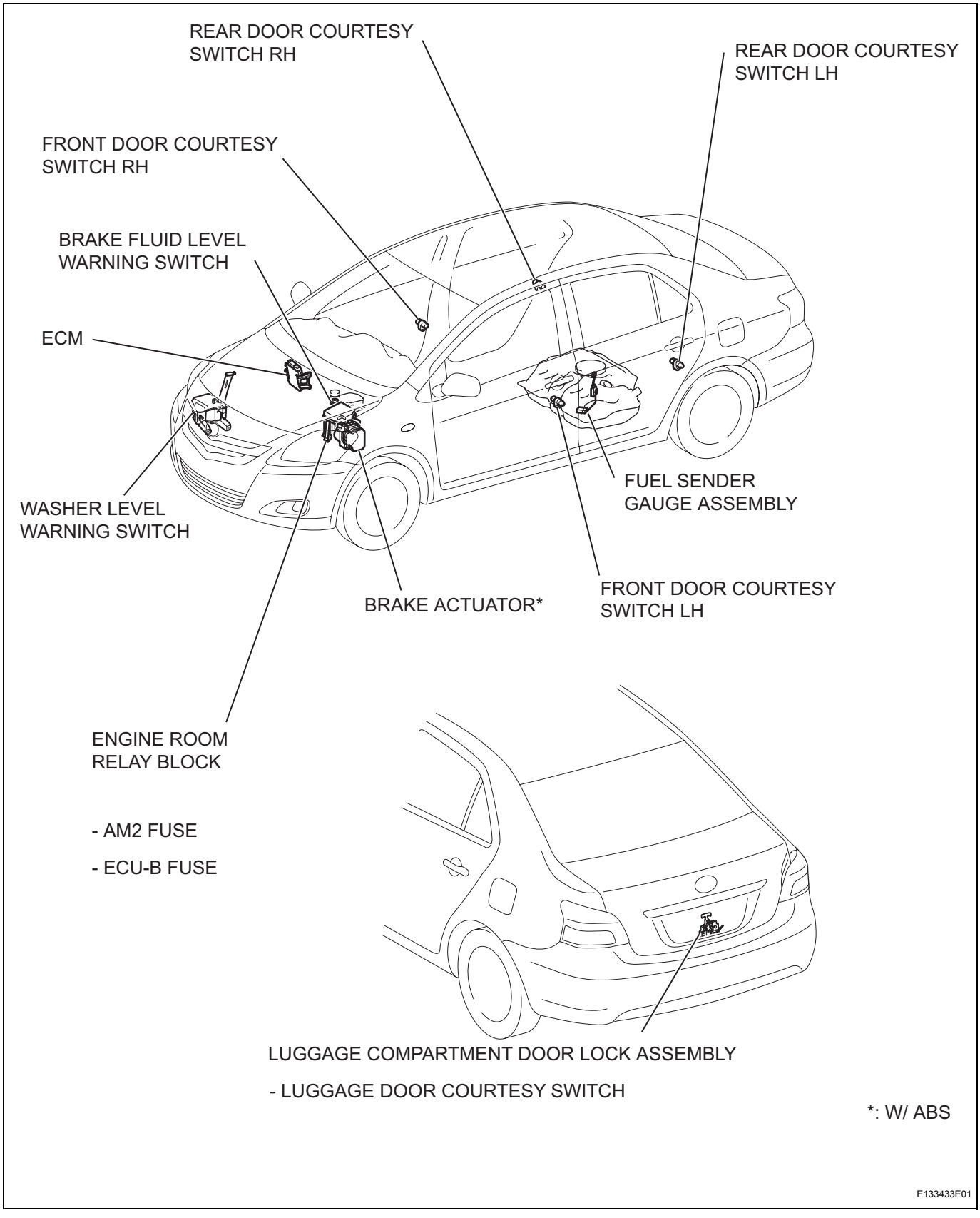
METER / GAUGE SYSTEM (for Sedan)

PARTS LOCATION



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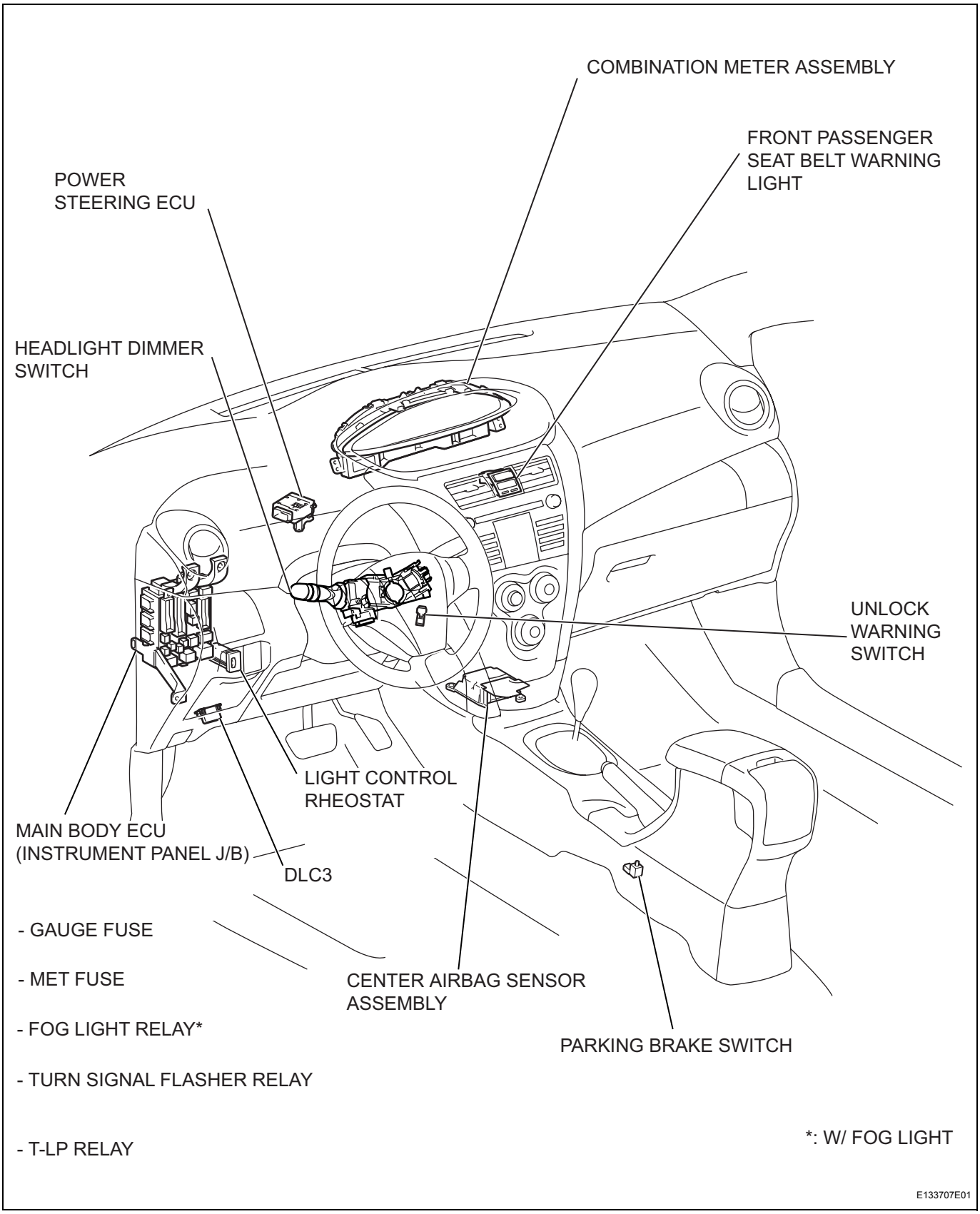
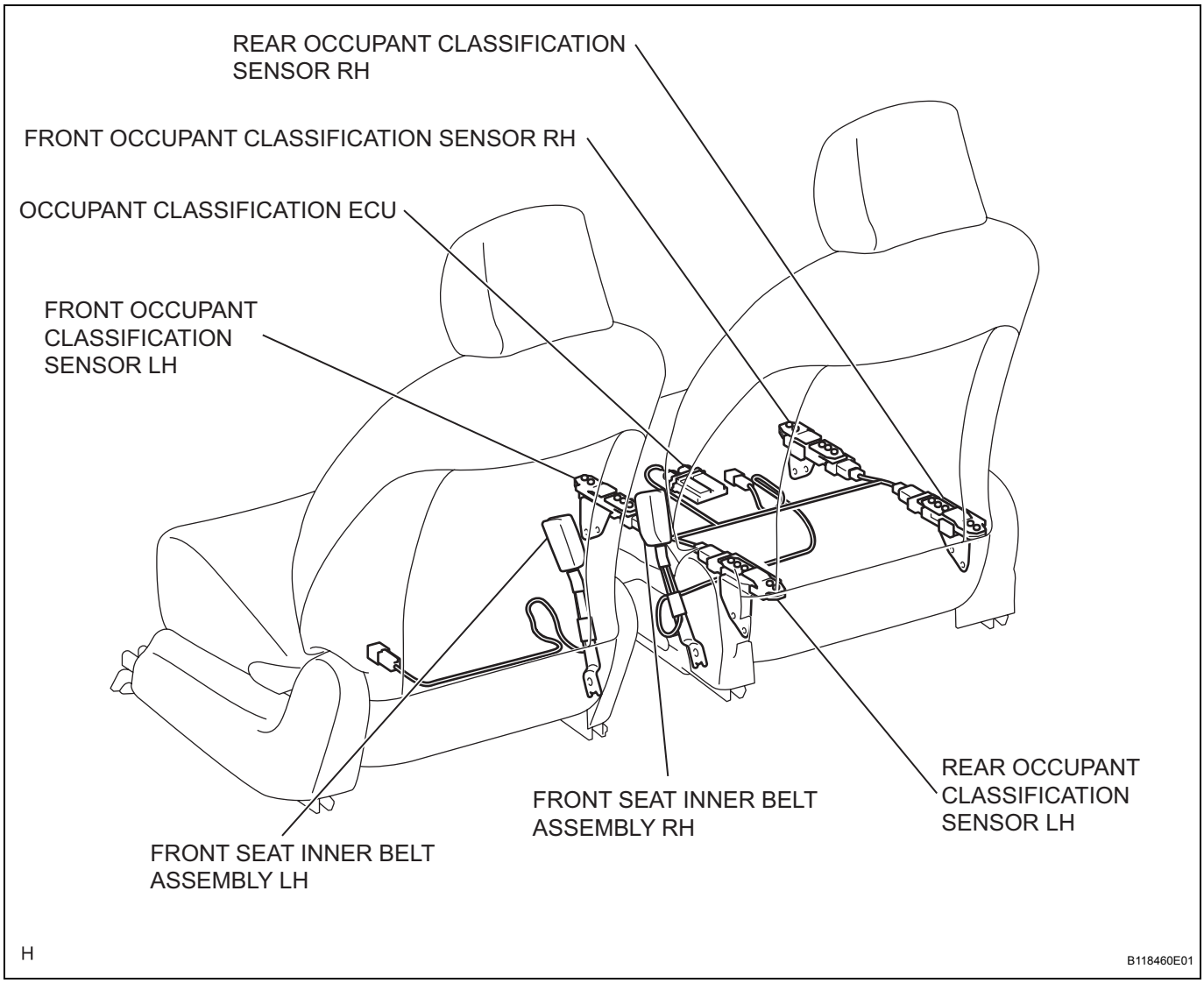
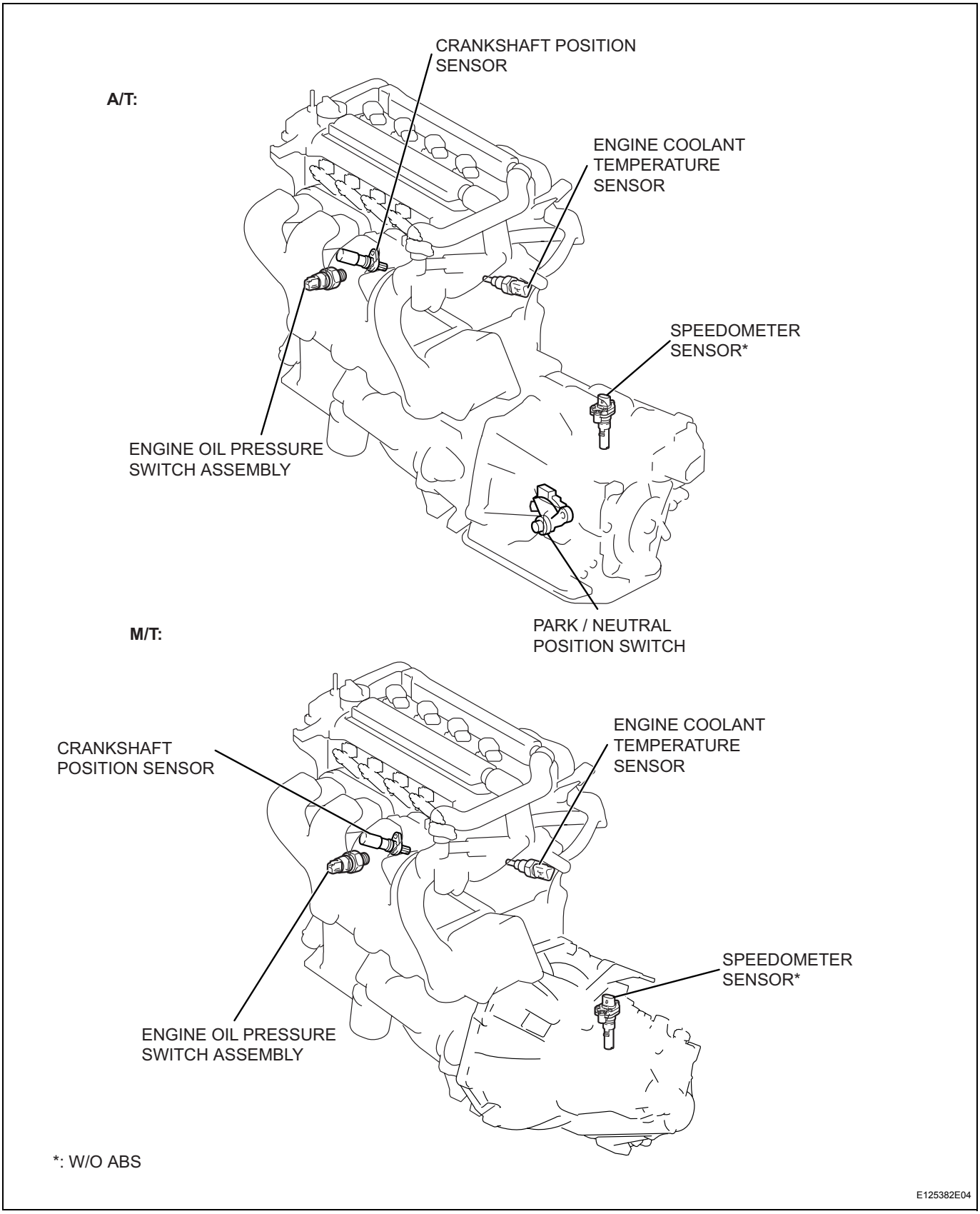

COMBINATION METER ASSEMBLY
FRONT PASSENGER SEAT BELT WARNING LIGHT
POWER STEERING ECU
HEADLIGHT DIMMER SWITCH
UNLOCK WARNING SWITCH
LIGHT CONTROL RHEOSTAT
MAIN BODY ECU (INSTRUMENT PANEL J/B)
DLC3
- GAUGE FUSE
- MET FUSE
- FOG LIGHT RELAY*
- TURN SIGNAL FLASHER RELAY
- T-LP RELAY
CENTER AIRBAG SENSOR ASSEMBLY
PARKING BRAKE SWITCH
*: W/ FOG LIGHT
E133707E01

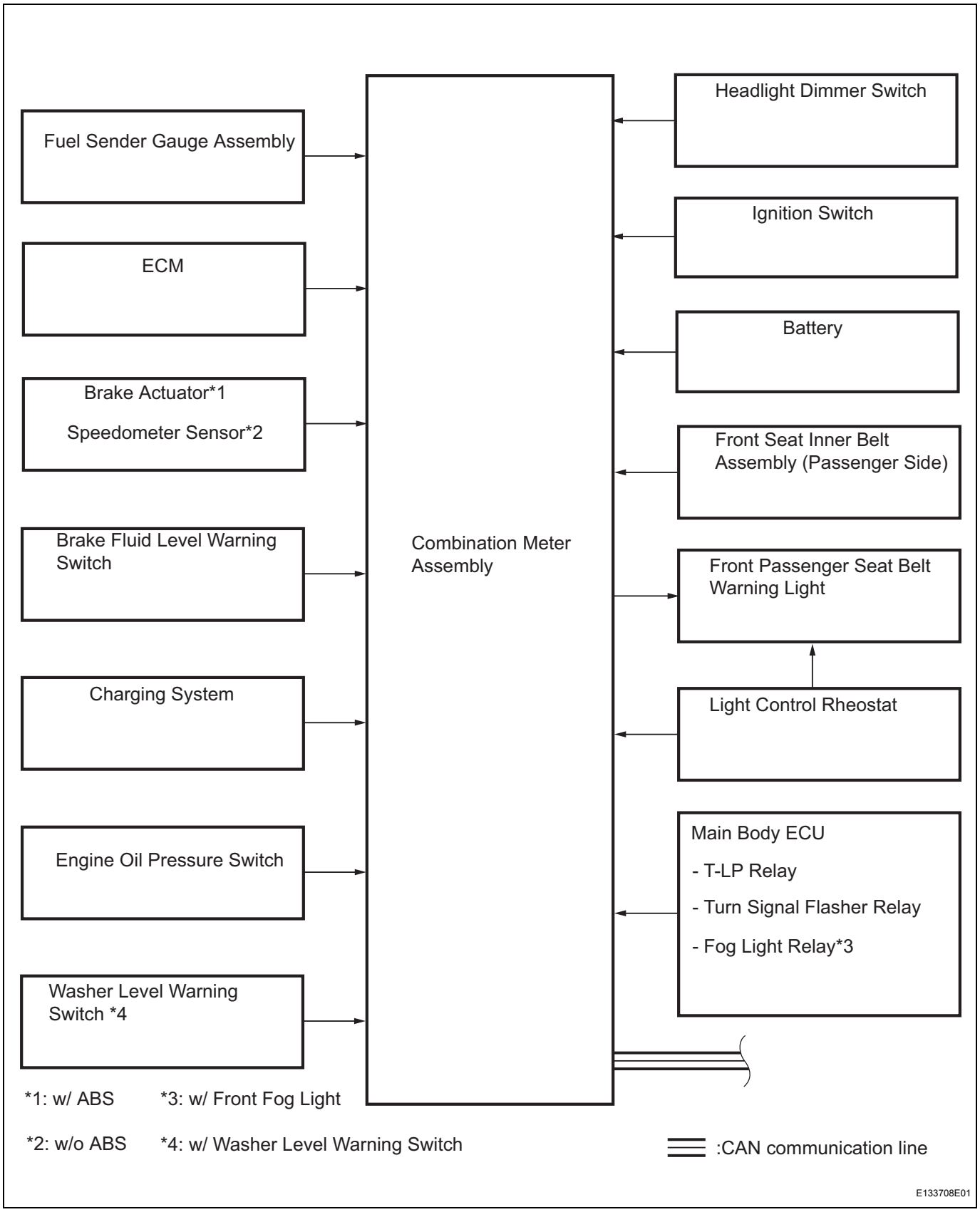

REAR OCCUPANT CLASSIFICATION SENSOR RH
FRONT OCCUPANT CLASSIFICATION SENSOR RH
OCCUPANT CLASSIFICATION ECU
FRONT OCCUPANT CLASSIFICATION SENSOR LH
FRONT SEAT INNER BELT ASSEMBLY LH
FRONT SEAT INNER BELT ASSEMBLY RH
REAR OCCUPANT CLASSIFICATION SENSOR LH
H
B118460E01

ME


A/T:
CRANKSHAFT POSITION SENSOR
ENGINE COOLANT TEMPERATURE SENSOR
SPEEDOMETER SENSOR*
ENGINE OIL PRESSURE SWITCH ASSEMBLY
PARK / NEUTRAL POSITION SWITCH
M/T:
CRANKSHAFT POSITION SENSOR
ENGINE COOLANT TEMPERATURE SENSOR
SPEEDOMETER SENSOR*
ENGINE OIL PRESSURE SWITCH ASSEMBLY
*: W/O ABS
E125382E04

ME

SYSTEM DIAGRAM



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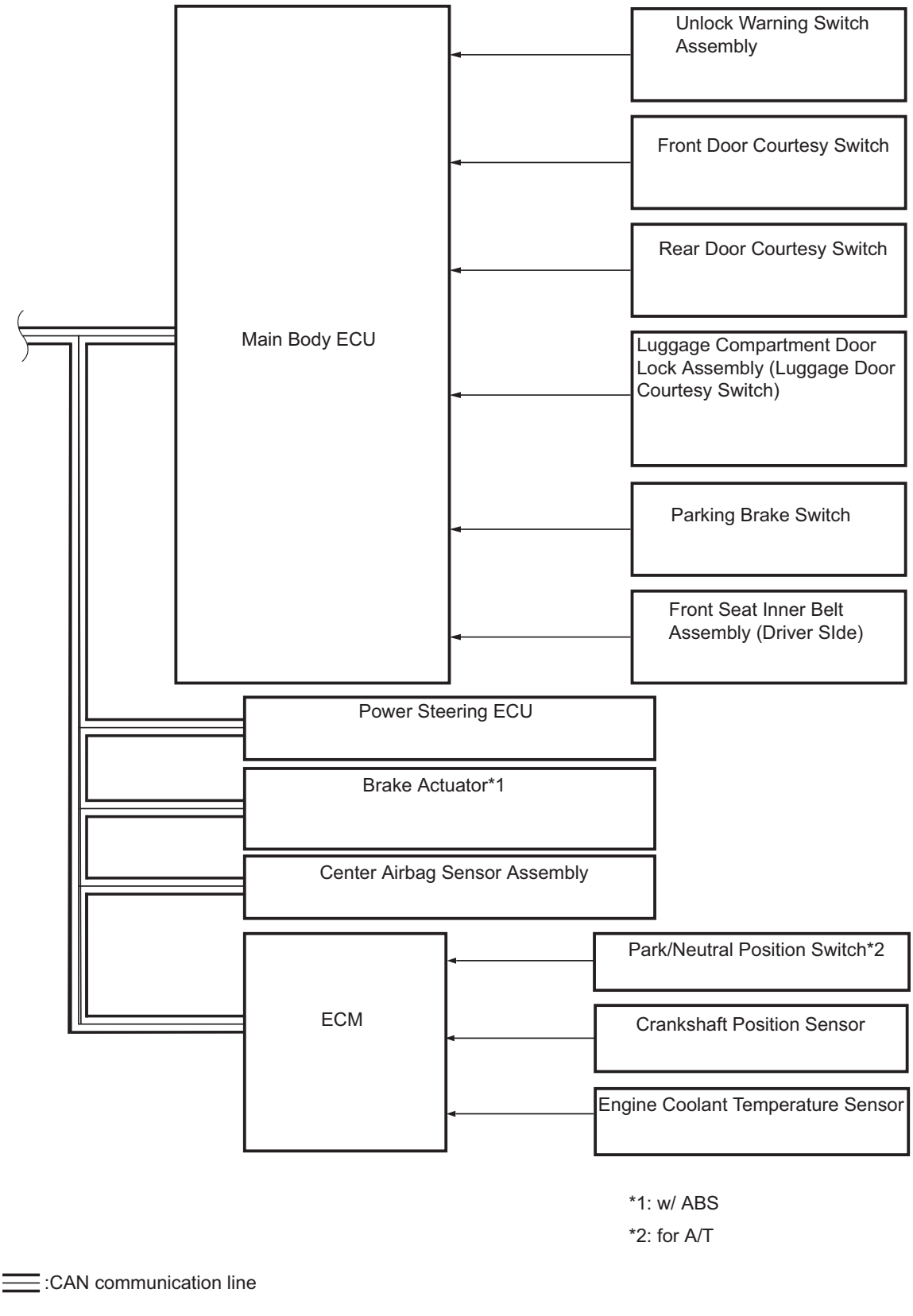

Unlock Warning Switch Assembly
Front Door Courtesy Switch
Rear Door Courtesy Switch
Main Body ECU
Luggage Compartment Door Lock Assembly (Luggage Door Courtesy Switch)
Parking Brake Switch
Front Seat Inner Belt Assembly (Driver SIde)
Power Steering ECU
Brake Actuator*1
Center Airbag Sensor Assembly
ECM
Park/Neutral Position Switch*2
Crankshaft Position Sensor
Engine Coolant Temperature Sensor
*1: w/ ABS
*2: for A/T
:CAN communication line
E126911E02

SYSTEM DESCRIPTION

1. METER GAUGE AND WARNING INDICATOR

GAUGE

Item	Signal Description
Speedometer	w/ ABS: Indicates vehicle speed based on signals received from brake actuator assembly (CAN) w/o ABS: Indicates vehicle speed based on signals received from speedometer sensor (Direct line)
Tachometer*	Indicates engine speed based on signals from ECM (CAN)
ODO / TRIP meter	Calculates accumulated total vehicle travel distance and vehicle travel distance since trip meter knob pressed
Fuel Gauge	Indicates fuel level in accordance with signals received from fuel sender gauge (Direct line)

*: w/ Tachometer

WARNING / INDICATOR

Item	Signal Description
TURN SIGNAL	Receives turn signal from flasher relay (Direct line)
BEAM	Receives beam signal from headlight dimmer switch (Direct line)
FRONT FOG LIGHT*5	Receives front fog light signal from fog light relay (Direct line)
CHARGE	Receives malfunction signal from generator (alternator) (Direct line and CAN)
MIL	Receives malfunction check signal from ECM (Direct line)
Engine coolant temperature warning	Receives engine coolant temperature based on signal from ECM (CAN)
Engine coolant temperature indicator (COOL)	Receives engine coolant temperature based on signal from ECM (CAN)
WASHER*4	Receives washer level malfunction signal from washer level warning switch (Direct line)
DOOR	Illuminates when receiving signal from main body ECU (CAN)
D BELT	Receives driver seat belt signal (unfastened) from center airbag sensor assembly (CAN)
BRAKE	Receives parking brake switch signal from main body ECU (CAN) and fluid level warning signal from brake level switch (Direct line)
OIL PRESSURE	Receives malfunction signal from oil pressure switch (Direct line)
MAINT REQD*1	Blinks when vehicle driven about 4,500 miles after oil exchange. Illuminates when vehicle driven about 5,000 miles after oil exchange.
AIR BAG	Receives malfunction signal from center airbag sensor assembly (CAN)
ABS*3	Receives malfunction signal from skid control ECU (CAN)
HEAD*1	Receives headlight signal from DRL relay (Direct line)
TAIL*2	Receives taillight signal from headlight dimmer switch assembly (Direct line)
P/S	Receives malfunction signal from power steering ECU (CAN)
CRUISE*6	RReceives malfunction check signal from ECM (CAN)

*1: U.S.A. only
*2: Canada only
*3: w/ ABS
*4: w/ washer level warning
*5: w/ Front fog light
*6: w/ Cruise control

Buzzer

Item	Signal Description
Key Reminder	Buzzer ON when ignition switch OFF, key inserted and driver door open.
Light Reminder	Buzzer ON when ignition switch OFF, light control switch in TAIL or HEAD position and driver door open.
Seat Belt Warning	Buzzer ON when vehicle speed exceeds 12.4mph (20km/h) and seat belt unfastened.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the combination meter.
- Use an intelligent tester in steps 3 and 5.

1 VEHICLE BROUGHT TO WORKSHOP

NEXT

2 INSPECT BATTERY VOLTAGE

Standard voltage:
11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

3 CHECK CAN COMMUNICATION SYSTEM

(a) Use an intelligent tester to check if the CAN communication system is functioning normally.
Result

Result	Proceed to
CAN DTC is not output	A
CAN DTC is output	B

B → **Go to CAN COMMUNICATION SYSTEM**

A

4 PROBLEM SYMPTOMS TABLE

HINT:

Refer to the Problem Symptoms Table (See page ME-10).

Result

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B → **Go to step 6**

A

5	OVERALL ANALYSIS AND TROUBLESHOOTING

(a) Terminals of ECU (See page ME-12)
(b) Data List/Active Test (See page ME-22)
(c) On-vehicle Inspection (See page ME-24)

NEXT

6	ADJUST, REPAIR OR REPLACE

NEXT

7	CONFIRMATION TEST

NEXT

ME

END

CUSTOMIZE PARAMETERS

1. CUSTOMIZE PARAMETERS (Using the intelligent tester)

HINT:

The following items can be customized.

NOTICE:

- **Record the current settings before custmization.**

Display (Item)	Default	Contents	Setting
KEY REMIND SOUND	SLOW	Changes key reminder buzzer intervals	FAST / NORMAL / SLOW
LIGHT REMIND	ON	Turns light reminder buzzer ON and OFF	ON / OFF
SEAT BELT WARN	D/P ON	Turns seat belt warning buzzer ON and OFF	D/P ON / D ON / P ON / D/P OFF
UNITS BY REGION	Different for every region	Changes drive monitor display units	KM/L JP / KM/L / ML/G US / ML/G UK / KM/G

PROBLEM SYMPTOMS TABLE

HINT:
Use the table below to help determine the causes of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected area in the order they are listed. Replace parts as necessary.

MALFUNCTION SYSTEM

Symptom	Suspected area	See page
Entire combination meter does not operate	Refer to troubleshooting	ME-33
Operating light control rheostat does not change light brightness	Combination meter assembly	ME-60
	Wire harness or connector	ME-60

METER GAUGES

Symptom	Suspected area	See page
Speedometer malfunction	Refer to troubleshooting	ME-36
Tachometer malfunction*	Refer to troubleshooting	ME-40
Fuel gauge malfunction	Refer to troubleshooting	ME-42
Malfunction in water temperature warning light	Refer to troubleshooting	ME-46
Clock malfunction	Clock assembly	-

*: w/ tachometer

WARNING / INDICATOR LIGHT

Symptom	Suspected area	See page
MIL does not come on	ECM	ES-384
	Combination meter assembly	ME-12
	Wire harness or connector	-
Charge warning light does not come on	CAN communication system	CA-38
	Generator	CH-13
	ECM	ES-26
	Combination meter assembly	ME-12
	Wire harness or connector	-
HEAD indicator does not come on*1	Head light dimmer switch	LI-161
	Combination meter assembly	ME-12
	Wire harness or connector	-
Brake warning light does not come on	CAN communication system	CA-27
	Brake fluid level warning switch	BC-79
	Main body ECU	ME-12
	Parking brake switch	PB-24
	Wire harness or connector	-
	Combination meter assembly	ME-12
ABS warning light does not come on*3	CAN communication system	CA-27
	Skid control ECU	BC-73
	Combination meter assembly	ME-12
Airbag warning light does not come on	CAN communication system	CA-40
	Center airbag sensor assembly	RS-202
	Combination meter assembly	ME-12
Engine oil pressure warning light does not come on	Engine oil pressure switch assembly	ME-162
	Combination meter assembly	ME-12
	Wire harness or connector	-

Symptom	Suspected area	See page
Driver side seat belt warning light does not operate	CAN communication system	CA-9
	Front seat inner belt assembly (Driver side)	SB-34
	Main body ECU	SB-20
	Combination meter assembly	ME-12
	Wire harness or connector	-
Turn indicator light does not come on	Turn signal flasher relay	LI-194
	Combination meter assembly	ME-12
	Wire harness or connector	-
Beam indicator light does not come on	Headlight dimmer switch	LI-161
	Combination meter assembly	ME-12
	Wire harness or connector	-
Washer level warning light does not come on*4	Washer level warning switch	WW-62
	Combination meter assembly	ME-12
	Wire harness or connector	-
Engine coolant temperature warning light does not come on	CAN communication system	CA-9
	ECM	ES-26
	Combination meter assembly	ME-12
Power steering warning light does not come on	CAN communication system	CA-31
	Power steering ECU	PS-53
	Combination meter assembly	ME-12
MAINT REQD indicator light blinks or continues illuminating*1	Resetting procedure	ME-24
	Combination meter assembly	ME-12
	CAN communication system	CA-9
Front fog light indicator light does not come on*5	Fog light relay	LI-198
	Combination meter assembly	ME-12
	Wire harness or connector	-
Open door warning light does not come on	CAN communication system	CA-35
	Door courtesy switch	LI-179
	Main body ECU	ME-12
	Combination meter assembly	ME-12
	Wire harness or connector	-
TAIL indicator light does not come on*2	TL-P relay	LI-53
	Combination meter assembly	ME-12
	Wire harness or connector	-

*1: USA only
*2: Canada only
*3: w/ ABS
*4: w/ Washer level warning
*5: w/ Front fog light

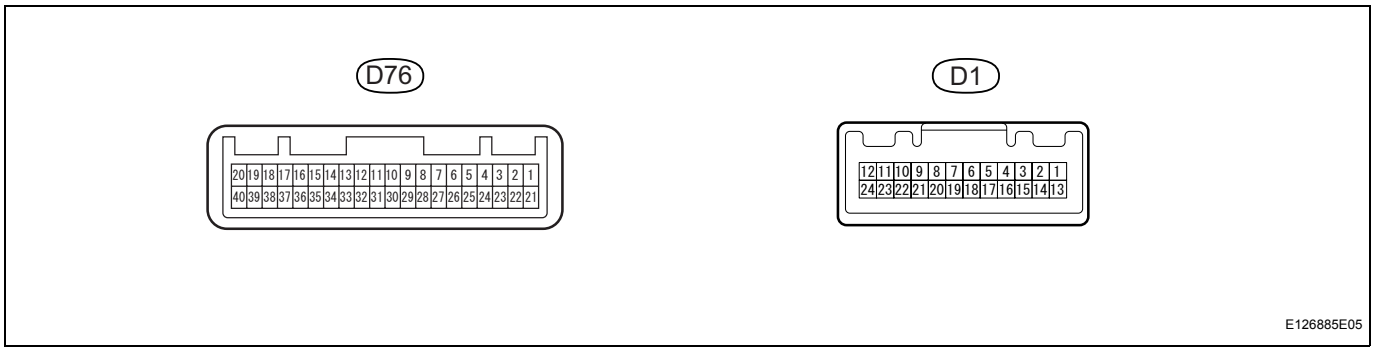
BUZZER

Symptom	Suspected area	See page
No buzzers sound	Combination meter assembly	ME-48
	Wire harness or connector	-
Seat belt warning buzzer does not sound	CAN communication system	CA-40
	Main body ECU	ME-12
	Front seat inner belt assembly	SB-34
	Wire harness or connector	-
	Combination meter assembly	ME-12

Symptom	Suspected area	See page
Light reminder warning buzzer does not sound	Main body ECU	ME-12
	Headlight dimmer switch assembly	LI-161
	Door courtesy switch	LI-179
	Wire harness or connector	-
	Combination meter assembly	ME-12
Key reminder warning buzzer does not sound	Unlock warning switch assembly	DL-89
	Main body ECU	ME-12
	Combination meter assembly	ME-12
	Wire harness or connector	-

TERMINALS OF ECU

1. COMBINATION METER ASSEMBLY



(a) Disconnect the D1 combination meter assembly connector.
(b) Measure the voltage and resistance of the wire harness side connector.

Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
IG2 (D1-1) - Body ground	B - Body ground	Ignition switch signal	Ignition switch OFF → ON	Below 1 V → 11 to 14 V
ECUB (D1-2) - Body ground	L - Body ground	Battery	Always	11 to 14 V
ET (D1-24) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω

ME

HINT:
If the result is not as specified, there may be a malfunction in the wire harness.

(c) Disconnect the D76 combination meter assembly connector.
(d) Measure the voltage of the wire harness side connector.

Standard voltage:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
FUEL (D1-3) - Body ground	V - Body ground	Fuel level signal	Ignition switch ON	11 to 14 V
ILL- (D1-7) - Body ground	GR - Body ground	Light control rheostat signal	Ignition switch OFF → ON	Pulse generation (See waveform 1)
ILL+ (D1-14) - Body ground	G - Body ground	Illumination signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V
TC (D1-15) - Body ground	Y - Body ground	Tail cancel switch signal	Tail cancel switch OFF → ON	Below 1 V → 11 to 14 V
+S (D1-16) - Body ground	SB - Body ground	Vehicle speed signal (Output)	Driving at approx. 12 mph (20 km/h)	Pulse generation (See waveform 2)
SI (D1-17) - Body ground	P - Body ground	Vehicle Speed signal (Input)	Driving at approx.12 mph (20 km/h)	Pulse generation (See waveform 2)
CANH (D1-20) - Body ground	G - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CANL (D1-21) - Body ground	W - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CHG- (D76-1) - Body ground	SB *3 or L *4 - Body ground	Charge warning light signal	Ignition switch ON Engine start Charge warning light OFF → ON	11 to 14 V → Below 1 V
SW (D76-2) - Body ground	V - Body ground	Brake fluid level warning light signal	Ignition switch ON Brake fluid level warning light ON → OFF	Below 1 V → 11 to 14 V

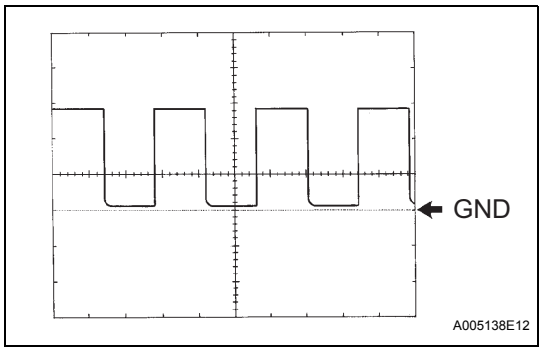
Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
EFI (D76-4) - Body ground	B - Body ground	MIL signal	Ignition switch ON MIL ON → OFF	Below 1 V → 11 to 14 V
FOG (D76-7)*5 - Body ground	R - Body ground	Front FOG signal	Ignition switch ON Front fog light switch OFF → ON	Below 1 V → 11 to 14 V
B (D76-8) - Body ground	LG - Body ground	Turn signal LH signal	Ignition switch ON Turn signal LH indicator light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
PBLT (D76-9) - Body ground	O - Body ground	Seat belt warning light signal (Passenger side)	Ignition switch ON Front passenger seat belt warning light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
WLVL (D76-10)*6 - Body ground	W - Body ground	Washer level warning signal	Ignition switch ON Washer level warning light ON → OFF	Below 1 V → 11 to 14 V
BEAM- (D76-11) - Body ground	P - Body ground	HI-BEAM indicator signal (-)	Headlight dimmer switch (Hi-BEAM) Hi → Lo	Below 1 V → 11 to 14 V
S (D76-12) - Body ground	Y - Body ground	Oil pressure signal	OIL / P warning light ON → OFF	Below 1 V → 11 to 14 V
HEAD (D76-13)*1 - Body ground	L - Body ground	HEAD light indicator signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V
BEAM+ (D76-14) - Body ground	GR - Body ground	HI-BEAM indicator signal (+)	BEAM indicator light OFF → ON	Below 1 V → 11 to 14 V
B (D76-15) - Body ground	BR - Body ground	Turn signal RH signal	Turn signal RH indicator light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
IND (D76-16)*2 - Body ground	G - Body ground	Taillight indicator signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V
RLCY (D76-20) - Body ground	G - Body ground	Rear door courtesy switch signal (LH)	Rear door (LH) CLOSED→ OPEN	11 to 14 V→Below 1 V
RRCY (D76-21) - Body ground	L - Body ground	Rear door courtesy switch signal (RH)	Rear door (RH) CLOSED→ OPEN	11 to 14 V→Below 1 V
JB ECU (D76-22) - Body ground	Y - Body ground	Rear door courtesy switch signal (LH or RH)	Rear door (LH or RH) CLOSED→ OPEN	11 to 14 V→Below 1 V

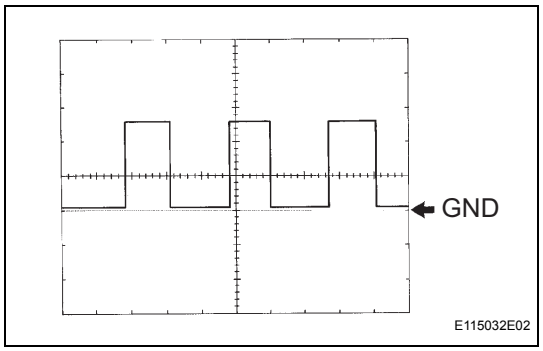
ME

HINT:
If the result is not as specified, the combination meter assembly may be malfunctioning
*1: U.S.A. only
*2: Canada only
*3: w/ Daytime running light
*4: w/o Daytime running light
*5: w/ Front fog light
*6: w/ Washer level warning light

(1) Waveform 1: Using an oscilloscope

Terminal Connections	ILL- (D1-7) - Body Ground
Tool Setting	5V / DIV, 50 ms / DIV
Condition	Ignition switch ON





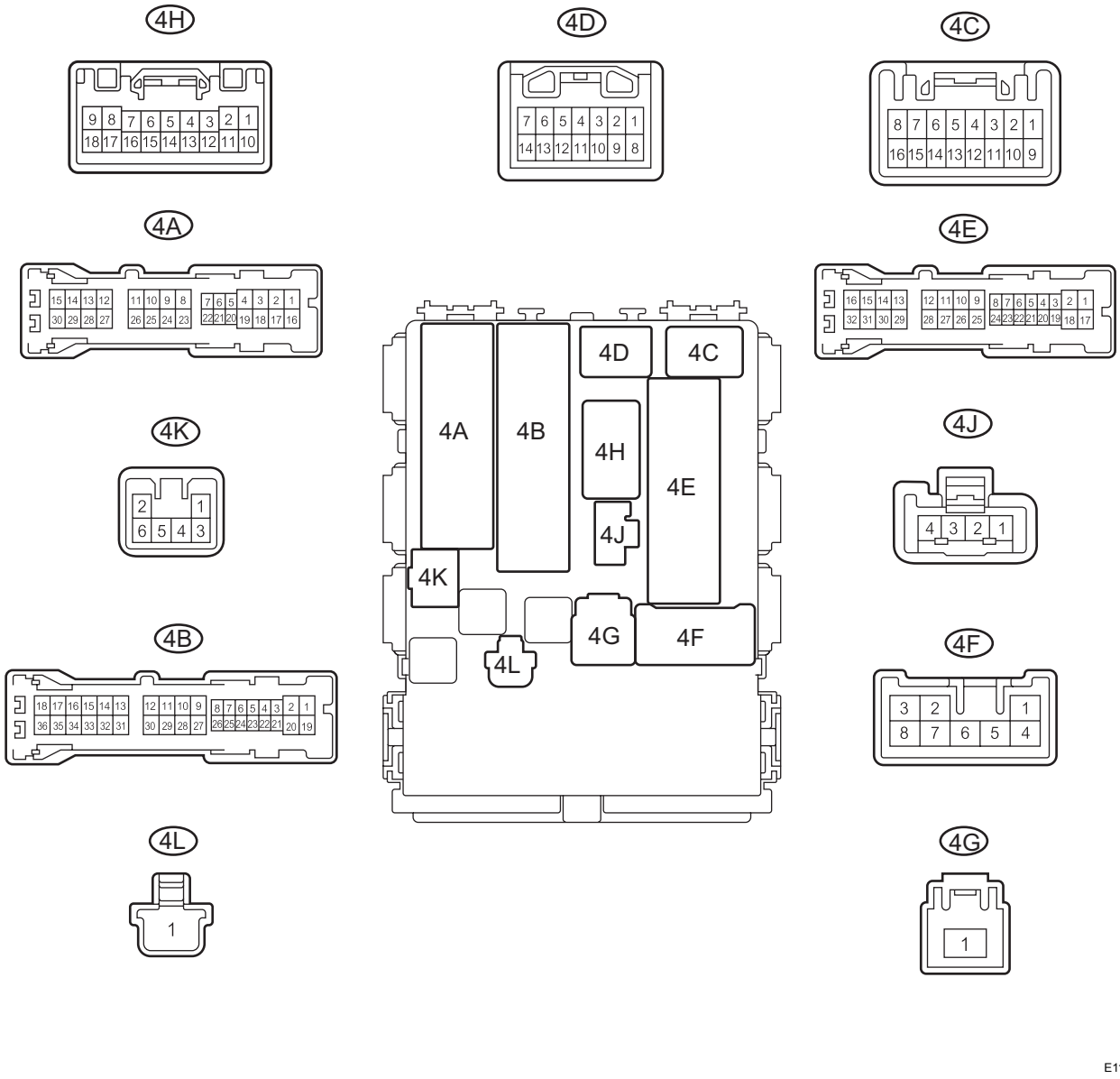
(2) Waveform 2: Using an oscilloscope

Terminal Connections	+S (D1-16) - Body Ground SI (D1-17) - Body Ground
Tool Setting	5V / DIV, 20ms / DIV
Condition	Driving at approximately 12mph (20km/h)

HINT:
As the vehicle speed increases, the cycle of the signal waveform narrows.

2. CHECK MAIN BODY ECU

Main Body ECU (Rear View):

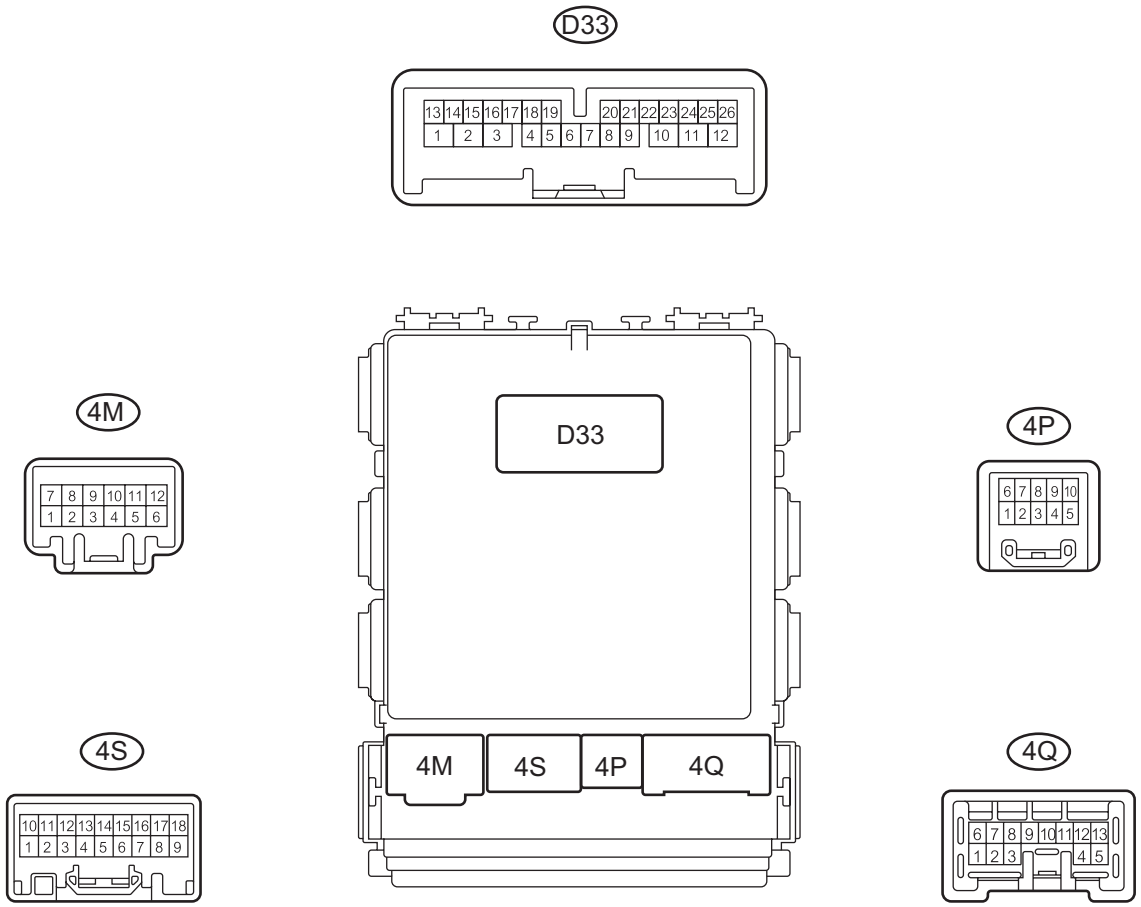


Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
RRCY (4A-5) - GND1 (4E-17)	G - W-B	Rear door courtesy switch signal (LH)	Rear door (Driver side) CLOSED → OPEN	11 to 14 V → Below 1 V

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
LGCY (4A-7) - GND1 (4E-17)	SB - W-B	Back door courtesy switch signal	Back door CLOSED → OPEN	11 to 14 V → Below 1 V
RRCY (4A-20) - GND1 (4E-17)	L - W-B	Rear door courtesy switch signal (RH)	Rear door (Front passenger side) CLOSED → OPEN	11 to 14 V → Below 1 V
DCTY (4A-21) - GND1 (4E-17)	R - W-B	Front door courtesy switch signal (Driver side)	Driver door CLOSED → OPEN	11 to 14 V → Below 1 V
PCTY (4A-24) - GND1 (4E-17)	L - W-B	Front door courtesy switch signal (Passenger side)	Front passenger door CLOSED → OPEN	11 to 14 V → Below 1 V
PKB (4C-2) - GND1 (4E-17)	Y - W-B	Parking brake signal	Parking brake warning light ON → OFF	Below 1 V → 11 to 14 V
KSW (4D-7) - GND1 (4E-17)	Y - W-B	Key unlock switch condition signal	Key inserted → Removed	Below 1 V → 11 to 14 V
GND1 (4E-17) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

Main Body ECU (Front View):



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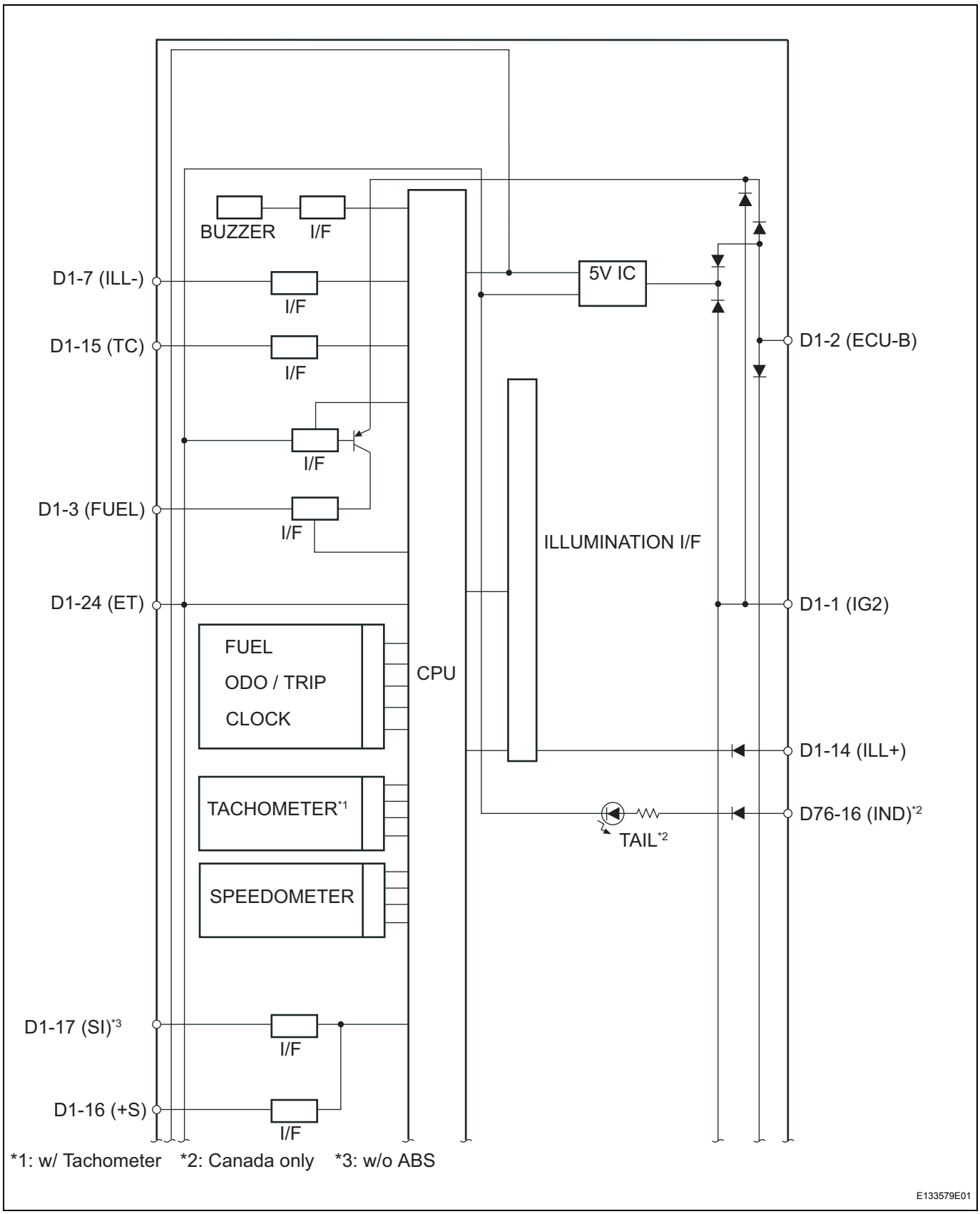
Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
CANL (D33-22) - Body ground	W - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CANH (D33-23) - Body ground	R - Body ground	CAN communication line	Ignition switch ON	Pulse generation

3. COMBINATION METER INTERNAL CIRCUIT



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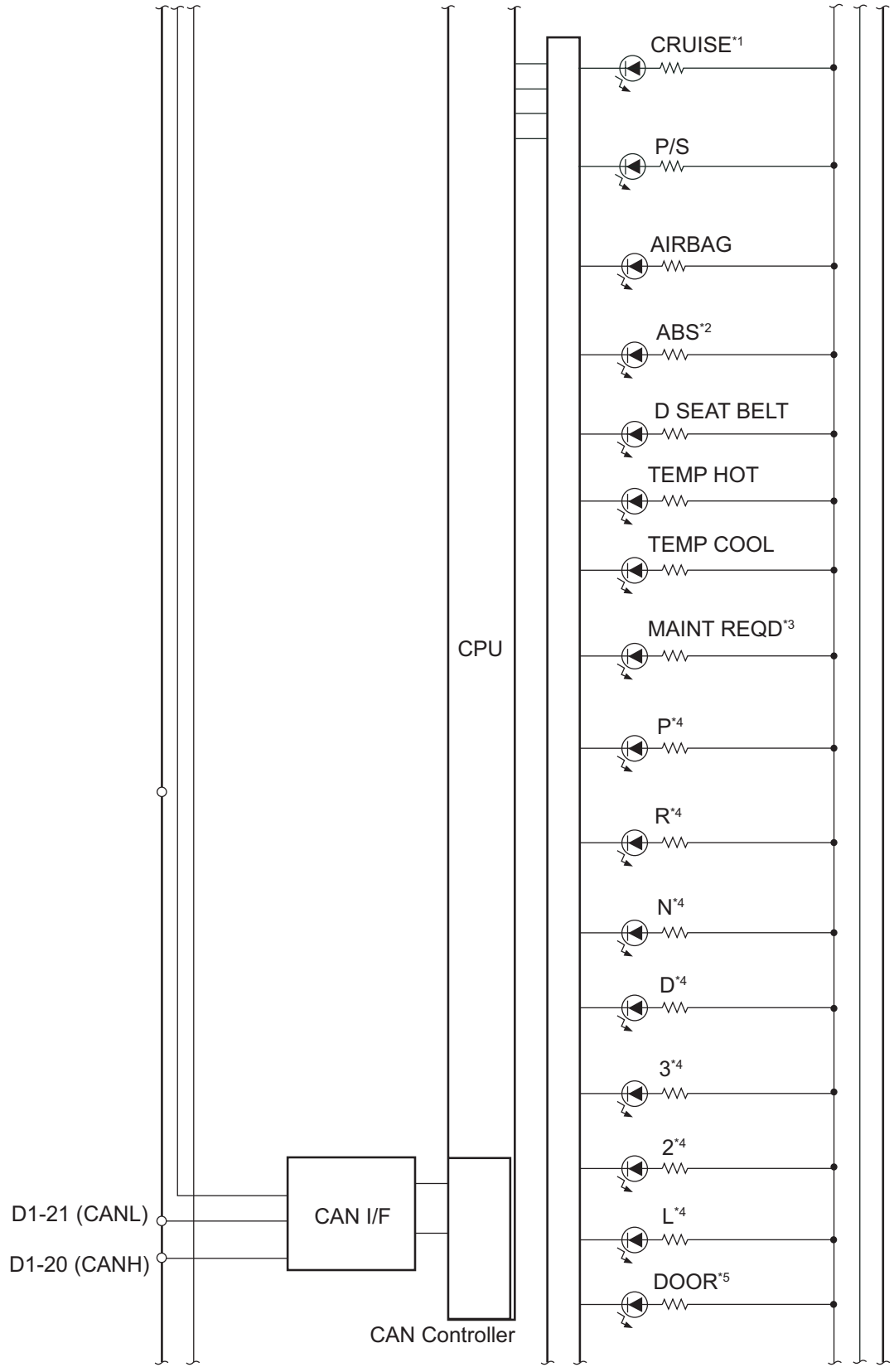

*1: w/ Cruise Control *3: USA only *5: w/o Thachometer

*2: w/ ABS *4: For A/T

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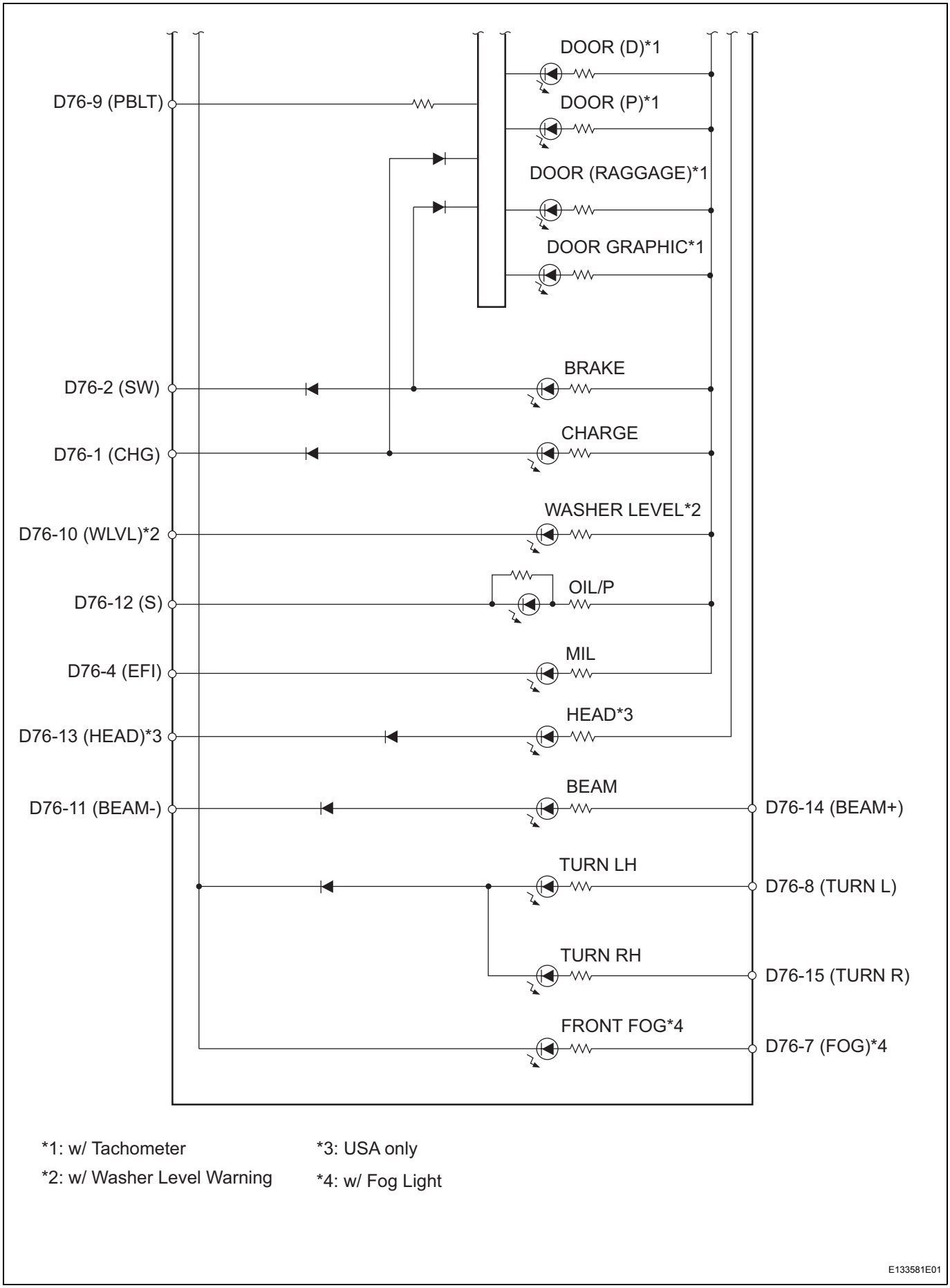


*1: w/ Tachometer
*2: w/ Washer Level Warning
*3: USA only
*4: w/ Fog Light

E133581E01

Connectors

Terminal No.		Wire Harness Side
D1	1	Ignition Switch
	2	Battery
	3	Fuel Sender Gauge Assembly
	7	Light Control Rheostat
	14	Taillight Relay
	15	Light Control Rheostat
	16	ECM, Power Steering ECU
	17	Speedometer Sensor
	20	CAN Communication Line
	21	CAN Communication Line
	24	Body Ground
D76	1	Generator (Alternator)
	2	Brake Fluid Level Warning Switch
	4	ECM
	7	Front Fog Light Relay
	8	Turn Signal Flasher Relay
	9	Passenger Seat Belt Warning Light
	10	Washer Level Warning Switch
	11	Headlight Dimmer Switch
	12	Engine Oil Pressure Switch
	13	Headlight
	14	Headlight Dimmer Switch
	15	Turn Signal Flasher Relay
	16	Taillight Relay

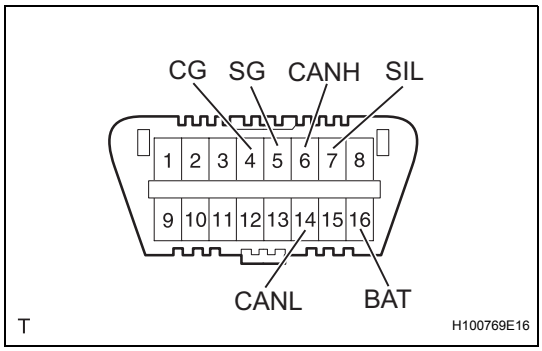
DIAGNOSIS SYSTEM

1. DESCRIPTION

(a) Meter and gauge system data and the Diagnostic Trouble Codes (DTCs) can be read through the Data Link Connector 3 (DLC3) of the vehicle. When the system seems to be malfunctioning, use an intelligent tester with the CAN VIM to check for malfunctions and perform troubleshooting.

2. CHECK DLC3

(a) The ECU uses ISO 15765-4 for communication. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 15765-4 format.



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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
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V
CANH (6) - CANL (14)	CAN bus line	Ignition switch OFF*	54 to 69 Ω
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch OFF*	200 Ω or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Ignition switch OFF*	200 Ω or higher
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch OFF*	6 kΩ or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Ignition switch OFF*	6 kΩ or higher

NOTICE:

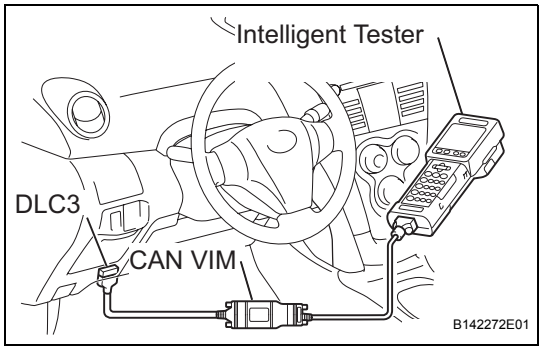
***: Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors.**

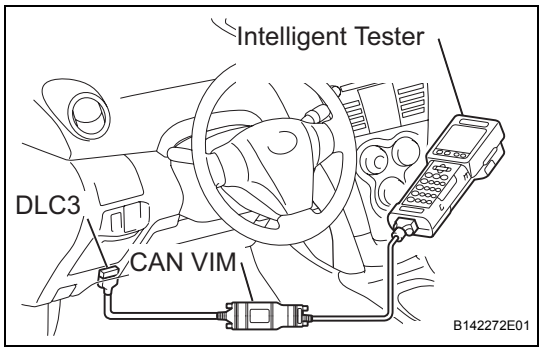
If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.

HINT:

Connect the cable of the intelligent tester to the CAN VIM, connect the CAN VIM to the DLC3, turn the ignition switch ON and attempt to use the tester. If the display indicates that a communication error has occurred, there is a problem either with the vehicle or with the tester.

- If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.
- If communication is still not possible when the tester is connected to another vehicle, the problem is probably in the tester itself. Consult the Service Department listed in the tester's instruction manual.





DTC CHECK / CLEAR

1. DTC CHECK

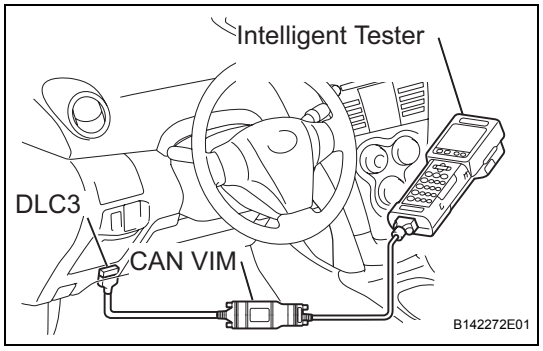
(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON.
(c) Turn the intelligent tester ON.
(d) Select the following menu items: DIAGNOSIS / OBD/MOBD / METER / DTC INFO / CURRENT CODES.
(e) Check the DTC(s) and freeze frame data, and then write them down.
(f) See page ME-23 to check the details of the DTC(s).

2. CLEAR DTC (Using an intelligent tester)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON.
(c) Turn the tester ON.
(d) Select the following menu items: DIAGNOSIS / OBD/MOBD / METER / DTC INFO / CLEAR CODES.
(e) Press the YES button to clear the DTC(s).

3. CLEAR THE DTC (Without using an intelligent tester)

(a) Perform either one of the following operations.
(1) Disconnect the negative battery cable for more than 1 minute.
(2) Remove the ECU-B fuse from the engine room relay block located inside the engine compartment for more than 1 minute.



DATA LIST / ACTIVE TEST

1. READ DATA LIST

(a) Connect the intelligent tester with CAN VIM to the DLC3.
HINT:
Using the intelligent tester's DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.
(b) Turn the ignition switch ON.
(c) Read the Data List according to the prompts displayed on the tester.

METER

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
+B VOLTAGE	Battery voltage Min=0, Max=255, 1LSB=1	10V: 119 / 10.5V: 126 / 11V: 132 / 12V: 145 / 13V: 157 / 14V: 170	-
ODO/TRIP SW	ODO/TRIP change switch/ ON or OFF	ON: Switch is pushed OFF: Switch is released	-
TAIL CANCEL SW	Taillight cancel switch/ ON or OFF	ON: Taillight cancel switch is ON OFF: Taillight cancel switch is OFF	-
TAIL RELAY SW	Taillight relay switch/ ON or OFF	ON: Taillight relay switch is ON OFF: Taillight relay switch is OFF	-

ME

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
P-BELT BUCKL SW	Front passenger seat belt buckle switch/ ON or OFF	ON: Front passenger seat belt is fastened OFF: Front passenger seat belt is unfastened	-
TIMER SW METER	Timer switch on combination meter/ ON or OFF	ON: Timer switch is ON OFF: Timer switch is OFF	-
SPEED METER	Vehicle speed / Min.: 0 km/h(0mph),Max.: 255km/h(158mph)	Approximately same as actual vehicle speed (When vehicle is driven)	-
TACHO METER(*1)	Engine speed / Min.: 0 rpm, Max.: 12,750 rpm	Approximately same as actual engine speed (When engine is running)	-
COOLANT TEMP	Engine coolant temperature / Min.: 0°C, Max.: 127.5°C	After warming up: 75 to 105°C(167 to 221°F)	-
FUEL GAUGE (A/D)	Fuel input signal / Min.: 0, Max.: 255	Fuel receiver gauge segments No.1 to No.8 illuminate: 14 to 34 No.1 to No.6 (No.7) illuminate: 77 to 109 No.1 to No.4 (No,5) illuminate: 135 to 172 No.1 and No.2 illuminate: 175 to 188 No.1 flashes: 194 to 200	-
OIL MAINTENANCE(*2)	Integrated value for Oil Maintenance / Min.: 0 mile, Max.: 25500 mile	Total accumulated vehicle travel distance for oil maintenance since last reset	-
RHEOSTAT (A/D)	Rheostat value / Min.: 0, Max.: 255	Light control rheostat switch is Dark(0)→Bright(255)	-

*1: w/ Tachometer
*2: U.S.A. only

2. PERFORM ACTIVE TEST

HINT:
Performing the intelligent tester's Active Test allows relays, VSV, actuators and other items to be operated without removing any parts. Performing the Active Test early in troubleshooting is one way to save time. The Data List can be displayed during the Active Test.

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON.
(c) Perform the Active Test according to the prompts displayed on the tester.

METER

Item	Test Details	Diagnostic Note
SPEED METER	0 / 40 / 80 / 120 mph 0 / 40 / 80 / 120 / 160 / 200 km/h	-
TACHOMETER(*1)	0rpm / 1,000rpm / 2,000rpm / 3,000rpm / 4,000rpm / 5,000rpm / 6,000rpm / 7,000rpm	-
FUEL GAUGE	EMPTY, 1/2, FULL	-
COOLANT TEMP	LOW / NORMAL / HIGH	-
METER DISPLAY1	All / 0 / 1 / 2 / 3 / 4 / 5 / 6	-
METER DISPLAY2	7 / 8 / 9	-
SRS WARN	Airbag warning light OFF / ON	-

Item	Test Details	Diagnostic Note
D-BELT REMIND	Driver seat belt warning light OFF / ON	-
P-BELT REMIND	Front passenger seat belt warning light OFF / ON	-
DOORS ALL OPEN	Door indicator light OFF / ON	-
ABS WARN (*2)	ABS warning light OFF / ON	-
BRAKE WARN	Brake warning light OFF / ON	-
COOLANT HOT	Engine coolant temperature warning light OFF / ON	-
COOLANT COOL	Engine coolant temperature indicator light (COOL) OFF / ON	-
EPS INDIC	EPS indicator ON / OFF	-
OIL MAINTENANCE (*3)	Oil maintenance indicator OFF / ON	-

*1: w/ Tachometer
*2: w/ABS
*3: U.S.A. only

DIAGNOSTIC TROUBLE CODE CHART

DTC No.	Detection Item	See page
U0100	Lost Communication with ECM/PCM "A"	ME-29
U0129	Lost Communication with Skid Control ECU	ME-31

ON-VEHICLE INSPECTION

1. INSPECT SPEEDOMETER

(a) Check the operation.

(1) Using a speedometer tester, inspect the speedometer and confirm that the speedometer readings are within the acceptable range. Also check the odometer operation.

Reference:

km/h (Canada)

Standard Indication	Acceptable Range
20 km/h	17.5 to 21.5 km/h
40 km/h	38 to 42 km/h
60 km/h	58 to 63 km/h
80 km/h	78 to 84 km/h
100 km/h	98.5 to 104.5 km/h
120 km/h	119 to 125 km/h
140 km/h	139 to 146 km/h
160 km/h	159 to 167 km/h
180 km/h	179 to 188 km/h
200 km/h	199 to 209 km/h

mph (U.S.A.)

Standard Indication	Acceptable Range
20 mph	18 to 21 mph
40 mph	38.5 to 42 mph
60 mph	59 to 63 mph
80 mph	79.5 to 84 mph
100 mph	100 to 105 mph
120 mph	121 to 126.5 mph

NOTICE:

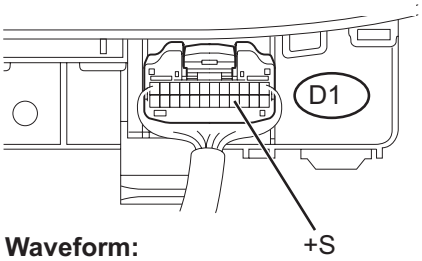
Tire wear and excessively high or low tire pressure affect speedometer indications.

(2) Check the deflection of the speedometer indicator.

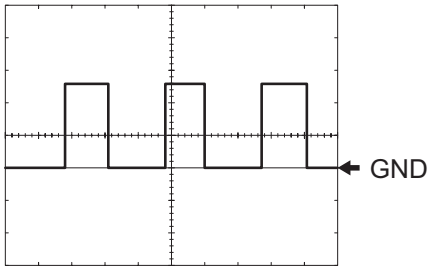
Reference:

Below 0.3 mph (0.5 km/h)

Combination Meter Assembly Connector:



Waveform:



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2. INSPECT SPEEDOMETER SENSOR

(a) Check the output signal waveform.

(1) Remove the combination meter assembly, but do not disconnect the connector.

(2) Connect an oscilloscope to terminals D1 - 16 and to the body ground.

(3) Start the engine.

(4) Check the signal waveform according to the condition(s) in the table below.

Item	Contents
Terminal Connection	+S (D1-16) and Body Ground
Tool Setting	5V / DIV, 20ms / DIV
Condition	Driving at approximately 12mph (20km / h)

OK:

As shown in the illustration.

NOTICE:

Waveform is indicated as the vehicle speed increases, the cycle of the signal waveform narrows.

(5) Reinstall the combination meter assembly.

3. INSPECT TACHOMETER (w/ Tachometer)

(a) Check the operation.

(1) Connect the intelligent tester with CAN VIM to the DLC3.

(2) Turn the ignition switch ON and turn the tester ON.

(3) Select the item below from the Data List and read the value displayed on the intelligent tester.

METER

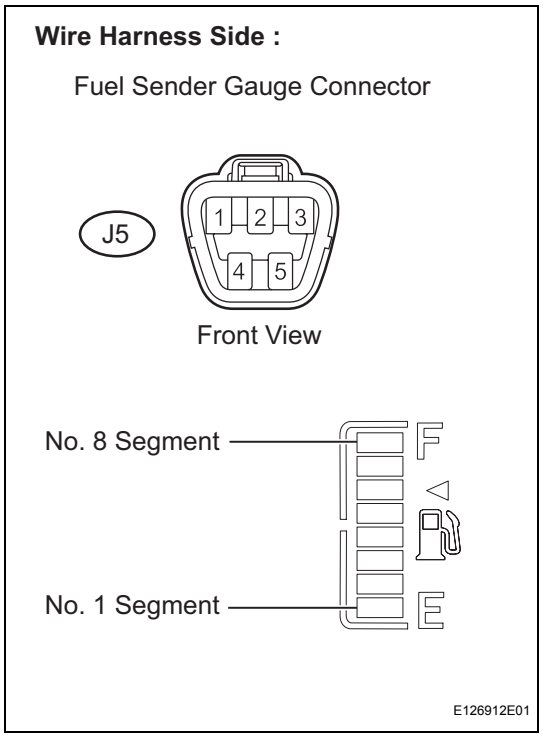
Item	Measurement Item/ Range(Display)	Normal Condition	Diagnostic Note
TACHO METER	Engine speed/Min.: 0 rpm, Max.:12,750 rpm	Approximately same as actual engine speed (When engine is running)	-

(4) Compare the engine speed displayed on the tester with the tachometer reading.

Reference

Standard Indication (r/min)	Acceptable Range [Data in ( ) are for reference]
700 r/min	630 to 770 r/min
1,000 r/min	(900 to 1,100 r/min)
2,000 r/min	(1,850 to 2,150 r/min)
3,000 r/min	2,800 to 3,200 r/min
4,000 r/min	(3,800 to 4,200 r/min)
5,000 r/min	4,800 to 5,200 r/min
6,000 r/min	(5,750 to 6,250 r/min)
7,000 r/min	(6,700 to 7,300 r/min)

ME



4. INSPECT FUEL RECEIVER GAUGE

(a) Disconnect the J5 fuel sender gauge connector.

(b) Check the fuel receiver gauge operation when the ignition switch is turned to the ON position.

OK:

No. 1 segment flashes.

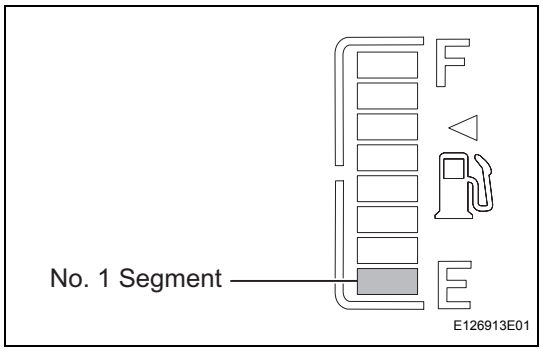
(c) Connect terminals 2 and 3 on the wire harness side connector of the fuel sender gauge.

(d) Check the fuel receiver gauge operation when the ignition switch is turned from OFF to ON.

OK:

All segments, from No. 1 to No. 8, illuminate.

(e) Reconnect the fuel sender gauge connector.



5. INSPECT FUEL LEVEL WARNING LIGHT

(a) Turn the ignition switch to the ON position, and check that the receiver gauge No. 1 segment flashes when the fuel volume is less than 6.3 liters (less than 15 % of the total fuel tank capacity).

OK

Fuel Volume	Flashing Speed (Interval)
1.6 gal (6.3 liters) (Less than 15 % of total fuel tank capacity)	Flashes slowly (1.2 seconds)
1.1 gal (4.2 liters) (Less than 10 % of total fuel tank capacity)	Flashes quickly (0.6 seconds)

6. INSPECT ENGINE OIL PRESSURE WARNING LIGHT

(a) Disconnect the engine oil pressure switch connector.

(b) Turn the ignition switch to the ON position.

(c) Ground the terminal of the wire harness side connector, then check the engine oil pressure warning light.

OK:

Engine oil pressure warning light illuminates.

(d) Reconnect the engine oil pressure switch connector.

7. INSPECT BRAKE WARNING LIGHT

(a) Inspect the parking brake warning light.

(1) Disconnect the parking brake switch connector.

(2) Turn the ignition switch to the ON position.

ME

(3) Ground the terminal of the wire harness side connector, then check the parking brake warning light.
OK:
Brake warning light illuminates.
(4) Reconnect the parking brake switch connector.

(b) Inspect the brake fluid level warning light.
(1) Disconnect the brake fluid level warning switch connector.
(2) Turn the ignition switch to the ON position.
(3) Connect a terminal to the other terminal of the wire harness side connector, then check the brake fluid level warning switch.
OK:
Brake warning light illuminates.
(4) Reconnect the brake fluid level warning switch connector.

8. INSPECT BRAKE FLUID LEVEL WARNING SWITCH

(a) Remove the reservoir tank cap and strainer.
(b) Disconnect the brake fluid level warning switch connector.
(c) Measure the resistance between the terminals.
Standard resistance:
Float inside reservoir tank is in high position (switch OFF): 10 k Ω or higher
(d) Use a syphon or a similar tool to drain fluid out of the reservoir tank.
(e) Measure the resistance between the terminals.
Standard resistance:
Float inside reservoir tank is in low position (switch ON): Below 1 Ω
(f) Pour the fluid back into the reservoir tank.
(g) Reconnect the brake fluid level warning switch connector.
(h) Reinstall the reservoir tank cap and strainer.

9. INSPECT WINDOW WASHER FLUID WARNING LIGHT

(a) Disconnect the connector from the washer level warning switch.
(b) Turn the ignition switch to the ON position.
(c) Ground the terminal of the wire harness side connector, then check the washer level warning light.
OK:
Washer level warning light comes on.

10. INSPECT ENGINE COOLANT TEMPERATURE WARNING LIGHT

(a) Disconnect the engine coolant temperature sensor connector.
(b) Turn the ignition switch to the ON position.

(c) Connect a terminal to the other terminal of the wire harness side connector, then check the engine coolant temperature warning light.
OK:
Engine coolant temperature warning light illuminates.

(d) Reconnect the engine coolant temperature sensor connector.
NOTICE:
DTCs may have been set. Check for DTCs and clear any that have been set.

11. OIL MAINTENANCE INDICATOR RESETTING PROCEDURE (U.S.A. only)

Oil Maintenance Indicator	Condition	Specified State
Blinks	Vehicle has run 4,500 miles since previous setting	Indicator blinks for 15 seconds after ignition switch is turned ON (including 3 seconds for a valve check)
Illuminates	Vehicle has run 5,000 miles since previous setting	Indicator illuminates after ignition switch is turned ON.

(a) Set the window display located inside the combination meter to the Trip A indication.
(b) Turn the ignition switch OFF.
(c) While pressing the ODO/TRIP display change switch (reset switch) (for at least 5 seconds), turn the ignition switch ON.
(d) When the reset procedure has been completed successfully, the MAINT REQD indicator light turns off and the ODO/TRIP meter indicates 0 (zero) and then returns to its regular display.
HINT:
If the reset fails, the MAINT REQD indicator light remains illuminated. Perform the procedure again.

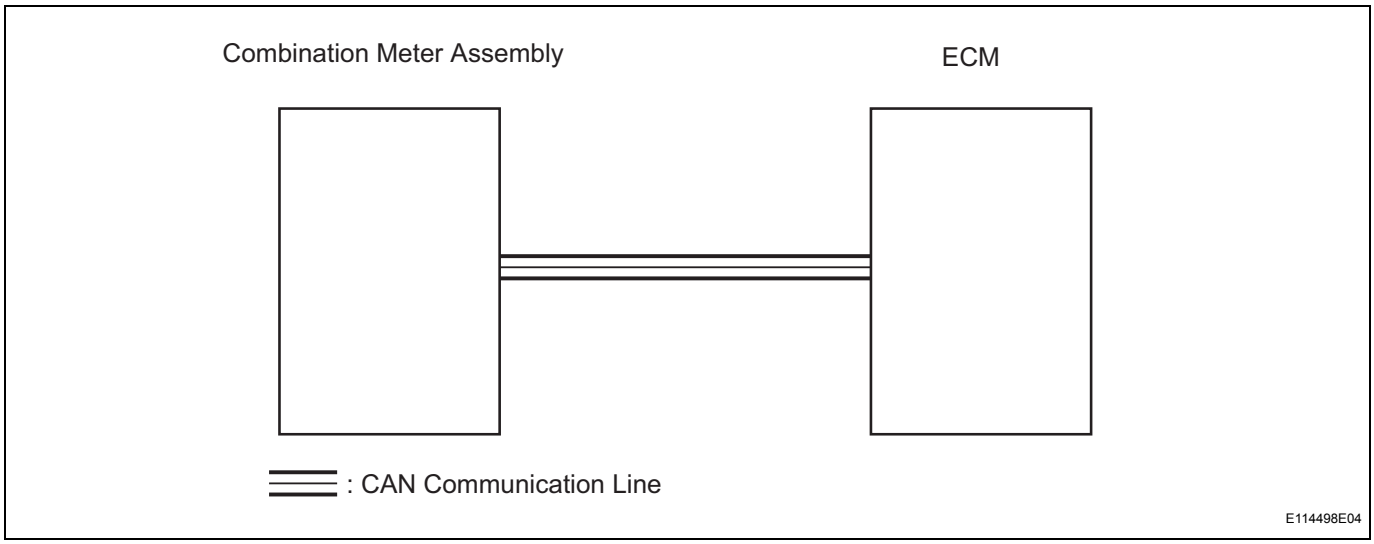
DTC	U0100	Lost Communication with ECM/PCM "A"

DESCRIPTION

The combination meter assembly and the ECM exchange signals through the CAN communication system.

DTC No.	DTC Detecting Conditions	Trouble Areas
U0100	When either of following conditions detected: 1. Vehicle speed 3.1 mph (5 km/h) or more and IG voltage 10.5 V or more 2. No communication with ECM continues for 3 seconds or more (Communication with neither ECM nor skid control ECU for 60 seconds or more)	• CAN communication system • ECM

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Clear the stored DTCs by selecting the following menu items on the tester: DIAGNOSIS/ OBD/MOBD/ METER/ DTC INFO /CLEAR CODES.
(d) Drive the vehicle at more than 3.1 mph (5 km/h) for at least 60 seconds.
(e) Stop the vehicle.
(f) Check for DTCs.

Result

Result	Proceed to
DTC output	A
DTC not output	B

B	SYSTEM IS OK

A

GO TO CAN COMMUNICATION SYSTEM

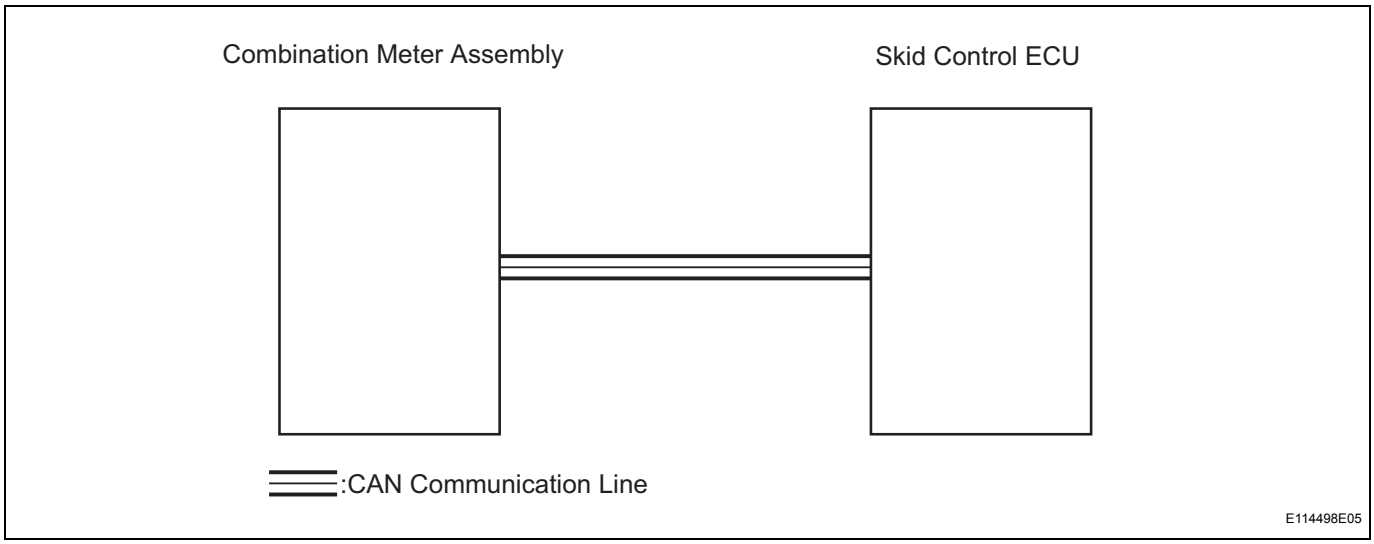
DTC	U0129	Lost Communication with Skid Control ECU

DESCRIPTION

The combination meter assembly receives signals from the skid control ECU through the CAN communication system.

DTC No.	DTC Detecting Conditions	Trouble Areas
U0129	When either of following conditions detected: 1. 15 seconds have elapsed since engine started and IG voltage 10.5 V or more 2. No communication with skid control ECU continues for 3 seconds or more (Communication with neither ECM nor skid control ECU for 60 seconds or more)	• Skid control ECU • CAN communication system

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Clear the stored DTCs by selecting the following menu items on the tester: DIAGNOSIS/ OBD/MOBD/ METER/ DTC INFO /CLEAR CODES.
(d) Start the engine and wait for at least 60 seconds.
(e) Check for DTCs.

Result

Result	Proceed to
DTC output	A
DTC not output	B

B	SYSTEM IS OK

A

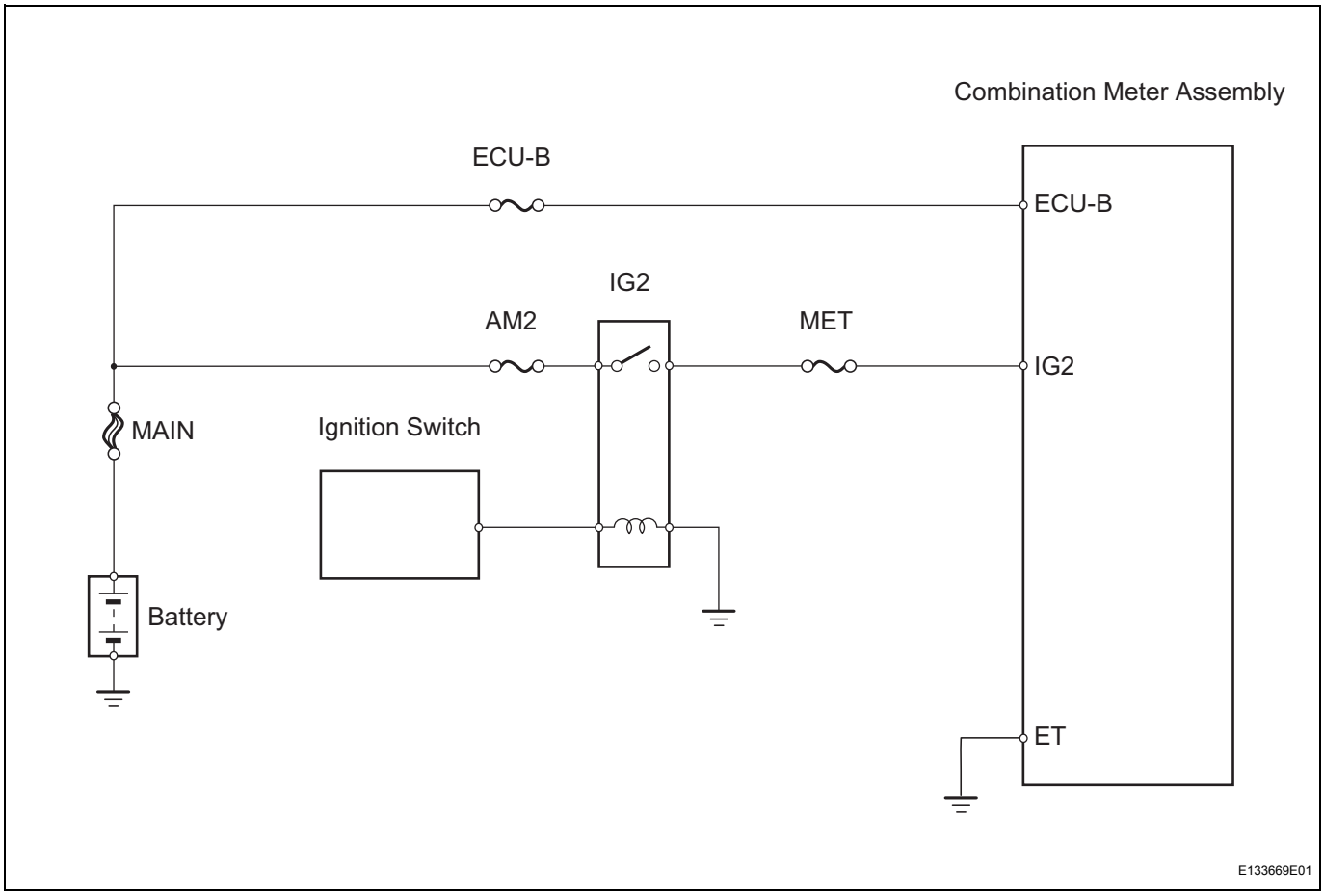
GO TO CAN COMMUNICATION SYSTEM

Entire Combination Meter does not Operate

DESCRIPTION

This circuit provides power to the combination meter assembly.

WIRING DIAGRAM

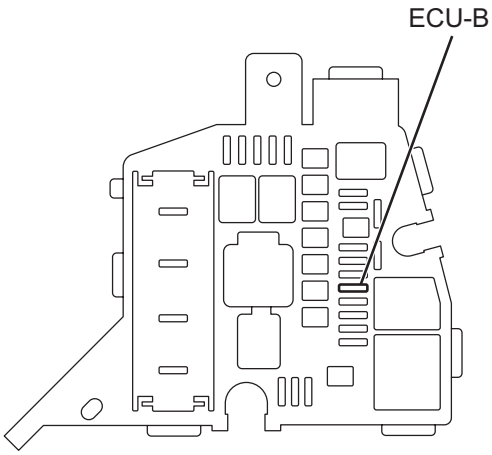


ME

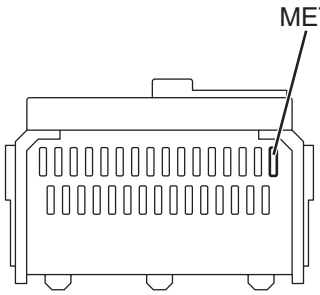
INSPECTION PROCEDURE

1	CHECK FUSE (ECU-B, MET)

Engine Room R/B:



Main Body ECU:



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(a) Remove the ECU-B fuse from the engine room relay block.
(b) Remove the MET fuse from the main body ECU.
(c) Measure the resistance.
Standard Resistance:
Below 1Ω
(d) Reinstall the fuse.

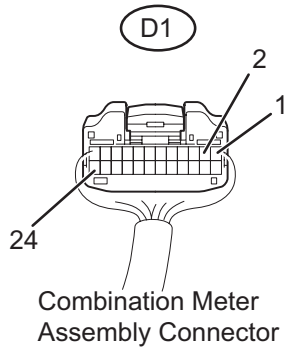
NG → **CHECK SHORT CIRCUIT IN COMPONENTS AND WIRES CONNECTED TO FUSE**

OK

ME

2	INSPECT COMBINATION METER ASSEMBLY

Wire Harness Side:



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(a) Disconnect the D1 combination meter connector.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
ET (D1-24) - Body ground	Always	Below 1 Ω

(c) Measure the voltage.
Standard voltage

Tester Connection	Condition	Specified Condition
IG2 (D1-1) - Body ground	Ignition switch ON	11 to 14V
ECU-B (D1-2) - Body ground	Always	11 to 14V

(d) Reconnect the combination meter connector.

ME

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

Speedometer Malfunction

DESCRIPTION

w/o ABS:

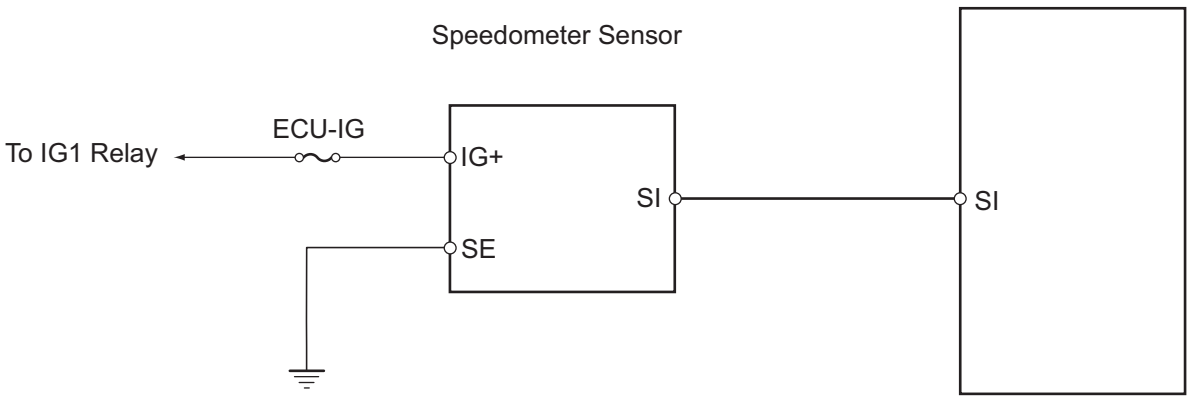
The combination meter assembly controls the speedometer in accordance with vehicle speed signals from the speedometer sensor.

w/ ABS:

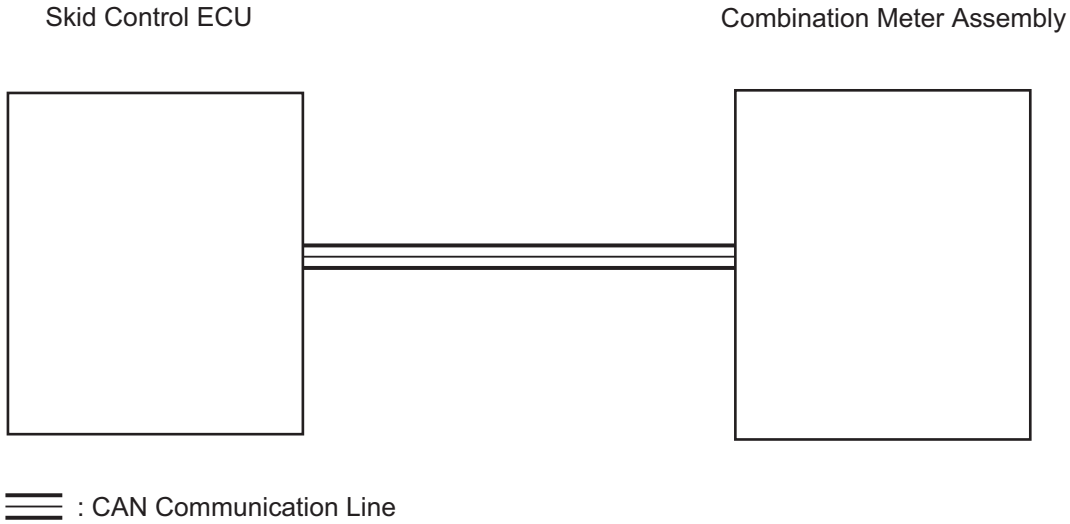
The combination meter assembly controls the speedometer in accordance with vehicle speed signals from the brake actuator through the CAN communication system.

WIRING DIAGRAM

w/o ABS:



w/ ABS:



E133670E01

ME

INSPECTION PROCEDURE

HINT:
If DTC U0129 has been stored, troubleshoot the CAN communication system first.

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (SPEED METER)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus : DIAGNOSIS / METER / ACTIVE TEST.

METER

Item	Test Details	Diagnostic Note
SPEED METER	0 / 40(24) / 80(48) / 120(72) / 160(96) / 200(120) / 240(144) km/h (mph)	-

OK:
Vehicle speed displayed on the tester is approximately the same as that of the speedometer reading.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2	CHECK BRAKE CONTROL SYSTEM

(a) Check the brake control system.
Result

Brake Control System	Proceed to
w/ ABS	A
w/o ABS	B

B → **Go to step 4**

A

3	READ VALUE OF INTELLIGENT TESTER (SPEED METER)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

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

OK:
Vehicle speed displayed on the tester is approximately the same as the actual vehicle speed.

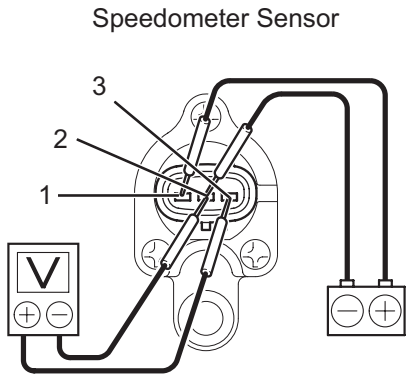
NG → **GO TO BRAKE CONTROL SYSTEM**

OK

REPLACE COMBINATION METER ASSEMBLY

4	INSPECT SPEEDOMETER SENSOR

Component Side:



(a) Remove the speedometer sensor.
(b) Connect the positive (+) lead from the battery to terminal 1 and the negative(-) lead to terminal 2.
(c) Connect the positive (+) lead from the tester to terminal 3 and the negative (-) lead to terminal 2.
(d) Rotate the shaft.
(e) Check that the voltage output between terminals 2 and 3 varies between 0V and 11V.
(f) Reinstall the speedometer sensor.

NG → **REPLACE SPEEDOMETER SENSOR**

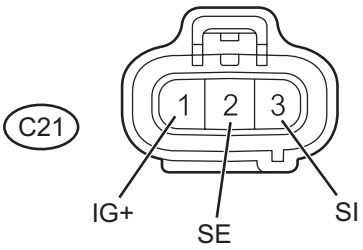
OK

ME

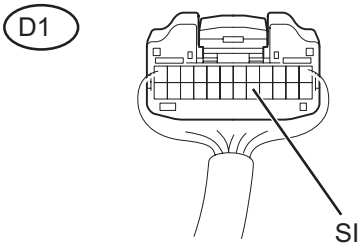
5	CHECK HARNESS AND CONNECTOR (SPEEDOMETER SENSOR - COMBINATION METER ASSEMBLY)

Wire Harness Side:

Speedometer Sensor Connector



Combination Meter Assembly Connector



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(a) Disconnect the D1 combination meter assembly connector.
(b) Disconnect the C21 speedometer sensor connector.
(c) Measure the resistance
Standard resistance

Tester Connection	Specified Condition
D1-17 (SI) - C21-3 (SI)	Below 1 Ω
C21-2 (SE) - Body ground	Below 1 Ω

(d) Reconnect the combination meter assembly connector.
(e) Measure the voltage
Standard voltage

Tester Connection	Condition	Specified Condition
C21-1 (IG+) - Body ground	Ignition switch ON	11 to 14V

(f) Reconnect the combination meter assembly and speedometer sensor connectors.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

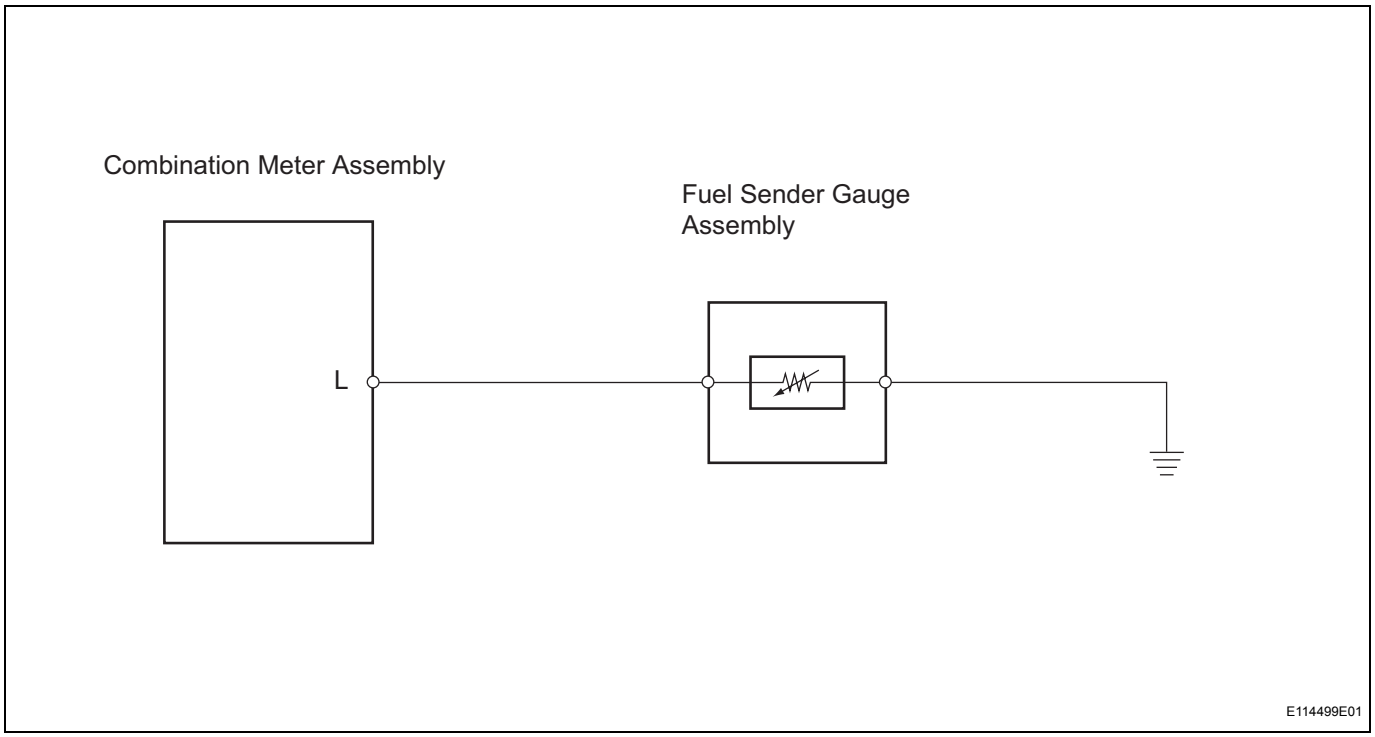
ME

Fuel Gauge Malfunction

DESCRIPTION

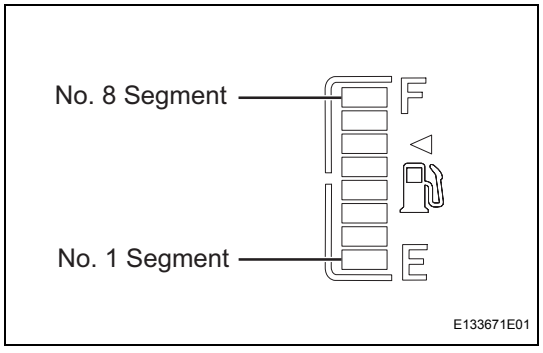
The combination meter assembly controls the fuel receiver gauge in accordance with the resistance of the fuel sender gauge that varies depending on the fuel remaining amount in the fuel tank.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (FUEL GAUGE)



(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST.

METER

Item	Test Details	Diagnostic Note
FUEL GAUGE	EMPTY: Segment No.1 flashes 1/2: Segments No.1 to 4 illuminate FULL: Segments No.1 to 8 illuminate	-

OK:

Fuel receiver gauge segments are illuminated in accordance with the tester instructions.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2 READ VALUE OF INTELLIGENT TESTER (FUEL GAUGE)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

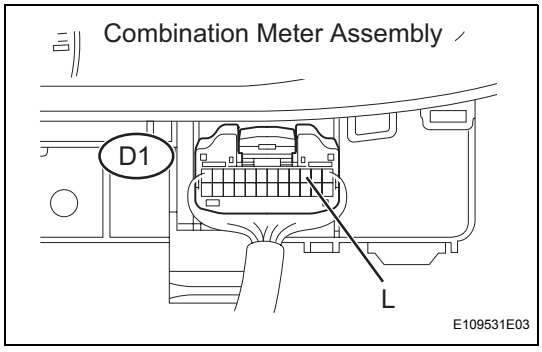
Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
FUEL GAUGE (A/D)	Fuel input signal / Min.: 0, Max.: 255	Fuel receiver gauge segments No.1 to No.8 illuminate: 14 to 34 No.1 to No.6 (No7) illuminate: 77 to 109 No.1 to No.4 (No,5) illuminate: 135 to 172 No.1 and No.2 illuminate: 175 to 188 No.1 flashes: 194 to 200	-

OK:
Fuel input signal displayed on the tester is approximately the same as indication.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

3 CHECK COMBINATION METER ASSEMBLY



(a) Disconnect the J5 fuel sender gauge assembly connector.
(b) Remove the combination meter assembly with its connectors connected.
(c) Measure the voltage.
Standard voltage

Tester Connection	Condition	Specified Condition
D1-3 (L) - Body ground	Ignition switch ON	11 to 14V

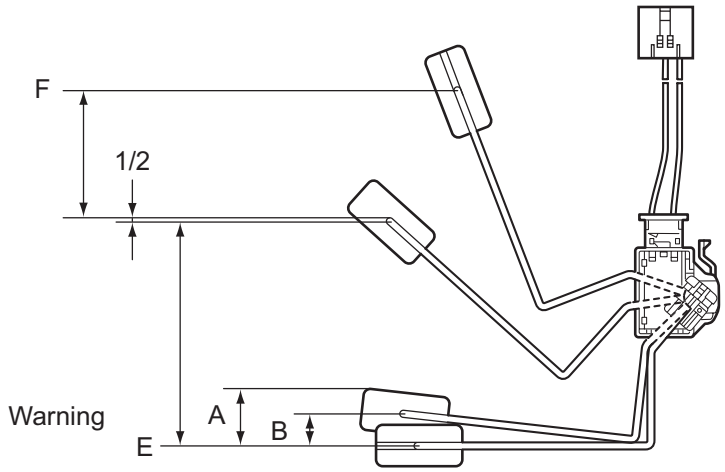
(d) Reconnect the fuel sender gauge assembly connector.
(e) Reinstall the combination meter assembly.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4	INSPECT FUEL SENDER GAUGE ASSEMBLY

(a) Remove the fuel sender gauge assembly.



H

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(b) Check that the float position is between E and F.

(c) Measure the resistance between terminals 2 and 1 of the fuel sender gauge connector.

Standard resistance

Float Level	Float Positioin (mm (in.))	Specified Condition
F	77.3 (3.04) to 79.3 (3.12)	12.0 Ω to 18.0 Ω
1/2	1.6 (0.05)	208.3 Ω
Warning A	34.8 (1.37)	365.2 Ω
Warning B	25.3 (1.00)	388.2 Ω
E	75.0 (2.95) to 77.0 (3.03)	405.0 Ω to 415.0 Ω

(d) Reinstall the fuel sender gauge assembly.

NG → **REPLACE FUEL SENDER GAUGE ASSEMBLY**

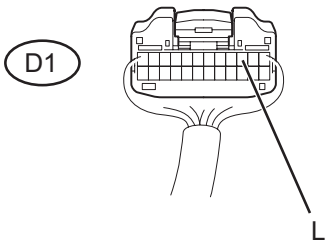
OK

ME

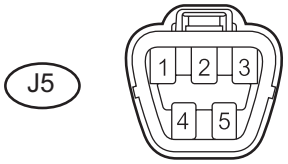
5	CHECK WIRE HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - FUEL SENDER GAUGE ASSEMBLY)

Wire Harness Side:

Combination Meter Assembly Connector



Fuel Sender Gauge Assembly Connector



Front View

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(a) Disconnect the D1combination meter assembly connector.
(b) Disconnect the J5 fuel sender gauge assembly connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D1-3 (L) - J5-2	Below 1Ω
J5-3 - Body ground	Below 1Ω

(d) Reconnect the combination meter assembly and fuel sender gauge assembly connectors.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

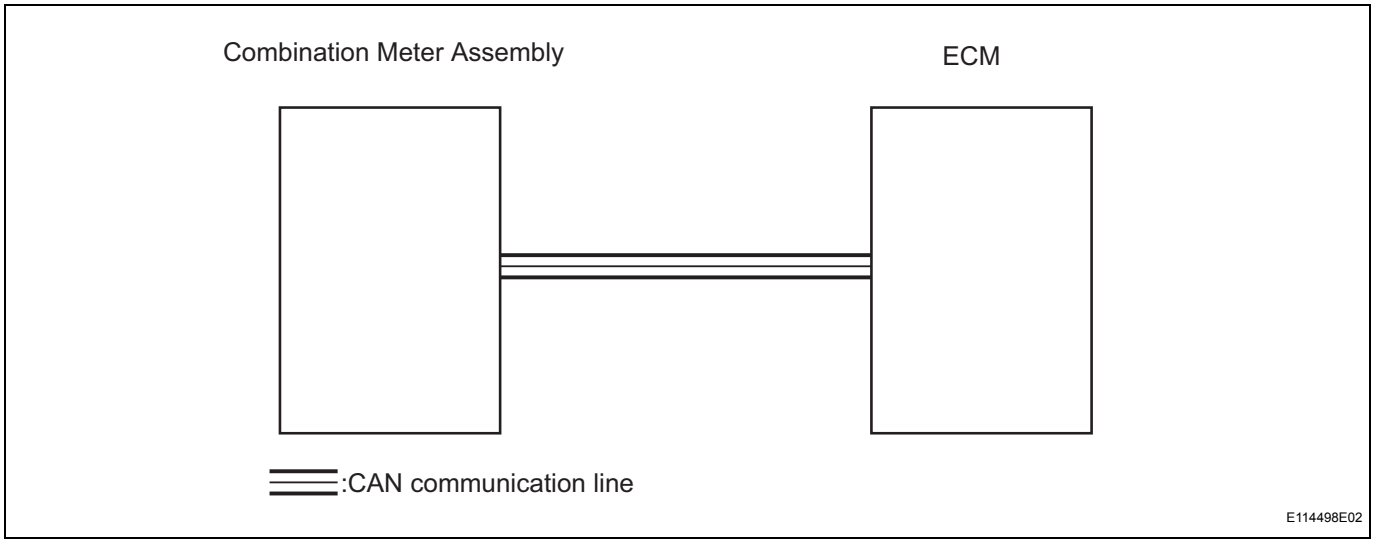
ME

Malfunction in Water Temperature Warning Light

DESCRIPTION

The combination meter assembly controls both the engine coolant temperature warning light and indicator light in accordance with engine coolant temperature signals from the ECM.
The engine coolant temperature indicator light turns off when the engine coolant temperature exceeds 55°C (131°F) and illuminates when the temperature decreases to below 45°C (113°F).
The engine coolant temperature warning light flashes when the engine coolant temperature reaches 117°C (242.6°F) and illuminates when the temperature exceeds 120°C (248°F). When the temperature decreases to 119.5°C (247.1°F) while the warning light is illuminated, the warning light begins to flashing. In addition, when the temperature decreases to below 116.5°C(241.7°F) the warning light turns off.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
- If DTC U0100 has been stored, troubleshoot the CAN communication system first.
- If there is an open or short in the engine coolant temperature sensor circuit, an SFI system DTC is output. If output, perform troubleshooting on the SFI system.

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (COOLANT HOT)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS/ METER/ ACTIVE TEST

METER

Item	Test Details	Diagnostic Note
COOLANT HOT	ON: Engine coolant temperature warning light flashes OFF: Engine coolant temperature warning light turns off	-
COOLANT COOL	ON: Engine coolant temperature indicator light flashes OFF: Engine coolant temperature indicator light turns off	-

Item	Test Details	Diagnostic Note
COOLANT TEMP	HIGH: Engine coolant temperature warning light flashes NORMAL: Engine coolant temperature warning light and indicator light turn off LOW: Engine coolant temperature indicator light illuminates	-

OK:

Both the engine coolant temperature warning light and indicator light are operated in accordance with the tester instructions.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2	READ VALUE OF INTELLIGENT TESTER (COOLANT TEMP)

ME

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
COOLANT TEMP	Engine coolant temperature / Min.: 0°C,Max.: 127.5°C	After warming up: 75 to 105°C (167 to 221°F)	-

HINT:

- If the value is 0°C (32°F), the sensor circuit is open.
- If the value is 127.5°C (262°F), the sensor circuit is shorted.

OK:

Coolant temperature displayed on the tester is between 75°C (167°F) and 105°C (221°F) after warming up.

NG → **GO TO SFI SYSTEM**

OK

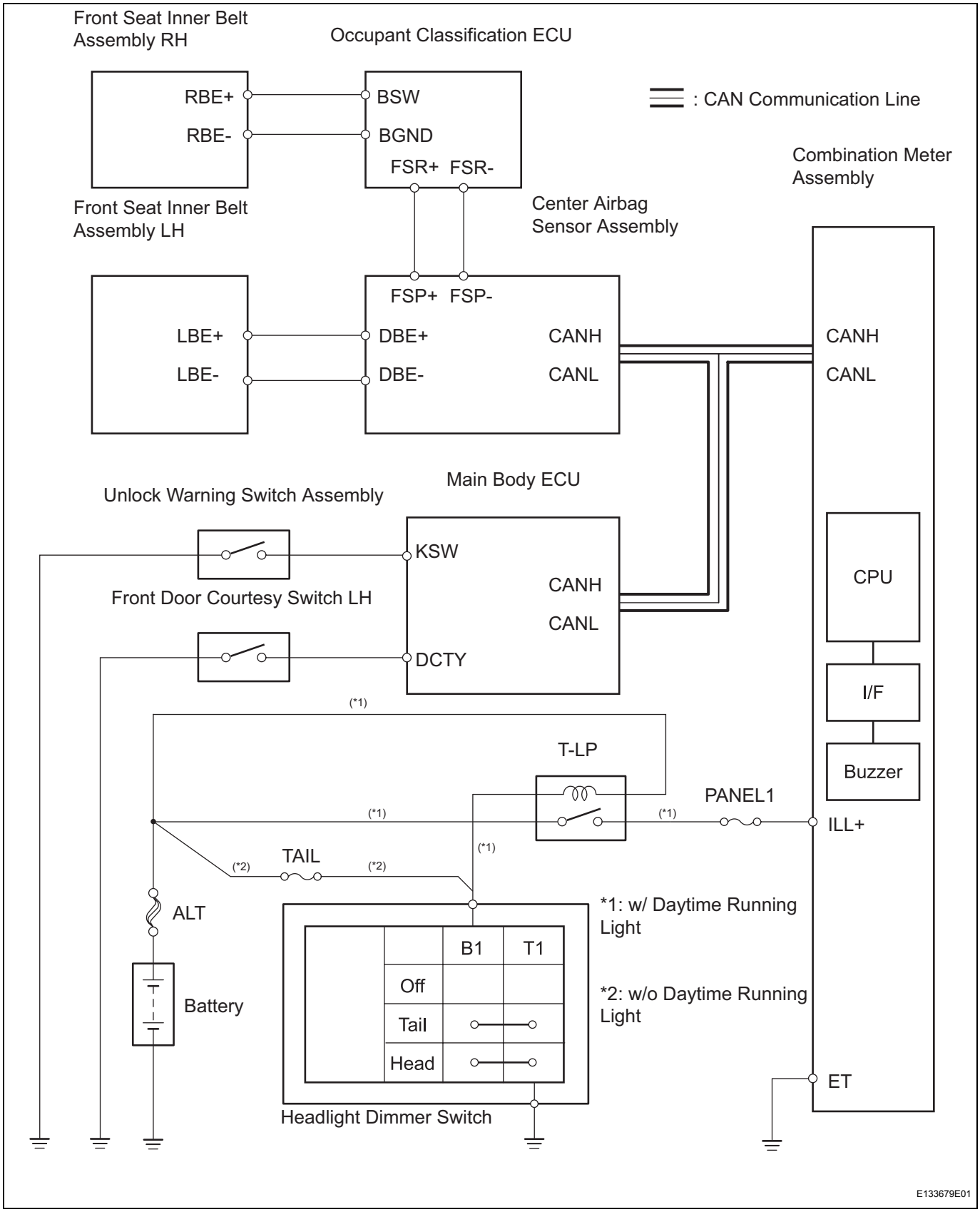
REPLACE COMBINATION METER ASSEMBLY

Warning Buzzer does not Sound

DESCRIPTION

The combination meter assembly controls the buzzers in accordance with signals from the center airbag sensor assembly, the main body ECU and the taillight relay.
HINT:
The main body ECU receives signals from the center airbag sensor assembly and transmits them to the combination meter assembly.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK BUZZER (SEAT BELT, KEY REMINDER, TAILLIGHT REMINDER)

(a) Check that the seat belt, key reminder and taillight reminder warning buzzers sound.

Result

Result	Proceed to
Seat belt warning buzzer does not sound (where equipped with seat belt warning system)	A
Key reminder warning buzzer does not sound (where equipped with key reminder warning system)	B
Taillight reminder warning buzzer does not sound (Meter illuminations normal)	C
No warning buzzers sound	D

HINT:

- Seat belt warning buzzer on: Ignition switch is ON, driver or front passenger seat belt is unfastened, and vehicle speed is 12.4mph (20 km/h) or more.
- Key reminder warning buzzer on: Ignition switch is OFF, key is in ignition key cylinder, and driver side door is open.
- Taillight reminder warning buzzer on: Ignition switch is OFF, taillight relay switch is ON, and driver side door is open.

ME

B → Go to step 5

C → Go to step 11

D → REPLACE COMBINATION METER ASSEMBLY

A

2	CHECK SUPPLEMENTAL RESTRAINT SYSTEM

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG/ DTC INFO.

Result

Result	Proceed to
No SRS DTCs are output	A
SRS DTCs are output	B

B → GO TO SUPPLEMENTAL RESTRAINT SYSTEM

A

3	CHECK OCCUPANT CLASSIFICATION SYSTEM

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / OCCUPANT DETECT /DTC INFO.

Result

Result	Proceed to
No occupant classification system DTCs are output	A
Occupant classification system DTCs are output	B

B → **GO TO OCCUPANT CLASSIFICATION SYSTEM**

A

ME

4	CHECK KEY REMINDER FUNCTION

(a) Ignition switch is OFF.
(b) Key is in ignition key cylinder.
(c) Driver side door is open.

OK:

Key reminder warning buzzer ON.

OK → **REPLACE MAIN BODY ECU**

NG

REPLACE COMBINATION METER ASSEMBLY

5	READ VALUE OF INTELLIGENT TESTER (FRONT DOOR COURTESY SWITCH (DRIVER SIDE))

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

MAIN BODY ECU

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver side door courtesy switch signal / ON or OFF	ON: Driver door is open OFF: Driver door is closed	-

NG → **Go to step 9**

OK

6	READ VALUE OF INTELLIGENT TESTER (UNLOCK WARNING SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

MAIN BODY ECU

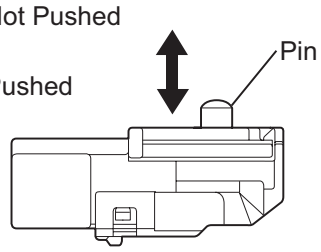
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
KEY UNLK WRN SW	Unlock warning switch signal / ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-

OK → REPLACE COMBINATION METER ASSEMBLY

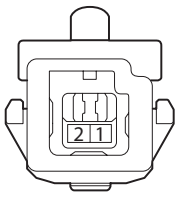
NG

7	INSPECT UNLOCK WARNING SWITCH ASSEMBLY

Component Side:



Unlock Warning Switch Assembly



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(a) Disconnect the D19 unlock warning switch assembly connector.
(b) Remove the unlock warning switch assembly.
(c) Measure the resistance.
Standard resistance

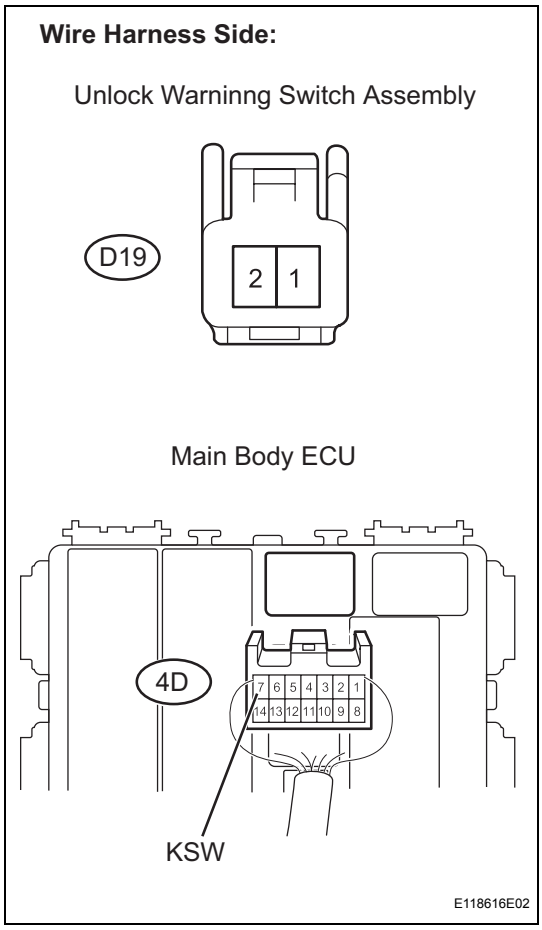
Tester Connection	Condition	Specified Condition
1 - 2	Not pushed	10 kΩ or higher
1 - 2	Pushed	Below 1 Ω

(d) Reconnect the unlock warning switch assembly.

NG → REPLACE UNLOCK WARNING SWITCH ASSEMBLY

OK

8	CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - MAIN BODY ECU)



(a) Disconnect the D19 unlock warning switch connector.
(b) Disconnect the 4D main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
D19-1 - 4D-7 (KSW)	Below 1 Ω
D19-2 - Body ground	Below 1 Ω

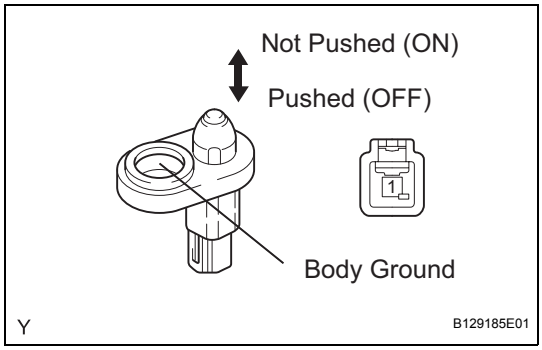
(d) Reconnect the unlock warning switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE MAIN BODY ECU

9	INSPECT FRONT DOOR COURTESY SWITCH (DRIVER SIDE)



(a) Disconnect the J2 front door courtesy switch connector.
(b) Measure the resistance.

Standard resistance

Tester Connection	Condition	Specified Condition
J2-1 - Body ground	Not pushed (ON)	Below 1 Ω
J2-1 - Body ground	Pushed (OFF)	10 kΩ or higher

(c) Reconnect the front door courtesy switch connector.

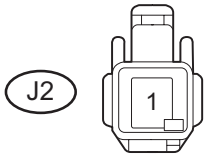
NG → **REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)**

OK

10	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH - MAIN BODY ECU)

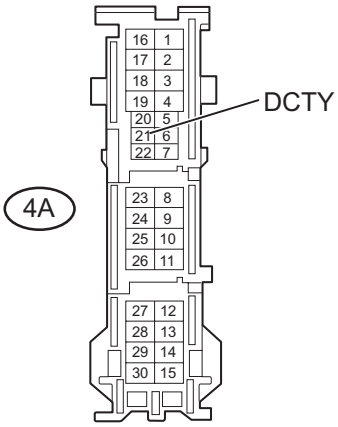
Wire Harness Side:

Front Door Courtesy Light Switch Connector (Driver Side)



Front View

Main Body ECU Connector



Front View

Y

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(a) Disconnect the J2 front door courtesy switch connector.
(b) Disconnect the 4A main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J2-1 - 4A-21 (DCTY)	Below 1 Ω

(d) Reconnect the front door courtesy switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE MAIN BODY ECU

11	READ VALUE OF INTELLIGENT TESTER (FRONT DOOR COURTESY SWITCH)

(a) Connect the intelligent tester with CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

ME

MAIN BODY ECU

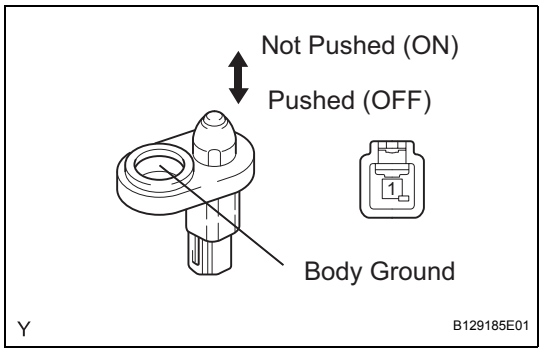
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver door courtesy switch signal / ON or OFF	ON: Driver door is open OFF: Driver door is closed	-

NG → Go to step 12

OK

REPLACE COMBINATION METER ASSEMBLY

12 INSPECT FRONT DOOR COURTESY SWITCH (DRIVER SIDE)



(a) Disconnect the J2 front door courtesy switch assembly connector.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
J2-1 - Body ground	Not pushed (ON)	Below 1 Ω
J2-1 - Body ground	Pushed (OFF)	10kΩ or higher

(c) Reconnect the front door courtesy switch connector.

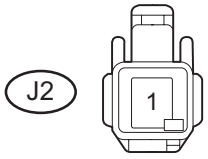
NG → **REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)**

OK

13	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH - MAIN BODY ECU)

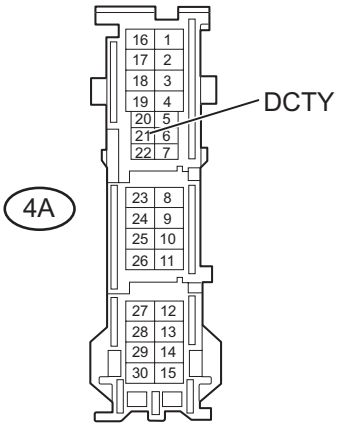
Wire Harness Side:

Front Door Courtesy Switch Connector (Driver Side)



Front View

Main Body ECU Connector



Front View

Y

B112021E08

(a) Disconnect the J2 front door courtesy switch connector.
(b) Disconnect the 4A main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J2-1 - 4A-21 (DCTY)	Below 1 Ω

(d) Reconnect the front door courtesy switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)**

OK

REPLACE MAIN BODY ECU

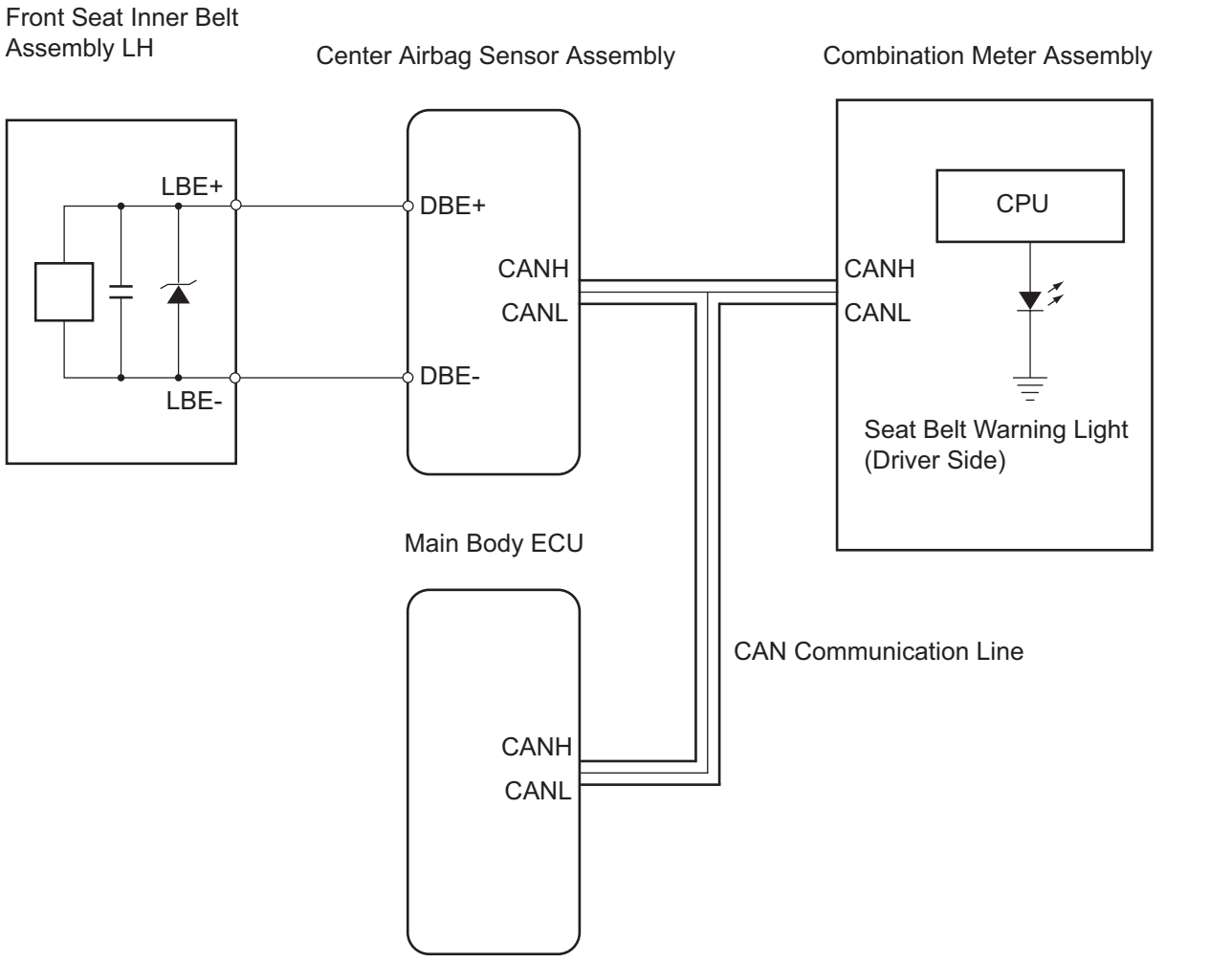
ME

Driver Side Seat Belt Warning Light does not Operate

DESCRIPTION

When the ignition switch is ON, the center airbag sensor assembly communicates the status of the front seat inner belt assembly LH to the main body ECU using the CAN communication line. The main body ECU receives signals from the center airbag sensor assembly and transmits them to the combination meter assembly. When the seat belt is unfastened, the combination meter assembly flashes the driver seat belt warning light in the combination meter assembly. When the seat belt is fastened, the combination meter assembly stops flashing the front driver seat belt warning light.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK SUPPLEMENTAL RESTRAINT SYSTEM

(a) Connect the intelligent tester with the CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.

(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG/ DTC INFO

Result

Result	Proceed to
No SRS DTCs are output	A
SRS DTCs are output	B

B → **GO TO SUPPLEMENTAL RESTRAINT SYSTEM**

A

2 PERFORM ACTIVE TEST BY INTELLIGENT TESTER (D-BELT REMIND)

(a) Connect the intelligent tester with the CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST

Combination Meter Assembly

Item	Test Details	Diagnostic Note
D-BELT REMIND	Front driver seat belt warning light / OFF or ON	Confirm that vehicle is stopped and engine is idling

OK:

Front driver seat belt warning light comes on.

OK → **REPLACE MAIN BODY ECU**

NG

REPLACE COMBINATION METER ASSEMBLY

ME

Front Passenger Side Seat Belt Warning Light Malfunction

DESCRIPTION

Refer to seat belt warning system (See page SB-24).

WIRING DIAGRAM

Refer to seat belt warning system (See page SB-25).

INSPECTION PROCEDURE

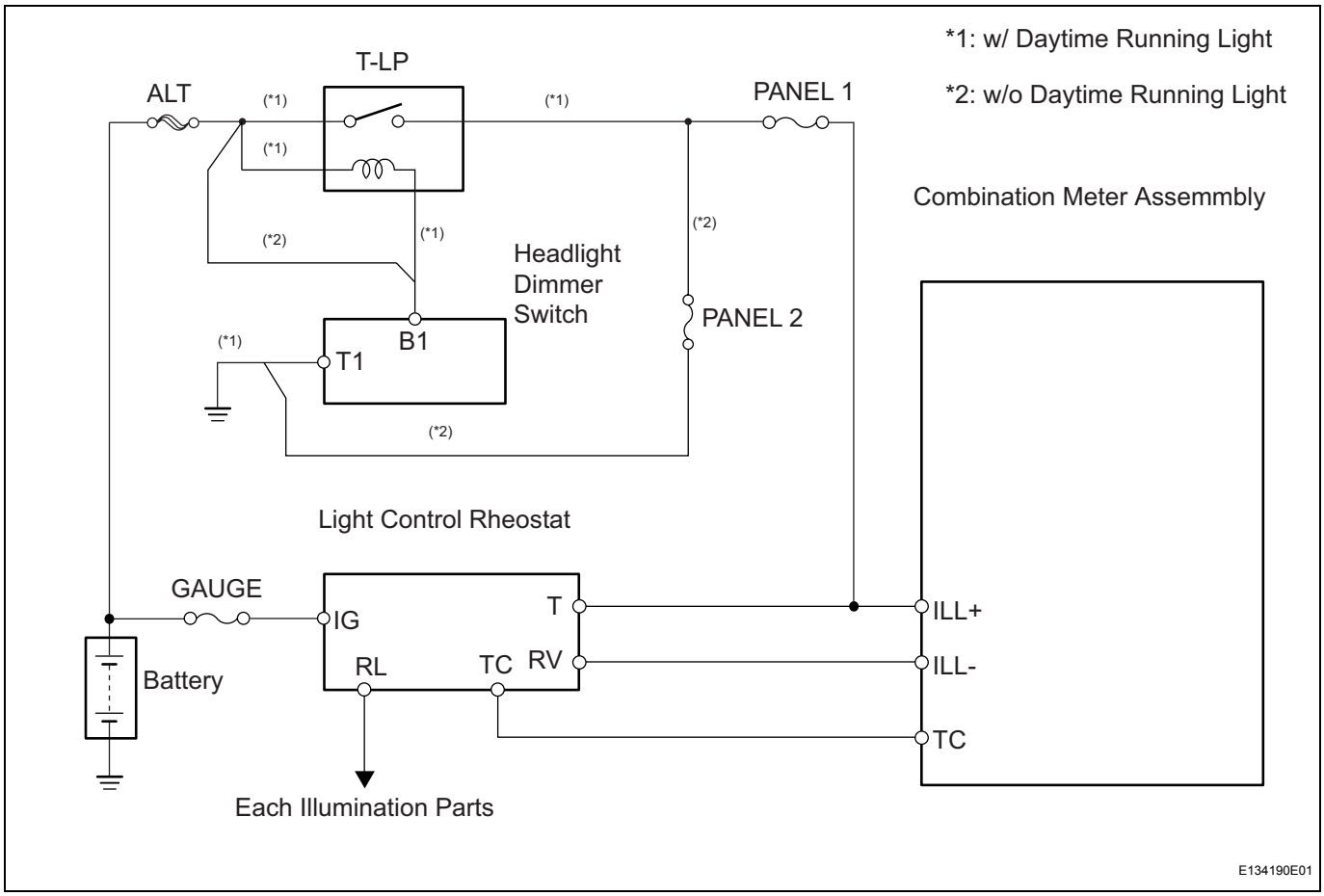
Refer to seat belt warning system (See page SB-25).

Operating Light Control Rheostat does not Change Light Brightness

DESCRIPTION

The combination meter assembly controls the combination meter illumination in accordance with the light control signals from the light control rheostat.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE OF INTELLIGENT TESTER (RHEOSTAT)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below in the Data List, and read the value displayed on the intelligent tester.

METER

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
RHEOSTAT (A/D)	Light control rheostat switch / Min.: 0, Max.: 255	Light brightness changes within specified range: Dark (0) to bright (255)	-

OK:
Light brightness can be changed within the specified range by actual operation.

NG → **Go to step 2**

OK

REPLACE COMBINATION METER ASSEMBLY

2 INSPECT FUSE (GAUGE)

(a) Remove the GAUGE fuse from the main body ECU.
(b) Measure the resistance.
OK:
Below 1 Ω
(c) Reinstall the GAUGE fuse.

NG → **REPLACE FUSE**

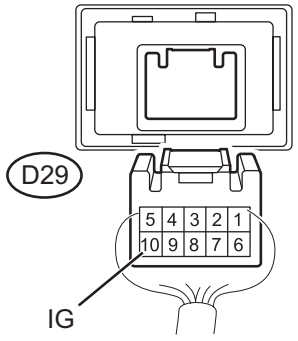
ME

OK

3 CHECK HARNESS AND CONNECTOR (FUSE (GAUGE) - LIGHT CONTROL RHEOSTAT)

Wire Harness Side:

Light Control Rheostat Connector



(a) Disconnect the D29 light control rheostat connector.
(b) Measure the voltage.
Standard voltage

Tester Connection	Condition	Specified Condition
D29-10 - Body ground	Ignition switch ON	11 to 14V

(c) Reconnect the light control rheostat connector.

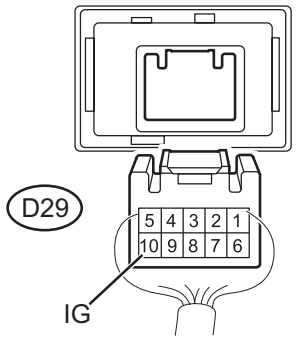
OK → **Go to step 5**

NG

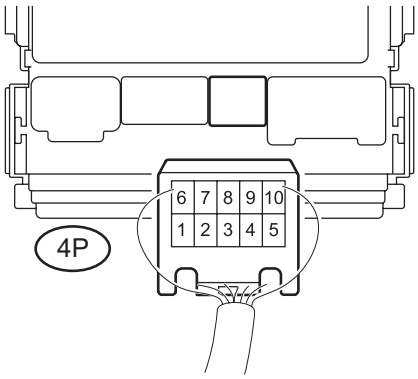
4	CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - LIGHT CONTROL RHEOSTAT)

Wire Harness Side:

Light Control Rheostat Connector



Main Body ECU Connector



E118619E01

(a) Disconnect the D29 light control rheostat connector.
(b) Disconnect the 4P main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester	Condition	Specified Condition
D29-10 (IG)- 4P-1	Always	Below 1 Ω

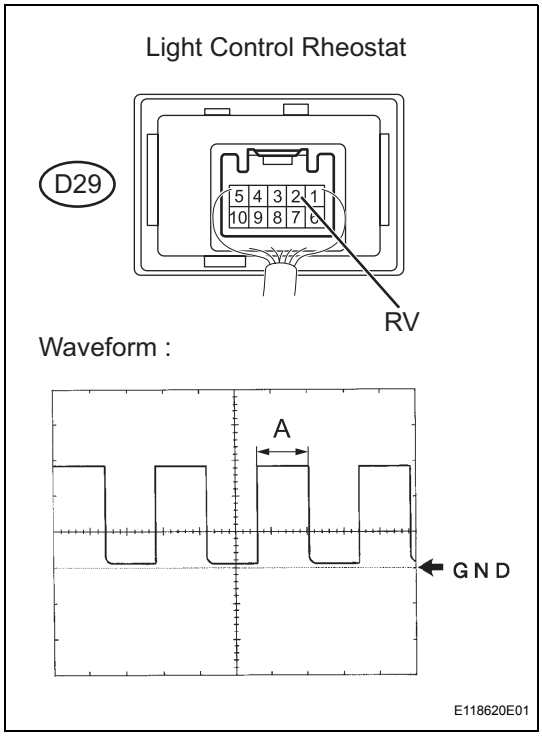
(d) Reconnect the light control rheostat connector.
(e) Reconnect the main body ECU connector.

NG → **REPLACE MAIN BODY ECU**

OK

ME

5	INSPECT LIGHT CONTROL RHEOSTAT



(a) Remove the light control rheostat but without disconnecting the connector.
(b) Turn the ignition switch ON.
(c) Using an oscilloscope, check the signal waveform of the light control rheostat.

Item	Contents
Terminal connection	D29-2 (RV) - Body ground
Tool setting	5V / DIV, 50ms / DIV
Vehicle condition	Ignition switch ON

OK:
Waveform is as shown in the illustration.
HINT:
Duty ratio changes as the illumination dims. (A becomes longer)

(d) Reinstall the light control rheostat.

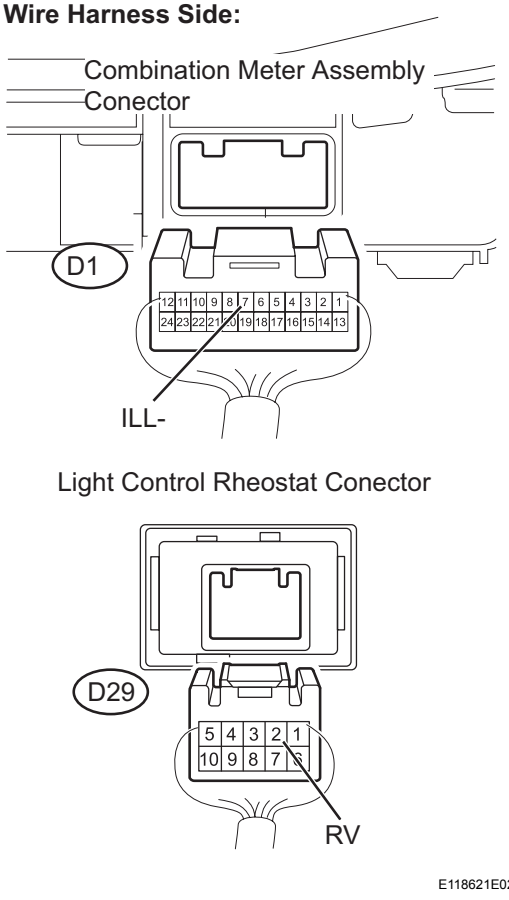
NG → **REPLACE LIGHT CONTROL RHEOSTAT**

OK

ME

6	**CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY -Å@LIGHT CONTROL RHEOSTAT)**

Wire Harness Side:



(a) Disconnect the D1 combination meter assembly connector.
(b) Disconnect the D29 light control rheostat connector connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D1-7 (ILL-) - D29-2 (RV)	Below 1 Ω

(d) Reconnect the combination meter assembly.
(e) Reconnect the light control rheostat connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

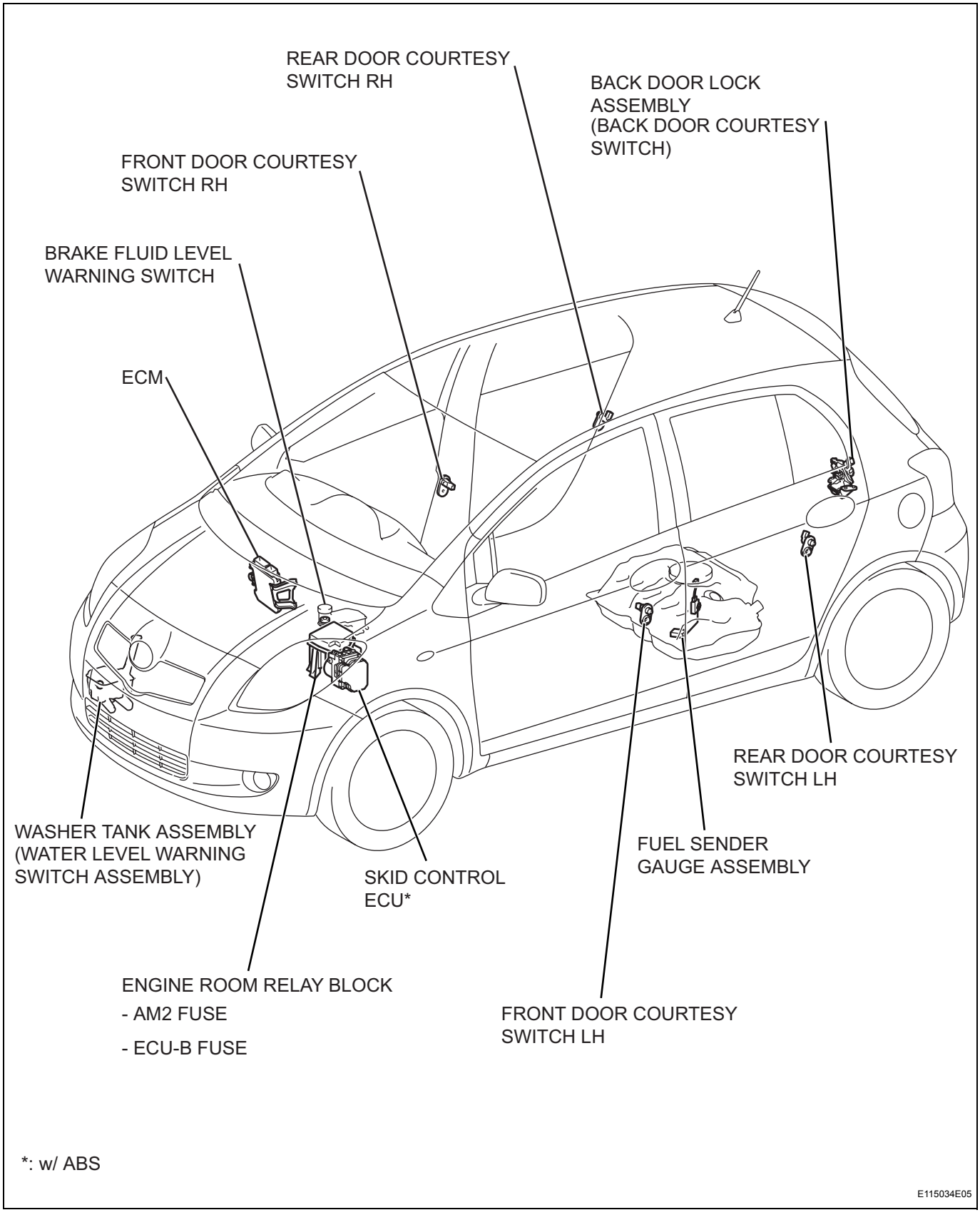
OK

REPLACE COMBINATION METER ASSEMBLY

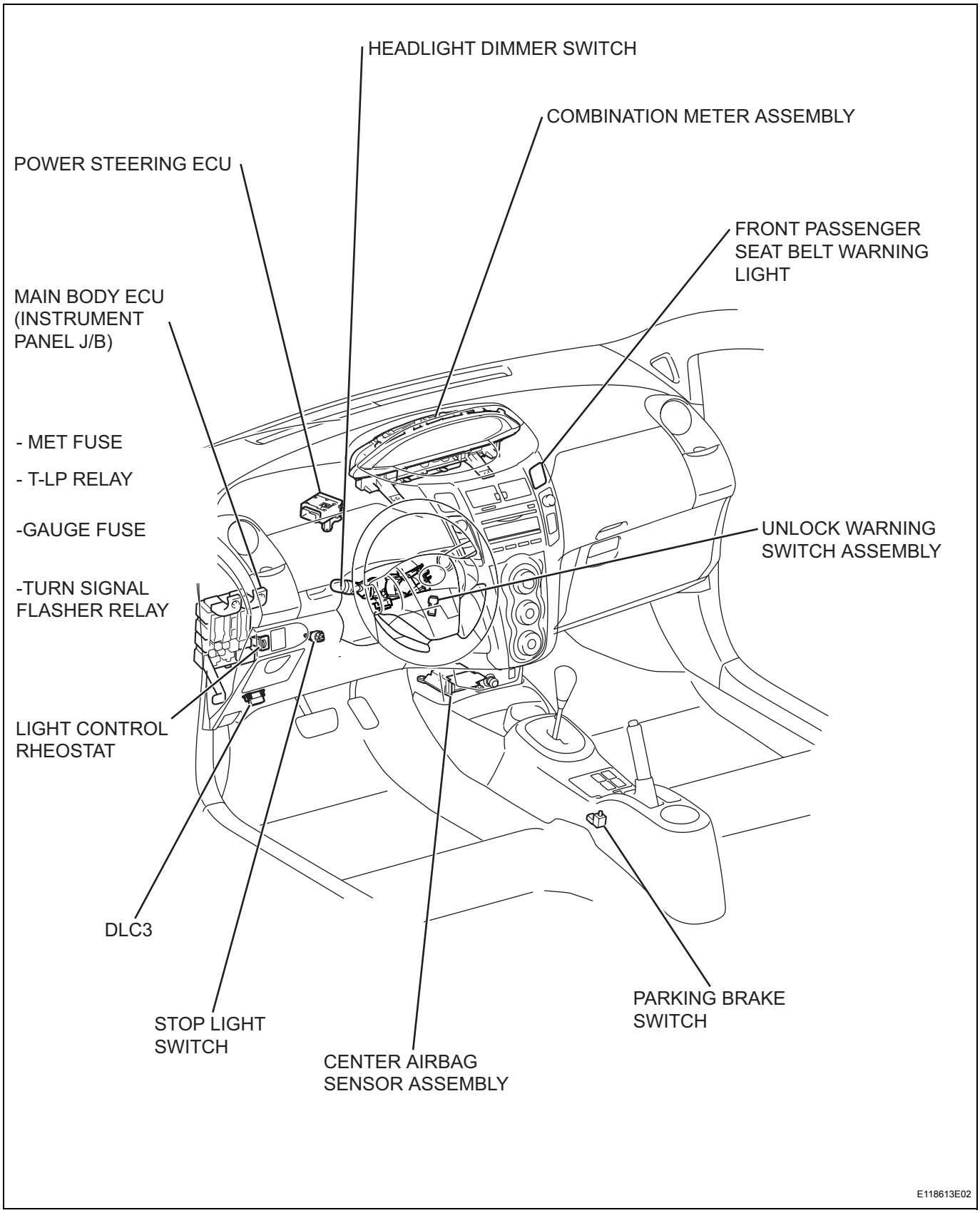
ME

METER / GAUGE SYSTEM (for Hatchback)

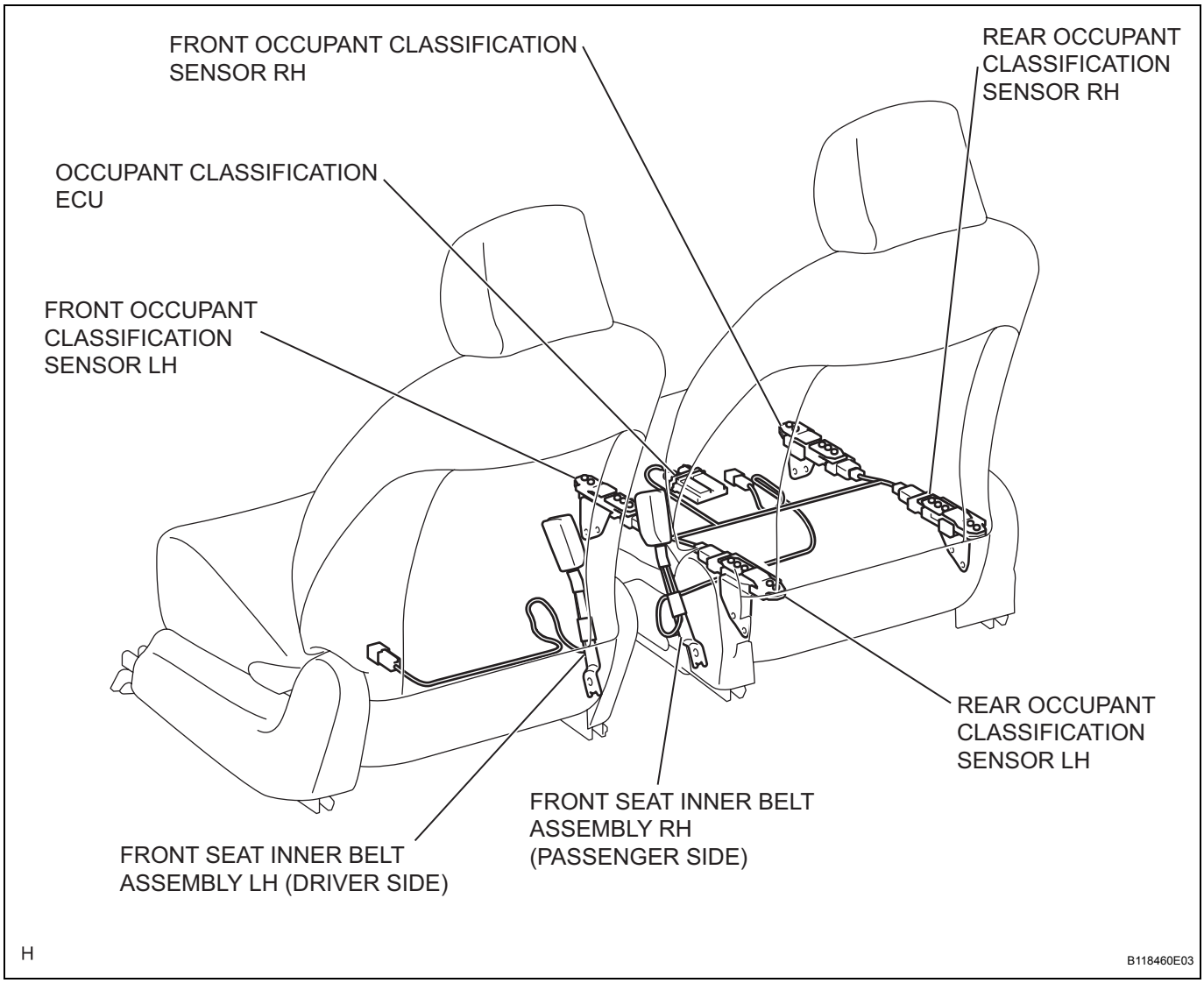
PARTS LOCATION



ME

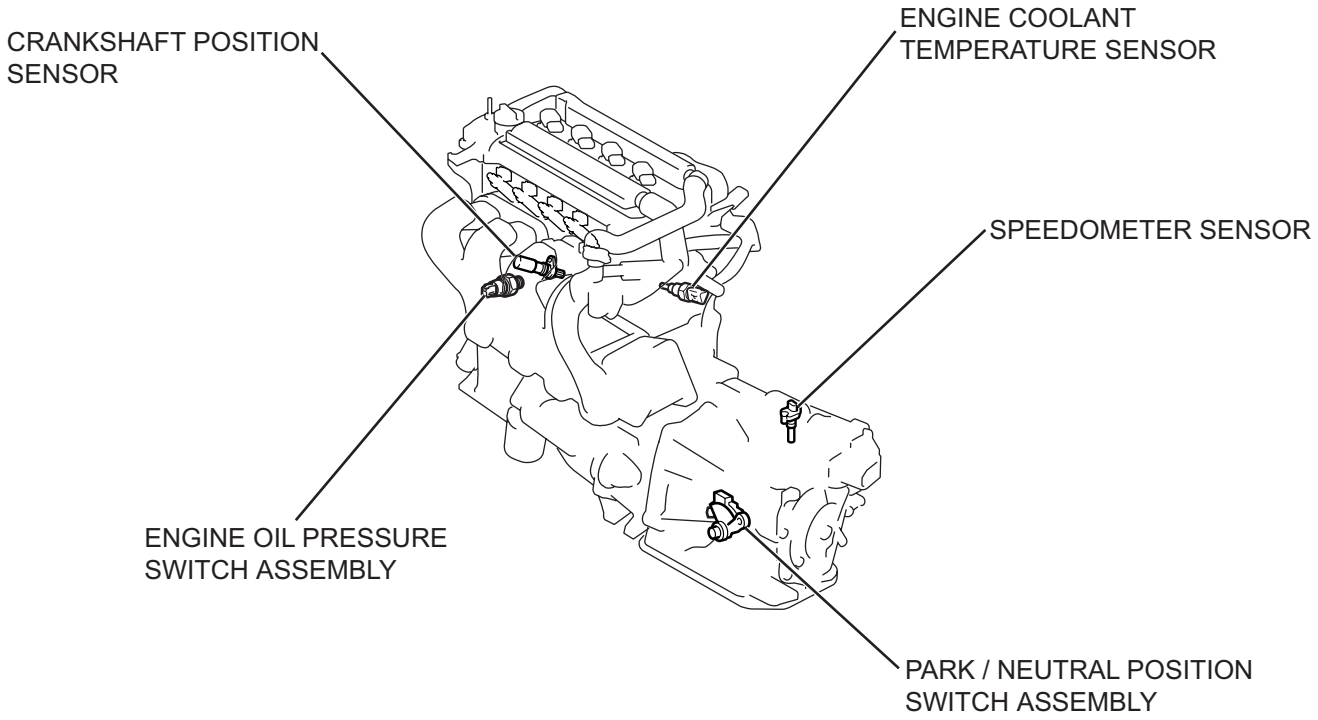

HEADLIGHT DIMMER SWITCH
COMBINATION METER ASSEMBLY
POWER STEERING ECU
FRONT PASSENGER SEAT BELT WARNING LIGHT
MAIN BODY ECU (INSTRUMENT PANEL J/B)
- MET FUSE
- T-LP RELAY
-GAUGE FUSE
UNLOCK WARNING SWITCH ASSEMBLY
-TURN SIGNAL FLASHER RELAY
LIGHT CONTROL RHEOSTAT
DLC3
PARKING BRAKE SWITCH
STOP LIGHT SWITCH
CENTER AIRBAG SENSOR ASSEMBLY
E118613E02

ME

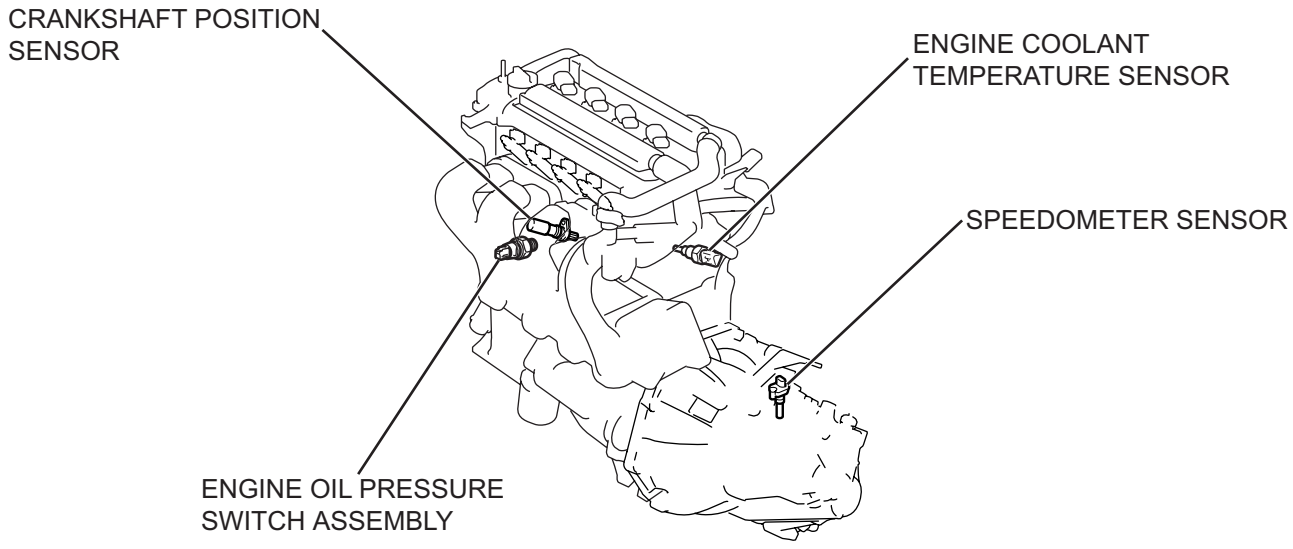

FRONT OCCUPANT CLASSIFICATION SENSOR RH
REAR OCCUPANT CLASSIFICATION SENSOR RH
OCCUPANT CLASSIFICATION ECU
FRONT OCCUPANT CLASSIFICATION SENSOR LH
REAR OCCUPANT CLASSIFICATION SENSOR LH
FRONT SEAT INNER BELT ASSEMBLY RH (PASSENGER SIDE)
FRONT SEAT INNER BELT ASSEMBLY LH (DRIVER SIDE)
H
B118460E03

ME

A/T:



M/T:



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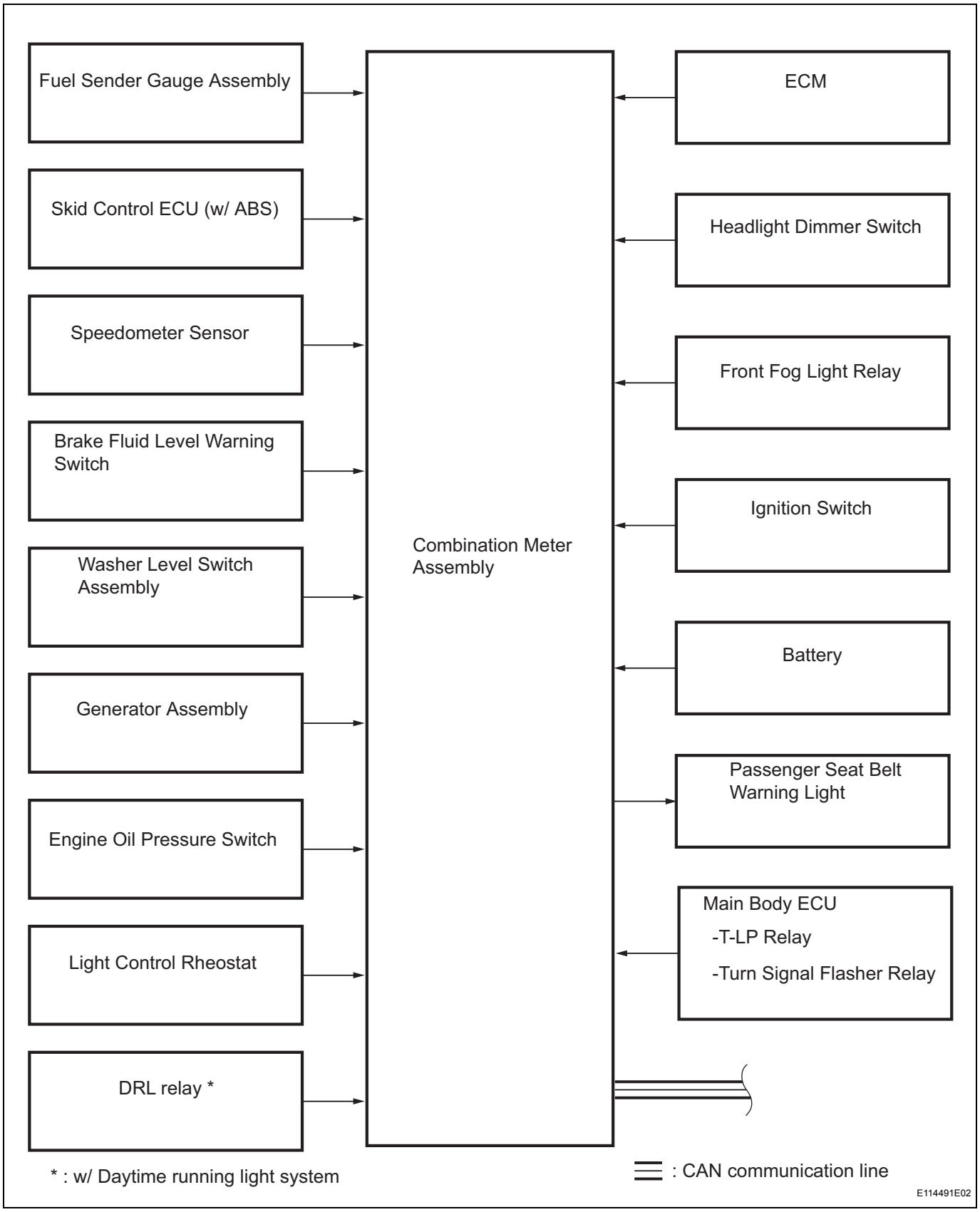
ME

SYSTEM DIAGRAM



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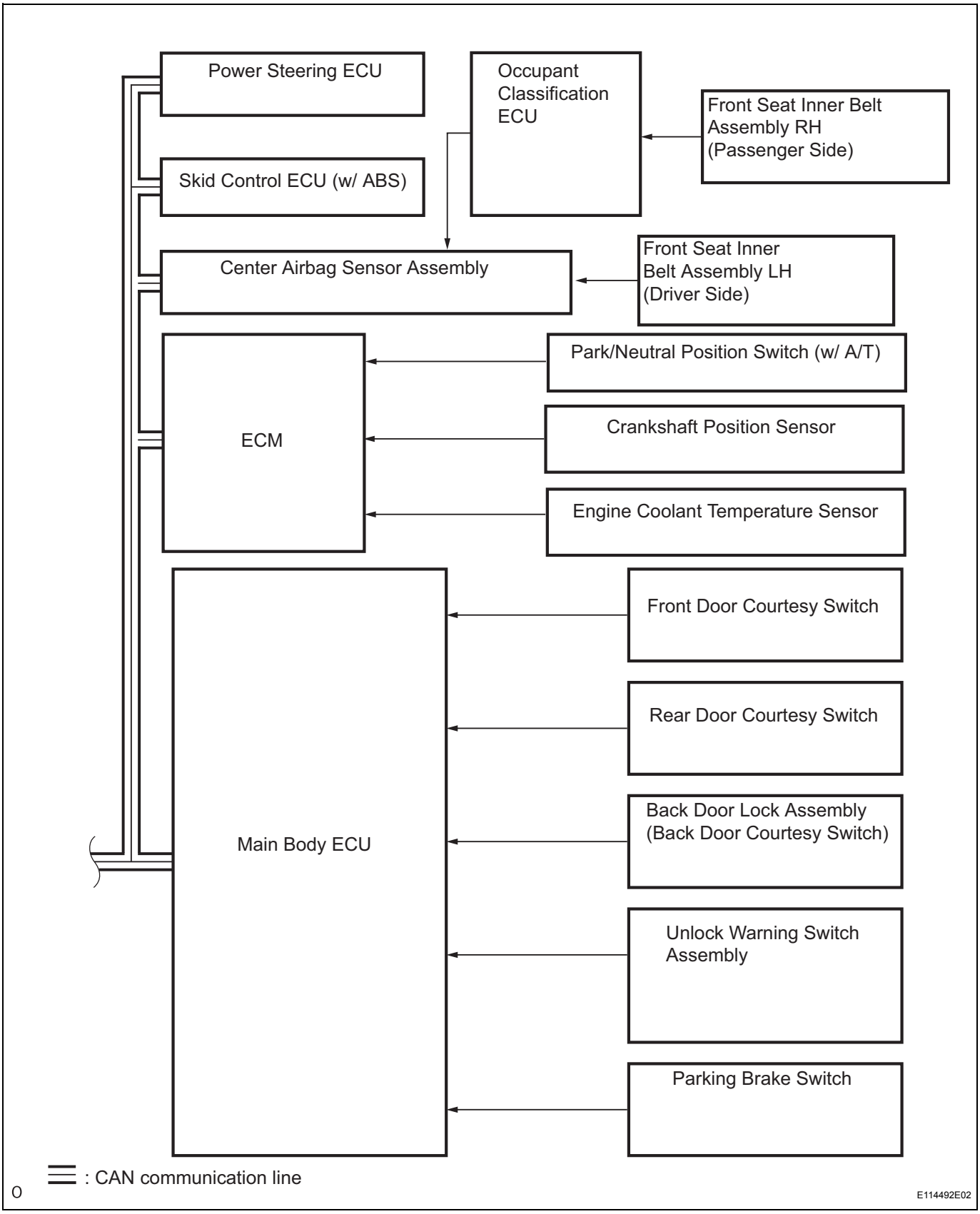

Power Steering ECU
Occupant Classification ECU
Front Seat Inner Belt Assembly RH (Passenger Side)
Skid Control ECU (w/ ABS)
Center Airbag Sensor Assembly
Front Seat Inner Belt Assembly LH (Driver Side)
Park/Neutral Position Switch (w/ A/T)
ECM
Crankshaft Position Sensor
Engine Coolant Temperature Sensor
Front Door Courtesy Switch
Rear Door Courtesy Switch
Main Body ECU
Back Door Lock Assembly (Back Door Courtesy Switch)
Unlock Warning Switch Assembly
Parking Brake Switch
: CAN communication line
E114492E02

SYSTEM DESCRIPTION

1. METER GAUGE AND WARNING INDICATOR

GAUGE

ITEM	Signal Description
Speedometer	Indicates vehicle speed based on signals received from speedometer sensor (Direct line)
Tachometer	Indicates engine speed based on signals from ECM (CAN)
ODO / TRIP meter	Calculates accumulated total vehicle travel distance and vehicle travel distance since strip meter knob pressed
Fuel Gauge	Indicates fuel level in accordance with signals received from fuel sender gauge (Direct line)

WARNING / INDICATOR

ITEM	Signal Description
TURN SIGNAL	Receives turn signal from flasher relay (Direct line)
BEAM	Receives beam signal from headlight dimmer switch (Direct line)
FOG LIGHT	Receives fog light signal from fog light relay (Direct line)
CHARGE	Receives malfunction signal from generator (Direct line and CAN)
MIL	Receives malfunction check signal from ECM (Direct line)
Engine coolant temperature warning	Receives engine coolant temperature based on signal from ECM (CAN)
Engine coolant temperature indicator (COOL)	Receives engine coolant temperature based on signal from ECM (CAN)
WASHER	Receives washer level malfunction signal from washer level warning switch (Direct line)
DOOR	Illuminates when receiving signal from main body ECU (CAN)
D BELT	Receives driver seat belt signal (unfastened) from center airbag sensor assembly (CAN)
BRAKE	Receives parking brake switch signal from main body ECU (CAN) and fluid level warning signal from brake level switch (Direct line)
OIL PRESSURE	Receives malfunction signal from oil pressure switch (Direct line)
MAINT REQD*1	Blinks when vehicle driven about 4,500 miles after oil exchange. Illuminates when vehicle driven about 5,000 miles after oil exchange.
AIR BAG	Receives malfunction signal from center airbag sensor assembly (CAN)
ABS*3	Receives malfunction signal from skid control ECU (CAN)
HEAD*1	Receives headlight signal from DRL relay (Direct line)
TAIL*2	Receives taillight signal from headlight dimmer switch assembly (Direct line)
P/S	Receives malfunction signal from power steering ECU (CAN)
P BELT	Blinks when front passenger seat belt switch ON (unfastened)

*1: U.S.A. only
*2: Canada only
*3: w/ ABS

Buzzer

Item	Signal Description
Key Reminder	Buzzer ON when ignition switch OFF, key inserted and driver door open.
Light Reminder	Buzzer ON when ignition switch OFF, light control switch in TAIL or HEAD position and driver door open.
Seat Belt Warning	Buzzer ON when vehicle speed exceeds 12.4mph (20km/h) and seat belt unfastened.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the combination meter.
- Use an intelligent tester in steps 3 and 5.

1 VEHICLE BROUGHT TO WORKSHOP

NEXT

2 INSPECT BATTERY VOLTAGE

Standard voltage:
11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

3 CHECK CAN COMMUNICATION SYSTEM

(a) Use an intelligent tester to check if the CAN communication system is functioning normally.
Result

Result	Proceed to
CAN DTC is not output	A
CAN DTC is output	B

B → **Go to CAN COMMUNICATION SYSTEM**

A

4 PROBLEM SYMPTOMS TABLE

HINT:
Refer to the Problem Symptoms Table (See page ME-73).
Result

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B → **Go to step 6**

A

5	OVERALL ANALYSIS AND TROUBLESHOOTING

(a) Terminals of ECU (See page ME-76)
(b) Data List/Active Test (See page ME-86)
(c) On-vehicle Inspection (See page ME-88)

NEXT

6	ADJUST, REPAIR OR REPLACE

NEXT

7	CONFIRMATION TEST

NEXT

END

CUSTOMIZE PARAMETERS

1. CUSTOMIZE PARAMETERS (Using the intelligent tester)

HINT:

The following items can be customized.

NOTICE:

- **Record the current settings before custmization.**

Display (Item)	Default	Contents	Setting
KEY REMIND SOUND	SLOW	Changes key reminder buzzer intervals	FAST / NORMAL / SLOW
LIGHT REMIND	ON	Turns light reminder buzzer ON and OFF	ON / OFF
SEAT BELT WARN	D/P ON	Turns seat belt warning buzzer ON and OFF	D/P ON / D ON / P ON / D/P OFF
UNITS BY REGION	Different for every region	Changes drive monitor display units	KM/L JP / KM/L / ML/G US / ML/G UK / KM/G

PROBLEM SYMPTOMS TABLE

HINT:
Use the table below to help determine the causes of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected area in the order they are listed. Replace parts as necessary.

MALFUNCTION SYSTEM

Symptom	Suspected area	See page
Entire combination meter assembly does not operate	Refer to troubleshooting	ME-97
Operating light control rheostat does not change light brightness	Refer to troubleshooting	ME-131

METER GAUGES

Symptom	Suspected area	See page
Speedometer malfunction	Refer to troubleshooting	ME-100
Tachometer malfunction	Refer to troubleshooting	ME-103
Fuel gauge malfunction	Refer to troubleshooting	ME-105
Malfunction in engine coolant temperature warning light	Refer to troubleshooting	ME-110

WARNING/INDICATOR LIGHT

Symptom	Suspected area	See page
MIL	ECM	ES-384
	Combination meter assembly	ME-76
	Wire harness or connector	-
Charge warning light does not come on	Generator	CH-13
	ECM	ES-384
	Combination meter assembly	ME-76
	Wire harness or connector	-
	CAN communication system	CA-9
HEAD indicator does not come on*1	Combination meter assembly	ME-76
	Headlight dimmer switch	LI-161
	Wire harness or connector	-
Brake warning light does not come on	Brake fluid level warning switch	BR-10
	Wire harness or connector	-
	Parking brake switch assembly	PB-24
	Combination meter assembly	ME-76
	Main body ECU	ME-76
	CAN communication system	CA-9
ABS warning light does not come on	Skid control ECU	BC-79
	Combination meter assembly	ME-86
	CAN communication system	CA-9
Airbag waning light does not come on	Center airbag sensor assembly	RS-437
	Combination meter assembly	ME-86
	CAN communication system	CA-9
Engine oil pressure warning light does not come on	Engine oil pressure switch assembly	ME-162
	Wire harness or connector	-
	Combination meter assembly	ME-76

Symptom	Suspected area	See page
Driver side seat belt warning light does not operate	Front seat inner belt assembly LH	SB-40
	Wire harness or connector	-
	Center airbag sensor assembly	RS-437
	Combination meter assembly	ME-86
	CAN communication system	CA-9
Turn indicator light does not come on	Turn signal flasher relay	LI-194
	Wire harness or connector	-
	Combination meter assembly	ME-76
Beam indicator light does not come on	Headlight dimmer switch	LI-161
	Wire harness or connector	-
	Combination meter assembly	ME-76
Washer level warning light does not come on	Washer level warning switch	WW-62
	Wire harness or connector	-
	Combination meter assembly	ME-76
Engine coolant temperature warning light does not come on	ECM	ES-388
	Engine coolant temperature sensor	ES-405
	Combination meter assembly	ME-86
	CAN communication system	CA-9
Power steering warning light does not come on	Power steering ECU	PS-23
	Combination meter assembly	ME-86
	CAN communication system	CA-9
MAINT REQD indicator light blinks or continues illuminating*1	Resetting procedure	ME-92
	Combination meter assembly	ME-86
	CAN communication system	CA-9
Front fog light indicator light does not come on	Front fog light relay	LI-200
	Wire harness or connector	-
	Combination meter assembly	ME-76
Open door warning light does not come on	Door courtesy switch	LI-182
	Wire harness or connector	-
	Main body ECU	ME-76
	Combination meter assembly	ME-86
	CAN communication system	CA-9
TAIL indicator light does not come on*2	T-LP relay	LI-53
	Wire harness or connector	-
	Combination meter assembly	ME-76

*1: U.S.A only
*2: Canada only
*3: w/ ABS

BUZZER

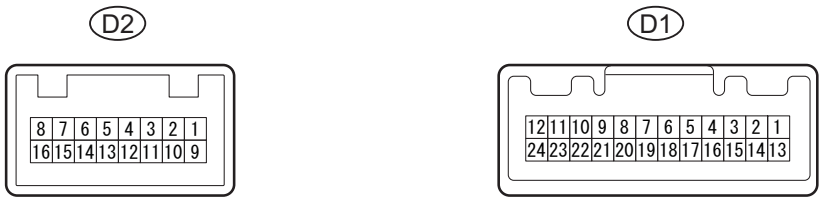
Symptom	Suspected area	See page
No buzzers sound	Wire harness or connector	-
	Combination meter assembly	ME-112
Seat belt warning buzzer does not sound	Front seat inner belt assembly	SB-40
	Wire harness or connector	-
	Combination meter assembly	ME-112
	Center airbag sensor assembly	RS-30
	Occupant classification sensor	RS-219
	CAN communication system	CA-9

Symptom	Suspected area	See page
Light reminder warning buzzer does not sound	Door courtesy switch	LI-182
	Headlight dimmer switch	LI-161
	Wire harness or connector	-
	Main body ECU	ME-86
	Combination meter assembly	ME-112
Key reminder warning buzzer does not sound	Unlock warning switch assembly	DL-89
	Wire harness or connector	-
	Main body ECU	DL-88
	Combination meter assembly	ME-112
	CAN communication system	CA-9

TERMINALS OF ECU

1. COMBINATION METER ASSEMBLY

Combination Meter Assembly:



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(a) Disconnect the D1 combination meter assembly connector.
(b) Measure the voltage and resistance of the wire harness side connector.

Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
IG2 (D1-1) - Body ground	B - Body ground	Ignition switch signal	Ignition switch OFF → ON	Below 1 V → 11 to 14 V
ECUB (D1-2) - Body ground	L - Body ground	Battery	Always	11 to 14 V
ET (D1-24) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω

HINT:
If the result is not as specified, there may be a malfunction in the wire harness.

(c) Disconnect the D2 combination meter assembly connector.
(d) Measure the voltage of the wire harness side connector.

Standard voltage:

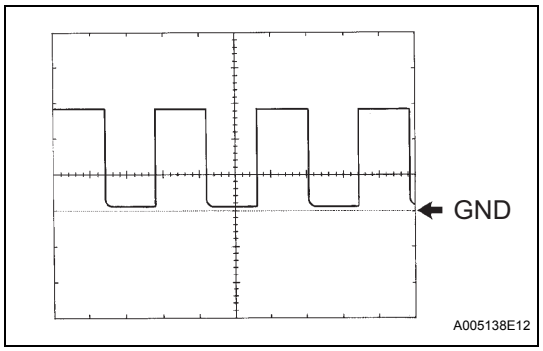
Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
FUEL (D1-3) - Body ground	V - Body ground	Fuel level signal	Ignition switch ON	11 to 14 V
ILL- (D1-7) - Body ground	GR - Body ground	Light control rheostat signal	Ignition switch OFF → ON	Pulse generation (See waveform 1)
ILL+ (D1-14) - Body ground	G - Body ground	Illumination signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V
TC (D1-15) - Body ground	Y - Body ground	Tail cancel switch signal	Tail cancel switch OFF → ON	Below 1 V → 11 to 14 V
+S (D1-16) - Body ground	SB - Body ground	Vehicle speed signal (Output)	Driving at approx. 12 mph (20 km/h)	Pulse generation (See waveform 2)
SI (D1-17) - Body ground	P - Body ground	Vehicle Speed signal (Input)	Driving at approx.12 mph (20 km/h)	Pulse generation (See waveform 2)
CANH (D1-20) - Body ground	G - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CANL (D1-21) - Body ground	W - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CHG- (D2-1) - Body ground	SB *3 or L *4 - Body ground	Charge warning light signal	Ignition switch ON Engine start Charge warning light OFF → ON	Below 1 V → 11 to 14 V
SW (D2-2) - Body ground	V - Body ground	Brake fluid level warning light signal	Ignition switch ON Brake fluid level warning light ON → OFF	Below 1 V → 11 to 14 V

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
EFI (D2-4) - Body ground	B - Body ground	MIL signal	Ignition switch ON MIL ON → OFF	Below 1 V → 11 to 14 V
FOG (D2-7) - Body ground	R - Body ground	Front FOG signal	Ignition switch ON Front fog light switch OFF → ON	Below 1 V → 11 to 14 V
B (D2-8) - Body ground	LG - Body ground	Turn signal LH signal	Ignition switch ON Turn signal LH indicator light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
PBLT (D2-9) - Body ground	O - Body ground	Seat belt warning light signal (Passenger side)	Ignition switch ON Front passenger seat belt warning light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
WLVL (D2-10) - Body ground	W - Body ground	Washer level warning signal	Ignition switch ON Washer level warning light ON → OFF	Below 1 V → 11 to 14 V
BEAM- (D2-11) - Body ground	P - Body ground	HI-BEAM indicator signal (-)	Headlight dimmer switch (Hi-BEAM) Hi → Lo	Below 1 V → 11 to 14 V
S (D2-12) - Body ground	Y - Body ground	Oil pressure signal	OIL / P warning light ON → OFF	Below 1 V → 11 to 14 V
HEAD (D2-13)*1 - Body ground	L - Body ground	HEAD light indicator signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V
BEAM+ (D2-14) - Body ground	GR - Body ground	HI-BEAM indicator signal (+)	BEAM indicator light OFF → ON	Below 1 V → 11 to 14 V
B (D2-15) - Body ground	BR - Body ground	Turn signal RH signal	Turn signal RH indicator light OFF → ON → OFF	Below 1 V → 11 to 14 V → Below 1 V
IND (D2-16)*2 - Body ground	G - Body ground	Taillight indicator signal	Light control switch OFF → ON	Below 1 V → 11 to 14 V

HINT:
If the result is not as specified, the combination meter assembly may be malfunctioning
*1: U.S.A. only
*2: Canada only
*3: w/ Daytime running light
*4: w/o Daytime running light

(1) Waveform 1: Using an oscilloscope

Terminal Connections	ILL- (D1-7) - Body Ground
Tool Setting	5V / DIV, 50 ms / DIV
Condition	Ignition switch ON



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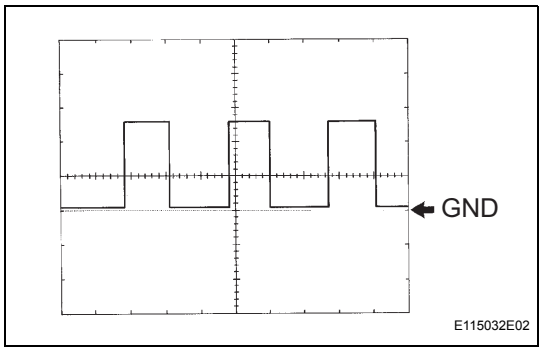


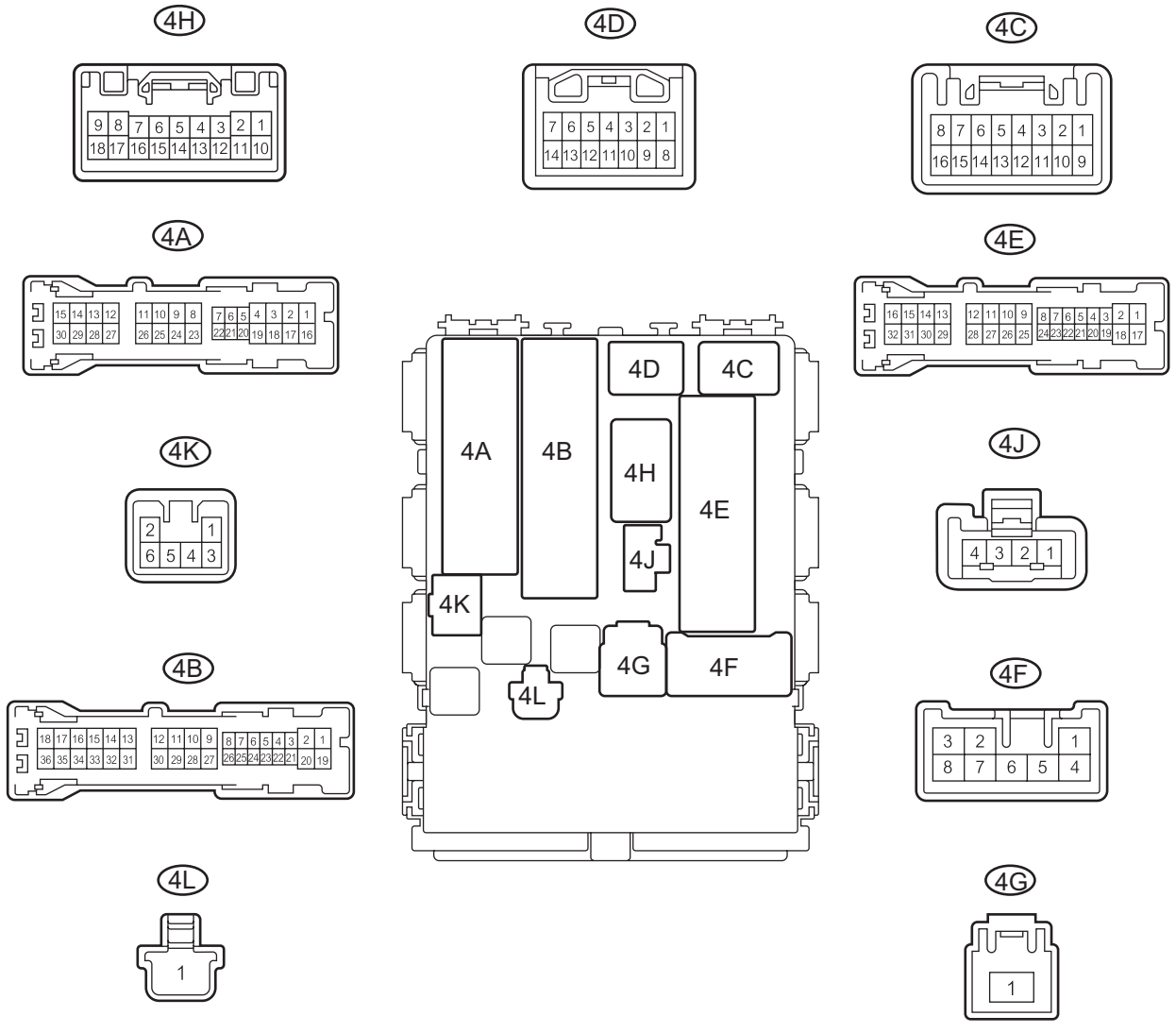
(2) Waveform 2: Using an oscilloscope

Terminal Connections	+S (D1-16) - Body Ground SI (D1-17) - Body Ground
Tool Setting	5V / DIV, 20ms / DIV
Condition	Driving at approximately 12mph (20km/h)

HINT:
As the vehicle speed increases, the cycle of the signal waveform narrows.

2. CHECK MAIN BODY ECU

Main Body ECU (Rear View):

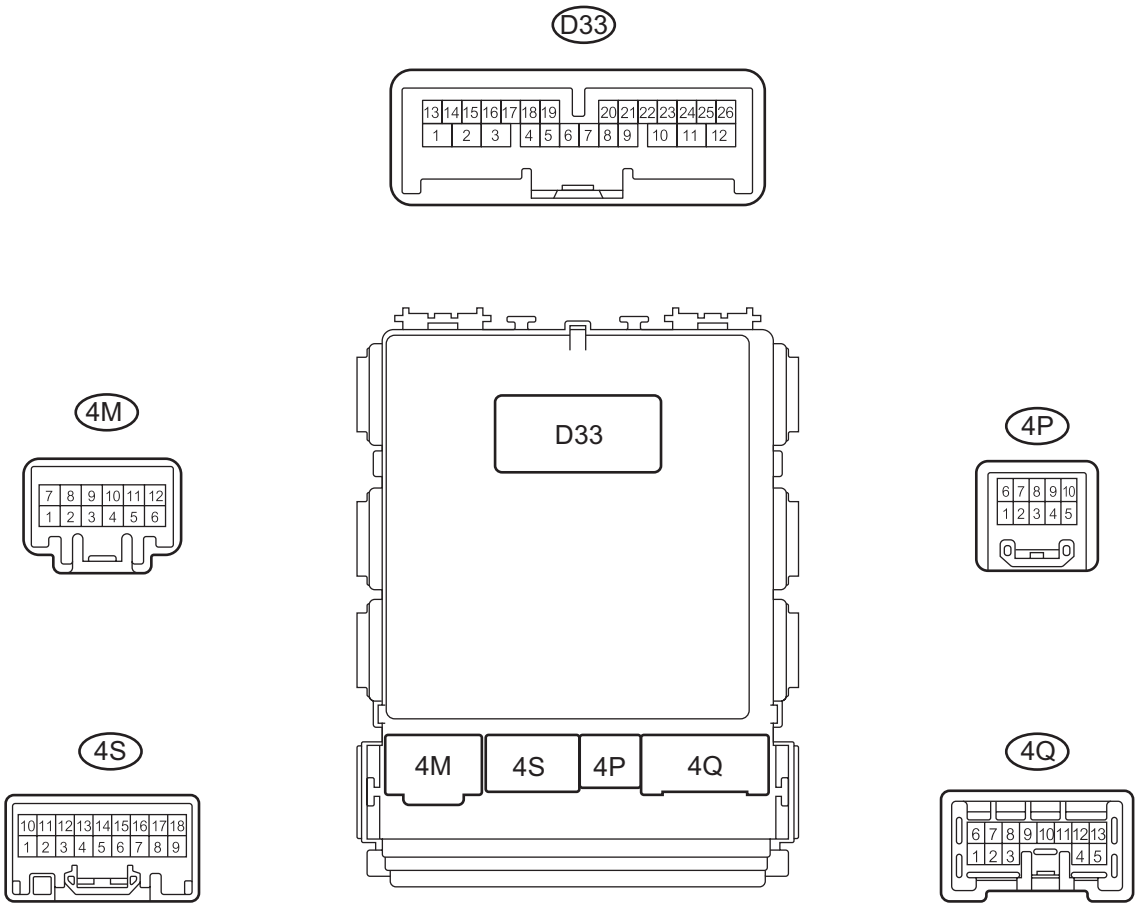


Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
RRCY (4A-5) - GND1 (4E-17)	G - W-B	Rear door courtesy switch signal (LH)	Rear door (Driver side) CLOSED → OPEN	11 to 14 V → Below 1 V

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BCTY (4A-7) - GND1 (4E-17)	SB - W-B	Back door courtesy switch signal	Back door CLOSED → OPEN	11 to 14 V → Below 1 V
RRCY (4A-20) - GND1 (4E-17)	L - W-B	Rear door courtesy switch signal (RH)	Rear door (Front passenger side) CLOSED → OPEN	11 to 14 V → Below 1 V
DCTY (4A-21) - GND1 (4E-17)	R - W-B	Front door courtesy switch signal (Driver side)	Driver door CLOSED → OPEN	11 to 14 V → Below 1 V
PCTY (4A-24) - GND1 (4E-17)	L - W-B	Front door courtesy switch signal (Passenger side)	Front passenger door CLOSED → OPEN	11 to 14 V → Below 1 V
PKB (4C-2) - GND1 (4E-17)	Y - W-B	Parking brake signal	Parking brake warning light ON → OFF	Below 1 V → 11 to 14 V
KSW (4D-7) - GND1 (4E-17)	Y - W-B	Key unlock switch condition signal	Key inserted → Removed	Below 1 V → 11 to 14 V
GND1 (4E-17) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

Main Body ECU (Front View):



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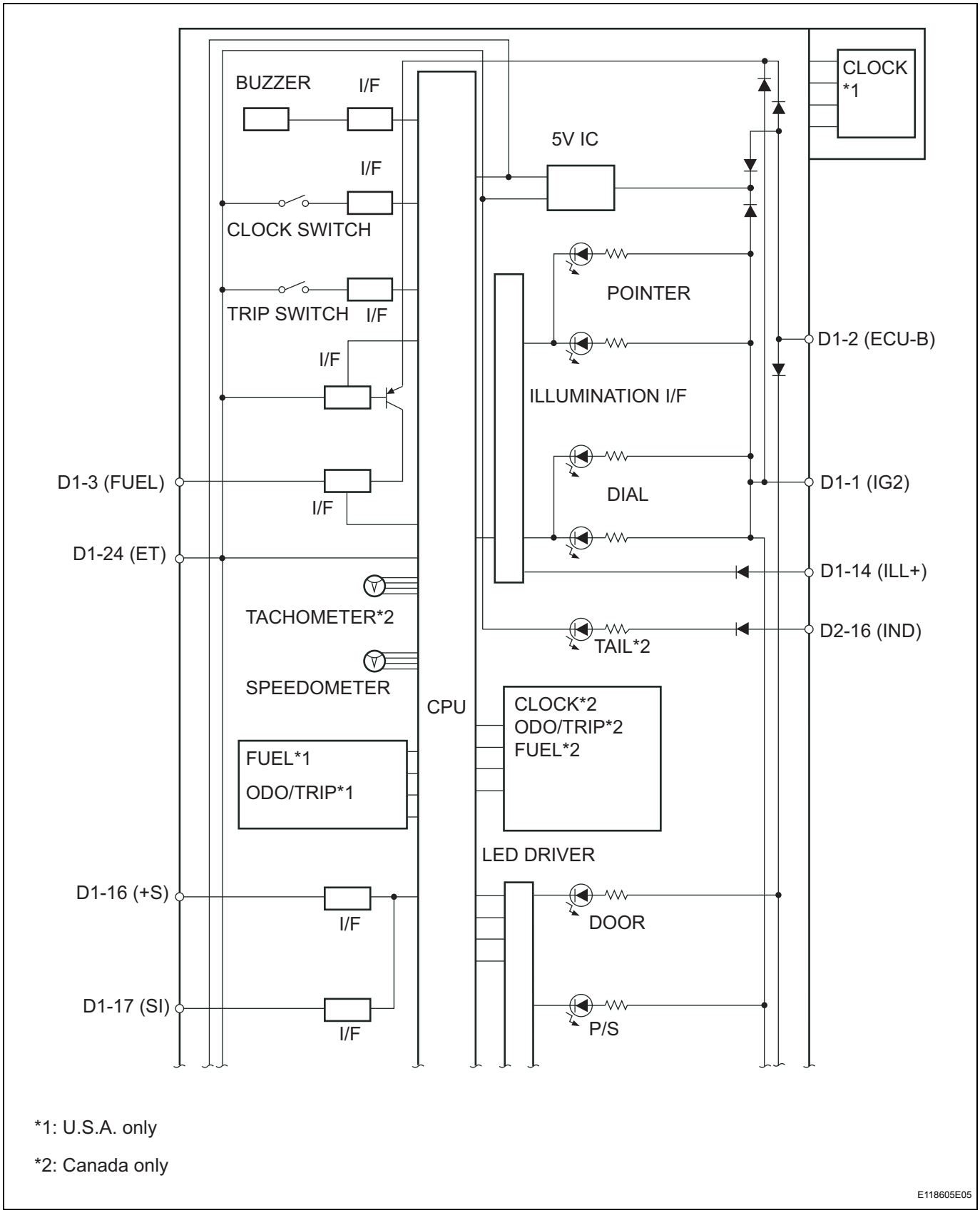
Standard:

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specified Condition
CANL (D33-22) - Body ground	W - Body ground	CAN communication line	Ignition switch ON	Pulse generation
CANH (D33-23) - Body ground	R - Body ground	CAN communication line	Ignition switch ON	Pulse generation

3. COMBINATION METER INTERNAL CIRCUIT



*1: U.S.A. only

*2: Canada only

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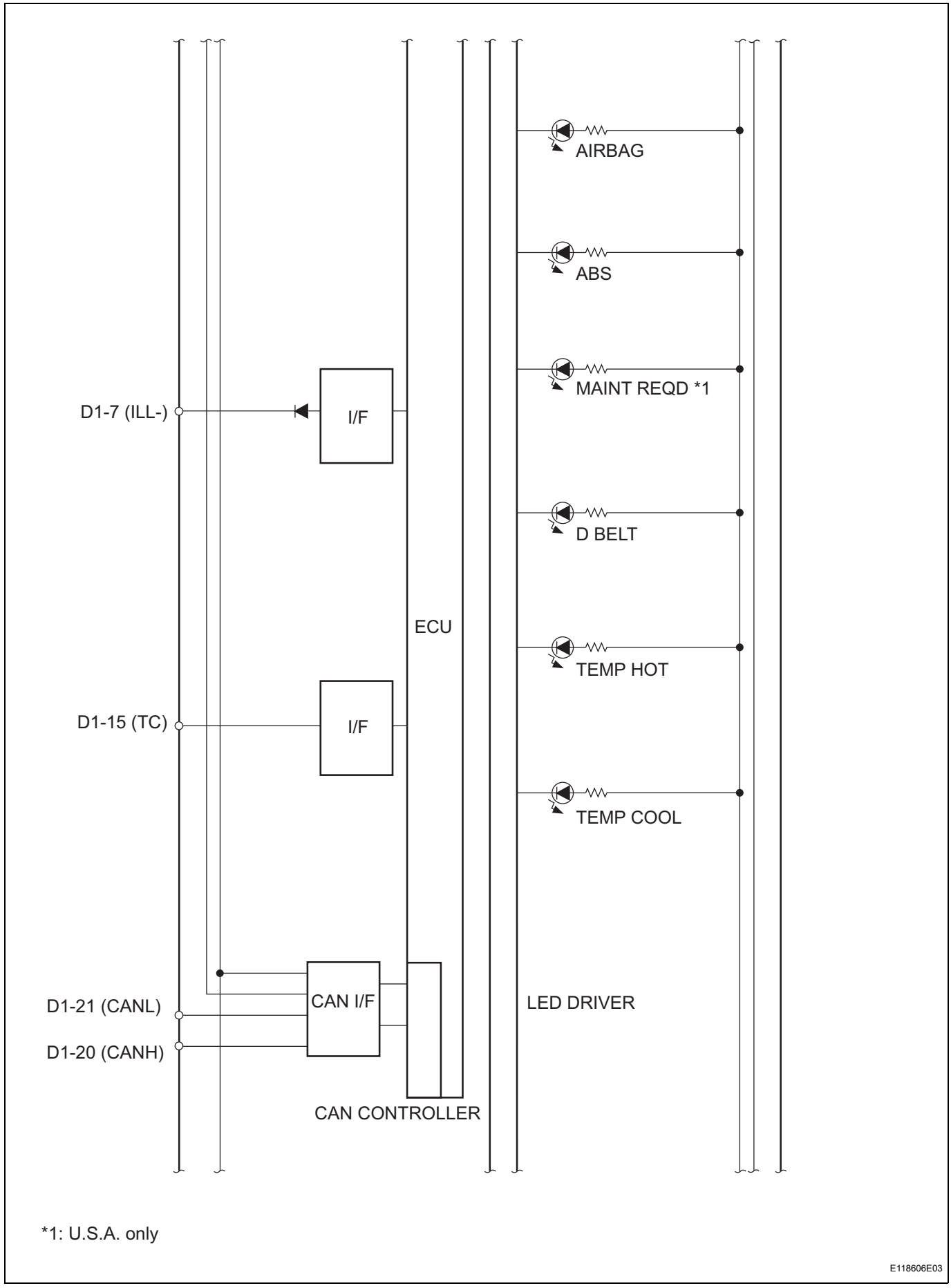

*1: U.S.A. only

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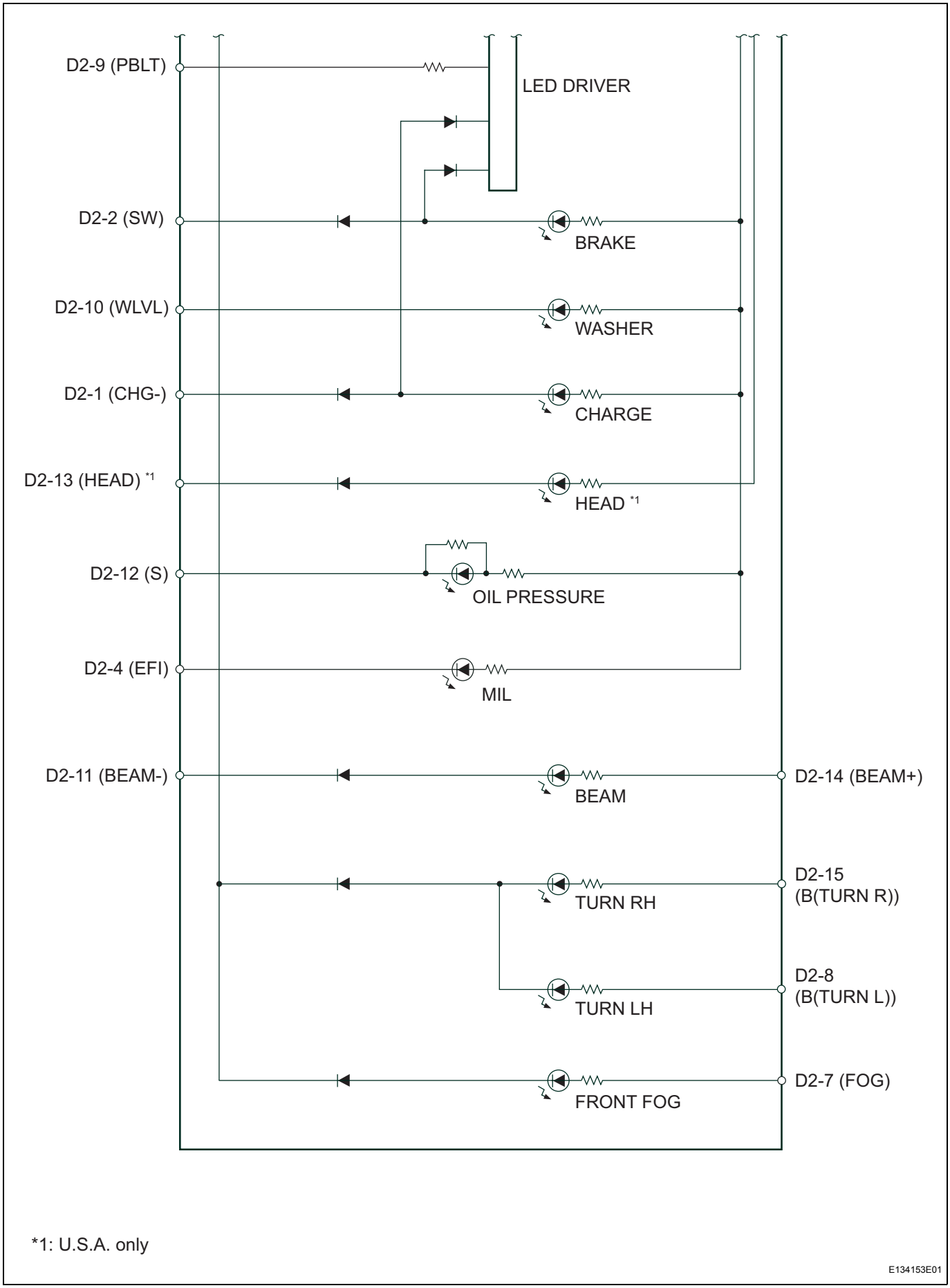

*1: U.S.A. only

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Connectors

Terminal No.		Wire Harness Side
D1	1	Ignition Switch
	2	Battery
	3	Fuel Sender Gauge Assembly
	7	Light Control Rheostat
	14	Taillight Relay
	15	Light Control Rheostat
	16	ECM, Power Steering ECU
	17	Speedometer Sensor
	20	CAN Communication Line
	21	CAN Communication Line
	24	Body Ground
D2	1	Generator (Alternator)
	2	Brake Fluid Level Warning Switch
	4	ECM
	7	Front Fog Light Relay
	8	Turn Signal Flasher Relay
	9	Passenger Seat Belt Warning Light
	10	Washer Level Warning Switch
	11	Headlight Dimmer Switch
	12	Engine Oil Pressure Switch
	13	Headlight
	14	Headlight Dimmer Switch
	15	Turn Signal Flasher Relay
	16	Taillight Relay

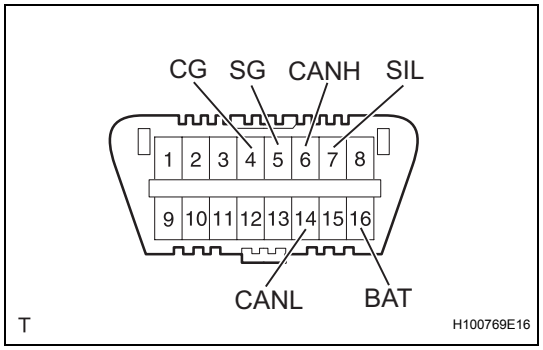
DIAGNOSIS SYSTEM

1. DESCRIPTION

(a) Meter and gauge system data and the Diagnostic Trouble Codes (DTCs) can be read through the Data Link Connector 3 (DLC3) of the vehicle. When the system seems to be malfunctioning, use an intelligent tester with the CAN VIM to check for malfunctions and perform troubleshooting.

2. CHECK DLC3

(a) The ECU uses ISO 15765-4 for communication. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 15765-4 format.



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
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V
CANH (6) - CANL (14)	CAN bus line	Ignition switch OFF*	54 to 69 Ω
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch OFF*	200 Ω or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Ignition switch OFF*	200 Ω or higher
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch OFF*	6 kΩ or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Ignition switch OFF*	6 kΩ or higher

NOTICE:

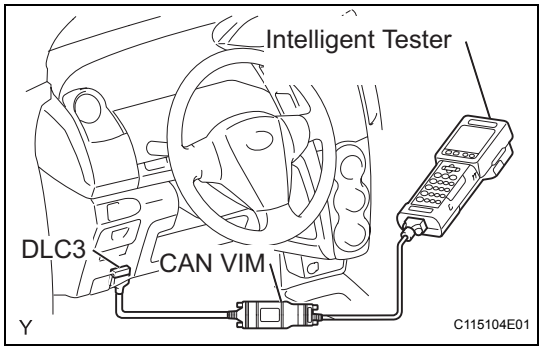
***: Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors.**

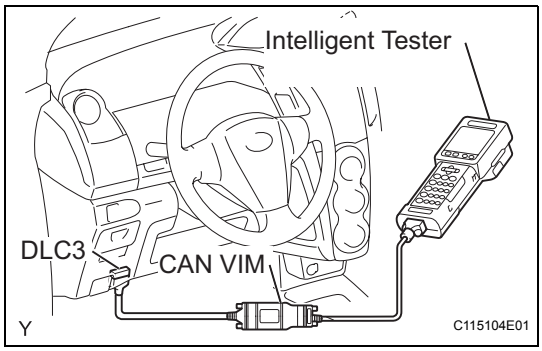
If the result is not as specified, the DLC3 may have a malfunction. Repair or replace the harness and connector.

HINT:

Connect the cable of the intelligent tester to the CAN VIM, connect the CAN VIM to the DLC3, turn the ignition switch ON and attempt to use the tester. If the display indicates that a communication error has occurred, there is a problem either with the vehicle or with the tester.

- If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.
- If communication is still not possible when the tester is connected to another vehicle, the problem is probably in the tester itself. Consult the Service Department listed in the tester's instruction manual.





DTC CHECK / CLEAR

1. DTC CHECK

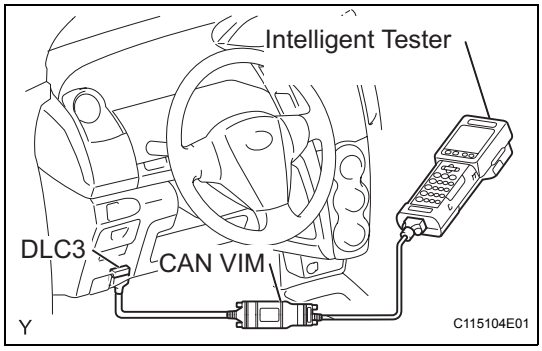
(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Turn the intelligent tester ON.
(d) Select the following menu items: DIAGNOSIS / OBD/MOBD / METER / DTC INFO / CURRENT CODES.
(e) Check the DTC(s) and freeze frame data, and then write them down.
(f) See page ME-87 to check the details of the DTC(s).

2. CLEAR DTC (Using an intelligent tester)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Turn the tester ON.
(d) Select the following menu items: DIAGNOSIS / OBD/MOBD / METER / DTC INFO / CLEAR CODES.
(e) Press the YES button to clear the DTC(s).

3. CLEAR THE DTC (Without using an intelligent tester)

(a) Perform either one of the following operations.
(1) Disconnect the negative battery cable for more than 1 minute.
(2) Remove the ECU-B fuse from the engine room relay block located inside the engine compartment for more than 1 minute.



DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:
Using the intelligent tester's DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Read the Data List according to the prompts displayed on the tester.

METER

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
+B VOLTAGE	Battery voltage Min=0, Max=255, 1LSB=1	10V: 119 / 10.5V: 126 / 11V: 132 / 12V: 145 / 13V: 157 / 14V: 170	-
ODO/TRIP SW	ODO/TRIP change switch/ ON or OFF	ON: Switch is pushed OFF: Switch is released	-
TAIL CANCEL SW	Taillight cancel switch/ ON or OFF	ON: Taillight cancel switch is ON OFF: Taillight cancel switch is OFF	-
TAIL RELAY SW	Taillight relay switch/ ON or OFF	ON: Taillight relay switch is ON OFF: Taillight relay switch is OFF	-
P-BELT BUCKL SW	Front passenger seat belt buckle switch/ ON or OFF	ON: Front passenger seat belt is fastened OFF: Front passenger seat belt is unfastened	-

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
TIMER SW METER	Timer switch on combination meter/ ON or OFF	ON: Timer switch is ON OFF: Timer switch is OFF	-
SPEED METER	Vehicle speed / Min.: 0 km/h(0mph),Max.: 255km/h(158mph)	Approximately same as actual vehicle speed (When vehicle is driven)	-
TACHO METER	Engine speed / Min.: 0 rpm, Max.: 12,750 rpm	Approximately same as actual engine speed (When engine is running)	-
COOLANT TEMP	Engine coolant temperature / Min.: 0°C, Max.: 127.5°C	After warming up: 75 to 105°C(167 to 221°F)	-
FUEL GAUGE (A/D)	Fuel input signal / Min.: 0, Max.: 255	Fuel receiver gauge segments No.1 to No.8 illuminate: 14 to 34 No.1 to No.6 (No.7) illuminate: 77 to 109 No.1 to No.4 (No,5) illuminate: 135 to 172 No.1 and No.2 illuminate: 175 to 188 No.1 flashes: 194 to 200	-
OIL MAINTENANCE(*1)	Integrated value for Oil Maintenance / Min.: 0 mile, Max.: 25500 mile	Total accumulated vehicle travel distance for oil maintenance since last reset	-
RHEOSTAT (A/D)	Rheostat value / Min.: 0, Max.: 255	Light control rheostat switch is Dark(0)→Bright(255)	-

*1: U.S.A. only

2. PERFORM ACTIVE TEST

HINT:

Performing the intelligent tester's Active Test allows relays, VSV, actuators and other items to be operated without removing any parts. Performing the Active Test early in troubleshooting is one way to save time. The Data List can be displayed during the Active Test.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON.
(c) Perform the Active Test according to the prompts displayed on the tester.

METER

Item	Test Details	Diagnostic Note
SPEED METER	0 / 40 / 80 / 120 mph 0 / 40 / 80 / 120 / 160 / 200 km/h	-
TACHOMETER	0rpm / 1,000rpm / 2,000rpm / 3,000rpm / 4,000rpm / 5,000rpm / 6,000rpm / 7,000rpm	-
FUEL GAUGE	EMPTY, 1/2, FULL	-
COOLANT TEMP	LOW / NORMAL / HIGH	-
METER DISPLAY1	All / 0 / 1 / 2 / 3 / 4 / 5 / 6	-
METER DISPLAY2	7 / 8 / 9	-
SRS WARN	Airbag warning light OFF / ON	-
D-BELT REMIND	Driver seat belt warning light OFF / ON	-
P-BELT REMIND	Front passenger seat belt warning light OFF / ON	-
DOORS ALL OPEN	Door indicator light OFF / ON	-

Item	Test Details	Diagnostic Note
DISCHARGE WARN	Charge warning light OFF / ON	-
ABS WARN (*1)	ABS warning light OFF / ON	-
BRAKE WARN	Brake warning light OFF / ON	-
COOLANT HOT	Engine coolant temperature warning light OFF / ON	-
COOLANT COOL	Engine coolant temperature indicator light (COOL) OFF / ON	-
EPS INDIC	EPS indicator ON / OFF	-
OIL MAINTENANCE (*2)	Oil maintenance indicator OFF / ON	-

*1: w/ABS
*2: U.S.A. only

DIAGNOSTIC TROUBLE CODE CHART

DTC No.	Detection Item	Trouble Area	See page
U0100	Lost Communication with ECM/ PCM "A"	• ECM • CAN communication system	ME-93
U0129	Lost Communication with Skid Control ECU	• Skid Control ECU • CAN communication system	ME-95

ON-VEHICLE INSPECTION

1. INSPECT SPEEDOMETER

(a) Check the operation.

(1) Using a speedometer tester, inspect the speedometer and confirm that the speedometer readings are within the acceptable range. Also check the odometer operation.

Reference:

km/h (Canada)

Standard Indication	Acceptable Range
20 km/h	17.5 to 21.5 km/h
40 km/h	38 to 42 km/h
60 km/h	58 to 63 km/h
80 km/h	78 to 84 km/h
100 km/h	98.5 to 104.5 km/h
120 km/h	119 to 125 km/h
140 km/h	139 to 146 km/h
160 km/h	159 to 167 km/h
180 km/h	179 to 188 km/h
200 km/h	199 to 209 km/h

mph (U.S.A.)

Standard Indication	Acceptable Range
20 mph	18 to 21 mph
40 mph	38.5 to 42 mph
60 mph	59 to 63 mph
80 mph	79.5 to 84 mph
100 mph	100 to 105 mph
120 mph	121 to 126.5 mph

NOTICE:

Tire wear and excessively high or low tire pressure affect speedometer indications.

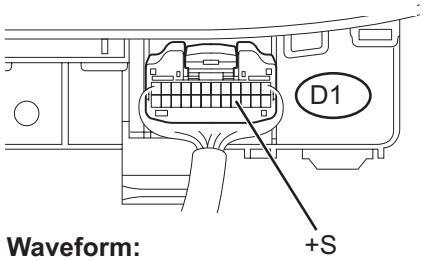
(2) Check the deflection of the speedometer indicator.

Reference:

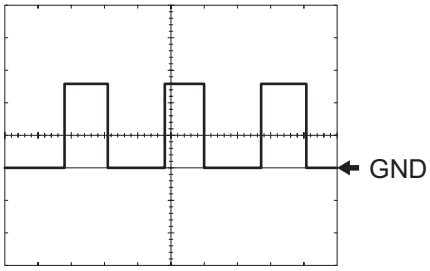
Below 0.3 mph (0.5 km/h)

ME

Combination Meter Assembly Connector:



Waveform:



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2. INSPECT SPEEDOMETER SENSOR

(a) Check the output signal waveform.

(1) Remove the combination meter assembly, but do not disconnect the connector.

(2) Connect an oscilloscope to terminals D1 - 16 and to the body ground.

(3) Start the engine.

(4) Check the signal waveform according to the condition(s) in the table below.

Item	Contents
Terminal Connection	+S (D1-16) and Body Ground
Tool Setting	5V / DIV, 20ms / DIV
Condition	Driving at approximately 12mph (20km / h)

OK:

As shown in the illustration.

NOTICE:

Waveform is indicated as the vehicle speed increases, the cycle of the signal waveform narrows.

(5) Reinstall the combination meter assembly.

3. INSPECT TACHOMETER

(a) Check the operation.

(1) Connect the intelligent tester to the DLC3.

(2) Turn the ignition switch ON and turn the tester ON.

(3) Select the item below from the Data List and read the value displayed on the intelligent tester.

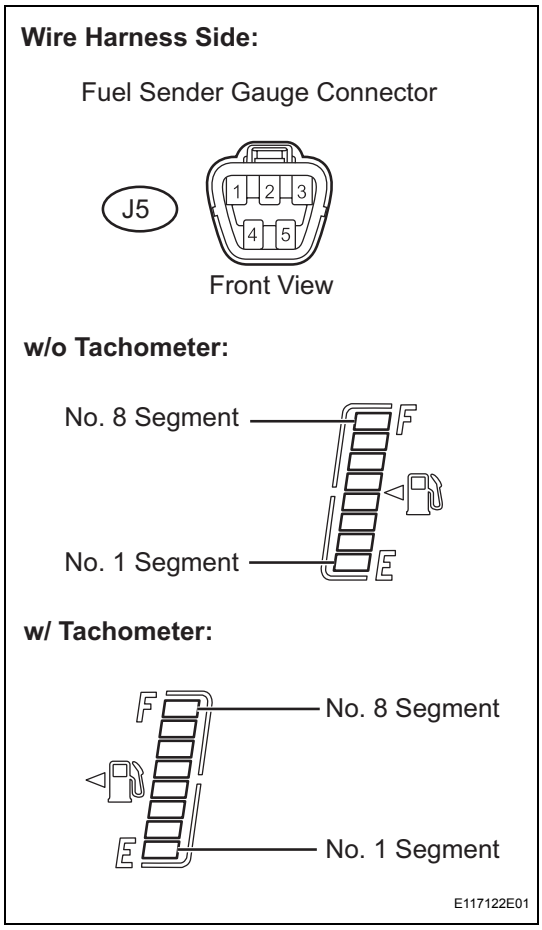
METER

Item	Measurement Item/ Range(Display)	Normal Condition	Diagnostic Note
TACHO METER	Engine speed/Min.: 0 rpm, Max.:12,750 rpm	Approximately same as actual engine speed (When engine is running)	-

(4) Compare the engine speed displayed on the tester with the tachometer reading.

Reference

Standard Indication (r/min)	Acceptable Range [Data in ( ) are for reference]
700 r/min	630 to 770 r/min
1,000 r/min	(900 to 1,100 r/min)
2,000 r/min	(1,850 to 2,150 r/min)
3,000 r/min	2,800 to 3,200 r/min
4,000 r/min	(3,800 to 4,200 r/min)
5,000 r/min	4,800 to 5,200 r/min
6,000 r/min	(5,750 to 6,250 r/min)
7,000 r/min	(6,700 to 7,300 r/min)



4. INSPECT FUEL RECEIVER GAUGE

(a) Disconnect the J5 fuel sender gauge connector.

(b) Check the fuel receiver gauge operation when the ignition switch is turned to the ON position.

OK:

No. 1 segment flashes.

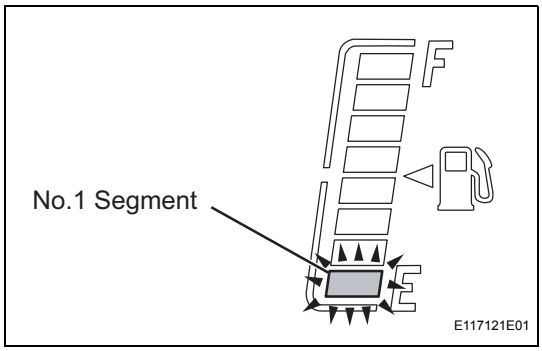
(c) Connect terminals 2 and 3 on the wire harness side connector of the fuel sender gauge.

(d) Check the fuel receiver gauge operation when the ignition switch is turned from OFF to ON.

OK:

All segments, from No. 1 to No. 8, illuminate.

(e) Reconnect the fuel sender gauge connector.



5. INSPECT FUEL LEVEL WARNING LIGHT

(a) Turn the ignition switch to the ON position, and check that the receiver gauge No. 1 segment flashes when the fuel volume is less than 6.3 liters (less than 15 % of the total fuel tank capacity).

OK

Fuel Volume	Flashing Speed (Interval)
1.6 gal (6.3 liters) (Less than 15 % of total fuel tank capacity)	Flashes slowly (1.2 seconds)
1.1 gal (4.2 liters) (Less than 10 % of total fuel tank capacity)	Flashes quickly (0.6 seconds)

6. INSPECT ENGINE OIL PRESSURE WARNING LIGHT

(a) Disconnect the engine oil pressure switch connector.

(b) Turn the ignition switch to the ON position.

(c) Ground the terminal of the wire harness side connector, then check the engine oil pressure warning light.

OK:

Engine oil pressure warning light illuminates.

(d) Reconnect the engine oil pressure switch connector.

7. INSPECT BRAKE WARNING LIGHT

(a) Inspect the parking brake warning light.
  (1) Disconnect the parking brake switch connector.
  (2) Turn the ignition switch to the ON position.
  (3) Ground the terminal of the wire harness side connector, then check the parking brake warning light.
    OK:
      Brake warning light illuminates.
  (4) Reconnect the parking brake switch connector.

(b) Inspect the brake fluid level warning light.
  (1) Disconnect the brake fluid level warning switch connector.
  (2) Turn the ignition switch to the ON position.
  (3) Connect a terminal to the other terminal of the wire harness side connector, then check the brake fluid level warning switch.
    OK:
      Brake warning light illuminates.
  (4) Reconnect the brake fluid level warning switch connector.

ME

8. INSPECT BRAKE FLUID LEVEL WARNING SWITCH

(a) Remove the reservoir tank cap and strainer.
(b) Disconnect the brake fluid level warning switch connector.
(c) Measure the resistance between the terminals.
  Standard resistance:
    Float inside reservoir tank is in high position (switch OFF): 10 k Ω or higher
(d) Use a syphon or a similar tool to drain fluid out of the reservoir tank.
(e) Measure the resistance between the terminals.
  Standard resistance:
    Float inside reservoir tank is in low position (switch ON): Below 1 Ω
(f) Pour the fluid back into the reservoir tank.
(g) Reconnect the brake fluid level warning switch connector.
(h) Reinstall the reservoir tank cap and strainer.

9. INSPECT WINDOW WASHER FLUID WARNING LIGHT

(a) Disconnect the connector from the washer level warning switch.
(b) Turn the ignition switch to the ON position.
(c) Ground the terminal of the wire harness side connector, then check the washer level warning light.
  OK:
    Washer level warning light comes on.

10. INSPECT ENGINE COOLANT TEMPERATURE WARNING LIGHT

(a) Disconnect the engine coolant temperature sensor connector.

(b) Turn the ignition switch to the ON position.
(c) Connect a terminal to the other terminal of the wire harness side connector, then check the engine coolant temperature warning light.
OK:
Engine coolant temperature warning light illuminates.
(d) Reconnect the engine coolant temperature sensor connector.
NOTICE:
DTCs may have been set. Check for DTCs and clear any that have been set.

11. INSPECT ENGINE COOLANT TEMPERATURE WARNING LIGHT

(a) Disconnect the engine coolant temperature sensor connector.
(b) Turn the ignition switch to the ON position.
(c) Connect a terminal to the other terminal of the wire harness side connector, then check the engine coolant temperature coolant indicator light.
OK:
Engine coolant temperature indicator light illuminates.
(d) Reconnect the engine coolant temperature sensor connector.
NOTICE:
DTCs may have been set. Check for DTCs and clear any that have been set.

12. OIL MAINTENANCE INDICATOR RESETTING PROCEDURE (U.S.A. only)

Oil Maintenance Indicator	Condition	Specified State
Blinks	Vehicle has run 4,500 miles since previous setting	Indicator blinks for 15 seconds after ignition switch is turned ON (including 3 seconds for a valve check)
Illuminates	Vehicle has run 5,000 miles since previous setting	Indicator illuminates after ignition switch is turned ON.

(a) Set the window display located inside the combination meter to the Trip A indication.
(b) Turn the ignition switch OFF.
(c) While pressing the ODO/TRIP display change switch (reset switch) (for at least 5 seconds), turn the ignition switch ON.
(d) When the reset procedure has been completed successfully, the MAINT REQD indicator light turns off and the ODO/TRIP meter indicates 0 (zero) and then returns to its regular display.
HINT:
If the reset fails, the MAINT REQD indicator light remains illuminated. Perform the procedure again.

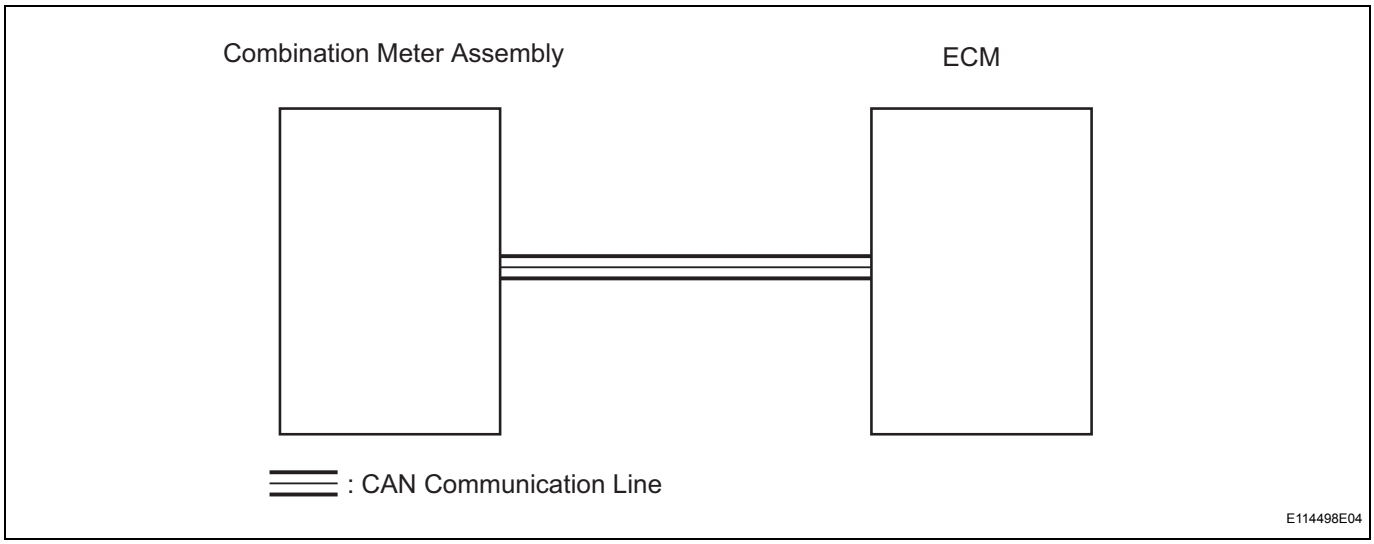
DTC	U0100	Lost Communication with ECM/PCM "A"

DESCRIPTION

The combination meter assembly and the ECM exchange signals through the CAN communication system.

DTC No.	DTC Detecting Conditions	Trouble Areas
U0100	When either of following conditions detected: 1. Vehicle speed 3.1 mph (5 km/h) or more and IG voltage 10.5 V or more 2. No communication with ECM continues for 3 seconds or more (Communication with neither ECM nor skid control ECU for 60 seconds or more)	• CAN communication system • ECM

WIRING DIAGRAM



ME

INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT

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

Result

Result	Proceed to
DTC output	A
DTC not output	B

B	SYSTEM IS OK

A

GO TO CAN COMMUNICATION SYSTEM

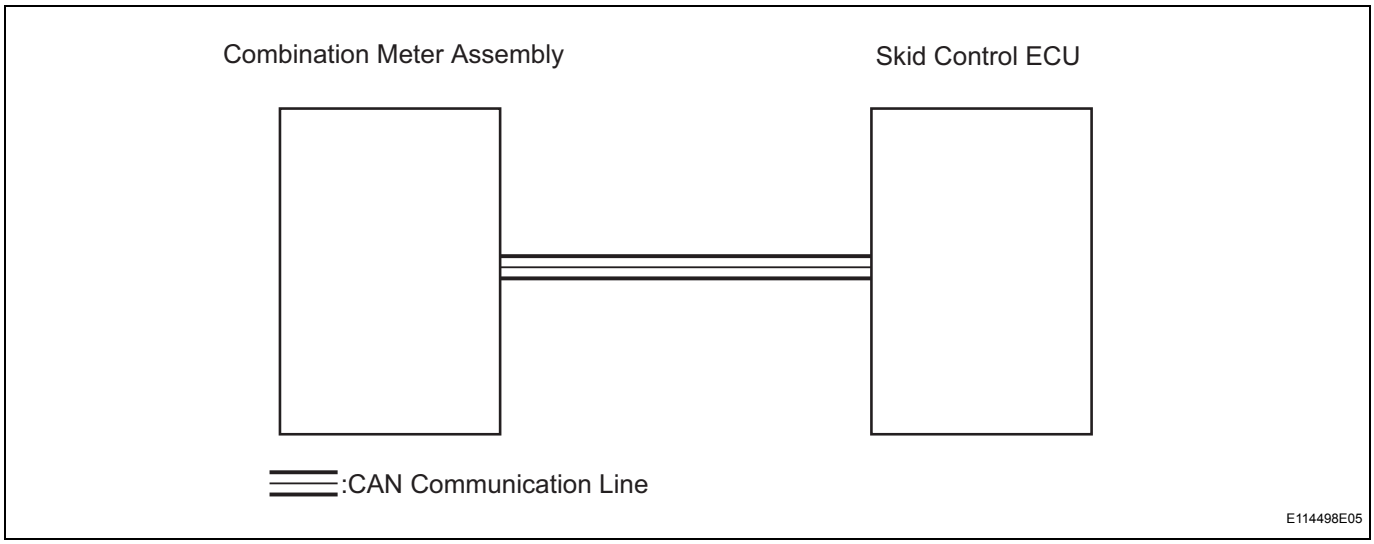
DTC	U0129	Lost Communication with Skid Control ECU

DESCRIPTION

The combination meter assembly receives signals from the skid control ECU through the CAN communication system.

DTC No.	DTC Detecting Conditions	Trouble Areas
U0129	When either of following conditions detected: 1. 15 seconds have elapsed since engine started and IG voltage 10.5 V or more 2. No communication with skid control ECU continues for 3 seconds or more (Communication with neither ECM nor skid control ECU for 60 seconds or more)	• Skid control ECU • CAN communication system

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CONFIRM DTC OUTPUT

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Clear the stored DTCs by selecting the following menu items on the tester: DIAGNOSIS/ OBD/MOBD/ METER/ DTC INFO /CLEAR CODES.
(d) Start the engine and wait for at least 60 seconds.
(e) Check for DTCs.

Result

Result	Proceed to
DTC output	A
DTC not output	B

B	SYSTEM IS OK

A

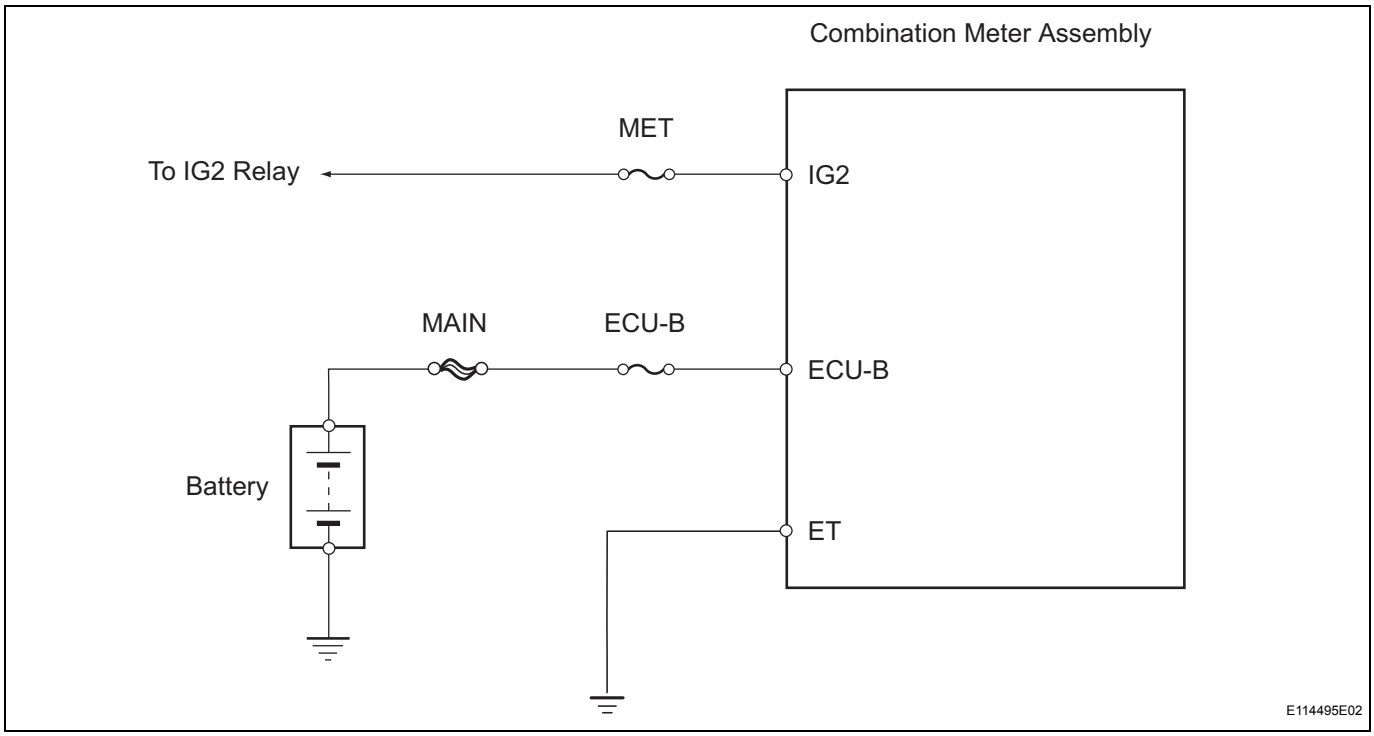
GO TO CAN COMMUNICATION SYSTEM

Entire Combination Meter does not Operate

DESCRIPTION

This circuit provides power to the combination meter assembly.

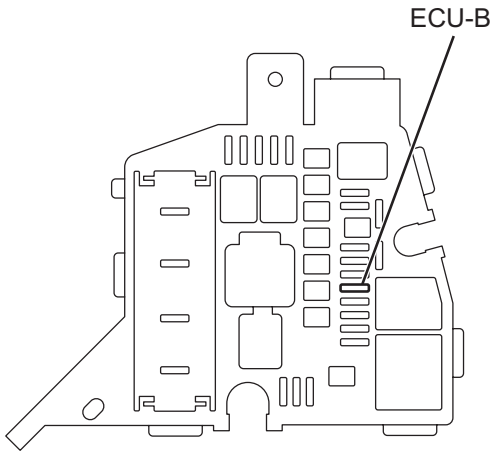
WIRING DIAGRAM



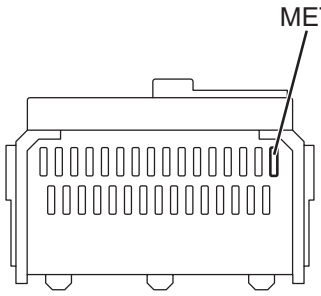
INSPECTION PROCEDURE

1	CHECK FUSE (ECU-B, MET)

Engine Room R/B:



Main Body ECU:



O

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(a) Remove the ECU-B fuse from the engine room relay block.
(b) Remove the MET fuse from the main body ECU.
(c) Measure the resistance.
Standard resistance:
Below 1Ω
(d) Reinstall the fuse.

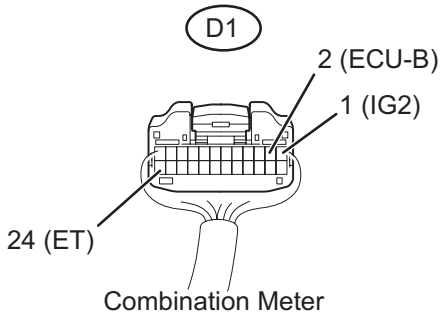
NG → **CHECK SHORT CIRCUIT IN COMPONENTS AND WIRES CONNECTED TO FUSE**

OK

ME

2	INSPECT COMBINATION METER ASSEMBLY

Wire Harness Side:



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(a) Disconnect the D1 combination meter connector.
(b) Measure the resistance.
Standard resistance

Terminal No.	Condition	Specified Condition
ET (D1-24) - Body ground	Always	Below 1 Ω

(c) Measure the voltage.
Standard voltage

Terminal No.	Condition	Specified Condition
IG2 (D1-1) - Body ground	Ignition switch ON	11 to 14V
ECU-B (D1-2) - Body ground	Always	11 to 14V

(d) Reconnect the combination meter connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

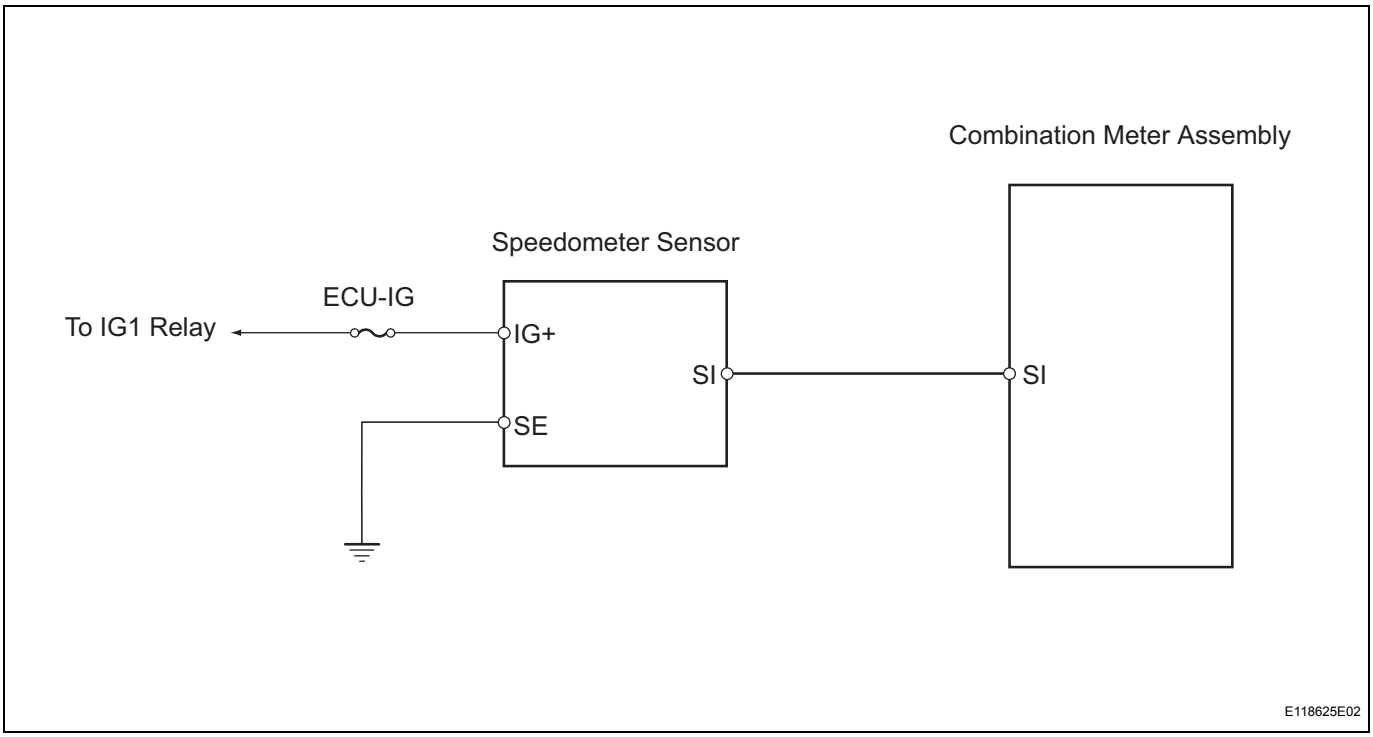
ME

Speedometer Malfunction

DESCRIPTION

The combination meter assembly controls the speedometer in accordance with vehicle speed signals from the speedometer sensor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (SPEED METER)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus : DIAGNOSIS / METER / ACTIVE TEST.

METER

Item	Test Details	Diagnostic Note
SPEED METER	0 / 40(24) / 80(48) / 120(72) / 160(96) / 200(120) / 240(144) km/h (mph)	-

OK:
Vehicle speed displayed on the tester is approximately the same as that of the speedometer reading.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2	READ VALUE OF INTELLIGENT TESTER (SPEED METER)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

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

OK:
Vehicle speed displayed on the tester is approximately the same as the actual vehicle speed.

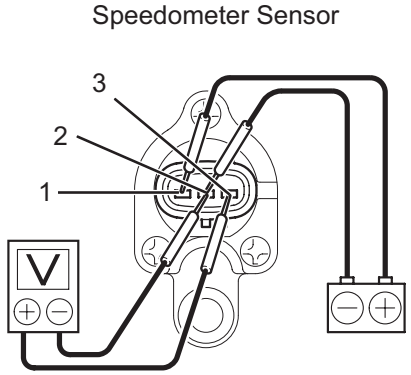
NG → **Go to step 3**

OK →

REPLACE COMBINATION METER ASSEMBLY

3	INSPECT SPEEDOMETER

Component Side:



(a) Remove the speedometer sensor.
(b) Connect the positive (+) lead from the battery to terminal 1 and the negative(-) lead to terminal 2.
(c) Connect the positive (+) lead from the tester to terminal 3 and the negative (-) lead to terminal 2.
(d) Rotate the shaft.
(e) Check that the voltage output between terminals 2 and 3 varies between 0V and 11V.
(f) Reinstall the speedometer sensor.

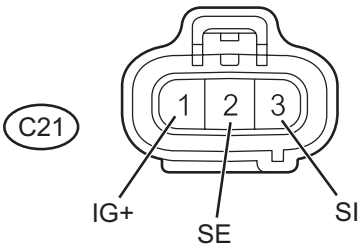
NG → **REPLACE SPEEDOMETER**

OK →

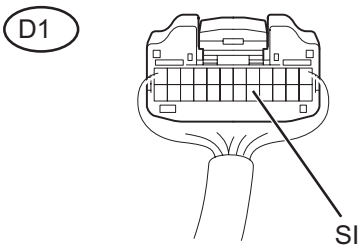
4	CHECK HARNESS AND CONNECTOR (SPEEDOMETER SENSOR - COMBINATION METER ASSEMBLY)

Wire Harness Side:

Speedometer Sensor Connector



Combination Meter Assembly Connector



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(a) Disconnect the D1 combination meter assembly connector.
(b) Disconnect the C21 speedometer sensor connector.
(c) Measure the resistance
Standard resistance

Tester Connection	Specified Condition
D1-17 (SI) - C21-3 (SI)	Below 1 Ω
C21-2 (SE) - Body ground	Below 1 Ω

(d) Reconnect the combination meter assembly connector.
(e) Measure the voltage
Standard voltage

Tester Connection	Condition	Specified Condition
C21-1 (IG+) - Body ground	Ignition switch ON	11 to 14V

(f) Reconnect the combination meter assembly and speedometer sensor connectors.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

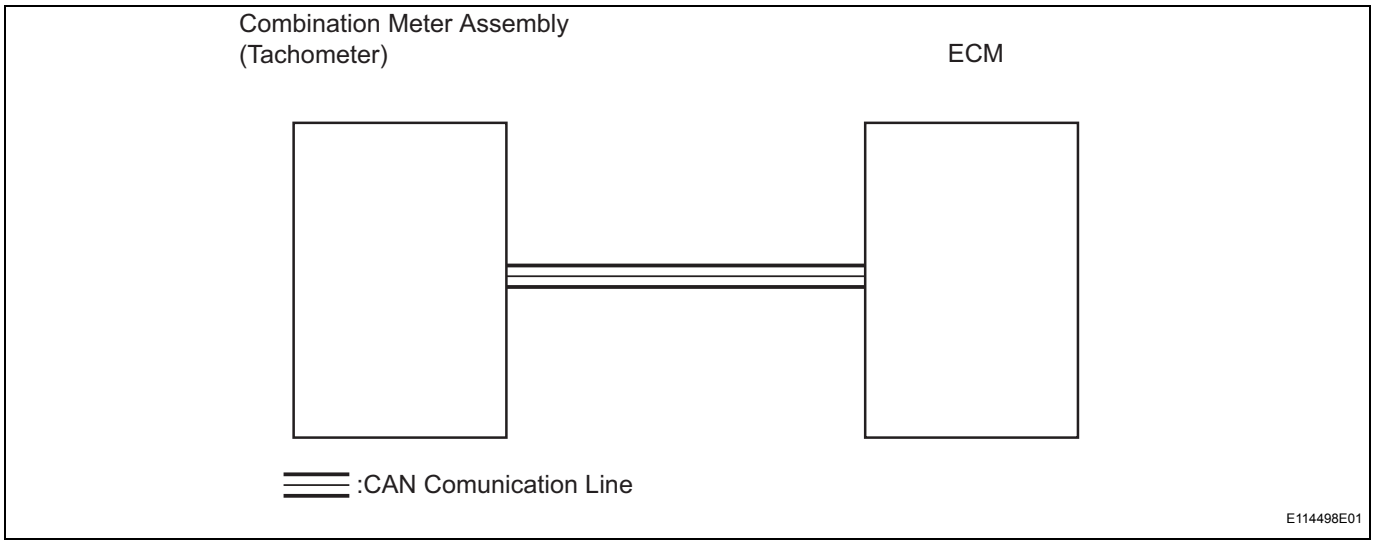
ME

Tachometer Malfunction

DESCRIPTION

The combination meter assembly controls the tachometer in accordance with engine speed signals from the ECM through the CAN communication system.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
If DTC U0100 has been stored, troubleshoot the CAN communication system first.

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (TACHOMETER)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST.

METER

Item	Test Details	Diagnostic Note
TACHOMETER	0 rpm / 1,000 rpm / 2,000 rpm / 3,000 rpm / 4,000 rpm / 5,000 rpm / 6,000 rpm / 7,000 rpm	-

OK:
Engine speed displayed on the tester is approximately the same as that of the tachometer reading.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2	READ VALUE OF INTELLIGENT TESTER (TACHOMETER)

(a) Connect the intelligent tester to the DLC3.

(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
TACHOMETER	Engine speed/Min.: 0 rpm, Max.: 12,750 rpm	Approximately same as actual engine speed (When engine is running)	-

OK:
Engine speed displayed on the tester is approximately the same as the actual engine speed.

NG → **GO TO SFI SYSTEM**

OK

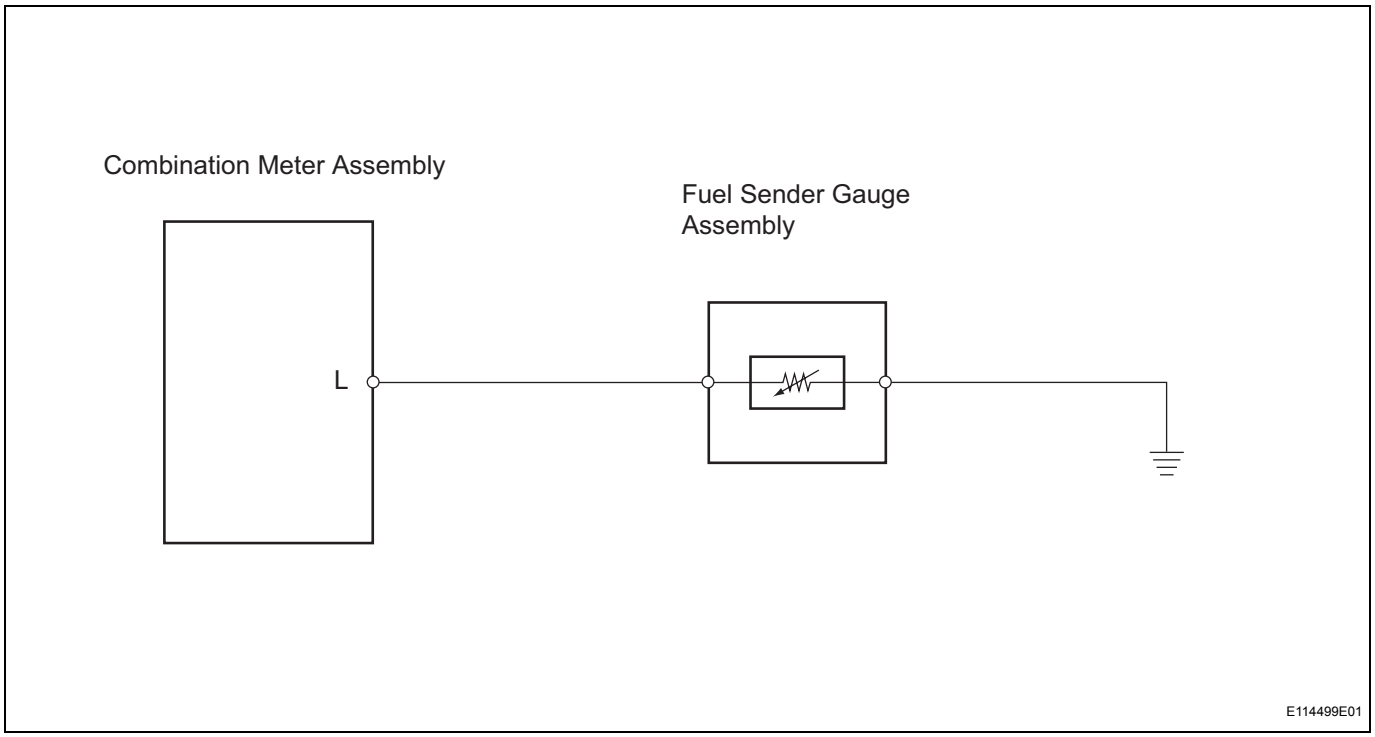
REPLACE COMBINATION METER ASSEMBLY

Fuel Gauge Malfunction

DESCRIPTION

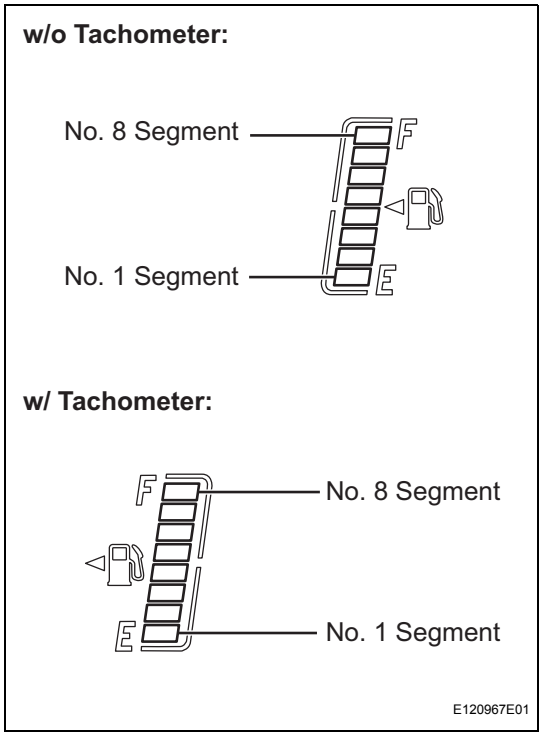
The combination meter assembly controls the fuel receiver gauge in accordance with the resistance of the fuel sender gauge that varies depending on the fuel remaining amount in the fuel tank.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (FUEL GAUGE)



(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST.

METER

Item	Test Details	Diagnostic Note
FUEL GAUGE	EMPTY: Segment No.1 flashes 1/2: Segments No.1 to 4 illuminate FULL: Segments No.1 to 8 illuminate	-

OK:
Fuel receiver gauge segments are illuminated in accordance with the tester instructions.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

2	READ VALUE OF INTELLIGENT TESTER (FUEL GAUGE)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

METER

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
FUEL GAUGE (A/D)	Fuel input signal / Min.: 0, Max.: 255	Fuel receiver gauge segments No.1 to No.8 illuminate: 14 to 34 No.1 to No.6 (No7) illuminate: 77 to 109 No.1 to No.4 (No,5) illuminate: 135 to 172 No.1 and No.2 illuminate: 175 to 188 No.1 flashes: 194 to 200	-

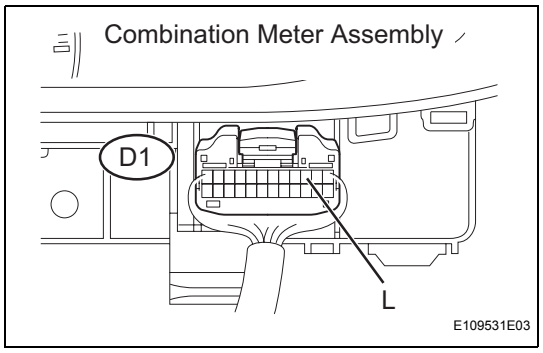
OK:
Fuel input signal displayed on the tester is approximately the same as indication.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

ME

3 CHECK COMBINATION METER ASSEMBLY



(a) Disconnect the J5 fuel sender gauge assembly connector.
(b) Remove the combination meter assembly with its connectors connected.
(c) Measure the voltage.
Standard voltage

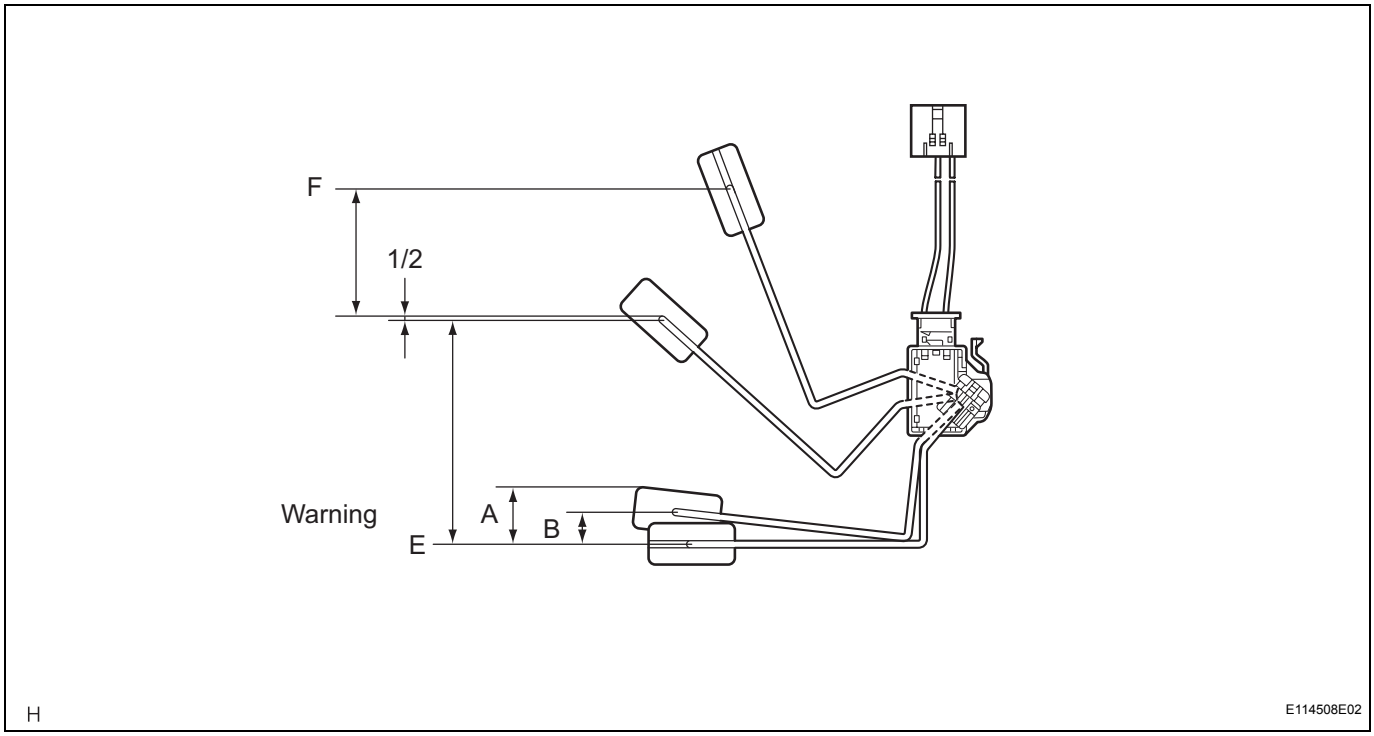
Tester Connection	Condition	Specified Condition
D1-3 (L) - Body ground	Ignition switch ON	11 to 14V

(d) Reconnect the fuel sender gauge assembly connector.
(e) Reinstall the combination meter assembly.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4	INSPECT FUEL SENDER GAUGE ASSEMBLY



(a) Remove the fuel sender gauge assembly.
(b) Check that the float position is between E and F.
(c) Measure the resistance between terminals 2 and 1 of the fuel sender gauge connector.

Standard resistance

Float Level	Float Positioin (mm (in.))	Specified Condition
F	77.3 (3.04) to 79.3 (3.12)	15 Ω to 18 Ω
1/2	1.6 (0.05)	208.3 Ω
Warning A	34.8 (1.37)	365.2 Ω
Warning B	25.3 (1.00)	388.2 Ω
E	75.0 (2.95) to 77.0 (3.03)	410.0 Ω to 415 Ω

(d) Reinstall the fuel sender gauge assembly.

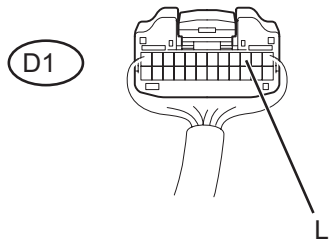
NG → **REPLACE FUEL SENDER GAUGE ASSEMBLY**

OK

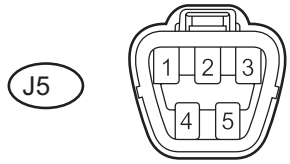
5	CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - FUEL SENDER GAUGE ASSEMBLY)

Wire Harness Side:

Combination Meter Assembly Connector



Fuel Sender Gauge Assembly Connector



Front View

E117128E02

(a) Disconnect the D1combination meter assembly connector.
(b) Disconnect the J5 fuel sender gauge assembly connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D1-3 (L) - J5-2	Below 1Ω
J5-3 - Body ground	Below 1Ω

(d) Reconnect the combination meter assembly and fuel sender gauge assembly connectors.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE COMBINATION METER ASSEMBLY

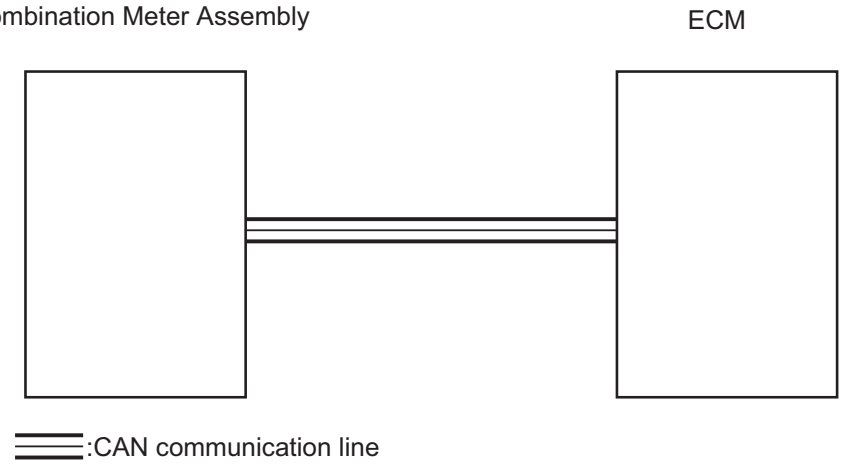
ME

Malfunction in Water Temperature Warning Light

DESCRIPTION

The combination meter assembly controls both the engine coolant temperature warning light and indicator light in accordance with engine coolant temperature signals from the ECM.
The engine coolant temperature indicator light turns off when the engine coolant temperature exceeds 55°C (131°F) and illuminates when the temperature decreases to below 45°C (113°F).
The engine coolant temperature warning light flashes when the engine coolant temperature reaches 117°C (242.6°F) and illuminates when the temperature exceeds 120°C (248°F). When the temperature decreases to 119.5°C (247.1°F) while the warning light is illuminated, the warning light begins to flashing. In addition, when the temperature decreases to below 116.5°C(241.7°F) the warning light turns off.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
- If DTC U0100 has been stored, troubleshoot the CAN communication system first.
- If there is an open or short in the engine coolant temperature sensor circuit, an SFI system DTC is output. If output, perform troubleshooting on the SFI system.

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (COOLANT HOT)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS/ METER/ ACTIVE TEST

METER

Item	Test Details	Diagnostic Note
COOLANT HOT	ON: Engine coolant temperature warning light flashes OFF: Engine coolant temperature warning light turns off	-
COOLANT COOL	ON: Engine coolant temperature indicator light flashes OFF: Engine coolant temperature indicator light turns off	-

Item	Test Details	Diagnostic Note
COOLANT TEMP	HIGH: Engine coolant temperature warning light flashes NORMAL: Engine coolant temperature warning light and indicator light turns off LOW: Engine coolant temperature indicator light illuminates	-

OK:

Both the engine coolant temperature warning light and indicator light are operated in accordance with the tester instructions.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2 READ VALUE OF INTELLIGENT TESTER (COOLANT TEMP)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

ME

METER

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
COOLANT TEMP	Engine coolant temperature / Min.: 0°C,Max.: 127.5°C	After warming up: 75 to 105°C (167 to 221°F)	-

HINT:

- If the value is 0°C (32°F), the sensor circuit is open.
- If the value is 127.5°C (262°F), the sensor circuit is shorted.

OK:

Coolant temperature displayed on the tester is between 75°C (167°F) and 105°C (221°F) after warming up.

NG → **GO TO SFI SYSTEM**

OK

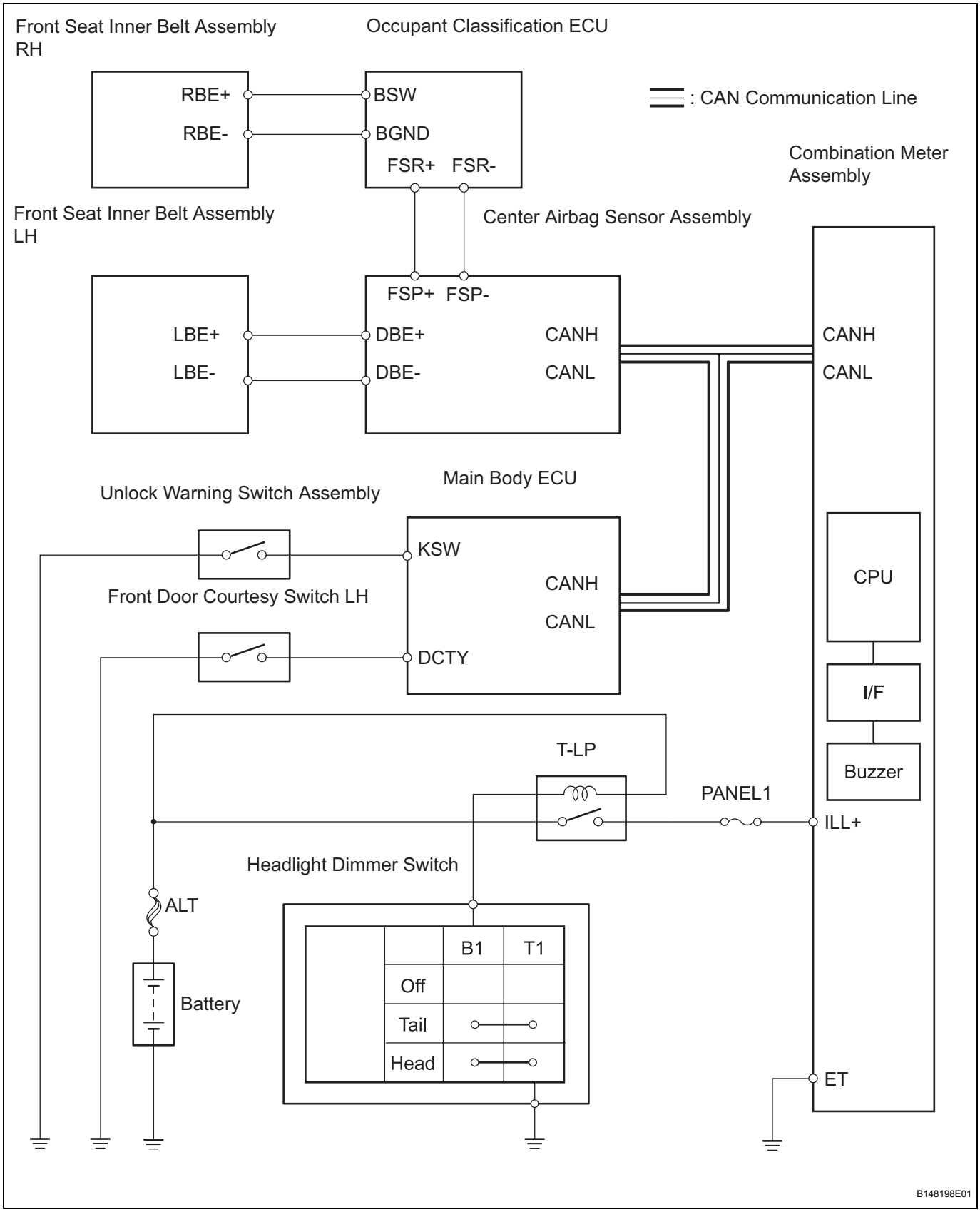
REPLACE COMBINATION METER ASSEMBLY

Warning Buzzer does not Sound

DESCRIPTION

The combination meter assembly controls the buzzers in accordance with signals from the center airbag sensor assembly, the main body ECU and the taillight relay.
HINT:
The main body ECU receives signals from the center airbag sensor assembly and transmits them to the combination meter assembly.

WIRING DIAGRAM



ME

INSPECTION PROCEDURE

1	CHECK BUZZER (SEAT BELT, KEY REMINDER, TAILLIGHT REMINDER)

(a) Check that the seat belt, key reminder and taillight reminder warning buzzers sound.

Result

Result	Proceed to
Seat belt warning buzzer does not sound	A
Key reminder warning buzzer does not sound	B
Taillight reminder warning buzzer does not sound (Meter illuminations normal)	C
No warning buzzers sound	D

HINT:

- Seat belt warning buzzer on: Ignition switch is ON, driver or front passenger seat belt is unfastened, and vehicle speed is 12.4mph (20 km/h) or more.
- Key reminder warning buzzer on: Ignition switch is OFF, key is in ignition key cylinder, and driver side door is open.
- Taillight reminder warning buzzer on: Ignition switch is OFF, taillight relay switch is ON, and driver side door is open.

ME

B → **Go to step 5**

C → **Go to step 11**

D → **REPLACE COMBINATION METER ASSEMBLY**

A

2	CHECK SUPPLEMENTAL RESTRAINT SYSTEM

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG/ DTC INFO.

Result

Result	Proceed to
No SRS DTCs are output	A
SRS DTCs are output	B

B → **GO TO SUPPLEMENTAL RESTRAINT SYSTEM**

A

3	CHECK OCCUPANT CLASSIFICATION SYSTEM

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / OCCUPANT DETECT /DTC INFO.

Result

Result	Proceed to
No occupant classification system DTCs are output	A
Occupant classification system DTCs are output	B

B → **GO TO OCCUPANT CLASSIFICATION SYSTEM**

A

4	CHECK KEY REMINDER FUNCTION

(a) Ignition switch is OFF.
(b) Key is in ignition key cylinder.
(c) Driver side door is open.

OK:

Key reminder warning buzzer ON.

OK → **REPLACE MAIN BODY ECU**

NG

REPLACE COMBINATION METER ASSEMBLY

5	READ VALUE OF INTELLIGENT TESTER (FRONT DOOR COURTESY SWITCH (DRIVER SIDE))

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

MAIN BODY ECU

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver side door courtesy switch signal / ON or OFF	ON: Driver door is open OFF: Driver door is closed	-

NG → **Go to step 9**

OK

6	READ VALUE OF INTELLIGENT TESTER (UNLOCK WARNING SWITCH)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

MAIN BODY ECU

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
KEY UNLK WRN SW	Unlock warning switch signal / ON or OFF	ON: Key is in ignition key cylinder OFF: No key is in ignition key cylinder	-

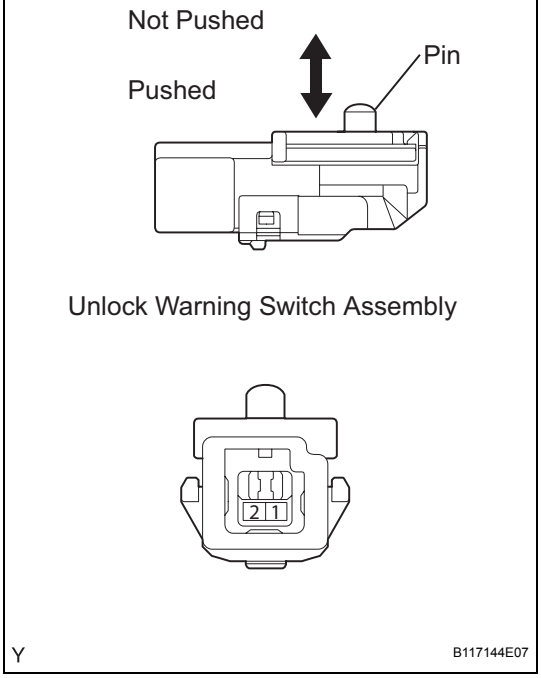
OK → **REPLACE COMBINATION METER ASSEMBLY**

NG

ME

7	INSPECT UNLOCK WARNING SWITCH ASSEMBLY

Component Side:



(a) Disconnect the D19 unlock warning switch assembly connector.
(b) Remove the unlock warning switch assembly.
(c) Measure the resistance.
Standard resistance

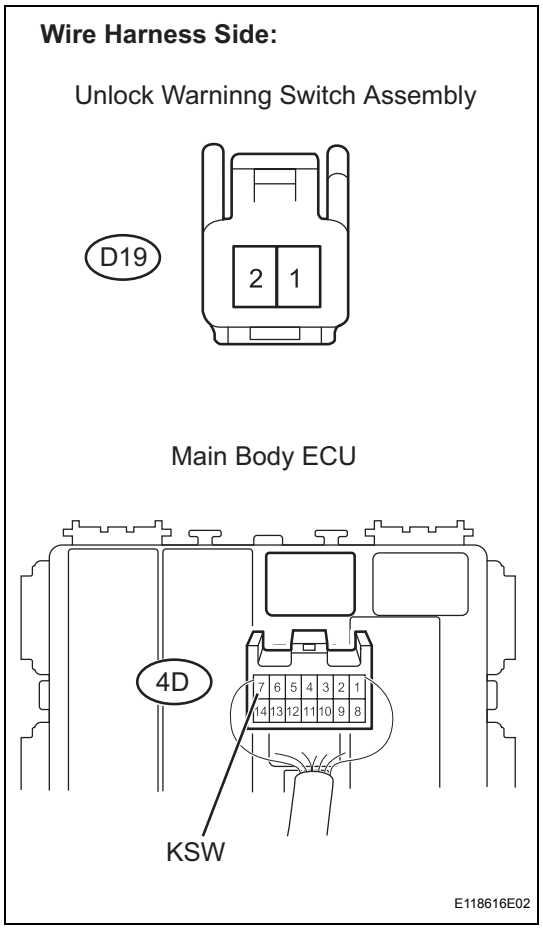
Tester Connection	Condition	Specified Condition
1 - 2	Not pushed	10 k Ω or higher
1 - 2	Pushed	Below 1 Ω

(d) Reconnect the unlock warning switch assembly.

NG → **REPLACE UNLOCK WARNING SWITCH ASSEMBLY**

OK

8	CHECK HARNESS AND CONNECTOR (UNLOCK WARNING SWITCH ASSEMBLY - MAIN BODY ECU)



(a) Disconnect the D19 unlock warning switch connector.
(b) Disconnect the 4D main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
D19-1 - 4D-7 (KSW)	Below 1 Ω
D19-2 - Body ground	Below 1 Ω

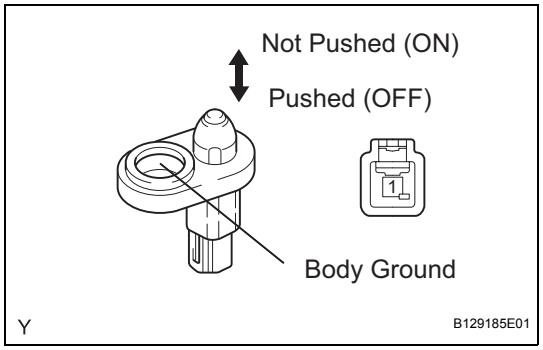
(d) Reconnect the unlock warning switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE MAIN BODY ECU

9	INSPECT FRONT DOOR COURTESY SWITCH (DRIVER SIDE)



(a) Disconnect the J2 front door courtesy switch connector.
(b) Measure the resistance.

Standard resistance

Tester Connection	Condition	Specified Condition
J2-1 - Body ground	Not pushed (ON)	Below 1 Ω
J2-1 - Body ground	Pushed (OFF)	10 kΩ or higher

(c) Reconnect the front door courtesy switch connector.

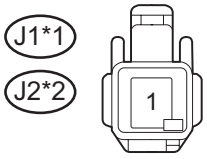
NG → **REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)**

OK

10	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH - MAIN BODY ECU)

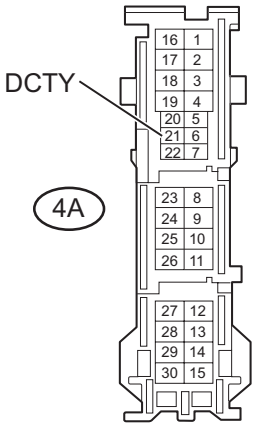
Wire Harness Side:

Front Door Courtesy Switch Connector (Driver Side)



Front View

Main Body ECU Connector



*1: RHD
*2: LHD

Front View

Y

B112021E07

(a) Disconnect the J2 front door courtesy switch connector.
(b) Disconnect the 4A main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J2-1 - 4A-21 (DCTY)	Below 1 Ω

(d) Reconnect the front door courtesy switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE MAIN BODY ECU

11	READ VALUE OF INTELLIGENT TESTER (FRONT DOOR COURTESY SWITCH)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below from the Data List, and read the value displayed on the intelligent tester.

MAIN BODY ECU

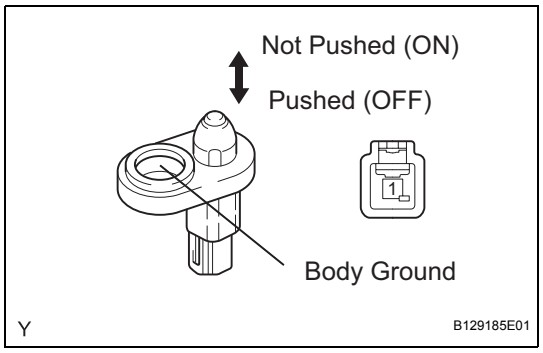
Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver door courtesy switch signal / ON or OFF	ON: Driver door is open OFF: Driver door is closed	-

NG → **Go to step 12**

OK

REPLACE COMBINATION METER ASSEMBLY

12 INSPECT FRONT DOOR COURTESY SWITCH (DRIVER SIDE)



(a) Disconnect the J2 front door courtesy switch assembly connector.

(b) Measure the resistance.

Standard resistance

Tester Connection	Condition	Specified Condition
J2-1 - Body ground	Not pushed (ON)	Below 1 Ω
J2-1 - Body ground	Pushed (OFF)	10kΩ or higher

(c) Reconnect the front door courtesy switch connector.

NG → **REPLACE FRONT DOOR COURTESY SWITCH (DRIVER SIDE)**

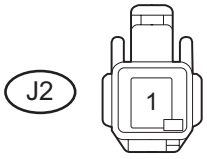
OK

ME

13	CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY SWITCH - MAIN BODY ECU)

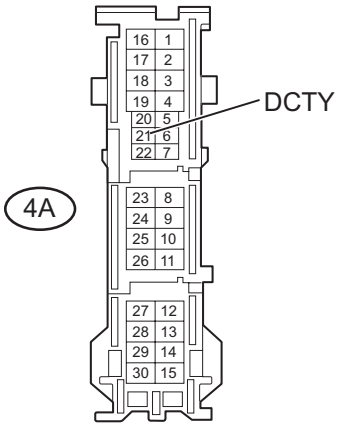
Wire Harness Side:

Front Door Courtesy Switch Connector (Driver Side)



Front View

Main Body ECU Connector



Front View

Y

B112021E08

(a) Disconnect the J2 front door courtesy switch connector.
(b) Disconnect the 4A main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J2-1 - 4A-21 (DCTY)	Below 1 Ω

(d) Reconnect the front door courtesy switch connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

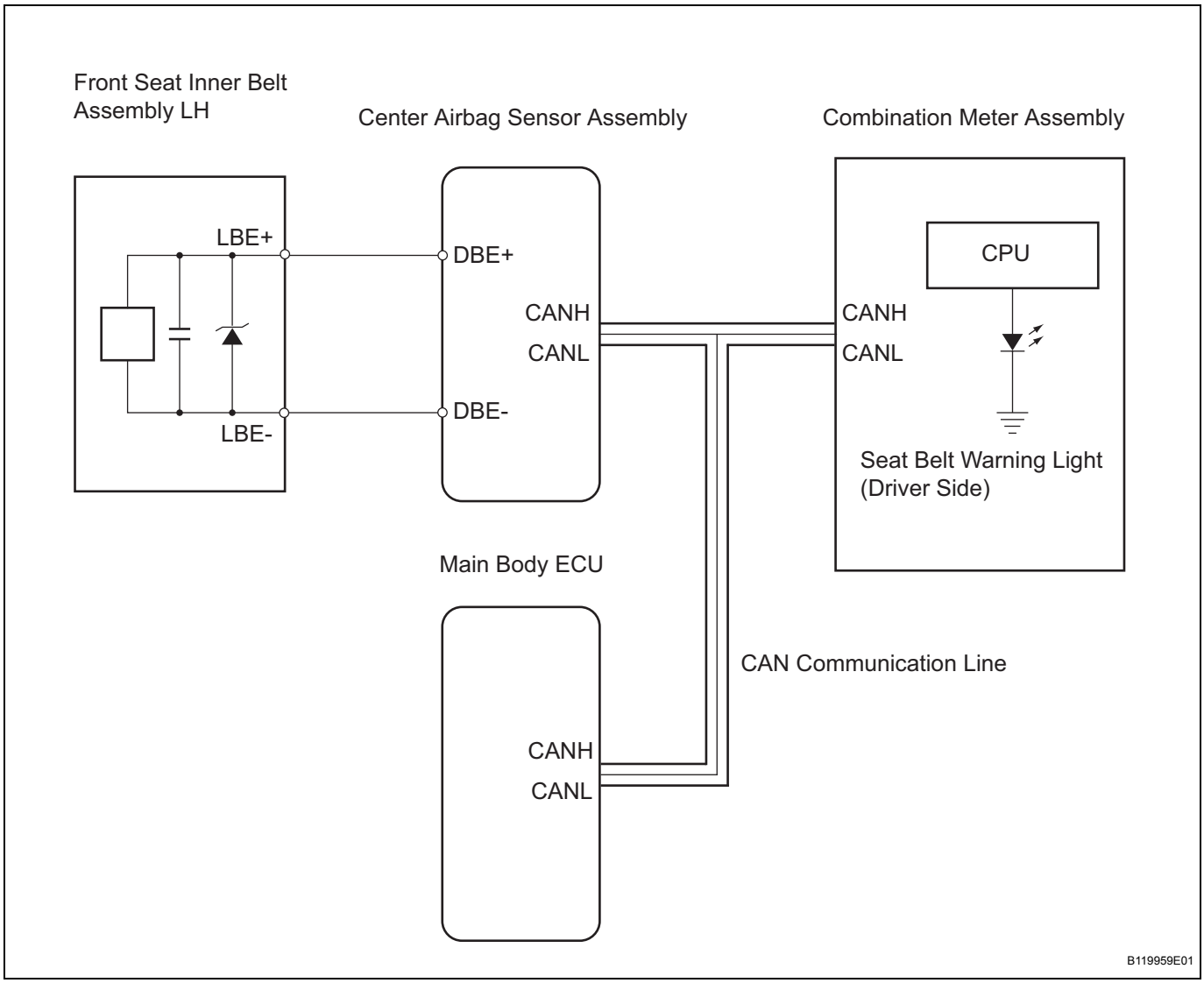
REPLACE MAIN BODY ECU

Driver Side Seat Belt Warning Light does not Operate

DESCRIPTION

When the ignition switch is ON, the center airbag sensor assembly communicates the status of the front seat inner belt assembly LH to the main body ECU using the CAN communication line. The main body ECU receives signals from the center airbag sensor assembly and transmits them to the combination meter assembly. When the seat belt is unfastened, the combination meter assembly flashes the driver seat belt warning light in the combination meter assembly. When the seat belt is fastened, the combination meter assembly stops flashing the front driver seat belt warning light.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK SUPPLEMENTAL RESTRAINT SYSTEM

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.

(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG/ DTC INFO

Result

Result	Proceed to
No SRS DTCs are output	A
SRS DTCs are output	B

B → **GO TO SUPPLEMENTAL RESTRAINT SYSTEM**

A

2	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (SEAT BELT WARNING LIGHT FOR DRIVER SIDE)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST

ME **METER**

Item	Test Details	Diagnostic Note
D-BELT REMIND	Driver seat belt warning light / OFF or ON	Confirm that vehicle is stopped and engine is idling

OK:

Driver seat belt warning light operates normally.

OK → **REPLACE MAIN BODY ECU**

NG

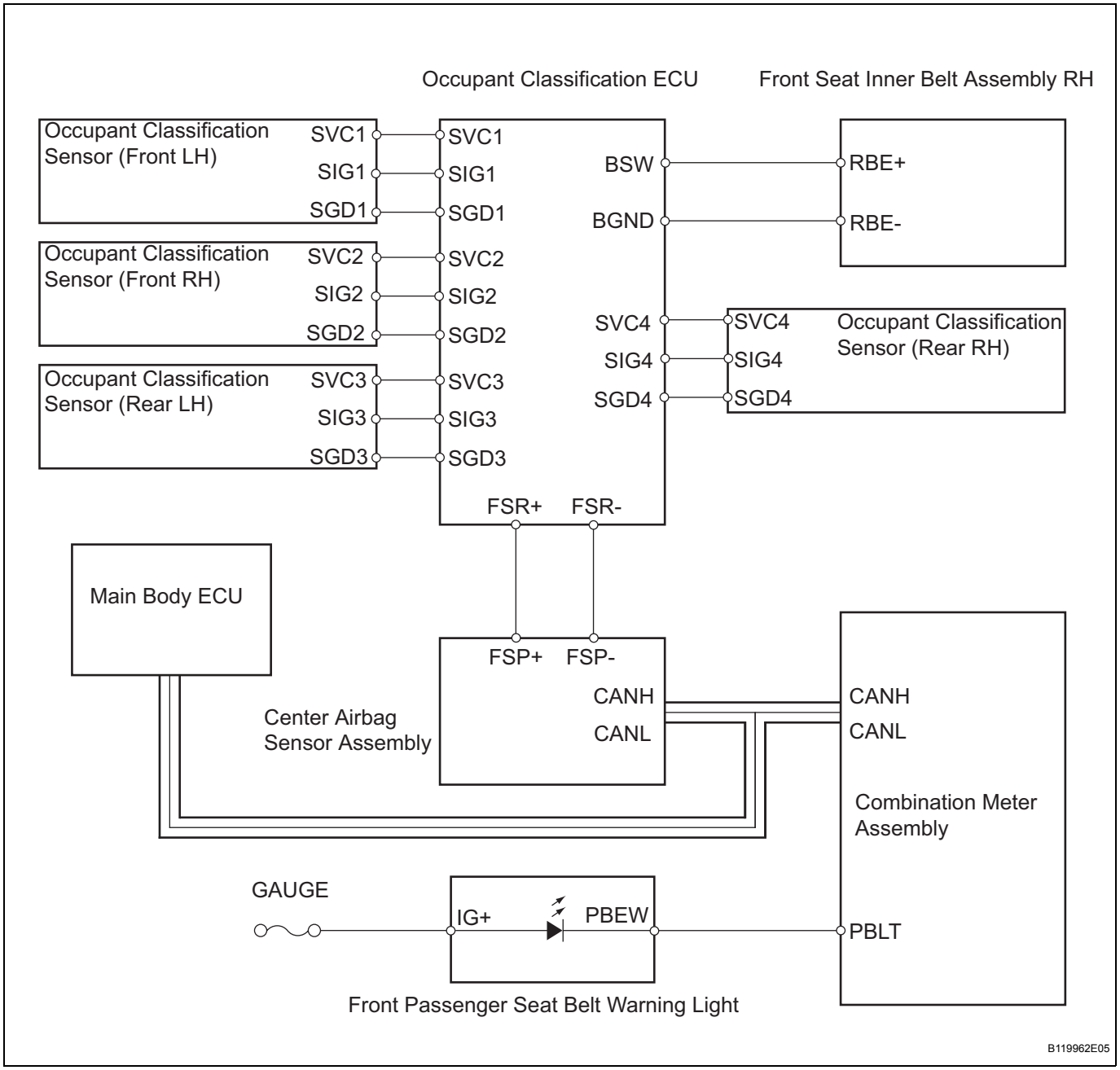
REPLACE COMBINATION METER ASSEMBLY

Front Passenger Side Seat Belt Warning Light Malfunction

DESCRIPTION

When the ignition switch is ON and the front passenger seat is occupied, the center airbag sensor assembly communicates the status of the front seat inner belt assembly RH to the main body ECU using the CAN communication line. The main body ECU receives signals from the center airbag sensor assembly and transmits them to the combination meter assembly. When the front passenger seat belt is unfastened, the combination meter assembly flashes the front passenger seat belt warning light on the instrument panel finish panel end RH. When the seat belt is fastened, the combination meter assembly stops flashing the front passenger seat belt warning light on the instrument panel finish panel end RH.

WIRING DIAGRAM



ME

INSPECTION PROCEDURE

1	CHECK SUPPLEMENTAL RESTRAINT SYSTEM

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG / DTC INFO

Result

Result	Proceed to
No SRS DTCs are output	A
SRS DTCs are output	B

B → GO TO SUPPLEMENTAL RESTRAINT SYSTEM

A

ME

2	CHECK OCCUPANT CLASSIFICATION SYSTEM

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / OCCUPANT DETECT / DTC INFO

Result

Result	Proceed to
No occupant classification system DTCs are output	A
Occupant classification system DTCs are output	B

B → GO TO OCCUPANT CLASSIFICATION SYSTEM

A

3	READ VALUE OF INTELLIGENT TESTER (P BUCKLE SW)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / SRS AIRBAG / DATA LIST

Airbag ECU

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
P-BELT BUCKL SW	Front passenger seat belt buckle switch / UNSET: Front passenger seat belt is not fastened SET: Front passenger seat belt is fastened NG: Data is not determined	UNSET / SET	-

OK:
Front passenger seat belt warning light operates normally.

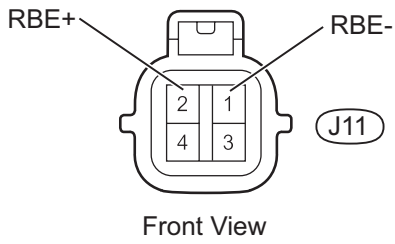
OK → **Go to step 7**

NG

4 CHECK FRONT SEAT INNER BELT ASSEMBLY RH (PASSENGER SIDE)

Wire Harness Side:

Front Seat Inner Belt Assembly RH Connector (Passenger Side)



H

B118133E02

(a) Disconnect the J11 front seat inner belt assembly RH (passenger side) connector.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
J11-1 (RBE-) - J11-2 (RBE+)	Tongue plate fastened	10 kΩ or higher
J11-1 (RBE-) - J11-2 (RBE+)	Tongue plate released	Below 1 Ω

(c) Reconnect the front seat belt inner assembly RH (passenger side) connector.

NG → **REPLACE FRONT SEAT INNER BELT ASSEMBLY RH (PASSENGER SIDE)**

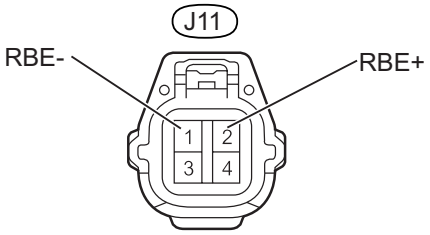
OK

ME

5	CHECK HARNESS AND CONNECTOR (ECU - FRONT SEAT INNER BELT ASSEMBLY RH (PASSENGER SIDE))

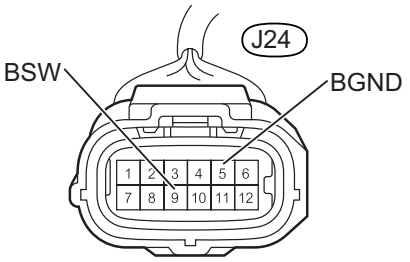
Wire Harness Side:

Front Seat Inner Belt (Passenger Side) Connector



Front View

Occupant Classification ECU Connector



Front View

B119960E02

(a) Disconnect the J24 occupant classification ECU connector.
(b) Disconnect the J11 front seat inner belt connector (passenger side).
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J24-9 (BSW) - J11-2 (RBE+)	Below 1 Ω
J24-10 (BGND) - J11-1 (RBE-)	Below 1 Ω

(d) Reconnect the occupant classification ECU connector.
(e) Reconnect the front seat inner belt connector (passenger side).

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

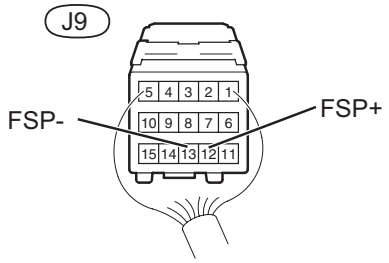
OK

ME

6	CHECK HARNESS AND CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY - OCCUPANT CLASSIFICATION ECU)

Wire Harness Side:

Center Airbag Sensor Assembly Connector



Front View

Occupant Classification ECU Connector

Front View B124231E02

(a) Disconnect the J9 center airbag sensor assembly connector.
(b) Disconnect the J24 occupant classification ECU connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
J9-13 (FSP-) - J24-4 (FSR-)	Below 1 Ω
J9-12 (FSP+) - J24-8 (FSR+)	Below 1 Ω

(d) Reconnect the center airbag sensor assembly connector.
(e) Reconnect the occupant classification ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE OCCUPANT CLASSIFICATION ECU

7	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (P-BELT REMIND)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / METER / ACTIVE TEST

METER

Item	Test Details	Diagnostic Note
P-BELT REMIND	Front passenger seat belt warning light / OFF or ON	Ensure that vehicle is stopped and engine is idling

OK → **REPLACE COMBINATION METER ASSEMBLY**

NG

8	INSPECT FUSE

(a) Remove the GAUGE fuse from the main body ECU.
(b) Measure the resistance.

ME

Standard resistance:
Below 1 Ω

(c) Reinstall the GAUGE fuse .

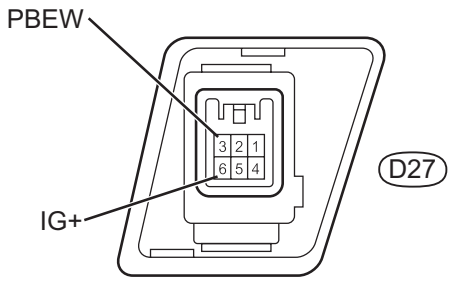
NG → **REPLACE FUSE**

OK

9 INSPECT SEAT BELT WARNING LIGHT (PASSENGER SIDE)

Component Side:

Front Passenger Seat Belt Warning Light Connector



(a) Remove the front passenger seat belt warning light.
(b) Disconnect the D27 front passenger seat belt warning light connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D27-3 (PBEW) - D27-6 (IG+)	Below 1 Ω

(d) Reconnect the front passenger seat belt warning light connector.
(e) Reinstall the front passenger seat belt warning light.

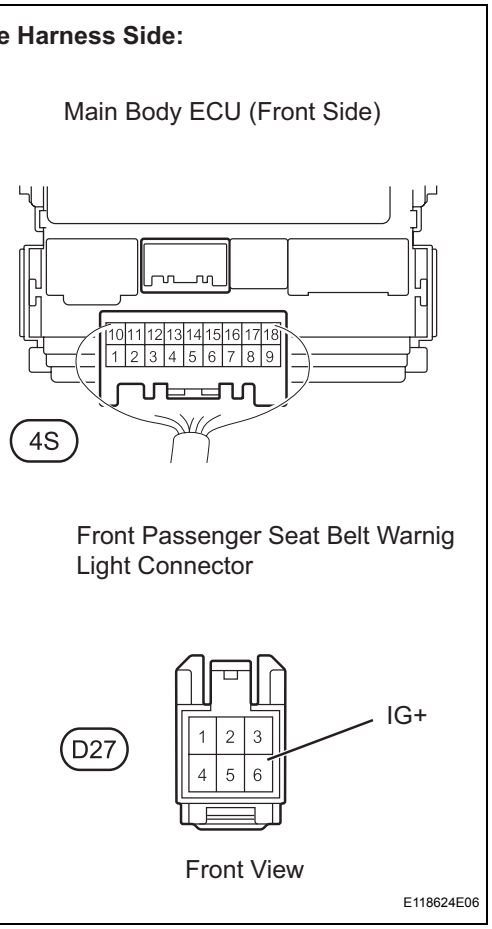
NG → **REPLACE SEAT BELT WARNING LIGHT (PASSENGER SIDE)**

OK

ME

10	CHECK HARNESS AND CONNECTOR (FUSE - SEAT BELT WARNING LIGHT)

Wire Harness Side:



(a) Disconnect the D27 front passenger seat belt warning light connector.
(b) Disconnect the 4S main body ECU front side connector.
(c) Measure the resistance.

Standard resistance

Tester Connection	Specified Condition
4S-15 - D27-6 (IG+)	Below 1 Ω

(d) Reconnect the front passenger seat belt warning light connector.
(e) Reconnect the main body ECU front side connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

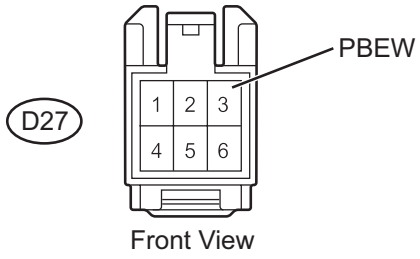
OK

ME

11	CHECK HARNESS AND CONNECTOR (SEAT BELT WARNING LIGHT - COMBINATION METER ASSEMBLY)

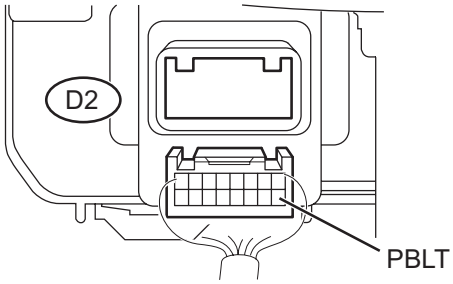
Wire Harness Side:

Front Passenger Seat Belt Warning Light Connector



Front View

Combination Meter Assembly



E118617E05

(a) Disconnect the D2 combination meter assembly connector.
(b) Disconnect the D27 front passenger seat belt warning light connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D2-9 (PBLT) - D27-3 (PBEW)	Below 1 Ω

(d) Reconnect the combination meter assembly connector.
(e) Reconnect the front passenger seat belt warning light connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE MAIN BODY ECU

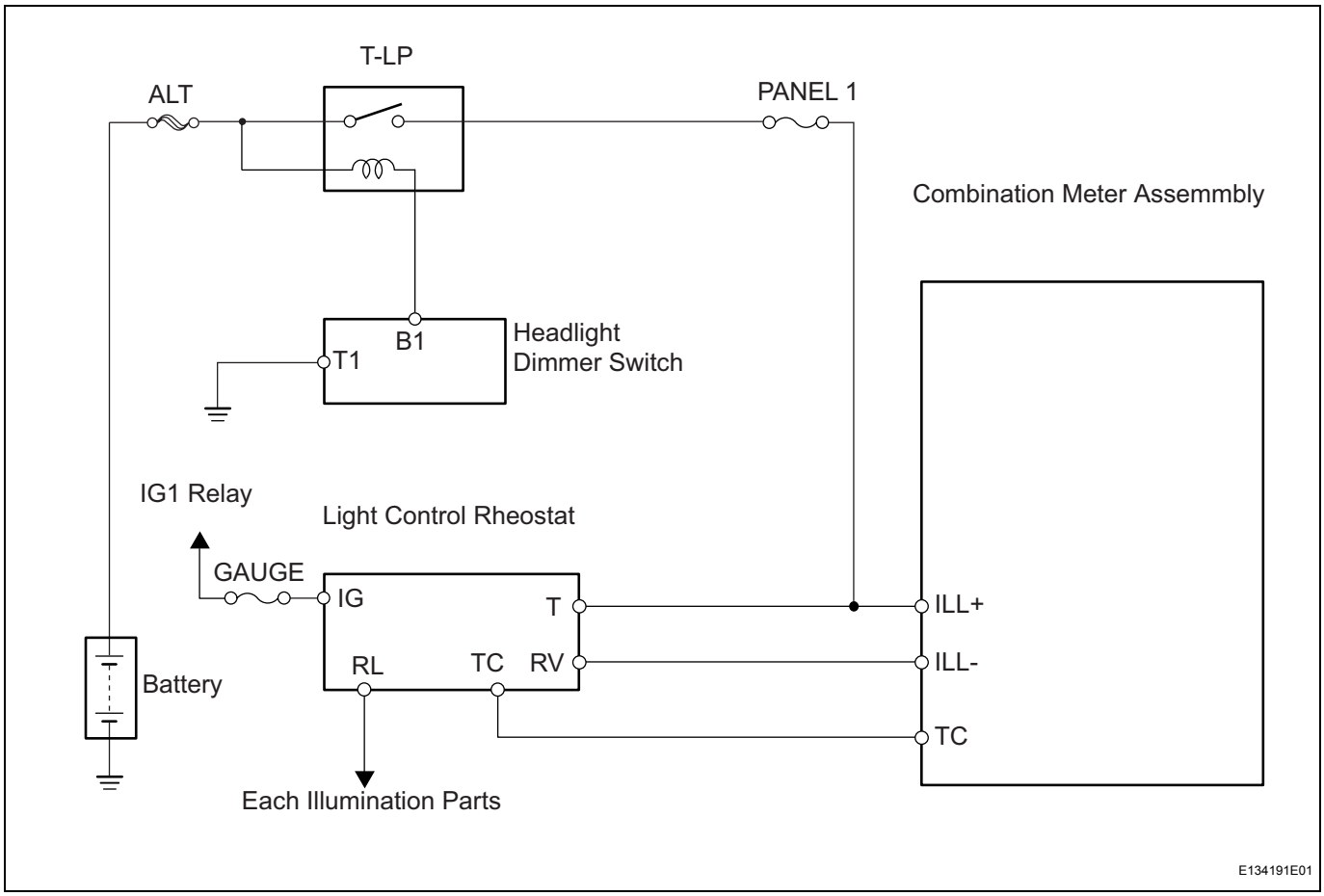
ME

Operating Light Control Rheostat does not Change Light Brightness

DESCRIPTION

The combination meter assembly controls the combination meter illumination in accordance with the light control signals from the light control rheostat.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE OF INTELLIGENT TESTER (RHEOSTAT)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Select the item below in the Data List, and read the value displayed on the intelligent tester.

METER

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
RHEOSTAT (A/D)	Light control rheostat switch / Min.: 0, Max.: 255	Light brightness changes within specified range: Dark (0) to bright (255)	-

OK:
Light brightness can be changed within the specified range by actual operation.

NG → **Go to step 2**

OK

REPLACE COMBINATION METER ASSEMBLY

2	INSPECT FUSE (GAUGE)

(a) Remove the GAUGE fuse from the main body ECU.
(b) Measure the resistance.
Standard resistance:
Below 1 Ω
(c) Reinstall the GAUGE fuse.

NG → **REPLACE FUSE**

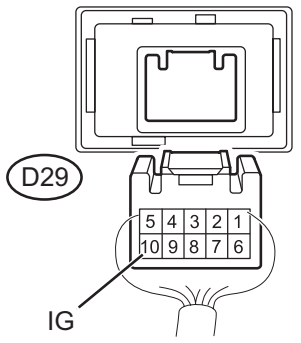
ME

OK

3	CHECK HARNESS AND CONNECTOR (FUSE (GAUGE) - LIGHT CONTROL RHEOSTAT)

Wire Harness Side:

Light Control Rheostat Connector



E118618E01

(a) Disconnect the D29 light control rheostat connector.
(b) Measure the voltage.
Standard voltage

Tester Connection	Condition	Specified Condition
D29-10 - Body ground	Ignition switch ON	11 to 14 V

(c) Reconnect the light control rheostat connector.

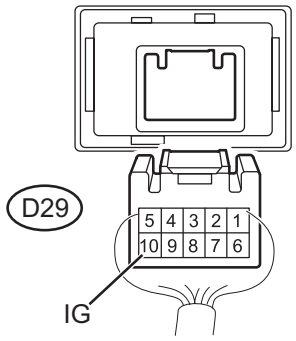
OK → **Go to step 5**

NG

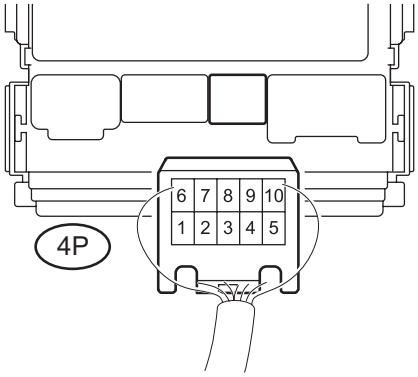
4	CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - LIGHT CONTROL RHEOSTAT)

Wire Harness Side:

Light Control Rheostat Connector



Main Body ECU Connector



E118619E01

(a) Disconnect the D29 light control rheostat connector.
(b) Disconnect the 4P main body ECU connector.
(c) Measure the resistance.

Standard resistance

Tester	Condition	Specified Condition
D29-10 (IG)- 4P-1	Always	Below 1 Ω

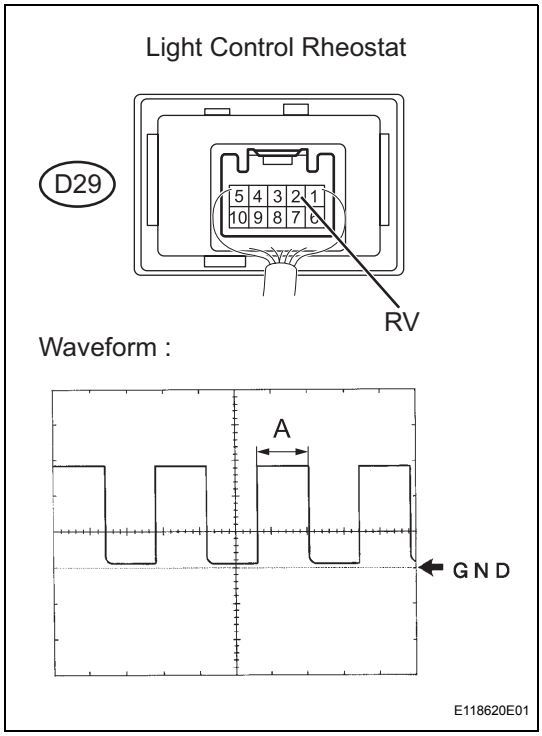
(d) Reconnect the light control rheostat connector.
(e) Reconnect the main body ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

ME

5	INSPECT LIGHT CONTROL RHEOSTAT



(a) Remove the light control rheostat but without disconnecting the connector.
(b) Turn the ignition switch ON.
(c) Using an oscilloscope, check the signal waveform of the light control rheostat.

Item	Contents
Terminal connection	D29-2 (RV) - Body ground
Tool setting	5V / DIV, 50ms / DIV
Vehicle condition	Ignition switch ON

OK:
Waveform is as shown in the illustration.
HINT:
Duty ratio changes as the illumination dims. (A becomes longer)

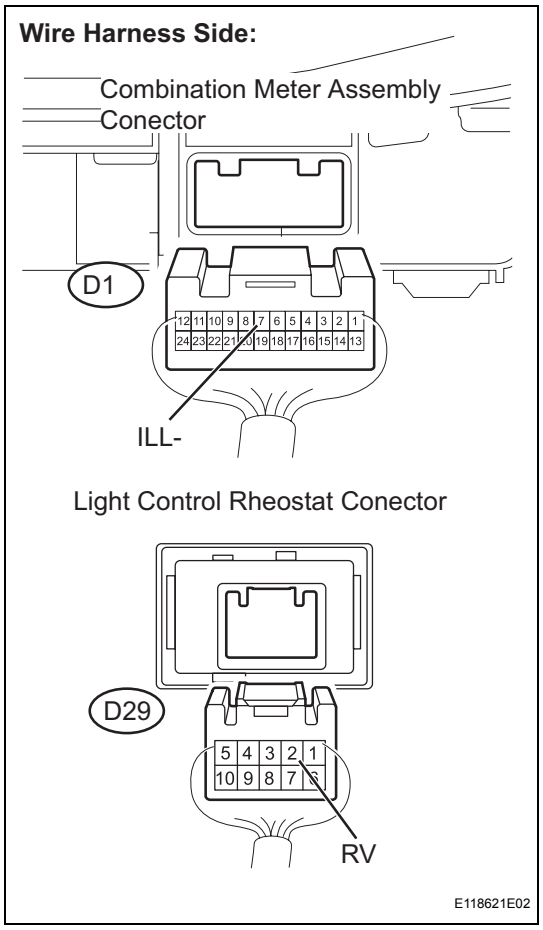
(d) Reinstall the light control rheostat.

NG → **REPLACE LIGHT CONTROL RHEOSTAT**

OK

ME

6	CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY -Å@LIGHT CONTROL RHEOSTAT)



(a) Disconnect the D1 combination meter assembly connector.
(b) Disconnect the D29 light control rheostat connector connector.
(c) Measure the resistance.
Standard resistance

Tester Connection	Specified Condition
D1-7 (ILL-) - D29-2 (RV)	Below 1 Ω

(d) Reconnect the combination meter assembly.
(e) Reconnect the light control rheostat connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

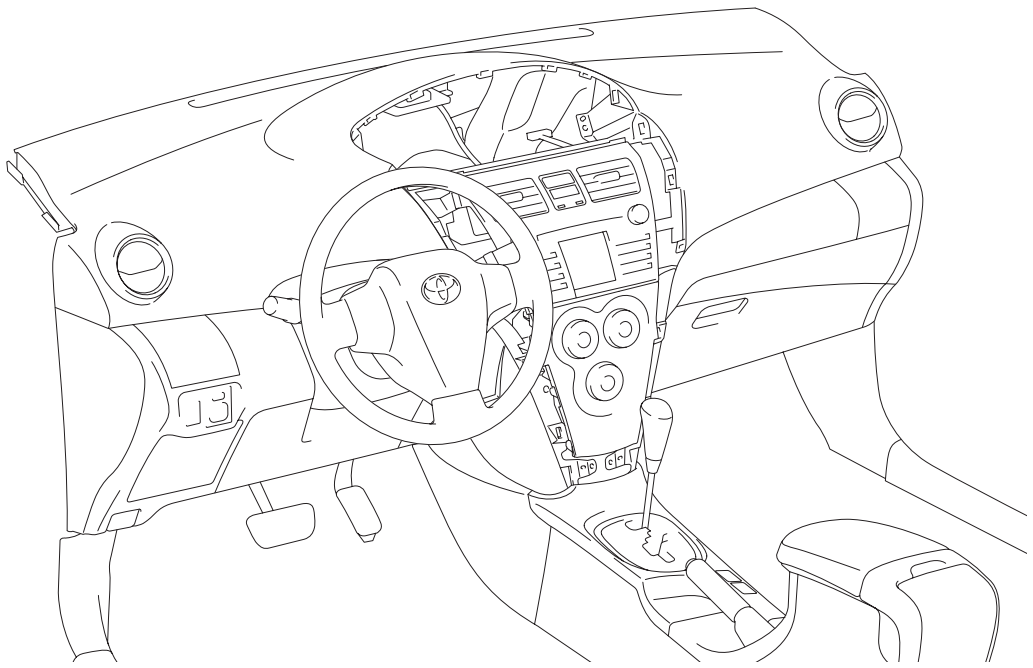
OK

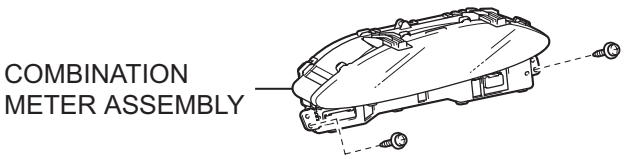
REPLACE COMBINATION METER ASSEMBLY

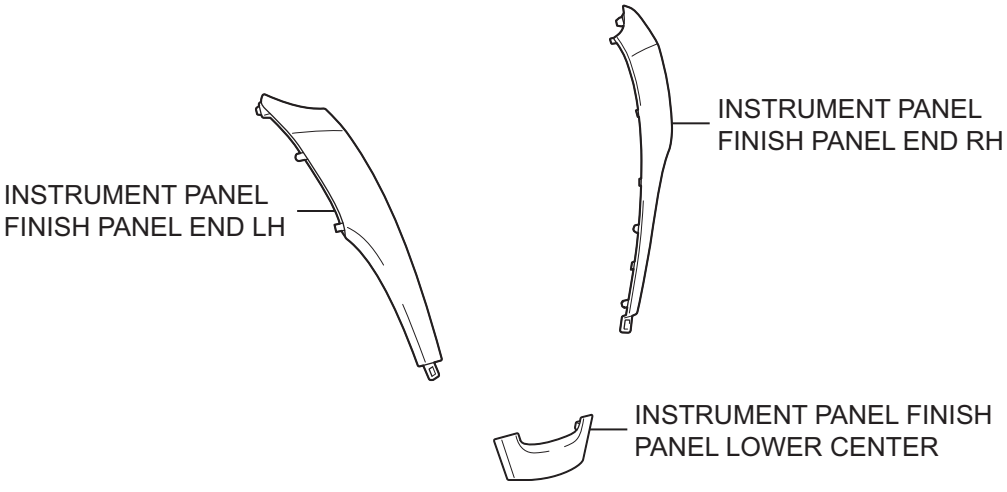
ME

COMBINATION METER (for Sedan)

COMPONENTS

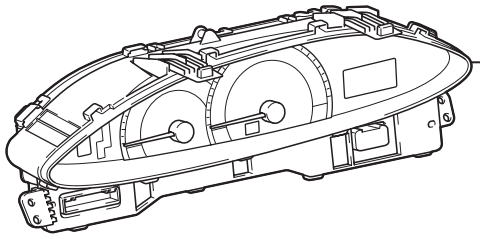




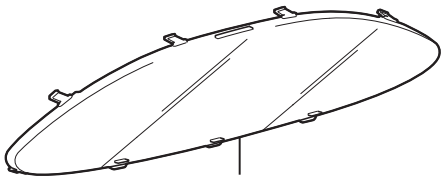


P

E116817E01



COMBINATION METER



COMBINATION METER GLASS

ME

P

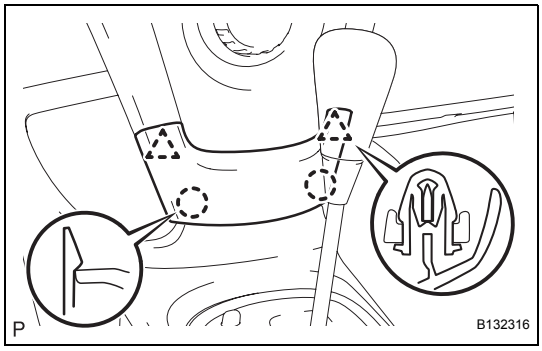
E116818E01

REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

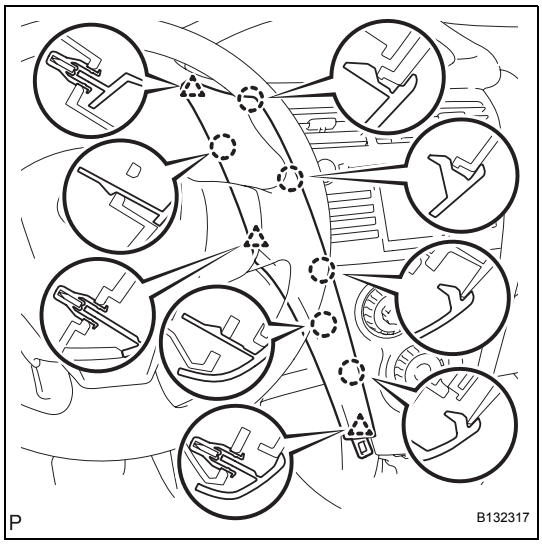
2. REMOVE INSTRUMENT PANEL FINISH PANEL LOWER CENTER

(a) Disengage the 2 claws and 2 clips and remove the instrument panel finish panel lower center.



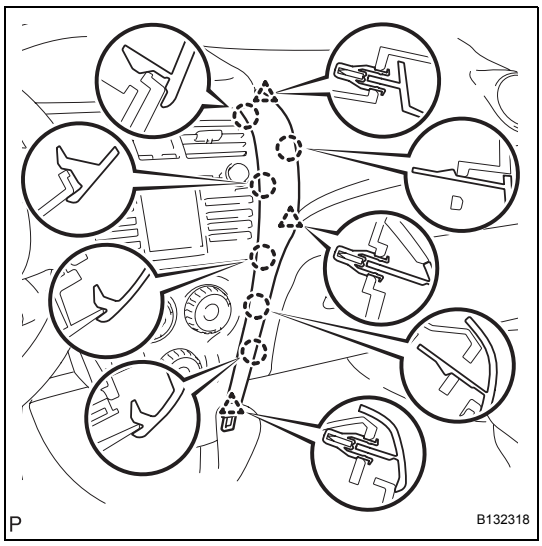
3. REMOVE INSTRUMENT PANEL FINISH PANEL END LH

(a) Disengage the 6 claws and 3 clips and remove the instrument panel finish panel end LH.

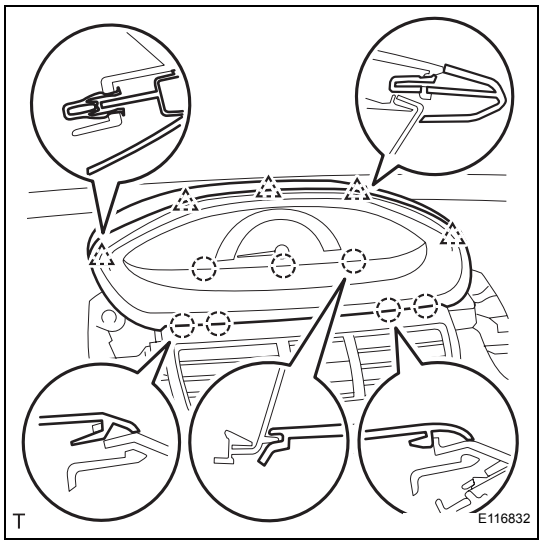


4. REMOVE INSTRUMENT PANEL FINISH PANEL END RH

(a) Disengage the 6 claws and 3 clips and remove the instrument panel finish panel end RH.

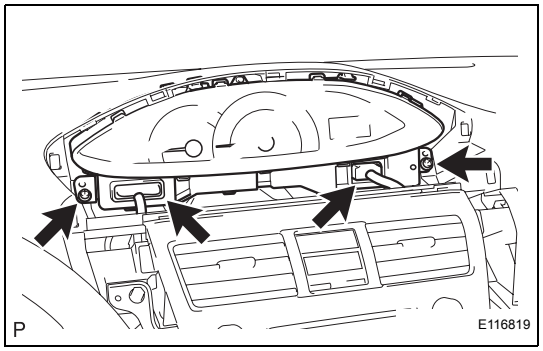


ME



5. REMOVE INSTRUMENT CLUSTER FINISH PANEL

(a) Disengage the 7 claws and 5 clips and remove the instrument cluster finish panel.



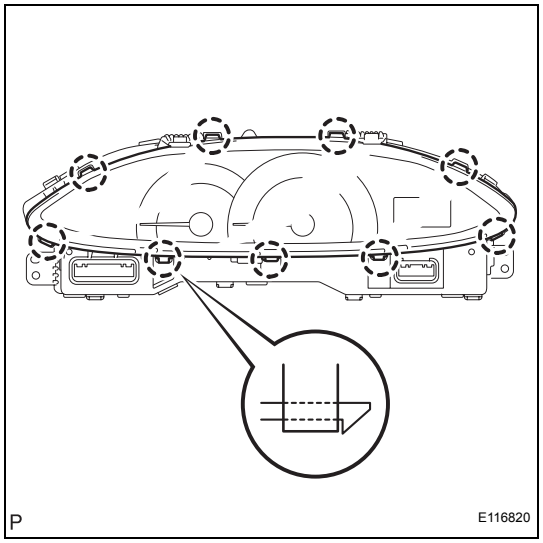
6. REMOVE COMBINATION METER ASSEMBLY

(a) Disconnect the 2 connectors.

(b) Remove the 2 screws and pull the combination meter rearward to remove it.

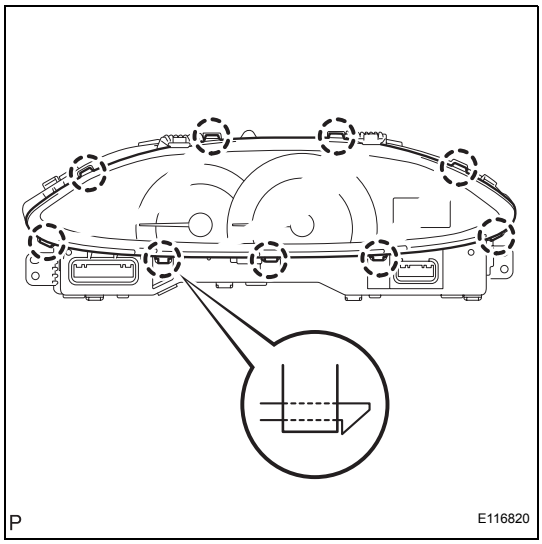
ME

DISASSEMBLY



1. REMOVE COMBINATION METER GLASS

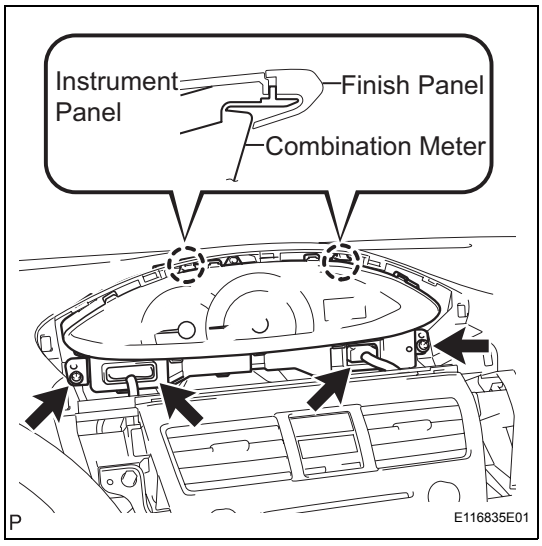
(a) Disengage the 9 claws and remove the combination meter glass.



REASSEMBLY

1. INSTALL COMBINATION METER GLASS

(a) Engage the 9 claws and install the combination meter glass.



INSTALLATION

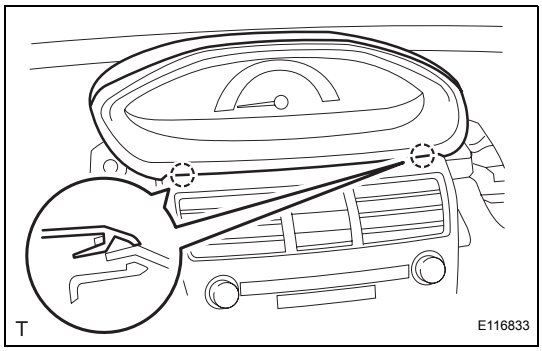
1. INSTALL COMBINATION METER ASSEMBLY

(a) Install the combination meter assembly with the 2 screws.

NOTICE:

Install the meter by inserting the ribbed portions of the meter between the instrument panel and meter cluster.

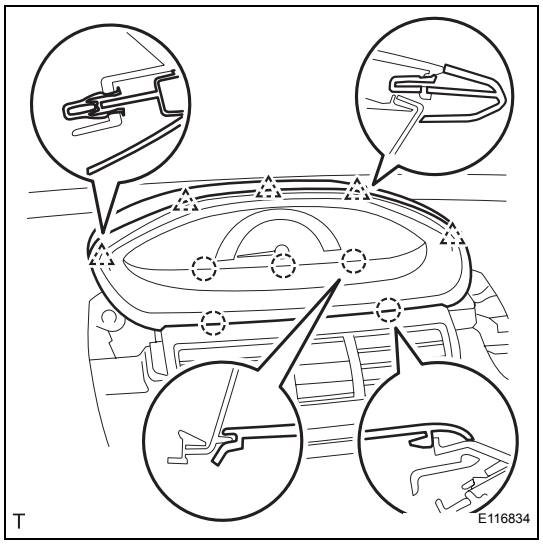
(b) Connect the 2 connectors.



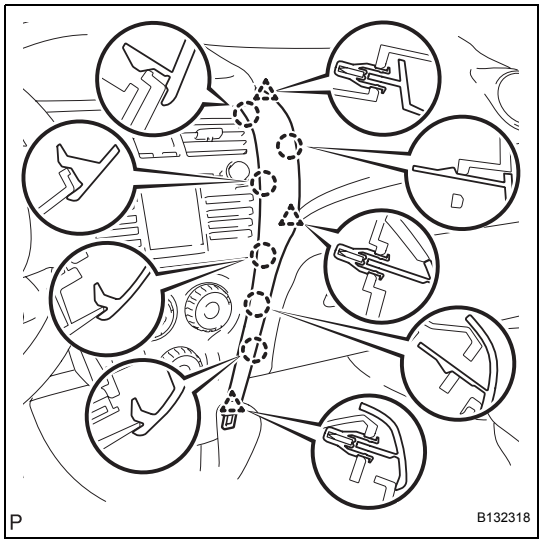
2. INSTALL INSTRUMENT CLUSTER FINISH PANEL

(a) Fit the 2 claws of the instrument cluster finish panel into the upper instrument cluster finish panel center.

ME

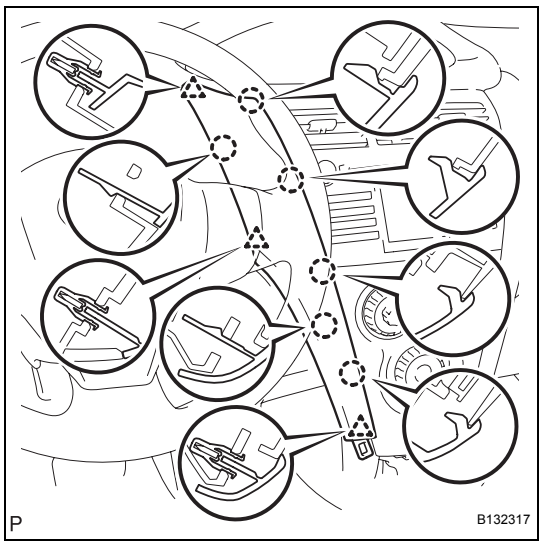


(b) Engage the 5 claws and 5 clips and install the instrument cluster finish panel.



3. INSTALL INSTRUMENT PANEL FINISH PANEL END RH

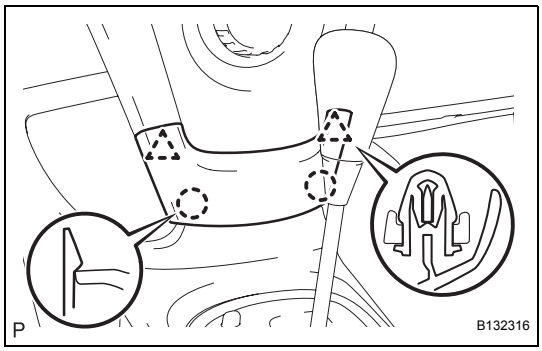
(a) Engage the 6 claws and 3 clips and install the instrument panel finish panel end RH.



4. INSTALL INSTRUMENT PANEL FINISH PANEL END LH

(a) Engage the 6 claws and 3 clips and install the instrument panel finish panel end LH.

ME



5. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER CENTER

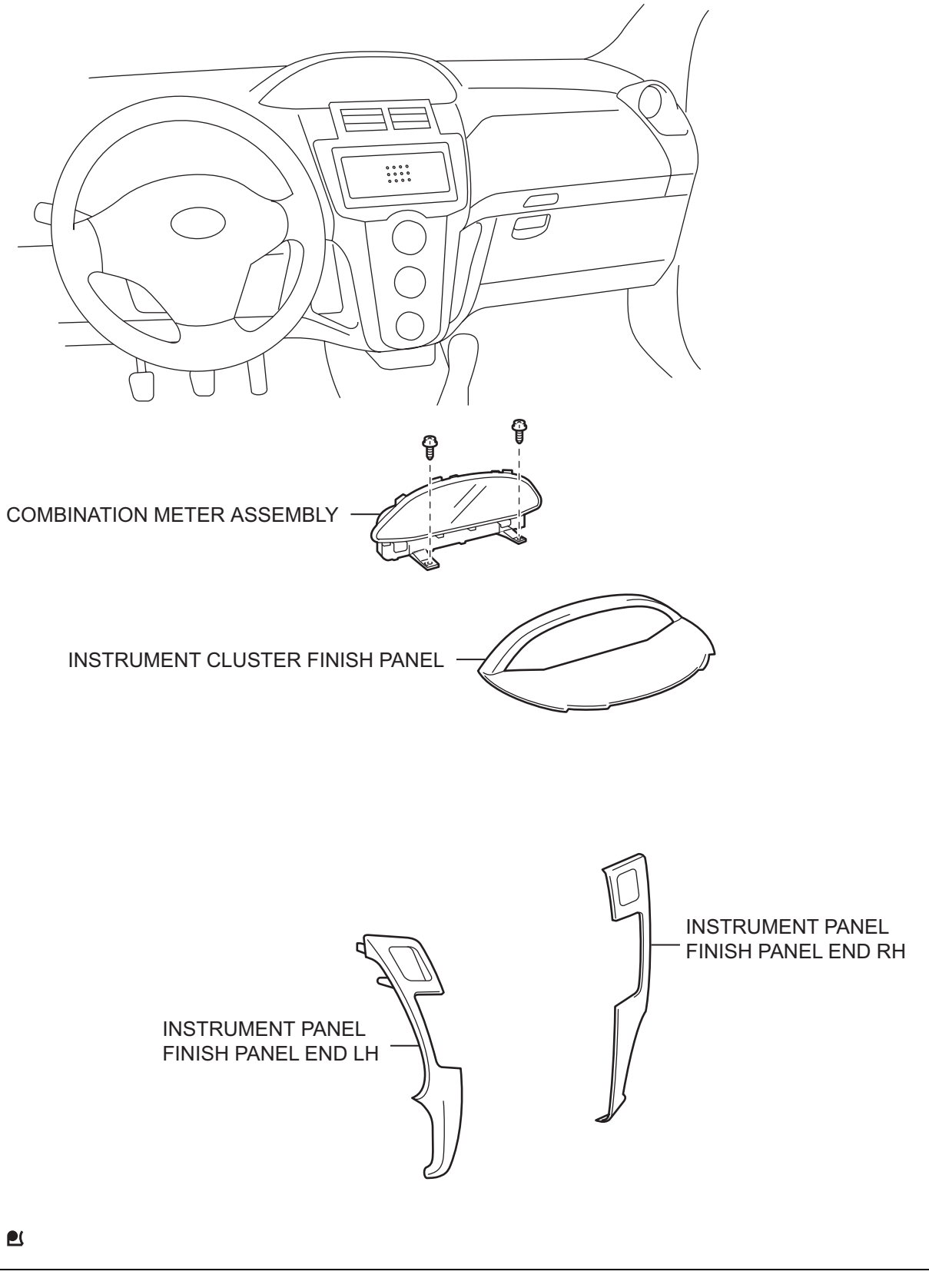
(a) Engage the 2 claws and 2 clips and install the instrument panel finish panel lower center.

6. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

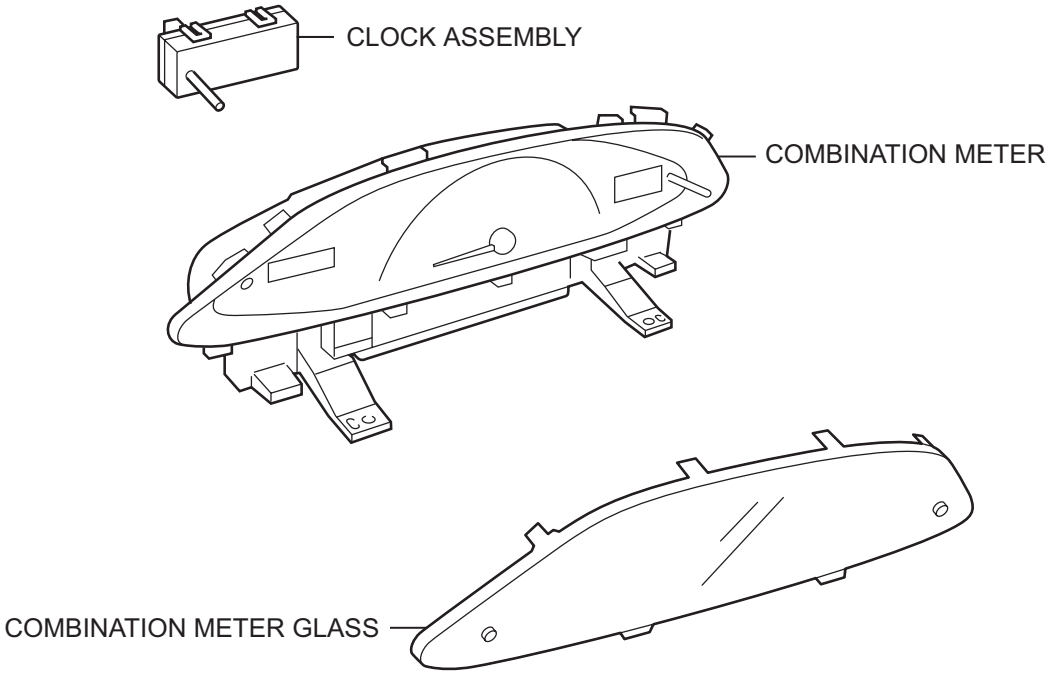
COMBINATION METER (for Hatchback)

COMPONENTS

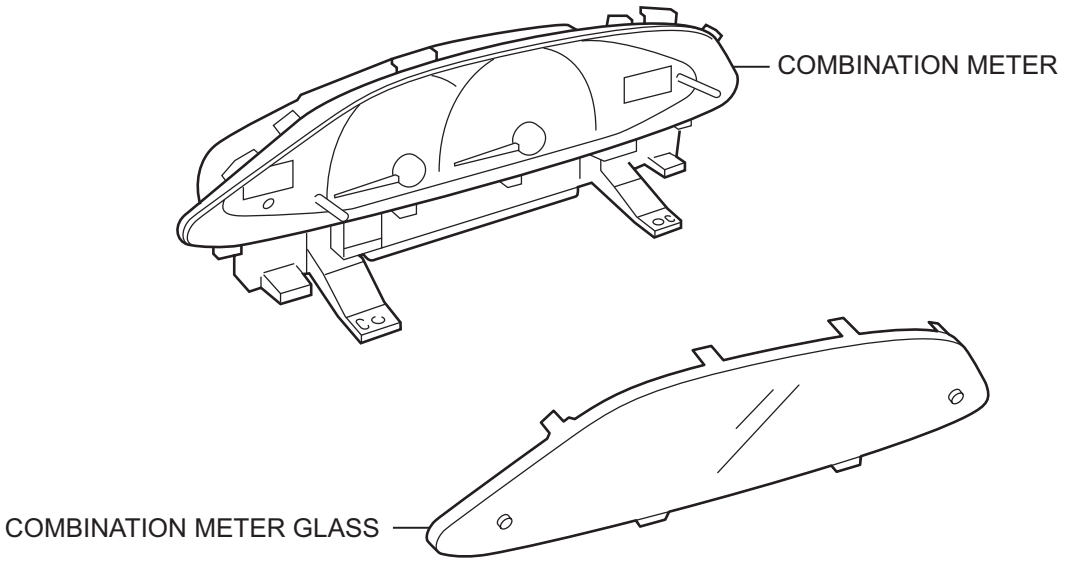


ME

w/o Tachometer:



w/ Tachometer:

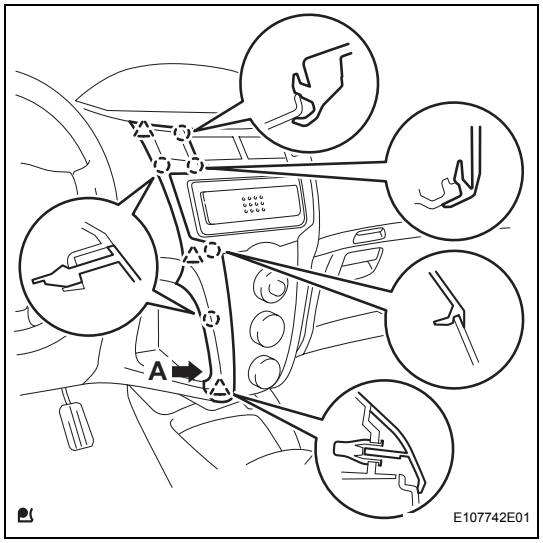


E107805E01

REMOVAL

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

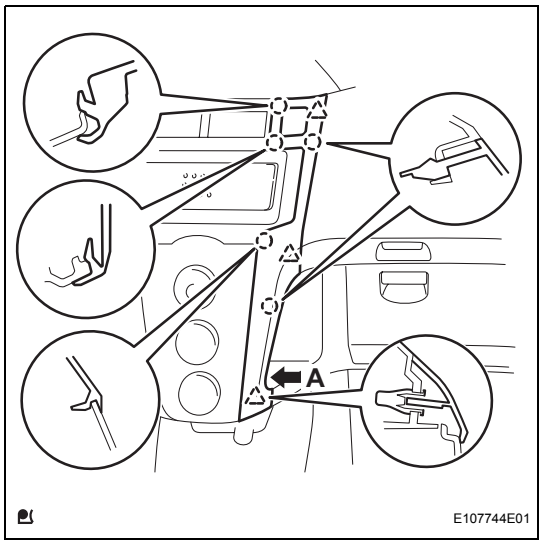
2. **REMOVE INSTRUMENT PANEL FINISH PANEL END LH**



(a) Pull the instrument panel finish panel end LH rearward and disengage the 5 claws and 3 clips.
NOTICE:
To avoid damaging the instrument cluster finish panel center and the air conditioning panel, remove the instrument panel finish panel end without using any tool.
HINT:
Grip portion A of the instrument panel finish panel end and remove the instrument panel finish panel end from the lower side.

(b) Disconnect the connector and remove the instrument panel finish panel end LH.

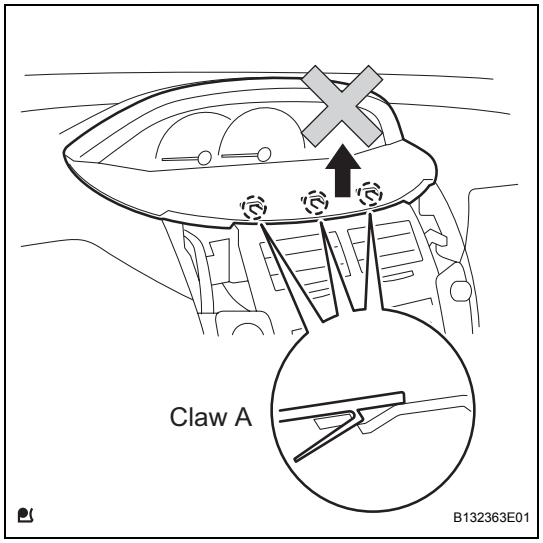
3. **REMOVE INSTRUMENT PANEL FINISH PANEL END RH**



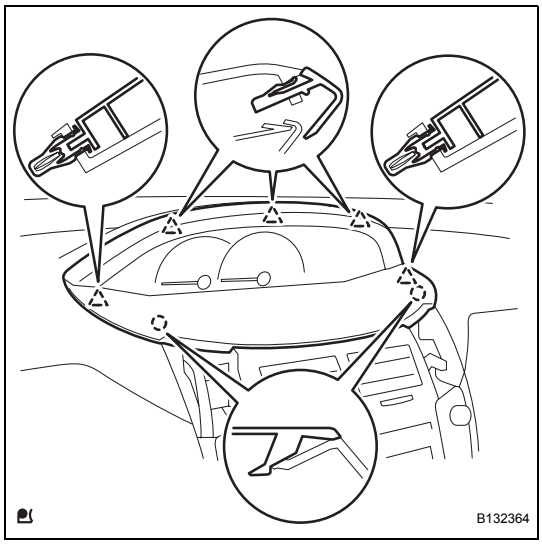
(a) Pull the instrument panel finish panel end RH rearward and disengage the 5 claws and 3 clips.
NOTICE:
To avoid damaging the instrument cluster finish panel center and the air conditioning panel, remove the instrument panel finish panel end without using any tool.
HINT:
Grip portion A of the instrument panel finish panel end and remove the instrument panel finish panel end from the lower side.

(b) Disconnect the connector and remove the instrument panel finish panel end RH.

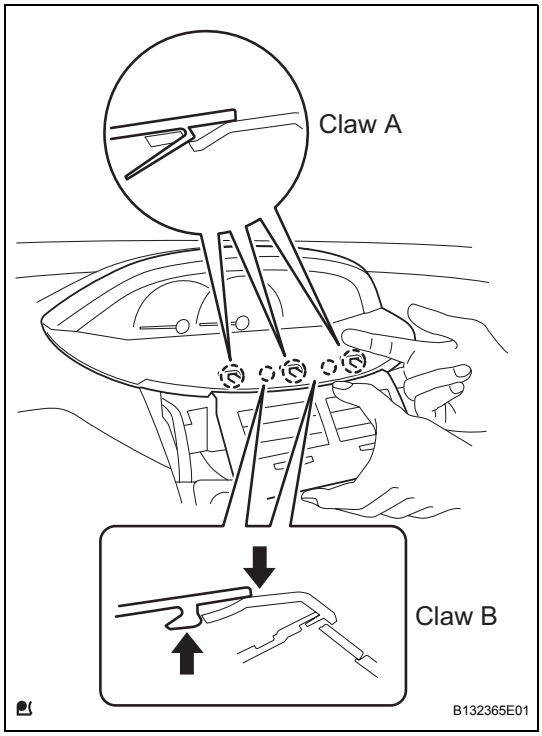
4. **REMOVE INSTRUMENT CLUSTER FINISH PANEL**
NOTICE:
Follow the procedure below to remove the instrument cluster finish panel. Claw A will break if the instrument cluster finish panel is raised carelessly.



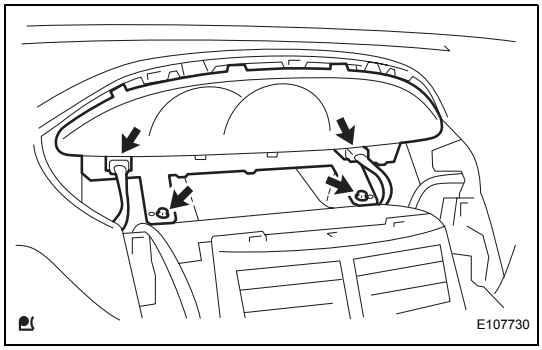
ME



(a) Disengage the 2 claws and 5 clips.

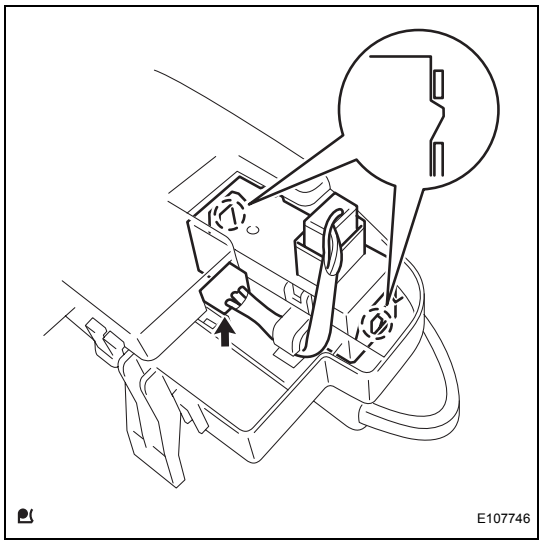


(b) After removing the instrument panel finish panel end, insert your finger into the opening as shown, push the upper portion of the instrument cluster finish panel center and the 2 B claws of the instrument cluster finish panel, and then disengage the claws B.
(c) Disengage the 3 A claws and remove the instrument cluster finish panel.



5. REMOVE COMBINATION METER ASSEMBLY

(a) Disconnect the 2 connectors.
(b) Remove the 2 screws and pull the combination meter rearward to remove it.

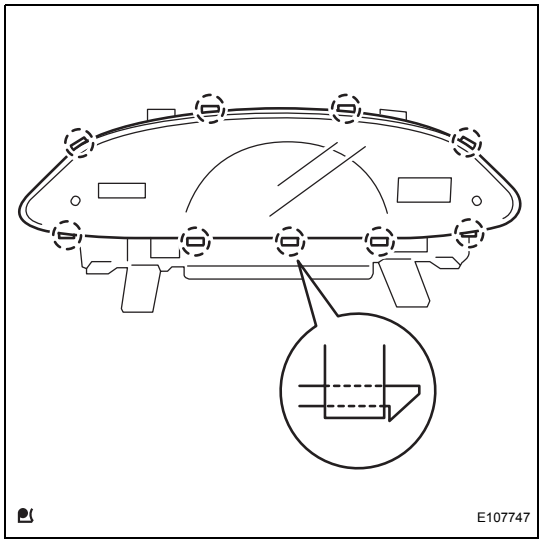


DISASSEMBLY

1. REMOVE CLOCK ASSEMBLY (w/ Tachometer)

(a) Remove the connector.

(b) Disengage the 2 claws and remove the clock assembly.



2. REMOVE COMBINATION METER GLASS

(a) Disengage the 9 claws and remove the combination meter glass.

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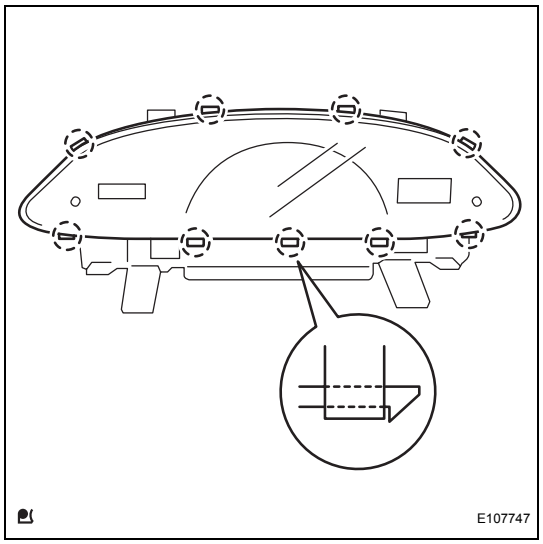
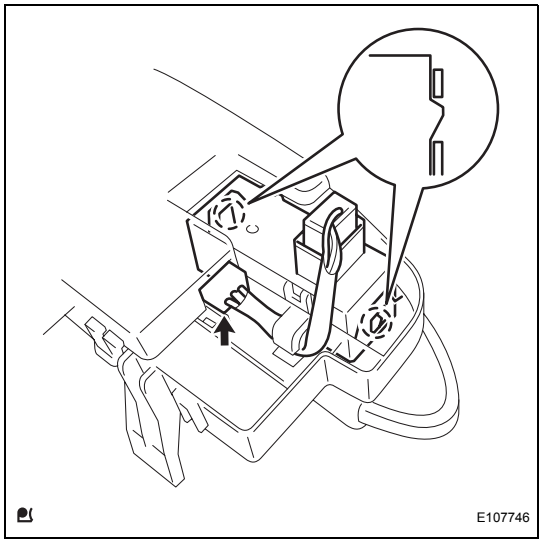


REASSEMBLY

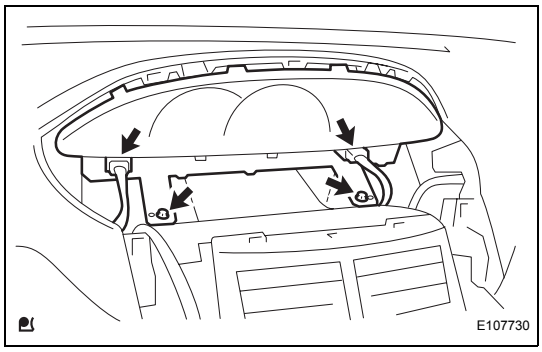
1. INSTALL COMBINATION METER GLASS

(a) Engage the 9 claws and install the combination meter glass.

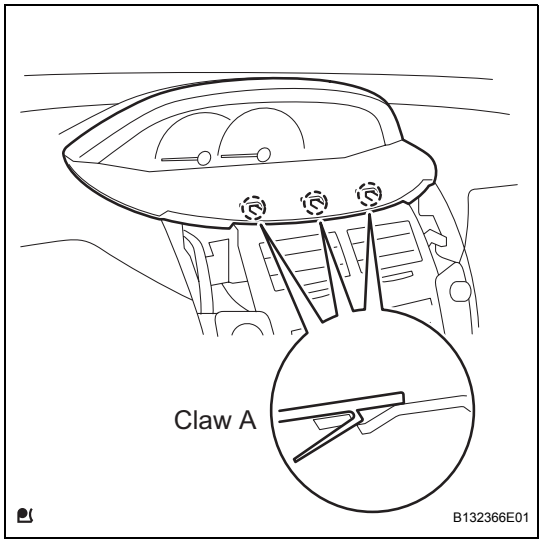


2. INSTALL CLOCK ASSEMBLY (w/ Tachometer)
(a) Engage the 2 claws and install the clock assembly.
(b) Connect the connector.

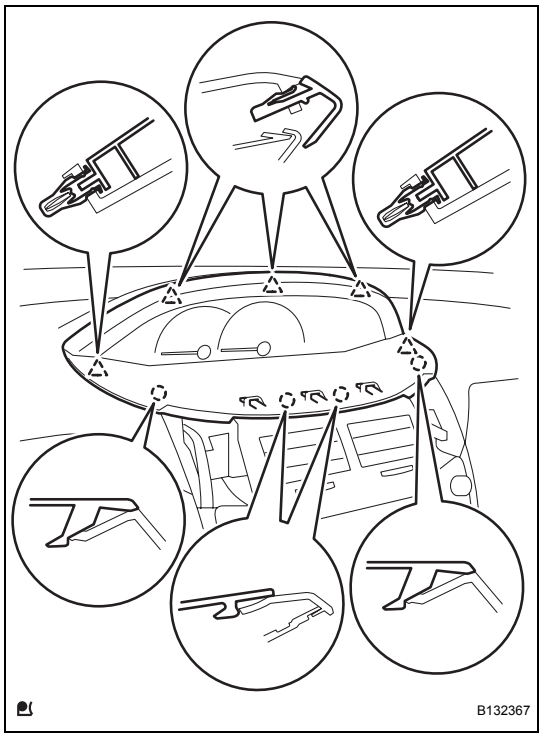
INSTALLATION



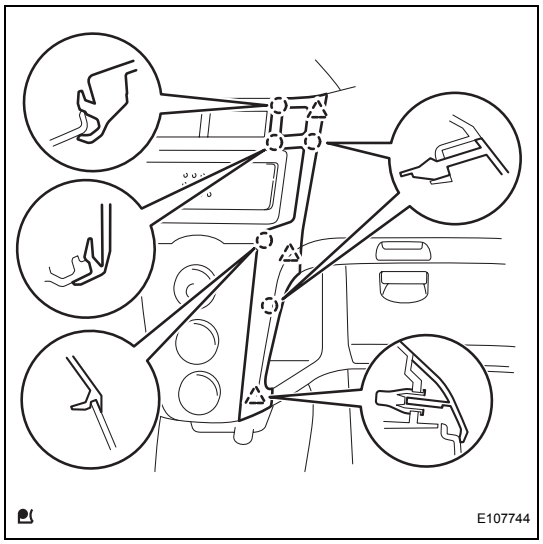
1. INSTALL COMBINATION METER ASSEMBLY
(a) Install the combination meter assembly with the 2 screws.
(b) Connect the 2 connectors.



2. INSTALL INSTRUMENT CLUSTER FINISH PANEL
(a) Fit the 3 A claws of the instrument cluster finish panel into the upper instrument cluster finish panel center.

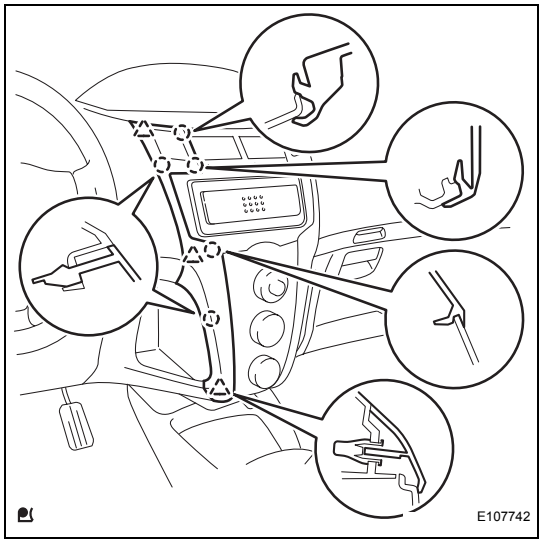


(b) Engage the 4 claws and 5 clips and install the instrument cluster finish panel.



3. INSTALL INSTRUMENT PANEL FINISH PANEL END RH

(a) Connect the connector.
(b) Engage the 5 claws and 3 clips and install the instrument panel finish panel end RH.



4. INSTALL INSTRUMENT PANEL FINISH PANEL END LH

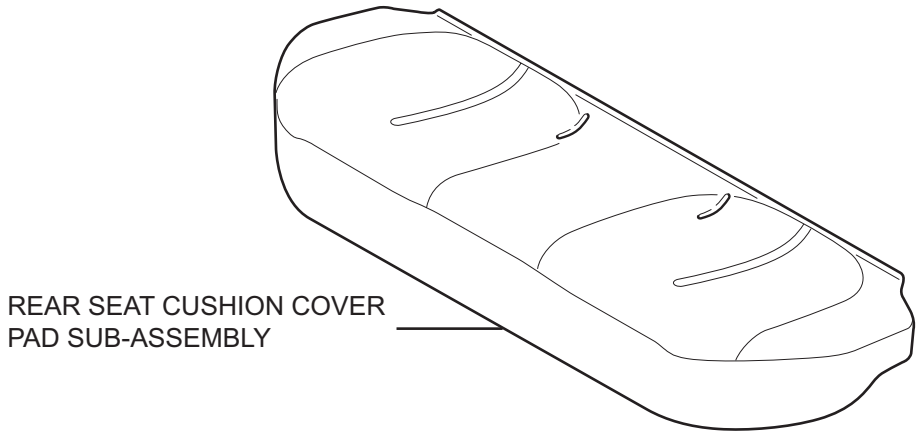
(a) Connect the connector.
(b) Engage the 5 claws and 3 clips and install the instrument panel finish panel end LH.

5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

FUEL SENDER GAUGE ASSEMBLY (for Sedan)

COMPONENTS



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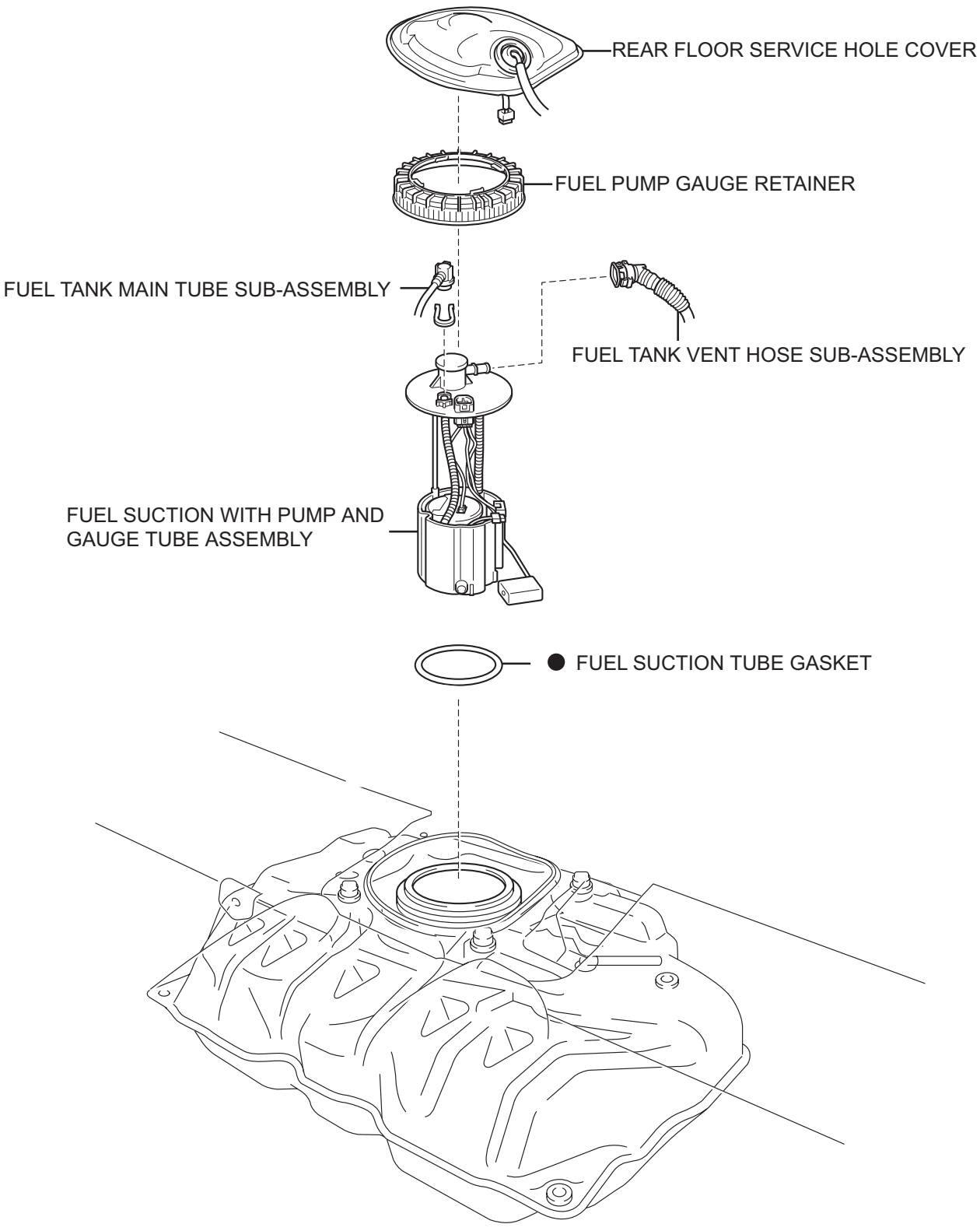

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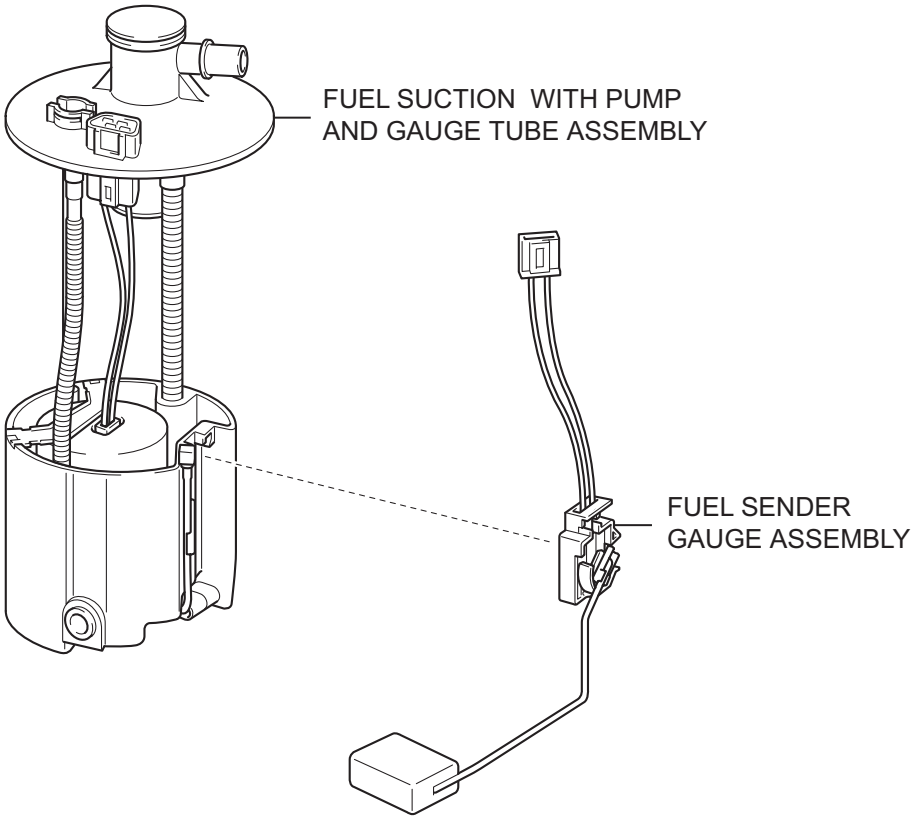

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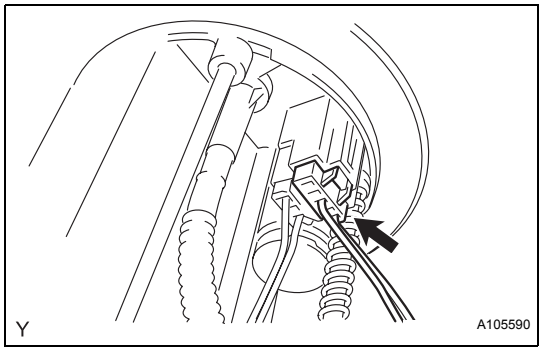
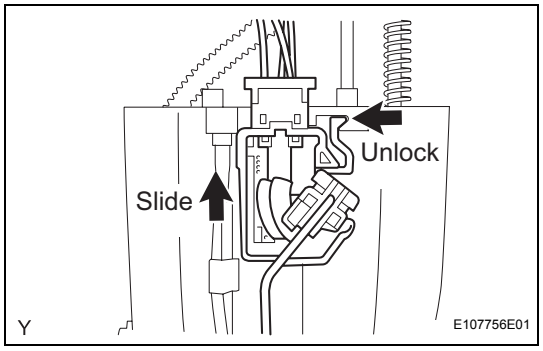
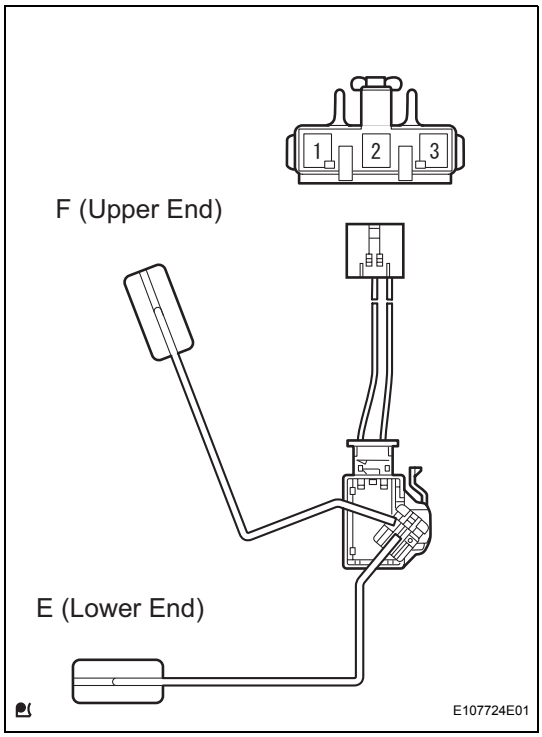
REMOVAL

1. **REMOVE REAR SEAT CUSHION COVER PAD SUB-ASSEMBLY (See page SE-46)**
2. **REMOVE REAR FLOOR SERVICE HOLE COVER (See page FU-26)**
3. **DISCHARGE FUEL SYSTEM PRESSURE (See page FU-26)**
4. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
5. **DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY (See page FU-27)**
6. **DISCONNECT FUEL TANK VENT HOSE SUB-ASSEMBLY (See page FU-27)**
7. **REMOVE FUEL PUMP GAUGE RETAINER (See page FU-27)**
8. **REMOVE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (See page FU-27)**
9. **REMOVE FUEL SENDER GAUGE ASSEMBLY**
   (a) Disconnect the fuel sender gauge connector.



   (b) Unlock the fuel sender gauge, and slide and remove it.



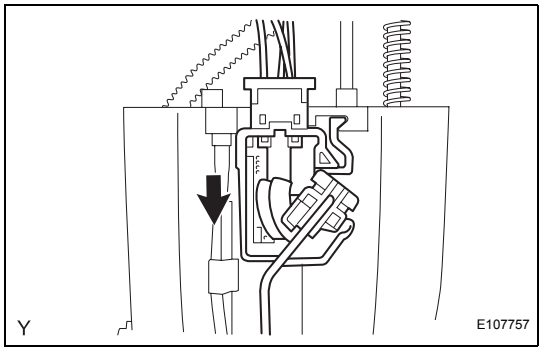


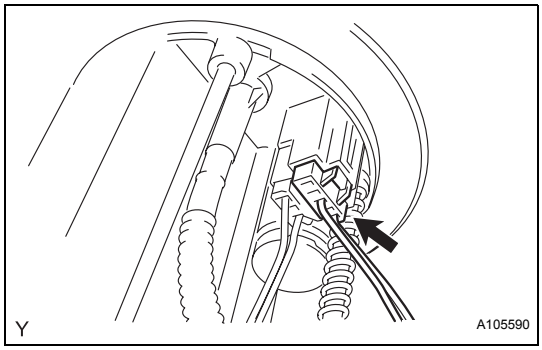
INSPECTION

1. **INSPECT FUEL SENDER GAUGE ASSEMBLY**
   (a) Check the fuel sender gauge resistance.
      (1) Check that the float moves smoothly between the F level (upper end) and E level (lower end).
      (2) Using an ohmmeter, measure the resistance between connector terminals 2 (FS) and 1 (FE) at the upper and lower ends of the float. Check that the resistance varies uniformly.
      Standard resistance

Float Level	Resistance (Ω)
F (Upper End)	12.0 to 18.0
E (Lower End)	405.0 to 415.0

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





INSTALLATION

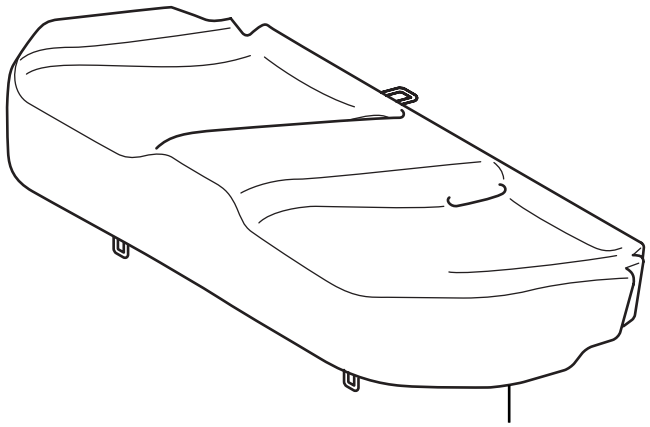
1. **INSTALL FUEL SENDER GAUGE ASSEMBLY**
   (a) Install the fuel sender gauge onto the fuel suction with pump and gauge tube.
   (b) Connect the fuel sender gauge connector.
2. **INSTALL FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (See page FU-33)**
3. **INSTALL FUEL PUMP GAUGE RETAINER (See page FU-33)**
4. **CONNECT FUEL TANK VENT HOSE SUB-ASSEMBLY (See page FU-33)**
5. **CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY (See page FU-34)**
6. **INSTALL REAR FLOOR SERVICE HOLE COVER (See page FU-34)**
7. **INSTALL REAR SEAT CUSHION COVER PAD SUB-ASSEMBLY (See page SE-53)**
8. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)
9. **CHECK FOR FUEL LEAK (See page FU-7)**

ME

FUEL SENDER GAUGE ASSEMBLY (for Hatchback)

COMPONENTS

for Hold Down Seat Type :



REAR SEAT CUSHION COVER PAD

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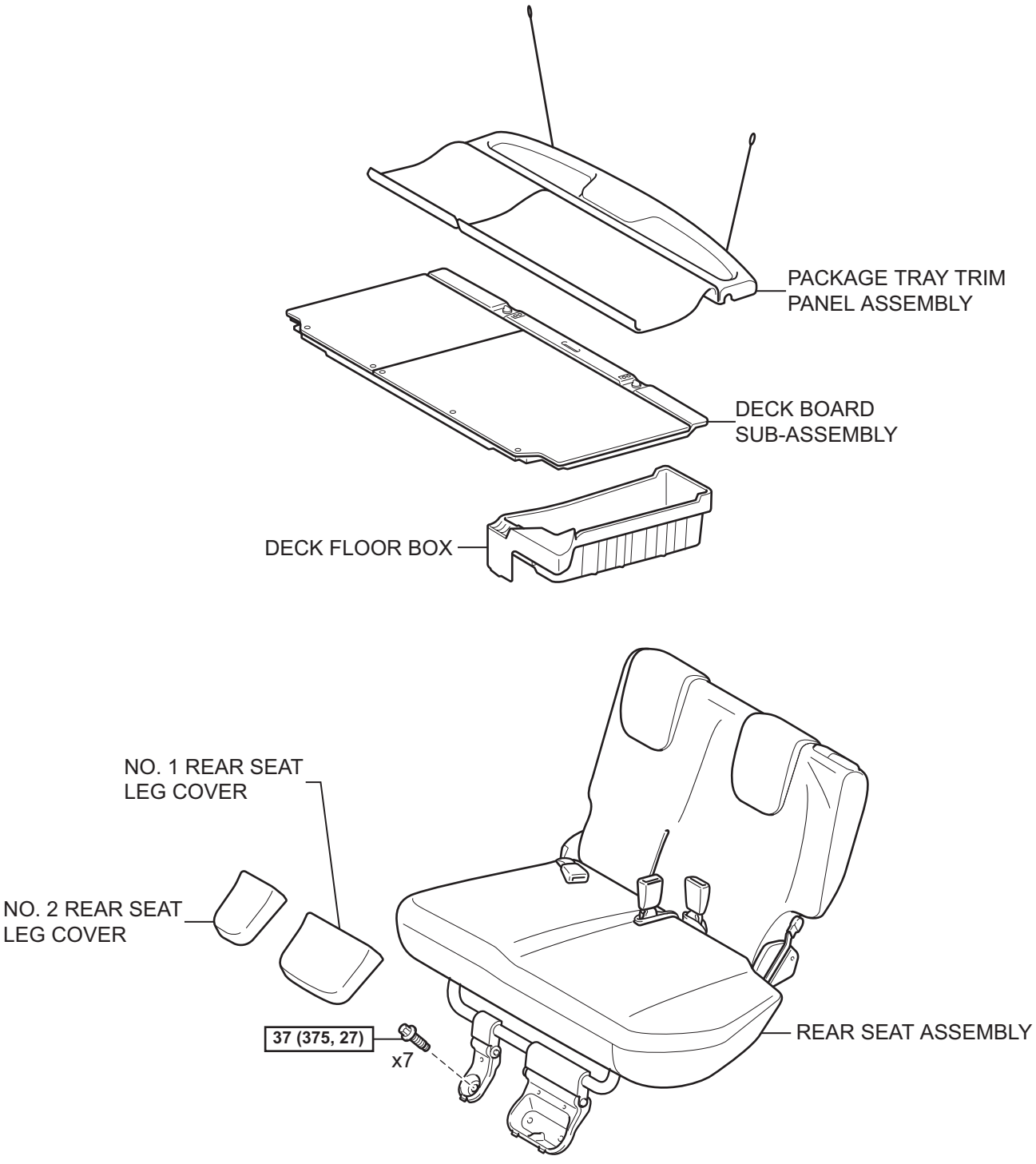
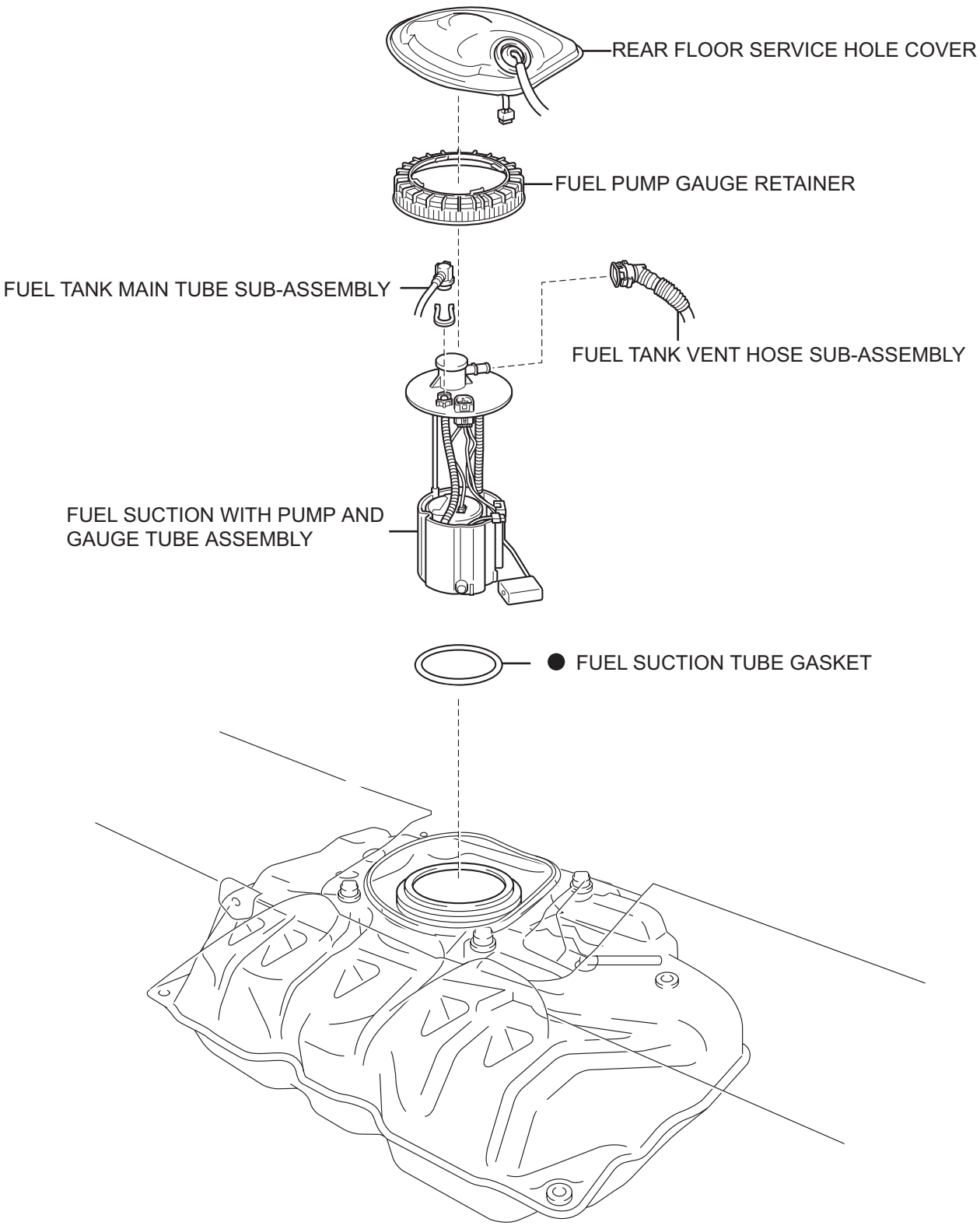
for 60/40 Split Seat Type:



N*m (kgf*cm, ft*lbf) : Specified torque

T

B138682E02


REAR FLOOR SERVICE HOLE COVER
FUEL PUMP GAUGE RETAINER
FUEL TANK MAIN TUBE SUB-ASSEMBLY
FUEL TANK VENT HOSE SUB-ASSEMBLY
FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY
● FUEL SUCTION TUBE GASKET
● Non-reusable part
N
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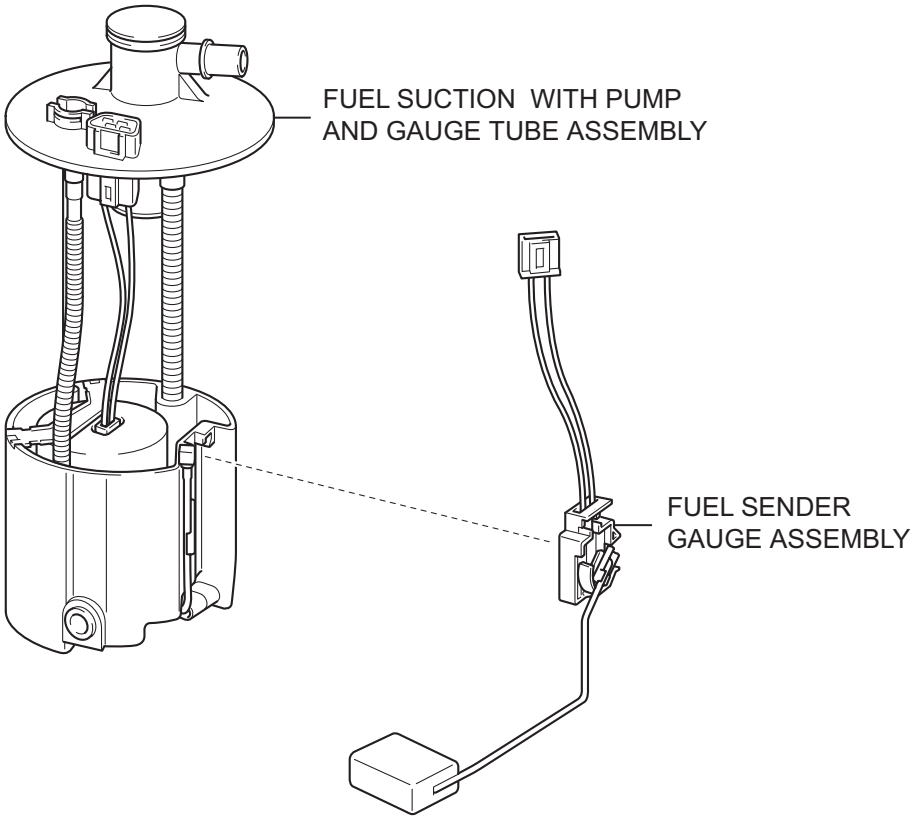
ME



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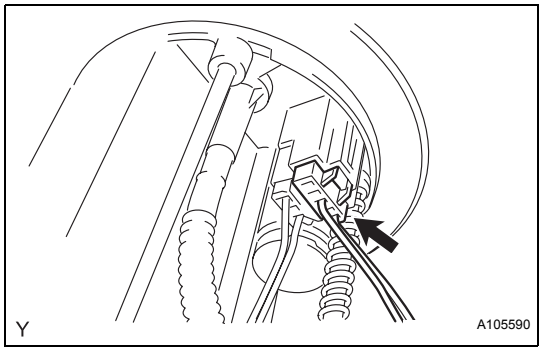
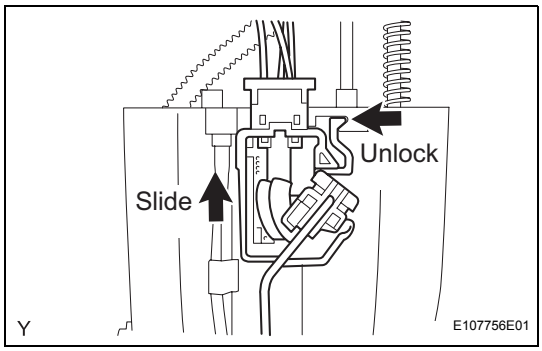
REMOVAL

NOTICE:
Always use "Torx" socket wrench E10 when removing the rear seat.

1. **REMOVE REAR SEAT CUSHION COVER PAD (for Hold Down Seat Type) (See page SE-114)**
2. **REMOVE PACKAGE TRAY TRIM PANEL ASSEMBLY (for 60/40 Split Seat Type) (See page IR-48)**
3. **REMOVE DECK BOARD SUB-ASSEMBLY (for 60/40 Split Seat Type) (See page IR-48)**
4. **REMOVE DECK FLOOR BOX (for 60/40 Split Seat Type) (See page SE-70)**
5. **REMOVE NO. 1 REAR SEAT LEG COVER (for 60/40 Split Seat Type) (See page SE-70)**
6. **REMOVE NO. 2 REAR SEAT LEG COVER (for 60/40 Split Seat Type) (See page SE-70)**
7. **REMOVE REAR SEAT ASSEMBLY (for 60/40 Split Seat Type) (See page SE-71)**
8. **REMOVE REAR FLOOR SERVICE HOLE COVER (See page FU-26)**
9. **DISCHARGE FUEL SYSTEM PRESSURE (See page FU-26)**
10. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
11. **DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY (See page FU-27)**
12. **DISCONNECT FUEL TANK VENT HOSE SUB-ASSEMBLY (See page FU-27)**
13. **REMOVE FUEL PUMP GAUGE RETAINER (See page FU-27)**
14. **REMOVE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (See page FU-27)**
15. **REMOVE FUEL SENDER GAUGE ASSEMBLY**
    (a) Disconnect the fuel sender gauge connector.



ME



(b) Unlock the fuel sender gauge, and slide and remove it.

INSPECTION

1. INSPECT FUEL SENDER GAUGE ASSEMBLY

(a) Check the fuel sender gauge resistance.

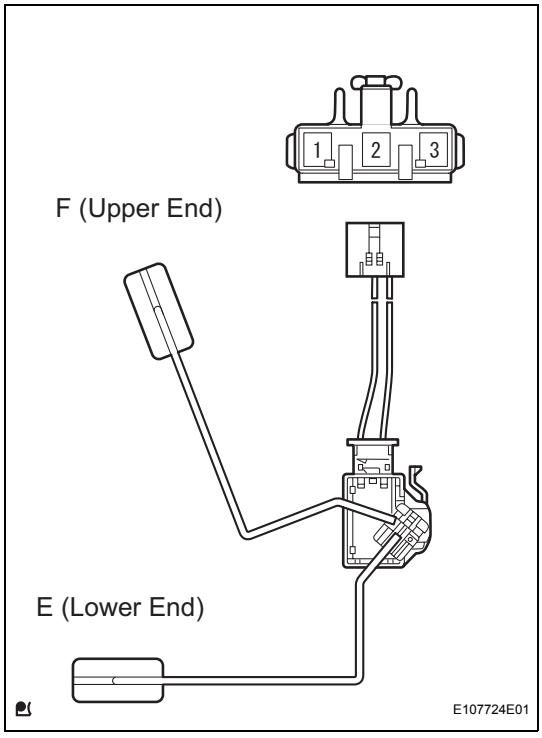
(1) Check that the float moves smoothly between the F level (upper end) and E level (lower end).

(2) Using an ohmmeter, measure the resistance between connector terminals 2 (FS) and 1 (FE) at the upper and lower ends of the float. Check that the resistance varies uniformly.

Standard resistance

Float Level	Resistance (Ω)
F (Upper End)	12.0 to 18.0
E (Lower End)	405.0 to 415.0

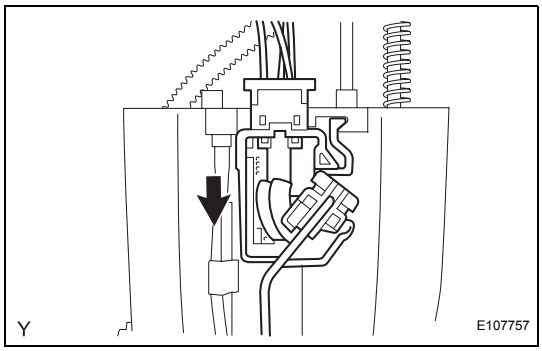
If the result is not as specified, replace the fuel sender gauge assembly.



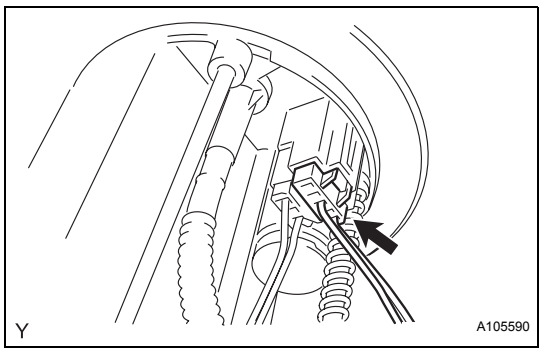
INSTALLATION

1. INSTALL FUEL SENDER GAUGE ASSEMBLY

(a) Install the fuel sender gauge onto the fuel suction with pump and gauge tube.



(b) Connect the fuel sender gauge connector.



2. INSTALL FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (See page FU-33)

3. INSTALL FUEL PUMP GAUGE RETAINER (See page FU-33)

4. CONNECT FUEL TANK VENT HOSE SUB-ASSEMBLY (See page FU-33)

5. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY (See page FU-34)

6. INSTALL REAR FLOOR SERVICE HOLE COVER (See page FU-34)
7. INSTALL REAR SEAT ASSEMBLY (for 60/40 Split Seat Type) (See page SE-84)
8. INSTALL NO. 2 REAR SEAT LEG COVER (for 60/40 Split Seat Type) (See page SE-85)
9. INSTALL NO. 1 REAR SEAT LEG COVER (for 60/40 Split Seat Type) (See page SE-85)
10. INSTALL DECK FLOOR BOX (for 60/40 Split Seat Type) (See page SE-85)
11. INSTALL DECK BOARD SUB-ASSEMBLY (for 60/40 Split Seat Type) (See page IR-83)
12. INSTALL PACKAGE TRAY TRIM PANEL ASSEMBLY (for 60/40 Split Seat Type) (See page IR-83)
13. INSTALL REAR SEAT CUSHION COVER PAD (for Hold Down Seat Type) (See page SE-123)
14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
    Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)
15. CHECK FOR FUEL LEAK (See page FU-7)

ENGINE OIL PRESSURE SWITCH

ON-VEHICLE INSPECTION

1. INSPECT ENGINE OIL PRESSURE SWITCH ASSEMBLY

(a) Disconnect the engine oil pressure switch connector.

(b) Using an ohmmeter, check the resistance between the engine oil pressure switch terminal and body ground.

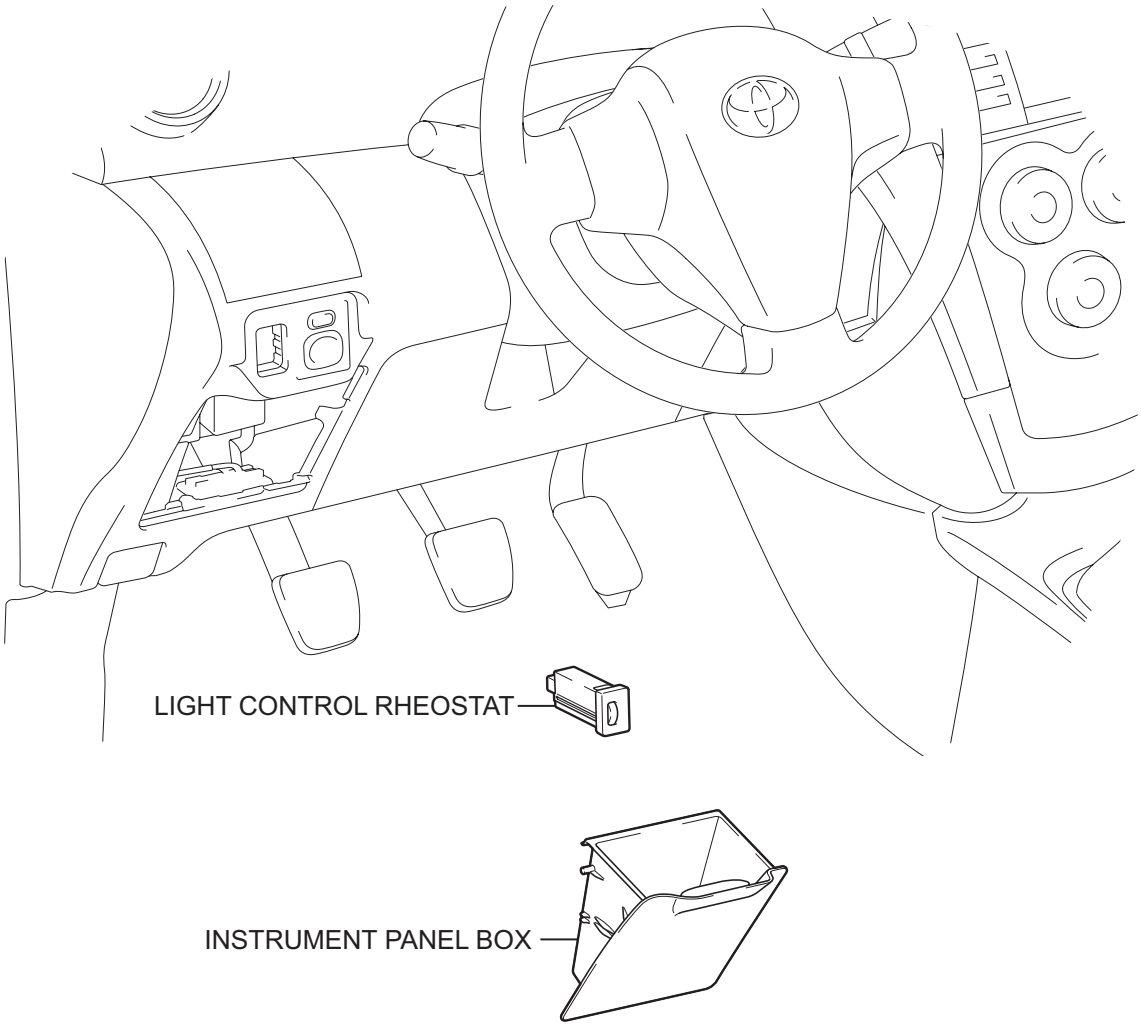
Standard resistance (Engine stopped):
Below 1 Ω

Standard resistance (Engine idling):
10 kΩ or higher

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

LIGHT CONTROL RHEOSTAT (for Sedan)

COMPONENTS



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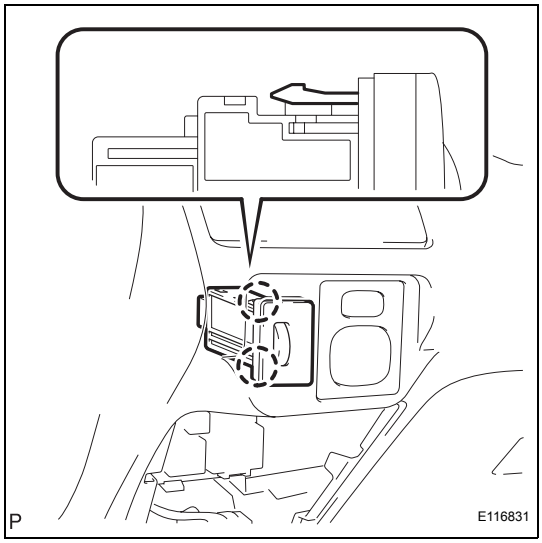
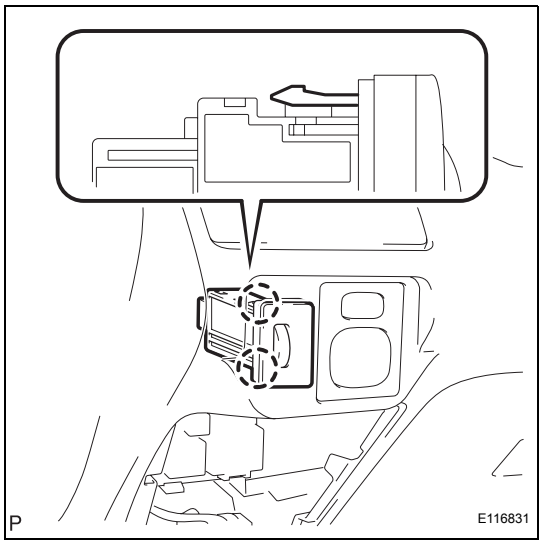
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE INSTRUMENT PANEL BOX (See page IP-45)**
3. **REMOVE LIGHT CONTROL RHEOSTAT**
   (a) Disconnect the connector.
   (b) Disengage the 2 claws and remove the light control rheostat.



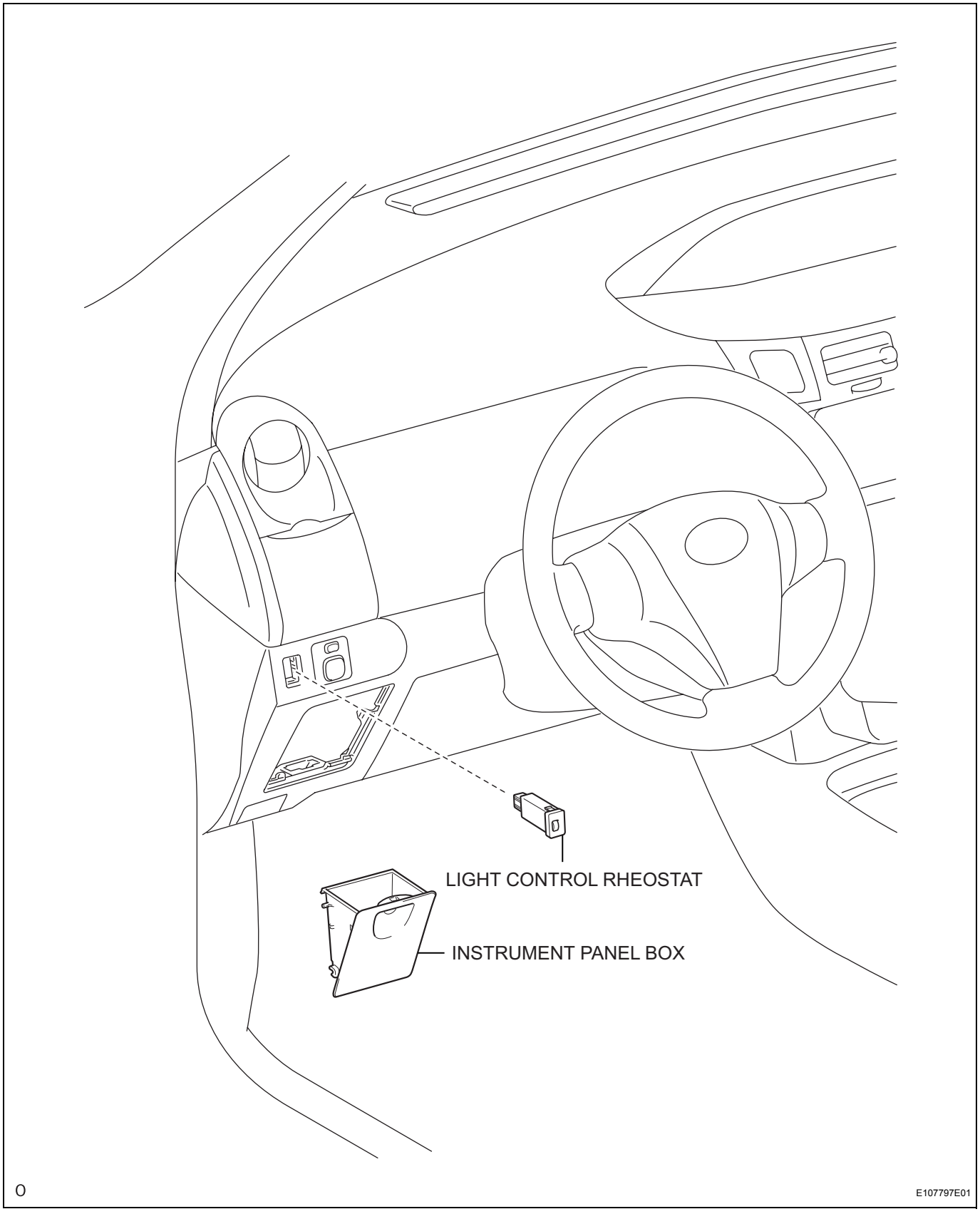
INSTALLATION

1. **INSTALL LIGHT CONTROL RHEOSTAT**
   (a) Engage the 2 claws and install the light control rheostat.
   (b) Connect the connector.
2. **INSTALL INSTRUMENT PANEL BOX (See page IP-45)**
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)



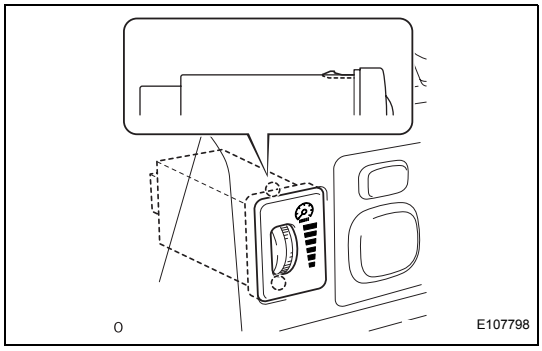
LIGHT CONTROL RHEOSTAT (for Hatchback)

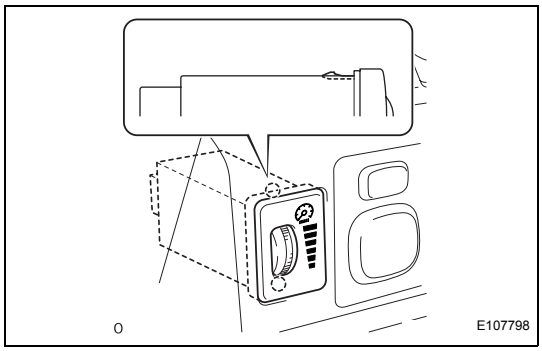
COMPONENTS



REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE INSTRUMENT PANEL BOX (See page IP-70)**
3. **REMOVE LIGHT CONTROL RHEOSTAT**
   (a) Disconnect the connector.
   (b) Disengage the 2 claws and remove the light control rheostat.





INSTALLATION

1. **INSTALL LIGHT CONTROL RHEOSTAT**
   (a) Engage the 2 claws and install the light control rheostat.
   (b) Connect the connector.
2. **INSTALL INSTRUMENT PANEL BOX (See page IP-78)**
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
   Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

ME