Technical Service Bulletin

SUBJECT:	No:
SERVICE PROCEDURE CHANGES AND CORRECTIONS – SERVICE MANUAL REVISION	**TSB-24-33-001**
	DATE: **April 2024**
	MODEL: **Outlander Plug-in Hybrid**

CIRCULATE TO:	[ ] GENERAL MANAGER	[**X**] PARTS MANAGER	[**X**] TECHNICIAN
[**X**] SERVICE ADVISOR	[**X**] SERVICE MANAGER	[**X**] WARRANTY PROCESSOR	[ ] SALES MANAGER

PURPOSE

This TSB provides changes and corrections for the service procedures in the applicable Service Manual sections.

(1) BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY;
- Correction of description of Removal and Installation procedure about Front Motor.

(2) BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY;
- Correction of description of DTC No. P1B12-04 / P1B13-04.
- Correction of description of "CAUTION" when replacing the BMU.
- Correction of description of Check on Insulation Resistance of AC Inverter.

(3) FRONT SUSPENSION;
- Correction of Removal and Installation procedure about Front Suspension Member.

(4) EXTERIOR;
- Change of Removal and Installation procedure about Fender.
- Change of Removal and Installation procedure about Under Cover.

(5) HEATER & AIR CONDITIONING SYSTEM;
- Correction of description about Perform Lubricant Return Operation.
- Correction of description about Performance Test.

(6) HEATER & AIR CONDITIONING CONTROL SYSTEM;
- Correction of description of "NOTE" about Blow Set.

(7) BODY CONTROL SYSTEM;
- Correction of description of Removal and Installation procedure about BCM.

(8) CIRCUIT DIAGRAM;
- Add the description about "USB cable" and "HDMI cable".

AFFECTED VEHICLES

2023-2024 Outlander Plug-in Hybrid

AFFECTED SERVICE MANUAL

2023-2024 Outlander Plug-in Hybrid Service Manual

PROCEDURE

Please use the chart below to replace the pages in the affected 2023-2024 Outlander Plug-in Hybrid Service Manuals.

Note: Content has been removed from areas marked as "deleted" with blank red boxes.

Attached sheet 1 (1/3)

OUTLANDER PHEV

Applicable Manual	Pub. No.	Applicable Title	Content
2023 OUTLANDER (PHEV) Service Manual	MMNA MSCD-027B-2023	ELECTRIC POWER TRAIN └ ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR UNIT) └ MOTOR (ELECTRIC MOTOR UNIT)<FRONT> └ MOTOR (ELECTRIC MOTOR UNIT) REMOVAL AND INSTLLATION	Attached sheet 2
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ TROUBLESHOOTING └ DIAGNOSTIC TROUBLE CODE PROCEDURES <BMU> └ DTC No. P1B12-04 Sub CPU CAUTION Lighting Diagnosis	Attached sheet 3
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ ON-VEHICLE SERVICE └ SAVING AND WRITING BATTERY INFORMATION DATA	Attached sheet 4
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ ON-VEHICLE SERVICE └ VEHICLE SPECIFICATION WRITING	Attached sheet 5
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ ON-VEHICLE SERVICE └ CHECK ON INSULATION RESISTANCE OF AC INVERTER	Attached sheet 6
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ BATTERY MANAGEMENT UNIT (BMU) └ BATTERY MANAGEMENT UNIT (BMU) REMOVAL AND INSTALLATION	Attached sheet 7
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ DRIVE BATTERY └ DRIVE BATTERY REMOVAL AND INSTALLATION	Attached sheet 8
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ DRIVE BATTERY DISASSEMBLY AND ASSEMBLY └ DRIVE BATTERY REMOVAL AND INSTALLATION └ BMU REMOVAL AND INSTALLATION	Attached sheet 9
		SUSPENSION └ FRONT SUSPENSION └ REMOVAL AND INSTALLATION └ FRONT SUSPENSION MEMBER └ Removal and Installation	Attached sheet 10
		Added above; BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY └ EXTERIOR └ REMOVAL AND INSTALLATION └ FENDER └ REMOVAL AND INSTALLATION	Attached sheet 11
		BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY └ EXTERIOR └ REMOVAL AND INSTALLATION └ FENDER └ REMOVAL AND INSTALLATION	Attached sheet 12
		BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY └ EXTERIOR └ REMOVAL AND INSTALLATION └ UNDER COVER └ REMOVAL AND INSTALLATION	Attached sheet 13
		VENTILATION, HEATER & AIR CONDITIONER └ HEATER & AIR CONDITIONING SYSTEM └ BASIC INSPECTION └ LUBRICANT └ Perform Lubricant Return Operation	Attached sheet 14
		VENTILATION, HEATER & AIR CONDITIONER └ HEATER & AIR CONDITIONING SYSTEM └ BASIC INSPECTION └ PERFORMANCE TEST └ Inspection	Attached sheet 15

Attached sheet 1 (2/3)

OUTLANDER PHEV

Applicable Manual	Pub. No.	Applicable Title	Content
2023 OUTLANDER (PHEV) Service Manual	MMNA MSCD-027B-2023	VENTILATION, HEATER & AIR CONDITIONER └ HEATER & AIR CONDITIONING CONTROL SYSTEM └ AUTOMATIC AIR CONDITIONING └ SYSTEM DESCRIPTION └ DIAGNOSIS SYSTEM (A/C AMP.) └ M.U.T.-III SE Function	Attached sheet 16
		ELECTRICAL & POWER CONTROL └ BODY CONTROL SYSTEM └ REMOVAL AND INSTALLATION └ BCM └ REMOVAL AND INSTALLATION	Attached sheet 17
		CIRCUIT DIAGRAM └ SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE>	Attached sheet 18
		CIRCUIT DIAGRAM └ SMARTPHONE LINK DISPLAY AUDIO <WITH BOSE>	Attached sheet 20
		CIRCUIT DIAGRAM └ MULTI AROUND MONITOR	Attached sheet 21
2024 OUTLANDER (PHEV) Service Manual	MMNA MSCD-027B-2024	ELECTRIC POWER TRAIN └ ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR UNIT) └ MOTOR (ELECTRIC MOTOR UNIT)<FRONT> └ MOTOR (ELECTRIC MOTOR UNIT) REMOVAL AND INSTLLATION	Attached sheet 2
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ TROUBLESHOOTING └ DIAGNOSTIC TROUBLE CODE PROCEDURES <BMU> └ DTC No. P1B12-04 Sub CPU CAUTION Lighting Diagnosis	Attached sheet 3
		ELECTRIC POWER TRAIN └ BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY └ ON-VEHICLE SERVICE └ SAVING AND WRITING BATTERY INFORMATION DATA	Attached sheet 4
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		BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY └ EXTERIOR └ REMOVAL AND INSTALLATION └ FENDER └ REMOVAL AND INSTALLATION	Attached sheet 12

Attached sheet 1 (3/3)

OUTLANDER PHEV

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2024 OUTLANDER (PHEV) Service Manual	MMNA MSCD-027B-2024	BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY └ EXTERIOR └ REMOVAL AND INSTALLATION └ UNDER COVER └ REMOVAL AND INSTALLATION	Attached sheet 13
		VENTILATION, HEATER & AIR CONDITIONER └ HEATER & AIR CONDITIONING SYSTEM └ BASIC INSPECTION └ LUBRICANT └ Perform Lubricant Return Operation	Attached sheet 14
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		CIRCUIT DIAGRAM └ MULTI AROUND MONITOR	Attached sheet 21

MOTOR (ELECTRIC MOTOR UNIT)<FRONT>

REMOVAL AND INSTALLATION

DANGER:

When servicing the high-voltage system parts, always wear the protective equipment or armour and always shut off the high-voltage by removing the service plug (Refer to PRECAUTIONS ON HOW TO USE THE HIGH-VOLTAGE VEHICLE).

CAUTION:

When the wheel alignment is adjusted, always perform calibration to make ABS actuator and electric unit learn the neutral position of the steering angle sensor (Refer to Brake Control System - With ABS Actuator and Electric Unit, Adjustment of Steering Angle Sensor Neutral Position).

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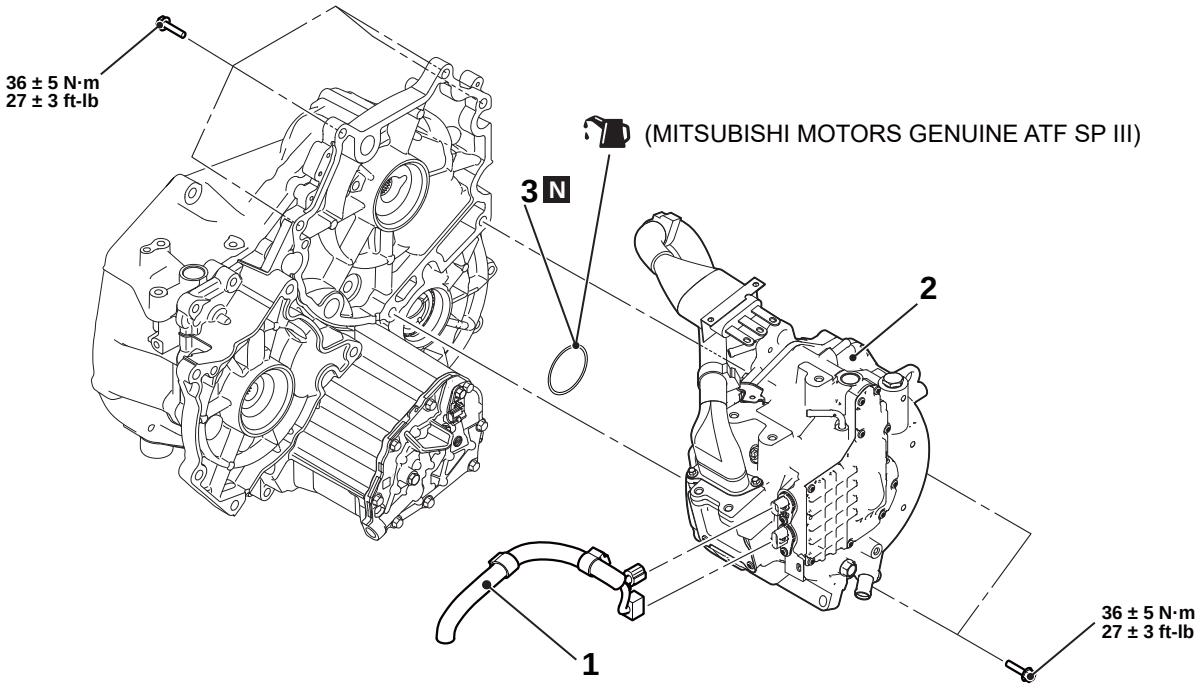
Pre-removal and Post-installation Operation

- EV coolant draining and refilling (Refer to EV COOLING SYSTEM - On-vehicle Service, Coolant Change EV COOLANT CHANGE).
- Generator (Refer to GENERATOR REMOVAL AND INSTALLATION)



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	Removal steps
1.	Front motor & generator harness
•	EV oil cooler hose F, G, H connection
2.	Front motor
3.	O-ring

DIAGNOSIS

Required Special Tools:

- MB992744: Vehicle communication interface-Lite (V.C.I.-Lite)
- MB992745: V.C.I.-Lite main harness A
- MB992747: V.C.I.-Lite USB cable short
- MB992748: V.C.I.-Lite USB cable long

<Corrected>

1. Check of BMU2 DTC

Check whether the BMU2 sets the DTC.

Is the DTC set in the BMU2?

YES >>

Troubleshoot the DTC set in the BMU2. Then,

go to Step 3.

NO >>

Go to Step 2.

2. Check of BMU DTC

(1) Erase the DTC set in the BMU2.
(2) Erase the DTC set in the BMU.
(3) Change the power supply mode of the electric motor switch to OFF, then wait for 3 minutes or more in key lock condition. (Check that the P indicator on the selector lever turns off.)
(4) Change the power supply mode of the electric motor switch to ON (READY indicator: ON).
(5) Check whether the DTC No. P1B12-04 / P1B13-04 is set.

Is the DTC No. P1B12-04 / P1B13-04 set?

YES >>

Disassemble the drive battery (Refer to). After the disassembly, replace the BMU. Then,

go to Step 3.

NO >>

The trouble can be an intermittent malfunction (Refer to General Information - How to Use Troubleshooting/Inspection Service Points, How to Cope with Intermittent Malfunctions).

3. Test the OBD-II drive cycle.

(1) Carry out a test drive with the drive cycle pattern. Refer to OBD-II Drive Cycle .
(2) Check the DTC.

Is the DTC set?

YES >>

Retry the troubleshooting.

NO >>

The procedure is complete.

ON-VEHICLE SERVICE

SAVING AND WRITING BATTERY INFORMATION

CAUTION:

When replacing the BMU, perform the following operations. If the drive battery is replaced, the battery information is already written in the new battery, so there is no need to take any steps to write the battery information.

- **Save the battery information before removing the drive battery.**
  After replacing the BMU, write the saved battery information.
- **Vehicle specification writing (Refer to Vehicle specification writing)**

<Corrected>

Required Special Tools:

- MB992744: Vehicle communication interface-Lite (V.C.I.-Lite)
- MB992745: V.C.I.-Lite main harness A
- MB992747: V.C.I.-Lite USB cable short
- MB992748: V.C.I.-Lite USB cable long

SAVING BATTERY INFORMATION

Using the M.U.T.-IIISE, save the battery information stored in the original BMU to the M.U.T.-IIISE by the following procedures.

1.On the "System selection" screen, select "BMU".

2.Select "Special function", then select "SAVING DATA".

3.Save the battery information by following the instructions on the screen.

WRITING BATTERY INFORMATION

Using the M.U.T.-IIISE, write the battery information saved in the M.U.T.-IIISE to the new BMU by the following procedures.

1.On the "System selection" screen, select "BMU".

2.Select "Special function", then select "WRITING DATA".

3.Write the battery information to the new BMU by following the instructions on the screen.

ON-VEHICLE SERVICE

VEHICLE SPECIFICATION WRITING

CAUTION:

When replacing the BMU, perform the following operations. If the drive battery is replaced, the battery information is already written in the new battery, so there is no need to take any steps to write the battery information.

- **Save the battery information before removing the drive battery (Refer to SAVING AND WRITING BATTERY INFORMATION).**
  After replacing the BMU, write the saved battery information. (Refer to SAVING AND WRITING BATTERY INFORMATION)
- **Vehicle specification writing**

<Corrected>

Required Special Tools:

- MB992744: Vehicle communication interface-Lite (V.C.I.-Lite)
- MB992745: V.C.I.-Lite main harness A
- MB992747: V.C.I.-Lite USB cable short
- MB992748: V.C.I.-Lite USB cable long

Using the M.U.T.-IIISE, write the vehicle specification in the BMU by the following procedures.

1.On the "System selection" screen, select "BMU".

2.Select "Configuration", then select "Automatic Configuration".

3.Write the vehicle specification by following the instructions on the screen.

NOTE:

For the detailed procedures, refer to "M.U.T.-III SE User's Manual".

4.On the "System selection" screen, select "BMU2".

5.Select "Configuration", then select "Automatic Configuration".

6.Write the vehicle specification by following the instructions on the screen.

NOTE:

For the detailed procedures, refer to "M.U.T.-III SE User's Manual".

ON-VEHICLE SERVICE

CHECK ON INSULATION RESISTANCE OF AC INVERTER

DANGER:

- ***When servicing the high voltage components, be sure to remove the service plug in order to shut off the high voltage.***
- ***When servicing the high voltage components, be sure to wear an insulating protective equipment to measure the high voltage.***

CAUTION:

The insulation resistance check must be completed within 10 seconds. (Since DC 1,000 V is applied while checking, parts may be damaged if the check continues for 10 seconds or more.)

Required Special Tools:

- MB991223: Wiring harness set
- MB992006: Extra fine probe
- MB992355: Electric insulation tester

1.Remove the third seat (Refer to).

2.Remove the cargo floor cover (Refer to).

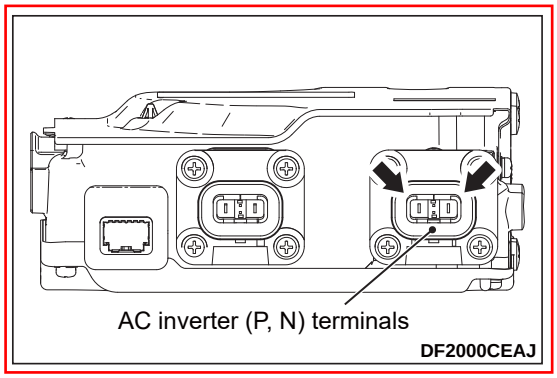
3.Remove the EV control unit cover (LH/RH) (Refer to).

4.Disconnect the high voltage cable (P, N) from the AC inverter.

5.Disconnect the AC power supply wiring harness from the AC inverter.

6.Use the electric insulation tester (Special tool: MB992355) and set it to the 1,000 V range.

7.Measure the insulation resistance between the AC inverter high voltage terminals (P, N) and AC inverter (body ground). <Corrected>



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Standard value: 10 MΩ or more

8.If the measured value is not within the standard value, replace the AC inverter.

BATTERY MANAGEMENT UNIT (BMU)

BATTERY MANAGEMENT UNIT (BMU) REMOVAL AND INSTALLATION

CAUTION:

When replacing the BMU, perform the following operations. If the drive battery is replaced, the battery information is already written in the new battery, so there is no need to take any steps to write the battery information.

- **Save the battery information before removing the drive battery. (Refer to SAVING AND WRITING BATTERY INFORMATION)**
  After replacing the BMU, write the saved battery information. (Refer to SAVING AND WRITING BATTERY INFORMATION)
- **Vehicle specification writing (Refer to Vehicle specification writing)**

For the BMU removal and installation, refer to drive battery disassembly and assembly .

<Corrected>

DRIVE BATTERY

REMOVAL AND INSTALLATION

DANGER:

- ***When servicing the high voltage components, be sure to wear an insulating protective equipment and remove the service plug in order to shut off the high voltage (Refer to PRECAUTIONS ON HOW TO USE THE HIGH-VOLTAGE VEHICLE).***
- ***Do not disassemble any drive battery components other than those described in this manual.***

CAUTION:

- **If the drive battery is replaced, the "preliminary application" is required before replacement. (For the details, contact Mitsubishi Motors dealer.) If the drive battery is replaced without approval by the "preliminary application", it is excluded from the scope of the warranty. Be careful.**
- **When replacing the drive battery, perform the following operations. If the drive battery is replaced, the battery information is already written in the new battery, so there is no need to take any steps to write the battery information.**
  - **Vehicle specification writing (Refer to Vehicle specification writing)**

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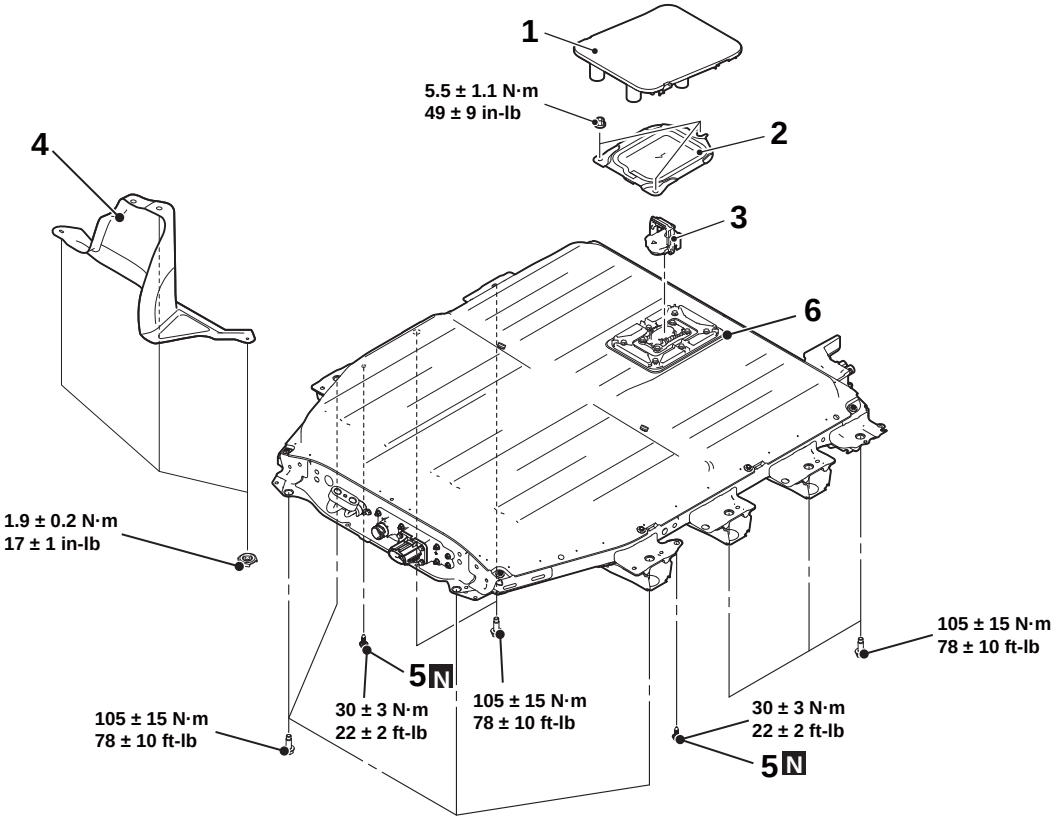
Required Special Tools:

- MB992336: EV battery cart
- MB992659: EV battery lifting cart
- MB992343: EV battery sling tool kit
- MB992327: EV battery guide

Pre-removal Operation	Post-installation Operation
• Floor under cover removal (Refer to Exterior - Under Cover Removal and Installation). • Refrigerant draining (Refer to Heater & Air Conditioning System - Refrigerant Recycle Refrigerant/Charge Refrigerant) .	• Refrigerant charging (Refer to Heater & Air Conditioning System - Refrigerant Recycle Refrigerant/Charge Refrigerant) . • Floor under cover installation (Refer to Exterior - Under Cover Removal and Installation).



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DRIVE BATTERY DISASSEMBLY AND ASSEMBLY

4. BMU REMOVAL AND INSTALLATION

DANGER:

When servicing the high voltage components, be sure to wear an insulating protective equipment to measure the high voltage (Refer to PRECAUTIONS ON HOW TO USE THE HIGH-VOLTAGE VEHICLE).

CAUTION:

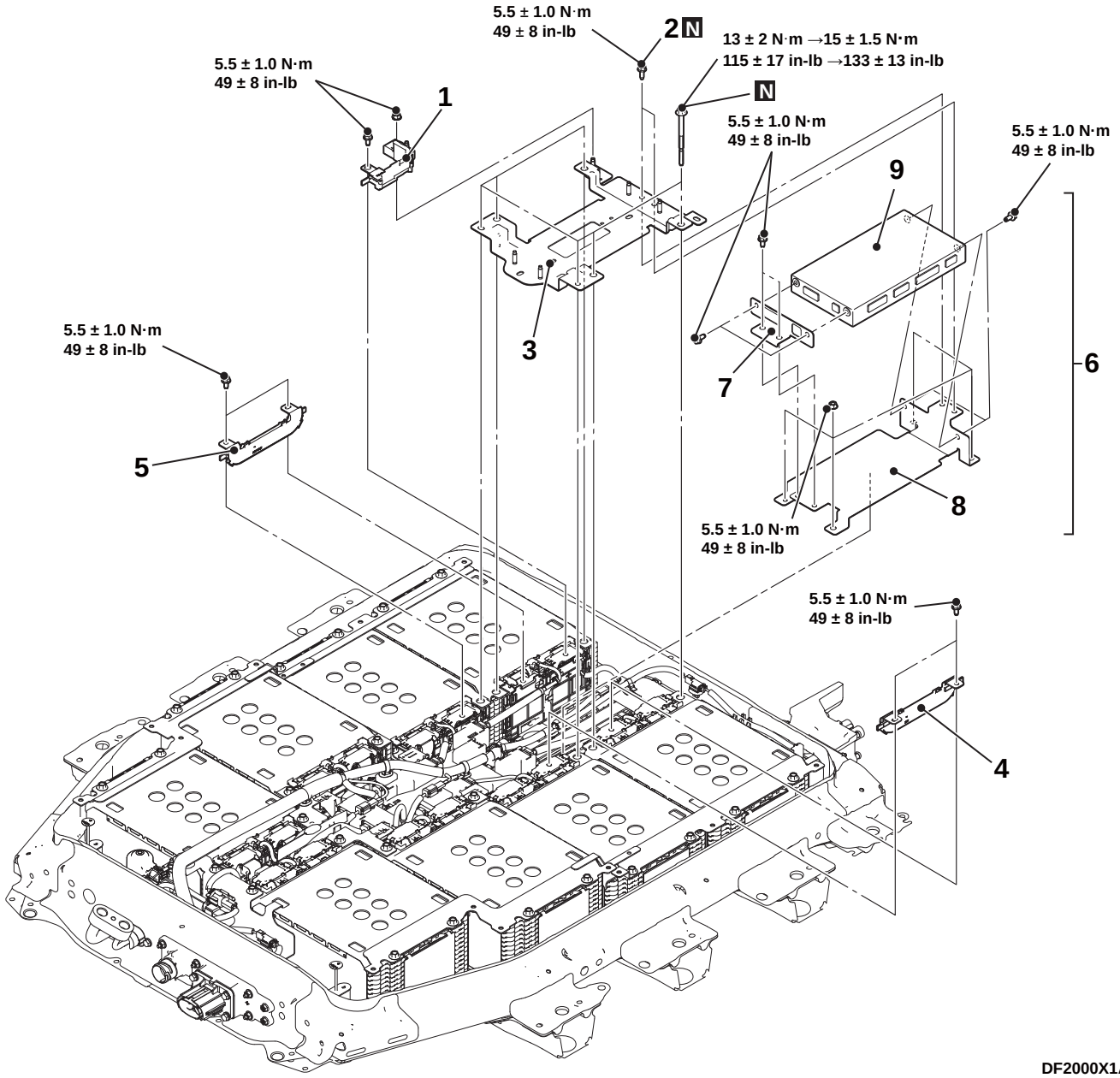
When replacing the BMU, perform the following operations. If the drive battery is replaced, the battery information is already written in the new battery, so there is no need to take any steps to write the battery information.

- **Save the battery information before removing the drive battery (Refer to SAVING AND WRITING BATTERY INFORMATION).**
  After replacing the BMU, write the saved battery information. (Refer to SAVING AND WRITING BATTERY INFORMATION)
- **Vehicle specification writing (Refer to Vehicle specification writing)**

<Corrected>

Required Special Tools:

- MB992915: Electric insulation sheet



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FRONT SUSPENSION MEMBER

Removal and Installation

REMOVAL

1.Remove tires. Refer to Suspension - Road Wheels & Tires - Removal and Installation - Road Wheel Tire Assembly - Exploded View.

2.Remove engine room under cover. Refer to Body Exterior, Doors, Roof & Vehicle Security - Exterior - Removal and Installation - Under Cover - Removal And Installation.

3.Remove front bumper fascia assembly. Refer to Body Exterior, Doors, Roof & Vehicle Security - Exterior - Removal And Installation - Front Bumper - Removal And Installation.

4.Remove front bumper reinforcement lower. Refer to Body Exterior, Doors, Roof & Vehicle Security - Exterior - Removal and Installation - Front Bumper - Removal And Installation.

<Corrected>

5.Secure the radiator and condenser to the vehicle.

6.Separate stabilizer connecting rod (strut side) from strut. Refer to Suspension - Front Suspension - Removal and Installation - Front Stabilizer - Removal And Installation.

7.Remove steering outer socket from steering knuckle. Refer to Transmission & Driveline - Front Axle - Removal and Installation - Front Wheel Hub And Knuckle - Removal And Installation.

8.Remove torque rod. Refer to Engine - Power Plant Mount - Removal And Installation - Power Plant Mount - Removal And Installation.

9.Remove exhaust front pipe. Refer to Engine - Intake and Exhaust - Exhaust Pipe And Main Muffler - Removal And Installation.

10.Separate the connection of steering gear assembly and steering column shaft. Refer to Steering - Steering System - Removal And Installation - Steering Column - Removal And Installation.

11.Separate the transverse link from the steering knuckle while taking care not to damage the ball joint boot. Refer to Suspension - Front Suspension - Removal And Installation - Transverse Link - Removal And Installation.

12.Set suitable jack under front suspension member.

CAUTION:

- **At this step, the jack must be set only for supporting the removal procedure. For details on jacking up the vehicle, refer to General Information - General Information - Support Locations for Lifting And Jacking.**
- **Never damage the front suspension member with a jack.**
- **Check the stable condition when using a jack.**

13.Remove member stay.

14.Remove front suspension member mounting bolts.

15.Gradually lower the jack to remove front suspension member from vehicle body.

CAUTION:

Operate while checking that jack supporting status is stable.

NOTE:

Remove suspension member with stabilizer bar and transverse link.

16.Remove the following parts.

- Stabilizer bar: Refer to Suspension - Front Suspension - Removal and Installation - Front Stabilizer - Removal And Installation.
- Transverse link: Refer to Suspension - Front Suspension - Removal and Installation - Transverse Link - Removal And Installation.
- Steering gear and linkage. Refer to Steering - Steering System - Removal And Installation - Steering Gear And Linkage - Exploded View.

17.Perform inspection after removal. Refer to Suspension - Front Suspension - Removal And Installation - Front Suspension Member - Inspection .

SEALANT(S) OR ADHESIVE(S)

Application	Specified adhesive
Plug adhesive surface	Specified primer: 3M™ K-500 or equivalent

LUBRICANT

Item		Specified lubricant	Quantity
Degrease agent	Grease and dirt removal from parts surface	Mitsubishi Motors Genuine Parts Cleaner (MZ100387) or equivalent	As required

<Added>

REMOVAL AND INSTALLATION

FENDER

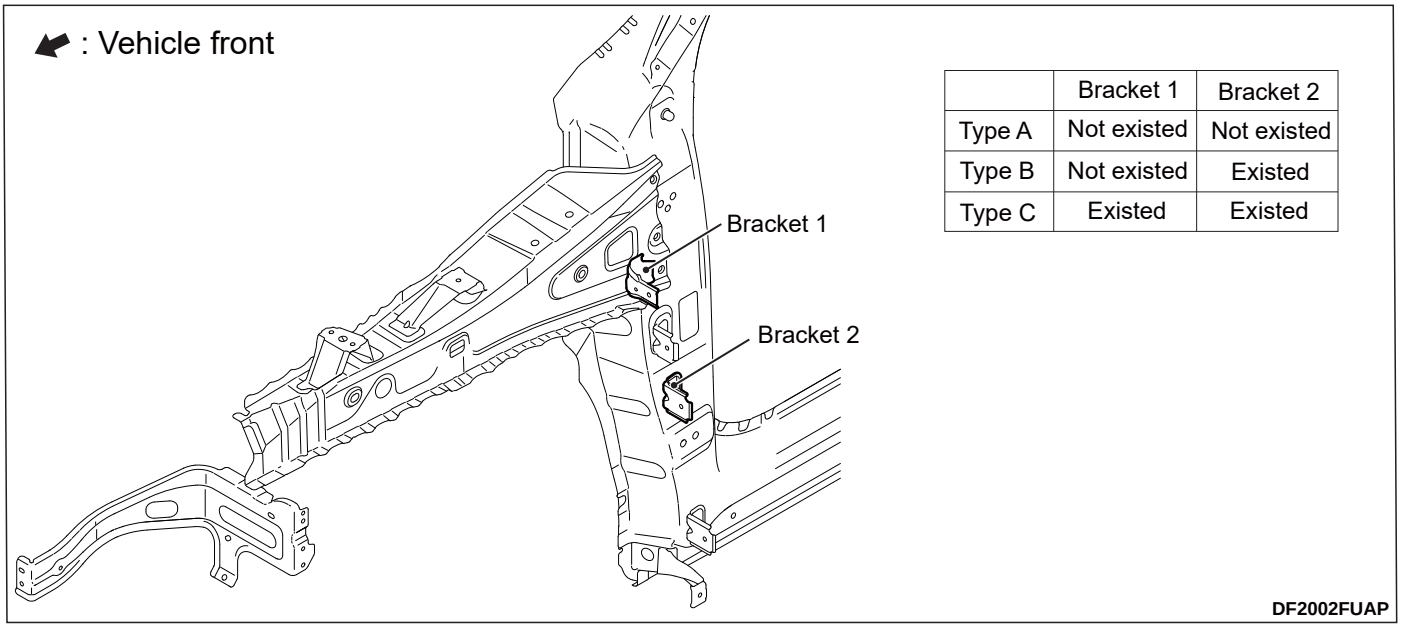
REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

- Front fillet molding Removal and Installation (Refer to Fillet molding Removal and Installation)
- Front fender protector Removal and Installation (Refer to Splash shield Removal and Installation)
- Headlight assembly Removal and Installation (Refer to Headlight Removal and Installation)
- Cowl top cover Removal and Installation (Refer to Front wiper Removal and Installation)
- Front combination light Removal and Installation (Refer to Front combination light Removal and Installation)

NOTE:

There are 3 types of fender. Refer to the illustration and check the type of the fender.



	Bracket 1	Bracket 2
Type A	Not existed	Not existed
Type B	Not existed	Existed
Type C	Existed	Existed

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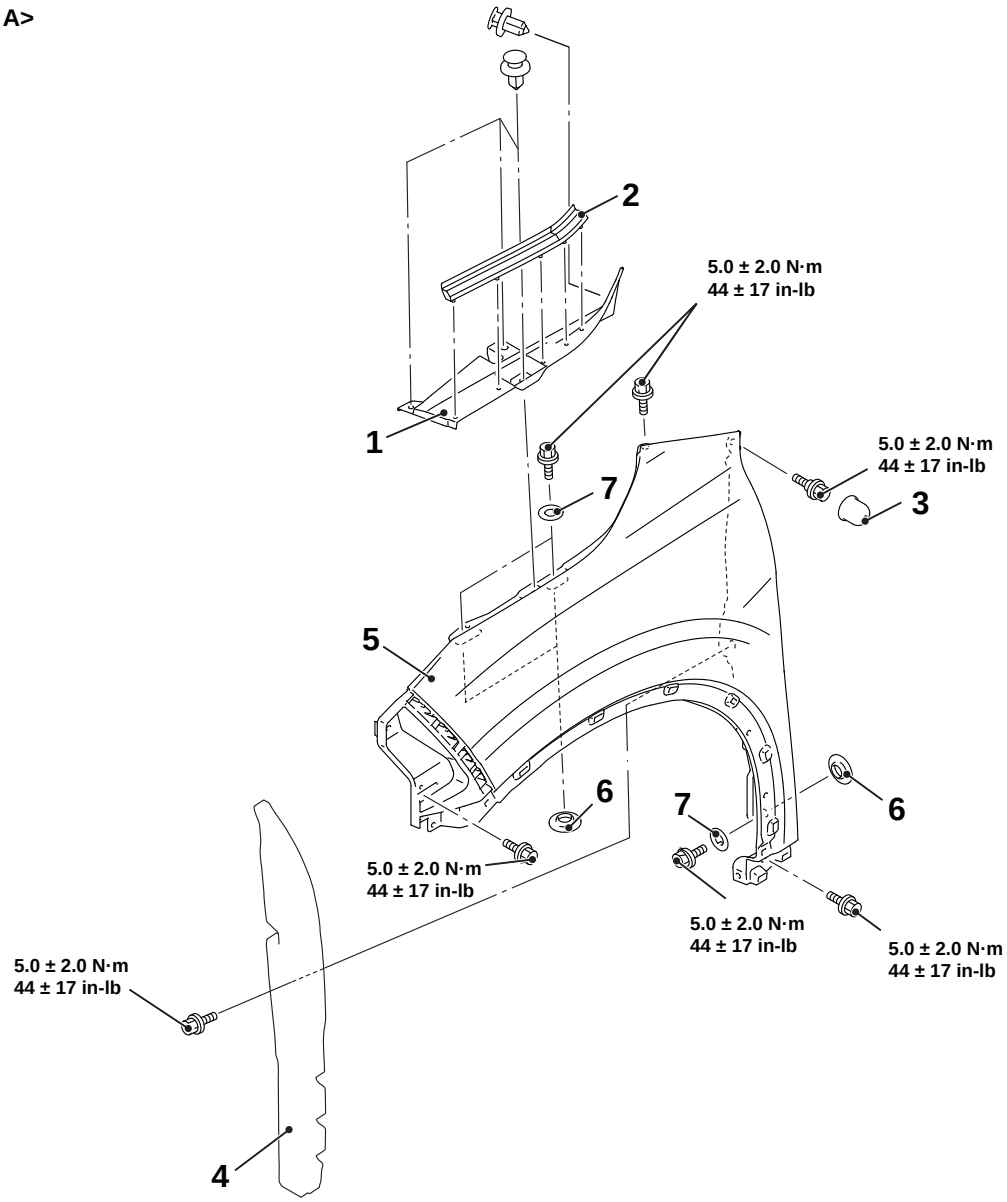
<Type A>



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EXTERIOR

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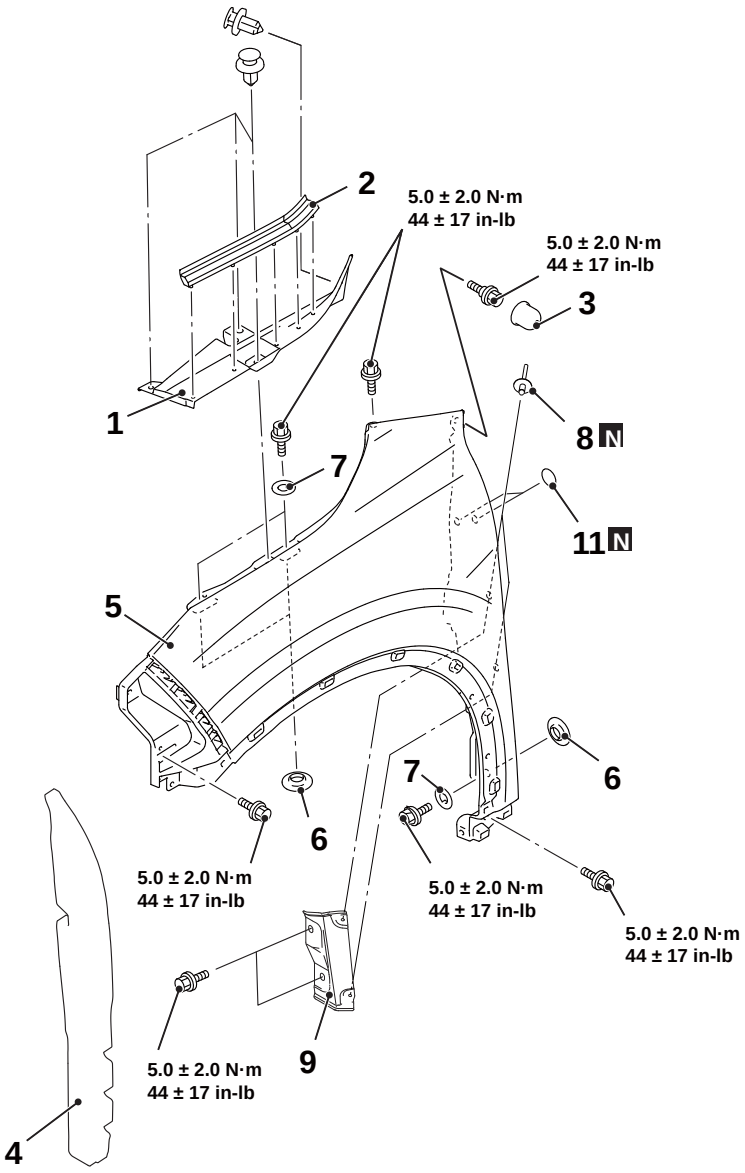

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EXTERIOR

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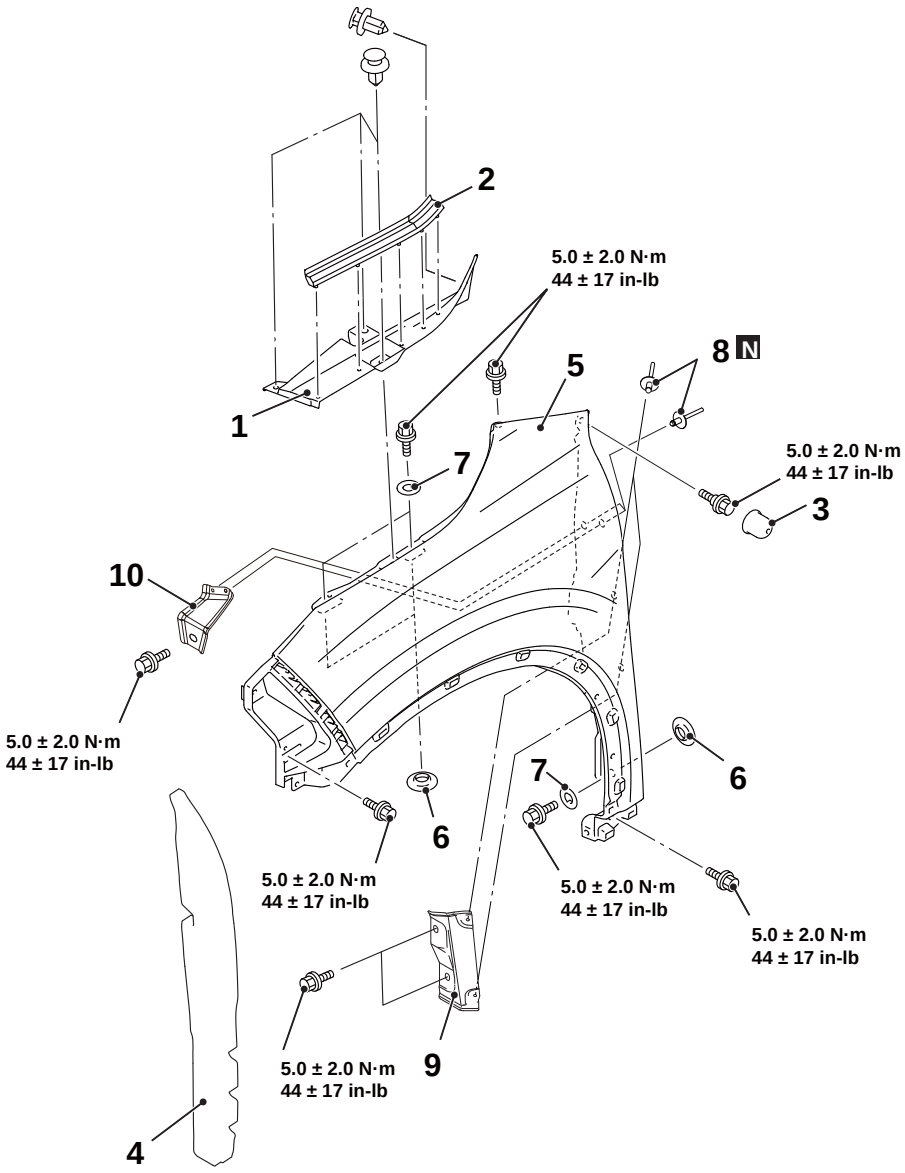

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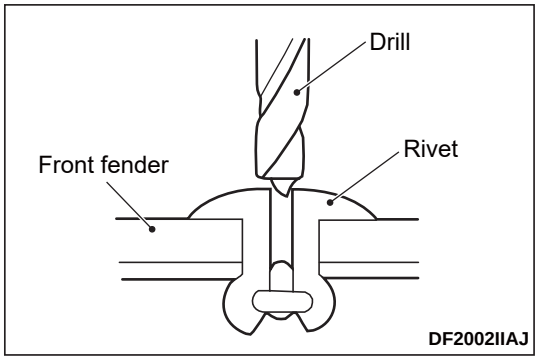
			Removal steps
		1.	Front fender inner garnish
		2.	Hood rear side weatherstrip
		3.	Front fender lid holder
		4.	Front fender pad
	>>D<<	5.	Front fender
	>>C<<	6.	Front fender collar
	>>C<<	7.	Front fender washer
<<A>>	>>B<<	8.	Rivets
		9.	Reinforcement
		10.	Bracket
	>>A<<	11.	Plug

<Added>

REMOVAL SERVICE POINT

<<A>> RIVETS REMOVAL



Use a drill [ϕ 4.0 mm (0.16 inch)] to make a hole in the rivet to break it, and remove the rivet.

INSTALLATION SERVICE POINTS

>>A<< PLUG INSTALLATION

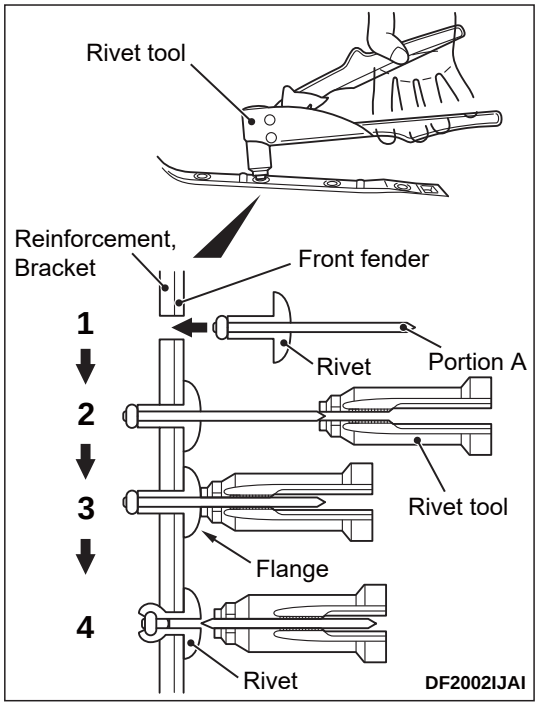
1.Use Mitsubishi Motors Genuine Parts Cleaner (MZ100387) or equivalent to clean the attachment surface.

2.Apply the 3M™ K-500 primer or equivalent to the surface to which the plug is to be affixed before affixing the plug.

3.Attach the plugs from the inside of the front fender without gaps.

<Added>

>>B<< RIVETS INSTALLATION



Use a rivet tool shown as in the illustration to connect the parts with rivets by the following procedures:

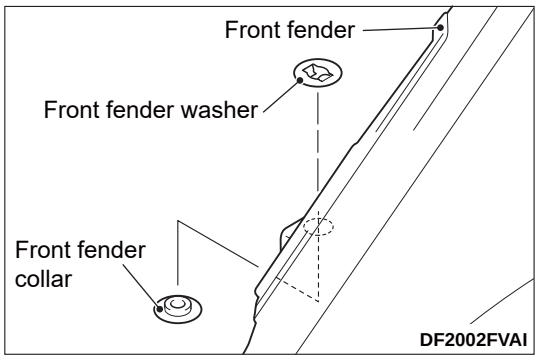
1.Insert the rivet into a corresponding location.

2.Set the rivet tool at a portion A of rivet.

3.While pushing the flange surface of the rivet onto parts to be fixed with the rivet tool, press the handle of the tool.

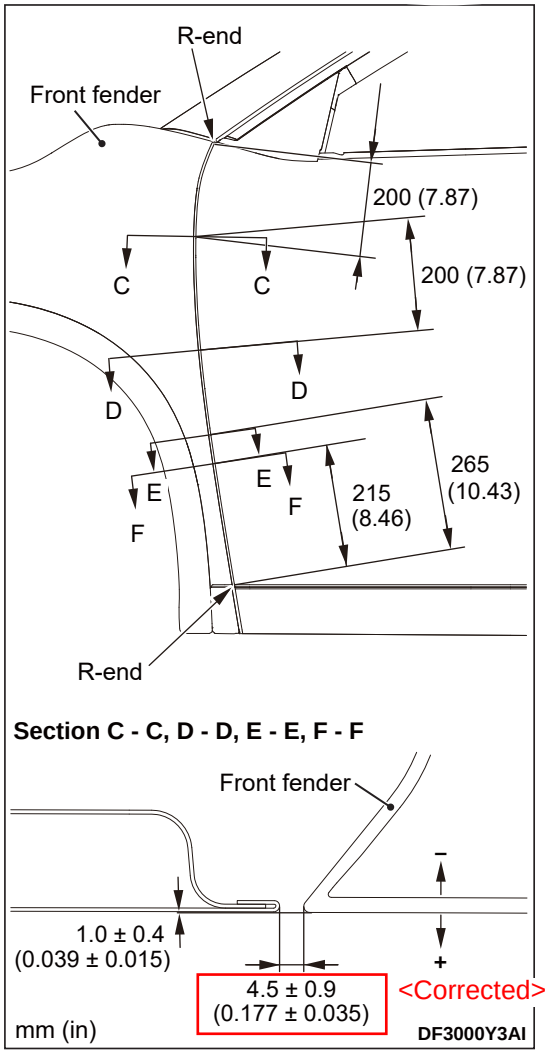
4.Thin part of portion A of the rivet will be cut off and the part is fixed in position.

>>C<< FRONT FENDER WASHER/FRONT FENDER COLLAR INSTALLATION



Fit the front fender collar to the front fender, and install the front fender washer to the front fender.

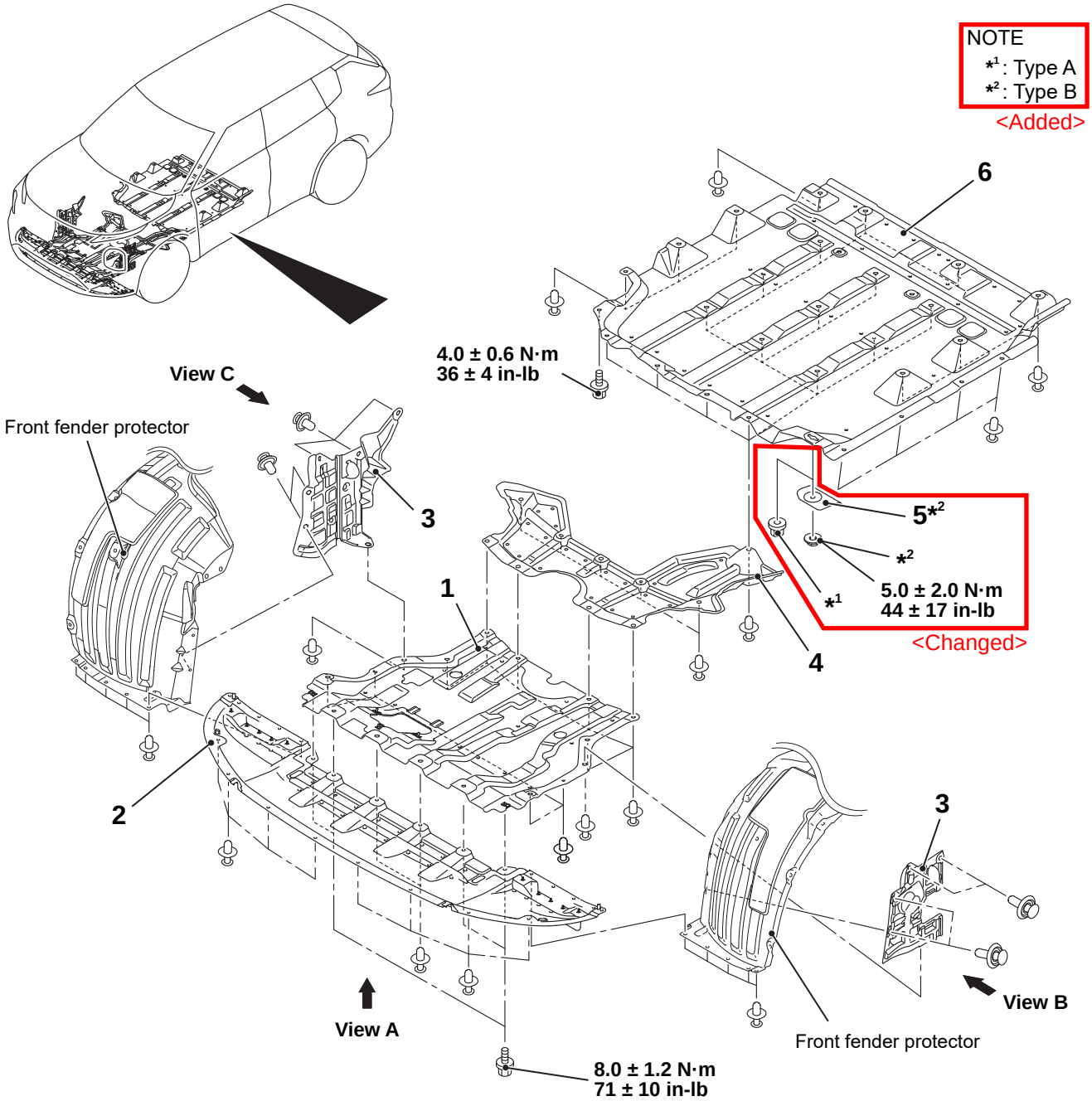
>>D<< FRONT FENDER INSTALLATION



2.Install the front fender so that the gap between the hood and the front fender, and the front door and the front fender fit within the specified value shown in the illustration.

UNDER COVER

Removal and Installation



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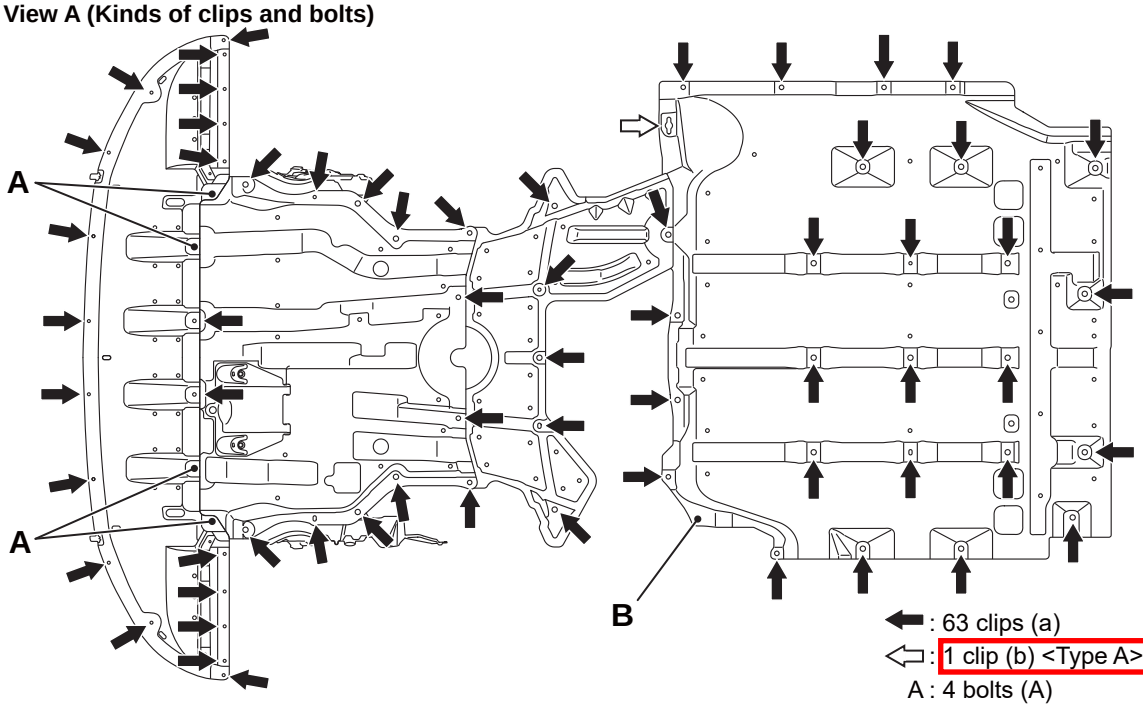
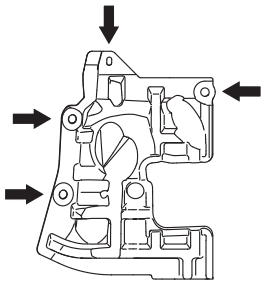
View A (Kinds of clips and bolts)



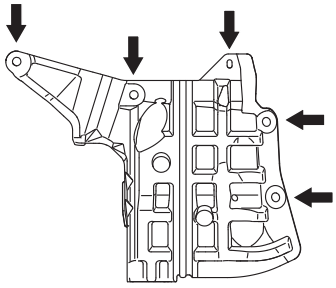
: 63 clips (a)
: 1 clip (b) <Type A> or 1 nut <Type B> <Changed>
A : 4 bolts (A)
B : 1 bolt (B)

DF2002J8AE00USA

View B (Kinds of clips)



View C (Kinds of clips)



: 9 Clips (a)

DF2002J8AA

	Removal steps
1.	Engine room under cover front B
2.	Engine room under cover front A
3.	Engine room side cover
4.	Engine room under cover rear
5.	Front floor bracket <Added>
6.	Floor under cover

BASIC INSPECTION

LUBRICANT

Perform Lubricant Return Operation

CAUTION:

- **When the A/C compressor, condenser, accumulator or liquid tank is replaced, or when the refrigerant is refilled, perform the lubricant return operation before operating air conditioning.**
- **If a large amount of refrigerant or lubricant leakage is detected, never perform lubricant return operation.**

1.Turn ON the IGN power supply.

2.Change the power supply mode to ON (READY indicator: OFF), then set the vehicle as follows.

- A/C switch: ON
- Blower air volume: 1/7
- Temperature setting: 25°C

3.Change the power supply mode to ON (READY indicator: ON), then operate the air conditioner for at least 2 minute.

<Corrected>

4.Change the power supply mode of the electric motor switch to OFF.

5.Lubricant return operation is complete.

BASIC INSPECTION

PERFORMANCE TEST

Inspection

INSPECTION PROCEDURE

1. Connect recovery/recycling/recharging equipment (for HFC134a <vehicles for Mexico> or HFO-1234yf <vehicles except for Mexico>) or manifold gauge.
2. Set the vehicle to the continuous idling mode, and set to the following condition. Refer to General Information - General Information - Precautions CONTINUOUS IDLING MODE.

Test condition <Corrected>

Surrounding condition		**Indoors or in the shade (in a well-ventilated place)**
Vehicle condition	Door	Open <Corrected>
	Door glass	Full open
	Hood	Open
A/C condition	Temperature control switch or dial	Full cold
	A/C switch	ON
	Air outlet	VENT (ventilation)
	Intake door position	Recirculation
	Fan (blower) speed	Maximum speed set

3. Maintain test condition until A/C system becomes stable. (Approximately 10 minutes)
4. Check that test results of “recirculating-to-discharge air temperature” and “ambient air temperature-to-operating pressure” are within the specified value.
5. When test results are within the specified value, inspection is complete.

If any of test result is out of the specified value, perform diagnosis by gauge pressure. Refer to LUBRICANT.

RECIRCULATING-TO-DISCHARGE AIR TEMPERATURE TABLE

Inside air (Recirculating air) at blower assembly inlet		**Discharge air temperature from center ventilator**
Relative humidity **%**	**Air temperature** **°C (°F)**	**°C (°F)**
30 – 80	20 (68)	0 – 13 (32 – 55)
	30 (86)	10 - 23 (50 – 73)
	40 (104)	19 - 32 (66 – 90)
	50 (122)	28 - 42 (82 – 108)

AMBIENT AIR TEMPERATURE-TO-OPERATING PRESSURE TABLE

Fresh air		**High-pressure (Discharge side)**	**Low-pressure (Suction side)**
Relative humidity **%**	**Air temperature** **°C (°F)**	**kPa (bar, kg/cm^2, psi)**	**kPa (bar, kg/cm^2, psi)**
30 – 80	20 (68)	1,255 – 1,593 (12.55 – 15.93, 12.8 - 16.2, 182 - 231)	111 – 349 (1.11 – 3.49, 1.1 - 3.6, 16.1 - 50.6)
	30 (86)	1,783 – 2,121 (17.83 - 21.21, 18.2 - 21.6, 258.6 - 307.6)	246 – 484 (2.46 – 4.84, 2.5 - 4.9, 35.7 - 70.2)
	40 (104)	2,311 – 2,649 (23.11 – 26.49, 23.6 - 27.0, 335.2 - 384.2)	381 – 619 (3.81 – 6.19, 3.9 - 6.3, 55.3 - 89.8)
	50 (122)	2,839 – 3,177 (28.39 – 31.77, 28.9 - 32.4, 411.7 - 460.8)	516 – 754 (5.16 – 7.54, 5.3 - 7.7, 74.8 - 109.4)

SPECIAL FUNCTION

Setting change of each setting functions can be performed.

Function name	Work support items	Description	Display	Setting
ECU Information	–	Displays the part number of A/C amp.	–	–
Actuator Test	–	The signals used to activate each device are forcibly supplied from A/C amp.	–	–
Setting change	TEMP SET CORRECT	If the temperature felt by the customer is different from the air flow temperature controlled by the temperature setting, the A/C amp. control temperature can be adjusted to compensate for the temperature setting.	0.0°C/0°F*	A/C amp. control temperature against set temperature can be set (-3.0)°C/(-6)°F – (+3.0)°C/(+6)°F at a rate of 0.5°C/1°F per adjustment. **NOTE:** **When −3.0°C (−6°F) is corrected on the temperature setting set as 25.0°C (77°F) the temperature controlled by A/C amp. is 25.0°C (77°F) −3.0°C (−6°F) = 22.0°C (72°F) and the temperature becomes lower than the temperature setting.**
	REC MEMORY SET	**NOTE:** **This item displayed, but cannot be used.**		
	FRE MEMORY SET	**NOTE:** **This item displayed, but cannot be used.**		
	<Corrected> BLOW SET	When the FOOT mode is selected in the AUTO control/MANUAL control of the A/C, the activation/deactivation of the air blown from the defroster can be changed. **NOTE:** **The values displayed on the M.U.T.-III SE indicate the following conditions.** e.g.: O/A C/M MANUAL control CLOSE: No air blown from the defroster AUTO control OPEN: Air blown from the defroster **DF100C7PAE**	O/A C/M*	AUTO control: Air blown from the defroster
				MANUAL control: No air blown from the defroster
			O/A O/M	AUTO control: Air blown from the defroster
				MANUAL control: Air blown from the defroster
			C/A O/M	AUTO control: No air blown from the defroster
				MANUAL control: Air blown from the defroster
			C/A C/M	AUTO control: No air blown from the defroster
				MANUAL control: No air blown from the defroster
	TARGET EVAPORATOR TEMP UPPER LIMIT SETTING	Setting of upper limit value of target evaporator temperature can be changed. Control characteristic of A/C compressor control (freezing protection control and refrigerant discharge amount control) changes according to change of the setting, and then operation ratio of A/C compressor and refrigerant discharge amount are changed. According to change of the setting, control characteristic focusing on the fuel consumption can be adjusted to control characteristic focusing on the cooling capacity.	DEFAULT*	Target evaporator temperature upper limit value: 10°C (50°F)
			3°C/37°F	Target evaporator temperature upper limit value: 3°C (37°F)
			5°C/41°F	Target evaporator temperature upper limit value: 5°C (41°F)
			7°C/45°F	Target evaporator temperature upper limit value: 7°C (45°F)
	STOP/START SYSTEM OPERATION COND SETTING	**NOTE:** **This item displayed, but cannot be used.**		
	AIR INLET CHANGE SETTING	**NOTE:** **This item displayed, but cannot be used.**		
	AIR FLOW REDUCTION SETTING	**NOTE:** **This item displayed, but cannot be used.**		

*: Initial status

NOTE:

When the battery cable is disconnected from the negative terminal or when the battery voltage is 10 V or less, the setting for the work support item is set to the value stored 1 minute after most recent electric motor switch OFF status.

REMOVAL AND INSTALLATION

BCM

Removal and Installation

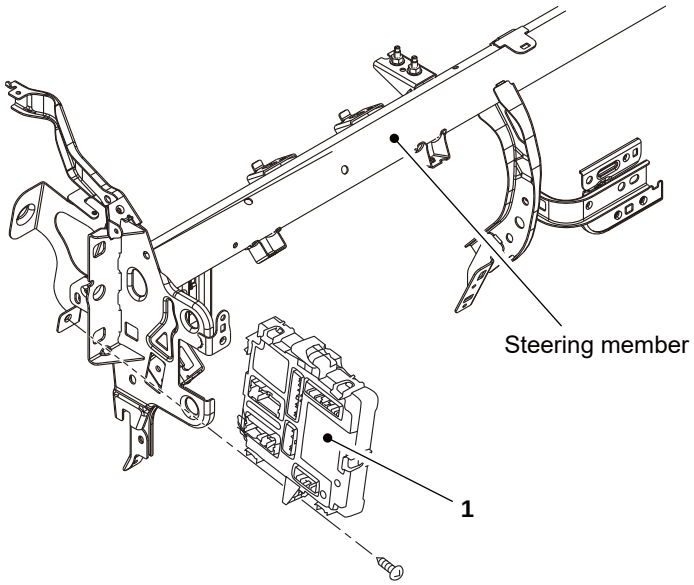
CAUTION:

When the BCM is replaced, perform the additional service procedures. Refer to ADDITIONAL SERVICE WHEN REPLACING BCM.

<Added>

Pre-removal and Post-installation Operation
Instrument Lower Panel Assembly Removal and Installation (Refer to Instrument Panel Driver's Side).

<Corrected>



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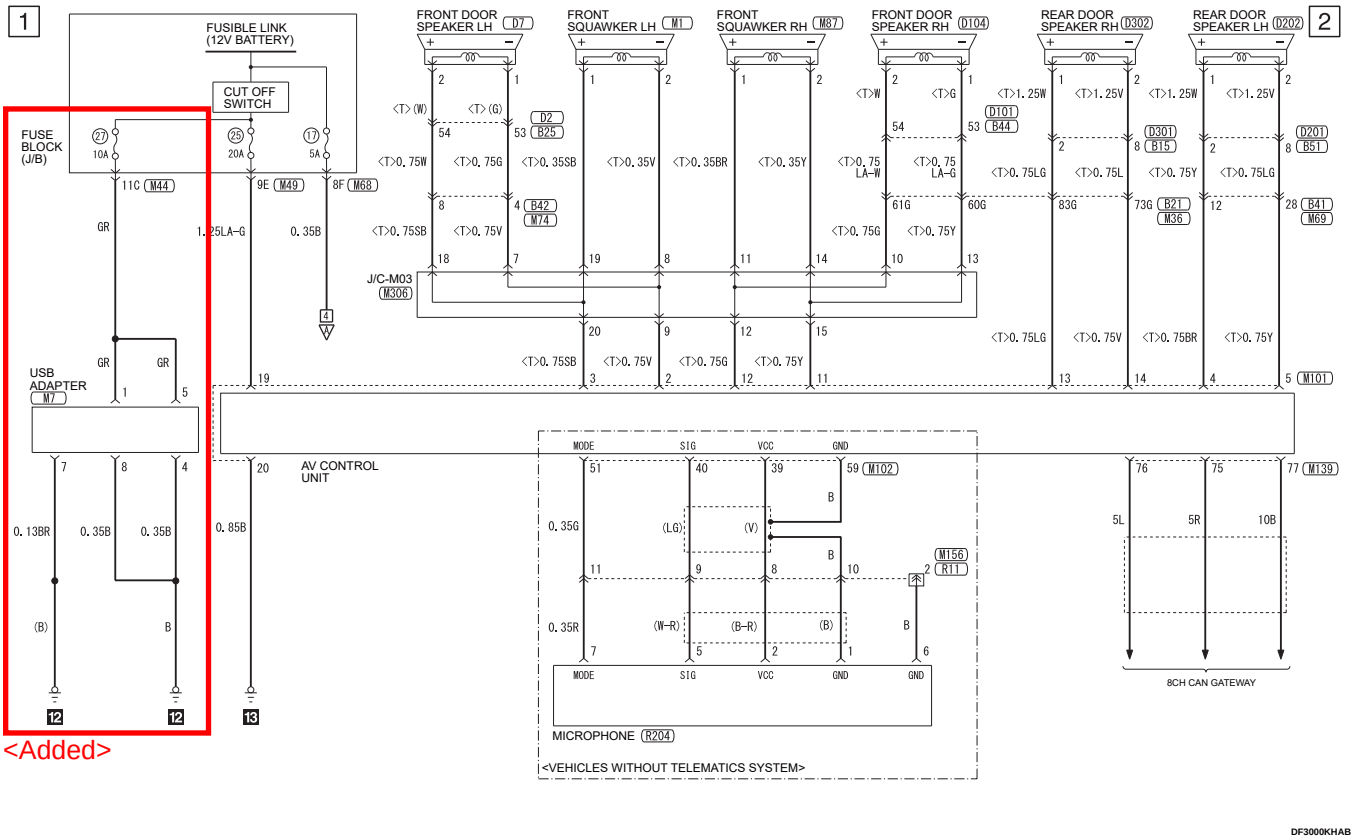
Removal steps
• Slide fuse block (J/B) to the back to remove it.
1. BCM

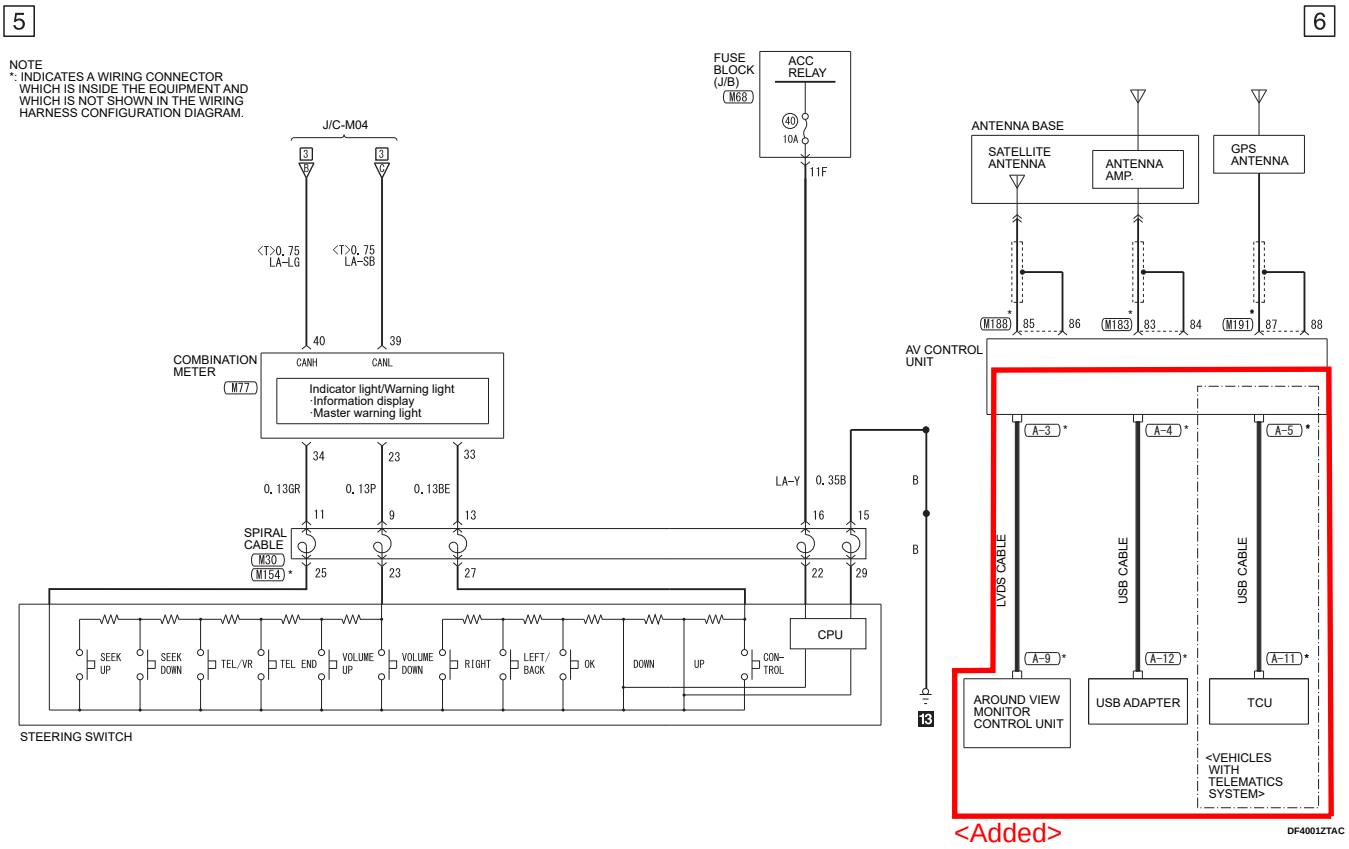
CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE>



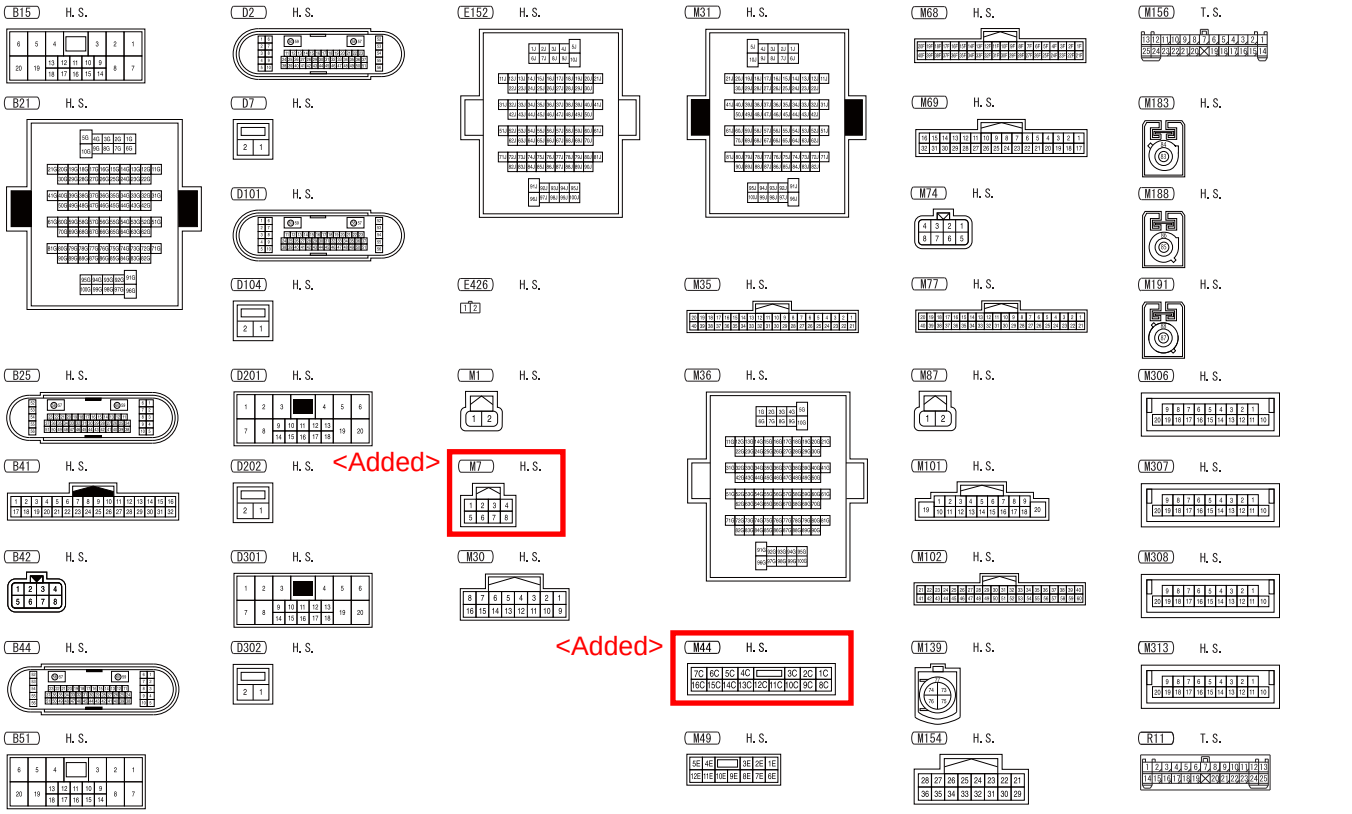
CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE> (CONTINUED)



CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE> (CONTINUED)



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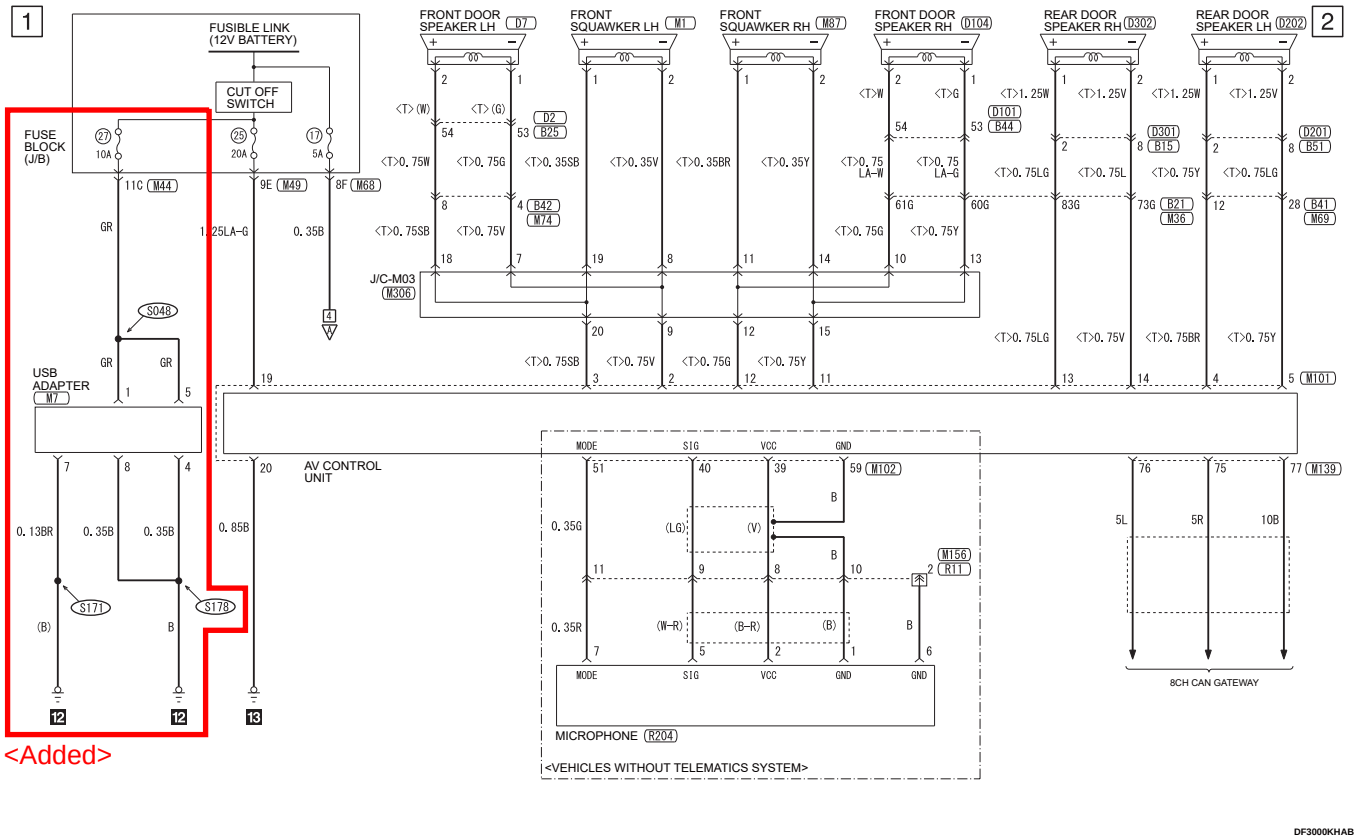
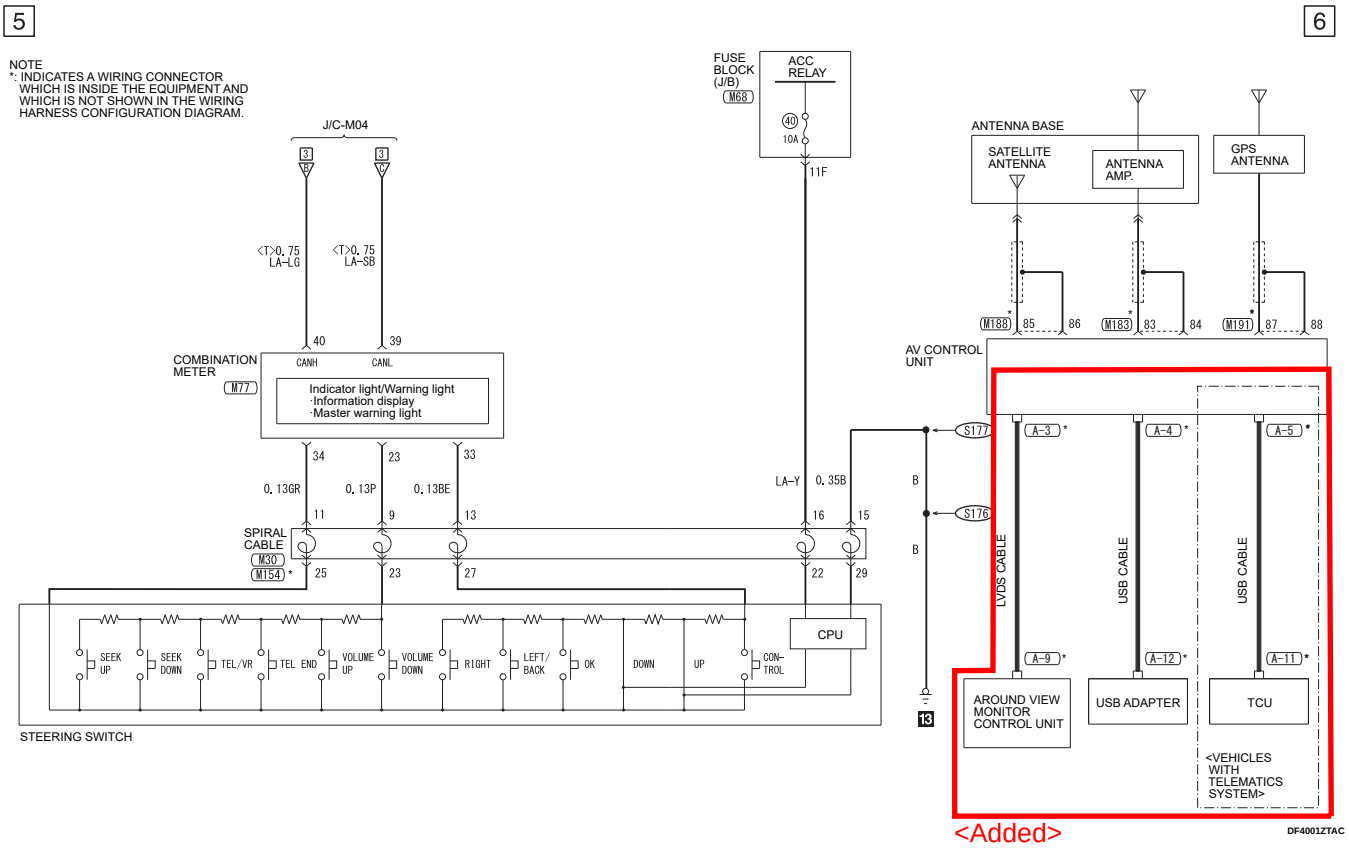
CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE>



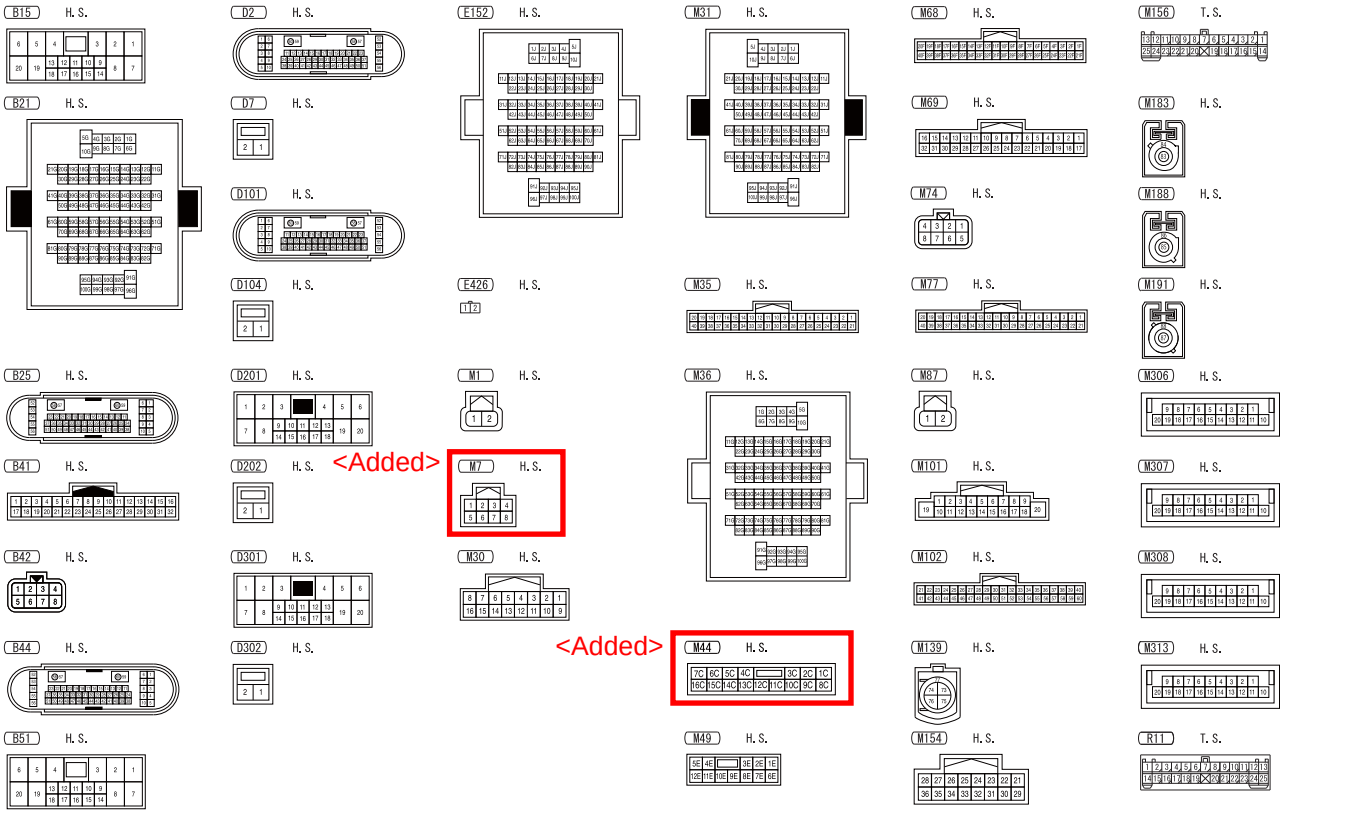
CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE> (CONTINUED)



CIRCUIT DIAGRAM

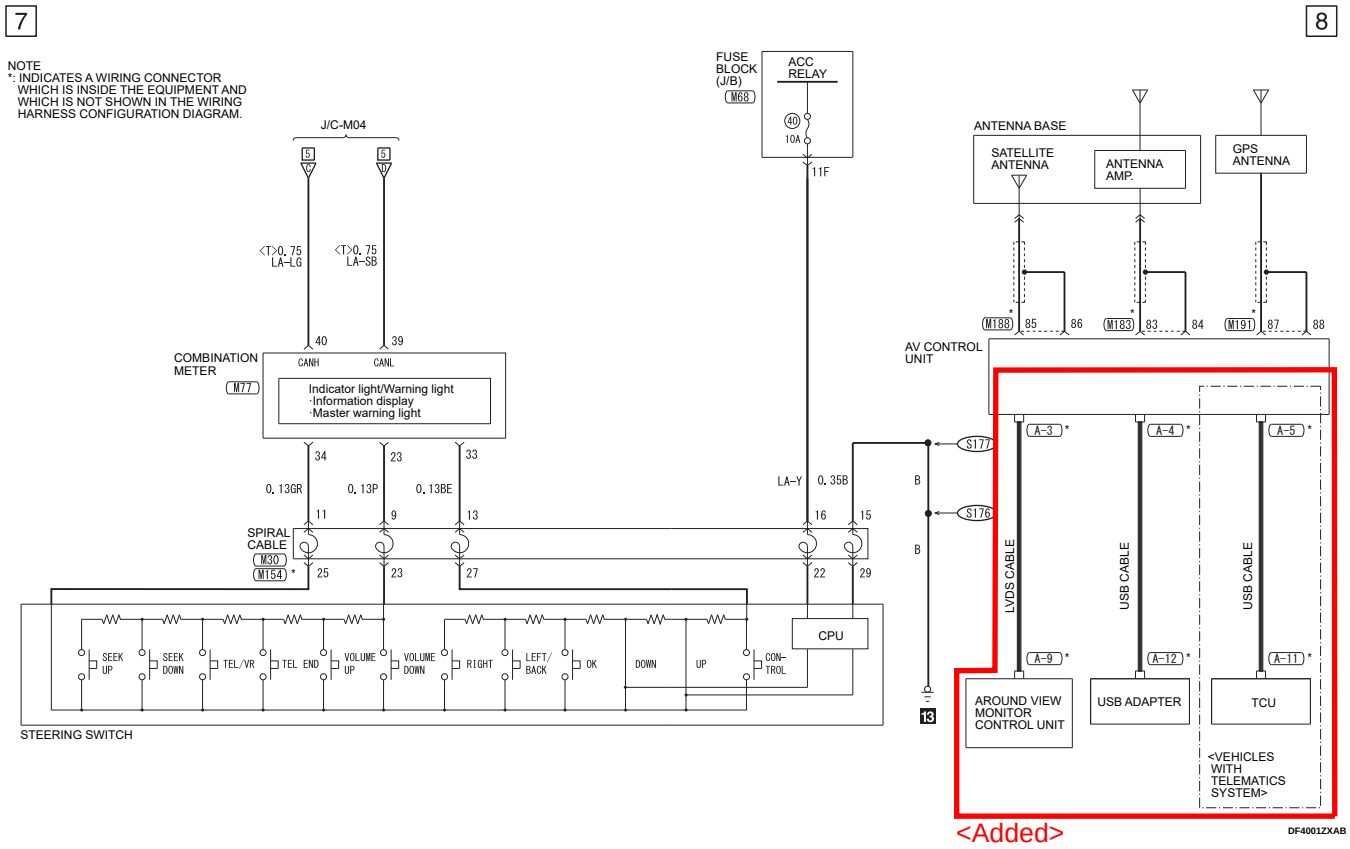
SMARTPHONE LINK DISPLAY AUDIO <WITHOUT BOSE> (CONTINUED)



DF3000KKAB

CIRCUIT DIAGRAM

SMARTPHONE LINK DISPLAY AUDIO <WITH BOSE> (CONTINUED)



CIRCUIT DIAGRAM

MULTI AROUND VIEW MONITOR