

INSTRUMENTATION/DRIVER INFO

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General Description

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1. General Description

A: SPECIFICATION

1. COMBINATION METER ASSEMBLY

Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Speedometer	Stepping motor type	Combination meter	—
Tachometer			
ECO gauge			
ABS warning light	LED	Combination meter	On/Off
STEERING warning light			
AT oil temperature warning light (CVT model)			
Driver's seat belt warning light			
Door warning light			
Tire pressure warning light (U.S. model)			
Access key warning light (model with keyless access)			
AWD warning light (CVT model)			
Hill start assist warning light			
VDC warning light / VDC operation indicator light			
VDC OFF indicator light			
High beam indicator light			
Front fog light indicator light			
Rear fog light indicator light			
Lighting indicator light (white illumination type)			
Fuel level warning light			
Malfunction indicator light			
Airbag warning light			
Engine oil level warning light			
Washer fluid level warning light			
Brake vacuum pressure warning light (turbo, C6 model)			
EyeSight warning light (models with EyeSight)			
Lane departure warning OFF indicator light (models with EyeSight)			
Pre-collision brake OFF indicator light (models with EyeSight)			
STAY ALERT indicator light (except for C0 model with EyeSight)			
OBSTACLE DETECTED indicator light (except for C0 model with EyeSight)			
LANE DEPARTURE indicator light (except for C0 model with EyeSight)			
Hill descent control warning light (model with X mode)			
Meter illumination back light			Light ON
LCD back light			Light ON
Engine coolant temperature warning light (red)			On (red)/Off
Engine coolant temperature indicator light (blue)			Off/On (blue)



General Description

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Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Oil pressure warning light	LED	Oil pressure switch	Turns on or off according to module control
Charge warning light		Generator	
Turn signal indicator light		Turn signal and haz- ard unit	
Security/immobilizer indicator light		Body integrated unit	
Auto leveler warning light (model with HID)		Auto headlight beam leveler CM	
Parking brake/brake fluid level warning light		Combination meter/ brake fluid level switch	On/Turns on or off according to module control
Odo indicator	LCD	Combination meter	—
Trip indicator			
Shift indicator			
AT select lever position indicator (CVT model)			
FUEL meter			
SI-DRIVE mode indicator (model with SI-DRIVE)			
X mode indicator (model with X mode)			
Cruise control system indicator			
• Constant speed cruise			
• SET			
EyeSight system indicator			
• Adaptive cruise			
• Constant speed cruise			
• SET			
• READY			
• Preceding vehicle			
• Following distance setting			
• Set speed			
• Traffic lane			
• Steering wheel			

General Description

INSTRUMENTATION/DRIVER INFO

2. MULTI-FUNCTION DISPLAY

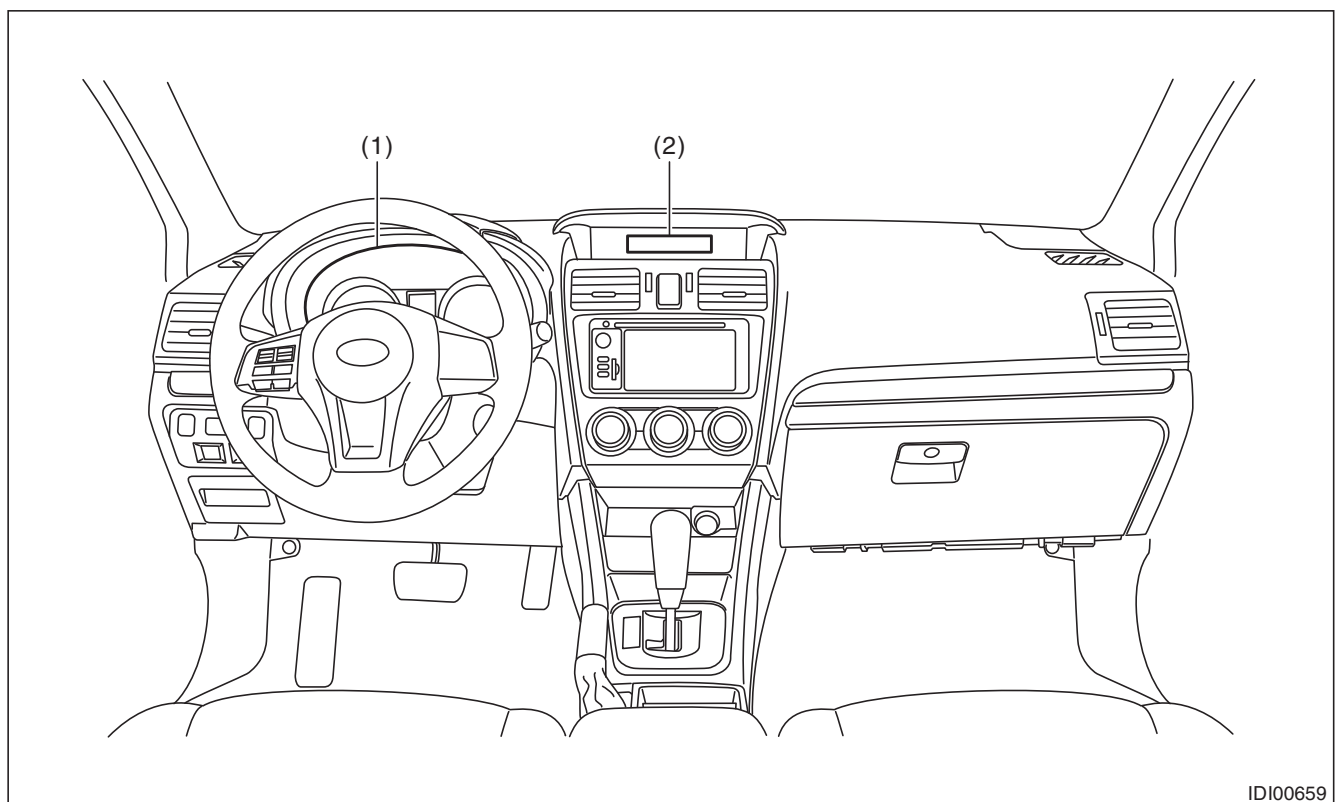
- Standard type

Display	Display method
Average/instantaneous fuel economy, cruising distance, ambient temperature, current time, continuous driving time, average vehicle speed	LCD
Passenger's seat airbag indicator light	LED
Passenger's airbag ON indicator light	
Passenger's airbag OFF indicator light	
Passenger's seat belt warning light	

- High grade type

Display	Display method
Fuel economy screen, economy gauge (instantaneous) screen, economy gauge (history) screen, preventive safety screen, triple meter, clock screen, setting screen, self-check screen, information screen, EyeSight screen (model with EyeSight), audio screen (model with audio)	TFT
Air conditioner display (auto A/C model)	LCD
Passenger's seat airbag indicator light	LED
Passenger's airbag ON indicator light	
Passenger's airbag OFF indicator light	
Passenger's seat belt warning light	

B: LOCATION



(1) Combination meter ASSY

(2) Multi Function Display

General Description

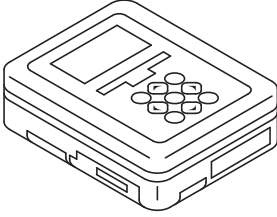
INSTRUMENTATION/DRIVER INFO

C: CAUTION

- Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
- Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
- Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
- Do not apply an excessive force on the printed circuit.
- Do not drop or otherwise apply impact.
- Connect the connectors securely during reassembly.
- After reassembly, make sure that each component operates normally.
- When the combination meter assembly has been replaced, be sure to perform the registration of immobilizer.
- If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-23, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and troubleshooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III KIT, refer to "PC application help for Subaru Select Monitor".

2. GENERAL TOOL

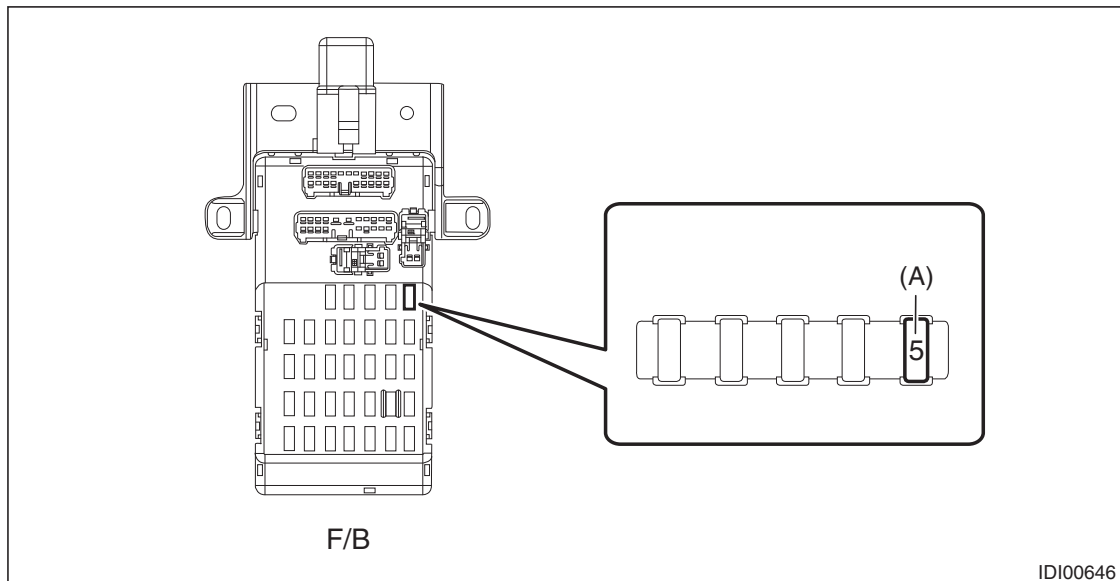
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Steering wheel puller	Used for removing the steering wheel.

Relay and Fuse

INSTRUMENTATION/DRIVER INFO

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 10 A (combination meter, MFD)	(A)
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NOTE:

For other related fuses, refer to the wiring diagram. <Ref. to WI-24, Power Supply Circuit.>

B: INSPECTION

1. CHECK FUSE

- 1) Remove the fuse and inspect visually.
- 2) If the fuse is blown out, replace the fuse.

NOTE:

If the fuse is blown again, check the system wiring harness.

3. Combination Meter System

A: WIRING DIAGRAM

Refer to "Combination Meter System" in the wiring diagram. <Ref. to WI-115, WIRING DIAGRAM, Combination Meter System.>

B: ELECTRICAL SPECIFICATION

1. COMBINATION METER ASSEMBLY

Refer to "Control Module I/O Signal" of "INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)" section. <Ref. to IDI(diag)-7, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: OPERATION

1. SELF-DIAGNOSIS DISPLAY MODE

The self-diagnosis (checking of each meter, warning light, indicator light, illumination, LCD) of combination meter can be performed in the following procedure.

CAUTION:

Perform the steps described in 1) through 4) within 10 seconds.

- 1) Unfasten → fasten the driver's seat belt within 3 seconds after the ignition switch is turned to ON.
- 2) With the driver's seat belt fastened, press the trip meter knob three times.
- 3) Unfasten the driver's seat belt, and then press the trip meter knob three times.
- 4) Fasten the driver's seat belt again, and then press the trip meter knob three times.

NOTE:

- When the self-diagnosis function operates, the warning light, indicator light, and LCD display checks are performed. After this, the buzzer will sound for 0.5 seconds every time the trip meter knob is pressed, and operation checks are performed in the order of meter indicator needle operation, meter indicator needle indication, and LCD. Turn the ignition switch to OFF to cancel the self-diagnosis function.
- When the engine starts during diagnosis, the self-diagnosis function is not cancelled, however, once the vehicle starts driving, the self-diagnosis function is deactivated automatically.

- 5) Go to "Check meter indicator operation".

Check meter operation, warning light, indicator light, illumination and LCD.

NOTE:

- After "_S_1" is displayed on the LCD, the meter indicator operation check mode is initiated.
- Each of the meter indicator operation display and LCD display switches every 6 seconds.

Meter indicator	LCD display, illumination	Warning light/ indicator light
MIN indication ↓ MAX indication	ILL1 (Min. brightness) ↓*4 ILL6 (Max. brightness)	*1, *2, *3
MAX indication ↓ MIN indication	ILL6 (Max. brightness) ↓*4 ILL1 (Min. brightness)	

*1: Warning lights and indicator lights controlled by the meter drive circuit are illuminated. <Ref. to IDI-2, SPECIFICATION, General Description.>

*2: Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>

*3: Engine coolant temperature warning light illuminates in red.

*4: Display for one second for each level.

- 6) Press the trip meter knob once.

Combination Meter System

INSTRUMENTATION/DRIVER INFO

7) Go to "Meter Indicator Needle Indication Check".

Check meter operation, warning light, indicator light, and LCD.

NOTE:

- Meter indicator switches every 1.5 seconds for each indication.
- ILL indication illuminates at the same brightness as when entering "Meter Indicator Needle Indication Check".
- During operation, "_S_2" is displayed on the LCD trip display.

Speedometer (km/h)	Tachometer (rpm)	ECO gauge	Warning light/ indicator light
0	0	Lowest point	*1, *2, *3
0	0	–Max	
40	1000	0	
100	4000	+Max	
40	1000	0	
0	0	–Max	

*1: Warning lights and indicator lights controlled by the meter drive circuit go off. <Ref. to IDI-2, SPECIFICATION, General Description.>

*2: Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>

*3: Engine coolant temperature indicator light illuminates in blue.

8) Press the trip meter knob once.

9) Go to "Check LCD display".

Check the LCD display.

NOTE:

- After "_S_3" is displayed on the LCD, the LCD display check mode is initiated.
- LCD display switches every 1 second.
- Warning lights and indicator lights controlled by the meter drive circuit go off. <Ref. to IDI-2, SPECIFICATION, General Description.>
- Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>
- The meter indication remains at the same level as "Meter Indicator Needle Indication Check".
- ILL indication illuminates at ILL6 level (max. brightness).
- After No. 14 is displayed in the illumination order, display is repeated from No. 1 again.

Combination Meter System

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Models without EyeSight

ORDER	AT/SS	CRUISE/SET	X/S/I/S#	TRIP/ODO	FUEL METER	LFW
1	 	 SET		 8 8 8 . 8 8 8 8 8 8 8 km		OFF
2		OFF	OFF	1 1 1 . 1 1 1 1 1 1 1		ON
3	 	OFF	OFF	 2 2 2 . 2 2 2 2 2 2 2 km		ON
4		OFF		3 3 3 . 3 3 3 3 3 3 3		OFF
5	 	OFF	OFF	 4 4 4 . 4 4 4 4 4 4 4 km		OFF
6		OFF	OFF	5 5 5 . 5 5 5 5 5 5 5		OFF
7	 	 SET	[S]	 6 6 6 . 6 6 6 6 6 6 6 km		OFF
8		OFF	OFF	7 7 7 . 7 7 7 7 7 7 7		OFF
9	 	 SET	OFF	 8 8 8 . 8 8 8 8 8 8 8 km		OFF
10		OFF	[I]	9 9 9 . 9 9 9 9 9 9 9		OFF
11	 	OFF	OFF	 0 0 0 . 0 0 0 0 0 0 0 km		OFF
12		OFF	OFF	8 8 8 . 8 8 8 8 8 8 8		OFF
13	 	 SET		 8 8 8 . 8 8 8 8 8 8 8 km		ON
14		OFF	OFF	8 8 8 . 8 8 8 8 8 8 8		OFF

IDI00667



Combination Meter System

INSTRUMENTATION/DRIVER INFO

Models with EyeSight

ORDER	AT/SS	EyeSight CRUISE/SET/READY	X/S/I/S#	TRIP/ODO	FUEL METER	LFW
1	▲					OFF
2			OFF			ON
3	▲		OFF			ON
4						OFF
5	▼		OFF			OFF
6			OFF			OFF
7	▲					OFF
8			OFF			OFF
9	▼		OFF			OFF
10						OFF
11	▲		OFF			OFF
12			OFF			OFF
13	▼					ON
14			OFF			OFF

IDI00648

Combination Meter System

INSTRUMENTATION/DRIVER INFO

D: INSPECTION

Refer to “Basic Diagnostic Procedure” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section.
<Ref. to IDI(diag)-2, Basic Diagnostic Procedure.>

E: NOTE

For procedure of each component in the combination meter system, refer to the respective section.

- Combination meter assembly: <Ref. to IDI-18, Combination Meter.>
- Speedometer: <Ref. to IDI-21, Speedometer.>
- Tachometer: <Ref. to IDI-22, Tachometer.>
- FUEL meter: <Ref. to IDI-23, Fuel Gauge.>
- ECO gauge: <Ref. to IDI-24, ECO Gauge.>

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

4. Multi-function Display (MFD) System

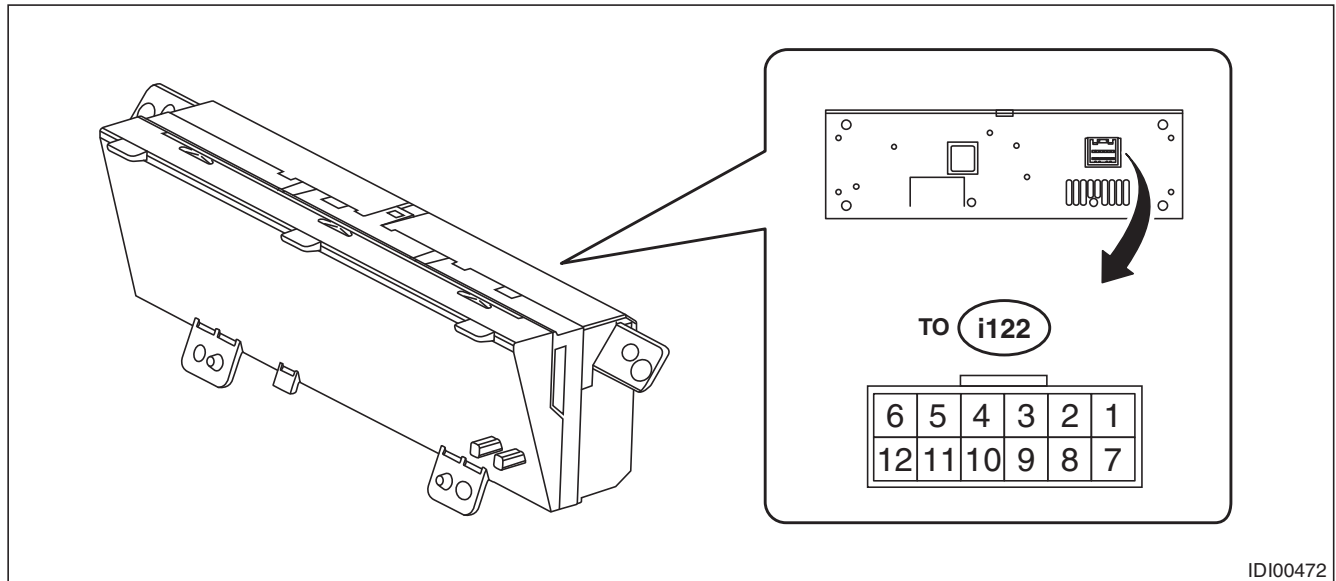
A: WIRING DIAGRAM

Refer to "Multi-function Display (MFD) System" in WI section. <Ref. to WI-294, WIRING DIAGRAM, Multi-function Display (MFD) System.>

B: ELECTRICAL SPECIFICATION

1. MULTI FUNCTION DISPLAY

- Standard type



Terminal No.	Item	Measuring condition	Standard
1 (+B) ↔ Chassis ground	Voltage	Always	10 — 14 V
2 (GND) ↔ Chassis ground	Resistance	Always	Less than 1 Ω
3 (IG) ↔ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
9 (U-ART com.)	—	Cannot be measured	—
10 ↔ Chassis ground	Voltage	Passenger's airbag ON indicator light OFF → ON	0 V → 1.5 V
11 ↔ Chassis ground	Voltage	Passenger's airbag OFF indicator light OFF → ON	0 V → 1.5 V

- High grade type

Refer to "Control Module I/O Signal" of "INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)" section. <Ref. to IDI(diag)-7, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

C: OPERATION

1. DIAGNOSTIC MODE (HIGH GRADE TYPE ONLY)

The settings of the multi-function display can be changed by performing the following procedures to display the diagnostic mode.

CAUTION:

- Perform the work with IG-ON while charging the battery.
- While performing the work, close the front hood and all doors, and do not operate any electrical parts.
- Display can not be switched to diagnostic mode if the illumination control dial is set to the position for the dimming cancel function (maximum brightness).

1) Procedure

CAUTION:

Perform the steps described in (2) through (4) within 10 seconds.

- (1) Within 3 seconds after turning the IG-ON, turn the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD).
- (2) While keeping the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD) position, press the i/SET switch three times.
- (3) Turn the lighting switch to OFF, and press the i/SET switch three times.
- (4) Turn the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD) position again, press the i/SET switch three times.

NOTE:

- Except for the demonstration display setting of the diagnostic mode, the display will terminate with IG-OFF or by selecting "Back" from the menu screen.
- The demonstration display setting of the diagnostic mode will terminate by starting the engine or removing the battery. Even if it becomes IG-OFF then IG-ON again, the diagnostic mode will not terminate.
- To select other menus from the demonstration display setting, terminate the diagnostic mode by starting the engine or removing the battery, then access to the diagnostic mode again.

2) Display menu

Change the display and settings from each menu.

Menu	Item	Content
Demonstration display setting	—	Shows demonstration display.
Vehicle status confirmation	• CAN communication	Displays the connection status of input signals.
	• U-ART communication	
	• Camera connection	
Rear camera settings	• Guide line adjustment	Adjust the guide line in the order of up/down, left/right and rotate, then select "Set" to determine.
	• Guide line display	Select "ON" or "OFF", then select "Set" to determine.
	• Guide line reset	Select "Yes" or "No" to determine whether to restore to the default settings.
Customize	• Key operation sound	Select "ON" or "OFF", then select "Set" to determine.
	• Correction of lifetime fuel economy value*	Adjust the fuel economy value within the range of -10 — +10 km/l, then determine the value with i/SET switch.
Back	—	Finish the diagnostic mode.

*: Correction of lifetime fuel economy value is used only when the multi-function display has been replaced. This function is provided as a compensation feature to bring the current lifetime fuel economy value to the one before the replacement of multi-function display.

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

2. ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY)

Follow the procedure below to initialize the ODO setting value.

1) Procedure

- (1) After IG-ON, pull the i/SET switch toward you for two seconds to display the setting screen.
- (2) Select "Factory delivery setting" from "Setting screen".
- (3) Select "ODO setting reset" and determine with "Yes".
- (4) The screen that indicates the completion of the setting is displayed for three seconds. This is the end of operation.

NOTE:

- The resetting operation is confirmed twice. Select confirmation according to the screen.
- The display will terminate with IG-OFF or by selecting "Back" from the menu screen.

D: INSPECTION

- Standard type

Refer to the following inspection steps. <Ref. to IDI-14, SYMPTOM CHART, INSPECTION, Multi-function Display (MFD) System.>

- High grade type

Refer to "Basic Diagnostic Procedure" of "INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)" section. <Ref. to IDI(diag)-2, Basic Diagnostic Procedure.>

1. SYMPTOM CHART

Symptoms	Repair order	Note
No display is shown.	1. Power supply 2. Ground circuit 3. Communication circuit harness 4. MFD	<Ref. to IDI-15, CHECK POWER SUPPLY AND GROUND CIRCUIT AND COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Ambient air temperature/fuel economy displays do not appear.	1. Power supply 2. Ground circuit 3. Communication circuit harness 4. MFD	<Ref. to IDI-15, CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Only ambient air temperature display is not displayed.	1. Power supply 2. Harness 3. Ambient sensor 4. Communication circuit 5. MFD	<Ref. to IDI-16, CHECK AMBIENT TEMPERATURE METER SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Only fuel economy display is not displayed.	1. Setting 2. MFD	<Ref. to IDI-17, CHECK COMMUNICATION CIRCUIT OF FUEL ECONOMY SYSTEM, INSPECTION, Multi-function Display (MFD) System.>

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

2. CHECK POWER SUPPLY AND GROUND CIRCUIT AND COMMUNICATION CIRCUIT

Step	Check	Yes	No
1 CHECK POWER SUPPLY. 1) Disconnect the MFD connector. 2) Measure the voltage between MFD connector and chassis ground. Connector & terminal (i122) No. 1 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 2.	Check the harness for open or short between the fuse and MFD.
2 CHECK GROUND CIRCUIT. Measure the resistance between MFD connector and chassis ground. Connector & terminal (i122) No. 2 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 3.	Repair or replace the harness.
3 CHECK HARNESS BETWEEN MFD AND COMBINATION METER ASSEMBLY. 1) Disconnect the connector of combination meter assembly. 2) Check harness between MFD and combination meter assembly. Connector & terminal (i122) No. 9 — (i10) No. 28:	Is harness normal?	Go to step 4.	Repair or replace the harness.
4 CHECK MFD. 1) Remove the MFD. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is the MFD normal?	Replace the meter - main assembly.	Replace the MFD.

3. CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT

Step	Check	Yes	No
1 CHECK POWER SUPPLY. 1) Disconnect the MFD connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between MFD connector and chassis ground. Connector & terminal (i122) No. 3 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 2.	Repair or replace the harness.
2 CHECK GROUND CIRCUIT. Measure the resistance between MFD connector and chassis ground. Connector & terminal (i122) No. 2 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 3.	Repair or replace the harness.
3 CHECK HARNESS BETWEEN MFD AND COMBINATION METER ASSEMBLY. 1) Disconnect the connector of combination meter assembly. 2) Check harness between MFD and combination meter assembly. Connector & terminal (i122) No. 9 — (i10) No. 28:	Is harness normal?	Go to step 4.	Repair or replace the harness.
4 CHECK MFD. 1) Remove the MFD. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is the MFD normal?	Replace the meter - main assembly.	Replace the MFD.

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

4. CHECK AMBIENT TEMPERATURE METER SYSTEM COMMUNICATION CIRCUIT

Step	Check	Yes	No
1 CHECK AMBIENT SENSOR POWER SUPPLY. 1) Disconnect the ambient sensor connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the ambient sensor connector and chassis ground. Connector & terminal (F78) No. 2 (+) — Chassis ground (—):	Is the voltage 4 V or more?	Go to step 2.	Check the harness for open or short between the fuse and MFD.
2 CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER ASSEMBLY. 1) Disconnect the connector of combination meter assembly. 2) Check harness between ambient sensor and combination meter assembly. Connector & terminal (F78) No. 1 — (i10) No. 36: (F78) No. 2 — (i10) No. 27:	Is harness normal?	Go to step 3.	Repair or replace the harness.
3 CHECK AMBIENT SENSOR. Check the ambient sensor. <Ref. to AC-73, INSPECTION, Ambient Sensor.>	Is the ambient sensor operating properly?	Go to step 4.	Replace the ambient sensor.
4 CHECK AMBIENT TEMPERATURE DISPLAY. 1) Connect the combination meter assembly connector. 2) Install the 3 kΩ resistance between connector terminals of the ambient sensor. 3) Turn the ignition switch to ON. Connector & terminal (F78) No. 1 — No. 2:	Does the ambient temperature display 25°C (77°F)?	Repair the poor contact between the ambient sensor and harness connector.	Go to step 5.
5 CHECK CURRENT DATA. Using the Subaru Select Monitor, display the data of «Ambient Air Temperature». NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	Is the ambient temperature of 25°C (77°F) output?	Go to step 6.	Replace the meter - main assembly. <Ref. to IDI-18, Combination Meter.>
6 CHECK MFD. 1) Remove the MFD. 2) Attach the ambient temperature display to another vehicle on which the ambient temperature display operates normally to check its operation.	Does the ambient temperature display 25°C (77°F)?	Replace the MFD.	Replace the meter - main assembly. <Ref. to IDI-18, Combination Meter.>

Multi-function Display (MFD) System

INSTRUMENTATION/DRIVER INFO

5. CHECK COMMUNICATION CIRCUIT OF FUEL ECONOMY SYSTEM

Step	Check	Yes	No
1 CHECK FUEL ECONOMY DISPLAY OFF MODE. Check that the mode display changes when the MFD changeover knob is operated. (Display changes in the following order: cruising distance → average fuel economy → instantaneous fuel economy → continuous driving time → average vehicle speed → blank display)	Is fuel economy displayed?	MFD is normal.	Go to step 2.
2 CHECK MFD. 1) Remove the MFD. 2) Attach the fuel economy display to another vehicle on which the fuel economy display operates normally to check its operation.	Is the fuel economy display correct?	Replace the MFD.	Replace the meter - main assembly. <Ref. to IDI-18, Combination Meter.>

E: NOTE

For procedure of each component in the Multi-Function Display (MFD), refer to the respective section.

- Multi-function display: <Ref. to IDI-25, Multi-function Display (MFD).>



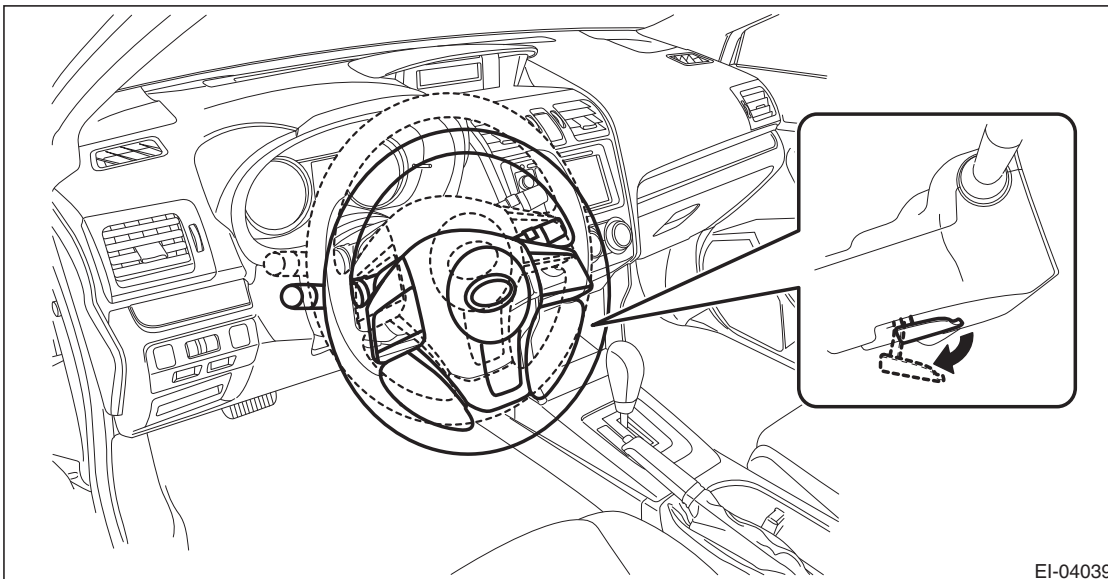
Combination Meter

INSTRUMENTATION/DRIVER INFO

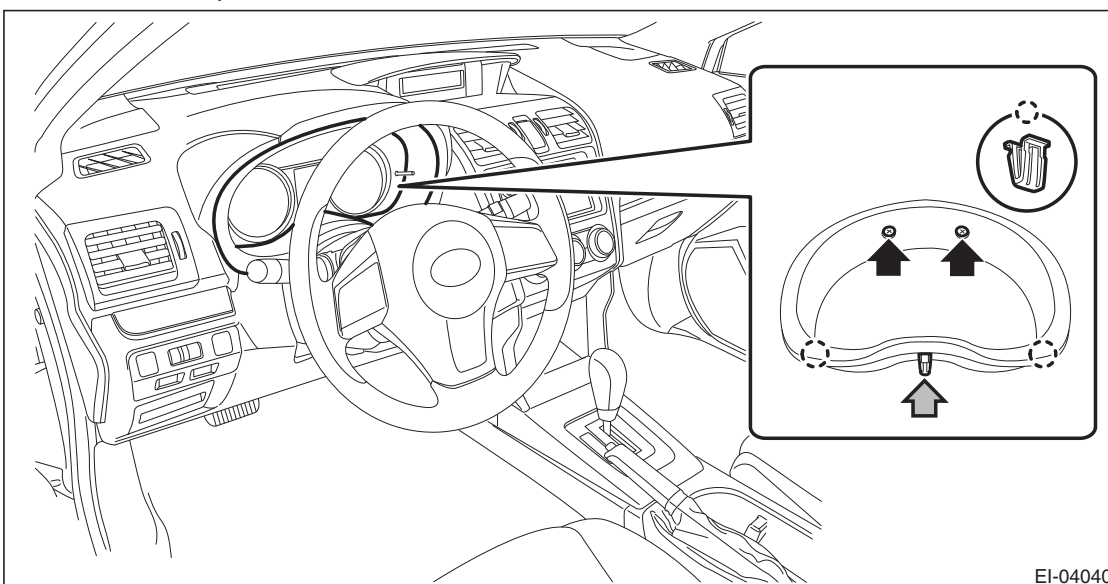
5. Combination Meter

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.



- 3) Release the screws, clips and claws, and remove the visor - combination meter.



Combination Meter

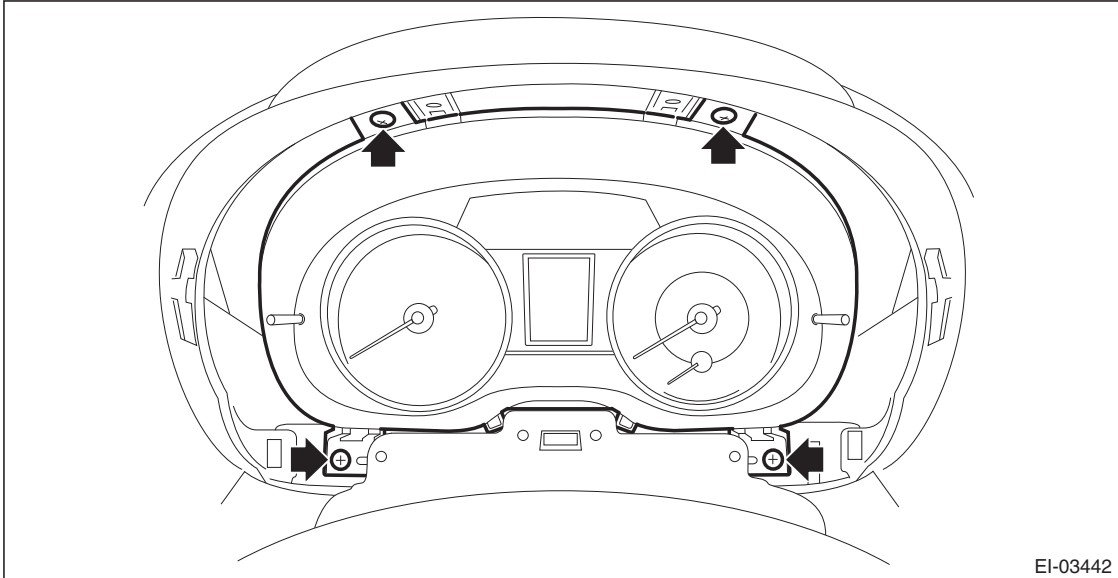
INSTRUMENTATION/DRIVER INFO

4) Remove the combination meter assembly.

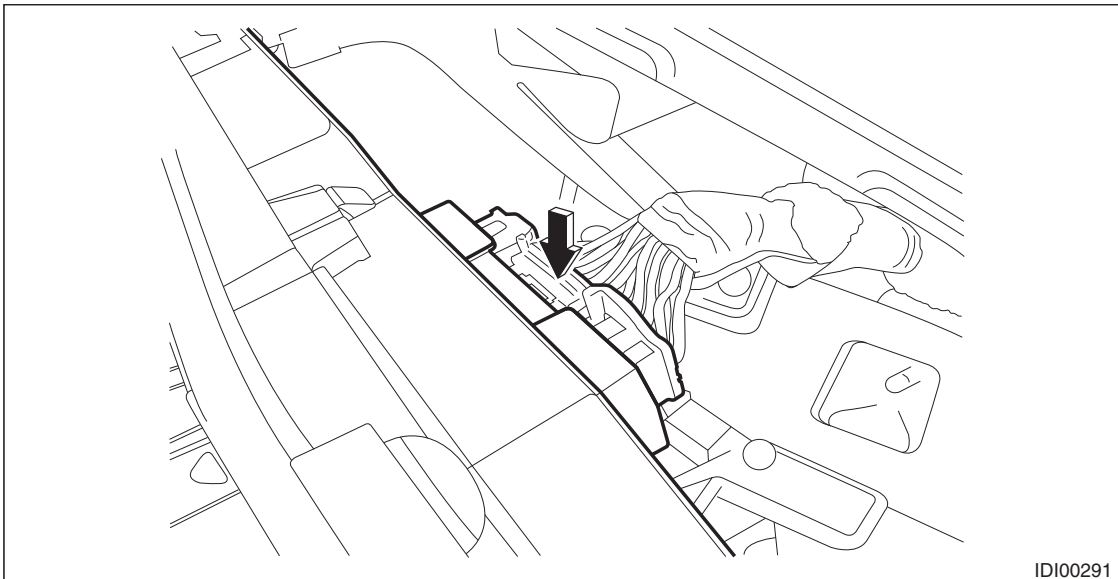
CAUTION:

- Be careful not to damage the meter or instrument panel.
- Pay particular attention to avoid damaging the meter glass.

(1) Remove the screws.



(2) Pull the combination meter assembly toward you and disconnect the connector.



B: INSTALLATION

CAUTION:

- Make sure the electrical connector is connected securely.
- Make sure that each meter operates normally.
- When the combination meter assembly has been replaced, be sure to perform the registration of immobilizer.
- When the combination meter assembly has been replaced, be sure to reset the ODO fuel economy value of multi-function display (MFD). <Ref. to IDI-14, ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY), OPERATION, Multi-function Display (MFD) System.>

Install each part in the reverse order of removal.

Combination Meter

INSTRUMENTATION/DRIVER INFO

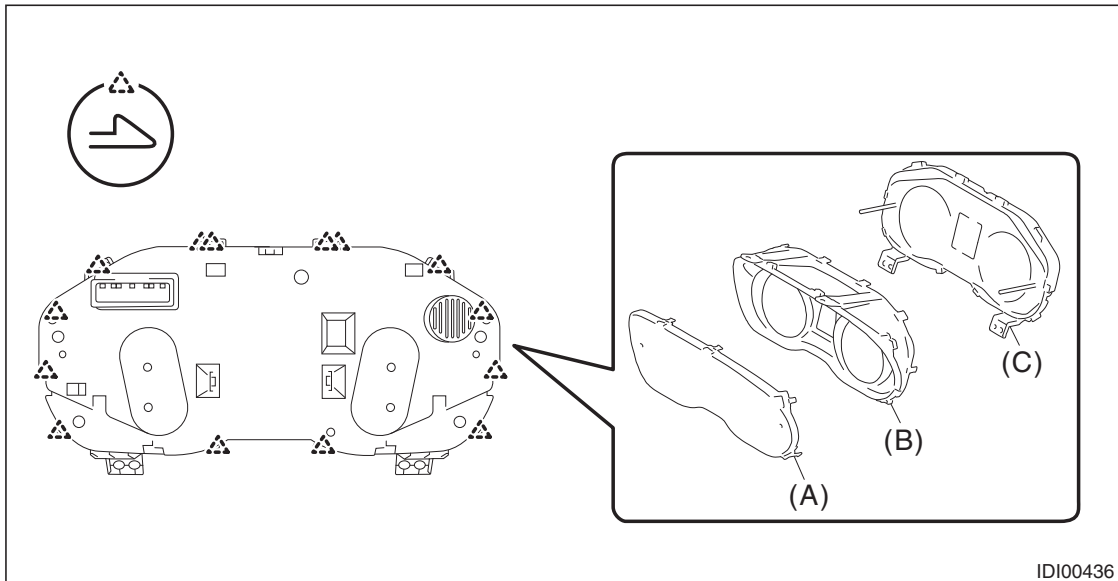
C: DISASSEMBLY

1. DISASSEMBLY OF COMBINATION METER ASSEMBLY

CAUTION:

- Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
- Be careful not to apply excessive force to the trip knob.
- Be sure not to touch the meter indicator needle.

Release the claw, and remove the glass - combination meter (A) and visor - combination meter (B) from the meter - main assembly (C).



2. BULB REPLACEMENT

Because LEDs are used for all of warning lights and indicator lights of combination meters, replace the meter - main assembly if faulty.

D: ASSEMBLY

Assemble each part in the reverse order of disassembly.

6. Speedometer

A: SPECIFICATION

Since the meter - main assembly cannot be disassembled, do not remove or inspect the speedometer alone.
(Do not remove the cover on the back surface.)

Tachometer

INSTRUMENTATION/DRIVER INFO

7. Tachometer

A: SPECIFICATION

Since the meter - main assembly cannot be disassembled, do not remove or inspect the tachometer alone.
(Do not remove the cover on the back surface.)

8. Fuel Gauge

A: SPECIFICATION

Since the meter - main assembly cannot be disassembled, do not remove or inspect the fuel gauge alone.
(Do not remove the cover on the back surface.)

ECO Gauge

INSTRUMENTATION/DRIVER INFO

9. ECO Gauge

A: SPECIFICATION

Since the meter - main assembly cannot be disassembled, do not remove or inspect the ECO gauge alone.
(Do not remove the cover on the back surface.)

Multi-function Display (MFD)

INSTRUMENTATION/DRIVER INFO

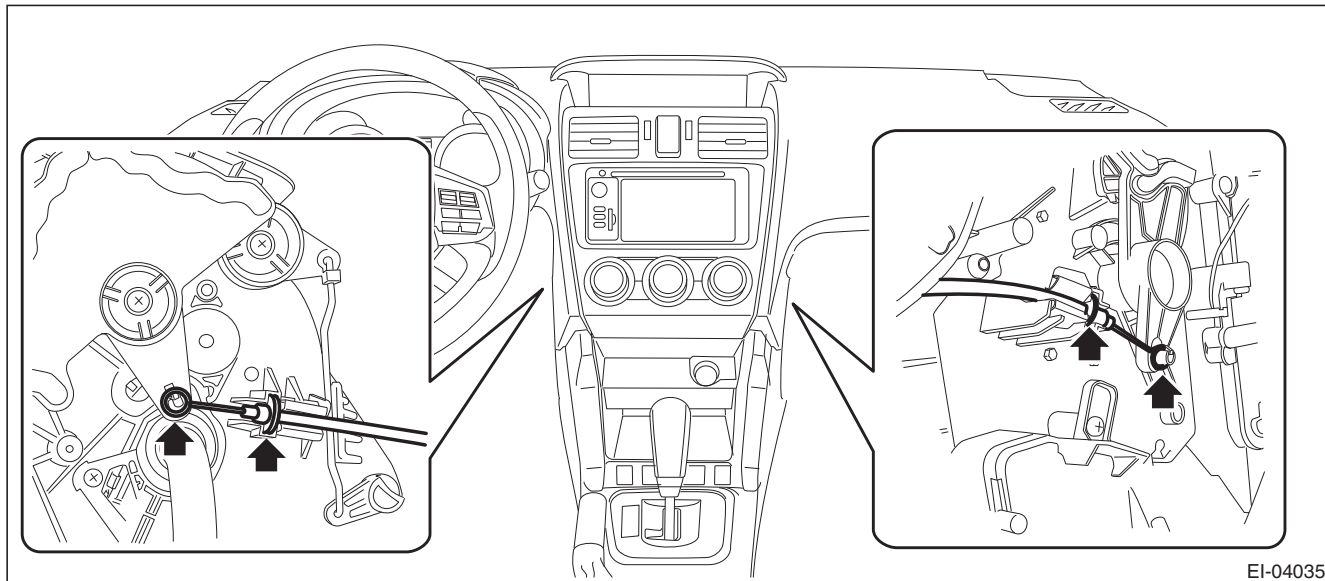
10. Multi-function Display (MFD)

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Remove the panel center assembly.

CAUTION:

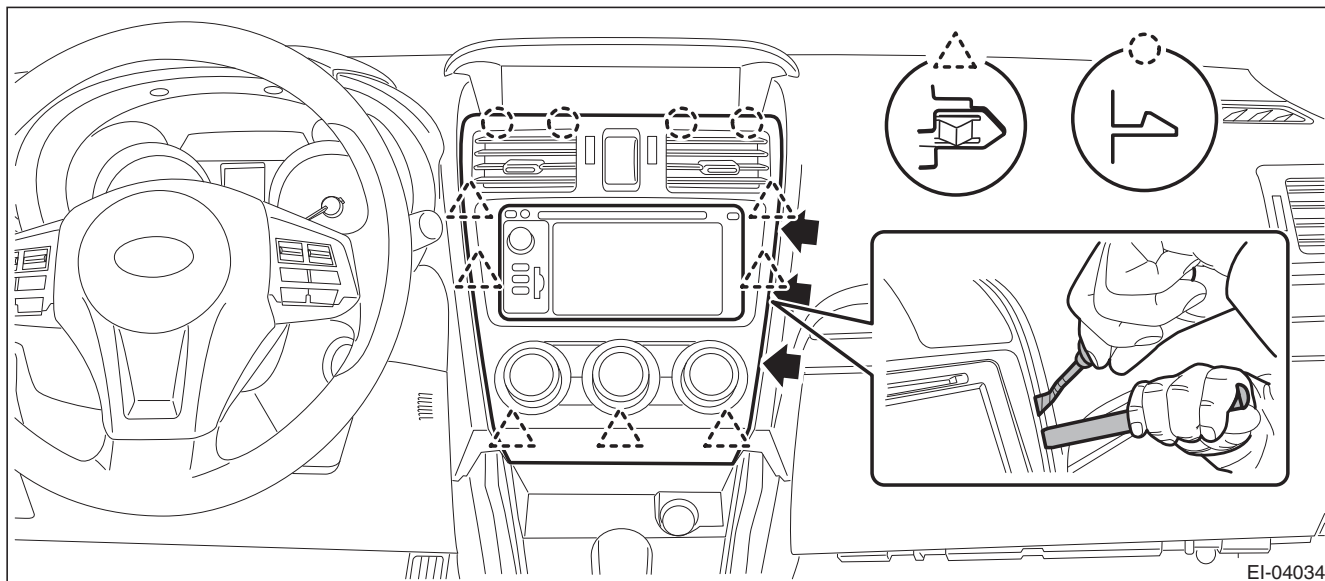
- Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.
 - Pull the panel center assembly slowly. Pulling with excessive force may damage the connector.
- (1) On manual A/C models, disconnect the control cables from both sides of the heater and cooling unit assembly.



NOTE:

Remove the glove box pocket assembly on the passenger's side.

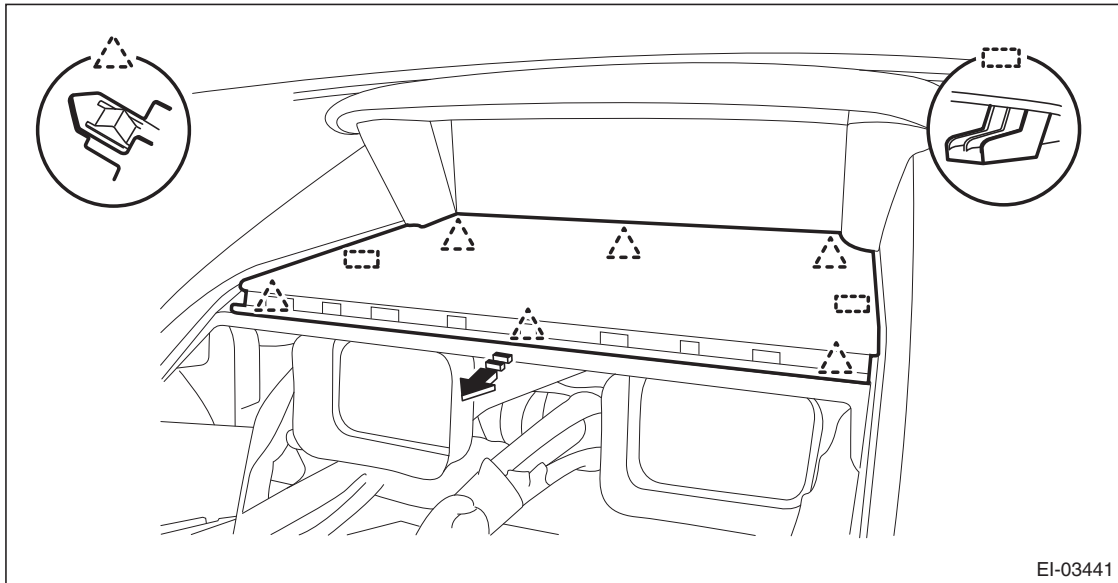
- (2) Insert a plastic remover to the three areas shown by the arrows, and slightly lift up the panel center assembly.
- (3) With the panel center assembly lifted up slightly, release the claw by using a clip remover wrapped with protective tape.
- (4) Release the rest of the claws, and pull out the panel center assembly.
- (5) Disconnect the connectors, and remove the panel center assembly.



Multi-function Display (MFD)

INSTRUMENTATION/DRIVER INFO

3) Release the claw and hook, and then remove the cover center UPR.



NOTE:

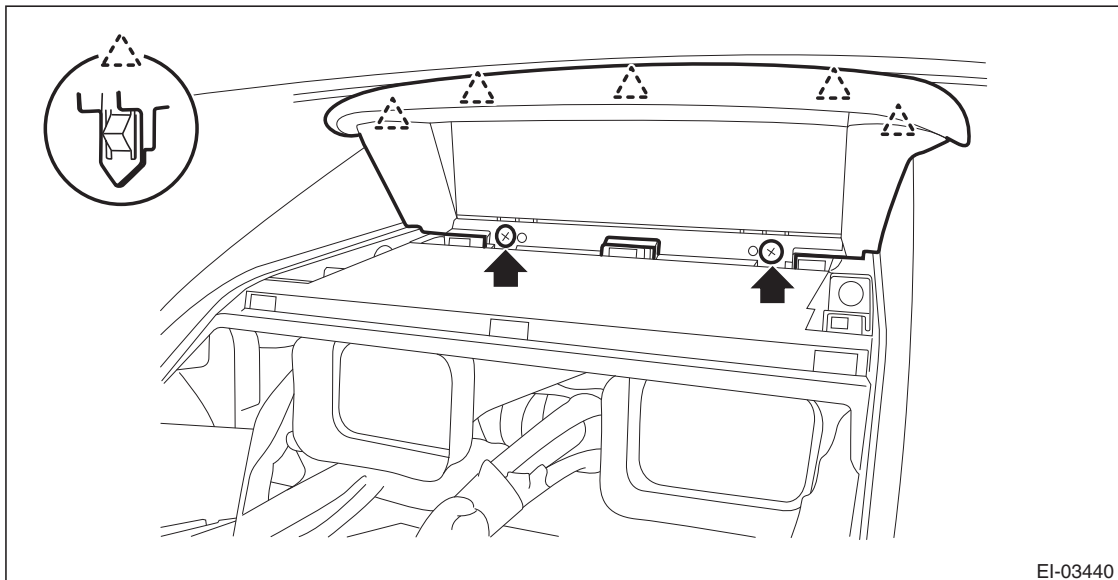
Lightly push up the back of the cover center UPR, hook the finger to the end portion and pull it toward you to remove it.

4) Remove the multi-function display.

CAUTION:

Be careful not to damage the multi-function display or instrument panel.

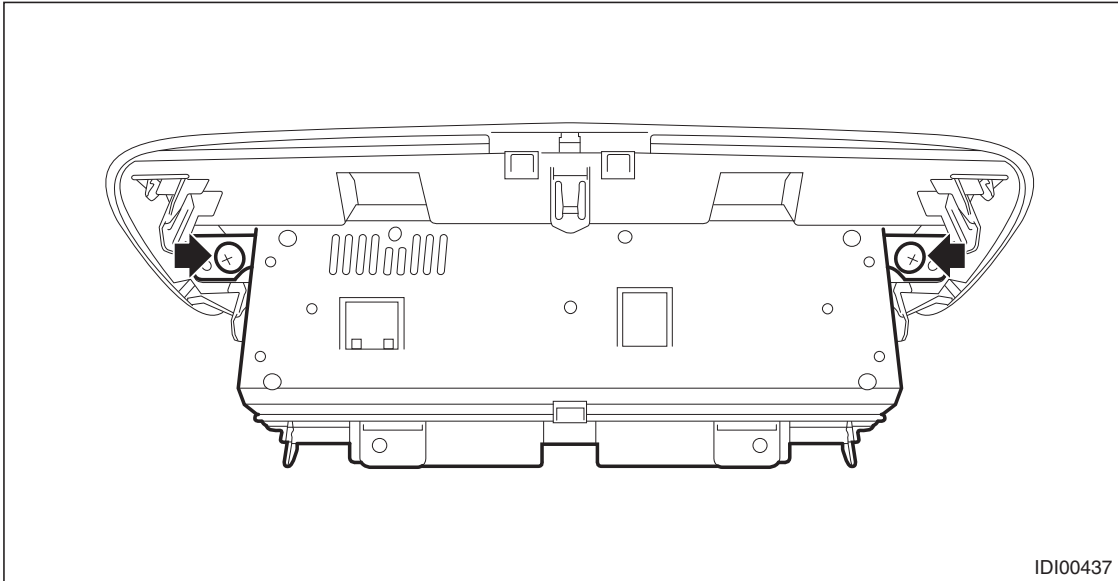
- (1) Release the screws and claws.
- (2) Pull the multi-function display assembly toward you, and disconnect the connector.



Multi-function Display (MFD)

INSTRUMENTATION/DRIVER INFO

- (3) Remove the screw, and remove the multi-function display from the panel - display.



B: INSTALLATION

CAUTION:

- Make sure the electrical connector is connected securely.
- Make sure that the multi-function display operates normally.
- After installing the panel center assembly, check that the air vent grille of the panel center assembly is inserted correctly into the air vent duct.

Install each part in the reverse order of removal.



Steering Switch

INSTRUMENTATION/DRIVER INFO

11. Steering Switch

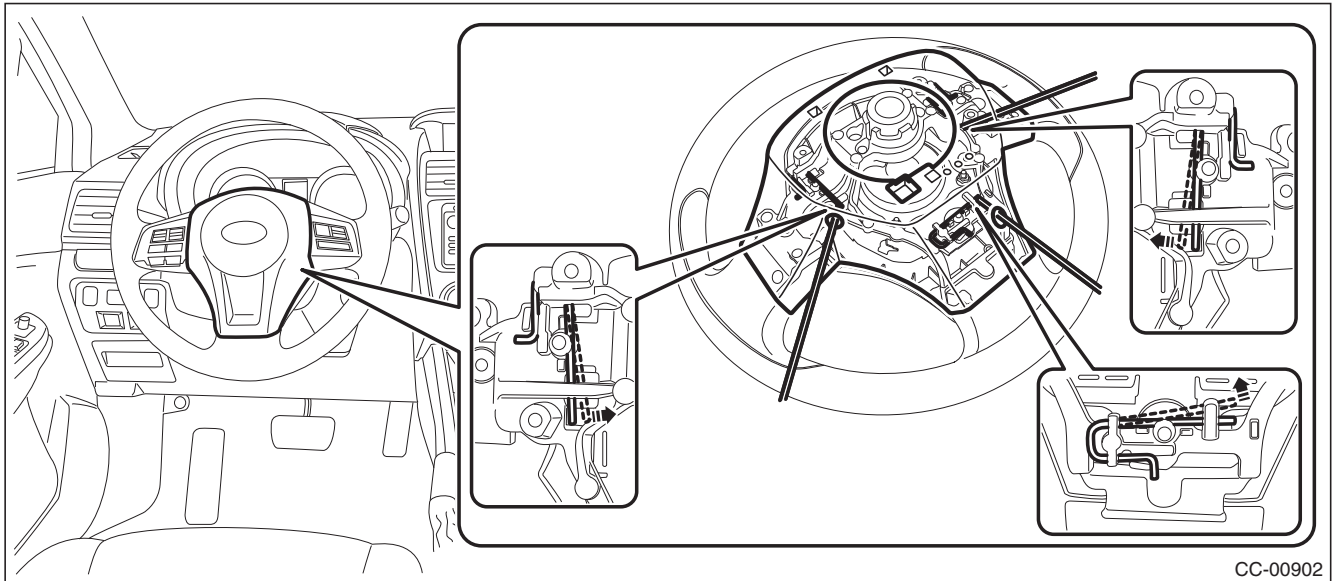
A: REMOVAL

- 1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
- 2) Turn the ignition switch to OFF.
- 3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
- 4) Remove the driver's airbag module.

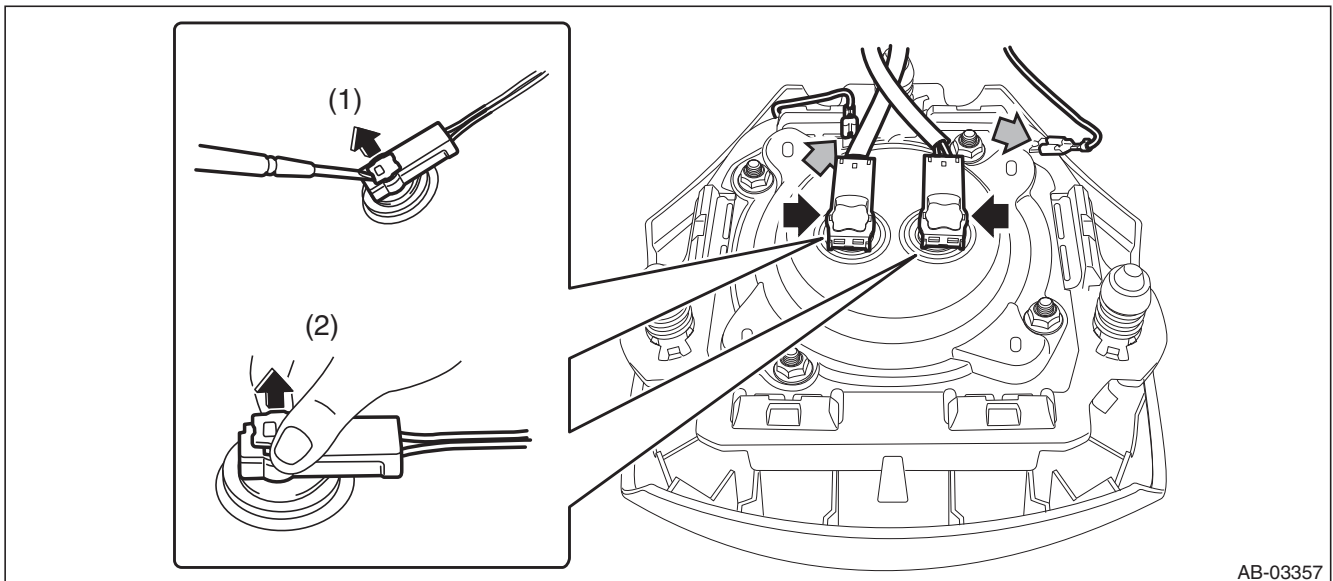
CAUTION:

Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-9, CAUTION, General Description.>

- (1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



- (2) Disconnect the horn harness and airbag connector, and remove the driver's airbag module. <Ref. to AB-18, PROCEDURE, Airbag Connector.>



Steering Switch

INSTRUMENTATION/DRIVER INFO

5) Remove the steering wheel.

CAUTION:

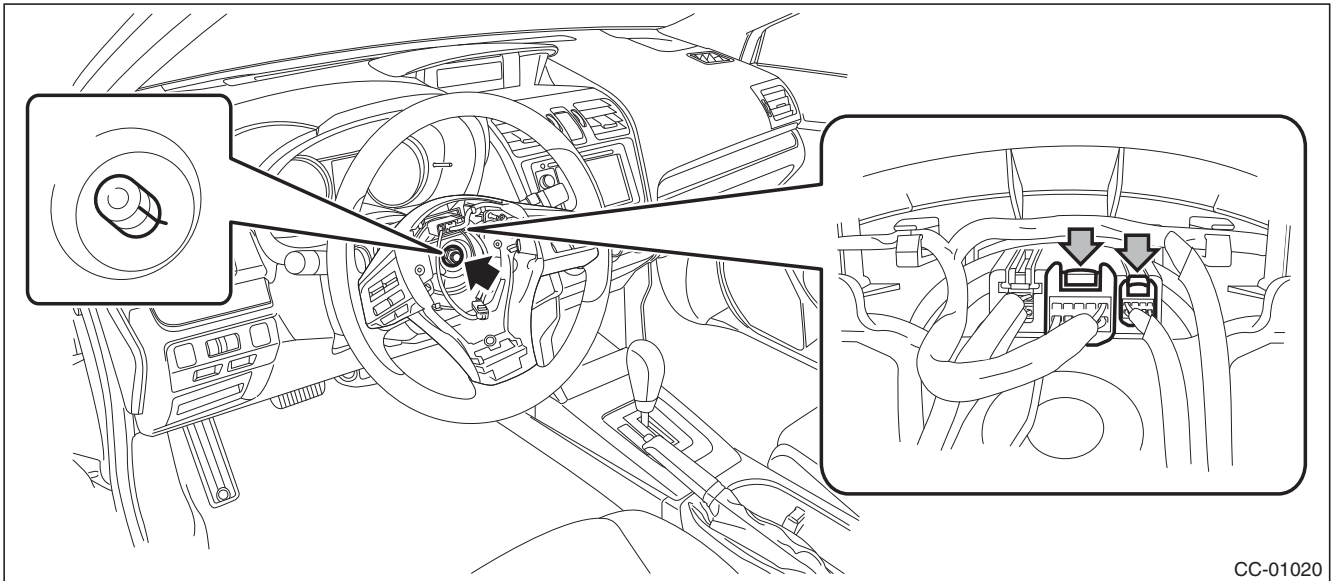
- Always use the steering wheel puller for removal to avoid deforming the steering wheel.
- If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.

(1) Disconnect the connector and remove the nut.

(2) Put alignment marks and remove the steering wheel using a steering wheel puller.

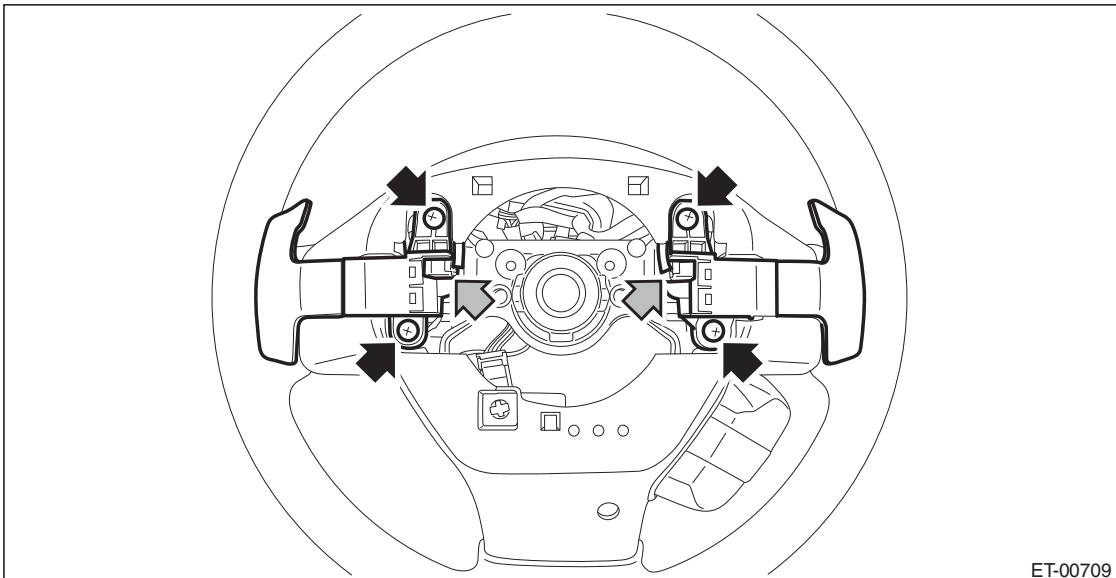
Preparation tool:

Steering wheel puller



6) Remove the switch assembly - steering.

(1) Remove the screw, disconnect the connector and remove the paddle shift switch. (Model with paddle shift)



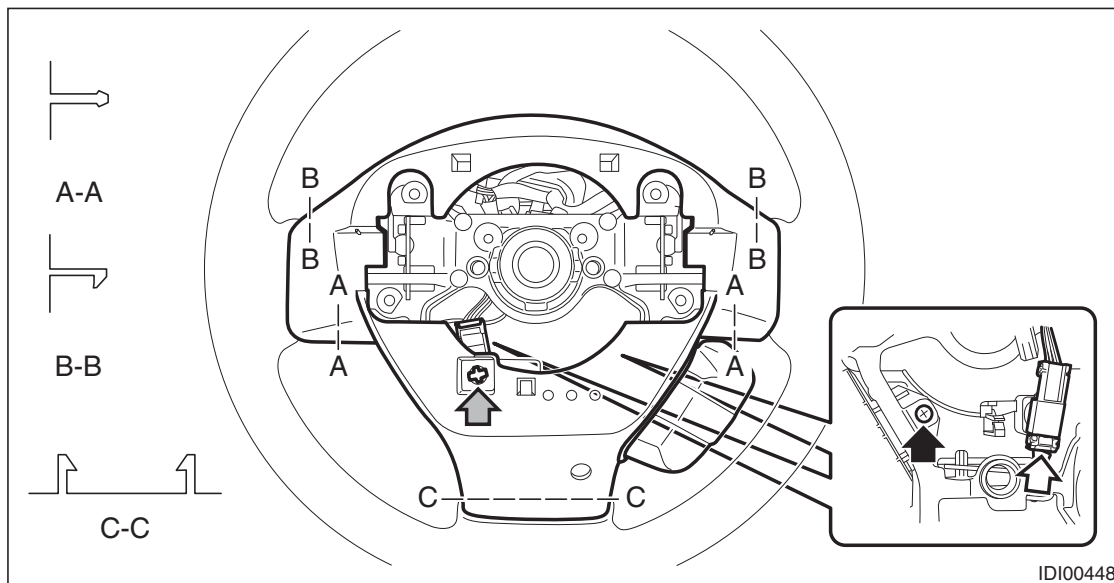
(2) Remove the connector and screw.



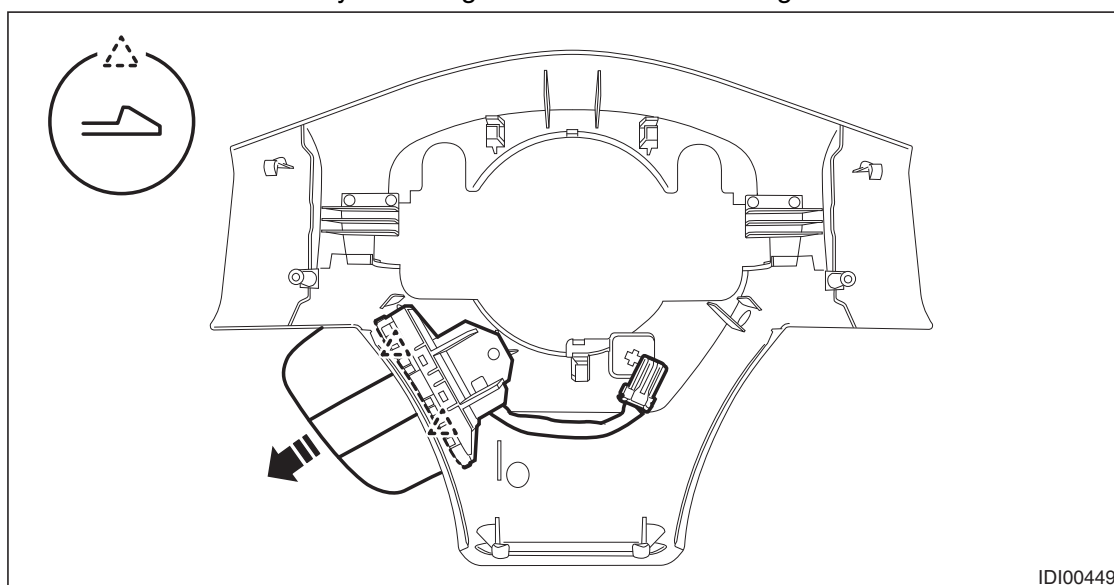
Steering Switch

INSTRUMENTATION/DRIVER INFO

- (3) Release the claws and clips, detach the cover - steering wheel LWR.



- (4) Remove the switch assembly - steering from the cover - steering wheel LWR.



Steering Switch

INSTRUMENTATION/DRIVER INFO

B: INSTALLATION

CAUTION:

- Before handling the airbag module, refer to “CAUTION” of “General Description” in “AIRBAG SYSTEM”. <Ref. to AB-9, CAUTION, General Description.>
 - Do not allow harness and connectors to interfere or get tangled up with other parts.
 - If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-23, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCM&H/U).>
- 1) Before installing steering wheel, be sure to adjust the direction of steering roll connector with steering wheel. <Ref. to AB-103, ADJUSTMENT, Roll Connector.>
- 2) Install each part in the reverse order of removal.

NOTE:

Align the alignment marks on the steering wheel and the column assembly - steering.

Tightening torque:

Steering wheel: 39 N·m (3.98 kgf·m, 28.8 ft·lb)

Clearance:

Between cover assembly - column and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

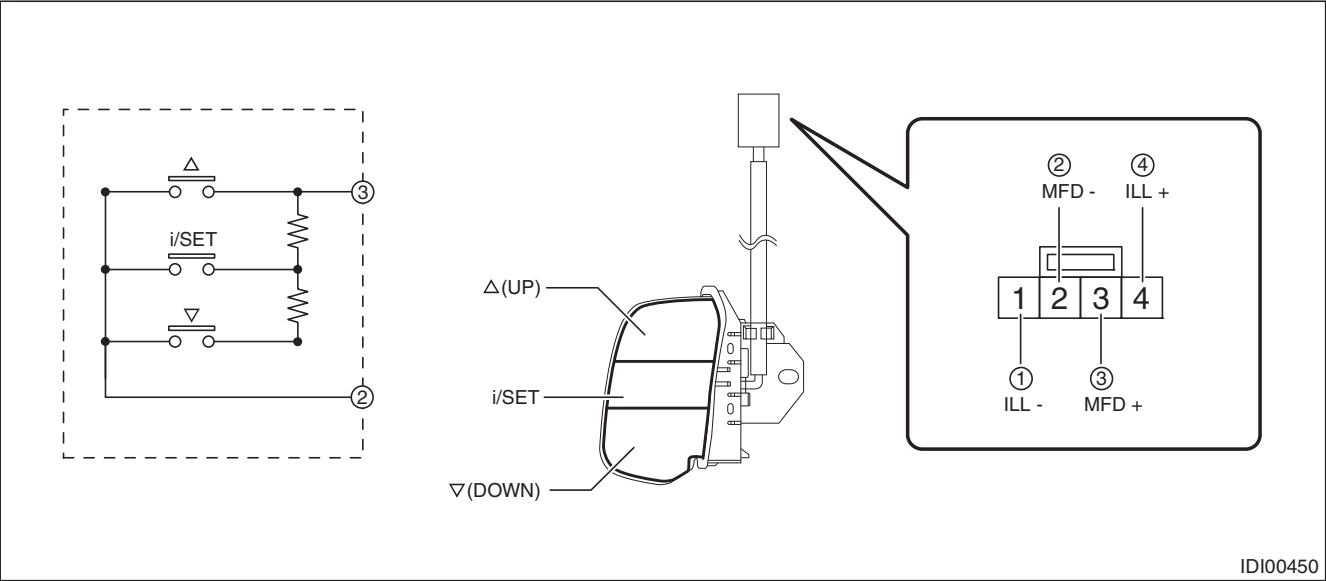
C: INSPECTION

UNIT INSPECTION

Preparation tool:

Circuit tester

- 1) Check the resistance between switch terminals.



Terminal No.	Inspection conditions		Standard
3 — 2	Δ (UP) i/SET ∇ (DOWN)	All OFF	1 MΩ or more
3 — 2	Δ (UP)	ON	Less than 1 Ω
3 — 2	i/SET	ON	Approx. 1000 Ω
3 — 2	∇ (DOWN)	ON	Approx. 3670 Ω

- 2) Replace the switch assembly - steering if the inspection result is not within the standard.

Steering Switch

INSTRUMENTATION/DRIVER INFO

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

IDI(diag)

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Basic Diagnostic Procedure

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

1. Basic Diagnostic Procedure

A: PROCEDURE

1. COMBINATION METER

Step	Check	Yes	No
1 PERFORM CUSTOMER INTERVIEW. Using the Check List for Interview, ask the customer the condition of how trouble occurs. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>	Did you interview the customer?	Go to step 2.	Interview the customer. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>
2 CHECK CAN COMMUNICATION. Read the DTC of the CAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-99, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step 3.
3 CHECK COMBINATION METER. Using the Subaru Select Monitor, read DTC of combination meter. <Ref. to BC(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Record DTC and time stamp, and perform the diagnosis according to DTC. <Ref. to BC(diag)-22, LIST, List of Diagnostic Trouble Code (DTC).> NOTE: For time stamp, refer to "LAN SYSTEM". <Ref. to LAN(diag)-6, TIME STAMP, CAUTION, General Description.>	Go to step 4.
4 CHECK COMBINATION METER. Check the operation of combination meter. <Ref. to IDI(diag)-18, System Operation Check Mode.>	Is it operating normally?	System is normal.	Replace the combination meter. <Ref. to IDI-18, Combination Meter.>

Basic Diagnostic Procedure

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

2. MFD

Step	Check	Yes	No
1 PERFORM CUSTOMER INTERVIEW. Using the Check List for Interview, ask the customer the condition of how trouble occurs. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>	Did you interview the customer?	Go to step 2.	Interview the customer. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>
2 CHECK CAN COMMUNICATION. Read the DTC of the CAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-99, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step 3.
3 CHECK MFD. Read the DTC relating the MFD using the Subaru Select Monitor. <Ref. to BC(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Record DTC and time stamp, and perform the diagnosis according to DTC. <Ref. to BC(diag)-22, LIST, List of Diagnostic Trouble Code (DTC).> NOTE: For time stamp, refer to "LAN SYSTEM". <Ref. to LAN(diag)-6, TIME STAMP, CAUTION, General Description.>	Go to step 4.
4 CHECK MFD. Check the MFD display using the system operation check mode of combination meter. <Ref. to IDI(diag)-18, System Operation Check Mode.>	Is the display normal?	System is normal.	Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>

Check List for Interview

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

2. Check List for Interview

A: CHECK

- Inspect the following items regarding the vehicle's state.
- Print out this page for interviewing customers.

Combination Meter / MFD Check List for Interview			
Date the Vehicle is Received		Year	Month Day
Customer's name		Registration No.	Initial year of registration Year Month Date
		Vehicle model	Frame number
Interviewer	Inspector	Engine type	Odometer reading
Customer specified content • • •			
Date and time when the trouble occurred		Frequency of trouble occurrence	Always occurs Sometimes occurs (times per day, times per month)
Condition of trouble occurrence (How the trouble occurs)		Weather	Fine • Cloudy • Rainy • Snowy • Others ()
		Temperature	°C (°F) — °C (°F)
Road conditions		Occurrence location	
Accessory installation condition			
Confirmation of trouble condition			
☐ Combination meter			
☐ MFD			
☐ Diagnostic code			

General Description

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

3. General Description

A: CAUTION

1. AIRBAG SYSTEM

CAUTION:

- Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
- Be careful not to damage the airbag system wiring harness.

B: INSPECTION

Before performing the diagnosis, check the following items which may cause problems relating the wiper or light.

1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

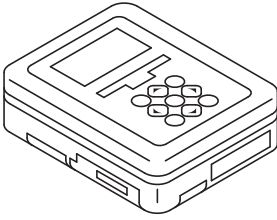
Specific gravity: 1.260 or more

2) Check the fuse condition.

3) Check the connecting condition of harness and harness connector.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

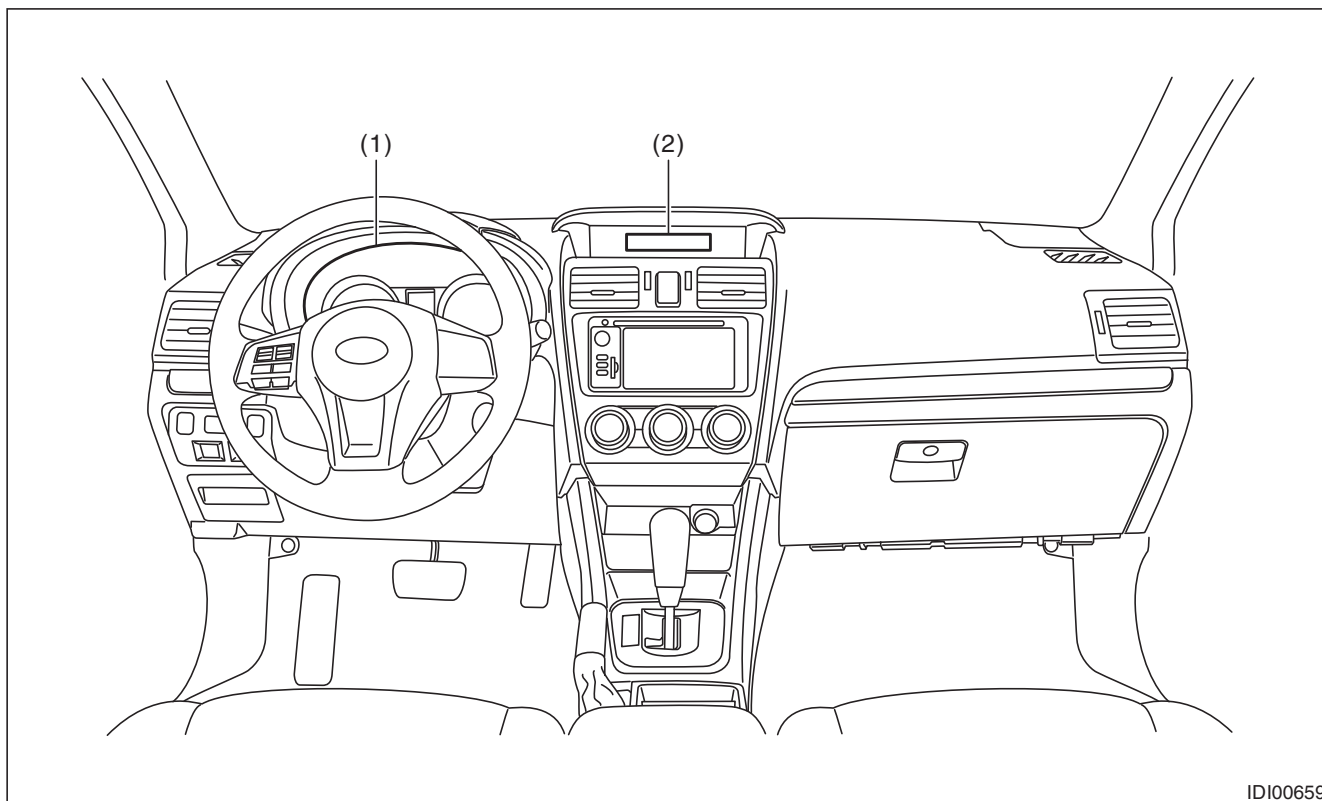
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

Electrical Component Location

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

4. Electrical Component Location

A: LOCATION



IDI00659

(1) Combination meter

(2) MFD

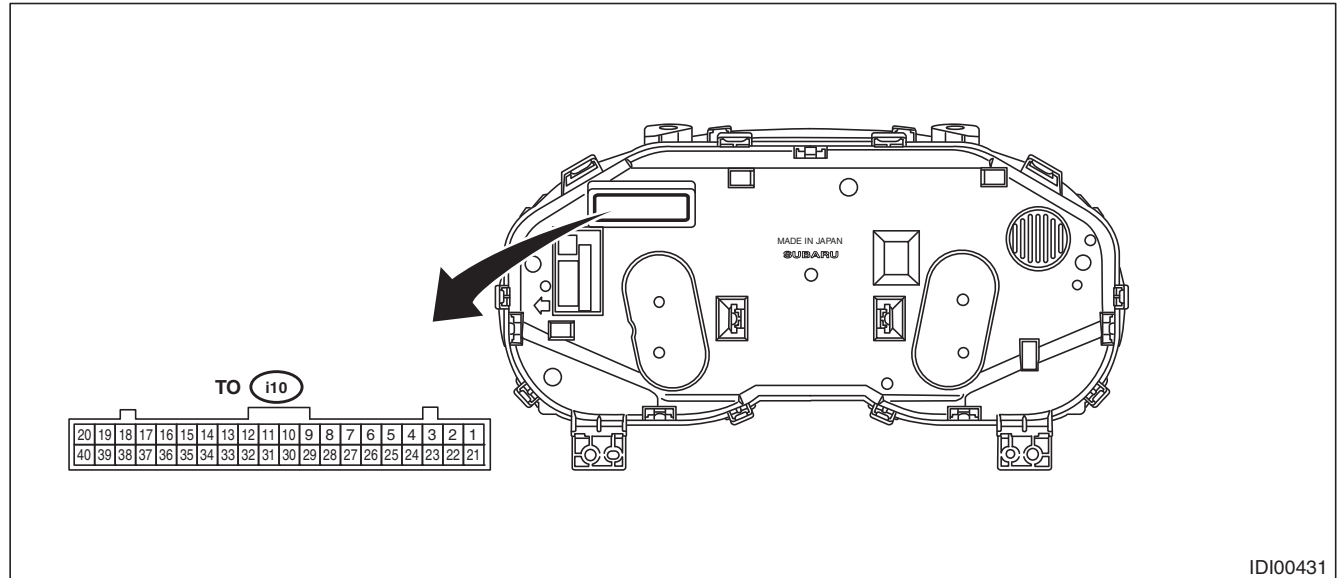
Control Module I/O Signal

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

- Combination meter



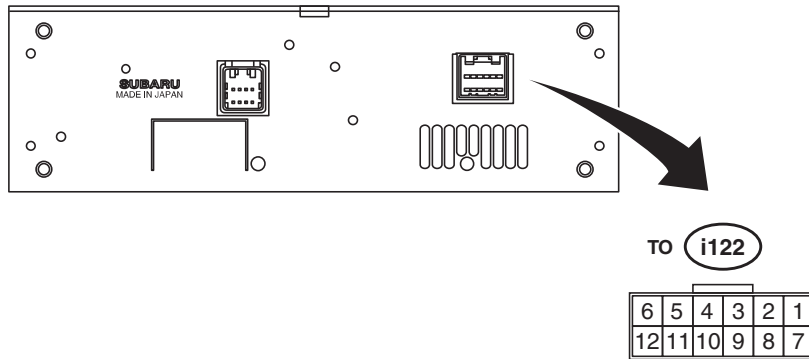
IDI00431

Terminal No.	Item	Measuring condition	Standard
1 ↔ Chassis ground	Voltage	Security/immobilizer indicator light off → on	0 V → 10 — 14 V
2 ↔ Chassis ground	Voltage	Charge warning light off → on	0 V → 10 — 14 V
3 ↔ Chassis ground	Voltage	Oil pressure warning light off → on	0 V → 10 — 14 V
4 ↔ Chassis ground	Voltage	RH turn indicator off → on	0 V → 10 — 14 V
6 ↔ Chassis ground	Voltage	LH turn indicator off → on	0 V → 10 — 14 V
8 ↔ Chassis ground	Voltage	Auto headlight beam leveler warning light off → on	0 V → 10 — 14 V
15 ↔ Chassis ground	Resistance	Driver's seat belt switch ON	Less than 1 Ω
16	—	Airbag CM	—
20 ↔ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
21 ↔ Chassis ground	—	Washer fluid level sensor	—
23 ↔ Chassis ground	—	Brake fluid level switch	—
25 ↔ 37	Resistance	Fuel level sensor	10 — 600 Ω
27 ↔ 36	Resistance	Ambient sensor	1 — 35 kΩ
28 (UART) ↔ Chassis ground	—	Cannot be measured	—
32 (CAN-) ↔ Chassis ground	—	Cannot be measured	—
33 (CAN+) ↔ Chassis ground	—	Cannot be measured	—
34 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
35 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
36 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
37 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
38 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
39 ↔ Chassis ground	Resistance	Always	Less than 1 Ω
40 ↔ Chassis ground	Voltage	Always	10 — 14 V

Control Module I/O Signal

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

- MFD



IDI00427

Terminal No.	Item	Measuring condition	Standard
1(+B) ↔ Chassis ground	Voltage	Always	10 — 14 V
2 (GND) ↔ Chassis ground	Resistance	Always	Less than 1 Ω
3 (IGN) ↔ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
4 (STR-) ↔ Chassis ground	—	Cannot be measured (steering switch communication line)	—
5 (CAN-) ↔ Chassis ground	—	Cannot be measured (CAN communication line)	—
6 (CAN+) ↔ Chassis ground	—	Cannot be measured (CAN communication line)	—
9 (UART) ↔ Chassis ground	—	Cannot be measured (meter communication line)	—
10 ↔ Chassis ground	Voltage	Passenger's airbag ON indicator (when illuminating)	Less than 1 V
11 ↔ Chassis ground	Voltage	Passenger's airbag OFF indicator (when illuminating)	Less than 1 V
12 (STR+) ↔ Chassis ground	—	Cannot be measured (steering switch communication line)	—

Subaru Select Monitor

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

6. Subaru Select Monitor

A: OPERATION

- For operation procedures, refer to the "PC application help for Subaru Select Monitor".
 - If the combination meter or MFD can not communicate with Subaru Select Monitor, perform the "Communication for Initializing Impossible". <Ref. to IDI(diag)-10, INSPECTION, Subaru Select Monitor.>
- If the DTCs related to the LAN system are not displayed, perform the inspection by connecting the Subaru Select Monitor to another vehicle which is operating properly and by establishing the communication.

Subaru Select Monitor

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE (COMBINATION METER)

DETECTING CONDITION:

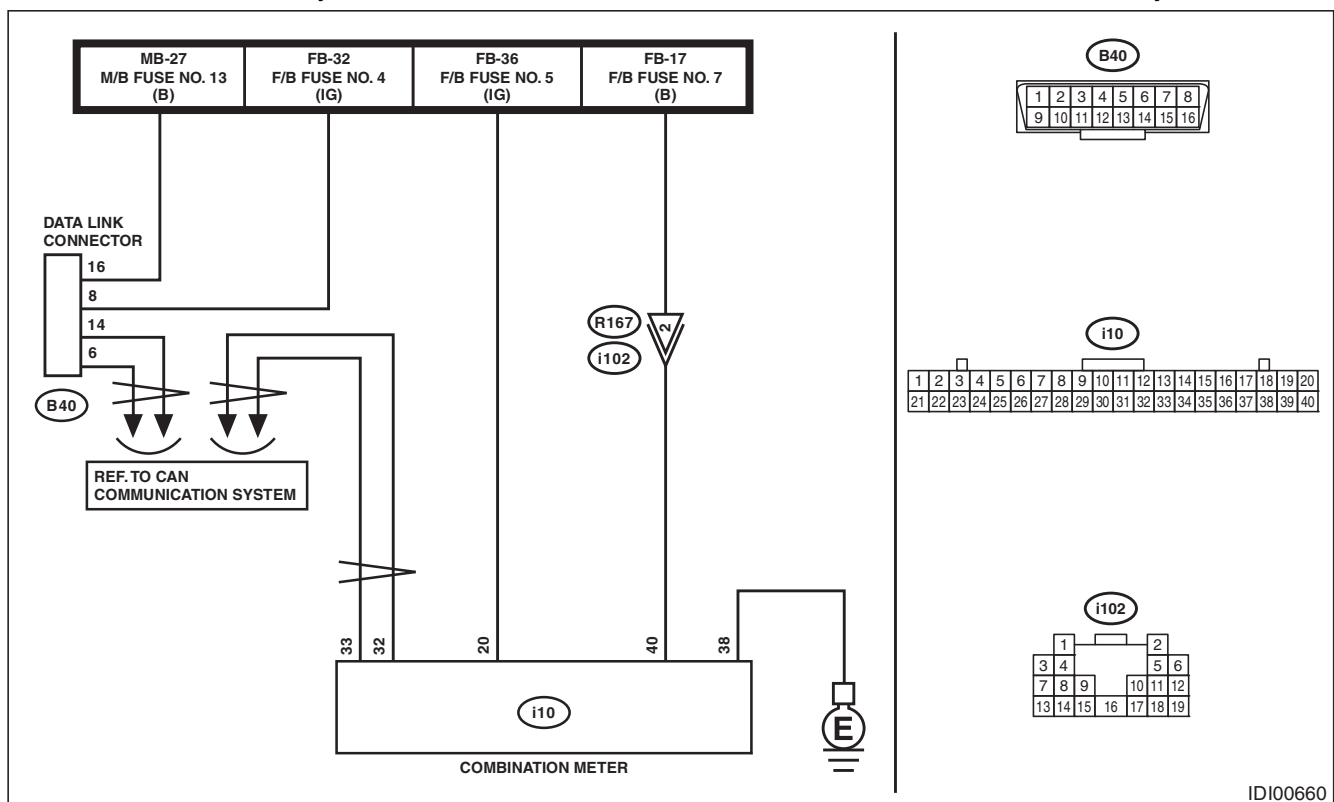
- Defective harness connector
- Power supply circuit malfunction
- Defective combination meter
- Defective CAN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

Communication is impossible between combination meter and Subaru Select Monitor.

WIRING DIAGRAM:

- Combination meter system <Ref. to WI-115, WIRING DIAGRAM, Combination Meter System.>
- CAN communication system <Ref. to WI-96, WIRING DIAGRAM, CAN Communication System.>



IDI00660

Subaru Select Monitor

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK OTHER COMMUNICATION. Communicate with the system other than the combination meter using the Subaru Select Monitor.	Is the communication to other control module possible?	Go to step 2.	Perform the "Communication for Initializing Impossible" of LAN system. <Ref. to LAN(diag)-11, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>
2 CHECK DTC. Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step 3.
3 CHECK COMBINATION METER. 1) Turn the ignition switch to OFF. 2) Disconnect the connector of combination meter. 3) Connect the disconnected connectors. 4) Communicate with the combination meter using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the combination meter. <Ref. to IDI-18, Combination Meter.>

Subaru Select Monitor

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

2. COMMUNICATION FOR INITIALIZING IMPOSSIBLE (MFD)

DETECTING CONDITION:

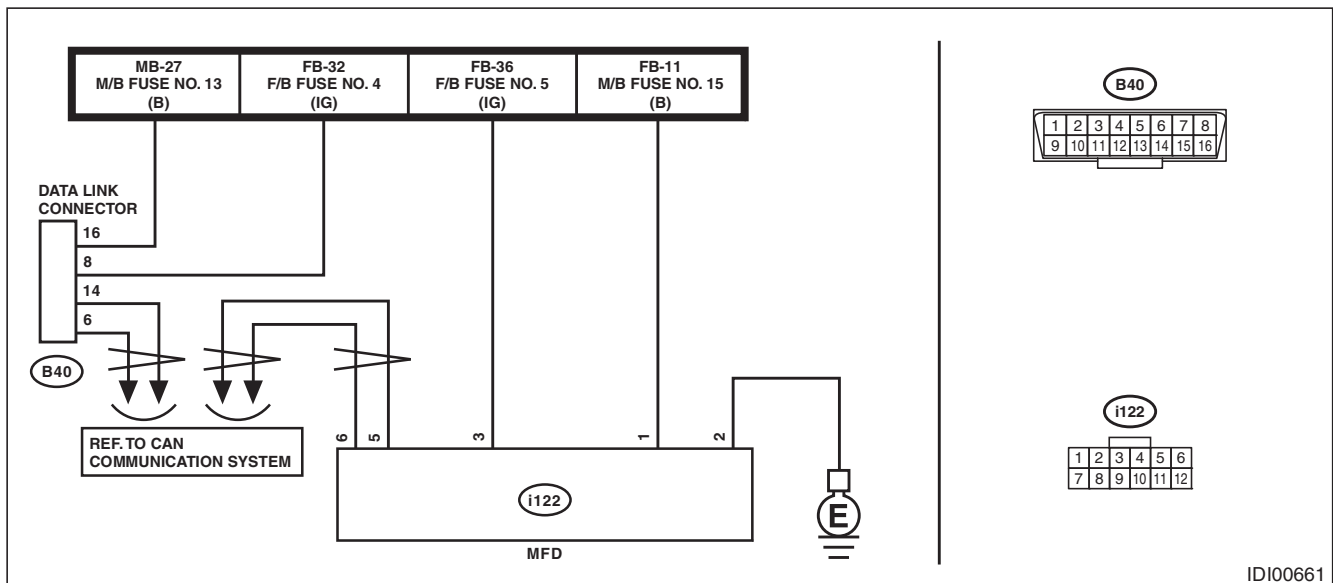
- Defective harness connector
- Power supply circuit malfunction
- Defective MFD
- Defective CAN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

Communication is impossible between MFD and Subaru Select Monitor.

WIRING DIAGRAM:

- Multi-function display (MFD) system <Ref. to WI-294, WIRING DIAGRAM, Multi-function Display (MFD) System.>
- CAN communication system <Ref. to WI-96, WIRING DIAGRAM, CAN Communication System.>



Step	Check	Yes	No
1	CHECK OTHER COMMUNICATION. Communicate with the system other than the MFD using the Subaru Select Monitor.	Go to step 2.	Perform the "Communication for Initializing Impossible" of LAN system. <Ref. to LAN(diag)-11, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>
2	CHECK DTC. Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected? Perform the diagnosis according to DTC.	Go to step 3.
3	CHECK MFD. 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector. 3) Connect the disconnected connectors. 4) Communicate with the MFD using the Subaru Select Monitor.	Is communication possible? It is possible that temporary poor communication occurs.	Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>

Read Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

- For operation procedures, refer to the "PC application help for Subaru Select Monitor".
- For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IDI(diag)-22, LIST, List of Diagnostic Trouble Code (DTC).>

Clear Memory Mode

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

8. Clear Memory Mode

A: OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

Read Current Data

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

9. Read Current Data

A: OPERATION

For detailed operation procedures, refer to "PC application help for Subaru Select Monitor".

B: LIST

- Combination meter

Items to be displayed	Unit of measure	Remarks	Note
Power on trip number	times	Information of timestamp	—
Power on supply system	—	Information of timestamp	—
Past time after power on	ms	Information of timestamp	—
Fuel sensing value	Ω	Fuel sensor value display	—
External air temperature sensing value	°C	External temperature sensor value display	—
External air temperature indication value	°C	Calculated value of external temperature for indication	—
Vehicle speed data	km/h (MPH)	Vehicle speed value detected by meter	—
Engine revolution data	rpm	Engine speed value detected by meter	—
Drivers seat seat-belt wearing state	—	Displays ON/OFF	—
Passenger seat seat-belt wearing state	—	Displays ON/OFF	—
Rear seat right seat-belt wearing state	—	Displays ON/OFF	—
Rear seat center seat-belt wearing state	—	Displays ON/OFF	—
Rear seat left seat-belt wearing state	—	Displays ON/OFF	—

- MFD

Items to be displayed	Unit of measure	Remarks	Note
MFD hardware fail flag	Normal/MFD Fail		—
MFD U-ART communication error flag	Normal/MFD U-ART Fail		—
MFD CAN communication error flag	Normal/MFD CAN Fail		—
MFD destination abnormal flag	Normal/MFD destination error		—
MFD failure information	No error High-speed CAN error counter abnormal High-speed CAN bus OFF detection High-speed CAN data abnormal High-speed CAN data not received UART data abnormal UART data not received IGN line wire break System microcomputer abnormal GERDA abnormal	MFD abnormal status	—
Birthday1 setting M	—	Birthday setting value	—
Birthday1 setting D	—		—
Birthday2 setting M	—	Birthday setting value	—
Birthday2 setting D	—		—
Anniversary1 setting M	—	Anniversary setting value	—
Anniversary1 setting D	—		—

Read Current Data

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Items to be displayed	Unit of measure	Remarks	Note
Anniversary2 setting M	—	Anniversary setting value	—
Anniversary2setting D	—		—
Driving record1 setting Yard	—	Driving record 1 setting value	—
Driving record1 setting Time	—		—
Driving record1setting fuel cons. Ave.	—		—
Driving record1 setting M	—		—
Driving record1 setting D	—		—
Driving record2 setting DIS	—	Driving record 2 setting value	—
Driving record2 setting Time	—		—
Driving record2setting fuel cons. Ave.	—		—
Driving record2 setting M	—		—
Driving record2 setting D	—		—
Clock/OFF setting	OFF External air temperature + analog clock External air temperature + digital clock	Clock display setting	—
Engine oil maintenance setting Y	—	Oil maintenance setting value	—
Engine oil maintenance setting M	—		—
Engine oil maintenance setting D	—		—
Engine oil maintenance setting meter	—		—
Oil filter maintenance setting Y	—	Oil filter maintenance setting value	—
Oil filter maintenance setting M	—		—
Oil filter maintenance setting D	—		—
Oil filter maintenance setting meter	—		—
Tire maintenance setting Y	—	Tire maintenance setting value	—
Tire maintenance setting M	—		—
Tire maintenance setting D	—		—
Tire maintenance setting meter	—		—
Engine oil maintenance setting Y	—	Periodic inspection setting value	—
Engine oil maintenance setting M	—		—
Engine oil maintenance setting D	—		—
Engine oil maintenance setting meter	—		—
Sub-meter(left) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(left) setting NO2	Analog display Digital display	Meter display setting	—
Sub-meter(center) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(center) setting NO2	Analog display Digital display	Meter display setting	—

Read Current Data

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Items to be displayed	Unit of measure	Remarks	Note
Sub-meter(right) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(right) setting NO2	Analog display Digital display	Meter display setting	—
MFD brightness setting NO1	-5 — +5	MFD setting	—
MFD brightness setting NO2	-5 — +5	MFD setting	—
MFD contrast setting NO1	-5 — +5	MFD setting	—
MFD contrast setting NO2	-5 — +5	MFD setting	—
ECO evaluation ON-OFF setting	OFF/ON	MFD setting	—
Info area setting	OFF Avg.F/E FUEL CONS Range	MFD setting	—
Menu language setting	(Corresponding languages)	MFD setting	—
Buzzer volume setting	OFF Small Loud	MFD setting	—
Fuel cons. Setting	00/OFF	MFD setting	—
Auto Start Stop interrupt display setting	OFF/ON	MFD setting	Not applicable
Welcome display ON-OFF setting	OFF/ON	MFD setting	—
Self check ON-OFF setting	OFF/ON	MFD setting	—

NOTE:

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

System Operation Check Mode

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

10. System Operation Check Mode

A: OPERATION

For detailed operation procedures, refer to "PC application help for Subaru Select Monitor".

NOTE:

If not equipped (based on area or condition), process will not go on.

CAUTION:

After executing the system operation check mode, execute the Clear Memory Mode. <Ref. to IDI(diag)-14, OPERATION, Clear Memory Mode.>

B: LIST

Combination meter

Check item	Item 1	Item 2	Note
Pointer operation check	Speedometer	Speedometer 0 km/h (MPH) indication	—
		Speedometer 40 km/h (MPH) indication	—
		Speedometer 80 km/h (MPH) indication	—
		Speedometer 120 km/h (MPH) indication	—
		Speedometer 160 km/h (MPH) indication	—
		Speedometer 200 km/h (MPH) indication	—
		Speedometer 240 km/h (MPH) indication	—
	Tachometer	Tachometer 0 rpm indication	—
		Tachometer 1000 rpm indication	—
		Tachometer 2000 rpm indication	—
		Tachometer 3000 rpm indication	—
		Tachometer 4000 rpm indication	—
		Tachometer 5000 rpm indication	—
		Tachometer 6000 rpm indication	—
		Tachometer 7000 rpm indication	—



System Operation Check Mode

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Check item	Item 1	Item 2	Note
Segment of liquid crystal display check	LCD display all lighted		—
	AT shift (For CVT only)	P range display	—
		R range display	—
		N range display	—
		L range display	—
		△ display	—
		▽ display	—
		8 range display	—
		7 range display	—
		6 range display	—
		5 range display	—
		4 range display	—
		3 range display	—
		2 range display	—
		1 range display	—
	Odometer	Odometer numerical device display 0	—
		Odometer numerical device display 1	—
		Odometer numerical device display 2	—
		Odometer numerical device display 3	—
		Odometer numerical device display 4	—
		Odometer numerical device display 5	—
		Odometer numerical device display 6	—
		Odometer numerical device display 7	—
		Odometer numerical device display 8	—
		Odometer numerical device display 9	—
	Trip meter	Trip meter numerical device display 0	—
		Trip meter numerical device display 1	—
		Trip meter numerical device display 2	—
		Trip meter numerical device display 3	—
		Trip meter numerical device display 4	—
		Trip meter numerical device display 5	—
		Trip meter numerical device display 6	—
		Trip meter numerical device display 7	—
		Trip meter numerical device display 8	—
		Trip meter numerical device display 9	—
	Fuel gauge bar display	Fuel sender E-point command	—
		Meter E scale command	—
		Fuel warning lit position command (fuel warning also lights)	—
		Meter 1/4 scale command	—
		Meter 1/2 scale command	—
		Meter 3/4 scale command	—
		Meter F-scale command	—
		Fuel sender F-point command	—
	Shift-up indicator (For MT model only)		—
	CRUISE indicator		—
	SET indicator		—



System Operation Check Mode

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Check item	Item 1	Item 2	Note
Lamp check	All lamps lit		—
	Indicator drive	High-beam indicator	—
		Position light indicator (For high-class meter / high-grade meter)	—
		Front fog light indicator	—
		Water temperature (COOL) indicator	—
		VDC OFF indicator	—
		VDC operation/failure indicator	—
		Hill start assist OFF/failure indicator	—
	Warning drive	Driver side seat belt warning	—
		Airbag warning	—
		All seats door warning	—
		Water temperature (HOT) warning	—
		E/G remaining oil warning	—
		AT (CVT) oil temperature warning (For CVT only)	—
		ABS warning	—
		BRAKE warning	—
		AWD warning (For CVT only)	—
		DPF clogging warning (For diesel only)	—
		Remaining washer fluid washer	—
		Remaining fuel warning	—
		EPS warning	—
		Diesel over-rev indicator (For diesel only)	—
		Check E/G warning	—
MFD output check	Passenger side seat belt warning		—
	Momentary fuel efficiency display value		—
	Mean fuel efficiency A display value		—
	Mean fuel efficiency B display value		—
	Remaining fuel cruising distance display value		—
	External air temperature indication value		—
	Mean vehicle speed display value		—
Buzzer output	Sounding output ON/OFF		—
Illumination check	Brightness check		—

User Customizing

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

11. User Customizing

A: OPERATION

For operation procedures, refer to "PC application help for Subaru Select Monitor".

B: LIST

Combination meter

Items to be displayed	Initial setting value	Customize setting	Note
External air temperature compensation value	$\pm 0^{\circ}\text{C}$	$-5^{\circ}\text{C} \text{ --- } +5^{\circ}\text{C}$	Temperature compensation can only be performed by 1°C (1°C change = 1.8°F) interval.
Mean fuel consumption compensation value	$\pm 0\%$	$-10\% \text{ --- } +10\%$	—

List of Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

12. List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content	Reference
U0073	Control Module Communication Bus "A" Off	Detected when CAN line abnormality is detected.	<Ref. to IDI(diag)-24, DTC U0073 CONTROL MODULE COMMUNICATION BUS "A" OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM "A"	Detected when CAN data from the engine control module (ECM) does not arrive.	<Ref. to IDI(diag)-24, DTC U0100 LOST COMMUNICATION WITH ECM/PCM "A", Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0101	Lost Communication With TCM	Detected when CAN data from TCM does not arrive.	<Ref. to IDI(diag)-24, DTC U0101 LOST COMMUNICATION WITH TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	Detected when CAN data from VDC does not arrive.	<Ref. to IDI(diag)-24, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0131	Lost Communication With Power Steering Control Module	Detected when CAN data from electric power steering CM does not arrive.	<Ref. to IDI(diag)-24, DTC U0131 LOST COMMUNICATION WITH POWER STEERING CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from body integrated unit does not arrive.	<Ref. to IDI(diag)-24, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0151	Lost Communication With Restraints Control Module	Detected when CAN data from airbag CM does not arrive.	<Ref. to IDI(diag)-24, DTC U0151 LOST COMMUNICATION WITH RESTRAINTS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0164	Lost Communication With HVAC Control Module	Detected when CAN data from A/C CM does not arrive.	<Ref. to IDI(diag)-24, DTC U0164 LOST COMMUNICATION WITH HVAC CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0327	Software Incompatibility With Vehicle Security Control Module	Detected when CAN data from keyless access CM does not arrive.	<Ref. to IDI(diag)-24, DTC U0327 SOFTWARE INCOMPATIBILITY WITH VEHICLE SECURITY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS Counter Abnormal	Detected when CAN data is abnormal.	<Ref. to IDI(diag)-25, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1235	Lost Communication With EyeSight	Detected when CAN data from stereo camera does not arrive.	<Ref. to IDI(diag)-25, DTC U1235 LOST COMMUNICATION WITH EyeSight, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1433	Invalid Data Received From EyeSight	Detected when microcomputer in the stereo camera froze.	<Ref. to IDI(diag)-25, DTC U1433 INVALID DATA RECEIVED FROM EyeSight, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1650	Invalid Data Received From Meter (UART)	UART data from the combination meter is abnormal.	<Ref. to IDI(diag)-26, DTC U1650 INVALID DATA RECEIVED FROM METER (UART), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1651	Lost Communication With Meter (UART)	UART data from the combination meter has not arrived.	<Ref. to IDI(diag)-27, DTC U1651 LOST COMMUNICATION WITH METER (UART), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2220	Break The Wire of IGN	Voltage malfunction caused by poor contact of IGN power supply circuits.	<Ref. to IDI(diag)-29, DTC B2220 BREAK THE WIRE OF IGN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>



List of Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

DTC	Item	Content	Reference
B2222	System Microcomputer Fail	When microcomputer froze.	<Ref. to IDI(diag)-30, DTC B2222 SYSTEM MICROCOMPUTER FAIL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2223	GERDA Fail	When transmitting and receiving of data cannot be done normally between system microcomputer and image microcomputer.	<Ref. to IDI(diag)-30, DTC B2223 GERDA FAIL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1500	Fuel Sender Open/Short-Circuit Detection	Fuel gauge circuit is open or shorted.	<Ref. to IDI(diag)-31, DTC B1500 FUEL SENDER OPEN/SHORT-CIRCUIT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1501	Power Supply System Error Detection	Combination meter power supply circuit is open or shorted.	<Ref. to IDI(diag)-33, DTC B1501 POWER SUPPLY SYSTEM ERROR DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1507	External Air Temperature Open/Short-Circuit Detection	External air temperature sensor circuit is open or shorted.	<Ref. to IDI(diag)-34, DTC B1507 EXTERNAL AIR TEMPERATURE OPEN/SHORT-CIRCUIT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

13. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS "A" OFF

Detected when CAN line abnormality is detected.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

B: DTC U0100 LOST COMMUNICATION WITH ECM/PCM "A"

Detected when CAN data from the engine control module (ECM) does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

C: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data from TCM does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

D: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data from VDC does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

E: DTC U0131 LOST COMMUNICATION WITH POWER STEERING CONTROL MODULE

Detected when CAN data is not received from electric power steering CM.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

F: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data is not received from body integrated unit.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

G: DTC U0151 LOST COMMUNICATION WITH RESTRAINTS CONTROL MODULE

Detected when CAN data is not received from airbag CM.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

H: DTC U0164 LOST COMMUNICATION WITH HVAC CONTROL MODULE

Detected when CAN data is not received from A/C CM.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

I: DTC U0327 SOFTWARE INCOMPATIBILITY WITH VEHICLE SECURITY CONTROL MODULE

Detected when CAN data is not received from keyless access CM.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

J: DTC U1201 CAN-HS COUNTER ABNORMAL

Detected when CAN data is abnormal.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

K: DTC U1235 LOST COMMUNICATION WITH EyeSight

Detected when CAN data from the stereo camera does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

L: DTC U1433 INVALID DATA RECEIVED FROM EyeSight

Detected when the microcomputer of the stereo camera froze.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

M: DTC U1650 INVALID DATA RECEIVED FROM METER (UART)

DTC DETECTING CONDITION:

There is an abnormality in UART data from combination meter.

TROUBLE SYMPTOM:

LCD is not displayed.

Step	Check	Yes	No
1 CHECK LAN SYSTEM. Read the DTC of the body integrated unit and the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to BC(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step 2.
2 CHECK CONNECTOR. 1) Disconnect the MFD connector and meter connector. 2) Connect the disconnected connectors. 3) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1650 a current malfunction?	Go to step 3.	There was poor contact of connector.
3 CHECK COMBINATION METER. 1) Replace the combination meter. <Ref. to IDI-18, Combination Meter.> 2) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1650 a current malfunction?	Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>	There was something wrong with the meter.



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

N: DTC U1651 LOST COMMUNICATION WITH METER (UART)

DTC DETECTING CONDITION:

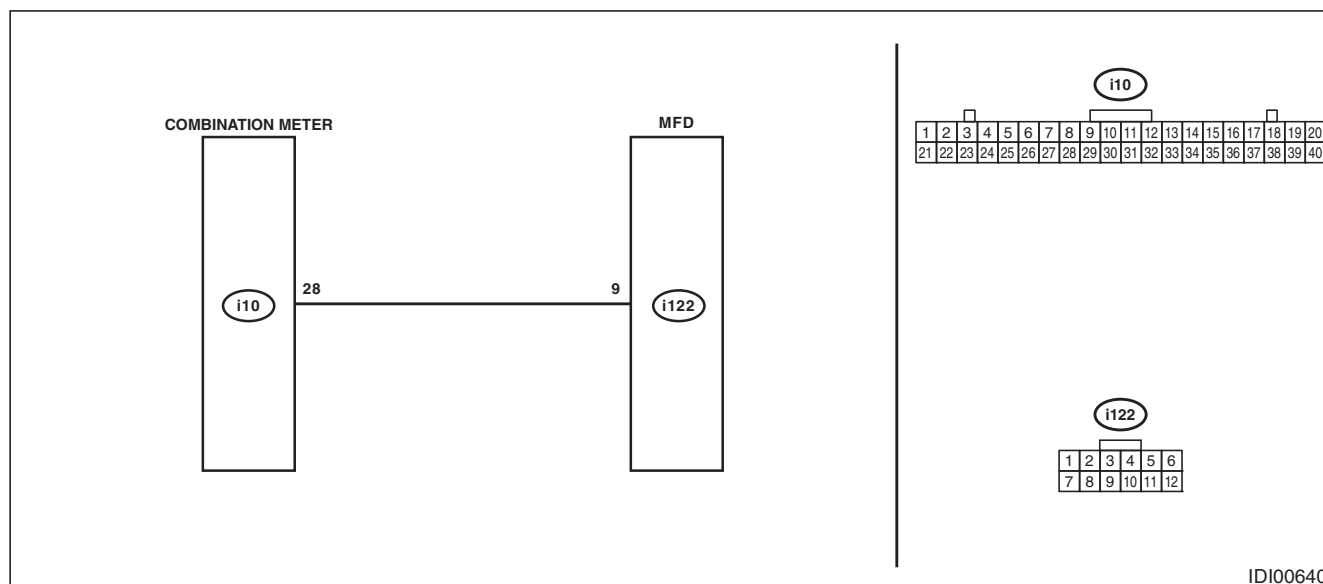
UART data from combination meter is not received.

TROUBLE SYMPTOM:

LCD is not displayed.

WIRING DIAGRAM:

Multi-function display (MFD) system <Ref. to WI-294, WIRING DIAGRAM, Multi-function Display (MFD) System.>



Step	Check	Yes	No
1 CHECK LAN SYSTEM. Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step 2.
2 CHECK CONNECTOR. 1) Disconnect the MFD connector and meter connector. 2) Connect the disconnected connectors. 3) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Go to step 3.	There was poor contact of connector.
3 CHECK HARNESS. 1) Disconnect the MFD connector and meter connector. 2) Using the tester, measure the resistance between terminals. Connector & terminal (i10) No. 28 — (i122) No. 9:	Is the resistance 10 Ω or less?	Go to step 4.	Repair the open circuit of harness or replace harness.
4 CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal (i122) No. 9 — Chassis ground:	Is the resistance 10 Ω or less?	Repair the short circuit of harness or replace harness.	Go to step 5.
5 CHECK COMBINATION METER. 1) Replace the combination meter. <Ref. to IDI-18, Combination Meter.> 2) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Go to step 6.	There was something wrong with the meter.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

Step		Check	Yes	No
6	CHECK COMBINATION METER. 1) Replace the current combination meter with the original combination meter. 2) Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).> 3) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Replace the meter. <Ref. to IDI-18, Combination Meter.>	There was an abnormality in MFD.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

O: DTC B2220 BREAK THE WIRE OF IGN

DTC DETECTING CONDITION:

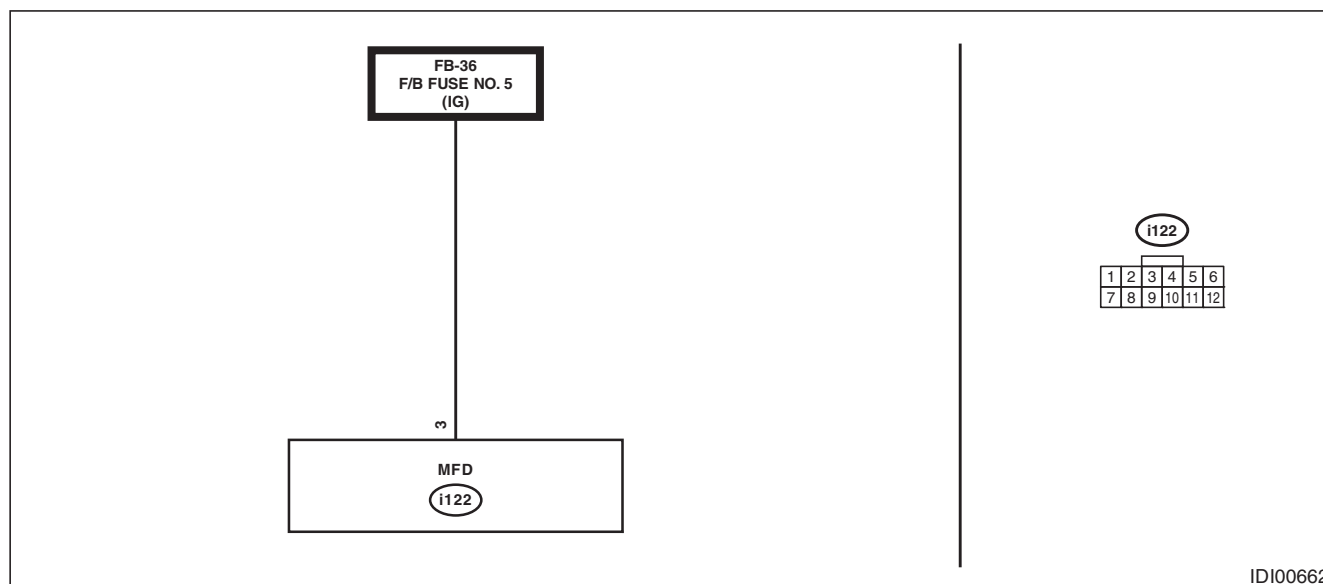
There was voltage malfunction caused by poor contact of IGN power supply circuits.

TROUBLE SYMPTOM:

Airbag indicator does not illuminate.

WIRING DIAGRAM:

Multi-function display (MFD) system <Ref. to WI-294, WIRING DIAGRAM, Multi-function Display (MFD) System.>



	Step	Check	Yes	No
1	CHECK DTC. Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC B2220 a current malfunction?	Go to step 2.	Go to step 5.
2	CHECK DTC. 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector and reconnect it. 3) Turn the ignition switch to ON. 4) Read the DTC relating the MFD using the Subaru Select Monitor.	Is DTC B2220 a current malfunction?	Go to step 3.	Go to step 5.
3	CHECK FUSE. 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step 4.	Replace the defective fuse.
4	CHECK HARNESS. 1) Disconnect the MFD connector. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. Connector & terminal (i122) No. 3 (+) — Chassis ground (-):	Is the voltage 8.5 — 16.5 V?	Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>	Repair the harness between MFD and fuse.
5	CHECK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

P: DTC B2222 SYSTEM MICROCOMPUTER FAIL

DTC DETECTING CONDITION:

When the microcomputer froze.

TROUBLE SYMPTOM:

MFD does not operate.

NOTE:

Reset the MFD. If it does not return to the normal operation, replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>

Q: DTC B2223 GERDA FAIL

DTC DETECTING CONDITION:

When the system microcomputer can not send/receive the data with the image microcomputer normally.

TROUBLE SYMPTOM:

There is no display on the TFT. Operation is normal.

NOTE:

Replace the MFD. <Ref. to IDI-25, Multi-function Display (MFD).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

R: DTC B1500 FUEL SENDER OPEN/SHORT-CIRCUIT DETECTION

DTC DETECTING CONDITION:

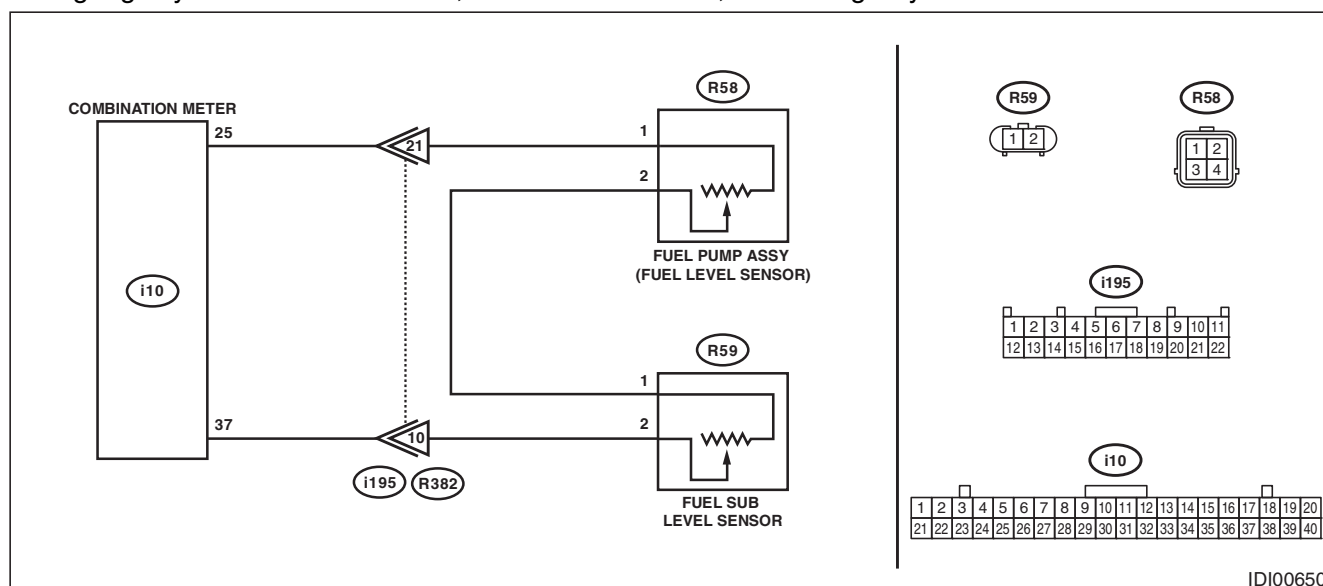
The fuel gauge circuit is open or shorted.

TROUBLE SYMPTOM:

- Defective fuel gauge.
- Fuel level warning light blinks.

WIRING DIAGRAM:

Fuel gauge system <Ref. to WI-258, WIRING DIAGRAM, Fuel Gauge System.>



	Step	Check	Yes	No
1	CHECK DTC. Read the DTC of the meter using the Subaru Select Monitor.	Is DTC B1500 a current mal-function?	Go to step 2.	Go to step 7.
2	CHECK COMBINATION METER. 1) Check the operation of combination meter using Subaru Select Monitor. 2) From the {System Operation Check Mode}, select the «Fuel Meter Operation» and «Remaining fuel warning».	Is the operation of combination meter OK?	Go to step 3.	Replace the combination meter. <Ref. to IDI-18, Combination Meter.>
3	CHECK HARNESS. 1) Turn the ignition switch to OFF. 2) Disconnect the meter connector and the fuel sub level sensor connector and the fuel level sensor connector. 3) Using the tester, measure the resistance between terminals. Connector & terminal (i10) No. 25 — (R58) No. 1: (i10) No. 37 — (R59) No. 2:	Is the resistance 10 Ω or less?	Go to step 4.	Repair the open circuit of harness or replace harness.
4	CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal (i10) No. 25 — Chassis ground: (i10) No. 37 — Chassis ground:	Is the resistance 10 Ω or less?	Repair the short circuit of harness or replace harness.	Go to step 5.
5	CHECK FUEL SUB LEVEL SENSOR. Check the fuel sub level sensor as a single part. <Ref. to FU(H4DO)-150, INSPECTION, Fuel Sub Level Sensor.>	Is the sensor normal?	Go to step 6.	Replace the sensor.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

	Step	Check	Yes	No
6	CHECK FUEL LEVEL SENSOR. Check the fuel level sensor as a single part. <Ref. to FU(H4DO)-143, INSPECTION, Fuel Level Sensor.>	Is the sensor normal?	Go to step 7.	Replace the sensor.
7	CHECK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.
8	CHECK CURRENT DATA. Using the Subaru Select Monitor, display the «Fuel sensing value» from {Current Data Display & Save}.	Does the data display 10 — 570 Ω ?	System is normal.	Replace the combination meter. <Ref. to IDI-18, Combination Meter.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

S: DTC B1501 POWER SUPPLY SYSTEM ERROR DETECTION

DTC DETECTING CONDITION:

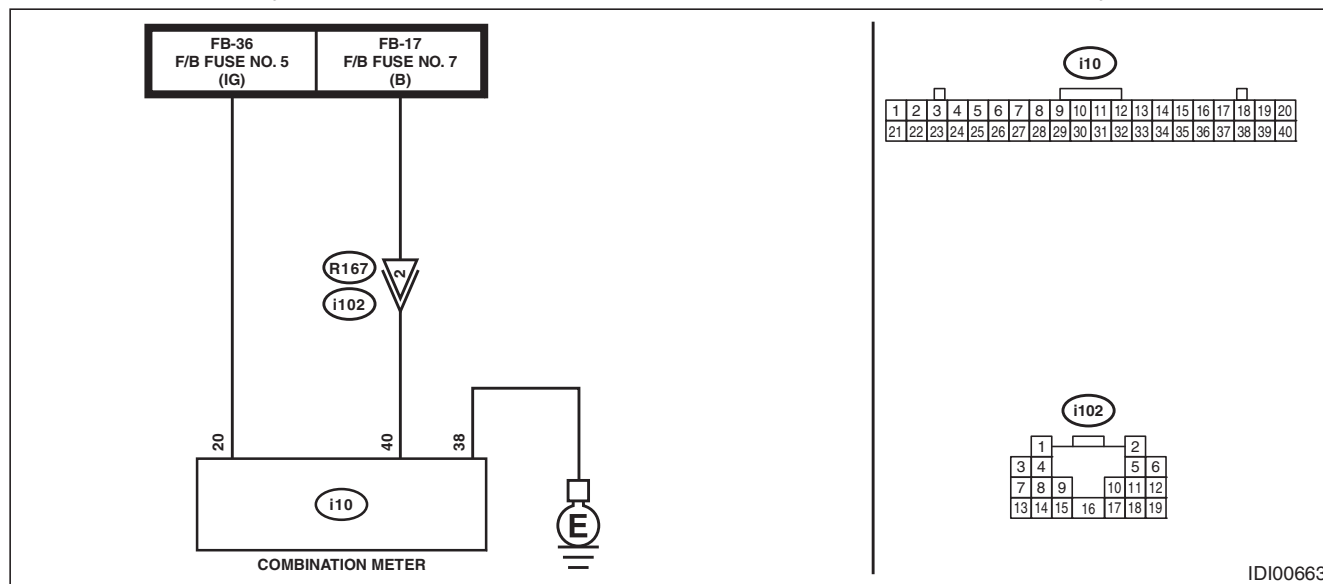
Open or short in combination meter power supply circuit

TROUBLE SYMPTOM:

Defective operation of combination meter

WIRING DIAGRAM:

Combination meter system <Ref. to WI-115, WIRING DIAGRAM, Combination Meter System.>



Step	Check	Yes	No
1 CHECK POWER SUPPLY CIRCUIT. Turn the ignition switch to ON, and confirm that the illumination of combination meter lights.	Does the illumination light?	Go to step 2.	Go to step 3.
2 CHECK DTC. Read the DTC of the meter using the Subaru Select Monitor.	Is DTC B1501 a current malfunction?	Go to step 3.	Go to step 5.
3 CHECK FUSE. 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step 4.	Replace the defective fuse.
4 CHECK HARNESS. 1) Turn the ignition switch to OFF. 2) Disconnect the meter connector. 3) Using the tester, measure the voltage between terminals. Connector & terminal (i10) No. 20 (+) — Chassis ground (-): (i10) No. 40 (+) — Chassis ground (-):	Is the voltage 8.5 — 16.5 V?	Go to step 5.	Repair the open circuit of harness or replace harness.
5 CHECK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

	Step	Check	Yes	No
6	CHECK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

