

GROUP 51

EXTERIOR

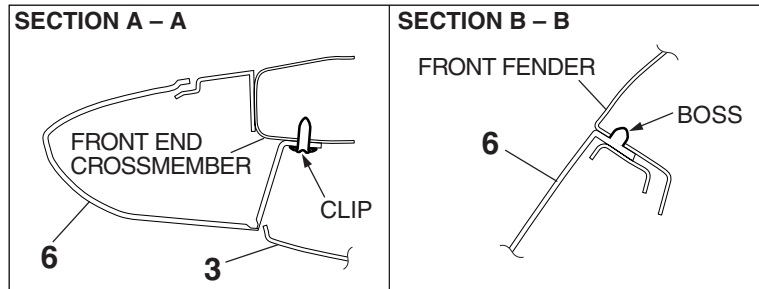
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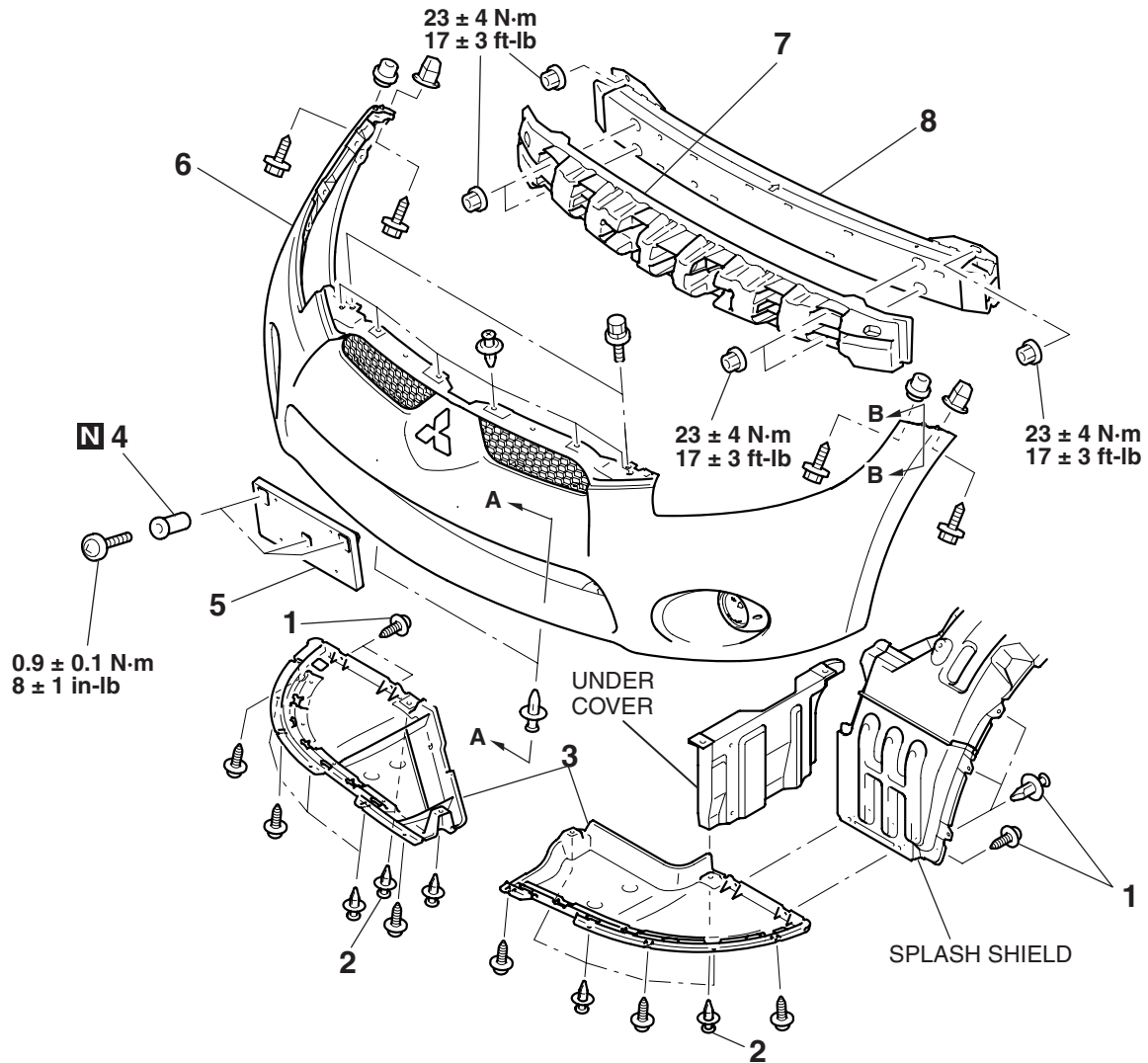
FRONT BUMPER ASSEMBLY AND RADIATOR GRILLE

REMOVAL AND INSTALLATION

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REMOVAL STEPS

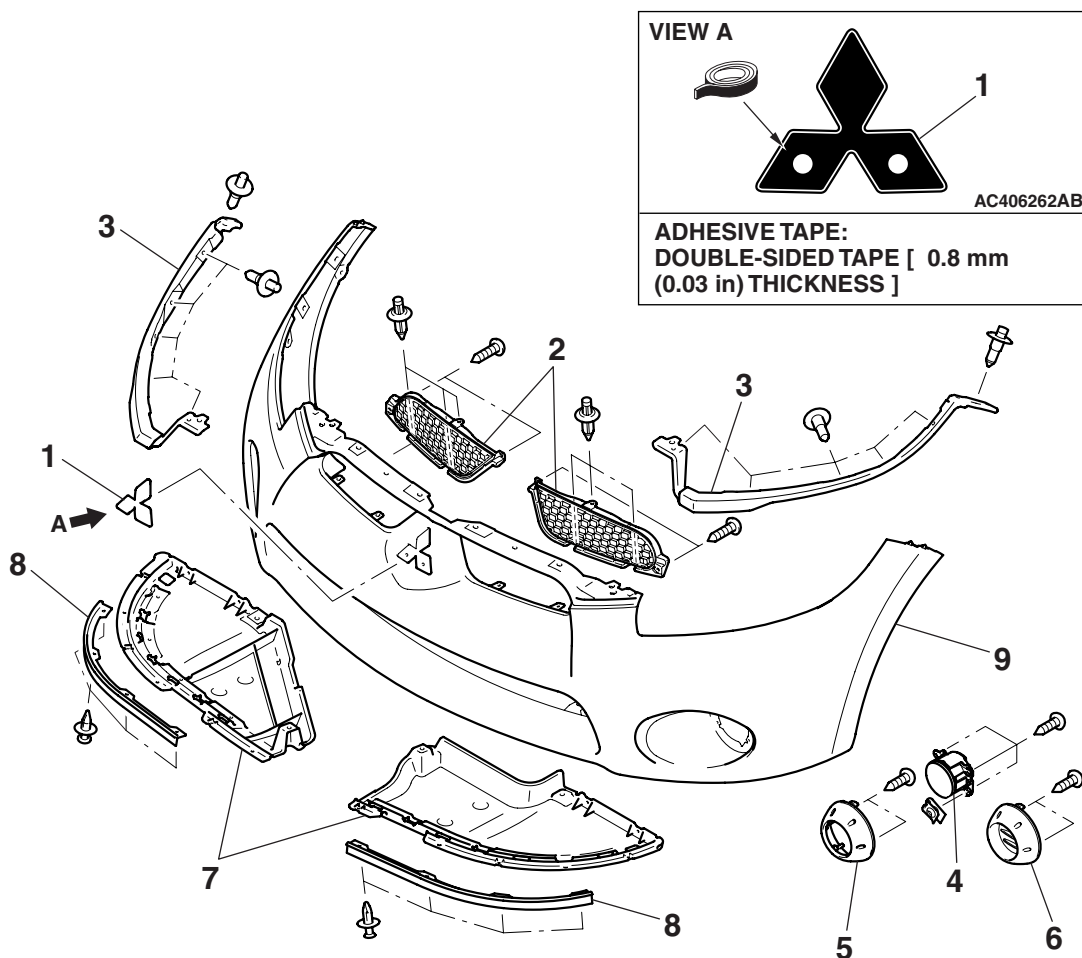
1. SPLASH SHIELD MOUNTING CLIP AND SCREWS
2. UNDER COVER MOUNTING CLIP
3. ENGINE ROOM UNDER COVER
4. FRONT BUMPER NUT
5. FRONT LICENSE PLATE GARNISH

REMOVAL STEPS (Continued)

- FRONT FOG LIGHT CONNECTOR CONNECTION (VEHICLES WITH FOG LIGHTS)
- 6. FRONT BUMPER ASSEMBLY
- 7. FRONT BUMPER CORE
- 8. FRONT BUMPER REINFORCEMENT

DISASSEMBLY AND ASSEMBLY

M1511025500058



DISASSEMBLY STEPS

1. FRONT THREE-DIAMOND MARK
2. RADIATOR GRILLE
3. FRONT BUMPER UPPER PLATE
4. FRONT FOG LIGHT ASSEMBLY
(VEHICLES WITH FOG LIGHTS)
5. FRONT FOG LIGHT BEZEL
(VEHICLES WITH FOG LIGHTS)

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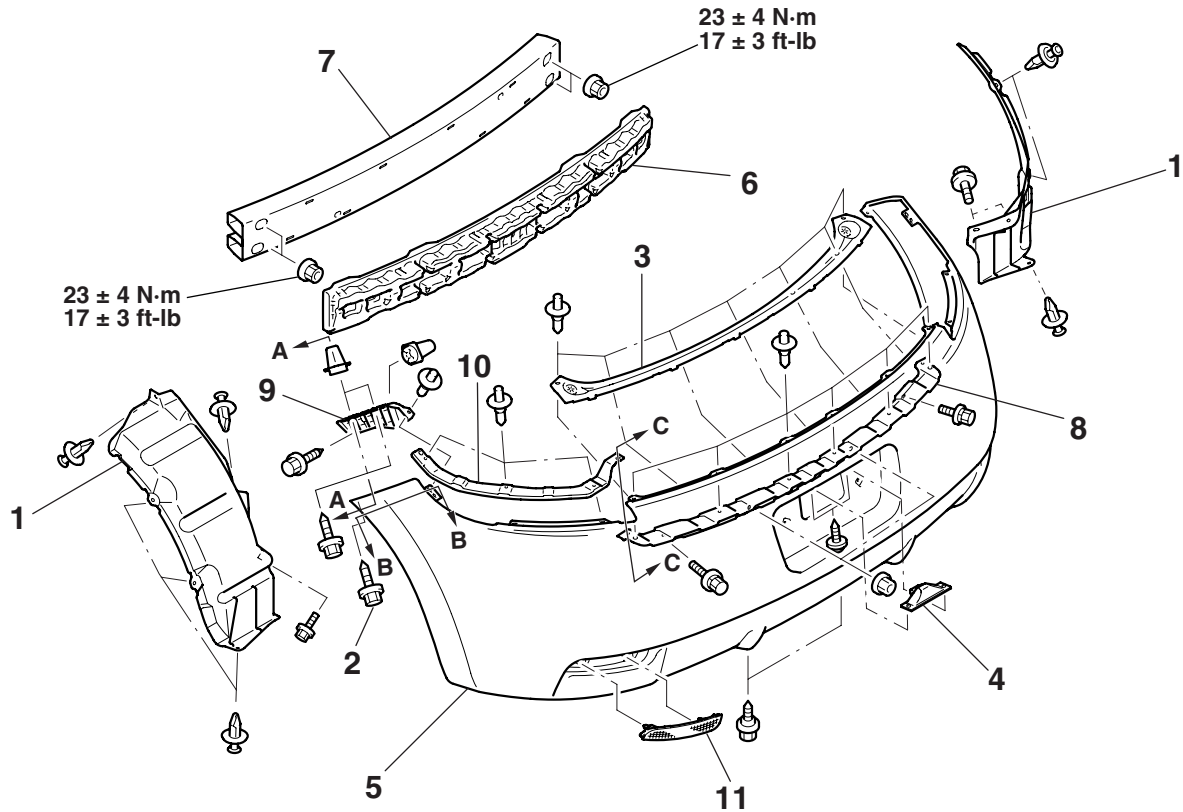
DISASSEMBLY STEPS (Continued)

6. FRONT FOG LIGHT COVER
(VEHICLES WITHOUT FOG
LIGHTS)
7. ENGINE ROOM UNDER COVER
8. AIR DAM SKIRT PANEL
9. FRONT BUMPER FACE

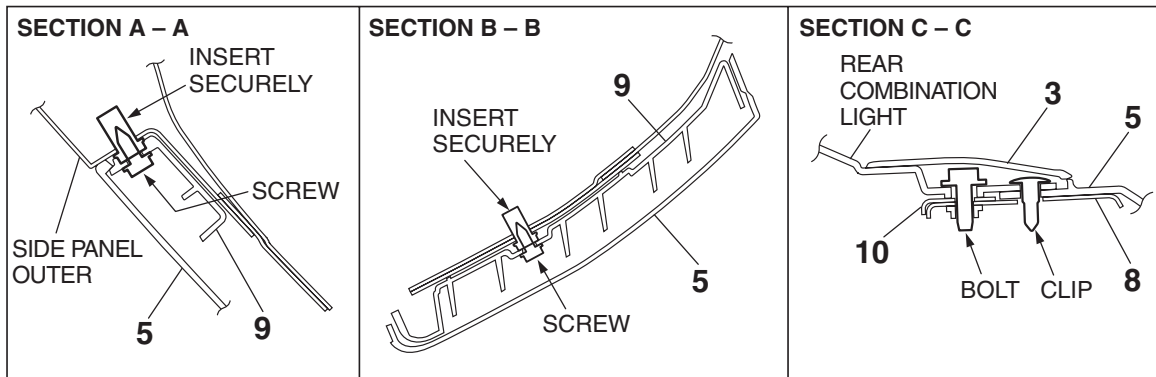
REAR BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

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REMOVAL STEPS

- REAR END TRIM (REFER TO GROUP 52A, TRIMS [P.52A-31.](#))
- 1. REAR SPLASH SHIELD
- 2. TAPPING SCREW
- 3. REAR BUMPER EXTENSION GARNISH
- REAR COMBINATION LIGHT (REFER TO GROUP 54A, REAR COMBINATION LIGHT [P.54A-143.](#))
- LICENSE PLATE LIGHT CONNECTOR CONNECTION

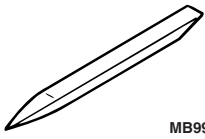
REMOVAL STEPS (Continued)

4. LICENSE PLATE LIGHT
5. REAR BUMPER FACE
6. REAR BUMPER CORE
7. REAR BUMPER REINFORCEMENT
8. REAR BUMPER SUPPORT BRACKET A
9. REAR BUMPER SUPPORT BRACKET B
10. REAR BUMPER SUPPORT PLATE
11. REFLECTOR

GARNISHES AND MOLDINGS

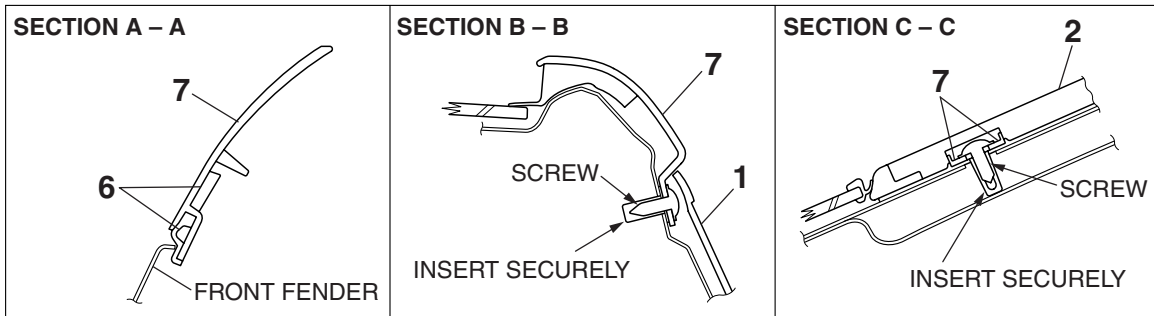
SPECIAL TOOL

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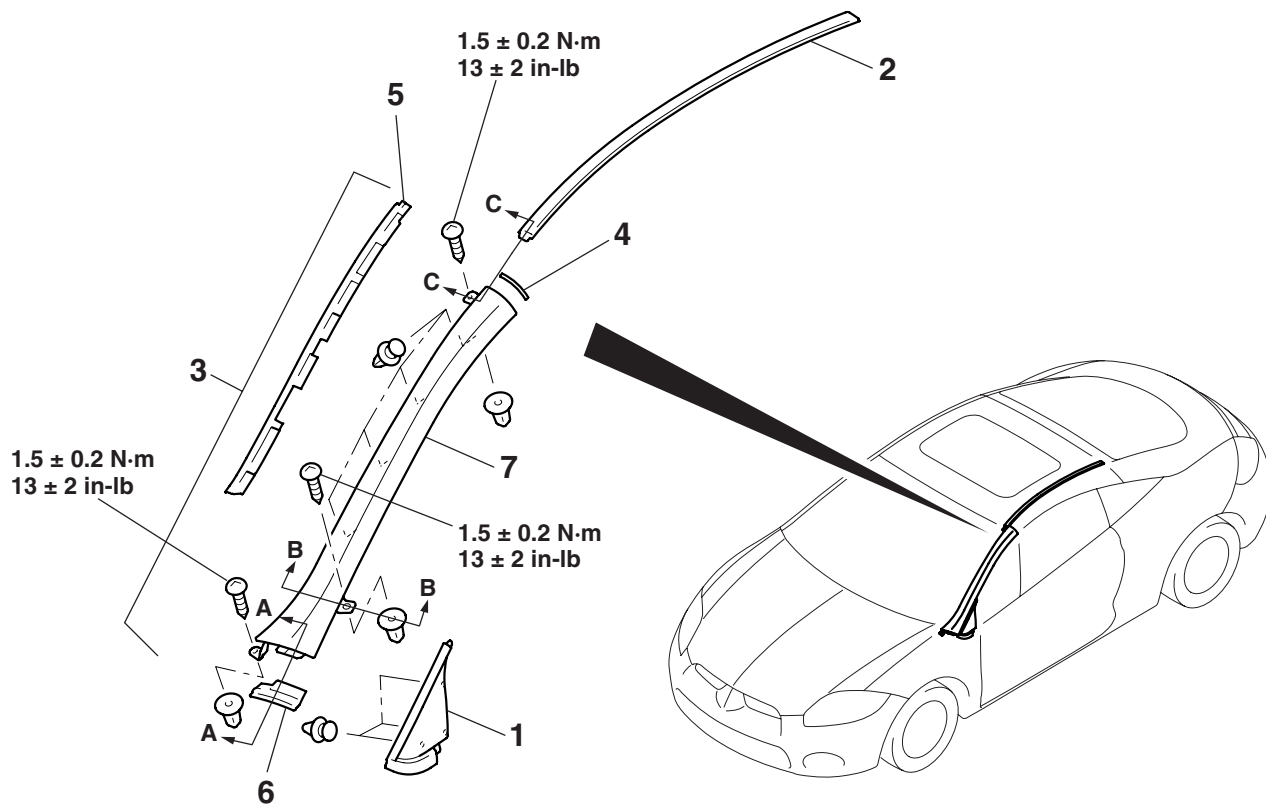
TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
	MB990784 Ornament remover	General service tool	Removal of roof drip molding

REMOVAL AND INSTALLATION

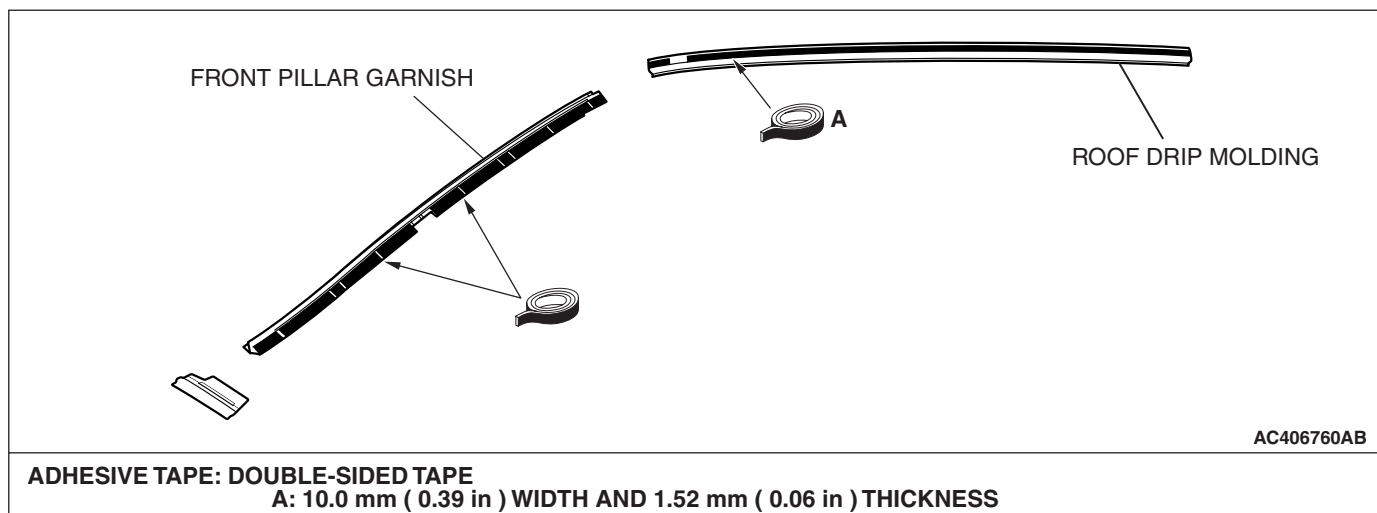
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**REMOVAL**

- FRONT DECK COVER (REFER TO WINDSHIELD WIPER P.51-13.)

FRONT DELTA GARNISH REMOVAL STEP

1. FRONT DELTA GARNISH

ROOF DRIP MOLDING REMOVAL STEP

2. ROOF DRIP MOLDING

FRONT PILLAR GARNISH REMOVAL STEPS

3. FRONT PILLAR GARNISH ASSEMBLY
4. FRONT PILLAR GARNISH EDGE PROTECTOR A
5. FRONT PILLAR GARNISH EDGE PROTECTOR B
6. FRONT PILLAR GARNISH EDGE PROTECTOR C
7. FRONT PILLAR GARNISH

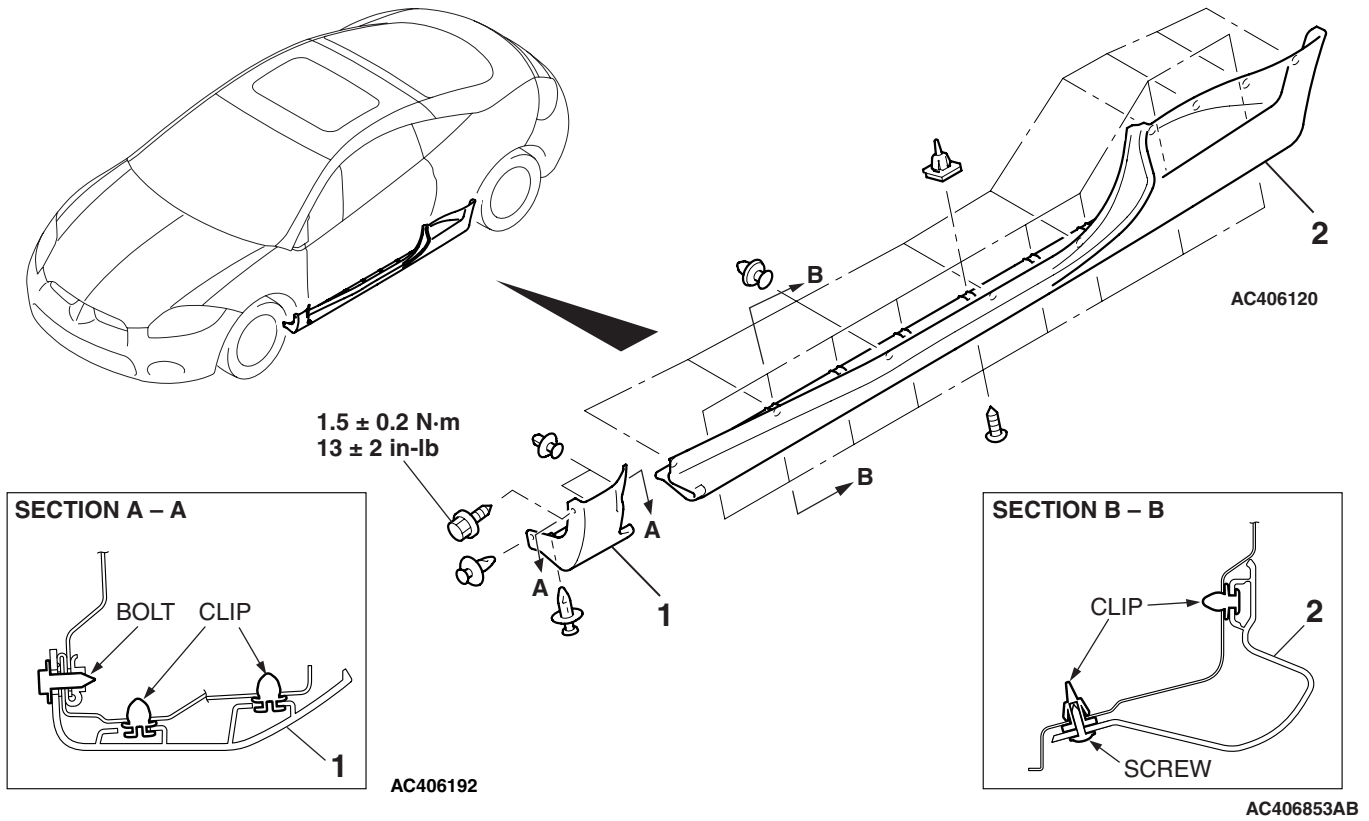
Required Special Tools:

- MB990784: Ornament Remover

SIDE AIR DAM

REMOVAL AND INSTALLATION

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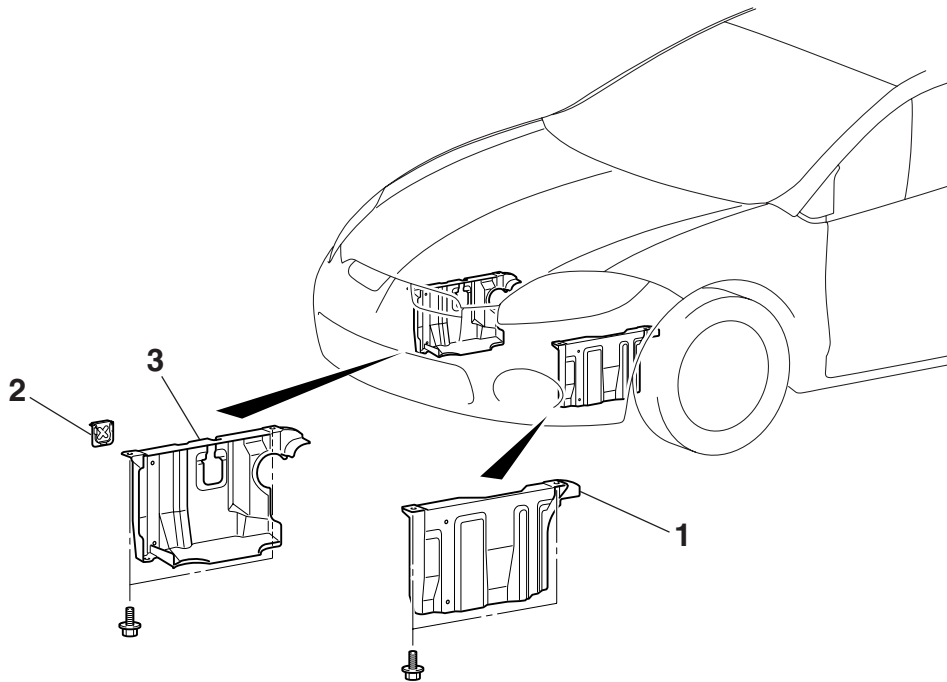


REMOVAL STEPS

1. FRONT SIDE AIR DAM
2. REAR SIDE AIR DAM

UNDER COVER**REMOVAL AND INSTALLATION**

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REMOVAL STEPS

- FRONT ENGINE ROOM UNDER COVER (REFER TO [P.51-2](#)).
1. SIDE UNDER COVER (LH)

REMOVAL STEPS (Continued)

2. PLUG
3. SIDE UNDER COVER (RH)

WINDSHIELD WIPER AND WASHER

GENERAL DESCRIPTION

WINDSHIELD WIPER AND WASHER OPERATION

WINDSHIELD LOW-SPEED (AND HIGH-SPEED) WIPER OPERATION

- If the windshield low-speed wiper switch is turned to the ON position with the ignition switch at the "ACC" or "ON" position, the column switch sends a low-speed wiper ON and high-speed wiper OFF signals to the front-ECU. This turns the wiper signal on and the wiper speed control relay off (low-speed), causing the wipers to operate at low-speed.
- If the windshield high-speed wiper switch is turned to the ON position, the column switch sends a low-speed wiper OFF and high-speed wiper ON signals to the front-ECU. This turns both the wiper signal and the wiper speed control relay on (high-speed), causing the wipers to operate at high-speed.

NOTE: The windshield wiper speed is adjustable with the built-in wiper speed control relay. High-speed operation takes place when the wiper speed control relay is set to "ON". Low-speed operation takes place when the wiper speed control relay is set to "OFF".

WINDSHIELD INTERMITTENT WIPER OPERATION (VEHICLE SPEED-SENSITIVE VARIABLE TYPE)

ETACS-ECU uses the dial position of the variable intermittent wiper control switch and the vehicle speed signal sent by the combination meter to calculate the interval to be sent to the front-ECU.

The front-ECU determines the intermittent time from the input SWS data signal, and turns ON the windshield wiper drive signal. When the wiper is at the STOP position, the windshield wiper auto-stop signal goes OFF, then turn OFF the windshield wiper drive signal. After the intermittent time from when the windshield wiper drive signal turned ON, the windshield wiper drive signal is turned ON again and the above operation is repeated.

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NOTE: If the intermittent time is within 2 seconds, the wiper is operated consecutively at LOW-speed by the front-ECU.

WINDSHIELD MIST WIPER OPERATION

- If the windshield mist wiper switch is turned to the ON position with the ignition switch at the "ACC" or "ON" position, the mist wiper high-speed operation signal is sent to the front-ECU. This signal turns on the wiper speed control relay, causing the wipers to work at high-speed while the mist switch is on.
- While the windshield mist wiper switch remains turned on when the intermittent mode is still working, the wipers work as the mist wiper. However, the wipers return to the intermittent mode again when the switch is changed back to "INT" position.
- To prevent the windshield mist wiper from operating when the windshield wiper switch is turned OFF, the windshield mist wiper does not work for 0.5 second after the windshield intermittent wiper switch, the windshield low-speed wiper switch and the windshield high-speed wiper switch are turned OFF.

WINDSHIELD WASHER OPERATION

- If the windshield washer switch is turned to the ON position with the ignition switch at "ACC" or "ON" position, the windshield washer ON signal is sent to the front-ECU. After 0.15 second, the windshield wiper signal turns on. After the windshield washer switch signal turns off, the windshield wiper signal turns off in 2 seconds.
- If the windshield washer switch is turned on while the windshield wiper is at intermittent mode, and the windshield washer switch is turned OFF within 0.2 second, the wiper works only once to perform mist operation. When the windshield washer switch is turned on for more than 0.2 second, the wiper performs the same movement as normal condition from the time when 0.2 second has elapsed, and then returns to intermittent operation.

WINDSHIELD WIPER AND WASHER DIAGNOSIS

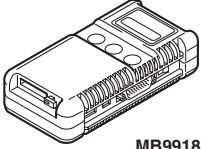

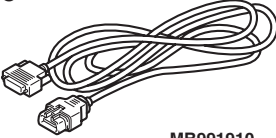
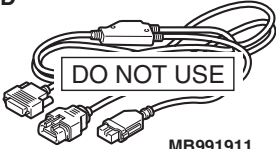
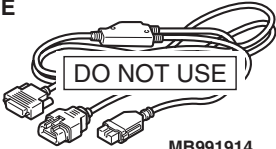
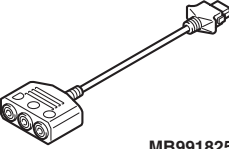

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The windshield wiper and washer are controlled by the Simplified Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Symptom Chart P.54B-57.

NOTE: Even when the ETACS-ECU has failed, the windshield wipers can work at low speed as fail-safe mode. (Normally, the windshield wiper operates when the ignition switch is at the "ACC" position. But, if it enters the fail-safe mode, the wipers can operate only when the ignition switch is at the "ON" position.)

SPECIAL TOOLS

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TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
<p>A</p>  <p>MB991824</p> <p>B</p>  <p>MB991827</p> <p>C</p>  <p>MB991910</p> <p>D</p>  <p>MB991911</p> <p>E</p>  <p>MB991914</p> <p>F</p>  <p>MB991825</p> <p>G</p>  <p>MB991826 MB991958</p>	<p>MB991958</p> <p>A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991914 F: MB991825 G: MB991826</p> <p>MUT-III sub assembly</p> <p>A: Vehicle Communication Interface (V.C.I.)</p> <p>B: MUT-III USB Cable</p> <p>C: MUT-III Main Harness A (Vehicles with CAN communication system)</p> <p>D: MUT-III Main Harness B (Vehicles without CAN communication system)</p> <p>E: MUT-III Main Harness C (for Daimler Chrysler models only)</p> <p>F: MUT-III Measurement Adapter</p> <p>G: MUT-III Trigger Harness</p>	<p>MB991824-KIT</p> <p><i>NOTE: G: MB991826 MUT-III Trigger Harness is not necessary when pushing V.C.I. ENTER key.</i></p>	<p>Windshield intermittent wiper check</p> <p>CAUTION</p> <p>For vehicles with CAN communication, use MUT-III main harness A to send simulated vehicle speed. If you connect MUT-III main harness B instead, the CAN communication does not function correctly.</p>

ON-VEHICLE SERVICE

WINDSHIELD INTERMITTENT WIPER INTERVAL CHECK

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Required Special Tools:

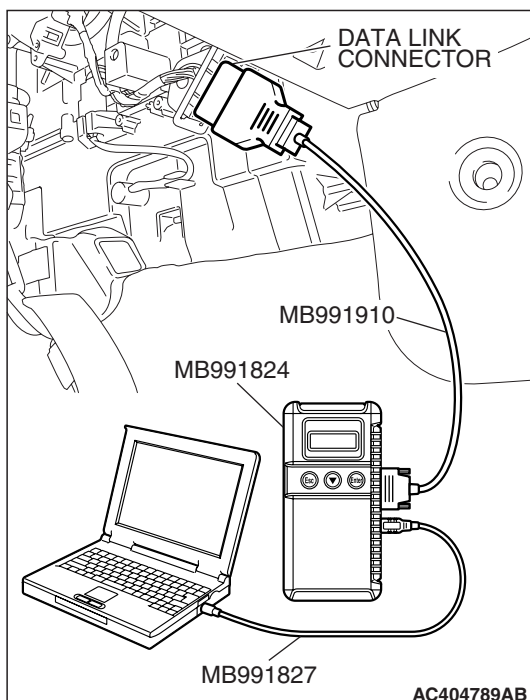
- MB991958: Scan Tool (MUT-III Sub Assembly)
 - MB991824: Vehicle Communication Interface (V.C.I.)
 - MB991827: MUT-III USB Cable
 - MB991910: MUT-III Main Harness A

If the windshield intermittent wiper interval control is operated, and/or vehicle speed changes, the wiper interval should change.

⚠ CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

1. Connect scan tool MB991958 to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Operate scan tool MB991958 according to the procedure below to display "Simulated Vehicle Speed Output."
 - (1) Select "SYSTEM SELECT."
 - (2) Select "SWS."
 - (3) Select "Simulated Vehicle Speed Output."
4. Holding the windshield intermittent wiper interval control, input the simulated vehicle speed with scan tool MB991958 and check that the wiper interval changes as the vehicle speed changes.
5. If not, carry out the troubleshooting (Refer to GROUP 54B, Symptom Chart [P.54B-57](#)).

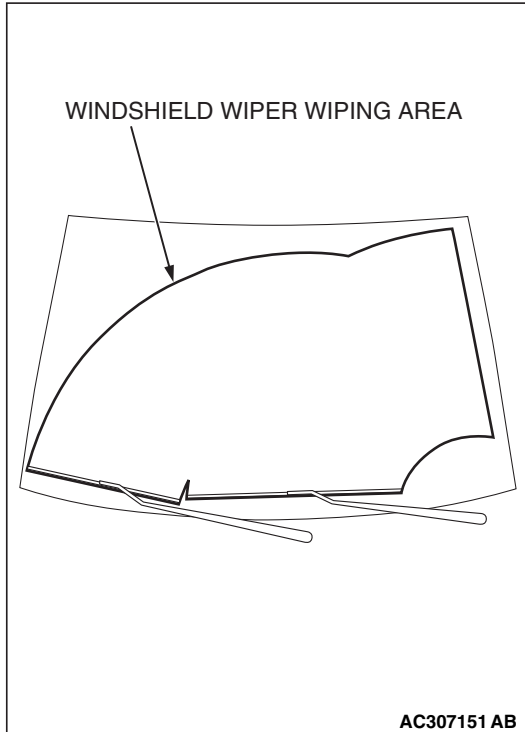


WINDSHIELD WASHER FLUID EJECTION CHECK

M1511018400093

The windshield washer nozzle aiming cannot be adjusted. If the washer nozzles do not spray washer fluid within the windshield wiper wiping area, check the nozzles as follows:

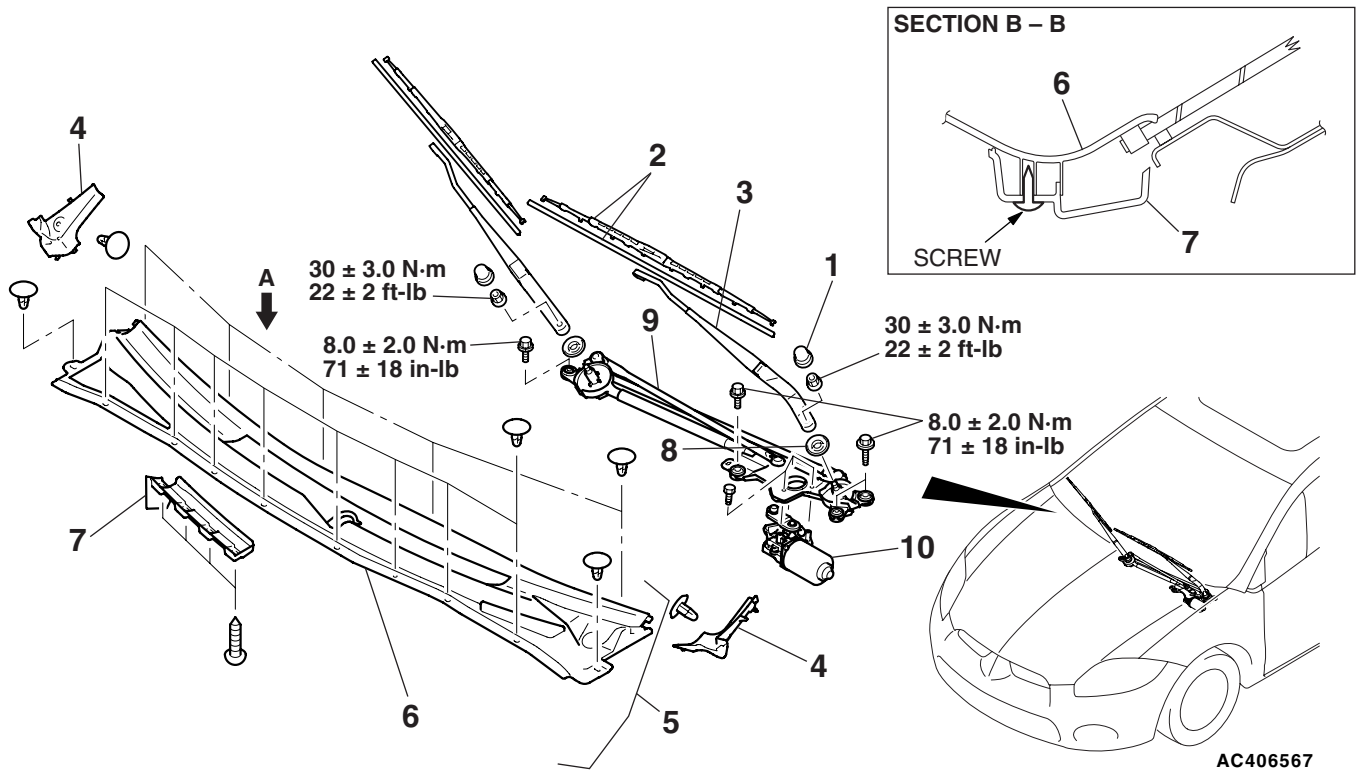
1. Check that the windshield washer nozzles are fitted on the hood correctly, and reinstall them if necessary.
2. If the windshield washer nozzles are damaged, replace them (Refer to [P.51-18](#)).



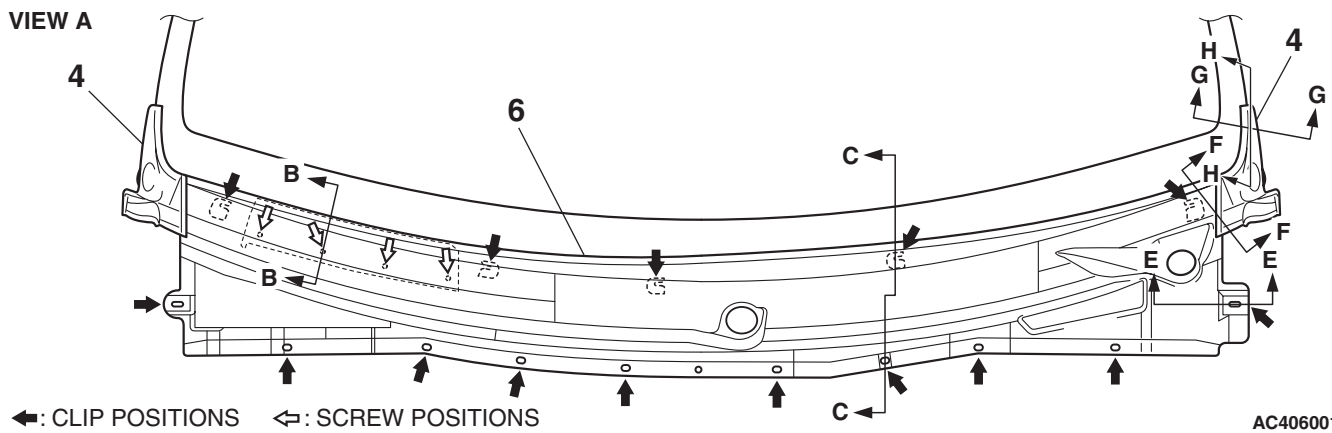
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WINDSHIELD WIPER
REMOVAL AND INSTALLATION

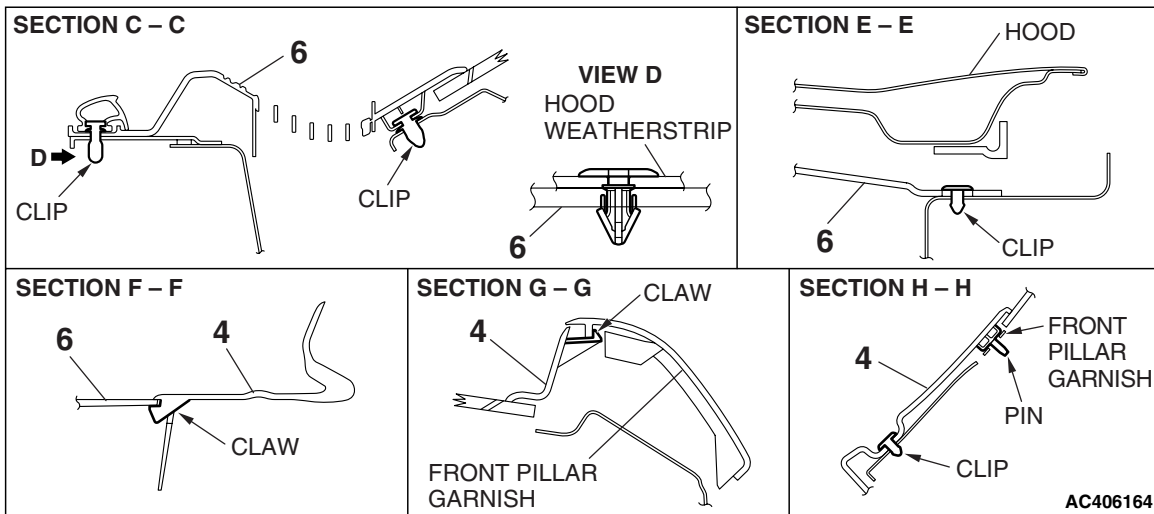
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AC406215AB



AC406001AB



AC406217AB

WIPER ARM AND BLADE REMOVAL STEPS

- 1. CAP
- >>A<< 2. WINDSHIELD WIPER BLADE
- >>B<< 3. WINDSHIELD WIPER ARM

WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY REMOVAL STEPS

- 4. FRONT DECK COVER
- 5. FRONT DECK GARNISH ASSEMBLY
- 6. FRONT DECK GARNISH
- 7. FRONT DECK GARNISH COVER

WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY REMOVAL STEPS

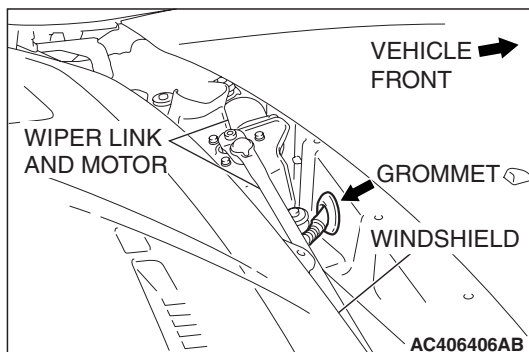
- 8. WIPER PIVOT CAP
- 9. WINDSHIELD WIPER LINK
- 10. WINDSHIELD WIPER MOTOR

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-149.

REMOVAL SERVICE POINT

<<A>> WINDSHIELD WIPER LINK/WINDSHIELD WIPER MOTOR REMOVAL

Disengage the harness grommet as shown in the illustration before removing the wiper link and motor.

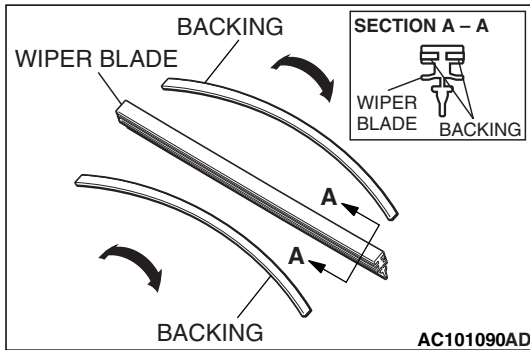


INSTALLATION SERVICE POINTS

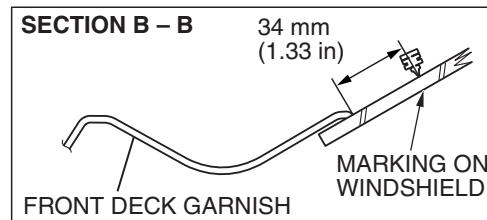
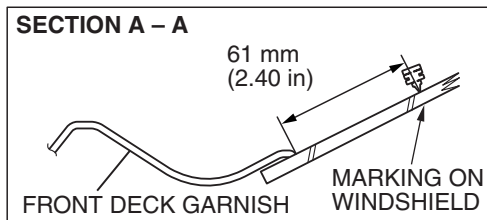
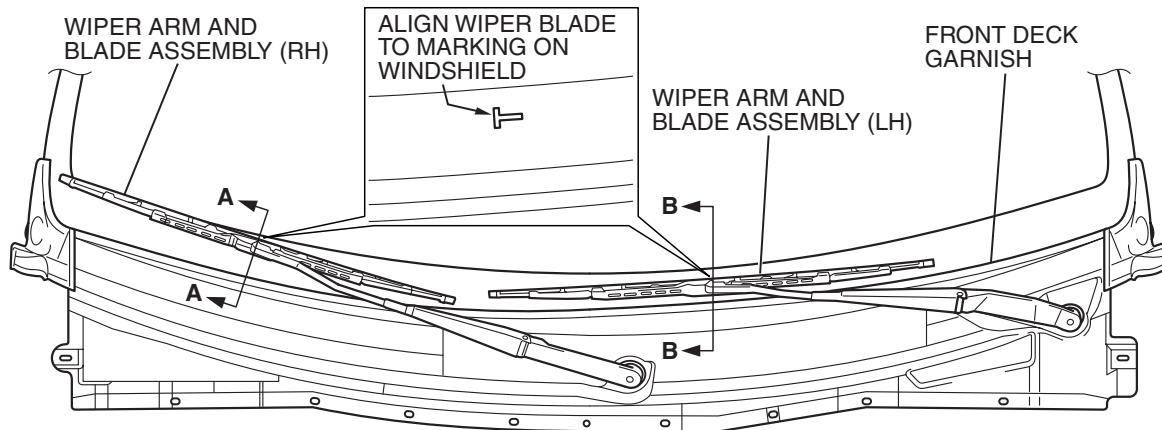
>>A<< WINDSHIELD WIPER BLADE INSTALLATION

⚠ CAUTION

Ensure that the backings are bent in the direction indicated, and then install the backings to the wiper blade rubber.



>>B<< WINDSHIELD WIPER ARM INSTALLATION



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Install the wiper arm and blade at the position specified above.

INSPECTION

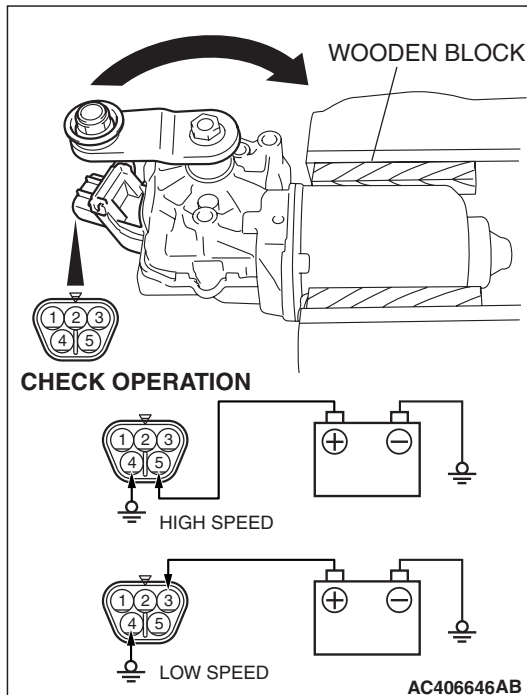
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WINDSHIELD WIPER MOTOR CHECK

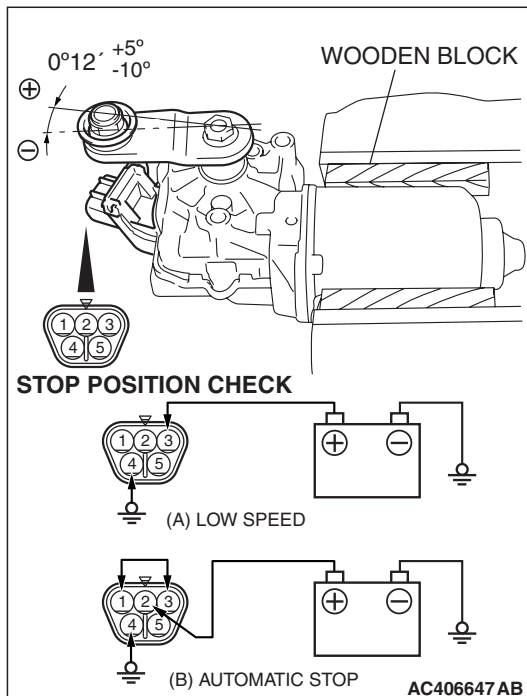
Remove the windshield wiper motor and inspect it at the harness connector.

Windshield Wiper Motor at Low or High Speed Operation

Connect the battery to the windshield wiper motor to inspect the operation of motor rotation at low or high speed.

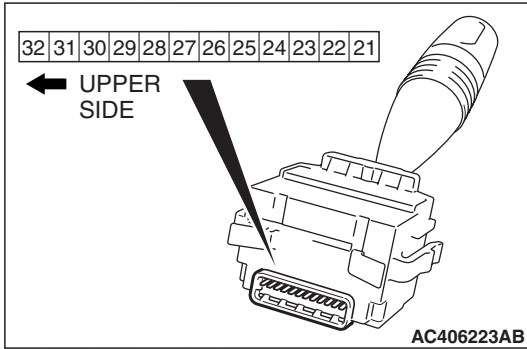
**Windshield Wiper Motor at Stop Position Operation**

1. Connect the battery to the windshield wiper motor as shown in the illustration (A).
2. Run the windshield wiper motor at low speed, then disconnect the battery in the middle of the motor rotation and check to see that the motor stops.
3. As shown in the illustration (B), connect the terminals of the windshield wiper motor connector.
4. Check to see that the windshield wiper motor runs at low speed and then stops at the automatic stop position.



WINDSHIELD WIPER SWITCH CHECK

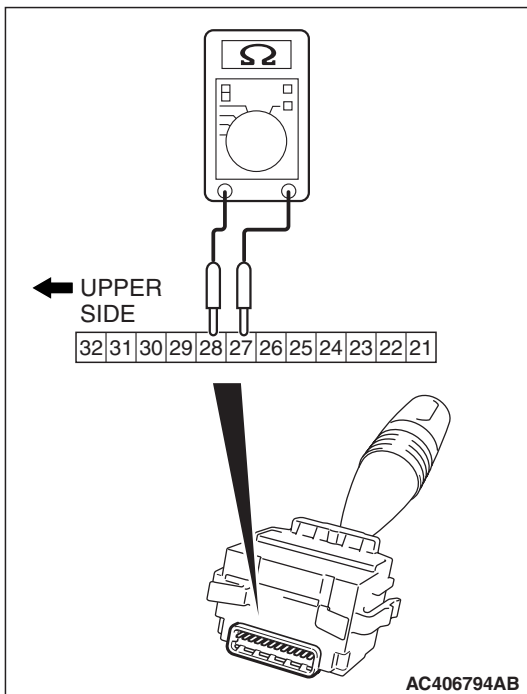
Check continuity between the switch terminals.



SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
OFF	23 – 32, 23 – 31, 23 – 30, 23 – 21	Open circuit
Windshield mist wiper switch	23 – 32	Less than 2 ohms
Windshield intermittent wiper switch	23 – 31	
Windshield low-speed wiper switch	23 – 30	
Windshield high-speed wiper switch	21 – 23	

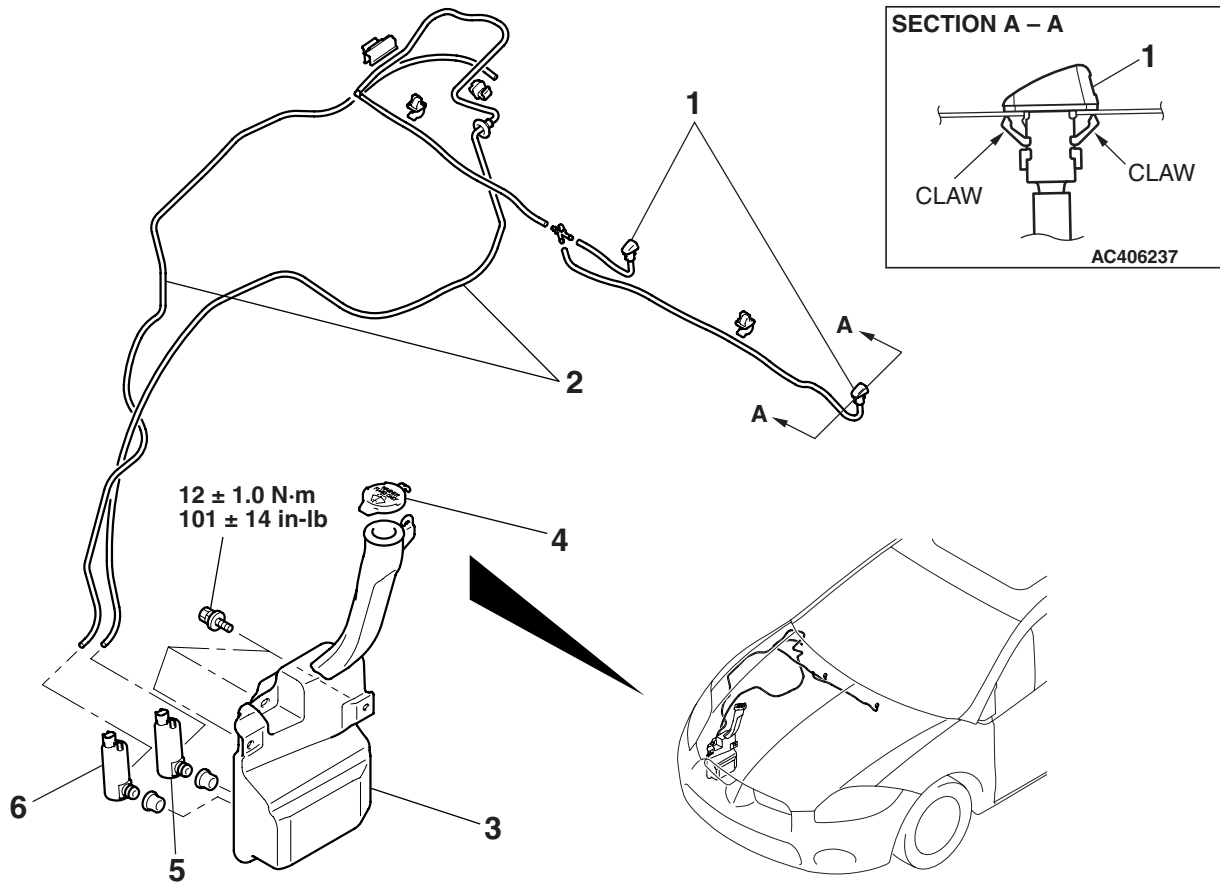
WINDSHIELD INTERMITTENT WIPER INTERVAL CHECK

Check that the resistance varies between 0 and 1 k Ω when the windshield intermittent interval is turned from FAST to SLOW by after measuring resistance between connector terminals 27 and 28 at the column switch.



WINDSHIELD WASHER
REMOVAL AND INSTALLATION

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**WINDSHIELD WASHER NOZZLE
REMOVAL STEPS**

- WINDSHIELD WASHER TUBE CONNECTION

1. WINDSHIELD WASHER NOZZLE

WASHER TUBE REMOVAL STEPS

- WINDSHIELD WASHER NOZZLE CONNECTION

2. WASHER TUBE

WASHER TANK REMOVAL STEPS

- ENGINE ROOM UNDER COVER RH (REFER TO P.51-8).
 - FRONT SPLASH SHIELD RH MOUNTING CLIPS (REFER TO GROUP 42, FENDER P.42-10).
 - WASHER TUBE CONNECTIONS
3. WINDSHIELD WASHER TANK
4. CAP

WASHER TANK REMOVAL STEPS

5. WINDSHIELD WASHER MOTOR
6. REAR WASHER MOTOR

WASHER MOTOR REMOVAL STEPS

- ENGINE ROOM UNDER COVER RH (REFER TO P.51-8).
 - FRONT SPLASH SHIELD RH MOUNTING CLIPS (REFER TO GROUP 42, FENDER P.42-10).
 - WASHER TUBE CONNECTIONS
5. WINDSHIELD WASHER MOTOR
6. REAR WASHER MOTOR

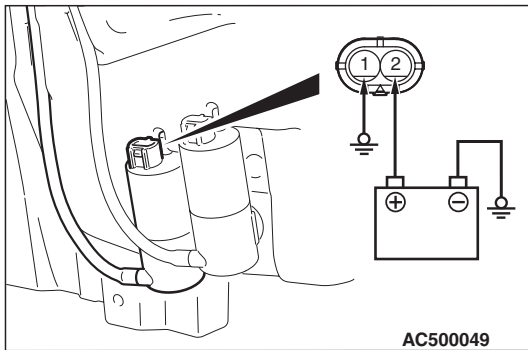
NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-149.

INSPECTION

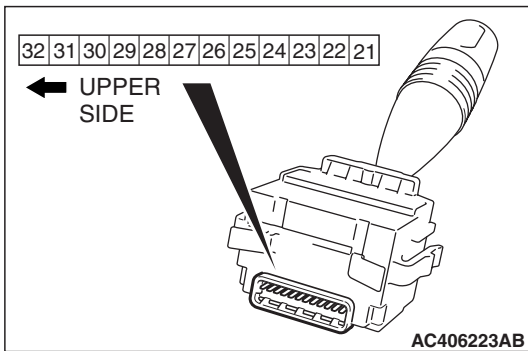
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WINDSHIELD WASHER MOTOR CHECK

1. Remove the washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to ground.



WINDSHIELD WASHER SWITCH CHECK



SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
OFF	22 -23	Open circuit
Windshield washer switch ON	22 -23	Less than 2 ohms

REAR WIPER AND WASHER

GENERAL DESCRIPTION

M1511000100967

REAR WIPER AND WASHER OPERATION

REAR WIPER OPERATION

- If the rear wiper and washer switch is turned to the "INT" position with the ignition switch at "ACC" or "ON" position, the ETACS-ECU causes the rear wiper to operate continuously 2 times, then intermittently at 8-second intervals.
- If the selector lever (or gearshift lever) is moved to the "R" position when the rear wiper and washer switch is turned to the "INT" position and the ignition switch at "ACC" or "ON" position, the transmission range switch (or backup light switch) "R" turns ON. 1 second later, the ETACS-ECU causes the rear wiper to operate continuously 2 times to ensure good rearward visibility. The ETACS-ECU then causes the rear wiper to operate intermittently again at 8-second intervals.

REAR WIPER AND WASHER DIAGNOSIS

The rear wiper and washer are controlled by the Simplified Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Symptom Chart [P.54B-57](#).

M1511021100069

REAR WASHER OPERATION

- If the rear wiper and washer switch is turned to the ON (washer) position with the ignition switch at "ACC" or "ON" position, the rear washer ON signal is sent to the ETACS-ECU, causing the rear wiper signal to turn on after 0.9 second. After the rear washer switch signal turns off, the rear wiper signal turns off in 3 seconds.
- If the rear wiper and washer switch is turned to the ON (washer) position while the rear wiper is at intermittent mode, the rear washer works for that period when the washer switch remains on. Then the rear wiper returns to the intermittent mode.

ON-VEHICLE SERVICE

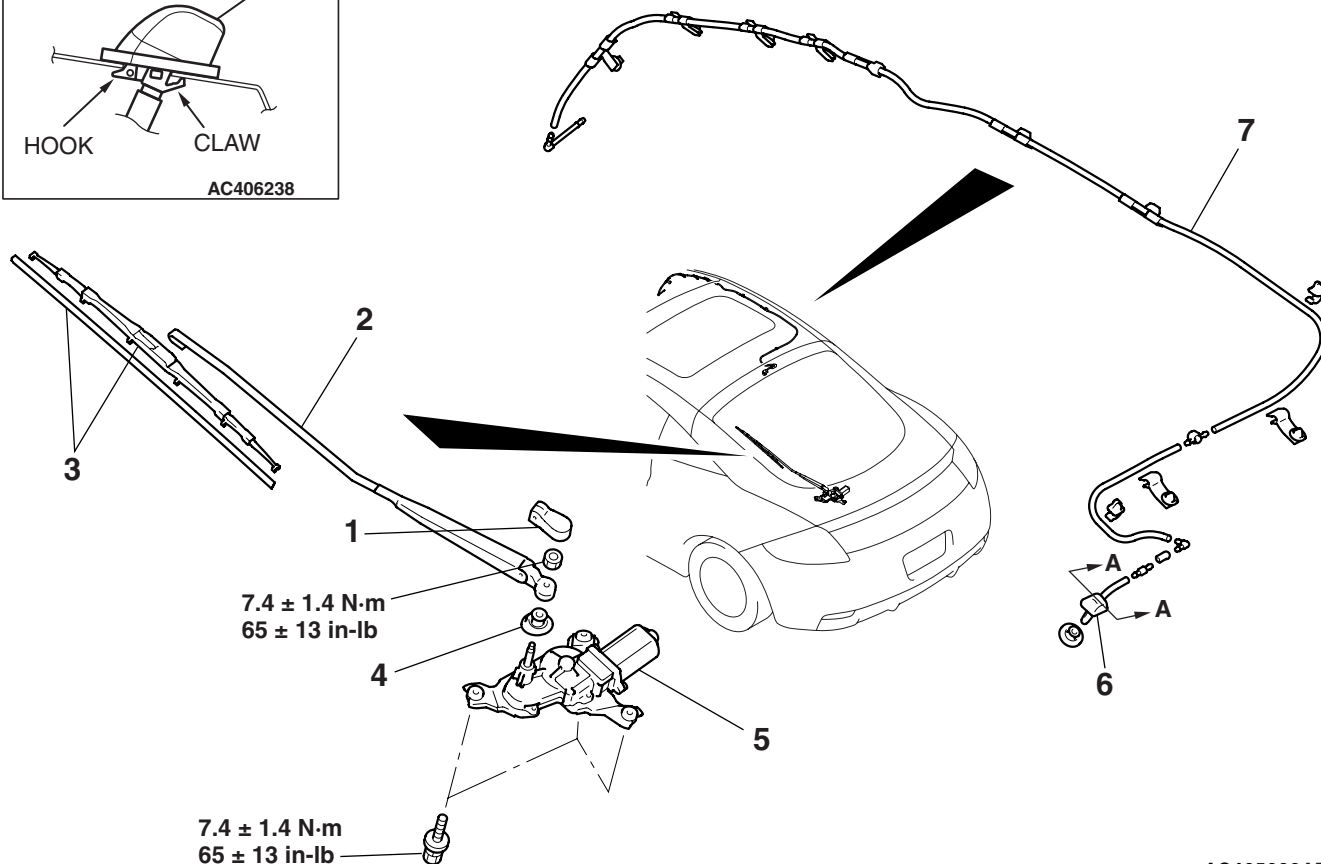
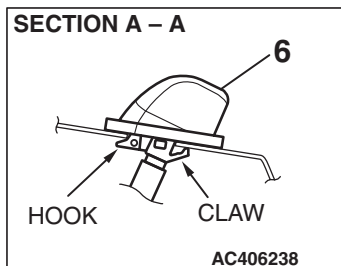
CHECK OF REAR WIPER OPERATION WHEN SELECTOR LEVER (OR GEARSHIFT LEVER) IS AT "R" POSITION

M1511024500044

1. When the selector lever (or gearshift lever) is moved to the "R" position with the rear wiper switch at the "INT" position, the wiper should operate 2 to 3 times at low speed after approximately 1 second.
2. If not, carry out troubleshooting (Refer to GROUP 54B, Symptom Chart [P.54B-57](#)).

REAR WIPER AND WASHER
REMOVAL AND INSTALLATION

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**REAR WIPER MOTOR ASSEMBLY
REMOVAL STEPS**

1. COVER
- >>C<< 2. REAR WIPER ARM
- >>B<< 3. REAR WIPER BLADE
- >>A<< 4. GROMMET
 - LIFTGATE TRIM (REFER TO GROUP 52A, LIFTGATE TRIM P.52A-36.)
5. REAR WIPER MOTOR ASSEMBLY

**REAR WASHER NOZZLE REMOVAL
STEPS**

- LIFTGATE TRIM (REFER TO GROUP 52A, LIFTGATE TRIM P.52A-36.)
- REAR WASHER TUBE CONNECTION
- 6. REAR WASHER NOZZLE

**REAR WASHER TUBE REMOVAL
STEPS**

- QUARTER WINDOW FLANGE TRIM <RH> (REFER TO GROUP 52A, TRIMS P.52A-31.)
- REAR WASHER NOZZLE CONNECTION
- 7. REAR WASHER TUBE

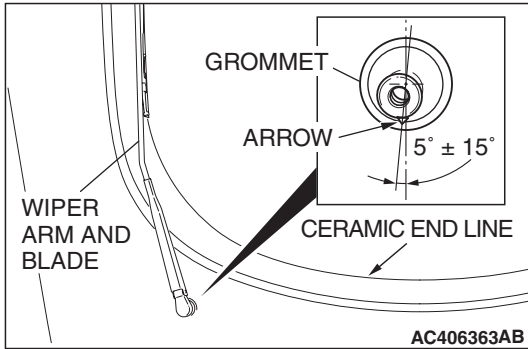
NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column Switch P.54A-149.

NOTE: For removal and installation of the washer tank assembly and rear washer motor, refer to Windshield Wiper and Washer P.51-18.

INSTALLATION SERVICE POINTS

>>A<< GROMMET INSTALLATION

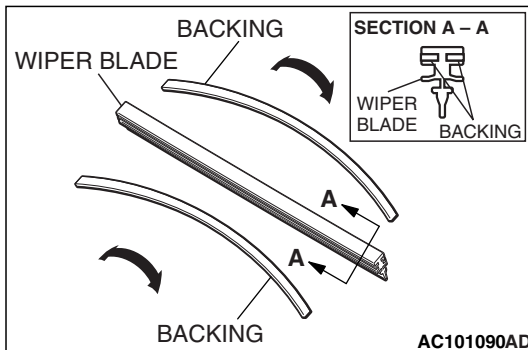
Install the grommet so that the arrow points backward.



>>B<< REAR WIPER BLADE INSTALLATION

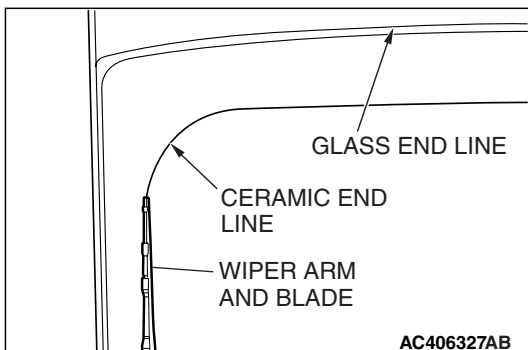
⚠ CAUTION

Ensure that the backings are bent in the direction indicated, and then install the backings to the wiper blade rubber.



>>C<< REAR WIPER ARM INSTALLATION

Install the wiper arm and blade assembly so that it is positioned on the ceramic end line.



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INSPECTION

REAR WIPER MOTOR CHECK

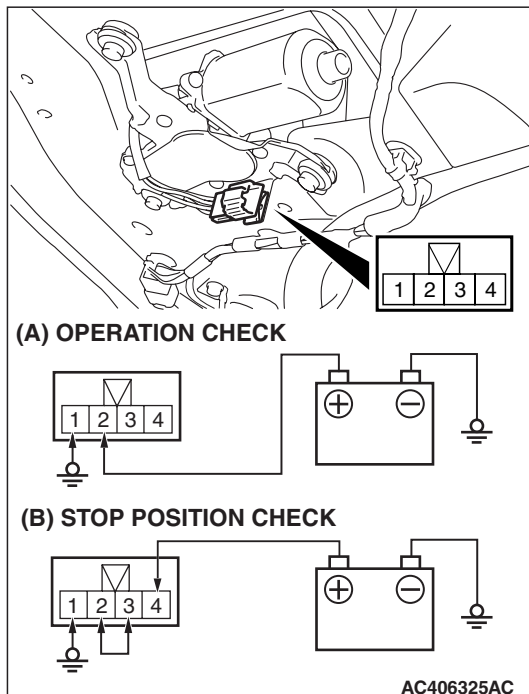
Inspect the rear wiper motor by removing the harness connector with the motor attached to the vehicle.

WIPER MOTOR OPERATION

Connect the battery to the rear wiper motor as shown in figure (A) and check the motor operation.

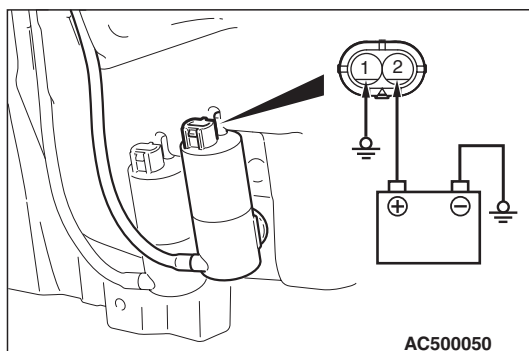
WIPER MOTOR AT STOP POSITION OPERATION

1. Connect the battery to the rear wiper motor as shown in figure (A).
2. Disconnect the battery cable from the rear wiper motor while it is turning and then check to see that the motor stops.
3. Re-connect the battery as shown in figure (B).
4. Check to see that the rear wiper motor runs and then stops at the automatic stop position.

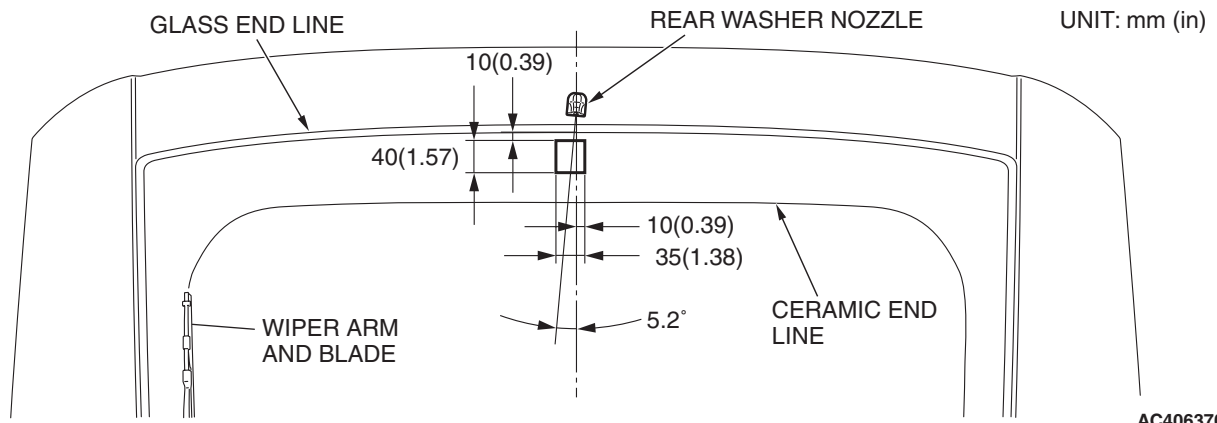


REAR WASHER MOTOR CHECK

1. Remove the rear washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to ground.



REAR WASHER FLUID EJECTION CHECK

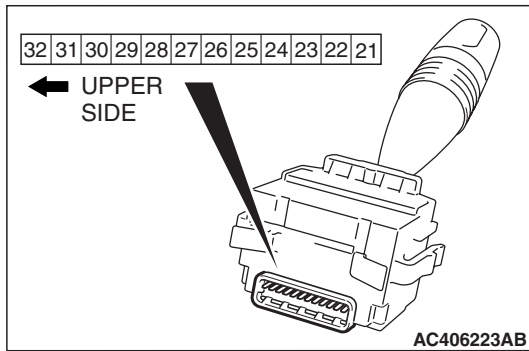


AC406370AB

Move the nozzle to adjust the position so that washer fluid is sprayed in the area shown in the illustration.

REAR WIPER AND WASHER SWITCH CHECK

Check continuity between the switch terminals.

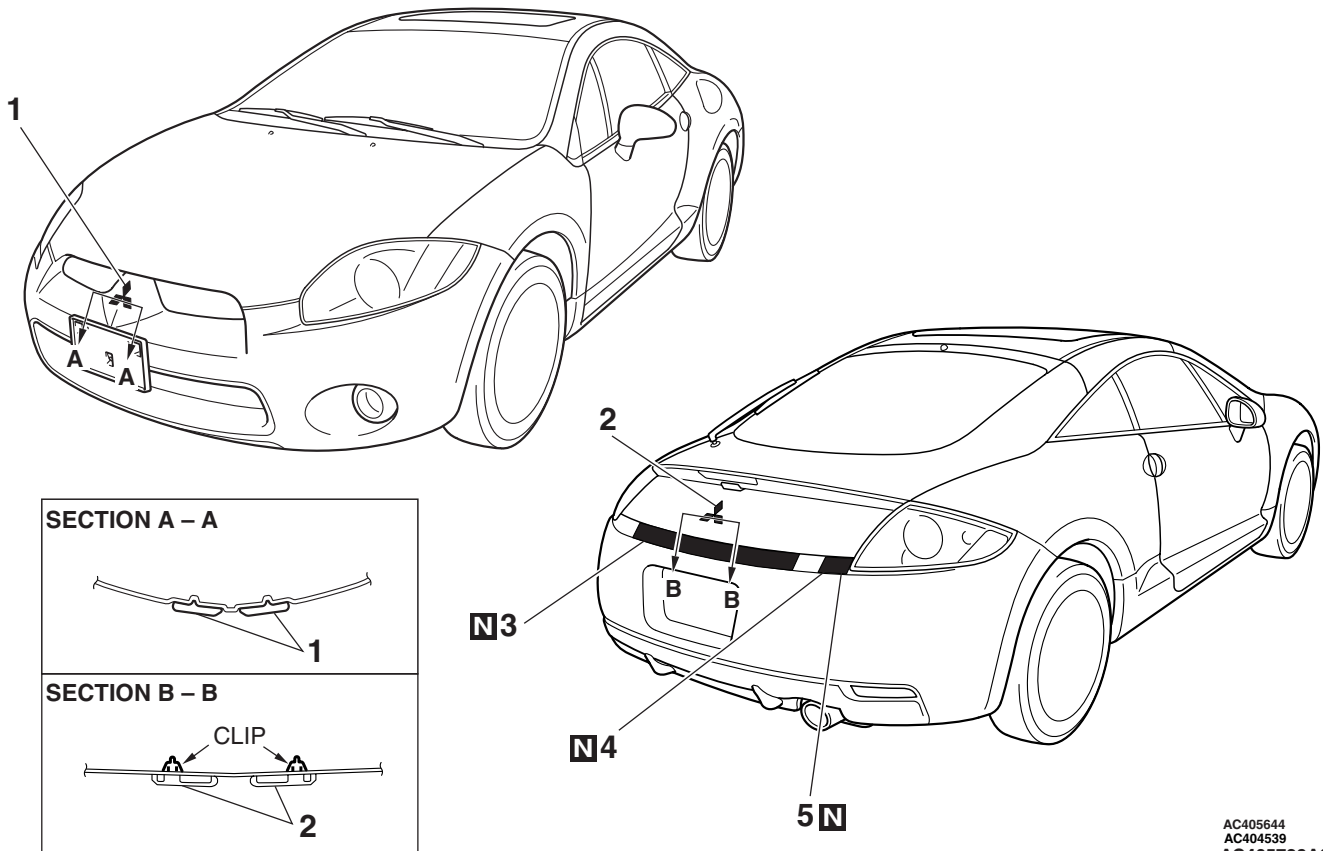


SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
OFF	25 – 26, 25 – 29	Open circuit
Rear wiper switch	25 – 26	Less than 2 ohms
Rear washer switch	25 – 29	Less than 2 ohms

MARK

REMOVAL AND INSTALLATION

M1511011801275



1. FRONT THREE-DIAMOND MARK
(REFER TO FRONT BUMPER
P.51-3)
2. REAR THREE-DIAMOND MARK

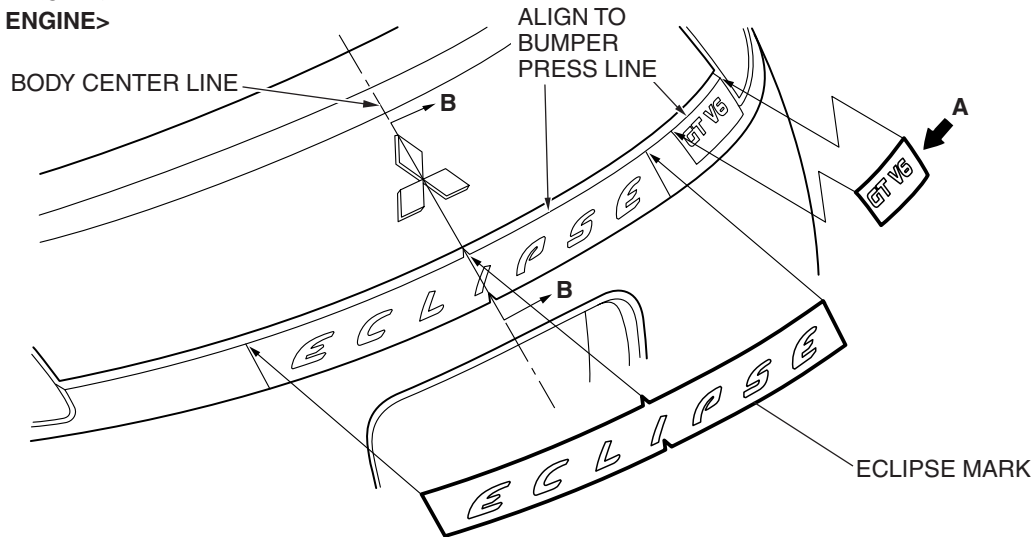
- >>A<< 3. ECLIPSE MARK
- >>A<< 4. GT MARK<3.8L ENGINE>
- >>A<< 5. V6 MARK<3.8L ENGINE>

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AC404539
AC405739AC

INSTALLATION SERVICE POINT

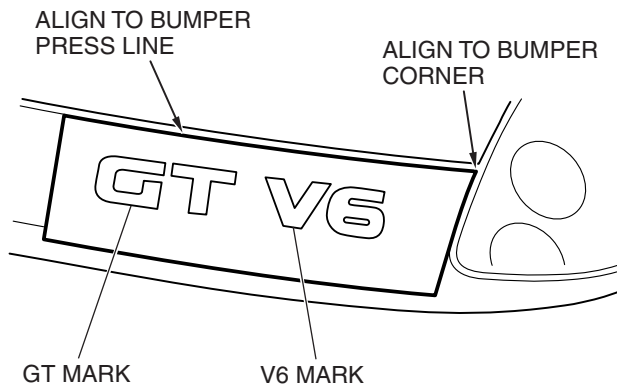
>>A<< MARK INSTALLATION

- 3. ECLIPSE MARK
- 4. GT MARK<3.8L ENGINE>
- 5. V6 MARK<3.8L ENGINE>

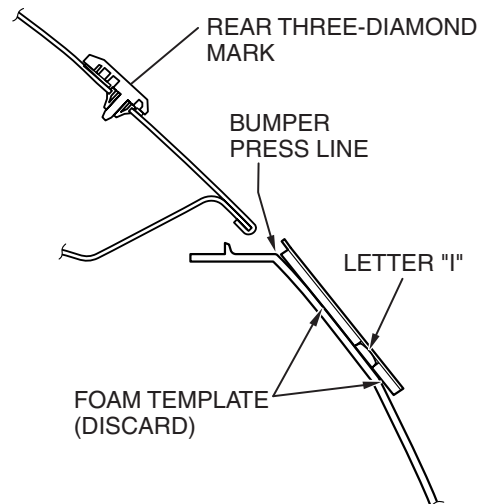


AC405747AB

VIEW A



SECTION B - B



AC405959AB

1. Installation position
Attach each mark to the position shown in the illustration.
2. Installation procedure
 - (1) Use 3M™ AAD Part number 8906 or equivalent to clean the mark installation surfaces on the body.

CAUTION

When attaching the marks, the ambient temperature should be 20 –38° C (60 –100° F) and the air should be completely free of dust. If the ambient temperature is lower than 20° C (60° F), the marks and the places on the vehicle body where the marks are to be attached should be heated to 20 –38° C (60 –100° F).

- (2) Peel off the protection sheet on the back of the marks to affix it in position.

DOOR MIRROR

GENERAL DESCRIPTION

OPERATION DOOR MIRROR

Remote Controlled Mirror Operation

- The mirror on the door mirror moves up/down and left/right by operating the remote controlled door mirror switch when the ignition switch is at the "ON" or "ACC" position.

Heated Door Mirror Operation

- The rear window defogger relay switch is activated (ON) by turning on the A/C-ECU built-in rear window defogger switch when the ignition switch is in the "ON" position. When the rear window defogger relay is turned ON, power is sup-

plied to the rear window defogger and door mirror, and the heater of the door mirror (heated door mirror) starts operations. The rear window defogger comes with a timer function and will automatically turn OFF the switch approximately 17 minutes after the rear window defogger switch is turned ON. The heated door mirror operations are also terminated along with the rear window defogger, at this time.

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HEATED DOOR MIRROR DIAGNOSIS

TROUBLESHOOTING STRATEGY

Diagnosis should be carried out by the following procedures.

1. Gather the information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by the following Symptom Chart.
4. Verify the malfunction is eliminated.

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SYMPTOM CHART

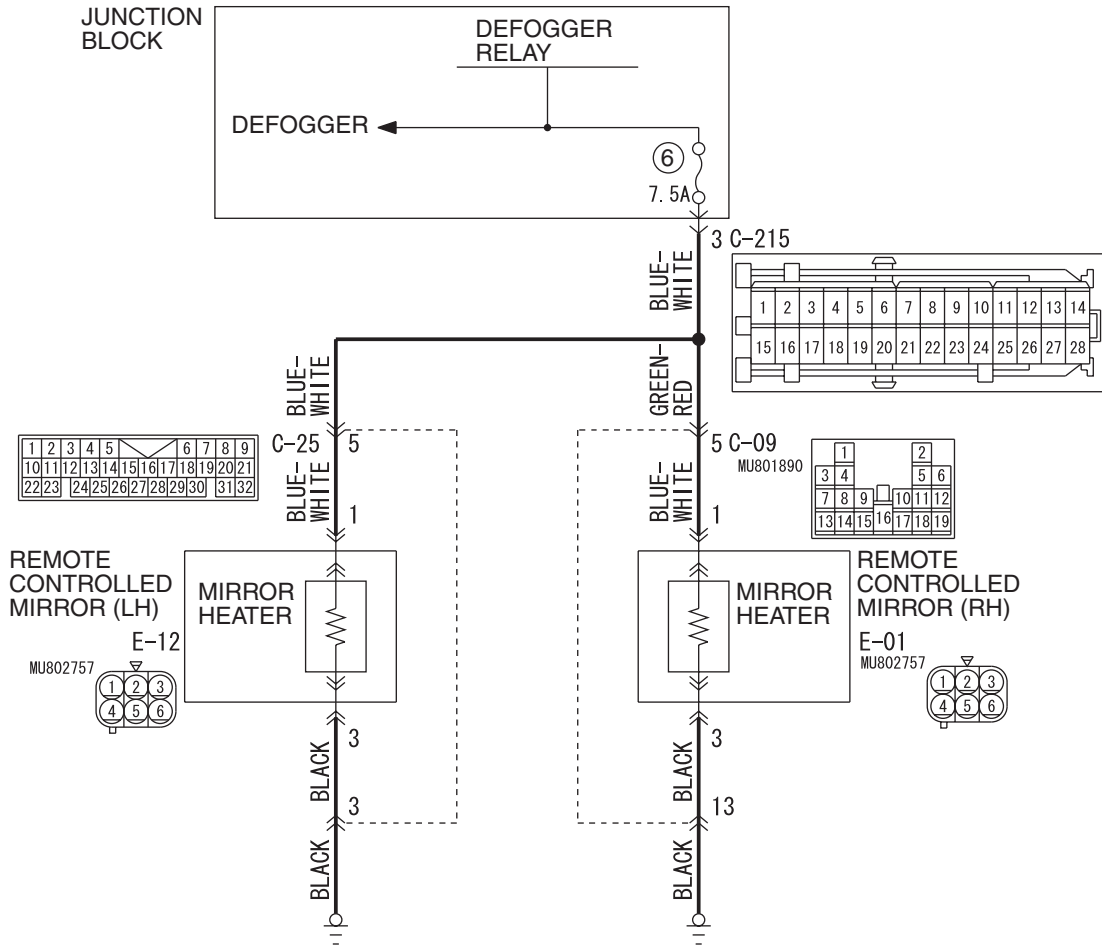
M1511015000364

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
All heated door mirrors do not operate	1	P.51-28
The right or left heated door mirror does not operate	2	P.51-33

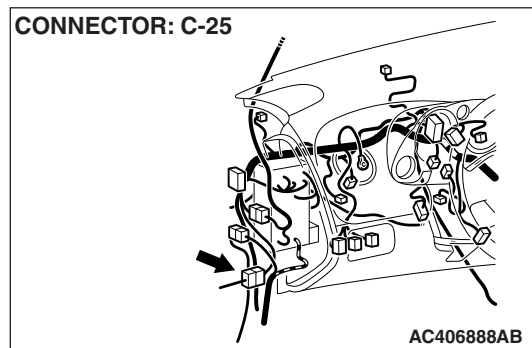
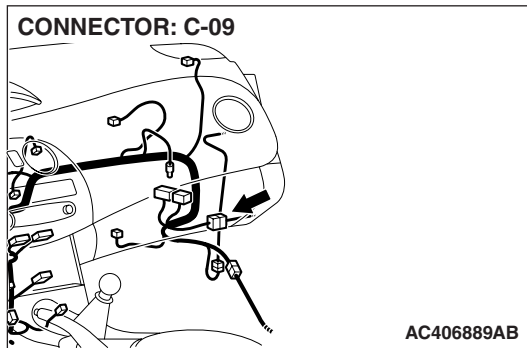
SYMPTOM PROCEDURES

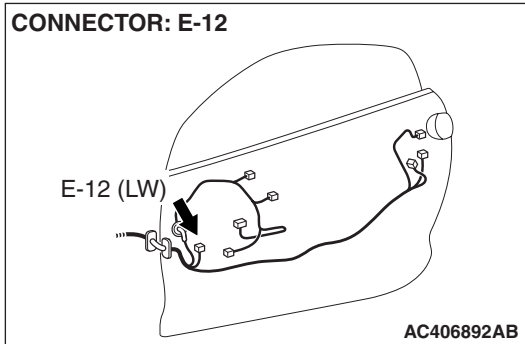
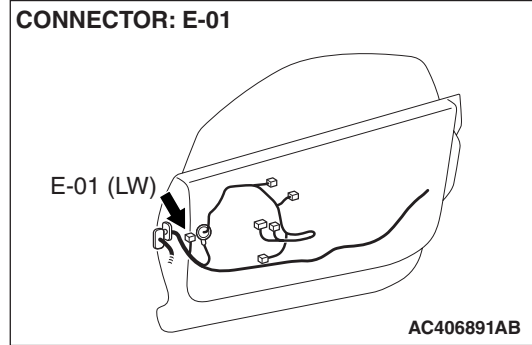
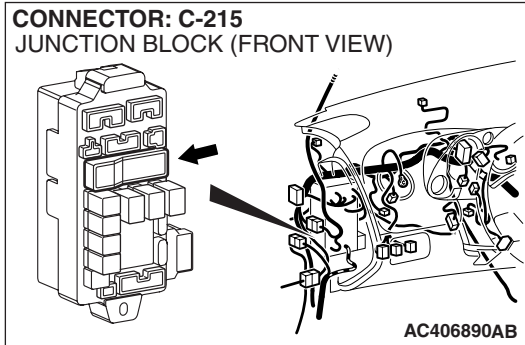
INSPECTION PROCEDURE 1: All Heated Door Mirrors do not Operate

Heated Door Mirror Circuit



W6P51M000A





CIRCUIT OPERATION

If both of the door mirror heaters do not operate normally it may be due to a malfunction in the rear window defogger system.

TROUBLESHOOTING HINTS

- Malfunction of the rear window defogger system
- The wiring harness or connectors may have loose, corroded or damaged terminals, or terminals pushed back in the connector.

DIAGNOSIS

Required Special Tools:

- MB991223: Test Harness Set

STEP 1. Check the rear window defogger.

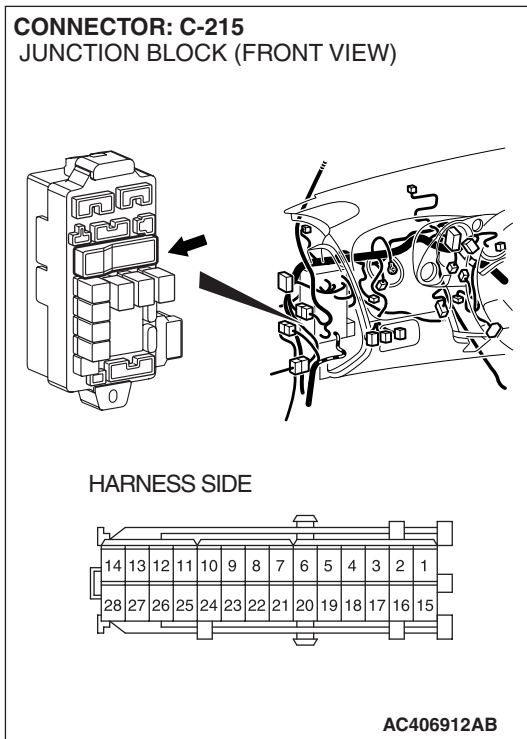
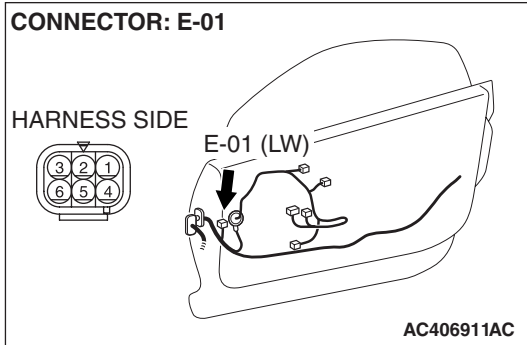
Check that the rear window defogger works normally as follows.

- (1) Turn the ignition switch to the "ON" position.
- (2) Push the rear window defogger switch to operate the defogger.

Q: Does the defogger work normally?

YES : Go to Step 2.

NO : Because of malfunction of the rear window defogger, carry out the troubleshooting (Refer to GROUP 55A, Manual A/C Diagnosis [P.55A-98](#)).



STEP 2. Check the remote controlled mirror (RH) connector E-01 and junction block connector C-215 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

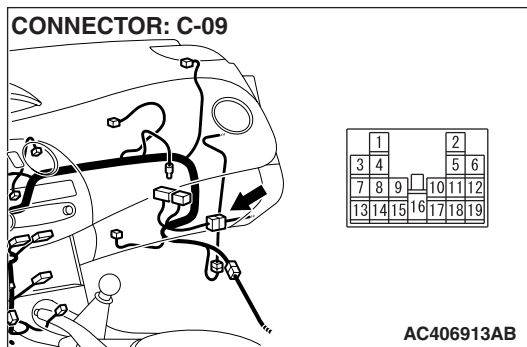
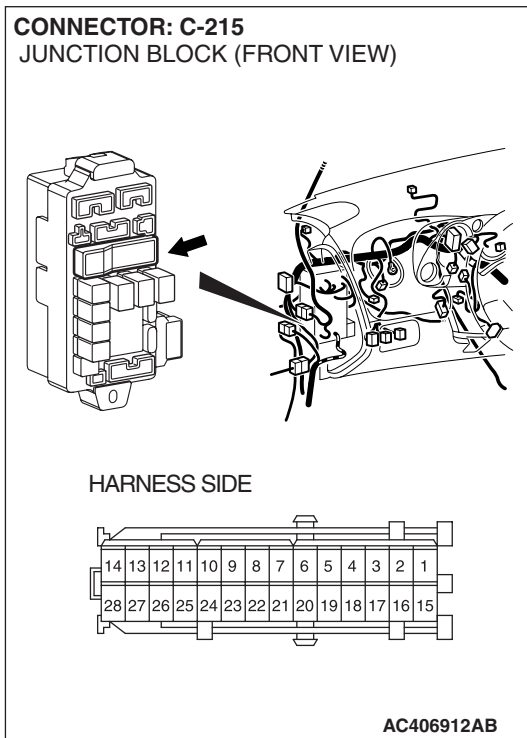
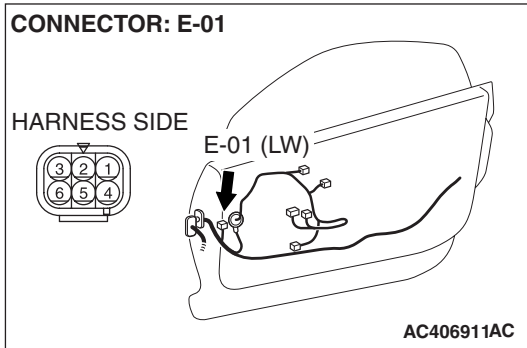
Q: Are the remote controlled mirror (RH) connector E-01 and junction block connector C-215 in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

[P.00E-2](#). Check if the door mirrors works normally.

STEP 3. Check the wiring harness between the remote controlled mirror (RH) connector E-01 (terminal 1) and junction block connector C-215 (terminal 3).



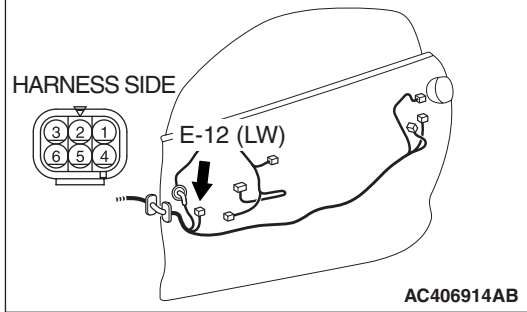
NOTE: Also check intermediate connector C-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

Q: Is the wiring harness between remote controlled mirror (RH) connector E-01 (terminal 1) and junction block connector C-215 (terminal 3) in good condition?

YES : Go to step 4.

NO : Repair the wiring harness as necessary. Check if all heated door mirrors work normally.

CONNECTOR: E-12



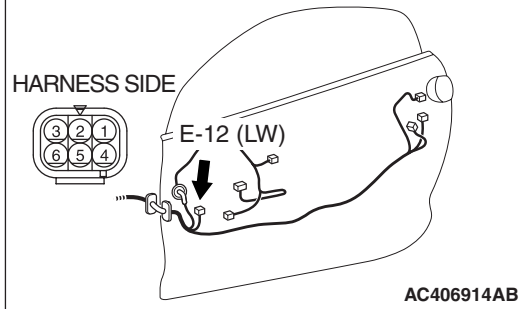
STEP 4. Check remote controlled mirror (LH) connector E-12.

Q: Is remote controlled mirror (LH) connector E-12 in good condition?

YES : Go to Step 5.

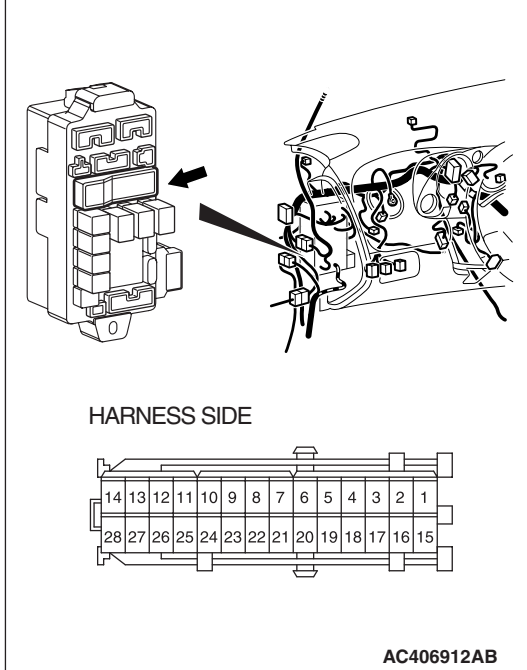
NO : Repair or replace the damaged component(s). Check if all heated door mirrors work normally.

CONNECTOR: E-12



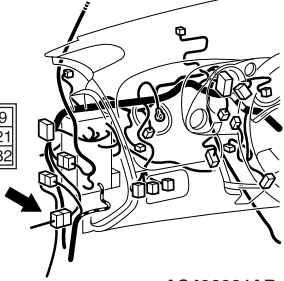
STEP 5. Check the wiring harness between remote controlled mirror (LH) connector E-12 (terminal 1) and junction block connector C-215 (terminal 3).

CONNECTOR: C-215
JUNCTION BLOCK (FRONT VIEW)



CONNECTOR: C-25

1	2	3	4	5	6	7	8	9			
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	32	



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NOTE: Also check intermediate connector C-25 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

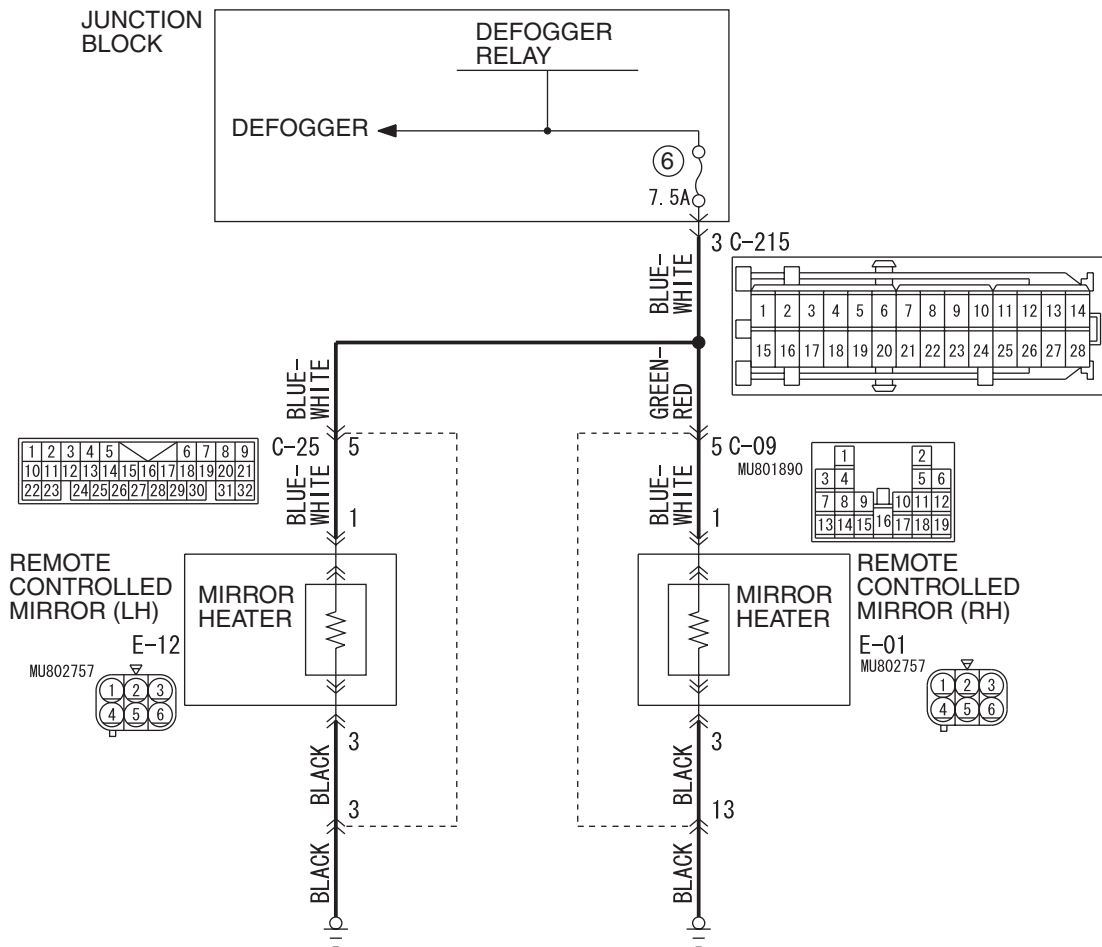
Q: Is the wiring harness between remote controlled mirror (RH) connector E-12 (terminal 1) and junction block connector C-215 (terminal 3) in good condition?

YES : The procedure is complete.

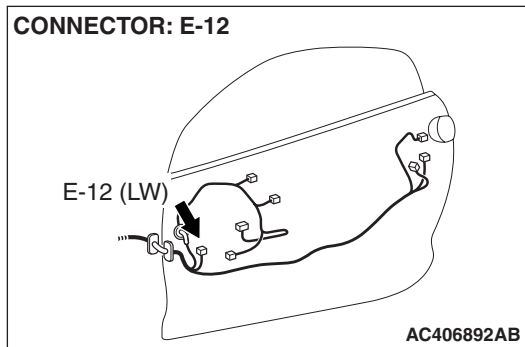
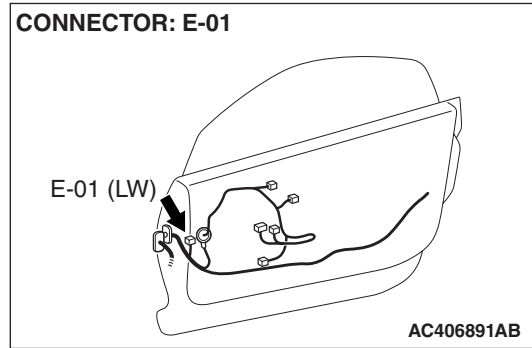
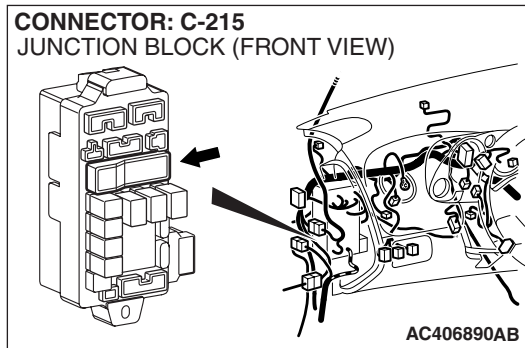
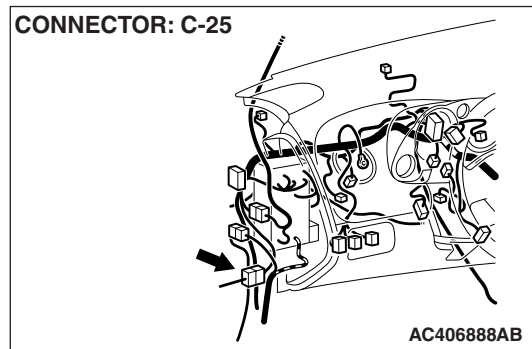
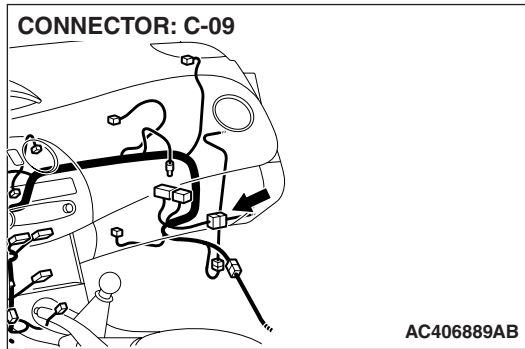
NO : Repair the wiring harness as necessary. Check if the all heated door mirrors work normally.

INSPECTION PROCEDURE 2: The Right or Left Heated Door Mirror does not Operate

Heated Door Mirror Circuit



W6P51M000A



CIRCUIT OPERATION

If either of the heated door mirrors do not operate normally, it may be due to malfunctions in the heated door mirror circuit or door mirror.

TROUBLESHOOTING HINTS

- Malfunction of the heated door mirror circuit
- Malfunction of the door mirror
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector.

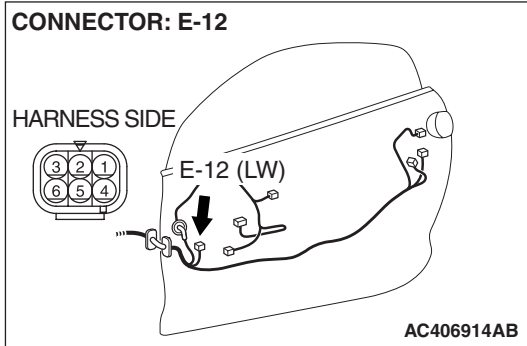
DIAGNOSIS

STEP 1. Verify the operation of each heated door mirror.

Q: Which door mirror does not heat?

Door mirror (LH) : Go to Step 2.

Door mirror (RH) : Go to Step 8.



STEP 2. Check remote controlled mirror (LH) connector E-12 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is remote controlled mirror (LH) connector E-12 in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (LH) operates normally.

STEP 3. Check the heater of the door mirror (LH).

⚠ CAUTION

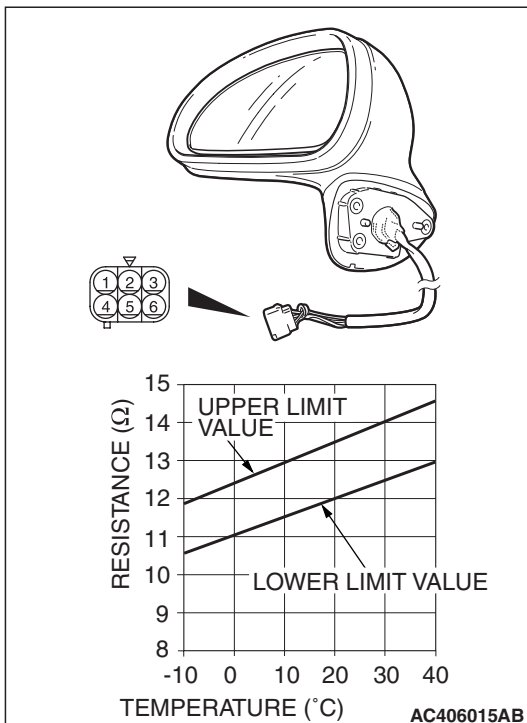
When relocating the car between locations of extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

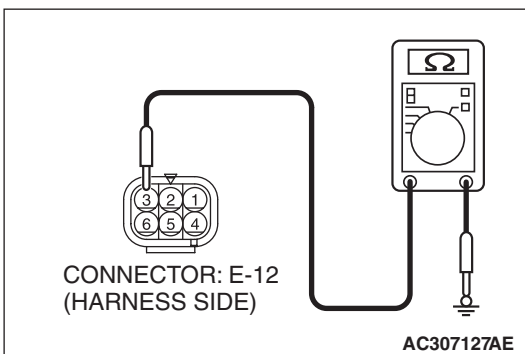
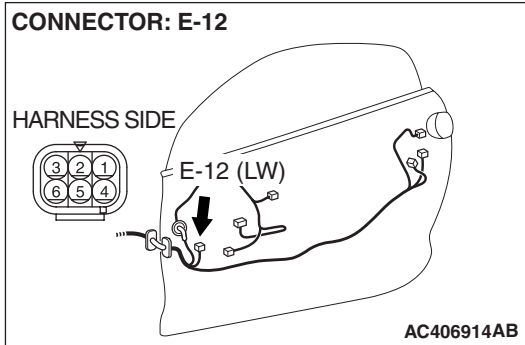
Check to see that the resistance shown in the graph is almost satisfied when measuring the resistance between terminal 1 and 3 of the remote controlled mirror (LH) connector E-12.

Q: Is the resistance normal?

YES : Go to Step 4.

NO : Replace the door mirror (LH). And then check to see that the heater function of the door mirror (LH) is operating normally.





STEP 4. Check the ground circuit between remote controlled mirror (LH) connector E-12 and ground for open circuit. Measure the resistance at remote controlled mirror (LH) connector E-12.

(1) Disconnect remote controlled mirror (LH) connector E-12 and check at the wiring harness side connector.

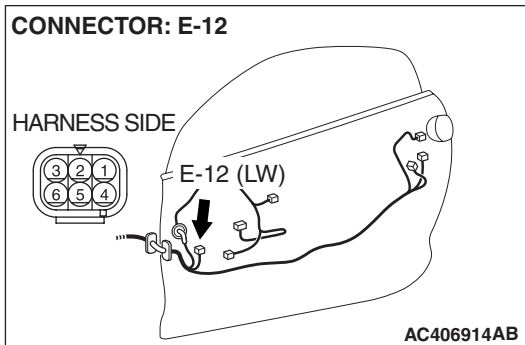
(2) Measure the resistance value between terminal 3 and ground.

- The resistance should be 2 ohms or less.

Q: Is the measured resistance 2 ohms or less?

YES : Go to Step 6.

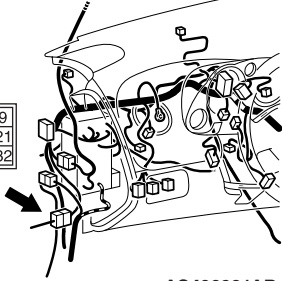
NO : Go to Step 5.



STEP 5. Check the wiring harness between remote controlled mirror (LH) connector E-12 (terminal 3) and ground.

CONNECTOR: C-25

1	2	3	4	5	6	7	8	9			
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	32	



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NOTE: Also check intermediate connector C-25 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

Q: Is the wiring harness between remote controlled mirror (LH) connector E-12 (terminal 3) and ground in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged. Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (LH) operates normally.

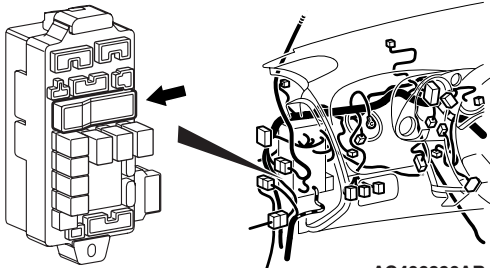
STEP 6. Check junction block C-215 for loose, corroded damaged terminal, or terminals pushed back in the connector.

Q: Is junction block C-215 in good condition?

YES : Go to Step 7.

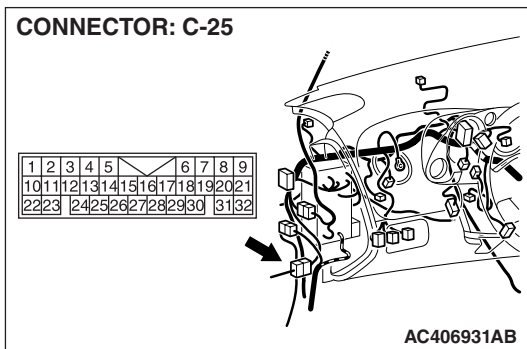
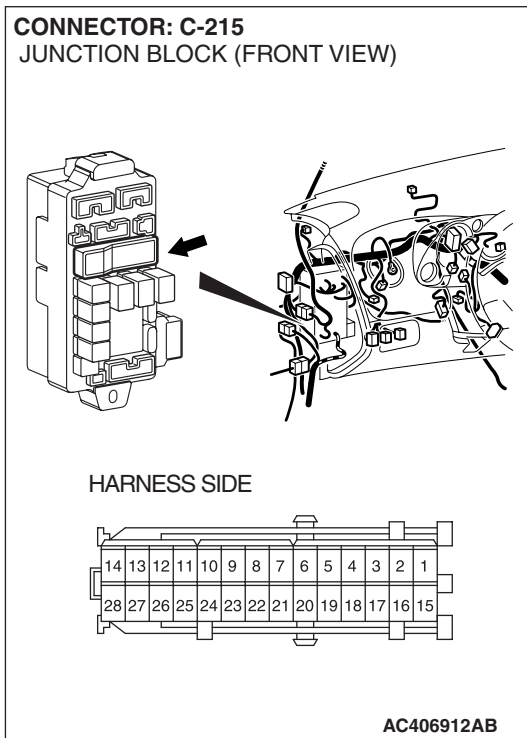
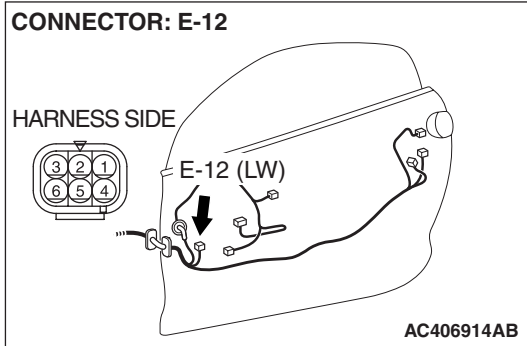
NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. And then check to see that the heater function of the door mirror (LH) operates normally.

CONNECTOR: C-215
JUNCTION BLOCK (FRONT VIEW)



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STEP 7. Check the wiring harness between remote controlled mirror (LH) connector E-12 (terminal 1) and junction block connector C-215 (terminal 3).

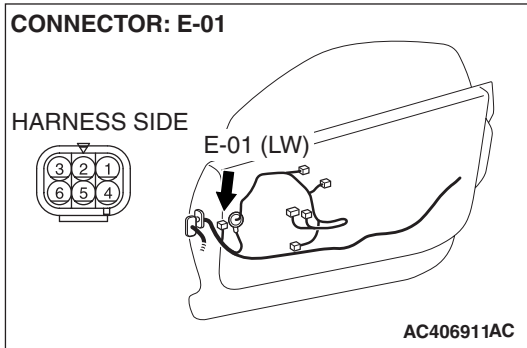


NOTE: Also check intermediate connector C-25 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

Q: Is the wiring harness between remote controlled mirror (LH) connector E-12 (terminal 1) and junction block connector C-215 (terminal 3) in good condition?

YES : No action is necessary and testing is complete.

NO : Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (LH) operates normally.



STEP 8. Check the remote controlled mirror (RH) connector E-01 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the remote controlled mirror (RH) connector E-01 in good condition?

YES : Go to Step 9.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (RH) operates normally.

STEP 9. Check the heater function of the door mirror (RH).

⚠ CAUTION

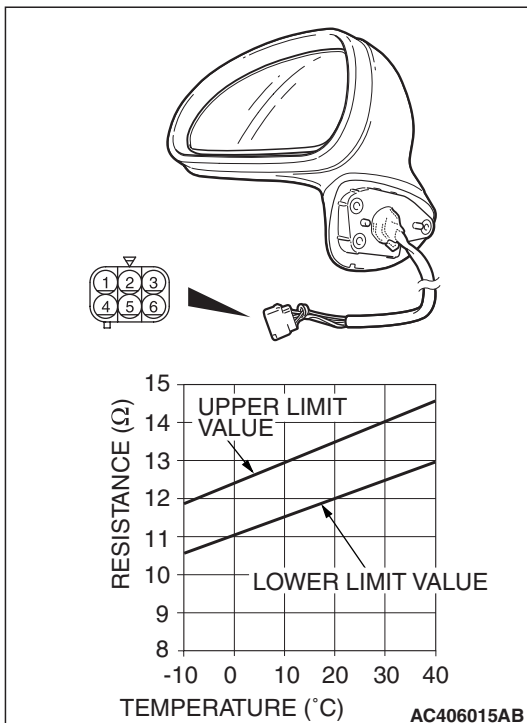
When relocating the car between locations of extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

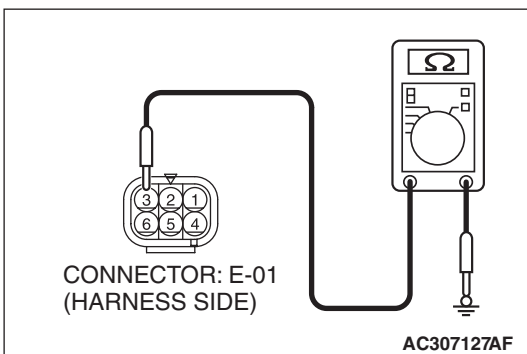
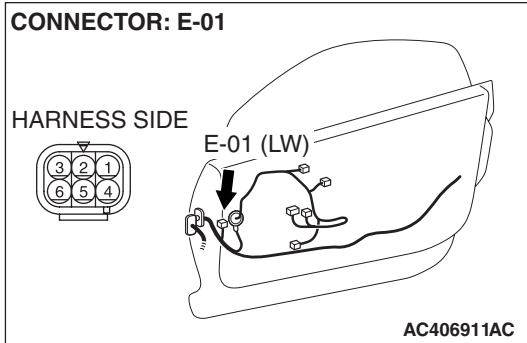
Check to see that the resistance shown in the graph is almost satisfied when measuring the resistance between terminal 1 and 3 of the door mirror (RH) connector E-01.

Q: Is the resistance normal?

YES : Go to Step 10.

NO : Replace the door mirror (RH). And then check to see that the heater function of the door mirror (RH) operates normally.





STEP 10. Check the ground circuit between remote controlled mirror (RH) connector E-01 and ground for open circuit. Measure the resistance at remote controlled mirror (RH) connector E-01.

(1) Disconnect remote controlled mirror (RH) connector E-01, and check at the wiring harness side connector.

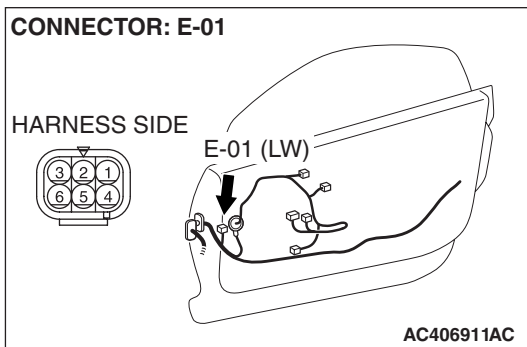
(2) Measure the resistance value between terminal 3 and ground.

- The resistance should be 2 ohms or less.

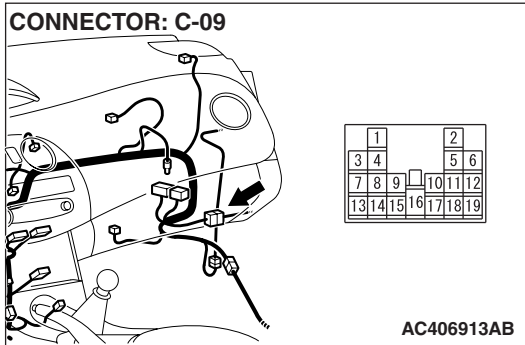
Q: Is the measured resistance 2 ohms or less?

YES : Go to Step 12.

NO : Go to Step 11.



STEP 11. Check the wiring harness between remote controlled mirror (RH) connector E-01 (terminal 3) and ground.

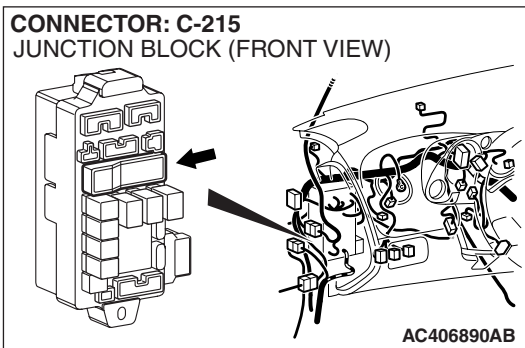


NOTE: Also check intermediate connector C-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

Q: Is the wiring harness between remote controlled mirror (RH) connector E-01 (terminal 3) and ground in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged. Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (RH) operates normally.



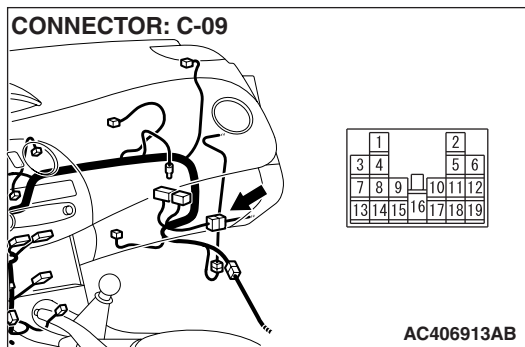
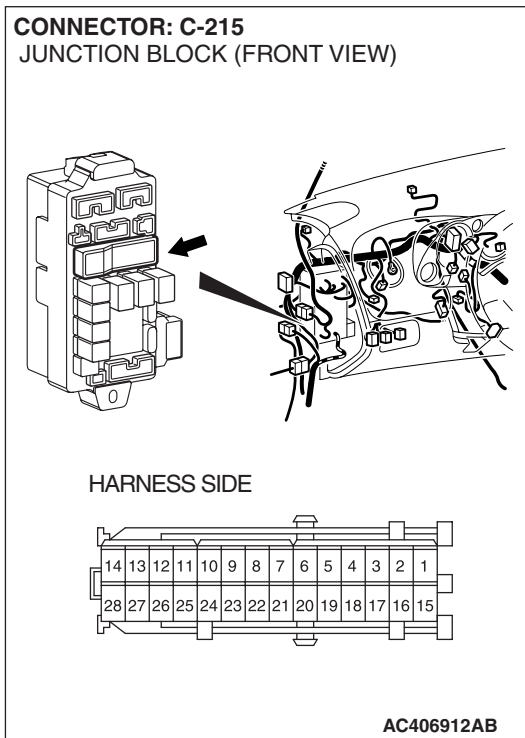
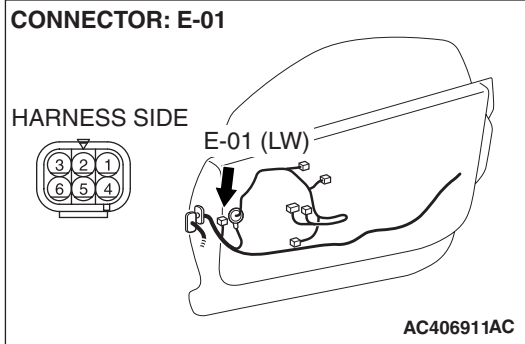
STEP 12. Check junction block C-215 for loose, corroded damaged terminal, or terminals pushed back in the connector.

Q: Is junction block C-215 in good condition?

YES : Go to Step 13.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. And then check to see that the heater function of the door mirror (RH) operates normally.

STEP 13. Check the wiring harness between remote controlled mirror (RH) connector E-01 (terminal 1) and junction block connector C-215 (terminal 3).



NOTE: Also check intermediate connector C-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, *Harness Connector Inspection* [P.00E-2](#).

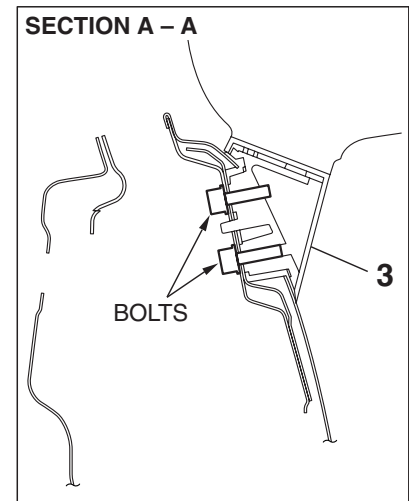
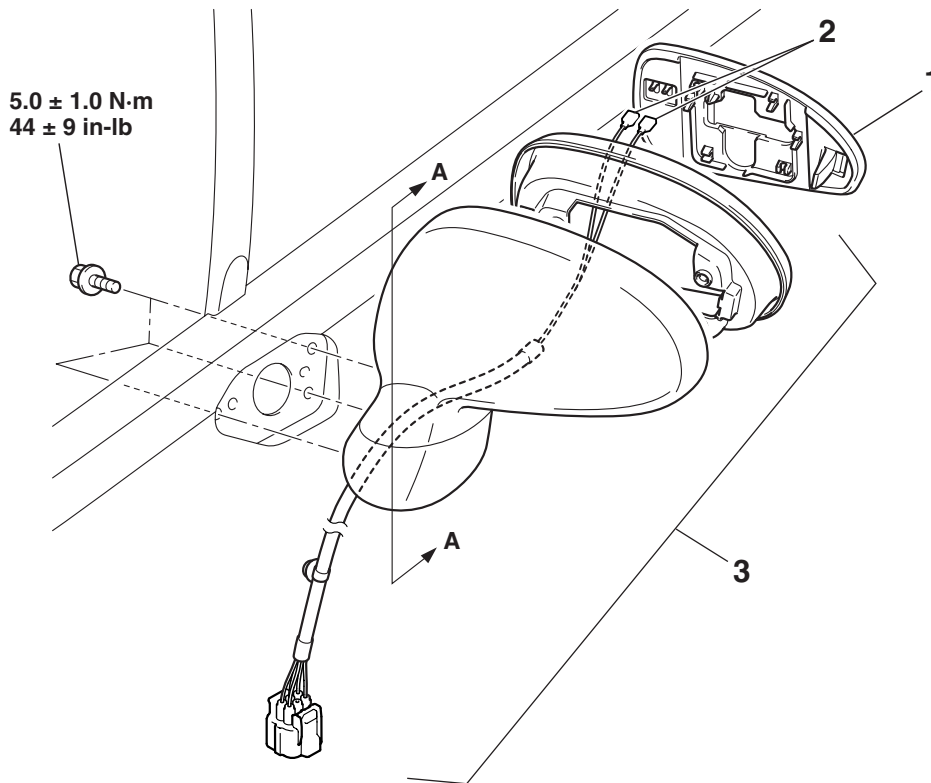
Q: Is the wiring harness between remote controlled mirror (RH) connector E-01 (terminal 1) and junction block connector C-215 (terminal 3) in good condition?

YES : No action is necessary and testing is complete.

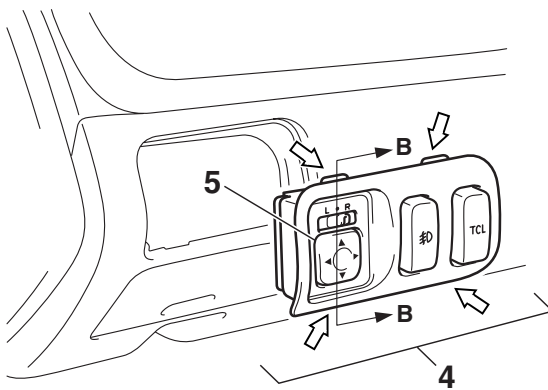
NO : Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (RH) operates normally.

DOOR MIRROR
REMOVAL AND INSTALLATION

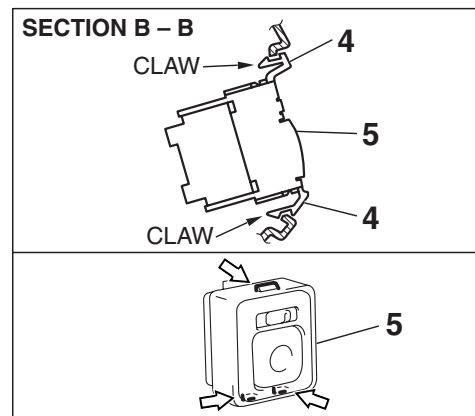
M1511006400665



AC406682AB



← : CLAW POSITIONS



AC406305AB

DOOR MIRROR REMOVAL STEPS

- FRONT DOOR TRIM (REFER TO GROUP 52A, DOOR TRIMS P.52A-34).
1. MIRROR
 2. HEATER TERMINAL (VEHICLES WITH HEATED DOOR MIRROR)
 3. DOOR MIRROR ASSEMBLY

<<A>>

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REMOTE CONTROLLED MIRROR SWITCH REMOVAL STEPS

4. INSTRUMENT PANEL SWITCH ASSEMBLY
5. REMOTE CONTROLLED MIRROR SWITCH

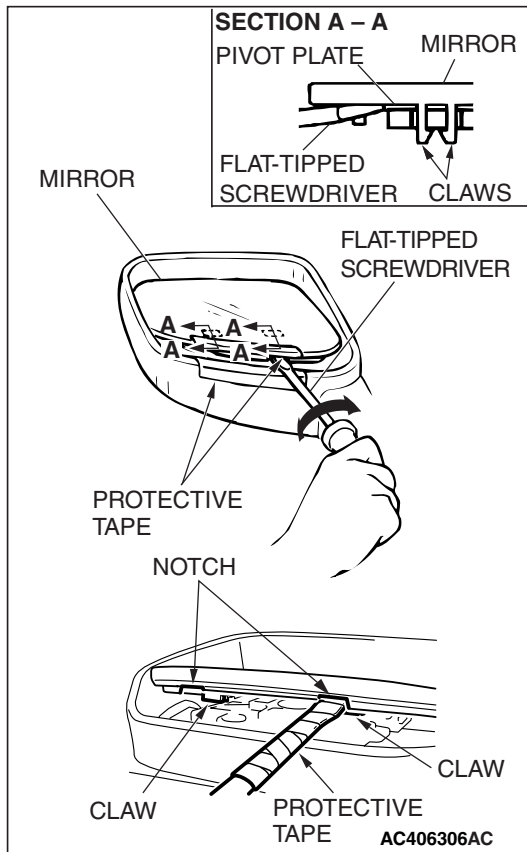
REMOVAL SERVICE POINTS

<<A>> MIRROR REMOVAL

⚠ CAUTION

The claws of the mirror are prone to breakage when working in cold temperatures. Always warm up the mirror claws and their periphery to 20° C (60° F) or higher before handling.

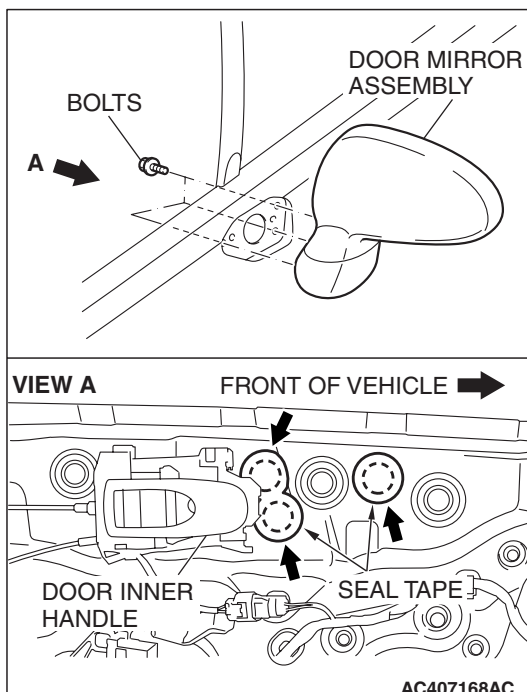
Slant the mirror upward with your hands. Then insert a flat-tipped screwdriver wrapped with protective tape between the pivot plate and mirror through the notch from behind the mirror. Now pry off the mirror claws and remove mirror as shown.



<> DOOR MIRROR ASSEMBLY REMOVAL

⚠ CAUTION

When loosening or tightening the door mirror assembly mounting bolts, use a magnetic wrench to prevent bolts from dropping into the door panel cavity.

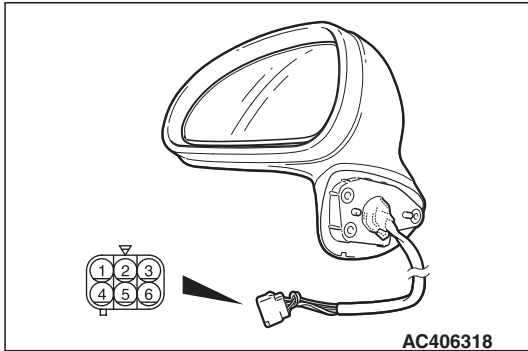


INSPECTION

M1511006500424

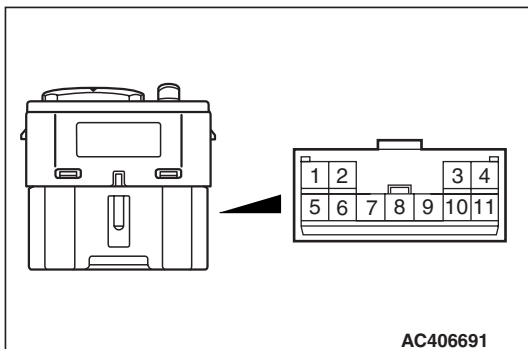
REMOTE CONTROLLED MIRROR OPERATION
CHECK

Check that the mirror moves as described in the table when each terminal is connected to the battery.



BATTERY CONNECTION	DIRECTION OPERATION
<ul style="list-style-type: none"> Connect terminal 6 to the negative battery terminal. Connect terminal 4 to the positive battery terminal. 	Up
<ul style="list-style-type: none"> Connect terminal 6 to the positive battery terminal. Connect terminal 4 to the negative battery terminal. 	Down
<ul style="list-style-type: none"> Connect terminal 6 to the negative battery terminal. Connect terminal 5 to the positive battery terminal. 	Right
<ul style="list-style-type: none"> Connect terminal 6 to the positive battery terminal. Connect terminal 5 to the negative battery terminal. 	Left

DOOR MIRROR CONTROL SWITCH CONTINUITY
CHECK



SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION		
OFF	9 - 2, 9 - 3, 9 - 6, 9 - 10, 9 - 11, 1 - 2, 1 - 3, 1 - 6, 1 - 10, 1 - 11	Open circuit		
Left side	OFF	9 - 6, 9 - 10, 9 - 11, 1 - 6, 1 - 10, 1 - 11	Open circuit	
	Up	1 - 6, 9 - 11	Less than 2 ohms	
	Down	1 - 11, 6 - 9		
	Right	1 - 6, 9 - 10		
Right side	Left	1 - 10, 6 - 9	Open circuit	
	OFF	9 - 2, 9 - 3, 9 - 6, 1 - 2, 1 - 3, 1 - 6		
	Up	1 - 6, 3 - 9		Less than 2 ohms
	Down	1 - 3, 6 - 9		
Right	1 - 6, 2 - 9	Open circuit		
Left	1 - 2, 6 - 9			

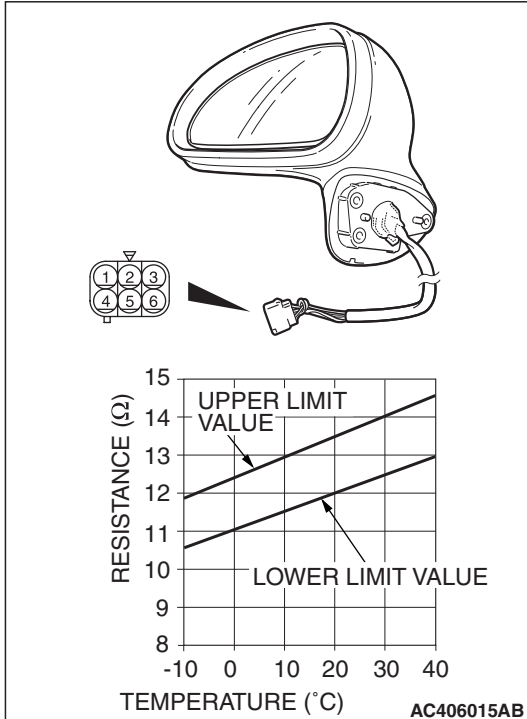
HEATED DOOR MIRROR CHECK

⚠ CAUTION

When relocating the car between locations with extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

Check to see that the resistance shown in the graph is almost satisfied when measuring the resistance of terminal 1 and 3 of the door mirror connectors.

If the resistance is not within the specified range, replace the door mirror.



SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1511015300376

ITEM	SPECIFICATION
Front bumper	
Front license plate garnish screw	0.9 ± 0.1 N· m (8 ± 1 in-lb)
Front bumper reinforcement nut	23 ± 4 N· m (17 ± 3 ft-lb)
Rear bumper	
Rear bumper reinforcement nut	23 ± 4 N· m (17 ± 3 ft-lb)
Front pillar garnish	
Front pillar garnish screw	1.5 ± 0.2 N· m (13 ± 2 in-lb)
Side Air Dam	
Front side air dam bolt	1.5 ± 0.2 N· m (13 ± 2 in-lb)
Windshield wiper and washer	
Wiper arm and blade assembly nut	30 ± 3.0 N· m (22 ± 2 ft-lb)
Wiper link assembly bolt	8.0 ± 2.0 N· m (71 ± 18 in-lb)
Washer tank bolt	12 ± 1.0 N· m (101 ± 14 in-lb)
Rear wiper and washer	
Wiper arm and blade assembly nut	7.4 ± 1.4 N· m (65 ± 13 in-lb)
Wiper motor bolt	7.4 ± 1.4 N· m (65 ± 13 in-lb)
Door mirror	
Door mirror assembly bolt	5.0 ± 1.0 N· m (44 ± 9 in-lb)

SERVICE SPECIFICATIONS

M1511000300648

ITEM	STANDARD VALUE
Windshield wiper blade (RH) park position	61 mm (2.40 inches)
Windshield wiper blade (LH) park position	34 mm (1.33 inches)

ADHESIVE

M1511000501043

ITEM	SPECIFICATION
Front three-diamond mark	Adhesive tape: Double-sided tape 0.8 mm (0.03 inch) thickness
Roof drip molding	Adhesive tape: Double-sided tape 10.0 mm (0.39 inch) width and 1.52 mm (0.06 inch) thickness

NOTES