

# COMBINATION METER

## PROBLEM SYMPTOMS TABLE

7108N-03

### Warning Lights:

Symptom	Suspect Area	See page
Check Engine warning light does not light up.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– 05-1 –
Discharge warning light does not light up.	1. Wire Harness or Connector 2. ECM 3. Combination Meter Assy	– 05-1 –
Brake warning light does not light up.	1. Wire Harness or Connector 2. Brake Actuator Assy 3. Combination Meter Assy	– 05-294 –
ABS warning light does not light up.	1. Wire Harness or Connector 2. Brake Actuator Assy 3. Combination Meter Assy	– 05-294 –
SRS warning light does not light up.	1. Wire Harness or Connector 2. Airbag Sensor Assy Center 3. Combination Meter Assy	– 05-421 –
Open Door warning light does not light up.	1. Wire Harness or Connector 2. Courtesy Lamp Switch 3. Combination Meter Assy	– 65-7 –
Fuel Level warning light does not light up.	1. Wire Harness or Connector 2. Fuel Sender Gage Assy 3. Combination Meter Assy	– 05-655 –
Low Oil Pressure warning light does not light up.	1. Wire Harness or Connector 2. Oil Pressure Switch Assy 3. Combination Meter Assy	– 71-2 –
Window washer level warning does not lights up	1. Wire Harness or Connector 2. Window washer level waring switch 3. Combination Meter Assy	– – –
Driver seat belt warning buzzer does not sound.	1. Driver Seat Belt Buckle Switch 2. Wire Harness or Connector 3. Combination Meter Assy	05-661 – –
Seat belt warning lamp for front passenger seat does not flash.	1. Front Seat Inner Belt Assy 2. Separate Type Front Seat Cushion Pad 3. Combination Meter Assy 4. Passenger Seat Belt Warning Light Assy	05-663 05-663 – –

### Indicator Lights:

Symptom	Suspect Area	See page
Turn indicator light does not light up.	1. Wire Harness or Connector 2. Turn Signal and Hazard Warning System 3. Combination Meter Assy	– 65-7 –
High Beam indicator light does not light up.	1. Wire Harness or Connector 2. Headlight Dimmer Switch 3. Combination Meter Assy	– 65-7 –
O/D OFF indicator light does not light up.	1. Wire Harness or Connector 2. O/D Main Switch Circuit 3. ECM 4. Combination Meter Assy	– 05-417 – –

## ON-VEHICLE INSPECTION

### 1. INSPECT SPEEDOMETER

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

**Reference:**

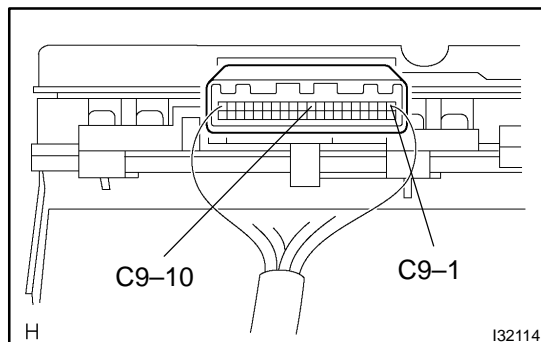
USA (mph)		CANADA (km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
20	19 - 22	20	18 - 23
40	39 - 42.5	40	40 - 44
60	59 - 63	60	60 - 64.5
80	79 - 83.5	80	80 - 85
100	99 - 104	100	100 - 105
-	-	120	120 - 125.5
-	-	140	140 - 146
-	-	160	160 - 167

**NOTICE:**

Tire wear and tire over or under inflation will increase 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 standard signal.
- (1) While driving the vehicle at the speed of 10 km/h, check the voltage between the terminals C9-10 and C9-1 of the combination meter assy.

**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.

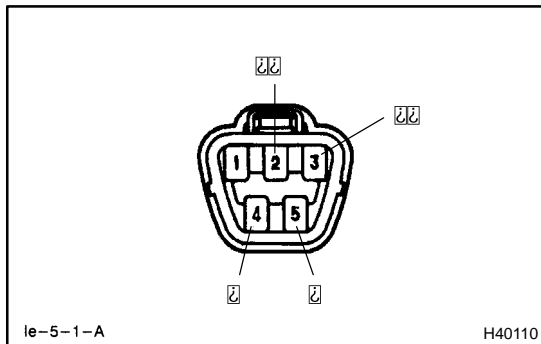
#### NOTICE:

- Reversing the connection of the tachometer will damage the transistors and diodes inside.
- When removing or installing the tachometer, be careful not to drop or subject it to heavy shocks.

- (2) Compare the test and tachometer indications.

**DC 13.5 V, 25 °C at (77 °F)**

Standard indication (r/min)	Allowable range (r/min) Data in ( ) are for reference
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



### 4. INSPECT FUEL RECEIVER GAUGE

(a) Inspect the circuit.

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

**Needle position: EMPTY**

- (3) Connect terminals 2 and 3 on the wire harness side connector and Turn the ignition switch 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 ON, check the fuel level needle indicates EMPTY and fuel level warning lights light on.

### 6. INSPECT WATER TEMPERATURE RECEIVER GAUGE WARNING LIGHT

(a) Inspect the circuit.

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

**Needle position: COOL**

- (3) Connect between terminals on the wire harness side connector, then check the position of the water temperature receiver gauge needle.

**Needle position: HOT**

**7. 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 ON.
  - (3) Connect the terminal of wire harness side connector and ground, then check the warning low oil pressure warning light.

**Low oil pressure warning light: Light on**

**8. INSPECT LOW OIL PRESSURE SWITCH**

- (a) Check the continuity.
- (1) Disconnect the connector from the low oil pressure switch.
  - (2) Check that continuity exists between terminal and ground.

**Engine stopped: continuity**

**Engine running: no continuity**

**9. INSPECT BRAKE WARNING LIGHT**

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

**10. INSPECT BRAKE FLUID LEVEL WARNING SWITCH**

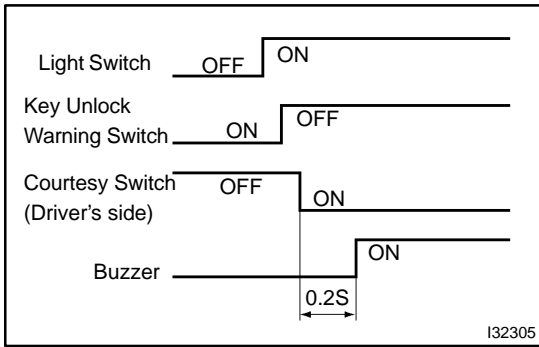
- (a) Inspect the continuity.
- (1) Remove the reservoir tank cap and strainer.
  - (2) Disconnect the connector.
  - (3) Check that the continuity exists between the terminals.

**Float up (switch off): No continuity**

- (4) Use 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.



**11. INSPECT LIGHT AUTO TURN OFF BUZZER**

(a) Check the operation.

HINT:

When the key unlock warning and light auto turn off warning is output simultaneously, the key unlock warning precedes the other.

- (1) Remove the ignition key with the tail light switch ON and the driver side door open and check for the buzzer.

**Buzzer sound: Continuous**

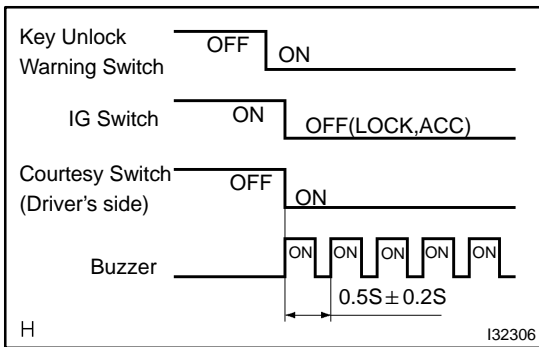
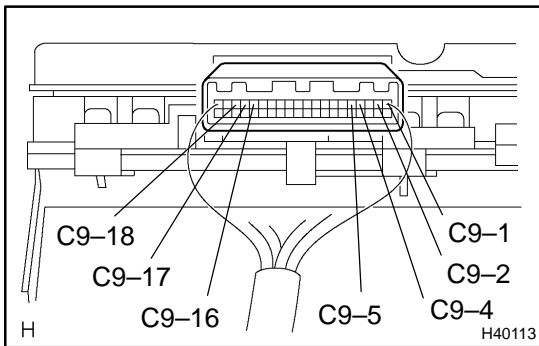
- (2) While the buzzer is sounding, perform any of the following and check that the buzzer sound is stopped.
  - Turn the tail light switch OFF.
  - Close the driver side door.
  - Insert the ignition key into the key cylinder.

(b) Check the function.

- (1) Remove the combination meter.
- (2) Connect the position (+) lead from battery to terminal C9-5 and negative (-) lead to terminal C9-1 and C9-2.
- (3) Connect the position (+) lead from battery to terminal C9-18 and negative (-) lead to terminal C9-16 and C9-17, check that the buzzer sound.

**Buzzer sound: Continuous**

- (4) While the buzzer is sounding, connect the battery positive terminal to terminal C9-4 and check that the buzzer sound is stopped.



**12. INSPECT KEY UNLOCK WARNING BUZZER**

(a) Check the operation.

HINT:

When the key unlock warning and light auto turn off warning is output simultaneously, the key unlock warning precedes the other.

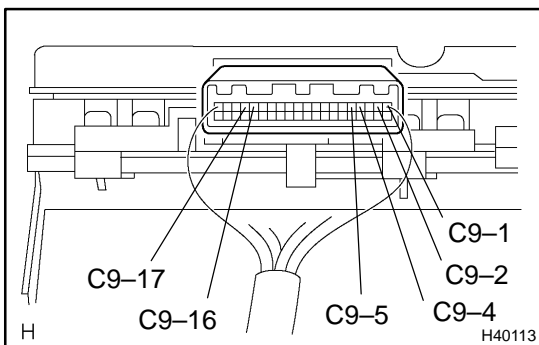
- (1) While the driver side door is open, insert the ignition key, set the ignition switch to OFF (LOCK or ACC) and check for the buzzer sound.

**Buzzer sound: Intermittent**

(b) Check the function.

- (1) Remove the combination meter.
- (2) Connect the position (+) lead from battery to terminal C9-5 and negative (-) lead to terminal C9-1 and C9-2.
- (3) Connect the negative (-) lead to terminal C9-16 and C9-17, check that the buzzer sound.

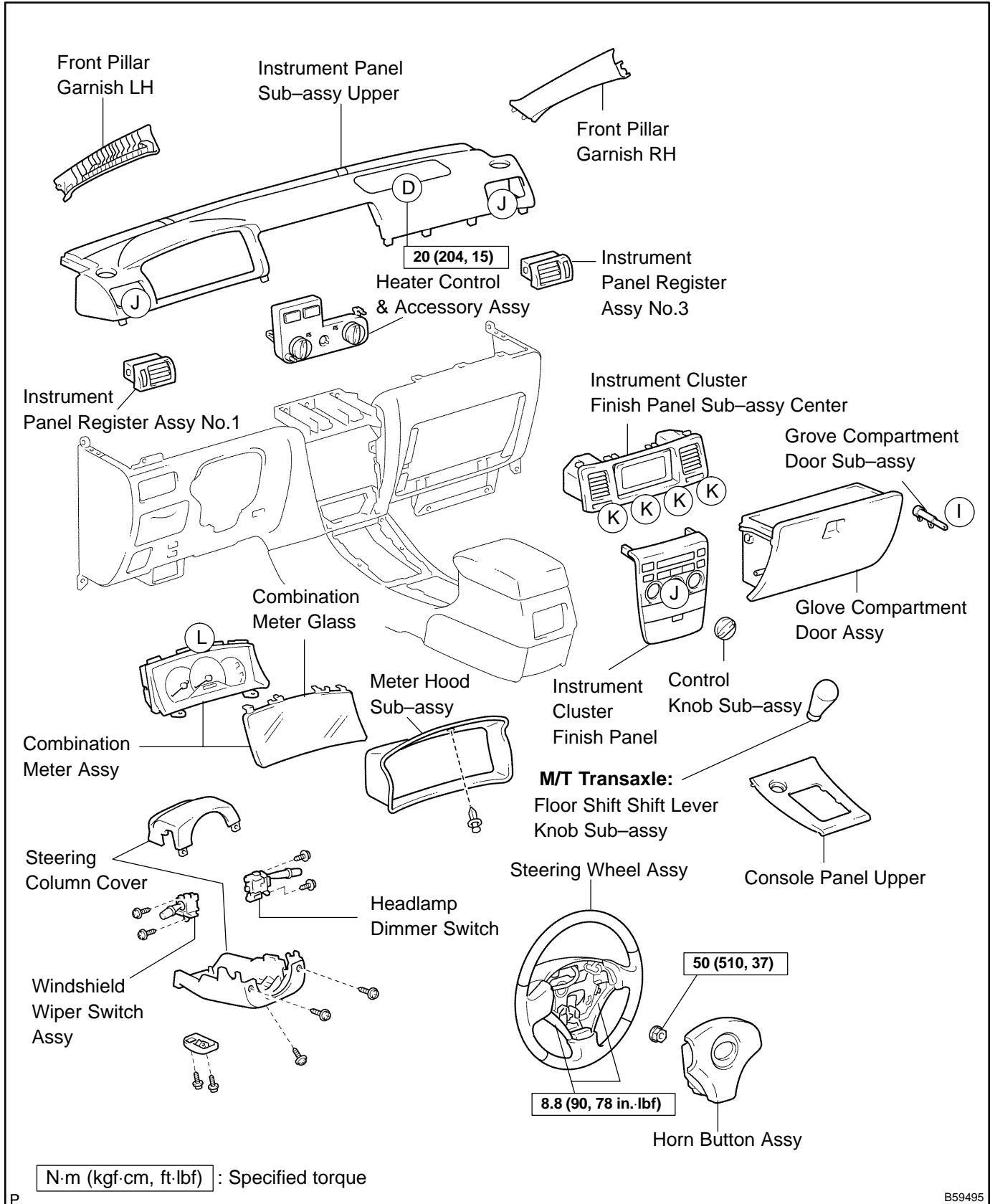
**Buzzer sound: Intermittent**

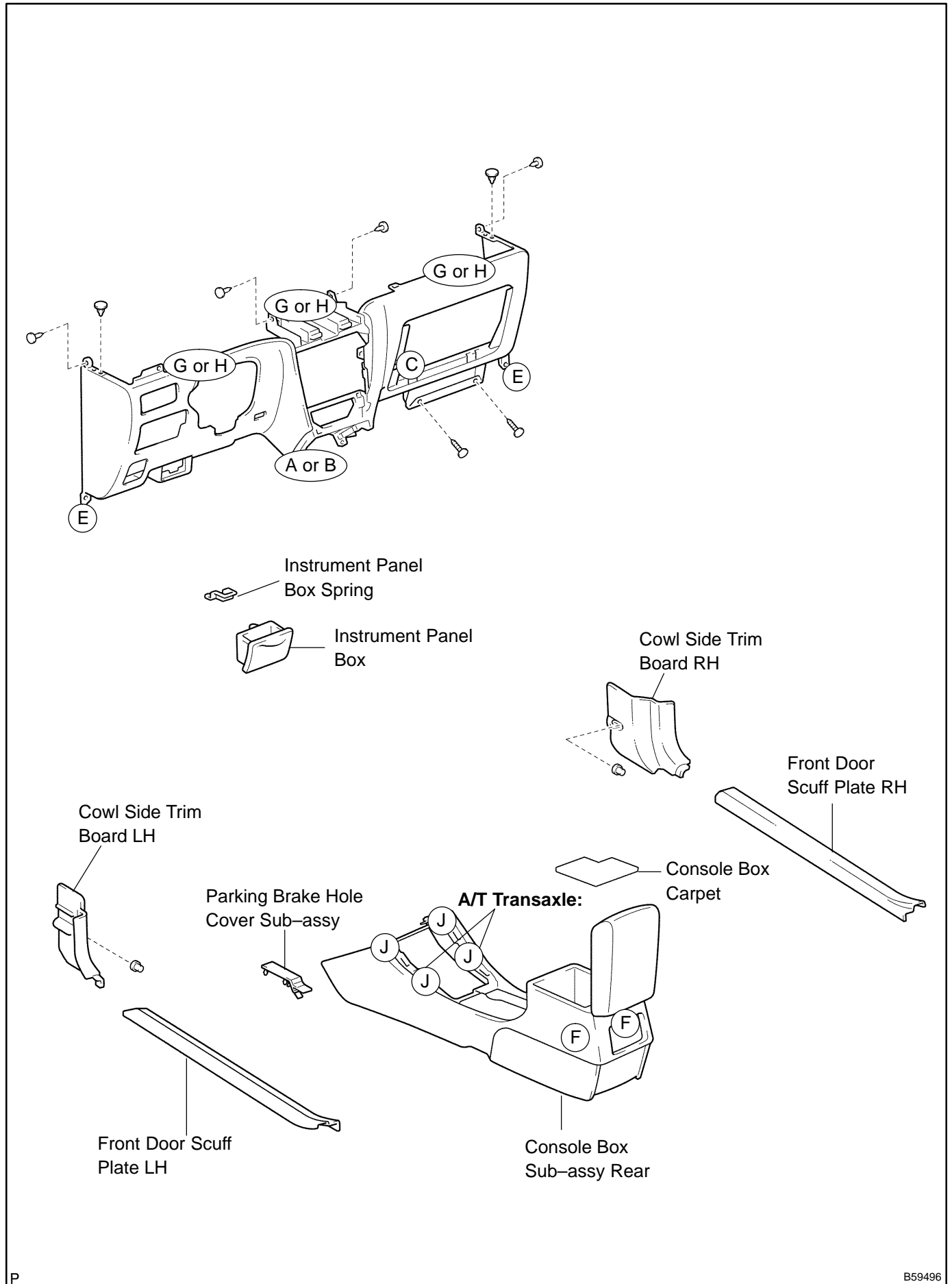


- (4) While the buzzer is sounding, connect the battery positive terminal to terminal C9-4 and check that the buzzer sound is stopped.

# INSTRUMENT PANEL/METER COMPONENTS

7108M-01





P

B59496

# INSTRUMENT PANEL SUB-ASSY LOWER

7108I-01

## PRECAUTION

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

- (a) Some operations in this section may affect the SRS airbag. Before performing the corresponding operations, please read the NOTICE of the SRS airbag to perform the proper operations.

# REPLACEMENT

HINT:

COMPONENTS: See page 71-7

## 1. TABLE OF BOLT, SCREW AND NUT

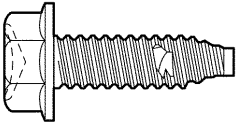
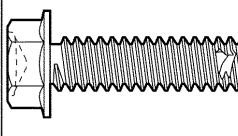
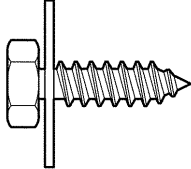
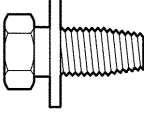
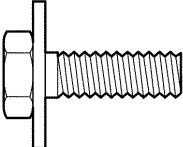
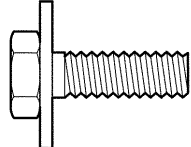
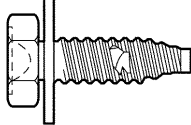
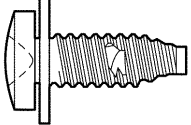
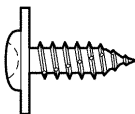
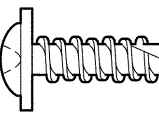
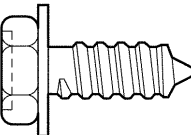
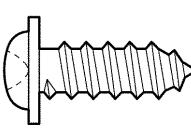
NOTICE:

Be sure to tape the tip of the screwdriver when using it to disengage the meshing of the clips and claws.

HINT:

Indicate the bolts, screws and nuts, which are necessary for installation and removal of the instrument panel, in the illustration and the text with alphabets.

mm (in.) (L = Length)

Code	Shape	Code	Shape	Code	Shape
<A>	 $\phi=6$ (0.24) L=30 (1.18)	<B>	 $\phi=7$ (0.28) L=30 (1.18)	<C>	 $\phi=6$ (0.24) L=20 (0.79)
B50531	55394-12010	B58168	55394-12020	B52926	90159-60125
<D>	 $\phi=8$ (0.32) L=18 (0.71)	<E>	 $\phi=6$ (0.24) L=16 (0.63)	<F>	 $\phi=6$ (0.24) L=25 (0.98)
B30744	91626-60818	B50534	91635-60616	B50534	91635-60625
<G>	 $\phi=6$ (0.24) L=20 (0.79)	<H>	 $\phi=7$ (0.28) L=20 (0.79)	<I>	 $\phi=5$ (0.20) L=14 (0.55)
B52928	90159-60546	B52927	90159-70004	B59217 B50529	90167-50022
<J>	 $\phi=5$ (0.20) L=14 (0.55)	<K>	 $\phi=5$ (0.20) L=16 (0.63)	<L>	 $\phi=5$ (0.20) L=18 (0.71)
B32741	93568-55014	B50530	90159-50322	B50532	93567-55018

P

B59370

## 2. PRECAUTION

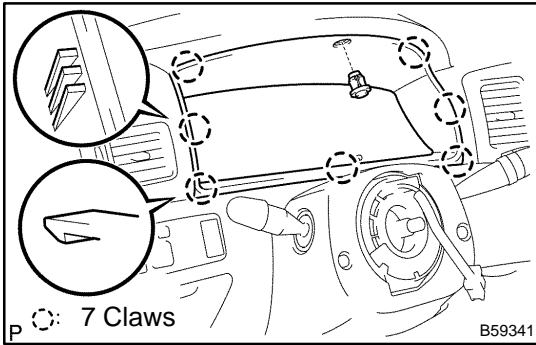
### 3. SEPARATE BATTERY NEGATIVE TERMINAL(See page 60-1)

### 4. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

### 5. REMOVE HORN BUTTON ASSY(See page 60-13)

### 6. REMOVE STEERING WHEEL ASSY(See page 50-8)

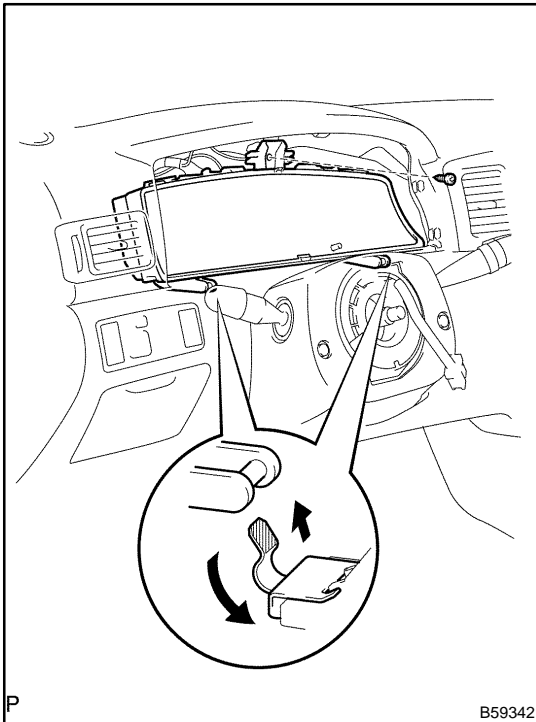
SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05021)

**7. REMOVE METER HOOD SUB-ASSY**

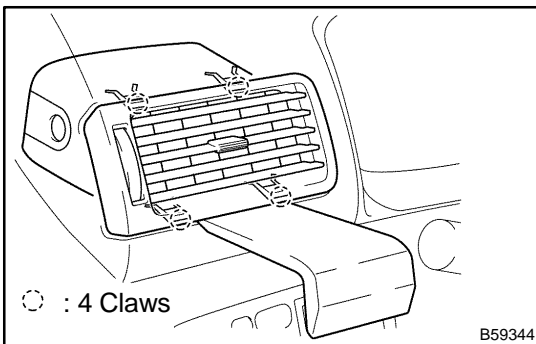
- (a) Remove the clip.
- (b) Using a screwdriver, disengage the 7 claws, then remove the meter hood sub-assy.

**HINT:**

Tape the screwdriver tip before use.

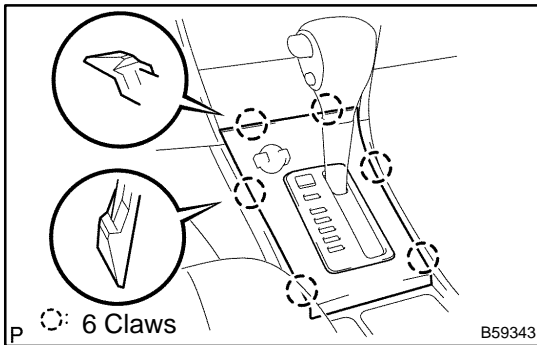
**8. REMOVE COMBINATION METER ASSY**

- (a) Remove the screw<L>.
- (b) Disengage the 2 claws as shown in the illustration.
- (c) Disconnect the connector, then remove the combination meter assy.

**9. REMOVE INSTRUMENT PANEL REGISTER ASSY NO.1**

- (a) Using a moulding remover, disengage the 4 claws, then remove the instrument panel register assy No.1.

**10. REMOVE INSTRUMENT PANEL REGISTER ASSY NO.3****11. REMOVE FLOOR SHIFT SHIFT LEVER KNOB SUB-ASSY (M/T TRANSAXLE)**

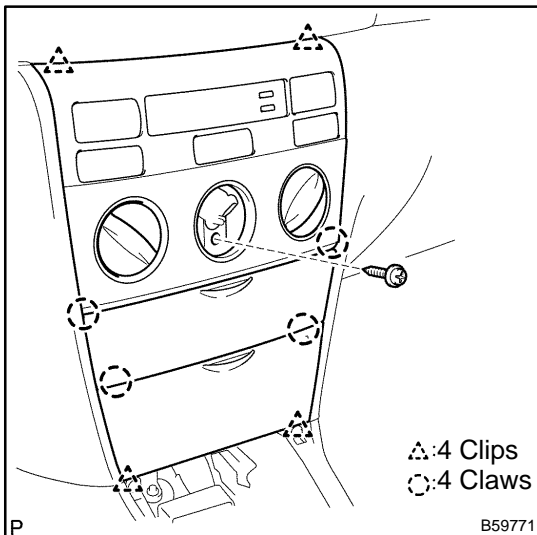
**12. REMOVE CONSOLE PANEL UPPER**

- (a) Using a screwdriver, disengage the 6 claws.

HINT:

Tape the screwdriver tip before use.

- (b) Disconnect the connector, then remove the console panel upper.

**13. REMOVE HEATER CONTROL KNOB****14. REMOVE INSTRUMENT CLUSTER FINISH PANEL**

- (a) Remove the screw<J>.

- (b) Using a screwdriver, disengage the 4 clips and 4 claws, then remove the instrument cluster finish panel.

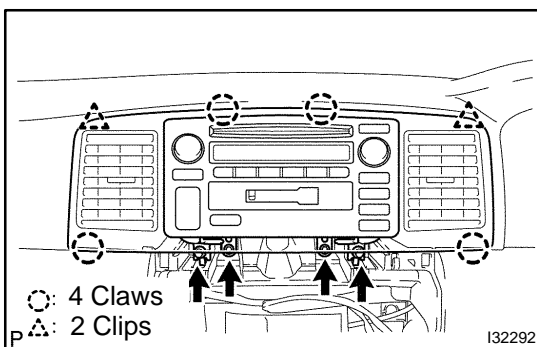
HINT:

Tape the screwdriver tip before use.

- (c) Disconnect the connectors.

**NOTICE:**

**Do not pull the lid of auxiliary box.**

**15. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSY CENTER**

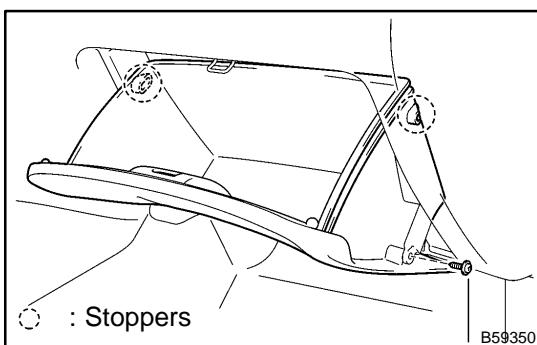
- (a) Remove the 4 screws<K>.

- (b) Using a screwdriver, disengage the 2 clips and 4 claws, then remove the instrument cluster finish panel sub-assy center with radio receiver assy.

HINT:

Tape the screwdriver tip before use.

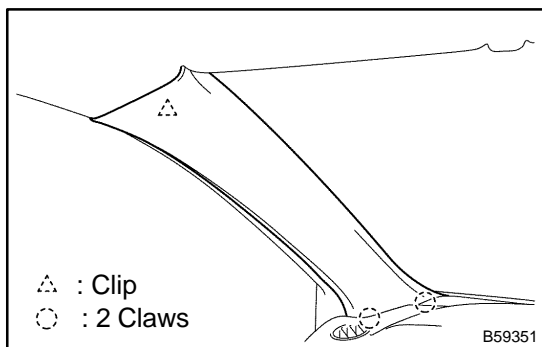
- (c) Disconnect the connectors.

**16. REMOVE GLOVE COMPARTMENT DOOR ASSY**

- (a) Remove the screw<I> from the glove compartment door stopper sub-assy.

- (b) Deform the upper part of the glove compartment door assy to release the stoppers.

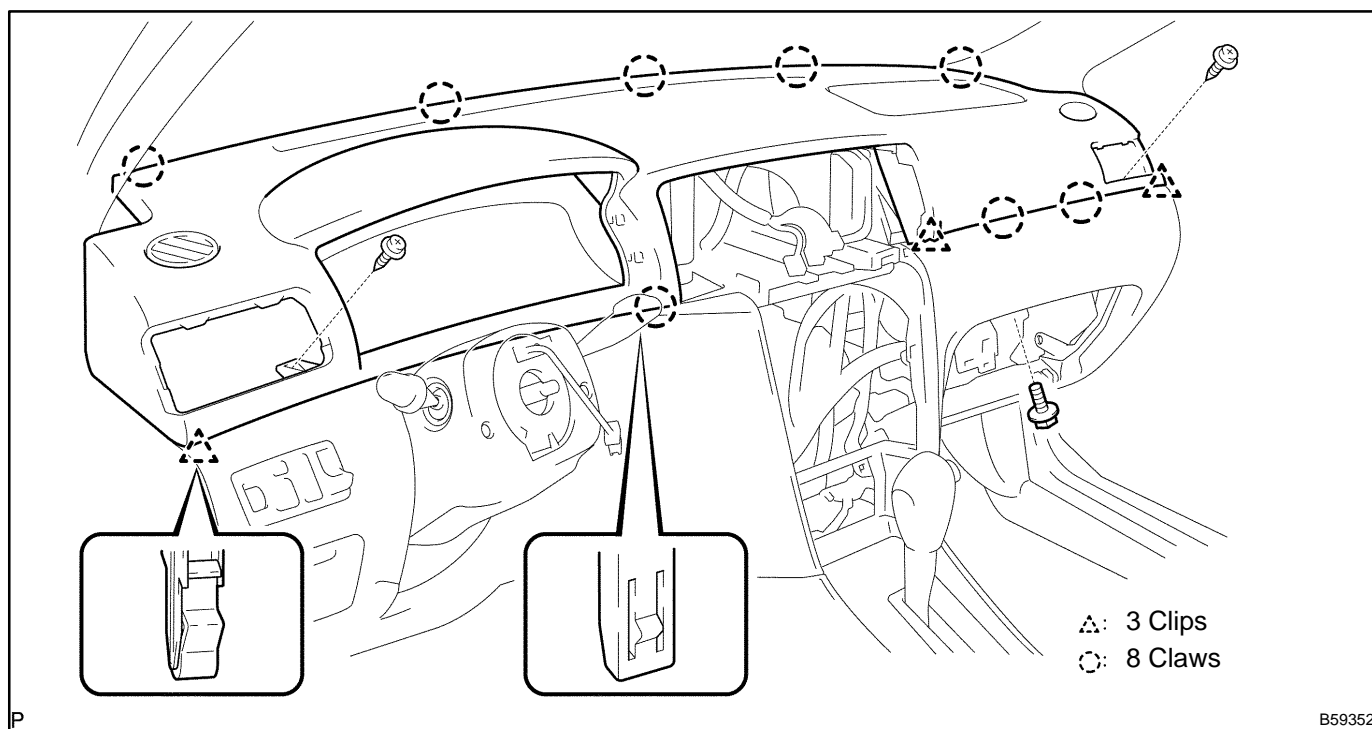
- (c) Pull the glove compartment door assy upward to remove it.

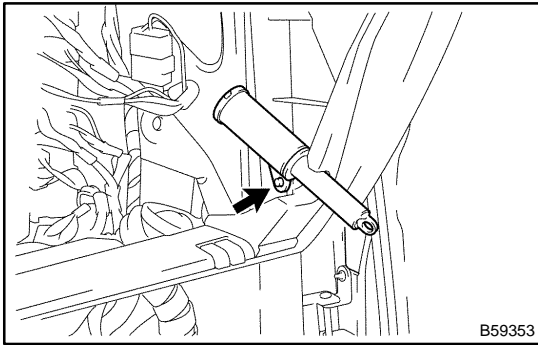
**17. REMOVE FRONT PILLAR GARNISH LH**

- (a) Disengage the clip.
- (b) Pull the front pillar garnish LH upward and disengage the 2 claws, then remove the front pillar garnish LH.

**18. REMOVE FRONT PILLAR GARNISH RH****19. SEPARATE PASSENGER AIRBAG CONNECTOR(See page 60-25)****20. REMOVE INSTRUMENT PANEL SUB-ASSY UPPER**

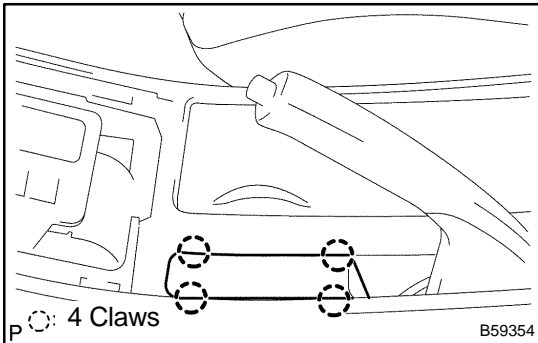
- (a) Remove the bolt<D> and 2 screws<J>.
- (b) Using a moulding remover, disengage the 3 clips and 8 claws.
- (c) Remove the instrument panel sub-assy upper.

**21. REMOVE HEATER CONTROL & ACCESSORY ASSY(See page 55-13)****22. REMOVE STEERING COLUMN COVER(See page 50-8)****23. REMOVE HEADLAMP DIMMER SWITCH ASSY(See page 65-23)****24. REMOVE WINDSHIELD WIPER SWITCH ASSY(See page 66-11)**



### 25. REMOVE GLOVE COMPARTMENT DOOR STOPPER SUB-ASSY

- (a) Disengage the clip, then remove the glove compartment door stopper sub-assy.



### 26. REMOVE PARKING BRAKE HOLE COVER SUB-ASSY

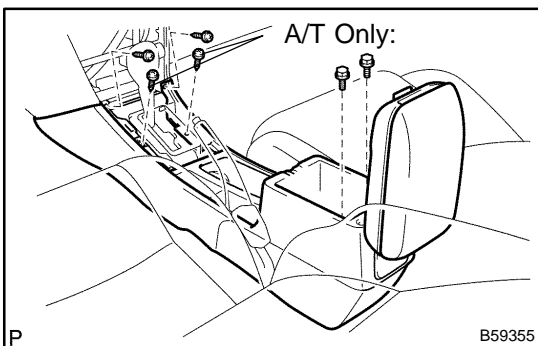
- (a) Using a screwdriver, disengage the 4 claws, then remove the parking brake hole cover sub-assy.

HINT:

Tape the screwdriver tip before use.

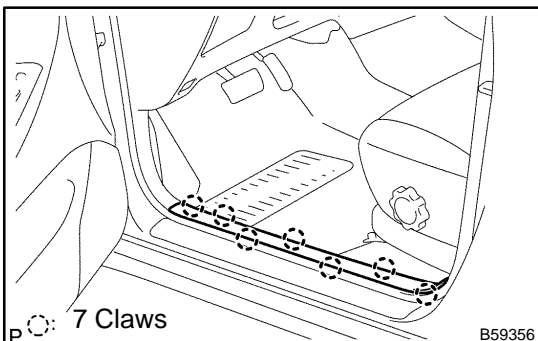
### 27. REMOVE CONSOLE BOX CARPET

### 28. REMOVE CONSOLE BOX SUB-ASSY REAR (M/T TRANSAXLE)



### 29. REMOVE CONSOLE BOX SUB-ASSY REAR

- (a) A/T Transaxle:  
Remove the 2 bolts<F>, 4 screws<J> and console box sub-assy rear.
- (b) M/T Transaxle:  
Remove the 2 bolts<F>, 2 screws<J> and console box sub-assy rear.



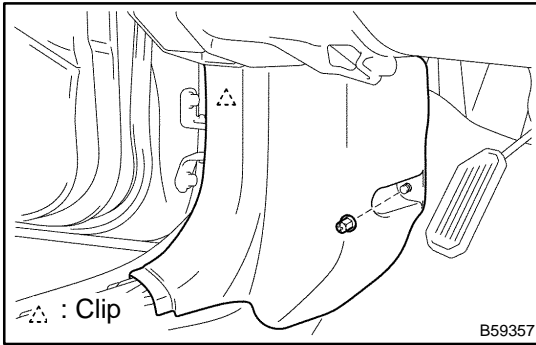
### 30. REMOVE FRONT DOOR SCUFF PLATE LH

- (a) Using a screwdriver, disengage the 7 claws, then remove the front door scuff plate LH.

HINT:

Tape the screwdriver tip before use.

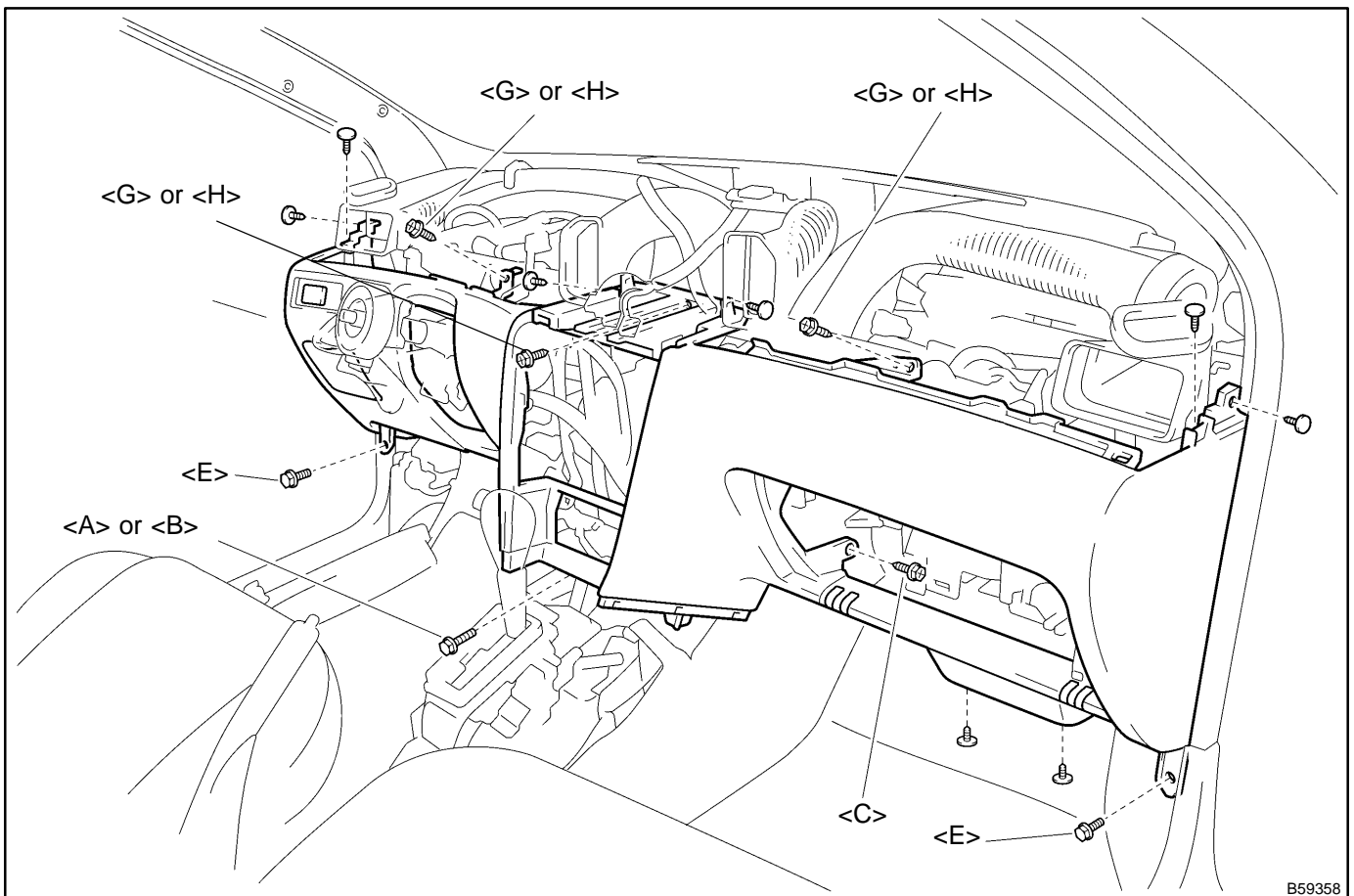
### 31. REMOVE FRONT DOOR SCUFF PLATE RH

**32. REMOVE COWL SIDE TRIM BOARD LH**

- (a) Remove the clip.
- (b) Disengage the clip, then remove the cowl side trim board LH.

**33. REMOVE COWL SIDE TRIM BOARD RH****34. REMOVE INSTRUMENT PANEL SUB-ASSY LOWER**

- (a) Disconnect the DLC3 connector.
- (b) Remove the hood lock control lever.
- (c) Remove the 3 screws <G> or <H>.
- (d) Remove the 2 bolts <E>.
- (e) Remove the bolt <A> or <B>.
- (f) Remove the bolt <C>.
- (g) Remove the 8 clips and instrument panel sub-assy lower.

**35. REMOVE INSTRUMENT PANEL BOX****36. REMOVE INSTRUMENT PANEL BOX SPRING****37. INSTALL HEATER CONTROL & ACCESSORY ASSY (See page 55-13)**

**38. INSTALL INSTRUMENT PANEL SUB-ASSY UPPER**

- (a) Install the instrument panel sub-assy upper.
- (b) Install the bolt<D> and 2 screws<J>.

**Torque:****Bolt <D>: 20 N·m (204 kgf·cm, 15 ft·lbf)****39. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSY CENTER**

- 40. CENTER SPIRAL CABLE(See page [60-22](#))**
- 41. INSTALL STEERING WHEEL ASSY(See page [50-8](#))**
- 42. INSPECT STEERING WHEEL CENTER POINT**
- 43. INSPECT HORN BUTTON ASSY(See page [60-13](#))**
- 44. INSTALL HORN BUTTON ASSY(See page [60-13](#))**
- 45. INSPECT SRS WARNING LIGHT**

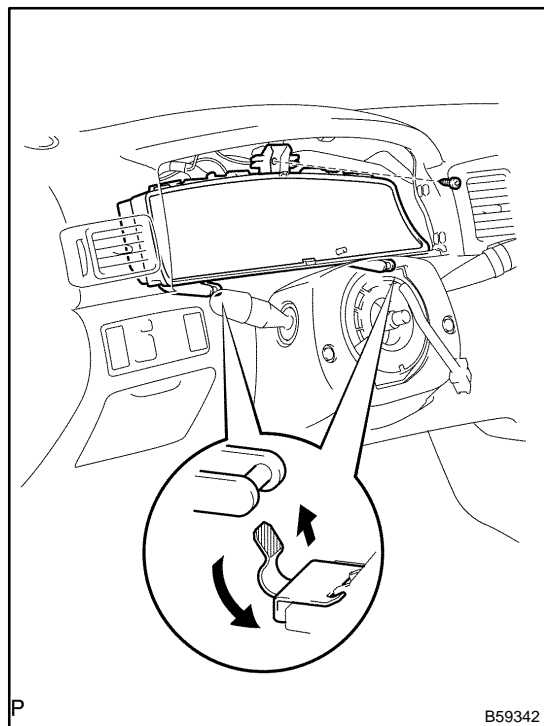
# COMBINATION METER ASSY OVERHAUL

7108K-01

HINT:

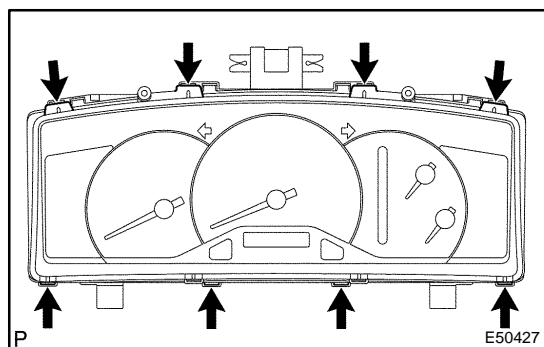
COMPONENTS: See page 71-7

## 1. REMOVE METER HOOD SUB-ASSY(See page 71-10)



## 2. REMOVE COMBINATION METER ASSY

- (a) Remove the screw.
- (b) Disengage the 2 clips as shown in the illustration.
- (c) Disconnect the connector, then remove the combination meter.



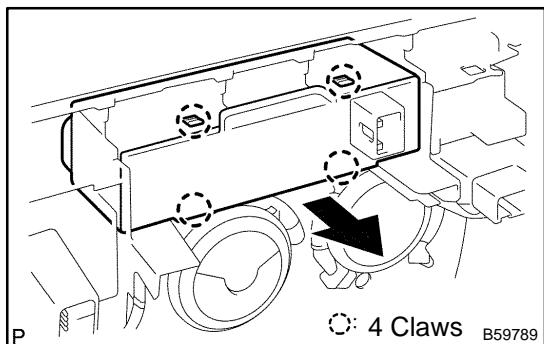
## 3. REMOVE COMBINATION METER GLASS

- (a) Disengage the 8 claws, then remove the combination meter glass.

# CLOCK ASSY REPLACEMENT

7108L-01

1. REMOVE CONSOLE PANEL UPPER(See page 71-10)
2. REMOVE HEATER CONTROL KNOB
3. REMOVE INSTRUMENT CLUSTER FINISH PANEL(See page 71-10)



## 4. REMOVE CLOCK ASSY

- (a) Using a screwdriver, disengage the 4 claws, remove the clock as shown in the illustration.

HINT:

Tape the screwdriver tip before use.