

COMBINATION METER

PROBLEM SYMPTOMS TABLE

710CM-02

Warning Lights:

Symptom	Suspect Area	See page
Check Engine warning light does not come on.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– – –
Discharge warning light does not come on.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– – –
Brake warning light does not come on.	1. Wire Harness or Connector 2. Skid control ECU 3. Combination Meter Assy	– – –
ABS warning light does not come on.	1. Wire Harness or Connector 2. Skid control ECU 3. Combination Meter Assy	– – –
SRS warning light does not come on.	1. Wire Harness or Connector 2. Airbag Sensor Assy 3. Combination Meter Assy	– 05-1197 –
Open Door warning light does not come on.	1. Wire Harness or Connector 2. Front Door Courtesy Light 3. Body ECU 4. Combination Meter Assy	– – – –
Fuel Level warning light does not come on.	1. Wire Harness or Connector 2. Fuel Sender Gauge 3. Combination Meter Assy	– – –
Low Oil Pressure warning light does not come on.	1. Wire Harness or Connector 2. Low Oil Pressure Warning Switch 3. Combination Meter Assy	– – –
Engine Oil Level warning light does not come on.	1. Wire Harness or Connector 2. Oil Level Sensor 3. Combination Meter Assy	– – –
Belt warning light does not come on.	1. Wire Harness or Connector 2. Body ECU 3. Front Inner Belt Assy 4. Combination Meter Assy	– – 05-1522 –
VSC warning light does not come on.	1. Wire Harness or Connector 2. VSC Circuit 3. Combination Meter Assy	– 05-752 –

Indicator Lights:

Symptom	Suspect Area	See page
Shift indicator light do not come on.	1. Wire Harness or Connector 2. ECM 3. Neutral Start Switch Circuit 4. Combination Meter Assy	– – – –
Turn indicator light does not come on.	1. Wire Harness or Connector 2. Turn Signal and Hazard Warning System 3. Combination Meter Assy	– 65-9 –
Glow indicator light does not come on.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– – –
TRC off indicator light does not come on.	1. Wire Harness or Connector 2. VSC Circuit 3. Combination Meter Assy	– 05-752 –

SLIP indicator light does not come on.	1. Wire Harness or Connector 2. Skid Control ECU 3. Combination Meter Assy	– 05-752 –
CRUISE indicator light does not come on.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– – –
High Beam indicator light does not come on.	1. Wire Harness or Connector 2. Headlight Dimmer Switch 3. Combination Meter Assy	– 65-9 –
Fr FOG indicator does not come on.	1. Wire Harness or Connector 2. Fr FOG Relay 3. Fr FOG Light Switch 4. Combination Meter Assy	– – – –
Rr FOG indicator does not come on.	1. Wire Harness or Connector 2. Rr FOG Relay 3. Rr FOG Light Switch 4. Combination Meter Assy	– – – –
TAIL indicator does not come on.	1. Wire Harness or Connector 2. TAIL Relay 3. Combination Meter Assy	– – –
WATER LEVEL indicator does not come on (1KD-FTV).	1. Wire Harness or Connector 2. Water Level Sensor 3. Combination Meter Assy	– – –
EMPS indicator does not come on.	1. Wire Harness or Connector 2. EMPS ECU 3. Combination Meter Assy	– – –
A/T OIL TEMP indicator does not come on.	1. Refer to troubleshooting 2. Wire Harness or Connector 3. Combination Meter Assy	05-856 – –
ECT SNOW indicator does not come on.	1. Refer to troubleshooting 2. Wire Harness or Connector 3. Combination Meter Assy	05-980 – –
AUTO LEVELING indicator does not come on.	1. Wire Harness or Connector 2. Auto Leveling ECU 3. Combination Meter Assy	– – –

Meter Gauges:

Symptom	Suspect Area	See page
Speedometer does not operate.	1. Refer to troubleshooting	05-1510
Water temperature does not operate.	1. Refer to troubleshooting	05-1515
Tachometer does not operate.	1. Refer to troubleshooting	05-1513
Fuel Gauge does not operate or operates abnormally.	1. Refer to troubleshooting	05-1517

OTHERS:

Symptom	Suspect Area	See page
key reminder buzzer does not operate.	1. Wire Harness or Connector 2. Body ECU (KSW, DCTY) 3. Door Courtesy Switch 4. Key Unlock Warning Switch 5. Combination Meter Assy	– – – 05-1586 –
Light reminder buzzer does not operate.	1. Wire Harness or Connector 2. Body ECU (DCTY) 3. Combination Meter Assy	– – –
Seat belt Warning buzzer does not operate.	1. Perform DATA LIST with hand-held tester 2. Wire Harness or Connector 3. Seat Belt Buckle Switch 4. Combination Meter Assy	05-1499 – 61-3 –

ON-VEHICLE INSPECTION

1. INSPECT SPEEDOMETER

(a) Check the operation.

- (1) Using a speedometer tester, inspect the speedometer for acceptable indication error and check the operation of the odometer.

Reference: km/h (Europe)

Standard indication	Acceptable range
20 km/h	21.0 – 25.0 km/h
40 km/h	41.7 – 46.2 km/h
60 km/h	62.7 – 67.2 km/h
80 km/h	83.4 – 88.4 km/h
100 km/h	104.3 – 109.3 km/h
120 km/h	125.1 – 130.6 km/h
140 km/h	145.8 – 151.8 km/h
160 km/h	166.2 – 173.2 km/h
180 km/h	186.9 – 194.5 km/h
200 km/h	207.7 – 215.7 km/h
220 km/h	228.4 – 236.8 km/h
240 km/h	249.2 – 258.0 km/h

Reference: MPH (Europe)

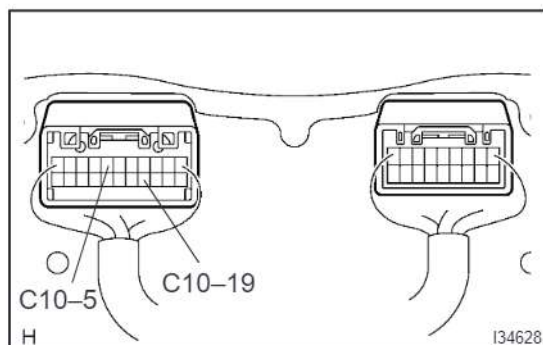
Standard indication	Acceptable range
20 mph	21.0 – 23.5 mph
40 mph	42.0 – 44.5 mph
60 mph	62.5 – 66.0 mph
80 mph	83.1 – 87.1 mph
100 mph	103.9 – 108.4 mph
120 mph	124.7 – 129.6 mph
140 mph	145.4 – 150.7 mph

NOTICE:

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

- (2) Check the deflection width of the speed meter indicator.

Reference: Below 0.5 km/h (0.3 mph)



2. INSPECT OUTPUT SIGNAL OF VEHICLE SPEED

(a) Check for the signal.

- (1) While driving the vehicle at the speed of 10 km/h, check the voltage between the terminal C11-15 of the combination meter assy and the body ground.

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

NOTICE:

Check it with the ignition switch ON and the connector connected.

3. INSPECT TACHOMETER

(a) Check the operation

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

NOTICE:

▲ Reversing the connection of the tachometer will damage the transistors and the insides of the diodes .

▲ When removing or installing the tachometer, be careful not to drop or subject it to heavy shocks.

- (2) Compare the result of the test with standard indication.

DC 13.5 V, 25 °C at (77 °F)

Standard indication (r/min)	Acceptable range (r/min) Data in () are for reference
700	630 – 770
1,000	(900 – 1100)
2,000	(1850 – 2150)
3,000	2800 – 3200
4,000	(3800 – 4200)
5,000	4800 – 5200
6,000	(5750 – 6250)
7,000	6700 – 7300

Fuel Sender Gauge:



le-5-1-A

130899

4. INSPECT FUEL RECEIVER GAUGE

(a) Inspect the circuit.

- (1) Disconnect the connector from the sender gauge.
 (2) Turn the ignition switch to ON, then check the position of the receiver gauge needle.

Needle position: EMPTY

- (3) Connect the terminal 2 and 3 on the wire harness side connector of fuel sender gauge.
 (4) Turn the ignition switch to ON, then check the position of the receiver gauge needle.

Needle position: FULL

5. INSPECT FUEL LEVEL WARNING

(a) Inspect the circuit.

- (1) Disconnect the connector from the sender gauge.
 (2) Turn the ignition switch to ON, check the fuel level needle indicates EMPTY and fuel level warning light comes on.

6. INSPECT ENGINE COOLANT TEMPERATURE RECEIVER GAUGE WARNING LIGHT

(a) Inspect the circuit.

- (1) Disconnect the connector from the sender gauge.
 (2) Turn the ignition switch to ON, check the position of the water temperature receiver gauge needle.

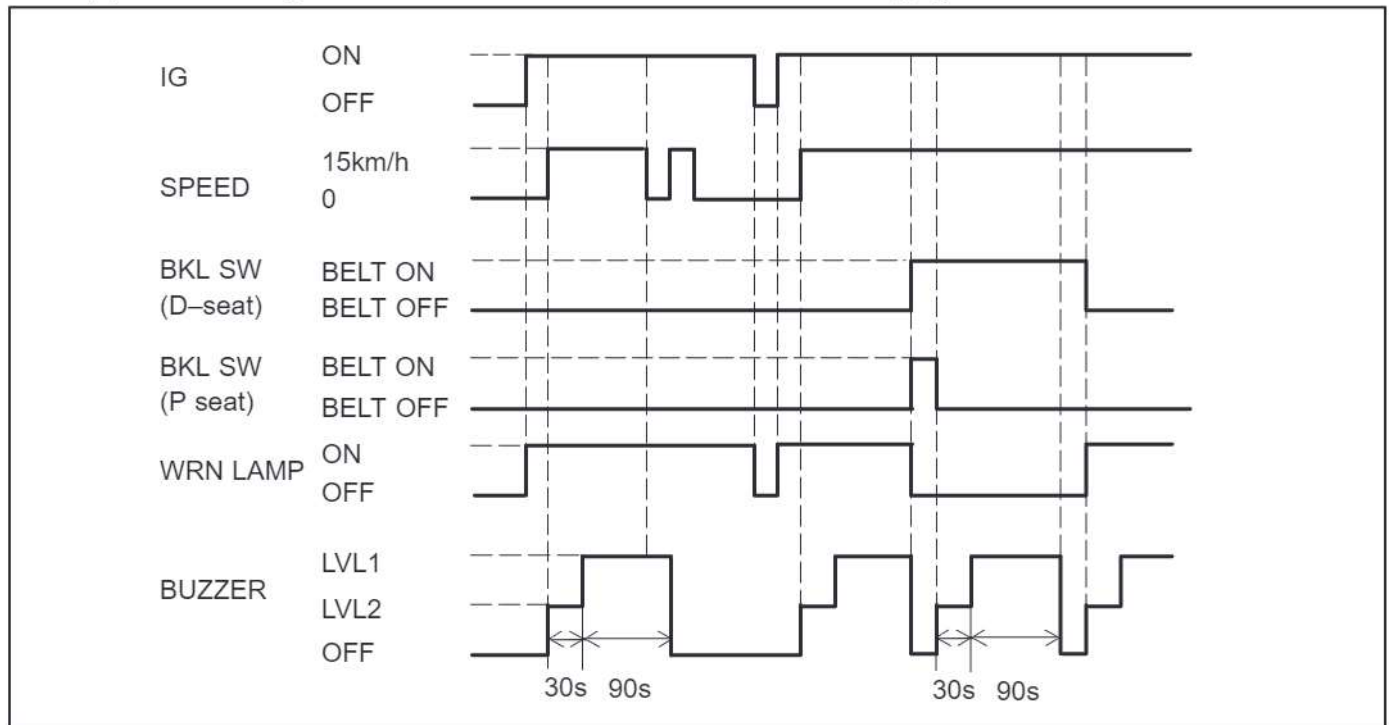
Needle position: COOL

- (3) Ground the terminal 2 on the wire harness side, then check the position of the water temperature receiver gauge needle.

Needle position: HOT

7. INSPECT SEAT BELT WARNING LIGHT & BUZZER

- (a) Check the operation.
- (1) Turn the ignition switch to ON and check that the warning light comes on.
 - (2) Fasten the outer belt to the inner belt and check that the warning light goes out.
 - (3) Disconnect the connector from the buckle switch and ground the terminal on the wire harness side connector.
 - (4) Turn the ignition switch to ON and check that the warning light comes on.

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

- (a) Inspect the circuit.
- (1) Disconnect the connector from the low oil pressure switch.
 - (2) Turn the ignition switch to ON.
 - (3) Ground the terminal of the wire harness side connector, then check the low oil pressure warning light.

Low oil pressure warning light: Come on

9. INSPECT BRAKE WARNING LIGHT

- (a) Inspect the parking brake warning light.
- (1) Disconnect the connector from the parking brake switch and ground the terminal on the wire harness side connector.
 - (2) Turn the ignition switch to ON and check that the warning light comes on.
- (b) Inspect the brake fluid level warning light.
- (1) Disconnect the connector from the brake fluid level warning switch and connect the terminals on the wire harness side connector.
 - (2) Turn the ignition switch to ON and check that the warning light comes on.

10. INSPECT BRAKE FLUID LEVEL WARNING SWITCH

- (a) Inspect the continuity.
- (1) Remove the reservoir tank cap and strainer.
 - (2) Disconnect the connector.

- (3) Check that the continuity exists between the terminals.

Float up (switch off): No continuity

- (4) Use a syphon, etc., to take fluid out of the reservoir tank.
- (5) Check that the continuity exists between the terminals.

Float down (switch on): Continuity

- (6) Pour the fluid back in the reservoir tank.
- (7) Reconnect the connector.
- (8) Check that the buzzer stop after about 4 to 8 seconds.

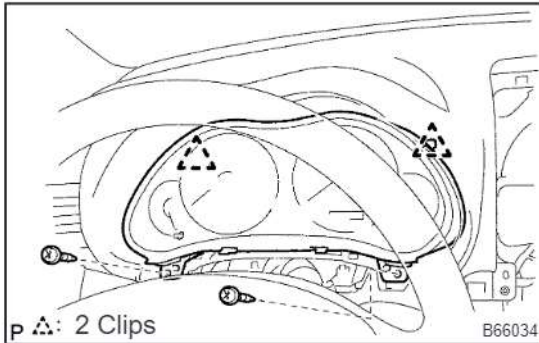
11. INSPECT KEY REMINDER WARNING BUZZER

- (a) Check warning buzzer function.
 - (1) Turn the ignition switch ON and check that the key reminder warning sounds if the ignition key is insert the key cylinder and front driver side door is opened ([See Page 05-1586](#)).

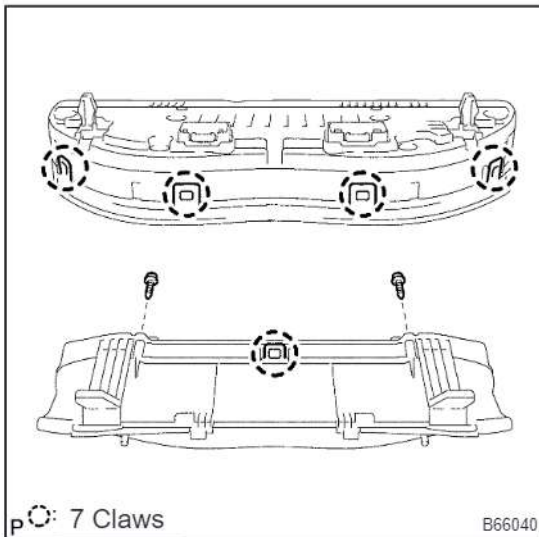
COMBINATION METER ASSY OVERHAUL

71090-01

1. REMOVE STEERING COLUMN COVER LWR (See page 50-9)
2. REMOVE STEERING COLUMN COVER W/INSTRUMENT CLUSTER FINISH PANEL ASSY (See page 50-9)



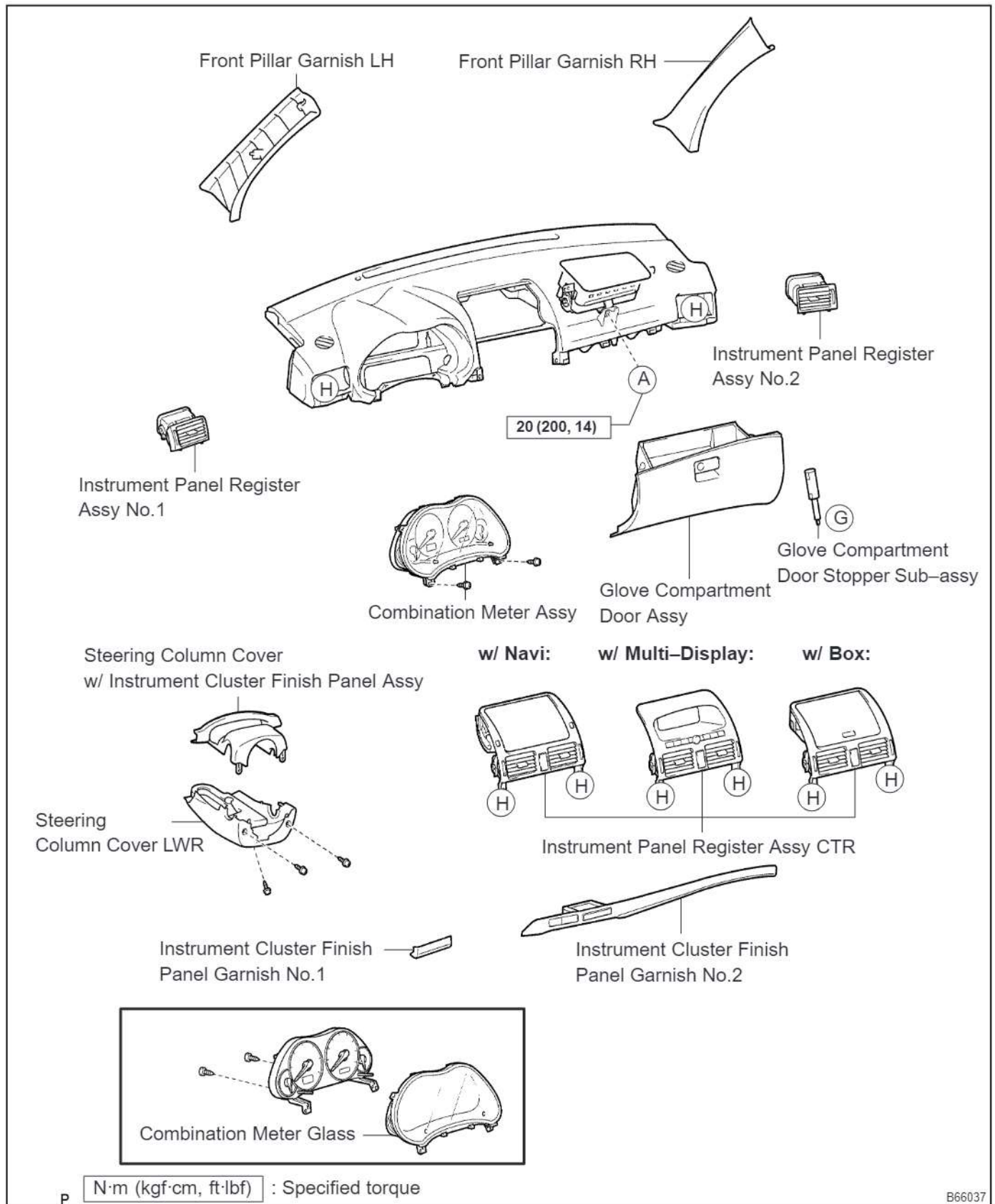
3. REMOVE COMBINATION METER ASSY
 - (a) Remove the 2 screws and disengage the 2 clips.
 - (b) Pull out the combination meter assy, then disconnect the connectors.



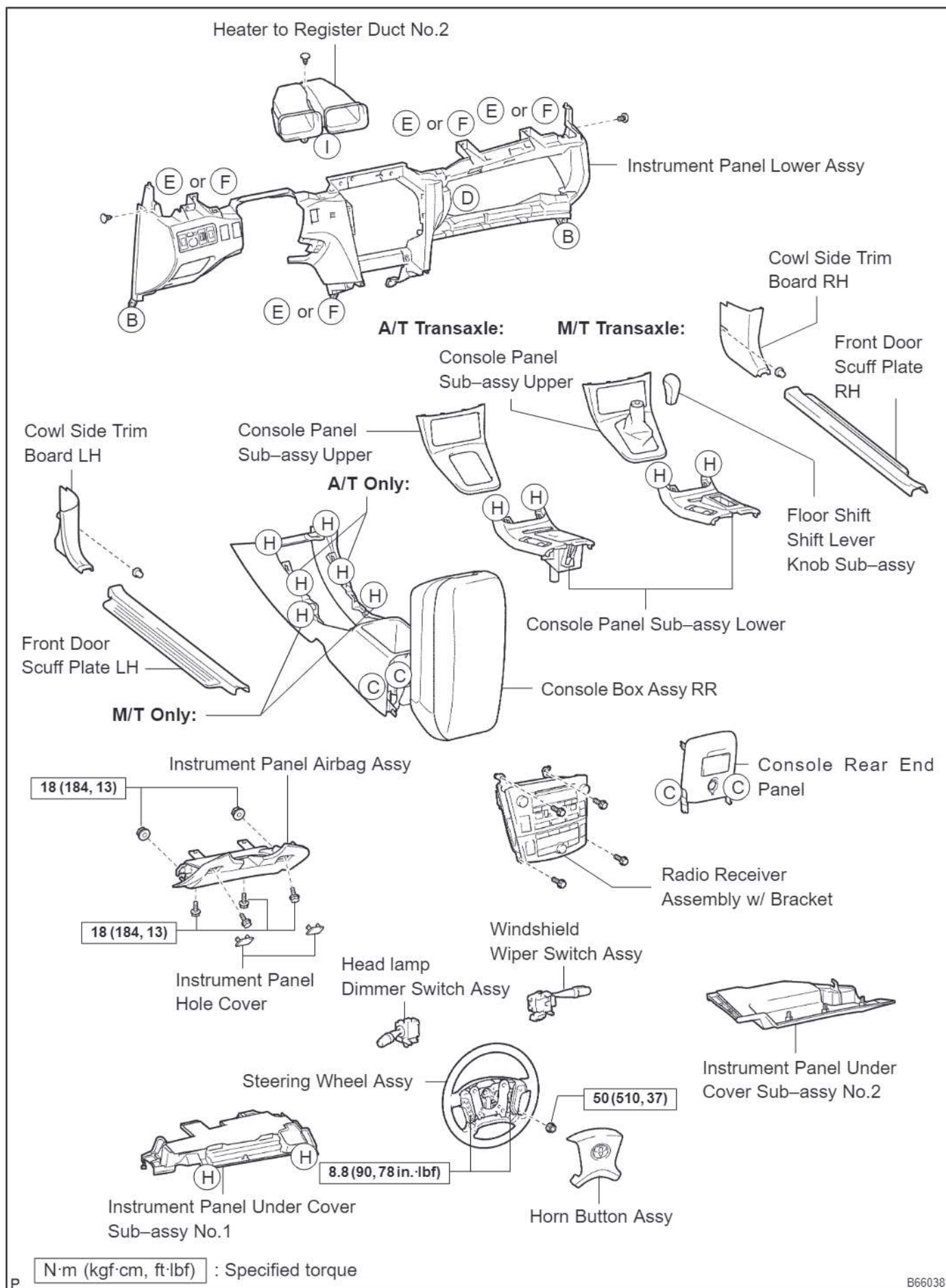
4. REMOVE COMBINATION METER GLASS
 - (a) Remove the 2 screws.
 - (b) Disengage the 7 claws and remove the combination meter glass.

INSTRUMENT PANEL/METER COMPONENTS

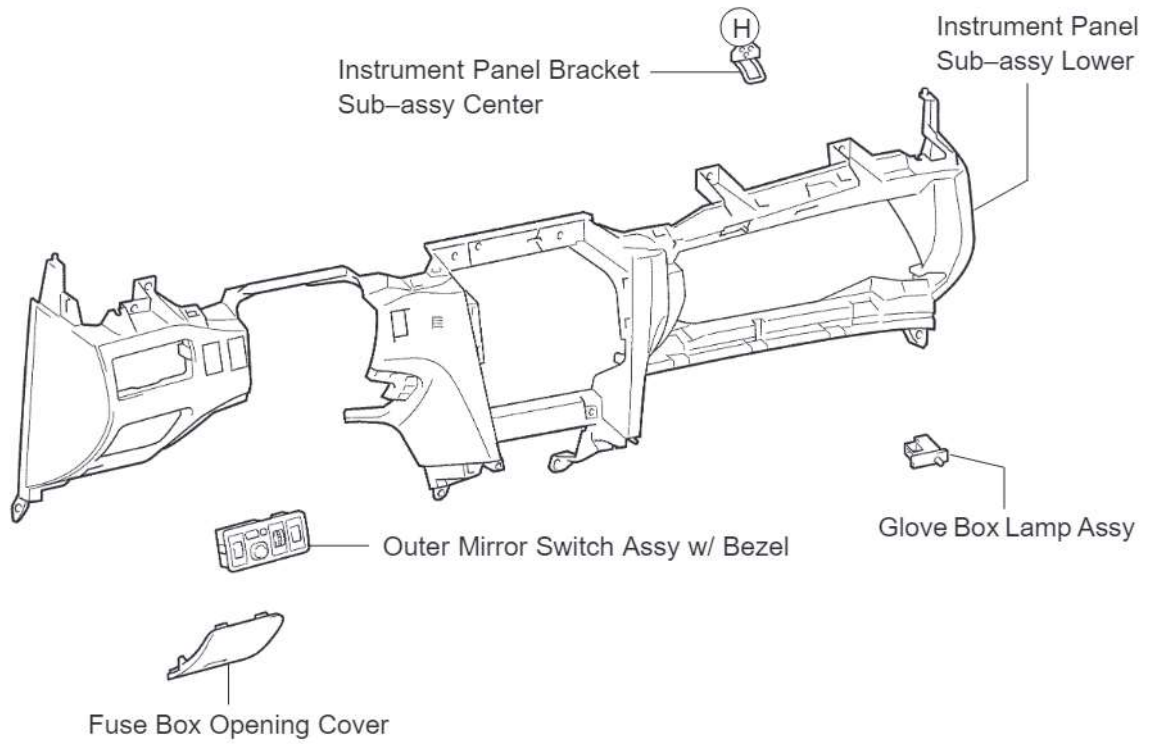
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INSTRUMENT PANEL SUB-ASSY LOWER

710FY-01

PRECAUTION

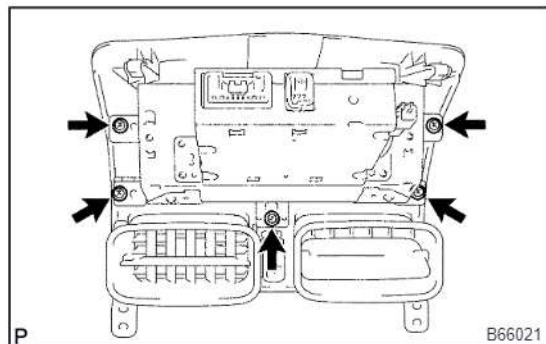
1. PRECAUTION FOR VEHICLE WITH SRS AIRBAG AND SEAT BELT PRETENSIONER

- (a) Some operations in this section may affect the SRS airbags. Prior to performing the corresponding operations, read the SRS airbag NOTICE.

MULTI-DISPLAY (CRT DISPLAY) DISPLAY REPLACEMENT

710G1-01

1. REMOVE INSTRUMENT CLUSTER FINISH PANEL GARNISH NO.2 (See page 71-11)
2. REMOVE INSTRUMENT PANEL REGISTER ASSY CTR (See page 71-11)



3. REMOVE MULTI-DISPLAY (CRT DISPLAY) DISPLAY
 - (a) Remove the 5 screws multi-display (crt display) display.