MITSUBISHI MOTORS

SERVICE BULLETIN

GLOBAL AFTER SALES OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-12E00-002**A**	DATE : 2012-03-16
SUBJECT : INFORMATION ON 2012.5 i-MiEV		<MODEL> (EUR) / <M/Y> 12.5
GROUP : GENERAL		i-MiEV(HA3W/HA3V)

1. Description:

This Service Bulletin contains the information about the change of the following maintenance points by the running change of 12.5MY.

Gr.37 POWER STEERING Change of the main point of the desorption(Change in the "A" version)
Gr.54D ELECTRIC MOTOR UNIT AND TRACTION BATTERY
- CHANGE OF TROUBLE SHPPTING

Gr.55 HEATER, AIR CONDITIONER AND VENTILATION
- CHANGE OF TROUBLE SHOOTING
- CHANGE OF PROCEDURE OF THE DESORPTION OF THE COMPRESSOR

(Change in the "A" version)
Gr.00 : GENERAL is added
Gr.00E : GENERAL(ELECTRICAL) is added
Gr.37 : POWER STEERING is added
Gr.55 : HEATER,AIR CONDITIONER AND VENTILATION is replaced
Gr.80 : CONFIGURATION DIAGRAMS is added
Gr.90 : CIRCUIT DIAGRAMS is added

2. Details:

See Attached sheet

Time to carry it out : The Vehicles produced after the end of March, 2012

GROUP 00

GENERAL

CONTENTS

NOTES

GROUP 00

GENERAL

CONTENTS

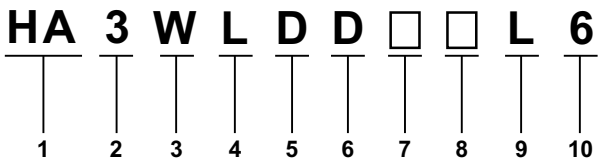
VEHICLE IDENTIFICATION

MODELS

M1001000306844

Model code		Motor model (electric motor unit)	Transmission model
HA3W	LDDL6	Y4F1 (Permanent magnet synchronous motor)	F1E1A (Rear wheel drive 2WD, parallel axis 2-step decelerator)
	LDDR6		

MODEL CODE



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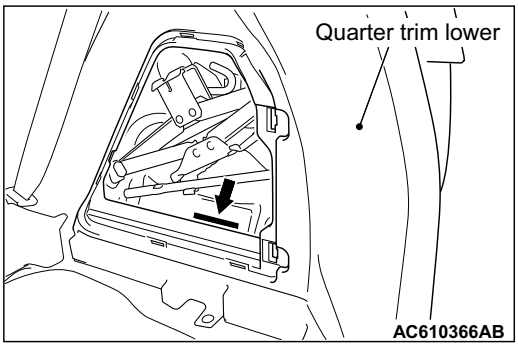
No.	Item	Content	
1	Development	HA	MITSUBISHI i-MiEV
2	Electric motor unit type	3	Permanent magnet synchronous motor (Y4F1)
3	Vehicle type	W	Station wagon
4	Body style	L	4-door with tailgate
5	Transmission type	D	Transmission without shifting function (F1E1A)
6	Trim level (Price class)	D	–
7	Engine specification	None	–
8	Special feature	None	2WD
9	Steering wheel location	L	Left hand drive
		R	Right hand drive
10	Destination	6	Vehicles for Europe

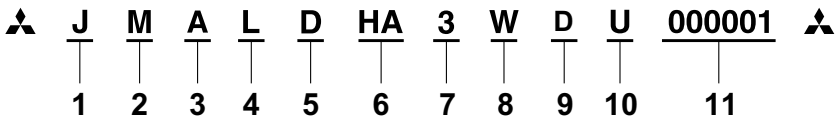
VEHICLE IDENTIFICATION NUMBER (CHASSIS NUMBER)

M1001005602826



The chassis number is stamped on the quarter trim lower panel.

CODE CHART



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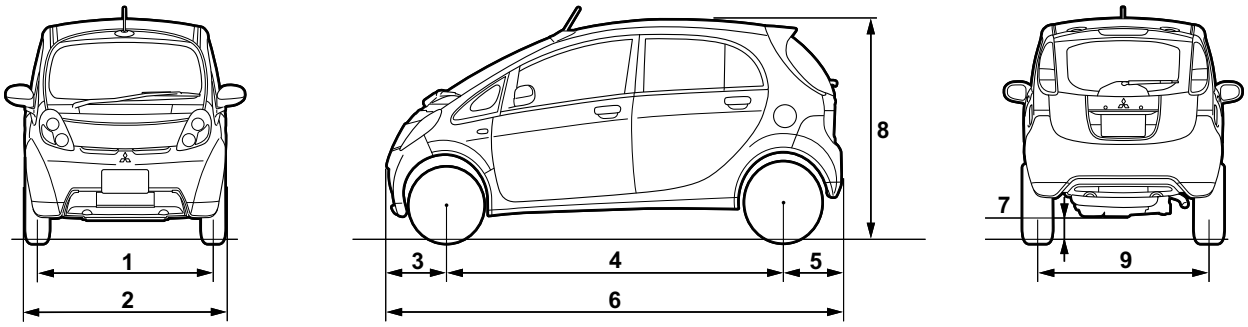
No.	Item	Content	
1	Country	J	Japan
2	Make	M	MITSUBISHI
3	Destination	A	Vehicles for Europe, right hand drive (MMC-manufactured vehicles)
		B	Vehicles for Europe, left hand drive (MMC-manufactured vehicles)
4	Body style	L	4-door with tailgate
5	Transmission type	D	Transmission without shifting function
6	Development order	HA	MITSUBISHI i-MiEV
7	Electric motor unit type	3	Permanent magnet synchronous motor
8	Soft	W	Station wagon
9	Model year	D	2013
10	Plant	U	Mizushima Motor Vehicle Works
11	Serial number	000001 to 999999	

GENERAL DATA AND SPECIFICATIONS

M1001000907087



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Item				HA3W	
				LDDL6	LDDR6
Vehicle dimension mm	Front track		1	1,310	1,310
	Overall width		2	1,475	1,475
	Front overhang		3	500	500
	Wheel base		4	2,550	2,550
	Rear overhang		5	425	425
	Overall length		6	3,475	3,475
	Ground clearance (unladen)		7	150	150
	Overall height (unladen)		8	1,610	1,610
	Rear track		9	1,270	1,270
Vehicle weight kg	Kerb weight	Without full optional parts		1,110	1,110
		With full optional parts		1,113	1,113
	Max. gross vehicle weight			1,450	1,450
	Max. axle weight rating-front			640	640
	Max. axle weight rating-rear			810	810
Seating capacity				4	4
Main battery	Type			Lithium ion battery	Lithium ion battery
	Total voltage V			330	330
	Total electric energy kWh			16	16
Electric motor	Model No.			Y4F1	Y4F1
	Type			Permanent magnet synchronous motor	Permanent magnet synchronous motor
	Rated output kW			35	35
	Max. output kW/rpm			49/2,500 – 8,000	49/2,500 – 8,000
	Max. torque N·m/rpm			180/0 – 2,000	180/0 – 2,000
Transmission	Model code			F1E1A	F1E1A
	Type			Without shifting function	Without shifting function
Turning radius m				4.5	4.5

GROUP 00E

GENERAL <ELECTRICAL>

CONTENTS

OUTLINE OF CHANGE

CONFIGURATION DIAGRAMS

M1001016100249

Connector symbol	Name		Reference page	Description of change
A	HOOD ROOM	<LHD>	P.80-2	• The splice point, the number of terminals and the colour of the A/C compressor connector have been changed.
		<RHD>	P.80-4	

CIRCUIT DIAGRAMS

M1001008400449

Main title	Sub title	Reference page	Description of changes
TRACTION BATTERY COOLING SYSTEM	<LHD>	P.90-2	• Due to the change of the A/C compressor, the following items have been changed. • The shape of A/C compressor connector (A-111) • The communication circuit between the A/C compressor and the A/C control unit • The low-voltage-side power source circuit of the A/C compressor
	<RHD>	P.90-5	
HEADLAMP	<RHD>	P.90-8	• J/C (2) (B-03) has been deleted from the LIN circuit between the ETACS-ECU and the column switch.
TAIL LAMP POSITION LAMP, LICENCE PLATE LAMP AND LAMP REMINDER BUZZER	<RHD>	P.90-10	
TURN-SIGNAL LAMP AND HAZARD WARNING LAMP	<RHD>	P.90-19	
DAYTIME RUNNING LAMP (DRL)	<RHD>	P.90-13	
FRONT FOG LAMP	<RHD>	P.90-15	
REAR FOG LAMP	<RHD>	P.90-17	
AIR CONDITIONER	<LHD>	P.90-21	• Due to the change of the A/C compressor, the following items have been changed. • The shape of A/C compressor connector (A-111) • The communication circuit between the A/C compressor and the A/C control unit • The low-voltage-side power source circuit of the A/C compressor
	<RHD>	P.90-25	
WINDSHIELD WIPER AND WASHER	<RHD>	P.90-29	• J/C (2) (B-03) has been deleted from the LIN circuit between the ETACS-ECU and the column switch.
REAR WIPER AND WASHER	<RHD>	P.90-31	

GROUP 37

POWER STEERING

CONTENTS

GENERAL

M1372000102139

OUTLINE OF CHANGE

Due to the change in A/C compressor assembly, the following removal service point of steering gear box removal and installation is changed.

POWER STEERING GEAR BOX AND LINKAGE

REMOVAL AND INSTALLATION

M1372010902192

REMOVAL SERVICE POINT

<<D>> STEERING GEAR & LINKAGE ASSEMBLY REMOVAL

1. Loosen the heater water pump assembly to make sure that it moves freely. However, do not remove the heater piping hose.
2. To ensure that there is adequate operating clearance for pulling out the steering gear & linkage assembly, disconnect the left stabilizer link at the stabilizer side.
3. Check that hoses and wiring harnesses are not caught, and then remove the steering gear & linkage assembly from between the stabilizer bar LH-side and the body.

GROUP 54D

ELECTRIC MOTOR UNIT AND TRACTION BATTERY

CONTENTS

GENERAL

M1549226500159

OUTLINE OF CHANGES

The following change is made to the conventional service procedure. The other service procedures are the same as the conventional ones.

- Due to the change in traction battery, the following BMU troubleshooting is changed.
  a. The troubleshooting of the code No. P1A4B is changed.
  b. The code No. P1AC6, P1AC7, P1AC8, P1AC9, P1ACA, P1ACB, P1ACC, P1ACD, P1ACE, P1ACF, P1AD0, P1AD1 and P1AD2 are added.

BATTERY MANAGEMENT UNIT (BMU) AND TRACTION BATTERY

INSPECTION CHART FOR DIAGNOSIS CODE

M1549400600116

Code No.	Diagnosis item	Reference page
P1A4B	Voltage of each battery cell abnormal	P.54D-3
P1AC6	Voltage of each battery cell abnormal (HI side)	P.54D-4
P1AC7	CMU01 battery cell resistance abnormal	P.54D-5
P1AC8	CMU02 battery cell resistance abnormal	P.54D-5
P1AC9	CMU03 battery cell resistance abnormal	P.54D-5
P1ACA	CMU04 battery cell resistance abnormal	P.54D-5
P1ACB	CMU05 battery cell resistance abnormal	P.54D-5
P1ACC	CMU06 battery cell resistance abnormal	P.54D-5
P1ACD	CMU07 battery cell resistance abnormal	P.54D-5
P1ACE	CMU08 battery cell resistance abnormal	P.54D-5
P1ACF	CMU09 battery cell resistance abnormal	P.54D-5
P1AD0	CMU10 battery cell resistance abnormal	P.54D-5
P1AD1	CMU11 battery cell resistance abnormal	P.54D-5
P1AD2	CMU12 battery cell resistance abnormal	P.54D-5

DIAGNOSIS CODE PROCEDURES

Code No. P1A4B: Voltage Of Each Battery Cell Abnormal

TROUBLE JUDGMENT

Check Conditions

- 3 seconds elapse after the electric motor switch is turned "ON", or 3 seconds elapse after the traction battery starts to be charged.
- The absolute value of the current is less than 1 A.
- The energy level gauge is more than 4 segments.
- None of the following diagnosis codes occur at the same time.
  a. P1AA8: Local CAN (for traction battery) signal time-out
  b. U1082: Local CAN (for traction battery) bus off

Judgement Criterion

- Difference in voltage values each battery cell is more than 0.08 V.

FAIL-SAFE AND BACKUP FUNCTION

- Not available

PROBABLE CAUSE

- The module (battery cell and CMU) in the traction battery is failed.

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III diagnosis code

Reconfirm whether the diagnosis codes are set from BMU.

1. Erase the diagnosis codes being set.
2. Electric motor switch: "LOCK" (OFF) → ON
3. After 10 seconds, also the energy level gauge of the combination meter confirm more than 4 segments.

Q: Is the diagnosis code set?

YES : Replace the traction battery.

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

Code No. P1AC6: Voltage Of Each Battery Cell Abnormal (LO side)

TROUBLE JUDGMENT

Check Conditions

- 3 seconds elapse after the electric motor switch is turned "ON", or 3 seconds elapse after the traction battery starts to be charged.
- The absolute value of the current is less than 1 A.
- The energy level gauge is more than 12 segments.
- None of the following diagnosis codes occur at the same time.
  a. P1AA8: Local CAN (for traction battery) signal time-out
  b. U1082: Local CAN (for traction battery) bus off

Judgement Criterion

- Difference in voltage values each battery cell is more than 0.05 V.

FAIL-SAFE AND BACKUP FUNCTION

- Not available

PROBABLE CAUSE

- The module (battery cell and CMU) in the traction battery is failed.

DIAGNOSIS PROCEDURE

STEP 1. Traction battery condition check

Q: Does replace the module in the traction battery recently?
YES : Erase the diagnosis code, check end.
NO : Go to Step 2.

STEP 2. M.U.T.-III diagnosis code

Reconfirm whether the diagnosis codes are set from BMU.

1. Erase the diagnosis codes being set.
2. Electric motor switch: "LOCK" (OFF) → ON
3. After 10 seconds, also the energy level gauge of the combination meter confirm more than 12 segments.

Q: Is the diagnosis code set?
YES : Replace the traction battery.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

Code No. P1AC7: CMU01 battery cell resistance abnormal, P1AC8: CMU02 battery cell resistance abnormal, P1AC9: CMU03 battery cell resistance abnormal, P1ACA: CMU04 battery cell resistance abnormal, P1ACB: CMU05 battery cell resistance abnormal, P1ACC: CMU06 battery cell resistance abnormal, P1ACD: CMU07 battery cell resistance abnormal, P1ACE: CMU08 battery cell resistance abnormal, P1ACF: CMU09 battery cell resistance abnormal, P1AD1: CMU10 battery cell resistance abnormal, P1AD2: CMU11 battery cell resistance abnormal, P1AD3: CMU12 battery cell resistance abnormal

TROUBLE JUDGMENT

Check Conditions

- 3 seconds elapse after the electric motor switch is turned "ON", or 3 seconds elapse after the traction battery starts to be charged.
- None of the following diagnosis codes occur at the same time.
  a. P1AA8: Local CAN (for traction battery) signal time-out
  b. U1082: Local CAN (for traction battery) bus off

Judgement Criterion

- Difference in resistance values inside battery cells is great.

FAIL-SAFE AND BACKUP FUNCTION

- Not available

PROBABLE CAUSE

- The module (battery cell, CMU) in the traction battery is failed.

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III diagnosis code

Reconfirm whether the diagnosis codes are set from BMU.

1. Erase the diagnosis codes being set.
2. Electric motor switch: "LOCK" (OFF) → ON
3. Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Replace the traction battery.

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

NOTES

GROUP 55

HEATER, AIR CONDITIONER AND VENTILATION

CONTENTS

GENERAL

M1551000100701

OUTLINE OF CHANGES

Due to the following change, the service procedure has been established.

- The diagnosis code procedure "Code No. B1105" has been changed.
- The compressor removal and installation procedure has been changed.

TROUBLESHOOTING

DIAGNOSIS CODE CHART <A/C CONTROL UNIT>

M1554004902328

Code No.	Diagnostic item	Reference page	Service data display contents when diagnosis code is set
B1105	ELC. compressor (Communication)	P.55-2	–

DIAGNOSIS CODE CHART

Code No. B1105 ELC. compressor (communication)

Diagnosis code set conditions

This code is set when the A/C control unit cannot communicate with the compressor & heater controller for 5 seconds or more.

PROBABLE CAUSES

- Malfunction of A/C relay
- Malfunction of A/C control unit
- Malfunction of A/C compressor
- Damaged harness wires and connectors
- Power supply and earth to the A/C compressor defective

DIAGNOSIS PROCEDURE

STEP 1. Connector check: B-309 A/C relay connector

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the damaged connector.

STEP 2. Check the A/C relay relay.

Q: Is the A/C relay in good condition?
YES : Go to Step 3.
NO : Replace the heater water pump relay.

STEP 3. Measure the voltage at B-309 heater water pump relay connector.

(1) Disconnect the connector, and measure at the wiring harness side.
(2) Voltage between terminal 4 and body earth

OK: Battery voltage

Q: Is the check result normal?
YES : Go to Step 5.
NO : Go to Step 4.

STEP 4. Check the wiring harness between the fusible link (25) and B-309 A/C relay connector terminal No. 4.

- Check the power supply line for open circuit.

NOTE: Before checking the wiring harness, check the junction block connectors B-310, B-307 and repair it if necessary.

Q: Is the check result normal?
YES : Intermittent malfunction. Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points, – How to Cope with Intermittent Malfunctions.)
NO : Repair the wiring harness.

STEP 5. Connector check: A-111 A/C compressor connector

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the damaged connector.

STEP 6. Measure voltage at the A/C compressor connector A-111.
(1) Disconnect the connector, and measure at the wiring harness side.
(2) Voltage between terminal 1 and body earth

OK: Battery voltage

Q: Is the check result normal?
YES : Go to Step 8.
NO : Go to Step 7.

STEP 7. Check the wiring harness between the B-309 A/C relay connector terminal No. 3 and A-111 A/C compressor connector terminal No. 1.
- Check the power supply line for open circuit.

NOTE: Before checking the wiring harness, check the junction block connectors B-302, B-301, joint connector B-03 <LHD> and intermediate connector B-27 repair it if necessary.

Q: Is the check result normal?
YES : Intermittent malfunction. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points, How to Cope with Intermittent Malfunctions.)
NO : Repair the wiring harness.

STEP 8. Measure resistance value at the A/C compressor connector A-111.
(1) Disconnect the connector, and measure at the wiring harness side.
(2) Resistance between terminal No. 2 and body earth

OK: Continuity exists (2 Ω or less).

Q: Is the check result normal?
YES : Go to Step 9.
NO : Go to Step 12.

STEP 9. Connector check: C-101 A/C control unit connector.

Q: Is the check result normal?
YES : Go to Step 10.
NO : Repair the damaged connector.

STEP 10. Check the wiring harness between the A-111 A/C compressor connector terminals No. 3, 4 and C-101 A/C control unit connector terminal No.1, 2.
- Check the input and output lines for open or short circuit.

Q: Is the check result normal?
YES : Go to Step 11.
NO : Repair the wiring harness.

STEP 11. After replacing the A/C control unit , check again if the diagnosis code is set.

Q: Is the diagnosis code set?
YES : Replace the A/C compressor.
NO : Intermittent malfunction. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points, How to Cope with Intermittent Malfunctions.)

STEP 12. Connector check: B-122 earth connector

Q: Is the check result normal?
YES : Go to Step 13.
NO : Repair the damaged connector.

STEP 13. Check the wiring harness between A-111 A/C compressor connector terminal No.2 and B-122 earth connector terminal No. 6.
- Check the earth wires for open circuit.

Q: Is the check result normal?
YES : Intermittent malfunction. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points, How to Cope with Intermittent Malfunctions.)
NO : Repair the wiring harness.

CHECK AT ECU TERMINAL <A/C CONTROL UNIT>

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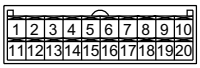
<C-101>



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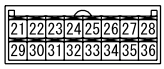

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Terminal No.	Check items	Inspection conditions	Normal conditions
1	Communication with the A/C compressor (high)	–	–
2	Communication with the A/C compressor (low)		
3 to 4	–		
5	Foot area air outlet/main battery cooling selection damper motor (drive battery cooling side)	When the main battery moves to the cooling side	System voltage
		When foot area air outlet is selected	0 V
6	Foot area air outlet/main battery cooling selection damper motor (foot area air outlet side)	When the main battery moves to the cooling side	0 V
		When foot area air outlet is selected	System voltage
7	Heater water pump relay	Heater water pump relay: ON	1 V or less
8	–	–	–
9	Communication with the A/C-ECU		
10	Earth of the A/C-ECU		
11 to 12	–		
13	Back-up power supply		System voltage
14	Earth	Always	0 V
15	Power supply	A/C relay: ON	System voltage
16	A/C pressure sensor	Refer to "Simple inspection of the A/C pressure sensor".	Refer to "Simple inspection of the A/C pressure sensor".
17	Heater inlet water temperature sensor	Temperature at the sensor 25°C (10 kΩ)	1.0 to 1.5 V
18	Heater outlet water temperature sensor		
19	Sensor earth	Always	0 V
20	Sensor power supply	Electric motor switch: ON	5 V
21 to 23	–	–	–
24	Air recirculation/fresh air selection damper motor and potentiometer	Air recirculation/fresh air selection damper motor fresh air position	0 to 1.5 V
25	heater 12 V power supply	Electric motor switch: ON	System voltage
26 to 28	–	–	–

Terminal No.	Check items	Inspection conditions	Normal conditions
29	Heater water pump assembly input	Heater water pump assembly: ON	12 V
30	Air recirculation/fresh air selection damper motor	When moving to air recirculation position	System voltage
		When moving to fresh air position	1 V or less
31	Air recirculation/fresh air selection damper motor	When moving to fresh air position	System voltage
		When moving to air recirculation position	1 V or less
32 to 33	–	–	–
34 to 36	Heater output	At max. heater output	3.0 to 7.0V

COMPRESSOR ASSEMBLY

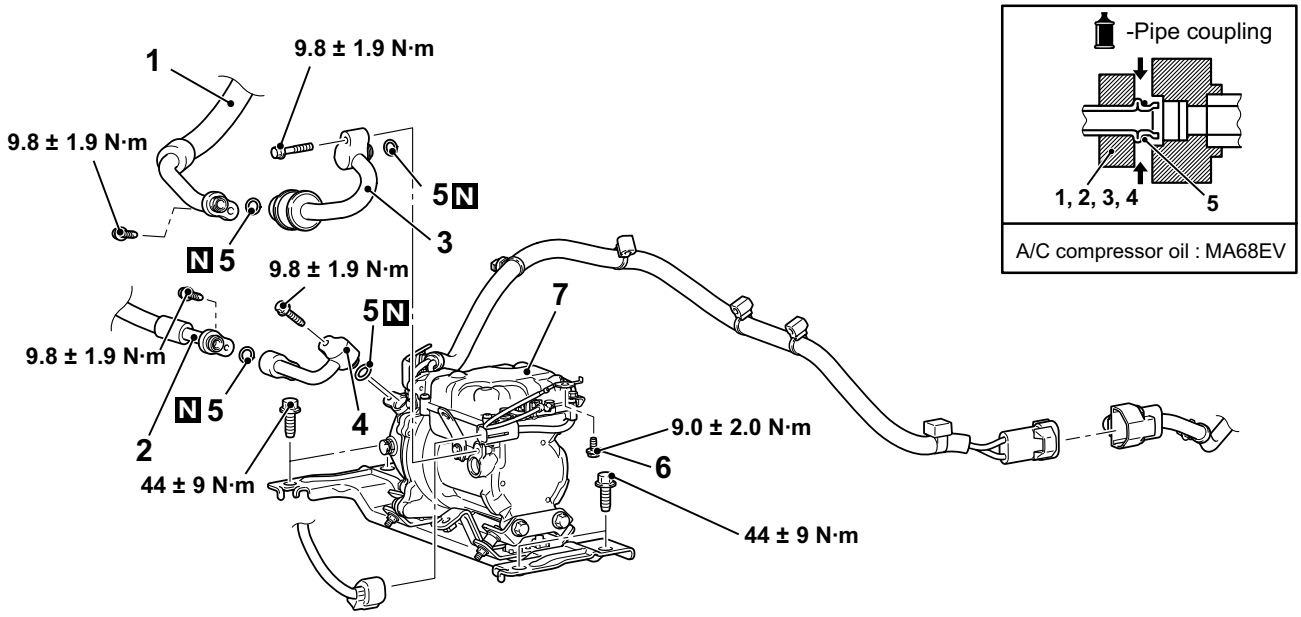
REMOVAL AND INSTALLATION

M1552004403632

⚠ DANGER

When servicing the high voltage system parts, always shut off the high voltage by removing the service plug.

Pre-removal operation	Post-installation operation
• Discharging refrigeran • Front side member cover A, front wheel house cover, front floor cover A removal (Refer to GROUP 51 – Under Cover.)	• Front side member cover A, front wheel house cover, front floor cover A installation (Refer to GROUP 51 – Under Cover.) • Charging refrigerant



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Removal steps

<<A>> 1. A/C compressor discharge pipe connection
<<A>> 2. A/C compressor suction pipe connection
<<A>> 3. A/C compressor discharge pipe hose
<<A>> 4. A/C compressor suction pipe hose
5. O-ring
- Cooling fan resistor (Refer to GROUP 14, Cooling Fan Resistor.)

6. Earth bolt
<<B>> >>A<< 7. A/C compressor assembly

REMOVAL SERVICE POINTS

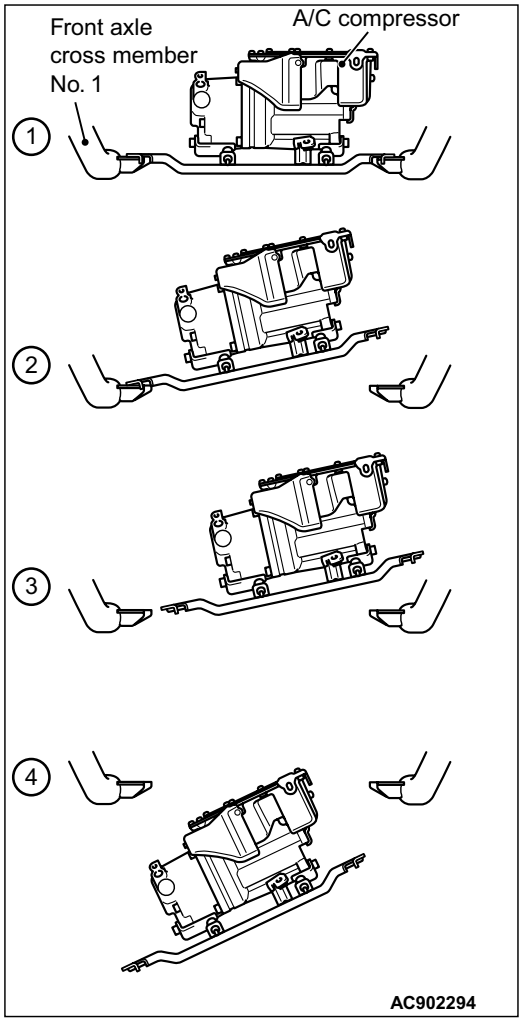
<<A>>A/C COMPRESSOR DISCHARGE PIPE/A/C COMPRESSOR SUCTION PIPE/A/C COMPRESSOR DISCHARGE PIPE HOSE/A/C COMPRESSOR SUCTION PIPE HOSE DISCONNECTION

⚠ CAUTION

- **Use the plug which is not breathable because A/C compressor oil or receiver have high hygroscopicity.**
- **For the compressor oil and installation oil for the piping O-ring, use the oil MA68EV dedicated for the A/C compressor EV24AN4. If an oil other then the MA68EV is used, even if it is only a small amount, the electric insulation is considerably deteriorated and a leakage may occur.**

Plug the hose nipple removed to prevent the entry of dust and dirt.

<<B>> A/C COMPRESSOR ASSEMBLY REMOVAL



Remove it as shown in the figure at the left using the space upper left of the A/C compressor. At this time, be careful not to make the upper part of the A/C compressor contact another part.

INSTALLATION SERVICE POINT

>>A<< A/C COMPRESSOR ASSEMBLY INSTALLATION

When installing the new A/C compressor, install the A/C compressor after adjusting the oil volume as follows.

1. Measure the oil of A/C compressor removed.(X cm^3)
2. Drain the oil completely from the new A/C compressor.

NOTE: Do not reuse the oil drained from the new A/C compressor.

3. After draining the provided new oil by the amount (Y cm^3) calculated from the following equation, fill the remaining amount (X + 20 cm^3) to the new A/C compressor, and install the compressor.

100 cm^3 - X cm^3 - 20 cm^3 = Y cm^3

NOTE:

1. *100 cm^3 shows the oil volume contained in the new A/C compressor.*
2. *Y cm^3 shows the oil volume accumulated in the refrigerant line, condenser, and cooling unit, etc.*
3. *20 cm^3 shows the oil amount remaining in the A/C compressor after X cm^3 of oil is drained from the used A/C compressor. (Almost all oil in the new A/C compressor can be drained.)*

NOTES

GROUP 80

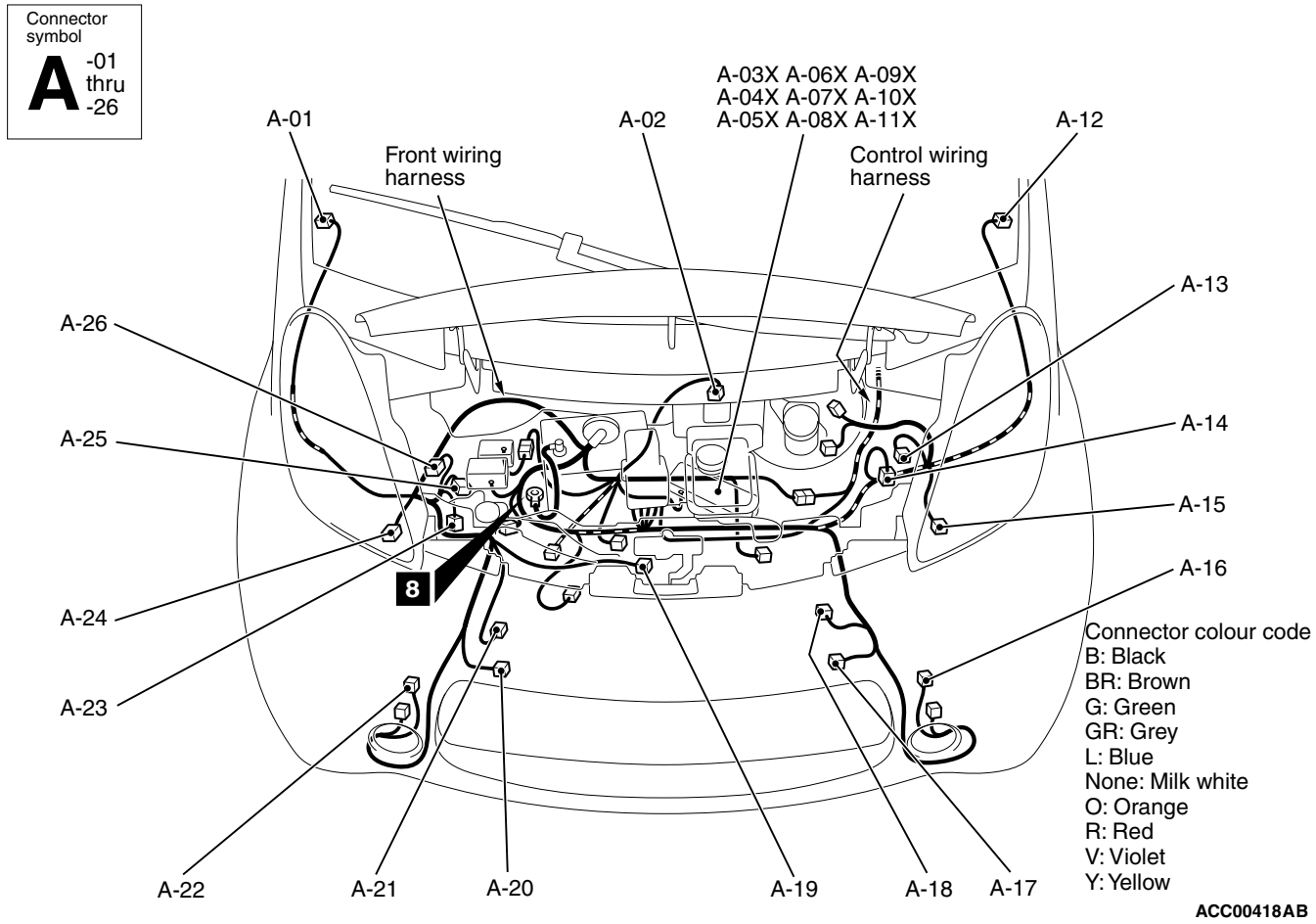
CONFIGURATION DIAGRAMS

CONTENTS

HOOD ROOM

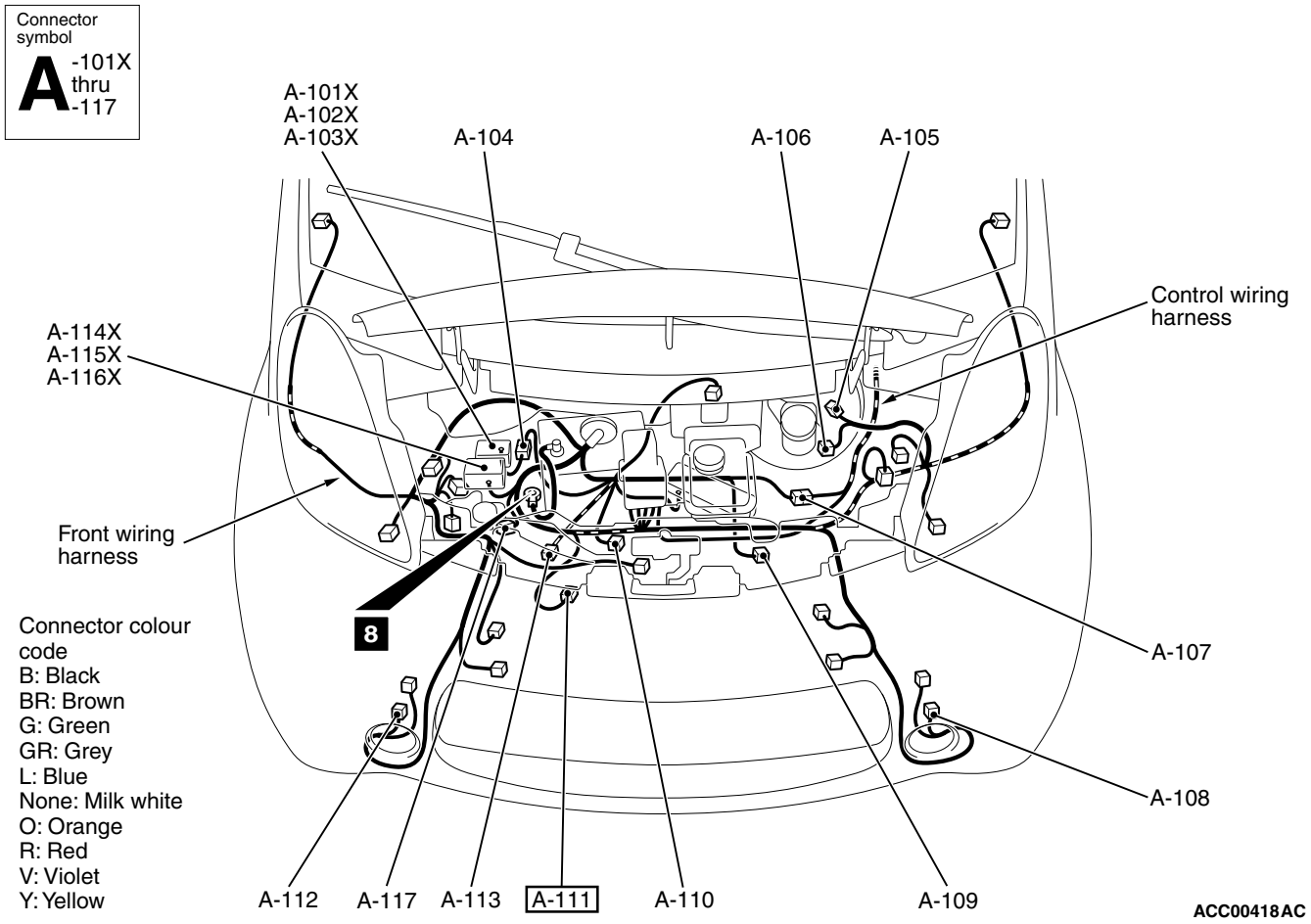
HOOD ROOM <LHD>

M1801004000122



A-01	(2-GR)	Side turn-signal lamp (RH)
A-02	(6-GR)	Windshield wiper motor
A-03X	(4)	Horn relay
A-04X	(4)	Headlamp relay (HI)
A-05X	(4)	Headlamp relay (LO)
A-06X	(4)	On board charger relay
A-07X	(4)	Front fog lamp relay
A-08X	(4)	EV control relay
A-09X	(4)	Water pump relay
A-10X	(4)	Cooling fan relay (LO)
A-11X	(4)	Cooling fan relay (HI)
A-12	(2-GR)	Side turn-signal lamp (LH)
A-13	(10-GR)	Headlamp assembly (LH)
A-14	(26-B)	ASC-ECU
A-15	(2-Y)	Front impact sensor (LH)
A-16	(2-B)	Front fog lamp (LH)
A-17	(2-B)	Ambient temperature sensor
A-18	(2-B)	Front wheel speed sensor (LH)
A-19	(2-B)	Cooling fan motor
A-20	(1-B)	Horn
A-21	(2-B)	Front wheel speed sensor (RH)
A-22	(2-B)	Front fog lamp (RH)
A-23	(2-GR)	Windshield washer motor
A-24	(2-Y)	Front impact sensor (RH)
A-25	(3-B)	A/C pressure sensor
A-26	(10-GR)	Headlamp assembly (RH)

HOOD ROOM <LHD> (CONTINUED)

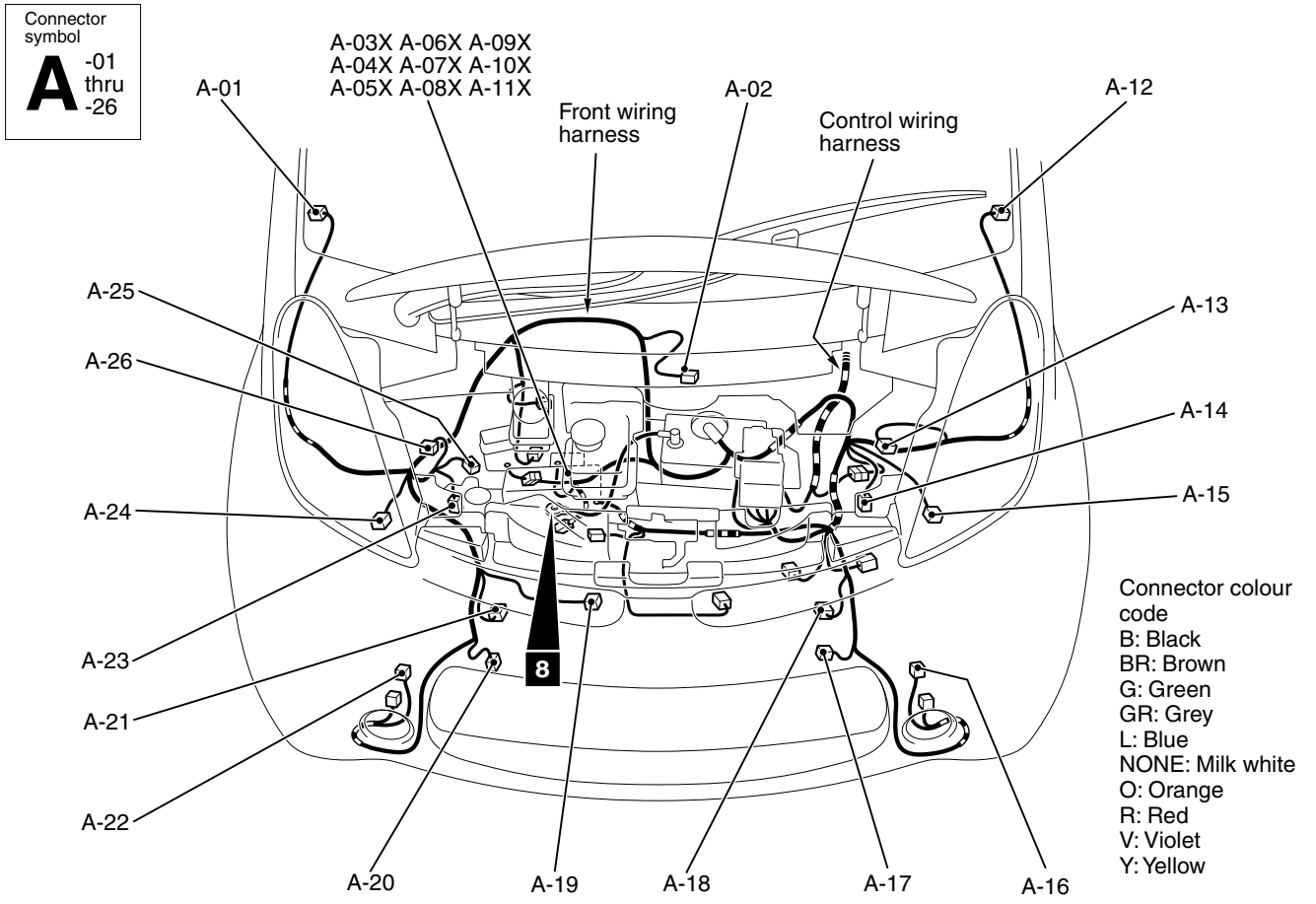


A-101X(5) Brake electric vacuum pump control relay 1
A-102X(5) Brake electric vacuum pump control relay 2
A-103X(5) Brake electric vacuum pump main relay
A-104 (8-B) Front wiring harness and brake electric vacuum pump relay box combination
A-105 (3-B) Brake booster vacuum sensor
A-106 (2-GR) Brake fluid level switch
A-107 (8-B) Front wiring harness and control wiring harness combination
A-108 (2-GR) Daytime running lamp (LH)
A-109 (2-GR) Heater water pump assembly
A-110 (2-GR) Cooling fan resister (for cooling fan relay (LO))
A-111 (4-GR) A/C compressor
A-112 (2-GR) Daytime running lamp (RH)
A-113 (8-GR) EV water PTC heater
A-114X(4) Heater water pump relay
A-115X(4) Traction battery cooling fan relay
A-116X(4) Daytime running lamp relay
A-117 (2-B) Acoustic vehicle alerting speaker

NOTE: Connector numbers enclosed by a box mean connectors of which have been changed.

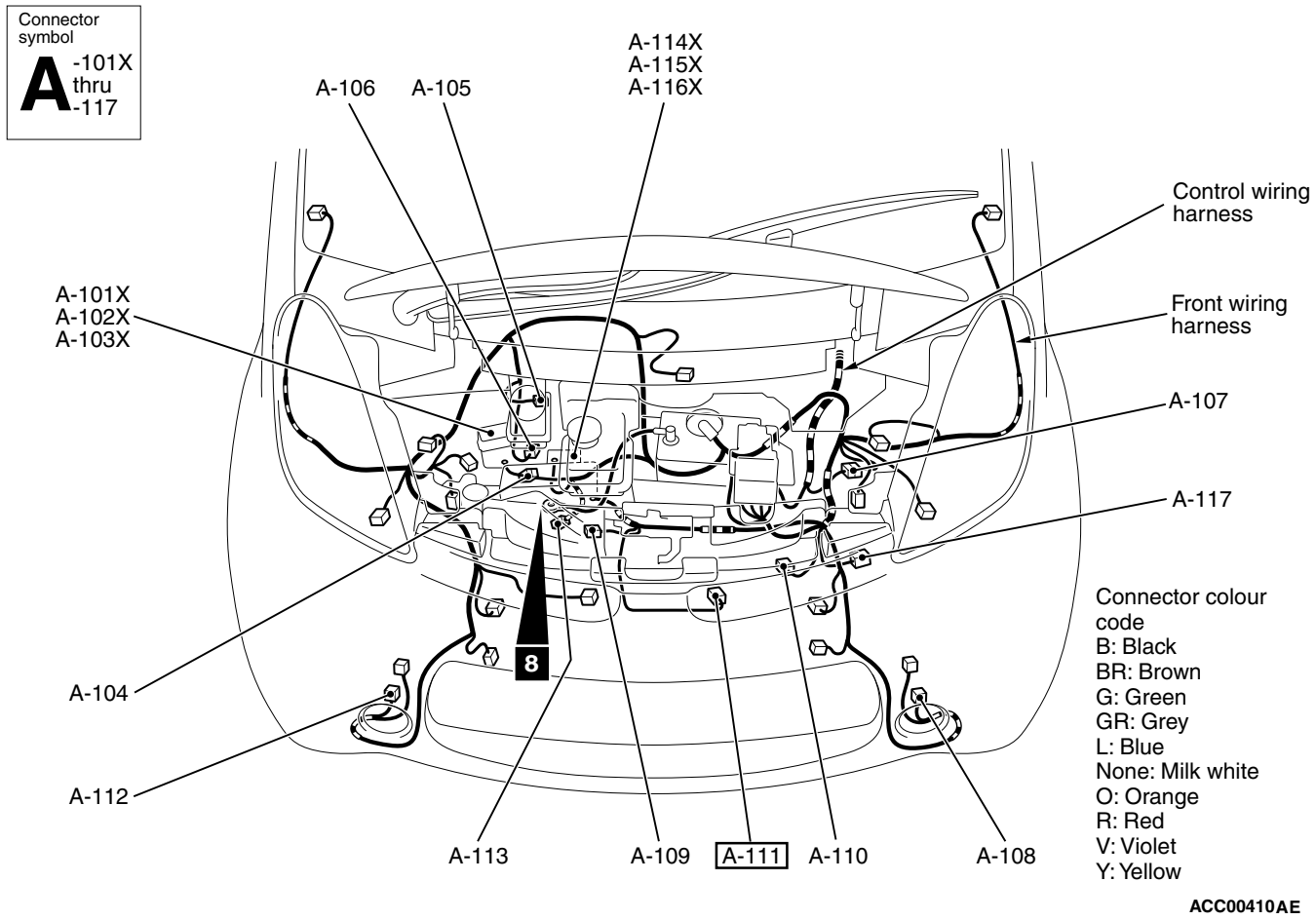
HOOD ROOM <RHD>

M1801004000133



A-01	(2-GR)	Side turn-signal lamp (RH)
A-02	(6-GR)	Windshield wiper motor
A-03X	(4)	Horn relay
A-04X	(4)	Headlamp relay (HI)
A-05X	(4)	Headlamp relay (LO)
A-06X	(4)	On board charger relay
A-07X	(4)	Front fog lamp relay
A-08X	(4)	EV control relay
A-09X	(4)	Water pump relay
A-10X	(4)	Cooling fan relay (LO)
A-11X	(4)	Cooling fan relay (HI)
A-12	(2-GR)	Side turn-signal lamp (LH)
A-13	(10-GR)	Headlamp assembly (LH)
A-14	(26-B)	ASC-ECU
A-15	(2-Y)	Front impact sensor (LH)
A-16	(2-B)	Front fog lamp (LH)
A-17	(2-B)	Ambient temperature sensor
A-18	(2-B)	Front wheel speed sensor (LH)
A-19	(2-B)	Cooling fan motor
A-20	(1-B)	Horn
A-21	(2-B)	Front wheel speed sensor (RH)
A-22	(2-B)	Front fog lamp (RH)
A-23	(2-GR)	Windshield washer motor
A-24	(2-Y)	Front impact sensor (RH)
A-25	(3-B)	A/C pressure sensor
A-26	(10-GR)	Headlamp assembly (RH)

HOOD ROOM <RHD> (CONTINUED)



ACC00410AE

A-101X(5) Brake electric vacuum pump control relay 1
A-102X(5) Brake electric vacuum pump control relay 2
A-103X(5) Brake electric vacuum pump main relay
A-104 (8-B) Front wiring harness and brake electric vacuum pump relay box combination
A-105 (3-B) Brake booster vacuum sensor
A-106 (2-GR) Brake fluid level switch
A-107 (8-B) Front wiring harness and control wiring harness combination
A-108 (2-GR) Daytime running lamp (LH)
A-109 (2-GR) Heater water pump assembly
A-110 (2-GR) Cooling fan resister (for cooling fan relay (LO))
A-111 (4-GR) A/C compressor
A-112 (2-GR) Daytime running lamp (RH)
A-113 (8-GR) EV water PTC heater
A-114X (4) Heater water pump relay
A-115X (4) Traction battery cooling fan relay
A-116X (4) Daytime running lamp relay
A-117 (2-B) Acoustic vehicle alerting speaker

NOTE: Connector numbers enclosed by a box mean connectors of which have been changed.

NOTES

GROUP 90

CIRCUIT DIAGRAMS

CONTENTS

TRACTION BATTERY COOLING SYSTEM

TRACTION BATTERY COOLING SYSTEM <LHD>

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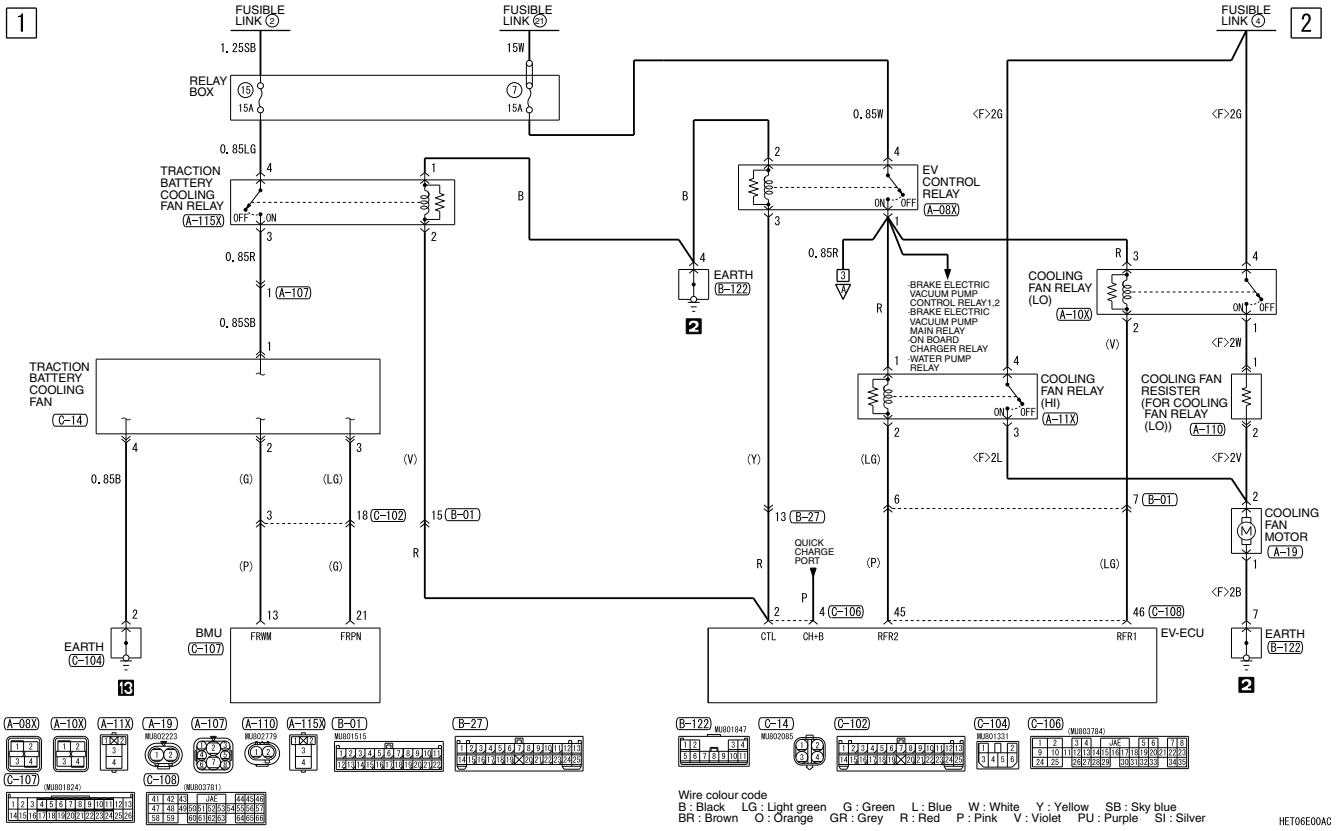
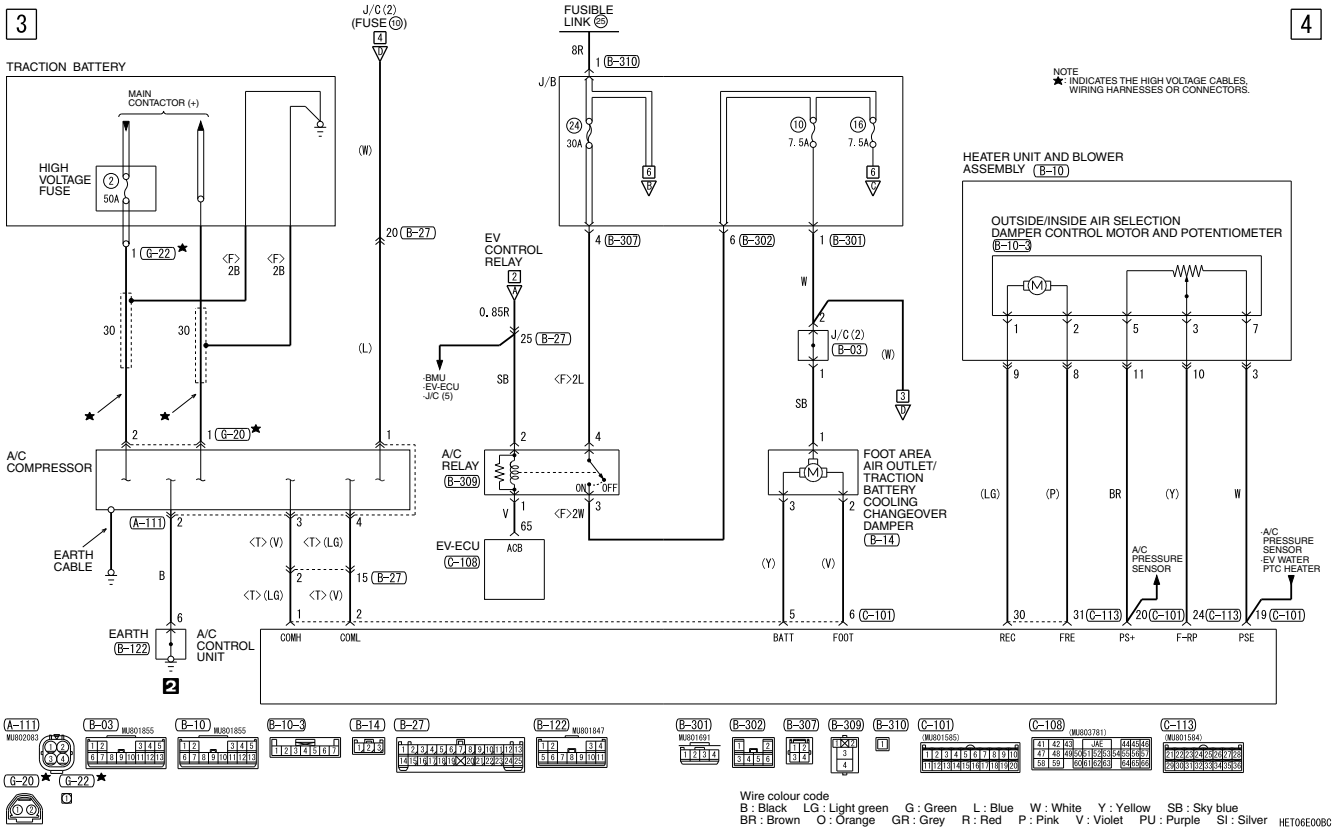
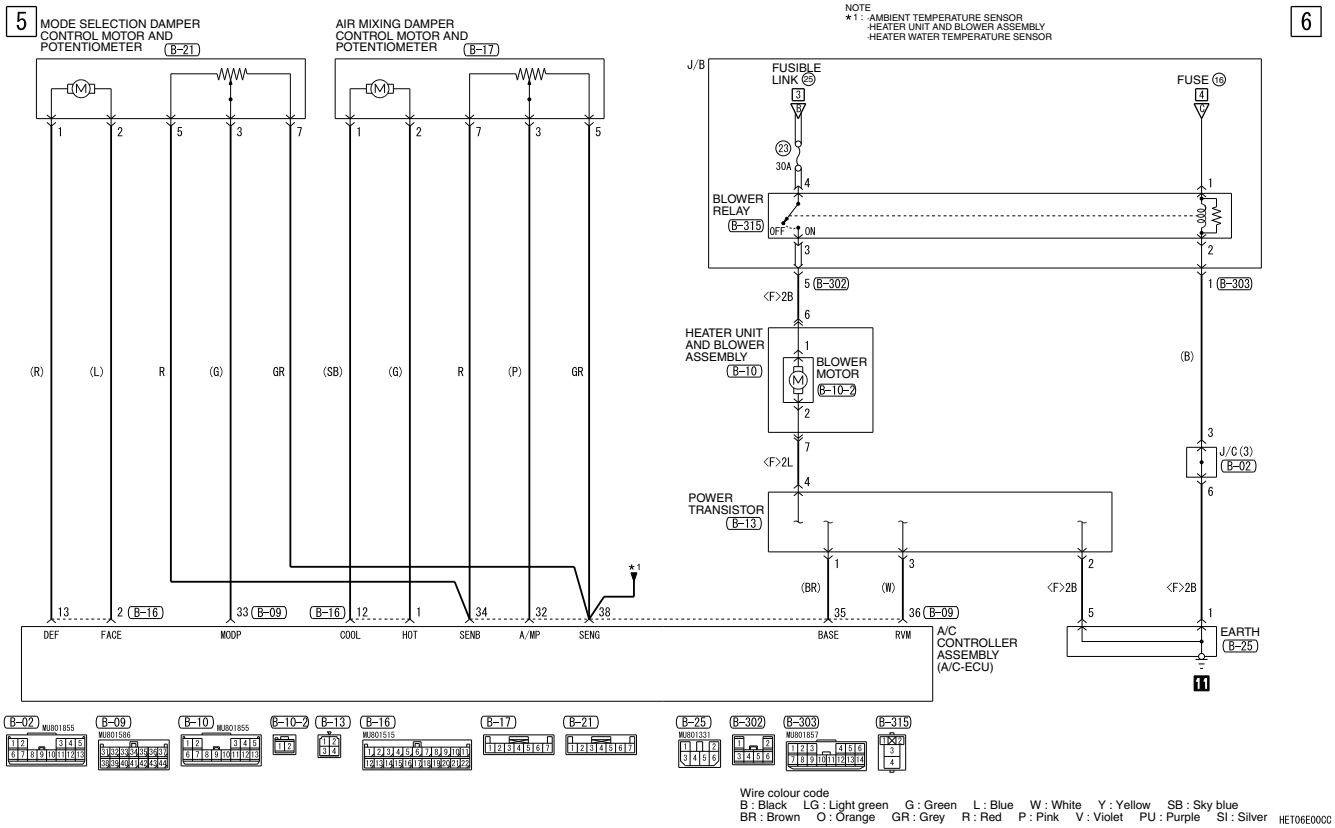


TRACTION BATTERY COOLING SYSTEM <LHD> (CONTINUED)



TRACTION BATTERY COOLING SYSTEM <LHD> (CONTINUED)



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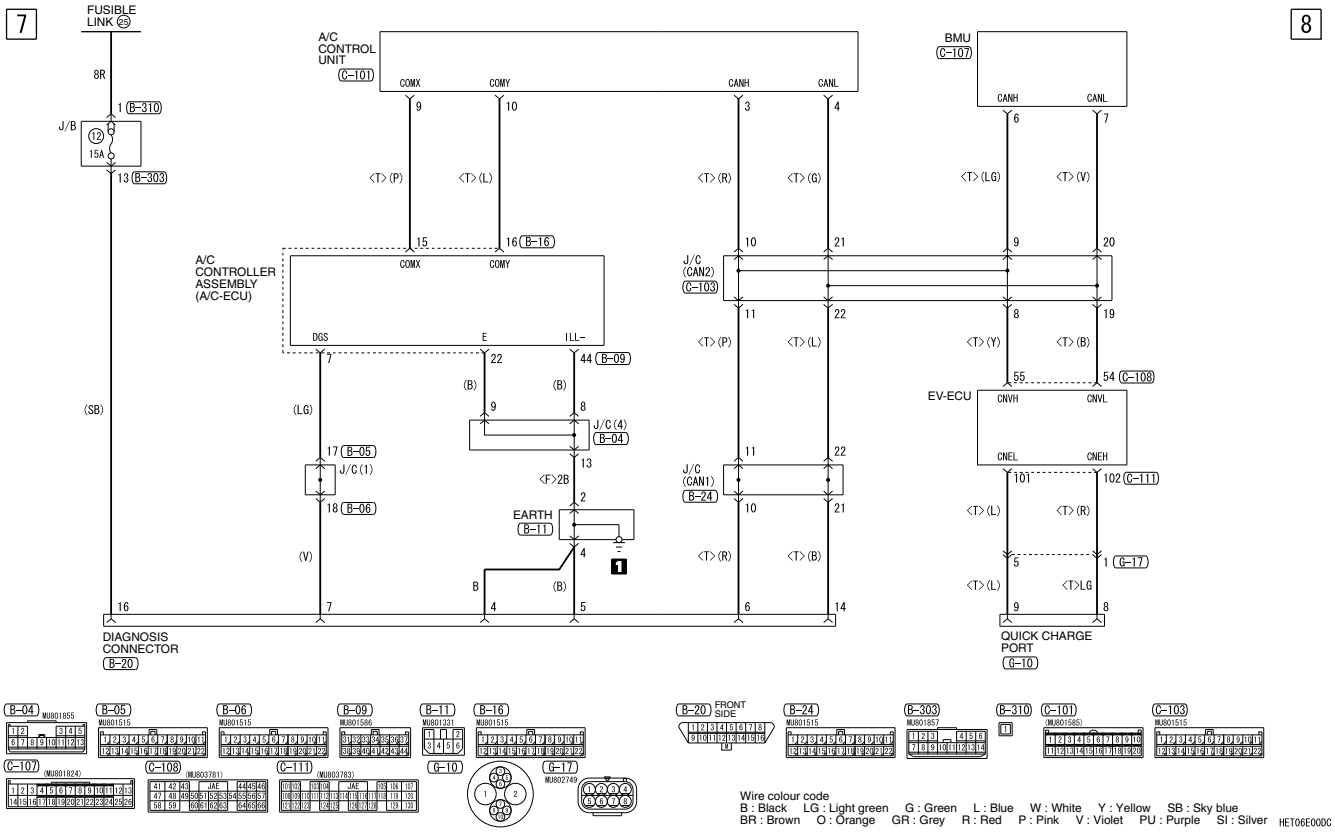

TRACTION BATTERY COOLING SYSTEM <RHD>

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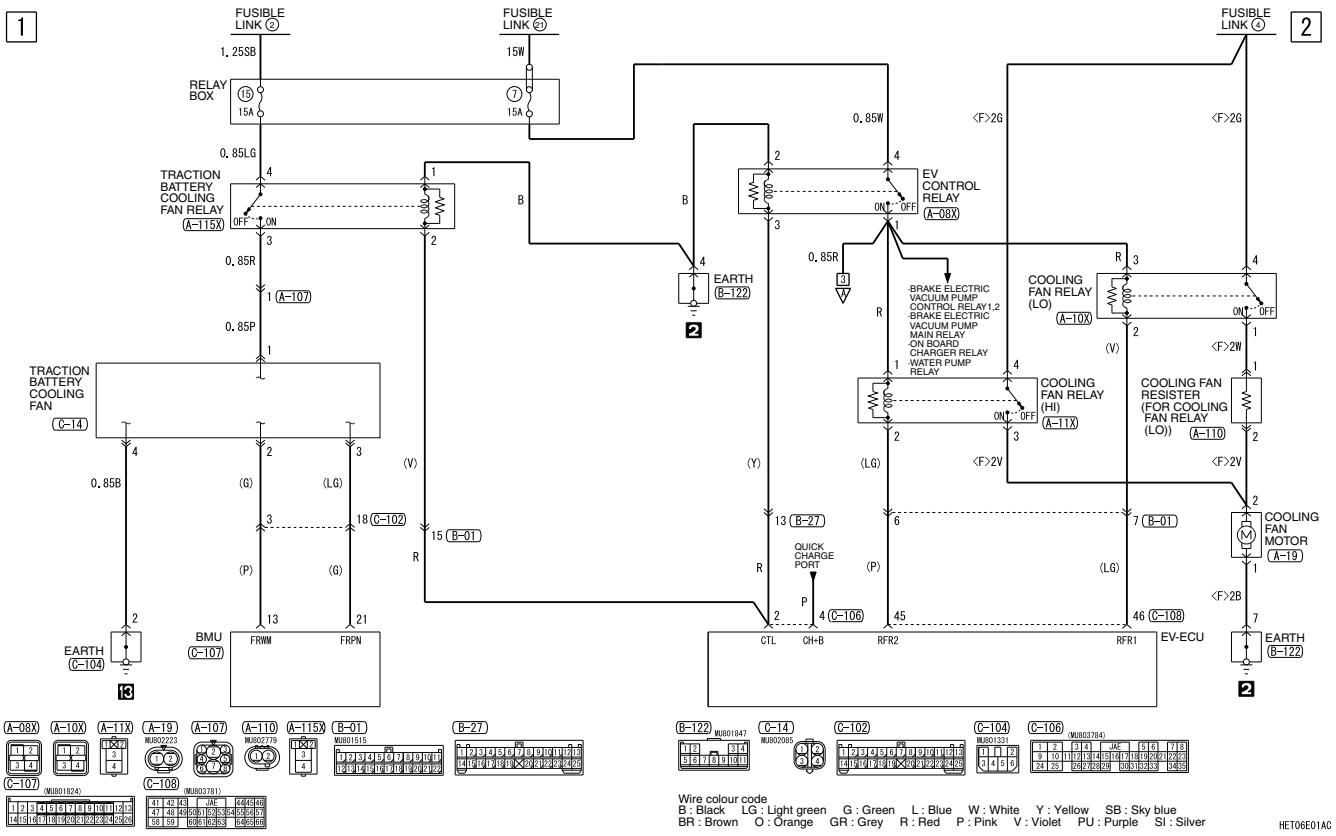

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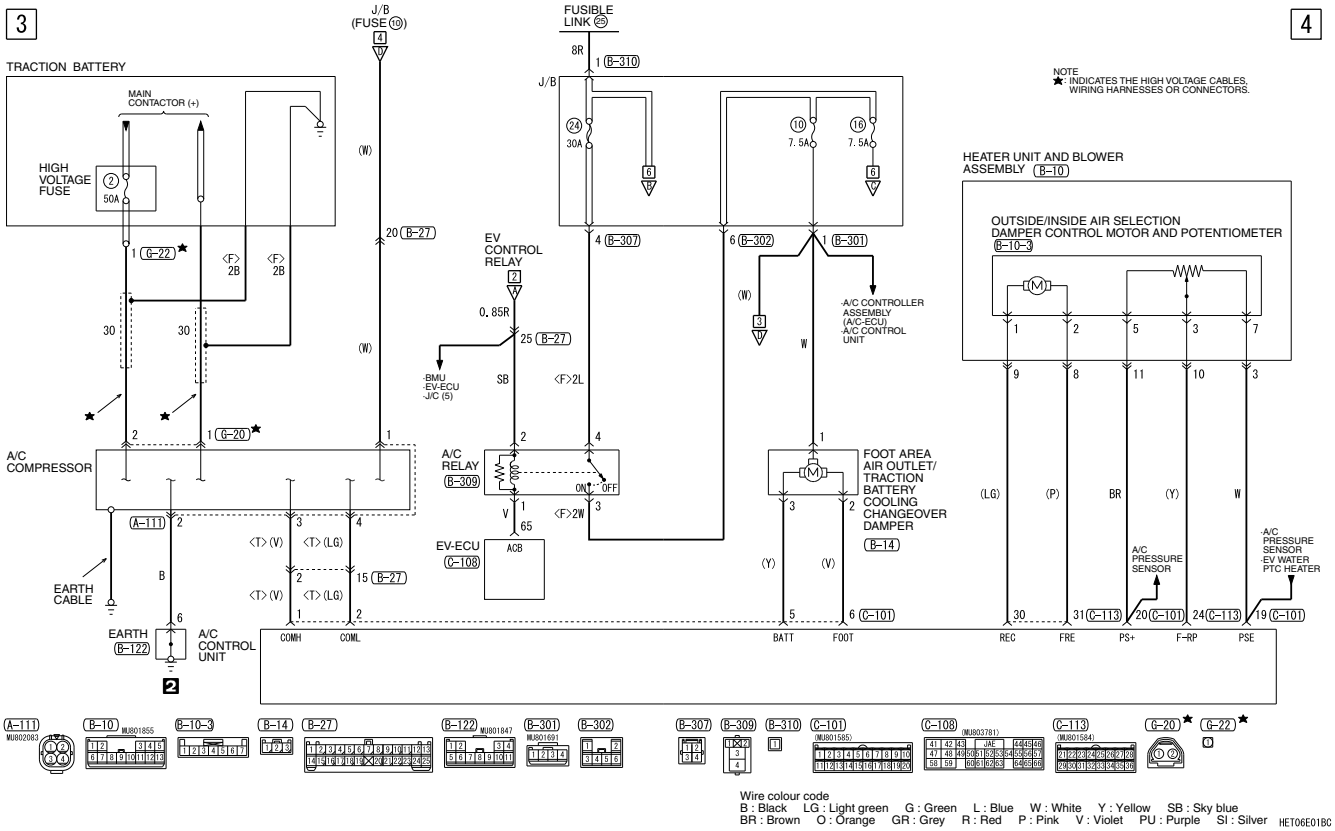

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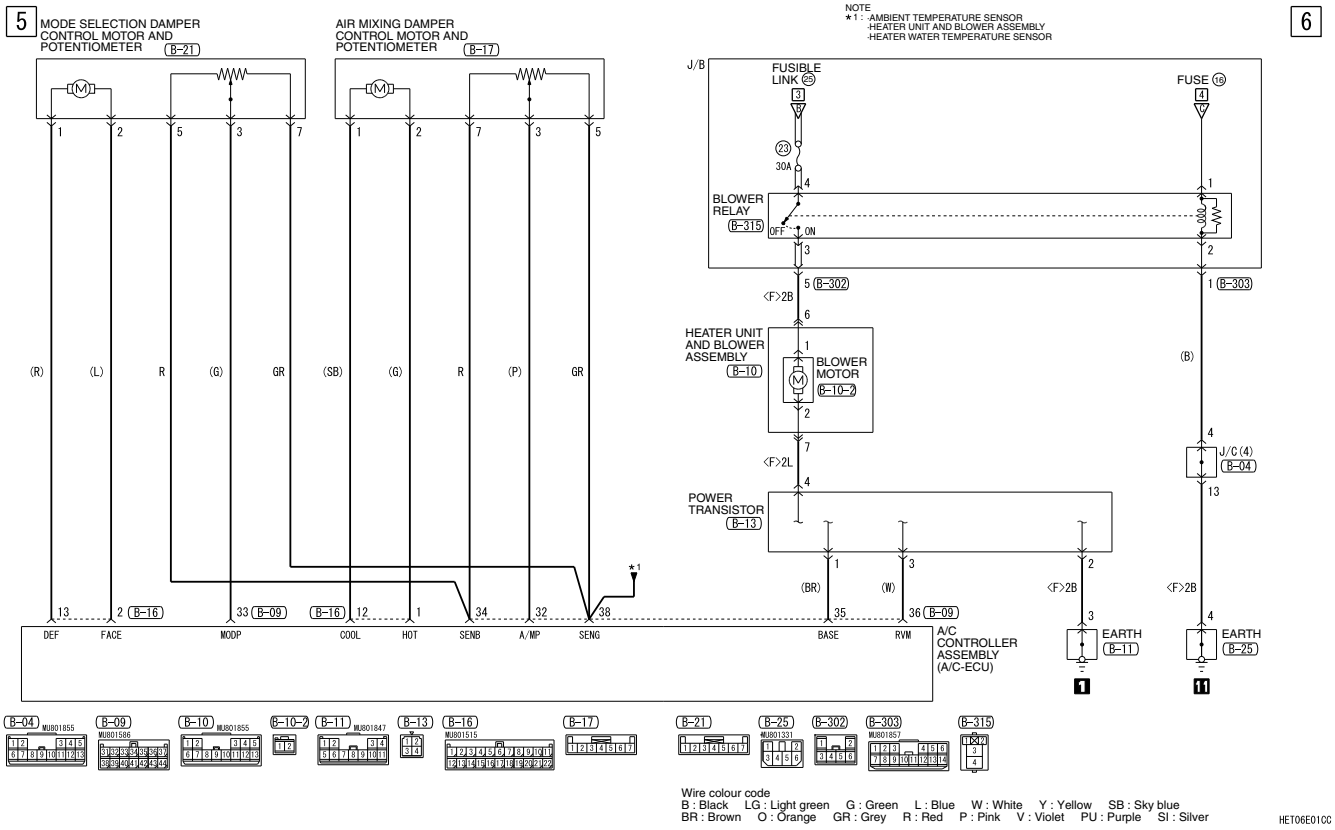

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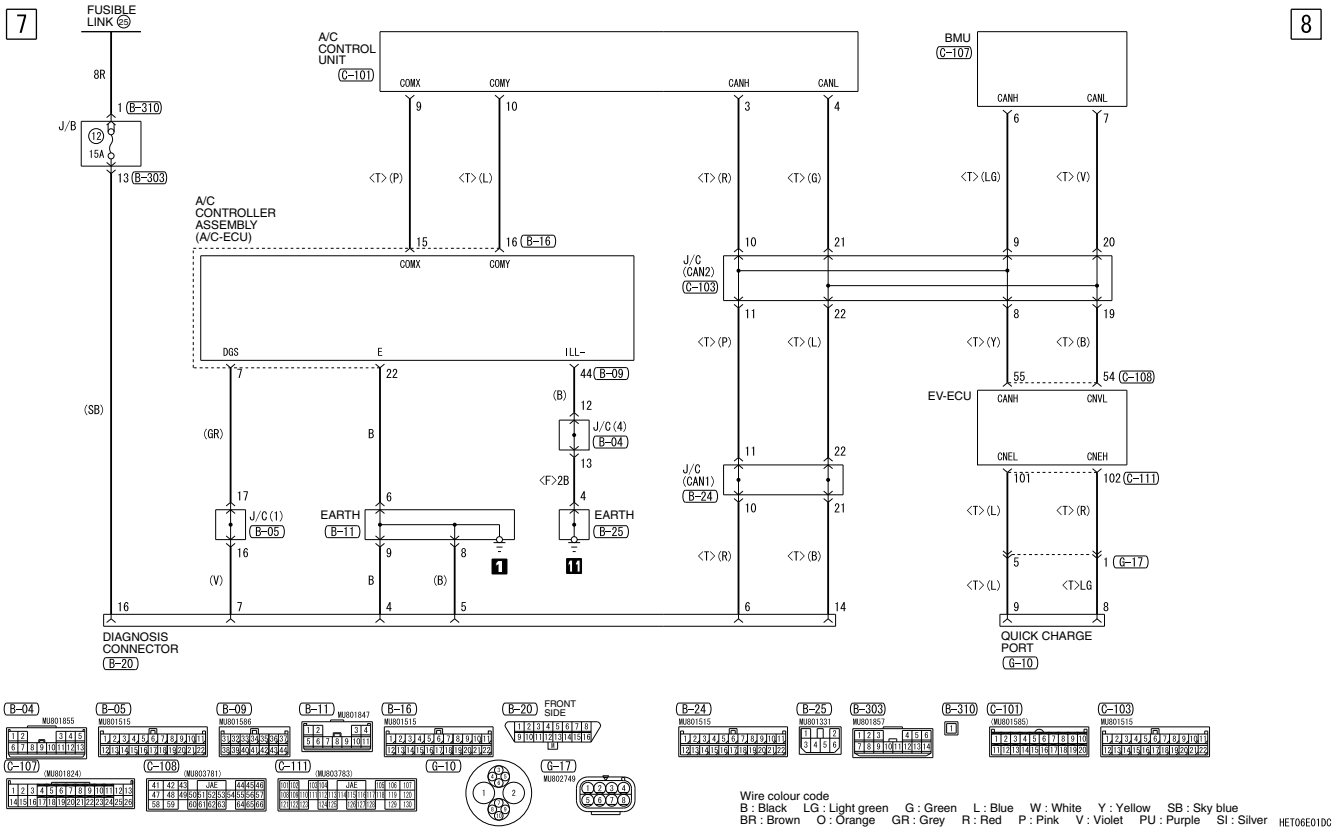

Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver HET06E01DC

HEADLAMP

HEADLAMP <RHD>

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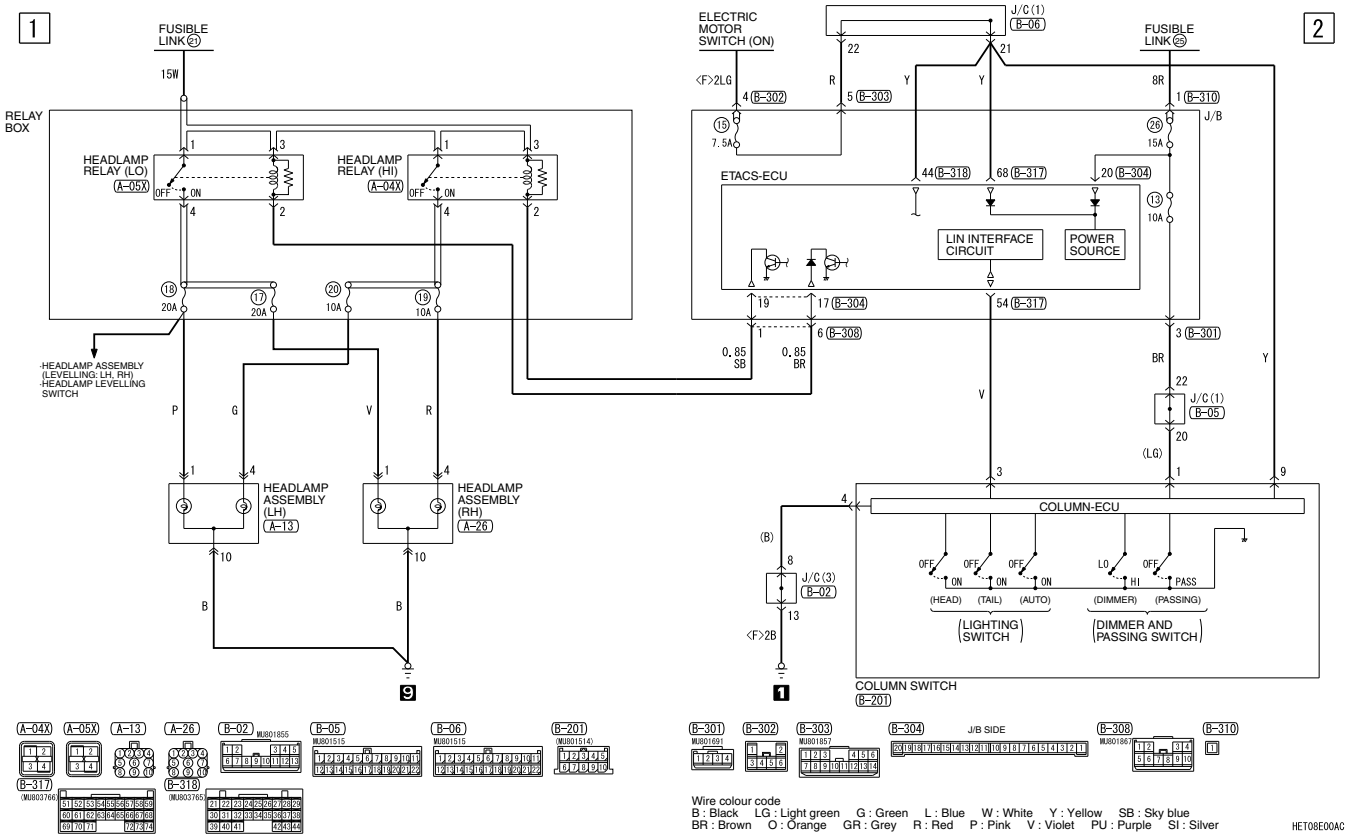
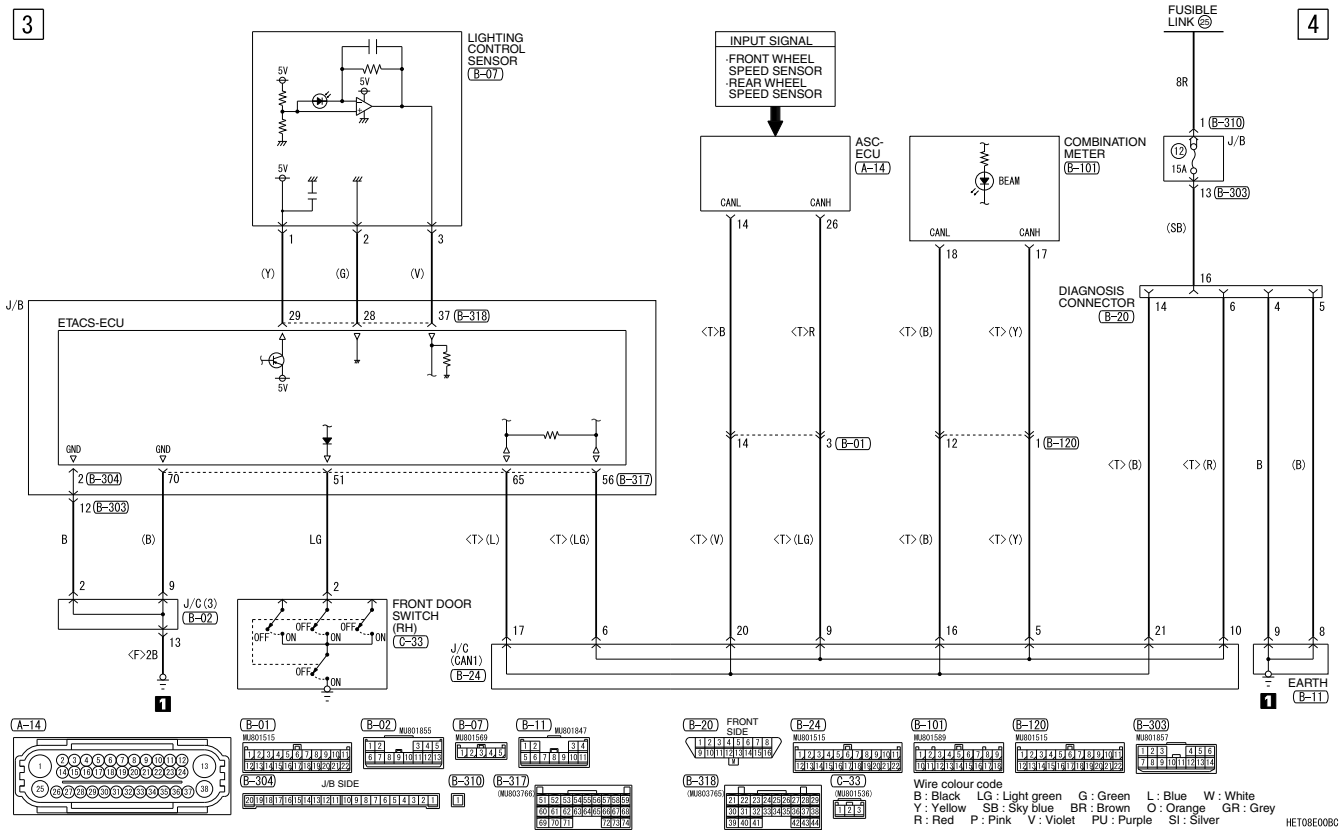


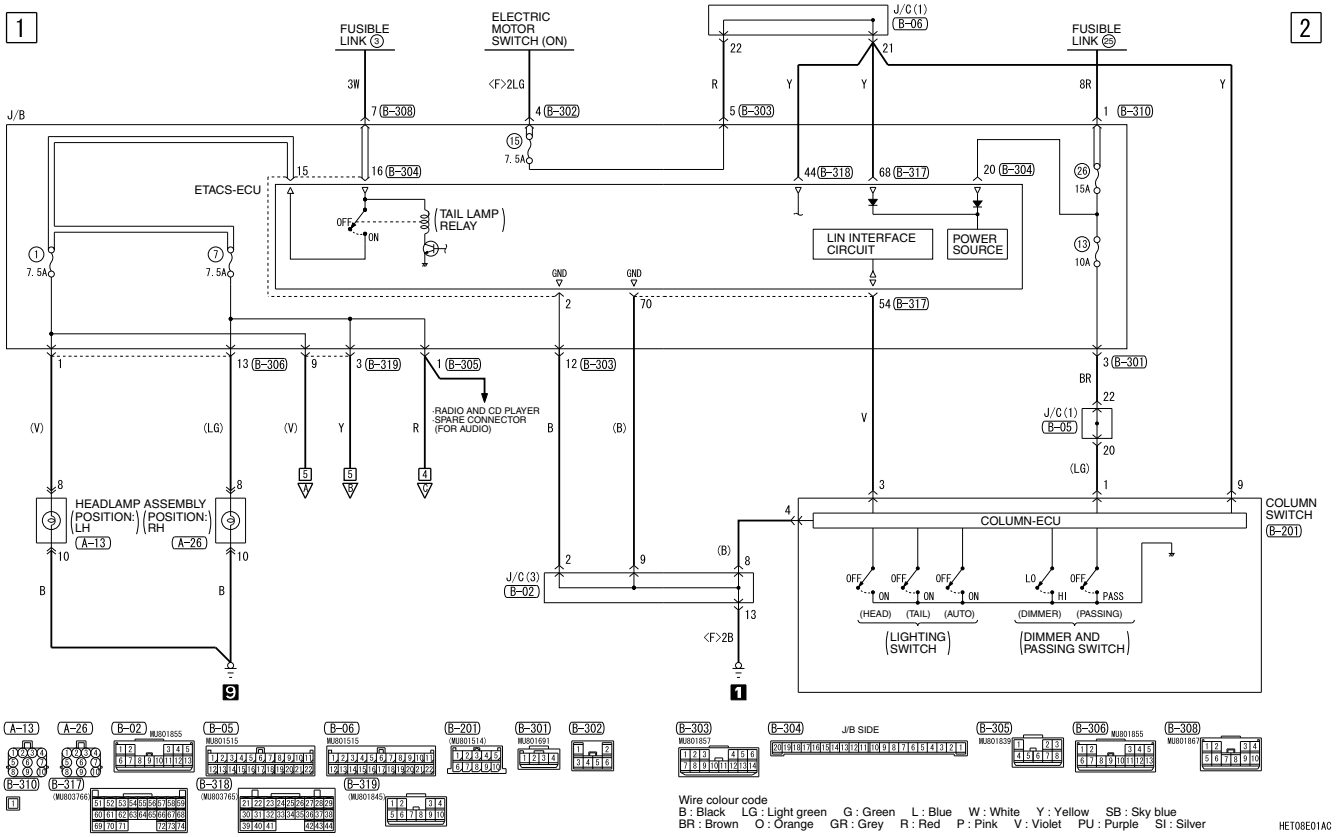
HEADLAMP <RHD> (CONTINUED)



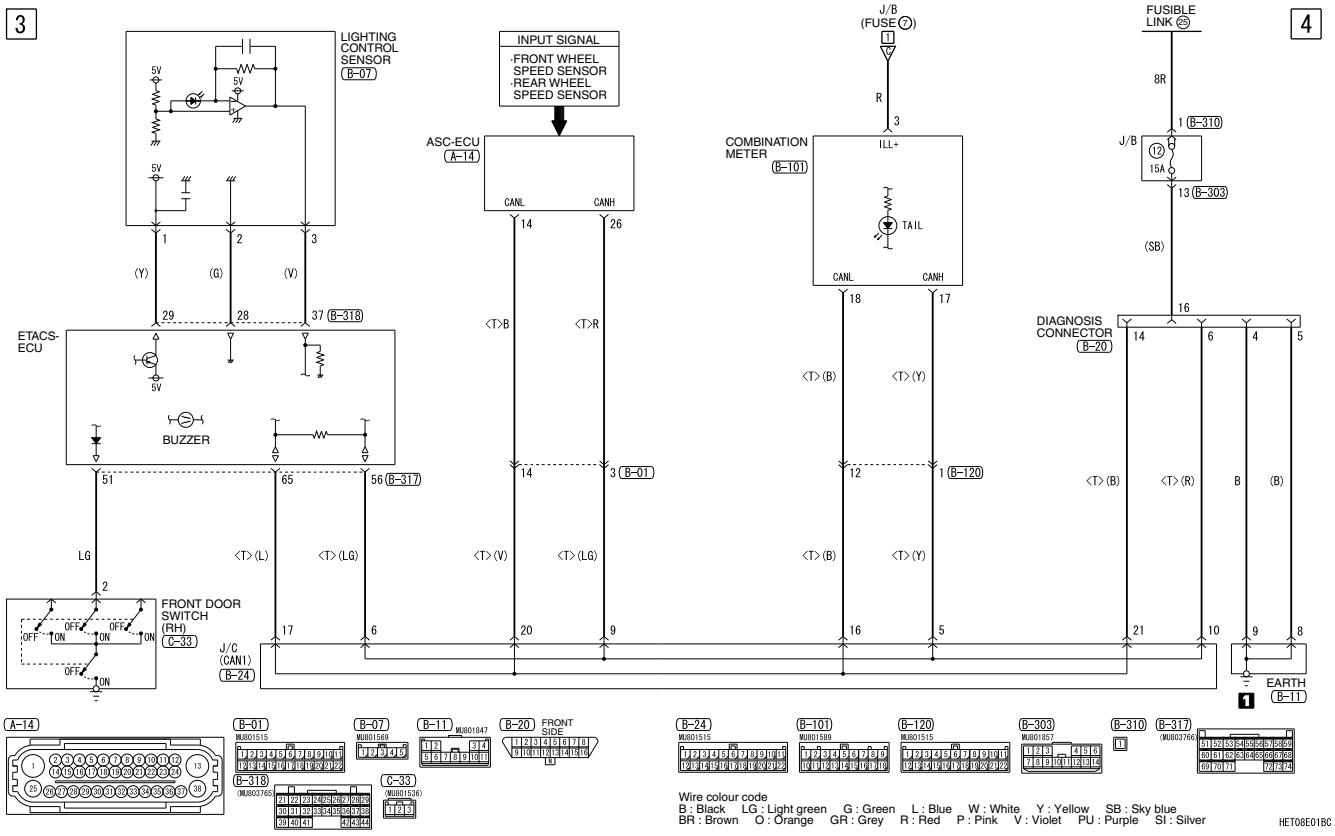
TAIL LAMP, POSITION LAMP, LICENCE PLATE LAMP AND LIGHTING MONITOR BUZZER

TAIL LAMP, POSITION LAMP, LICENCE PLATE LAMP AND LAMP REMINDER BUZZER <RHD>

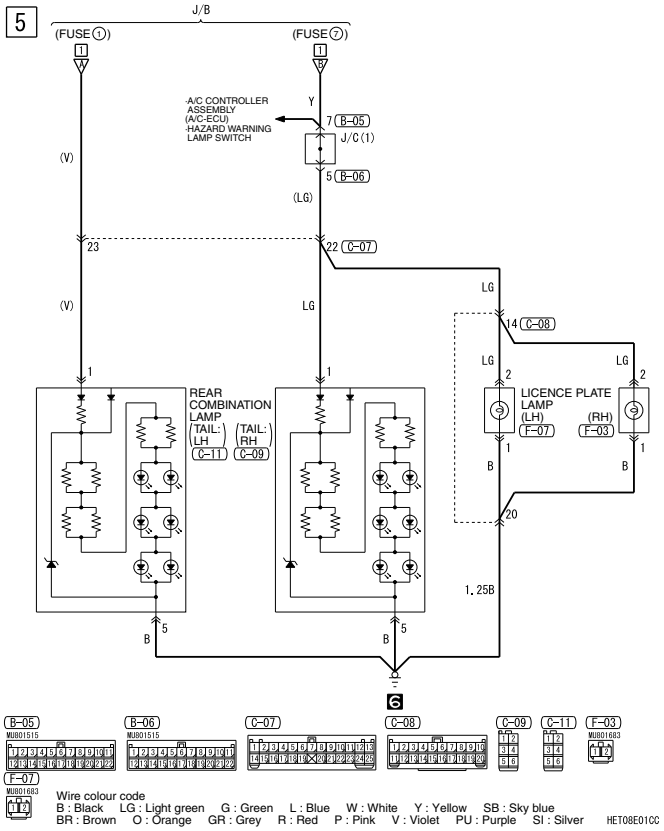
M1901001704303



TAIL LAMP, POSITION LAMP, LICENCE PLATE LAMP AND LAMP REMINDER BUZZER <RHD> (CONTINUED)



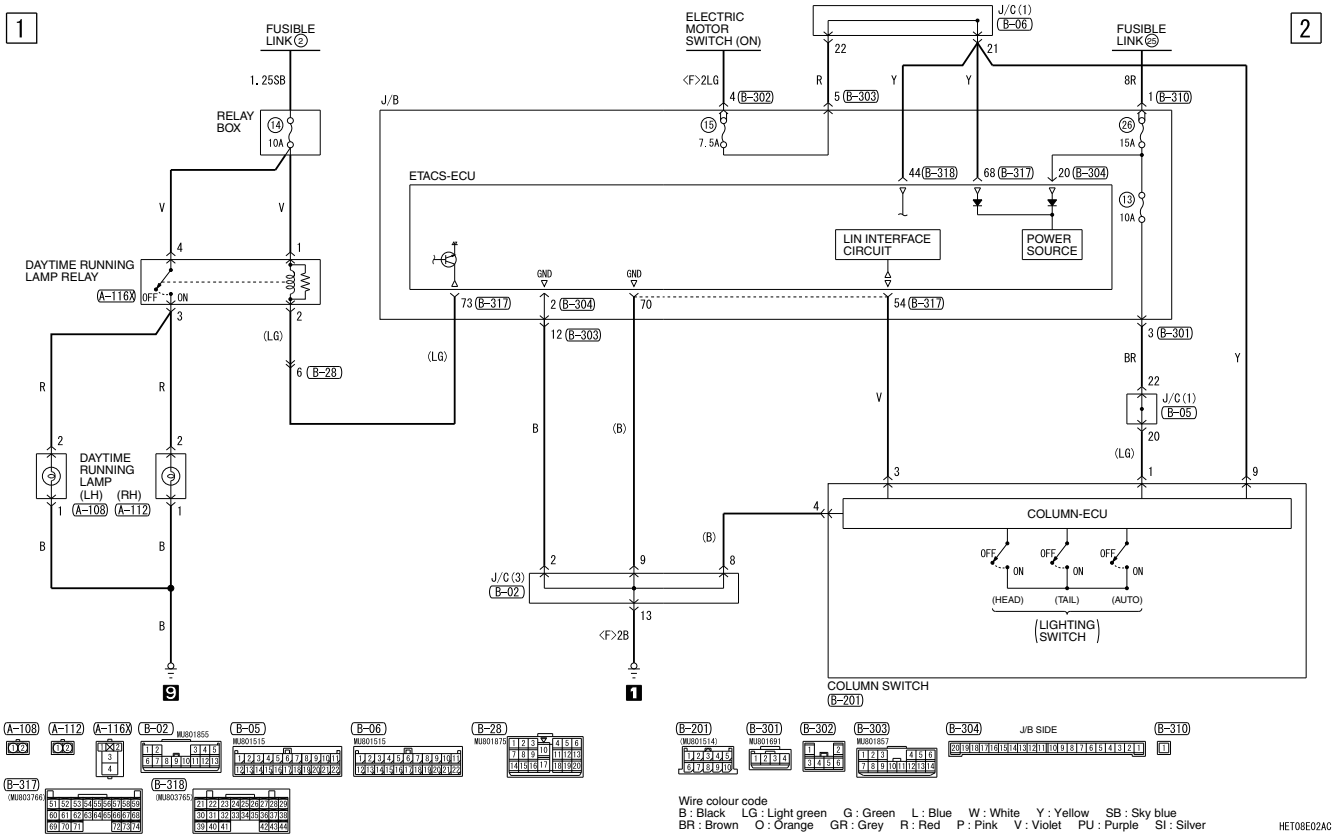
TAIL LAMP, POSITION LAMP, LICENCE PLATE LAMP AND LAMP REMINDER BUZZER <RHD> (CONTINUED)



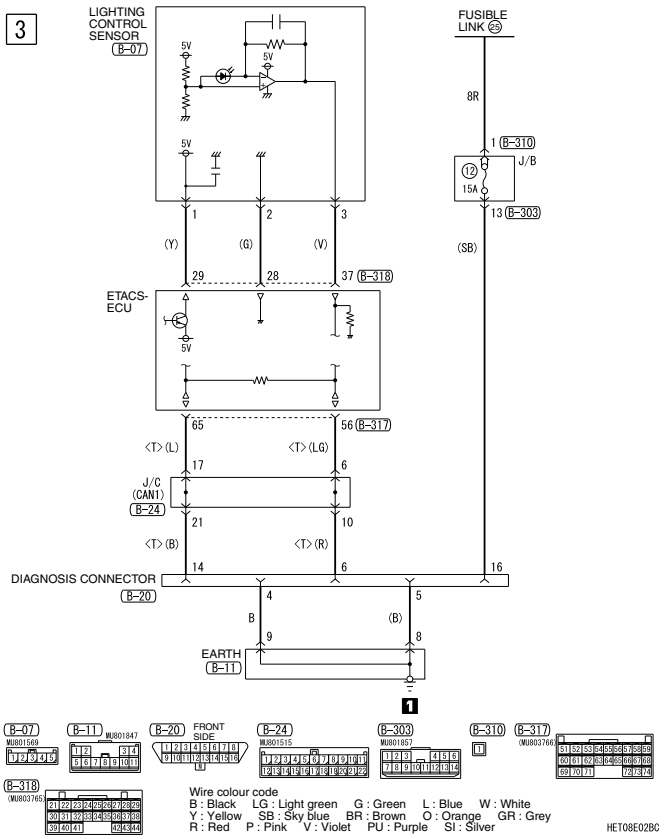
DAYTIME RUNNING LAMP (DRL)

DAYTIME RUNNING LAMP (DRL) <RHD>

M1901030701025



DAYTIME RUNNING LAMP (DRL) <RHD> (CONTINUED)



FRONT FOG LAMP

FRONT FOG LAMP <RHD>

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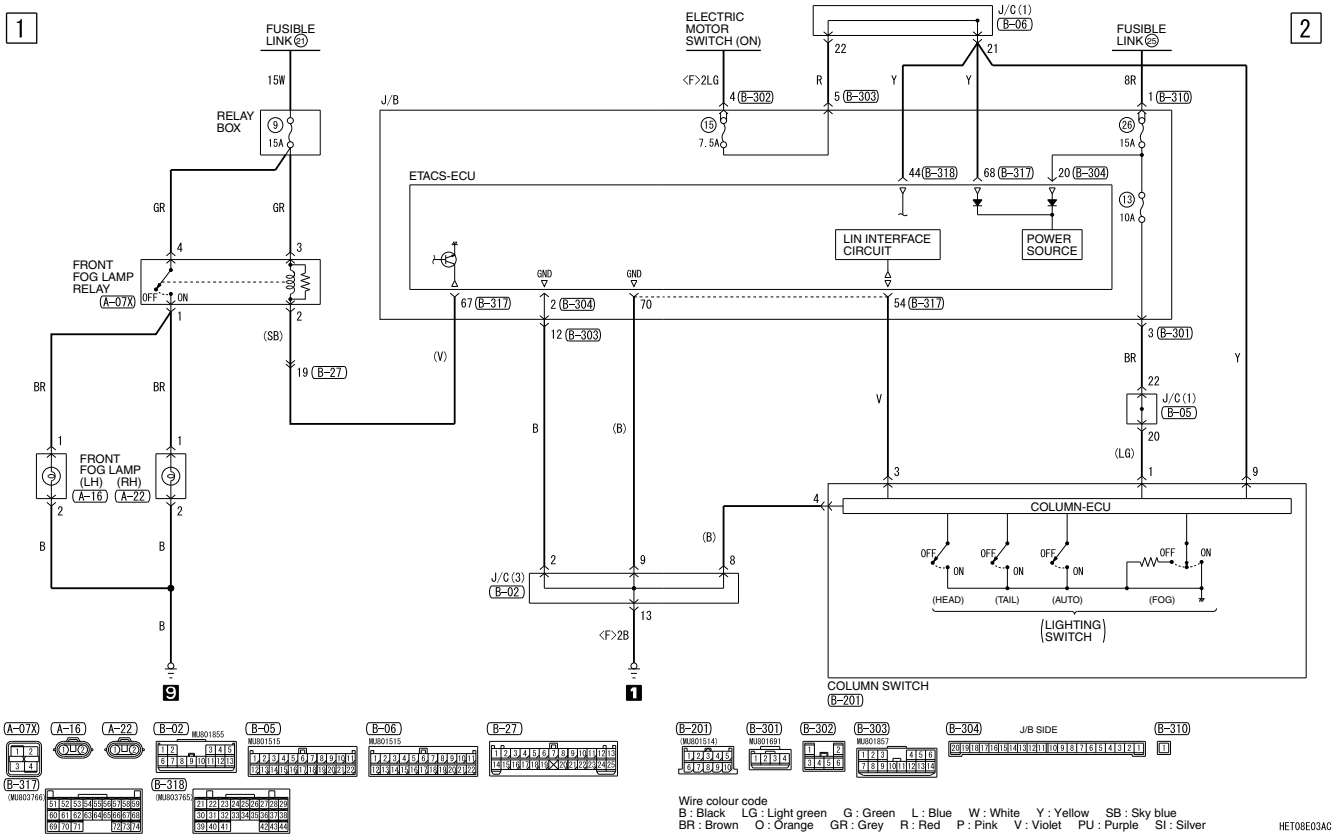
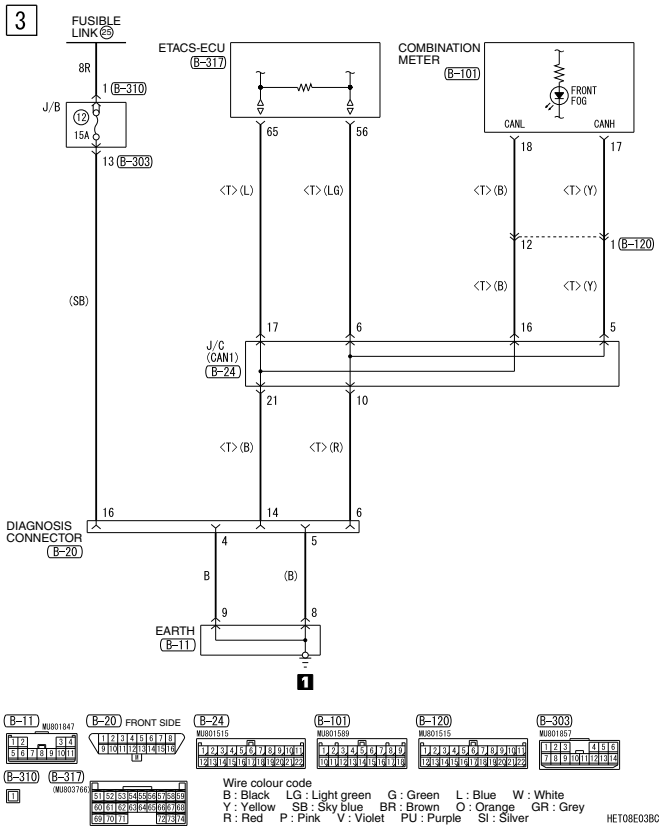


Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver

HET08E03AC

FRONT FOG LAMP <RHD> (CONTINUED)



REAR FOG LAMP

REAR FOG LAMP <RHD>

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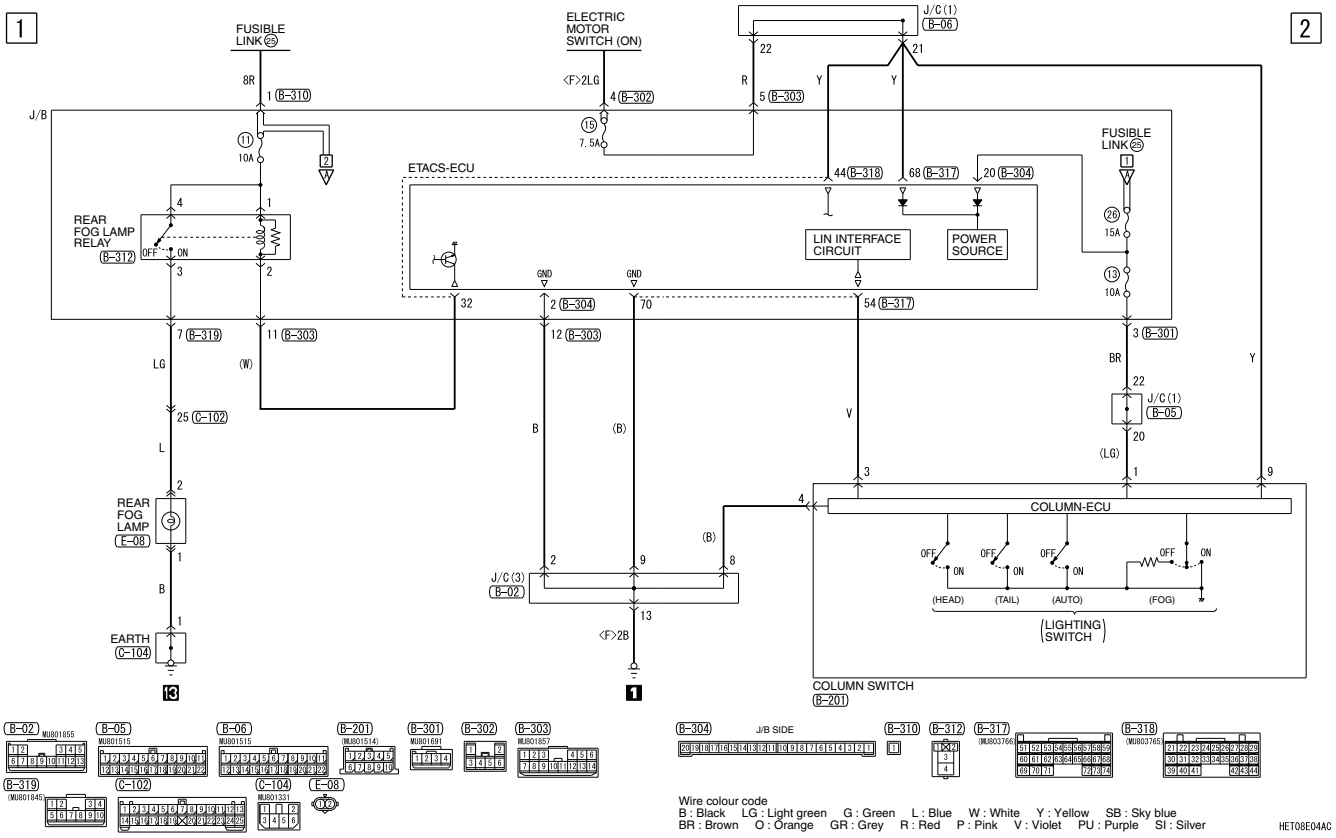
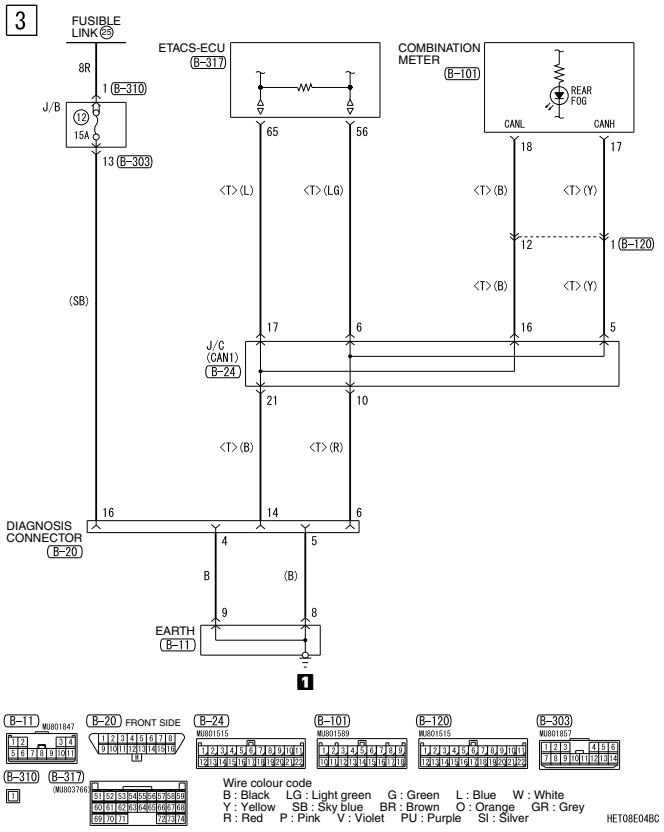


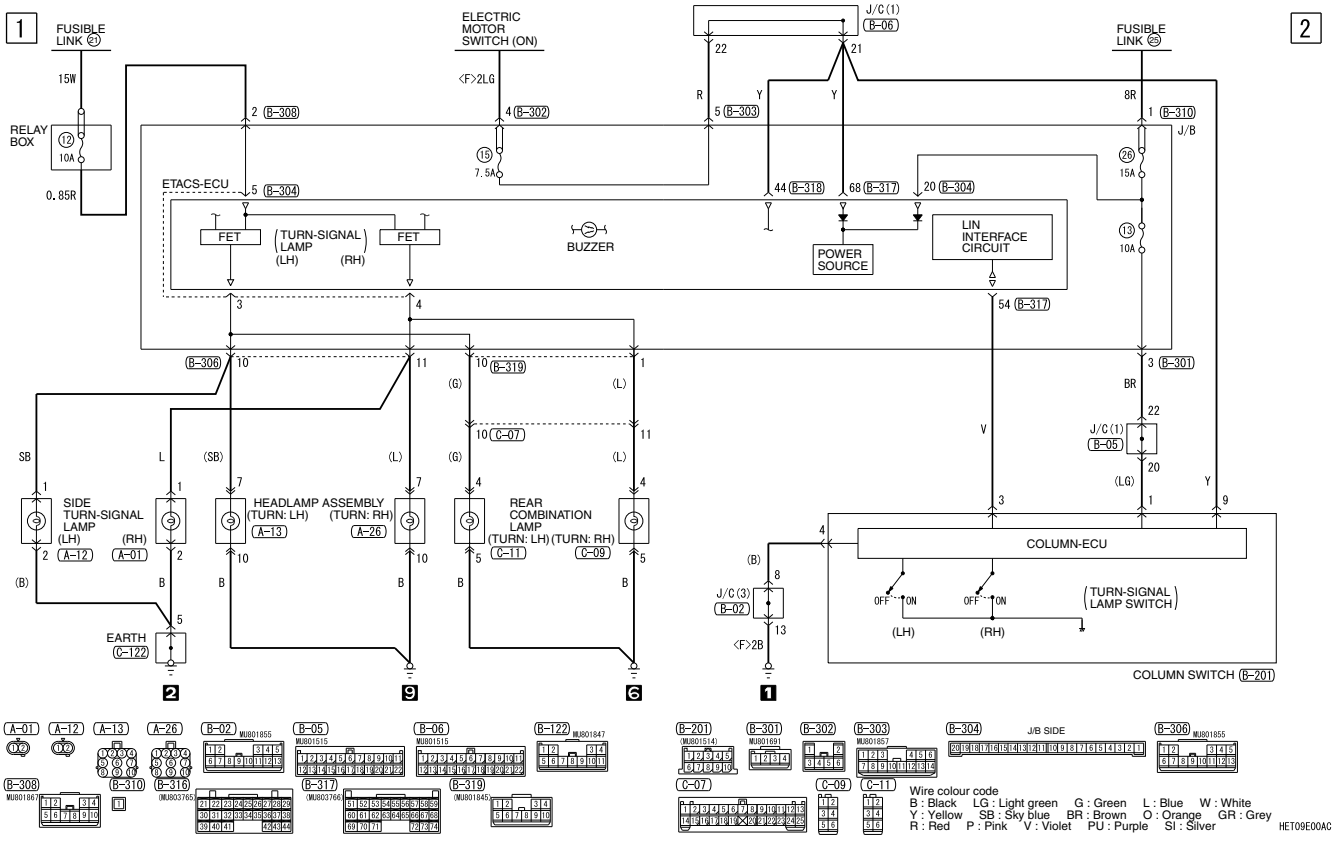
REAR FOG LAMP <RHD> (CONTINUED)



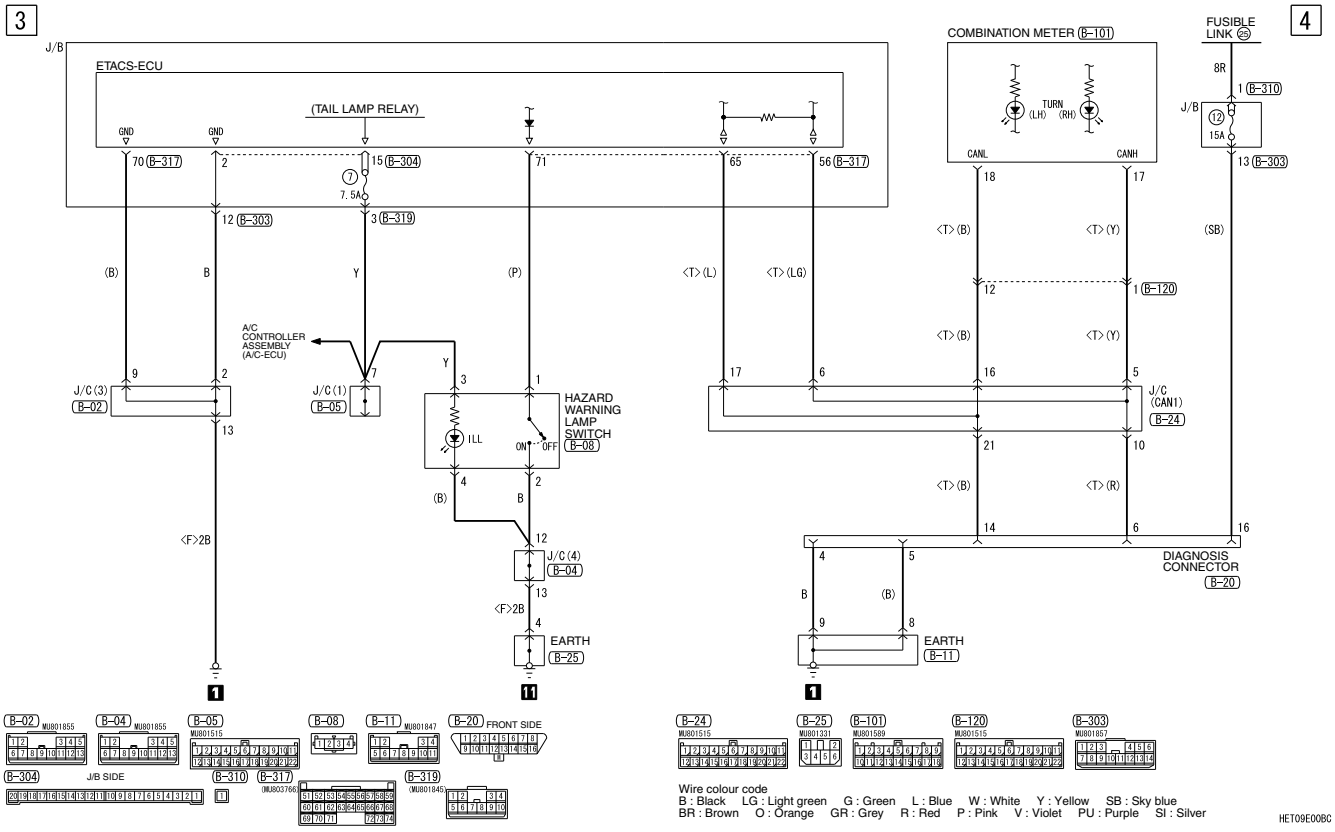
TURN-SIGNAL LAMP AND HAZARD WARNING LAMP

TURN-SIGNAL LAMP AND HAZARD WARNING LAMP <RHD>

M1901002905057



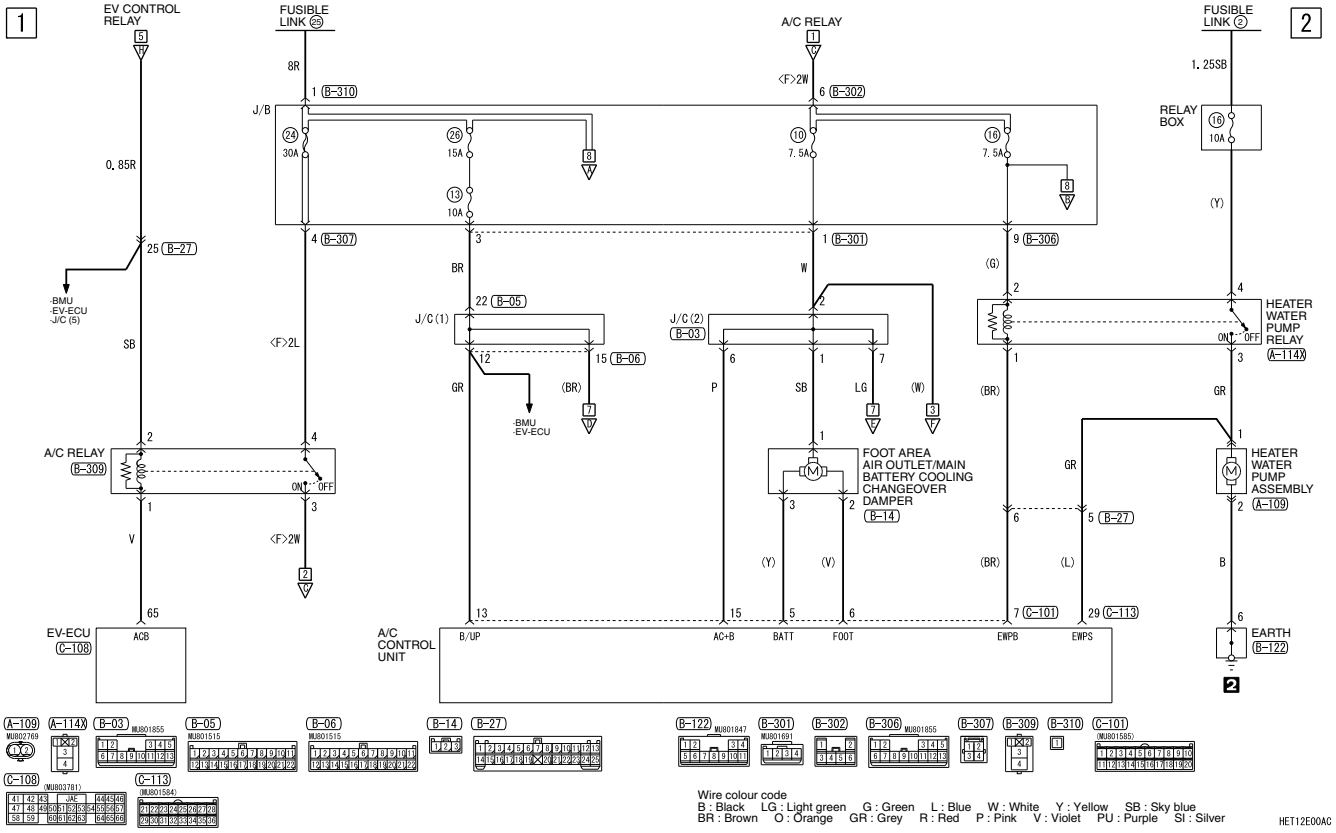
TURN-SIGNAL LAMP AND HAZARD WARNING LAMP <RHD> (CONTINUED)



AIR CONDITIONER

AIR CONDITIONER <LHD>

M1901032101342



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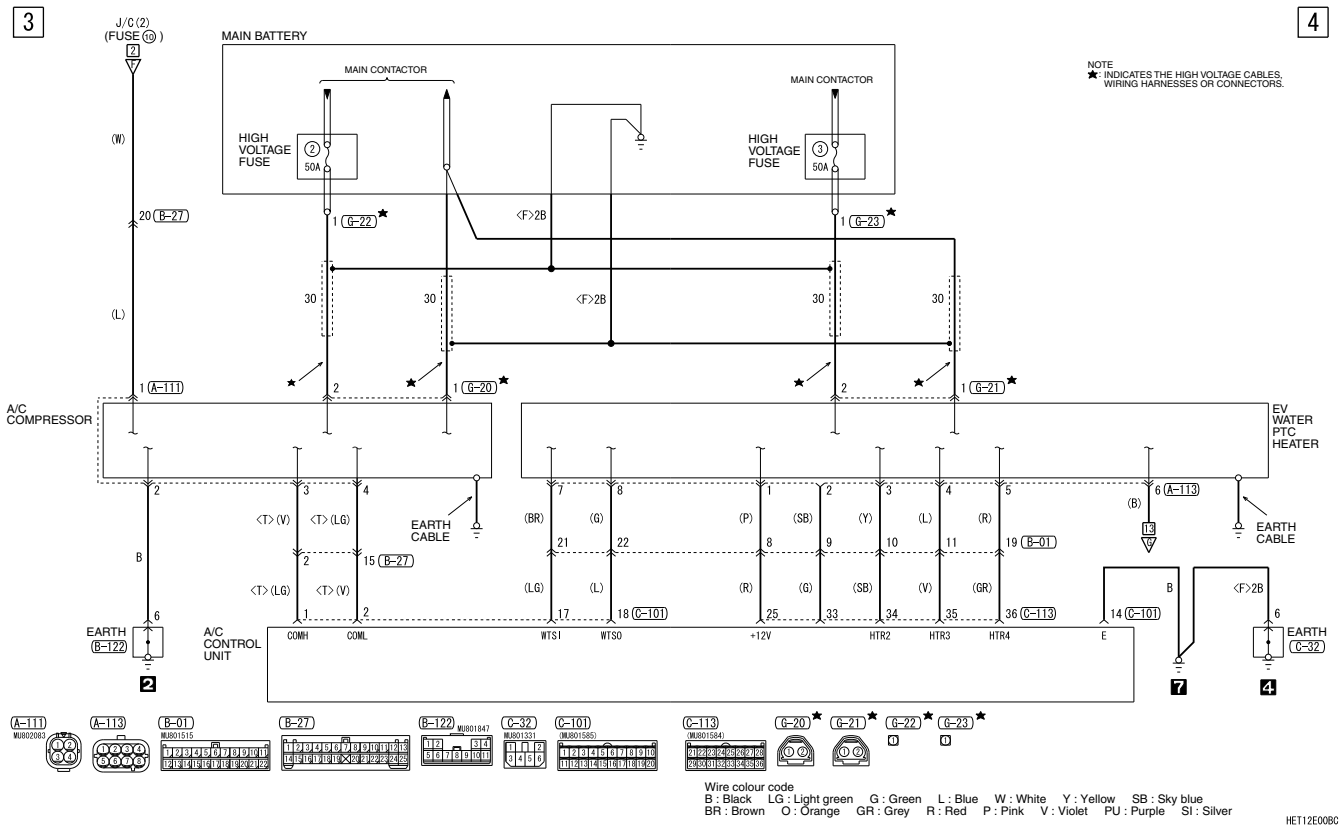

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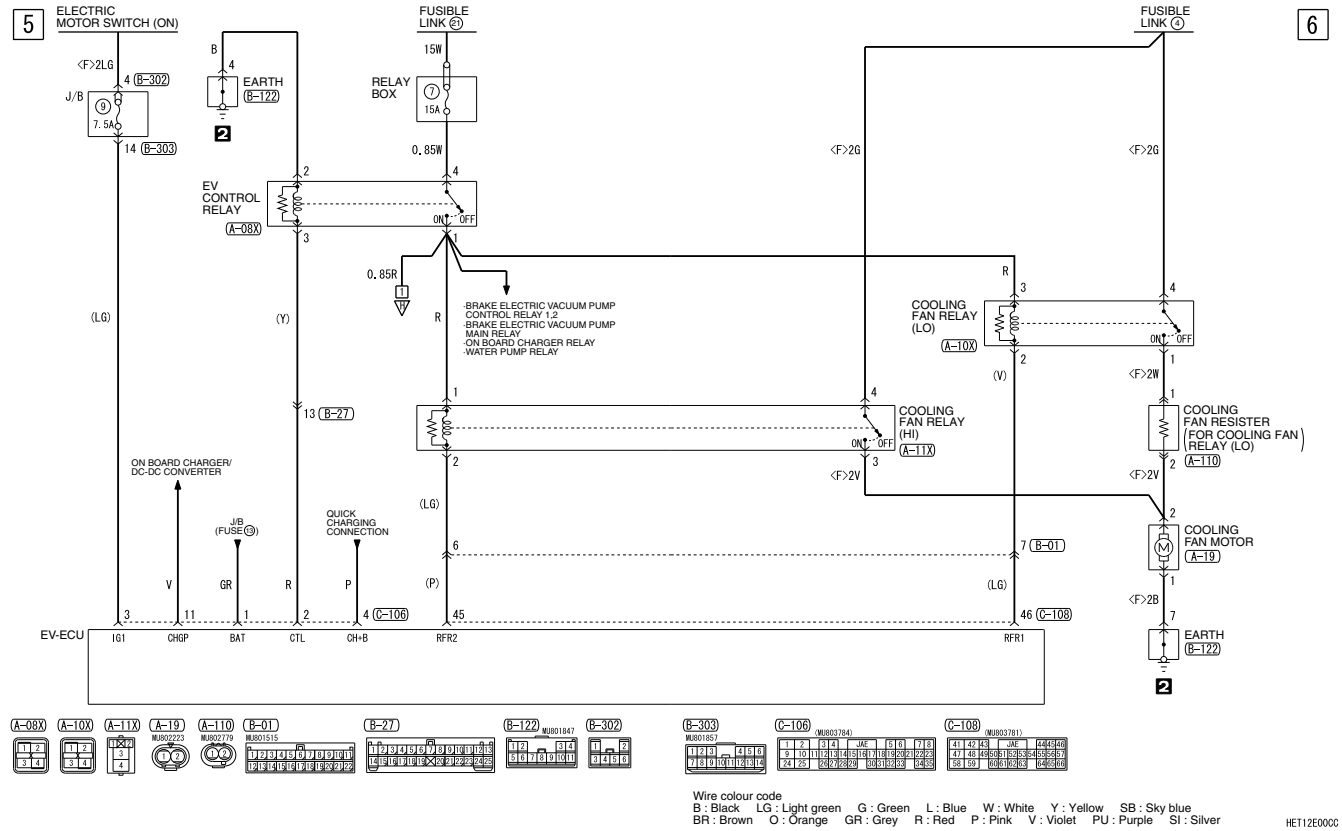

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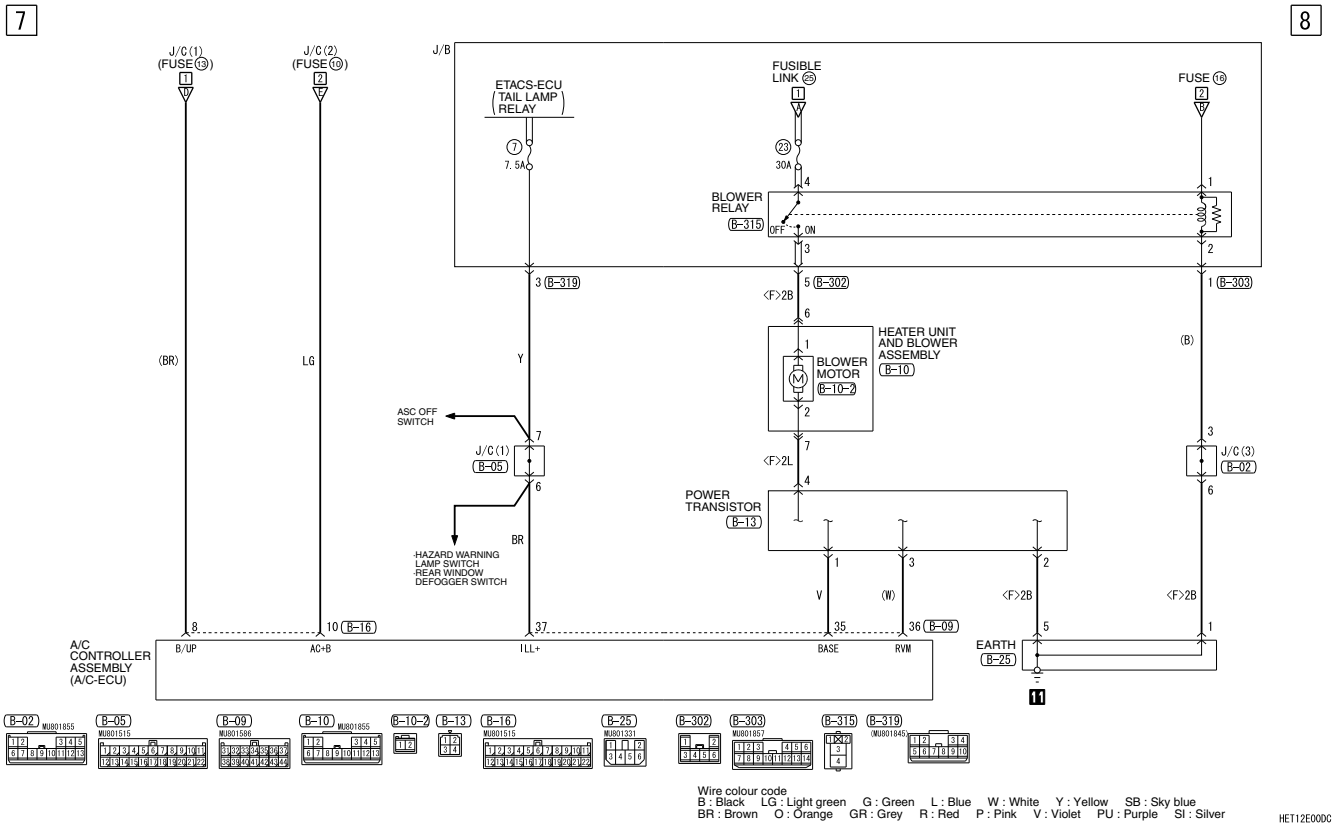

Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver

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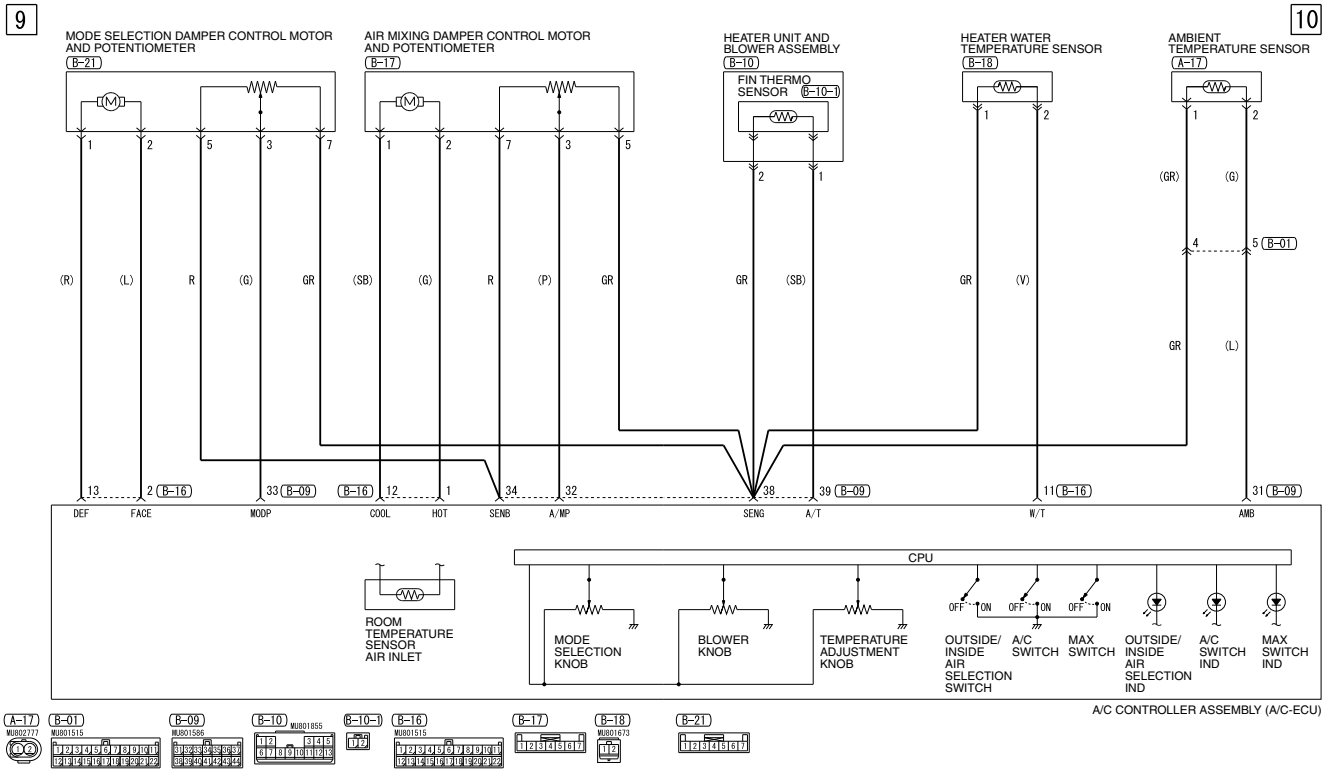
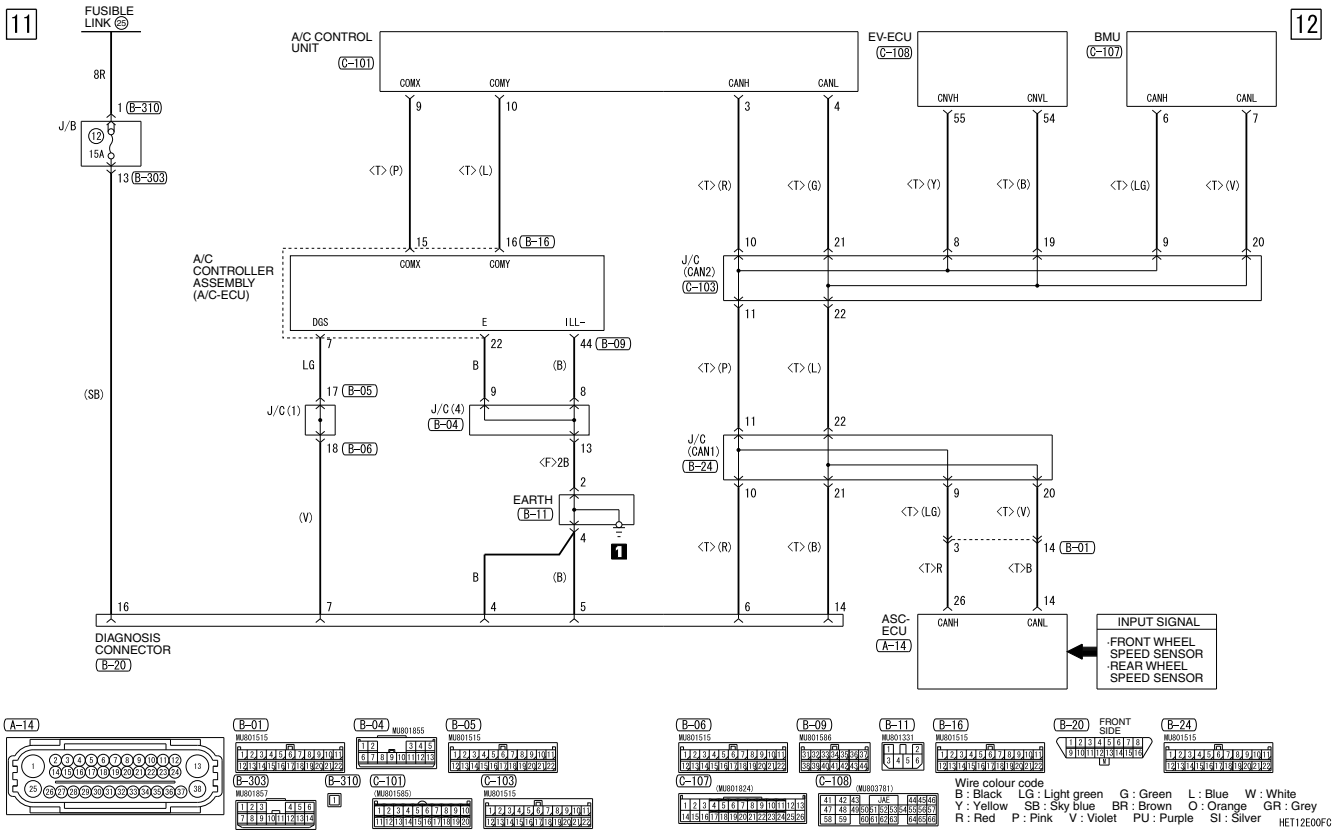
AIR CONDITIONER <LHD> (CONTINUED)



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver

HET12E00EC

AIR CONDITIONER <LHD> (CONTINUED)



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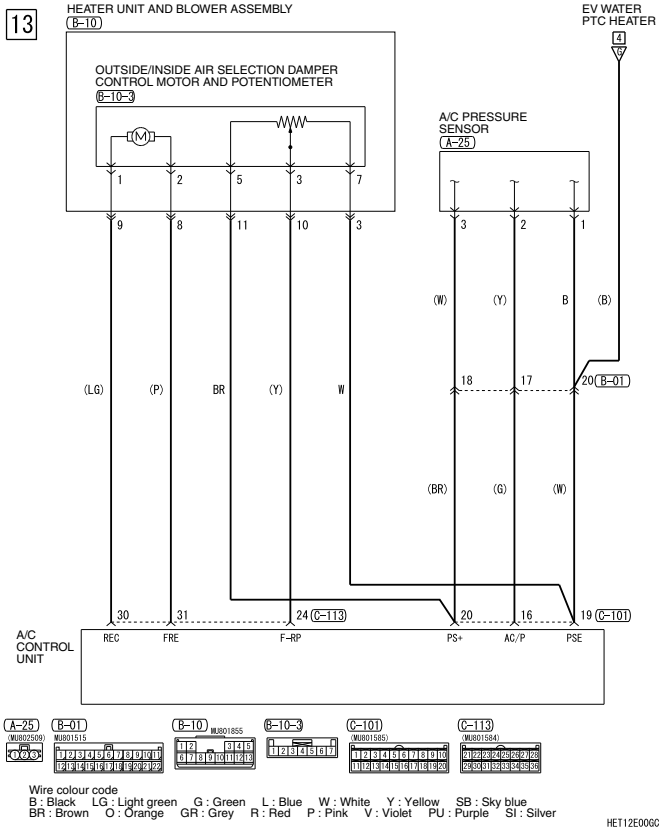

AIR CONDITIONER <RHD>

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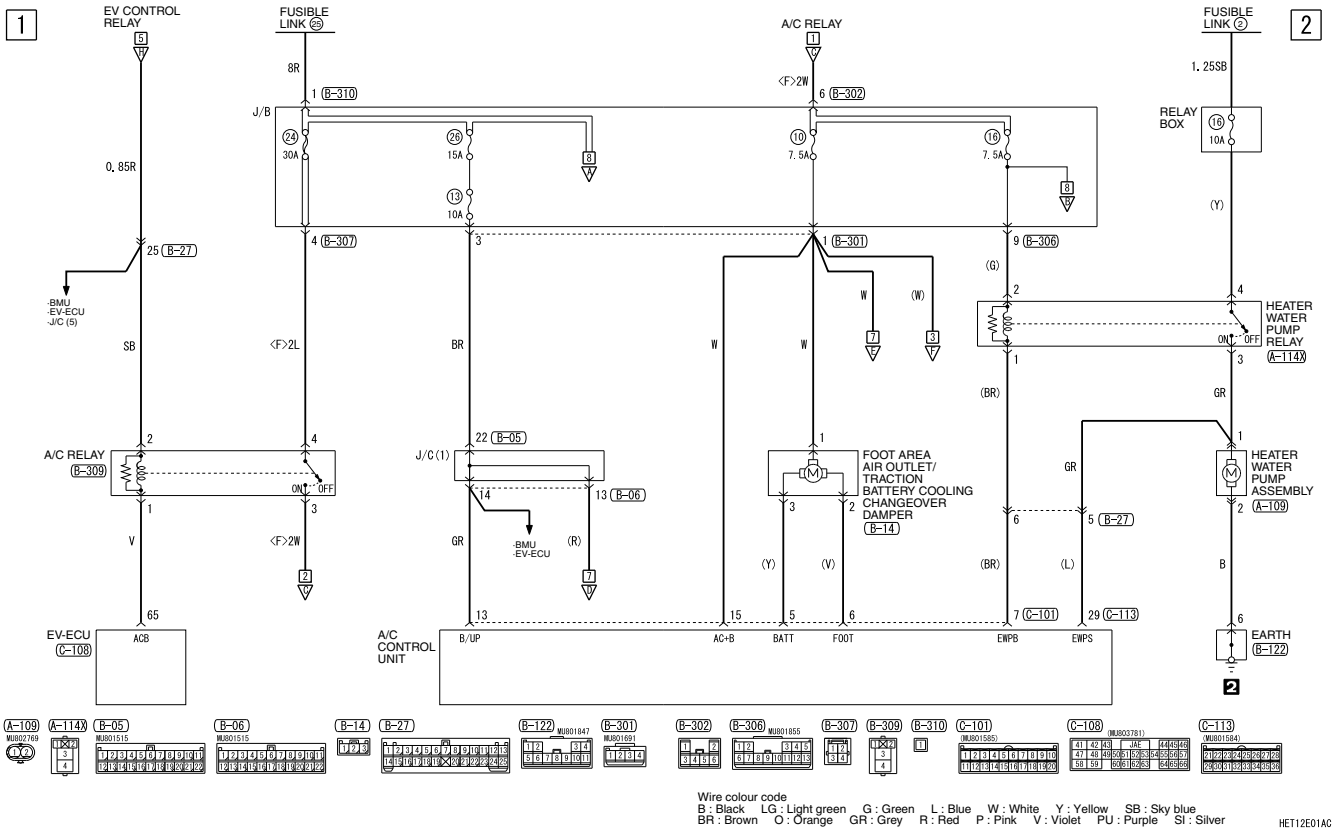

Wire colour code
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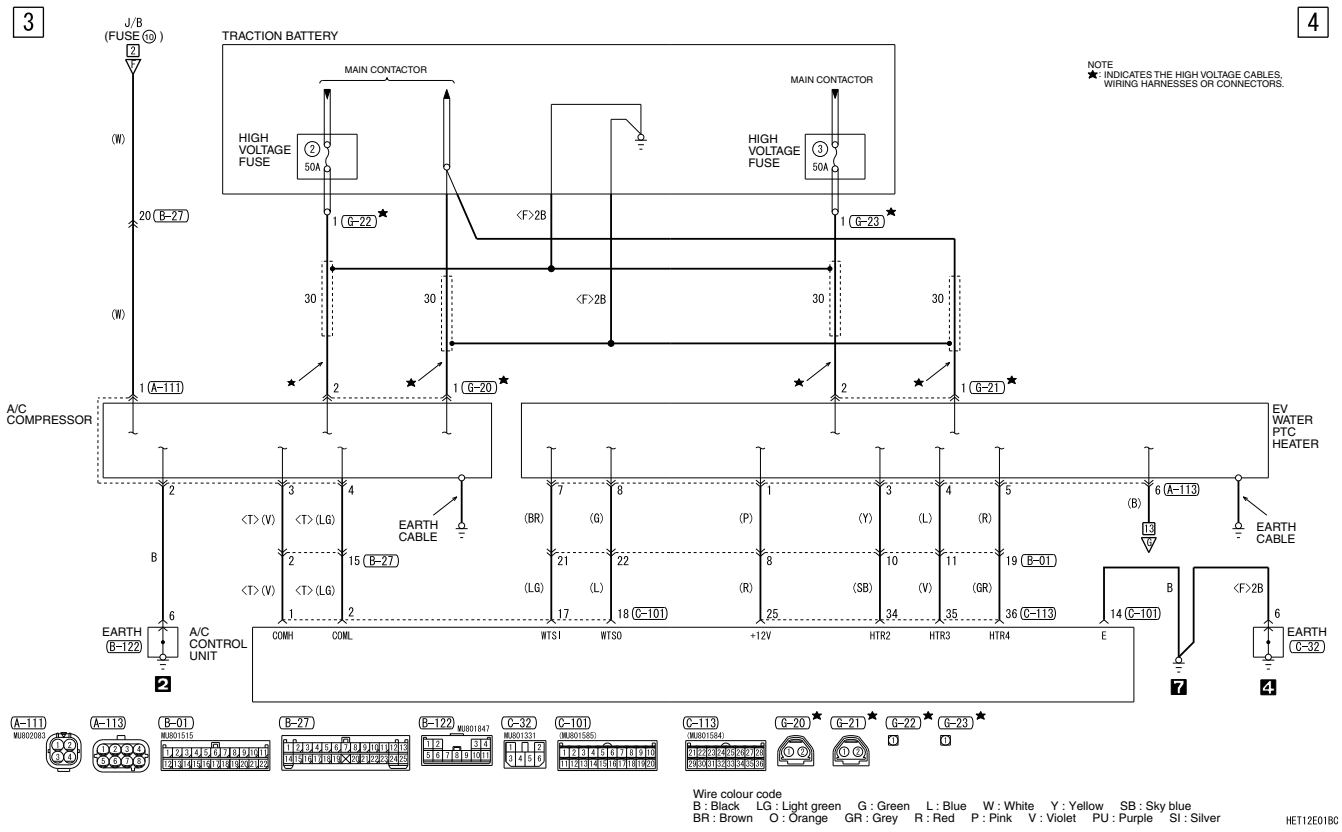

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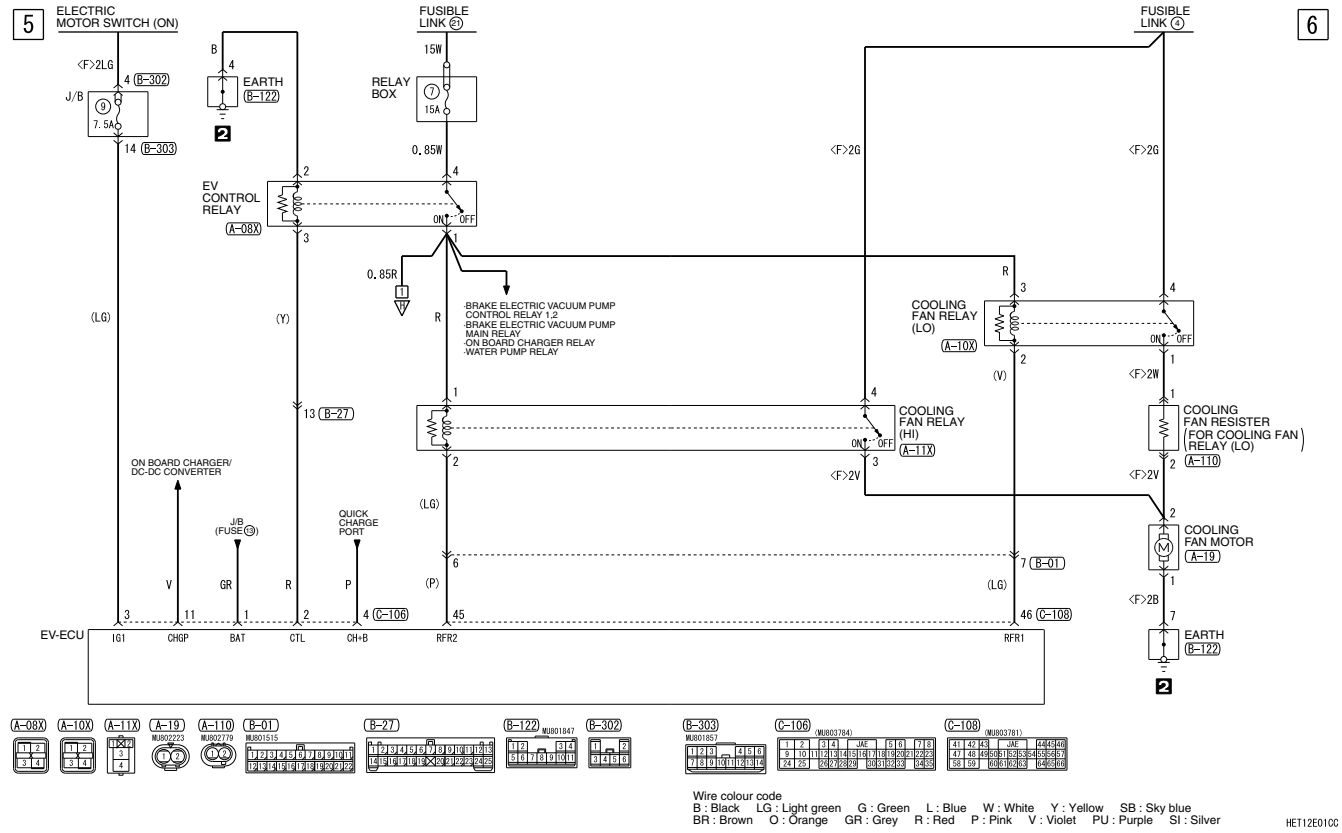

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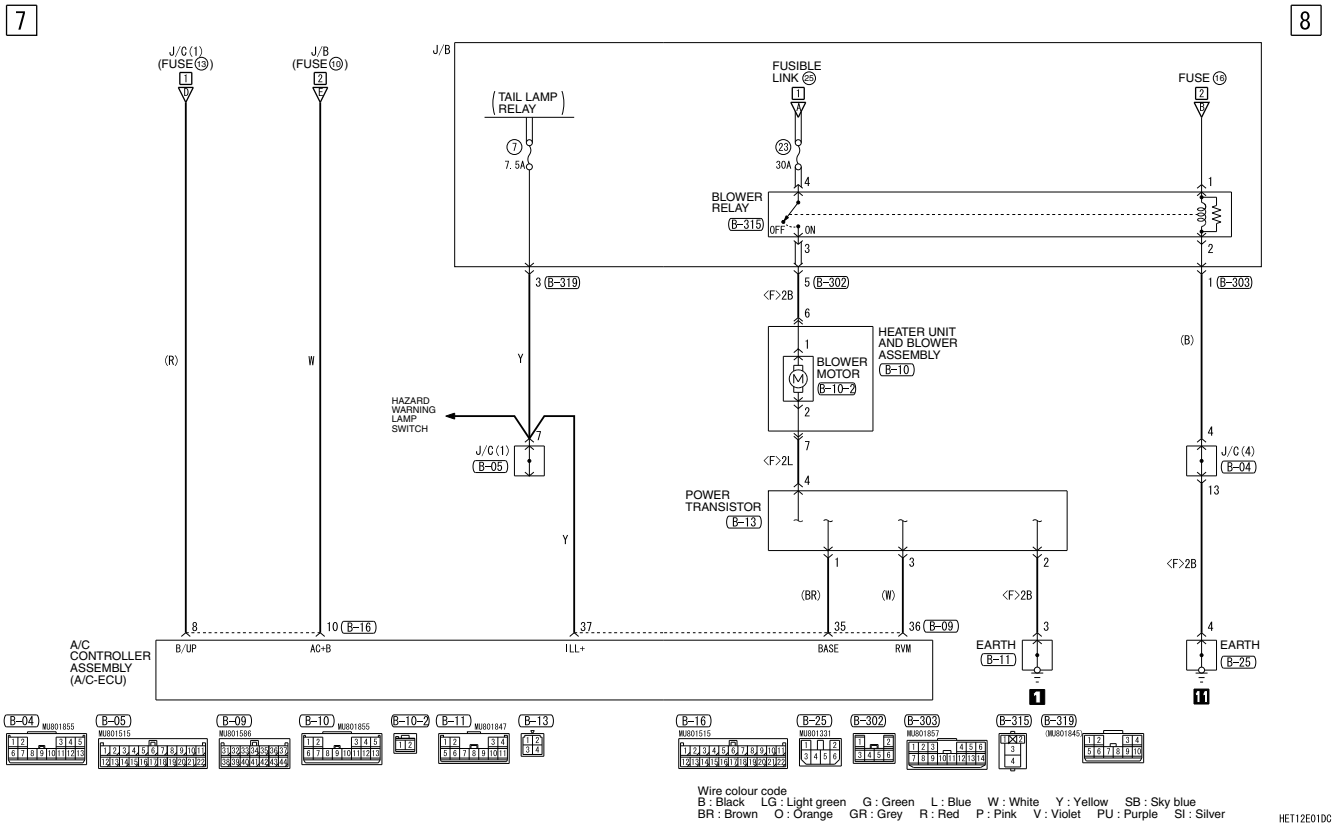

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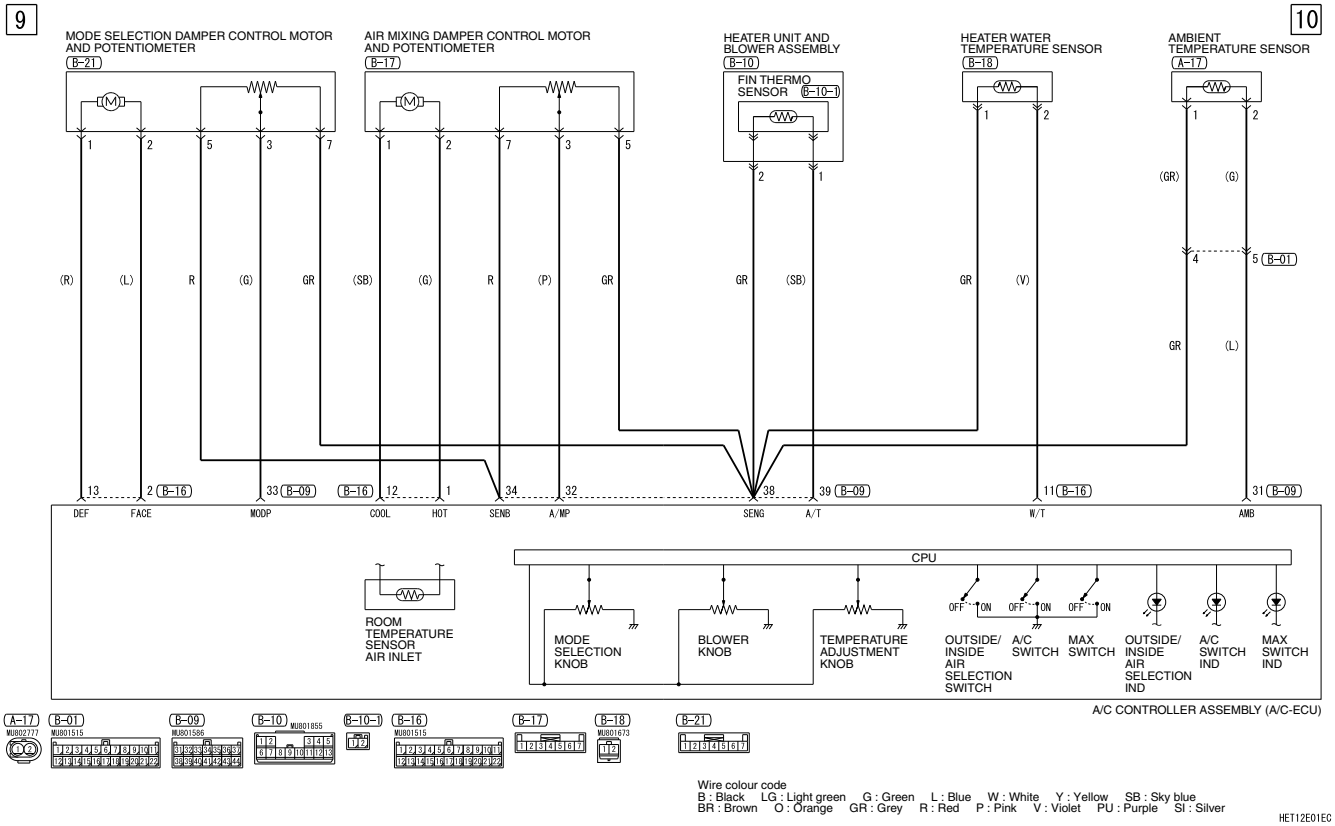

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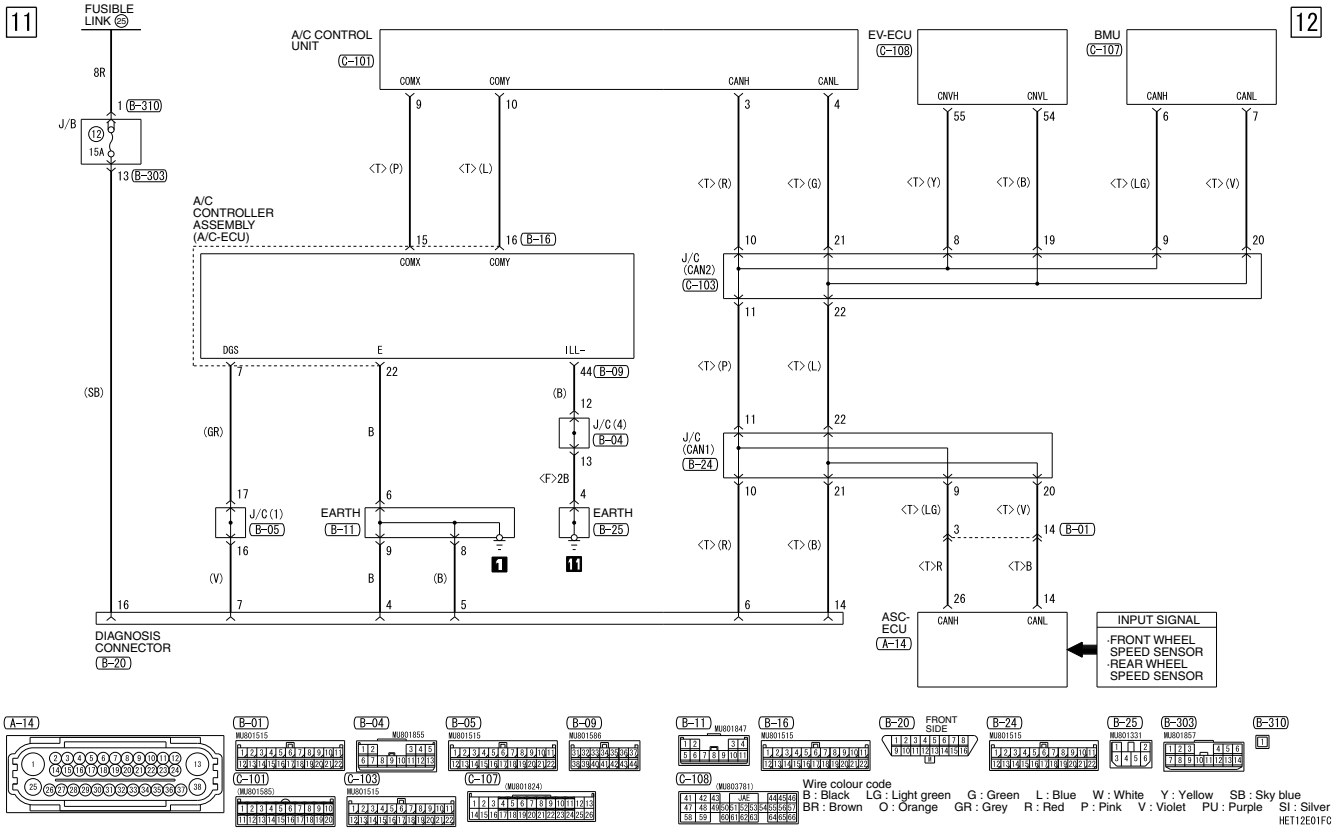

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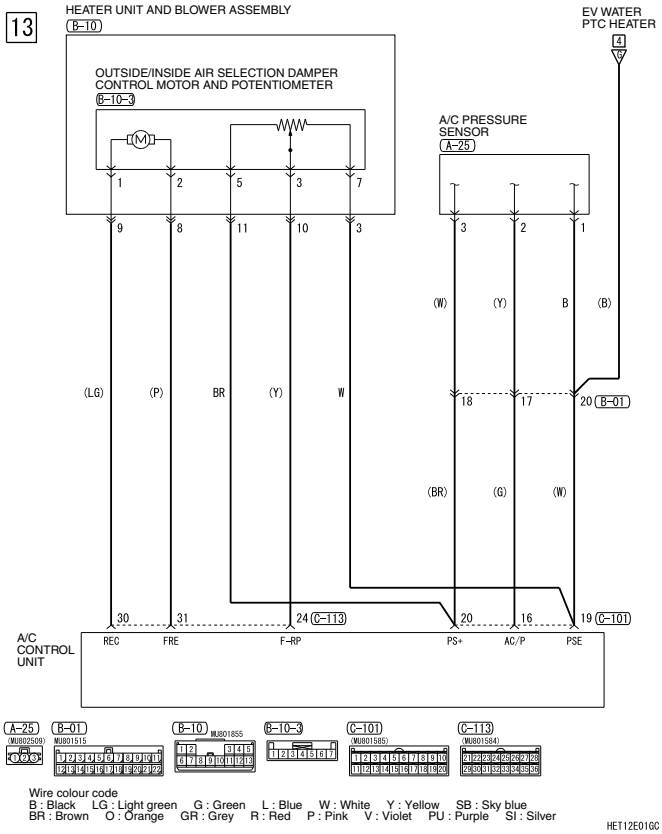
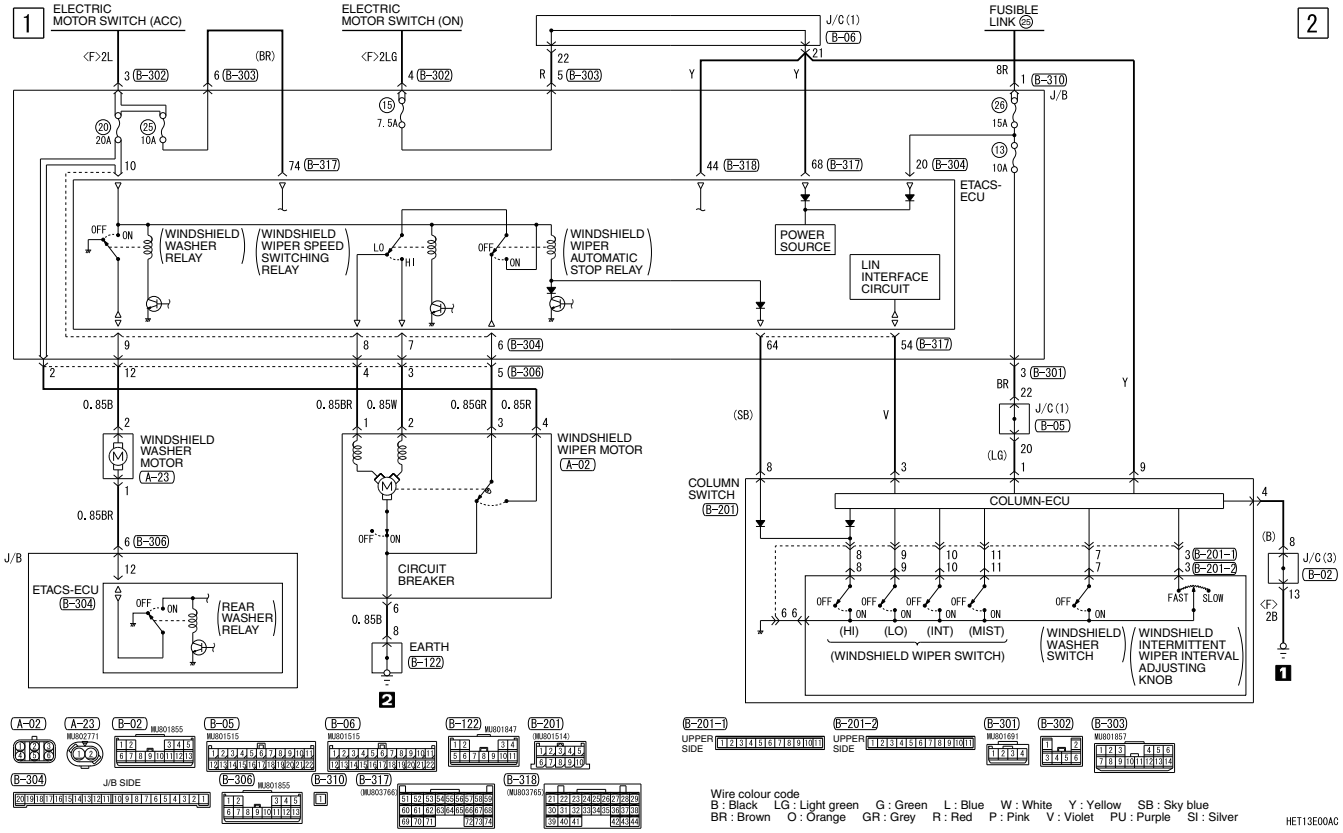


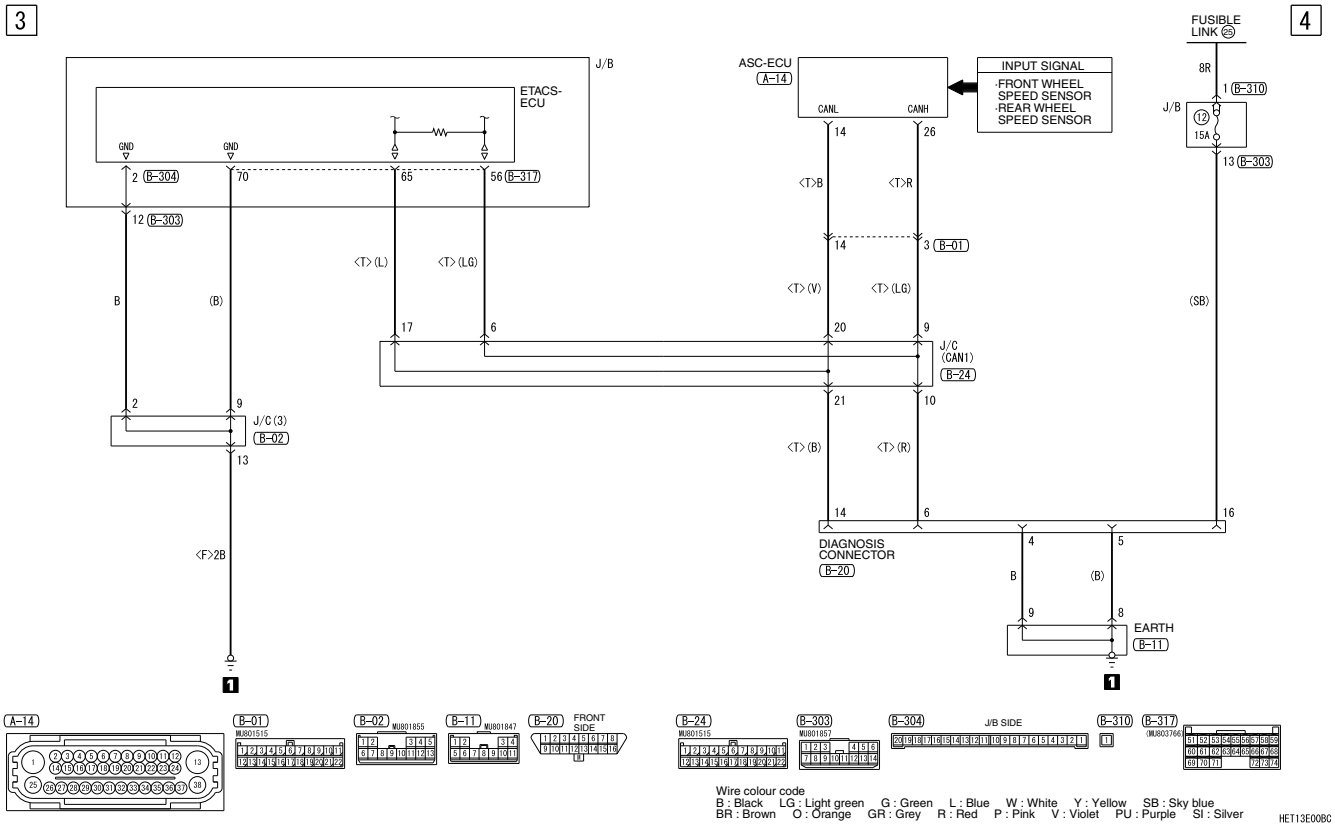
WINDSHIELD WIPER AND WASHER

WINDSHIELD WIPER AND WASHER <RHD>

M1901006106078



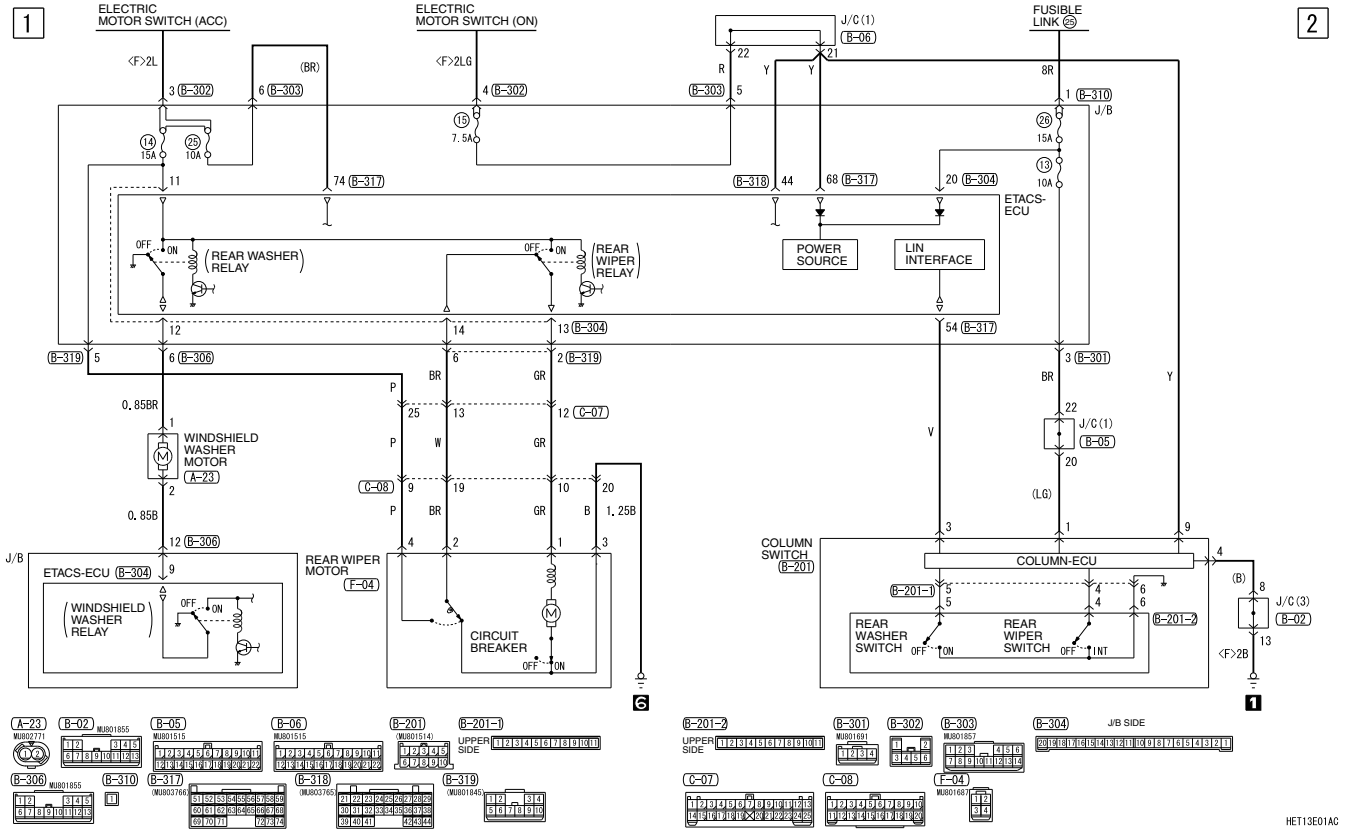
WINDSHIELD WIPER AND WASHER <RHD> (CONTINUED)



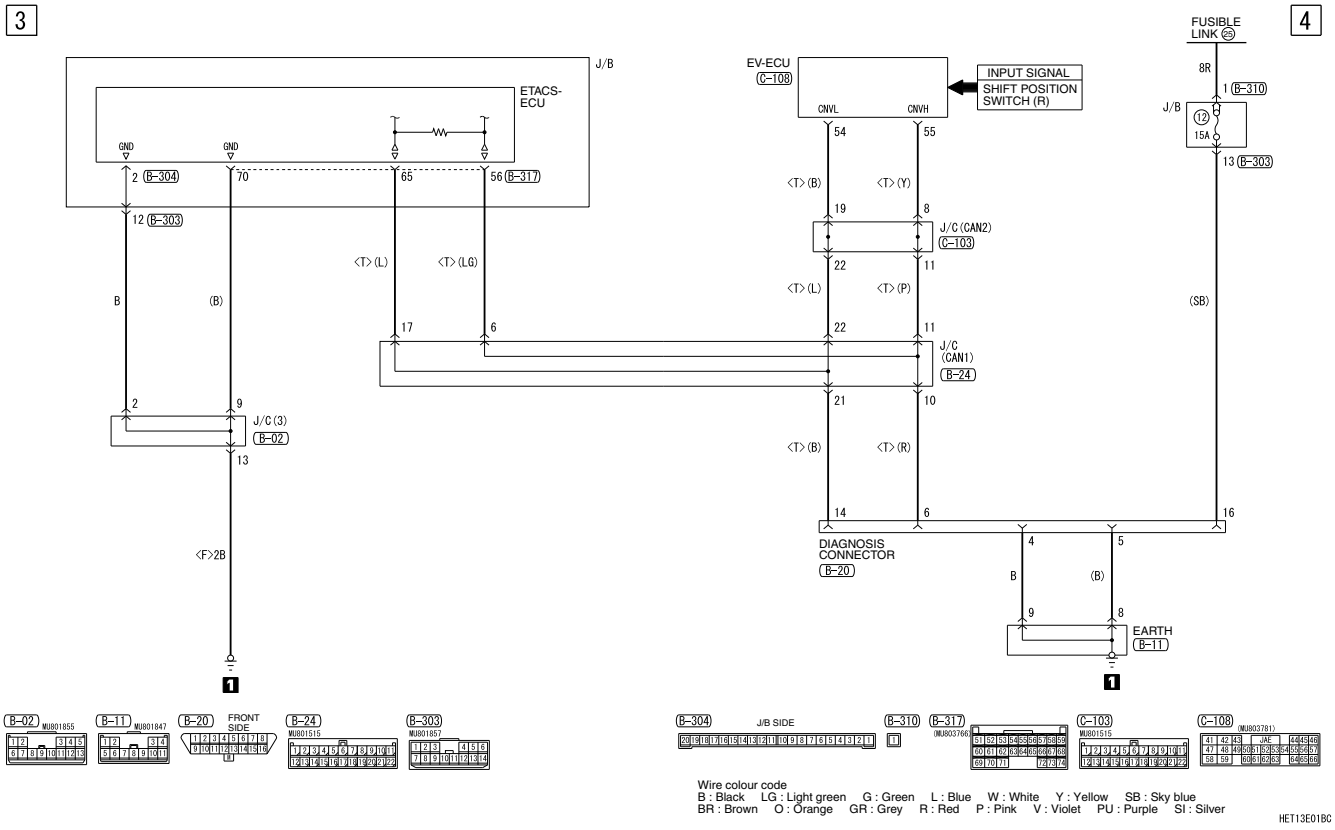
REAR WIPER AND WASHER

REAR WIPER AND WASHER <RHD>

M1901006204154



REAR WIPER AND WASHER <RHD> (CONTINUED)



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver

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