOSTAT

- Turn the rheostat knob to OFF, and check that there is no continuity between terminal 5 and 4 (Rheostat knob turned fully counterclockwise).
- Gradually, turn the rheostat knob from the dark side to the bright side, and check that there is continuity between terminal 5 and 4 (Rheostat knob turned clockwise).

If operation is not as specified, replace the rheostat.

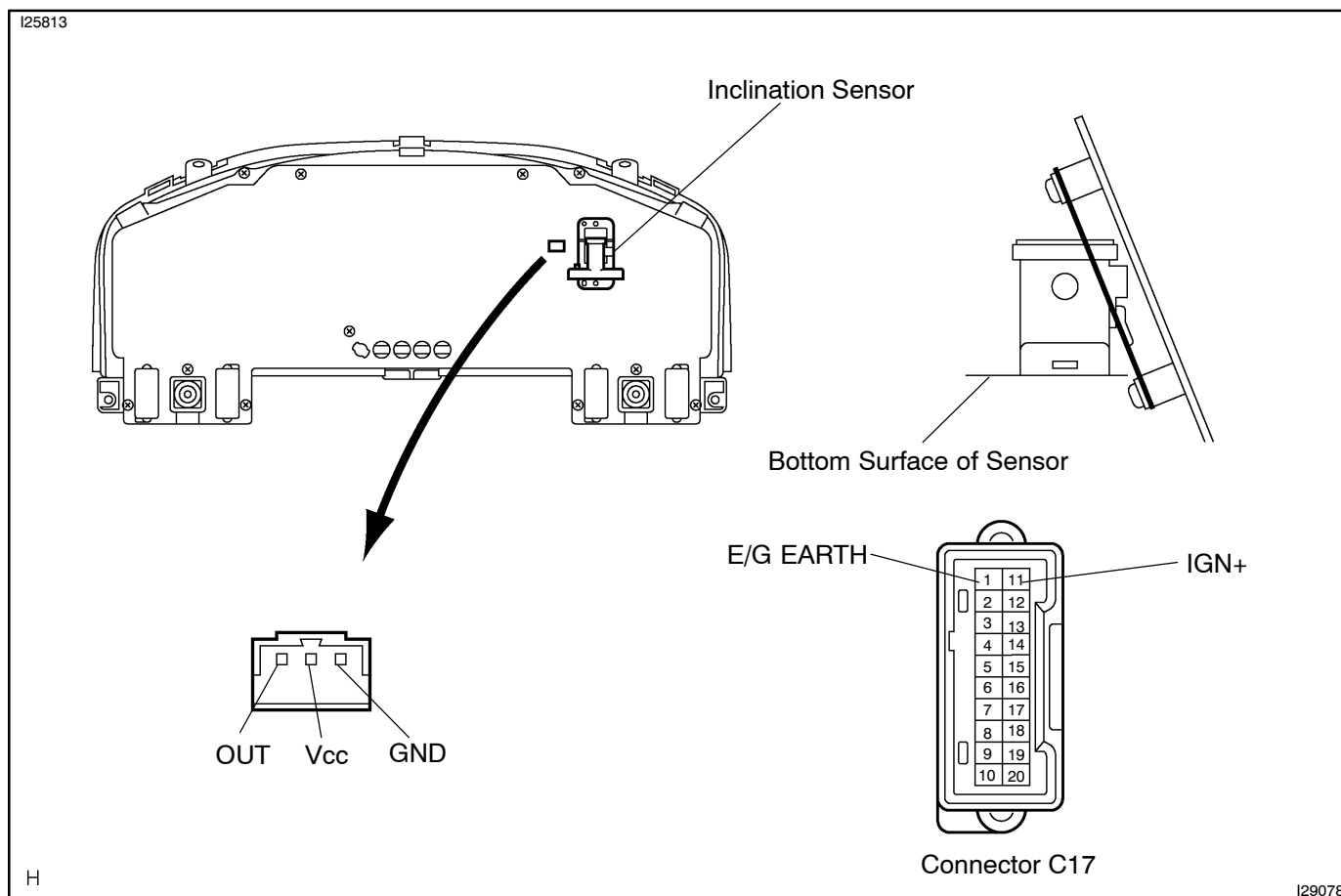
22. INSPECT INCLINATION SENSOR

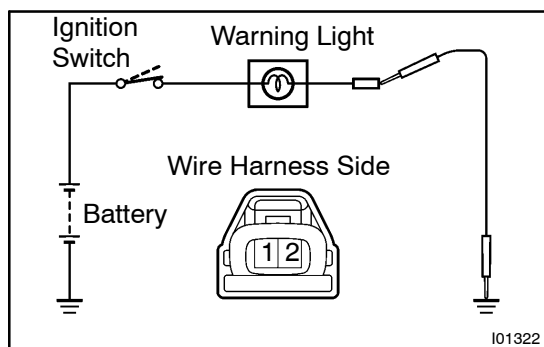
- The inclination sensor is installed in the combination meter. Inspect the inclination sensor by connecting a battery positive (+) lead to terminal 11 (IGN+) of the meter connector, and a battery negative (-) lead to terminal 1 (E/G EARTH).
- Check if the voltage between terminal Vcc and GND of the inclination sensor connector is 5 V.
- Check the voltage between terminal OUT and GND when the bottom surface of the inclination sensor is in a level position. Also check the voltage when it is inclined backward or forward.

Standard Value:

Bottom surface of sensor is set in a level position:
about 4.5 V

Bottom surface of sensor is inclined:
about 0.5 V

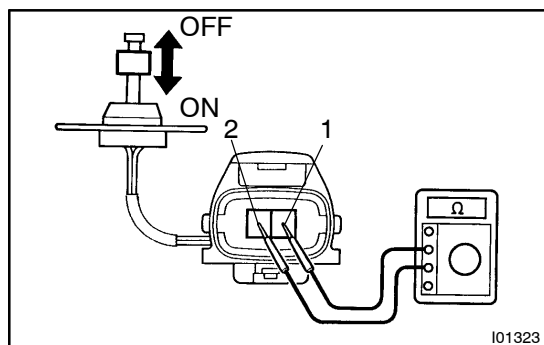




23. INSPECT WINDOW WASHER LEVEL WARNING LIGHT

- Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.
- Run the engine and check that the warning light comes on.

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



24. INSPECT WINDOW WASHER LEVEL WARNING SWITCH CONTINUITY

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

If operation is not as specified, replace the switch.