
GROUP 51

EXTERIOR

CONTENTS

FRONT BUMPER ASSEMBLY	51-2	WINDSHIELD WIPER AND WASHER	51-20
ADHESIVE	51-2	GENERAL INFORMATION	51-20
REMOVAL AND INSTALLATION	51-2	SERVICE SPECIFICATION	51-20
DISASSEMBLY AND REASSEMBLY	51-4	SPECIAL TOOLS	51-21
REAR BUMPER ASSEMBLY	51-7	TROUBLESHOOTING	51-22
REMOVAL AND INSTALLATION	51-7	ON-VEHICLE SERVICE	51-22
DISASSEMBLY AND REASSEMBLY	51-8	REMOVAL AND INSTALLATION	51-23
MOULDINGS	51-10	INSPECTION	51-25
SPECIAL TOOL	51-10	REAR WIPER AND WASHER	51-28
REMOVAL AND INSTALLATION	51-10	GENERAL INFORMATION	51-28
SIDE AIR DAM <VR-X>	51-12	SERVICE SPECIFICATION	51-28
ADHESIVE	51-12	TROUBLESHOOTING	51-28
REMOVAL AND INSTALLATION	51-12	ON-VEHICLE SERVICE	51-28
GARNISHES	51-14	REMOVAL AND INSTALLATION	51-29
REMOVAL AND INSTALLATION	51-14	INSPECTION	51-30
DOOR SASH TAPE	51-14	MARK	51-32
SPECIAL TOOL	51-14	REMOVAL AND INSTALLATION	51-32
REMOVAL AND INSTALLATION	51-15	DOOR MIRROR	51-34
TAILGATE SPOILER	51-19	GENERAL INFORMATION	51-34
REMOVAL AND INSTALLATION	51-19	SPECIAL TOOL	51-34
		REMOVAL AND INSTALLATION	51-34
		INSPECTION	51-35

FRONT BUMPER ASSEMBLY

ADHESIVE

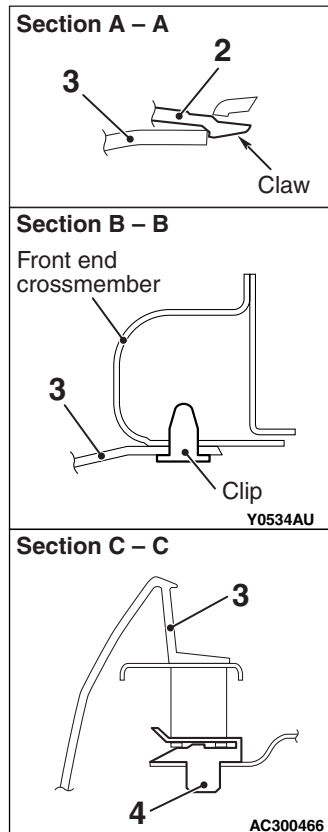
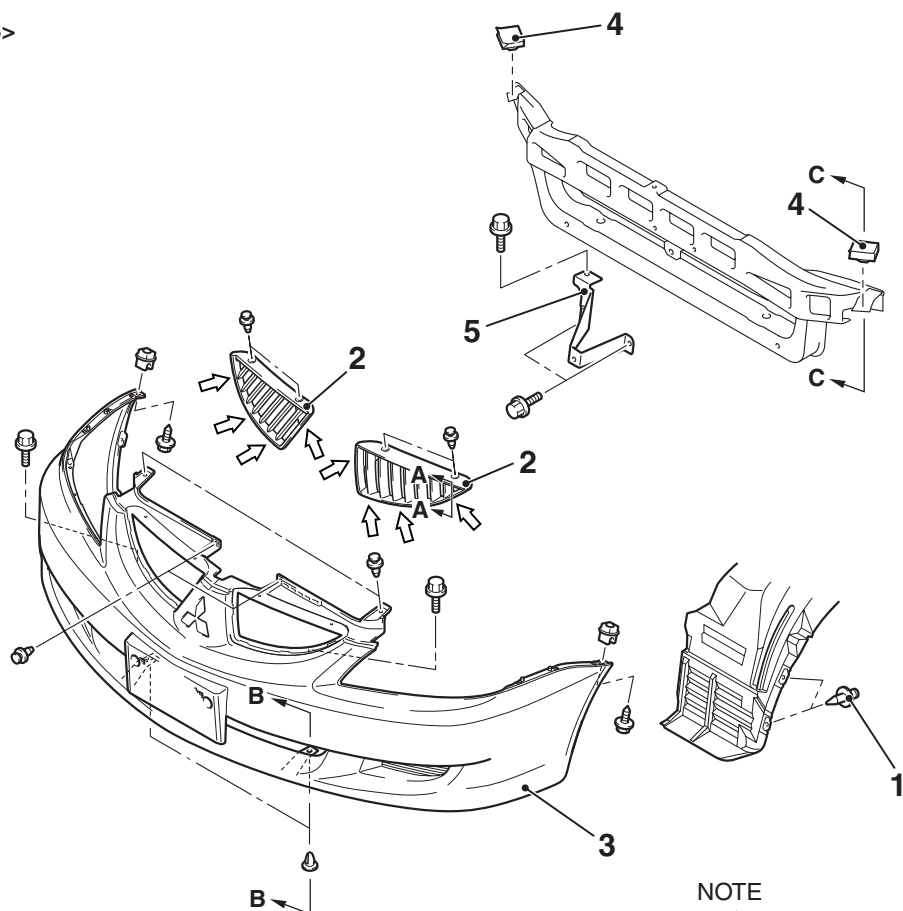
M1511000501195

Item	Specification
Front three-diamond mark	Double-sided tape: Generic products 0.8 mm thickness

REMOVAL AND INSTALLATION

M1511001401146

<ES>



NOTE

← : Claw positions

AC504795AB

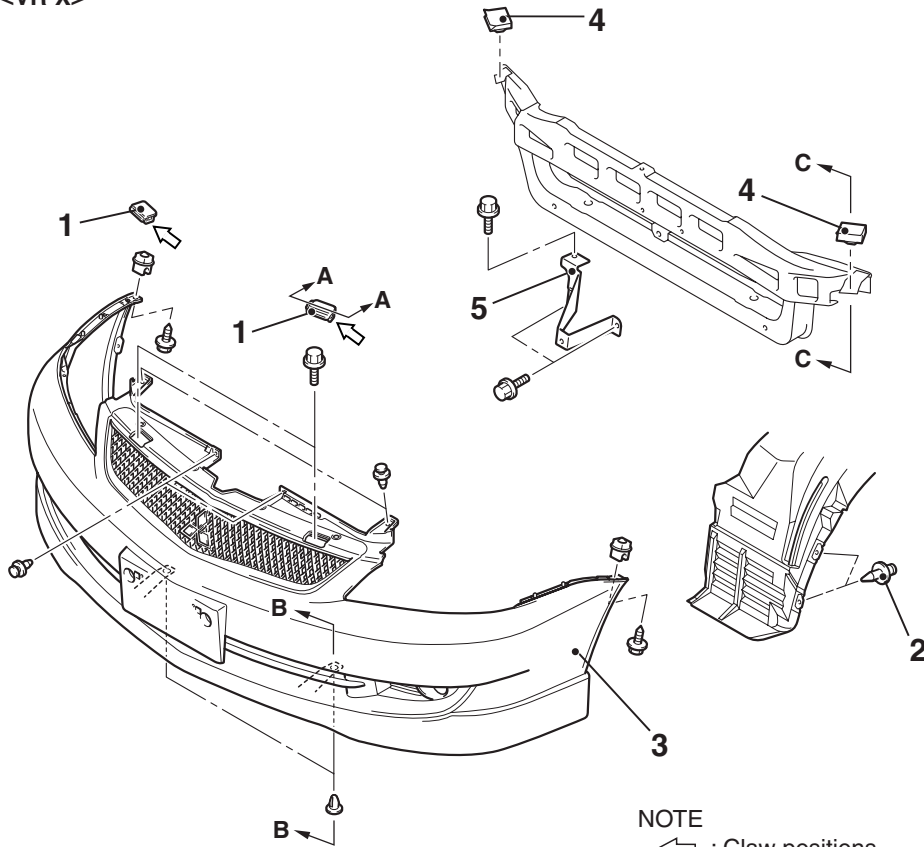
Removal steps

1. Splash shield mounting clips
 - Fog lamp connector connection
2. Radiator grille assembly

Removal steps (Continued)

3. Front bumper assembly
4. Front bumper fixing clips
5. Front bumper support

<VR-X>

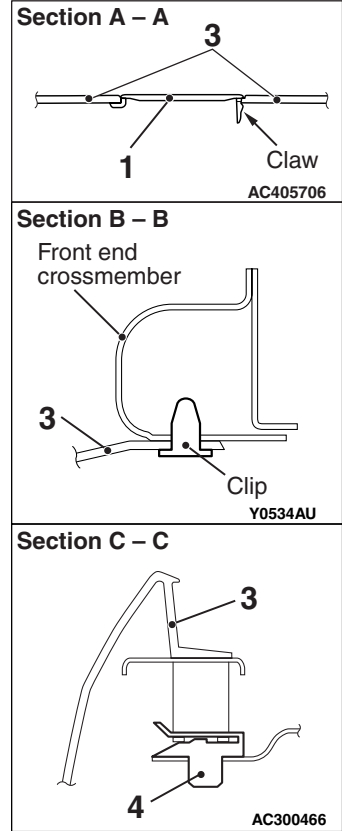


Removal steps

1. Front grille side cover
2. Splash shield mounting clips
 - Fog lamp connector connection

Removal steps (Continued)

3. Front bumper and radiator grille assembly
4. Front bumper fixing clips
5. Front bumper support



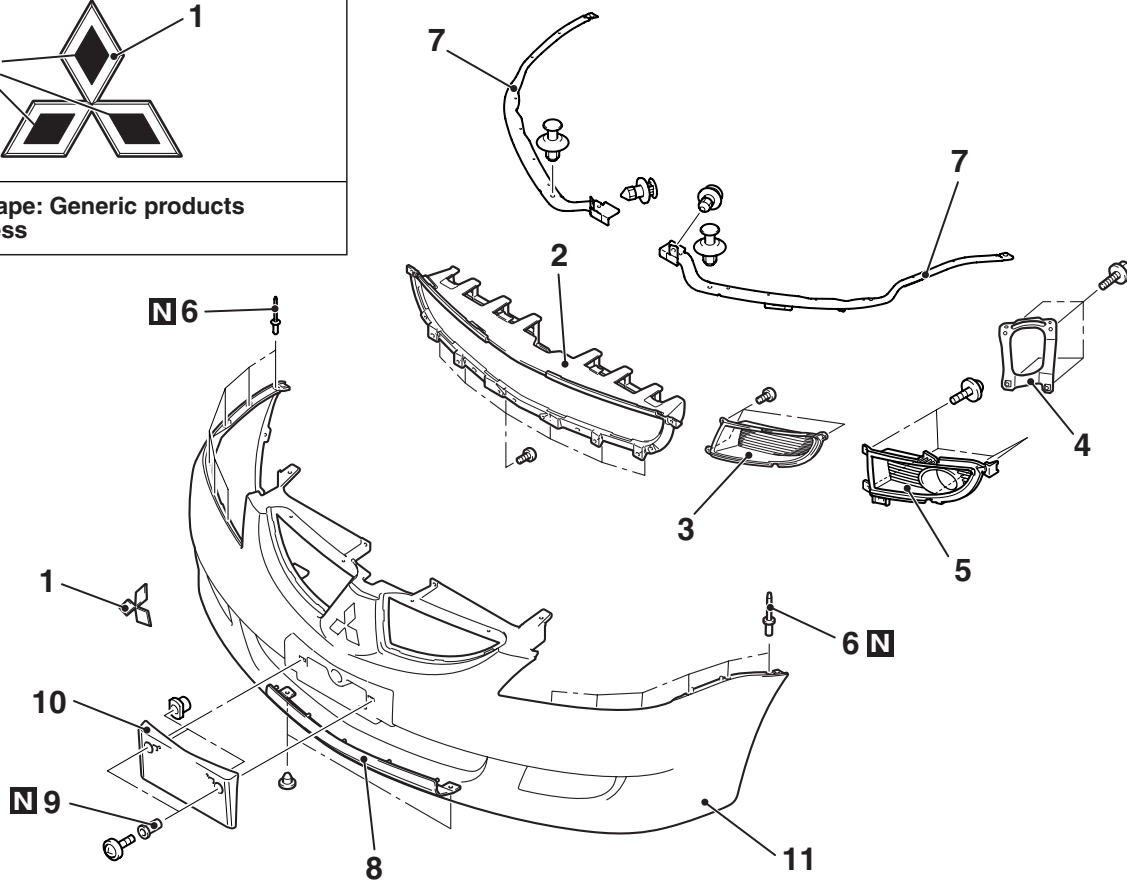
AC504336AC

DISASSEMBLY AND REASSEMBLY

M1511001601140



<ES>



AC504801AB

Removal steps

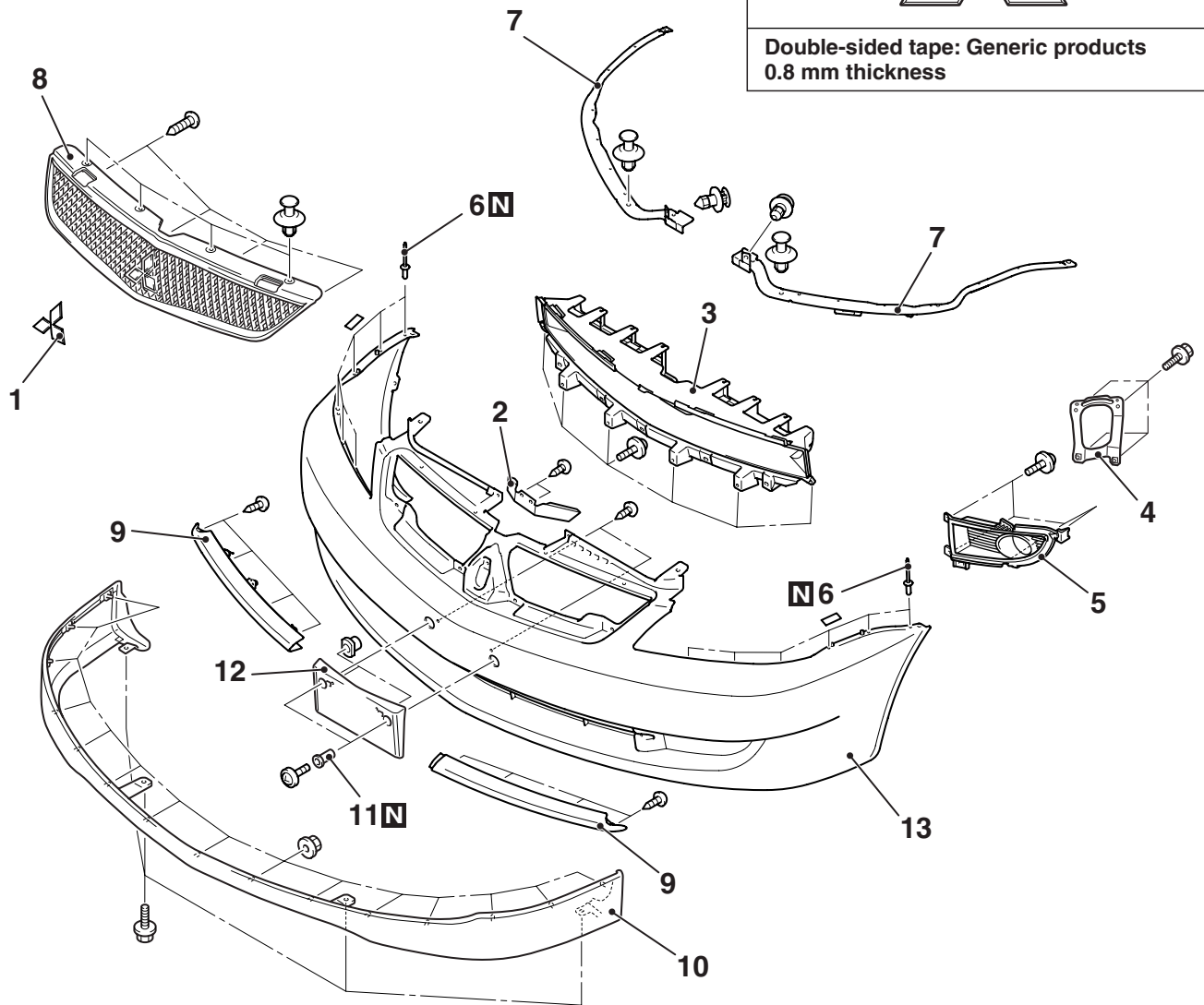
1. Front three-diamond mark
2. Under duct
3. Air intake bezel <vehicles without front fog lamp>
4. Front fog lamp support <vehicles with front fog lamp>
5. Front fog lamp bezel <vehicles with front fog lamp>

<<A>> >>A<<

Removal steps (Continued)

6. Rivets
7. Front bumper side plate
8. Front bumper centre cover
9. Front bumper nut
10. Licence plate garnish
11. Front bumper face

<VR-X>



AC504762AB

Removal steps

1. Front three-diamond mark
2. Front bumper centre cover
3. Under duct
4. Front fog lamp support
5. Front fog lamp bezel
6. Rivets
7. Front bumper side plate

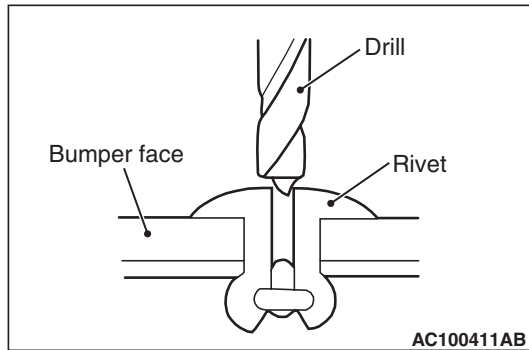
Removal steps (Continued)

8. Radiator grille
9. Front bumper garnish
10. Front bumper extension
11. Front bumper nut
12. Licence plate garnish
13. Front bumper face

<<A>> >>A<<

DISASSEMBLY SERVICE POINT

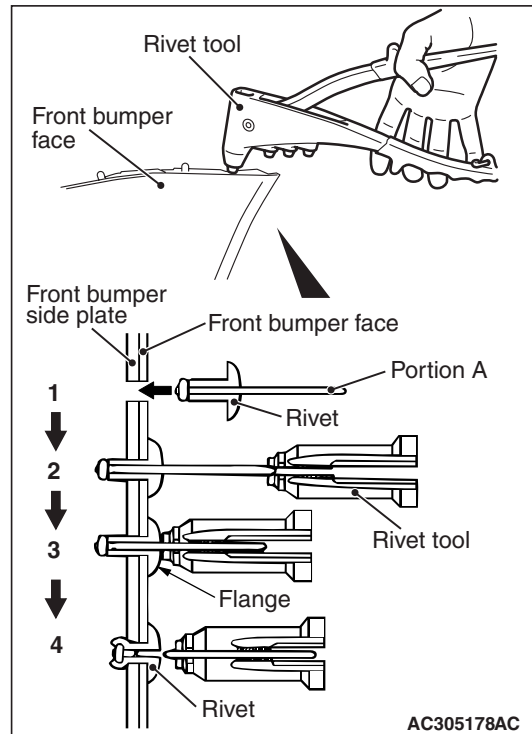
<<A>> RIVETS REMOVAL



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<< RIVETS ASSEMBLY



Use the rivet tool shown in the illustration to attach the rivet by the following procedures.

1. Insert the rivet into the front bumper face and front bumper side plate.
2. Place the rivet tool over portion A of the rivet.
3. While pushing the flange surface of the rivet with the rivet tool, press the handle of the tool.
4. The thin part of portion A is cut out and the rivet is held in position.

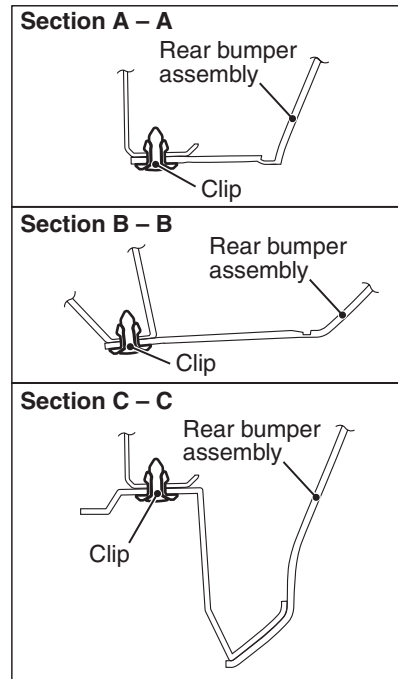
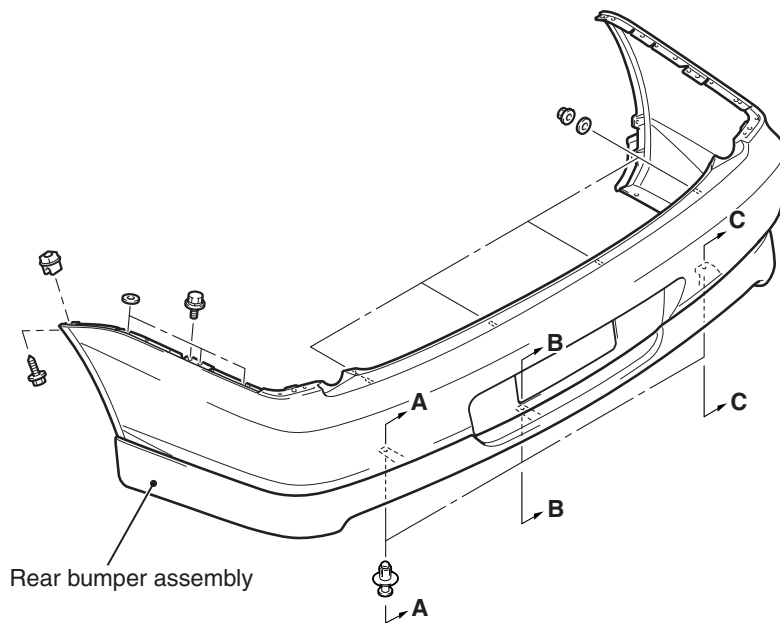
REAR BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001901033

Pre-removal and Post-installation Operation

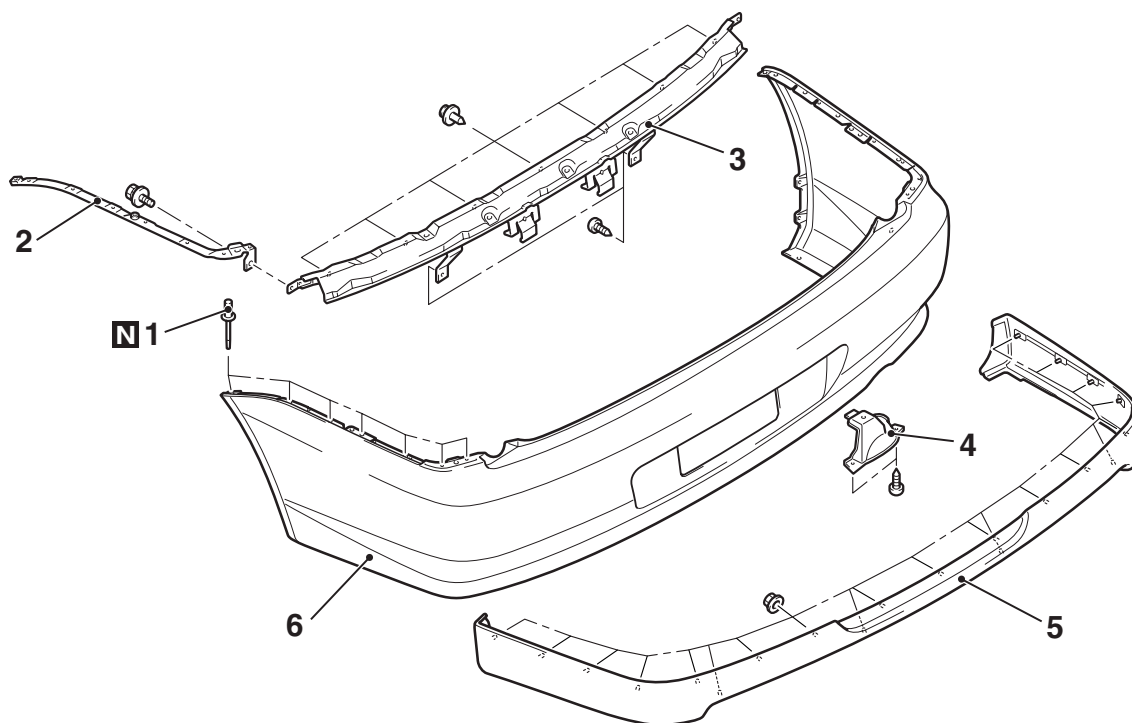
- Rear End Trim Removal and Installation. (Refer to GROUP 52A P.52A-11.)
- Rear Splash Shield Removal and Installation.



AC504859AB

DISASSEMBLY AND REASSEMBLY

M1511002100662



AC504860AB

Disassembly steps

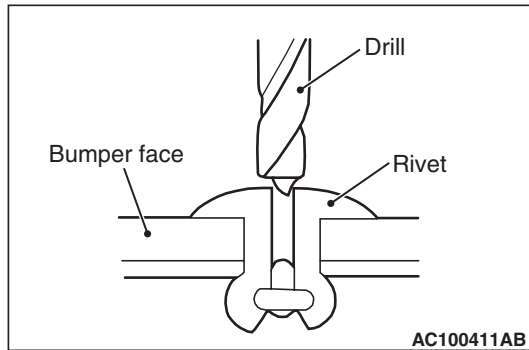
- <<A>> >>A<<
1. Rivets
 2. Rear bumper side plate
 3. Rear bumper centre reinforcement

Disassembly steps (Continued)

4. Extension
5. Rear bumper extension <VR-X>
6. Rear bumper face

DISASSEMBLY SERVICE POINT

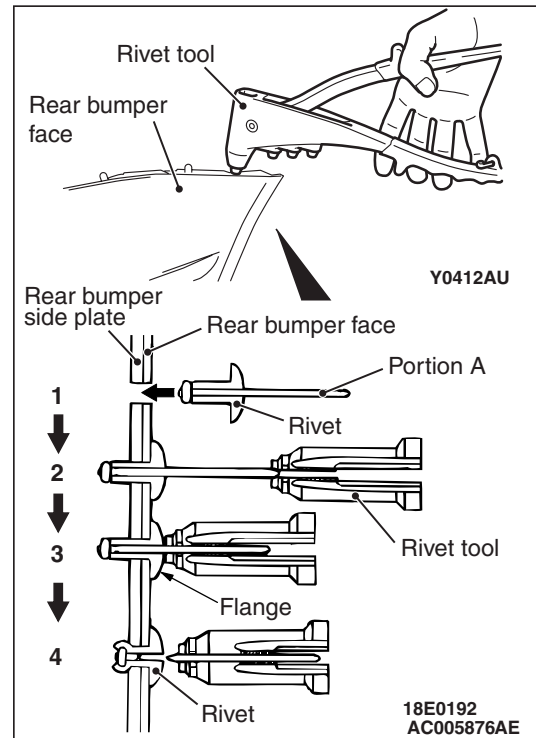
<<A>> RIVETS REMOVAL



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<< RIVETS ASSEMBLY



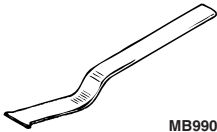
Use the rivet tool shown in the illustration to attach the rivet by the following procedures.

1. Insert the rivet into the rear bumper face and rear bumper side plate.
2. Place the rivet tool over portion A of the rivet.
3. While pushing the flange surface of the rivet with the rivet tool, press the handle of the rivet tool.
4. The thin part of portion A is cut out and the rivet is held in position.

MOULDINGS

SPECIAL TOOL

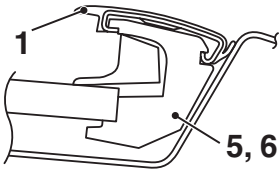
M1511000601136

Tool	Number	Name	Use
 MB990449	MB990449	Window moulding remover	Removal of drip moulding

REMOVAL AND INSTALLATION

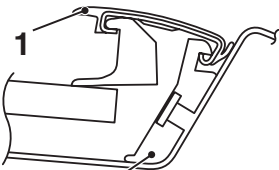
M1511004700530

Section A – A



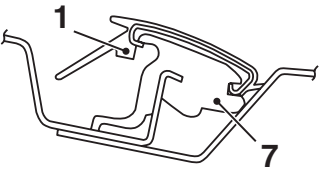
Y0622AU

Section B – B

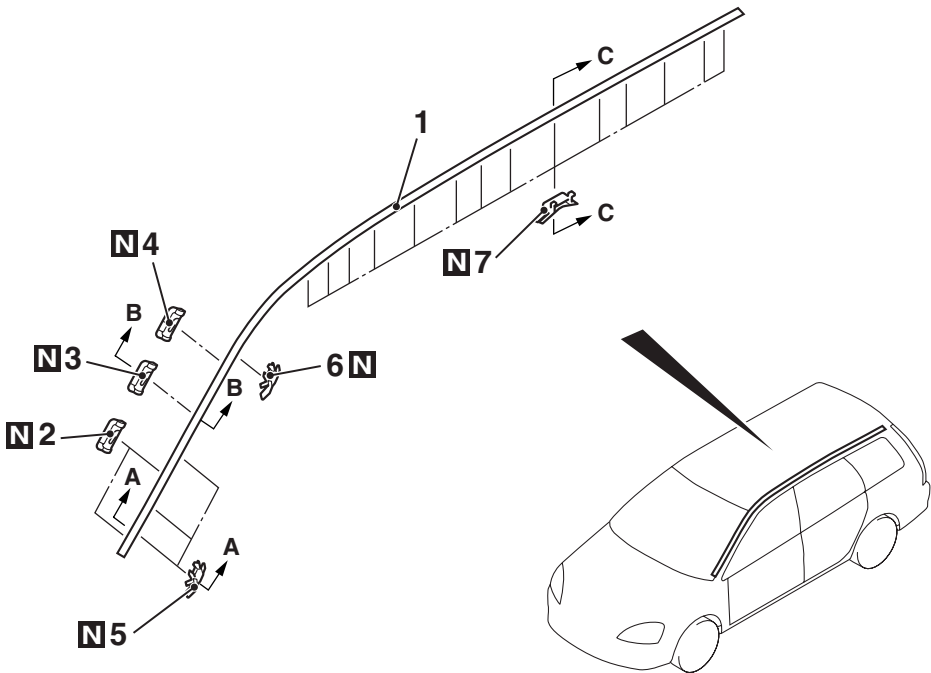


Y0623AU

Section C – C



W0740AU



AC403662AB

- Removal steps
- <<A>> >>C<< 1. Roof drip moulding
- >>B<< 2. Front drip moulding clip A
- >>B<< 3. Front drip moulding clip B
- >>B<< 4. Front drip moulding clip C

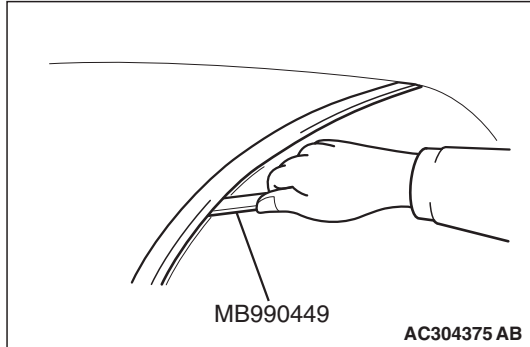
- Removal steps (Continued)
- >>A<< 5. Drip moulding clip A
- >>A<< 6. Drip moulding clip B
7. Roof drip moulding clip

REMOVAL SERVICE POINT

<<A>> ROOF DRIP MOULDING REMOVAL

CAUTION

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



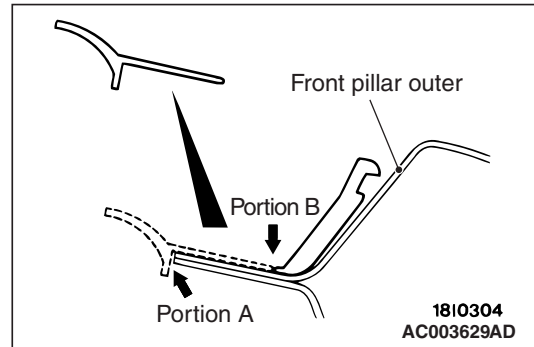
Use special tool window moulding remover (MB990449) to lever out the moulding.

INSTALLATION SERVICE POINTS

>>A<< DRIP MOULDING CLIP B/DRIP MOULDING CLIP A INSTALLATION

1. The drip moulding clips A and B differ according to where they are used, so check the identification colour before installation.

Applicable location	Identification colour
Drip moulding clip A	Yellow
Drip moulding clip B	Blue



2. After installing the clip to the front pillar outer in alignment with its portion A, cut from portion B.

>>B<< FRONT DRIP MOULDING CLIP C/FRONT DRIP MOULDING CLIP B/FRONT DRIP MOULDING CLIP A INSTALLATION

The front drip moulding clips A, B and C differ according to where they are used, so check the identification colour before installation.

Applicable location	Identification colour
Front drip moulding clip A	Orange
Front drip moulding clip B	Purple
Front drip moulding clip C	Grey

>>C<< ROOF DRIP MOULDING INSTALLATION

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

SIDE AIR DAM <VR-X>

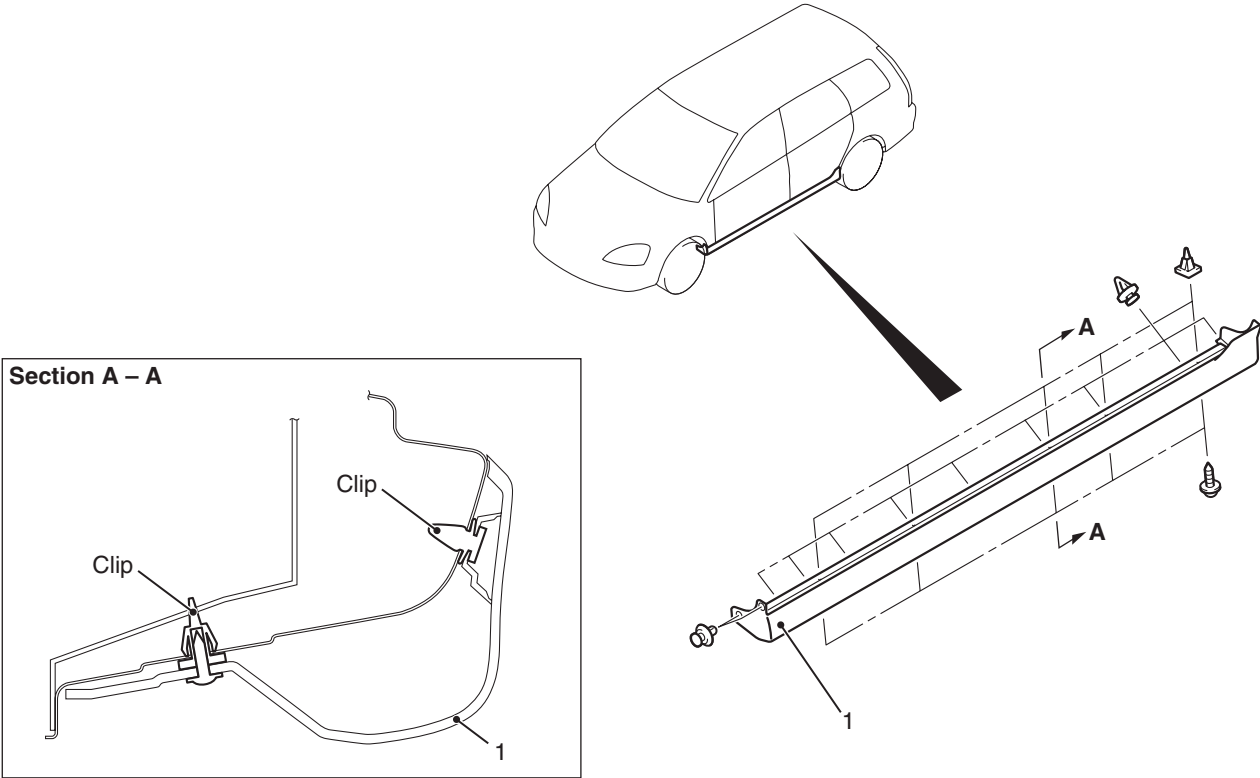
ADHESIVE

M1511000500437

Item	Specification
Side air dam	Double-sided tape: Generic products 4 mm width and 1.2 mm thickness

REMOVAL AND INSTALLATION

M1511005500261



AC403644AC

Removal

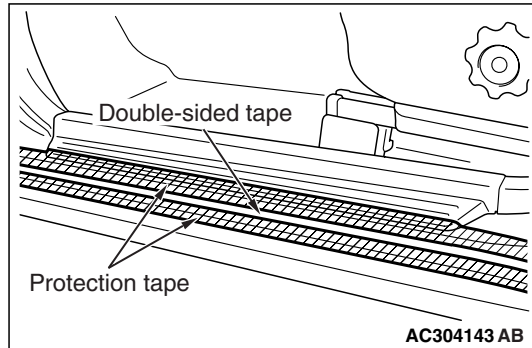
<<A>> >>A<< 1. Side air dam

REMOVAL SERVICE POINT

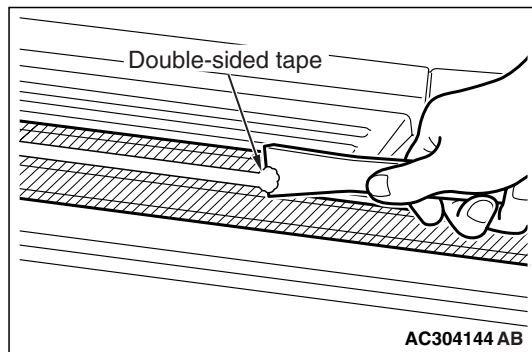
<<A>> SIDE AIR DAM REMOVAL

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

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

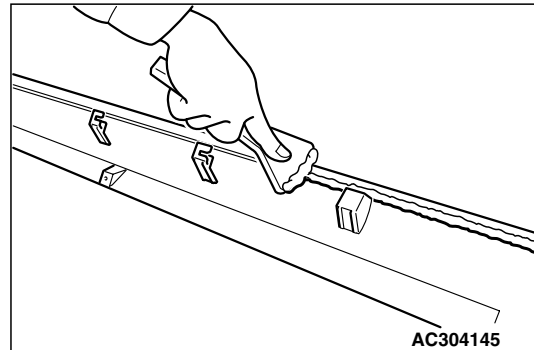


1. Attach protection tape all the way along the edges of the double-sided tape which is still adhering to the body.



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.

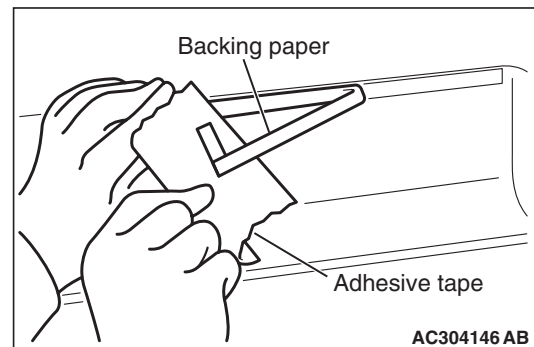
<Remove double-sided tape remaining on the side air dam and adhere double-sided tape (when re-using side air dam)>



1. Scrape off the double-sided tape on the side air dam 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 air dam.

INSTALLATION SERVICE POINT

>>A<< SIDE AIR DAM INSTALLATION

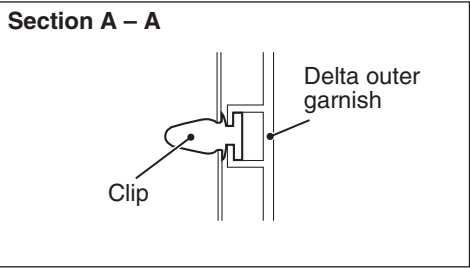
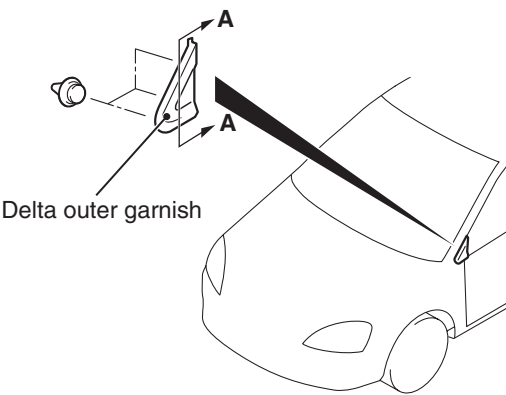


1. Tear off the double-sided tape backing paper.
NOTE: If you attach the adhesive tape to the edge of the backing paper, it will be easy to tear off.
2. Install the side air dam.
NOTE: If the double-sided tape is difficult to affix in cold temperature, etc., warm the bonding surfaces of the body and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

GARNISHES

REMOVAL AND INSTALLATION

M1511004100237

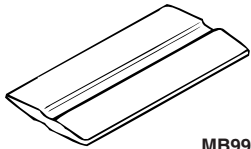


AC303863 AB

DOOR SASH TAPE

SPECIAL TOOL

M1511000601664

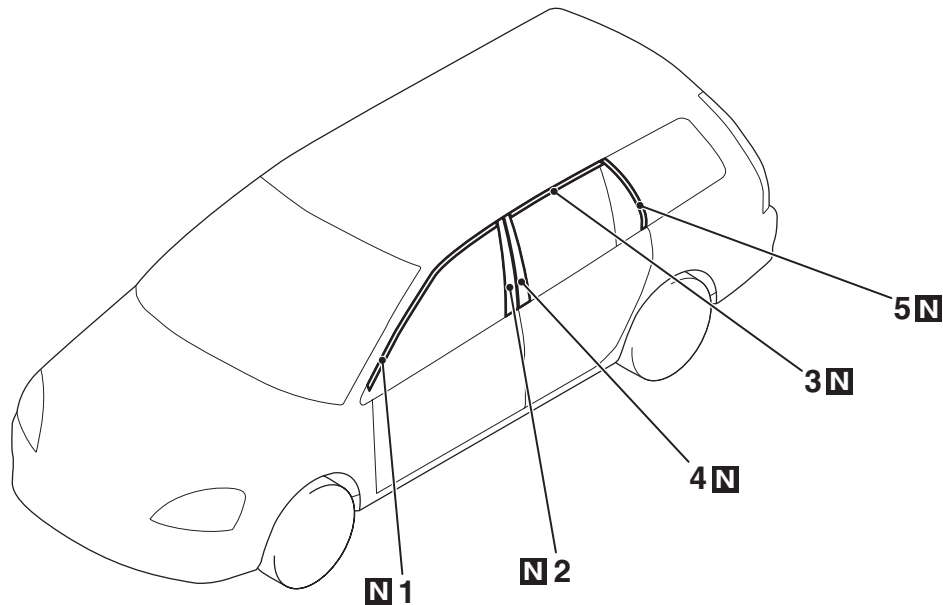
Tool	Number	Name	Use
 MB990528	MB990528	Stripe tape spatula	Installation of door sash tape

REMOVAL AND INSTALLATION

M1511024100187

Pre-removal and Post-installation Operation

- Door Trim Assembly Removal and Installation (Refer to GROUP 52A P.52A-14.)
- Door Beltline Weatherstrip Inner Removal and Installation (Refer to GROUP 42 P.42-36.)
- Door Opening Weatherstrip Outer Removal and Installation (Refer to GROUP 42 P.42-36.)
- Door Window Glass Runchannel Removal and Installation (Refer to GROUP 42 P.42-36.)
- Door Beltline Moulding Removal and Installation (Refer to GROUP 42 P.42-36.)



AC403532AB

Removal steps

- | | | | |
|-------|-------|----|----------------------------|
| <<A>> | >>A<< | 1. | Front door sash tape upper |
| <<A>> | >>A<< | 2. | Front door sash tape rear |
| <<A>> | >>A<< | 3. | Rear door sash tape upper |
| <<A>> | >>A<< | 4. | Rear door sash tape front |
| <<A>> | >>A<< | 5. | Rear door sash tape rear |

REMOVAL SERVICE POINT

<<A>> 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.

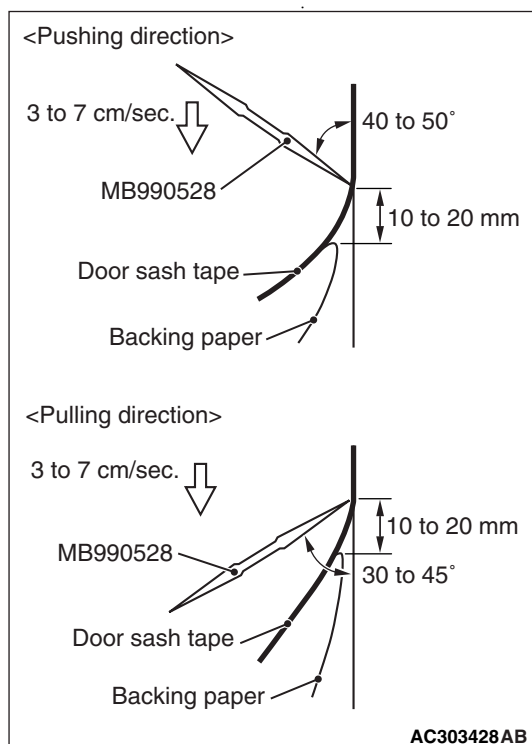
INSTALLATION SERVICE POINT

>>A<< DOOR SASH TAPES INSTALLATION

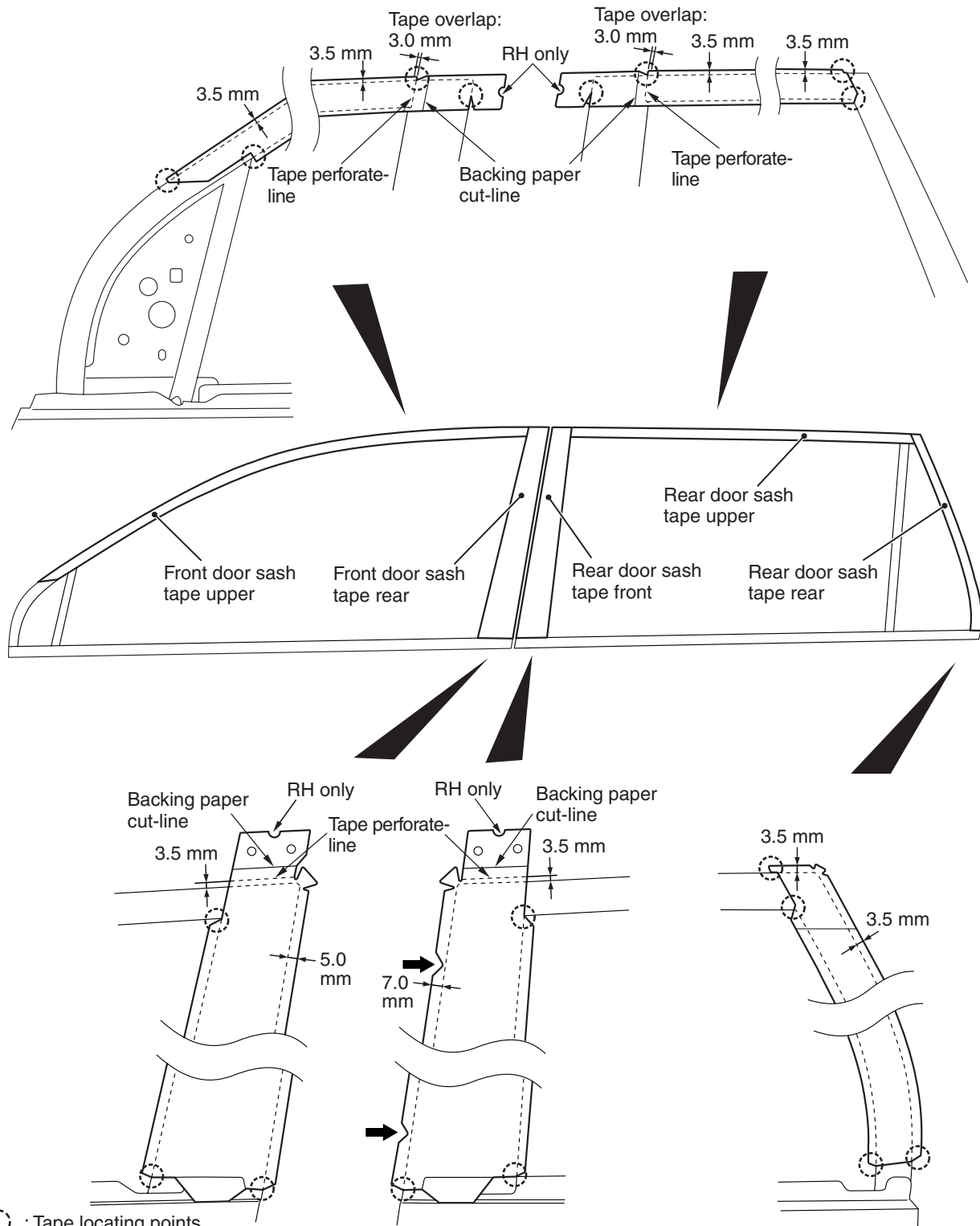
⚠ CAUTION

- 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.

1. Wrap a soft cloth (synthetic fibre) around the tip of the special tool.
2. Use isopropyl alcohol to degrease the tape application surface.
3. Wipe away dirt from the tape.



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.



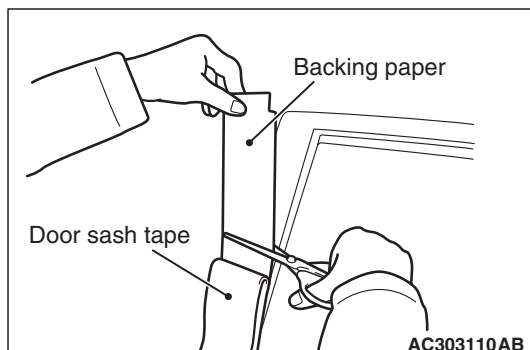
AC403579AC

4. Apply the door sash tapes according to the procedures shown below.
- (1) Align a tape with specified application position.
If necessary, use a magnet to secure it.

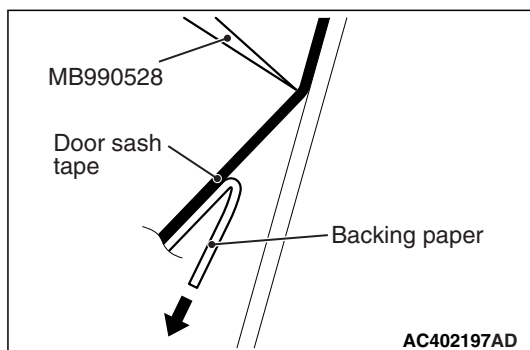
NOTE:

- Align the front door sash tape upper at the rear end.
- Align the rear door sash tape upper at the front end.
- Align the front door sash tape rear and rear door sash tape front/rear at the upper end.

- (2) As for the front/rear door sash tape upper, peel off the backing paper under the tape by the backing paper cut-line and apply the tape temporarily.



- (3) Peel off the backing paper and cut it as necessary.

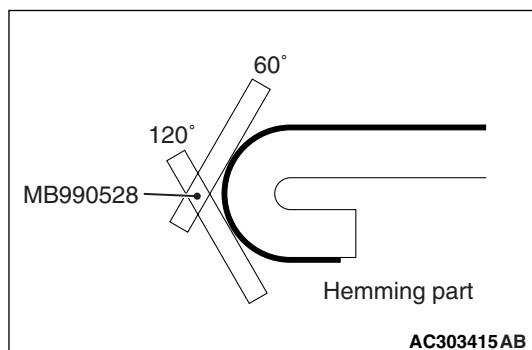


- (4) While peeling off the remaining backing paper, press the tape by a special tool (MB990528).

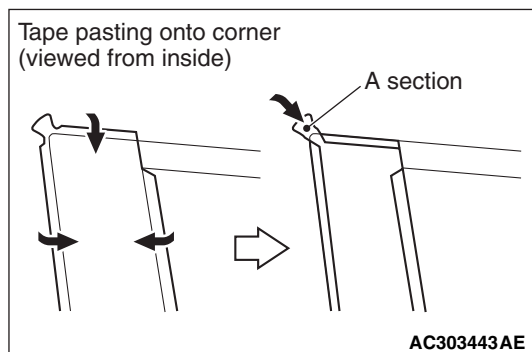
NOTE:

- Apply the front door sash tape upper from rear to front.
- Apply the rear door sash tape upper from front to rear.
- Apply the front door sash tape rear and rear door sash tape front/rear from top to bottom.

- (5) As for the front door sash tape rear/rear door sash tape front, peel off the application tape in the direction of 180° from bottom to top.
- (6) Remove unnecessary part of the tape at tape perforate-line.



- (7) Press the folded area of the tape at 3 steps securely (60°, 120° and holding), rolling in toward the vehicle inside direction.

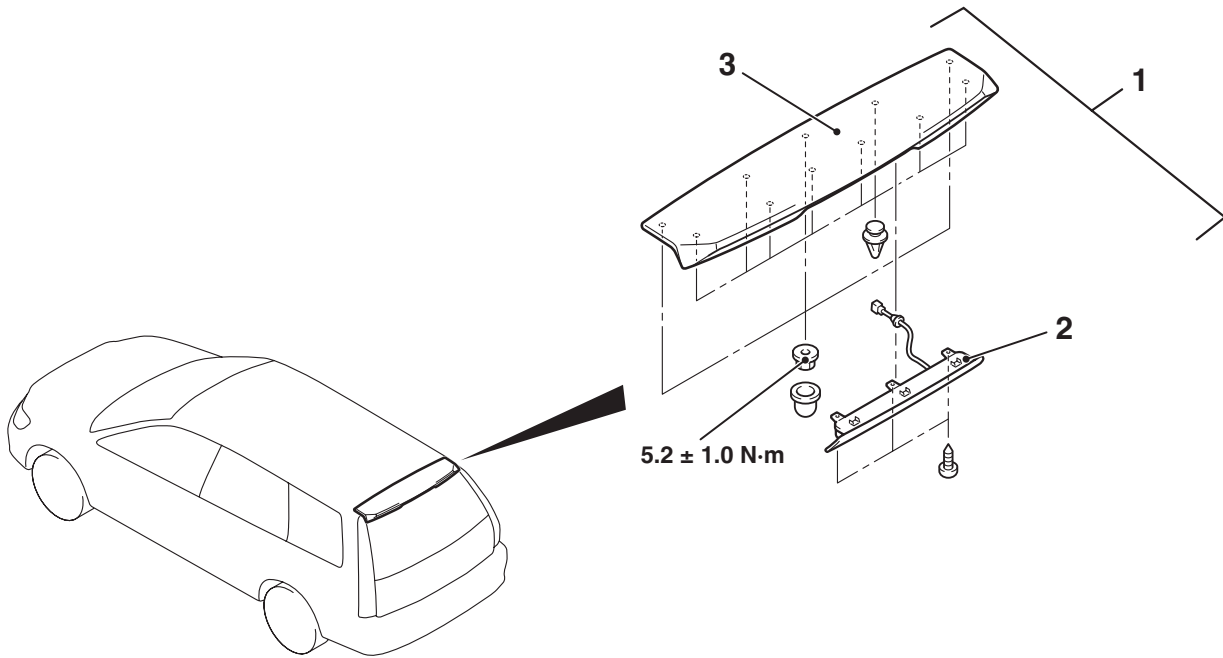


- (8) As for the front door sash tape rear and rear door sash tape front/rear, roll in the A section of the tape upper corner toward the vehicle inside with your palm securely.

TAILGATE SPOILER

REMOVAL AND INSTALLATION

M1511019900239



AC303721AB

Tailgate spoiler removal steps

- Tailgate trim upper (Refer to GROUP 52A P.52A-18.)
- High-mounted stop lamp connector connection

Tailgate spoiler removal steps

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

WINDSHIELD WIPER AND WASHER

GENERAL INFORMATION

M1511000100901

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 switchable with the built-in wiper speed control relay. High-speed operations take place when the wiper speed control relay is set to "ON" and low-speed operations take place when the wiper speed control relay is set to "OFF".

WINDSHIELD INTERMITTENT WIPER OPERATION

The ETACS-ECU calculates the wiper operation interval according to the voltage signal sent from the column switch. Then the ETACS-ECU sends a signal to the front-ECU. The front-ECU determines the wiper operation interval and turns on the wiper signal relay. This causes the wiper auto stop relay to turn on. Then the wiper auto stop relay will turn off after the wipers reach the park position. This causes the wiper signal relay and then the wipers to turn off. If the wiper signal relay remains off for the wiper operation interval, the relay turns on again, causing the wipers to operate in intermittent mode.

SERVICE SPECIFICATION

M1511000300325

Item	Standard value
Windshield wiper blade park position mm	34 ± 5

WINDSHIELD MIST WIPER OPERATION

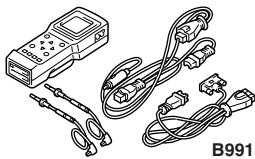
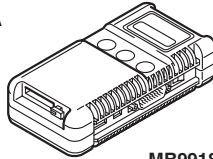
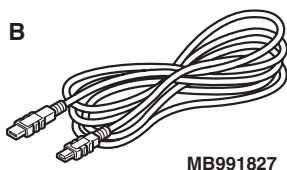

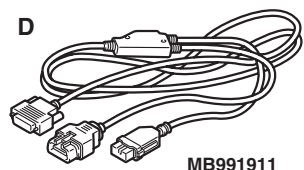
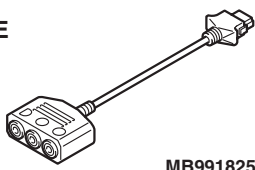

- If the windshield mist wiper switch is turned to the ON position with the ignition switch at the "ACC" or "ON" position, the mist wiper high-speed operation signal is sent to the front-ECU. This signal turns on the wiper speed control relay, causing the wipers to work at high-speed while the mist switch 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.

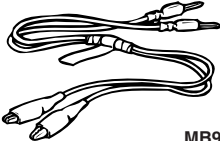
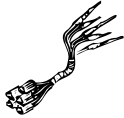

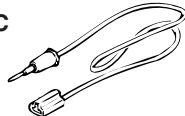
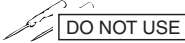
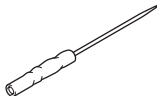
WINDSHIELD WASHER OPERATION

- If the windshield washer switch is turned to ON position with the ignition switch at "ACC" or "ON" position, the windshield washer ON signal is sent to the front-ECU. After 0.3 second, the windshield wiper signal turns on. After the windshield washer switch signal turns off, the windshield wiper signal turns off in 3 seconds.
- If the windshield washer switch is turned on while the windshield wiper is at intermittent mode, when the windshield washer switch is turned OFF within 0.2 second, the wiper works only once to perform mist operation by the windshield washer switch. When the ON condition of the windshield washer switch continues 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 the intermittent mode.

SPECIAL TOOLS

M1511000601802

Tool	Number	Name	Use
 <p style="text-align: right;">B991502</p>	MB991502	M.U.T.-II sub assembly	Check the windshield intermittent wiper interval
<p>A</p>  <p style="text-align: right;">MB991824</p> <p>B</p>  <p style="text-align: right;">MB991827</p> <p>C</p>  <p style="text-align: right;">MB991910</p> <p>D</p>  <p style="text-align: right;">MB991911</p> <p>E</p>  <p style="text-align: right;">MB991825</p> <p>F</p>  <p style="text-align: right;">MB991826</p> <p style="text-align: right;">MB991955</p>	<p>MB991955</p> <p>A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991825 F: MB991826</p>	<p>M.U.T.-III sub-assembly</p> <p>A: Vehicle Communication Interface (V. C. I.)</p> <p>B: M.U.T.-III USB cable</p> <p>C: M.U.T.-III main harness A (Vehicles with CAN communication system)</p> <p>D: M.U.T.-III main harness B (Vehicles without CAN communication system)</p> <p>E: M.U.T.-III measurement adapter</p> <p>F: M.U.T.-III trigger harness</p>	<p>Check the windshield intermittent wiper interval</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>⚠ CAUTION</p> <p>If you connect M.U.T.-III main harness A to a vehicle without CAN communication system to use the M.U.T.-III, a pulse signal may interfere with the simulated vehicle speed lines, thus causing the M.U.T.-III inoperative. Therefore, use the M.U.T.-III main harness B (MB991911) instead.</p> </div>

Tool	Number	Name	Use
 MB991529	MB991529	Diagnosis code check harness	Input signal check by using a voltmeter
    <p>DO NOT USE MB991223AZ</p>	MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222	Harness set A: Check harness B: LED harness C: LED harness adapter D: Probe	Continuity check and voltage measurement at harness wire or connector A: For checking connector pin contact pressure B: For checking power supply circuit C: For checking power supply circuit D: For connecting a locally sourced tester
 MB992006	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

TROUBLESHOOTING

M1511000700323

The windshield wiper and washer are controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting [P.54B-14](#) or GROUP 54C, Troubleshooting [P.54C-5](#).

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.)

ON-VEHICLE SERVICE

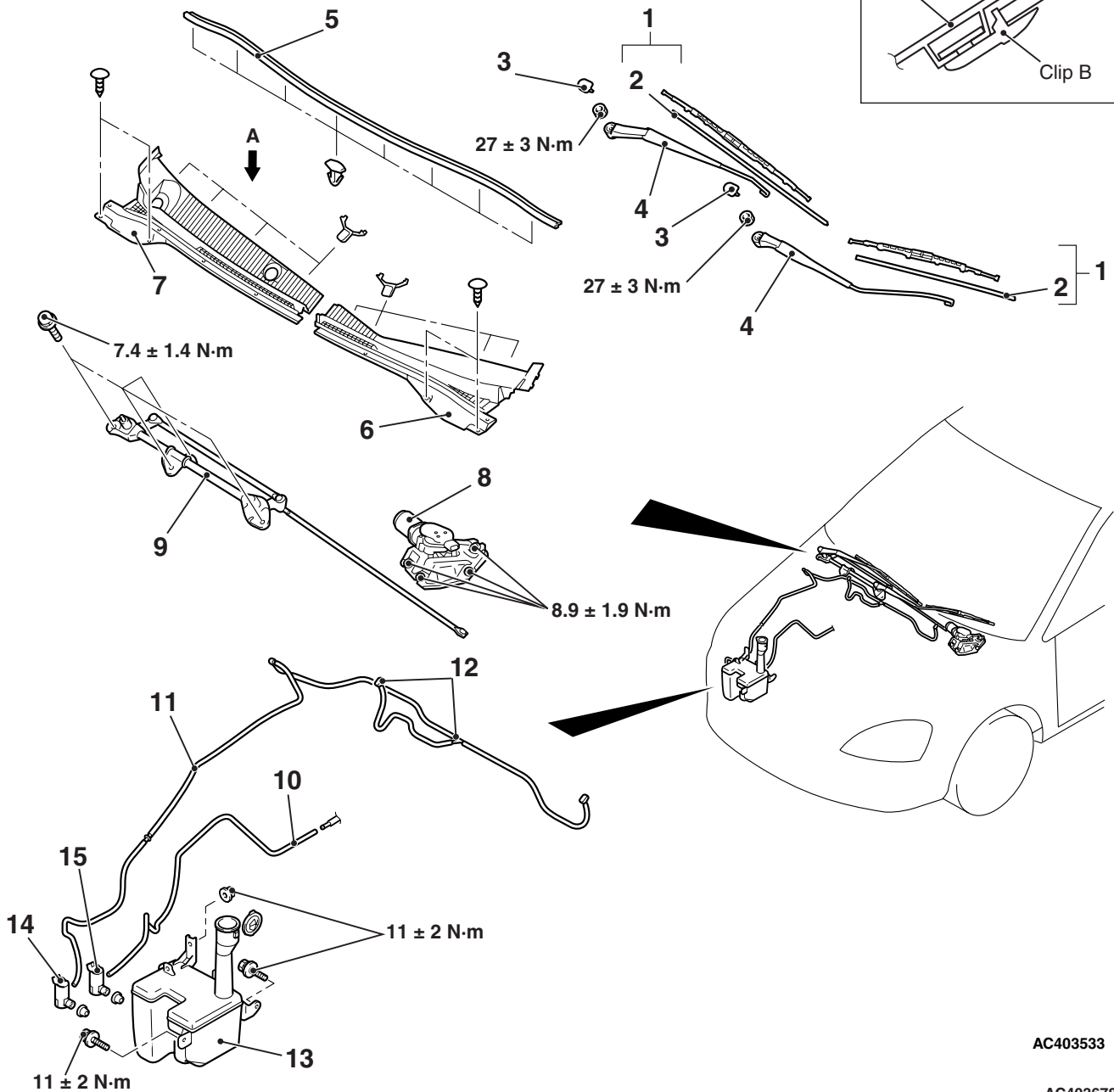
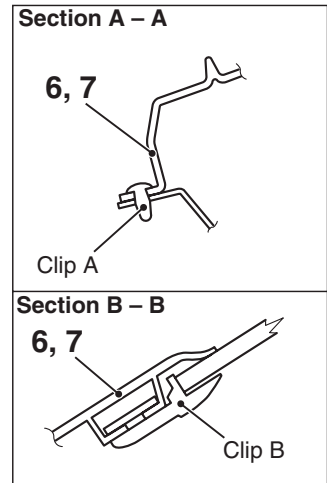
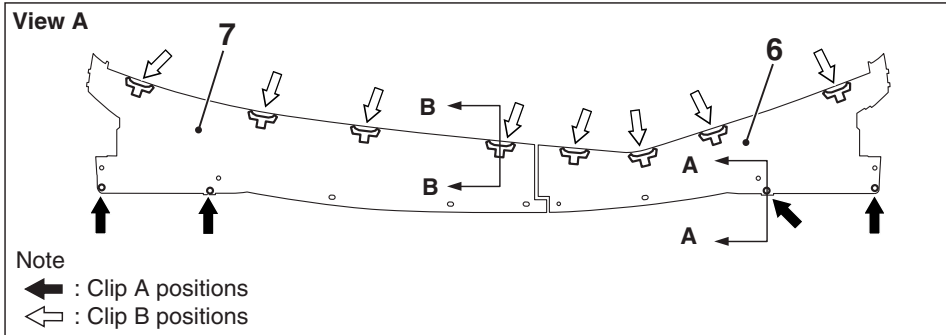
M1511000800461

WINDSHIELD INTERMITTENT WIPER INSPECTION

1. If the windshield intermittent wiper interval adjusting knob is operated, the wiper interval should change.
2. Holding the windshield intermittent wiper interval adjusting knob, input the simulated vehicle speed with M.U.T.-II / III and check that the wiper interval changes as the vehicle speed changes.
3. If not, carry out the troubleshooting (Refer to GROUP 54B, Troubleshooting [P.54B-14](#) or GROUP 54C, Troubleshooting [P.54C-5](#)).

REMOVAL AND INSTALLATION

M1511007600383



AC403533

AC403678AB

Wiper blade assembly removal steps

- >>B<< 1. Wiper blade assembly
>>A<< 2. Wiper blade

Windshield wiper motor and link assembly removal steps

3. Cover
4. Wiper arm
5. Hood weather strip
6. Front deck garnish (passenger's side)
7. Front deck garnish (driver's side)
8. Windshield wiper motor assembly
9. Link assembly

<<A>>

Washer hose removal steps

- Front splash shield (Refer to GROUP 42 P.42-6)
- 10. Rear washer hose
- 11. Front washer hose

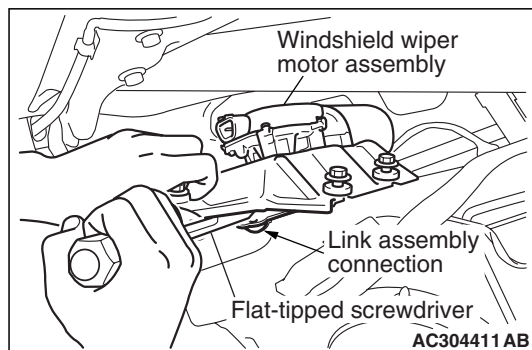
Windshield washer nozzle removal steps

- Connection of front washer hose
- 12. Washer nozzle

Washer tank and washer motor removal steps

- Side undercover (RH)
- Front splash shield (Refer to GROUP 42 P.42-6)
- Connection of front washer hose and rear washer hose
- 13. Washer tank assembly
- 14. Front washer motor
- 15. Rear washer motor

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-69.

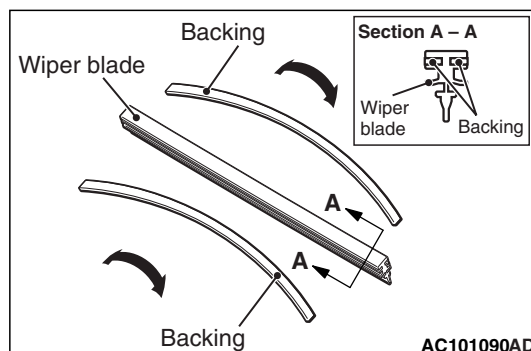
REMOVAL SERVICE POINT**<<A>> WINDSHIELD WIPER MOTOR ASSEMBLY REMOVAL**

1. Remove the windshield wiper motor assembly mounting bolt.

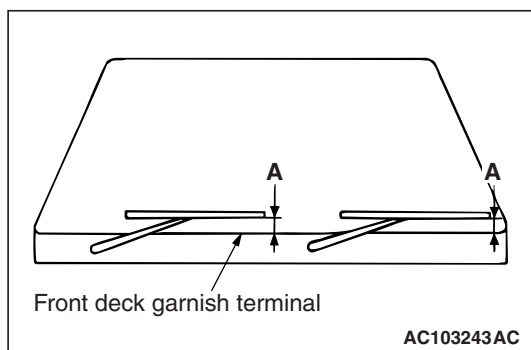
⚠ CAUTION

Be careful not to damage the windshield glass when the windshield wiper motor assembly is removed.

2. Use the flat-tipped screwdriver to disengage the link between the windshield wiper motor assembly and the link assembly to remove the windshield wiper motor assembly.

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

The driver's side wiper blade is not warped. When installing the passenger's wiper blade, check that the backing inside the wiper blade is warped toward the wiper arm.

>>B<< WIPER BLADE ASSEMBLY INSTALLATION

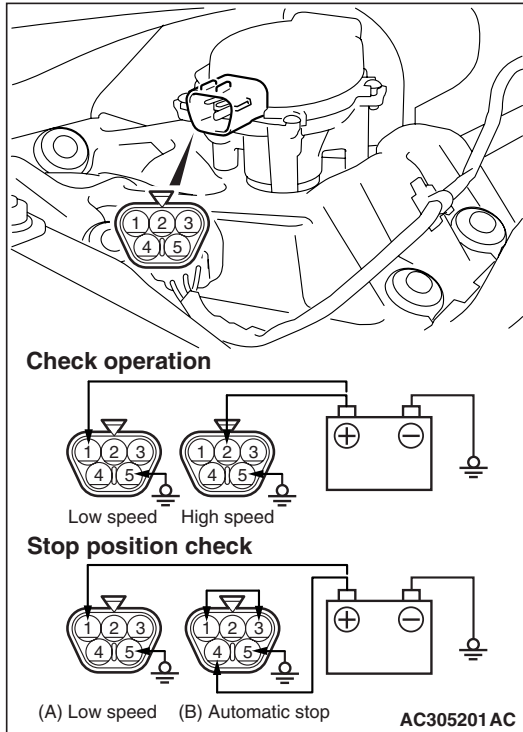
Install the wiper blade at the specified position (standard value).

Standard value (A): 34 ± 5 mm

INSPECTION

FRONT WIPER MOTOR CHECK

M1511007700391



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

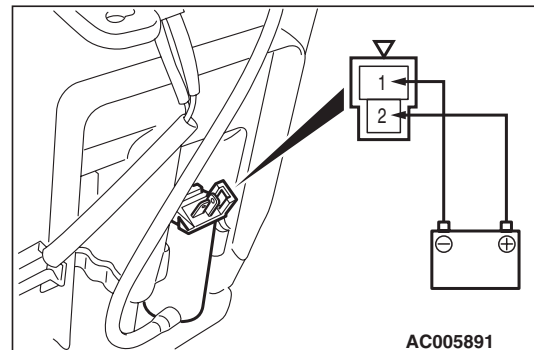
WIPER MOTOR AT LOW-SPEED AND HIGH-SPEED OPERATION

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

WIPER MOTOR AT STOP POSITION OPERATION

1. Connect the battery to the windshield wiper motor to rotate the motor in a low speed as shown in the illustration (A) and disconnect the battery during rotation to stop the motor.
2. Connect between the terminals and the battery as shown in the illustration (B) and confirm whether the motor stops at the automatic stop position after rotating in a low speed.

FRONT 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 the terminal number 2 and terminal number 1 to the negative battery terminal.

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

Technical drawing of a windshield layout showing dimensions and labels for ceramic line terminals and washer nozzles.

Dimensions:

- Overall width: 600
- Overall height: 305
- Distance between washer nozzles: 300
- Distance between ceramic line terminals: 100
- Distance from washer nozzle to ceramic line terminal: 140
- Distance from washer nozzle to windshield edge: 115
- Distance from ceramic line terminal to windshield edge: 120
- Distance from washer nozzle to windshield edge: 50
- Distance from ceramic line terminal to windshield edge: 55
- Distance from washer nozzle to windshield edge: 25
- Distance from ceramic line terminal to windshield edge: 25
- Distance from washer nozzle to windshield edge: 25
- Distance from ceramic line terminal to windshield edge: 25
- Distance from washer nozzle to windshield edge: 25
- Distance from ceramic line terminal to windshield edge: 25

Labels:

- Ceramic line terminal
- Windshield washer nozzle perpendicular
- Windshield washer nozzle

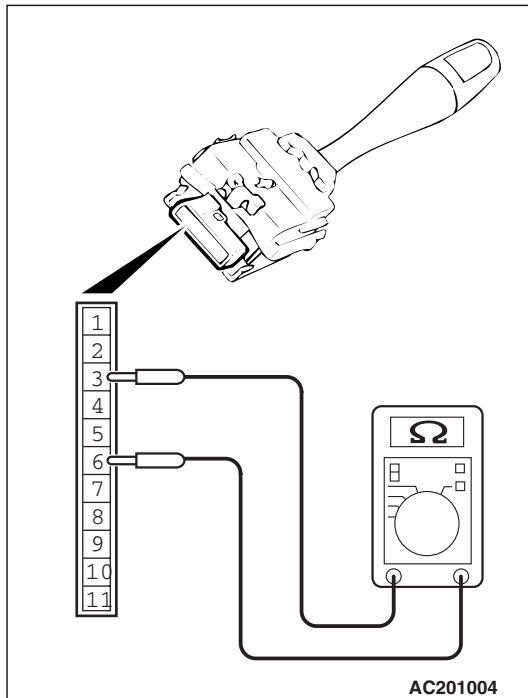
WINDSHIELD WIPER AND WASHER SWITCH CHECK



Switch position	Tester connection	Specified condition
OFF	6 –11, 6 –10, 6 –9, 6 –8, 6 –7	Open circuit
Windshield mist wiper switch	6 –11	Less than 2 ohms
Windshield intermittent wiper switch	6 –10	
Windshield low-speed wiper switch	6 –9	
Windshield high-speed wiper switch	6 –8	
Windshield washer switch	6 –7	

WINDSHIELD INTERMITTENT WIPER VOLUME CHECK

Check that the resistance varies between 0 and 1 k Ω when the windshield intermittent volume is turned from FAST to SLOW by after measuring resistance between connector terminals 3 and 6 at the column switch.



REAR WIPER AND WASHER

GENERAL INFORMATION

M1511000100882

REAR WIPER AND WASHER OPERATION

REAR WIPER OPERATION

- If the rear wiper and washer switch is turned to "INT" position with the ignition switch at "ACC" or "ON" position, the ETACS-ECU turns ON the rear wiper drive signal for 3 seconds (approximately two cycles), then 7.4 seconds later the intermittent motion operates every 8 seconds. If the selector lever is moved to the "R" position when the rear wiper and washer switch is turned to the "INT" position and the ignition switch is at the "ACC" or "ON" position, the inhibitor switch "R"

turns ON. 1 second later, the ETACS-ECU turns ON the rear wiper drive signal for 3 seconds (approximately 2 cycles). Then, 7.4 seconds later, the intermittent motion of 8 seconds' cycle is restored.

REAR WASHER OPERATION

- If the rear wiper and washer switch is turned to the ON (washer) position with the ignition switch at the "ACC" or "ON" position, the rear washer ON signal is sent to the ETACS-ECU, causing the rear wiper signal to turn on after 0.3 second. After the rear washer switch signal turns off, the rear wiper signal turns off in 3 seconds. If the rear washer switch is turned to the ON position while the rear wiper is in intermittent mode, the rear washer works for that period when the washer switch remains on. Then the rear wipers return to the intermittent mode.

SERVICE SPECIFICATION

M1511000300604

Item	Standard value
Rear wiper blade park position mm	42 ± 5

TROUBLESHOOTING

M1511000700583

The rear wiper and washer are controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting [P.54B-14](#) or GROUP 54C, Troubleshooting [P.54C-5](#).

ON-VEHICLE SERVICE

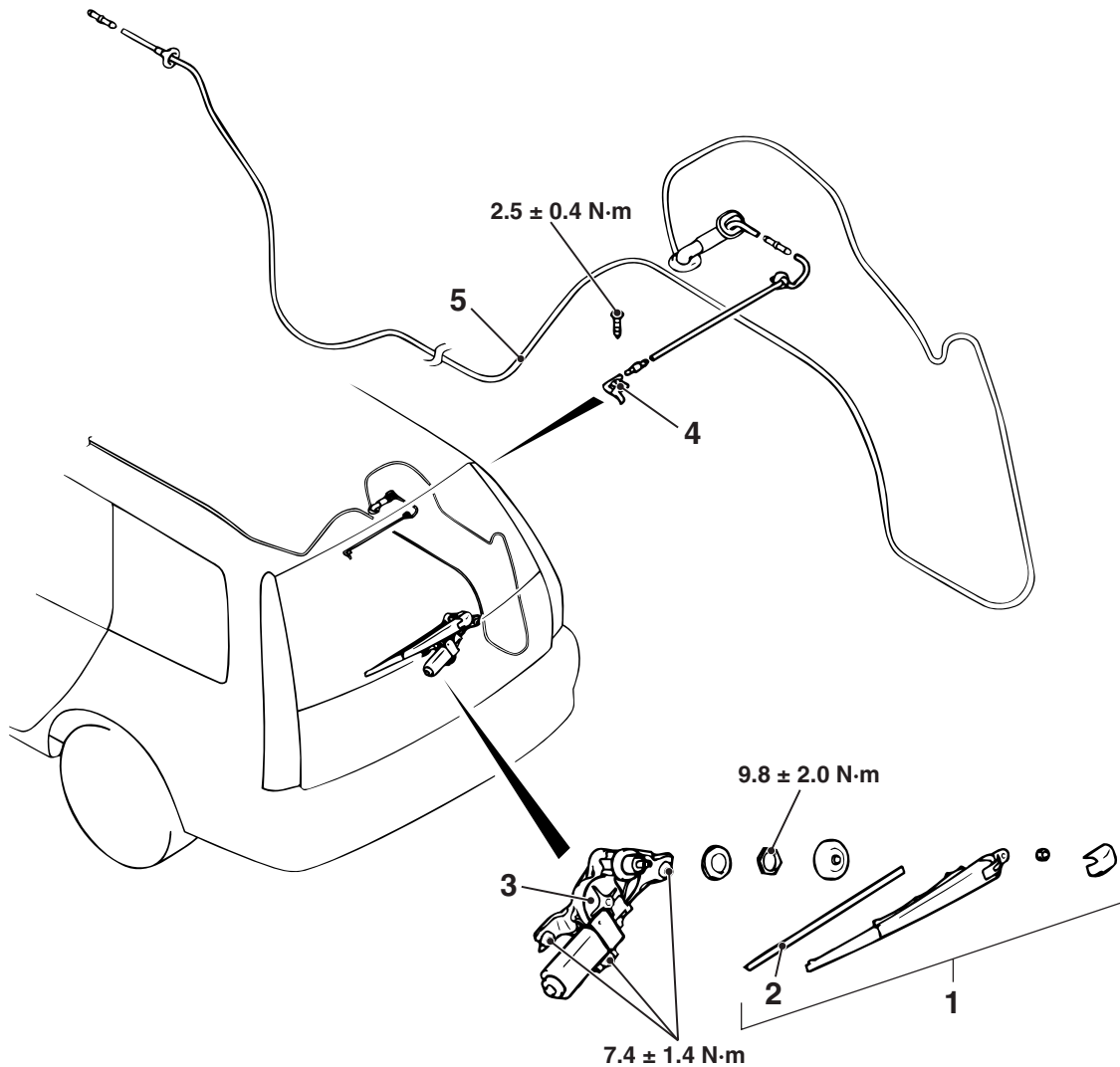
M1511000800847

CHECK OF REAR WIPER OPERATION WHEN SELECTOR LEVER IS AT THE "R" POSITION

- 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.
- If not, carry out the troubleshooting (Refer to GROUP 54B, Troubleshooting [P.54B-14](#) or GROUP 54C, Troubleshooting [P.54C-5](#)).

REMOVAL AND INSTALLATION

M1511008500378



AC304515AB

Wiper blade assembly removal steps

- >>B<< 1. Wiper arm and blade assembly
- >>A<< 2. Wiper blade

Rear wiper motor removal steps

- Tailgate trim lower (Refer to GROUP 52A P.52A-18.)
- Tailgate waterproof film (Refer to GROUP 42 P.42-41.)
- 3. Rear wiper motor assembly

Rear washer nozzle removal steps

- High-mounted stop lamp assembly (Refer to GROUP 54A P.54A-66.)
- 4. Rear washer nozzle

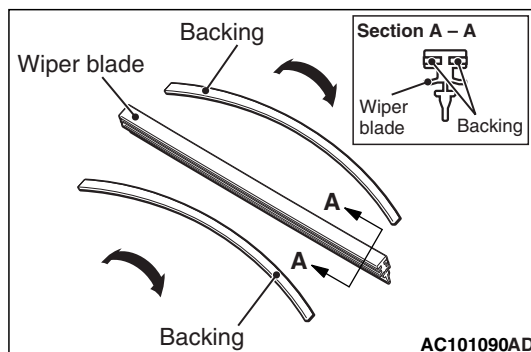
Washer hose removal steps

- Front scuff plate, rear scuff plate, cowl side trim and quarter trim (Refer to GROUP 52A P.52A-11.)
- Tailgate lower trim, tailgate proof film (Refer to GROUP 52A P.52A-18.)
- High-mounted stop lamp assembly (Refer to GROUP 54A P.54A-66.)
- 5. Rear washer hose

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-69.

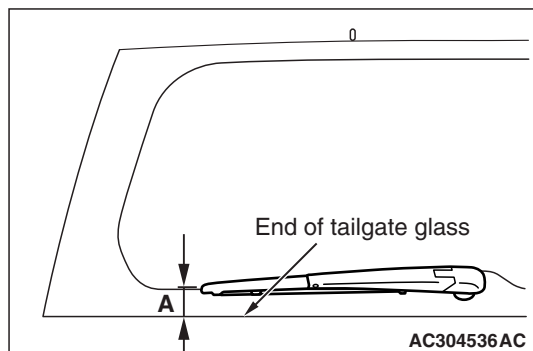
INSTALLATION SERVICE POINTS

>>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 INSTALLATION



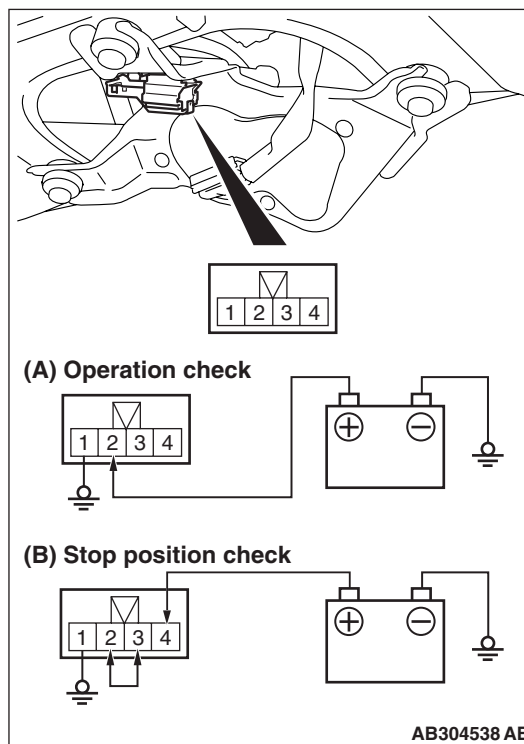
Before installing the rear wiper arm and blade assembly, operate the rear wiper motor so that the motor stops at the predetermined park position. Install the rear wiper arm and blade assembly and adjust the rear wiper blade position so that the blade end stops at the predetermined position (standard value).

Standard value (A): 42 ± 5 mm

INSPECTION

REAR WIPER MOTOR CHECK

M1511008600308



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

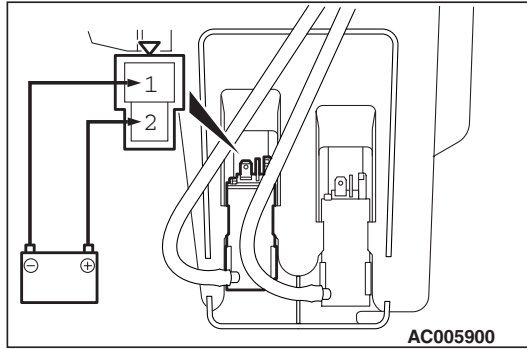
WIPER MOTOR OPERATION

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

WIPER MOTOR AT STOP POSITION OPERATION

1. Connect the battery to the rear wiper motor as shown in the illustration (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

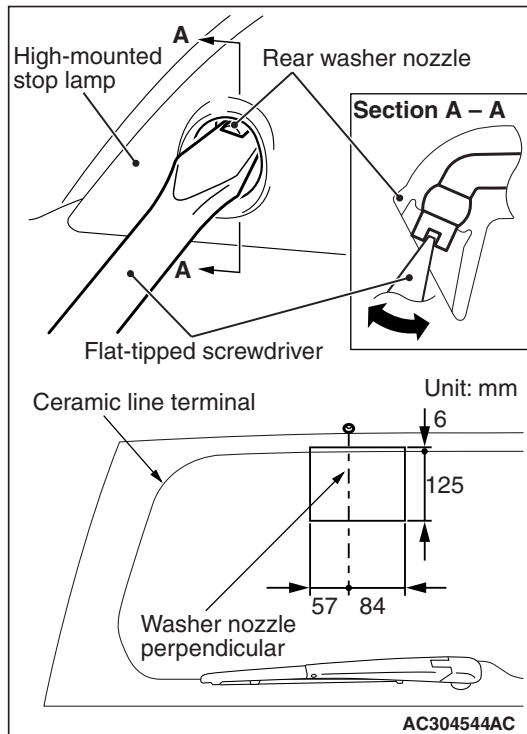


1. Remove the washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to the negative battery terminal.

REAR WASHER FLUID EJECTION CHECK

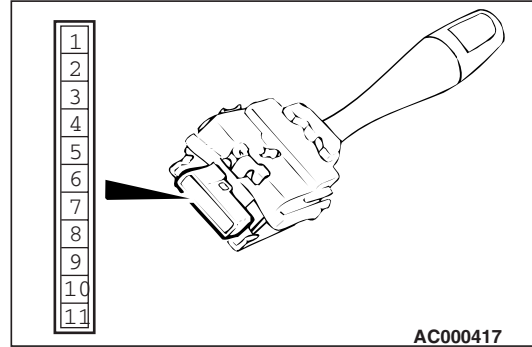
⚠ CAUTION

Take care not to damage the nozzle when inserting the flat-tipped screwdriver into it.



For the vertical aiming of washer nozzle, insert the flat-tipped screwdriver into the nozzle and move it to the arrow direction.

REAR WIPER AND WASHER SWITCH CHECK



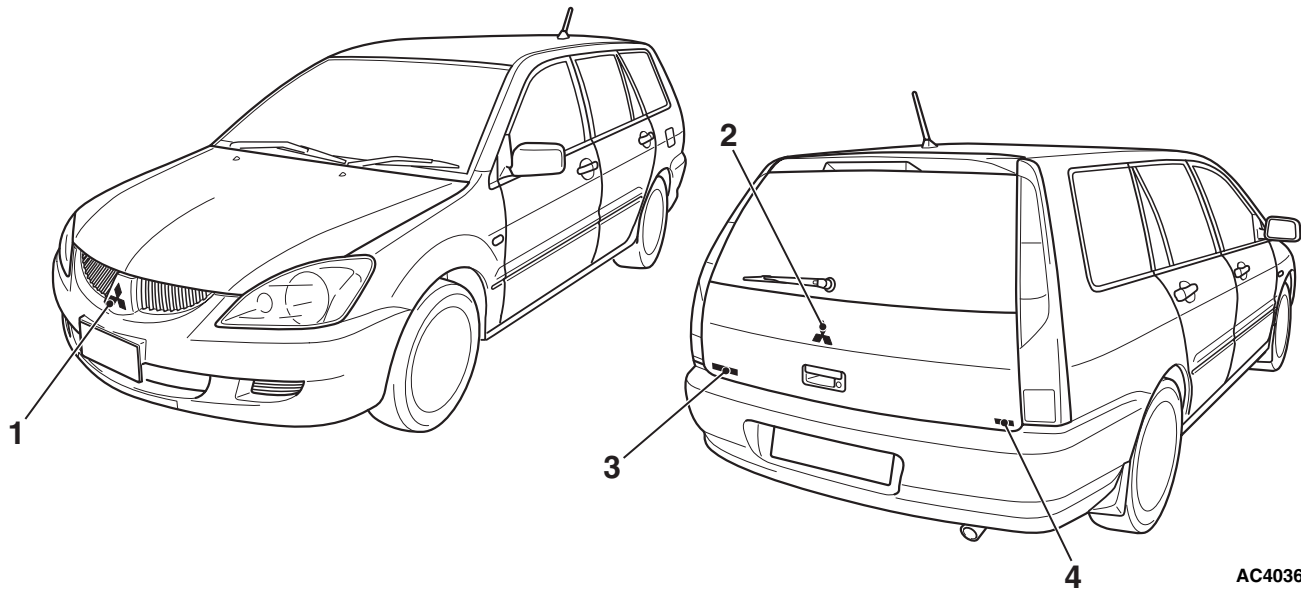
Check continuity between the switch terminals.

Switch position	Tester connection	Specified condition
OFF	4 -6, 5 -6	Open circuit
Rear wiper switch	4 -6	Less than 2 ohms
Rear washer switch	5 -6	

MARK

REMOVAL AND INSTALLATION

M1511011801468



AC403690AC

Removal

- >>A<< 1. Front three-diamond mark (Refer to P.51-4)
- >>A<< 2. Rear three-diamond mark

Removal (Continued)

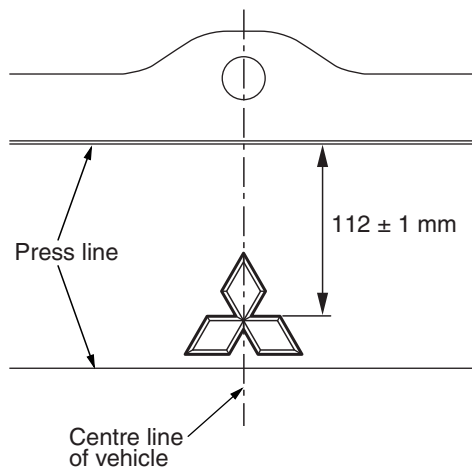
- >>A<< 3. Lancer mark
- >>A<< 4. ES mark

INSTALLATION SERVICE POINT

>>A<< MARK APPLICATION

1. Installation position
2. Rear three-diamond mark

Attach each mark to the position shown in the illustration.



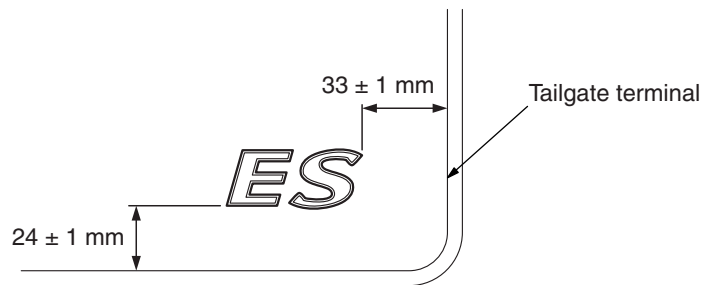
AC403570AB

3. Lancer mark



AC403571AB

4. ES mark



AC403563AB

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

GENERAL INFORMATION

DOOR MIRROR OPERATION

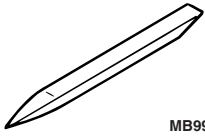
Remote Controlled Mirror Operation

M1511000100893

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 in the "ON" or "ACC" position.

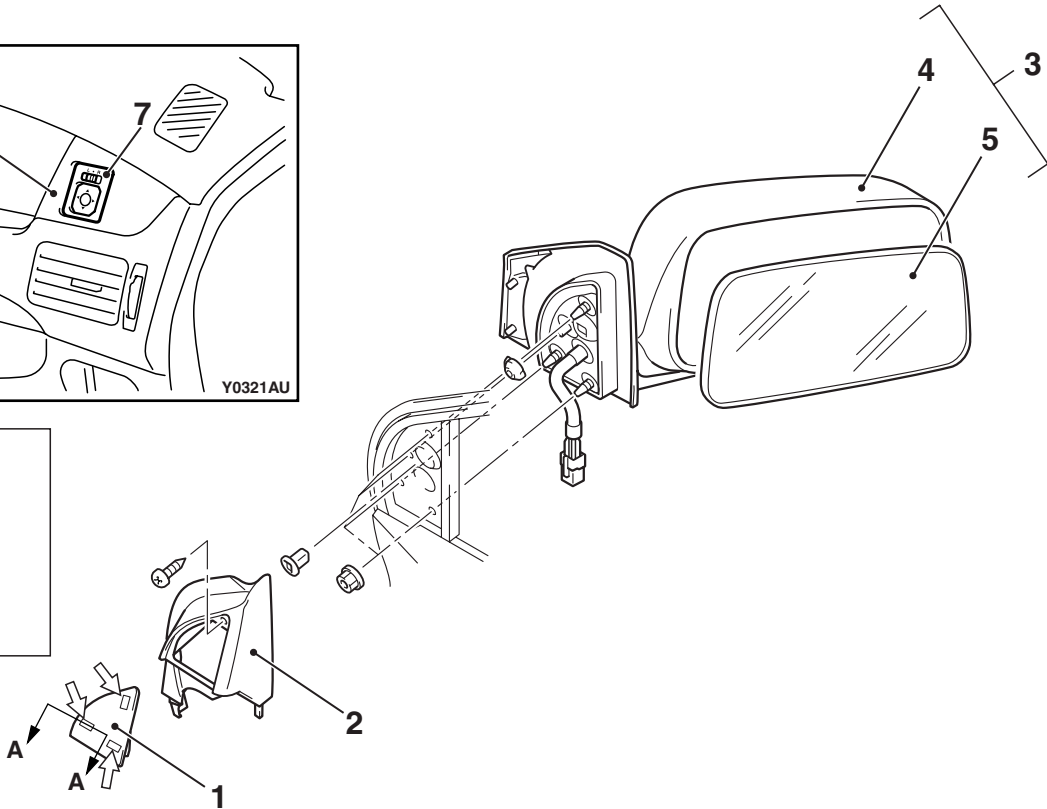
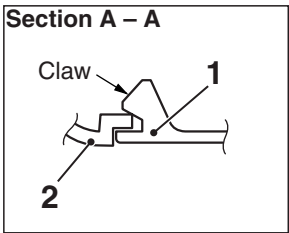
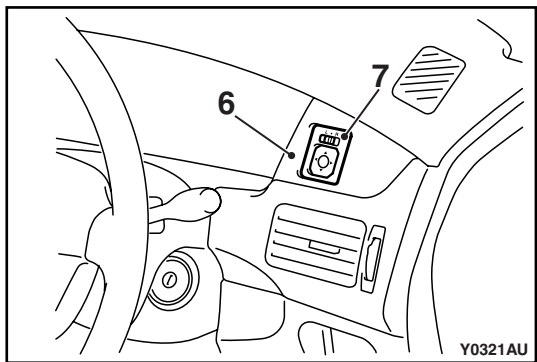
SPECIAL TOOL

M1511000601103

Tool	Number	Name	Use
 MB990784	MB990784	Ornament remover	Removal of remote controlled mirror switch

REMOVAL AND INSTALLATION

M1511006400609



Note
← : Claw positions

Door mirror removal steps

1. Cover
2. Delta inner cover
3. Door mirror assembly
4. Door mirror body assembly
5. Mirror

<<A>> >>A<<

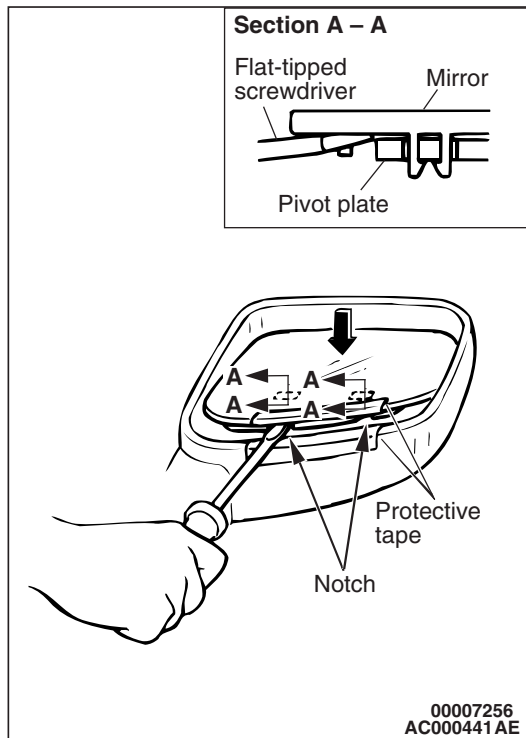
Remote controlled mirror switch
removal steps

6. Instrument panel ornament (Refer to GROUP 52A P.52A-2.)
7. Remote controlled mirror switch

AC403608AB

REMOVAL SERVICE POINT

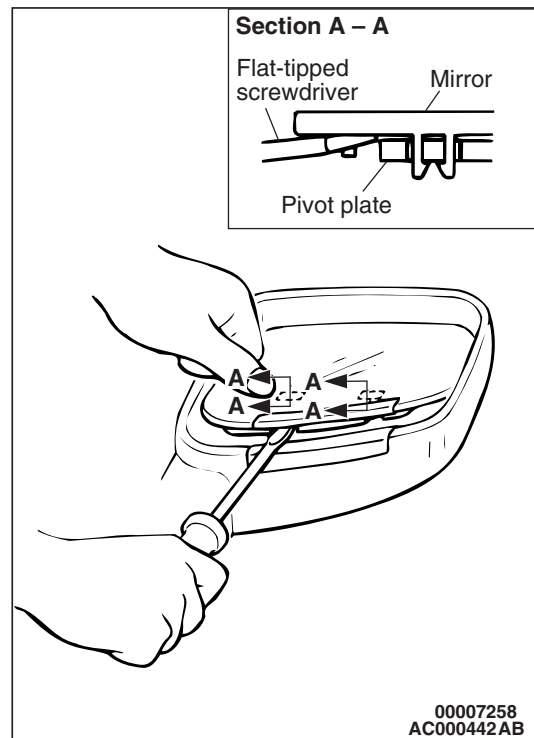
<<A>> MIRROR REMOVAL



Push the top of the mirror with your hand to tilt it and attach the protective tape as shown in the illustration. Then insert a flat-tipped screwdriver in between the notch at the rear of the mirror and the pivot plate, and disengage the bottom of the mirror.

INSTALLATION SERVICE POINT

>>A<< MIRROR INSTALLATION

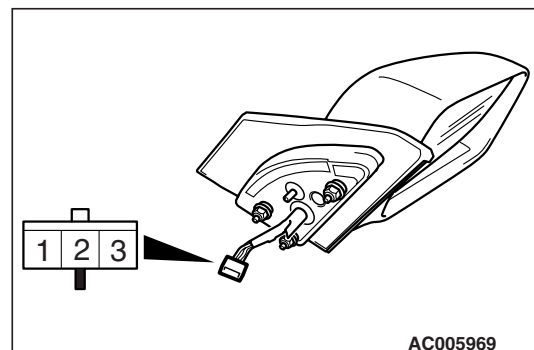


While supporting the clip position on the underside of the pivot plate with a flat-tipped screwdriver, press the clip at the front of the mirror to engage the bottom of the mirror.

INSPECTION

M1511006500413

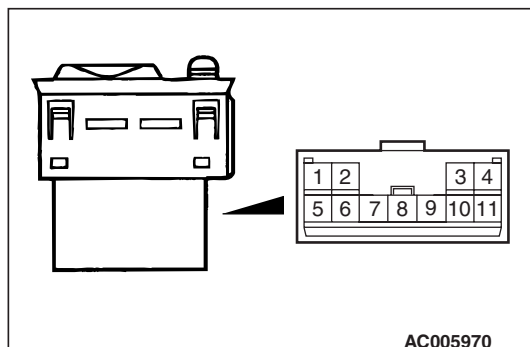
ELECTRIC REMOTE CONTROL MIRROR OPERATION CHECK



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 1 to the negative battery terminal. Connect terminal 3 to the positive battery terminal. 	Mirror glass should face upward
<ul style="list-style-type: none"> Connect terminal 3 to the negative battery terminal. Connect terminal 1 to the positive battery terminal. 	Mirror glass should face downward
<ul style="list-style-type: none"> Connect terminal 1 to the negative battery terminal. Connect terminal 2 to the positive battery terminal. 	Mirror glass should face to the right
<ul style="list-style-type: none"> Connect terminal 2 to the negative battery terminal. Connect terminal 1 to the positive battery terminal. 	Mirror glass should face to the 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	
	Left	1 -10, 6 -9	
Right side	OFF	9 -2, 9 -3, 9 -6, 1 -2, 1 -3, 1 -6	Open circuit
	Up	1 -6, 3 -9	Less than 2 ohms
	Down	1 -3, 6 -9	
	Right	1 -6, 2 -9	
	Left	1 -2, 6 -9	