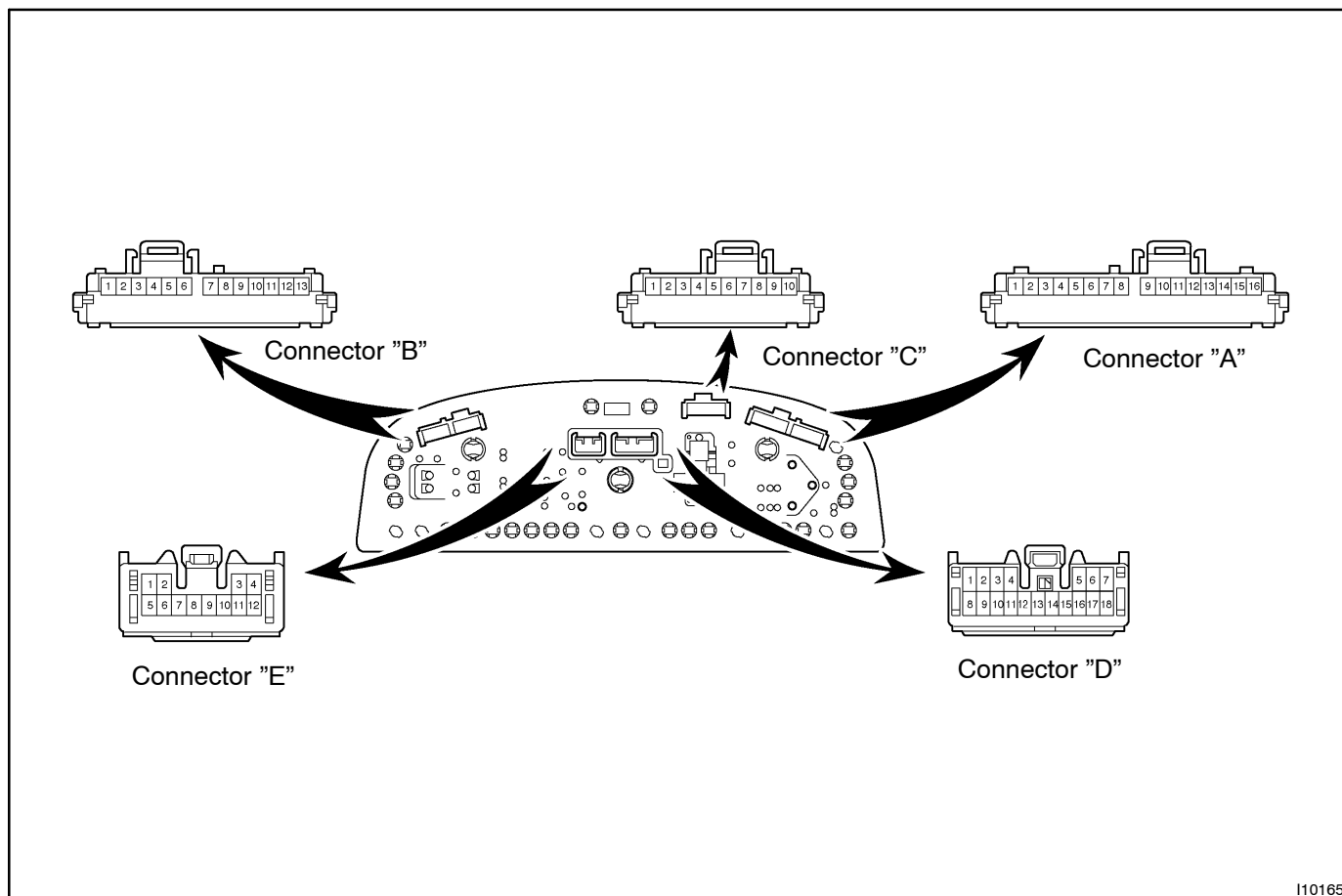


INSPECTION

1. INSPECT COMBINATION METER CIRCUIT

Disconnect the 5 connectors from the combination meter.



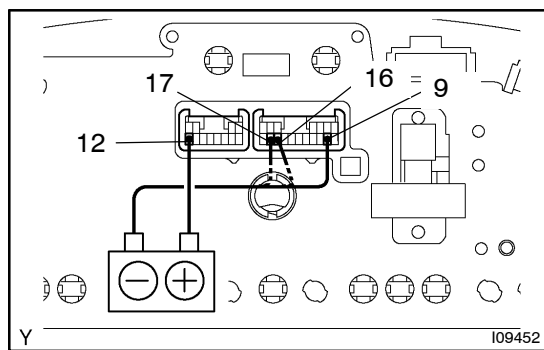
I10165

Tester connection	Condition	Specified
A2 – Body ground	Constant	Battery positive voltage
A3 – Body ground	For 6 secs, after ignition switch has been turned ON.	Continuity
A5 – Body ground	Brake fluid level warning switch or PKB switch ON	Continuity
	Brake fluid level warning switch and PKB switch OFF	No continuity
A6 – Body ground	Ignition switch OFF or ACC	No voltage
	Ignition switch ON	Battery positive voltage
A7 – Body ground	Washer fluid level warning switch OFF	No continuity
	Washer fluid level warning switch ON	Continuity
A8 – Body ground	Constant	Continuity
A9 – Body ground	When ignition switch ON and engine coolant temperature is 50 °C (122 °F).	234 – 314 Ω
A10 – Body ground	Constant	Continuity
A11 – Body ground	For 3 secs, after ignition switch has been turned ON	Continuity

BODY ELECTRICAL – COMBINATION METER

A12 – Body ground	Ignition switch ON, engine in operation	No continuity
	Ignition switch ON, engine stopped	Continuity
A13 – Body ground	Ignition switch ON, headlight dimmer switch low beam	No voltage
	Ignition switch ON, headlight dimmer switch High beam or flash	Battery positive voltage
A14 – Body ground	Constant	Continuity
A15 – Body ground	A/T shift lever except P position	No continuity
	A/T shift lever P position	Continuity
A16 – Body ground	O/D Main switch ON	No continuity
	O/D Main switch OFF	Continuity
B1 – Body ground	Ignition switch ON, turn signal switch OFF or right	No voltage
	Ignition switch ON, turn signal switch left	No voltage ↔ Battery positive voltage
B2 – Body ground	Ignition switch ON, turn signal switch OFF or left	No voltage
	Ignition switch ON, turn signal switch right	No voltage ↔ Battery positive voltage
B3 – Body ground	Ignition switch ON, transfer shift position except L4L or H4L	No continuity
	Ignition switch ON, transfer shift position L4L or H4L	Continuity
B4 – Body ground	Pattern select switch OFF	No continuity
	Pattern select switch ON	Continuity
B5 – Body ground	Diff. lock switch OFF	No continuity
	Diff. lock switch ON	Continuity
B6 – Body ground	2–4 select switch position 2WD	No continuity
	2–4 select switch position 4WD	Continuity
B12 – Body ground	Ignition switch OFF or ACC	No voltage
	Ignition switch ON	Battery positive voltage
B13 – Body ground	Ignition switch ON	Continuity
C2 – Body ground	A/T shift lever except P position	No voltage
	A/T shift lever P position	Battery positive voltage
C3 – Body ground	A/T shift lever except R position	No voltage
	A/T shift lever R position	Battery positive voltage
C4 – Body ground	A/T shift lever except N position	No voltage
	A/T shift lever N position	Battery positive voltage
C5 – Body ground	A/T shift lever except D position	No voltage
	A/T shift lever D position	Battery positive voltage
C6 – Body ground	A/T shift lever except 2 position	No voltage
	A/T shift lever 2 position	Battery positive voltage
C7 – Body ground	A/T shift lever except L position	No voltage
	A/T shift lever L position	Battery positive voltage
D1 – Body ground	Headlight control switch OFF or TAIL	No continuity
	Headlight control switch HEAD	Continuity
D2 – Body ground	Headlight control switch OFF	No continuity
	Headlight control switch TAIL or HEAD	Continuity
D3 – Body ground	Driver's seat belt buckle switch OFF	No continuity
	Driver's seat belt buckle switch ON	Continuity

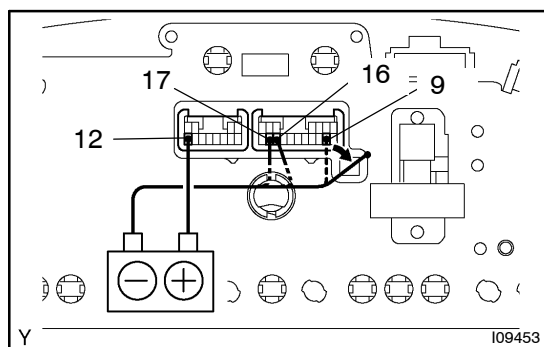
D4 – Body ground	Passenger's seat belt buckle switch OFF	No continuity
	Passenger's seat belt buckle switch ON	Continuity
D7 – Body ground	Rear door courtesy switch OFF	No continuity
	Rear door courtesy switch ON	Continuity
D8 – Body ground	Passenger's door courtesy switch OFF	No continuity
	Passenger's door courtesy switch ON	Continuity
D9 – Body ground	Driver's door courtesy switch OFF	No continuity
	Driver's door courtesy switch ON	Continuity
D11 – Body ground	Back door courtesy switch OFF	No continuity
	Back door courtesy switch ON	Continuity
D16 – Body ground	Key unlock warning switch OFF	No continuity
	Key unlock warning switch ON	Continuity
D17 – Body ground	Constant	Continuity
E10 – Body ground	Headlight control switch OFF	No voltage
	Headlight control switch TAIL or HEAD	Battery positive voltage
E11 – Body ground	Constant	Continuity
E12 – Body ground	Constant	Battery positive voltage

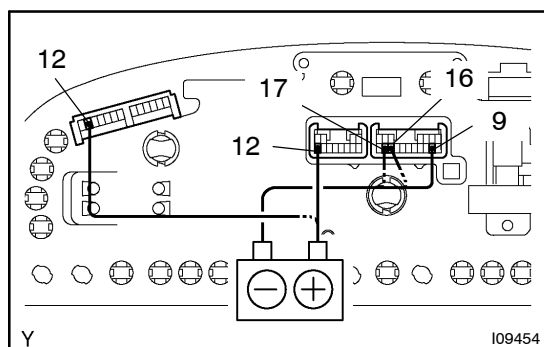


2. Key unlock warning system:

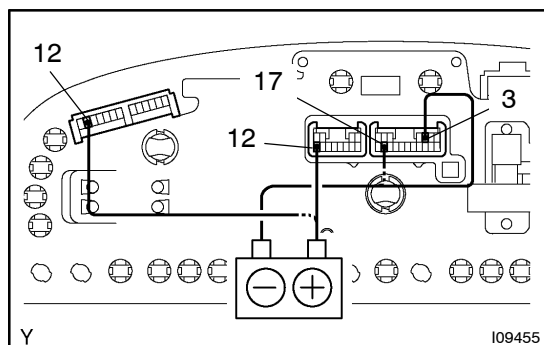
INSPECT COMBINATION METER OPERATION

- Connect the positive (+) lead from the battery to terminal 12 of connector "E".
- Connect the negative (-) lead from the battery to terminals 9, 16 and 17 of the connector "D".
- Check the chime sounds.
- Disconnect the negative (-) lead from the battery to terminal 9 of connector "D".
- Check that the chime stops sounding.



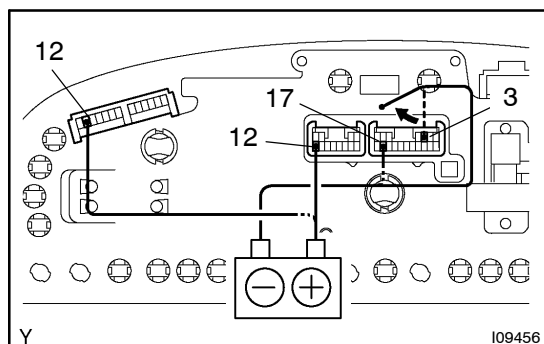


- (f) Connect the negative (-) lead from the battery to terminal 9 of the connector "D".
 - (g) Connect the positive (+) lead from the battery to terminal 12 of the connector "C".
 - (h) Check that the chime stops sounding.
- If operation is not as specified, replace the combination meter.



3. Driver's seat belt warning system: INSPECT COMBINATION METER OPERATION

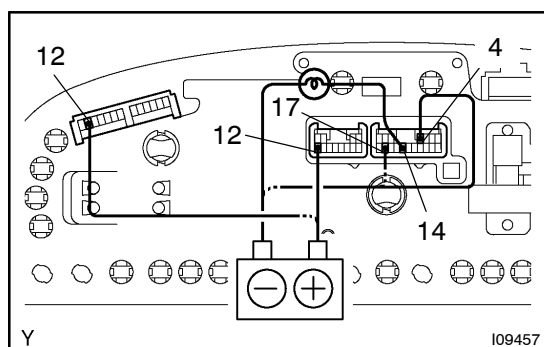
- (a) Connect the positive (+) lead from the battery to terminals 12 of connector "E" and 12 of connector "C", and negative (-) lead from the battery to terminal 17 and 3 of connector "D".
- (b) Check that the driver's seat belt warning light flashes and buzzer sounds for approx. 6 secs.



- (c) Disconnect the negative (-) lead from the battery to terminal 3 of the connector "D" and reconnect it again.
- (d) Check that the buzzer sounds again.
- (e) Check that the buzzer stops sounding when disconnecting terminal 3 of connector "D" from the negative (-) lead.

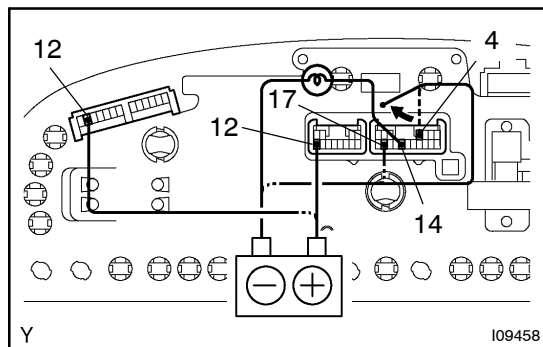
HINT:

Check the buzzer sounds within a period of approx. 6 secs.
If operation is not as specified, replace the combination meter.



4. Passenger's seat belt warning system: INSPECT COMBINATION METER OPERATION

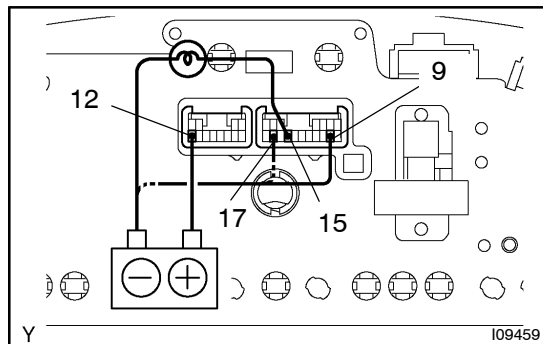
- (a) Connect the positive (+) lead from the battery to terminals 12 of the connector "E" and 12 of connector "C", and negative (-) lead from the battery to terminal 17 of the connector "D".
- (b) Connect the terminal 14 of connector "D" to battery negative (-) terminal through the 3.4 - W test bulb.
- (c) Connect the negative (-) lead from battery to terminal 4 of connector "D".
- (d) Check that the bulb flashes for approx. 6 secs.
- (e) Disconnect the negative (-) lead from the battery to terminal 4 of the connector "D" and reconnect it again.
- (f) Check that the bulb flash again.



- (g) Check that the buzzer stops sounding when disconnecting terminal 4 from the negative (-) lead.

HINT:

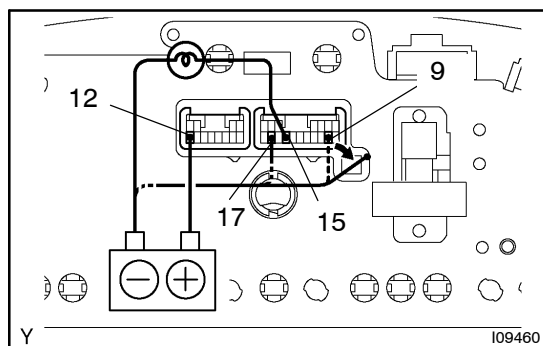
Check the buzzer sounds within a period of approx. 6 secs. If operation is not as specified, replace the combination meter.



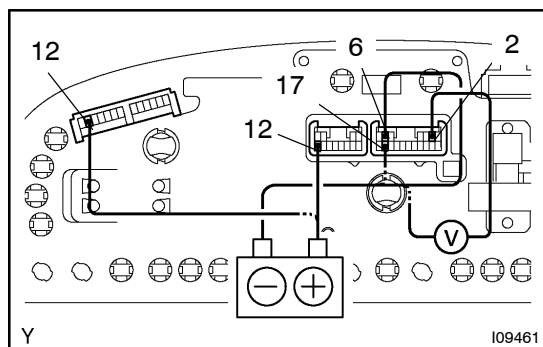
5. Key illuminated entry system:

INSPECT COMBINATION METER OPERATION

- Connect the positive (+) lead from the battery to terminal 12 of the connector "E" and negative (-) lead from the battery to terminals 9 and 17 of the connector "D".
- Connect the terminal 15 of the connector "D" to battery negative (-) terminal through the 3.4 - W test bulb.
- Check that the bulb lights up.



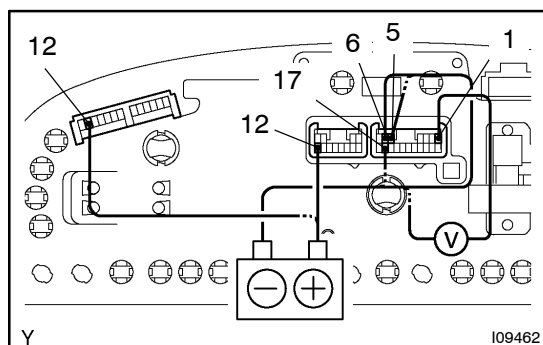
- Disconnect the negative (-) lead from the battery to the terminal 9.
- After approx. 5 secs, check that the bulb turns OFF.

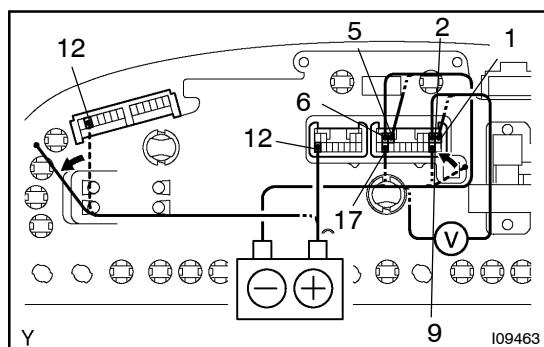


6. Light auto turn OFF system:

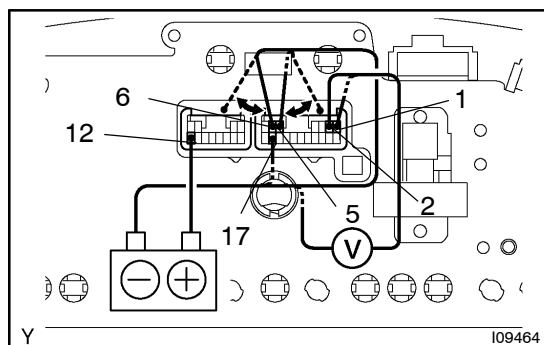
INSPECT COMBINATION METER OPERATION

- Connect the positive (+) lead from the battery to the terminals 12 of connector "C" and 12 of connector "E", and negative (-) lead from the battery to the terminal 17 of connector "D".
- Check that the voltage of the terminal 6 of the connector "D" is the battery positive voltage after negative (-) lead from the battery has been connected to terminal 2 of the connector "D".
- Check that the voltage of the terminal 5 of the connector "D" is the battery positive voltage after negative (-) lead from the battery has been connected to terminal 1 of the connector "D".





- (d) Check that the voltage of the terminals 5 and 6 of the connector "D" is 0 V after terminal 12 of the connector "C" has been disconnected and terminal 9 of the connector "D" has been connected to the negative (-) lead from the battery.



- (e) Check that the voltage of the terminals 5 and 6 of the connector "D" is battery positive voltage after terminals 1 and 2 of the connector "D" has been disconnected and reconnected.

7. 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

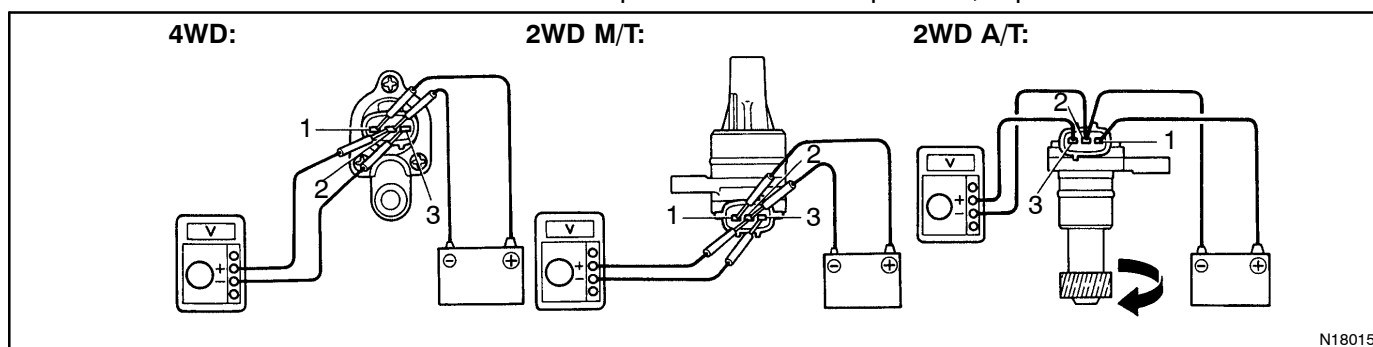
8. INSPECT VEHICLE SPEED SENSOR OPERATION

- Connect the positive (+) lead from battery to terminal 1 and negative (-) lead to terminal 2.
- Connect the positive (+) lead from tester to terminal 3 and the 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 4 times for every revolution of the speed sensor shaft.

If operation is not as specified, replace the sensor.

**9. INSPECT TACHOMETER ON-VEHICLE**

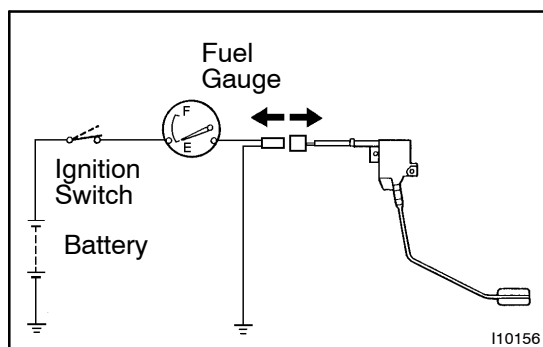
- Connect a tune-up test tachometer, and start the engine.

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.
- Compare the tester with tachometer indications.

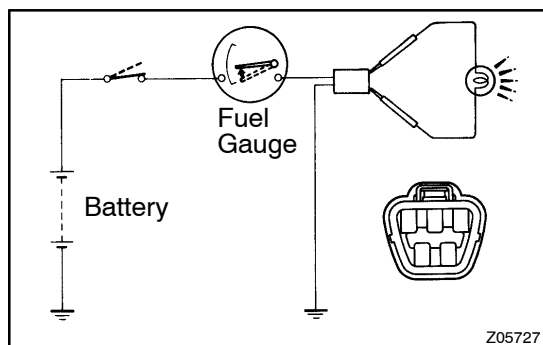
DC 13.5 V 20°C at (68 °F)

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



10. 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 2 and 3 on the wire harness side connector through a 3.4-W Watts 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.

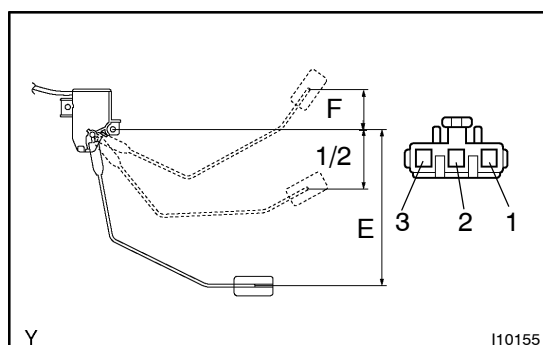
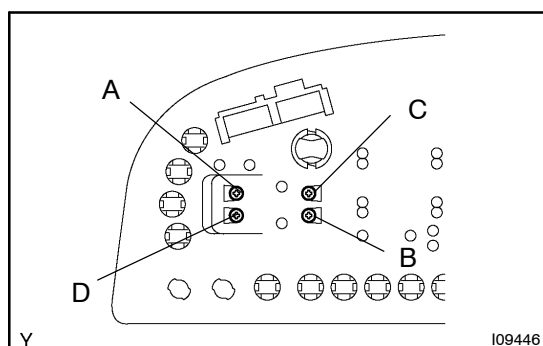
If operation is not as specified, inspect the receiver gauge resistance.

11. INSPECT FUEL RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals.

Tester connection	Resistance (Ω)
A - B	Approx. 160
C - D	Approx. 160

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

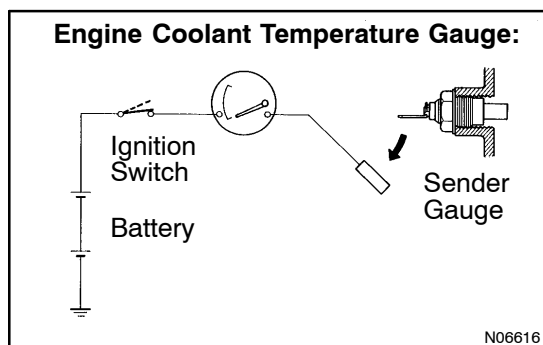


12. INSPECT FUEL SENDER GAUGE

Measure the resistance between terminals 1 and 3 for each float position.

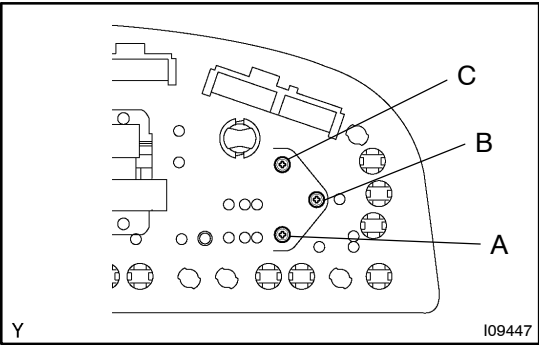
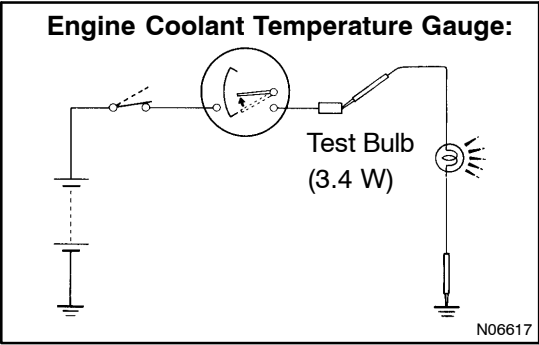
Float position: mm (in.)	Resistance (Ω)
F: Approx. 39.4 (1.551)	Approx. 184
1/2: Approx. 56.0 (2.205)	Approx. 97
E: Approx. 148.9 (5.862)	Approx. 12

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



13. 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.

14. INSPECT ENGINE COOLANT TEMPERATURE RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals.

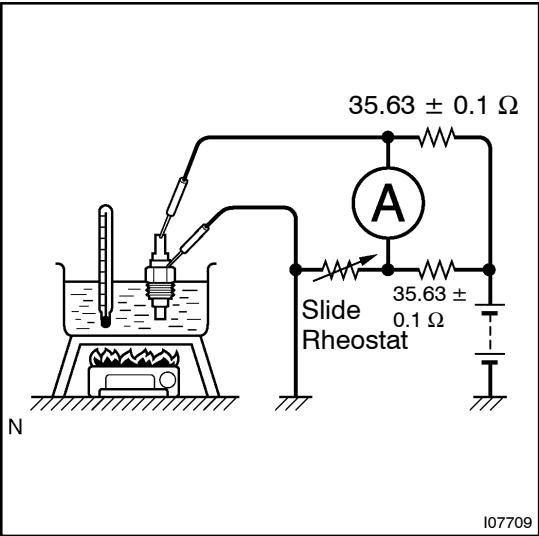
Tester connection	Resistance (Ω)
A – B	Approx. 90
A – C	Approx. 170
B – C	Approx. 230

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.

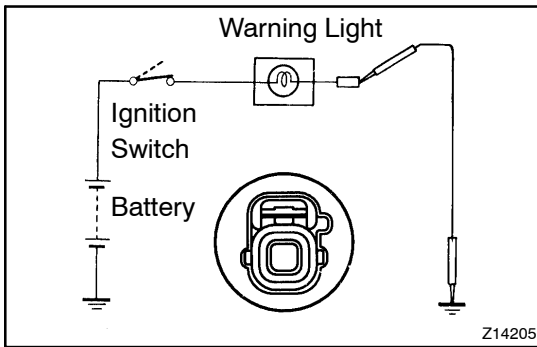


15. INSPECT ENGINE COOLANT TEMPERATURE SENDER GAUGE RESISTANCE

Connect the wire harness as shown in the illustration, and adjust the ammeter pointer to indicate "0" using the slide rheostat, then read the rheostat indication.

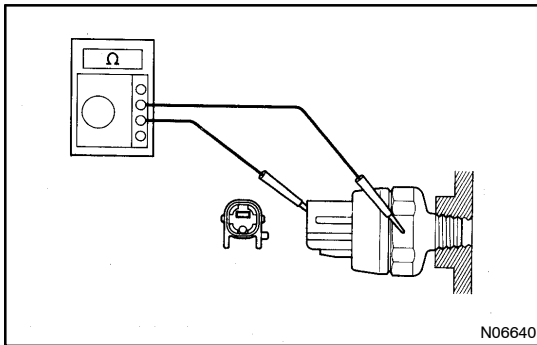
Temperature °C (°F)	Resistance (Ω)
50 (122.0)	234 – 314
120 (248.0)	24.0 – 30.5

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

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

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

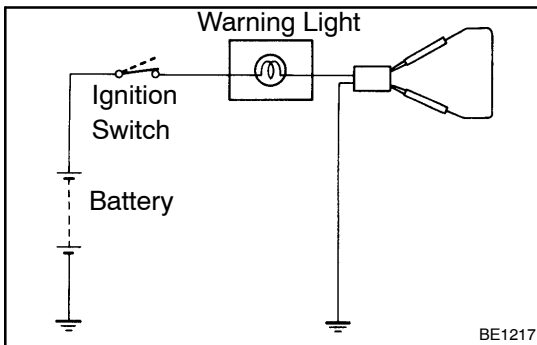
If the warning light does not light up, test the bulb.

**17. INSPECT LOW OIL PRESSURE SWITCH**

- (a) Disconnect the connector from the switch.
- (b) Check that there is continuity between terminal and ground with the engine stopped.
- (c) Check that there is no continuity between terminal and ground with the engine running.

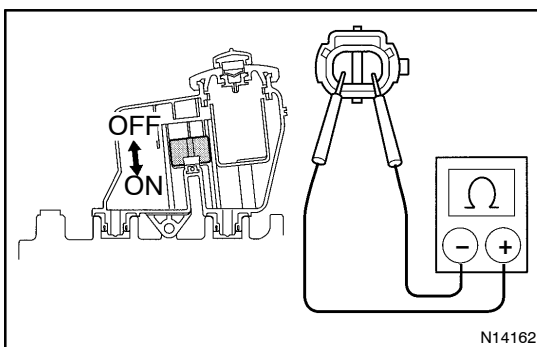
HINT:

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

**18. INSPECT BRAKE WARNING LIGHT**

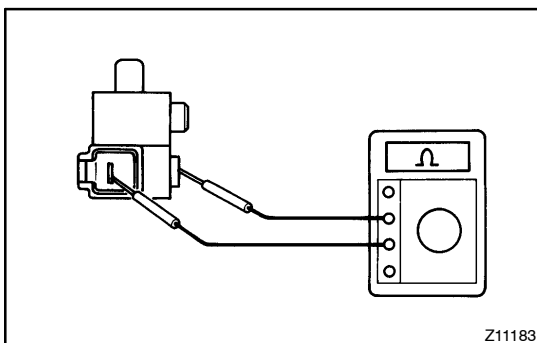
- (a) Disconnect the connectors from the level warning switch and parking brake switch.
- (b) Connect terminals on the wire harness side connector of the level warning switch connector.
- (c) Turn the ignition switch ON and check that the warning light lights up.

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

**19. INSPECT BRAKE FLUID LEVEL WARNING SWITCH CONTINUITY**

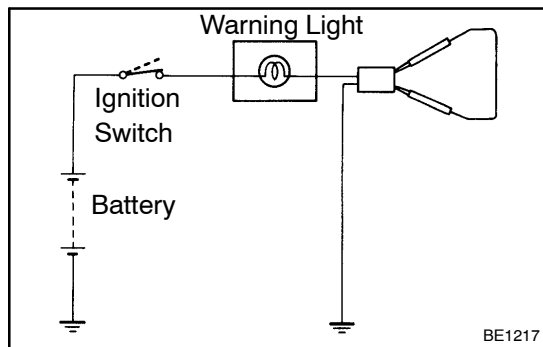
- (a) Check that no continuity exists between terminals with the switch OFF (float up).
- (b) Check that continuity exists between terminals with the switch ON (float down).

If operation is not as specified, replace the switch.

**20. INSPECT PARKING BRAKE SWITCH CONTINUITY**

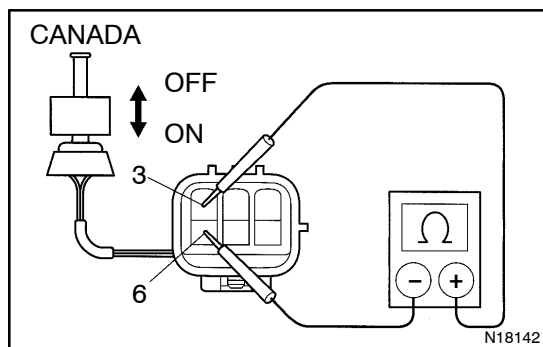
- (a) Check that continuity exists between terminals with the switch ON (switch pin released).
- (b) Check that no continuity exists between terminals with the switch OFF (switch pin pushed in).

If operation is not as specified, replace the switch.

**21. INSPECT WASHER LEVEL WARNING LIGHT**

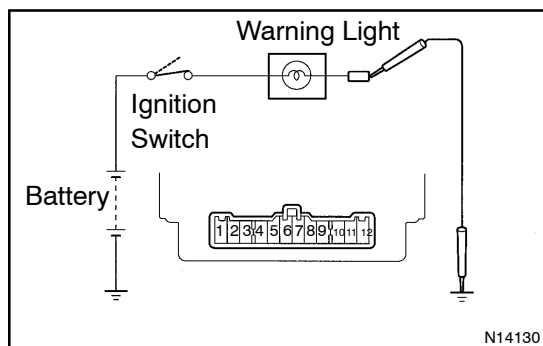
- Disconnect the connectors from the level warning switch and parking brake switch.
- Connect terminals on the wire harness side connector of the level warning switch connector.
- Remove the CHARGE fuse and turn the ignition switch ON, and check that the warning light comes on.

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

**22. INSPECT WASHER LEVEL WARNING SWITCH**

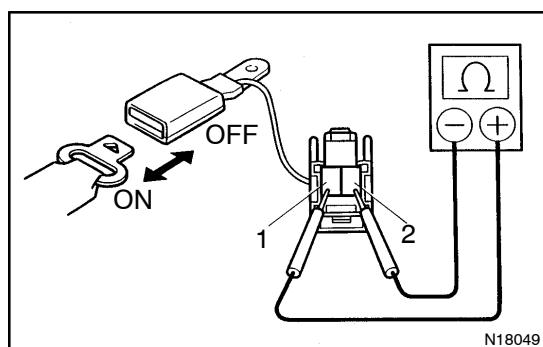
- Check that no continuity exists between terminals with the switch OFF (float up).
- Check that continuity exists between terminals with the switch ON (float down).

If operation is not as specified, replace the switch.

**23. INSPECT SEAT BELT WARNING LIGHT**

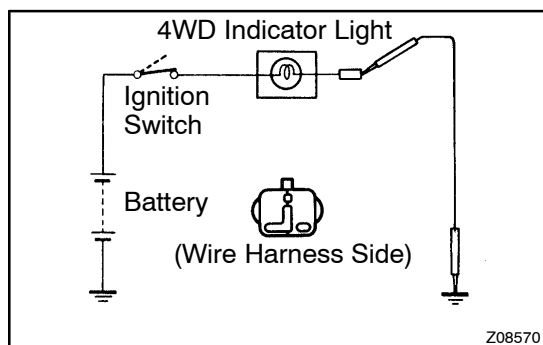
- Ground terminal 2 on the integration relay with the connectors still connected.
- Turn the ignition switch ON and check that the warning light lights up.

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

**24. INSPECT BUCKLE SWITCH CONTINUITY**

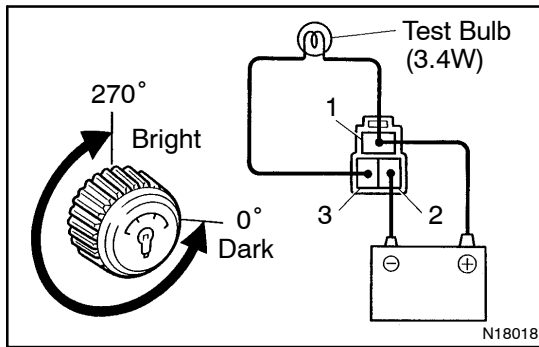
- Check that continuity exists between terminals on the switch side connector with the switch ON (belt unfastened).
- Check that no continuity exists between terminals on the switch side connector with the switch OFF (belt fastened).

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

**25. INSPECT 4WD INDICATOR LIGHT**

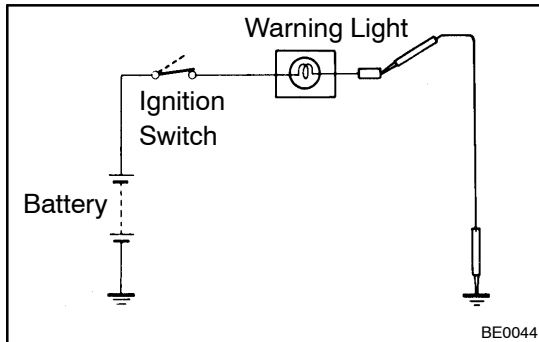
- Disconnect the connector from the 4WD indicator switch. Connect the switch terminal 2 and body ground.
- Turn the ignition switch ON. Check that the bulb lights up.

If operation is not as specified, remove and test the bulb.

**26. INSPECT LIGHT CONTROL RHEOSTAT**

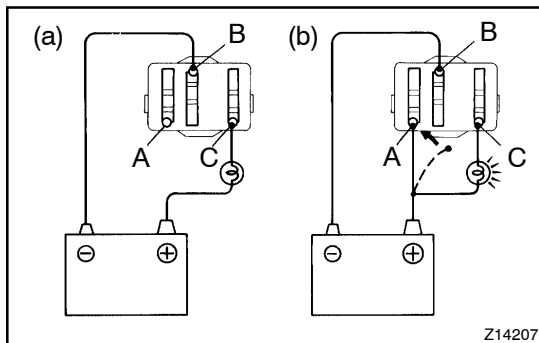
- Connect terminals 1 and 3 through a 3.4 – W test bulb.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2.
- Turn the rheostat knob to fully counterclockwise, check that the test bulb goes out.
- Gradually turn the rheostat knob to clockwise, check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

If operation is not as specified, replace the rheostat.

**27. INSPECT OPEN DOOR WARNING LIGHT**

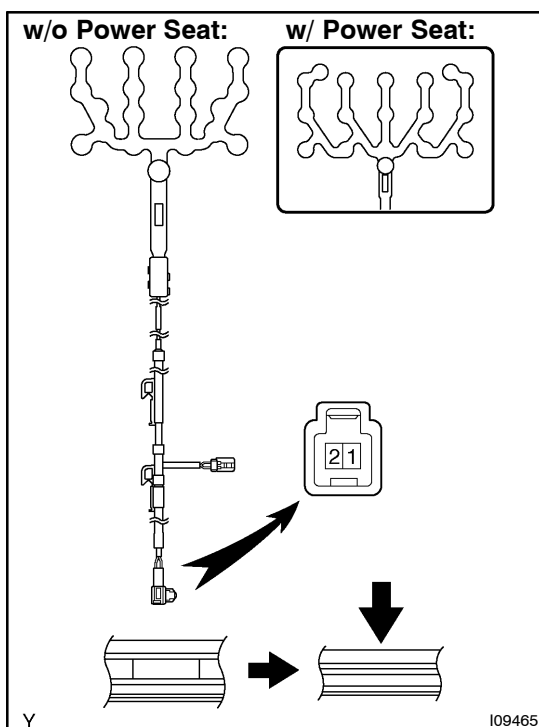
- Disconnect the connector from the door courtesy switch and ground terminal on the wire harness side connector.
- Turn the ignition switch ON, check that the warning light lights up.

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

**28. INSPECT BULB CHECK RELAY OPERATION**

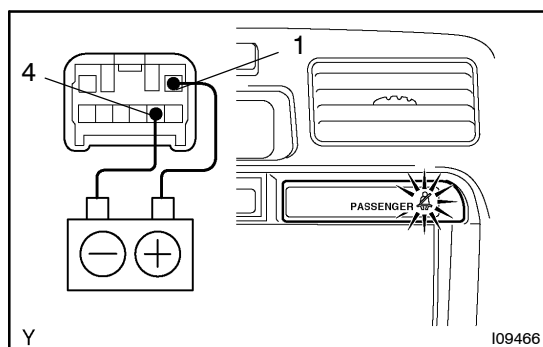
- Connect the positive (+) lead from the battery to terminal C through a 1.4 W test bulb and the negative (–) lead to terminal B, check that the test bulb does not light up.
- Connect the positive (+) lead from the battery to terminal A and check that the test bulb lights up.

If operation is not as specified, replace the relay.

**29. Passenger's 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.

**30. INSPECT PASSENGER SEAT BELT WARNING LIGHT**

Connect the positive (+) lead from the battery to the terminal 1 and negative (-) lead to terminal 4, and check that the warning light lights up.