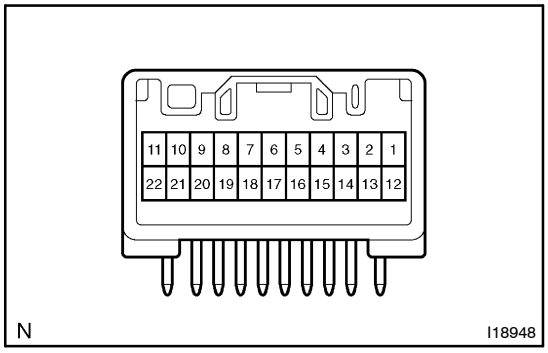
BE21Z–02



INSPECTION

1. Connector disconnected:
INSPECT COMBINATION METER CIRCUIT

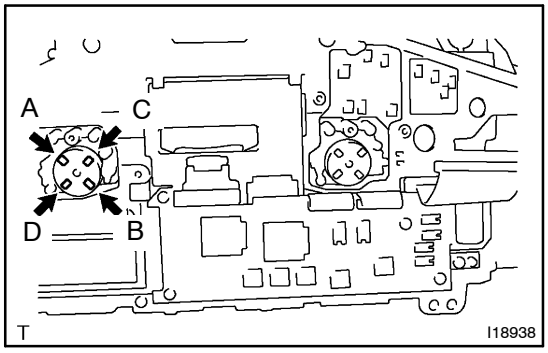
Disconnect connector from the combination meter and inspect the connectors on the wire harness side as follows.

Tester connection	Condition	Specified condition
12 – Ground	Constant	Battery positive voltage
13 – Ground	Constant	Battery positive voltage
14 – Ground	Hazard switch ON	No voltage
15 – Ground	Hazard switch ON	No voltage
1 – Ground	Ignition switch ON	Battery positive voltage
16 – Ground	Light control position TAIL or HEAD	Battery positive voltage
22 – Ground	Constant	No voltage

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.

mph		km/h	
Standard indication	Allowable range	Standard indication	Allowable range
20	18.5 – 21.5	20	18 – 23
40	38.5 – 41.5	40	38 – 42
60	59.0 – 62.5	60	57 – 61.5
80	79 – 83	80	76.5 – 81.5
100	99 – 104	100	96.5 – 101.5
120	119 – 125	120	116 – 121.5
		140	136 – 142
		160	155.5 – 162.5
		180	175 – 183
		200	194.5 – 203.5



3. INSPECT SPEEDOMETER RESISTANCE

Measure the resistance between terminals with fixing pointer to the stopper.

Tester connection	Resistance (Ω)
A – B	250
C – D	250

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

4. INSPECT TACHOMETER ON–VEHICLE

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

NOTICE:

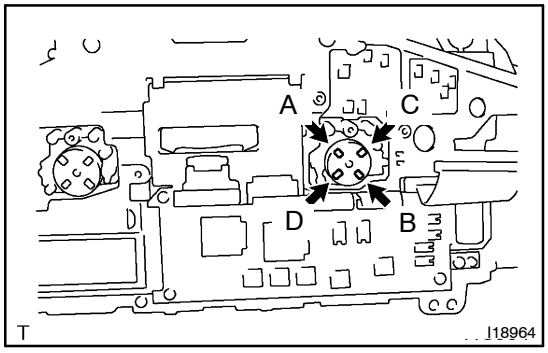
Reversing the connection of the tachometer will damage the transistors and diodes inside.

(b) Compare the tester and tachometer indications.

If error is excessive, replace the tachometer.

RPM (DC 13.5 V, 25 ˚C (77 ˚F))

Standard indication	Allowable range
700	630 – 770
1000	(925 – 1125)
2000	(1900 – 2200)
3000	2845 – 3305
4000	(3870 – 4330)
5000	4925 – 5325
6000	(6000 – 6300)
7000	6875 – 7475

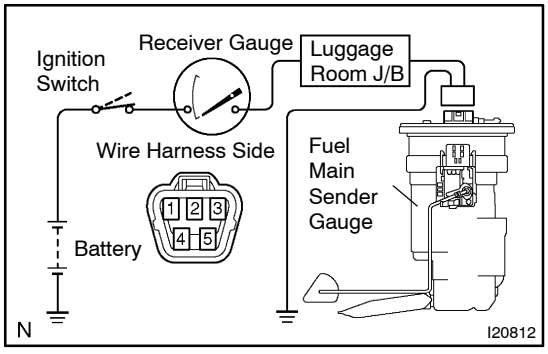


5. INSPECT TACHOMETER RESISTANCE

Measure the resistance between terminals with fixing pointer to the stopper.

Tester connection	Resistance (Ω)
A – B	250
C – D	250

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

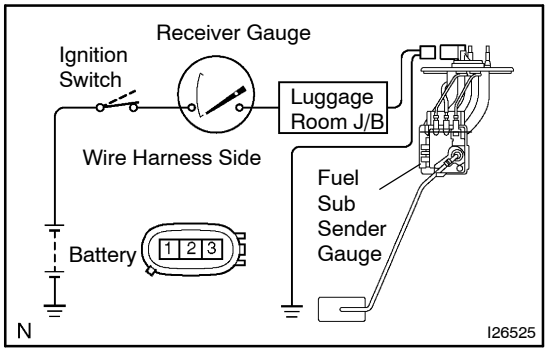


6. INSPECT FUEL RECEIVER GAUGE OPERATION

(a) Disconnect the connector from the main sender gauge.

(b) Disconnect the battery terminal once then after 30 seconds, reconnect the terminal.

(c) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.

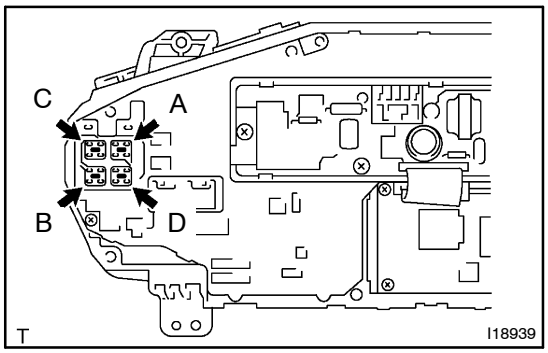


(d) Connect the main sender gauge.
(e) Disconnect the connector from the sub sender gauge.
(f) Disconnect the battery terminal once then after 30 seconds, reconnect the terminal.
(g) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.

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.

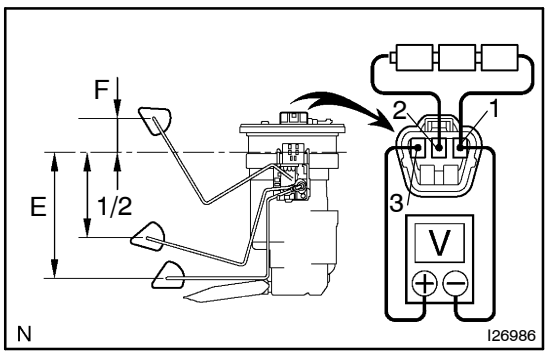


7. INSPECT FUEL RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals with fixing pointer to the stopper.

Tester connection	Resistance (Ω)
A – B	250
C – D	250

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

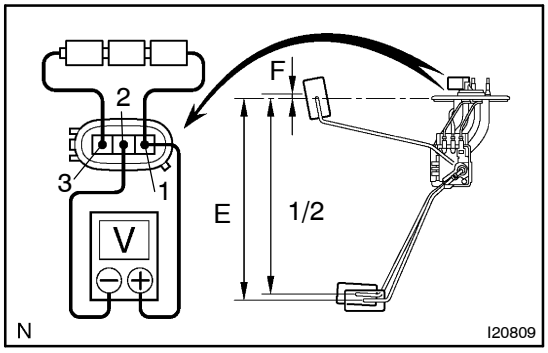


8. INSPECT FUEL MAIN SENDER GAUGE VOLTAGE

(a) Apply voltage between terminals 2 (+) and 1 (–).
(b) Measure the voltage between terminals 1 and 3 for each float position.

Float position mm (in.)	Voltage (V)
F: Approx. –34.8 (–1.37) ± 3 (0.12)	Approx. 4.6 +0.15 − 0.1
1/2: Approx. 92.8 (3.65) ± 3 (0.12)	Approx. 1.51 ± 0.1
E: Approx. 137 (5.39) ± 3 (0.12)	Approx. 0.35 +0.1 − 0.15

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



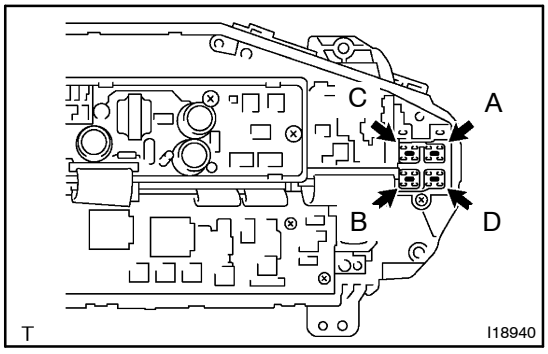
9. INSPECT FUEL SUB SENDER GAUGE VOLTAGE

(a) Apply voltage between terminals 1 and 3.

(b) Measure the voltage between terminals 1 and 2 for each float position.

Float position mm (in.)	Voltage (V)
F: Approx. 1.4 (0.06) ± 3 (0.12)	Approx. 4.6 +0.15 − 0.1
1/2: Approx. 190 (7.48) ± 3 (0.12)	Approx. 0.55 ± 0.1
E: Approx. 195.7 (7.70) ± 3 (0.12)	Approx. 0.35 +0.1 − 0.15

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



10. INSPECT WATER TEMPERATURE RECEIVER GAUGE RESISTANCE

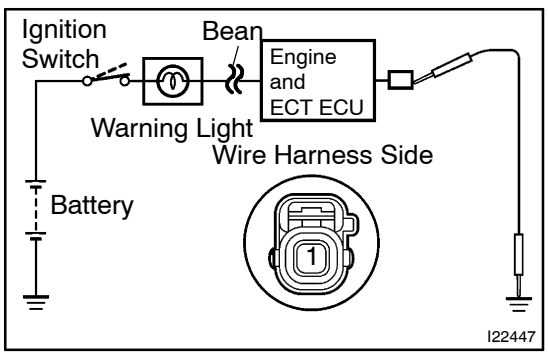
Measure the resistance between terminals.

HINT:

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

Between terminals	Resistance (Ω)
A – B	250
C – D	250

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

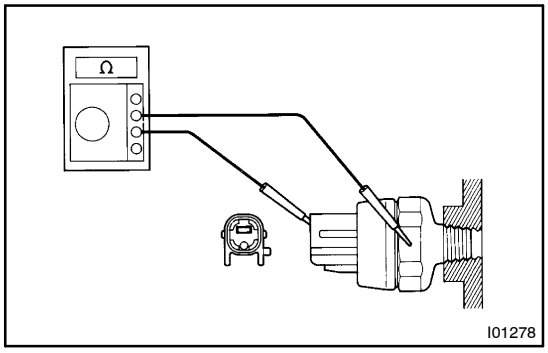


11. Australia models:
INSPECT LOW OIL PRESSURE WARNING LIGHT

(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.

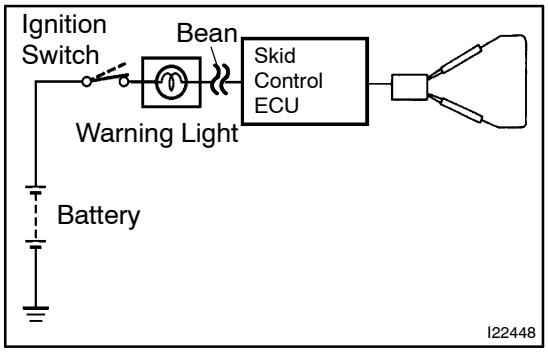
If the warning light does not light up, test the LED.



12. INSPECT LOW OIL PRESSURE SWITCH CONTINUITY

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

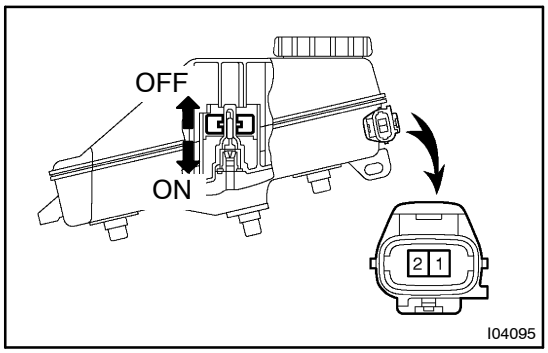
HINT:
Oil pressure should be over 24.5 kPa (0.25 kgf/cm^2, 3.55 psi).
If operation is not as specified, replace the switch.



13. INSPECT BRAKE WARNING LIGHT

(a) Disconnect the connector from the brake fluid warning switch.
(b) Release the parking brake pedal.
(c) Connect terminals on the wire harness side of the level warning switch connector.
(d) Start the engine and check that the warning light lights up.

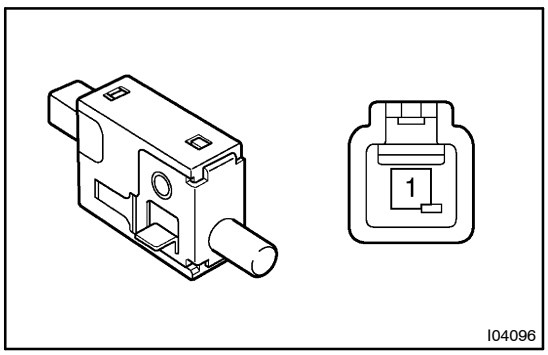
If the warning light does not light up, test the LED.



14. INSPECT BRAKE FLUID LEVEL WARNING SWITCH

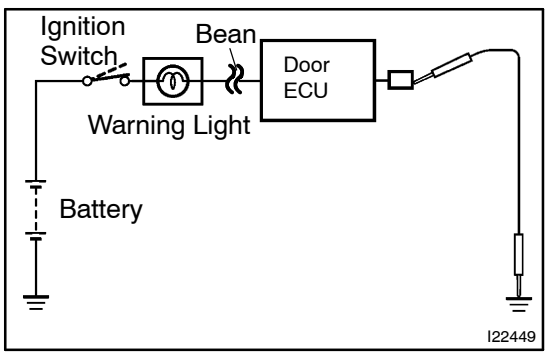
(a) Disconnect the connector.
(b) Check that no continuity exists between terminals with the switch OFF (float up).
(c) Use syphon, etc. to take fluid out of the reservoir tank.
(d) Check that continuity exists between terminals with the switch ON (float down).
(e) Pour the fluid back in reservoir tank.

If operation is not as specified, replace the reservoir tank.



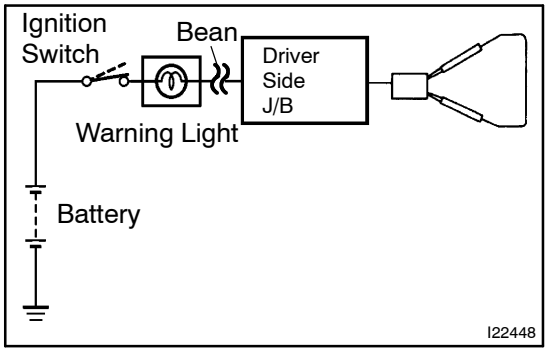
15. INSPECT PARKING BRAKE SWITCH CONTINUITY

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



16. 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 LED or wire harness.

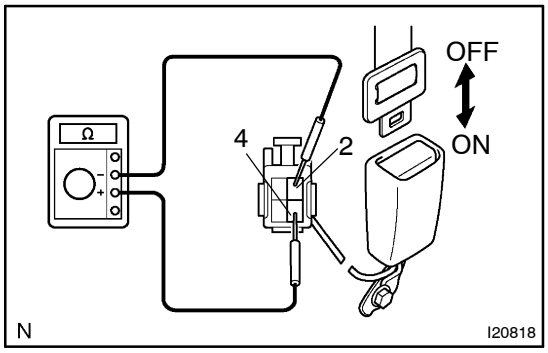


17. INSPECT SEAT BELT WARNING LIGHT

(a) Disconnect the connector from the buckle switch terminal 1 and 2 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, inspect the LED or wire harness.

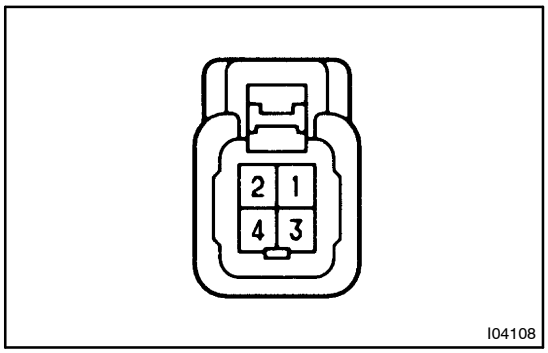


18. INSPECT BUCKLE SWITCH CONTINUITY

(a) Check that continuity exists between terminal 2 and 4 on the switch side connector with the switch ON (belt fastened).

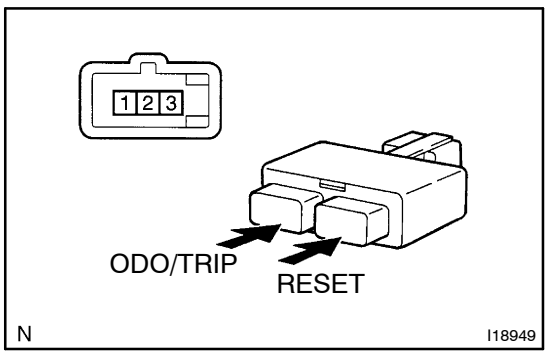
(b) Check that no continuity exists between terminal 2 and 4 on the switch side connector with the switch OFF (belt unfastened).

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



19. INSPECT SEAT BELT BUCKLE SWITCH CIRCUIT

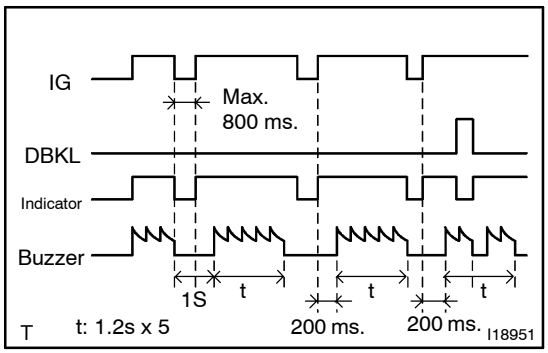
Disconnect the switch connector and inspect the connector on wire harness side, as shown.



20. INSPECT TWIN TRIP AND ODO SWITCH CONTINUITY

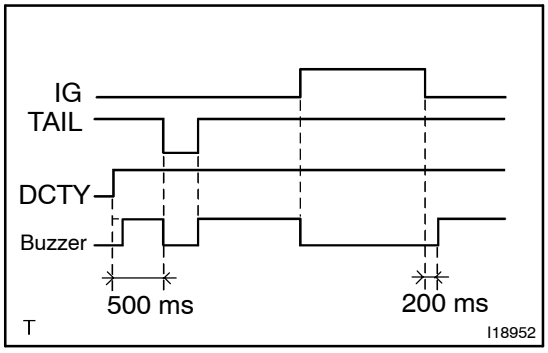
Switch position	Tester connection	Condition
ODO/TRIP Free	1 – 2	No continuity
ODO/TRIP Pushed in	1 – 2	Continuity
RESET Free	2 – 3	No continuity
RESET Pushed in	2 – 3	Continuity

If continuity is not as specified, replace the twin trip and odo switch.



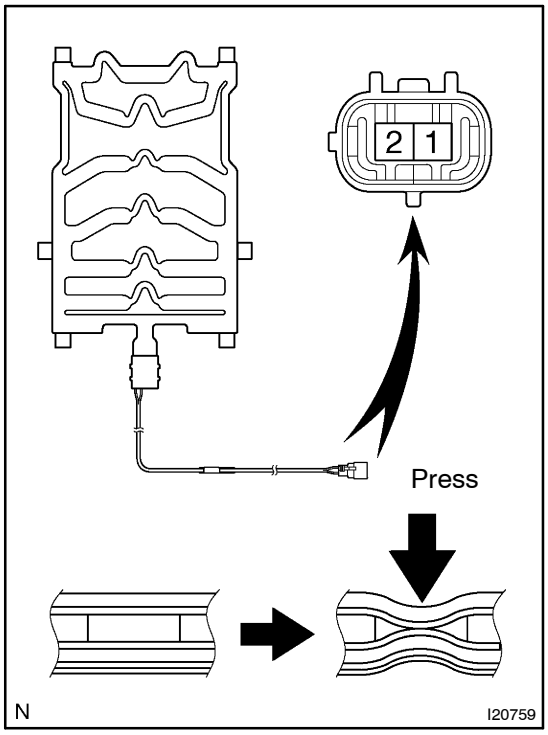
21. G.C.C countries:
INSPECT SEAT BELT WARNING BUZZER

Check that the buzzer sound when turning the ignition switch ON with the seat belt unfastened.



22. Europe models:
INSPECT AUTO TURN OFF WARNING BUZZER

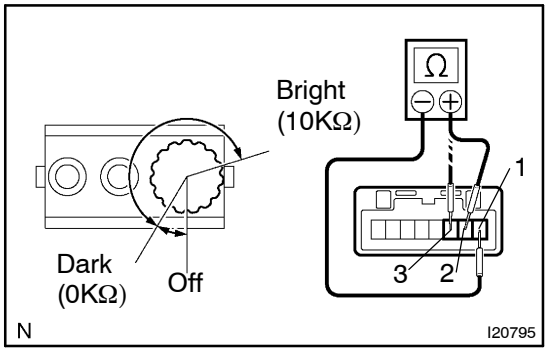
Check that the buzzer sound when turning the ignition switch OFF with headlight switch ON and door opened.



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.

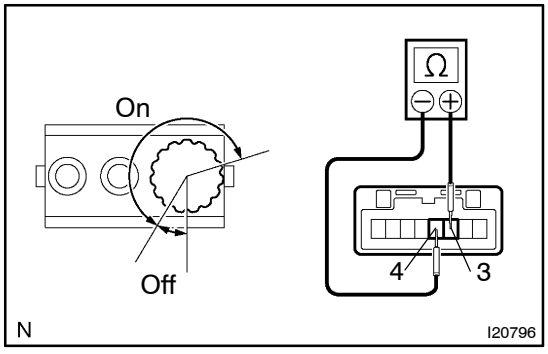
If operation is not as specified, replace the sensor.



24. INSPECT RHEOSTAT LIGHT CONTROL VOLUME RESISTANCE

Tester connection	Condition	Specified condition
2 – 1	Knob turned clockwise	Approx. 10 Ω – 0 Ω
1 – 3	Constant	10 kΩ

If resistance is not as specified, replace switch.

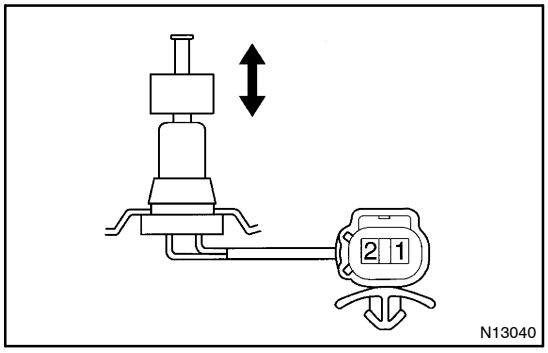


25. INSPECT TAIL CANCEL SWITCH CONTINUITY

Inspect continuity between terminal 3 and 4.

Switch position	Specified condition
OFF (Knob turned fully clockwise)	No continuity
ON (Knob turned any position except fully clockwise)	Continuity

If resistance is not as specified, replace the switch.



26. Europe models:
INSPECT WASHER LEVEL WARNING SWITCH CONTINUITY

(a) Remove the washer tank.
(b) Check that there is continuity between terminals (float down).
(c) Check that there is no continuity between terminals (flort up).

If continuity is not as specified, replace the switch.