GROUP 42

BODY

CONTENTS

Continued on next page

HOOD

HOOD DIAGNOSIS

INTRODUCTION TO HOOD DIAGNOSIS

M1421005800040

Wind noise at the hood may be caused by improper hood adjustment.

HOOD DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1421005900036

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a hood fault.

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

SYMPTOM CHART

M1421006000337

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Difficult locking and unlocking	1	P.42-3
Uneven body clearance	2	P.42-4
Uneven height	3	P.42-4

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Difficult Locking and Unlocking

DIAGNOSIS

STEP 1. Check the release cable routing condition.

Q: Is the release cable routing condition good?
YES : Go to Step 2.
NO : Repair the release cable, then go to Step 4.

STEP 2. Check the engagement of the hood latch and hood striker.

Q: Are the hood latch and hood striker engaged correctly?
YES : Go to Step 3.
NO : Adjust the hood latch (Refer to P.42-5). Then go to Step 4.

STEP 3. Check for proper lubrication of release cable.

Q: Is the release cable properly lubricated?
YES : Go to Step 4.
NO : Lubricate, then go to Step 4.

STEP 4. Retest the system.

Q: Does the hood lock operate easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Uneven Body Clearance

DIAGNOSIS

STEP 1. Check the hood installation condition.

Q: Is the hood installation in good condition?
YES : Go to Step 2.
NO : Adjust the hood (Refer to P.42-5). Then go to Step 2 .

STEP 2. Retest the system.

Q: Is the clearance with the body even?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Uneven Height

DIAGNOSIS

STEP 1. Check the hood bumper height.

Q: Is the hood bumper height proper?
YES : Go to Step 2.
NO : Adjust the hood bumper (Refer to P.42-5). Then go to Step2.

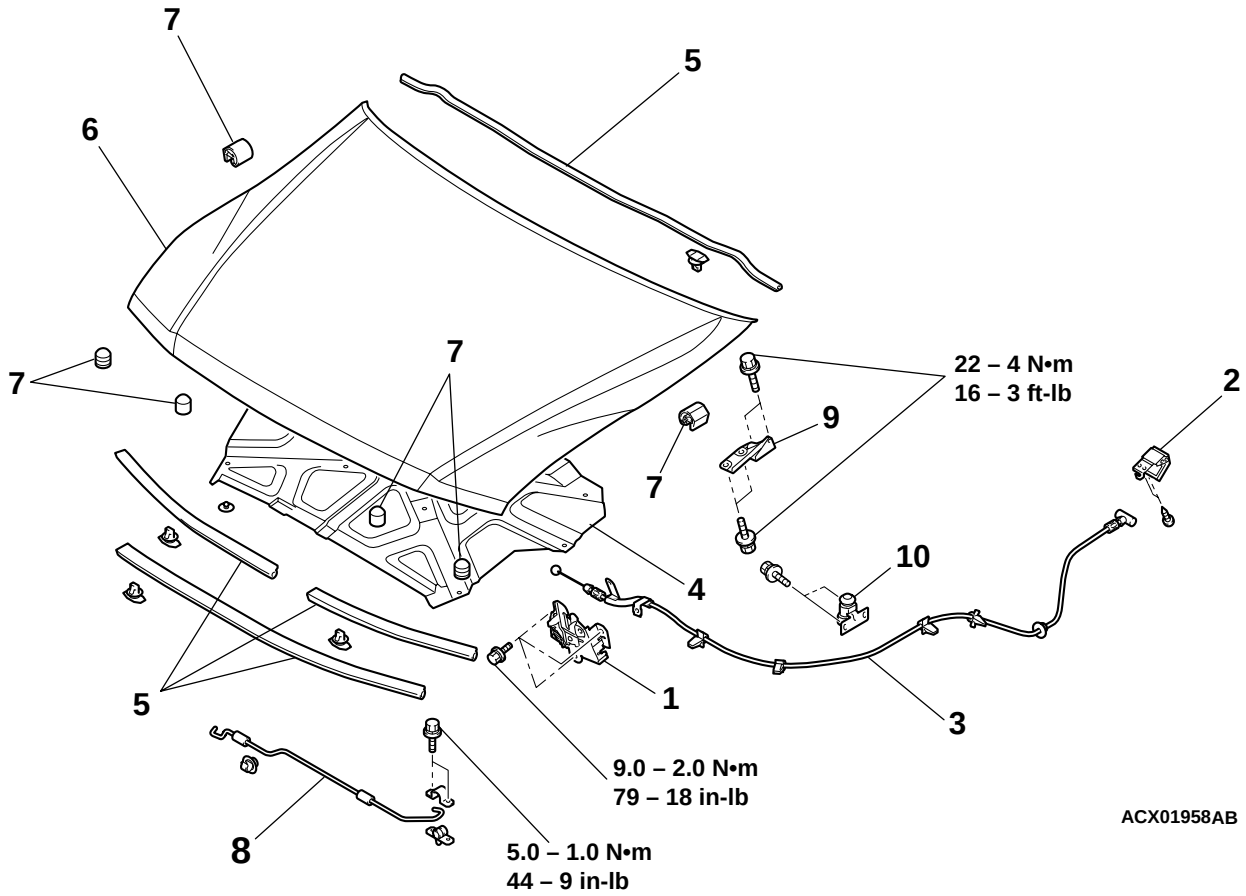
STEP 2. Retest the system.

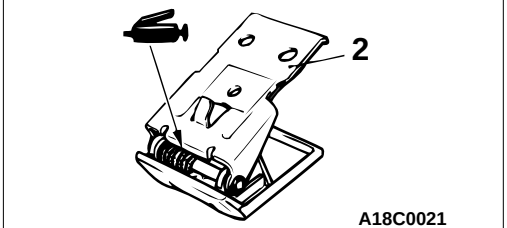
Q: Are the hood and body height even?
YES : The procedure is complete.
NO : Return to Step 1.

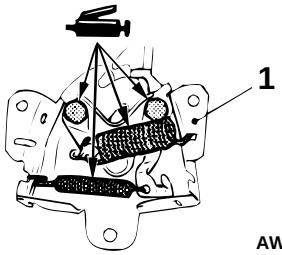
HOOD

REMOVAL AND INSTALLATION

M1421001600226







HOOD LATCH REMOVAL STEPS
- RADIATOR GRILL (REFER TO GROUP 51 – FRONT BUMPER P.51-3)

1. HOOD LATCH

HOOD LOCK RELEASE CABLE REMOVAL STEPS

2. HOOD LOCK RELEASE HANDLE
3. HOOD LOCK RELEASE CABLE

HOOD AND HOOD HINGE REMOVAL STEPS

4. HOOD INSULATOR
5. HOOD WEATHERSTRIP

HOOD AND HOOD HINGE REMOVAL STEPS (Continued)
- WASHER HOSE (REFER TO GROUP 51 – WINDSHIELD WIPER AND WASHER P.51-21)

6. HOOD
7. BUMPER A
8. HOOD SUPPORT ROD
- FRONT DECK GARNISH (REFER TO GROUP 51 – WINDSHIELD WIPER AND WASHER P.51-21)

9. HOOD HINGE
10. HOOD SWITCH

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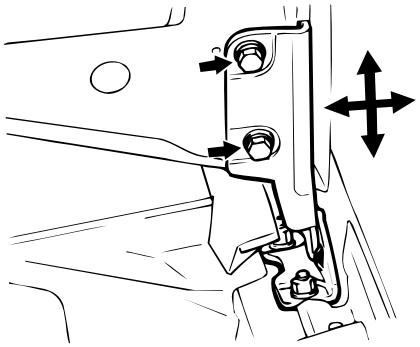
ADJUSTMENT OF CLEARANCE AROUND HOOD



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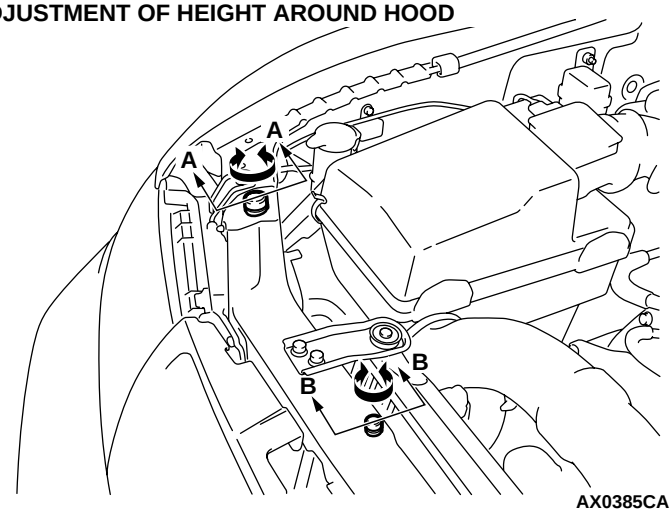
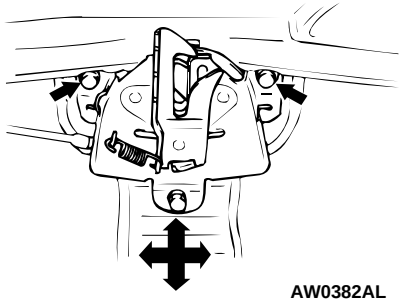
ADJUSTMENT OF HEIGHT AROUND HOOD



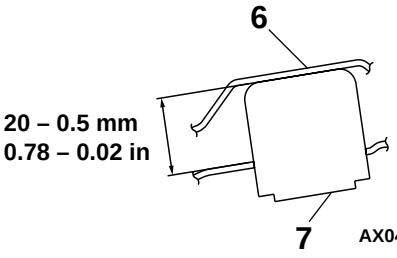
AX0385CA

ADJUSTMENT OF HOOD AND HOOD STRIKER ENGAGEMENT



AW0382AL

SECTION A A



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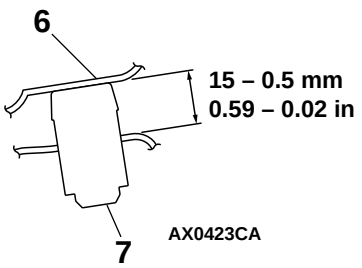
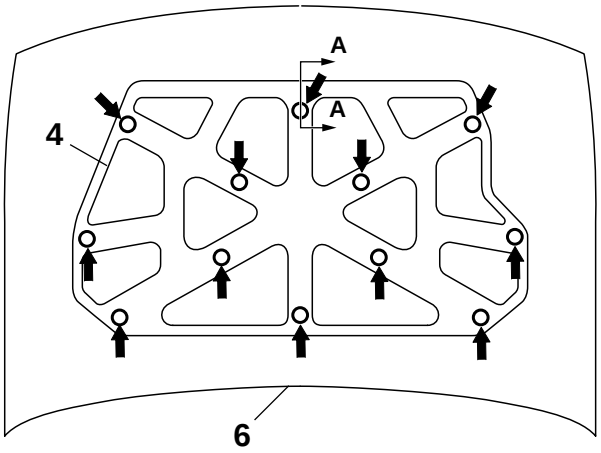


AX0423CA

CLIP POSITIONS



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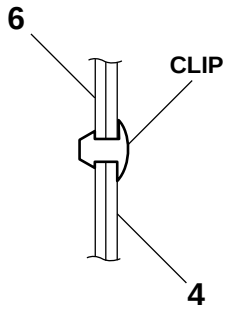

⬅ : CLIP POSITION

AC203663AB

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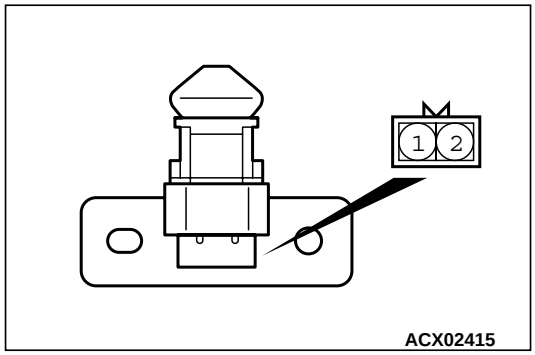
INSPECTION

M1421001700182

HOOD SWITCH CONTINUITY CHECK <VEHICLES WITH THEFT-ALARM SYSTEM>



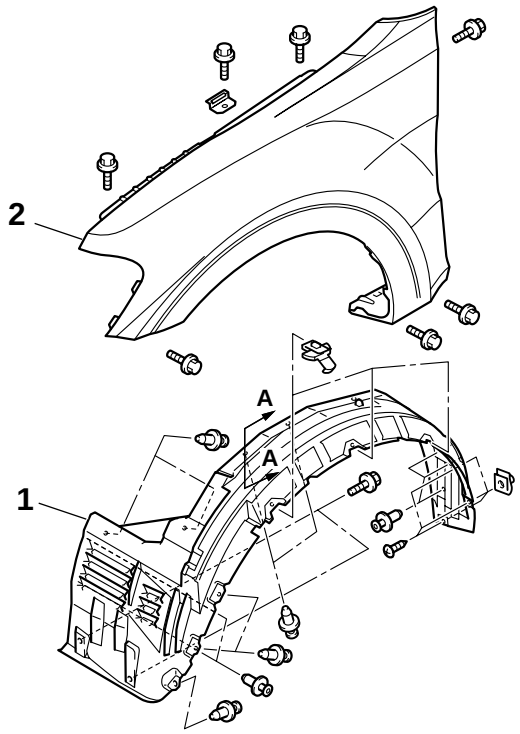
SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Hood switch unpressed	1 – 2	Less than 2 ohms
Hood switch depressed		Open circuit

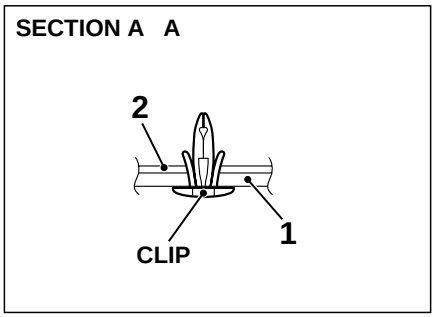
FENDER

REMOVAL AND INSTALLATION

M1421001900216

Pre-removal and Post-installation Operation
- Front Bumper Removal and Installation (Refer to GROUP 51, Front Bumper P.51-3.)
- Front Mud Guard Removal and Installation (Refer to GROUP 51, Front Mud Guard P.51-16.)
- Front Wheel Cut Molding Removal and Installation (Refer to GROUP 51, Front Wheel Cut Molding P.51-9.)





AC203222AB

REMOVAL STEPS
1. SPLASH SHIELD
2. FENDER

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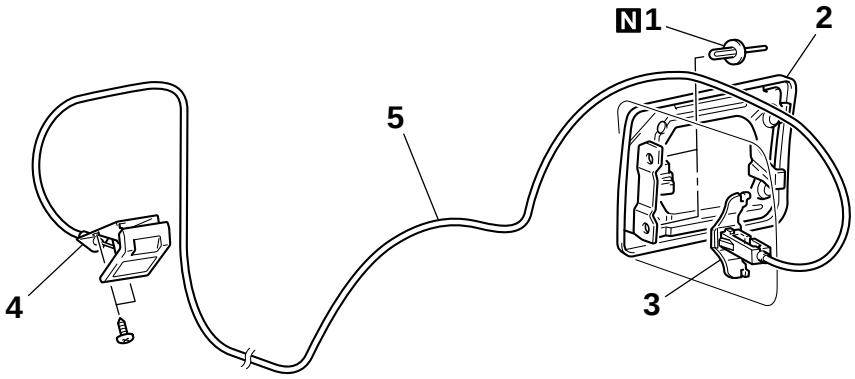
FUEL FILLER LID

REMOVAL AND INSTALLATION

M1421002500040

Pre-removal and Post-installation Operation
- Quarter Trim Lower Removal and Installation (Refer to GROUP 52A, Trims P.52A-8.)
- Center Pillar Trim Lower Removal and Installation (Refer to GROUP 52A, Trims P.52A-8.)



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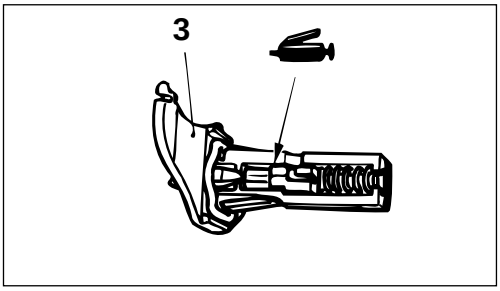

AC101963 AB

REMOVAL STEPS

<<A>> >>A<<
1. RIVET
2. FUEL FILLER DOOR PANEL ASSEMBLY
3. FUEL FILLER DOOR HOOK ASSEMBLY
4. LID LOCK RELEASE HANDLE

REMOVAL STEPS (Continued)
- INSTRUMENT LOWER PANAL (REFER TO GROUP 52A – INSTRUMENT PANEL P.52A-2.)

5. FUEL FILLER DOOR LOCK RELEASE CABLE

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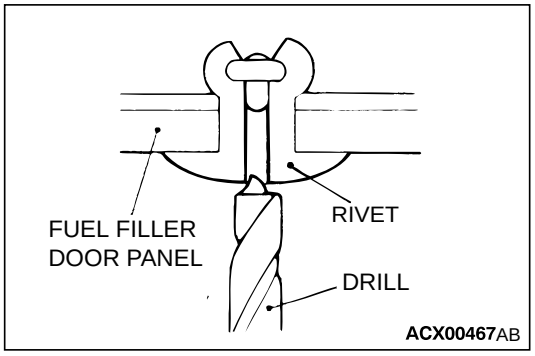
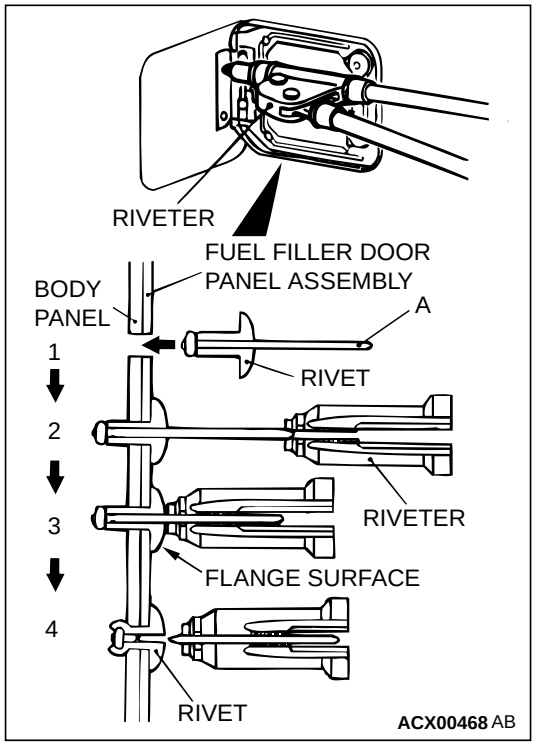
REMOVAL SERVICE POINT



<<A>> RIVET REMOVAL

Use a drill [ϕ6.5 – 7.5 mm (ϕ0.25 – 0.29 inch)] to break the rivet by drilling a hole, and remove the rivet.

INSTALLATION SERVICE POINT



>>A<< RIVET INSTALLATION

1. Insert the rivet [ϕ6.4mm (ϕ0.25 inch)] into the body panel and wide fender.
2. Insert the "A" side of the rivet into the riveter.
3. Pressing the flange surface of the rivet, move the handle of the riveter.
4. The thinnest point of "A" is cut and the rivet is held in the position.

WINDOW GLASS

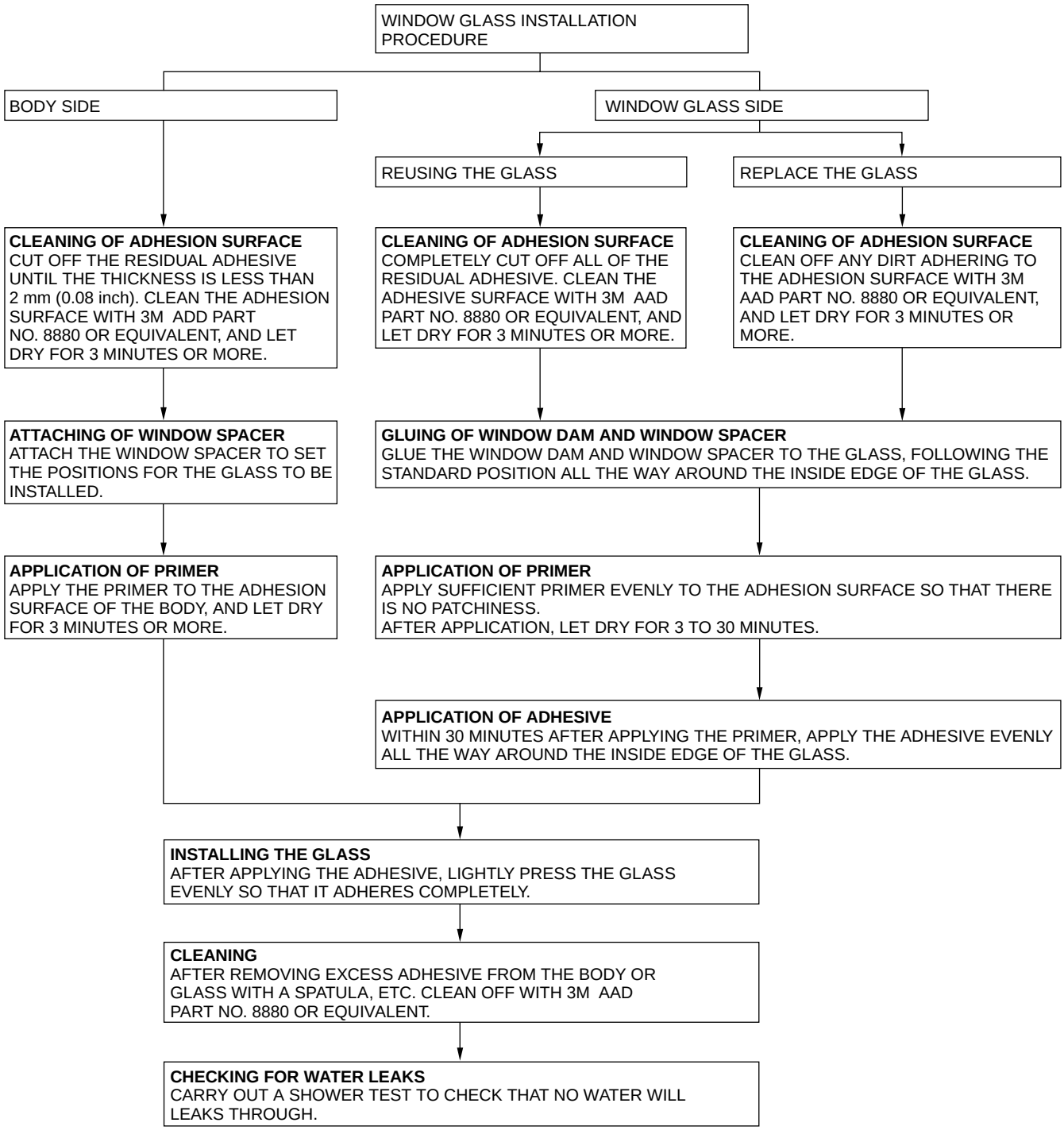
GENERAL DESCRIPTION

M1422000100287

The windshield, quarter window and liftgate glass are attached by urethane-base adhesive to the window frame. This adhesive provides improved glass holding and sealing, and also permits use of body openings having a greater structural strength.

ITEM	APPLICATION	QUANTITY
Wire (dia × length)	For cutting adhesive	Five pieces of wire 0.6 mm × 1 m (0.02 in × 3.3 ft)
Sealant gun	For adhesive application	One
Wiping shop towels	–	As required
Sealer	For prevention of water leaks and gathering after adhesive application	As required
3M™ AAD Part No. 8880 or equivalent	For cleaning	As required
Glass holder MB990480	For holding window glass	Two
Window molding remover MB990449	For roof drip molding removal	One

WINDOW GLASS INSTALLATION



AC204055

WINDOW GLASS DIAGNOSIS

INTRODUCTION TO WINDOW GLASS DIAGNOSIS

M1422006700221

If water leaks from the windshield, the quarter window glass, the back door glass, or the seal or body flange may be faulty.

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WINDOW GLASS DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1422006800046

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a window glass fault.

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

SYMPTOM CHART

M1422006900258

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Water leak through windshield	1	P.42-12
Water leak through quarter window glass		
Water leak through back door glass		

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Water Leak through Windshield/Water Leak through Quarter Window Glass/Water Leak through Back Door Glass

DIAGNOSIS

STEP 1. Check if the seal is faulty.

Q: Is the seal faulty?
YES : Repair the seal, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check if the body flange is deformed.

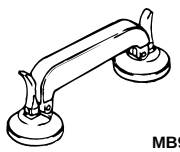
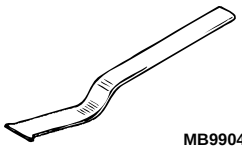
Q: Is the body flange deformed?
YES : Repair or replace the body flange, then go to Step 3.
NO : Go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : This diagnosis complete.

SPECIAL TOOLS

M1422000600033

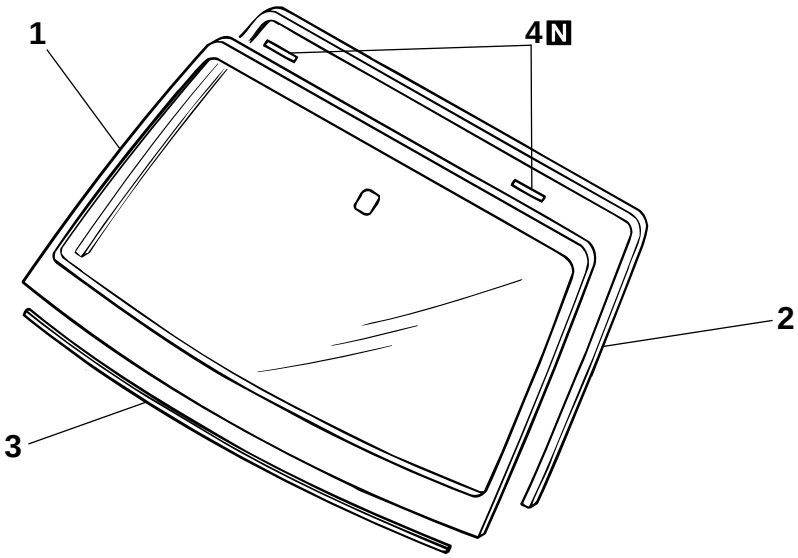
TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB990480	MB990480 Glass holder	General service tool	Removal and installation of window glass
 MB990449	MB990449 Window molding remover	General service tool	Removal of drip molding

WINDSHIELD

REMOVAL AND INSTALLATION

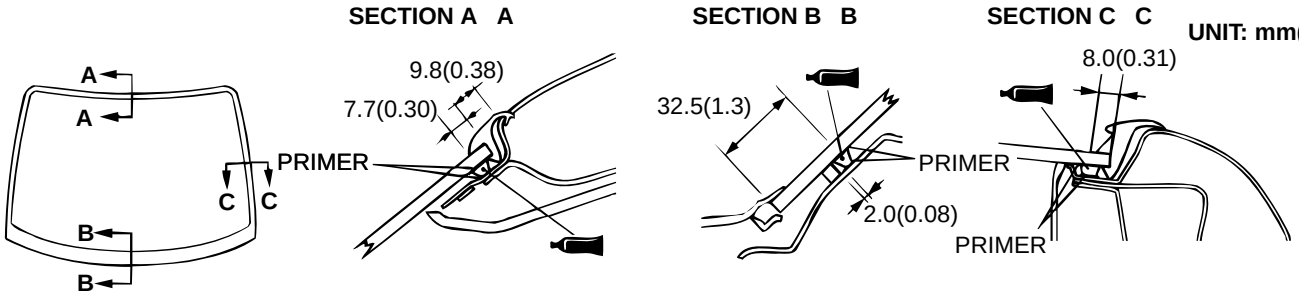
M1422001000238

Pre-removal and Post-installation Operation
- Front Deck Garnish Removal and Installation (Refer to GROUP 51, Windshield Wiper and Washer P.51-21.)
- Front Pillar Trim Removal and Installation (Refer to GROUP 52A, Trims P.52A-8.)
- Headlining Removal and Installation (Refer to GROUP 52A, Headlining P.52A-10.)



ACX00469

ACX02416AB



ACX0470

ADHESIVE: 3M AAD PART NO. 8609 SUPER FAST URETHANE AND 3M AAD PART NO. 8608 SUPER FAST URETHANE PRIMER OR EQUIVALENT

REMOVAL STEPS

<<A>> >>A<< 1. WINDSHIELD
>>A<< 2. WINDSHIELD MOLDING
>>A<< 3. WINDOW SPACER
>>A<< 4. GLASS STOPPER

Required Special Tools:
- MB990449: Window Molding Remover
- MB990480: Glass Holder

REMOVAL SERVICE POINT

<<A>> WINDSHIELD REMOVAL

1. To protect the body (paint surface), apply cloth tape to all body areas around the installed windshield.

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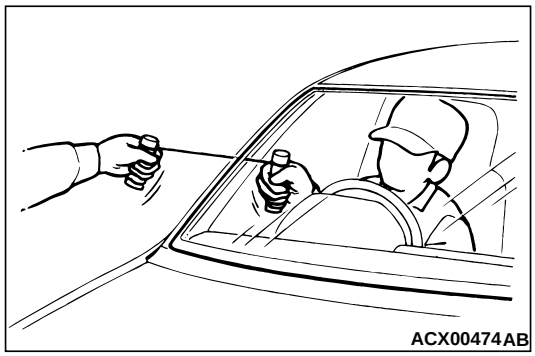
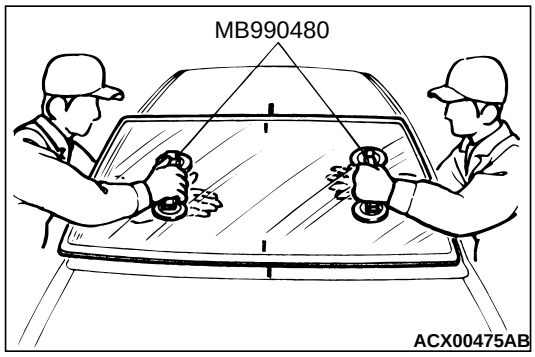

ACX00474AB

2. Using a sharp-point drill, make a hole in the windshield adhesive.
3. Pass the piano wire from the inside of the vehicle through the hole.

⚠ CAUTION

Do not let the piano wire touch the edge of the windshield.

4. Pull the piano wire alternately from the inside and outside along the windshield to cut the adhesive.
5. Make mating marks on the windshield and body.



ACX00475AB

6. Use special tool MB990480 to remove the windshield.

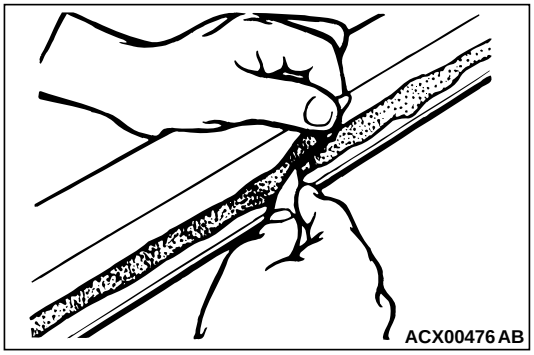
⚠ CAUTION

- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paintwork on the body surface with the knife. If the paintwork is damaged, repair the damaged area with repair paint or anti-rust agent.**

7. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm (0.08 inch) around the entire circumference of the body flange.
8. Finish the flange surfaces so that they are smooth.

⚠ CAUTION

Allow the cleaned area to dry for at least three minutes. Do not touch any surface that has been cleaned.


ACX00476AB

9. When reusing the windshield, remove the adhesive still adhering to the windshield, and clean with 3M™ AAD Part number 8906 or equivalent.
10. Clean the body side in the same way.

INSTALLATION SERVICE POINT

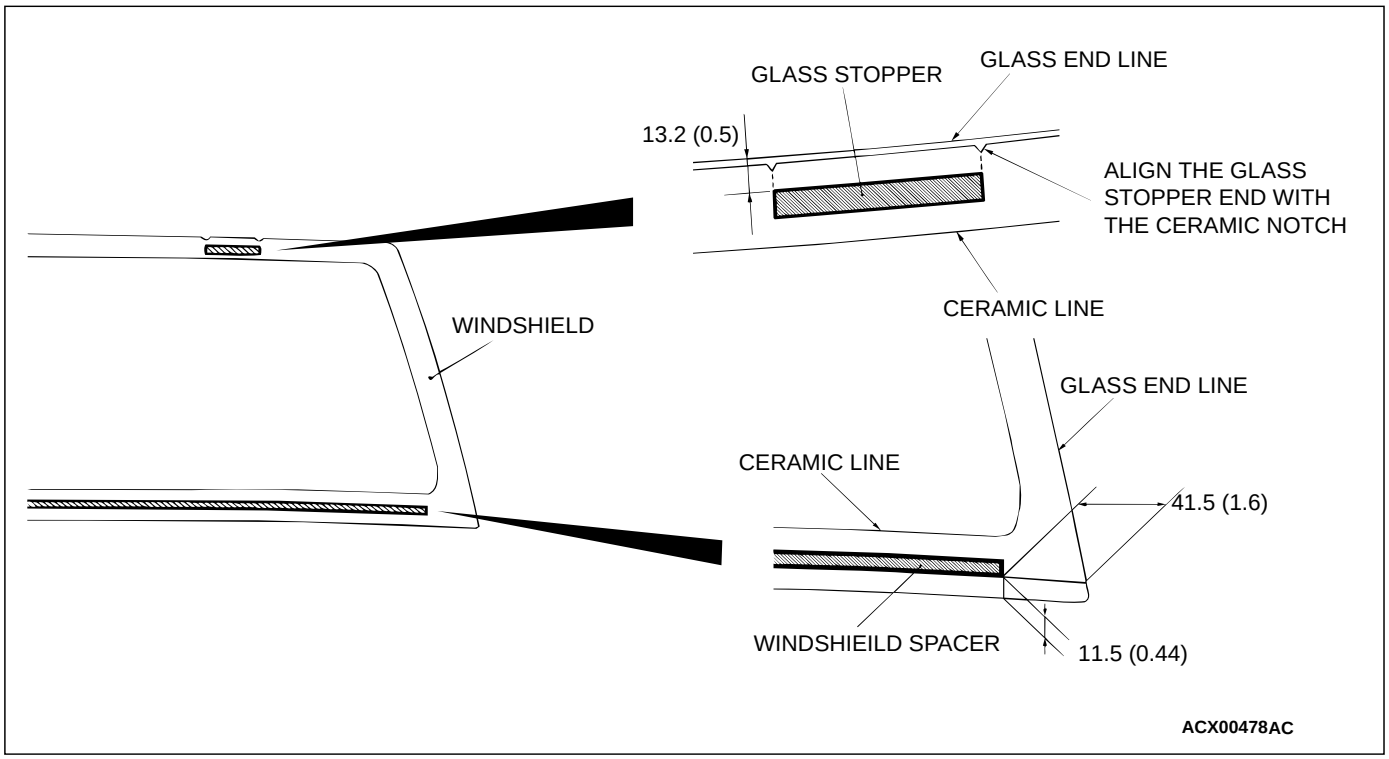
>>A<< GLASS STOPPER/WINDSHIELD MOLDING/WINDSHIELD SPACER/WINDSHIELD

1. When replacing the windshield, temporarily set the windshield against the body, and place a mating mark on the windshield and body.
2. Use 3M™ AAD Part number 8906 or equivalent to degrease the inside and outside of the windshield and the body flanges.

⚠ CAUTION

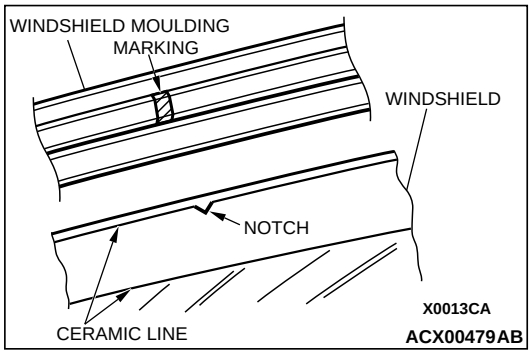
- **The primer strengthens the adhesive, so be sure to apply it evenly around the entire circumference. However, a too thick application will weaken the adhesive.**
- **Do not touch the coated surface.**

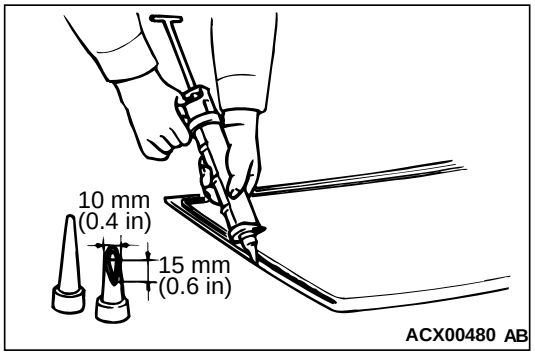
3. Soak a sponge in the primer, and apply evenly to the windshield and the body in the specified places.
4. Allow the windshield to dry for at least three minutes after applying primer.



UNIT: mm (in)

5. Mount the glass stopper and the windshield spacer correctly at the specified position so that there is no bend or rise at the inside of the windshield.
6. Align the mating mark on the windshield molding and the notch on the windshield to mount the windshield molding.





7. Fill a sealant gun with adhesive. Then apply the adhesive evenly around the windshield within 30 minutes after applying the primer.

   NOTE: Cut the tip of the sealant gun nozzle into a V shape to simplify adhesive application.
8. Align the mating marks on the windshield and the body, and lightly press the windshield evenly so that it adheres completely.
9. Use a spatula or similar tool to remove any excessive adhesive. Clean the surface with 3M™ AAD Part number 8906 or equivalent. Avoid moving the vehicle until the adhesive sets.

⚠ CAUTION

- **Do not move the vehicle unless absolutely necessary.**
- **When testing for water leakage, do not pinch the end of the hose to spray the water.**

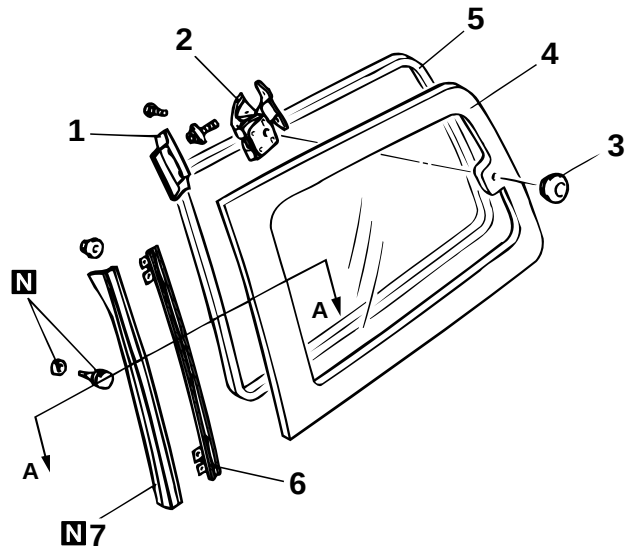
10. Wait 30 minutes or more, and then test for water leakage.

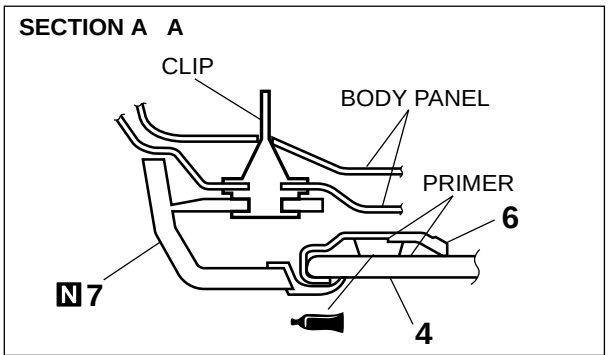
QUARTER WINDOW GLASS

REMOVAL AND INSTALLATION

M1422002500173

Pre-removal and Post-installation Operation
- Quarter Trim Upper Removal and Installation (Refer to GROUP 52A, Trims P.52A-8.)





ACX00482AB

REMOVAL STEPS
1. LEVER
2. QUARTER WINDOW LINK
3. RUBBER, NUT

<<A>> >>A<< 4. QUARTER WINDOW GLASS

REMOVAL STEPS (Continued)
5. QUARTER WINDOW WEATHERSTRIP

<<A>> >>A<< 6. QUARTER WINDOW MOLDING
7. QUARTER WINDOW GARNISH

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REMOVAL SERVICE POINT

<<A>> QUARTER WINDOW GLASS/QUARTER WINDOW MOLDING REMOVAL

Remove the quarter window glass using the same procedure as for windshield removal (Refer to P.42-13).

INSTALLATION SERVICE POINT

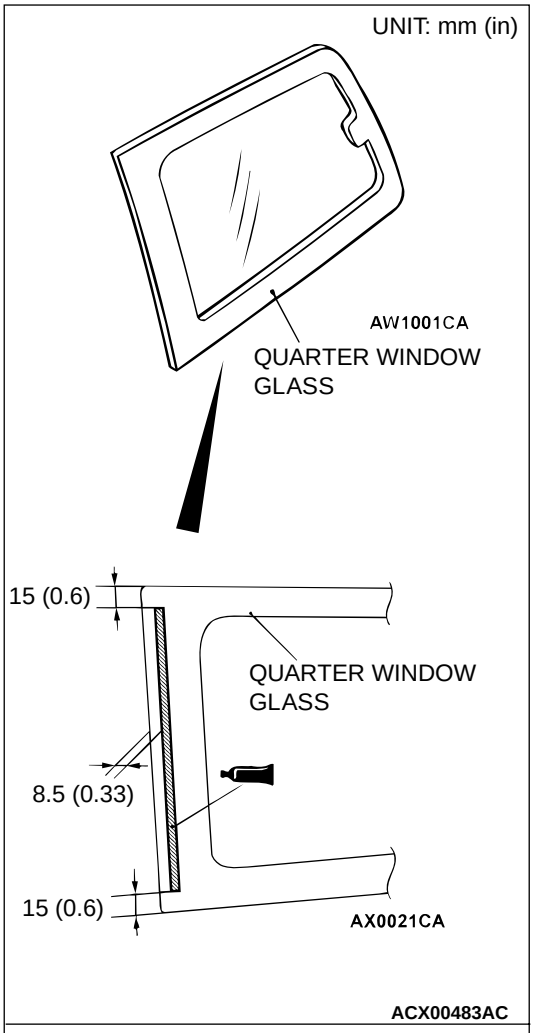
>>A<< QUARTER WINDOW MOLDING/QUARTER WINDOW GLASS INSTALLATION

1. Remove old adhesive remaining at the groove of the quarter window molding and quarter window glass

⚠ CAUTION

Allow the degreased portion to dry for at least three minutes before proceeding to the next procedure. Do not touch any surface that has been cleaned.

2. Apply the primer sufficiently on the portion of the quarter window glass to adhere evenly and without blur.
3. After applying the specified sealant on the specified area of the quarter window glass, mount the quarter window molding on the quarter window glass.



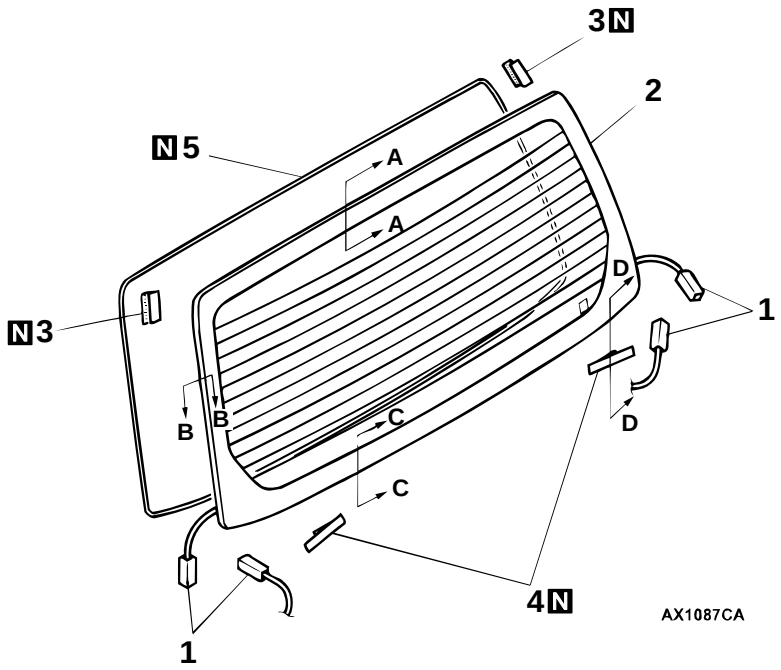
ADHESIVE: 3M AAD PART NO. 8513 GROMMETED WINDSHIELD SEALANT OR EQUIVALENT

BACK DOOR WINDOW GLASS

REMOVAL AND INSTALLATION

M1422001900060

Pre-removal and Post-installation Operation
- Back Door Upper Trim Removal and Installation (Refer to P.42-52.)
- Spare tire Removal and Installation



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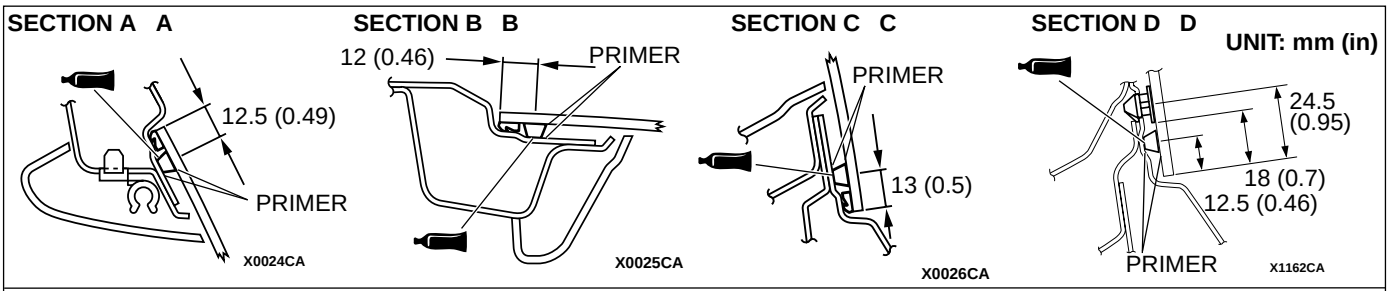

ADHESIVE: 3M AAD PART NO. 8609 AND NO. 8608 OR EQUIVALENT

REMOVAL STEPS
1. HARNESS CONNECTOR
<<A>> >>A<< 2. BACK DOOR GLASS
>>A<< 3. DUAL LOCK FASTENER

REMOVAL STEPS (Continued)
>>A<< 4. GLASS STOPPER
>>A<< 5. WINDOW DAM

REMOVAL SERVICE POINT

<<A>> BACK DOOR GLASS REMOVAL

Remove the back door glass using the same procedure as for the windshield (Refer to P.42-13).

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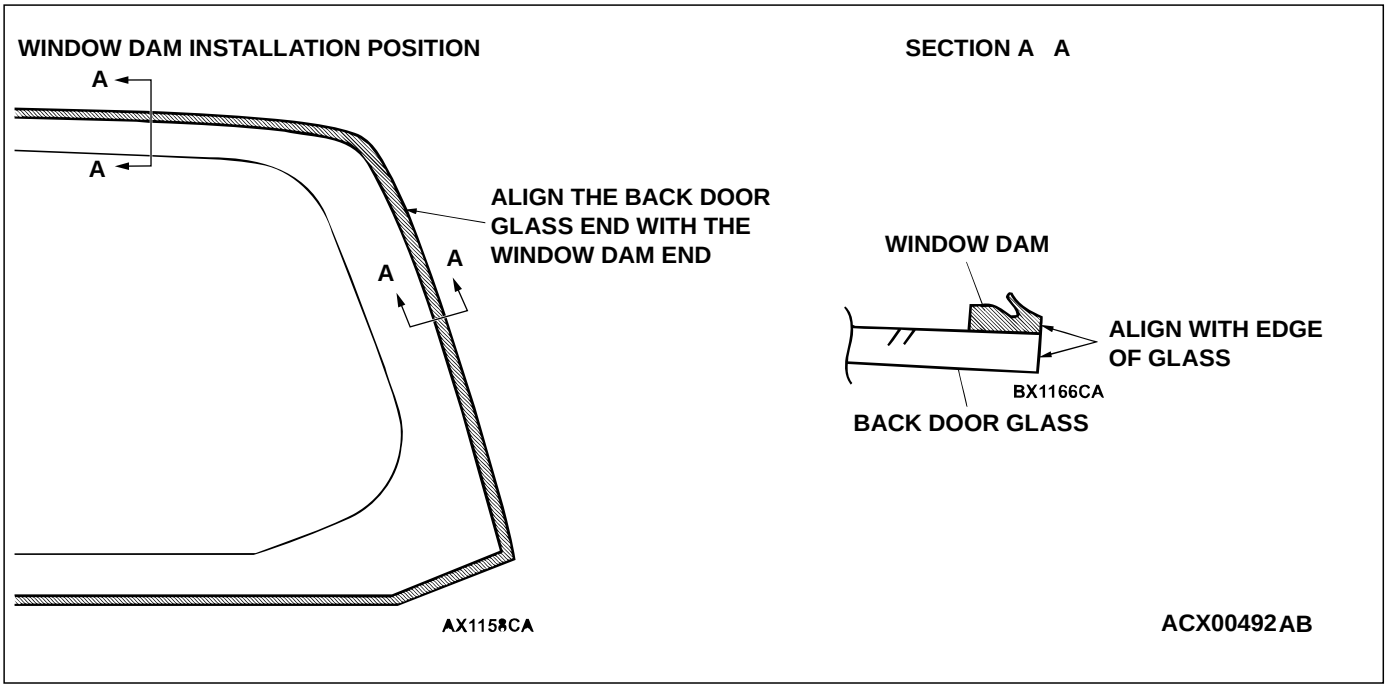
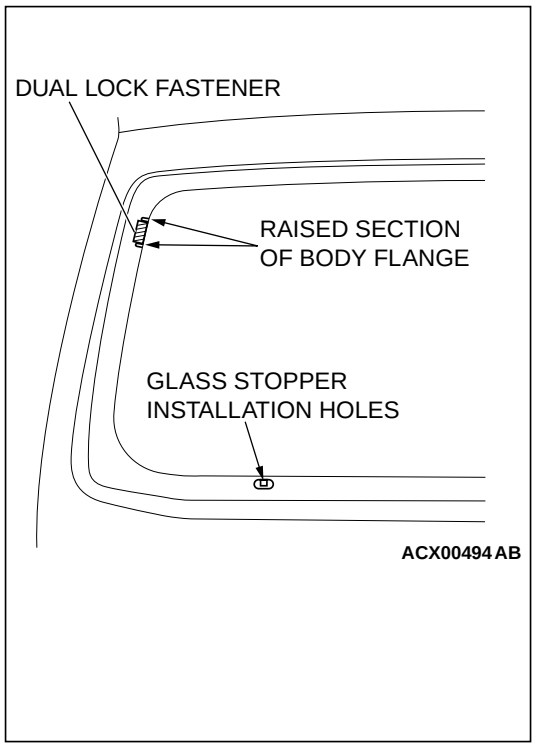
INSTALLATION SERVICE POINT

>>A<< WINDOW DAM/GLASS STOPPER/DUAL LOCK FASTENER/BACK DOOR GLASS

1. Use 3M™ AAD Part number 8906 or equivalent to degrease the inside and outside edges of the back door glass and the surface of the body flange.
2. Mount the window dam.





3. Attach the dual lock fastener at the specified position on the body flange.
4. Attach the dual lock fastener and the glass stopper on the back door glass at the corresponding location to the mounting portion of the dual lock fastener and the glass stopper on the body flange.
5. Apply primer and adhesive (Refer to P.42-18).
6. Install the glass in the same way as for the windshield (Refer to P.42-13).

DOOR

GENERAL DESCRIPTION

M1423000100202

OPERATION

CENTRAL DOOR LOCKING SYSTEM

The central door locking system operates the door lock actuator to lock or unlock the doors using the operation of the door lock switch or key built into the driver's side inside door lock knob and power window (main or sub) switch. The system has the following operations and features:

- All doors can be locked or unlocked using the door (LH or RH) key cylinder key operation.
- All doors can be locked using the driver's inside door lock knob.
- All doors can be locked using the door lock switch built into the power window (main or sub) switch.
- You cannot lock an open door if the key is in the ignition switch. The key reminder function automatically unlocks all doors when the door is locked.

Power windows

Power windows are used in all vehicles. When the power window (main or sub) switch is operated, the door windows will open or close. This system has the following operations and features:

- When the power window main switch lock/unlock switch is locked, the door windows can only be opened or closed by the power window main switch on the driver's door.
- When all doors are closed and the ignition is turned off, the power windows can be operated for 30 seconds from the time the ignition is turned off.
- The power window main switch contains a one-touch down switch that will automatically fully open driver's side door window only.

CENTRAL DOOR LOCKING SYSTEM DIAGNOSIS

M1427000700035

The central door locking system is controlled by the smart wiring system (SWS). For troubleshooting, refer to GROUP 54B, Diagnosis P.54Bb-2.

POWER WINDOW DIAGNOSIS

M1429000700116

The power window is controlled by the simplified wiring system (SWS). For troubleshooting, refer to GROUP 54B, Diagnosis P.54Bb-2.

DOOR DIAGNOSIS

DOOR DIAGNOSIS

M1423000700055

The central door locking system is controlled by the Simplified by the Simplified Wiring System (SWS). Refer to GROUP 54B, Diagnosis for troubleshooting P.54Bb-2.

INTRODUCTION TO GLASS AND DOOR DIAGNOSIS

M1423007300058

Glass and door faults include water leaks and improper opening and closing. Causes for these faults can include faults in the glass, weatherstrip, drain hole, waterproof film or door installation.

GLASS AND DOOR DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1423006700042

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a glass and door fault.

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

SYMPTOM CHART

M1423007000262

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Water leak through door window glass	1	P.42-21
Door window glass malfunction	2	P.42-21
Water leak through door edge	3	P.42-22
Water leak from door center	4	P.42-22
Door hard to open	5	P.42-22
Door does not open or close completely	6	P.42-23
Uneven gap between body	7	P.42-23
Wind noise around door	8	P.42-23

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Water Leak through Door Window Glass

DIAGNOSIS

STEP 1. Check the door window glass installation.

Q: Is the door window glass installed correctly?
YES : Go to Step 2.
NO : Adjust the door window glass (Refer to P.42-26). Then go to Step 3.

STEP 2. Check the clearance at the top of the door window glass.

Q: Is the clearance at the top of the door window glass correct?
YES : Go to Step 3.
NO : Adjust the door window glass clearance (Refer to P.42-26). Then go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 2: Door Window Malfunction

DIAGNOSIS

STEP 1. Check the door window installation condition.

Q: Is the door window installation condition good?
YES : Go to Step 2.
NO : Adjust the door window (Refer to P.42-26). Then go to Step 4.

STEP 2. Check the door sash.

Q: Is the door sash in good condition?
YES : Go to Step 3.
NO : Repair or replace the door sash, then go to Step 4.

STEP 3. Inspect the window regulator assembly.

Q: Is the window regulator assembly in good condition?
YES : Go to Step 4.
NO : Repair or replace the window regulator assembly, then go to Step 4.

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STEP 4. Retest the system.

Q: Does the door window operate correctly?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Water Leak through Door Edge

DIAGNOSIS

STEP 1. Check the weatherstrip.

Q: Is the weatherstrip in good condition?
YES : Go to Step 2.
NO : Replace the weatherstrip, then go to Step 3.

STEP 2. Check door fit (alignment).

Q: Is the door fit (alignment) correct?
YES : Go to Step 3.
NO : Adjust the door fit (alignment) (Refer to P.42-26). Then go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 4: Water Leak from Door Center

DIAGNOSIS

STEP 1. Check the drain hole.

Q: Is the drain hole clogged?
YES : Replace the drain hole, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check the waterproof film.

Q: Is the waterproof film in good condition?
YES : Go to Step 3.
NO : Repair or replace the waterproof film, then go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 5: Door Hard to Open

DIAGNOSIS

STEP 1. Adjust the latch and striker engagement.

Q: Is the latch and striker engagement adjusted?
YES : Go to Step 2.
NO : Adjust the latch and striker engagement (Refer to P.42-26). Then go to Step 4.

STEP 2. Check for possible lock rod damage.

Q: Is the possible lock rod damaged?
YES : Repair or replace the possible lock rod, then go to Step 4.
NO : Go to Step 3.

STEP 3. Check the door handle flexibility (amount of movement of handle required to open door).

Q: Is the door handle flexibility good?
YES : Go to Step 4.
NO : Adjust the door handle flexibility (Refer to P.42-27 and P.42-27). Then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 6: Door does not Open or Close Completely

DIAGNOSIS

STEP 1. Check the door hinge position.

Q: Is the door hinge position correct?
YES : Go to Step 2.
NO : Adjust the door hinge position (Refer to P.42-26). Then go to Step 4.

STEP 2. Check the door.

Q: Is the door in good condition?
YES : Go to Step 3.
NO : Repair or replace the door, then go to Step 4.

STEP 3. Check the grease.

Q: Is the door check or door hinge grease sufficient?
YES : Go to Step 4.
NO : Apply the grease, then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open and close correctly?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 7: Uneven Gap between Body

DIAGNOSIS
Adjust the door fit (Refer to P.42-26). Then check that the gap has been improved.

INSPECTION PROCEDURE 8: Wind Noise around Door

DIAGNOSIS

STEP 1. Check the weatherstrip for holding condition.

Q: Is the weatherstrip installed properly?
YES : Go to Step 2.
NO : Repair or replace the weatherstrip. Then go to Step 5.

STEP 2. Check the weatherstrip for installation condition.

Q: Is the weatherstrip installed properly?
YES : Go to Step 3.
NO : Repair or replace the weatherstrip. Then go to Step 5.

STEP 3. Check the clearance.

Q: Is the clearance between the door glass and the door weatherstrip holder proper?
YES : Go to Step 4.
NO : Adjust the clearance (Refer to P.42-26). Then go to Step 5.

STEP 4. Check the door.

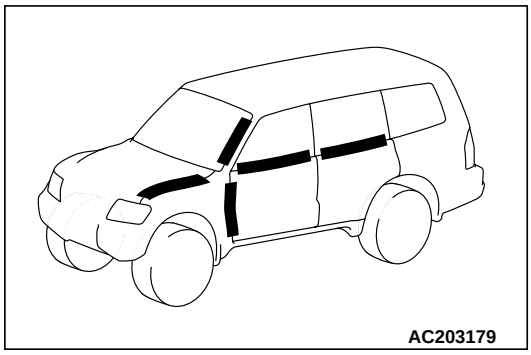
Q: Is the door deformed?
YES : Repair or replace the door. Then go to Step 5.
NO : Go to Step 5.

STEP 5. Retest the system.

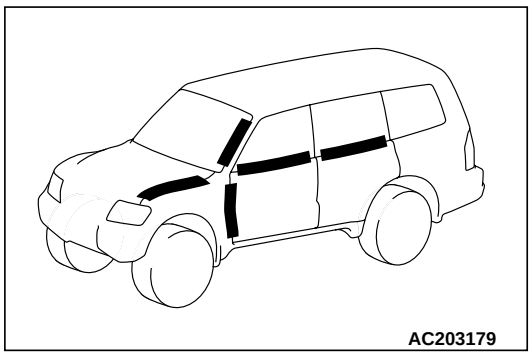
Q: Has the wind noise been improved?
YES : Return to Step 1.
NO : This diagnosis complete.

HOW TO LOCATE WIND NOISES

M1421004200186


AC203179

1. Attach cloth tape to every place, such as panel seams, projections, molding seams, glass and body seams, etc. which might conceivably be the source of wind noise.
2. Then make a road test to check that the places not covered by tape are not sources of wind noise.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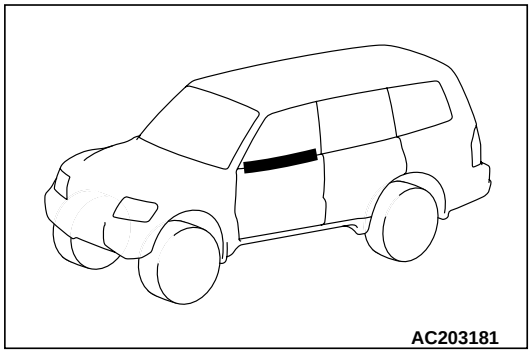
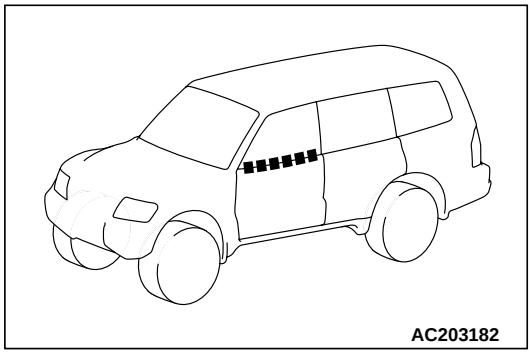
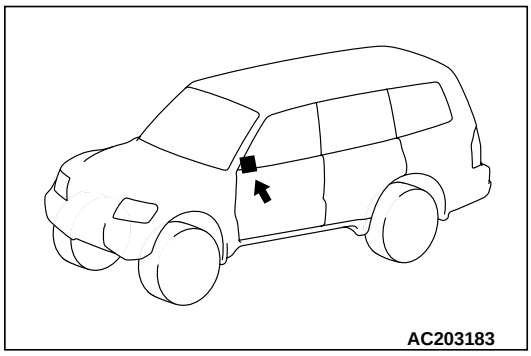
3. Remove the strips of tape one by one, making a road test after each is removed, until a wind noise source is discovered.


AC203181

4. When such a place is found, cover it again and repeat the procedure to check if there are any other noise source.
5. If no others are found, the last remaining tape is the only source.


AC203182

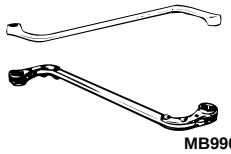
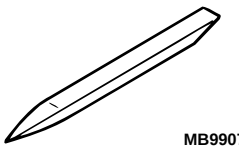
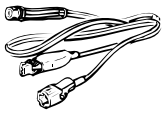
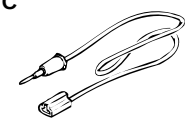
6. Cut the remaining piece of tape into smaller pieces, attach it again as it was before, and then remove the pieces one by one to narrow down the source.


AC203183

7. Check that wind noise occurs when the last remaining tape is removed, and that noise does not occur when it is re-attached.
8. When the sources of the wind noise is finally located, attach butyl tape, body sealer or similar material to obstruct this source as much as possible.

SPECIAL TOOLS

M1423000600036

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB990900	MB990900 or MB991164 Door adjusting wrench	MB990900-01	Adjustment of door fit
 MB990784	MB990784 Ornament remover	General service tool	Removal of trim, etc.
A  B  C  D  MB991223AB	MB991223 Harness set • A: MB991219 Test harness • B: MB991220 LED harness • C: MB991221 LED harness adapter • D: MB991222 Probe	MB991223	Measurement of terminal voltage • A: Connector pin contact pressure inspection • B: Power circuit inspection • C: Power circuit inspection • D: Commercial tester connection

ON-VEHICLE SERVICE

DOOR FIT ADJUSTMENT

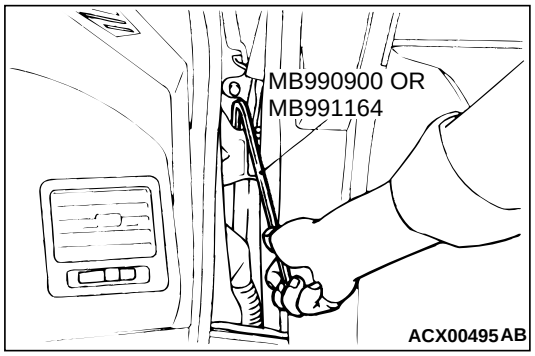
M1423001100131

Required Special Tool

- MB990900 or MB991164: Door Adjusting Wrench

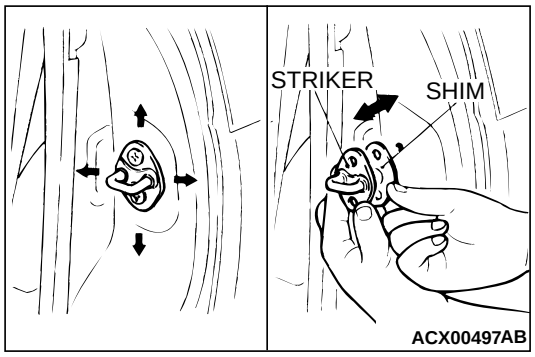
⚠ CAUTION

- **Attach protection tape to the fender and door edges where the hinge is installed.**
- **Do not rotate special tool MB991164 with a torque of over 98 N·m (72 ft-lb)**



1. Use special tool MB990900 or MB991164 to loosen the hinge mounting bolts on the body side, and then adjust the clearance around the door so that it is uniform on all sides.
2. If the door panel is not flush with the body panels, remove the door hinges (Refer to P.42-28). Use a chisel or a grinder to grind off the weld between the door hinge and the washer. Protect the exposed metal of the ground portion using touch-up paint. Then use special tool MB990900 or MB991164 to temporarily tighten the door hinge mounting bolts and nut, and align the door panel by moving it. On completion, tighten the bolts and nut securely.

   NOTE: If the replacement hinge is used or the hinge has already been separated from the washer, use special tool MB990900 or MB991164 to loosen the door-side door hinge mounting bolts and nut, and align the door panel by moving it.
3. If the door opening and closing are stiff, adjust the linking of the striker and the door latch using the shim, while moving the striker up and down, or left and right.

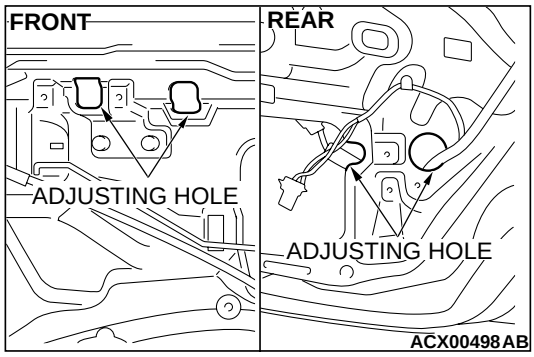


DOOR WINDOW GLASS ADJUSTMENT

M1423001000220

Check that the door glass moves while contacting the door glass channel when it is raised and lowered fully. If not, adjust the door window according to the following procedures.

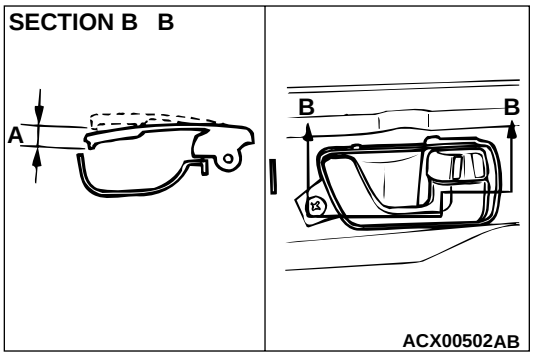
1. Remove the door trim and waterproof film (Refer to P.42-30).
2. Loosen the door glass mounting screw via the adjusting hole with the door window glass fully closed, then lower the window glass a little.



3. Fully close the door window glass again and tighten the door glass mounting screw firmly via the adjusting hole.

DOOR INSIDE HANDLE PLAY CHECK AND ADJUSTMENT

M1423001500214



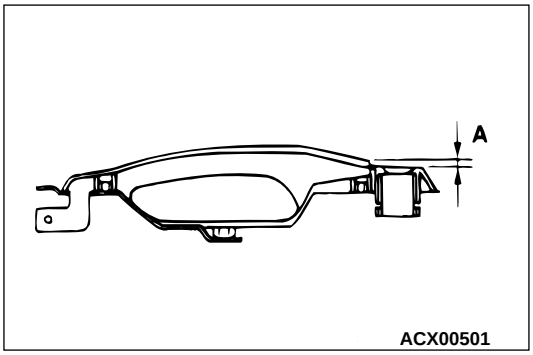
1. Check that the door inside handle play is within the standard value range.

   Standard value (A): 5.1 mm (0.20 inch) or more

2. If the door inside handle play is outside the standard value range, remove the door trim (Refer to P.42-30).
3. Loosen the inside handle mounting screws, and then move the inside handle back and forth to adjust the play.

DOOR OUTSIDE HANDLE PLAY CHECK

M1423001600039



1. Check that the door outside handle play is within the standard value range.

   Standard value (A):
   Front: 2.0 mm (0.08 inch) or more
   Rear: 1.7 mm (0.07 inch) or more

2. If the door outside handle play is not within the standard value range, check the door outside handle or the door latch assembly. Replace if necessary.

CIRCUIT BREAKER (INCORPORATED IN THE POWER WINDOW MOTOR) INSPECTION

M1429001000024

1. Pull the power window switch to the UP position to fully close the door window glass, and keep pulling the switch for 10 additional seconds.
2. Release the power window switch from the UP position and immediately press it to the DOWN position. The condition of the circuit breaker is good if the door window glass starts to move downwards within 60 seconds.

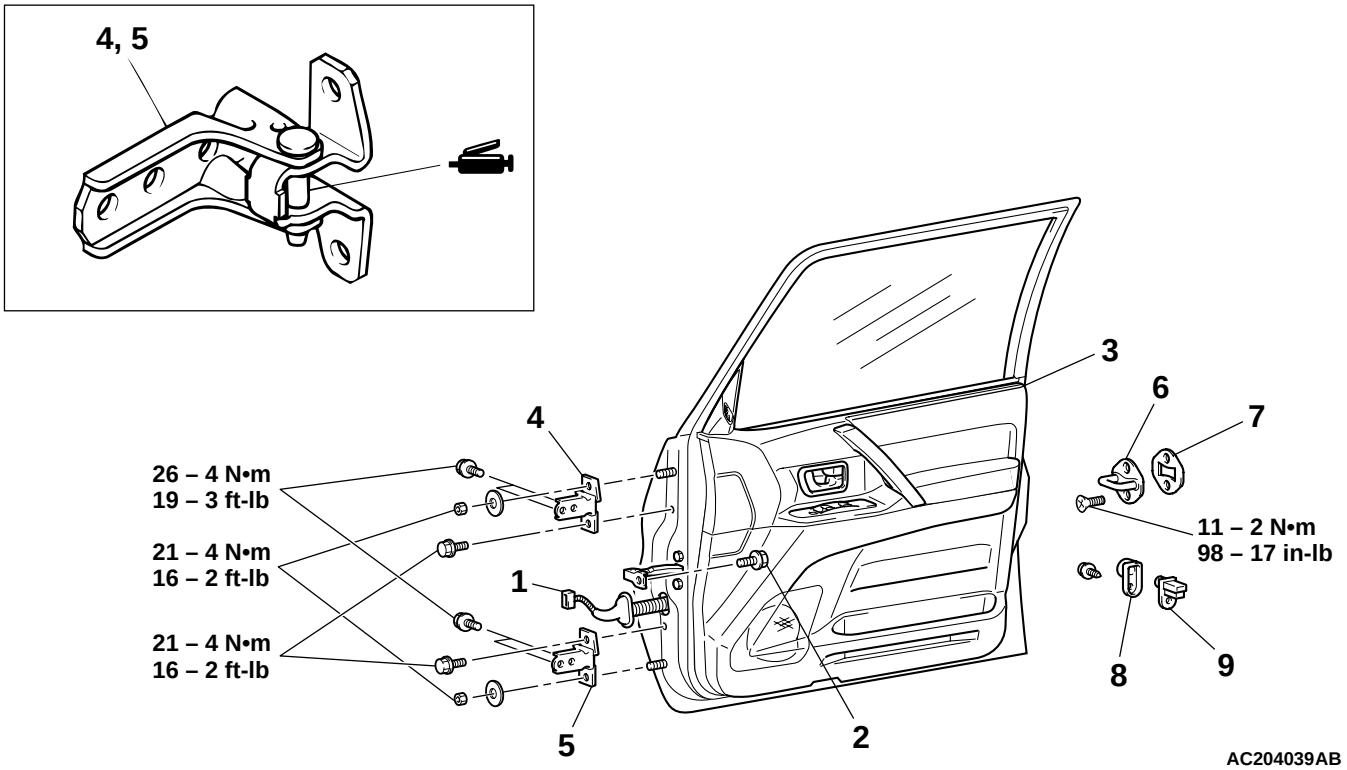
DOOR ASSEMBLY

REMOVAL AND INSTALLATION

M1423002200205

Post-installation Operation
- Door Fit Adjustment (Refer to P.42-26.)

<FRONT>



DOOR ASSEMBLY REMOVAL STEPS
1. HARNESS CONNECTOR
2. DOOR CHECK CONNECTING BOLT
3. DOOR ASSEMBLY
4. DOOR UPPER HINGE
5. DOOR LOWER HINGE

STRIKER REMOVAL STEPS
6. STRIKER
7. STRIKER SHIM

DOOR SWITCH REMOVAL STEPS
8. DOOR SWITCH CAP
9. DOOR SWITCH

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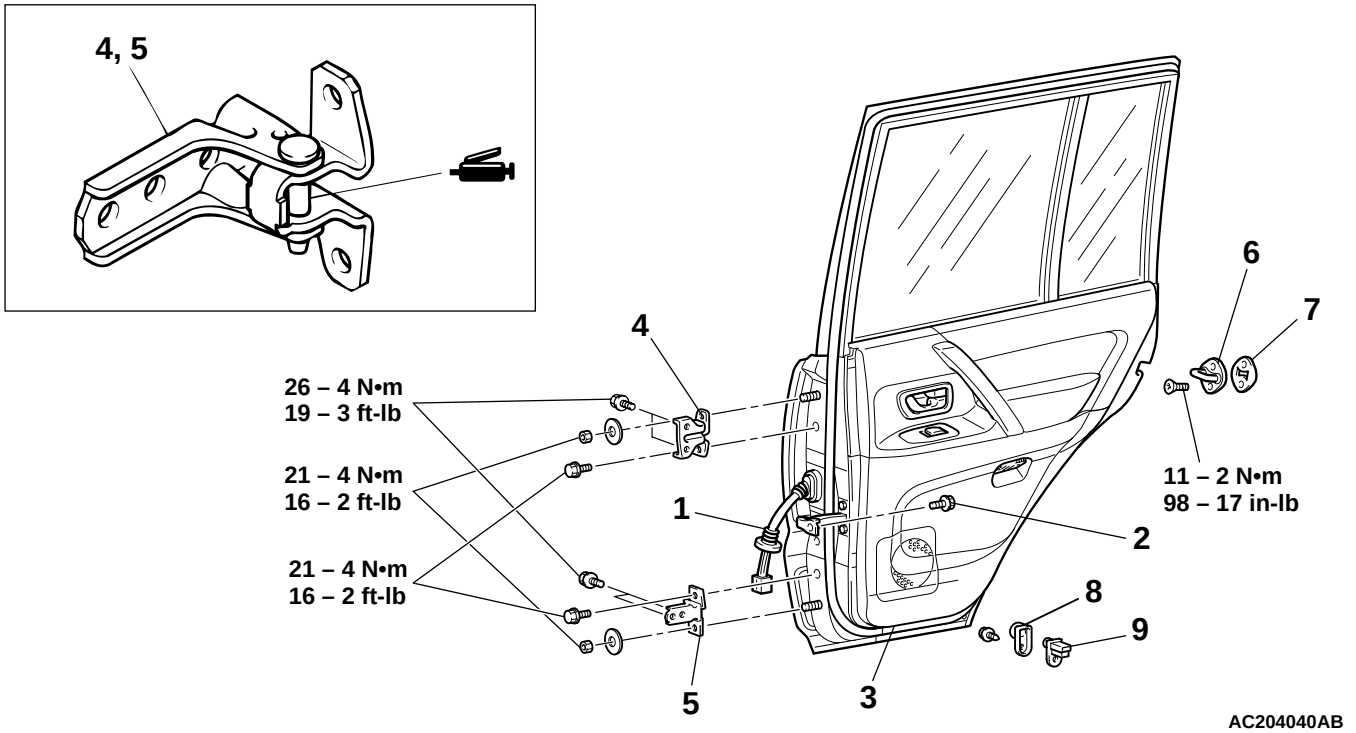
<REAR>



DOOR ASSEMBLY REMOVAL STEPS
1. HARNESS CONNECTOR
2. DOOR CHECK CONNECTING BOLT
3. DOOR ASSEMBLY
4. DOOR UPPER HINGE
5. DOOR LOWER HINGE

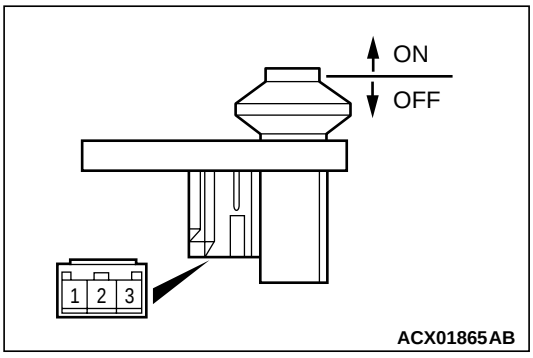
STRIKER REMOVAL STEPS
6. STRIKER
7. STRIKER SHIM

DOOR SWITCH REMOVAL STEPS
8. DOOR SWITCH CAP
9. DOOR SWITCH

INSPECTION

M1421007600343

DOOR SWITCH CONTINUITY CHECK

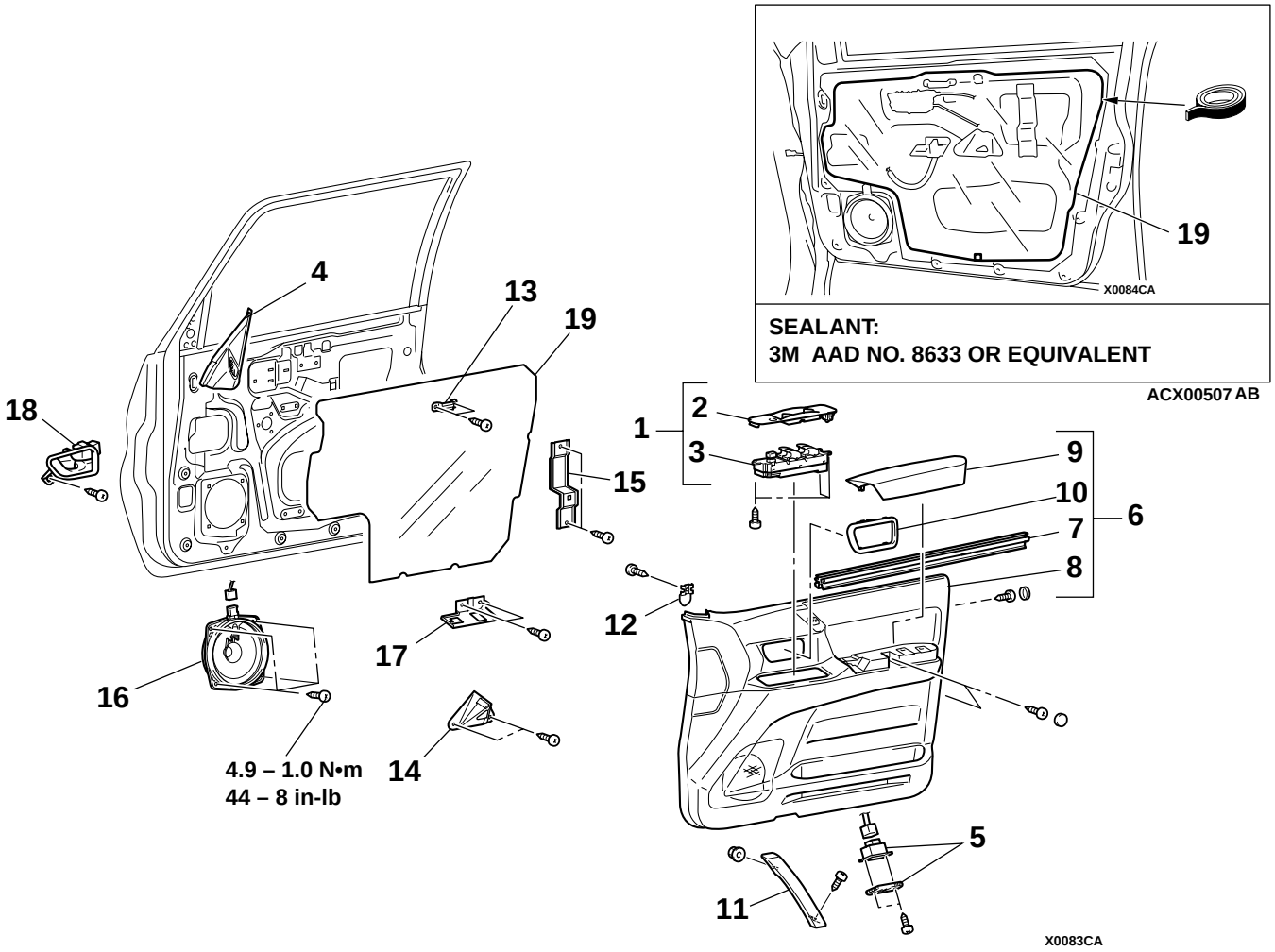


SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Released (ON)	1 – switch body, 2 – switch body	Less than 2 ohms
Depressed (OFF)		Open circuit

DOOR TRIM AND WATERPROOF FILM

REMOVAL AND INSTALLATION

M1423004300208



REMOVAL STEPS

<<A>>
1. POWER WINDOW SWITCH AND POWER WINDOW SWITCH PANEL ASSEMBLY
2. POWER WINDOW SWITCH PANEL
3. POWER WINDOW SWITCH
4. DELTA COVER, INNER
5. DOOR LAMP ASSEMBLY
6. DOOR INSIDE HANDLE COVER AND DOOR TRIM ASSEMBLY
7. DOOR BELT LINE MOLDING ASSEMBLY
8. DOOR TRIM

REMOVAL STEPS (Continued)

<<B>>
9. FRONT ARM RESTRAINT COVER
10. DOOR INSIDE HANDLE COVER
11. DOOR GRIP
12. GRIP BRACKET
13. DOOR GRIP UPPER RETAINER
14. DOOR GRIP LOWER BRACKET
15. ARM RESTRAINT BRACKET
16. SPEAKER
17. POWER WINDOW SWITCH BRACKET
18. DOOR INSIDE HANDLE

>>A<<
19. WATERPROOF FILM

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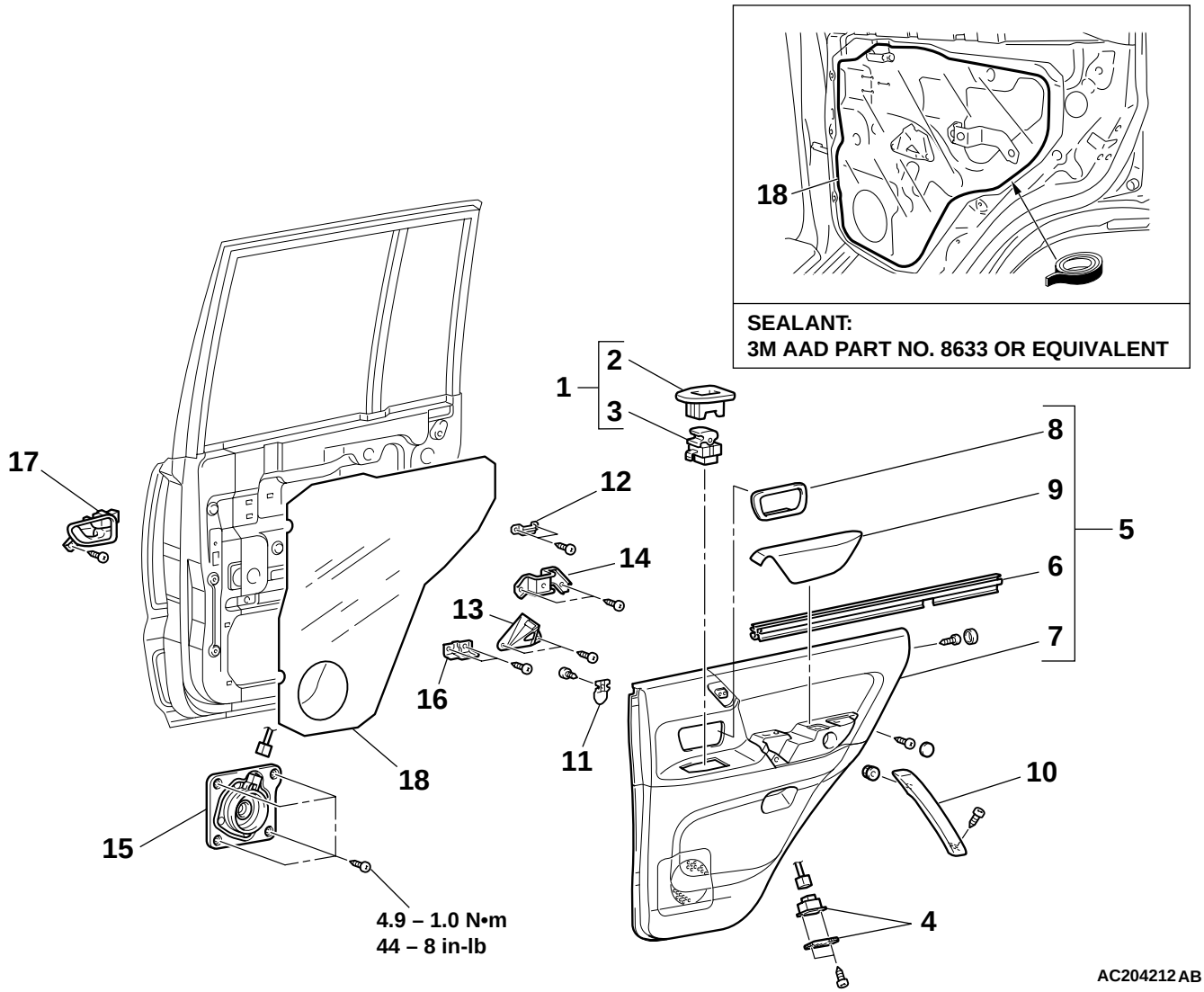

REMOVAL STEPS

<<A>>
1. POWER WINDOW SWITCH AND POWER WINDOW SWITCH PANEL ASSEMBLY
2. POWER WINDOW SWITCH PANEL
3. POWER WINDOW SWITCH
4. DOOR LAMP ASSEMBLY
5. DOOR INSIDE HANDLE COVER AND DOOR TRIM ASSEMBLY
6. DOOR BELT LINE MOLDING ASSEMBLY
7. DOOR TRIM

<<B>>
8. DOOR INSIDE HANDLE COVER
9. DOOR GRIP
10. REAR ARM RESTRAINT COVER

REMOVAL STEPS (Continued)

11. DOOR GRIP BRACKET
12. DOOR GRIP UPPER RETAINER
13. DOOR GRIP LOWER BRACKET
14. ARM RESTRAINT BRACKET
15. SPEAKER
16. POWER WINDOW SWITCH BRACKET
17. DOOR INSIDE HANDLE

>>A<< 18. WATERPROOF FILM

Required Special Tool:

- MB990784: Ornament Remover

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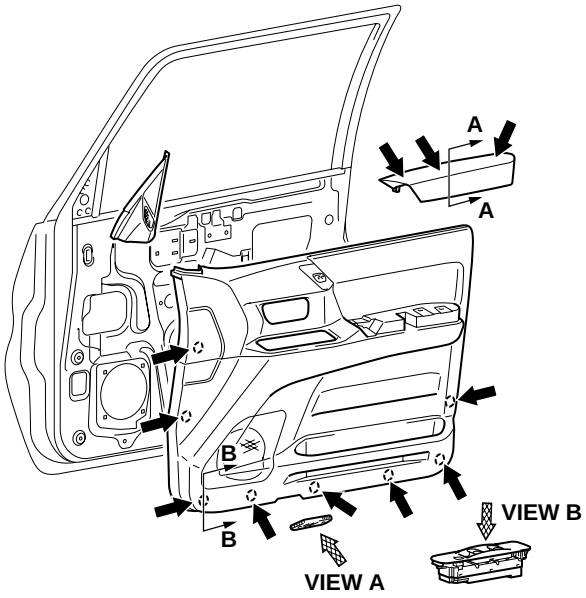
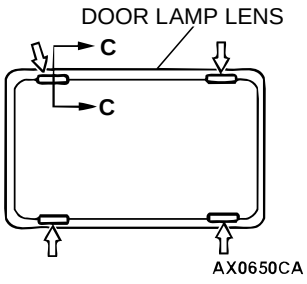
CLIP AND CLAW POSITIONS

<FRONT DOOR>

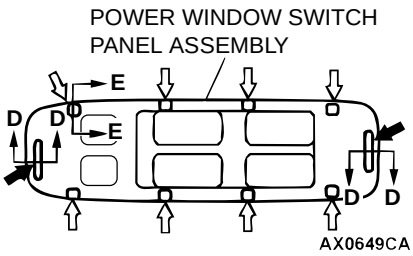


ACX00511AC

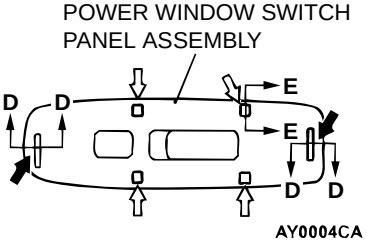
VIEW A



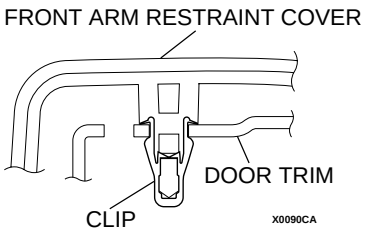
VIEW B <DRIVER'S SIDE>



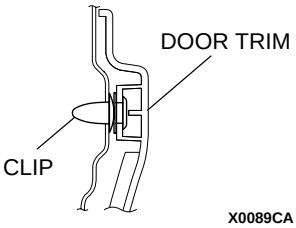
<PASSENGER'S SIDE>



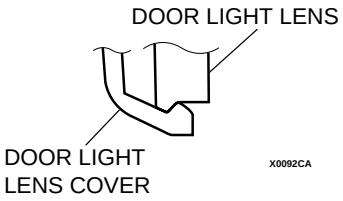
SECTION A A



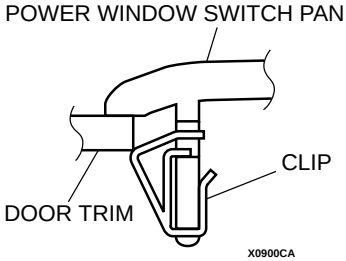
SECTION B B



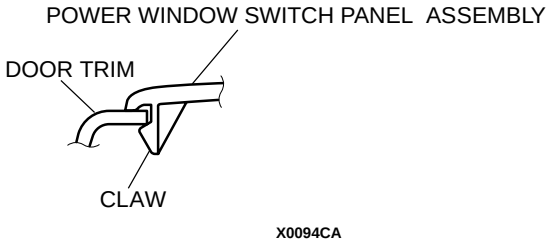
SECTION C C



SECTION D D



SECTION E E

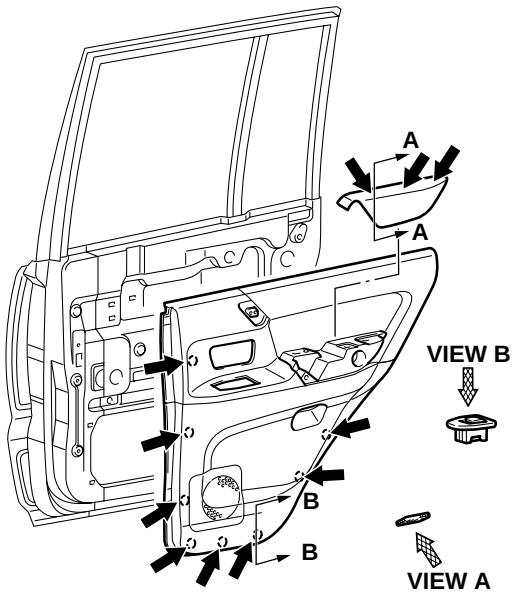


NOTE

: CLIPS POSITIONS
: CLAW POSITIONS

TSB Revision

<REAR DOOR>



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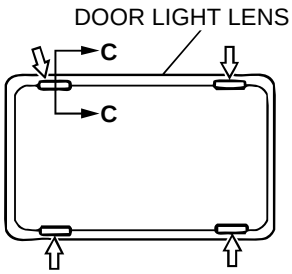
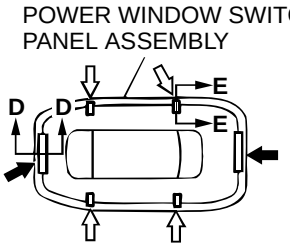
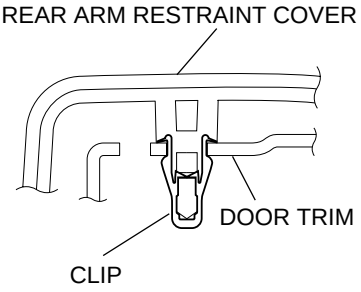
VIEW A



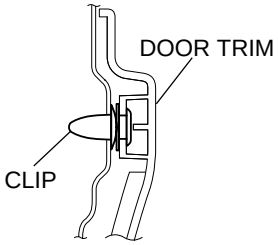
VIEW B



SECTION A A



SECTION B B



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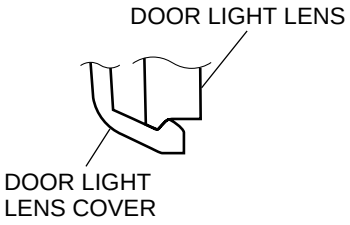
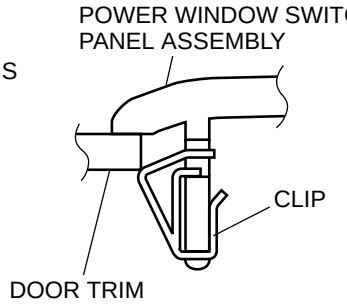
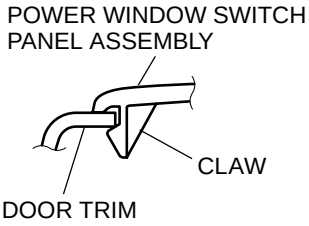


SECTION D D



SECTION E E

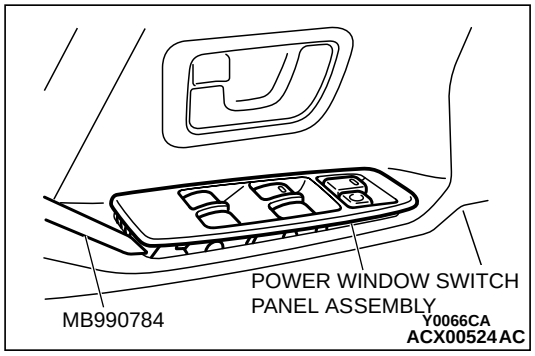


NOTE

⬅ : CLIPS POSITIONS
⇦ : CLAW POSITIONS

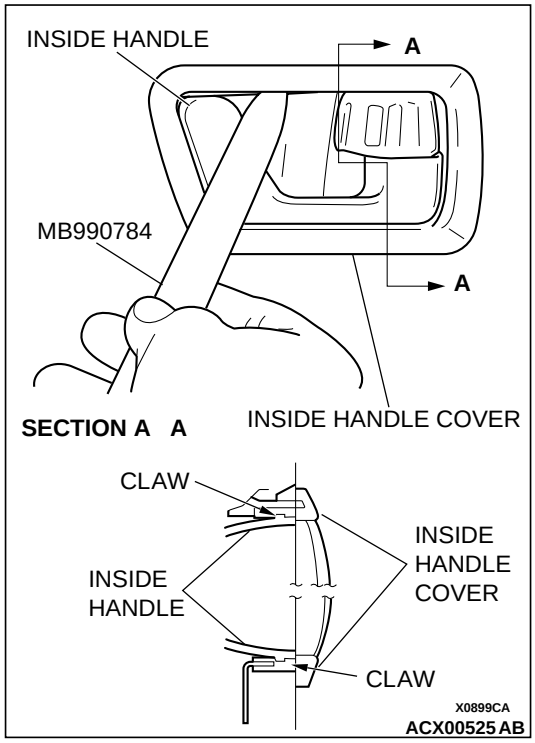
TSB Revision

REMOVAL SERVICE POINT



<<A>> POWER WINDOW SWITCH ASSEMBLY

There is a clip (driver's side) or a claw (other sides) on the front of the power window switch assembly. Work from the front side using special tool MB990784.



<<B>> DOOR INSIDE HANDLE COVER REMOVAL

1. Insert the special tool between the inside handle upper part and the inside handle cover, and then disengage the upper claw of the inside handle.
2. Disengage the lower claw of the inside handle in the same manner as for the upper claw.
3. Remove the door trim.
4. Remove the inside handle cover from the door trim.

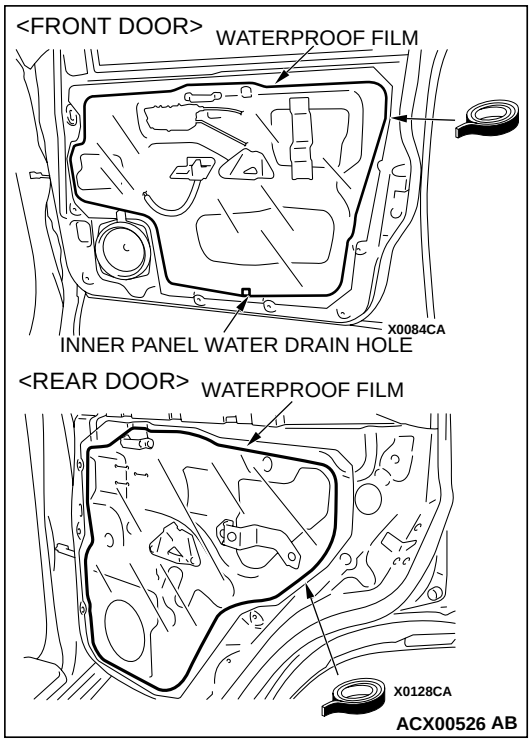
INSTALLATION SERVICE POINT

>>A<< WATERPROOF FILM INSTALLATION

⚠ CAUTION

Be sure to apply the sealant below the inner panel water drain holes so as not to plug them.

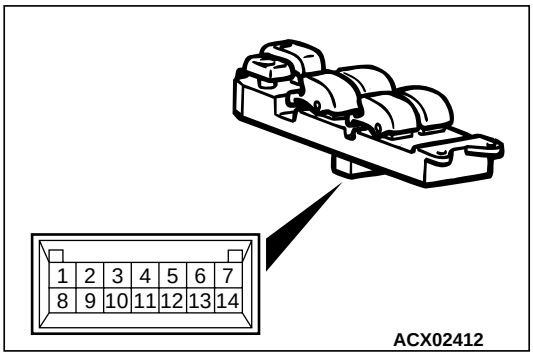
1. Install the escutcheon and the clip to the regulator handle.
2. Fully close the front door glass, and install the regulator handle so that it faces as shown in the illustration.



INSPECTION

M1421007600354

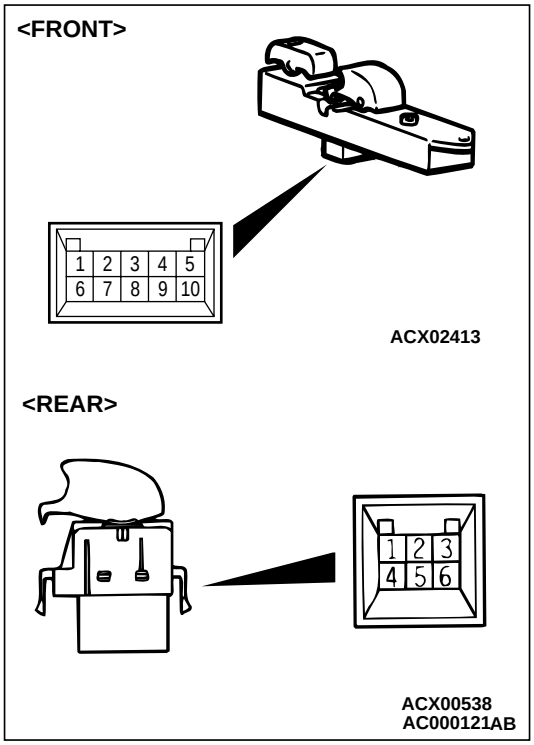
POWER WINDOW SWITCH CONTINUITY CHECK



POWER WINDOW MAIN SWITCH CHECK

SWITCH POSITION		TESTER CONNECTION	SPECIFIED CONDITION
FRONT (LH)	UP	5 – 7, 3 – 8	Less than 2 ohms
	OFF	3 – 7, 3 – 8, 7 – 8	
	DOWN	5 – 8, 3 – 7	
FRONT (RH)	UP	5 – 14, 1 – 3*	
	OFF	1 – 14, 1 – 3*, 3 – 14	
	DOWN	1 – 5, 3 – 14*	
REAR (LH)	UP	5 – 13, 3 – 6*	
	OFF	6 – 13, 3 – 6*, 3 – 13*	
	DOWN	5 – 6, 3 – 13*	
REAR (RH)	UP	2 – 5, 3 – 9*	
	OFF	2 – 9, 2 – 3*, 3 – 9*	
	DOWN	5 – 9, 2 – 3*	

*NOTE: *:Set switch to UNLOCK position.*



POWER WINDOW SUB SWITCH CHECK

SWITCH POSITION		TESTER CONNECTION	SPECIFIED CONDITION
FRONT	UP	5 – 8, 6 – 10	Less than 2 ohms
	OFF	4 – 8, 6 – 10	
	DOWN	5 – 6, 4 – 8	
REAR (LH)	UP	4 – 6, 1 – 2	
	OFF	5 – 6, 1 – 2	
	DOWN	1 – 4, 5 – 6	
REAR (RH)	UP	4 – 6, 1 – 2	
	OFF	5 – 6, 1 – 2	
	DOWN	1 – 4, 5 – 6	

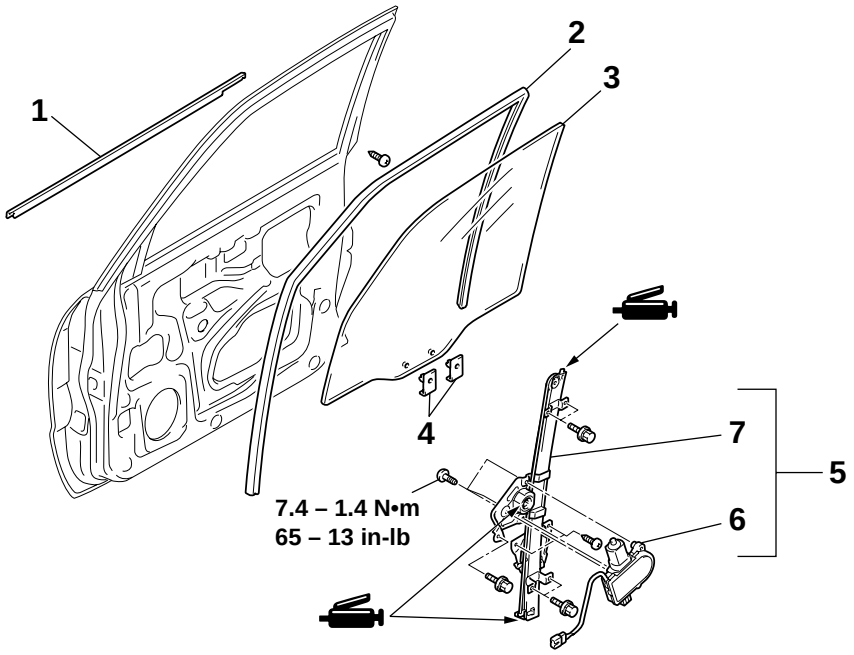
DOOR GLASS AND REGULATOR

REMOVAL AND INSTALLATION

M1429001300230

<FRONT DOOR>

Pre-removal Operation	Post-installation Operation
• Door Trim and Waterproof Film Removal (Refer to P.42-30.)	• Door Trim and Waterproof Film Removal (Refer to P.42-30.) • Door Window Glass Adjustment (Refer to P.42-26.)



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DOOR WINDOW GLASS REMOVAL STEPS

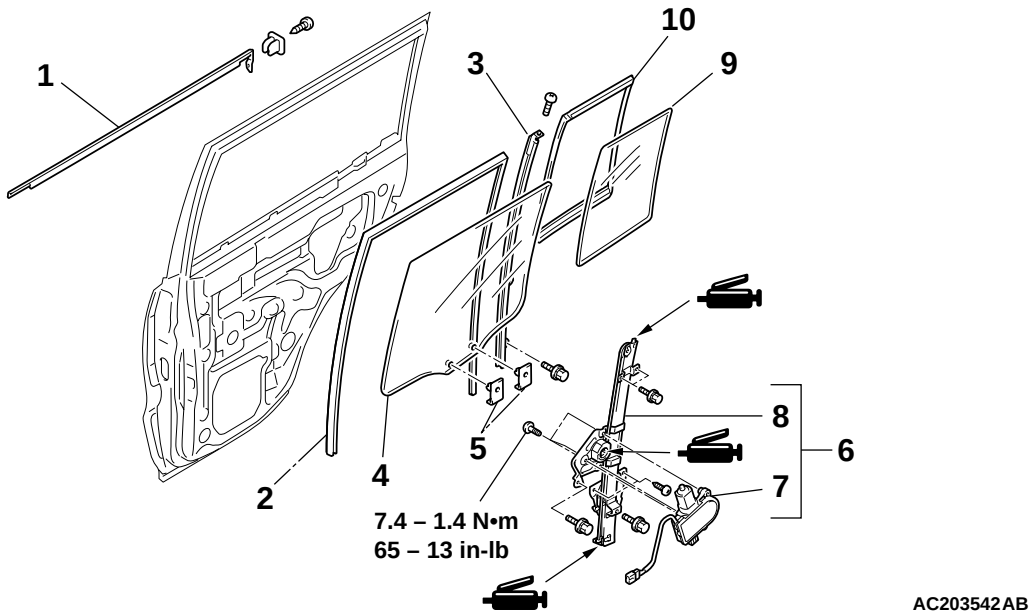
1. DOOR BELT LINE MOLDING ASSEMBLY
2. POWER WINDOW GLASS RUNCHANNEL
3. DOOR WINDOW GLASS
4. GLASS HOLDER

FRONT WINDOW REGULATOR ASSEMBLY REMOVAL STEPS

5. POWER WINDOW REGULATOR AND MOTOR ASSEMBLY
6. POWER WINDOW MOTOR ASSEMBLY
7. POWER WINDOW REGULATOR ASSEMBLY

<REAR DOOR>

Pre-removal Operation	Post-installation Operation
• Door Trim and Waterproof Film Removal (Refer to P.42-30.)	• Door Trim and Waterproof Film Installation (Refer to P.42-30.) • Door Window Glass Adjustment (Refer to P.42-26.)

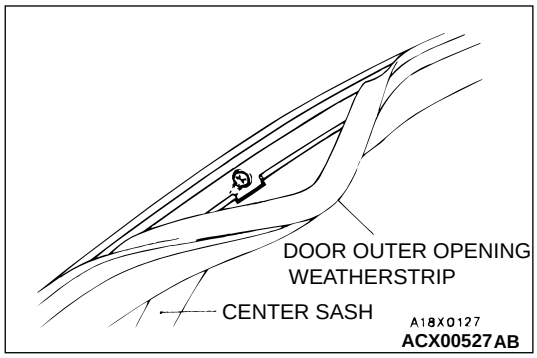


REMOVAL STEPS
1. DOOR BELTLINE MOLDING ASSEMBLY
2. DOOR WINDOW GLASS RUNCHANNEL

<<A>> 3. DOOR CENTER SASH
4. REAR DOOR WINDOW GLASS
5. DOOR GLASS HOLDER
6. POWER WINDOW REGULATOR AND MOTOR ASSEMBLY

REMOVAL STEPS (Continued)
7. POWER WINDOW MOTOR ASSEMBLY
8. POWER WINDOW REGULATOR ASSEMBLY
9. STATIONARY WINDOW GLASS
10. STATIONARY WINDOW WEATHERSTRIP

REMOVAL SERVICE POINT



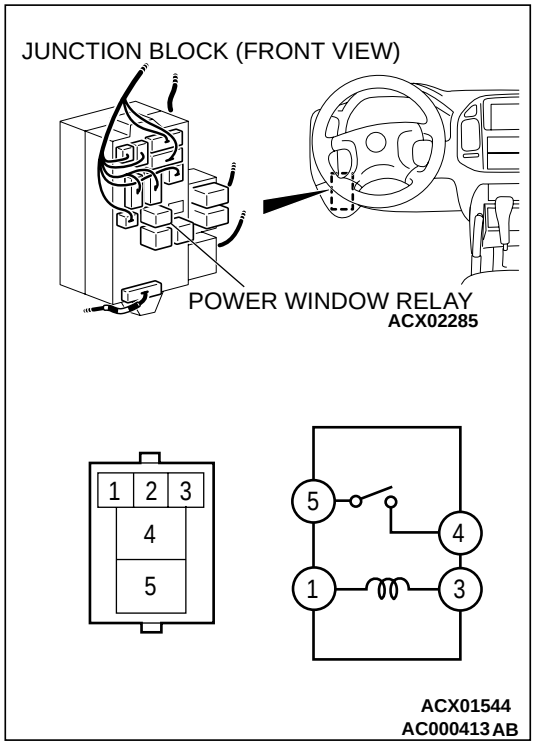
<<A>> DOOR CENTER SASH REMOVAL (REAR DOOR)
1. Remove the door outer opening weatherstrip from the door center sash section only.
2. Remove the mounting screw for the door center sash, and remove the door center sash from the door panel.

TSB Revision

INSPECTION

M1421007600365

POWER WINDOW RELAY CONTINUITY CHECK



BATTERY CONNECTION	TESTER CONNECTION	SPECIFIED CONDITION
Not applied	4 – 5	Open circuit
• Connect terminal 1 to the negative battery terminal • Connect terminal 3 to the positive battery terminal		Less than 2 ohms

POWER WINDOW MOTOR CHECK

1. Connect a battery directly to the motor terminals and check that the motor runs smoothly.
2. Check that the motor runs in the opposite direction when the battery is connected with the polarity reversed.
3. If defect is found, replace the window regulator as an assembly.

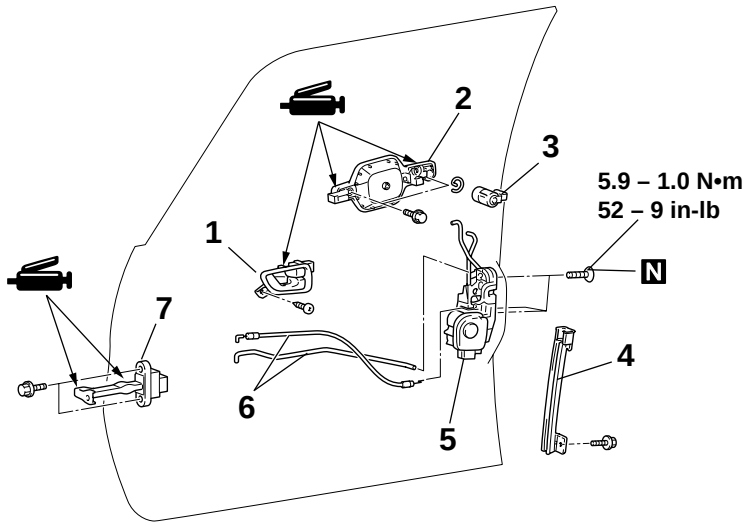
DOOR HANDLE AND LATCH

REMOVAL AND INSTALLATION

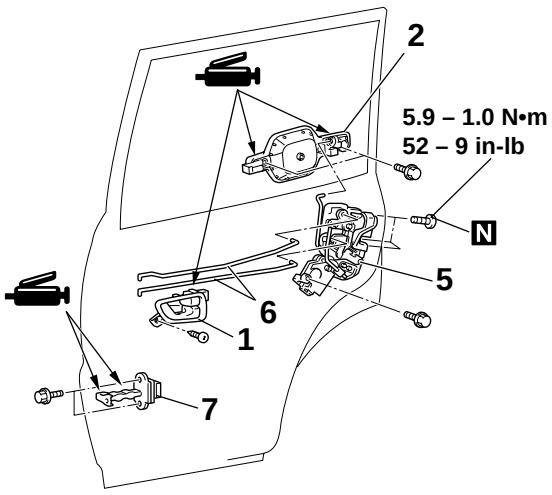
M1423004600243

Pre-removal Operation	Post-installation Operation
• Door Trim Removal (Refer to P.42-30.)	• Door Inside Handle Play Check (Refer to P.42-27.) • Door Outside Handle Play Check (Refer to P.42-27.) • Door Trim Installation (Refer to P.42-30.) • Door Fit Adjustment (Refer to P.42-26.)

<FRONT DOOR>



<REAR DOOR>



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DOOR HANDLE AND DOOR LATCH ASSEMBLY REMOVAL STEPS

>>C<< 1. DOOR INSIDE HANDLE
- WATERPROOF FILM (REFER TO P.42-30.)

2. DOOR OUTSIDE HANDLE
3. DOOR LOCK KEY CYLINDER

>>B<< 4. REAR LOWER SASH

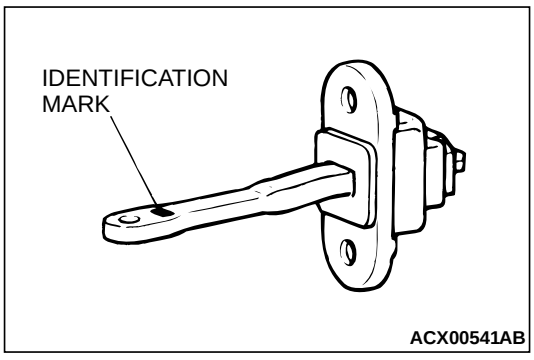
DOOR HANDLE AND DOOR LATCH ASSEMBLY REMOVAL STEPS

5. DOOR LATCH ASSEMBLY
6. LINK ASSEMBLY

DOOR CHECK REMOVAL STEPS

- WATERPROOF FILM (REFER TO P.42-30.)

>>A<< 7. DOOR CHECK



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INSTALLATION SERVICE POINT

>>A<< DOOR CHECK INSTALLATION

Install the door check so that the identification mark faces upwards.

ITEM		IDENTIFICATION MARK
Front Door	Left door	20L
	Right door	20R
Rear Door	Left door	26L
	Right door	26R

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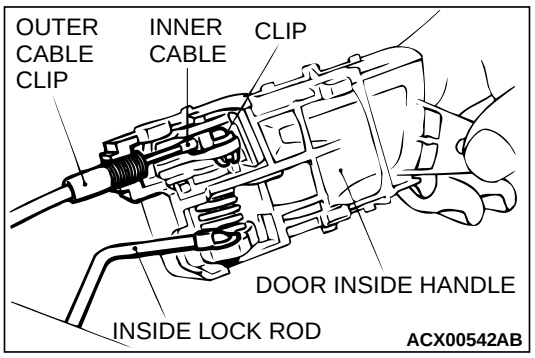
>>B<< REAR LOWER SASH INSTALLATION
Securely insert the rear lower sash into the window rear sash.

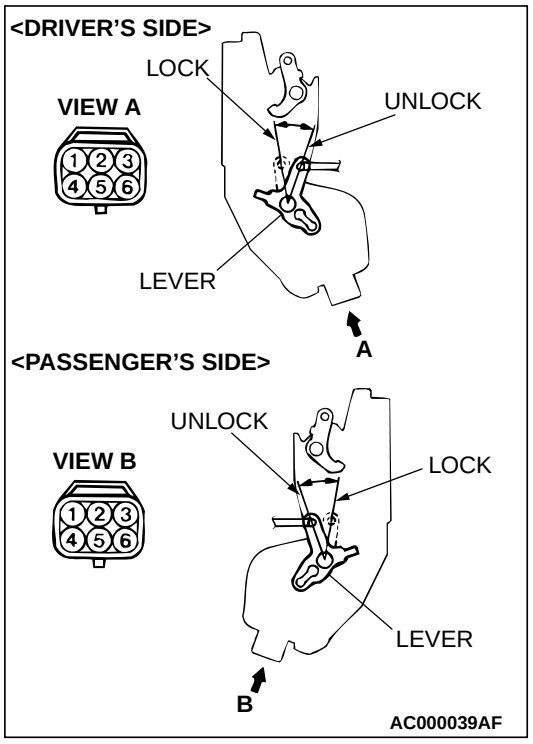


>>C<< DOOR INSIDE HANDLE INSTALLATION
1. Install the inside lock cable to the door inside handle as follows:
   (1) Install the inner cable end in the inside lock cable to the clip in the door inside handle.
   (2) Turn the inside lock knob to the door lock position.
   (3) Install the outer cable end to the door inside handle securely.
   (4) Install the clip to the inner cable.
2. Install the inside handle rod to the door inside handle.
3. Install the door inside handle to the door.

INSPECTION

M1421007600376

FRONT DOOR LOCK ACTUATOR CHECK



Actuator Operation Check <Driver's side>

LEVER POSITION	BATTERY CONNECTION	LEVER OPERATION
At the "LOCK" position	• Connect terminal 6 to the negative battery terminal • Connect terminal 4 to the positive battery terminal	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal 4 to the negative battery terminal • Connect terminal 6 to the positive battery terminal	The lever moves from the "UNLOCK" position to the "LOCK" position.

Actuator Operation Check <Passenger's side>

LEVER POSITION	BATTERY CONNECTION	LEVER OPERATION
At the "LOCK" position	• Connect terminal 4 to the negative battery terminal • Connect terminal 6 to the positive battery terminal	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal 6 to the negative battery terminal • Connect terminal 4 to the positive battery terminal	The lever moves from the "UNLOCK" position to the "LOCK" position.

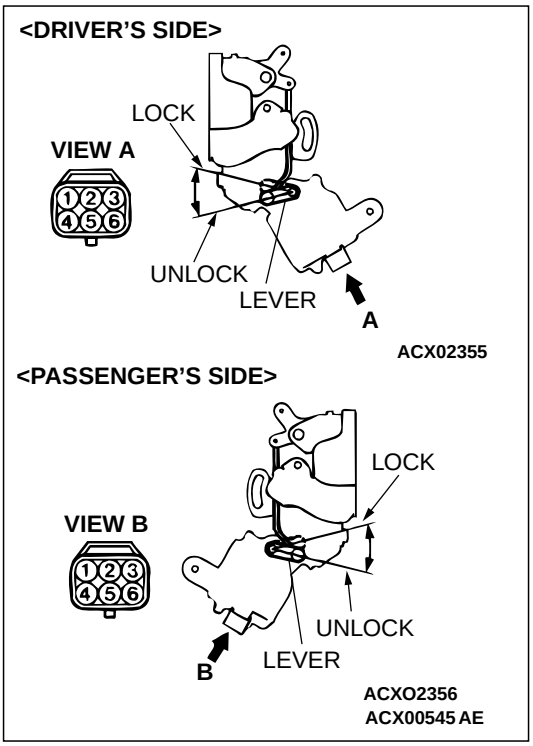
Actuator Switch Check <Driver's side>

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	1 – 3	Less than 2 ohms
UNLOCK	1 – 2	

Actuator Switch Check <Passenger's side>

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	2 – 3	Open circuit
UNLOCK		Less than 2 ohms

REAR DOOR LOCK ACTUATOR CHECK



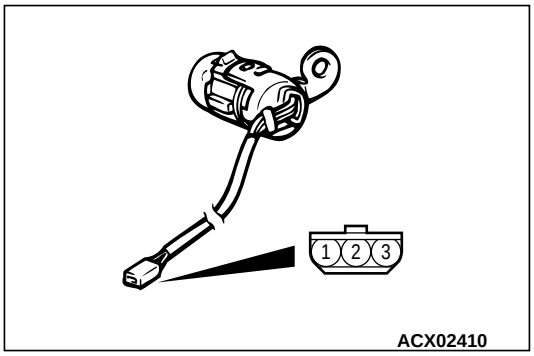
Actuator Operation Check <Driver's side>

LEVER POSITION	BATTERY CONNECTION	LEVER OPERATION
At the "LOCK" position	• Connect terminal 3 to the negative battery terminal • Connect terminal 2 to the positive battery terminal	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal 2 to the negative battery terminal • Connect terminal 3 to the positive battery terminal	The lever moves from the "UNLOCK" position to the "LOCK" position.

Actuator Operation Check <Passenger's side>

LEVER POSITION	BATTERY CONNECTION	LEVER OPERATION
At the "LOCK" position	• Connect terminal 2 to the negative battery terminal • Connect terminal 3 to the positive battery terminal	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal 3 to the negative battery terminal • Connect terminal 2 to the positive battery terminal	The lever moves from the "UNLOCK" position to the "LOCK" position.

DOOR LOCK KEY CYLINDER SWITCH CHECK



<Driver's side>

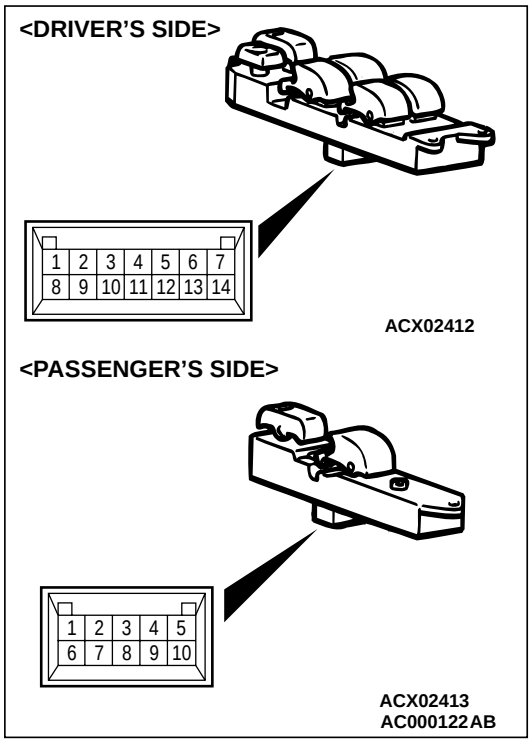
SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	2 – 3	Less than 2 ohms
NEUTRAL (OFF)	1 – 2, 1 – 3, 2 – 3	Open circuit
UNLOCK	1 – 2	Less than 2 ohms

<Passenger's side>

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	1 – 2	Less than 2 ohms
NEUTRAL (OFF)	1 – 2, 1 – 3, 2 – 3	Open circuit
UNLOCK	2 – 3	Less than 2 ohms

CENTER DOOR LOCK SWITCH CONTINUITY CHECK

Remove the power window switch. (Refer to P.42-30.)



<Driver's side>

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	3 – 12	Less than 2 ohms
OFF	3 – 10, 3 – 12, 10 – 12	No Continuity
UNLOCK	3 – 10	Less than 2 ohms

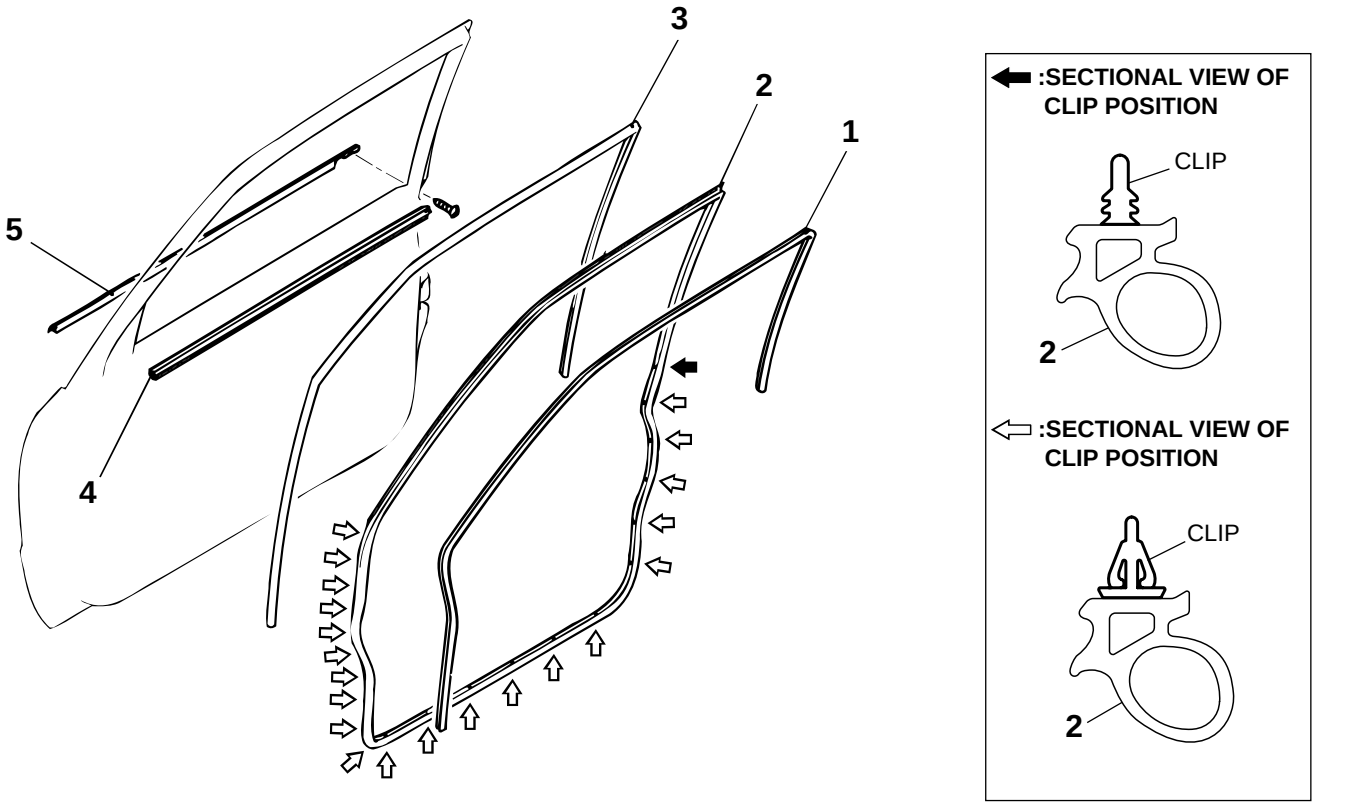
<Passenger's side>

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	1 – 2	Less than 2 ohms
OFF	1 – 2, 1 – 3, 2 – 3	No Continuity
UNLOCK	2 – 3	Less than 2 ohms

WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP

REMOVAL AND INSTALLATION <FRONT DOOR>

M1423003100212



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DOOR INNER OPENING WEATHERSTRIP REMOVAL STEPS

>>B<< 1. DOOR INNER OPENING WEATHERSTRIP
- SCUFF PLATE, CENTER PILLAR LOWER TRIM AND COWL SIDE TRIM (REFER TO GROUP 52A, TRIMS P.52A-8.)

DOOR OUTER OPENING WEATHERSTRIP REMOVAL

- FRONT DOOR CHECK MOUNTING BOLT (DOOR SIDE) (REFER TO P.42-28.)

<<A>> 2. DOOR OUTER OPENING WEATHERSTRIP

DOOR WINDOW GLASS RUNCHANNEL REMOVAL STEPS

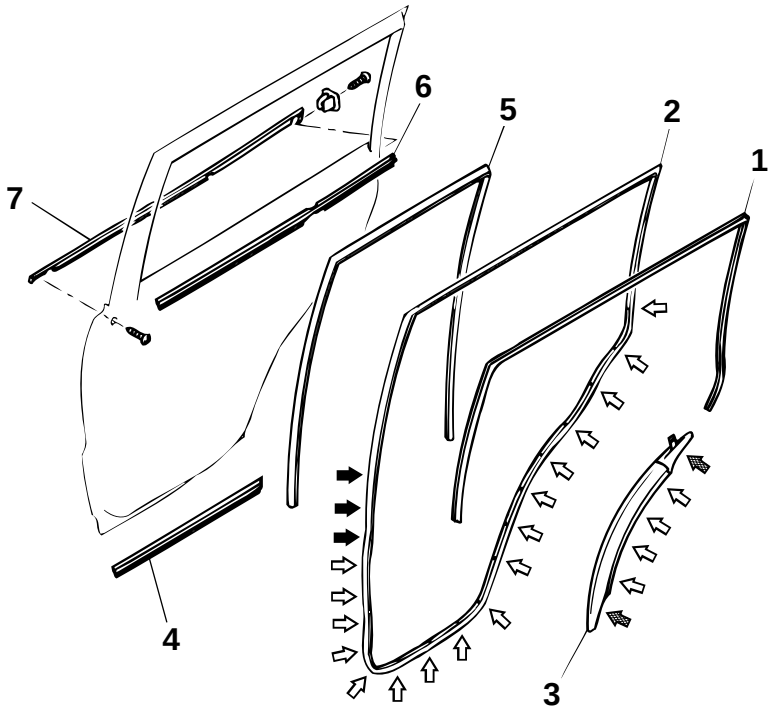
3. DOOR WINDOW GLASS RUNCHANNEL
- FRONT DOOR TRIM (REFER TO P.42-30.)

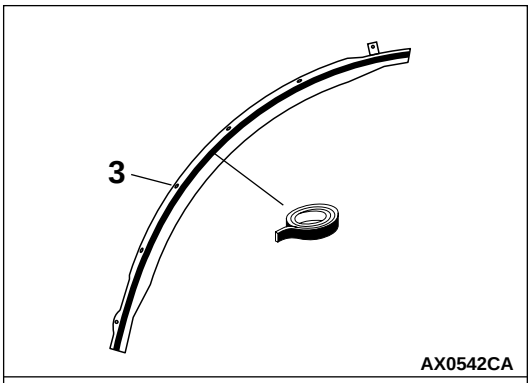
>>A<< 4. DOOR BELTLINE INNER WEATHERSTRIP

DOOR BELTLINE MOLDING REMOVAL STEPS

5. DOOR BELTLINE MOLDING

REMOVAL AND INSTALLATION <REAR DOOR>

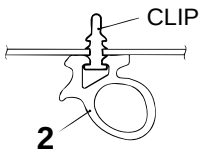




ADHESIVE TAPE:
DOUBLE-SIDED TAPE [23 mm (0.9 inch) WIDTH AND 0.8 mm (0.03 inch) THICKNESS]

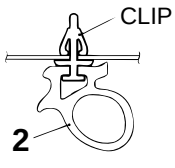
AC203990AB

:SECTIONAL VIEW OF CLIP POSITION

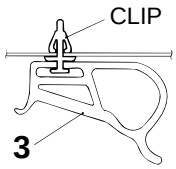


AX0540CA

:SECTIONAL VIEW OF CLIP POSITION

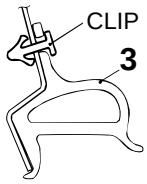


AX0541CA

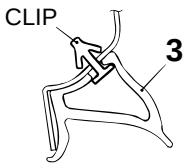


AX0543CA

:SECTIONAL VIEW OF CLIP POSITION



AX0544CA



AX0545CA

DOOR INNER OPENING WEATHERSTRIP REMOVAL STEPS

>>B<< 1. DOOR INNER OPENING WEATHERSTRIP
- CENTER PILLAR LOWER TRIM (REFER TO GROUP 52A, TRIMS P.52A-8.)

DOOR OUTER OPENING WEATHERSTRIP REMOVAL
- REAR DOOR CHECK MOUNTING BOLT (DOOR SIDE) (REFER TO P.42-28.)

<<A>> 2. DOOR OUTER OPENING WEATHERSTRIP

DOOR OUTER OPENING WEATHERSTRIP REMOVAL

3. DOOR OUTER OPENING LOWER WEATHERSTRIP
4. DOOR OUTER OPENING FRONT WEATHERSTRIP

DOOR WINDOW GLASS RUNCHANNEL REMOVAL STEPS

>>A<< 5. DOOR WINDOW GLASS RUNCHANNEL
- REAR DOOR TRIM (REFER TO P.42-30.)

6. DOOR BELTLINE INNER WEATHERSTRIP

DOOR BELTLINE MOLDING REMOVAL STEPS

7. DOOR BELTLINE MOLDING

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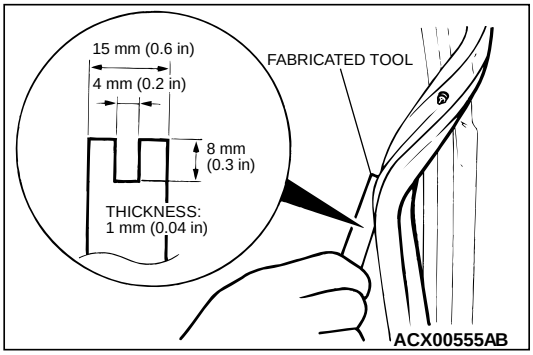
REMOVAL SERVICE POINT



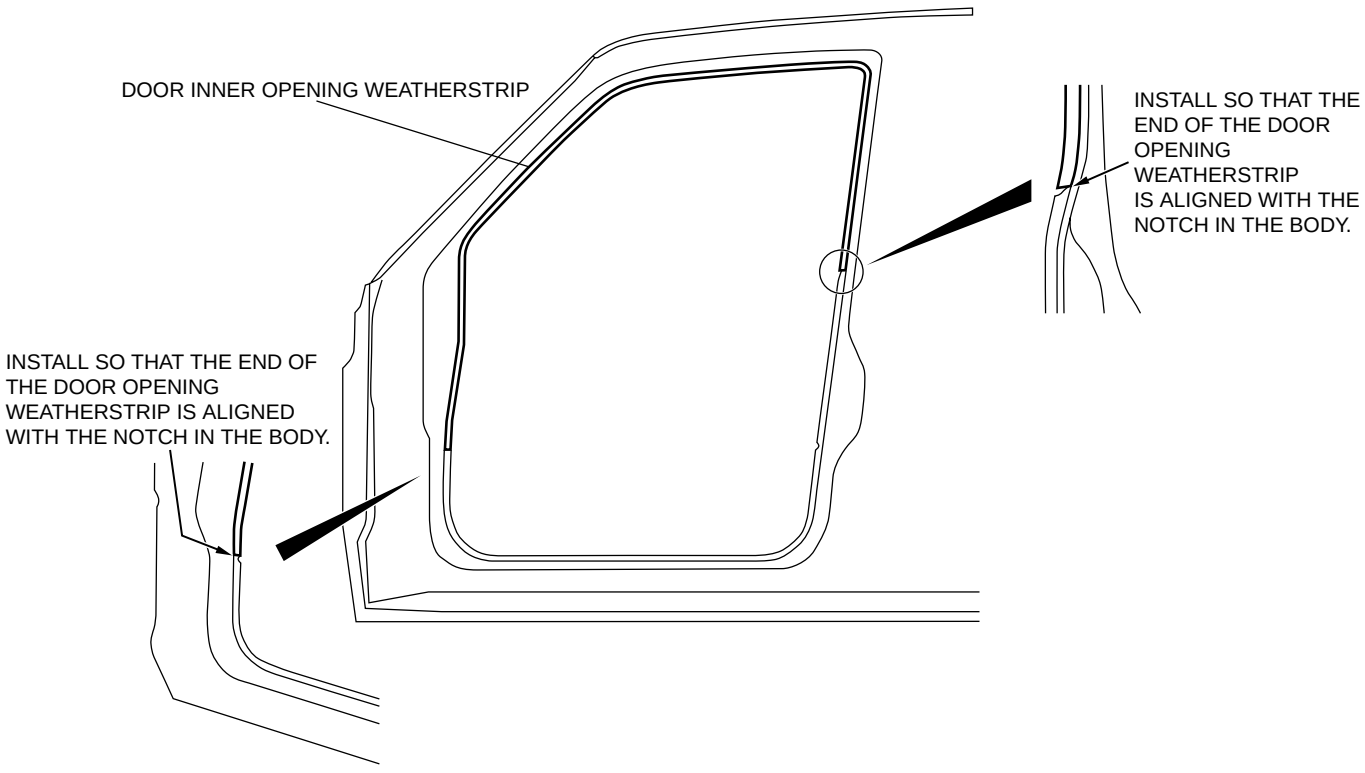
<<A>> DOOR OUTER OPENING WEATHERSTRIP REMOVAL
Make a tool as shown and remove the door opening weatherstrip.

INSTALLATION SERVICE POINT

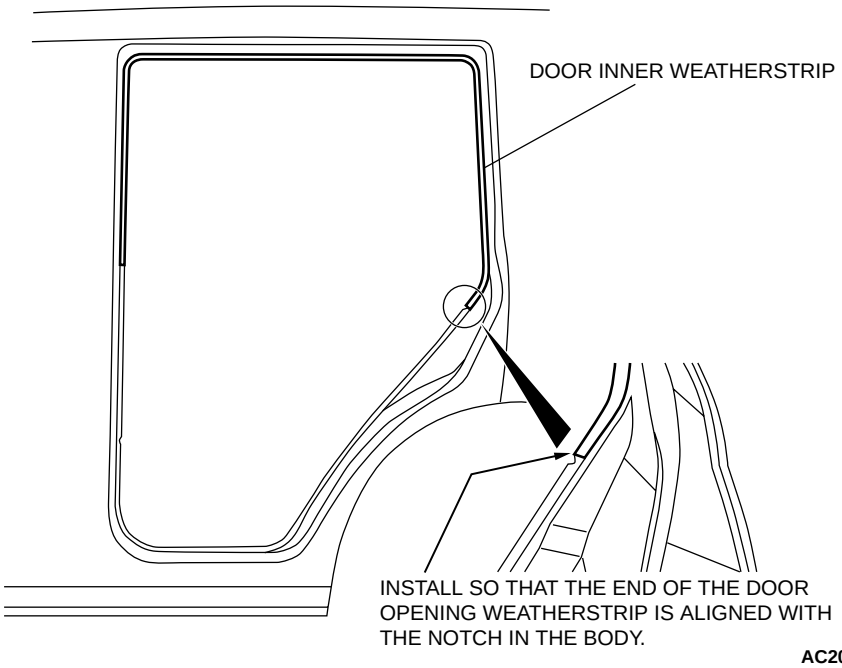
>>A<< MOUNTING OF DOOR WINDOW GLASS CHANNEL
Remove the waterproof film when mounting the door window glass channel.

>>B<< MOUNTING OF DOOR INNER OPENING WEATHER STRIP
Mount the door inner opening weather strip to the locations specified below.

<FRONT DOOR>



<REAR DOOR>



BACK DOOR ASSEMBLY

BACK DOOR DIAGNOSIS

INTRODUCTION TO BACK DOOR DIAGNOSIS

M1423007300047

Refer to P.42-20.

BACK DOOR DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1423006700053

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a back door fault.

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

SYMPTOM CHART

M1423007000273

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Door hard to open	1	P.42-48
Door does not open or close completely	2	P.42-48
Uneven gap between body	3	P.42-48

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Door Hard to Open

DIAGNOSIS

STEP 1. Adjust the latch and striker engagement.
(Refer to P.42-49.)

Q: Is the latch and striker engagement adjusted?
YES : Go to Step 2.
NO : Adjust the latch and striker engagement (Refer to P.42-49). Then go to Step 4.

STEP 2. Check for possible lock rod damage.

Q: Is the possible lock rod damaged?
YES : Repair or replace the possible lock rod, then go to Step 4.
NO : Go to Step 3.

STEP 3. Check door handle flexibility (amount of movement of handle required to open door).

Q: Is the door handle flexibility good?
YES : Go to Step 4.
NO : Adjust the door handle flexibility (Refer to P.42-49). Then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Door does not Open or Close Completely

DIAGNOSIS

STEP 1. Check the door hinge position.

Q: Is the door hinge position correct?
YES : Go to Step 2.
NO : Adjust the door hinge position (Refer to P.42-49). Then go to Step 4.

STEP 2. Check the door.

Q: Is the door in good condition?
YES : Go to Step 3.
NO : Repair or replace the door, then go to Step 4.

STEP 3. Check the grease.

Q: Is the door check or door hinge grease sufficient?
YES : Go to Step 4.
NO : Apply the grease, then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open and close correctly?
YES : The procedure is complete.
NO : Return to Step 1.

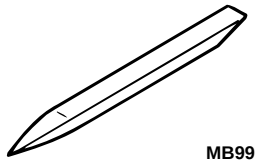
INSPECTION PROCEDURE 3: Uneven Gap between Body

DIAGNOSIS

Adjust the door fit (Refer to P.42-49). Then check that the gap has been improved.

SPECIAL TOOL

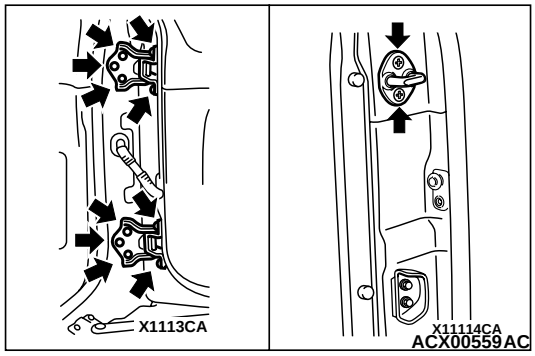
M1423000600252

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB990784	MB990784 Ornament remover	General service tool	Removal of back door trim

ON-VEHICLE SERVICE

BACK DOOR FIT ADJUSTMENT

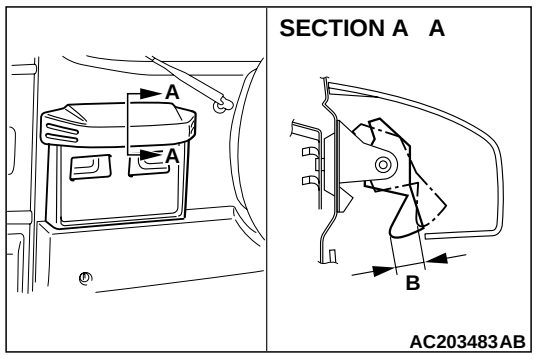
M1423001700025



1. If the striker and latch mesh badly, move the striker forward and backward or right and left to adjust.
2. If uneven clearance is present between back door and body, reposition the hinge and striker and/or change the thickness of shim (change the number of shim) to adjust the clearance.

BACK DOOR HANDLE PLAY CHECK

M1423007600048



1. Check the Back Door handle play.

   Standard value (B): 2.3 mm (0.09 inch)

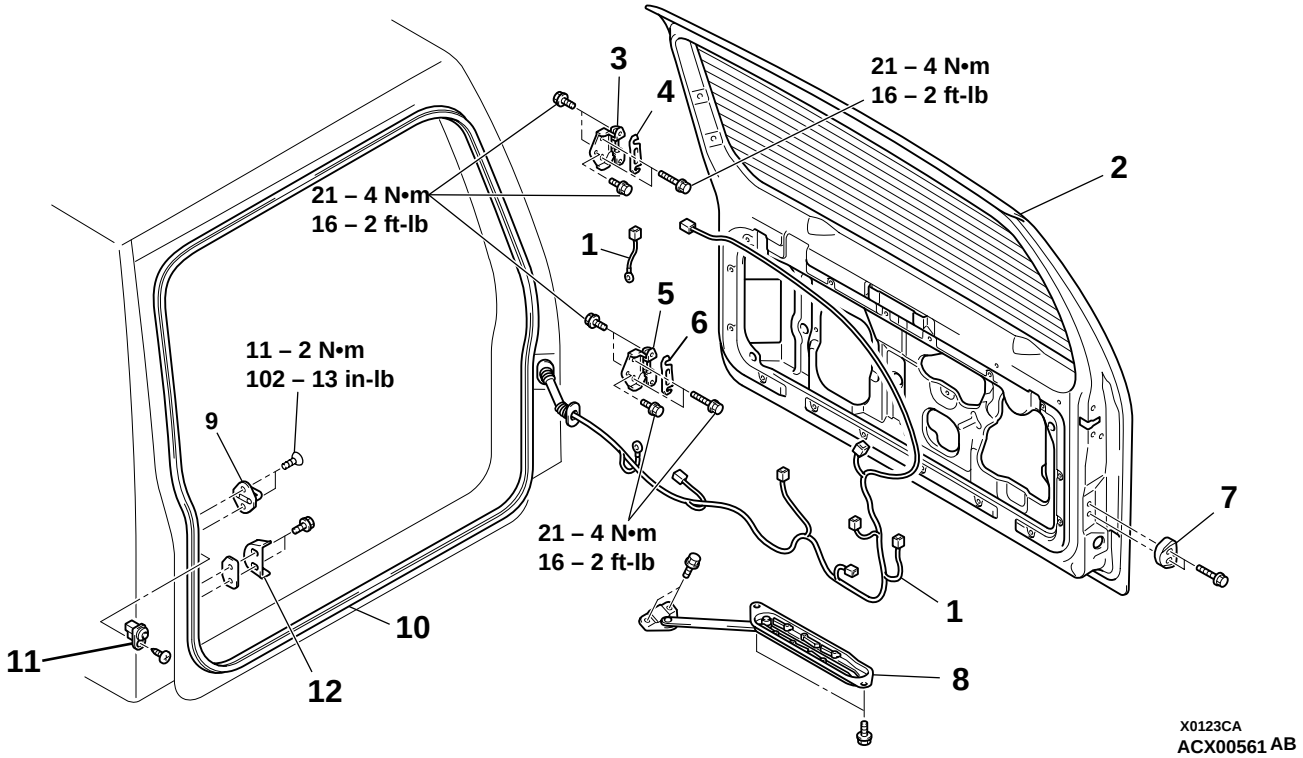
2. If the back door handle play is not within the standard value, check the back door handle and door latch assembly. Replace if necessary.

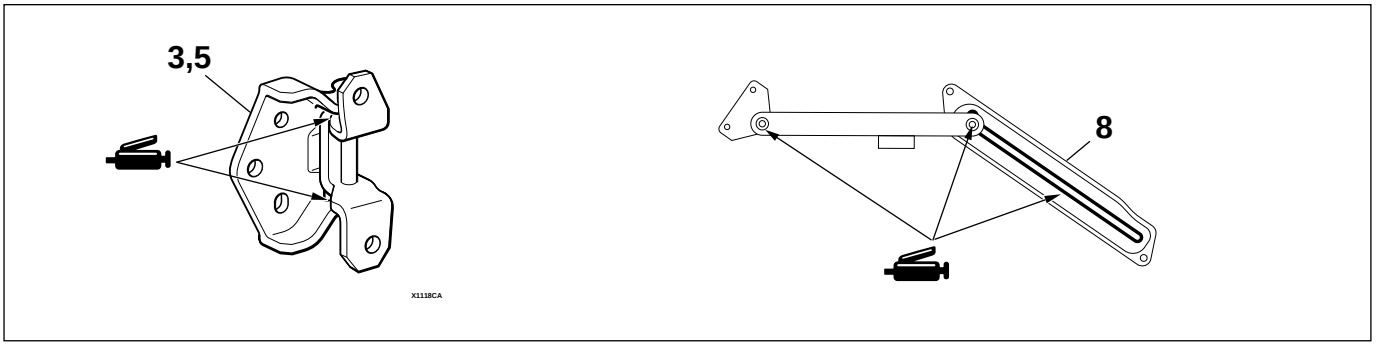
BACK DOOR ASSEMBLY

REMOVAL AND INSTALLATION

M1423005200055

Pre-removal Operation	Post-installation Operation
• High-mounted Stop Light Removal (Refer to GROUP 54A P.54A-79.) • Spare Tire Removal	• High-mounted Stop Light Installation (Refer to GROUP 54A P.54A-79.) • Spare Tire Installation • Back Door Fit Adjustment (Refer to P.42-49.)





REMOVAL STEPS
- BACK DOOR TRIM AND WATERPROOF FILM (Refer to P.42-52.)

1. HARNESS CONNECTOR
2. BACK DOOR ASSEMBLY
3. BACK DOOR UPPER HINGE
4. SHIM
5. BACK DOOR LOWER HINGE

REMOVAL STEPS (Continued)

6. SHIM
7. DAMPER MALE
8. BACK DOOR STOPPER

>>B<< 9. STRIKER

>>A<< 10. BACK DOOR OPENING WEATHERSTRIP

11. DOOR SWITCH
12. BACK DOOR BUMPER FEMALE

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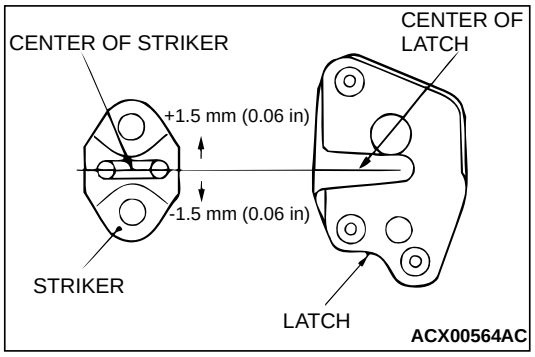
INSTALLATION SERVICE POINTS

>>A<< BACK DOOR OPENING WEATHERSTRIP INSTALLATION

Align the marking section on the back door opening weatherstrip with the center of the body.

>>B<< STRIKER INSTALLATION

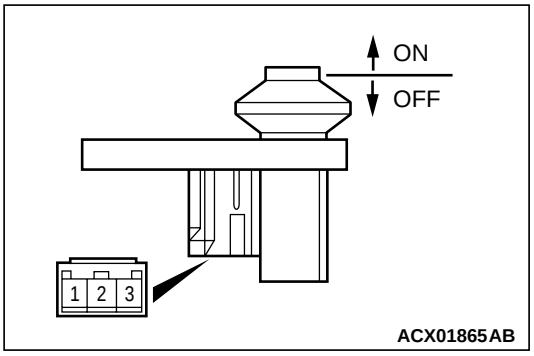
Install the striker so that the striker center does not deviate more than 1.5 mm (0.06 inch) from the latch center.



INSPECTION

M1421007600387

BACK DOOR SWITCH CHECK

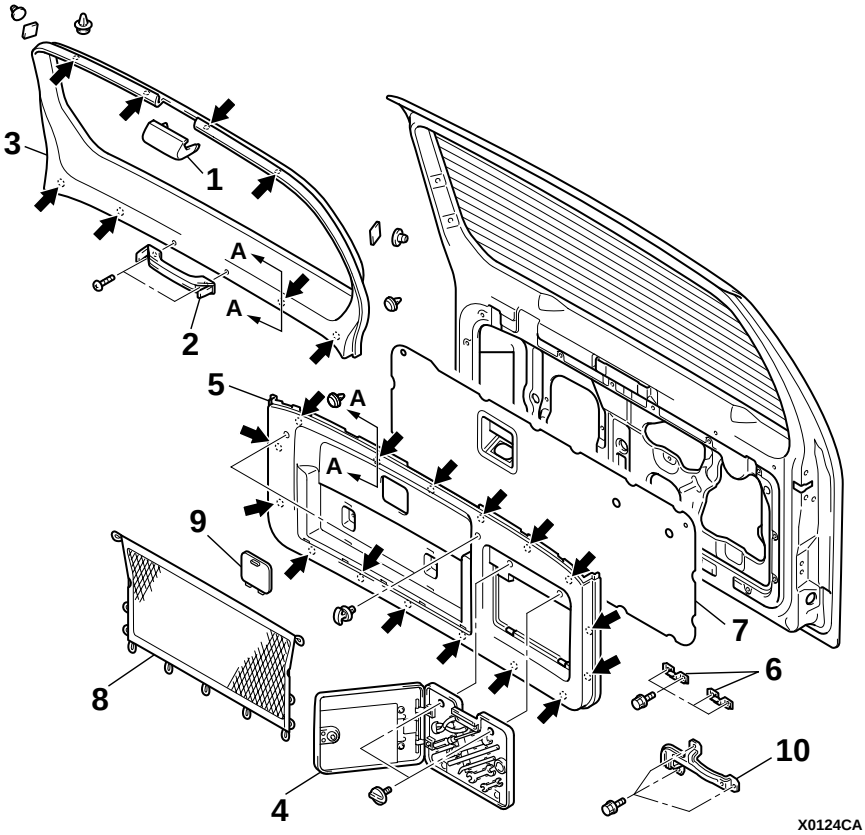


SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Open (ON)	1 – switch body, 2 – switch body	Less than 2 ohms
Depressed (OFF)		Open circuit

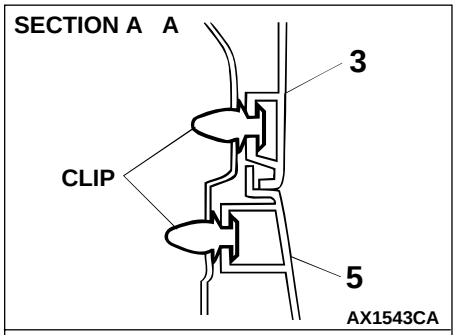
BACK DOOR TRIM AND WATERPROOF FILM

REMOVAL AND INSTALLATION

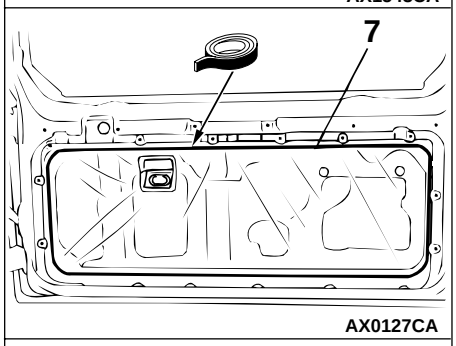
M1423005500056



X0124CA



AX1543CA



AX0127CA

ADHESIVE TAPE:
3M ADD PART No. 8625 OR EQUIVALENT

AC204018AB

: CLIP POSITIONS

BACK DOOR TRIM REMOVAL STEPS

1. HIGH MOUNTED STOPLIGHT COVER
   - HIGH MOUNTED STOPLIGHT (REFER TO GROUP 54 P.54A-79.)

>>A<< 2. DOOR PULL HANDLE

3. BACK DOOR UPPER TRIM
4. TOOL BOX ASSEMBLY

BACK DOOR TRIM REMOVAL STEPS (Continued)

5. BACK DOOR UPPER TRIM (LH)
6. TOOL BOX BRACKET LOWER (RH)
7. WATERPROOF FILM
8. BACK DOOR LID
9. WASHER TANK LID
10. TOOL BOX BRACKET UPPER

INSTALLATION SERVICE POINT

>>A<< DOOR PULL HANDLE INSTALLATION

Mount the door pull handle with its arrow mark at the back pointing upward.

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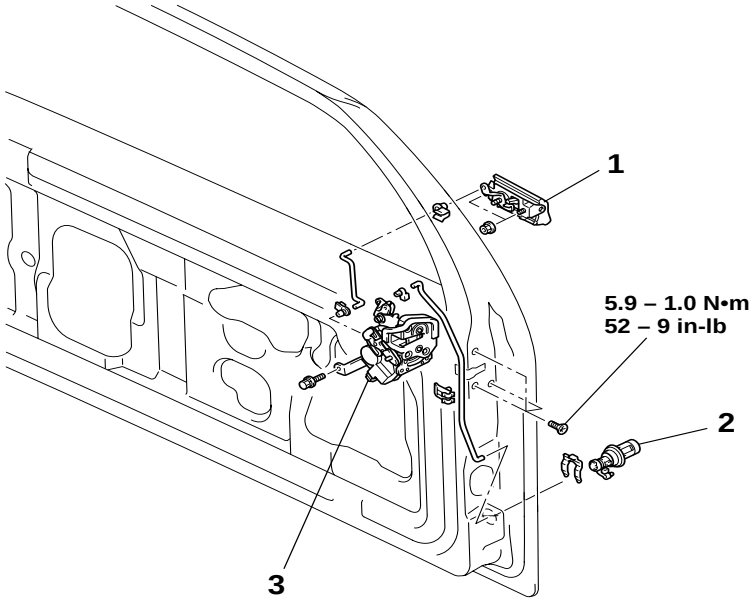
BACK DOOR HANDLE AND LATCH

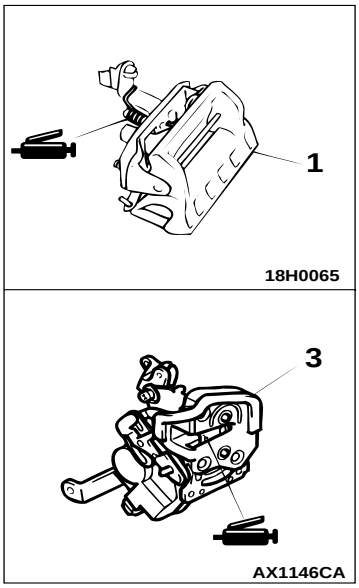
REMOVAL AND INSTALLATION

M1423005800024

Post-installation Operation
- Outside Handle Play Inspection (Refer to P.42-49.)



AX0129CA



ACX00569AB

BACK DOOR HANDLE AND LOCK KEY CYLINDER REMOVAL STEPS
- BACK DOOR TRIM AND WATERPROOF FILM
- BACK DOOR GARNISH (REFER TO GROUP 51 P.51-14.)

1. BACK DOOR HANDLE
2. BACK DOOR LOCK KEY CYLINDER

BACK DOOR LATCH REMOVAL STEPS
- BACK DOOR TRIM AND WATERPROOF FILM (REFER TO P.42-52.)

3. BACK DOOR LATCH ASSEMBLY

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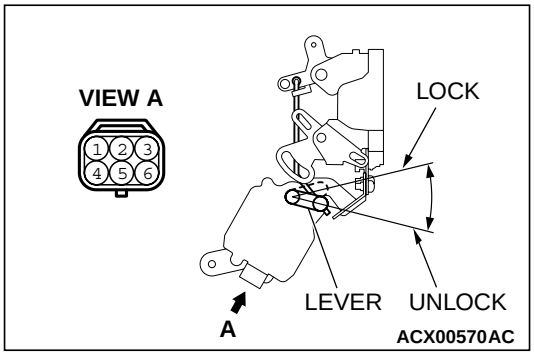
INSPECTION

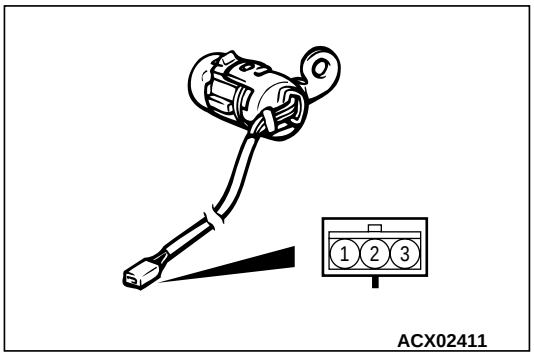
M1421007600398

BACK DOOR LOCK ACTUATOR CHECK



LEVER POSITION	BATTERY CONNECTION	LEVER OPERATION
At the "LOCK" position	• Connect terminal 3 to the positive battery terminal • Connect terminal 2 to the negative battery terminal	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal 3 to the negative battery terminal • Connect terminal 2 to the positive battery terminal	The lever moves from the "UNLOCK" position to the "LOCK" position.

BACK DOOR LOCK KEY CYLINDER SWITCH CHECK



SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	1 – 2	Less than 2 ohms
NEUTRAL (OFF)	1 – 2, 1 – 3, 2 – 3	Open circuit
UNLOCK	2 – 3	Less than 2 ohms

KEYLESS ENTRY SYSTEM

GENERAL DESCRIPTION

M1428000100188

Some models are equipped with a keyless entry system. The main features are:

- Antenna and receiver are incorporated in the ETACS-ECU.
- ID code can be registered by using the scan tool (MUT-II).
- Transmitter is a key holder type, which incorporates lock switch, unlock switch, and panic switch.
- The locking is answered back by two times' flashing of the dome light, two times' flashing of the turn signal lights and one time sounding of the horn answerback.
- The unlocking is answered back by illuminating of the dome light for 15 seconds and one time flashing of the turn signal lights.

KEYLESS ENTRY SYSTEM DIAGNOSIS

M1428000700027

The keyless entry system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to Group 54B, Diagnosis P.54Bb-2.

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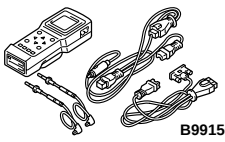
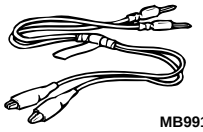
SPECIAL TOOLS

M1428000600020

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 B991502	MB991502 Scan tool (MUT-II)	MB991496-OD	For checking of keyless entry system [Input signal check]
 MB991529	MB991529 Diagnostic trouble code check harness	Tool not necessary if scan tool (MUT-II) is available	For checking of keyless entry system [Input signal check]

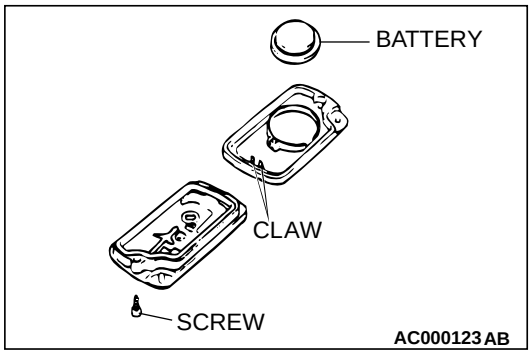
ON-VEHICLE SERVICE

HOW TO REPLACE THE TRANSMITTER BATTERY

M1428000900173

⚠ CAUTION

Do not allow water or dust to enter the inside of the transmitter when it is open. Also, do not touch the electronic device inside.



1. Remove the set screw to remove the battery from the transmitter.
2. Install a battery with its (+) side face-down.

   Battery required for replacement: Coin type battery CR2032
3. Insert the claw first, taking with care not to displace the O-ring, and assemble the transmitter.
4. Verify that the keyless entry system operates.

ENABLING/DISABLING THE ANSWERBACK FUNCTION

M1428003200010

If the keyless entry system locks or unlocks the doors, the dome light flashes or illuminates, the hazard warning light flashes (hazard answerback function) and the horn sounds (horn answerback function). The hazard and horn answerback functions can be enabled or disabled according to the following procedure:

ENABLING/DISABLING THE HAZARD ANSWERBACK FUNCTION

The hazard answerback function can be enabled or disabled by one of the two following procedures.

<When the transmitter is used after connecting scan tool MB991502 to the data link connector or grounding data link connector terminal (1)>
Refer to GROUP 54B, SWS – On-vehicle Service P.54Ba-26.

<When only the transmitter is used>

1. Remove the ignition key.
2. Push the "LOCK" switch while holding the "UNLOCK" switch pushed for four to ten seconds.
3. If the "LOCK" switch and "UNLOCK" switch are released in that order, the ETACS-ECU tone alarm will sound, indicating that the hazard answerback function can be enabled or disabled when the doors are locked.
    - **Enable the hazard answerback function when the doors are locked: The ETACS-ECU tone alarm will sound once.**
    - **Disable the hazard answerback function when the doors are locked: The ETACS-ECU tone alarm will sound twice.**
4. If the "UNLOCK" switch and "LOCK" switch are released in that order, the ETACS-ECU tone alarm will sound, indicating that the hazard answerback function can be enabled or disabled when the door are unlocked.
    - **Enable the hazard answerback function when the doors are unlocked: The ETACS-ECU tone alarm will sound once.**
    - **Disable the hazard answerback function when the doors are unlocked: The ETACS-ECU tone alarm will sound twice.**

ENABLING/DISABLING THE HORN ANSWERBACK FUNCTION

1. Remove the ignition key.
2. Push the "UNLOCK" switch while holding the "LOCK" switch pushed for four to ten seconds.
3. If the "LOCK" switch and "UNLOCK" switch are released at the same time, the ETACS-ECU tone alarm will sound, indicating that the horn answerback function can be enabled or disabled.
    - **Enable the horn answerback function: The ETACS-ECU tone alarm will sound once.**
    - **Disable the horn answerback function: The ETACS-ECU tone alarm will sound twice.**

SECRET CODE REGISTRATION METHOD

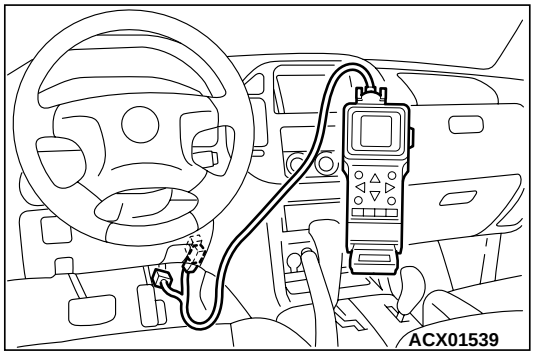
M1428001000195

Each individual secret code is registered inside the transmitter, and so it is necessary to resister these codes with the EEPROM inside the receiver in the following cases.

- When the transmitter or ETACS-ECU is replaced
- If more transmitters are to be used

- If it appears that a problem is occurring because of faulty registration of a code.

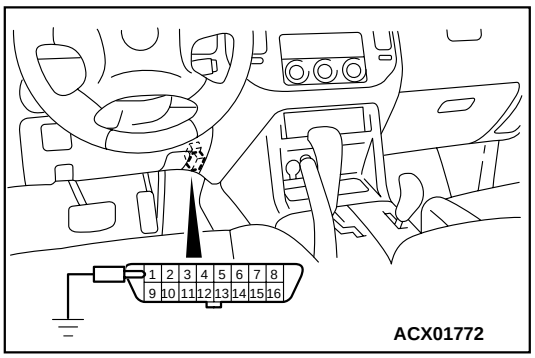
A maximum of four different codes can be stored in the EEPROM memory (four different transmitters can be used). When the code for the first transmitter is registered, the previously registered codes for all transmitters are cleared. Therefore, if you are using two or more transmitters or are adding more transmitters, the codes for all transmitters must be registered at the same time.


ACX01539

1. Check that the doors lock normally when the key is used.
2. Insert the ignition key.

⚠ CAUTION

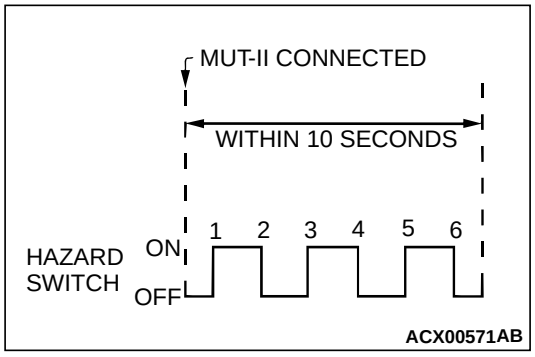
To prevent damage to scan tool MB991502, always turn the ignition switch to "LOCK"(OFF) position before connecting or disconnecting scan tool MB991502.



ACX01772

3. Connect the scan tool to the data link connector. If the scan tool is not used, ground terminal (1) of the data link connector.

   NOTE: This will connect terminal (1) of the data link connector to ground, and the system will be in secret code registration standby mode.



ACX00571AB

4. Press the hazard switch six times within 10 seconds.

   NOTE: At this time the code registration monitor request is output (all doors locked and unlocked) and becomes registration mode.

   NOTE: The hazard warning light switch is turned on and off alternately whenever it is pushed.
5. Press the transmitter switch, and then press it two times within 10 seconds of the first press. This will register the code.
6. When registration is completed, the code registration monitor request is output (all doors locked and unlocked).
7. If you are using two or more transmitters or have added a second transmitter, the same registration procedure should be carried out within one minute after registering the code for the first transmitter. After the second registration is completed, the code registration monitor request is output (all doors locked and unlocked).
8. Registration mode will be canceled under the following conditions:
   - When the secret code for four transmitters has been registered;
   - When one minute has been passed after registration mode started;
   - When scan tool MB991502 is disconnected (the ground connection is broken);
   - When the key is removed from the key cylinder;

9. After the registration is completed, remove the ignition key, close all of the doors, and then check that the keyless entry system operates normally.

KEYLESS ENTRY SYSTEM REMOVAL AND INSTALLATION

M1428001300022

Refer to GROUP 54 for the removal and the installation of ETACS-ECU P.54A-71.

SUNROOF ASSEMBLY

GENERAL DESCRIPTION

M1426000100182

A motor-driven inner slide-type glass sunroof with a tilt-up mechanism is provided as an option. Even when the sunroof is fully closed, a sufficient amount of lighting and a feeling of openness can still be obtained by opening the sunroof sunshade.

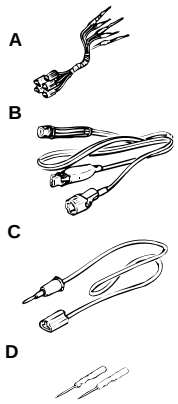
SUNROOF DIAGNOSIS

M1426000700021

The sunroof system is controlled by the Simplified Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Diagnosis P.54Bb-2.

SPECIAL TOOLS

M1426000600024

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
	MB991223 Harness set • A: MB991219 Test harness • B: MB991220 LED harness • C: MB991221 LED harness adapter • D: MB991222 Probe	MB991223	Measurement of terminal voltage • A: Connector pin contact pressure inspection • B: Power circuit inspection • C: Power circuit inspection • D: Commercial tester connection

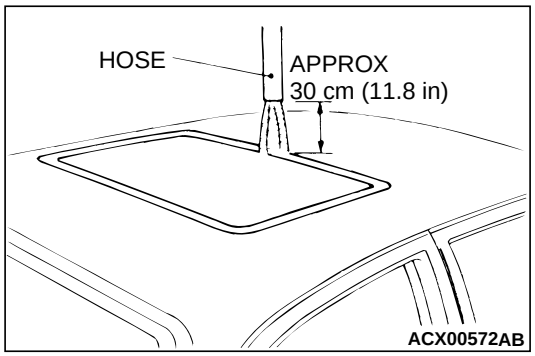
ON-VEHICLE SERVICE

WATER TEST

M1426000900036

Check if there are any leaks in the sunroof by the following procedure.

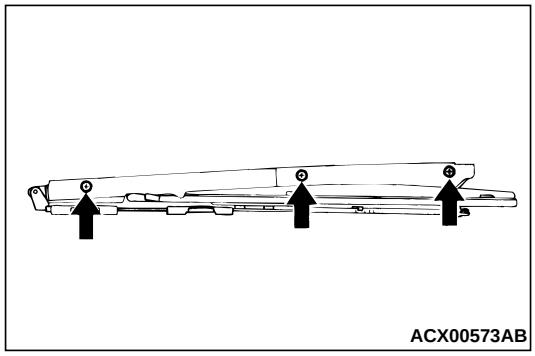
1. Fully close the roof lid glass.
2. Adjust the water pressure so that water comes out of the hose to a height of approximately 50 cm (19.7 inches) when the hose is held vertically facing upwards.



3. Hold the end of the hose approximately 30 cm (11.8 inches) above the roof and let the water run onto the weatherstrip for 5 minutes or more.
4. With the water running on to the weatherstrip, check that there is no water leaking into the passenger compartment.

SUNROOF FIT ADJUSTMENT

M1426001000199



1. Fully close the roof lid glass.
2. Fully open the sunshade.
3. Loosen the roof lid glass assembly mounting screws (six), and then slide the roof lid glass assembly along the slot in the roof lid glass assembly to adjust the height of the roof lid glass.
4. After adjustment, check to be sure that the sunroof operates smoothly.

OPERATION CHECK

M1426002600224

Check the following items. If faulty, reinstall or replace the appropriate component.

⚠ CAUTION

Check that the following items are normal before carrying out this operation check.

1. **Installation condition of the sunroof assembly**
2. **Installation, condition and foreign material of the sunroof drive cable**
3. **Improper fit of sunroof glass**
4. **Sunroof switch and sunroof motor assembly**

Basic operation

NO.	SUNROOF FUNCTION	REQUIREMENTS FOR THE SUNROOF TO FUNCTION	NORMAL OPERATION
01	OPEN	1. Ignition switch: ON 2. Sunroof switch: OPEN	The sunroof opens fully and automatically.
02	CLOSE	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN	The sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.
03	TILT-UP	1. Ignition switch: ON 2. Sunroof switch: TILT-UP	The sunroof tilts up fully and automatically.

NO.	SUNROOF FUNCTION	REQUIREMENTS FOR THE SUNROOF TO FUNCTION		NORMAL OPERATION
04	TILT-DOWN	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN		The sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.
05	AUTOMATIC OPERATION INTERRUPTION	A	1. Ignition switch: ON 2. Sunroof switch: TILT-UP or CLOSE/TILT DOWN (Push the sunroof switch to the CLOSE/TILT-DOWN position while the sunroof is automatically opening and release the switch within two seconds)	The sunroof stops the automatic opening operation.
		B	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT DOWN (Push the sunroof switch to the CLOSE/TILT-DOWN position more than two seconds while the sunroof is automatically opening)	The sunroof stops the automatic opening operation, and the sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.

Jam preventing mechanism

NO.	SUNROOF FUNCTION	REQUIREMENTS FOR THE SUNROOF TO FUNCTION	NORMAL OPERATION
01	CLOSE	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN 3. Sunroof initial position: being closed or opened 4. Interrupt the sunroof operation before the sunroof is fully closed.	After you interrupts the sunroof operation, it opens by the predetermined distance and then stops automatically.
02	TILT-DOWN	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN 3. Sunroof initial position: being tilting down 4. Interrupt the sunroof operation before the sunroof is fully close.	The sunroof tilts up automatically after it is interrupted.

Sunroof timer mechanism

In cases except the followings, the basic operation and jam preventing mechanism will be maintained for thirty seconds after the ignition switch is turned to the LOCK (OFF) position. (Sunroof timer function)

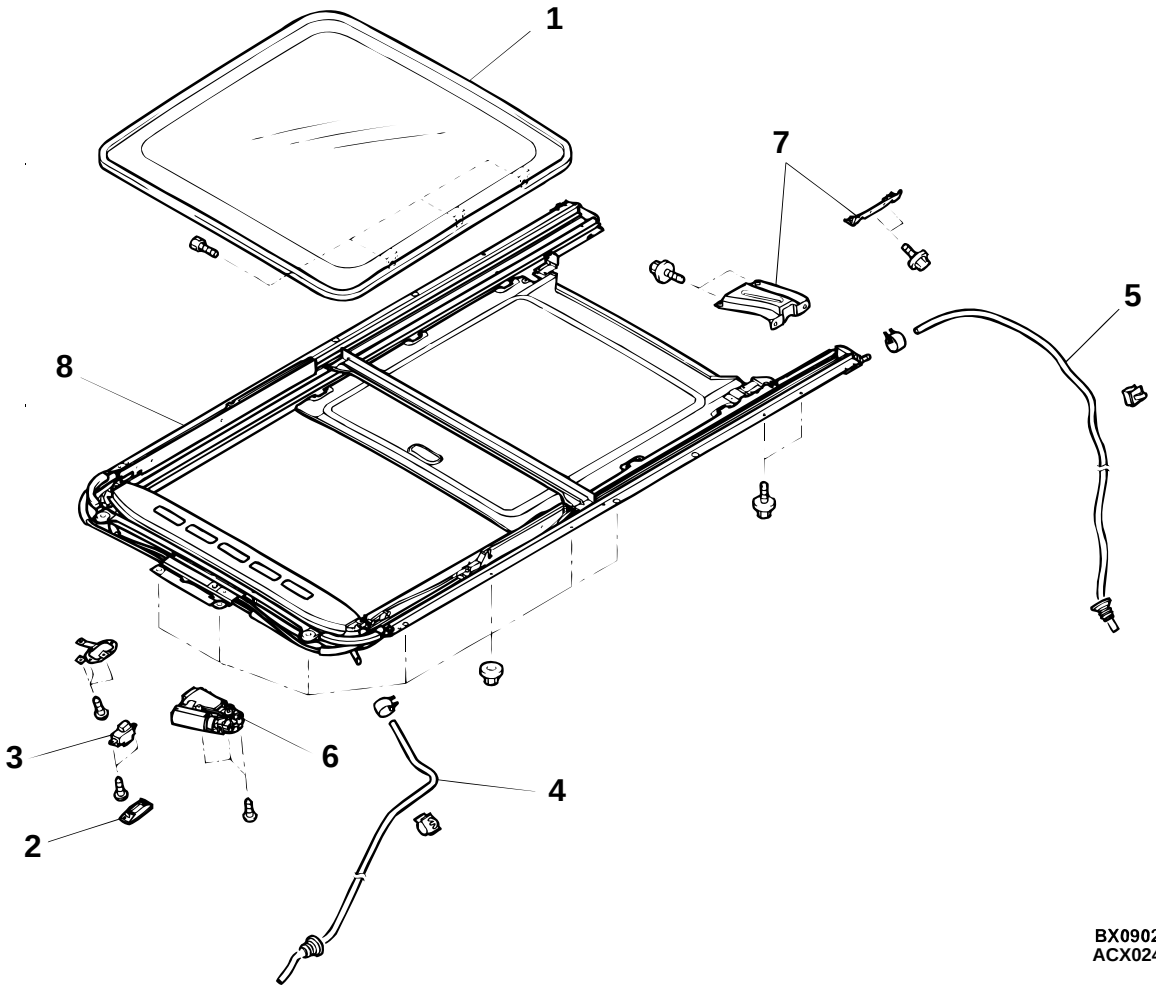
- If you open a door within that period (i.e. a door switch is on), the sunroof timer function will be cancelled immediately.
- If you closes the sunroof fully while the timer is working, the sunroof timer function is cancelled after that sunroof operation.
- If you turns the ignition switch to the LOCK (OFF) position while the timer is working, the sunroof will continue moving until it closes fully regardless of the time-out period.

SUNROOF ASSEMBLY

REMOVAL AND INSTALLATION

M1426001200212

Post-installation Operation <Roof lid glass assembly, Sunroof assembly>
- Sunroof Fit Adjustment (Refer to P.42-59.)
- Sunroof Water Test (Refer to P.42-58.)



BX0902CA
ACX02405 AB

1. ROOF LID GLASS ASSEMBLY
SUNROOF SWITCH REMOVAL STEPS
2. SUNROOF SWITCH COVER
3. SUNROOF SWITCH
DRAIN HOSE REMOVAL STEPS
- HEADLINING (REFER TO GROUP 52A P.52A-10.)
- SPLASH SHIELD (FRONT DRAIN HOSE)
- INSTRUMENT PANEL ASSEMBLY (REFER TO GROUP 52A P.52A-2.)
4. DRAIN HOSE (FRONT SIDE)
- PILLAR DUCT (PASSENGER'S SIDE) (REFER TO GROUP 55A P.55A-156.)

DRAIN HOSE REMOVAL STEPS
- REAR QUARTER DUCT (PASSENGER'S SIDE) (REFER TO GROUP 55A P.55A-156.)

<<A>> >>A<< 5. DRAIN HOSE (REAR SIDE)
SUNROOF MOTOR REMOVAL STEPS
- HEADLINING (REFER TO GROUP 52A P.52A-10.)

<<B>> >>B<< 6. SUNROOF MOTOR ASSEMBLY
SUNROOF ASSEMBLY REMOVAL STEPS
- HEADLINING (REFER TO GROUP 52A P.52A-10.)
4. DRAIN HOSE (FRONT SIDE)
- PILLAR DUCT (PASSENGER'S SIDE) (REFER TO GROUP 55 P.55A-156.)

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SUNROOF ASSEMBLY REMOVAL STEPS (Continued)

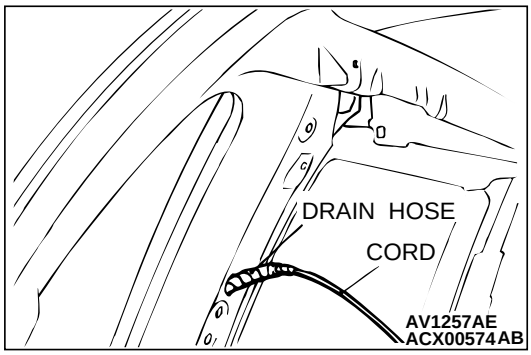
- REAR QUARTER DUCT (PASSENGER'S SIDE) (REFER TO GROUP 55 P.55A-156.)

<<A>> >>A<< 5. DRAIN HOSE (REAR SIDE)
6. SUNROOF MOTOR ASSEMBLY
7. SET BRACKET

REMOVAL SERVICE POINTS

<<A>> DRAIN HOSE REMOVAL

Tie a cord to the end of the drain hose, and wind tape around the tie until it is smooth. Then pull the drain hose out into the wheel housing.



<<B>> SUNROOF MOTOR REMOVAL

⚠ CAUTION

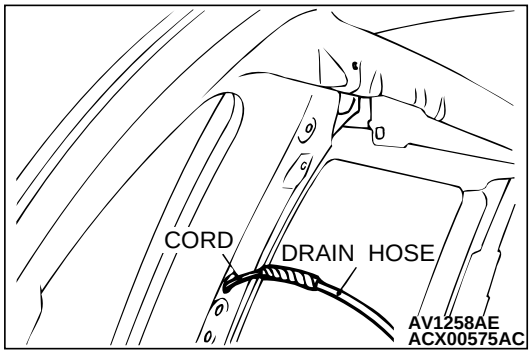
Always close the roof lid glass fully before removing the sunroof motor. If the fully-closed positions of the roof lid glass and the sunroof motor are not the same, the sunroof will not operate properly.

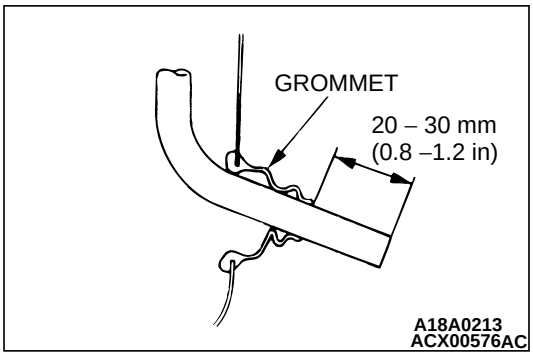
NOTE: If there is a problem with the sunroof motor so that the roof lid glass cannot close fully, use an Allen wrench to turn the gear section of the sunroof motor to fully close the roof lid glass.

INSTALLATION SERVICE POINTS

>>A<< DRAIN HOSE INSTALLATION

1. Tie the cord that was used during removal to the end of the drain hose, and wind tape around it until it is smooth.
2. Feed the drain hose through the wheel housing aperture. Pull the code until the drain hose appears, and then untie the cord.





3. Install the grommet, and then position the drain hose so that it protrudes from the grommet as shown in the illustration.

>>B<< SUNROOF MOTOR ASSEMBLY INSTALLATION

<Mounting of removed sunroof motor assembly>

1. Placing the sunroof assembly at fully closed position, mount the roof lid glass assembly and the sunroof motor assembly.
2. Connect the sunroof motor assembly connector and the sunroof switch connector to the vehicle's wiring harness connector.

NOTE: After installing the sunroof motor assembly, carry out the operation check to confirm that the sunroof operates properly (Refer to P.42-59). If the sunroof does not operate properly, carry out the troubleshooting (Refer to P.42-58).

NOTE: If the sunroof anti-trap function works consecutively five times, it will be cancelled. Once the function has been cancelled, the sunroof motor assembly should be initialized (learning mode) in the same manner as for a new one.

<Mounting of a new sunroof motor assembly>

Install a new sunroof motor assembly in the same manner as above. Then initialize (learning mode) the sunroof motor assembly as follows:

⚠ CAUTION

In the following cases, repeat initialization (learning mode) from step 1.

- **The sunroof switch is released while sliding the roof lid glass in steps 5 and 7.**
- **The sunroof open switch is pressed once, but does not move to the fully open position.**
- **The sunroof motor assembly does not operate properly after the initialization (learning mode).**

1. Continue pushing the sunroof open switch and move the roof lid glass to the fully open position.
2. When the sunroof close switch is pushed once, the roof lid glass slides toward the closed position by 30 mm (1.2 inches), and stops automatically. Repeat this operation until the roof lid glass is fully closed.
3. Push the sunroof close switch once so that the roof lid glass tilts up fully.
4. Push the sunroof close switch for approximately three seconds until a click is heard from the sunroof-ECU.

5. Continue to push the sunroof close switch until the roof lid glass tilts down fully.
6. Push the sunroof open switch once so that the roof lid glass open fully.
7. Continue to push the sunroof close switch until the roof lid glass closes fully.

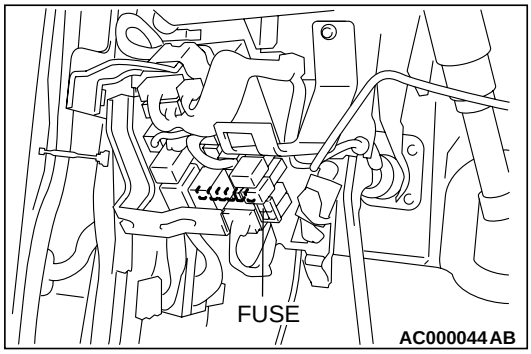
NOTE: The roof lid glass can be operated only by means of the sunroof close switch from the fully closed position to the fully tilt-up position during the initialization (learning mode). The roof lid glass does not tilt up even if the sunroof tilt-up switch is pushed during the initialization (learning mode).

NOTE: After the initialization (learning mode), carry out the operation check to confirm that the sunroof operates properly (Refer to P.42-59). If the sunroof does not operate properly, repeat the initialization (learning mode). If the sunroof still does not operate properly, carry out the troubleshooting (Refer to P.42-58).

INSPECTION

M1421007600406

ROOF LID GLASS CIRCUIT CHECK

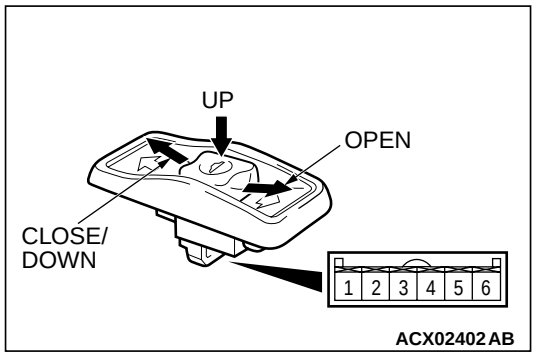


1. Remove the sunroof fuse and connect an ammeter as shown in the illustration.
2. Press the sunroof switch to operate the sunroof, and then measure the current while the roof lid glass is moving (not when the sunroof starts to operate, when it is fully open, when it is fully closed and when it is fully tilted up).

   Standard value: 7 A or less [at 20°C (68°F)]

3. If the measured current is outside the standard value, check the following points.
   - Installation condition, warping or jamming of sunroof assembly
   - Sticking of drive cable
   - Tilt of roof lid glass

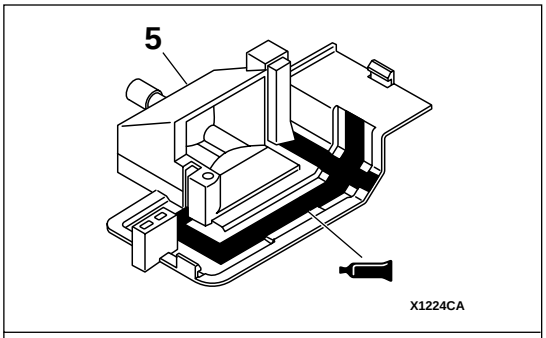
SUNROOF SWITCH CONTINUITY CHECK



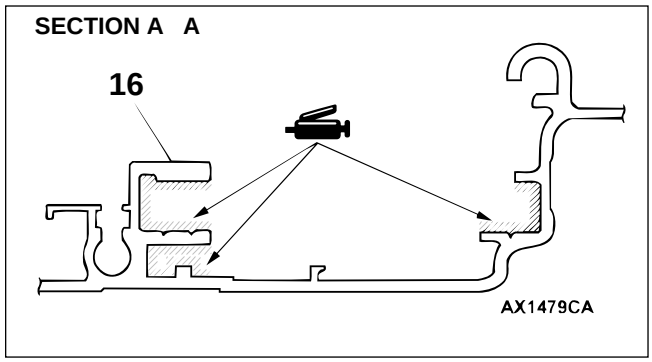
SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Open	4 – 5	Less than 2 ohms
Off	3 – 4, 4 – 5, 4 – 6	Open circuit
Tilt up	3 – 4	Less than 2 ohms
Slide closed, Tilt down	4 – 6	

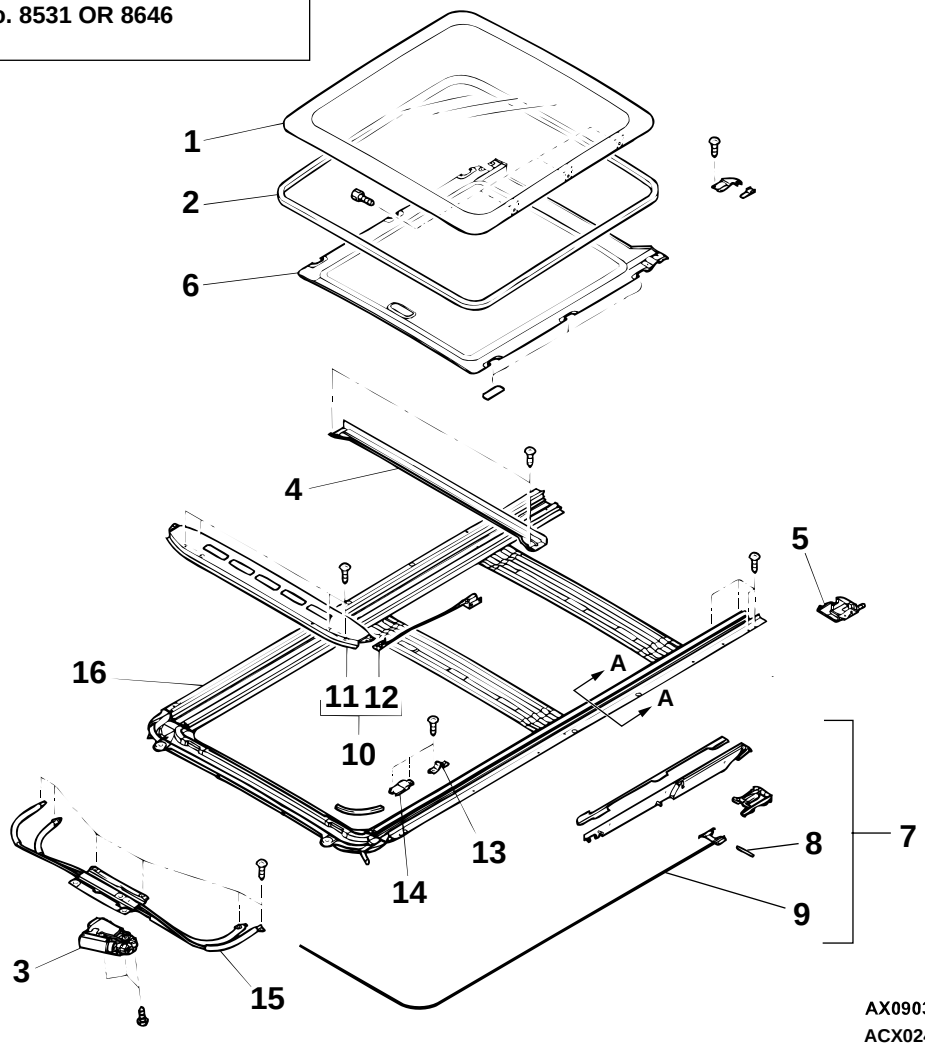
DISASSEMBLY AND ASSEMBLY

M1426001400023



SEALANT :
3M AAD PART No. 8531 OR 8646
OR EQUIVALENT





DISASSEMBLY STEPS

1. ROOF LID GLASS ASSEMBLY
2. WEATHERSTRIP
3. SUNROOF MOTOR ASSEMBLY
4. ROOF DRIP CHANNEL
5. SEALER
6. SUN SHADE ASSEMBLY
7. DRIVE CABLE ASSEMBLY

<<A>> >>A<< 8. SHAFT

<<A>> 9. DRIVE CABLE

DISASSEMBLY STEPS (Continued)

<<B>> 10. ROOF WINDOW DEFLECTOR PANEL ASSEMBLY

<<C>> 11. DEFLECTOR

<<C>> 12. DEFLECTOR LINK

13. SET PLATE
14. FRONT COVER
15. CABLE GUIDE CASING
16. GUIDE RAIL SUB-ASSEMBLY

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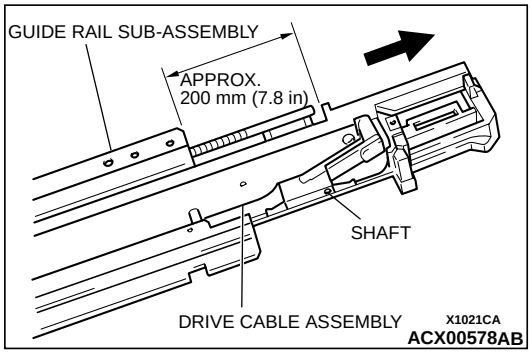
REMOVAL SERVICE POINT

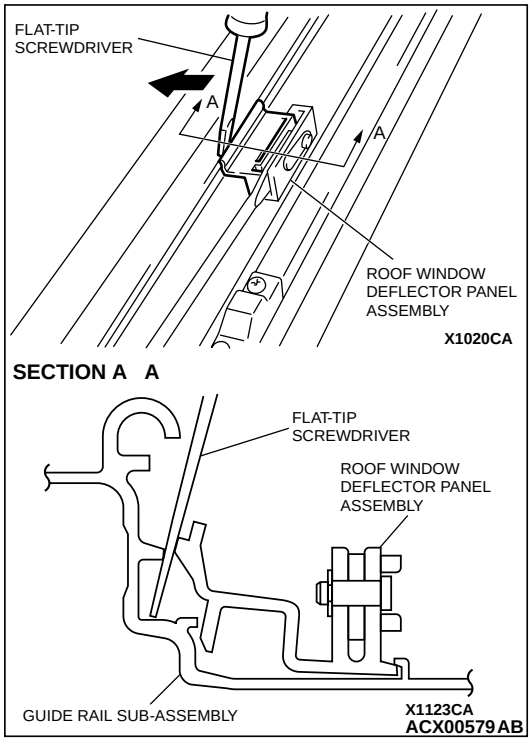
<<A>> SHAFT/DRIVE CABLE REMOVAL

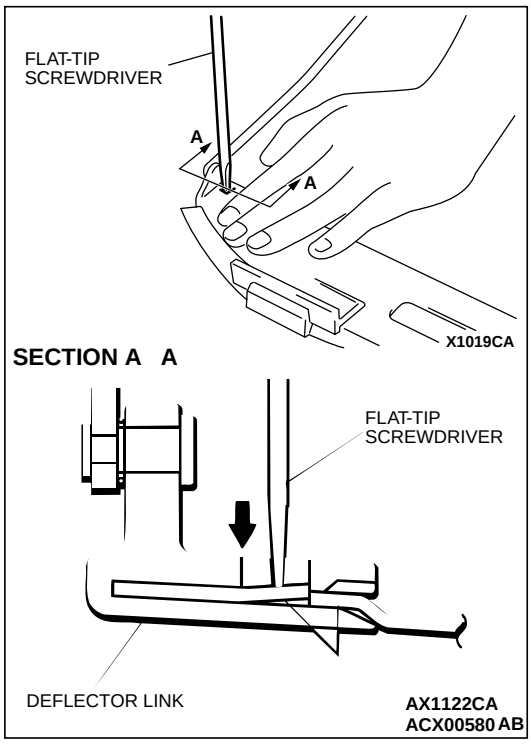
Draw out the drive cable assembly as shown in the illustration, then remove the shaft and the drive cable.



<<B>> ROOF WINDOW DEFLECTOR PANEL ASSEMBLY REMOVAL

Pry out the roof window deflector panel assembly using a flat-tip screwdriver as shown in the illustration.



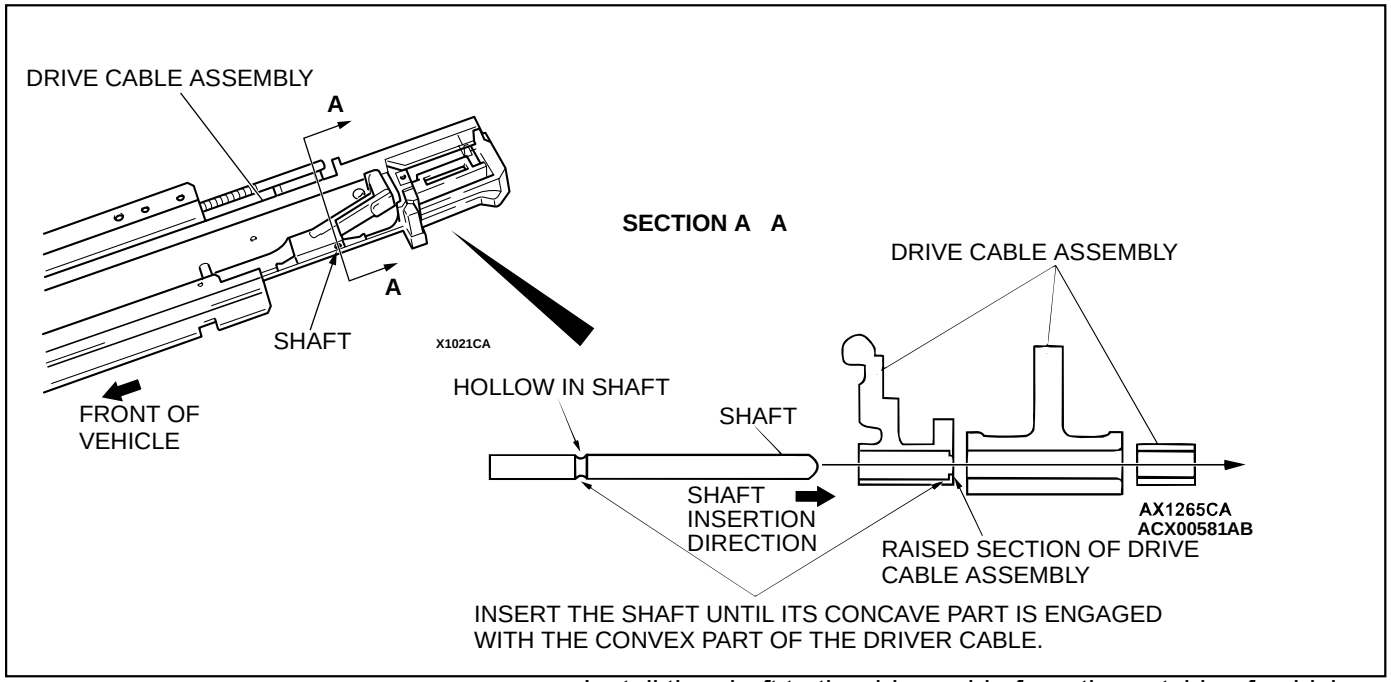


<<C>> REMOVAL OF DEFLECTOR/DEFLECTOR LINK

Disconnect the deflector and the deflector panel using a flat-tip screwdriver as shown in the illustration.

INSTALLATION SERVICE POINT

>>A<< SHAFT INSTALLATION



Install the shaft to the drive cable from the outside of vehicle as shown in the illustration.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1421005300153

ITEM	SPECIFICATIONS
Hood	
Hood latch bolt	9.0 ± 2.0 N·m (79 ± 18 in-lb)
Hood support rod bolt	5.0 ± 1.0 N·m (44 ± 9 in-lb)
Hood hinge bolt (hood side)	22 ± 4 N·m (16 ± 3 ft-lb)
Hood hinge bolt (body side)	22 ± 4 N·m (16 ± 3 ft-lb)
Door	
Door hinge bolt (body side)	26 ± 4 N·m (19 ± 3 ft-lb)
Door latch assembly screw	5.9 ± 1.0 N·m (52 ± 9 in-lb)
Power window motor bolt	7.4 ± 1.4 N·m (65 ± 13 in-lb)
Speaker	4.9 ± 1.0 N·m (44 ± 8 in-lb)
Striker screw	11 ± 2 N·m (98 ± 17 in-lb)
Back door	
Back door hinge bolt	21 ± 4 N·m (16 ± 2 in-lb)
Back door latch assembly bolt	5.9 ± 1.0 N·m (52 ± 9 in-lb)
Striker bolt	11 ± 2 N·m (98 ± 17 in-lb)

SERVICE SPECIFICATIONS

M1421000300181

<DOOR>

ITEM		STANDARD VALUE
Door inside handle play mm (in)		5.3 (0.21) or more
Door outside handle play mm (in)	Front	2.0 (0.08) or more
	Rear	1.7 (0.07) or more

<SUNROOF>

ITEM	STANDARD VALUE
Roof lid glass operation current A	7 or more [20°C (68°F)]

SEALANTS

M1421000500163

<DOOR>

ITEM	SPECIFIED SEALANT	REMARK
Waterproof film	3 M™AAD8633 or equivalent	Ribbon sealer

<WINDOW GLASS>

ITEM	SPECIFIED SEALANT
Back door	3 M™AAD8609 or equivalent
Quarter window glass, garnish	3 M™AAD8513 or equivalent
Windshield	3 M™AAD8609 or equivalent

COMPONENT IDENTIFICATION

M1421005400150

<DOOR CHECK>

APPLICABLE LOCATION		IDENTIFICATION MARK
LH	Front door	20L
	Rear door	26L
RH	Front door	20R
	Rear door	26R

NOTES