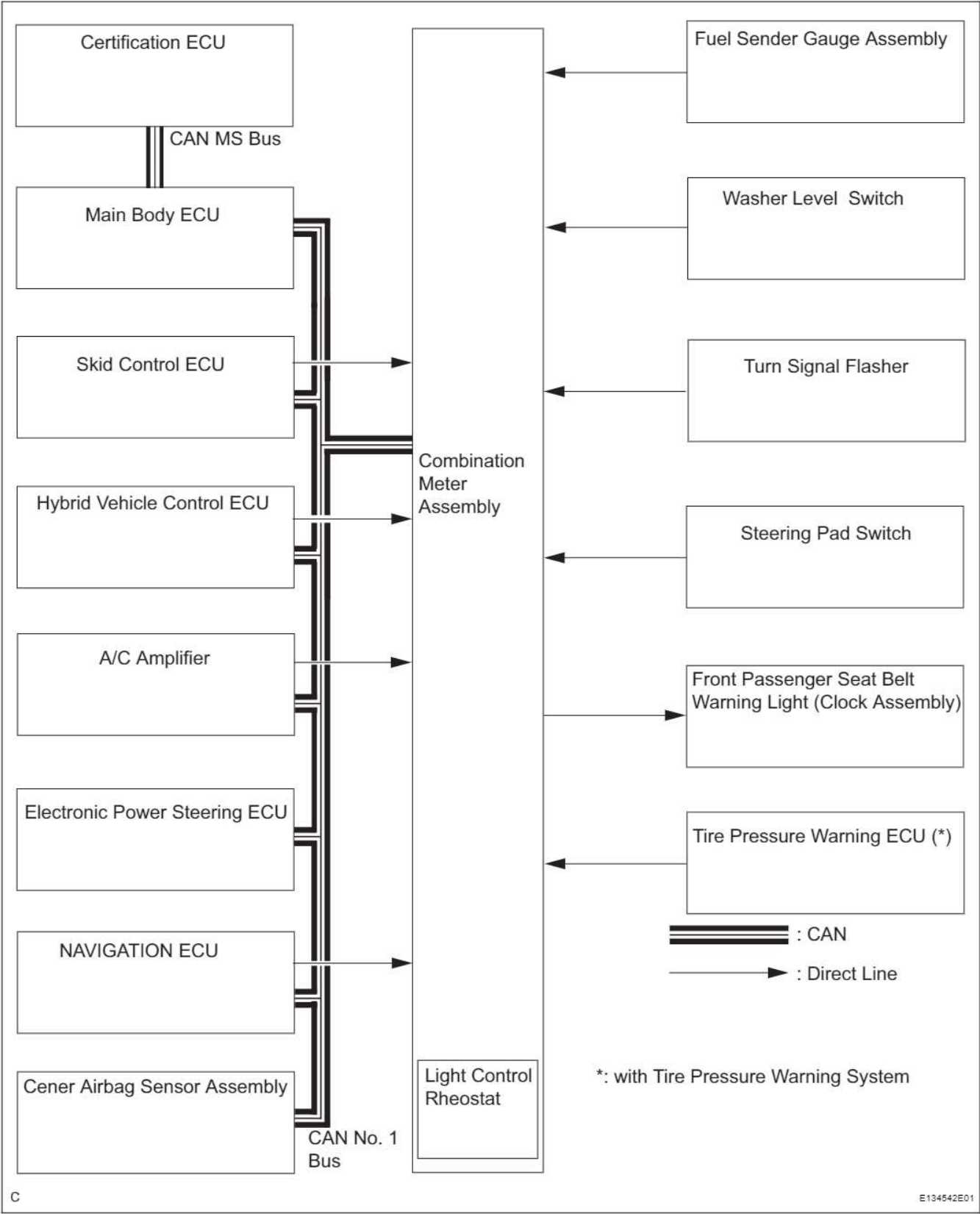


SYSTEM DIAGRAM



ME-6**METER – METER / GAUGE SYSTEM****INPUT AND OUTPUT SIGNALS OF THE COMBINATION METER ASSEMBLY:**

Sender	Receiver	Communication Signal	Communication Line
Combination Meter Assembly	- A/C Amplifier - Center Airbag Sensor Assembly - Main Body ECU	Vehicle speed signal	CAN (CAN No. 1 Bus)
	Certification ECU		CAN (CAN MS Bus)
	- Hybrid Vehicle Control ECU - Navigation ECU - Tire Pressure Warning ECU (*1)		Direct Line
	- Main Body ECU - A/C Amplifier	Rheostat duty signal Tail cancel signal	CAN (CAN No. 1 Bus)
	Main Body ECU	Lounge illumination signal	CAN (CAN No. 1 Bus)
	- Center Airbag Sensor Assembly - Hybrid Vehicle Control ECU	Vehicle specification signal (Destination/Handle code)	CAN (CAN No. 1 Bus)
	Certification ECU	Odometer signal	CAN (CAN MS Bus)
	Clock Assembly	Passenger seat belt warning light signal	Direct Line
Hybrid Vehicle Control ECU	Combination Meter Assembly	Starter signal	CAN (CAN No. 1 Bus)
		Test mode signal	
		Cruise operation indicator	
		Cruise control warning	
		Charge light indicator	
		Engine coolant temperature signal	
		Engine type information	
		Shift position signal	
		Engine RPM data	
		P position request signal (When starting)	
		Hybrid system warning signal	
		Motor inverter high temperature warning signal	
		Hybrid battery warning signal	
		NDB warning signal (When parking)	
		The state of the hybrid battery signal	
		DC/DC converter abnormal signal	
		READY signal	
		READY buzzer signal	
		Certification mode signal	
		Maintenance mode signal	
		Energy flow signal	
		Hybrid battery charge request warning	
		Engine oil pressure warning display signal	

METER – METER / GAUGE SYSTEM**ME-7**

Sender	Receiver	Communication Signal	Communication Line
Main Body ECU	Combination Meter Assembly	Auto dimmer signal	
		ACC switch signal	
		Each door courtesy switch signal	
		Slide roof signal (*2)	
		Smart key signal	
		Driver side seat belt switch signal	
		Parking brake switch signal	
		High beam indicator light signal	
		Head (*3)/Tail (*4) indicator light signal	
- Main Body ECU - Certification ECU	Combination Meter Assembly	Hood courtesy switch signal	CAN (CAN MS Bus)
Certification ECU	Combination Meter Assembly	Meter buzzer request signal	CAN (CAN MS Bus)
		Each door open display signal	
		Key lose warning signal	
		Low key battery warning signal	
		Shift position warning signal	
		Steering lock abnormal warning signal	
		Steering lock unlock warning signal	
		Immobiliser key identification completion signal	
Skid Control ECU	Combination Meter Assembly	Vehicle speed signal	CAN (CAN No. 1 Bus)
		Brake warning light control flag	
		ABS warning light signal	
		Slip indicator light signal	
		ECB Warning light signal	
		VSC warning signal	
		Stop light signal	
- Hybrid Vehicle Control ECU - Skid Control ECU	Combination Meter Assembly	Diagnosis signal	CAN (CAN No. 1 Bus)
A/C Amplifier	Combination Meter Assembly	Ambient temperature display signal	CAN (CAN No. 1 Bus)
Center Airbag Sensor Assembly	Combination Meter Assembly	Airbag warning light signal	CAN (CAN No. 1 Bus)
		Front passenger seat condition signal	
		Front passenger seat belt condition signal	
Steering Pad Switch	Combination Meter Assembly	Steering pad switch operation signal	Direct Line
Fuel Sender Gauge Assembly	Combination Meter Assembly	Fuel level signal	Direct Line
Turn Signal flasher	Combination Meter Assembly	Turn LH/RH indicator light signal	Direct Line
Tire Pressure Warning ECU (*1)	Combination Meter Assembly	Tire pressure warning light signal	Direct Line
Washer Level Switch	Combination Meter Assembly	Washer fluid level warning display signal	Direct Line
Hybrid Vehicle Control ECU	Combination Meter Assembly	Fuel lid signal	Direct Line

*1: with Tire Pressure Warning System

*2: with Sliding Roof

*3: for U.S.A.

*4: for Canada

METER – METER / GAUGE SYSTEM

1. METER GAUGE



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WARNING/INDICATOR:

Item	Detail
TURN SIGNAL	Receives a turn signal from the turn signal flasher. (Direct Line)
BEAM	Receives a beam signal from the main body ECU. (CAN (CAN No. 1 Bus))
CHARGE	Receives a charge light signal from the hybrid vehicle control ECU. (CAN (Can No. 1 Bus))
CHECK E/G	Receives a check engine light signal from the hybrid vehicle control ECU. (Direct Line)
READY	Receives a ready warning light signal from hybrid vehicle control ECU. (CAN (CAN No. 1 Bus))
DOOR	The open door indicator light comes on receiving a door condition signal from the main body ECU. (CAN (CAN MS Bus))
D-BELT	Receives a driver side seat belt signal from the center airbag sensor assembly. (CAN (CAN No. 1 Bus))
P-BELT	Receives a passenger side seat belt signal from the center airbag sensor assembly via the main body ECU (CAN (CAN No. 1 Bus)) and transmits a passenger side seat belt condition signal to the clock assembly. (Direct Line)
HEAD (*1)	Receives a HEAD indicator light signal from the main body ECU. (CAN (CAN No. 1 Bus))
TAIL (*2)	Receives a TAIL indicator light signal from the main body ECU. (CAN (CAN No. 1 Bus))

METER – METER / GAUGE SYSTEM**ME-9**

Item	Detail
A/T SHIFT	Receives an A/T shift condition signal from the park/neutral position switch and the hybrid vehicle control ECU. (CAN (CAN No. 1 Bus))
FUEL	Receives a fuel signal from the fuel sender gauge. (Direct Line)
ABS	Receives an ABS signal from the skid control ECU. (CAN (CAN No. 1 Bus))
SLIP	Receives a SLIP signal from the skid control ECU. (CAN (CAN No. 1 Bus))
BRAKE	Receives a brake signal from skid control ECU. (CAN (CAN No. 1 Bus))
ECB	Receives an electrically controlled brake warning light signal from the skid control ECU. (CAN (CAN No. 1 Bus))
CRUISE	Receives a cruise signal from the hybrid vehicle control ECU. (CAN (CAN No. 1 Bus))
AIRBAG	Receives an airbag signal from the center airbag sensor assembly. (CAN (CAN No. 1 Bus))
Tire pressure (*3)	Receives a tire pressure signal from the tire pressure warning ECU. (Direct Line)
Oil replacement reminder (*1)	The oil replacement reminder light comes on/blinks to remind the driver to change the engine oil depending on the vehicle driving distance.
Master caution indicator light	The master caution indicator light comes on to indicate that an oil maintenance resetting procedure has finished.
P/S	Receives a electronic power steering warning light signal from the electronic power steering ECU. (CAN (CAN No. 1 Bus))

*1: for U.S.A.

*2: for Canada

*3: with Tire Pressure Warning System

HINT:

- The multi-information display has been located in the center of the speedometer.
- The display shows a message or animation for each of the functions described in the table below.

MULTI-INFORMATION DISPLAY:

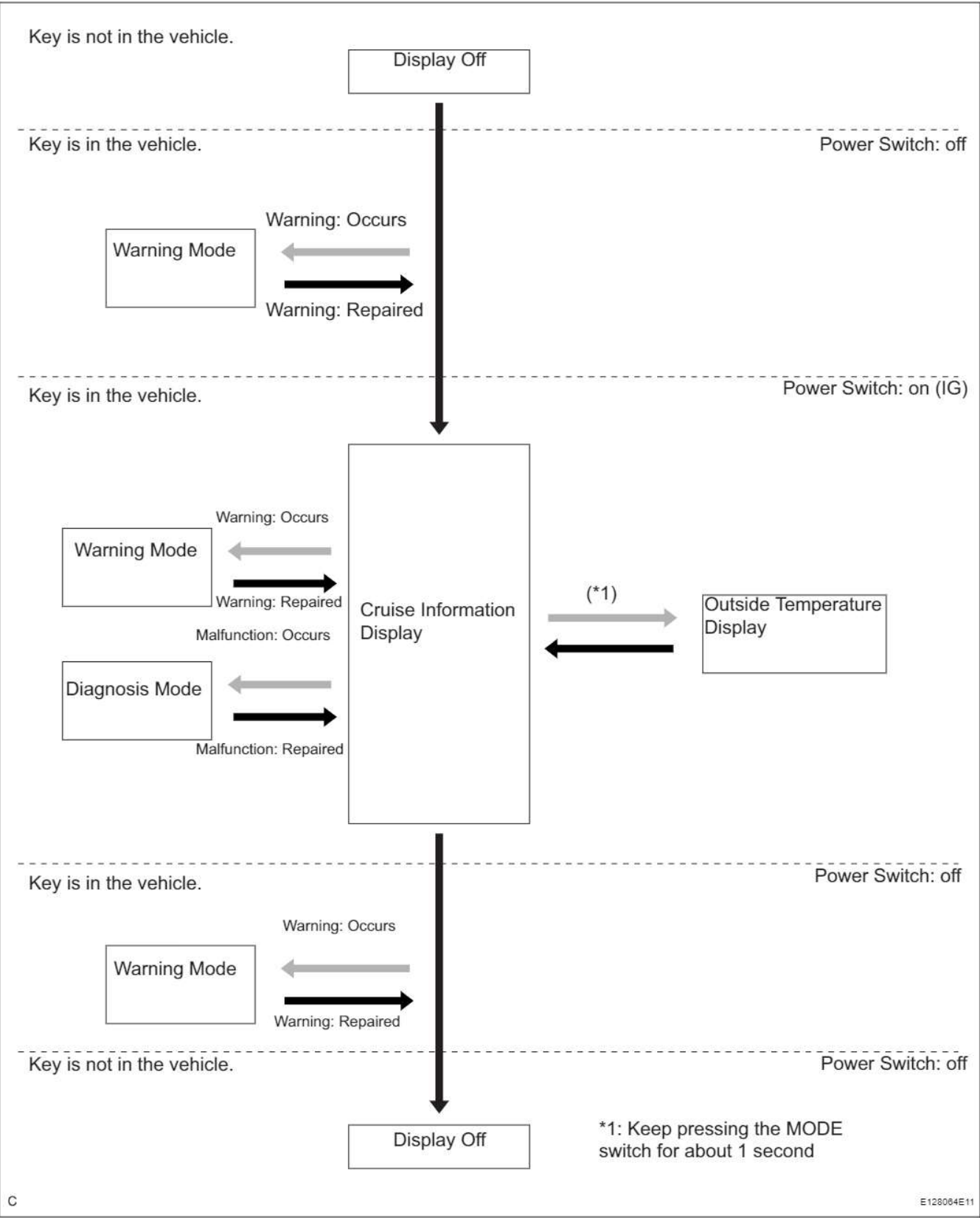
Item	Detail
Cruise Information • Outside Temperature • Driving Range • Average Fuel Consumption since refueling • Distance driven since engine start • Average speed since engine start	Five types of information (outside temperature, driving range, average fuel consumption after refueling, distance driven since engine start and average speed) can be displayed.
Warning • Door Warning • Oil Replacement Reminder (*1)	Interrupts the multi-information display immediately when a warning occurs.
Energy Monitor Display (Average Fuel Consumption Since Starting)	• Indicates the energy transmission direction for checking the current drive method (engine, motor or both), the power generation status of the engine and the status of regenerative energy use. • The SOC (state of charge) of the battery can be checked on the meter using an 9-stage display, which is provided in the battery illustration. • The data is updated every 0.3 second.
Eco Drive Level Display	• The actual fuel consumption conditions are indicated in 4 levels. • The display can be changed by using the DISP switch.
Warning	Interrupts the multi-information display immediately when a warning occurs.
Diagnosis	DTC (Diagnostic Trouble Code) for the VDIM system can be displayed.

*1: for U.S.A.

ME-10

METER – METER / GAUGE SYSTEM

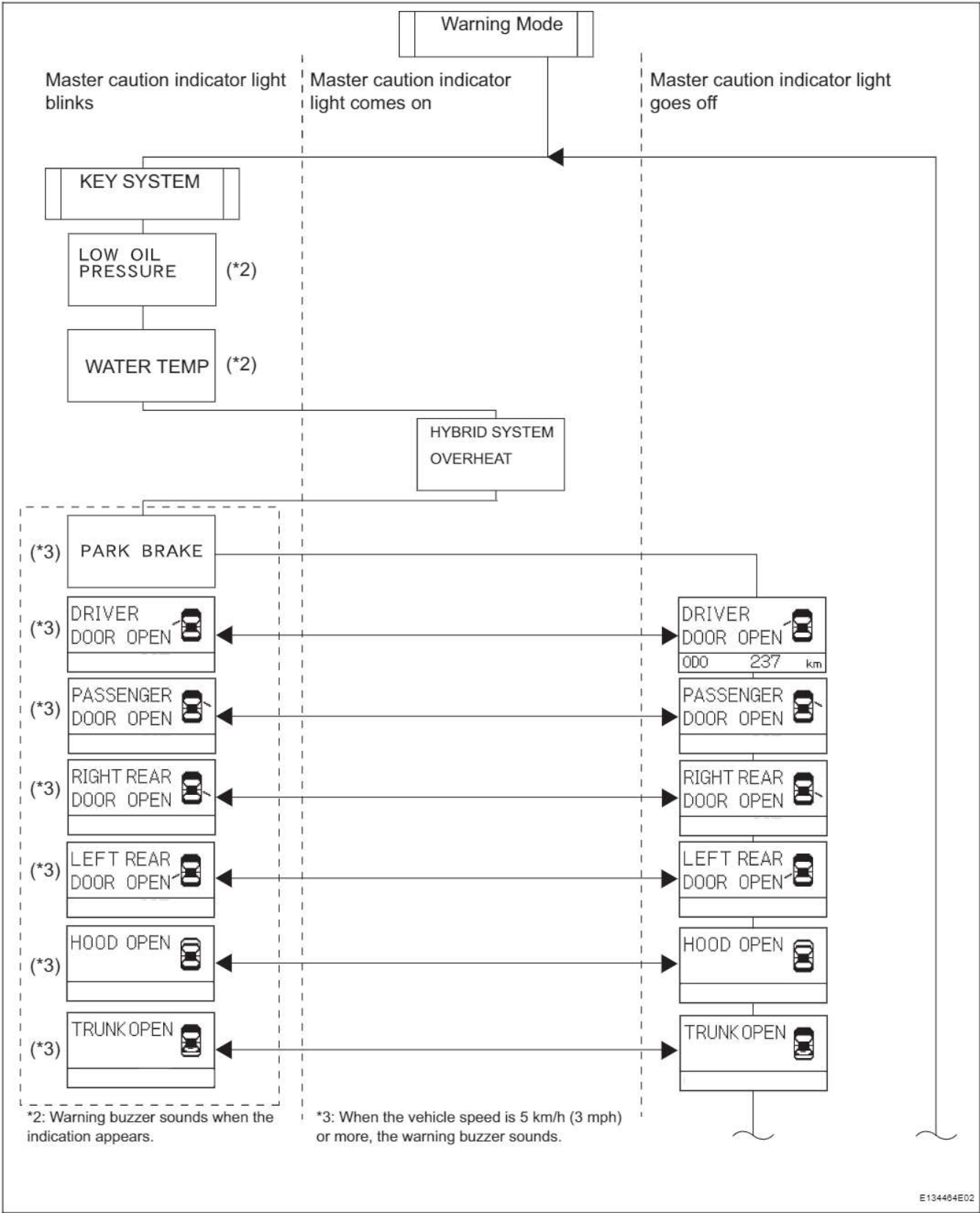
2. MULTI-INFORMATION DISPLAY



METER – METER / GAUGE SYSTEM

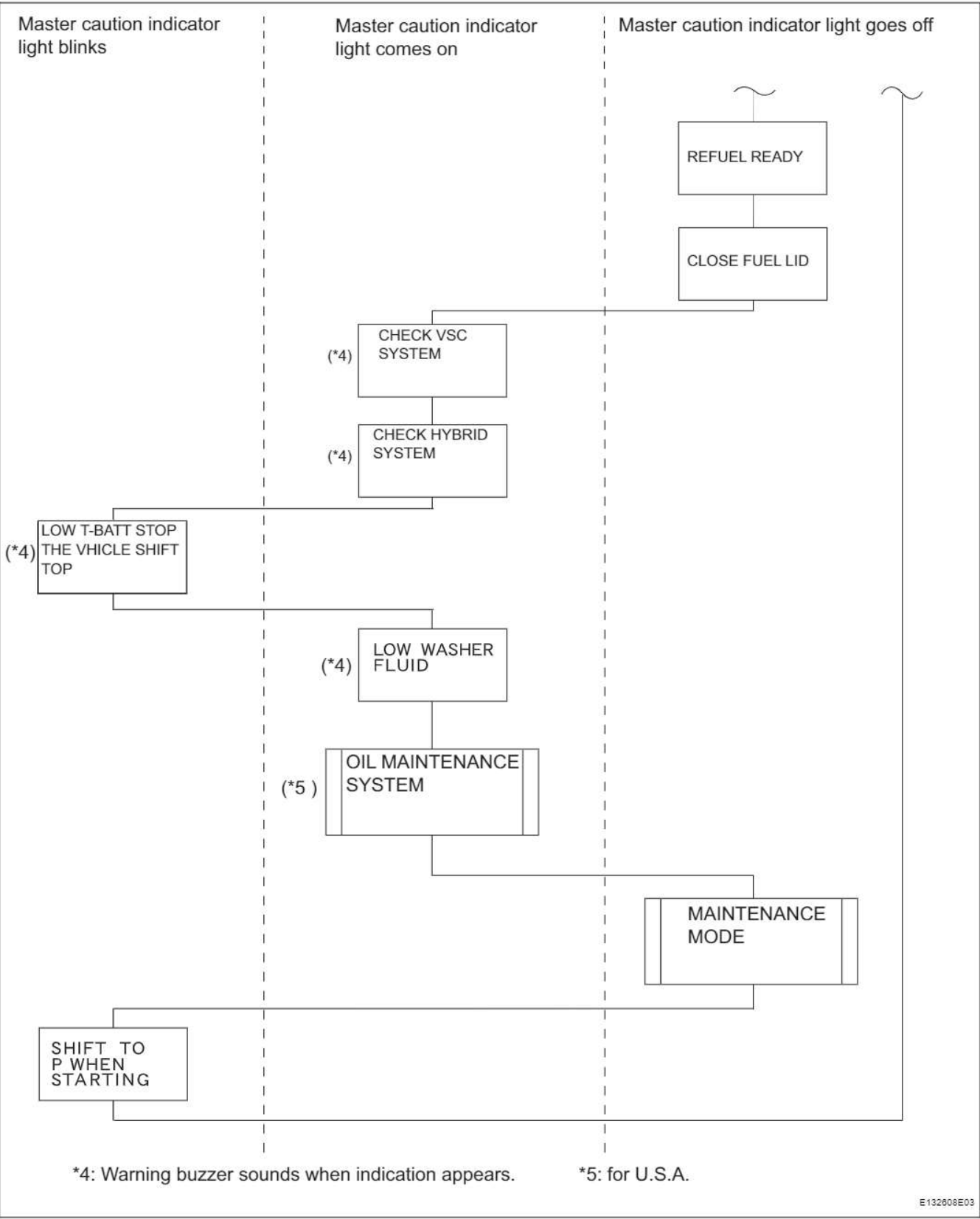
ME-11

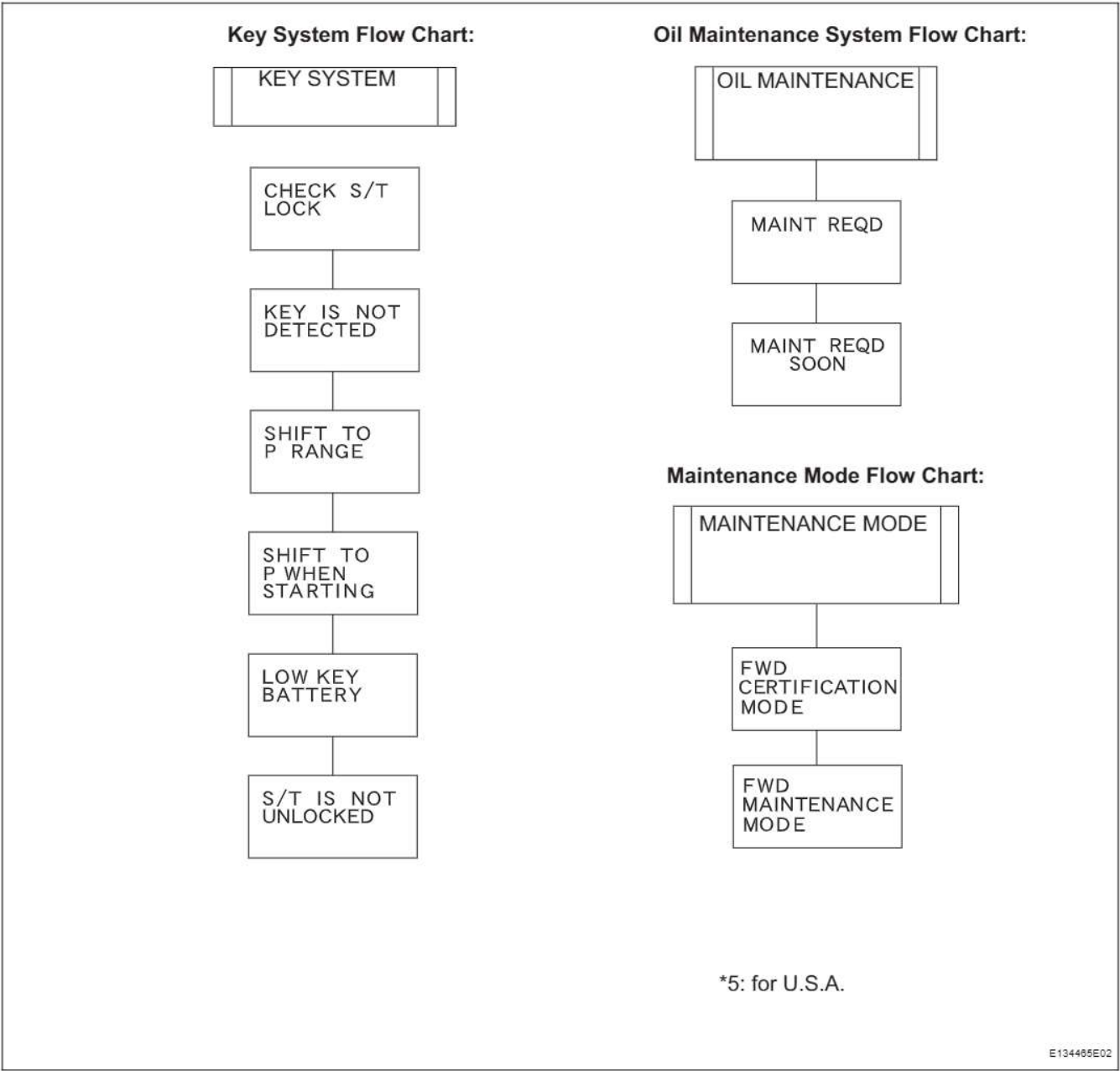
ME



ME-12

METER – METER / GAUGE SYSTEM





3. DIAGNOSIS SYSTEM



- HINT:
- Diagnosis information can be displayed on the multi-information display after connecting a jumper wire between terminals TC and CG of the DLC3 connector.

ME-14**METER – METER / GAUGE SYSTEM**

- The multi-information display shows "DIAG VSC" before the meter CPU receives a diagnosis information signal from the skid control ECU.
- The multi-information display shows "DIAG VSC 23" when the meter CPU receives a diagnosis information signal from the skid control ECU.

4. MAINTENANCE MODE

HINT:

For more information about maintenance mode, go to the hybrid system (See page [ES-35](#)).

**ME**

HOW TO PROCEED WITH TROUBLESHOOTING

1 VEHICLE BROUGHT TO WORKSHOP

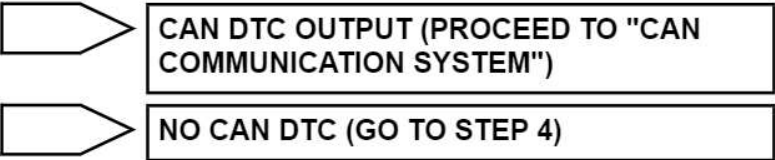
NEXT

2 CUSTOMER PROBLEM ANALYSIS

NEXT

3 CHECK CAN COMMUNICATION SYSTEM

(a) Check for DTC output.
HINT:
See page [CA-22](#).



4 PROBLEM SYMPTOM CONFIRMATION

NEXT

5 SYMPTOM SIMULATION

NEXT

6 PROBLEM SYMPTOMS TABLE

HINT:
See page [ME-17](#).

NEXT

7 CIRCUIT INSPECTION

NEXT

ME

ME-16

METER – METER / GAUGE SYSTEM

8	REPAIR OR REPLACE
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NEXT

9	CONFIRMATION TEST
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NEXT

END

ME

CUSTOMIZE PARAMETERS

1. COMBINATION METER ASSEMBLY

NOTICE:

Be sure to record the current value before customizing.

HINT:

The following items can be customized using the intelligent tester.

METER:

Tester Display	Default	Contents	Setting
SEAT-BELT WARN	D/P ON	Function to change the setting of the seat belt buzzer	D/P ON, D ON, P ON, D/P OFF

HINT:

This setting is only valid for the buzzer which sounds at 5 km/h (3 mph) or more.

ME-18

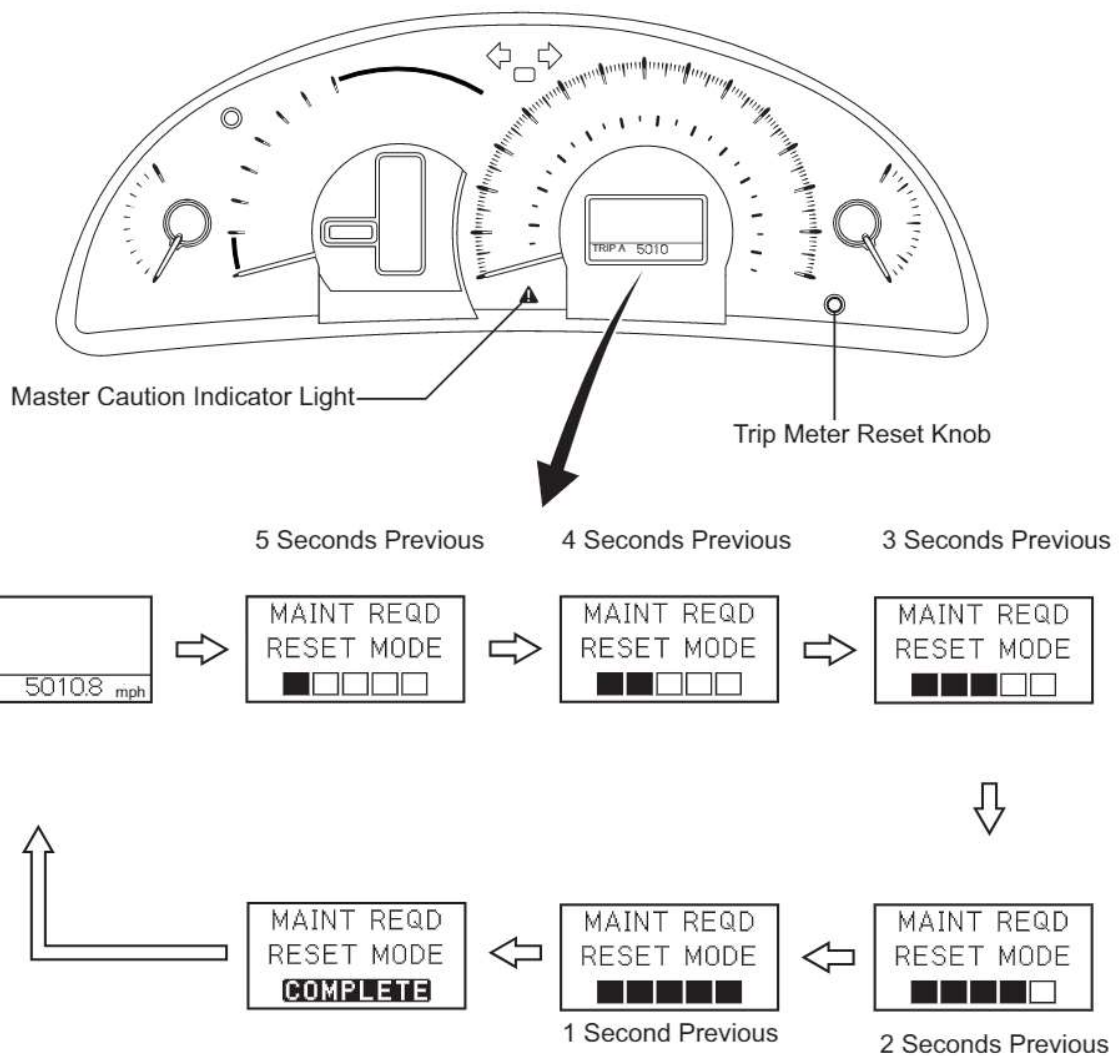
METER – METER / GAUGE SYSTEM

INITIALIZATION

1. OIL MAINTENANCE INFORMATION MODE RESET OPERATION

HINT:

- The trip meter reset knob is located on the right side of the combination meter assembly.
 - This reset operation is required only for U.S.A..
- Turn the power switch on (IG).
 - Press the ODO/TRIP switch until the trip meter A appears.
 - Turn the power switch off.
 - Turn the power switch on (IG) while pressing and holding the trip meter reset knob. Hold the trip meter reset knob until the following conditions are met and 5 seconds have passed.



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METER – METER / GAUGE SYSTEM**ME-19**

- The multi-information display shows "MAINT REQD RESET MODE".
 - The master caution indicator light illuminates.
 - When the oil replacement reminder light turns off, the reset is complete.
- (e) When "MAINT REQD RESET MODE COMPLETE" disappears and the master caution indicator light turns off, the reset is complete.

ME

ME-20**METER – METER / GAUGE SYSTEM****PROBLEM SYMPTOMS TABLE****MALFUNCTION SYSTEM:**

Symptom	Suspected Area	See page
Entire combination meter does not operate.	Power Source Circuit	ME-40
Meter illumination is always dark.	Meter Illumination Circuit	ME-56
Meter illumination does not dim at night.	Meter Illumination Circuit	ME-59

METER GAUGES:

Symptom	Suspected Area	See page
Speedometer malfunction	Speedometer Circuit	ME-42
Fuel economy meter malfunction	Fuel Economy Meter Circuit	ME-52
Fuel receiver gauge malfunction	Fuel Receiver Gauge Circuit	ME-45
Engine coolant temperature malfunction	Engine Coolant Temperature Receiver Gauge Circuit	ME-49

WARNING LIGHTS:

Symptom	Suspected Area	See page
Check engine warning light does not come on.	1. Combination meter (LED)	ME-30
	2. MIL Circuit	ES-373
	3. Wire Harness or Connector	-
	4. Combination Meter Assembly	ME-64
Charge warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. ECM	-
	4. Combination Meter Assembly	ME-64
Brake warning light does not come on.	1. Combination meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Brake Warning Light Circuit	BC-234
	4. Main Body ECU	-
	5. Combination Meter Assembly	ME-64
Brake warning light does not go off.	1. Combination meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Brake Warning Light Circuit	BC-227
	4. Main Body ECU	-
	5. Combination Meter Assembly	ME-64
ABS warning light does not come on.	1. Combination meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. ABS Warning Light Circuit	BC-219
	4. Combination Meter Assembly	ME-64
ABS warning light does not go off.	1. Combination meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. ABS Warning Light Circuit	BC-214
	4. Combination Meter Assembly	ME-64
Airbag warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Airbag Warning Light Circuit	RS-227
	3. Wire Harness or Connector	-
	4. Combination Meter Assembly	ME-64
Airbag warning light does not go off.	1. Combination Meter (LED)	ME-30
	2. Airbag Warning Light Circuit	RS-222
	3. Wire Harness or Connector	-
	4. Combination Meter Assembly	ME-64

METER – METER / GAUGE SYSTEM**ME-21**

Symptom	Suspected Area	See page
Open door warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Door Courtesy Switch	LI-105
	4. Main Body ECU	-
	5. Combination Meter Assembly	ME-64
Fuel level warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Fuel Sender Gauge Assembly	ME-72
	4. Combination Meter Assembly	ME-64
Driver seat belt warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Driver Seat Belt Warning Light Circuit	SB-10
	4. Center Airbag Sensor Assembly	-
	5. Combination Meter Assembly	ME-64
Tire pressure warning light does not come on. (with Tire Pressure Warning System)	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Tire Pressure Warning System	TW-22
	4. Combination Meter Assembly	ME-64
Electrically controlled brake warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Electrically Controlled Brake Indicator Light Circuit	BC-234
	4. Combination Meter Assembly	ME-64
Electrically controlled brake warning light does not go off.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Electrically Controlled Brake Indicator Light Circuit	BC-227
	4. Combination Meter Assembly	ME-64
EPS warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Electronic Power Steering System	PS-54
	3. Combination Meter Assembly	ME-64
EPS warning light does not go off.	1. Combination Meter (LED)	ME-30
	2. Electronic Power Steering System	PS-50
	3. Combination Meter Assembly	ME-64

INDICATOR LIGHTS:

Symptom	Suspected Area	See page
Shift indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Hybrid Control System	HV-46
	4. Combination Meter Assembly	ME-64
Turn indicator light does not come on.	1. Wire Harness or Connector	-
	2. Turn Indicator Light Circuit	LI-12
	3. Combination Meter Assembly	ME-64
Slip indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. SLIP Indicator Light Circuit	BC-246
	4. Combination Meter Assembly	ME-64
Slip indicator light does not go off.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. SLIP Indicator Light Circuit	BC-242
	4. Combination Meter Assembly	ME-64

ME-22**METER – METER / GAUGE SYSTEM**

Symptom	Suspected Area	See page
Cruise indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Cruise Main Indicator Light Circuit	CC-34
	4. Combination Meter Assembly	ME-64
High beam indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Headlight Dimmer Switch	LI-12
	4. Main Body ECU	-
	5. Combination Meter Assembly	ME-64
Ready indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Hybrid Vehicle Control ECU	-
	3. Combination Meter Assembly	ME-64
Master caution indicator light does not come on.	1. Combination Meter (LED)	ME-30
	2. Combination Meter Assembly	ME-64
Head indicator light does not come on. (for U.S.A.)	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Main Body ECU	-
	4. Combination Meter Assembly	ME-64
Tail indicator light does not come on. (for Canada)	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Main Body ECU	-
	4. Combination Meter Assembly	ME-64

MULTI-INFORMATION DISPLAY:

Symptom	Suspected Area	See page
Multi-information display does not light up.	1. Combination Meter (Multi-information Display)	ME-30
	2. Combination Meter Assembly	ME-64
Door open warning is not available.	1. Main Body ECU	-
	2. Door Courtesy Light Switch	LI-12
	3. Combination Meter Assembly	ME-64
Refueling ready display does not appear.	1. Fuel Lid Opener System	ED-12
	2. Wire Harness or Connector	-
	3. Hybrid Vehicle Control ECU	-
	4. Combination Meter Assembly	ME-64
ODO/TRIP display does not appear.	Combination Meter Assembly	ME-64
Energy monitor display does not appear.	1. Hybrid Vehicle Control ECU	-
	2. Combination Meter Assembly	ME-64
Outside temperature display malfunction	1. A/C Conditioning System	AC-56
	2. Combination Meter Assembly	ME-64
Check VSC system display malfunction	1. Skid Control ECU	-
	2. Combination Meter Assembly	ME-64
Check hybrid system display malfunction	1. Hybrid Vehicle Control ECU	-
	2. Combination Meter Assembly	ME-64
Low washer fluid display malfunction	1. Washer Level Switch	ME-35
	2. Wire Harness or Connector	-
	3. Combination Meter Assembly	ME-64
Door open running display malfunction	1. Door Courtesy Switch	LI-12
	2. Main Body ECU	-
	3. Wire Harness or Connector	-
	4. Combination Meter Assembly	ME-64

METER – METER / GAUGE SYSTEM**ME-23**

Symptom	Suspected Area	See page
Low engine oil pressure display malfunction	1. Engine Oil Pressure Switch	ME-35
	2. Hybrid Vehicle Control ECU	-
	3. Combination Meter Assembly	ME-64
Water temp display malfunction	1. Hybrid Vehicle Control ECU	ES-45
	2. Engine Coolant Temperature Sensor	-
	3. Combination Meter Assembly	ME-64
Moon roof open display malfunction (with Sliding Roof)	1. Sliding Roof Control System	-
	2. Wire Harness or Connector	-
	3. Combination Meter Assembly	ME-64
DTC (Diagnostic Trouble Code) display malfunction	1. Skid Control ECU	-
	2. Combination Meter Assembly	ME-64
Trip information display is not switched when pushing the "DISP" switch on the steering pad switch.	1. Steering Pad Switch	ME-76
	2. Spiral Cable	RS-358
	3. Wire Harness or Connector	-
	4. Combination Meter Assembly	ME-64
Maintenance required reset mode display malfunction	1. Combination Meter Assembly (Oil Maintenance Resetting Procedure Undone)	ME-15
	2. Combination Meter Assembly	ME-64
Fuel lid opener display malfunction	1. Fuel Lid Opener System	ED-12
	2. Wire Harness or Connector	-
	3. Hybrid Vehicle Control ECU	-
	4. Combination Meter Assembly	ME-64

ME**BUZZER:**

Symptom	Suspected Area	See page
All buzzers do not sound.	1. Wire Harness or Connector	-
	2. Combination Meter Assembly	ME-66
Park brake buzzer does not sound.	1. Parking Brake Switch	-
	2. Wire Harness or Connector	-
	3. Skid Control ECU	-
	4. Main Body ECU	-
	5. Combination Meter Assembly	ME-64
Door open warning buzzer does not sound.	1. Door Courtesy Light Switch	LI-12
	2. Wire Harness or Connector	-
	3. Main Body ECU	-
	4. Skid Control ECU	-
	5. Combination Meter Assembly	ME-66
Seat belt warning buzzer does not sound.	1. Combination Meter Assembly (Seat Belt Warning Buzzer Setting)	ME-15
	2. Center Airbag Sensor Assembly	-
	3. Main Body ECU	-
	4. Skid Control ECU	-
	5. Combination Meter Assembly	ME-64
Sliding roof warning buzzer does not sound. (with Sliding Roof)	1. Main Body ECU	-
	2. Combination Meter Assembly	ME-66

ME-24

METER – METER / GAUGE SYSTEM

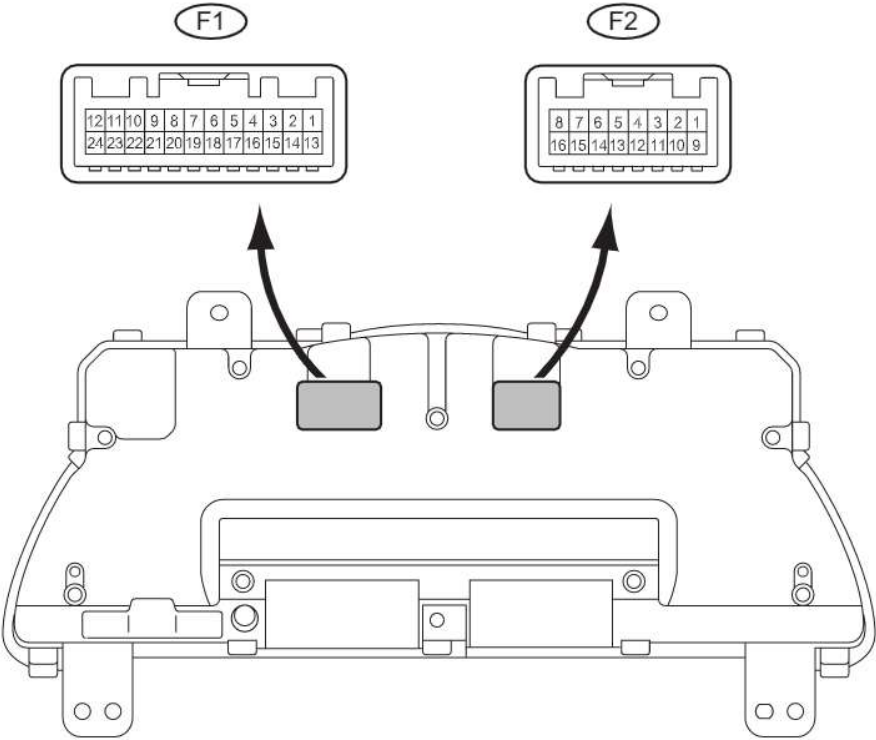
OTHERS:

Symptom	Suspected Area	See page
Front passenger seat belt warning light does not come on.	1. Combination Meter (LED)	ME-30
	2. Wire Harness or Connector	-
	3. Front Passenger Seat Belt Warning Light Circuit	SB-12
	4. Center Airbag Sensor Assembly	-
	5. Combination Meter Assembly	ME-64
	6. Clock Assembly	OT-5

ME

TERMINALS OF ECU

1. COMBINATION METER ASSEMBLY



ME

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
B (F1-1) - Body ground	R - Body ground	Battery	Always	10 to 14 V
B2 (F1-2) - Body ground	V - Body ground	Battery	Always	10 to 14 V
WLVL (F1-5) - Body ground	LG - Body ground	Washer level warning switch signal	Power switch on (IG), washer level warning light ON	Below 1 V
			Power switch on (IG), washer level warning light off	10 to 14 V
TIRE (F1-7) (*) - Body ground	L - Body ground	Tire pressure warning light signal	Power switch on (IG), tire pressure warning light ON	0.9 to 3.2 V
			Power switch on (IG), tire pressure warning light off	3.2 V or higher
P/SB (F1-9) - Body ground	P - Body ground	Passenger seat belt warning light signal	Sit on the front passenger seat, power switch on (IG), front passenger seat belt warning light OFF	10 to 14 V
			Sit on the front passenger seat, power switch on (IG), front passenger seat belt warning light Blinks	10 to 14 V ↔ Below 1 V
ILL- (F1-11) - Body ground	BR - Body ground	Illumination signal	Power switch on (IG)	Pulse generation (See Waveform 1)
E2 (F1-12) - Body ground	W-B - Body ground	Ground (Power ground)	Always	Below 1 V
IG+ (F1-13) - Body ground	GR - Body ground	Power switch signal	Power switch off	Below 1 V
			Power switch on (IG)	10 to 14 V

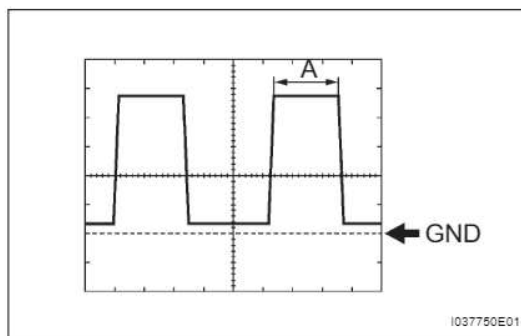
ME-26

METER – METER / GAUGE SYSTEM

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
CANH (F1-17) - Body ground	B - Body ground	CAN communication signal	-	-
CANL (F1-18) - Body ground	W - Body ground	CAN communication signal	-	-
FUC1 (F1-19) - Body ground	BR - Body ground	Fuel lid courtesy switch signal	Power switch on (IG), fuel lid is closed	Below 1 V
			Power switch on (IG), fuel lid is opened	10 to 14 V
FUW1 (F1-20) - Body ground	Y - Body ground	Fuel lid opener switch signal	Power switch on (IG), fuel lid opener switch is not pressed	10 to 14 V
			Power switch on (IG), fuel lid opener switch is pressed	Below 1 V
DISP (F1-22) - Body ground	V - Body ground	Steering pad switch signal	Power switch on (IG), DISP switch OFF	4 to 6 V
			Power switch on (IG), DISP switch ON	Below 1 V
ES (F1-24) - Body ground	BR - Body ground	Ground (Signal ground)	Always	Below 1 V
B (F2-1) - Body ground	G - Body ground	Turn RH indicator light signal	Power switch on (IG), turn signal RH indicator light OFF	Below 1 V
			Power switch on (IG), turn signal RH indicator light is blinking	10 to 14 V ↔ Below 1 V
B (F2-2) - Body ground	L - Body ground	Turn LH indicator light signal	Power switch on (IG), turn signal LH indicator light OFF	Below 1 V
			Power switch on (IG), turn signal LH indicator light is blinking	10 to 14 V ↔ Below 1 V
CHK (F2-4) - Body ground	R - Body ground	Malfunction indicator lamp signal	Power switch on (IG), CHECK ENGINE warning light ON	Below 3 V
			Power switch on (IG), CHECK ENGINE warning light OFF	10 to 14 V
+S (F2-12) - Body ground	V - Body ground	Speed signal for other system (Output)	Turn the wheel slowly	Pulse generation (See waveform 2)
SI (F2-14) - Body ground	W - Body ground	Speed signal for other system (Input)	Power switch on (IG), turn the wheel slowly	Pulse generation (See waveform 2)
FR (F2-15) - Body ground	GR - Body ground	Fuel signal	Power switch on (IG), fuel level is FULL	Below 1 V
			Power switch on (IG), fuel level is EMPTY	3 to 8 V
FE (F2-16) - Body ground	P - Body ground	Ground (Fuel ground)	Always	Below 1 V

*: with Tire Pressure Warning System

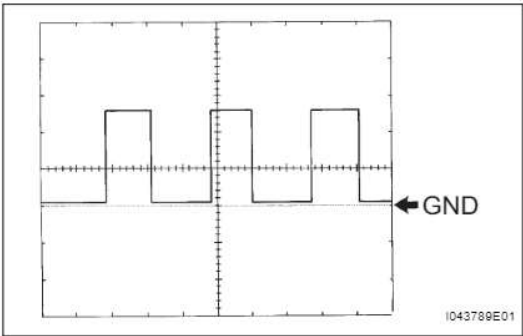
(a) Waveform 1 (Reference): Using oscilloscope:



Item	Condition
Tool setting	2 V/DIV., 1 ms./DIV.
Vehicle condition	Turn the power switch on (IG), light control switch TAIL/HEAD

METER – METER / GAUGE SYSTEM

ME-27



(b) Waveform 2 (Reference): Using oscilloscope:

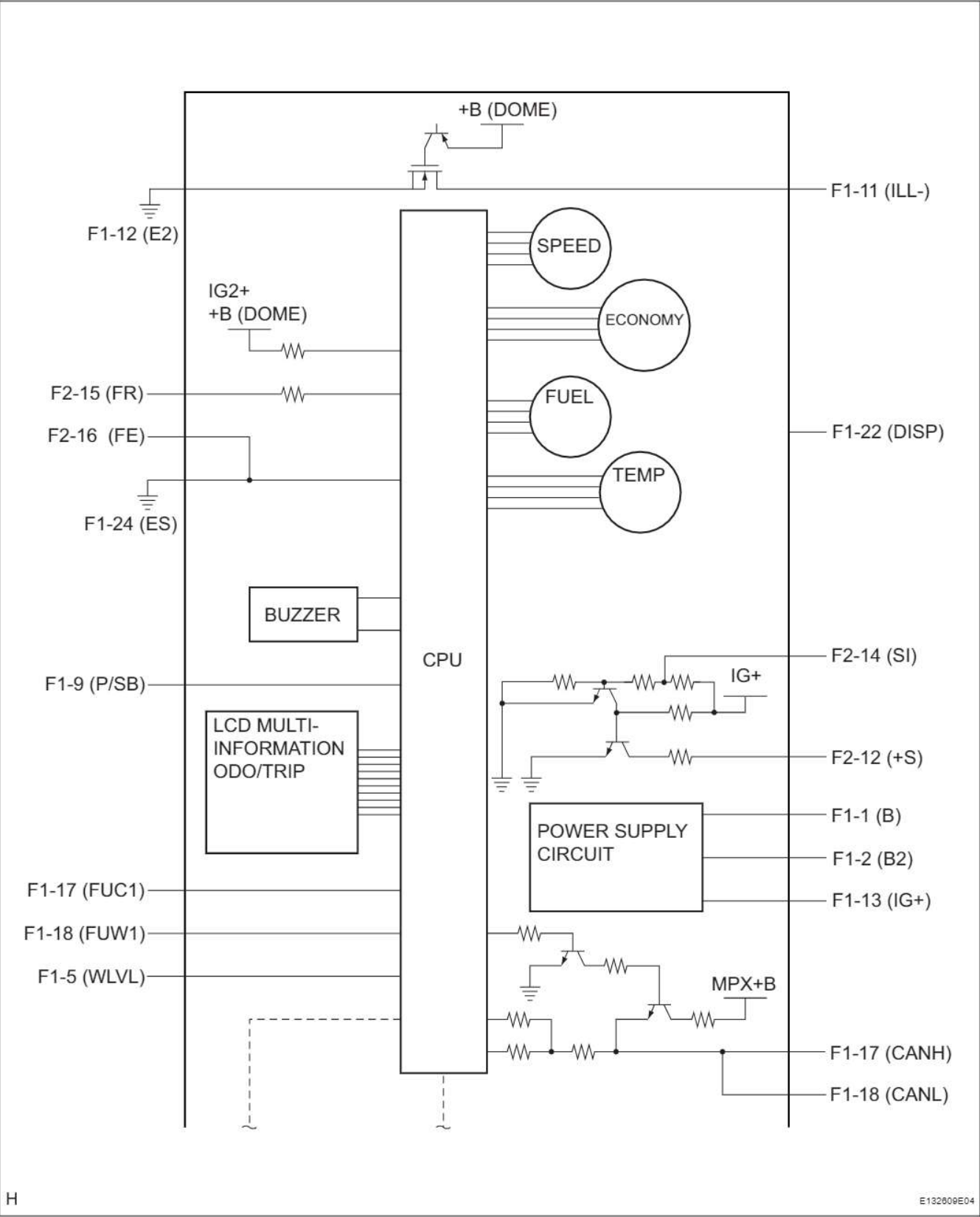
Item	Condition
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Driving at approx. 20 km/h (12 mph)

ME

ME-28

METER – METER / GAUGE SYSTEM

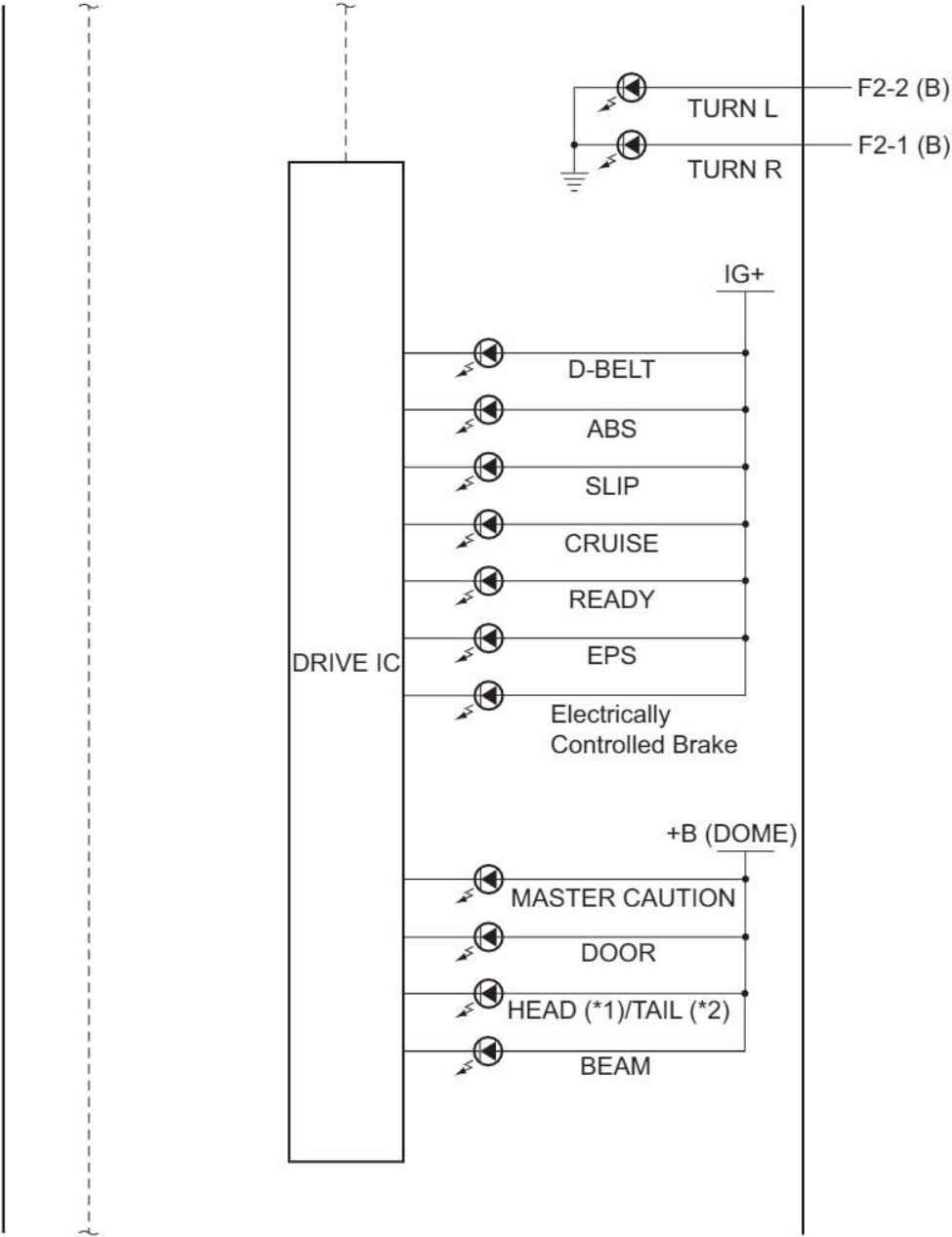
2. COMBINATION METER INNER CIRCUIT



METER – METER / GAUGE SYSTEM

ME-29

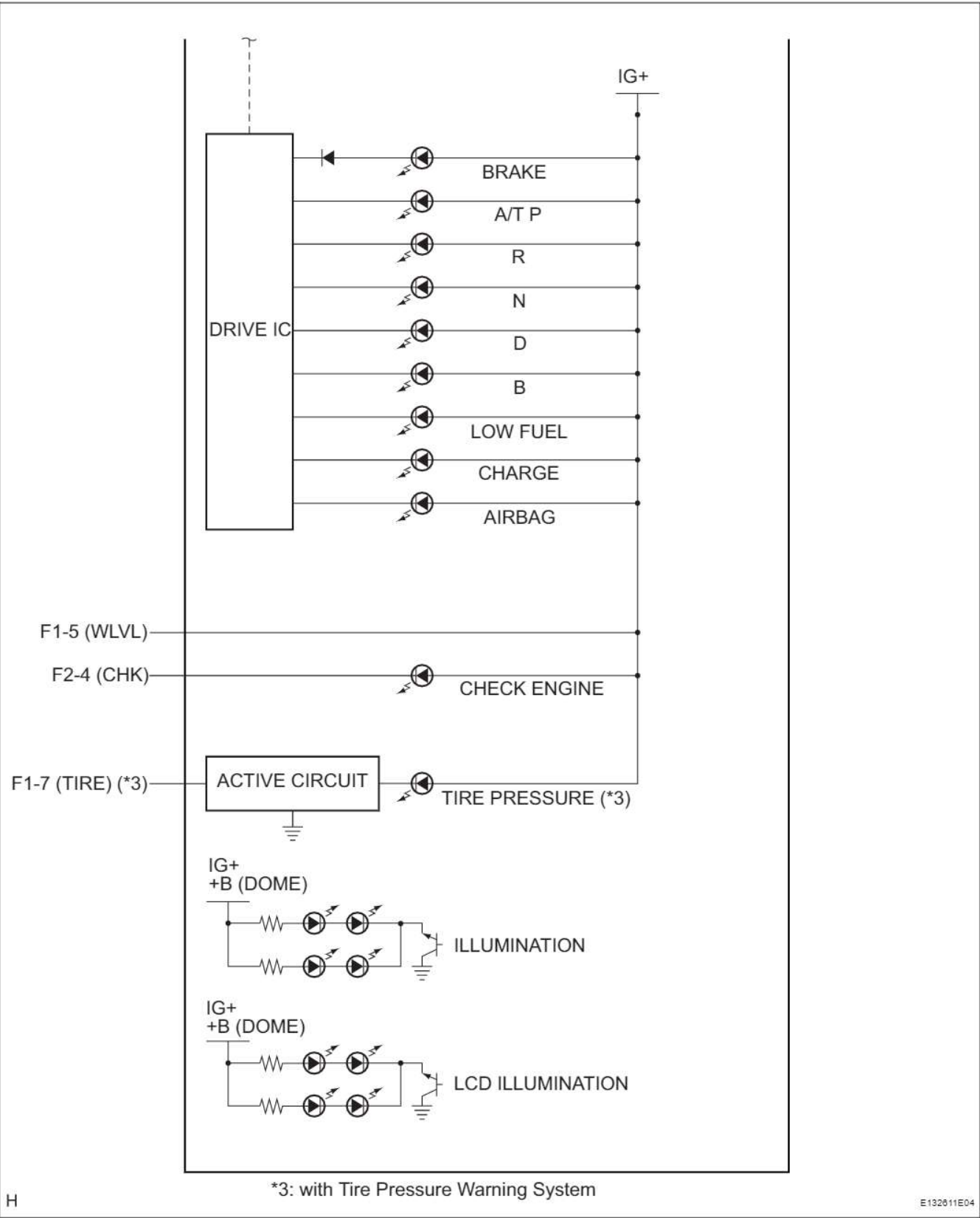
ME



*1: for U.S.A. *2: for Canada

ME-30

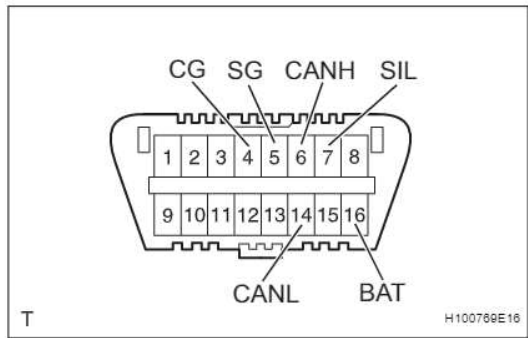
METER – METER / GAUGE SYSTEM



METER – METER / GAUGE SYSTEM**ME-31**

Terminal No.		Wire harness side
F1	1	DOME Fuse (B)
	2	MPX-B Fuse (B2)
	3	-
	4	-
	5	Washer Level Switch (WVL)
	6	-
	7	Tire Pressure Warning ECU (TIRE) (*)
	8	-
	9	Clock Assembly (P/SB)
	10	-
	11	PANEL Fuse (ILL-)
	12	Ground (E2)
	13	No. 2 GAUGE Fuse (IG+)
	14	-
	15	-
	16	-
	17	CAN Communication Line (CAN H)
	18	CAN Communication Line (CAN L)
	19	Fuel Lid Courtesy Switch (FUC1)
	20	Fuel Lid Opener Switch (FUW1)
	21	-
	22	Steering Pad Switch (DISP)
	23	-
	24	Ground (ES)
F2	1	Turn Signal Flasher (B)
	2	Turn Signal Flasher (B)
	3	-
	4	ECM (CHK)
	5	-
	6	-
	7	-
	8	-
	9	-
	10	-
	11	-
	12	Each part that uses speed signal (+S)
	13	-
	14	Skid Control ECU (SI)
	15	Fuel Sender Gauge Assembly (FR)
	16	Fuel Sender Gauge Assembly (FE)

*: with Tire Pressure Warning System



DIAGNOSIS SYSTEM

1. CHECK DLC3

- (a) The ECU the ISO 15765-4 for communication. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 15765-4 format. If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.

Symbols (Terminal No.)	Terminal Description	Condition	Specified condition
SIL (7) - SG (5)	Bus "+" line	During transmission	Pulse generation
CG (4) - Body ground	Chassis ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V
CANH (6) - CANL (14)	CAN bus line	Power switch off*	54 to 67 Ω
CANH (6) - CG (4)	HIGH-level CAN bus line	Power switch off*	200 Ω or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Power switch off*	200 Ω or higher
CANH (6) - BAT (16)	HIGH-level CAN bus line	Power switch off*	6 kΩ or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Power switch off*	6 kΩ or higher

NOTICE:

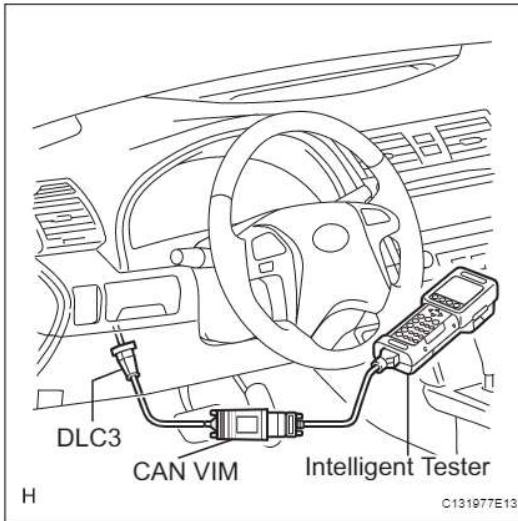
***: Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or doors.**

If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.

HINT:

If the display shows an error message after having connected the cable of the intelligent tester to the DLC3, turned the power switch on (IG), and operated the tester, there is a problem on either the vehicle side or the tool side.

- If communication is normal when the tool is connected to another vehicle, inspect the DLC3 on the original vehicle.
- If communication is still impossible when the tool is connected to another vehicle, the problem is probably in the tool itself. Consult the Service Department listed in the tool's instruction manual.



DTC CHECK / CLEAR

1. CHECK DTC

- Connect the intelligent tester (with CAN VIM) to the DLC3.
- Turn the power switch on (IG) and turn the intelligent tester on.
- Enter the following menus: DIAGNOSTICS / OBD / MOBD / METER / DTC INFO / CURRENT CODES.
- Check for DTCs.

2. CLEAR DTC

- Connect the intelligent tester (with CAN VIM) to the DLC3.
- Turn the power switch on (IG) and turn the intelligent tester on.
- Enter the following menus: DIAGNOSTICS / OBD / MOBD / METER / DTC INFO / CURRENT CODES.
- Erase DTCs by pressing the YES button on the tester.

ME

ME-34**METER – METER / GAUGE SYSTEM****FAIL-SAFE CHART****ENGINE COOLANT TEMPERATURE GAUGE:**

Condition	Response	Recovery
Engine coolant temperature data is interrupted for 3 seconds.	The gauge needle indicates between / and C	Engine coolant temperature data is received.

SHIFT INDICATOR:

Condition	Response	Recovery
Shift position data is interrupted for 3 seconds.	All indicator lights go off.	Normal data is received.

ABS & BRAKE:

Condition	Response	Recovery
ABS & brake data is interrupted for 1 second.	The warning light comes on.	Normal data is received.

DOOR:

Condition	Response	Recovery
Each door condition data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

DRIVER SIDE SEAT BELT:

Condition	Response	Recovery
Driver side front seat inner belt assembly data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

TIRE PRESSURE (*1):

Condition	Response	Recovery
Tire pressure data is interrupted for 10 seconds.	The tire pressure indicator light blinks for 60 to 64 seconds, then comes on.	Normal data is received.

HEAD (*2)/TAIL (*3):

Condition	Response	Recovery
Regular data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

BEAM:

Condition	Response	Recovery
Regular data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

AIRBAG:

Condition	Response	Recovery
Airbag data is interrupted for 10 seconds. Turn the power switch on (IG), then the combination meter (meter CPU) cannot detect the voltage of 9 V or more for 60 seconds.	The warning light comes on.	Normal data is received.

FRONT PASSENGER SIDE SEAT BELT:

Condition	Response	Recovery
Regular data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

CRUISE:

Condition	Response	Recovery
Regular data is interrupted for 10 seconds.	The data received most recently remains indicated.	Normal data is received.

METER – METER / GAUGE SYSTEM**ME-35****CHARGE:**

Condition	Response	Recovery
Regular data is interrupted for 3 seconds.	The data received most recently remains indicated.	Normal data is received.

MULTI-INFORMATION DISPLAY:

Condition	Response	Recovery
Cruise information data is interrupted.	The display becomes blank (only measurement units are displayed).	Normal data is received.
Energy monitor data is interrupted for 3 seconds.	The energy transmission direction is not indicated.	Normal data is received.

*1: with Tire Pressure Warning System

*2: for U.S.A.

*3: for Canada

ME

ME-36

METER – METER / GAUGE SYSTEM

DATA LIST / ACTIVE TEST

1. DATA LIST

According to the DATA LIST displayed by the intelligent tester, you can read the values of the switches, sensors, actuators and so on without parts removal. Reading the DATA LIST as the first step of troubleshooting is one method to shorten work time.

- (a) Warm up the engine.
- (b) Turn the power switch off.
- (c) Connect the intelligent tester to the DLC3.
- (d) Turn the power switch on (IG).
- (e) Turn the tester on.
- (f) Enter following menus: DIAGNOSIS / OBD/MOBD / METER / DATA LIST.
- (g) Check values by referring to the table below.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
TAIL CANCEL SW	TAIL CANCEL switch is ON/OFF	ON: Rheostat knob is turned fully clockwise	-
		OFF: Rheostat knob is turned fully counterclockwise	-
ODO/TRIP SW	ODO/TRIP switch is ON/OFF	ON: Switch is pushed	-
		OFF: Switch is released	-
P-BELT BUCKL SW	Front passenger buckle switch is ON/OFF	ON: Seat belt is fastened	-
		OFF: Seat belt is unfastened	-
SPEED METER	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost same as actual vehicle speed (When driving)	-
COOLANT TEMP	Engine coolant temperature/Min.: 0°C (32°F), Max.: 127.5°C (261.5°F)	After warming up: 60 to 105°C (140 to 221°F)	-
WASHER SW	Washer level switch is ON/OFF	ON: Washer level is more than low	-
		OFF: Washer level is less than low	-
MULTI DISP SW	MODE switch in the steering pad is ON/OFF	ON: Mode switch is ON	-
		OFF: Mode switch is OFF	-
+B VOLTAGE VAL	Battery voltage/Min.: 0 V, Max.: 25.5 V	10 to 14 V	-
FUEL GAUGE	Fuel input signal/Min.: 0, Max.: 127.5 (L)	Fuel gauge indicates (F): 62.9 (L)	-
		Fuel gauge indicates (1/2): 35 (L)	-
		Fuel gauge indicates (E): 7 (L)	-
AMBIENT TEMP	Outside temperature/Min.: -40°C (-40°F), Max.: 87.5°C (189.5°F)	Current temperature is displayed	-
RHEOSTAT	Light Control Rheostat/Min.: 0, Max.: 100	Light control rheostat switch is Dark (0) → Bright (100)	-
OUTSIDE LIGHT	Light Control Rheostat/Min.: 0, Max.: 255	Light control rheostat switch is Dark (0) → Bright (100)	-
SEAT-BELT WARN	The volume of the seat belt warning buzzer is D/P ON, D ON, P ON, D/P OFF	The customized setting of the volume of the seat belt warning buzzer is displayed.	-
ECM/PCM DTC 1 to 3	The communication error history REC/UNREC	UNREC: No error has occurred	-
		REC: Error has occurred	-
ECM/PCM ODO 1 to 3	Value when DTC is output/Min.: 0, Max.: 999999	-	-

METER – METER / GAUGE SYSTEM**ME-37**

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
ABS/VSC DTC 1 to 3	Value when DTC is output/Min.: 0, Max.: 999999	UNREC: No error has occurred	-
		REC: Error has occurred	-
ABS/VSC ODO 1 to 3	Value when DTC is output/Min.: 0, Max.: 999999	-	-

ABS/VSC/TRAC:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
FR/FL/RR/RL WHEEL SPD	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Almost same as actual vehicle speed (When driving)	-
VEHICLE SPD	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Almost same as actual vehicle speed (When driving)	-

HYBRID VEHICLE CONTROL ECU:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
ENGINE SPD	Vehicle speed/Min.: 0 rpm, Max.: 16,383.75 rpm	Almost same as actual vehicle speed (When driving)	-
HV COOLANT TEMP	Coolant temperature/Min.: -40°C (-40°F), Max.: 140°C (284°F)	After warming up: 80 to 100°C (176 to 212°F)	- If -40°C (-40°F): sensor circuit open - If 140°C (284°F) or more: sensor circuit shorted

2. ACTIVE TEST

Performing the ACTIVE TEST using the intelligent tester allows the meters, indicators and so on to operate without parts removal. Performing the ACTIVE TEST as the first step of troubleshooting is one way to shorten labor time.

It is possible to display the DATA LIST on the intelligent tester during the ACTIVE TEST.

- Connect the intelligent tester to the DLC3.
- Turn the power switch on (IG).
- Turn the tester on.
- Enter following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
- From the display on the tester, perform the "ACTIVE TEST".

METER:

Tester Display	Test Part	Control Range	Diagnostic Note
SPEED METER	Speedometer	0, 40, 80, 120, 160 mph	-
		0, 40, 80, 120, 160, 200, 240 km/h	-
FUEL GAUGE	Fuel receiver gauge	EMPTY, 1/2, FULL	-
COOLANT TEMP	Engine coolant temperature receiver gauge	LOW, NORMAL, HIGH	-
FC METER	Fuel economy meter	MIN, 1/4, 1/2, 3/4, MAX	-
A/T INDEC (1)	A/T shift indicator light	A/T shift indicator light P, R, N, D, 4, 3, 2, L OFF/ON	-
A/T INDEC (2)	A/T gear range indicator light	A/T gear range indicator light B OFF/ON	-
METER DISPLAY1	Multi-information display	All the dots in the multi-information display (OFF/ON)	Confirm that the vehicle is stopped, engine idling
METER DISPLAY2	Multi-information display	The segments in the combination meter assembly (OFF/ON)	Confirm that the vehicle is stopped, engine idling
SRS WARN	Airbag warning light	AIRBAG indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
DOORS ALL OPEN	Door open warning light	All the DOOR OPEN indicator OFF/ON	Confirm that the vehicle is stopped, engine idling

ME-38**METER – METER / GAUGE SYSTEM**

Tester Display	Test Part	Control Range	Diagnostic Note
P-BELT REMIND	Front passenger seat belt warning light	P-SEAT BELT indicator OFF/ON	Confirm that the vehicle is stopped, engine idling
D-BELT REMIND	Driver seat belt warning light	D-SEAT BELT indicator OFF/ON	Confirm that the vehicle is stopped, engine idling
ABS WARN	ABS warning light	ABS warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
DISCHARGE WARN	Charge warning light	Charge warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
VSC WARN	VSC warning display	VSC warning display OFF/ON	Confirm that the vehicle is stopped, engine idling
SLIP INDIC	Slip indicator light	Slip indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
HIGH BEAM INDIC	Beam indicator light	Beam indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
HEADLIGHT INDIC (*1)	Head indicator light	Head indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
TAILLIGHT INDIC (*2)	Tail indicator light	Tail indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
D DOOR OPEN	Door open warning light	Door open warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
P DOOR OPEN	Door open warning light	Door open warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
RR DOOR OPEN	Door open warning light	Door open warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
RL DOOR OPEN	Door open warning light	Door open warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
LUGG DOOR OPEN	Door open warning light	Door open warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
LOW WASHER WARN	Low washer warning display	Low washer warning display OFF/ON	Confirm that the vehicle is stopped, engine idling
LOW FUEL WARN	Fuel warning light	Fuel warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
TIRE PRESS WARN (*3)	Tire pressure warning light	Tire pressure warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
ECB INDIC	Electrically controlled brake indicator light	Electrically controlled brake indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
CRUISE INDIC	Cruise indicator light	Cruise indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
BRAKE WARN	Brake warning light	Brake warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
EPS INDIC	EPS warning light	EPS warning light OFF/ON	Confirm that the vehicle is stopped, engine idling
OIL MAINTENANCE (*1)	Oil replacement reminder light	Oil replacement reminder light OFF/ON	Confirm that the vehicle is stopped, engine idling
MST WARN INDIC	Master caution indicator light	Master caution indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling
READY(HV)	Ready indicator light	Ready indicator light OFF/ON	Confirm that the vehicle is stopped, engine idling

*1: for U.S.A.

*2: for Canada

*3: with Tire Pressure Warning System

DIAGNOSTIC TROUBLE CODE CHART

METER / GAUGE SYSTEM:

DTC Code	Detection Item	Trouble Area	See page
U0100	Lost Communication with ECM/PCM "A"	1. Hybrid vehicle control ECU 2. CAN communication system	ME-36
U0129	Lost Communication with Skid Control ECU	1. Skid control ECU 2. CAN communication system	ME-38

ME

ME-40

METER – METER / GAUGE SYSTEM

ON-VEHICLE INSPECTION

1. INSPECT SPEEDOMETER

- (a) Check the operation.
- (1) Using a speedometer tester (calibrated chassis dynamometer), check the speedometer indication according to the table below.

Reference: mph (for U.S.A.)

Chassis dynamometer indication	Acceptable range
20 mph	20.0 to 23.0 mph
40 mph	40.0 to 43.5 mph
60 mph	60.0 to 64.0 mph
80 mph	80.0 to 84.5 mph
100 mph	100.0 to 105.0 mph
120 mph	120.0 to 125.5 mph

Reference: km/h (for Canada)

Chassis dynamometer indication	Acceptable range Data in () is for reference
20 km/h	(17.5 to 21.5 km/h)
40 km/h	38.0 to 42.0 km/h
60 km/h	58.0 to 63.0 km/h
80 km/h	78.0 to 84.0 km/h
100 km/h	98.5 to 104.5 km/h
120 km/h	119.0 to 125.0 km/h
140 km/h	139.0 to 146.0 km/h
160 km/h	159.0 to 167.0 km/h
180 km/h	179.0 to 188.0 km/h
200 km/h	199.0 to 209.0 km/h
220 km/h	219.0 to 230.0 km/h

NOTICE:

Tire wear as well as over or under inflation will cause errors.

- (2) Check the deviation from the acceptable range of the speedometer indication.

Reference:

Less than 0.5 km/h (0.3 mph)

HINT:

If the indication is not as specified, go to the problem symptoms table (See page [ME-17](#)).

2. INSPECT FUEL ECONOMY METER

- (a) Connect a tune-up tachometer, and start the engine.
- (b) Compare the test results with the fuel economy meter indications.

Reference: mpg (for U.S.A.)

Input value	Acceptable range
MAX	0
3/4	15
1/2	30
1/4	45
MIN	60

METER – METER / GAUGE SYSTEM**ME-41****HINT:**

If the input value is 60 mpg or more, the needle indicates 60.

Reference: L/100 km (for Canada)

Input value	Acceptable range
MAX	30
3/4	22.5
1/2	15
1/4	7.5
MIN	0

HINT:

If the input value is 2.5 L/100 km or less, the needle indicates 2.5 L/100 km.

If the input value is 30 L/100 km or more, the needle indicates 30 L/100 km.

HINT:

If the indication is not as specified, go to the problem symptoms table (See page [ME-17](#)).

ME**3. INSPECT ENGINE OIL PRESSURE SWITCH**

- (a) Disconnect the connector from the engine oil pressure switch.
- (b) Turn the power switch on (IG).
- (c) Wait for 10 seconds or more.
- (d) Ground the terminal of the wire harness side connector, then check the multi-information display.

OK:

Oil pressure warning message appears.

HINT:

If the warning message is not displayed, go to the problem symptoms table (See page [ME-17](#)).

4. INSPECT WASHER LEVEL WARNING DISPLAY

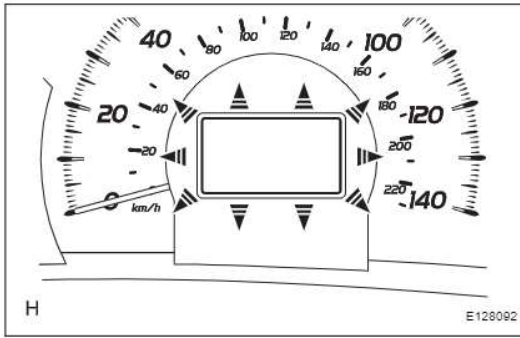
- (a) Disconnect the connector from the washer level switch.
- (b) Turn the power switch on (IG).
- (c) Ground the terminal of the wire harness side connector.
- (d) Wait for 10 seconds or more, then check the multi-information display.

OK:

Low washer fluid warning message is displayed.

HINT:

If the warning message is not displayed, go to the problem symptoms table (See page [ME-17](#)).

ME-42**METER – METER / GAUGE SYSTEM****5. INSPECT MULTI-INFORMATION DISPLAY**

- (a) Turn the power switch off.
- (b) Press the "DISP" button and hold it down.
- (c) Turn the power switch on (IG).

OK:

All the dots in the multi-information display come on.

HINT:

This test is also available in "ACTIVE TEST" (See page [ME-30](#)).

- (d) Turn the power switch off to finish this test mode.

HINT:

If the result is not as specified, replace the combination meter assembly because this part is not independently supplied.

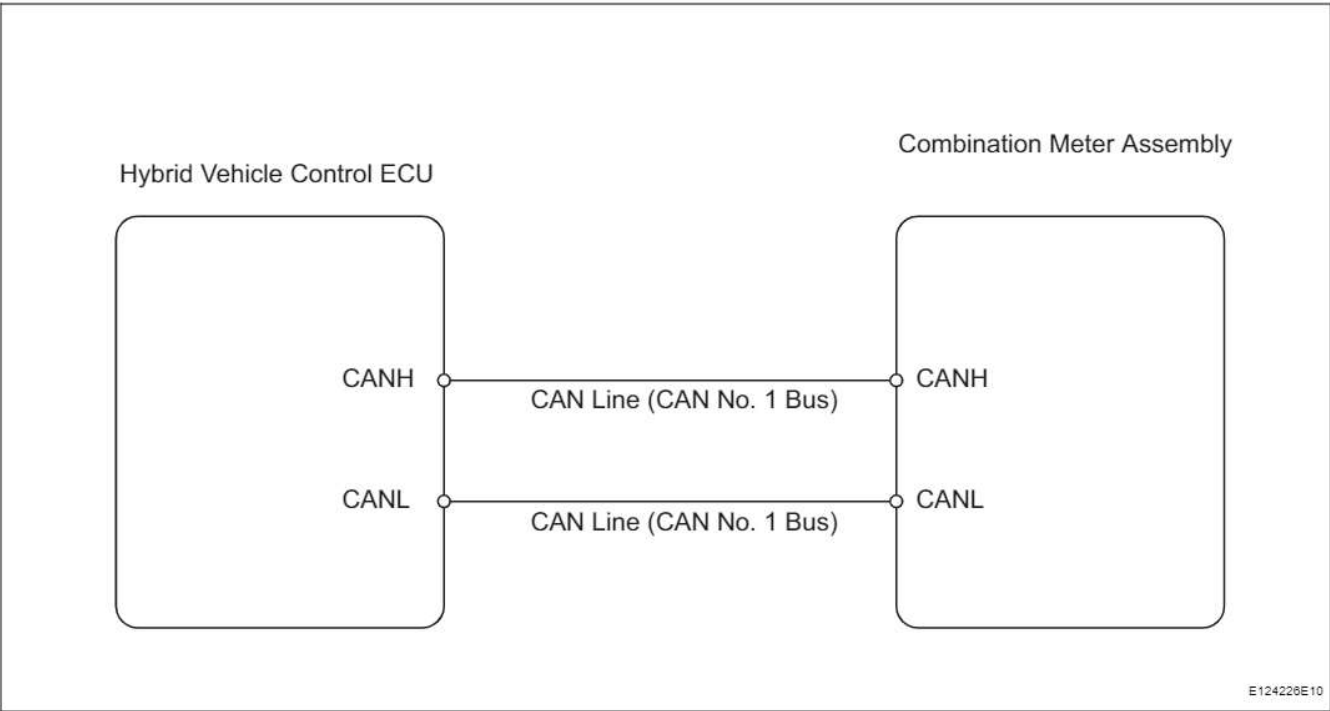
DTC	U0100	Lost Communication with ECM/PCM "A"
-----	-------	-------------------------------------

DESCRIPTION

The combination meter assembly communicates with the hybrid vehicle control ECU via the CAN communication lines (CAN No. 1 Bus).

DTC No.	DTC Detection Conditions	Trouble Areas
U0100	When either of following conditions detected: 1. Vehicle speed 5 km/h (3.1 mph) or more and IG voltage 10.5 V or more 2. No communication with ECM continues for 3 seconds or more (No communication to ECM or skid control ECU continues for 60 seconds or more)	- CAN communication system - Hybrid vehicle control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT
---	--------------------

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Clear the stored DTCs by selecting the following menu items on the tester: DIAGNOSIS / OBD / MOBD / METER / DTC INFO / CLEAR CODES.
- (e) Drive the vehicle at more than 5 km/h (3.1 mph) for at least 60 seconds.
- (f) Stop the vehicle.
- (g) Check for DTCs (See page CA-22).

ME-44

METER – METER / GAUGE SYSTEM

Result

Result	Proceed to
DTC output	A (See page CA-29)
DTC not output	B

B

USE SIMULATION METHOD TO CHECK

A

GO TO CAN COMMUNICATION SYSTEM

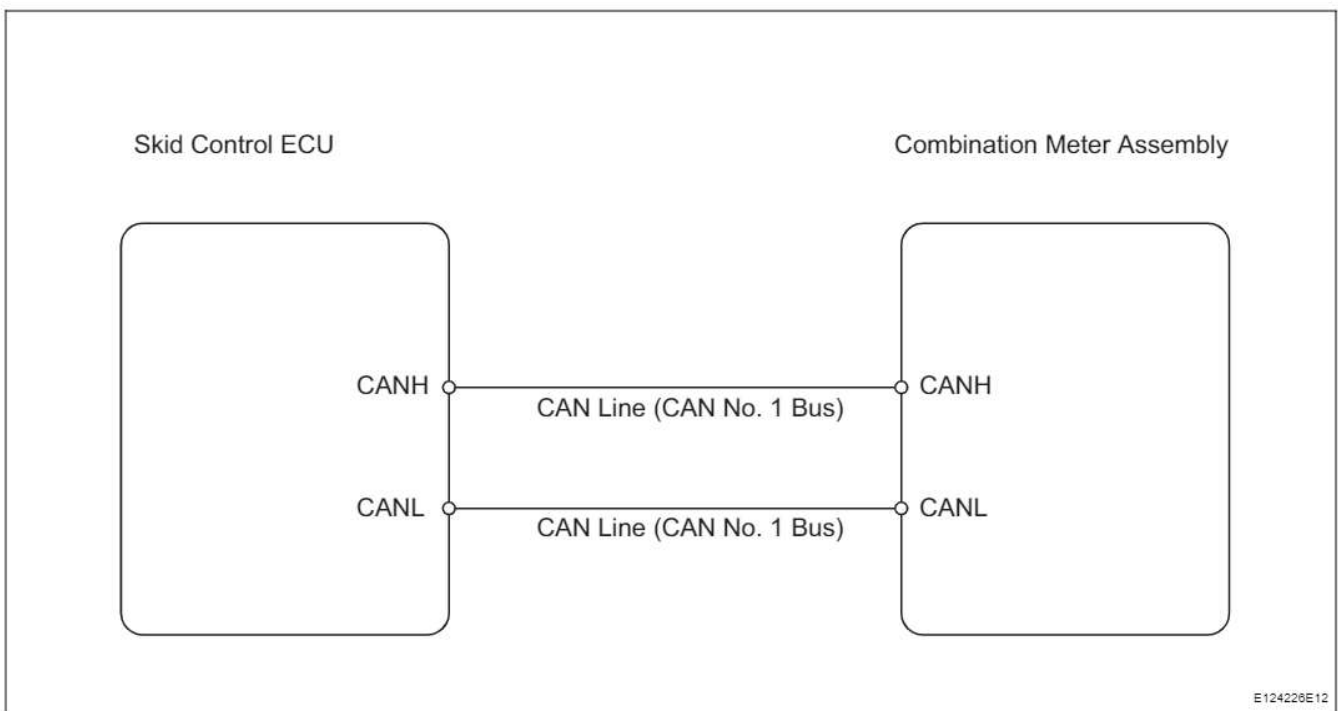
DTC	U0129	Lost Communication with Skid Control ECU
------------	--------------	---

DESCRIPTION

The combination meter assembly communicates with the skid control ECU via the CAN communication system (CAN No. 1 Bus).

DTC No.	DTC Detection Conditions	Trouble Areas
U0129	When either of following conditions detected: 15 seconds have elapsed since engine started and IG voltage 10.5 V or more - No communication with the skid control ECU continues for 60 seconds or more and IG voltage is 10.5 V or more.	- Skid control ECU - CAN communication system

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT
---	--------------------

- Connect the intelligent tester to the DLC3.
- Turn the power switch on (READY).
- Turn the tester on.
- Clear the stored DTCs by selecting the following menu items on the tester: DIAGNOSIS / OBD / MOBD / METER / DTC INFO / CLEAR CODES.
- Drive the vehicle at more than 5 km/h (3.1 mph) for at least 60 seconds.
- Stop the vehicle.
- Check for DTCs (See page [CA-22](#)).

ME-46

METER – METER / GAUGE SYSTEM

Result

Result	Proceed to
DTC output	A (See page CA-29)
DTC not output	B

B

USE SIMULATION METHOD TO CHECK

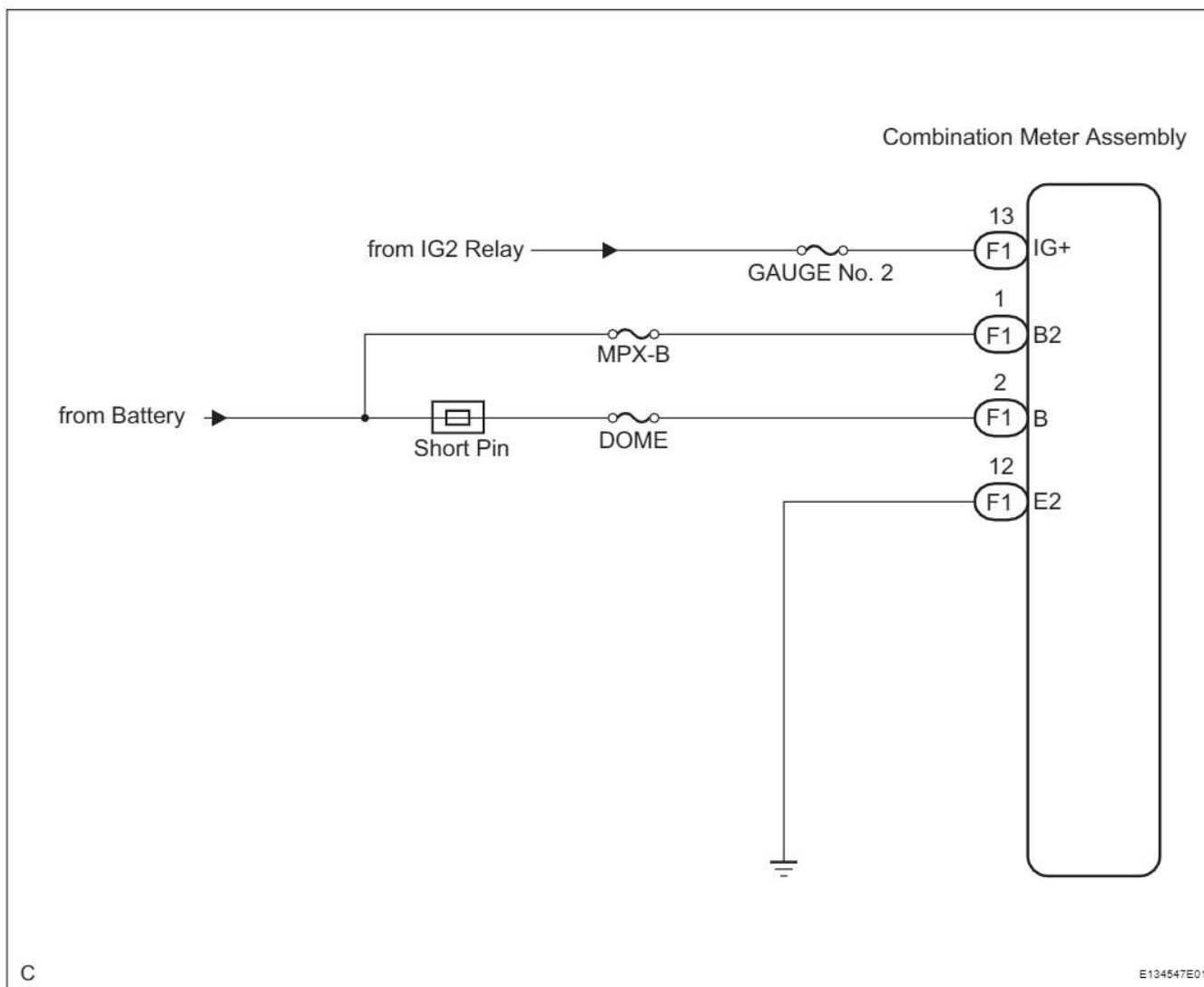
A

GO TO CAN COMMUNICATION SYSTEM

ME

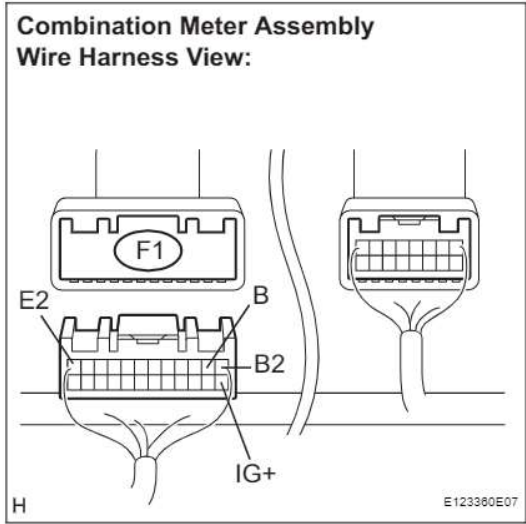
METER – METER / GAUGE SYSTEM**ME-47****Entire Combination Meter does not Operate****DESCRIPTION**

This circuit is the power source circuit for the meter. This circuit provides two types of power sources; one is a constant power source mainly used as a backup power source, and the other is a power source mainly used for signal transmission. The constant power source is mainly used as a backup power source of the meter CPU, however, it is also used for communication. If a voltage of 12 V is not applied to terminal IG+ when the power switch is turned on (READY), the indicator will not operate.

WIRING DIAGRAM

INSPECTION PROCEDURE

1INSPECT COMBINATION METER ASSEMBLY



- (a) Disconnect the F1 connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
F1-12 (E2) - Body ground	Always	Below 1 Ω

- (c) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester Connection	Condition	Specified Condition
F1-1 (B2) - Body ground	Always	10 to 14 V
F1-2 (B) - Body ground	Always	10 to 14 V
F1-13 (IG+) - Body ground	Turn the power switch on (READY)	10 to 14 V

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

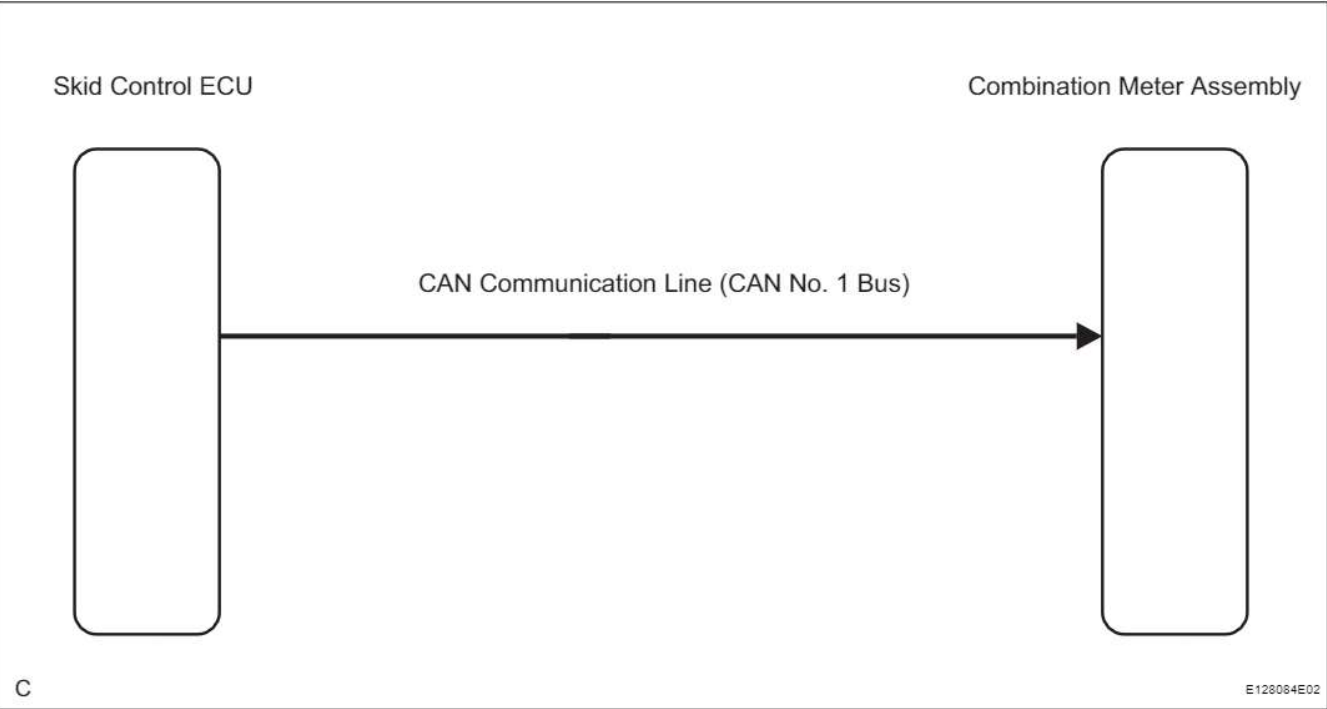
REPLACE COMBINATION METER ASSEMBLY

Speedometer Malfunction

DESCRIPTION

The meter CPU receives vehicle speed signals from the skid control ECU via the CAN communication lines (CAN No. 1 Bus). The vehicle speed sensor detects the voltage that varies according to the vehicle speed. The skid control ECU supplies power to the vehicle speed sensor. The skid control ECU detects vehicle speed signals based on the pulses of the voltage.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK CAN COMMUNICATION SYSTEM

- (a) Check if CAN communication DTC is output (See page [CA-22](#)).

Result

Result	Proceed to
CAN communication DTC is not output.	A
CAN communication DTC is output.	B (See page CA-29)

B

GO TO CAN COMMUNICATION SYSTEM

A

2 PERFORM ACTIVE TEST BY INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
(b) Turn the power switch on (READY).

ME-50**METER – METER / GAUGE SYSTEM**

- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
- (e) Check the operation by referring to the values in the table below.

METER:

Tester Display	Test Part	Control Range	Diagnostic Note
SPEED METER	Speedometer	0, 40 (24), 80 (48), 120 (72), 160 (96), 200 (120) km/h (mph)	-

OK:

Needle indication is normal.

NG

REPLACE COMBINATION METER ASSEMBLY

OK**3****READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / DATA TEST.
- (e) Check the values by referring to the table below.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
SPEED METER	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost same as actual speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed measured using a speedometer tester (calibrated chassis dynamometer).

NG

Go to step 4

OK

REPLACE COMBINATION METER ASSEMBLY

4**READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / ABS/TRAC/VSC / DATA LIST.
- (e) Check the values by referring to the table below.

ABS/TRAC/VSC:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
(FL/FR/RL/RR) WHEEL SPD	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Almost same as actual speed (When driving)	-

METER – METER / GAUGE SYSTEM

ME-51

OK:
Vehicle speed displayed on the tester is almost the same as the actual vehicle speed measured using a speedometer tester (calibrated chassis dynamometer).

NG → **GO TO BRAKE CONTROL SYSTEM**

OK

5 **REPLACE SKID CONTROL ECU**

(a) Replace the skid control ECU with a new or a normal one.
OK:
The operation of the speedometer returns to normal.

NG → **REPLACE COMBINATION METER ASSEMBLY**

ME

OK

END

ME-52

METER – METER / GAUGE SYSTEM

Fuel Receiver Gauge Malfunction

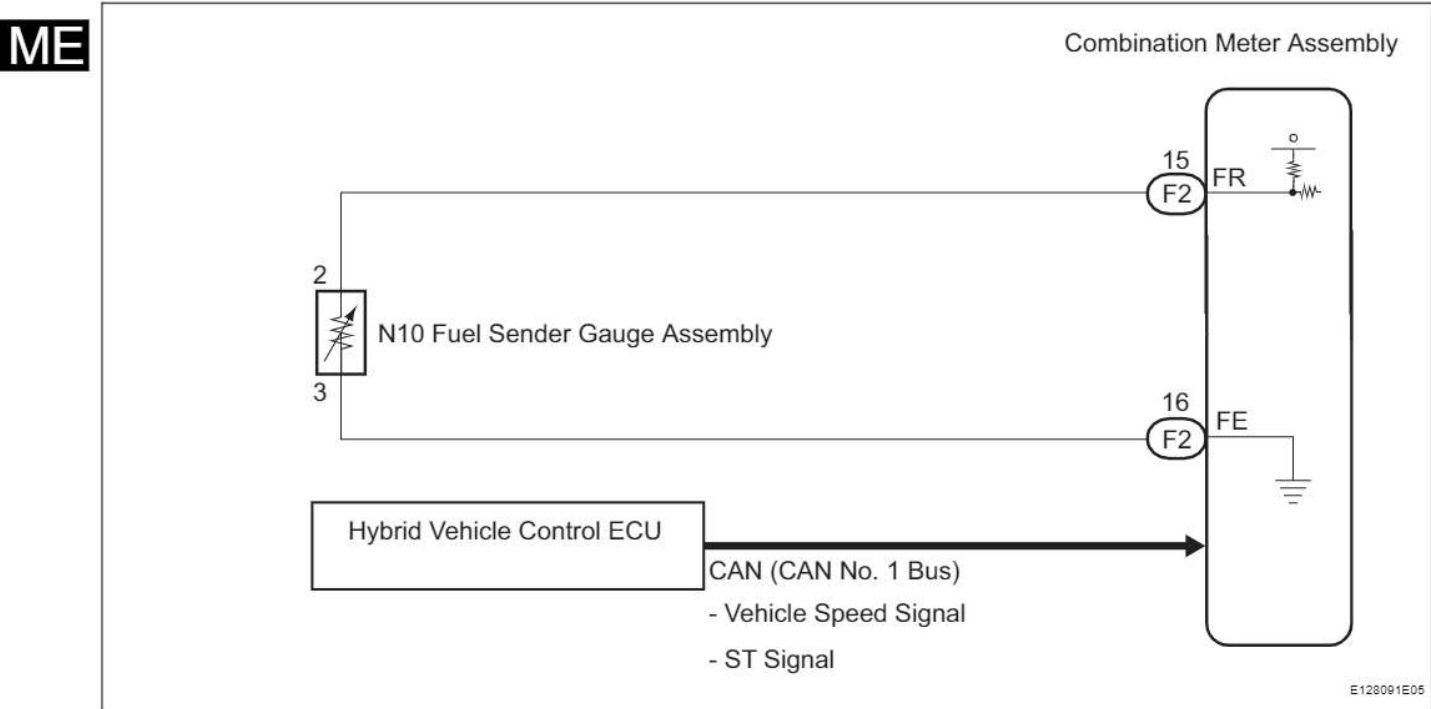
DESCRIPTION

The meter CPU uses the fuel sender gauge assembly to determine the level of the fuel in the fuel tank. The resistance of the fuel sender gauge will vary between approximately 15 Ω with the float at the full position, and 410 Ω with the float at the empty position. The meter outputs battery voltage through two 820 Ω resistors that are mounted in parallel inside the meter ECU. The meter CPU measures the voltage between the variable resistor in the fuel sender gauge and the two resistors mounted in parallel in the meter. Voltage measured at this point will vary as the float of the fuel sender gauge is moved. The highest voltage observed should be approximately half of battery voltage.

HINT:

The fuel level warning light will come on when the fuel level is below 9.8 liters.

WIRING DIAGRAM



INSPECTION PROCEDURE

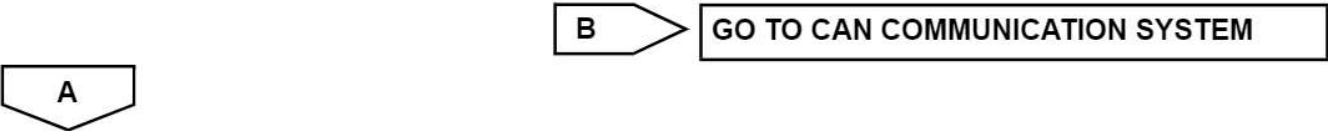
1

CHECK CAN COMMUNICATION SYSTEM

(a) Check if CAN communication DTC is output (See page CA-22).

Result

Result	Proceed to
CAN communication DTC is not output	A
CAN communication DTC is output	B (See page CA-29)



METER – METER / GAUGE SYSTEM**ME-53****2 PERFORM ACTIVE TEST BY INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester ON.
- (d) Enter following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
- (e) Check the operation by referring to the table below.

METER:

Tester Display	Test Part	Test Details	Diagnostic Note
FUEL GAUGE	Fuel receiver gauge	EMPTY, 1/2, FULL	-

OK:

Needle indication is normal.

NG**REPLACE COMBINATION METER ASSEMBLY****ME****OK****3 READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester ON.
- (d) Enter following menus: DIAGNOSIS / OBD/MOBD / METER / DATA LIST.
- (e) Check the values by referring to the table below.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
FUEL GAUGE	Fuel input signal/Min.: 0, Max.: 127.5 (L)	Fuel gauge indicates (F): 62.9 (L) Fuel gauge indicates (1/2): 35 (L) Fuel gauge indicates (E): 7 (L)	-

OK:

Fuel value signal displayed on the tester is almost the same as needle indication.

NG**REPLACE COMBINATION METER ASSEMBLY****OK**

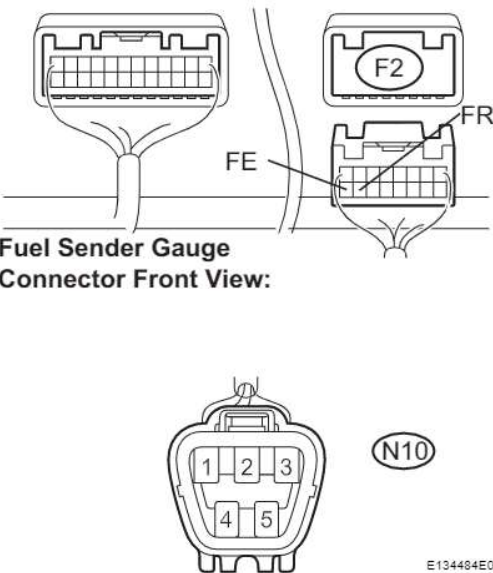
ME-54

METER – METER / GAUGE SYSTEM

4

CHECK HARNESS AND CONNECTOR (COMBINATION METER - FUEL SENDER GAUGE ASSEMBLY)

Combination Meter Assembly
Wire Harness View:



Fuel Sender Gauge
Connector Front View:

- (a) Disconnect the F2 and N10 connectors.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
F2-15 (FR) - N10-2	Always	Below 1 Ω
F2-16 (FE) - N10-3	Always	Below 1 Ω
N10-2 - Body ground	Always	10 k Ω or higher
F2-16 - Body ground	Always	10 k Ω or higher

NG

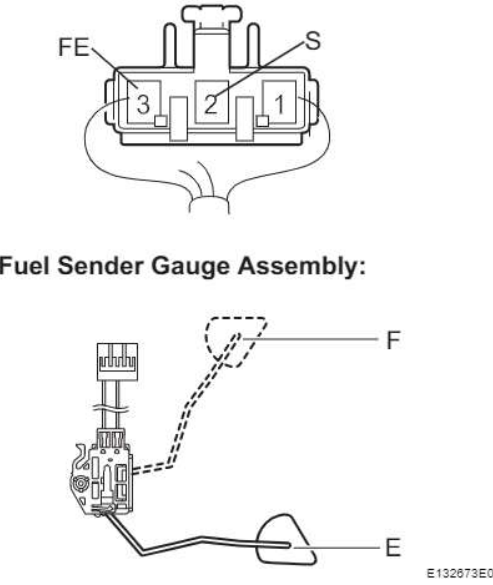
REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5

INSPECT FUEL SENDER GAUGE ASSEMBLY

Fuel Sender Gauge Assembly
Wire Harness View:



Fuel Sender Gauge Assembly:

- (a) Disconnect the fuel sender gauge connector.
- (b) Remove the fuel sender gauge assembly.
- (c) Check that the float moves smoothly between F and E.
- (d) Measure the resistance between terminals 2 (S) and 3 (FE) of the connector according to the value(s) in the table below.

Standard resistance

Float Level	Resistance (Ω)
F	13.5 to 16.5
Between E and F	13.5 to 414.5 (Gradually changes)
E	405.5 to 414.5

NG

REPLACE FUEL SENDER GAUGE ASSEMBLY

METER – METER / GAUGE SYSTEM

ME-55

OK

6 REPLACE COMBINATION METER ASSEMBLY

- (a) Replace the combination meter assembly with a new one or a normal one.

OK:

The operation of the combination meter assembly returns to normal.

NG

REPLACE HYBRID VEHICLE CONTROL ECU

OK

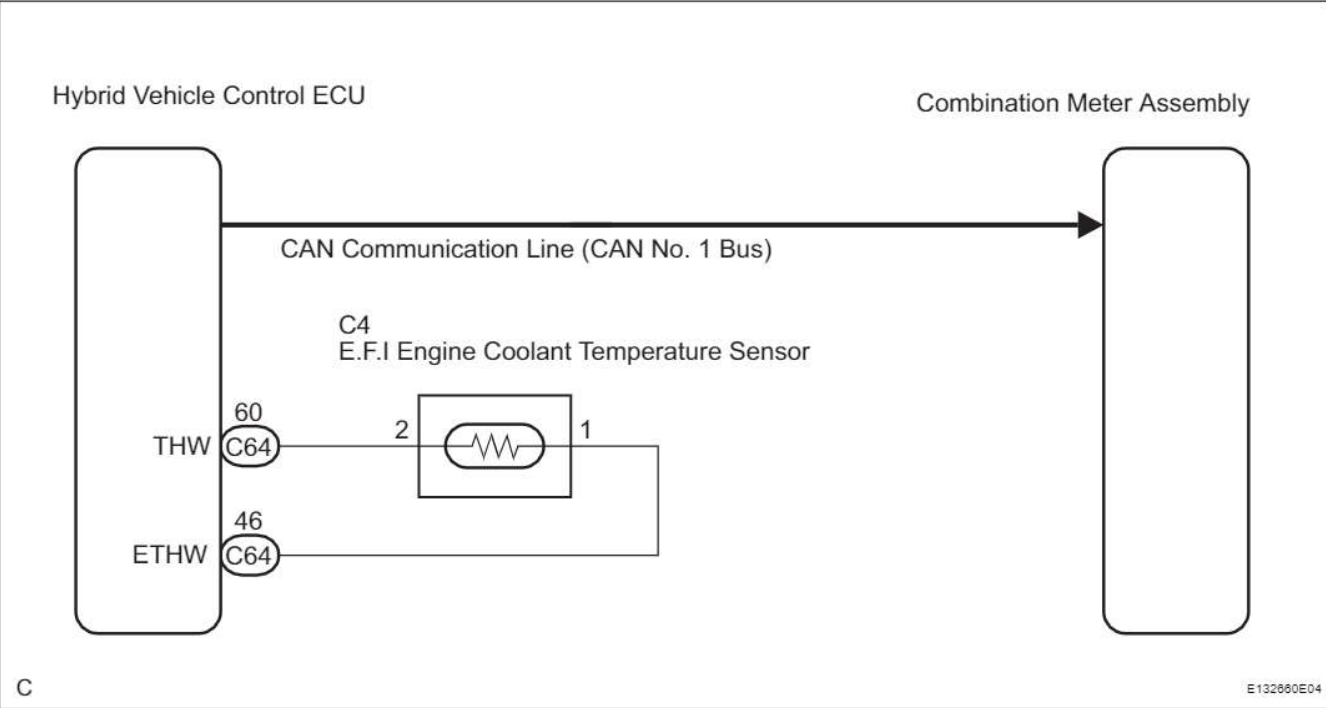
END

ME

Engine Coolant Temperature Receiver Gauge Malfunction

DESCRIPTION
In this circuit, the meter CPU receives engine coolant temperature signals from the hybrid vehicle control ECU using the CAN communication lines (CAN No. 1 Bus). The meter CPU displays engine coolant temperature that is calculated based on the data received from the hybrid vehicle control ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

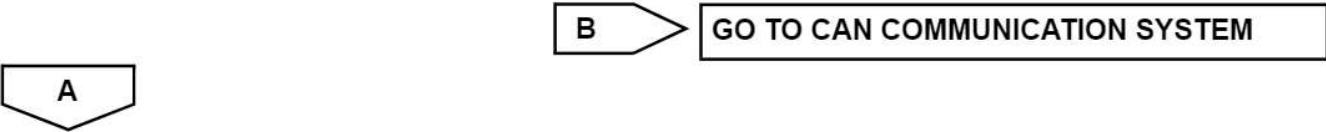
HINT:
If there is an open or short in the engine coolant temperature sensor circuit, the hybrid vehicle control ECU outputs the DTCs. Perform troubleshooting with the "SFI System" (See page [ES-31](#)).

1 CHECK CAN COMMUNICATION SYSTEM

- (a) Check if CAN communication DTC is output (See page [CA-22](#)).

Result

Result	Proceed to
CAN communication DTC is not output.	A
CAN communication DTC is output.	B (See page CA-29)



METER – METER / GAUGE SYSTEM**ME-57****2 PERFORM ACTIVE TEST BY INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
- (e) Check the operation by referring to the table below.

METER:

Tester Display	Test Part	Control Range	Diagnostic Note
COOLANT TEMP	Engine coolant receiver gauge	LOW, NORMAL, HI	-

OK:

Needle indication is normal.

NG**REPLACE COMBINATION METER ASSEMBLY****ME****OK****3 READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / DATA LIST.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
COOLANT TEMP	Engine coolant temperature/Min.: 0°C (32°F), Max.: 127.5°C (261.5°F)	After warming up: 60 to 105°C (140 to 221°F)	-

OK:

Engine coolant temperature value displayed on the tester is almost the same as needle indication.

NG**REPLACE COMBINATION METER ASSEMBLY****OK****4 READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester on.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / HYBRID VEHICLE CONTROL ECU/ DATA LIST.

ME-58

METER – METER / GAUGE SYSTEM

(e) Check the values by referring to the table below.

HYBRID VEHICLE CONTROL ECU:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
HV COOLANT TEMP	Engine coolant temperature/Min.: -40°C (-40°F), Max.: 140°C (284°F)	After warming up: 80 to 100°C (176 to 212°F)	- If -40°C (-40°F): sensor circuit open - If 140°C (284°F) or more: sensor circuit shorted

OK:
Engine coolant temperature value displayed on the tester is almost the same as actual engine coolant temperature.

NG ➞ REPLACE HYBRID VEHICLE CONTROL ECU

OK

ME

5

REPLACE COMBINATION METER ASSEMBLY

(a) Replace the combination meter assembly with a new or a normal one.
OK:
The operation of the combination meter assembly returns to normal.

NG ➞ REPLACE HYBRID VEHICLE CONTROL ECU

OK

END

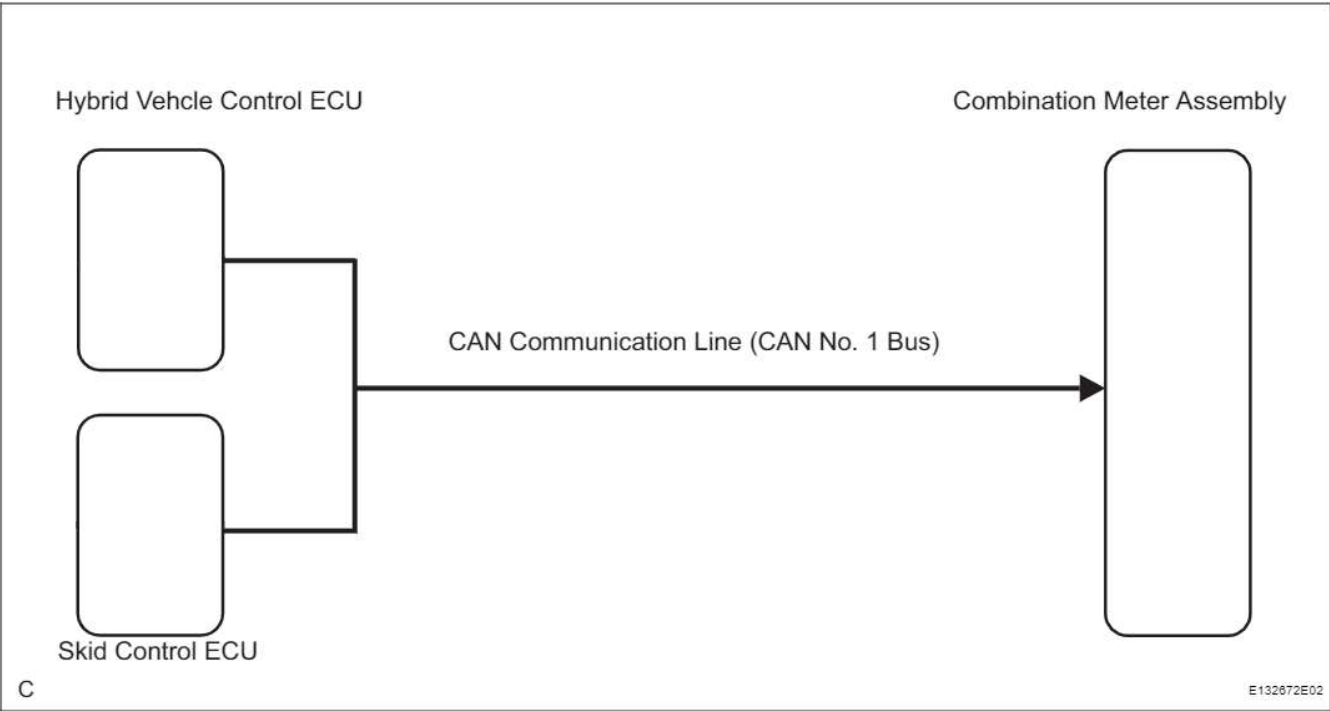
Fuel Economy Meter Malfunction

DESCRIPTION

The combination meter communicates with the hybrid vehicle control ECU and skid control ECU via the CAN communication lines. The combination meter calculates the current fuel consumption based on a vehicle speed signal from the skid control ECU, a fuel injection signal, and engine revolution signal from the hybrid vehicle control ECU.

WIRING DIAGRAM

INSPECTION PROCEDURE



1

CHECK CAN COMMUNICATION SYSTEM

- (a) Check if CAN communication DTC is output (See page [CA-22](#)).

Result

Result	Proceed to
CAN communication DTC is not output.	A
CAN communication DTC is output.	B (See page CA-29)

B

GO TO CAN COMMUNICATION SYSTEM

A

2

PERFORM ACTIVE TEST BY INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
(b) Turn the power switch on (IG).

ME-60**METER – METER / GAUGE SYSTEM**

- (c) Turn the tester ON.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
- (e) Check the operation by referring to the values in the table below.

METER:

Tester Display	Test Part	Control Range	Diagnostic Note
F/C METER	Fuel economy meter	OFF, MIN, 1/4, 1/2, 3/4, MAX	-

OK:

Needle indication is normal.

NG

REPLACE COMBINATION METER ASSEMBLY

OK

ME

3 READ VALUE OF INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the tester ON.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / METER / DATA LIST.
- (e) Check the values by referring to the table below.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
SPEED METER	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost the same as the actual vehicle speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed measured using a speedometer tester (calibrated chassis dynamometer).

Result	Proceed to
NG	A
OK	B

B

Go to step 6

A

4 READ VALUE OF INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the tester ON.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / ABS/TRAC/VSC / DATA LIST.

METER – METER / GAUGE SYSTEM**ME-61**

(e) Check the values by referring to the table below.

ABS/TRAC/VSC:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
(FR/FL/RR/RL) WHEEL SPEED	Vehicle speed/Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Almost the same as the actual vehicle speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed measured using a speedometer tester (calibrated chassis dynamometer).

NG**GO TO BRAKE CONTROL SYSTEM****OK****5 REPLACE SKID CONTROL ECU**

(a) Replace the hybrid vehicle control ECU with a new or a normal one.

OK:

The operation of the fuel economy meter returns to normal.

NG**REPLACE COMBINATION METER ASSEMBLY****OK****END****6 READ VALUE OF INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (IG).
- (c) Turn the tester ON.
- (d) Enter the following menus: DIAGNOSIS / OBD/MOBD / ENGINE / DATA LIST.
- (e) Check the values by referring to the table below.

HYBRID VEHICLE CONTROL ECU:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
ENGINE SPD	Vehicle speed/Min.: 0 (rpm), Max. 12,800 (rpm)	Almost the same as the actual speed (When driving)	-

OK:

Engine speed displayed on the tester is almost the same as the actual engine speed.

NG**GO TO SFI SYSTEM****OK**

ME-62

METER – METER / GAUGE SYSTEM

7	REPLACE HYBRID VEHICLE CONTROL ECU
---	------------------------------------

- (a) Replace the hybrid vehicle control ECU with a new or a normal one.
- OK:**
The operation of the fuel economy meter returns to normal.

NG	END
----	-----

OK

END

ME

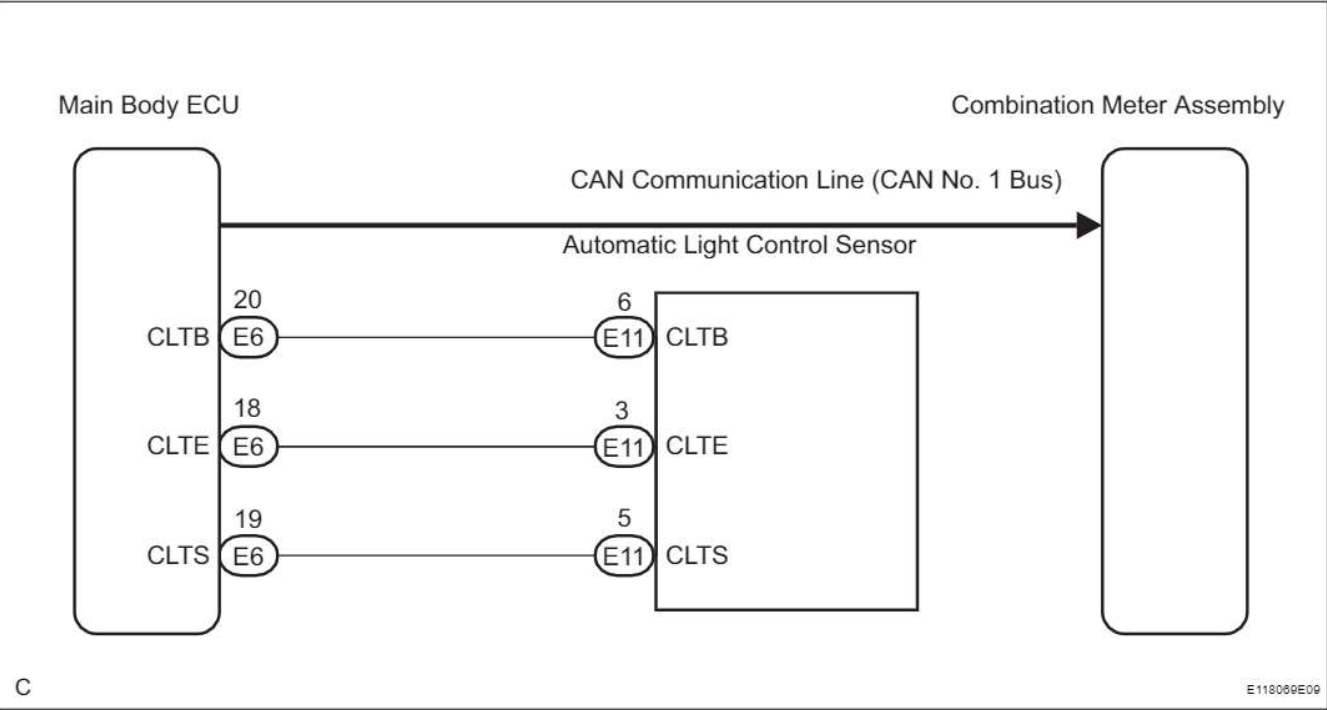
Meter Illumination is Always Dark

DESCRIPTION

In this circuit, the meter CPU receives auto dimmer signals from the main body ECU using the CAN communication lines (CAN No. 1 Bus). When the meter CPU receives an auto dimmer signal, it dims the meter illumination. The main body ECU determines whether it is daytime, twilight, or nighttime based on the waveform transmitted from the automatic light control sensor. If the main body ECU determines that it is daytime, the ECU does not send auto dimmer signals. Therefore, the meter illumination (warning and indicator lights) will not dim even if the driver accidentally turns the light control switch to the TAIL or HEAD position in daytime.

HINT:
When the meter illumination is always dark, there may be a malfunction in the automatic light control sensor, main body ECU, CAN communication system, wire harness or connector, or combination meter assembly.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK CAN COMMUNICATION SYSTEM
---	--------------------------------

(a) Check if CAN communication DTC is output (See page CA-22).

Result

Result	Proceed to
CAN communication DTC is not output.	A
CAN communication DTC is output.	B (See page CA-29)

B

GO TO CAN COMMUNICATION SYSTEM

ME-64**METER – METER / GAUGE SYSTEM****A****2 CHECK DTC**(a) Check if DTC B1244 is output (See page [LI-20](#)).**Result**

Result	Proceed to
B1244 is not output	A
B1244 is output	B (See page LI-23)

B**GO TO LIGHTING SYSTEM****A****3 PERFORM ACTIVE TEST BY INTELLIGENT TESTER**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester ON.
- (d) Turn the light control switch to the TAIL/HEAD position.
- (e) Enter the following menus: DIAGNOSIS / BODY / MAIN BODY / ACTIVE TEST.
- (f) Check the meter illumination.

MAIN BODY:

Tester Display	Test Part	Test Details	Diagnostic Note
DIMMER SIG	Auto dimmer signal	Auto dimmer signal ON/OFF	-

OK:

The meter illumination is dimmed when the DIMMER SIG is ON.

HINT:

Refer to the sensitivity setting in the customization table of the automatic light control system. (See page [LI-11](#))

NG**Go to step 4****OK****CHECK LIGHTING SETTING****4 REPLACE COMBINATION METER ASSEMBLY**

- (a) Replace the combination meter assembly with a new or a normal one.

OK:

The operation of the combination meter assembly returns to normal.

NG**REPLACE MAIN BODY ECU**

METER – METER / GAUGE SYSTEM

ME-65

OK

END

ME

Meter Illumination does not Dim at Night

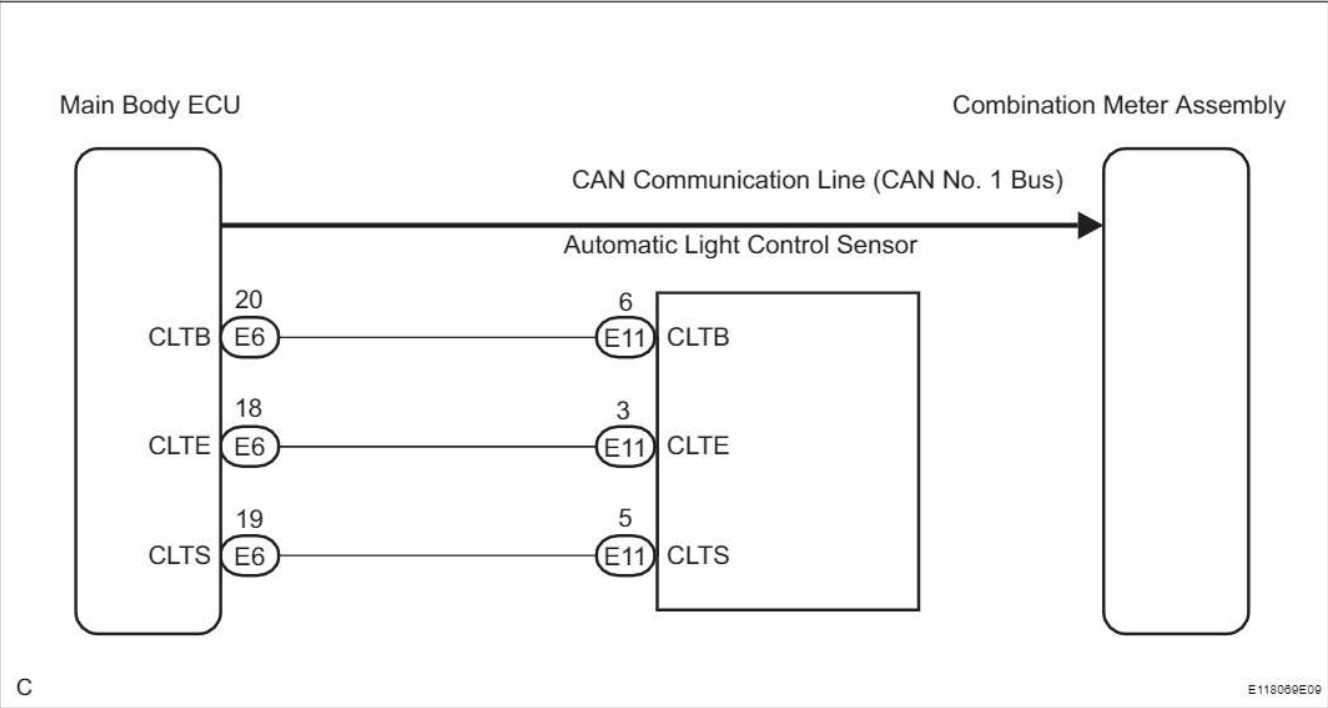
DESCRIPTION

In this circuit, the meter CPU receives auto dimmer signals from the main body ECU using the CAN communication lines (CAN No. 1 Bus). When the meter CPU receives an auto dimmer signal, it dims the meter illumination. The main body ECU determines whether it is daytime, twilight, or nighttime based on the waveform transmitted from the automatic light control sensor. If the main body ECU determines that it is daytime, the ECU does not send auto dimmer signals. Therefore, the meter illumination (warning and indicator lights) will not dim even if the driver accidentally turns the light control switch to the TAIL or HEAD position in daytime.

HINT:

When the meter illumination does not dim at night, the light control rheostat is in the tail cancel position, or there may be a malfunction in the automatic light control sensor, main body ECU, CAN communication system, wire harness or connector, or combination meter assembly.

MEWIRING DIAGRAM



INSPECTION PROCEDURE

1CHECK CAN COMMUNICATION SYSTEM

(a) Check if CAN communication DTC is output (See page CA-22).

Result

Result	Proceed to
CAN communication DTC is not output.	A
CAN communication DTC is output.	B (See page CA-29)

B

GO TO CAN COMMUNICATION SYSTEM

METER – METER / GAUGE SYSTEM**ME-67****A****2 CHECK DTC**(a) Check if DTC B1244 is output (See page [LI-20](#)).**Result**

Result	Proceed to
B1244 is not output	A
B1244 is output	B (See page LI-23)

B**GO TO LIGHTING SYSTEM****A****3 PERFORM ACTIVE TEST BY INTELLIGENT TESTER****ME**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the power switch on (READY).
- (c) Turn the tester ON.
- (d) Turn the light control switch to the TAIL/HEAD position.
- (e) Enter the following menus: DIAGNOSIS / BODY / MAIN BODY / ACTIVE TEST.
- (f) Check the meter illumination.

MAIN BODY:

Tester Display	Test Part	Test Details	Diagnostic Note
DIMMER SIG	Auto dimmer signal	Auto dimmer signal ON/OFF	-

OK:

The meter illumination is dimmed when the DIMMER SIG is ON.

HINT:

Refer to the sensitivity setting in the customization table of the automatic light control system. (See page [LI-11](#))

NG**Go to step 4****OK****CHECK LIGHTING SETTING****4 REPLACE COMBINATION METER ASSEMBLY**

- (a) Replace the combination meter assembly with a new or a normal one.

OK:

The operation of the combination meter assembly returns to normal.

NG**REPLACE MAIN BODY ECU**

ME-68

METER – METER / GAUGE SYSTEM

OK

END

ME

ME-64**METER – COMBINATION METER****REMOVAL**

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

CAUTION:

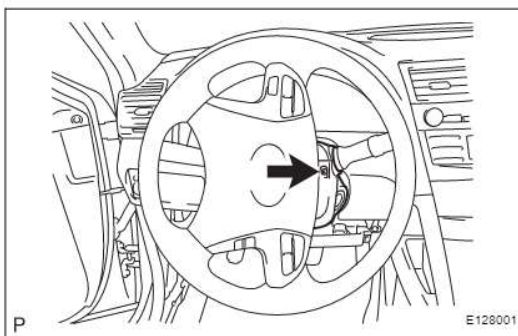
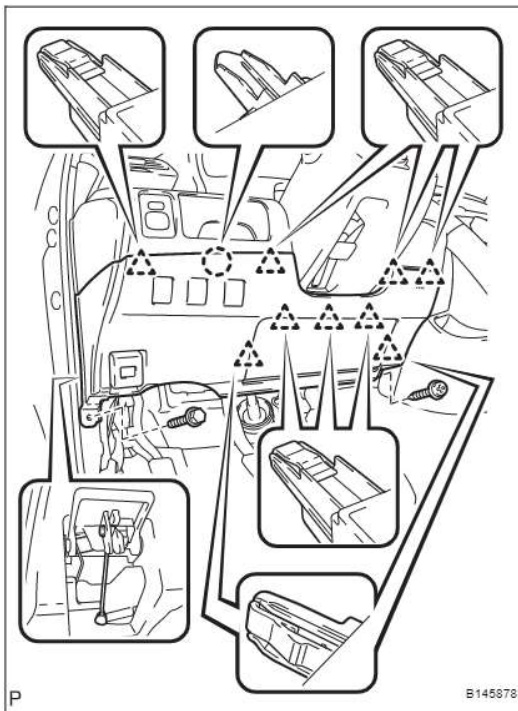
Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (See page [RS-1](#)).

2. **REMOVE FRONT DOOR SCUFF PLATE LH (See page [IR-13](#))**

3. **REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH (See page [IR-14](#))**

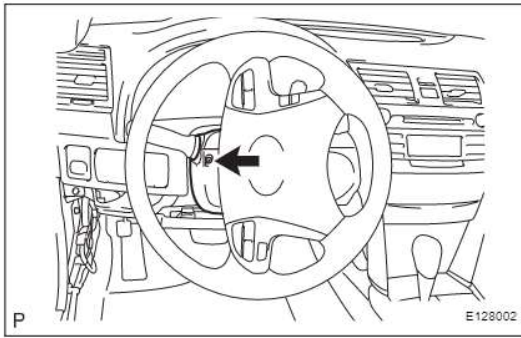
4. **REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH**

- (a) Remove the screw and the bolt.
- (b) Disconnect the hood lock control cable assembly.
- (c) Disengage the claw and the 9 clips.
- (d) Remove the air hose, disconnect each connector, and then remove the lower instrument panel finish panel LH.

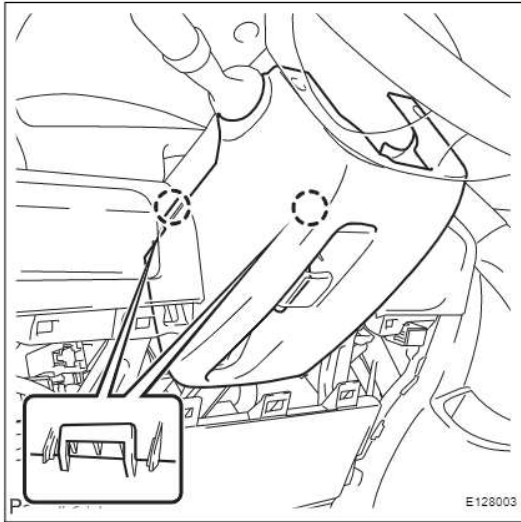


5. **REMOVE STEERING COLUMN COVER**

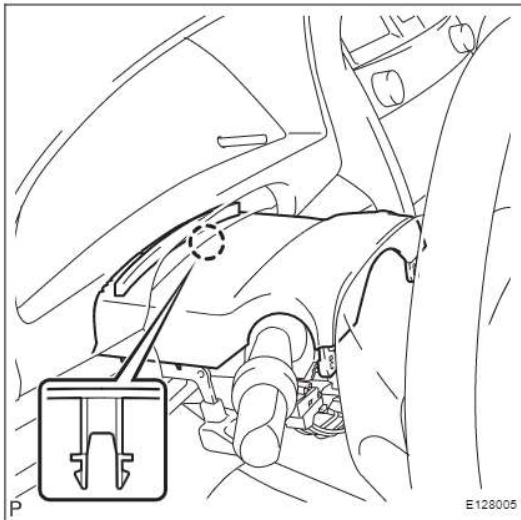
- (a) Turn the steering wheel assembly to the right and remove the screw as shown in the illustration.

METER – COMBINATION METER**ME-65**

- (b) Turn the steering wheel assembly to the left and remove the screw as shown in the illustration.



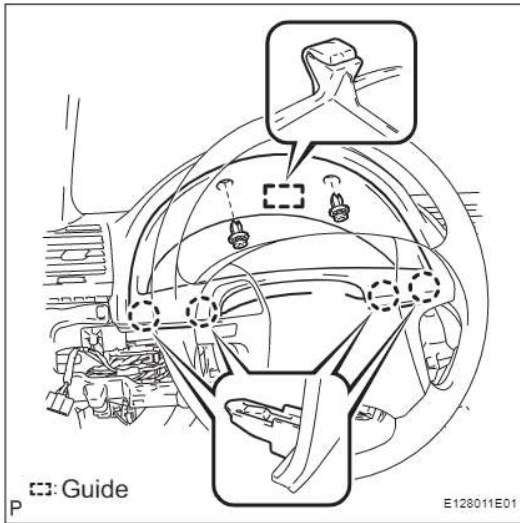
- (c) Disengage the 2 claws and remove the steering column cover lower.



- (d) Disengage the claw and remove the steering column cover upper.

6. **REMOVE NO. 1 INSTRUMENT PANEL SUB-ASSEMBLY** (See page [IP-12](#))
7. **REMOVE LOWER INSTRUMENT PANEL FINISH PANEL** (See page [IP-12](#))

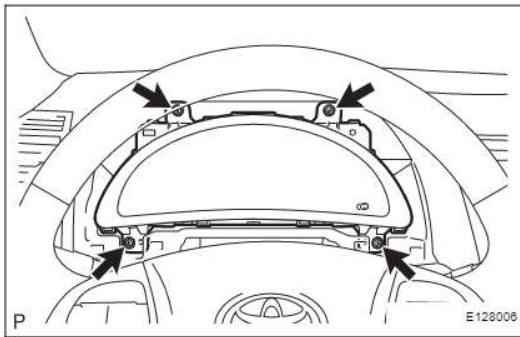
ME

ME-66**METER – COMBINATION METER****8. REMOVE INSTRUMENT CLUSTER FINISH PANEL**

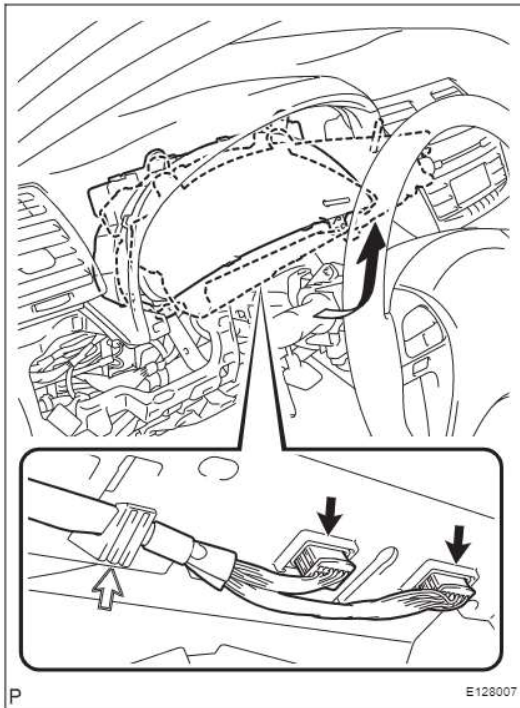
- (a) Remove the 2 clips.
- (b) Disengage the guide and the 4 claws, and then remove the instrument cluster finish panel.

9. REMOVE COMBINATION METER ASSEMBLY

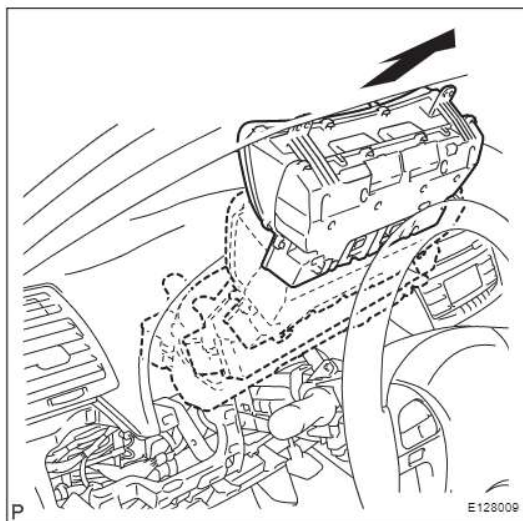
- (a) Using the tilt and telescopic functions, fully lower and extend the steering wheel.



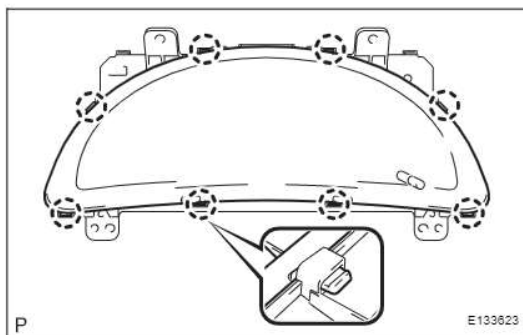
- (b) Remove the 4 screws.



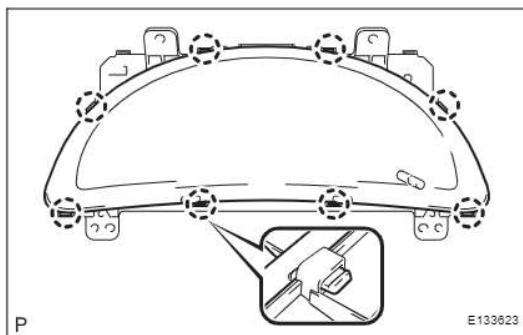
- (c) Disconnect the 2 connectors.
- (d) Disengage the wire harness from the combination meter assembly.

METER – COMBINATION METER**ME-67**

- (e) Remove the combination meter assembly as shown in the illustration.

**DISASSEMBLY****1. REMOVE COMBINATION METER GLASS**

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

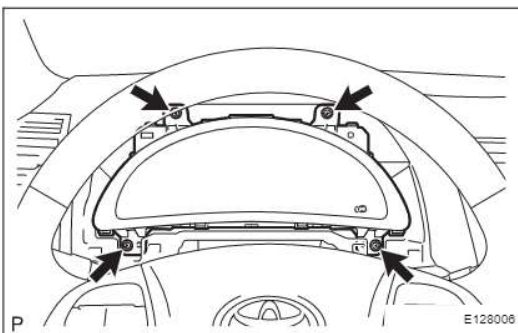
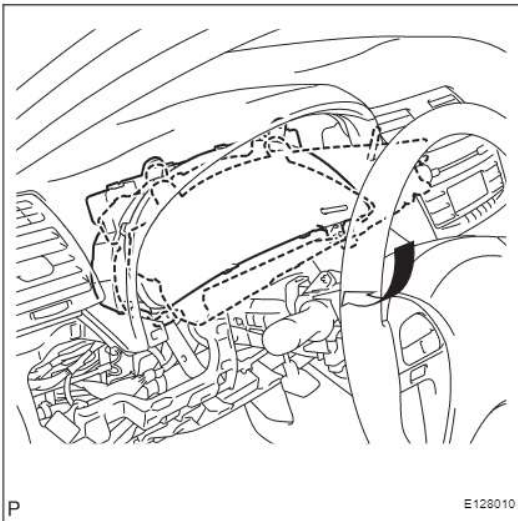
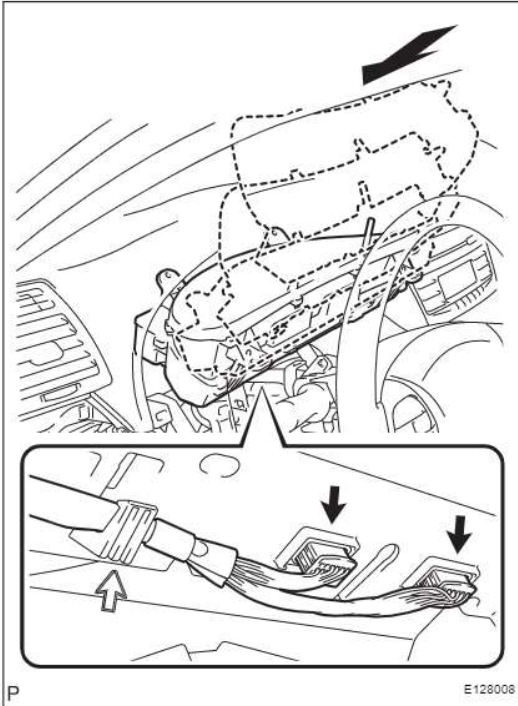
**REASSEMBLY****1. INSTALL COMBINATION METER GLASS**

- (a) Engage the 8 claws and install the combination meter glass.

ME

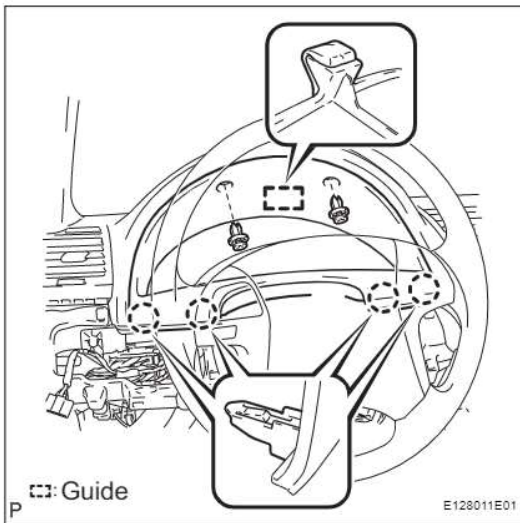
ME-68**METER – COMBINATION METER****INSTALLATION****1. INSTALL COMBINATION METER ASSEMBLY**

- (a) Using the tilt and telescopic functions, fully lower and extend the steering wheel.
- (b) Connect the 2 connectors as shown in the illustration.
- (c) Secure the wire harness to the combination meter assembly.

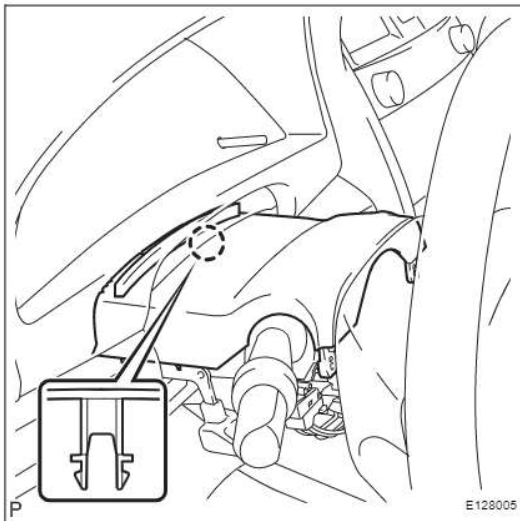


- (d) Install the combination meter assembly as shown in the illustration.

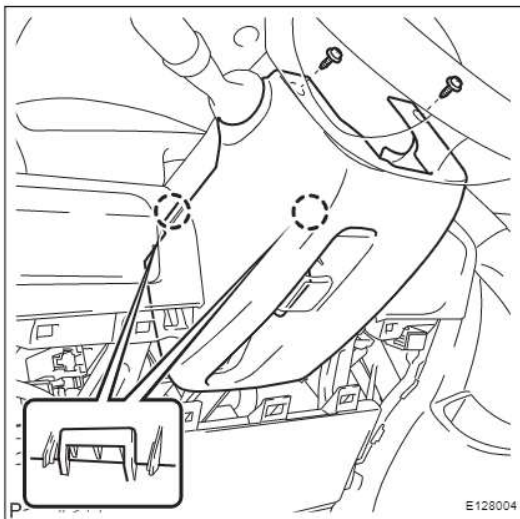
- (e) Install the 4 screws.

METER – COMBINATION METER**ME-69**

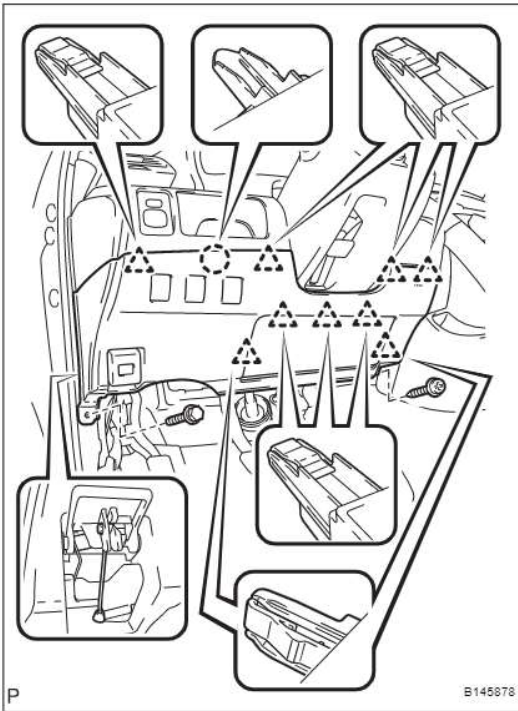
- 2. INSTALL INSTRUMENT CLUSTER FINISH PANEL**
 - (a) Engage the 4 claws and the guide.
 - (b) Install the instrument cluster finish panel with the 2 clips.
- 3. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL** (See page [IP-34](#))
- 4. INSTALL NO. 1 INSTRUMENT PANEL SUB-ASSEMBLY** (See page [IP-34](#))



- 5. INSTALL STEERING COLUMN COVER**
 - (a) Engage the claw and install the upper steering column cover.



- (b) Engage the 2 claws.
 - (c) Install the lower steering column cover with the 2 screws.
Torque: 2.0 N*m (20 kgf*cm, 18 in.*lbf)
- 6. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH**
 - (a) Install the air hose and connect each connector.

ME-70**METER – COMBINATION METER**

- (b) Engage the claw and the 9 clips.
- (c) Connect the hood lock control cable assembly.
- (d) Install the lower instrument panel finish panel LH with the screw and bolt.

7. **INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH** (See page [IR-41](#))
8. **INSTALL FRONT DOOR SCUFF PLATE LH** (See page [IR-41](#))
9. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
10. **PERFORM INITIALIZATION**
NOTICE:
 Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-43](#)).

ME

INSTALLATION

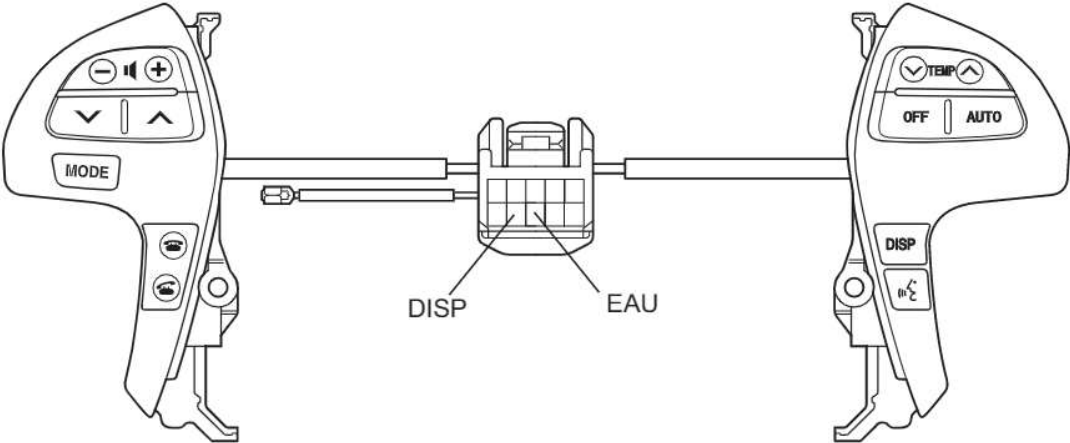
1. INSTALL FUEL SENDER GAUGE ASSEMBLY (See page [FU-30](#))
2. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE (See page [FU-30](#))
3. INSTALL FUEL TANK VENT TUBE SET PLATE (See page [FU-31](#))
4. CONNECT FUEL PUMP TUBE SUB-ASSEMBLY (See page [FU-31](#))
5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
6. INSPECT FOR FUEL LEAK (See page [FU-9](#))
7. INSTALL REAR FLOOR SERVICE HOLE COVER (See page [FU-32](#))
8. INSTALL REAR SEAT CUSHION ASSEMBLY (See page [SE-55](#))
9. PERFORM INITIALIZATION
NOTICE:
Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-43](#)).

ME

INSPECTION

1. INSPECT STEERING PAD SWITCH
- (a) Remove the steering pad switch connector with the steering pad switch and spiral cable still connected.

Steering Pad Switch Connector Front View:



E128142E04

- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

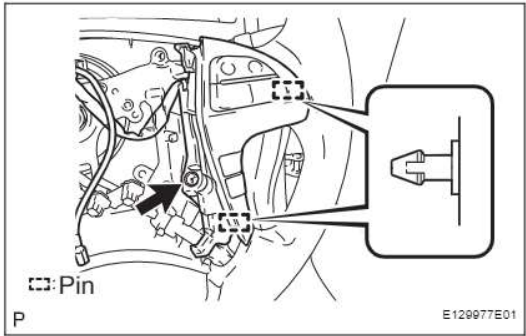
Tester Connection	Condition	Specified Condition
DISP - EAU	DISP switch is not pushed in.	10 kΩ or higher
DISP - EAU	DISP switch is pushed in.	Below 1Ω

- HINT:
- This inspection is needed only for 4 spoke model steering pad switch.
 - If the value is not as specified, replace the steering pad swit

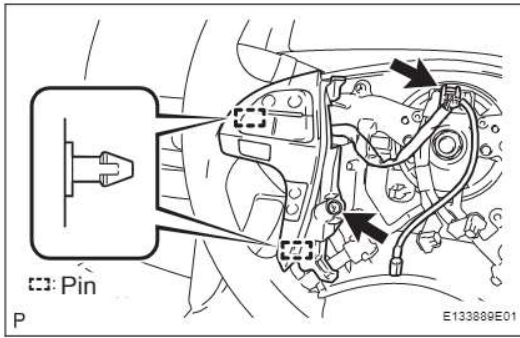
HINT:
ch.

INSTALLATION

1. INSTALL STEERING PAD SWITCH ASSEMBLY
- (a) Engage the 2 pins and install the steering pad switch assembly.
- (b) Install the screw.



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ME-78**METER – STEERING PAD SWITCH**

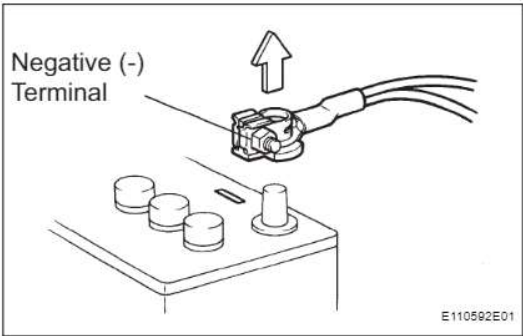
- (c) Engage the 2 pins and install the steering pad switch assembly.
- (d) Install the screw.
- (e) Connect the connector to the spiral cable.

2. **INSTALL STEERING PAD** (See page [RS-346](#))
3. **INSTALL LOWER NO. 3 STEERING WHEEL COVER** (See page [RS-347](#))
4. **INSTALL LOWER NO. 2 STEERING WHEEL COVER** (See page [RS-347](#))
5. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
6. **INSPECT SRS WARNING LIGHT** (See page [RS-347](#))
7. **PERFORM INITIALIZATION**

NOTICE:

Some systems need initialization after reconnecting the cable to the negative battery terminal (See page [IN-43](#)).

ME



METER / GAUGE SYSTEM

PRECAUTION

1. REMOVAL AND INSTALLATION OF THE BATTERY TERMINAL
- (a)

Before performing electrical work, disconnect the battery negative (-) terminal in order to prevent a short in the system.
- (b)

When disconnecting and reconnecting the battery cable, turn the power switch and lighting switches off and loosen the terminal nut completely. Perform these operations without prying on the terminal.
- (c)

When the battery terminal is removed, the memories of the clock, radio, DTCs, etc. are erased. So before removing the terminal, check and make a note of them.

NOTICE:

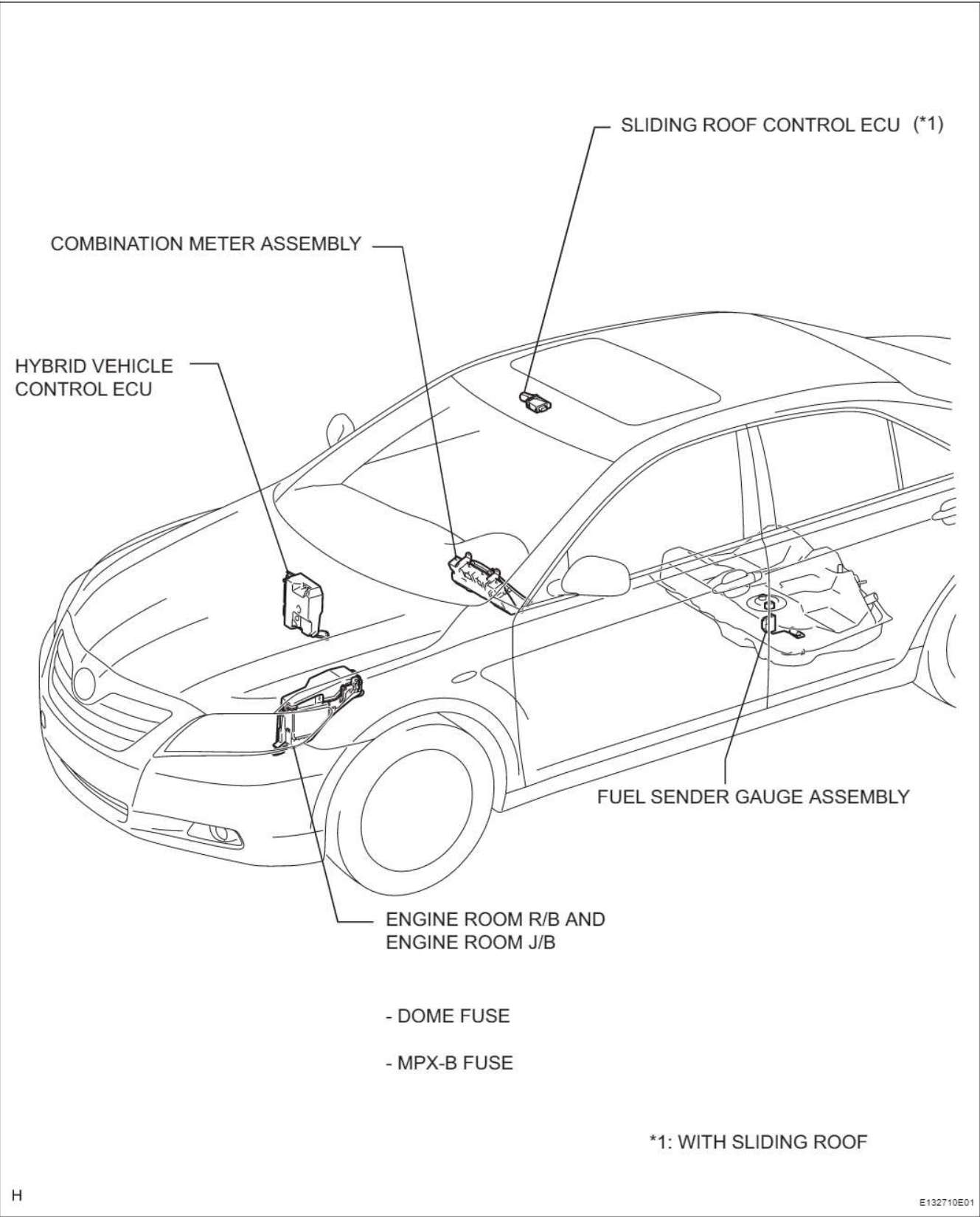
When disconnecting the battery negative (-) terminal, initialize the following system after the terminal is reconnected.

System Name	See Procedure
SFI System	IN-43

ME-2

METER – METER / GAUGE SYSTEM

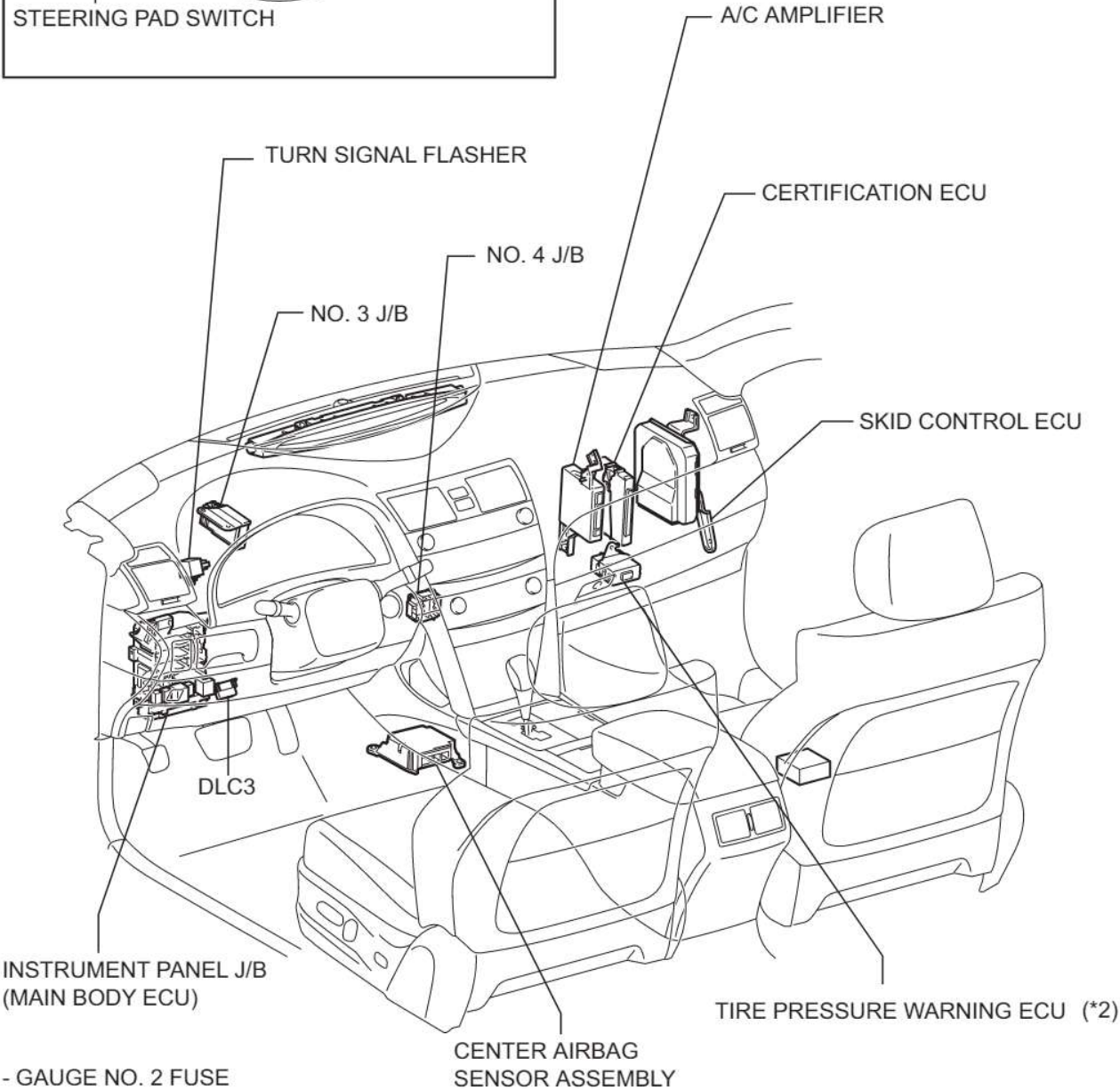
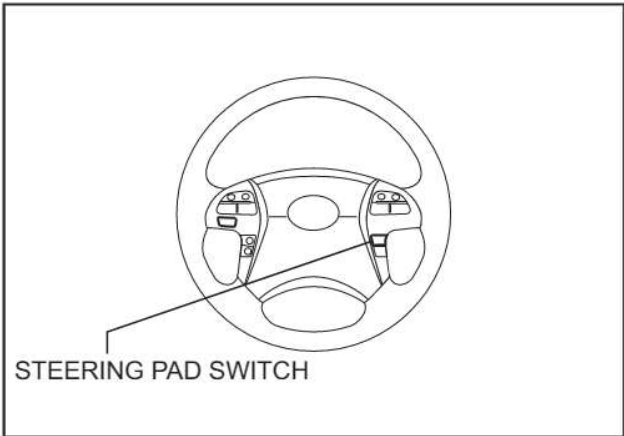
PARTS LOCATION



METER – METER / GAUGE SYSTEM

ME-3

ME



*2: WITH TIRE PRESSURE WARNING SYSTEM

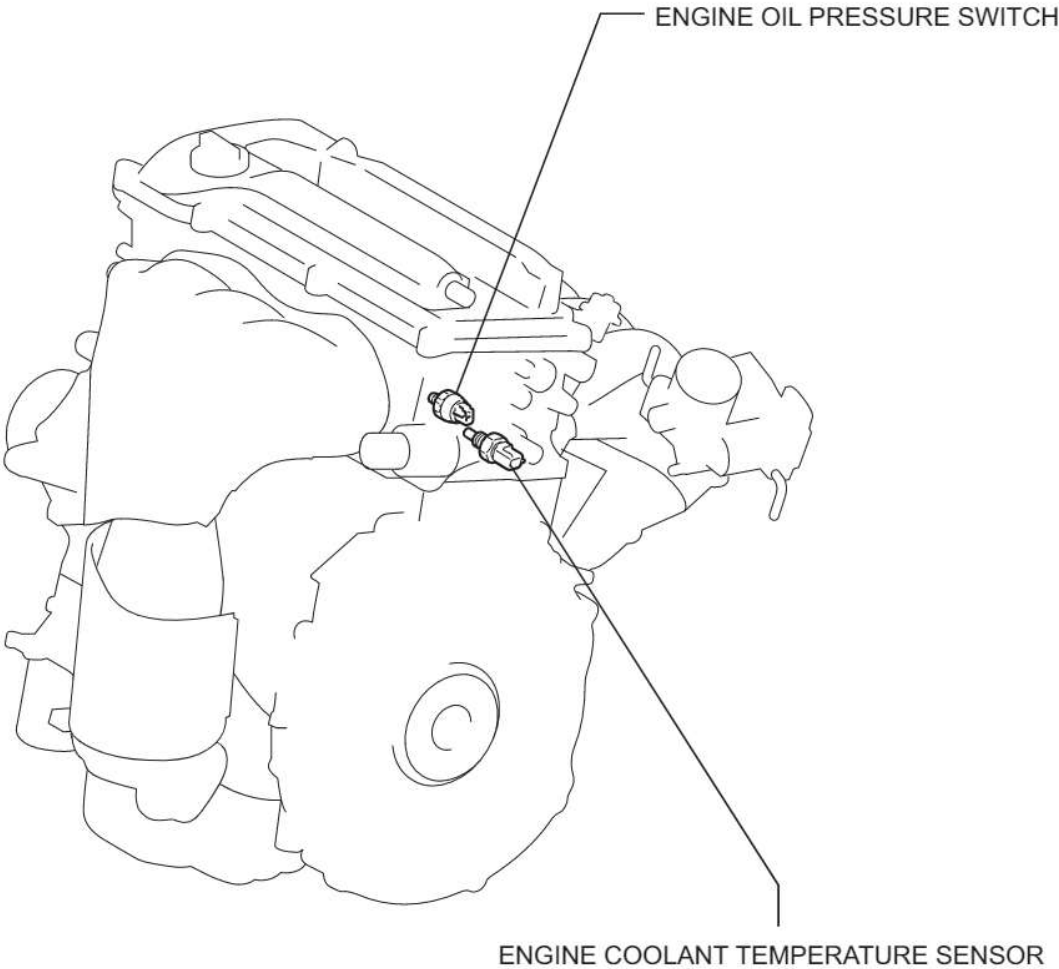
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E132711E01

ME-4

METER – METER / GAUGE SYSTEM

ME

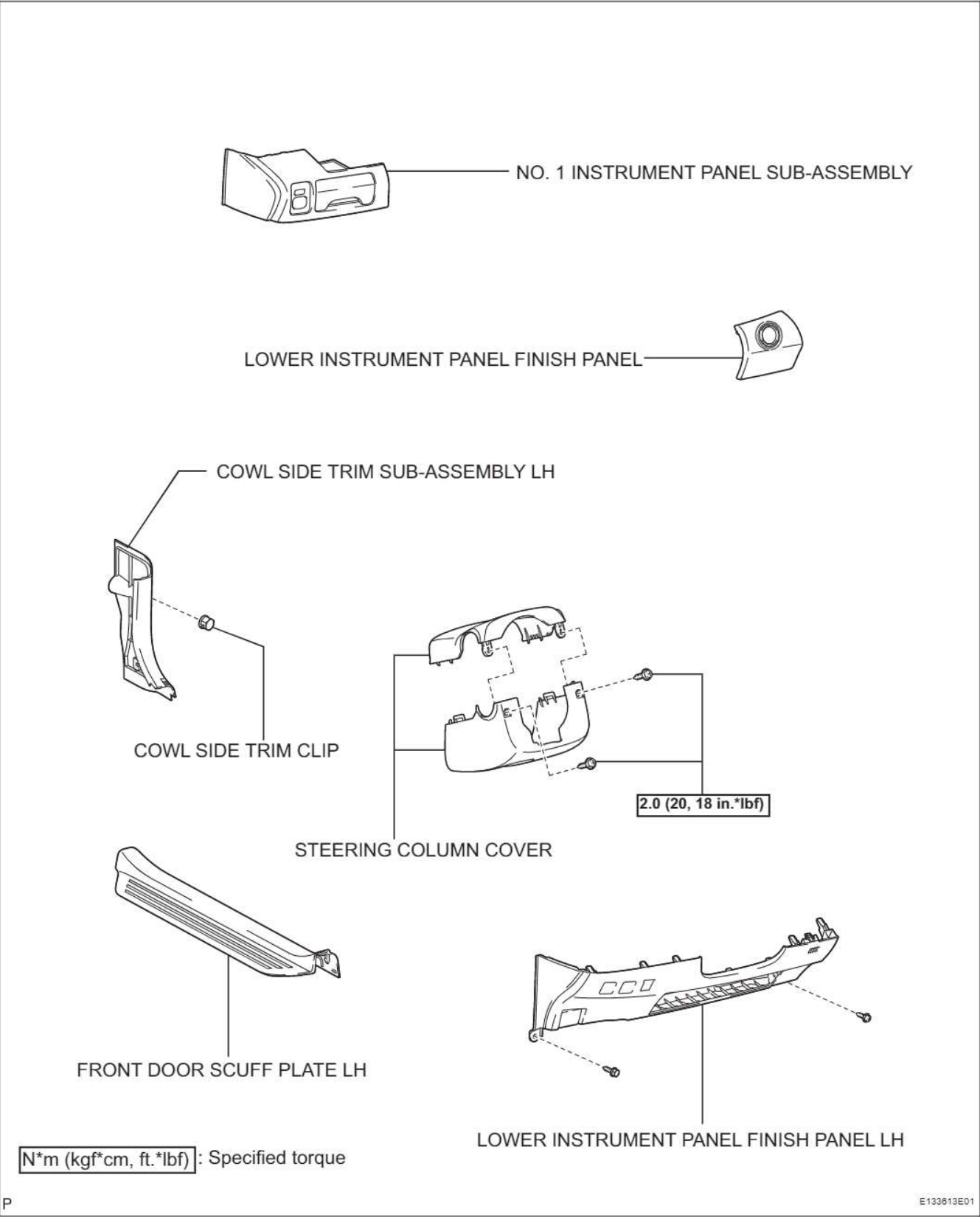


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E132712E01

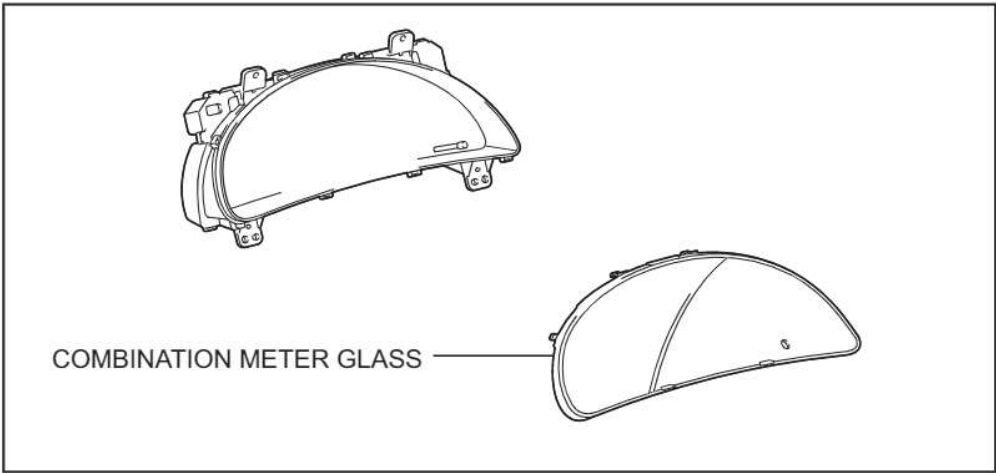
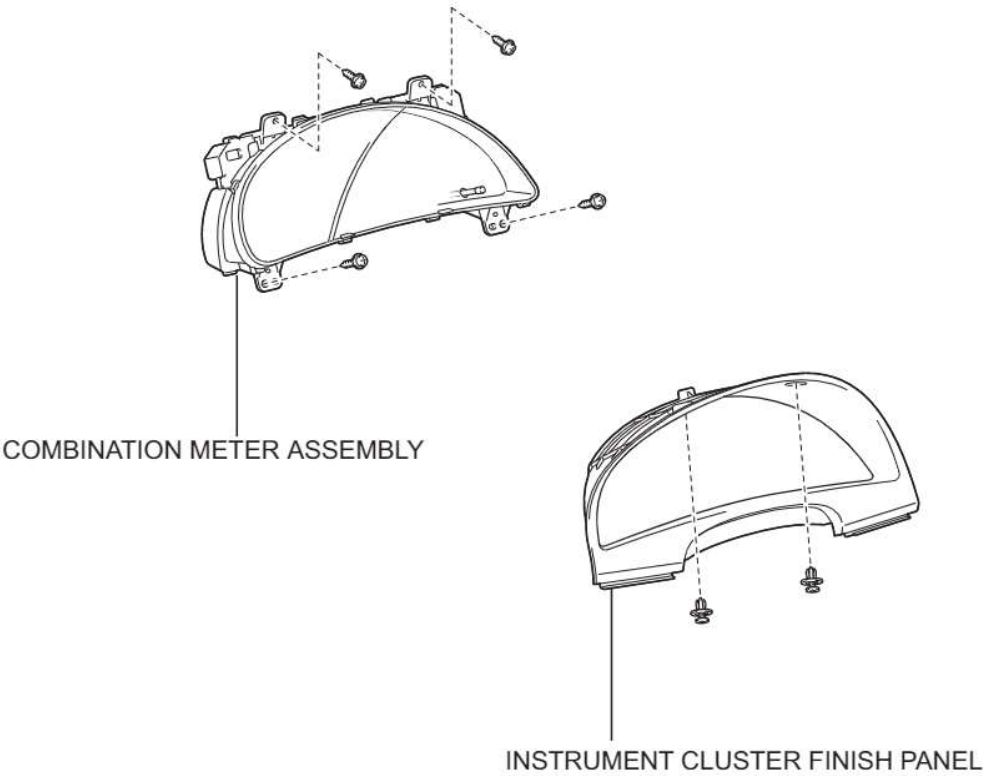
COMBINATION METER

COMPONENTS



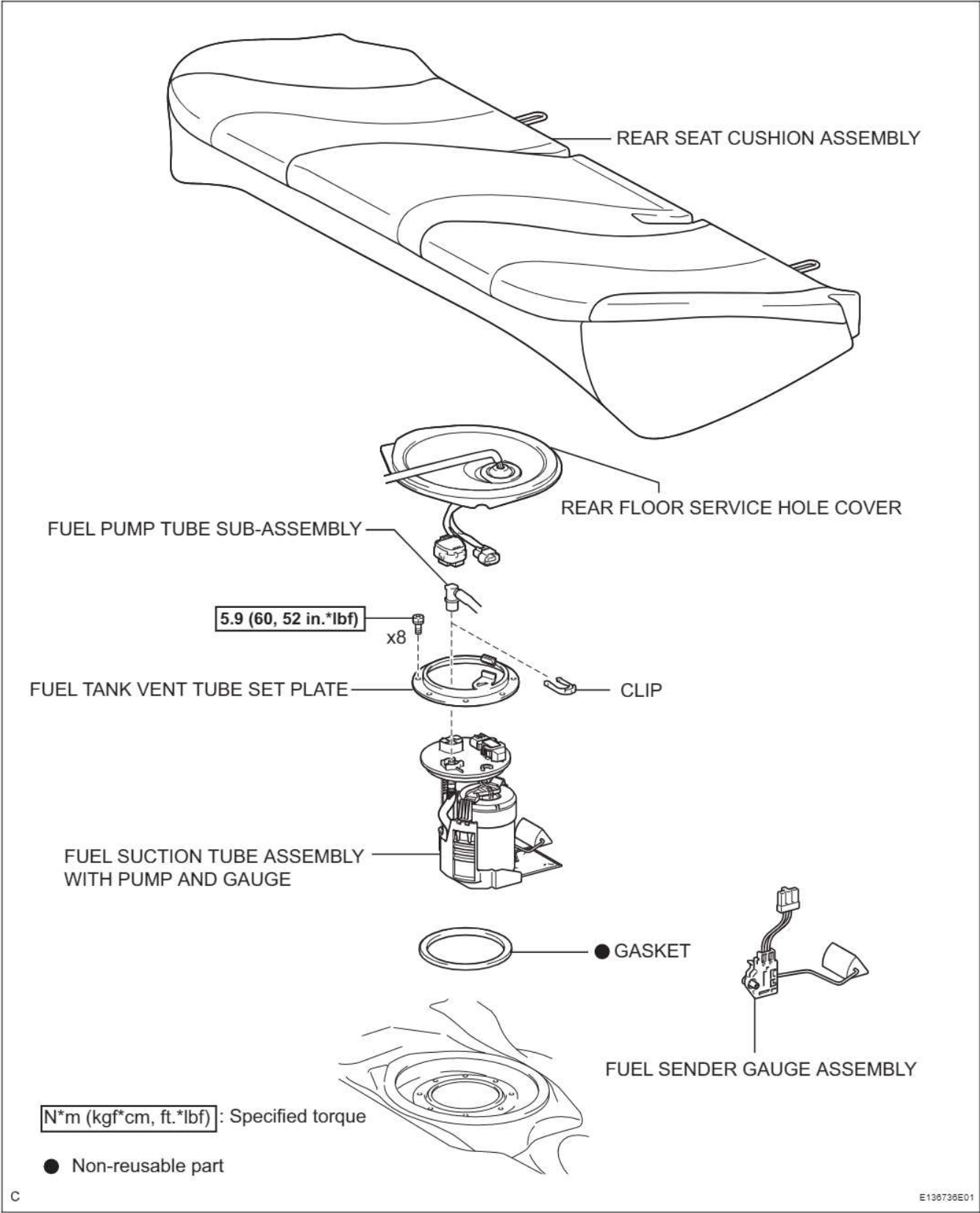
METER – COMBINATION METER

ME-63



ME

FUEL SENDER GAUGE ASSEMBLY
COMPONENTS



REMOVAL

1. DISCHARGE FUEL SYSTEM PRESSURE
HINT:
(See page [FU-1](#))
2. DISCONNECT CABLE FROM NEGATIVE BATTERY
TERMINAL
CAUTION:
Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (See page [RS-1](#)).
3. REMOVE REAR SEAT CUSHION ASSEMBLY (See page [SE-44](#))
4. REMOVE REAR FLOOR SERVICE HOLE COVER (See page [FU-23](#))
5. SEPARATE FUEL PUMP TUBE SUB-ASSEMBLY (See page [FU-23](#))
6. REMOVE FUEL TANK VENT TUBE SET PLATE (See page [FU-23](#))
7. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE (See page [FU-24](#))
8. REMOVE FUEL SENDER GAUGE ASSEMBLY (See page [FU-24](#))

INSPECTION

1. INSPECT FUEL SENDER GAUGE ASSEMBLY
- (a) Remove the fuel sender gauge assembly.
- (b) Check that the float moves smoothly between F and E.
- (c) Measure the resistance between terminals 2 (S) and 3 (FE) of the connector according to the value(s) in the table below.

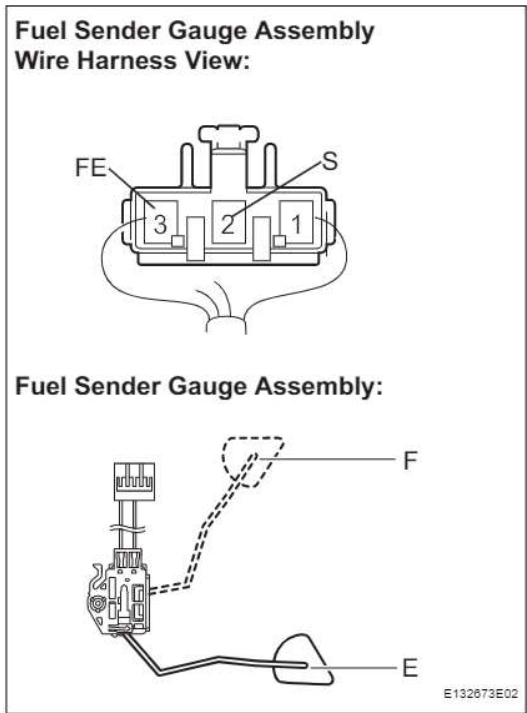
Standard resistance

Float Level	Resistance (Ω)
F	13.5 to 16.5
Between E and F	13.5 to 414.5 (Gradually changes)
E	405.5 to 414.5

HINT:

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

ME



ME-74**METER – ENGINE OIL PRESSURE SWITCH**

ENGINE OIL PRESSURE SWITCH**ON-VEHICLE INSPECTION****1. INSPECT ENGINE OIL PRESSURE SWITCH ASSEMBLY**

- (a) Disconnect the connector from the oil pressure switch assembly.
- (b) With the switch still installed, measure the resistance between the terminal of the engine oil pressure switch and engine ground.

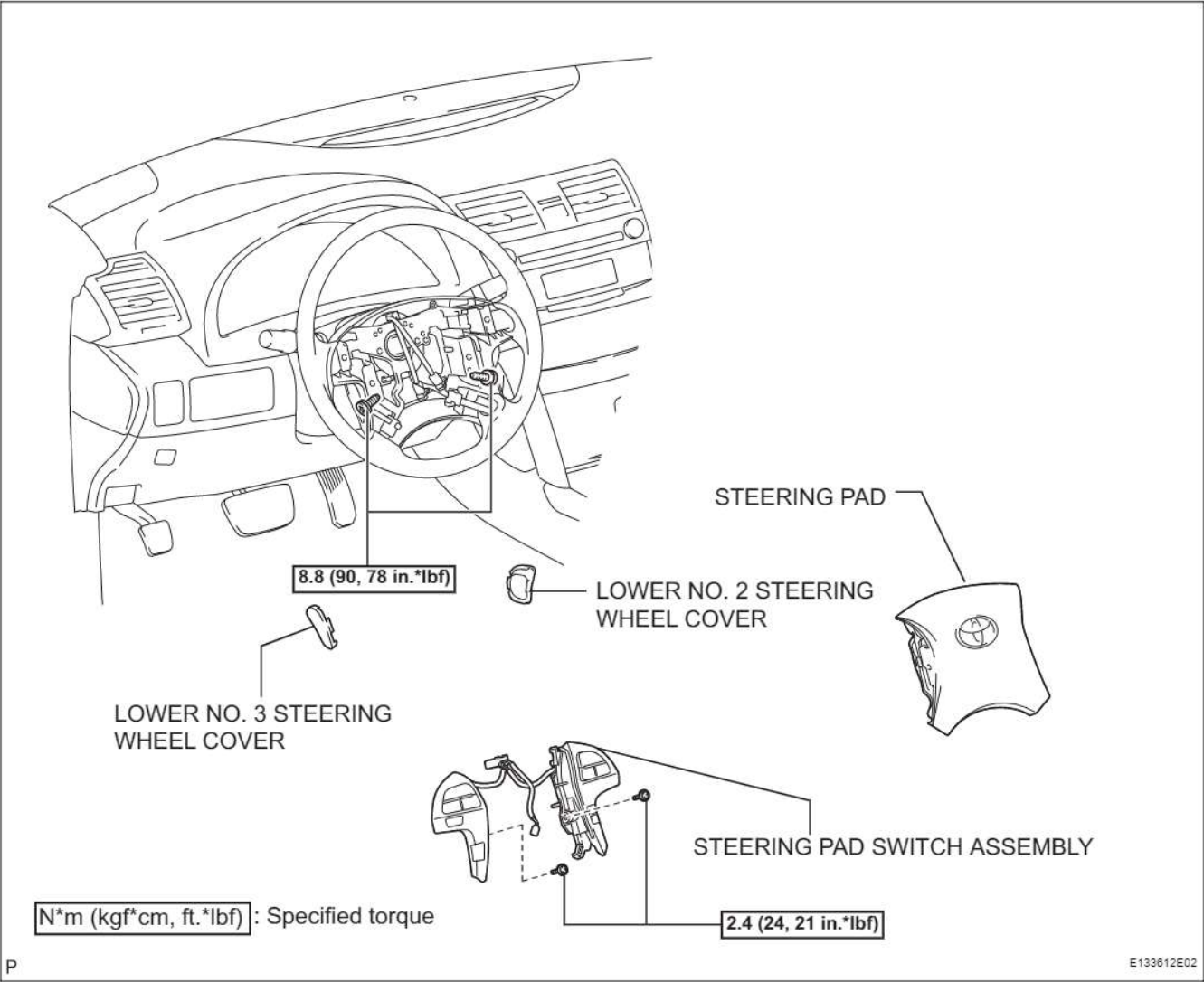
Standard resistance:**Engine stopped:****Below 1 Ω** **Engine idling:****10 k Ω or higher****HINT:**

If the value is not as specified, replace the engine oil pressure switch.

ME

STEERING PAD SWITCH

COMPONENTS



ME-76**METER – STEERING PAD SWITCH****REMOVAL**

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

CAUTION:

Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (See page [RS-1](#)).

2. **REMOVE LOWER NO. 3 STEERING WHEEL COVER**
(See page [RS-345](#))

3. **REMOVE LOWER NO. 2 STEERING WHEEL COVER**
(See page [RS-345](#))

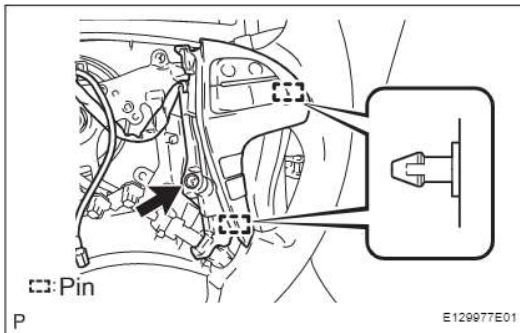
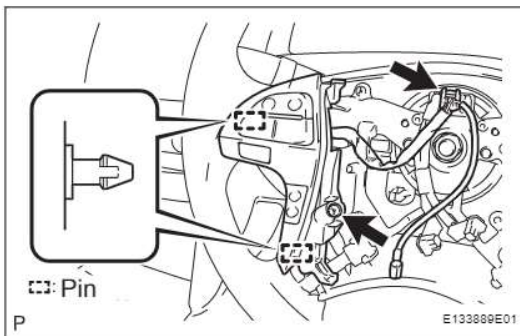
4. **REMOVE STEERING PAD** (See page [RS-345](#))

5. **REMOVE STEERING PAD SWITCH ASSEMBLY**

(a) Disconnect the pad switch connector from the spiral cable.

(b) Remove the screw.

(c) Disengage the 2 pins and remove the steering pad switch.



(d) Remove the screw.

(e) Disengage the 2 pins and remove the steering pad switch assembly.