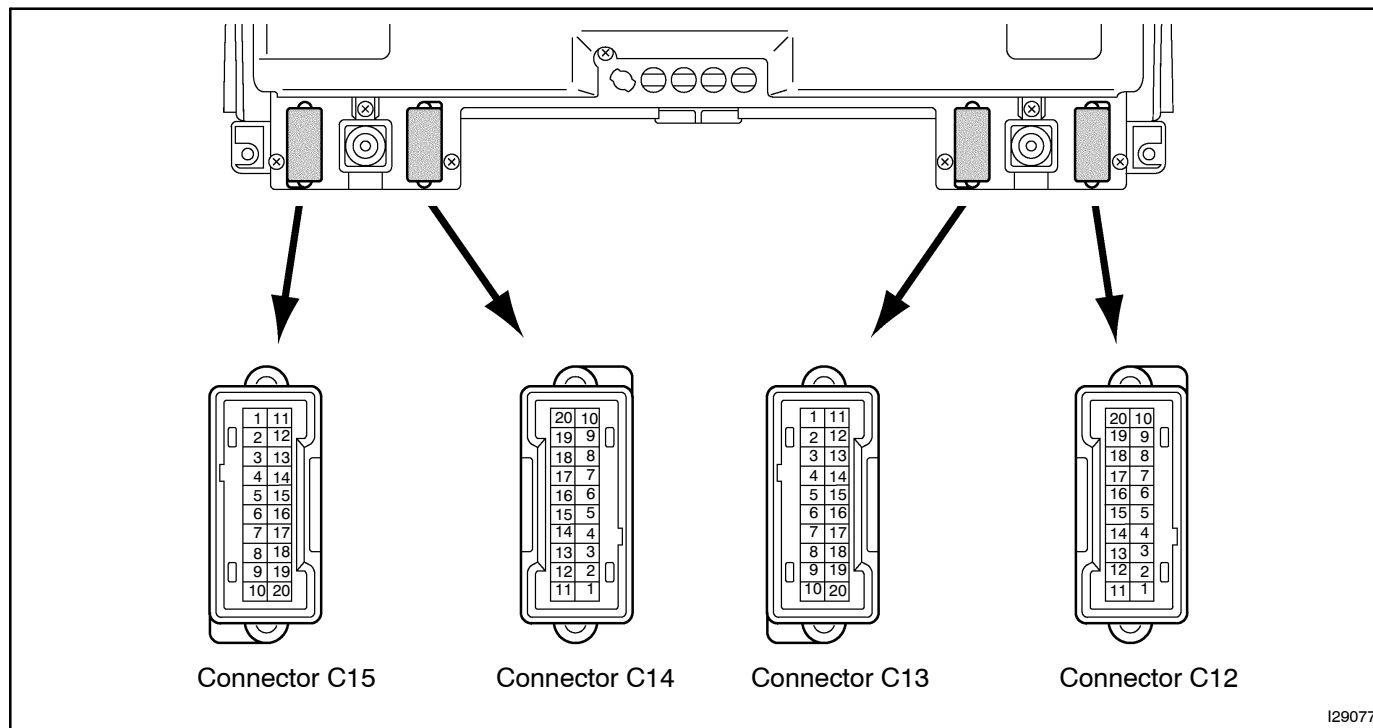


INSPECTION

1. INSPECT COMBINATION METER CIRCUIT

Connect the connector C12, C13, C14 and C15 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
C12-3 (DOOR-) - Ground	Either door is opened	Below 1 V
	Either door is closed	10 - 14 V
C12-4 (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
C12-5 (BEAM+) - Ground	IG switch ON, light control switch OFF	Below 1 V
	IG switch ON, light control switch ON	10 - 14 V
C12-6 (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
C12-7 (BEAM-) - Ground	IG switch ON, light control switch ON	Below 1 V
C12-10 (CHG+) - Ground	Ignition switch OFF	Below 1 V
	Ignition switch ON	10 - 14 V
C12-12 (ABS) - Ground	Ignition switch ON and ABS warning light lights up	Below 1 V
	Ignition switch ON and ABS warning light does not light up	10 - 14 V
C13-8 (ILL+) - Ground	IG switch OFF	Below 1 V
	IG switch ON	10 - 14 V

C13-11 (CHECK E/G) – Ground	Ignition switch ON and engine is stopped	Below 1 V
	Ignition switch ON and engine is running	10 – 14 V
C13-14 (CTR DIFF/4WD) – Ground	Ignition switch ON and center diff. lock switch OFF	Below 1 V
C13-14 (CTR DIFF/4WD) – Ground	Ignition switch ON and center diff. lock switch ON	10 – 14 V
C13-15 (SLIP) – Ground	IG switch ON, SLIP warning light ON	Below 1.5 V
	IG switch ON, SLIP warning light OFF	10 – 14 V
C13-16 (VSC TRC) – Ground	IG switch ON, VSC TRC indicator light ON	Below 1.5 V
	IG switch ON, VSC TRC indicator light OFF	10 – 14 V
C13-17 (VSC OFF) – Ground	IG switch ON, VSC OFF indicator light ON	Below 1.5 V
	IG switch ON, VSC OFF indicator light OFF	10 – 14 V
C13-18 (ACTIVE TRC) – Ground	IG switch ON, TRC OFF indicator light ON	Below 1.5 V
	IG switch ON, TRC OFF indicator light OFF	10 – 14 V
C13-19 (RSCA OFF) – Ground	IG switch ON, RSCA warning light ON	Below 2.0 V
	IG switch ON, RSCA warning light OFF	10 – 14 V
C14-4 (AIR BAG-) – Ground	Ignition switch ON and SRS indicator light lights up	Below 1 V
C14-4 (AIR BAG-) – Ground	Ignition switch ON and SRS indicator does not light up	10 – 14 V
C14-7 (OIL PRS SDR) – Ground	Ignition switch ON and indicator ON	Below 1 V
	Ignition switch ON and indicator OFF	10 – 14 V
C14-10 (T/M PULSE) – Ground	Engine is Running	Pulse generation
C14-11 (D-BKL SW) – Ground	Ignition switch ON and seat belt is unfastened	10 – 14 V
	Ignition switch ON and seat belt is fastened	Below 1 V
C14-18 (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
C14-20 (BRAKE) – Ground	Ignition switch ON and brake system indicator ON	Below 1 V
	Ignition switch ON and brake system indicator OFF	10 – 14 V
C15-1 (E/G EARTH) – Ground	Constant	Continuity
C15-2 (MAIN FE) – Ground	Constant	Continuity
C15-4 (MAIN FV) – Ground	Ignition switch ON	4.5 – 5.5 V
C15-6 (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
C15-7 (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
C15-9 (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

BODY ELECTRICAL – COMBINATION METER

C15-10 (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
C15-11 (IGN+) – Ground	Ignition switch OFF	Below 1 V
	Ignition switch ON	10 – 14 V
C15-12 (ECU-B2) – Ground	Constant	10 – 14 V
C15-13 (ACC+) – Ground	Ignition switch OFF	Below 1 V
	Ignition switch ACC or ON	10 – 14 V
C15-14 (DOOR+) – Ground	Constant	10 – 14 V
C15-15 (SP IN) – Ground	Ignition switch ON and slowly move the wheel	Pulse signal is output below 1.5 V ↔ battery positive voltage
C15-16 (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

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

2. INSPECT SPEEDOMETER/ ON-VEHICLE

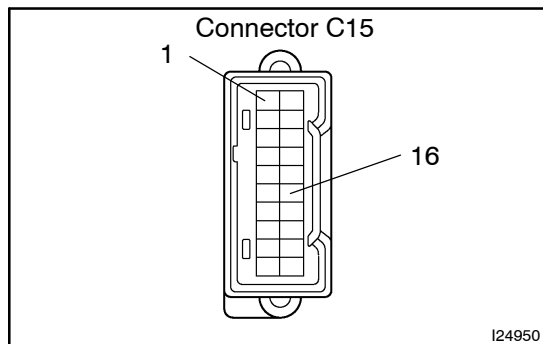
Using a speedometer tester, inspect the speedometer for allowable indication error and check the operation of the odometer.

HINT:

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

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

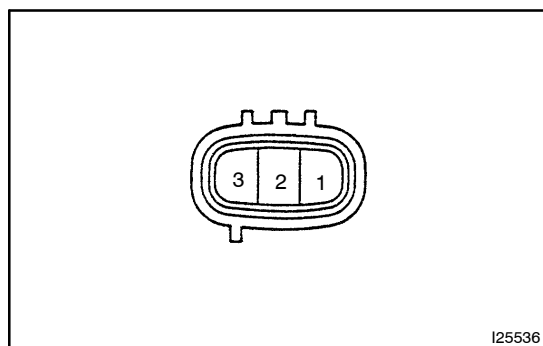
If error is excessive, replace the combination meter.



3. INSPECT SPEEDOMETER VOLTAGE

- (a) While driving the vehicle at the speed of 10 km/h, check the voltage between the terminals 16 and 1 of the combination meter assy.

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



4. INSPECT VEHICLE SPEED SENSOR OPERATION

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

HINT:

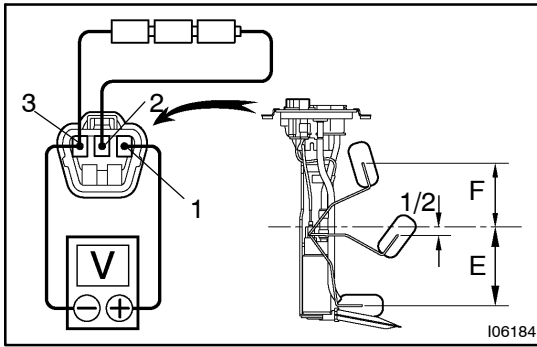
The voltage change should be performed 4 times for every revolution is not as specified, replace the sensor.

5. INSPECT TACHOMETER / ON-VEHICLE

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

DC 13.5 V 25 °C at (77 °F):

Standard indication (rpm)	Allowable range (rpm) (): estimated reference values
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

**6. INSPECT FUEL SENDER GAUGE VOLTAGE**

- Apply voltage (4.5 V – 5.0 V) between terminals 2 and 3.
- Measure voltage between terminals 1 and 2 for each float position.

Float position mm (in.)	Voltage (V)
F: Approx. 85.3 (3.36)	Approx. 4.60 ± 0.1
1/2: Approx. 1.7 (0.67)	Approx. 2.45 ± 0.1
E: Approx. 91.9 (3.62)	Approx. 0.30 ± 0.1

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

7. INSPECT LOW OIL PRESSURE WARNING LIGHT

- Disconnect the connector from the low oil pressure switch.
- Turn the ignition switch ON.
- Connect the terminal of wire harness side connector and ground, then check the warning light.

8. INSPECT PARKING BRAKE WARNING LIGHT

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

9. INSPECT BRAKE WARNING LIGHT

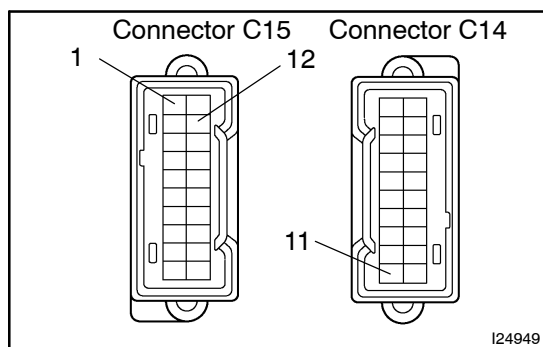
- Disconnect the connector from the brake fluid level warning switch and ground terminal on the wire harness side connector.
- Turn the ignition switch ON and check that the warning light lights up.

10. INSPECT BRAKE FLUID LEVEL WARNING SWITCH

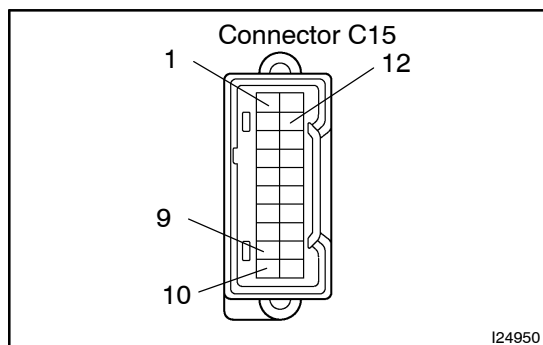
- Remove the reservoir tank cap and retainer.
- Disconnect the connector.
- Check that the continuity exists between the terminal.
- Use syphon, etc., to take fluid out of the reservoir tank.
- Check that the continuity exists between terminals.
- Pour the fluid back in the reservoir tank.

11. INSPECT OPEN DOOR WARNING LIGHT

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

**12. INSPECT SEAT BELT WARNING BUZZER**

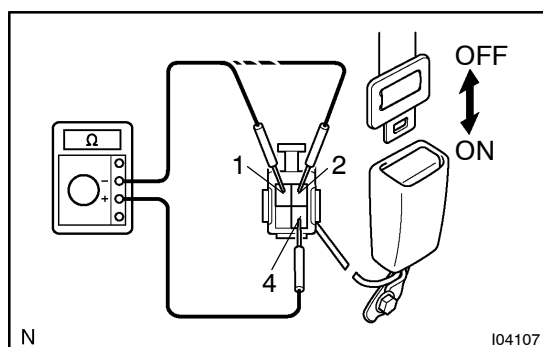
- Disconnect the connector from the combination meter.
- Connect the positive (+) lead from the battery terminal 12 and negative (-) lead terminal 1.
- Check that the buzzer stop after 4 to 8 seconds.
- Check that the buzzer stops when connecting the terminal 11 to the GND.

**13. INSPECT KEY UNLOCK WARNING BUZZER**

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

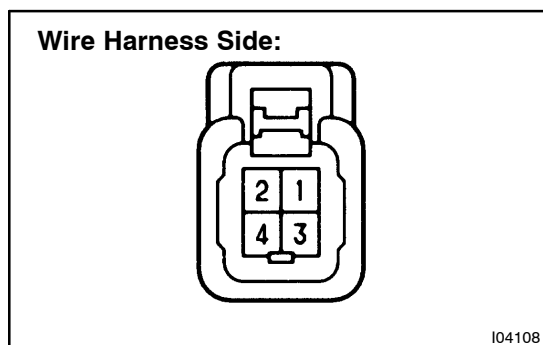
14. INSPECT SEAT BELT WARNING LIGHT

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

**15. 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)

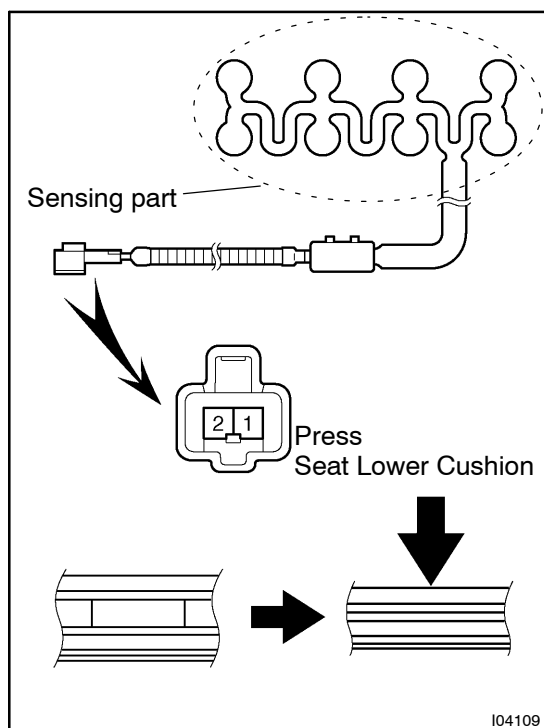
If operation is not as specified, replace the switch.

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

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

Tester connection	Condition	Specified condition
4 - Ground	Constant	Continuity

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

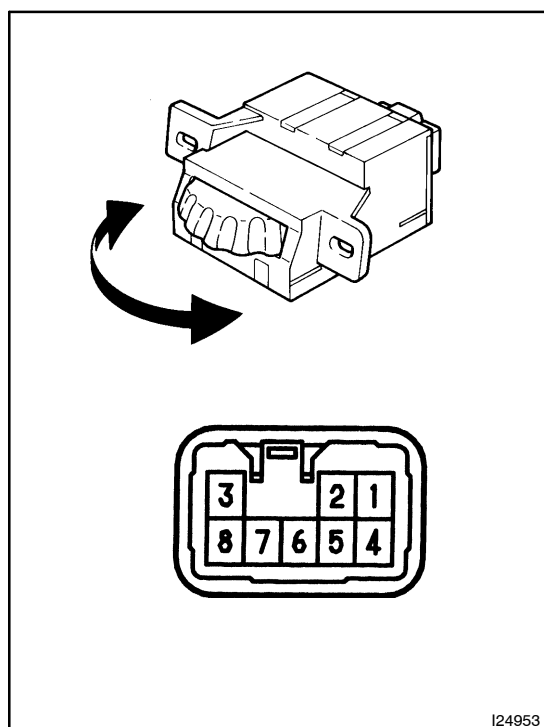


17. Passenger seat only:

INSPECT SEAT BELT WARNING OCCUPANT DETECTION SENSOR CONTINUITY

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

If operation is not as specified, replace the sensor.



18. INSPECT LIGHT CONTROL RHEOSTAT

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

If operation is not as specified, replace the rheostat.

19. INSPECT INCLINATION SENSOR

- (a) 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).
- (b) Check if the voltage between terminal Vcc and GND of the inclination sensor connector is 5 V.
- (c) 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

