

GROUP 51

EXTERIOR

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FRONT BUMPER ASSEMBLY

ADHESIVE

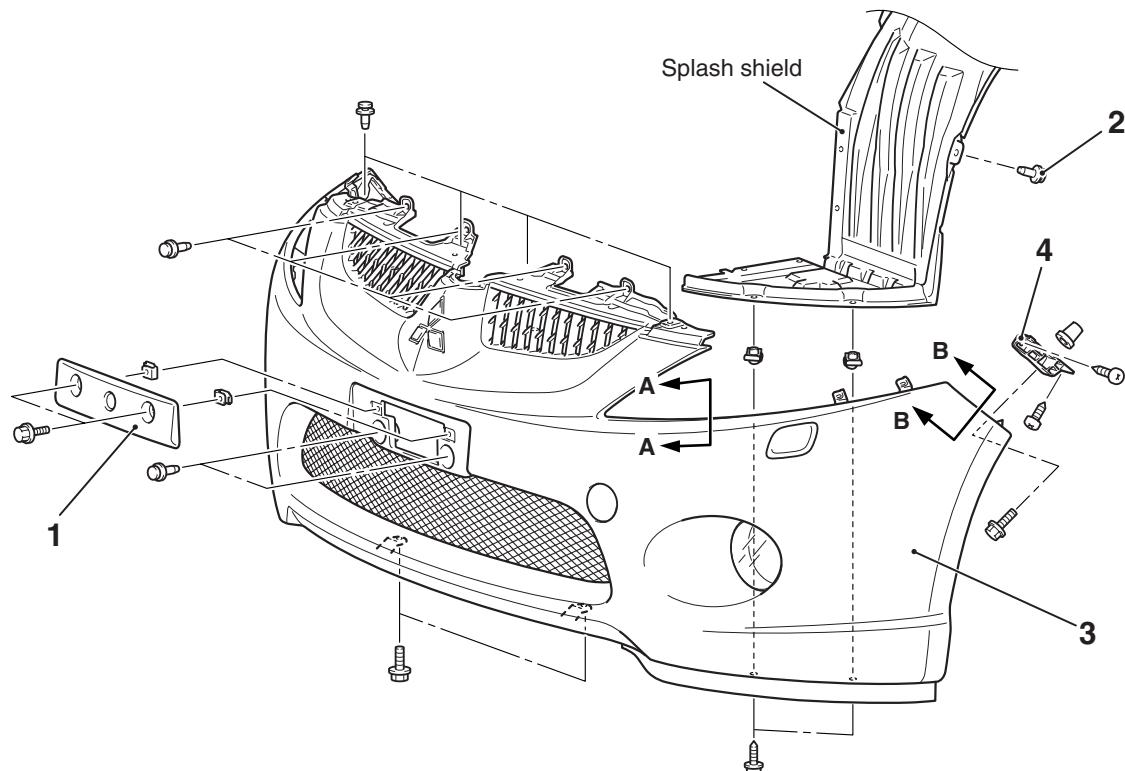
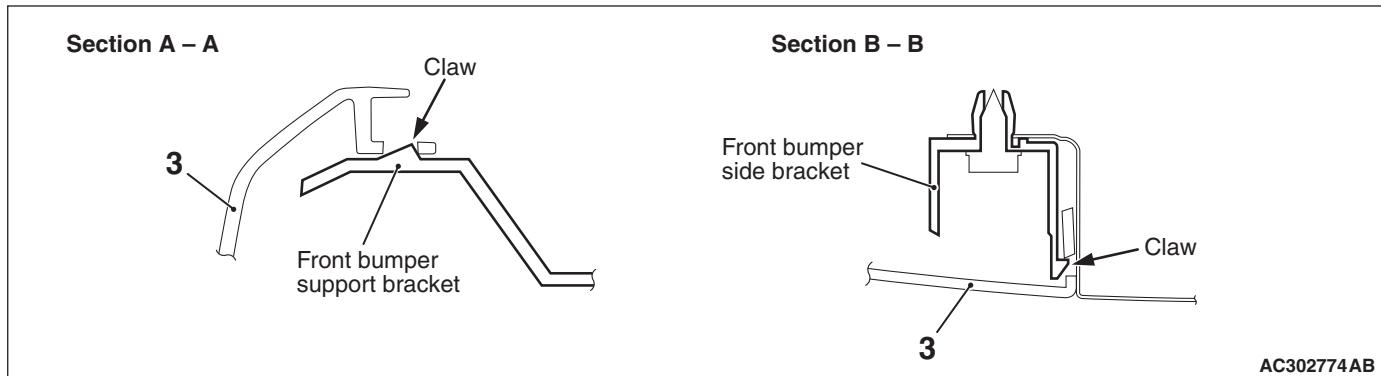
M1511000500534

Application	Specified adhesive
Front three-diamond mark	Double-sided tape [20 mm width 1.2 mm thickness]

FRONT BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001400648



AC311852AB

Removal steps

1. Licence plate bracket
2. Splash shield mounting clips
- Fog lamp connector connection

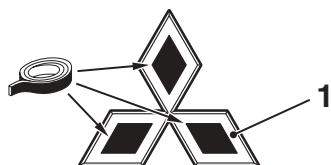
Removal steps (Continued)

- Headlamp washer hose connection
- 3. Front bumper assembly
- 4. Front bumper side bracket

DISASSEMBLY AND REASSEMBLY

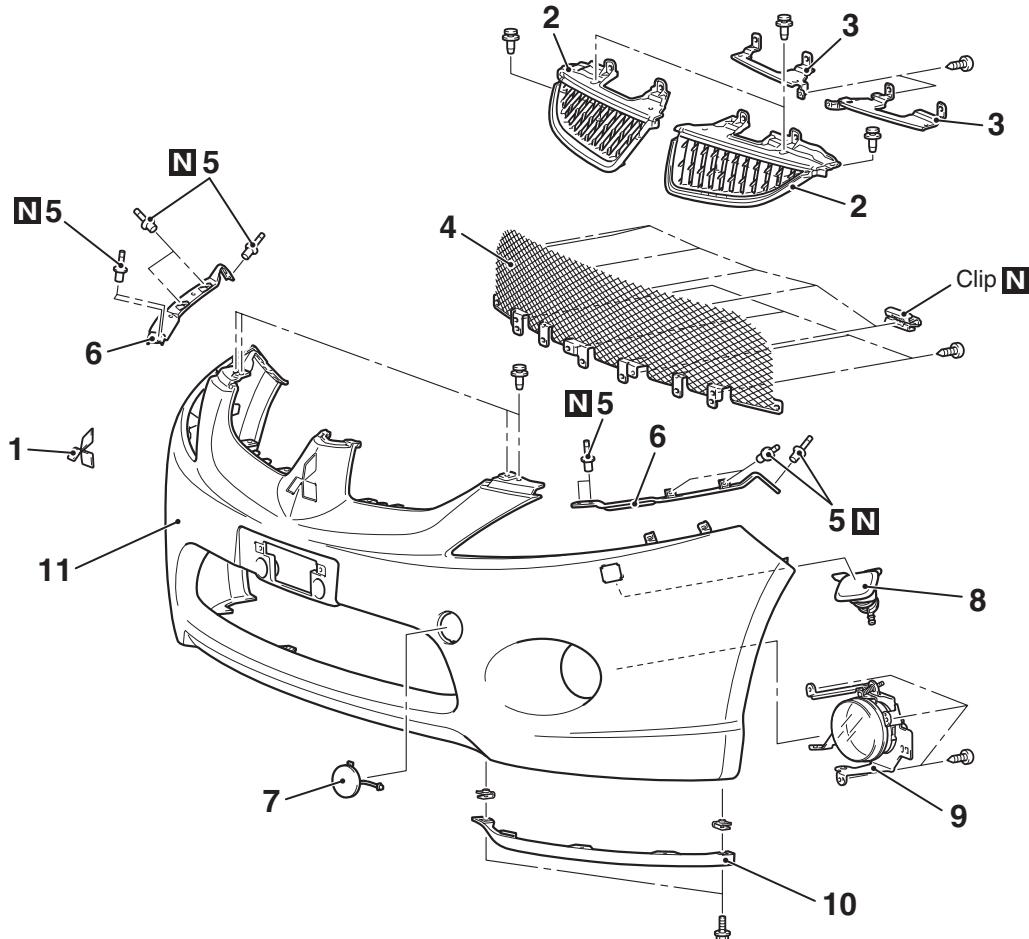
M1511001600631

Double-sided tape affixed location



Double-sided tape:
Generic products [20 mm width and 1.2 mm thickness]

AC311138AB



AC310587AB

Removal steps

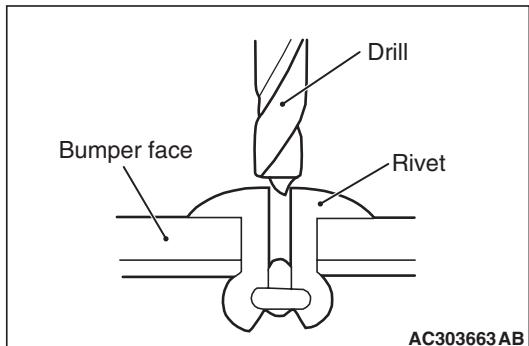
- Front three-diamond mark
- Front bumper upper grille
- Front grille upper reinforcement
- Bumper centre net
- Rivets
- Front bumper side plate

<<A>> >>A<<

Removal steps (Continued)

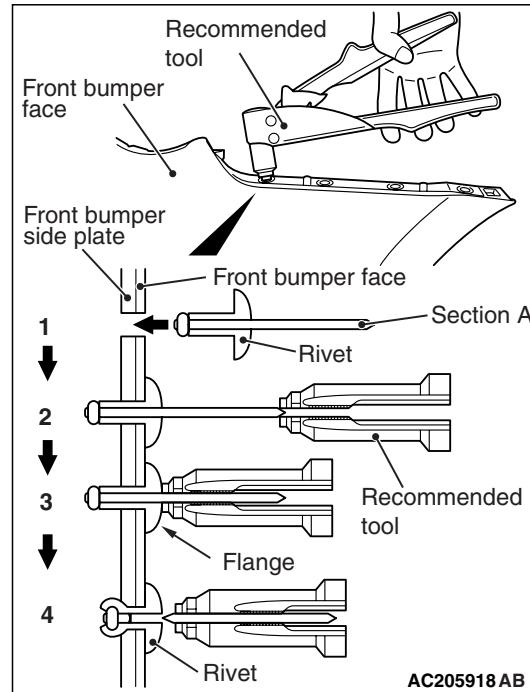
- Towing cover
- Headlamp washer pop-up unit assembly
- Fog lamp assembly
- Front air dam
- Front bumper face

DISASSEMBLY SERVICE POINT

<<A>> FRONT BUMPER SIDE PLATE
ASSEMBLY REMOVAL

Use a drill (4.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

REASSEMBLY SERVICE POINT

>>A<< FRONT BUMPER SIDE PLATE
ASSEMBLY

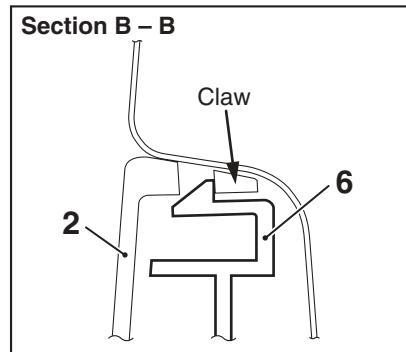
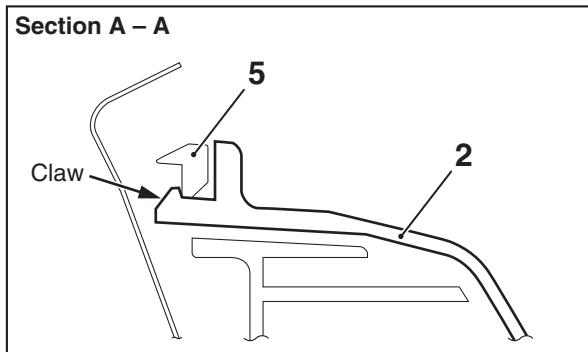
Use recommended tool shown in the illustration to connect the rivet by the following procedure.

1. Insert the rivet into the base material (front bumper face and front bumper side plate assembly).
2. Place the recommended tool over section A of the rivet.
3. While pushing the flange surface of the rivet with the recommended tool, press the handle of the tool.
4. The thin part of section A of the rivet will break and the rivet will then be attached.

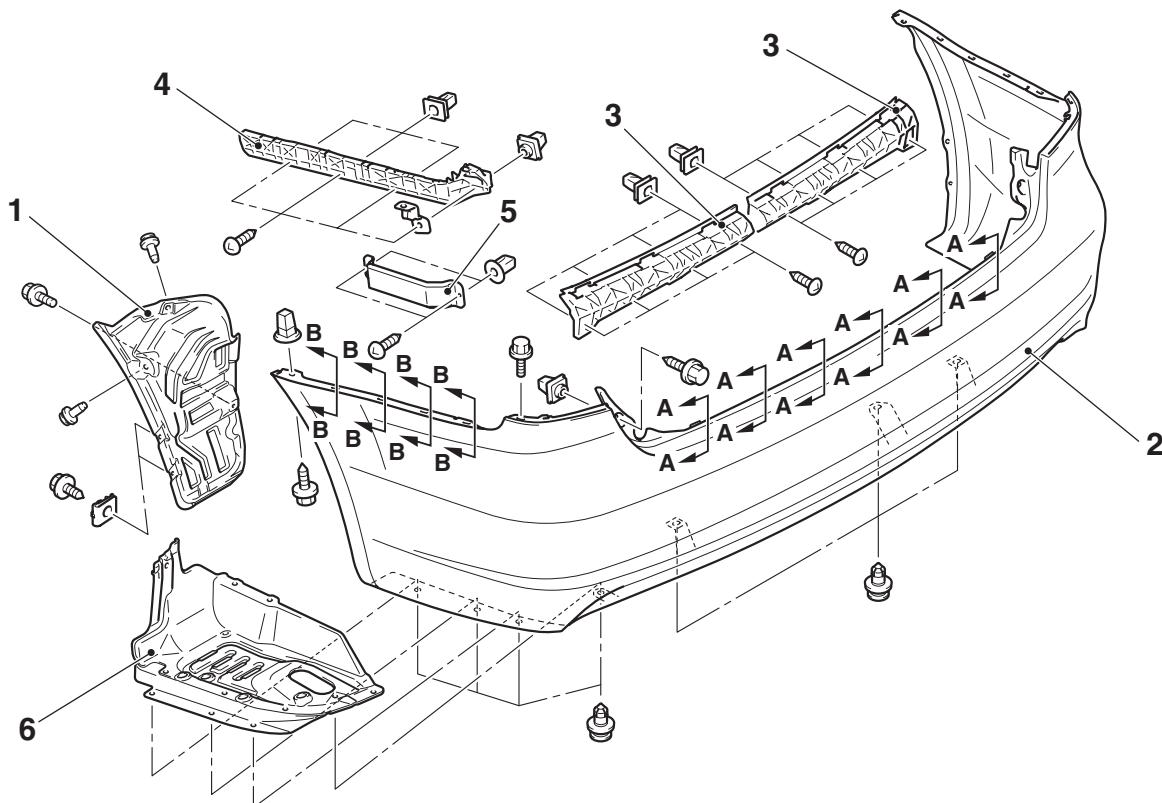
REAR BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001900568



AC313567AB



AC311155AB

Removal steps

- Tailgate damper lower (Refer to GROUP 42, Tailgate P.42-48.)
- 1. Rear splash shield
- 2. Rear bumper assembly

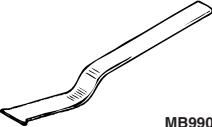
Removal steps (Continued)

3. Rear bumper centre bracket
4. Rear bumper side bracket
5. Rear bumper side reinforcement
6. Rear under cover side panel(LH)

MOULDINGS

SPECIAL TOOL

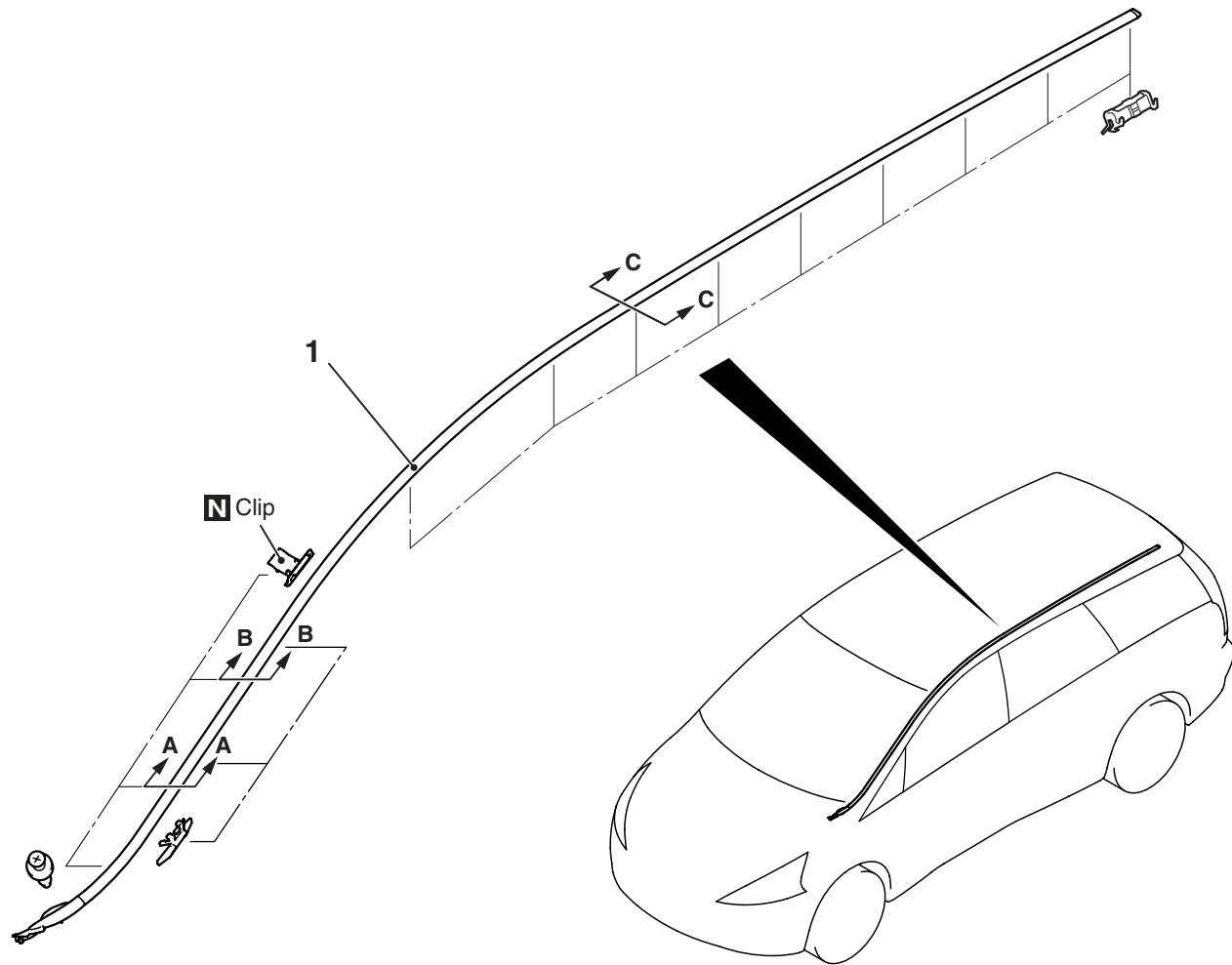
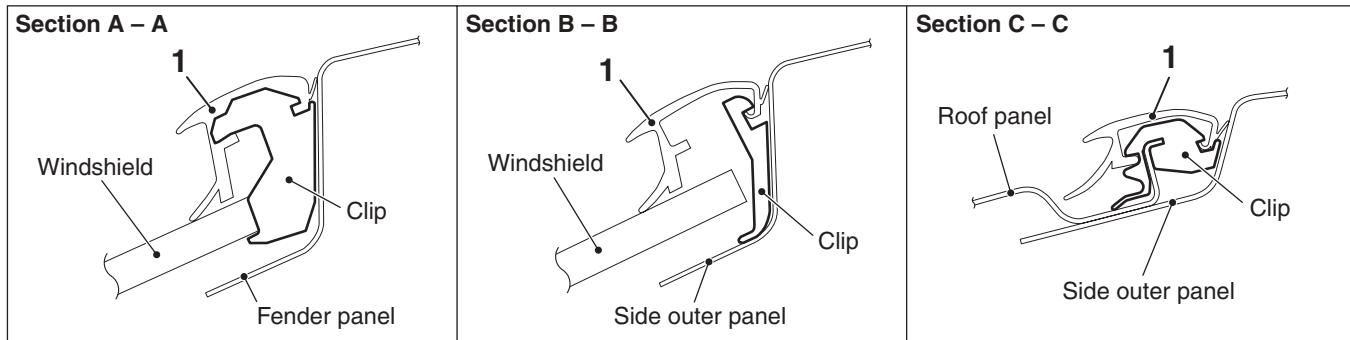
M1511000601288

Tool	Number	Name	Application
 MB990449	MB990449	Window molding remover	Removal of drip moulding

MOULDINGS

REMOVAL AND INSTALLATION

M1511004700206



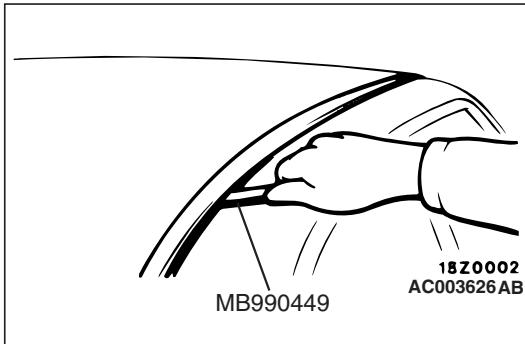
AC313459AB

Roof drip molding removal steps

<<A>> >>A<< 1. Roof drip moulding

REMOVAL SERVICE POINT**<<A>> ROOF DRIP MOULDING REMOVAL****CAUTION**

If the molding has become warped, it should not be reused.



Use special tool window molding remover (MB990449) to pry out the moulding.

INSTALLATION SERVICE POINT**>>A<< ROOF DRIP MOULDING
INSTALLATION**

Install the clips to the roof drip molding before installing the molding to the vehicle body.

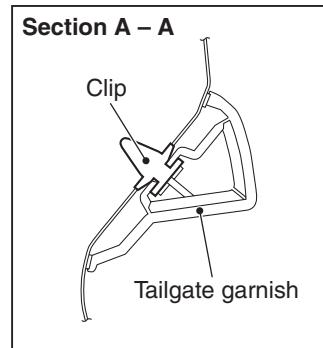
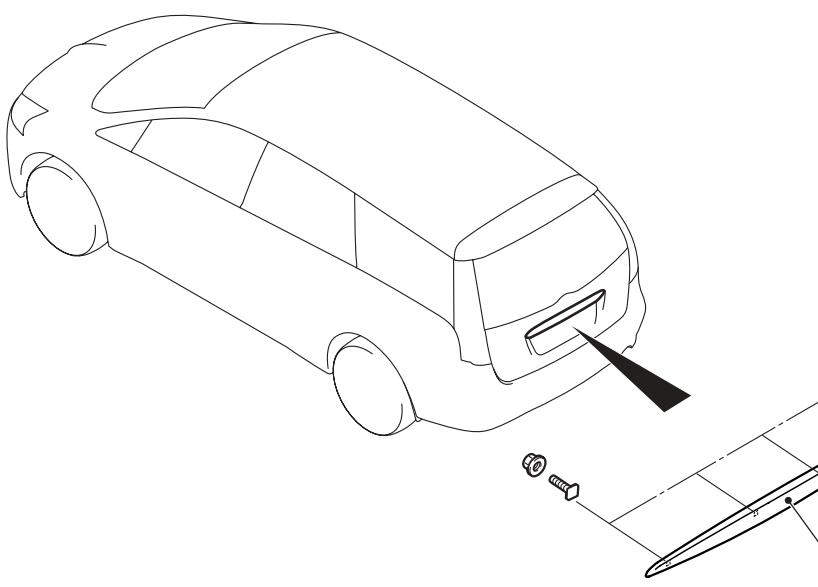
GARNISHES**ADHESIVE**

M1511000500523

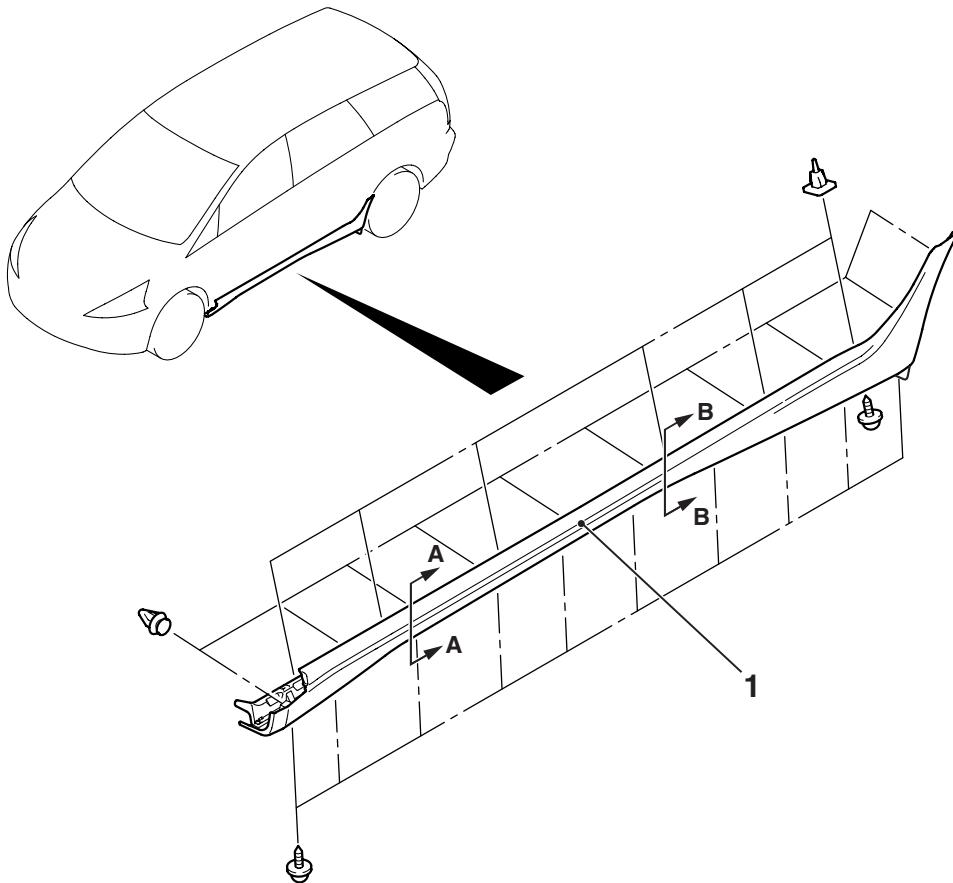
Application	Specified adhesive
Side sill garnish	Double-sided tape [5.0 mm width 0.8 mm thickness, 5.0 width 1.2mm thickness]

GARNISHES**REMOVAL AND INSTALLATION**

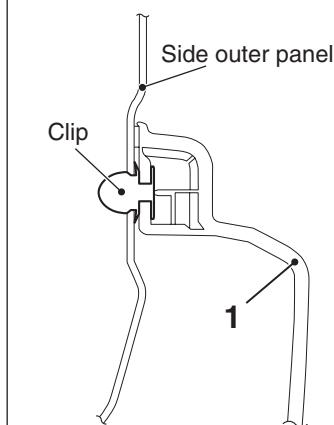
M1511004100099



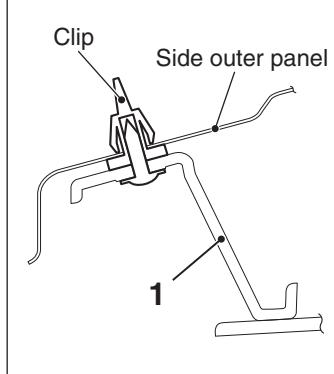
AC302625AB



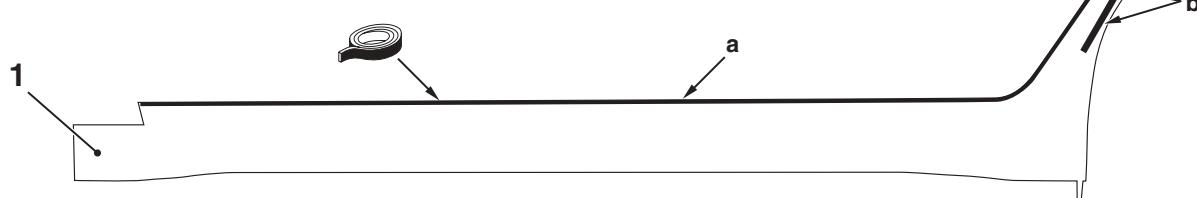
Section A - A



Section B - B



Double-sided tape affixed location



Double-sided tape: Generic products

a: 5.0 mm width, 1.2 mm thickness, b: 10.0 mm width, 2.5 mm thickness

AC313480AB

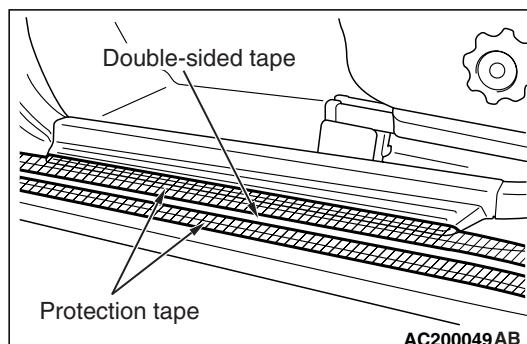
Removal steps

<<A>> >>A<< 1. Side sill garnish

REMOVAL SERVICE POINT**<<A>> SIDE SILL GARNISH REMOVAL**

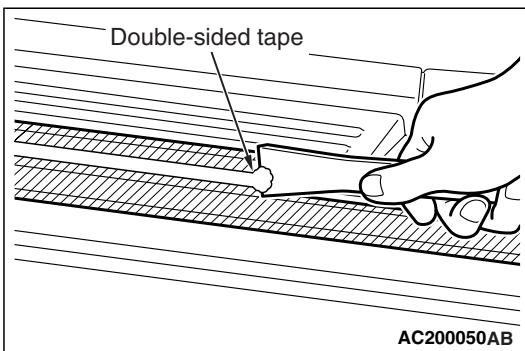
Gently lift and remove the side sill garnish. If there is any double-sided tape remaining on the side sill garnish, remove according to the following instructions.

<Remove double-sided tape remaining on the body surface>



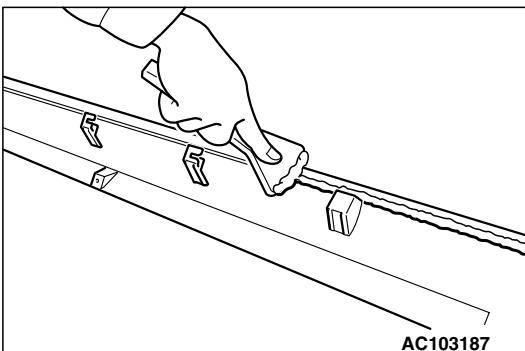
AC200049AB

1. Attach protection tape all the way along the edges of the double-sided tape which is still adhering to the body.



2. Scrape off the double-sided tape with a resin spatula as possible.
3. Peel off the protection tape.
4. Wipe the body surface and clean it with a rag moistened with isopropyl alcohol.

<Remove double-sided tape remaining on side sill garnish and adhere double-sided tape (when re-using side sill garnish)>

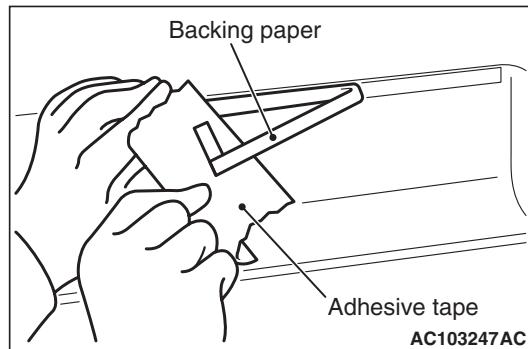


1. Scrape off the double-sided tape on the side sill garnish with a resin spatula as possible.

2. Wipe the side sill garnish surface and clean it with a rag moistened with isopropyl alcohol.
3. Remove only a small portion of the residual adhesive.
4. Adhere the double-sided tape as specified on the side sill garnish (Refer to double-sided tape adherence location).

INSTALLATION SERVICE POINT

>>A<< SIDE SILL GARNISH INSTALLATION

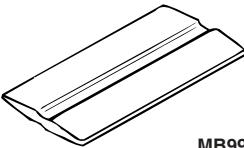


1. Tear off the double-sided tape backing paper.
NOTE: If Attach the adhesive tape to the edge of the backing paper, it will be easy to tear off.
2. Install the side sill garnish.
NOTE: If The double-sided tape is difficult to affix in cold temperature, etc., warm the bonding surfaces of the body and side sill garnish to about 40– 60°C before affixing the tape.
3. Firmly press in the side sill garnish.

DOOR SASH TAPE

SPECIAL TOOL

M1511000601125

Tool	Number	Name	Application
 MB990528	MB990528	Stripe tape spatula	Door sash tape

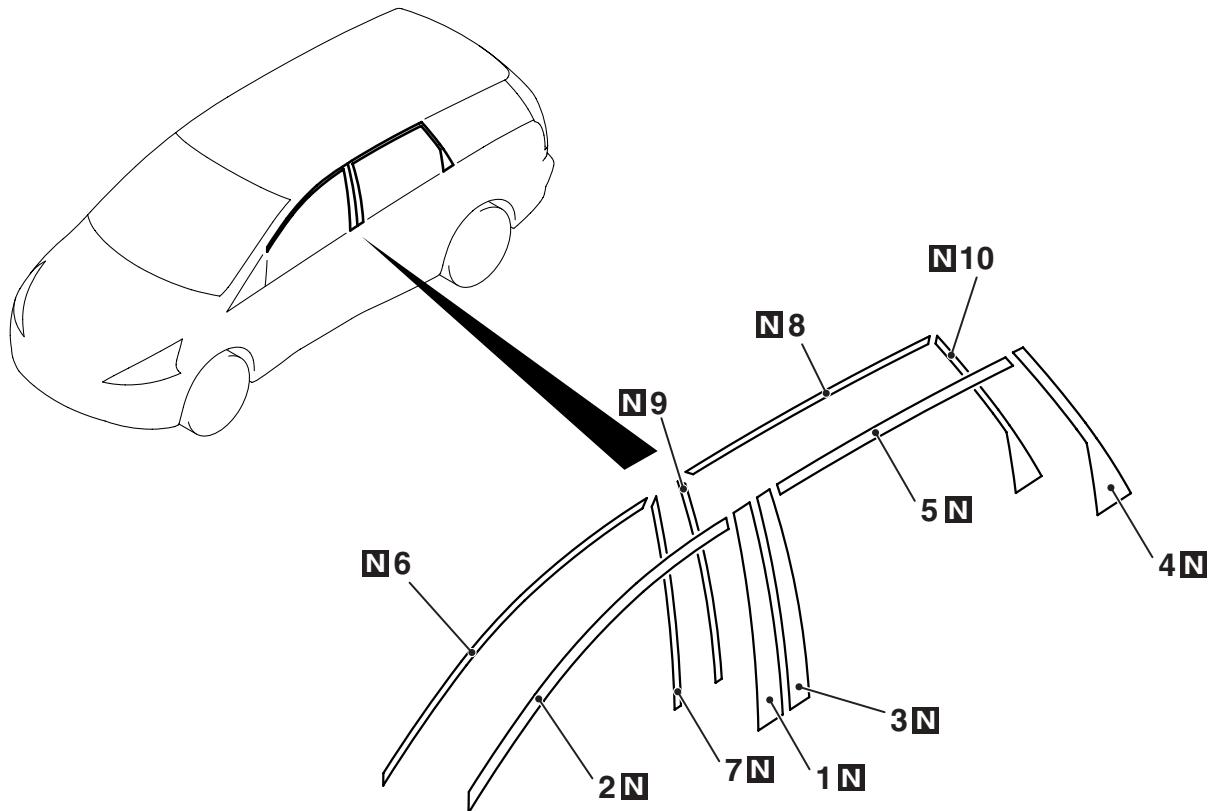
DOOR SASH TAPE

REMOVAL AND INSTALLATION

M1511024100013

Pre-removal and Post-installation Operation

- Door Trim Assembly Removal and Installation (Refer to GROUP 52A, Door Trim [P.52A-12](#).)
- Door Beltline Weather Strip Inner Removal and Installation (Refer to GROUP 42, Window Glass Runchannel and Door Opening Weather Strip [P.42-40](#).)
- Door Opening Weather Strip Outer Removal and Installation (Refer to GROUP 42, Window Glass Runchannel and Door Opening Weather Strip [P.42-40](#).)
- Door Window Glass Runchannel Removal and Installation (Refer to GROUP 42, Window Glass Runchannel and Door Opening Weather Strip [P.42-40](#).)
- Door Mirror Removal and Installation (Refer to [P.51-46](#).)
- Door Beltline Moulding Removal and Installation (Refer to GROUP 42, Window Glass Runchannel and Door Opening Weather Strip [P.42-40](#).)



AC303038AB

Front door sash outer tape
removal steps

<<A>> >>A<< 1. Door sash outer tape A
<<A>> >>A<< 2. Door sash outer tape B
Rear door sash outer tape removal steps
<<A>> >>B<< 3. Door sash outer tape C
<<A>> >>B<< 4. Door sash outer tape D
<<A>> >>B<< 5. Door sash outer tape E

Front door sash inner tape
removal steps

<<A>> >>C<< 6. Door sash inner tape F
<<A>> >>C<< 7. Door sash outer tape G
Rear door sash inner tape removal steps
<<A>> >>D<< 8. Door sash outer tape H
<<A>> >>D<< 9. Door sash outer tape I
<<A>> >>D<< 10. Door sash outer tape J

REMOVAL SERVICE POINT

<<A>> FRONT DOOR SASH TAPES

REMOVAL

△ CAUTION

Pay attention to keep from getting burned by hot door panel or tapes.

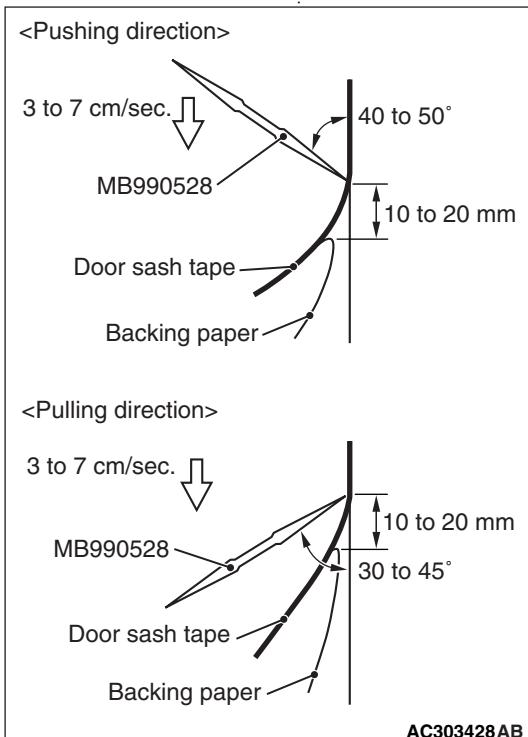
1. Use a hair drier to warm the tape.

2. Peel the tip of the tape with your finger, and then peel off the tape parallel to the application surface.

INSTALLATION SERVICE POINT

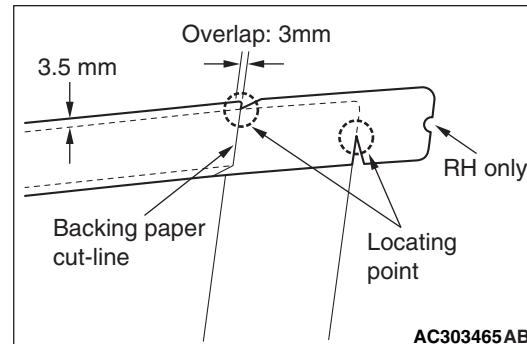
>>A<< FRONT DOOR SASH OUTER
TAPES INSTALLATION**CAUTION**

- The ambient temperature should be 20 to 30°C. Ensure that the working area is clean. Ideally, the tape application should be done at ambient temperature of 25°C.
- If ambient temperature is less than 15°C, heat the tape and application surface to a temperature of 20 to 30°C. If ambient temperature is 35°C or higher, cool down them.
- The adhesive property of the tape is deteriorated at low temperature, so the tape may come adrift easily. Meanwhile, it gets softened at hot temperature.
- When beginning to apply the tape, pay particular attention. If the end of the tape cannot be applied to the specified position with an accuracy of less than 1 mm, it may cause the poor appearance or adhesion.

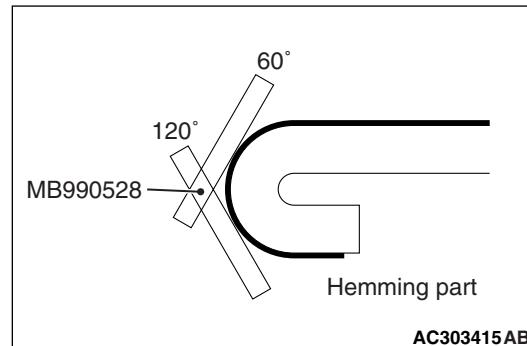


Use the special tool Stripe tape spatula (MB990528) to apply the tape with a steady pace and pressure. If you do not apply the tape with a steady pace or pressure, or abort the application, a shallow groove (lateral groove called as "Shock line") may be present on the tape surface. Meanwhile, if you apply it too quickly, air bubbles may be formed under the tape.

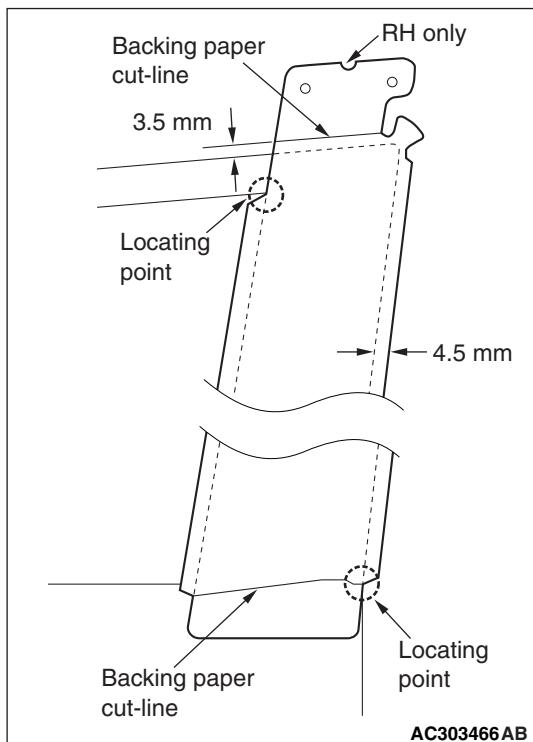
- Wrap a soft cloth (synthetic fiber) around the tip of the special tool.
- Use isopropyl alcohol to degrease the tape application surface.
- Wipe away dirt from the tape.
- Apply the front door sash tape outer (B) according to the procedure below.



- Align the tape with the specified application position.
- Position it with a magnet, and secure with a clip temporarily.
- Peel off the released paper behind the cut line in the vehicle rear side, and press the tape.
- While peeling off the remaining released paper from vehicle rear to front, press the tape.
- Peel off the application tape in the direction of 180 degree from the applied direction.

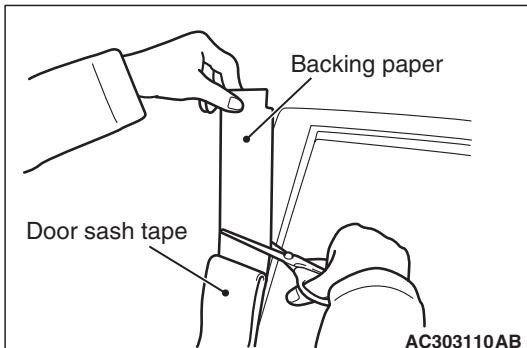


- Press the folded area of the tape at 3 positions (60 degrees, 120 degrees, and holding), rolling in toward the vehicle inside direction.
- Apply the front door sash tape outer (A) according to the procedure below.



(1) Align the tape with the specified application position.

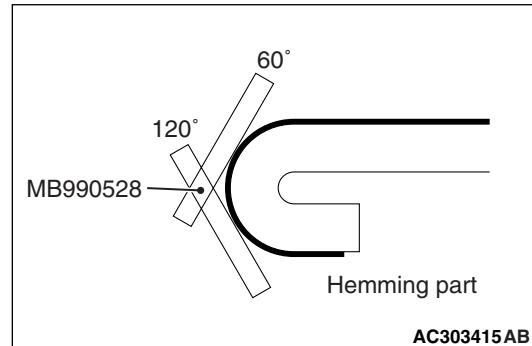
(2) Position it with a magnet, and secure with a clip temporarily.



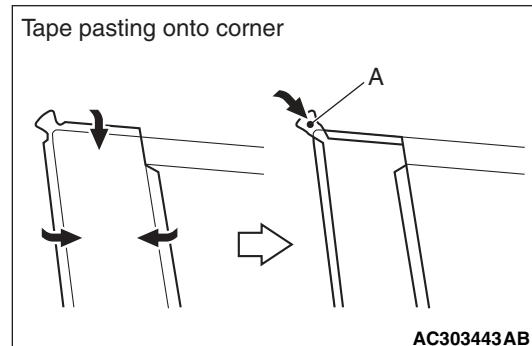
(3) Cut the released paper in the upper area of the tape by approximately 100 mm, and secure the tape temporarily.

(4) While peeling off the remaining released paper downward, press the tape.

(5) Peel off the application tape upward in the direction of 180 degrees.



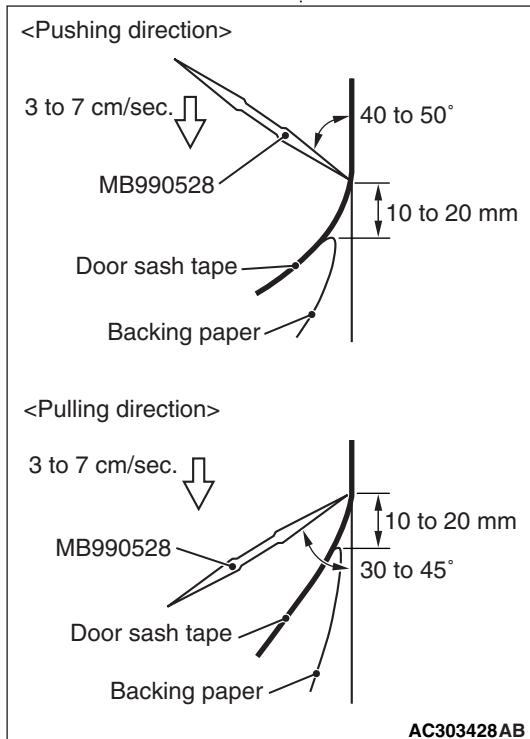
(6) Press the folded area of the tape at 3 positions (60 degrees, 120 degrees, and holding), rolling in toward the vehicle inside direction.



(7) Finally roll in the A section with the palms.

>>B<< REAR DOOR SASH OUTER TAPES
INSTALLATION**CAUTION**

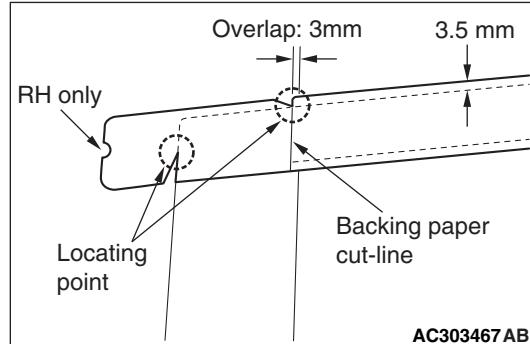
- The ambient temperature should be 20 to 30°C. Ensure that the working area is clean. Ideally, the tape application should be done at ambient temperature of 25°C.
- If ambient temperature is less than 15°C, heat the tape and application surface to a temperature of 20 to 30°C. If ambient temperature is 35°C or higher, cool down them.
- The adhesive property of the tape is deteriorated at low temperature, so the tape may come adrift easily. Meanwhile, it gets softened at hot temperature.
- When beginning to apply the tape, pay particular attention. If the end of the tape cannot be applied to the specified position with an accuracy of less than 1 mm, it may cause the poor appearance or adhesion.



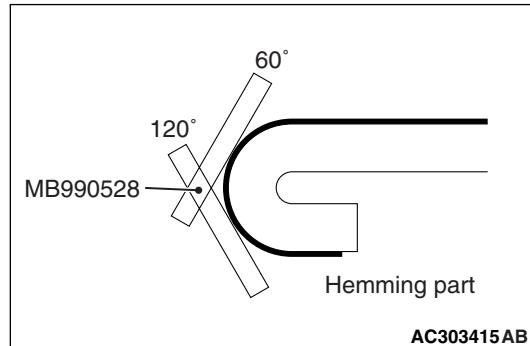
Use the special tool Stripe tape spatula with a steady pace and pressure. If you do not apply the tape with a steady pace or pressure, or abort the application, a shallow groove (lateral groove called as "Shock line") may be present on the tape surface. Meanwhile, if you apply it too quickly, air bubbles may be formed under the tape.

- Wrap a soft cloth (synthetic fiber) around the tip of the special tool.

- Use isopropyl alcohol to degrease the tape application surface.
- Wipe away dirt from the tape.
- Apply the rear door sash outer (E) according to the procedure below.

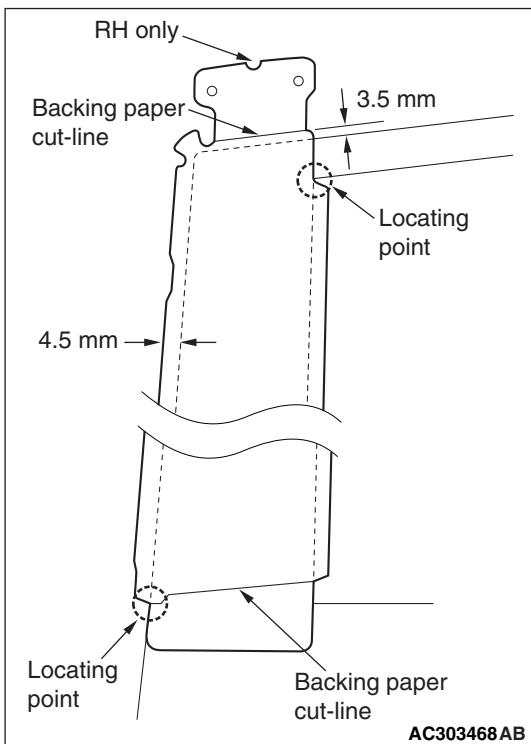


- Align the tape with the specified application position.
- Position it with a magnet, and secure with a clip temporarily.
- Peel off the released paper behind the cut line in the vehicle rear side, and press the tape.
- While peeling off the remaining released paper from vehicle rear to front, press the tape.
- Peel off the application tape in the direction of 180 degree from the applied direction.

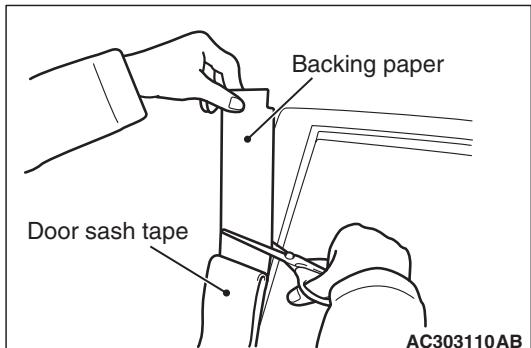


- Press the folded area of the tape at 3 positions (60 degrees, 120 degrees, and holding), rolling in toward the vehicle inside direction.
- Apply the door sash tape outer (C and D) according to the procedure below.

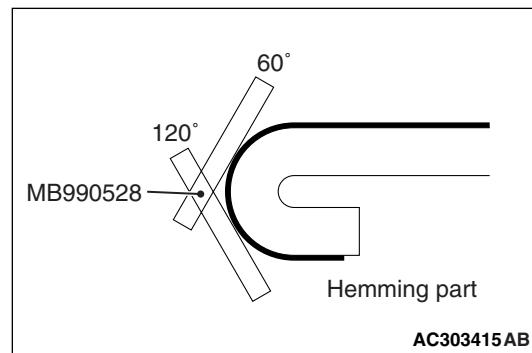
- Wrap a soft cloth (synthetic fiber) around the tip of the special tool.



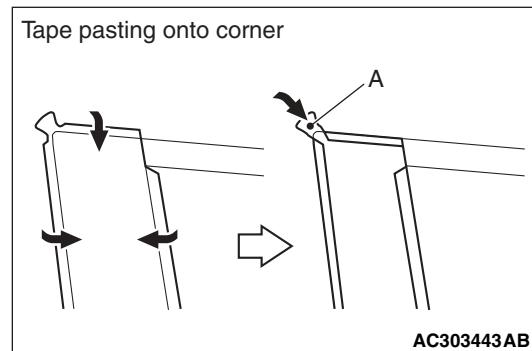
- (1) Align the tape with the specified application position.
- (2) Position it with a magnet, and secure with a clip temporarily.



- (3) Cut the released paper in the upper area of the tape by approximately 100 mm, and secure the tape temporarily.
- (4) While peeling off the remaining released paper downward, press the tape.
- (5) Peel off the application tape upward in the direction of 180 degrees.



- (6) Press the folded area of the tape at 3 positions (60 degrees, 120 degrees, and holding), rolling in toward the vehicle inside direction.



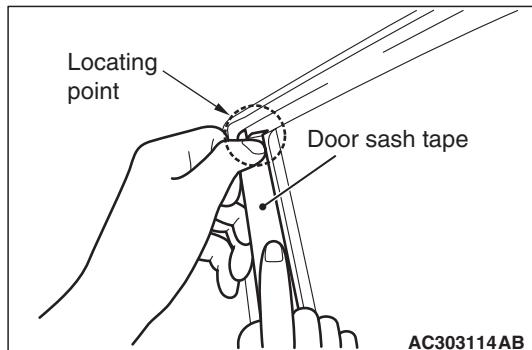
- (7) Finally roll in the A section with the palms.

>>C<< FRONT DOOR SASH INNER TAPES INSTALLATION

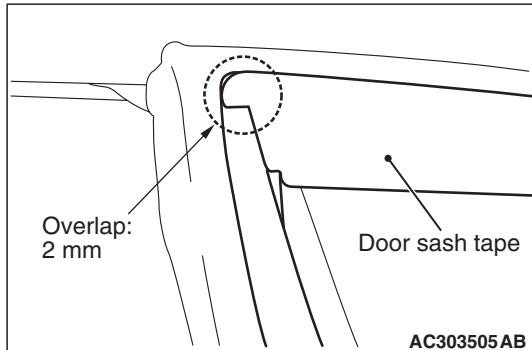
CAUTION

- The ambient temperature should be 20 to 30°C. Ensure that the working area is clean.
- If ambient temperature is less than 15°C, heat the tape and application surface to a temperature of 20 to 30°C. If ambient temperature is 35°C or higher, cool down them.
- The adhesive property of the tape is deteriorated at low temperature, so the tape may come adrift easily. Meanwhile, it gets softened at hot temperature.
- Ideally, the tape application should be done at ambient temperature of 25°C.

1. Use isopropyl alcohol to degrease the tape application surface.
2. Wipe away dirt from the tape.
3. Apply the door sash tape inner (G) according to the procedure below.



- (1) Fold the upper area of the tape by 1 mm, and press it against the door frame.
- (2) Peel off the upper area of the released paper, and press the tape.
- (3) While peeling off the remaining released paper downward, press the tape along the frame line with the fingers.
- (4) Roll in the tape into the inside not to get wrinkled.
4. Apply the door sash tape inner (F) according to the procedure below.



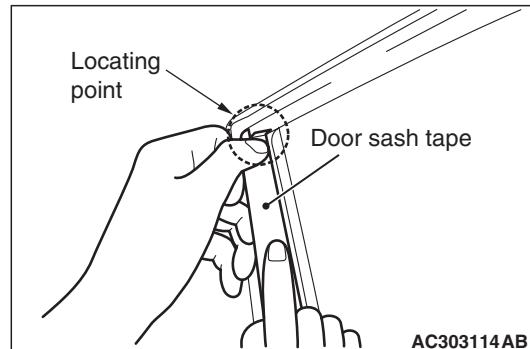
- (1) Press the tape against the door frame, and overlay it on the vertical tape by 2 mm.
- (2) Peel off the upper area of the released paper, and press the tape.
- (3) While peeling off the remaining released paper downward, press the tape along the frame line with the fingers.
- (4) Roll in the tape into the inside not to get wrinkled.

>>D<< REAR DOOR SASH INNER TAPES INSTALLATION

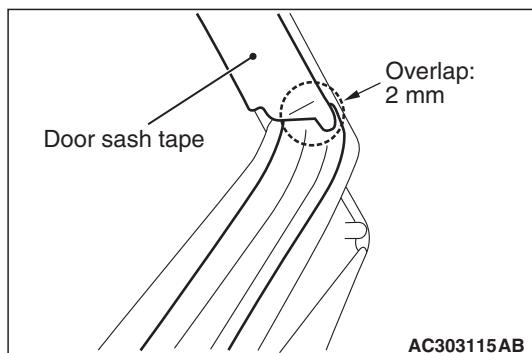
⚠ CAUTION

- The ambient temperature should be 20 to 30°C. Ensure that the working area is clean.
- If ambient temperature is less than 15°C, heat the tape and application surface to a temperature of 20 to 30°C. If ambient temperature is 35°C or higher, cool down them.
- The adhesive property of the tape is deteriorated at low temperature, so the tape may come adrift easily. Meanwhile, it gets softened at hot temperature.
- Ideally, the tape application should be done at ambient temperature of 25°C.

1. Use isopropyl alcohol to degrease the tape application surface.
2. Wipe away dirt from the tape.
3. Apply the door sash tapes (I and J) according to the procedure below.



- (1) Fold the upper area of the tape by 1 mm, and press it against the door frame. Overlay it on the vertical tape by 2 mm.
- (2) Peel off the upper area of the released paper, and press the tape.
- (3) While peeling off the remaining released paper downward, press the tape along the frame line with the fingers.
- (4) Roll in the tape into the inside not to get wrinkled.
4. Apply the door sash tape (H) according to the procedure below.

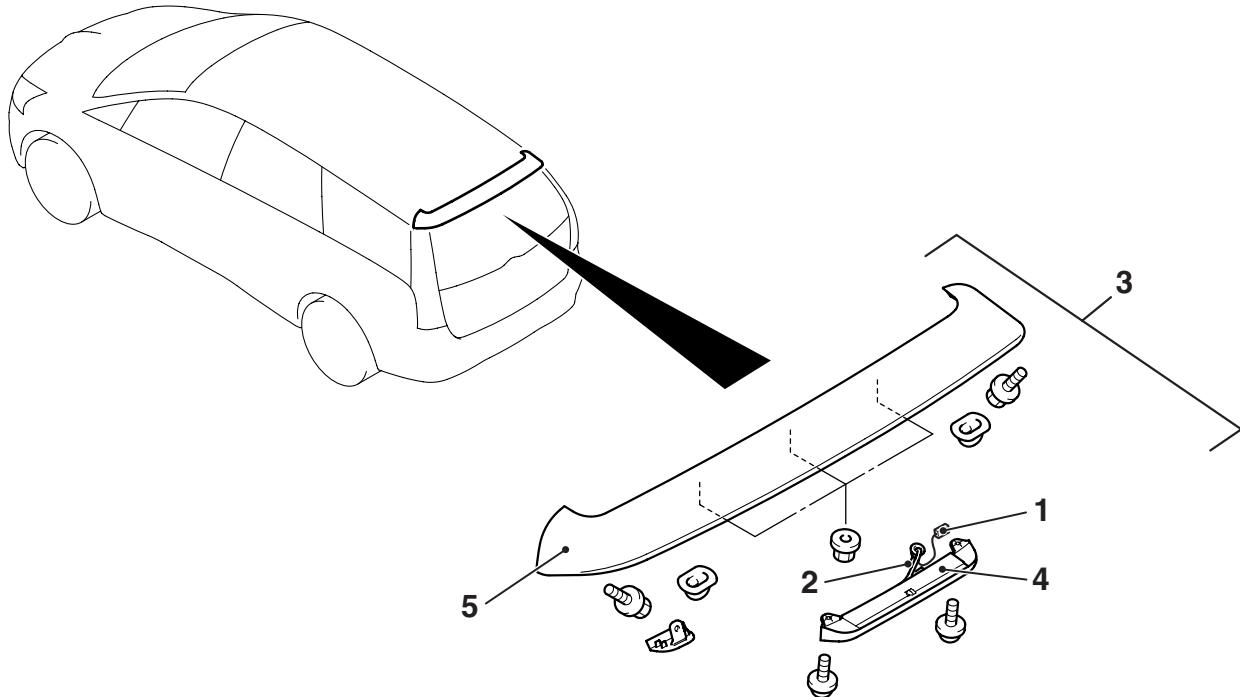


- (1) Set the tape along the door frame, and overlay it on the vertical tape by 2 mm.
- (2) Peel off the upper area of the released paper, and press the tape.
- (3) While peeling off the remaining released paper backward, press the tape along the frame line with the fingers.
- (4) Overlay the end of the tape on the vertical tape by 2 mm.
- (5) Roll in the tape into the inside not to get wrinkled.

TAILGATE SPOILER

REMOVAL AND INSTALLATION

M1511019900091



AC312064AB

Removal steps

- Tailgate upper trim (Refer to GROUP 52A, Tailgate trim P.52A-16.)
- 1. High-mounted stop lamp connector connection

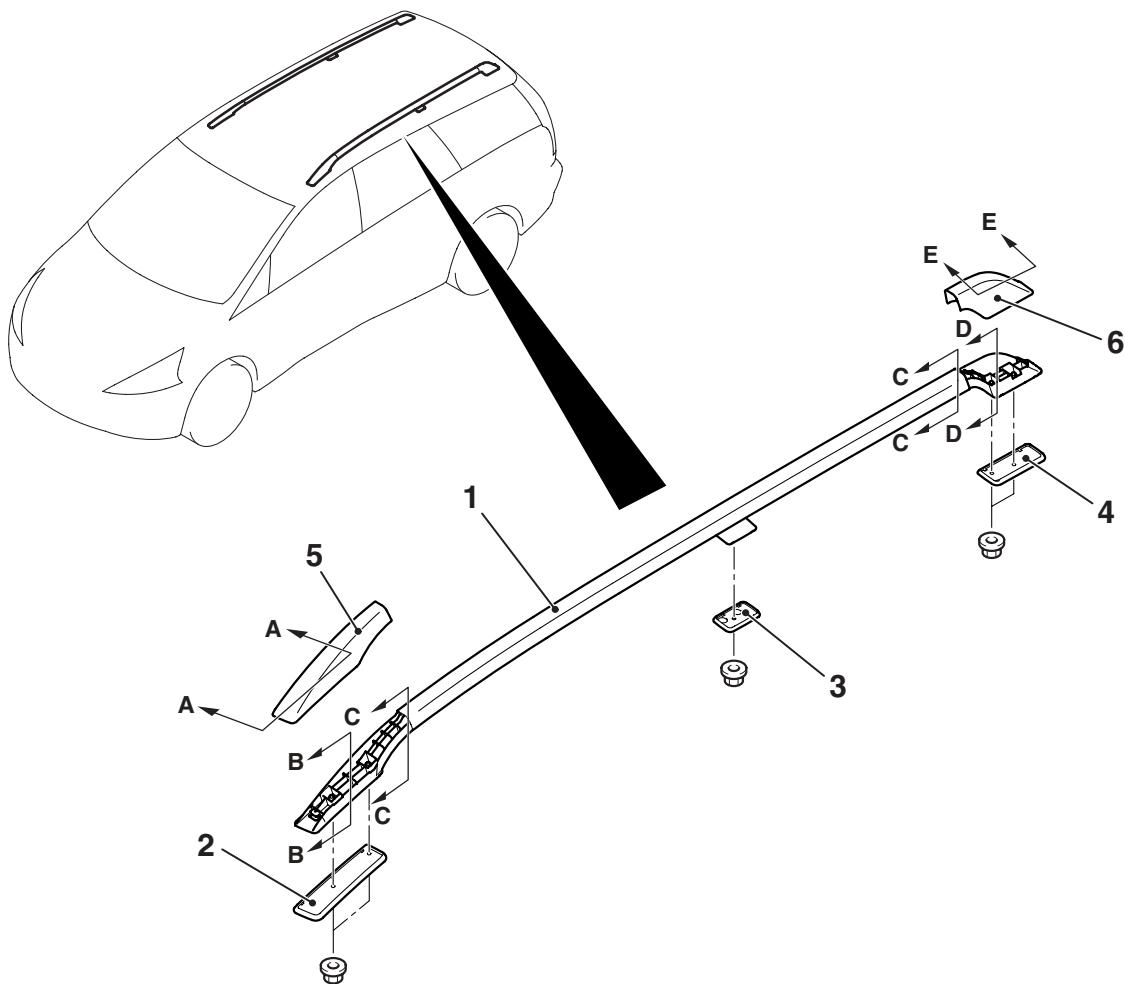
Removal steps (Continued)

2. Rear washer hose connection
3. Tailgate spoiler assembly
4. High-mounted stop lamp assembly
5. Tailgate spoiler

ROOF RAIL

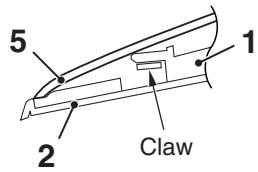
REMOVAL AND INSTALLATION

M1511016600217

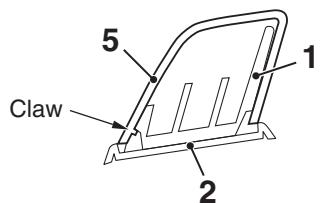


AC313502AB

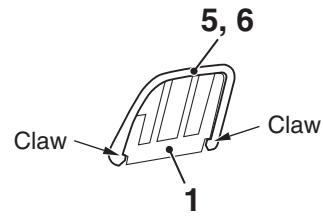
Section A - A



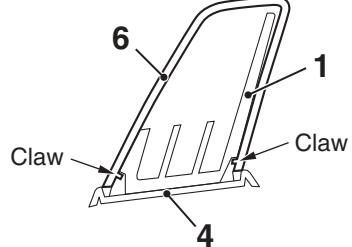
Section B - B



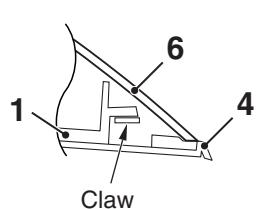
Section C - C



Section D - D



Section E - E



AC302137AB

Removal steps

- Headlining assembly (Refer to GROUP 52A, Headlining [P.52A-17](#).)
- 1. Roof rail
- 2. Front packing

Removal steps (Continued)

- 3. Centre packing
- 4. Rear packing
- 5. Front roof rail cover
- 6. Rear roof rail cover

WINDSHIELD WIPER AND WASHER

SERVICE SPECIFICATION

M1511000300433

Item	Standard value
Stop position of the windshield wiper arm/blade assembly (Distance between the edge of the wiper blade and the end of the deck garnish) mm	Driver's side: 123 ± 5 Passenger's side: 25 ± 5

TROUBLESHOOTING

M1511020000177

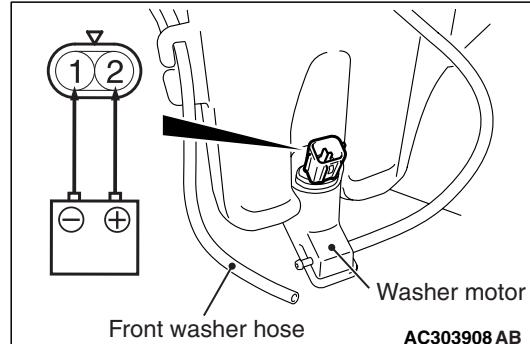
The windshield wiper and washer are controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting [P.54B-74](#) or GROUP 54C, Troubleshooting [P.54C-44](#).

NOTE: Even when the ETACS-ECU has failed, the windshield wiper 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 wiper can operate only when the ignition switch is at the "ON" position.)

4. If either of above is defective, carry out the troubleshooting. (Refer to GROUP 54B, Troubleshooting [P.54B-74](#) or GROUP 54C, Troubleshooting [P.54C-44](#).)

WASHER MOTOR INSPECTION (WINDSHIELD WASHER)

M1511019100675



ON-VEHICLE SERVICE

WINDSHIELD INTERMITTENT WIPER INSPECTION

M1511023600015

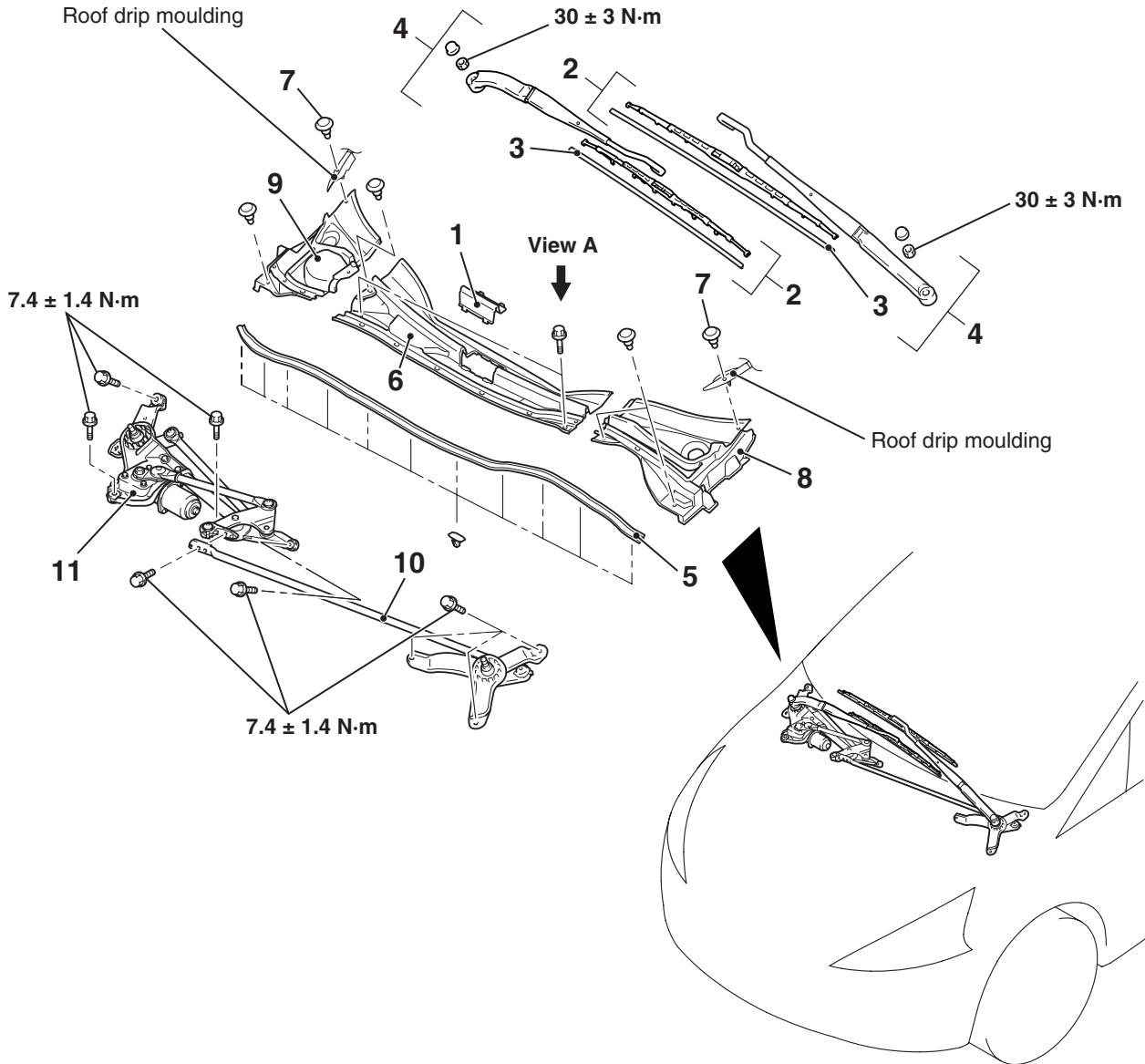
1. Check the wipers operate in the intermittent action when the windshield intermittent wiper switch is at the intermittent operation.
2. Check that the intermittent wiper interval is changed as the intermittent wiper volume is operated.
3. Turn the windshield intermittent wiper switch to the intermittent operation position. Use the MUT-III to set a simulated vehicle speed with the wiper volume held. The intermittent wiper interval should be changed as the simulated vehicle speed is changed.

1. Check the washer fluid level, and refill if necessary.
2. Remove the splash shield.
3. Disconnect the washer motor connector.
4. Disconnect the front washer hose as shown.
5. Connect the battery to the washer motor connector as shown. Check that the washer motor delivers washer strongly.

WINDSHIELD WIPER

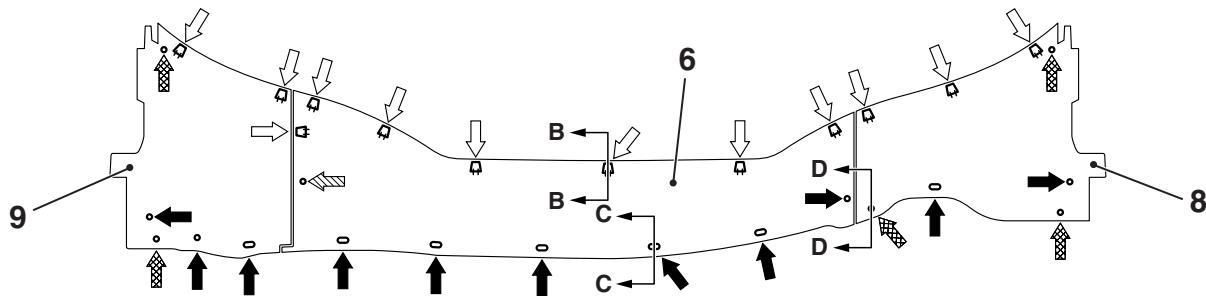
REMOVAL AND INSTALLATION

M1511007900157



AC310899AB

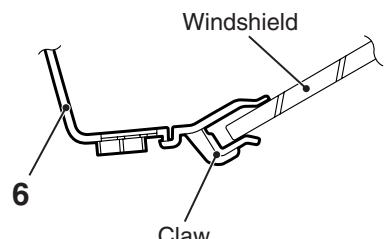
View A



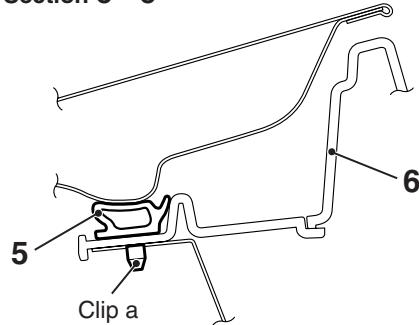
Note

← : Clip a positions ↗ : Clip b positions ↘ : Clip c positions ⇝ : Claw positions

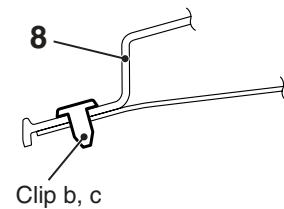
Section B – B



Section C – C



Section D – D



AC310648AB

Deck garnish removal

1. Front deck garnish

Wiper blade assembly removal steps

2. Wiper blade assembly

3. Wiper blade

Windshield wiper motor and link assembly removal steps

>>A<< 4. Wiper arm blade assembly

- Cowl top centre panel (Refer to GROUP 42, Loose Panel P.42-67.)

5. Hood weather strip

6. Front deck garnish

7. Drip molding clip

8. Front deck garnish (LH)

9. Front deck garnish (RH)

10. Windshield wiper link

<<A>>

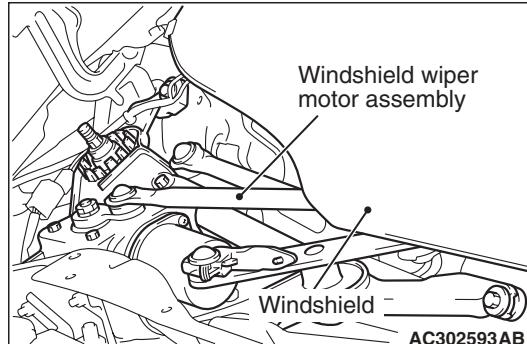
11. Windshield wiper motor assembly

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-103.

REMOVAL SERVICE POINT

<<A>> WINDSHIELD WIPER MOTOR ASSEMBLY AND WIPER LINK REMOVAL

⚠ CAUTION



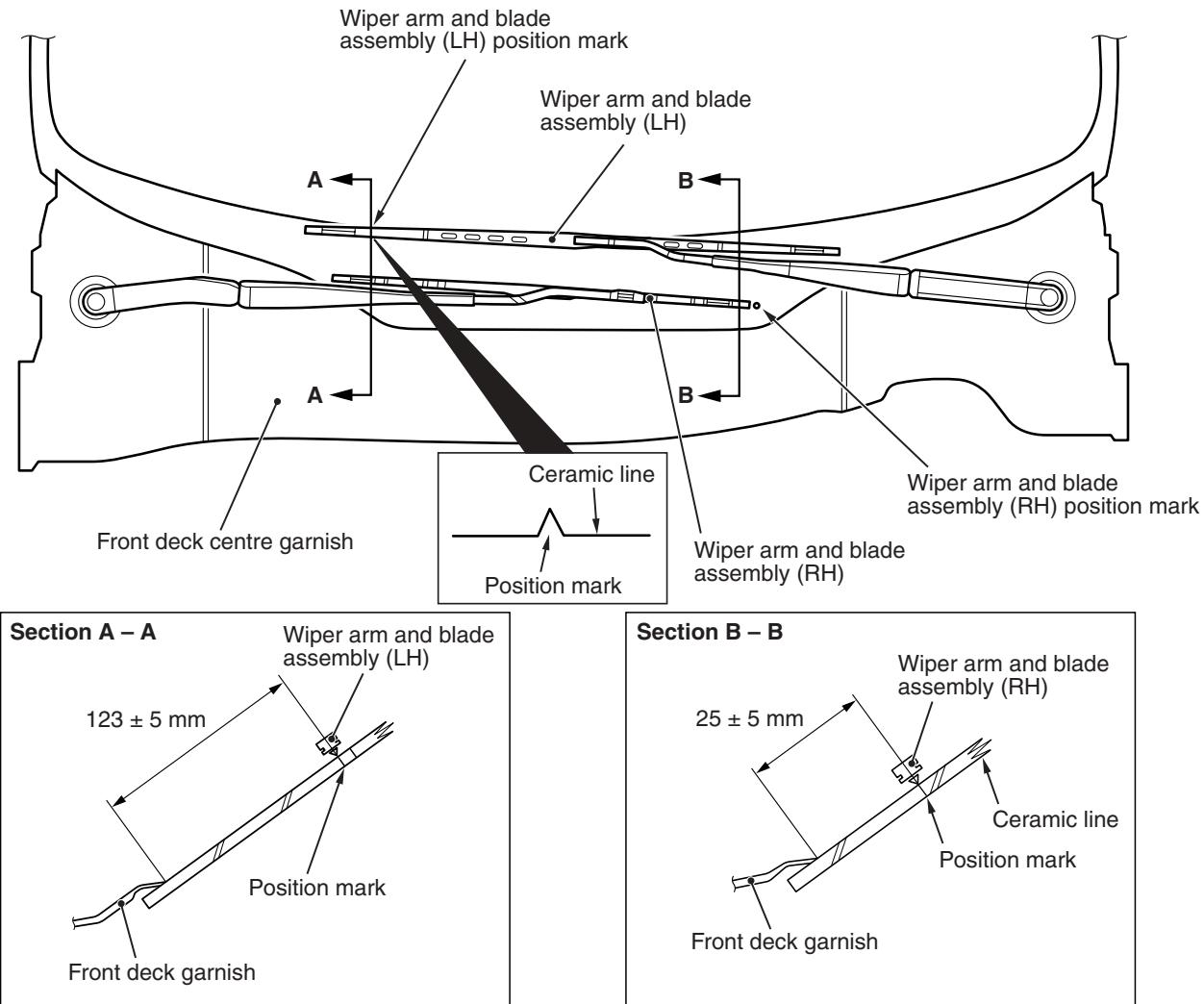
AC302593AB

Be careful not to contact the windshield when the windshield wiper motor assembly and the windshield wiper link assembly are removed.

INSTALLATION SERVICE POINT

>>A<< WIPER ARM AND BLADE

ASSEMBLY INSTALLATION



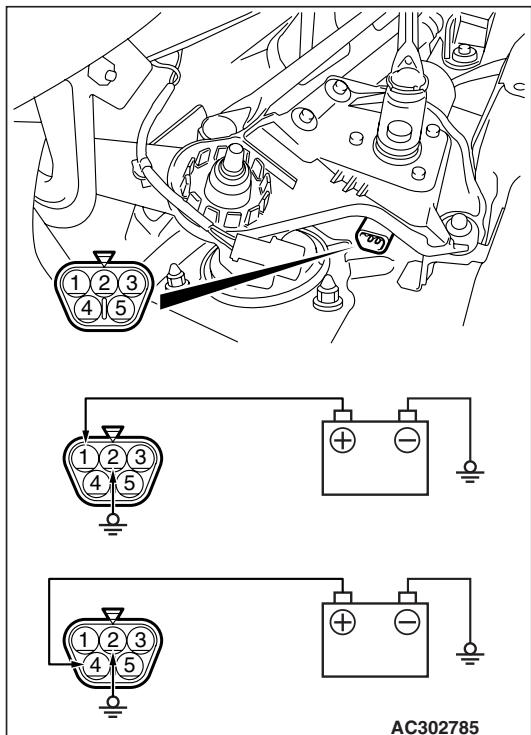
AC313569AB

Install the wiper arm and blade assembly at the specified positions.

INSPECTION

WINDSHIELD WIPER MOTOR CHECK

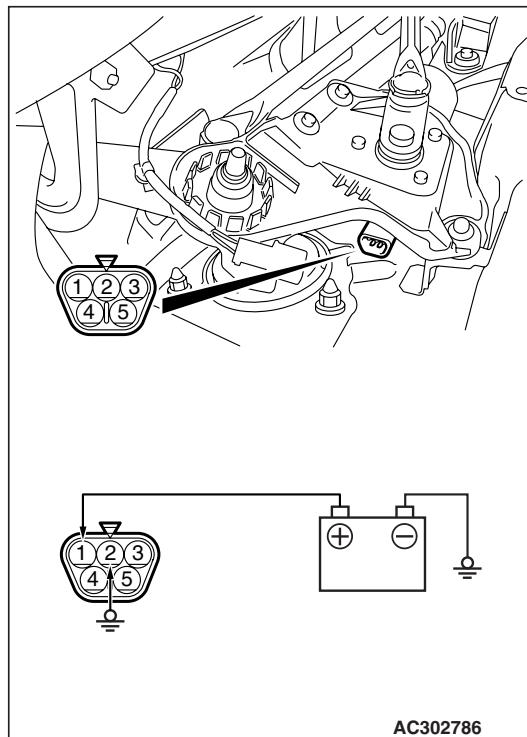
Operation check of the windshield wiper motor when it is working at low or high speed.



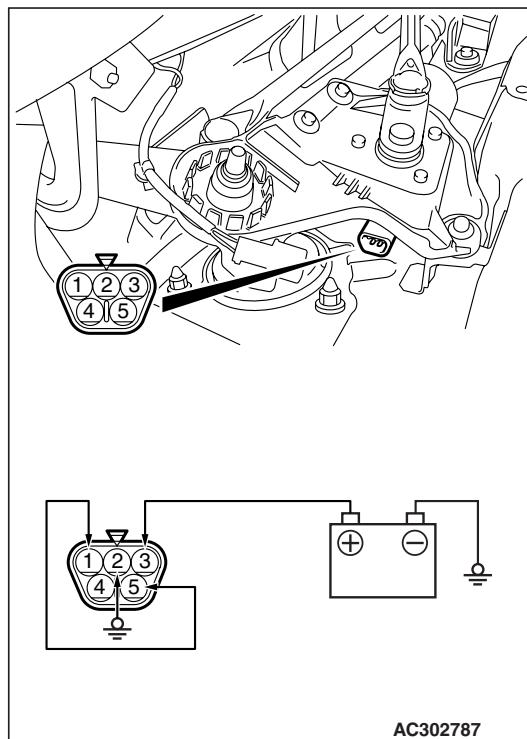
1. Connect the positive battery terminal to windshield wiper motor connector terminal No.1 as shown. Check the low-speed operation of the motor by earthing windshield wiper motor connector terminal No.2.
2. Connect the positive battery terminal to windshield wiper motor connector terminal No.4 as shown. Check the high-speed operation of the motor by earthing windshield wiper motor connector terminal No.2.

Check of stop position of the windshield wiper motor

Prior to this check, ensure that there is no excessive play at the windshield wiper link.



1. Connect the battery to windshield wiper motor connector terminal No.1 as shown. Operate the motor at low speed by earthing the motor.
2. Disconnect the battery cable from motor connector terminal No.1. The motor should stop.



3. Connect the battery to motor connector terminal No.3 as shown.
4. Connect motor connector terminal No.5 to No.1 as shown.

5. Check to see that the motor runs at low speed and then stops at the automatic stop position.

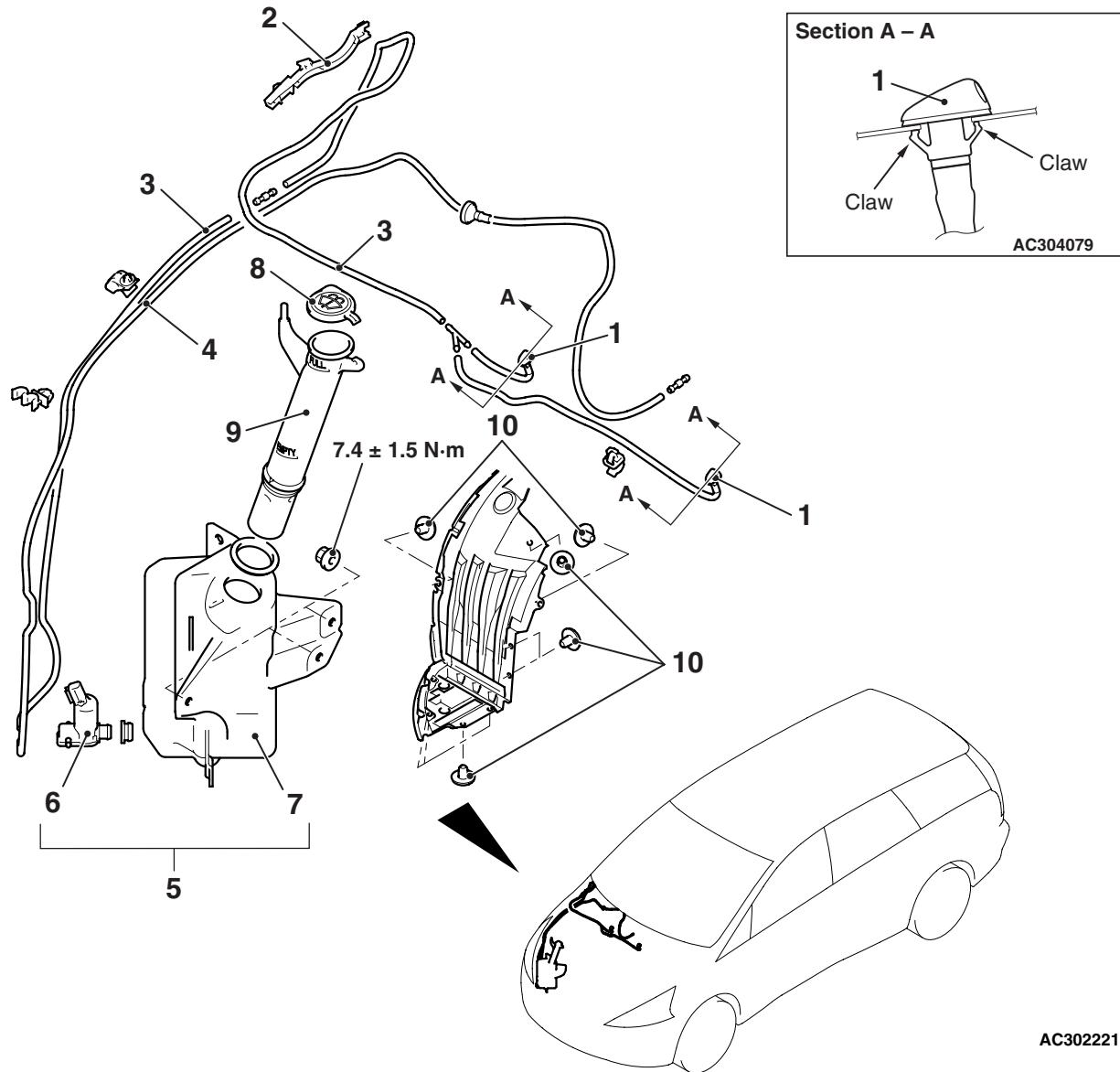
Windshield wiper switch check

Check the input signals (mist, intermittent, low speed and high speed) from the windshield wiper switch.(Refer to GROUP 54B, Troubleshooting P.54B-74 or GROUP 54C, Troubleshooting P.54C-44.)

WINDSHIELD WASHER

REMOVAL AND INSTALLATION

M1511008200269



Windshield washer nozzle removal steps

- Hood insulator (Refer to GROUP 42, Hood P.42-5.)

1. Windshield washer nozzle

Windshield washer hose removal steps

1. Windshield washer nozzle
2. Clip

Windshield washer hose removal steps (Continued)

- Fender (RH) (Refer to GROUP 42, Fender P.42-6.)
- 3. Windshield washer hose
- 4. Rear washer hose

<<A>>

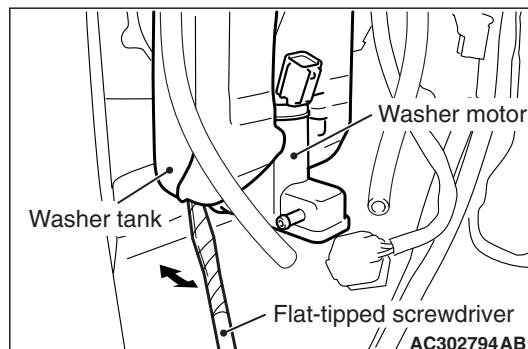
Washer tank removal steps

- Front bumper assembly (Refer to [P.51-3.](#))
- 5. Washer tank assembly
- 6. Washer motor
- 7. Washer tank
- 8. Cap
- 9. Washer tank filler hose

Washer motor removal steps

- 10. Splash shield (RH)
- 6. Washer motor

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch [P.54A-103.](#)

Removal service points**<<A>> Washer motor removal**

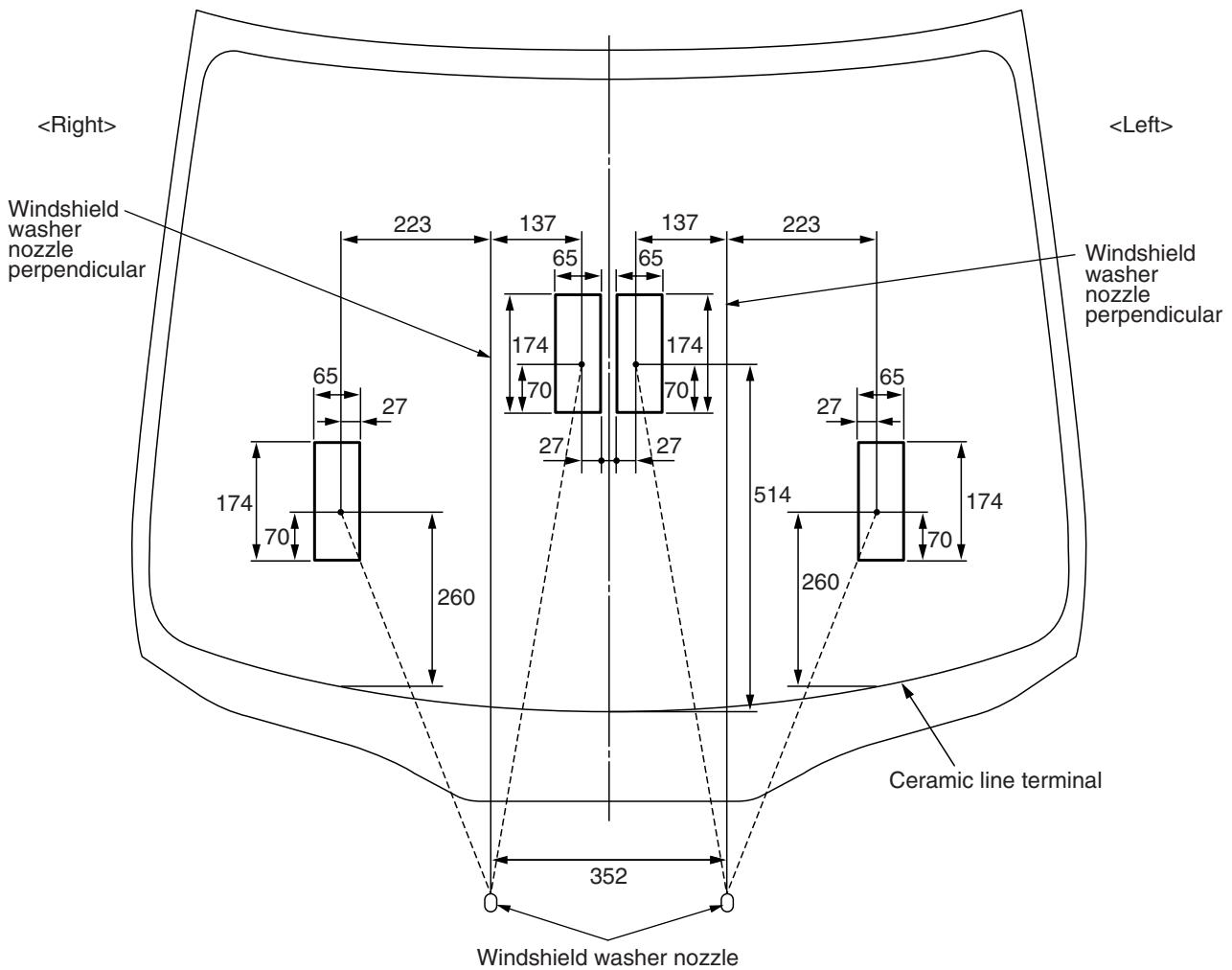
Insert a (-) screwdriver wrapped with protective tape between the washer tank and the lower outer side of the washer motor. Pry out the washer motor.

INSPECTION

M1511019100501

WINDSHIELD WASHER FLUID EJECTION CHECK

Unit: mm



AC302128AB

Move the nozzle to adjust the position so that the spray is in the area shown in the illustration.

REAR WIPER AND WASHER

TROUBLESHOOTING

M1511020000188

The rear wiper and washer are controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting [P.54B-74](#) or GROUP 54C, Troubleshooting [P.54C-44](#).

ON-VEHICLE SERVICE

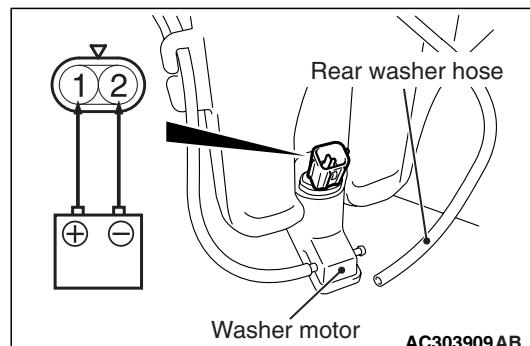
Operation check of reverse gear-linked
operation of the rear wiper

M1511022600023

1. When the selector lever is moved to the "R" position with the rear wiper switch at the "INT" position, the wiper should operate twice or three times at low speed after approximately one second.
2. If not, carry out the troubleshooting. (Refer to GROUP 54B – Troubleshooting [P.54B-74](#) or GROUP 54C – Troubleshooting [P.54C-44](#).)

WASHER MOTOR INSPECTION (REAR
WASHER)

M1511019100686

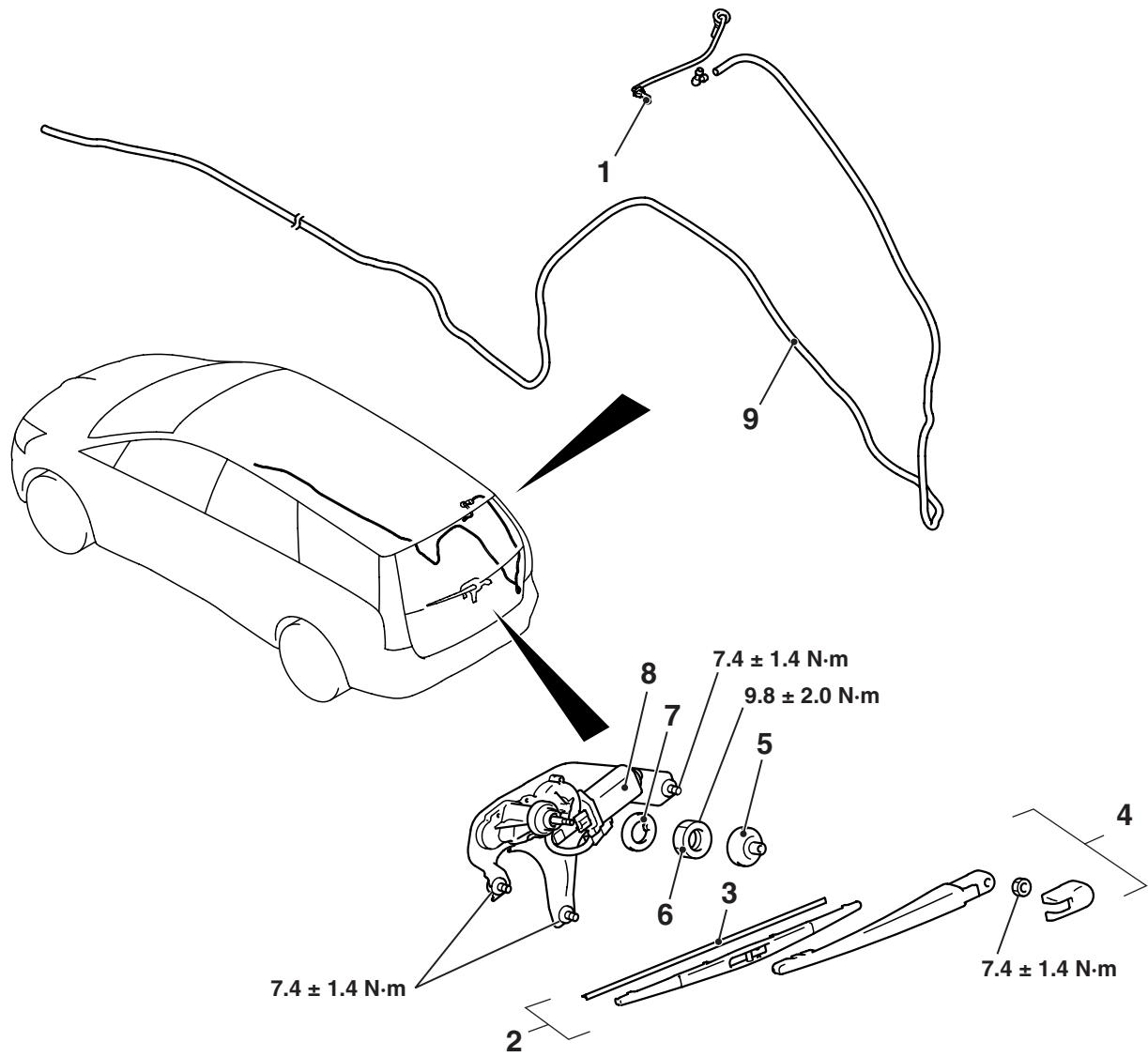


1. Check the washer fluid level, and refill if necessary.
2. Remove the splash shield.
3. Disconnect the washer motor connector.
4. Disconnect the rear washer hose as shown.
5. Connect the battery to the washer motor connector as shown. Check that the washer motor delivers washer strongly.

REAR WIPER AND WASHER

REMOVAL AND INSTALLATION

M1511008500163



AC312141AB

Washer tank assembly removal

- Washer tank (Refer to P.51-26.)
- Washer motor (Refer to P.51-26.)

Rear washer nozzle removal steps

- Tailgate spoiler (Refer to P.51-19.)
- High-mounted stop lamp assembly (Refer to GROUP 54A, High-mounted stop lamp P.54A-98.)

1. Rear washer nozzle assembly

Rear wiper blade removal steps

2. Rear wiper blade assembly
3. Rear wiper blade

>>A<<

Rear wiper motor removal steps

4. Rear wiper arm blade assembly
- Tailgate trim (Refer to GROUP 52A, Tailgate trim P.52A-16.)

>>B<<

Rear wiper motor removal steps

5. Cover

6. Nut

7. Washer packing

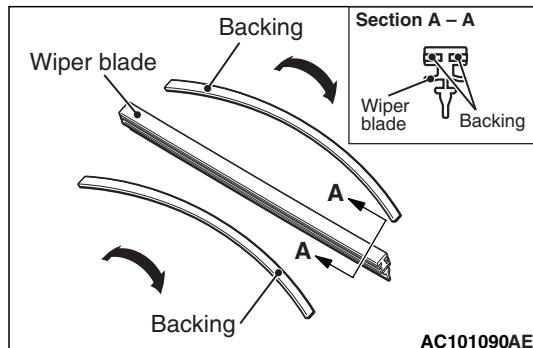
8. Rear wiper motor assembly

Rear washer hose removal steps

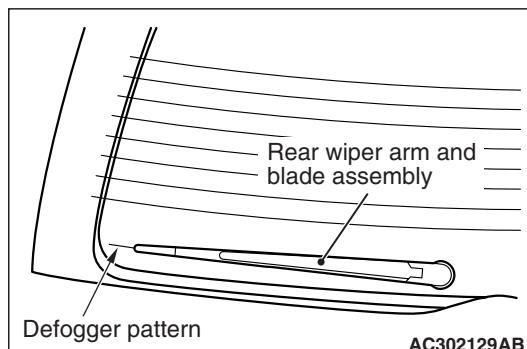
- Cowl side trim, front scuff plate, rear scuff plate, quarter trim (Refer to GROUP 52A, Interior trim P.52A-10.)
- Tailgate trim (Refer to GROUP 52A, Tailgate trim P.52A-16.)

>>C<< 9. Rear washer hose

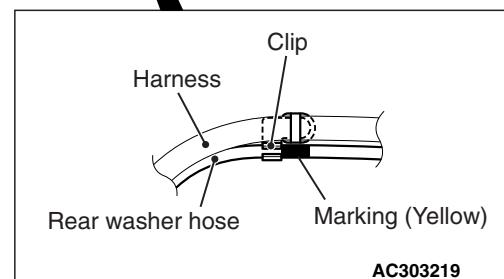
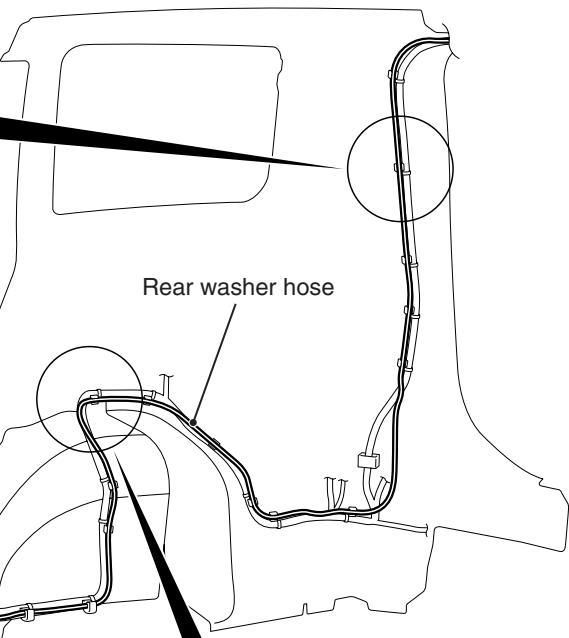
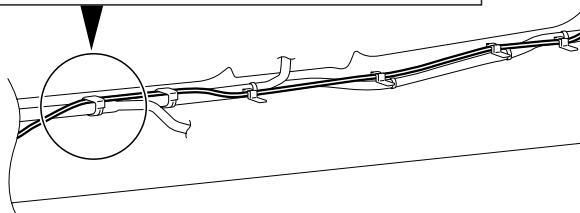
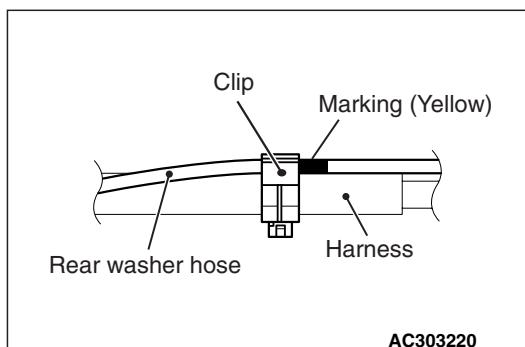
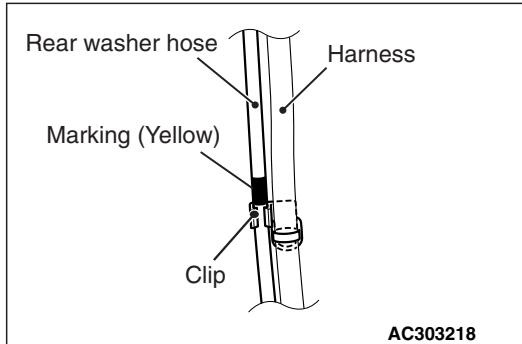
NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-103.

INSTALLATION SERVICE POINTS
>>A<< WIPER BLADE INSTALLATION
⚠ CAUTION


Use a curved backing like that shown for the backing of a wiper blade to ensure sustained wiper wiping performance.

>>B<< REAR WIPER ARM AND BLADE ASSEMBLY


Install the rear wiper arm/blade assembly so that its tip is positioned at the rear window defogger heater element of the tailgate as shown..

>>C<< Rear washer hose routing


Route the rear washer hose so that its markings are aligned with the clips as shown.

INSPECTION

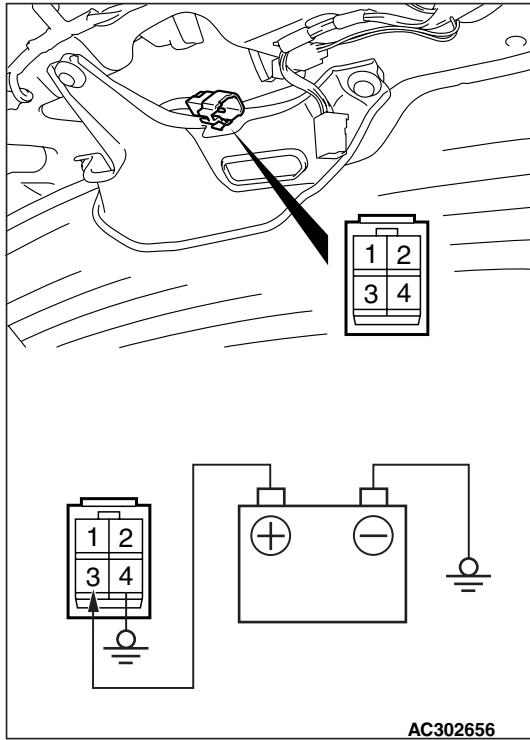
REAR WIPER MOTOR CHECK

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

Operation check of the rear wiper motor

CAUTION

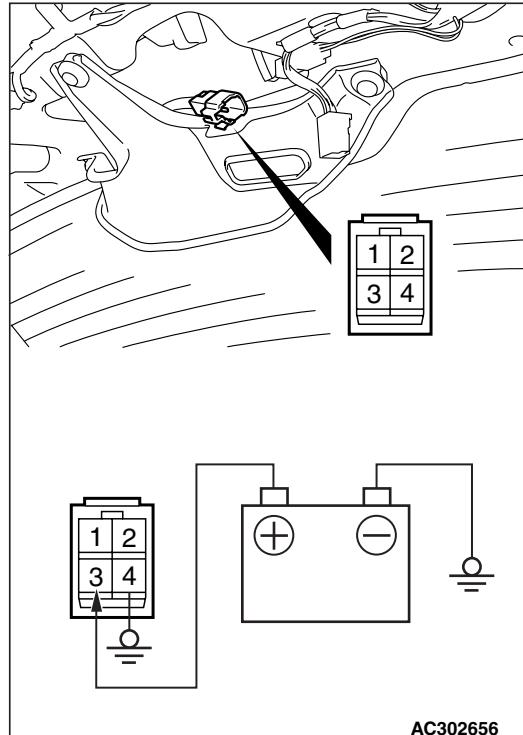
Before operating the rear wiper motor, apply water to the tailgate glass to avoid damage to the tailgate glass surface or the wiper blade due to dry wiping.



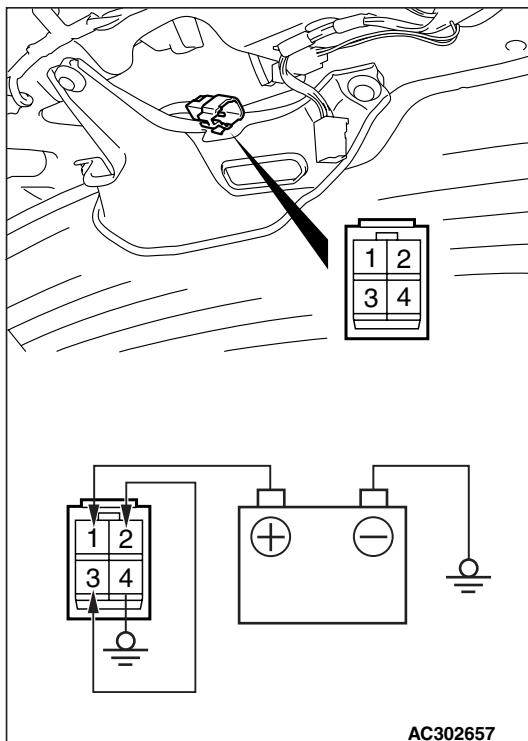
Check the motor operation by connecting the battery to the rear wiper motor as shown.

Check of stop position of the rear wiper motor**CAUTION**

Before operating the rear wiper motor, apply water to the tailgate glass to avoid damage to the tailgate glass surface or the wiper blade due to dry wiping.



1. Connect the battery to the rear wiper motor as shown.
2. Disconnect the battery cable from the rear windshield wiper motor while it is turning and then check to see that the motor stops.

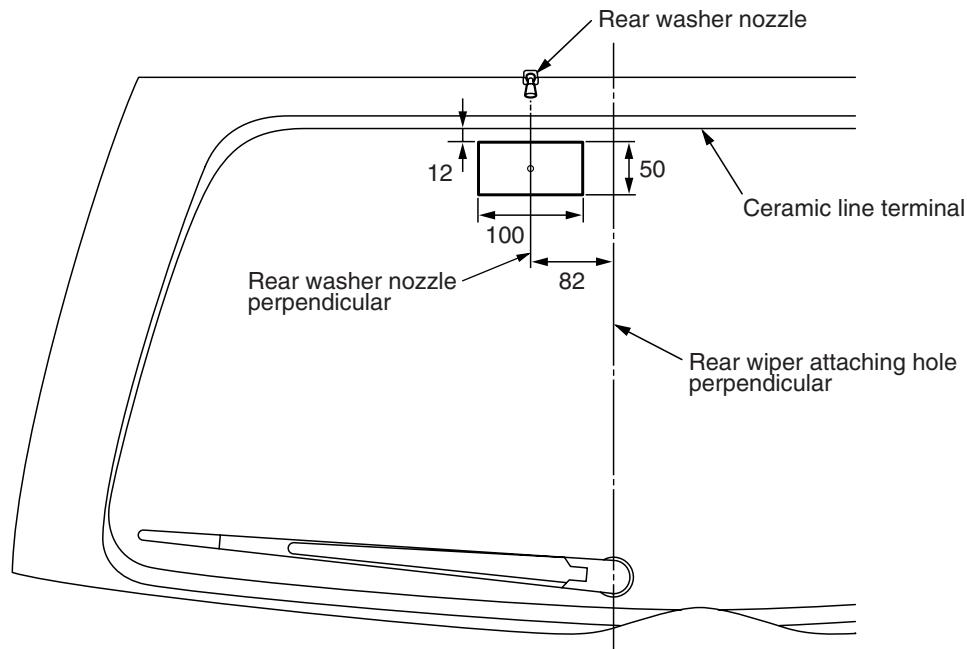


4. Check to see that the rear windshield wiper motor runs and then stops at the automatic stop position.

REAR WASHER FLUID EJECTION CHECK

3. Re-connect the battery as shown.

Unit: mm



AC302130AB

Move the nozzle to adjust the position so that the spray is in the area shown in the illustration.

HEADLAMP WASHER

TROUBLESHOOTING

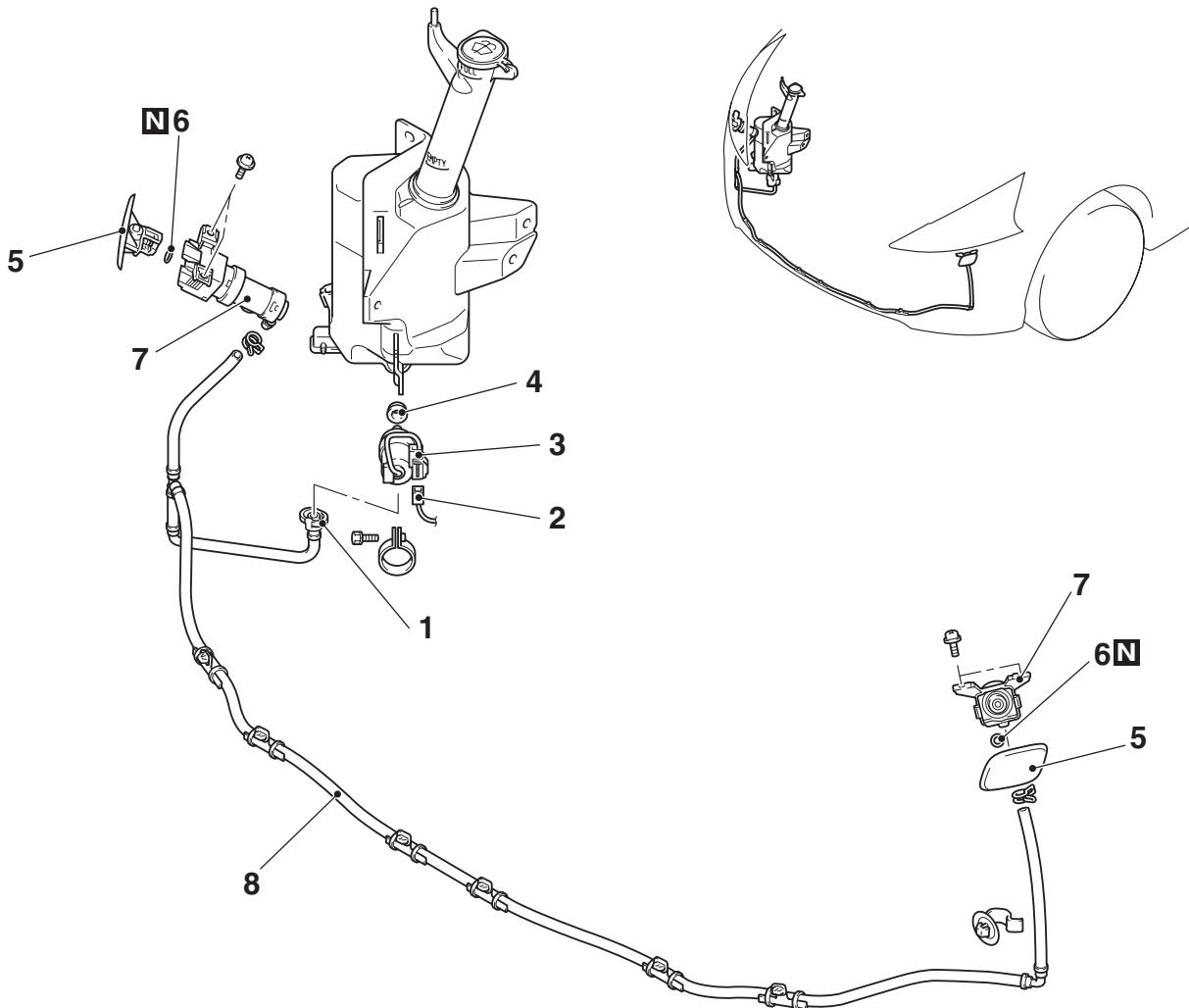
The headlamp washer is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting [P.54B-74](#) or GROUP 54C, Troubleshooting [P.54C-44](#).

M1511000700516

HEADLAMP WASHER

REMOVAL AND INSTALLATION

M1511009700074



AC310931AB

<<A>>

Removal steps

- Under cover side panel (RH)
- Washer fluid draining

1. Headlamp washer hose connection
2. Headlamp washer motor connector
3. Headlamp washer motor
4. Headlamp washer motor packing
- Front bumper (Refer to [P.51-3](#).)
5. Headlamp washer cove assembly
6. O-ring
7. Headlamp washer pop-up unit assembly
8. Headlamp washer hose assembly

REMOVAL SERVICE POINT

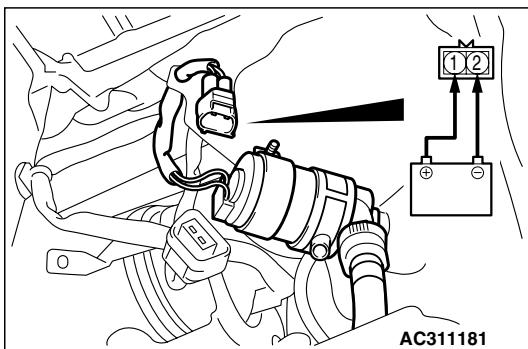
<<A>> WASHER FLUID DRAINING

When draining the washer fluid, remove the two screws securing the splash shield to the front bumper and the front air dam in order to provide sufficient clearance. Refer to [P.51-3](#).

INSPECTION

HEADLAMP WASHER MOTOR CHECK

M1511019100697



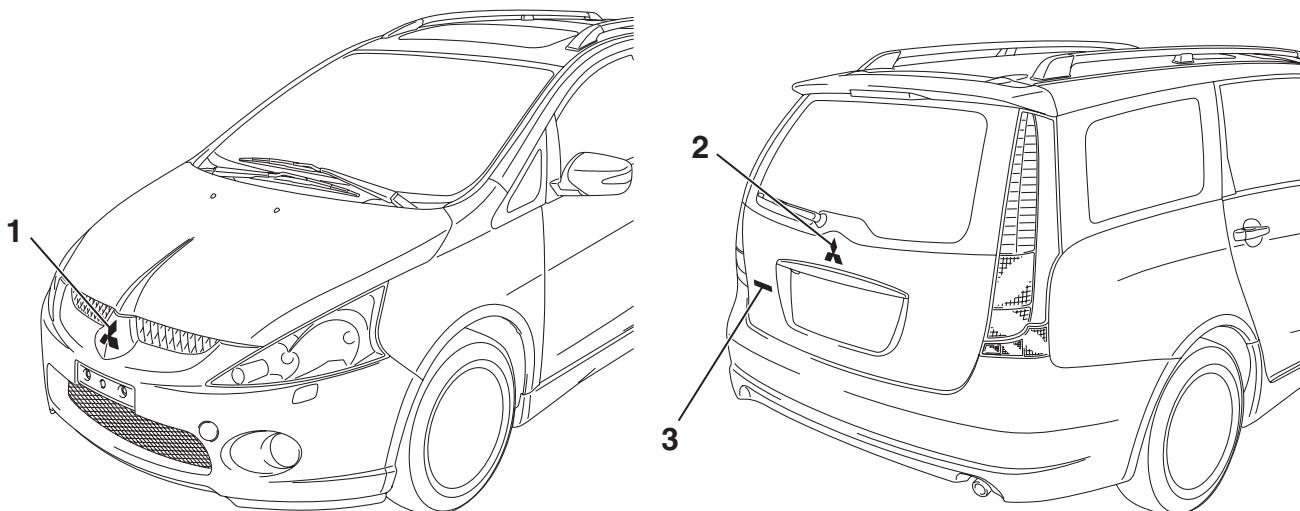
AC311181

1. Remove the headlamp washer motor connector.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 1 and terminal number 2 to the negative battery terminal.

MARK

REMOVAL AND INSTALLATION

M1511011800409



AC310966AB

Removal

>>A<< 1. Front three-diamond mark
>>A<< 2. Rear three-diamond mark
>>A<< 3. Grandis mark

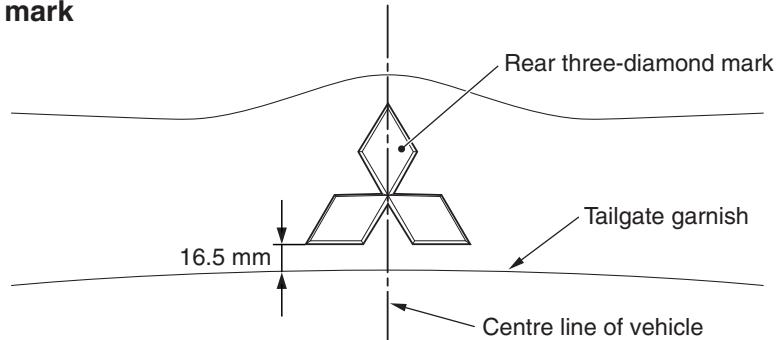
INSTALLATION SERVICE POINT

>>A<< MARK APPLICATION

1. Installation position

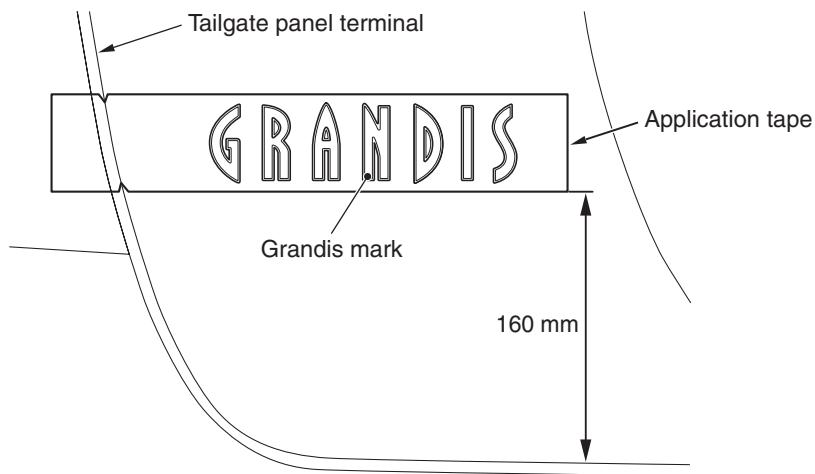
Attach each mark to the position shown in the illustration.

Rear three-diamond mark



AC302265 AB

Grandis mark



AC302288 AB

2. Installation procedure

(1) Use 3M ATD 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 and the air should be completely free of dust. If the ambient temperature is lower than 20°C, the marks and the places on the vehicle body where the marks are to be attached should be heated to 20 – 38°C.

(2) Peel off the protection sheet on the back of the marks to paste it on the installation position.

DOOR MIRROR**SERVICE SPECIFICATION**

M1511000300455

Item	Standard value
Heated door mirror operation current Ω	7.5 ± 1.1

TROUBLESHOOTING**DIAGNOSIS TROUBLESHOOTING FLOW**

M1511014600136

Refer to GROUP 00, How to Use
Troubleshooting/Inspection Service Points [P.00-5](#).

TROUBLE SYMPTOM CHART

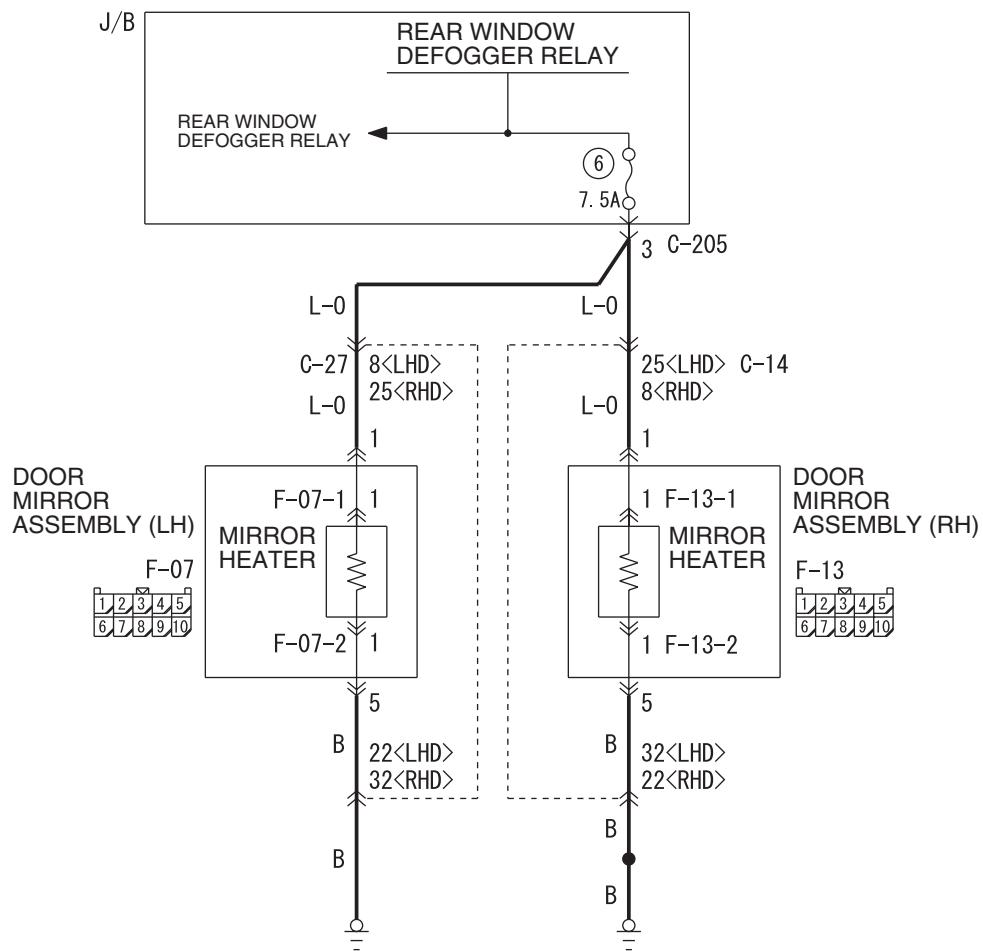
M1511015000148

Symptom	Inspection procedure	Reference page
Troubles relating to electric folding door mirrors	-	P.54B-74
All heated door mirrors do not operate	1	P.51-37
The right or left heated door mirror does not operate	2	P.51-39

NOTE: The electric folding door mirrors are controlled by the Smart Wiring System (SWS). For troubles relating to the electric folding door mirrors, refer to GROUP 54B - Troubleshooting P.54B-74 or GROUP 54C - Troubleshooting P.54C-44.

INSPECTION PROCEDURE 1: All Heated Door Mirrors do not Operate

Heated door mirror circuit



Wire colour code

B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
 BR : Brown O : Orange GR : Gray R : Red P : Pink V : Violet

COMMENTS ON TROUBLE SYMPTOM

The heated door mirrors should work for approximately 11 minutes when the rear defogger switch is turned on. If the mirror heater does not work for the specified period, the defogger relay circuit (heated door mirror power supply circuit) may be defective.

POSSIBLE CAUSES

- Damaged harness wires and connectors

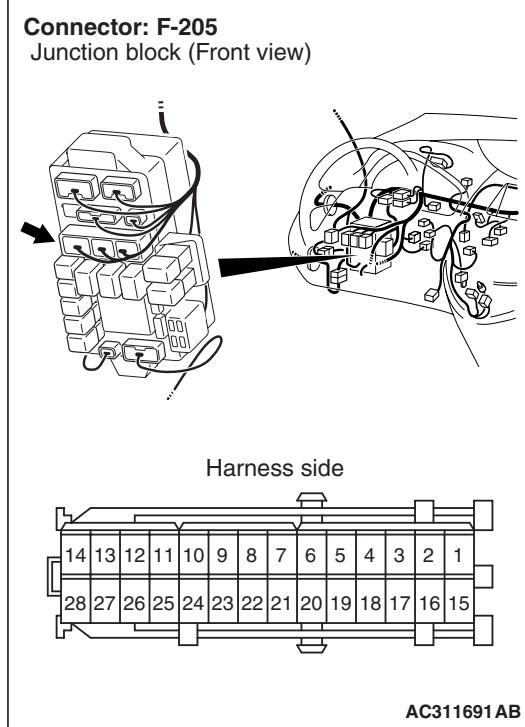
DIAGNOSIS PROCEDURE**Step 1. Check the rear window defogger.**

Check that the rear defogger system should work normally. (Refer to GROUP 54A, Rear window defogger inspection [P.54A-176](#).)

Q: Is the check result normal?

YES : Go to Step 2.

NO : Carry out the troubleshooting for the rear window defogger. (Refer to GROUP 55, Troubleshooting [P.55-43](#).)

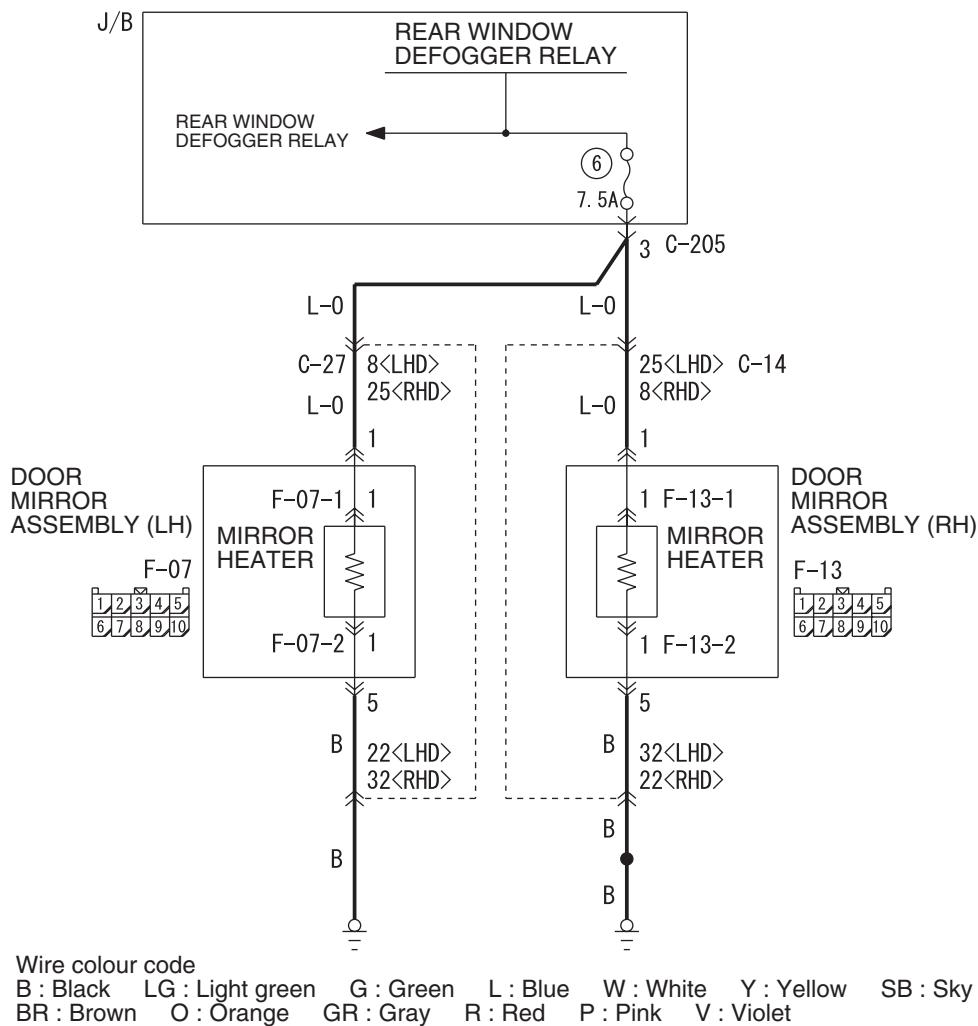
Step 2. Connector check: C-205 junction block connector.**Q: Is the check result normal?**

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction [P.00-5](#)).

NO : Repair the defective connector.

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

Heated door mirror circuit



W4X51E000A

COMMENTS ON TROUBLE SYMPTOM

If either of the heated door mirrors does not work, the door mirror assembly may be defective.

POSSIBLE CAUSES

- Malfunction of the door mirror assembly
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

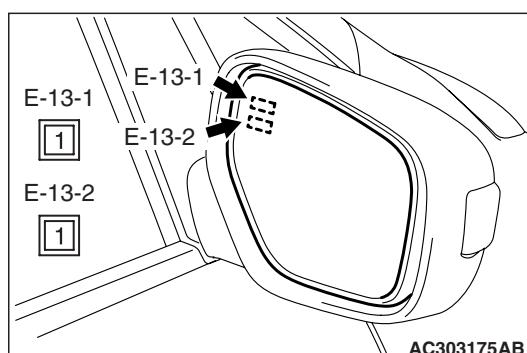
Step 1. Verify the operation of each heated door mirror.

Q: Which door mirror does not heat?

Door mirror (RH) : Go to Step 2.

Door mirror (LH) : Go to Step 10.

Step 2. Connector check: F-13-1 and F-13-2 door mirror (RH) heater element connectors



Q: Is the check result normal?

YES : Go to Step 3.

NO : Repair the defective connector.

Step 3. Check of the heater element of the door mirror (RH)

Check the heater element of the door mirror (RH).

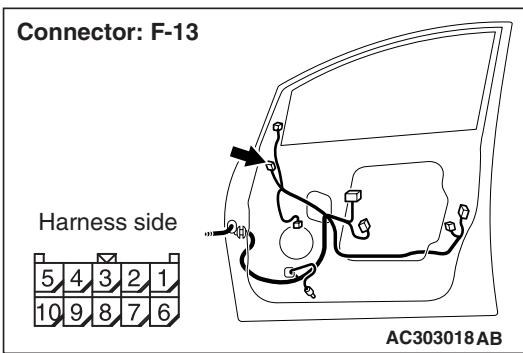
(Refer to P.51-51.)

Q: Is the check result normal?

YES : Go to Step 4.

NO : Replace the mirror glass of the door mirror assembly (RH).

Step 4. Connector check: F-13 door mirror assembly (RH) connector.



Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the defective connector.

Step 5. Resistance measurement at the F-13 door mirror assembly (RH) connector.

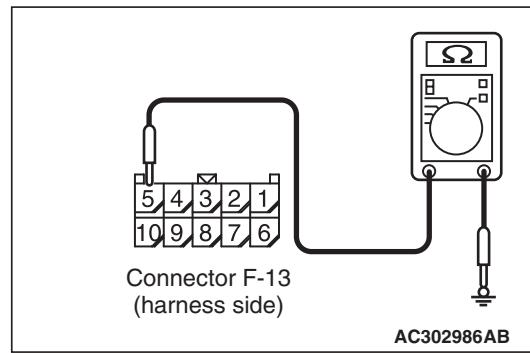
Connector: F-13

Harness side

5	4	3	2	1
10	9	8	7	6

AC303018AB

(1) Disconnect the connector, and measure at the wiring harness side.



(2) Resistance between F-13 door mirror assembly connector terminal No.5 and body earth.

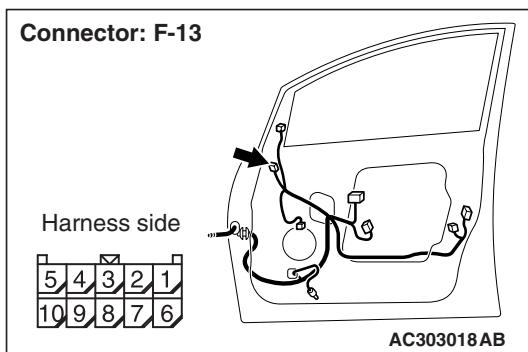
OK: 2Ω or less

Q: Is the check result normal?

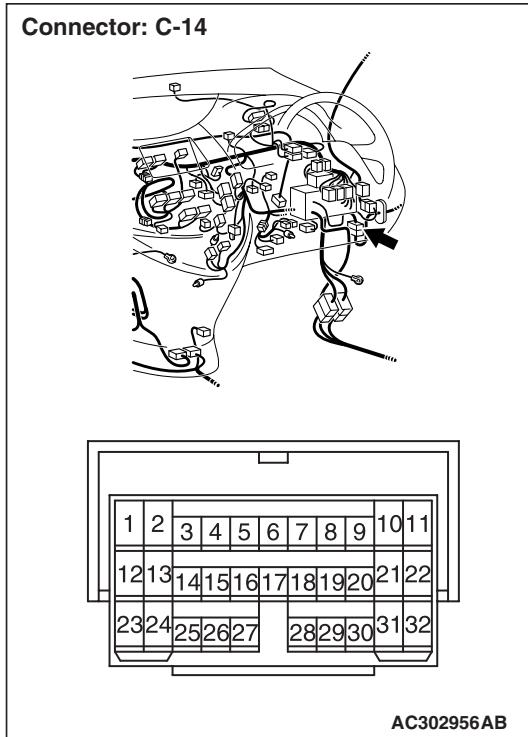
YES : Go to Step 7.

NO : Go to Step 6.

Step 6. Check the wiring harness between F-13 door mirror assembly (RH) connector terminal No.5 and body earth.



NOTE:



Prior to the wiring harness inspection, check intermediate connector C-14, and repair if necessary.

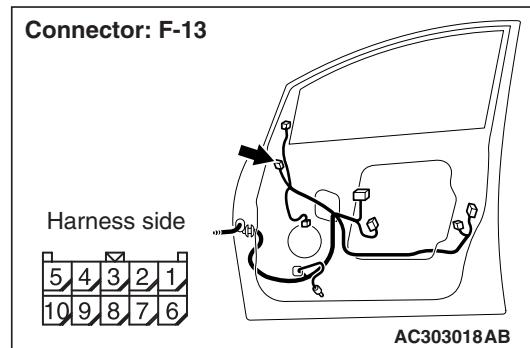
- Check the earth wires for open circuit.

Q: Is the check result normal?

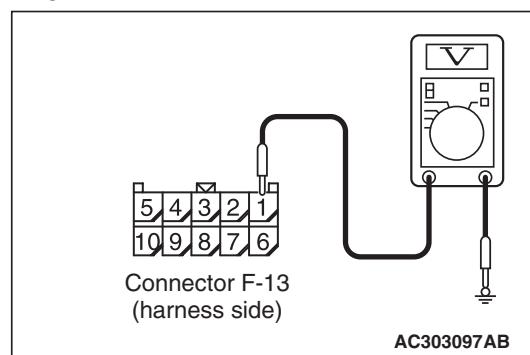
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-5).

NO : Repair the wiring harness.

Step 7. Voltage measurement at the F-13 door mirror assembly (RH) connector.



- (1) Turn the ignition switch to the ON position.
- (2) Rear window defogger switch: ON
- (3) Disconnect the connector, and measure at the wiring harness side.



- (4) Voltage between F-13 door mirror assembly connector terminal No.1 and body earth.

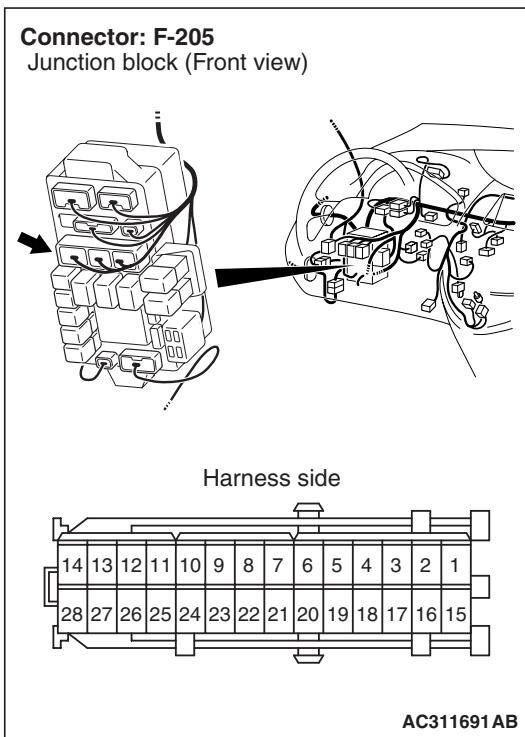
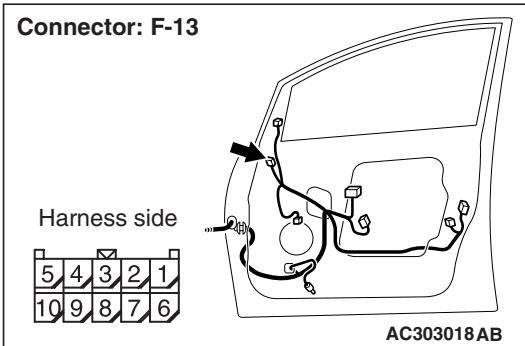
OK: System voltage

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-5).

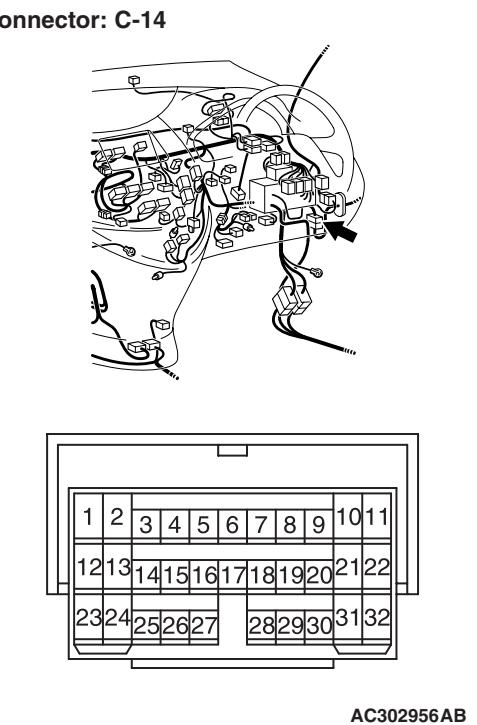
NO : Go to Step 8.

Step 8. Check the wiring harness between F-13 door mirror assembly (RH) connector terminal No.1 and C-205 junction block connector terminal No.3.



NOTE:

Connector: C-14



Prior to the wiring harness inspection, check intermediate connector C-14, and repair if necessary.

- Check the power supply line for open circuit.

Q: Is the check result normal?

YES : Go to Step 9.

NO : Repair the wiring harness.

Step 9. Check of the troubles

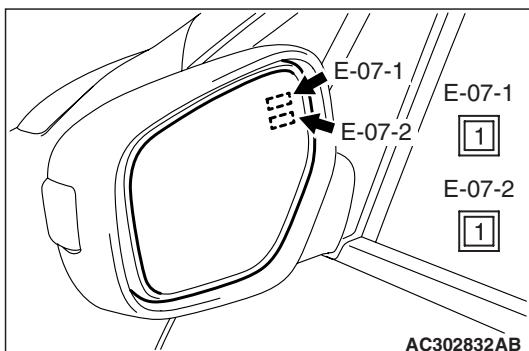
Check that the heater element of the door mirror (RH) functions normally.

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction [P.00-5](#)).

NO : Replace the door mirror assembly (RH).

Step 10. Connector check: F-07-1 and F-07-2 door mirror (LH) heater element connectors



Q: Is the check result normal?

YES : Go to Step 11.

NO : Repair the defective connector.

Step 11. Check of the heater element of the door mirror (LH)

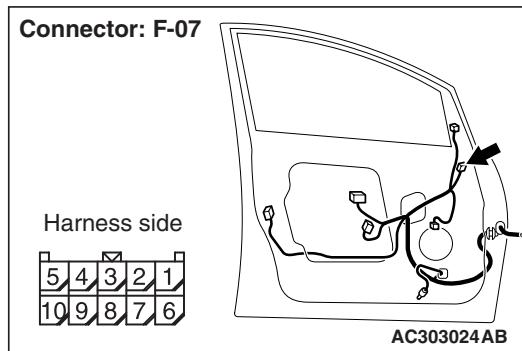
Check the heater element of the door mirror (LH). (Refer to P.51-51.)

Q: Is the check result normal?

YES : Go to Step 12.

NO : Replace the mirror glass of the door mirror assembly (LH).

Step 12. Connector check: F-07 door mirror assembly (LH) connector.

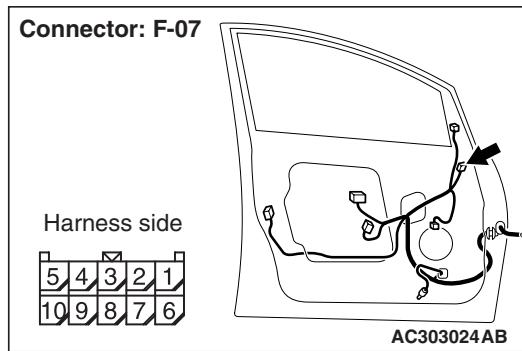


Q: Is the check result normal?

YES : Go to Step 13.

NO : Repair the defective connector.

Step 13. Resistance measurement at the F-07 door mirror assembly (LH) connector.



(1) Disconnect the connector, and measure at the wiring harness side.

(2) Resistance between F-07 door mirror assembly connector terminal No.5 and body earth.

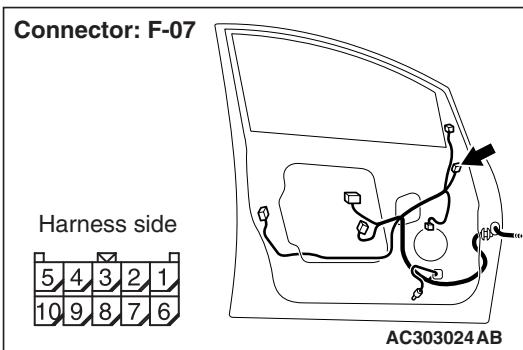
OK: $2\ \Omega$ or less

Q: Is the check result normal?

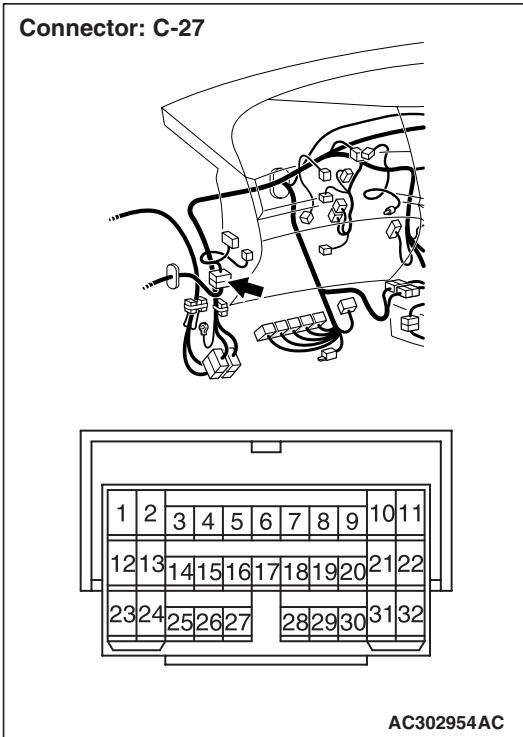
YES : Go to Step 15.

NO : Go to Step 14.

Step 14. Check the wiring harness between F-07 door mirror assembly (LH) connector terminal No.5 and body earth.



NOTE:



Prior to the wiring harness inspection, check intermediate connector C-27, and repair if necessary.

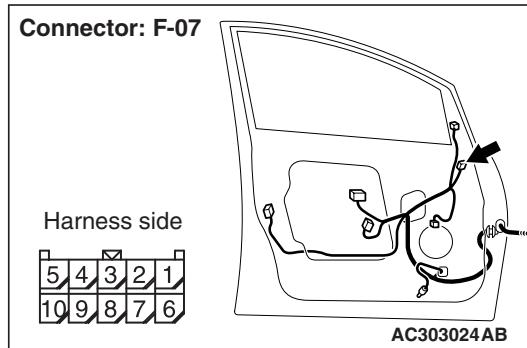
- Check the earth wires for open circuit.

Q: Is the check result normal?

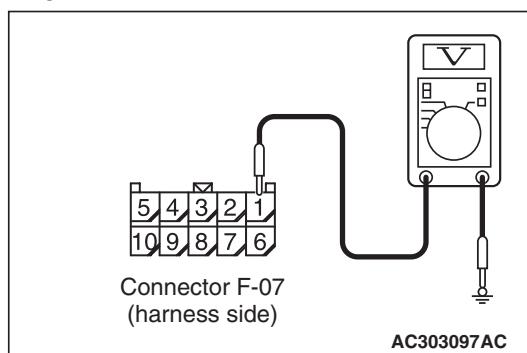
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-5).

NO : Repair the wiring harness.

Step 15. Voltage measurement at the F-07 door mirror assembly (LH) connector.



- (1) Turn the ignition switch to the ON position.
- (2) Rear window defogger switch: ON
- (3) Disconnect the connector, and measure at the wiring harness side.



- (4) Voltage between F-07 door mirror assembly connector terminal No.1 and body earth

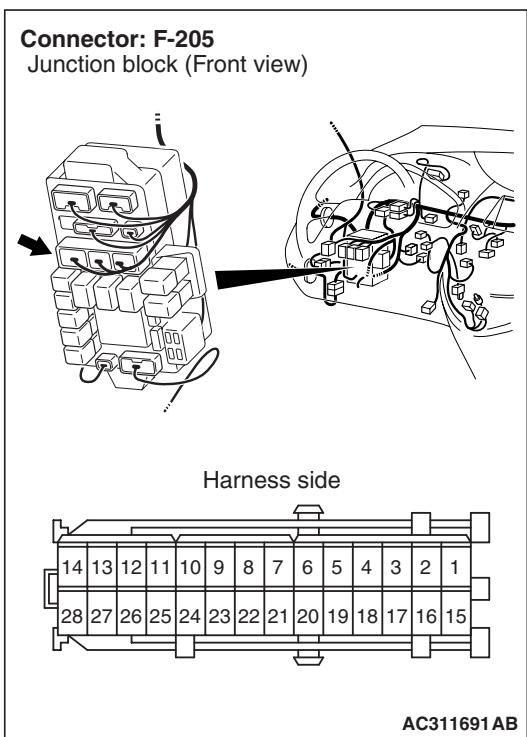
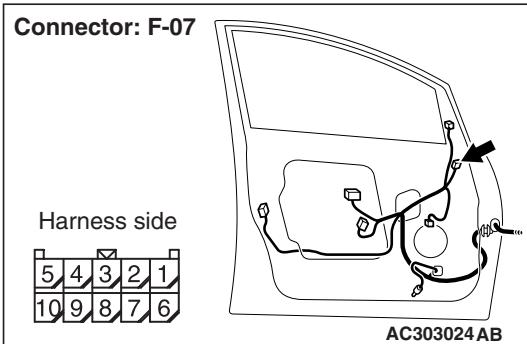
OK: System voltage

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-5).

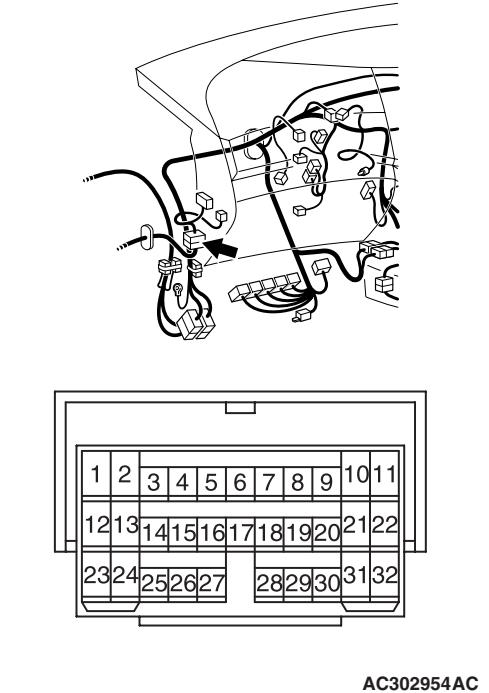
NO : Go to Step 16.

Step 16. Check the wiring harness between F-07 door mirror assembly (LH) connector terminal No.1 and C-205 junction block connector terminal No.3.



NOTE:

Connector: C-27



Prior to the wiring harness inspection, check intermediate connector C-27, and repair if necessary.

- Check the power supply line for open circuit.

Q: Is the check result normal?

YES : Go to Step 17.
NO : Repair the wiring harness.

Step 17. Check of the troubles

Check that the heater element works normally.

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction [P.00-5](#)).
NO : Replace the door mirror assembly (LH).

ON-VEHICLE SERVICE

Check of door mirror timer function

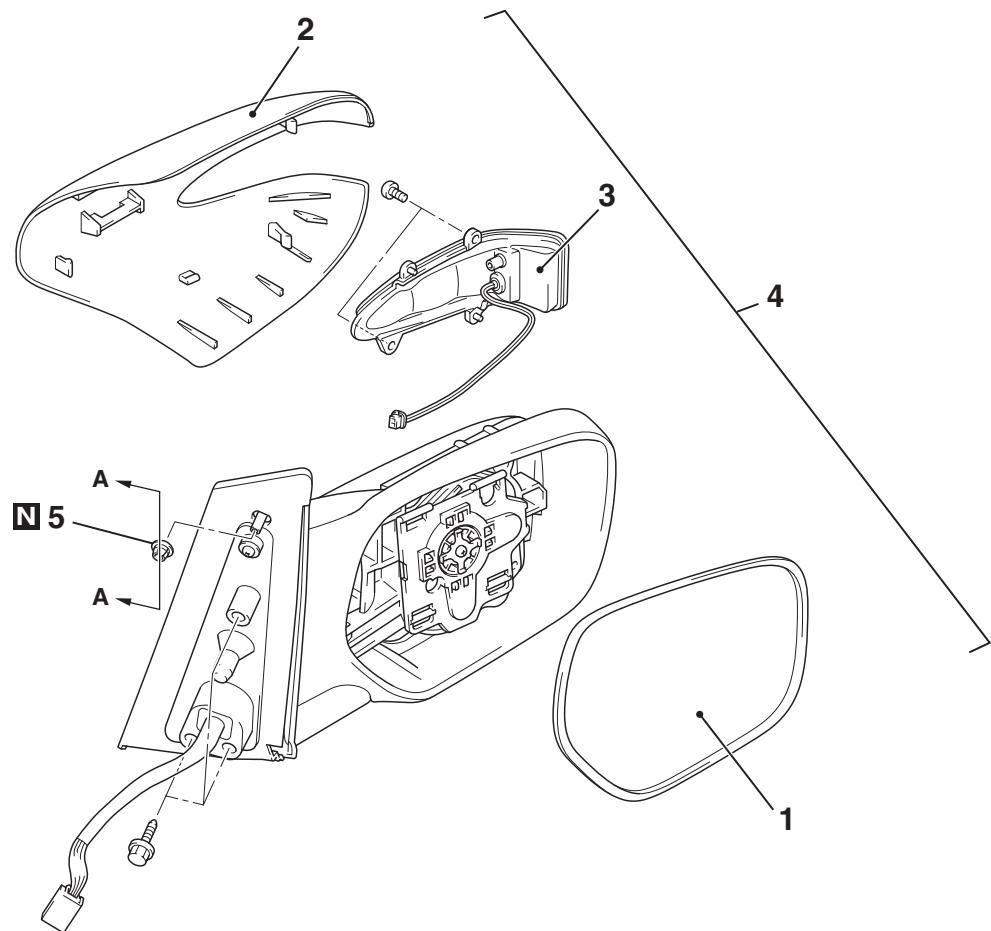
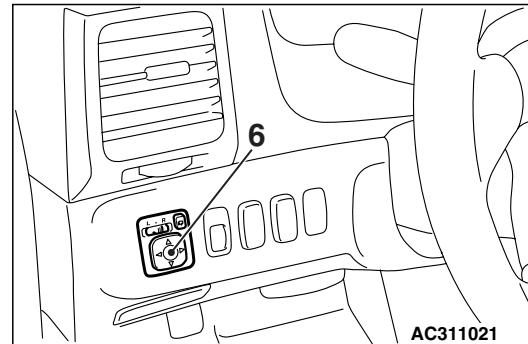
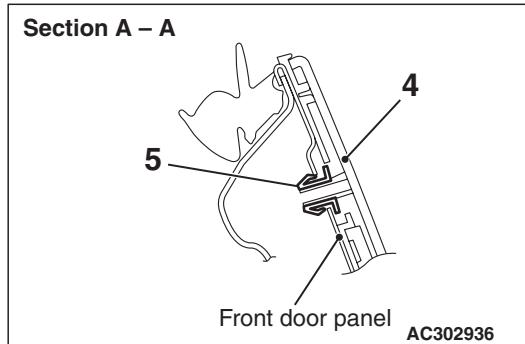
M1511021700049

1. Turn the ignition switch to the "LOCK" (OFF) position. Then check that the door mirrors can be folded and unfolded for approximately 30 seconds.
2. If not, carry out the troubleshooting. (Refer to GROUP 54B, Troubleshooting [P.54B-74](#).)

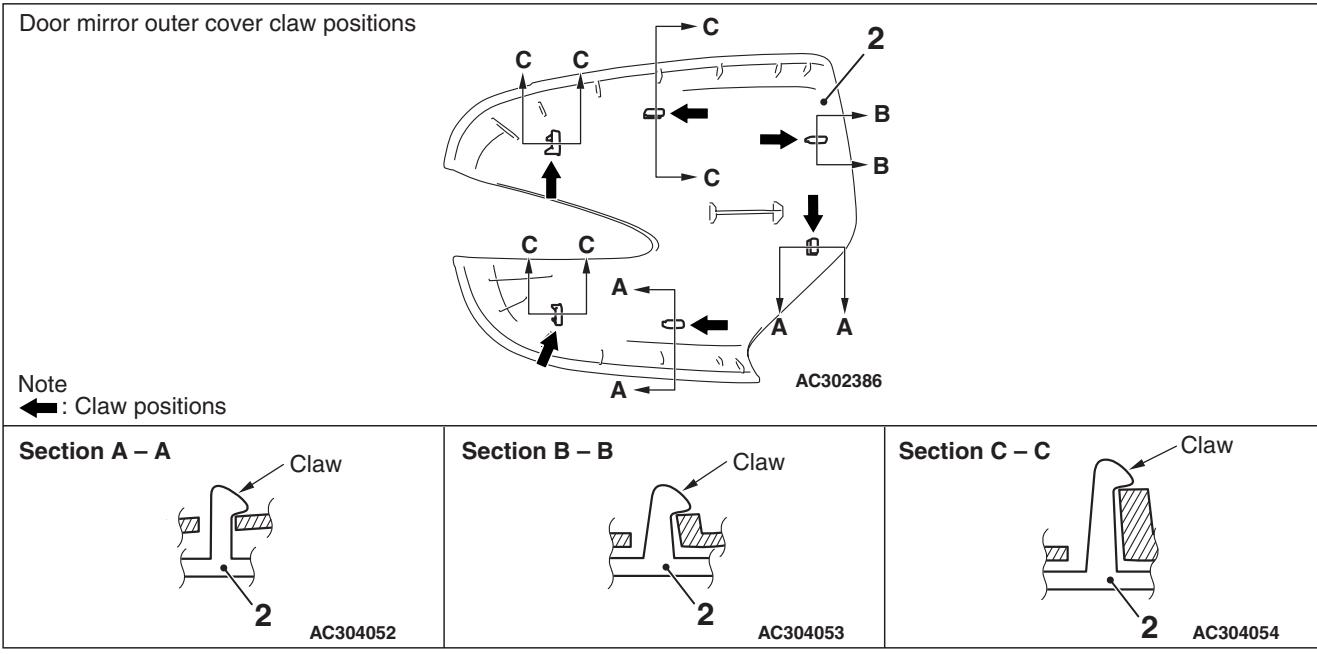
DOOR MIRROR

REMOVAL AND INSTALLATION

M1511006400472



AC311568AB



<<A>> 1. Mirror
Door mirror outer cover removal steps

<<A>> 1. Mirror

<> >>A<< 2. Door mirror outer cover

3. Side turn-signal lamp
Door mirror assembly removal steps

- Front door trim (Refer to group 52A, Door trim [P.52A-12](#).)

Door mirror assembly removal steps (Continued)

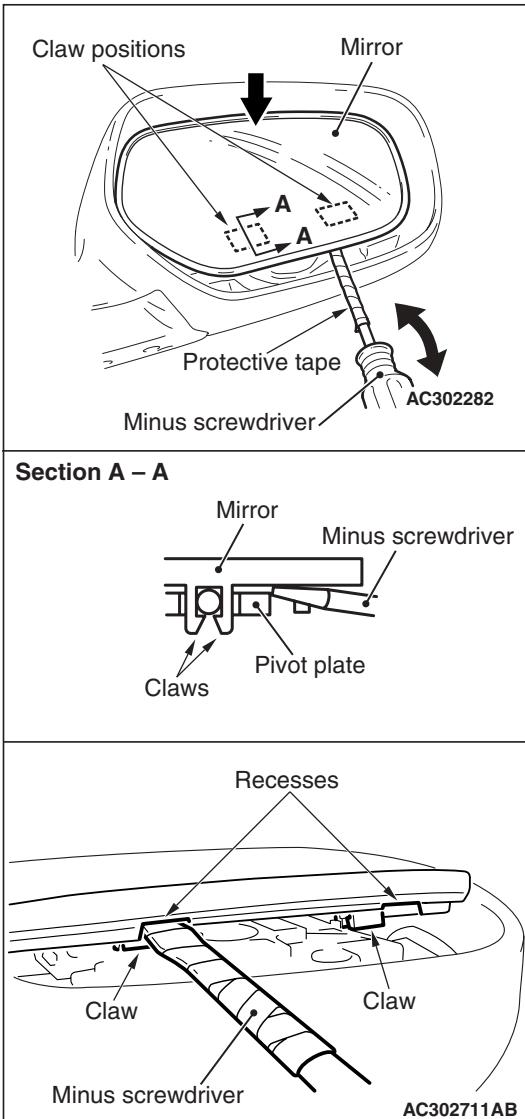
4. Door mirror assembly
5. Clip
Remote controlled mirror switch removal steps
- Instrument panel under cover (Refer to group 52A, Instrument panel assembly [P.52A-2](#).)
6. Remote controlled mirror switch

REMOVAL SERVICE POINT

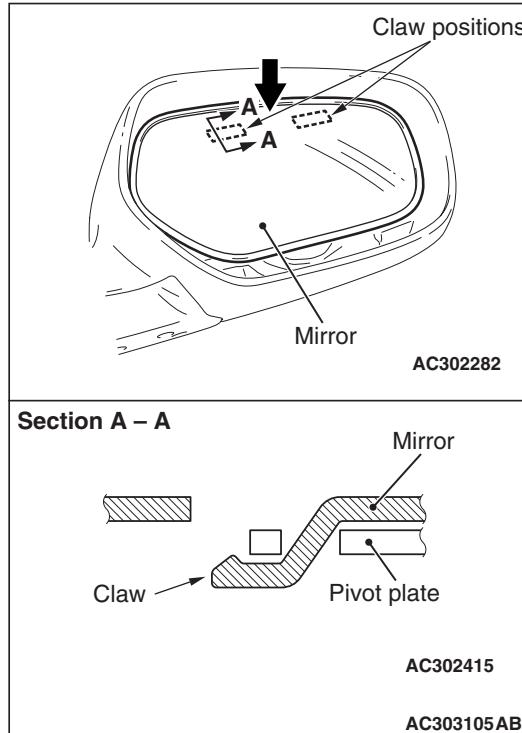
<<A>> MIRROR REMOVAL

CAUTION

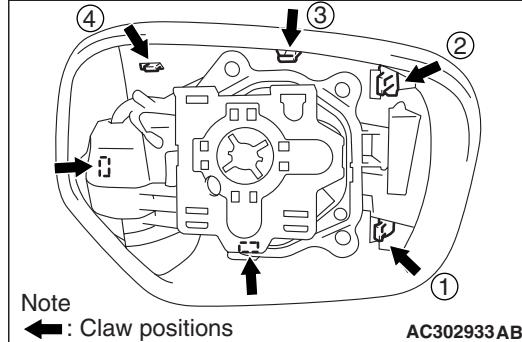
The tab of the mirror is prone to breakage when working in cold temperatures. Always use a hair drier or the like to warm up the mirror tab and its periphery to 20°C or higher prior to works. When the mirror is heated too quickly from its cold state, it may be broken.



1. Slant the mirror upward with your hands. Then insert (-) screwdriver wrapped with protective tape between the pivot plate and mirror through the cut-out from behind the mirror. Now pry off the mirror tab and release the lower side of the mirror as shown in the illustration.



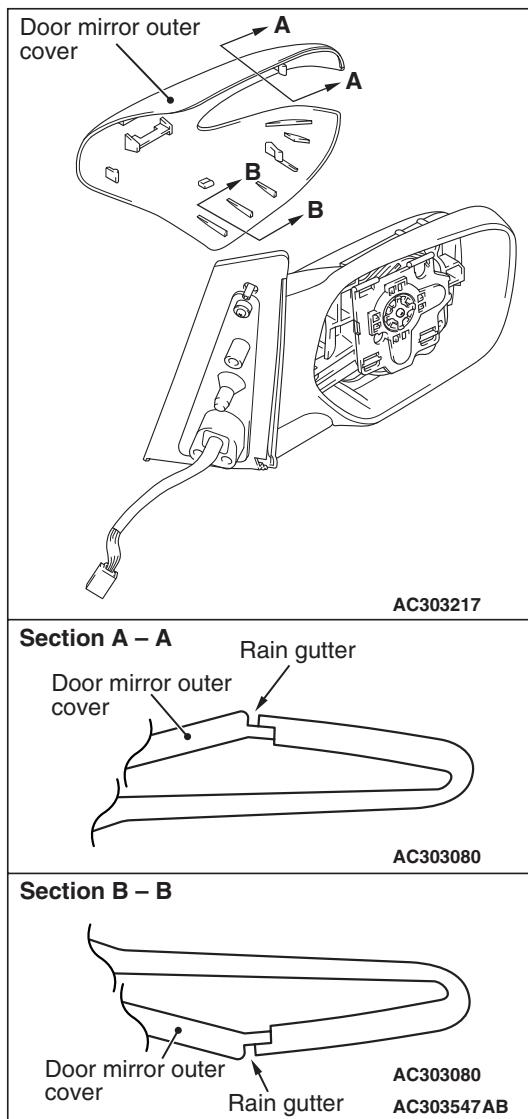
2. Release the upper side of the mirror from the tab as shown while pulling out the mirror.
3. Disconnect the connector of the heated mirror.

<> DOOR MIRROR OUTER COVER
REMOVAL

Remove the door mirror outer cover by disengaging the tabs in the numerical order of the illustration from the mirror body side.

INSTALLATION SERVICE POINT
>>A<< DOOR MIRROR OUTER COVER
INSTALLATION**CAUTION**

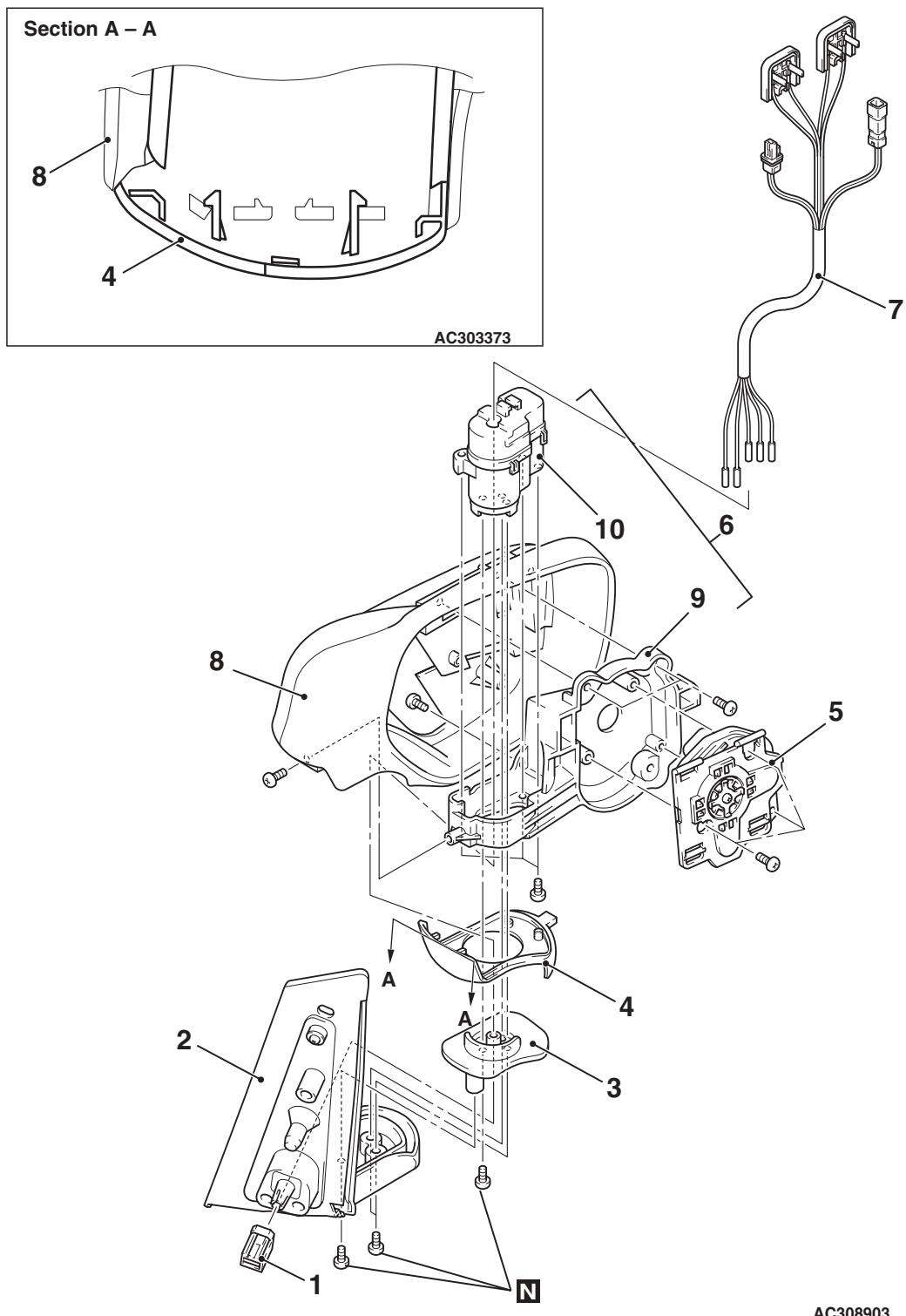
Tap the six tab positions securely to confirm that they are engaged securely.



There should be a space between the door mirror outer cover and the rain gutter as shown.

DISASSEMBLY AND REASSEMBLY

M1511023900050



AC308903

<<A>> >>B<< **Disassembly steps**

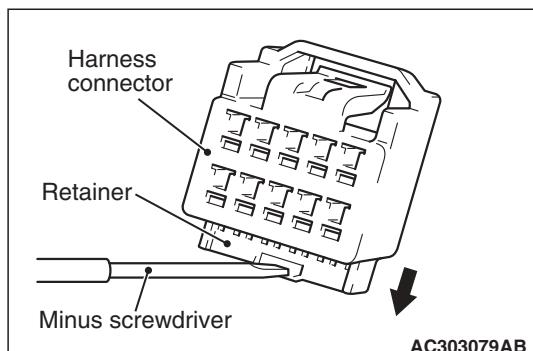
- 1. Connector
- 2. Body base assembly
- 3. Base
- 4. Body cover
- >>A<< 5. Actuator

AC308916 AB **Disassembly steps (Continued)**

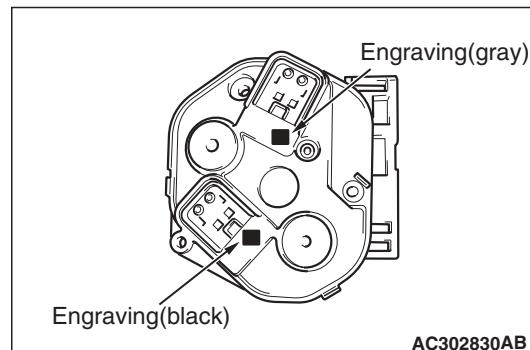
- 6. Support assembly
- 7. Harness assembly
- 8. Body
- 9. Support
- 10. Retractor motor

DISASSEMBLY SERVICE POINT

<>A>> CONNECTOR REMOVAL



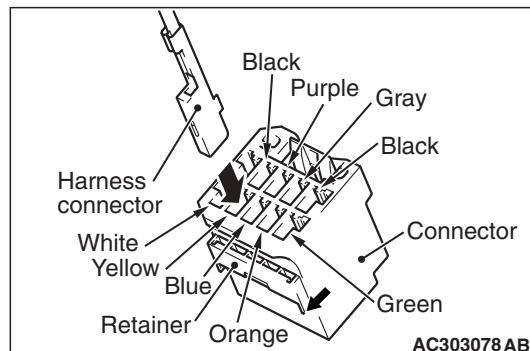
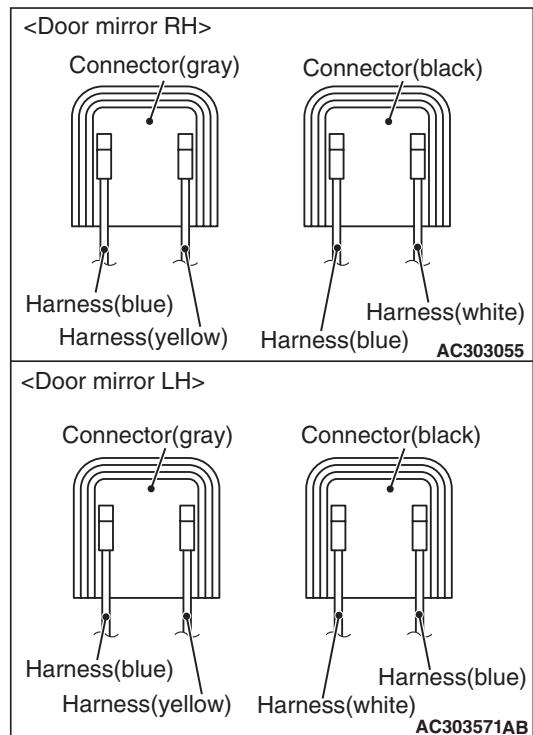
Use a flat-tipped screwdriver to pull up the retainer shown slightly (by a few millimeter). Then disengage the wiring harness terminals to disconnect the connector.



2. Confirm the wiring harness assembly connectors of the same colour as the colour engraved on the actuator. Connect the connectors to the actuator as shown according to the colours, respectively.
3. Install the actuator to the support assembly.

REASSEMBLY SERVICE POINT

>>A<< ACTUATOR INSTALLATION



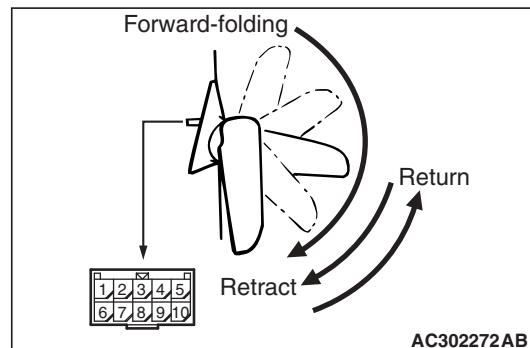
Pull out the connector retainer slightly until it is loosely fitted. Insert the wiring harness wires of the shown colours to the connector, respectively. Then push in the retainer until it clicks in to position.

INSPECTION

M1511019100545

DOOR MIRROR ASSEMBLY OPERATION CHECK

Remove the door trim, and then connect the battery to the door mirror assembly connector to check that the door mirror operates.

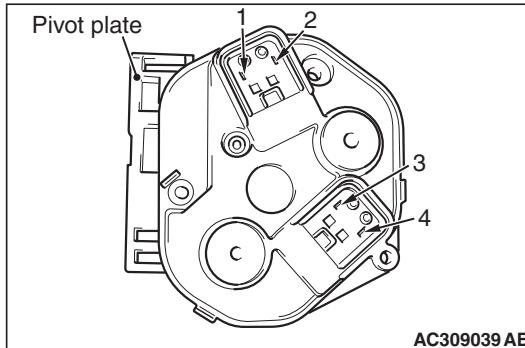


1. Check that the wiring harness wires are secured with the connector as shown.

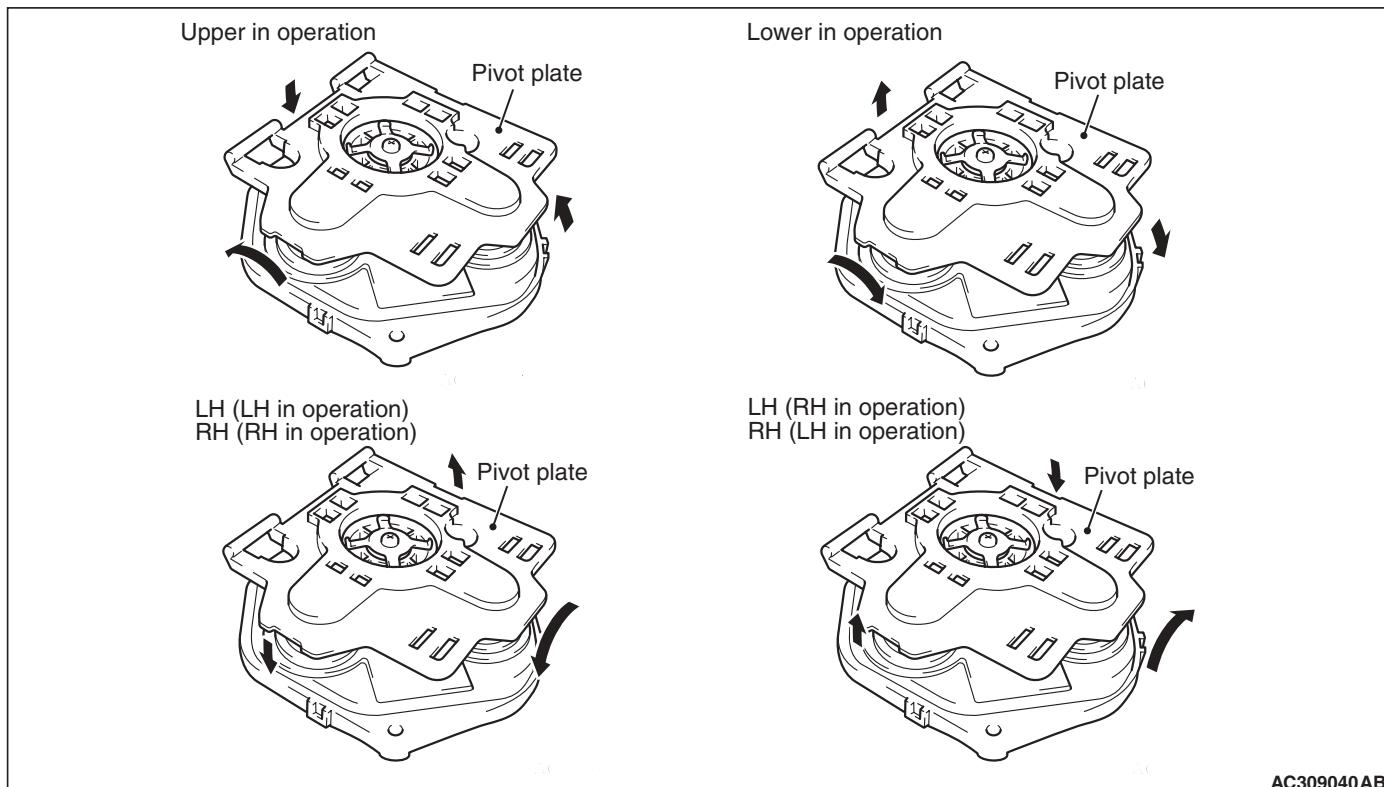
NOTE: Check that the wires are secured as these wires may be released from the connector easily.

Battery connection	Direction operation
<ul style="list-style-type: none"> • Connect terminal 8 to the negative battery terminal. • Connect terminal 10 to the positive battery terminal. 	Up
<ul style="list-style-type: none"> • Connect terminal 8 to the positive battery terminal. • Connect terminal 10 to the negative battery terminal. 	Down
<ul style="list-style-type: none"> • Connect terminal 8 to the negative battery terminal. • Connect terminal 9 to the positive battery terminal. 	Right
<ul style="list-style-type: none"> • Connect terminal 8 to the positive battery terminal. • Connect terminal 9 to the negative battery terminal. 	Left
<ul style="list-style-type: none"> • Connect terminal 6 to the positive battery terminal. • Connect terminal 7 to the negative battery terminal. 	Retract
<ul style="list-style-type: none"> • Connect terminal 6 to the negative battery terminal. • Connect terminal 7 to the positive battery terminal. 	Return

ACTUATOR OPERATION CHECK

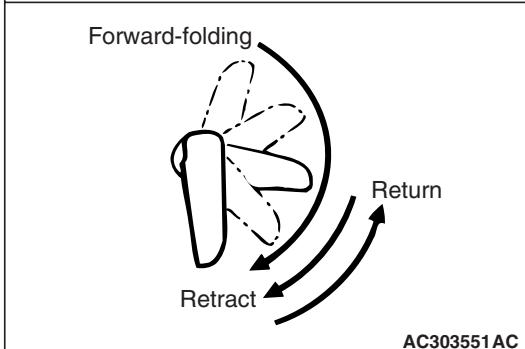
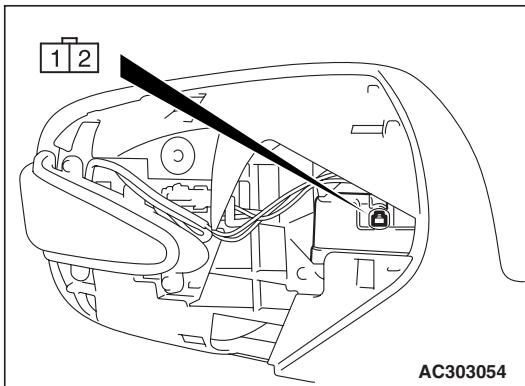


Battery connection	Pivot plate operation
<ul style="list-style-type: none"> • Connect terminal 3 to the negative battery terminal. • Connect terminal 4 to the positive battery terminal. 	Up
<ul style="list-style-type: none"> • Connect terminal 3 to the positive battery terminal. • Connect terminal 4 to the negative battery terminal. 	Down
<ul style="list-style-type: none"> • Connect terminal 1 to the positive battery terminal. • Connect terminal 2 to the negative battery terminal. 	Right
<ul style="list-style-type: none"> • Connect terminal 1 to the negative battery terminal. • Connect terminal 2 to the positive battery terminal. 	Left



RETRACTOR MOTOR OPERATION CHECK

Remove the door mirror outer cover. Connect the battery to the connector shown to check that the mirror can be folded and unfolded correctly.



Battery connection

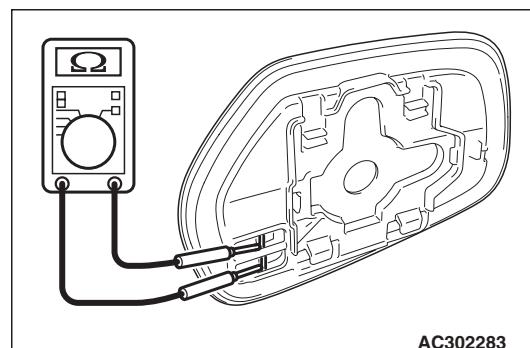
Pivot plate operation

<ul style="list-style-type: none"> • Connect terminal 1 to the negative battery terminal. • Connect terminal 2 to the positive battery terminal. 	Retract
<ul style="list-style-type: none"> • Connect terminal 1 to the positive battery terminal. • Connect terminal 2 to the negative battery terminal. 	Return

HEATED DOOR MIRROR CHECK

CAUTION

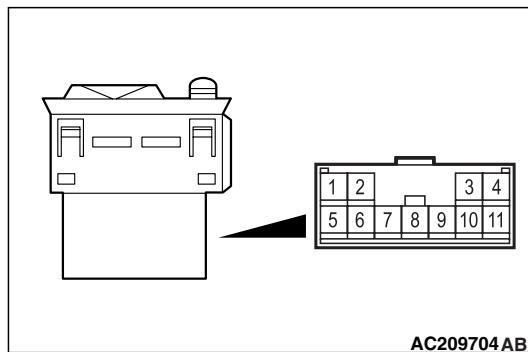
When relocating the car between locations with extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.



Remove the mirror. Check that the resistance value between the connector terminals (at the back of the mirror) is at the standard value.

Standard value: $7.5 \pm 1.1 \Omega$ at 25°C

DOOR MIRROR CONTROL SWITCH CONTINUITY CHECK



Switch position	Tester connection	Specified condition
OFF	1 – 2, 1 – 3, 1 – 4, 1 – 6, 1 – 10, 1 – 11, 2 – 9, 3 – 9, 6 – 9, 9 – 10, 9 – 11	Open circuit
Left side	OFF	1 – 6, 1 – 10, 1 – 11, 6 – 9, 9 – 10, 9 – 11
	Up	1 – 6, 9 – 11
	Down	1 – 11, 6 – 9
	Right	1 – 6, 9 – 10
	Left	1 – 10, 6 – 9
Right side	OFF	1 – 2, 1 – 3, 1 – 6, 2 – 9, 3 – 9, 6 – 9
	Up	1 – 6, 3 – 9
	Down	1 – 3, 6 – 9
	Right	1 – 6, 2 – 9
	Left	1 – 2, 6 – 9
Retract and return		1 – 4
		Less than 2 ohms