GROUP 42

BODY

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HOOD

ON-VEHICLE SERVICE

ADJUSTMENT OF CLEARANCE AROUND HOOD

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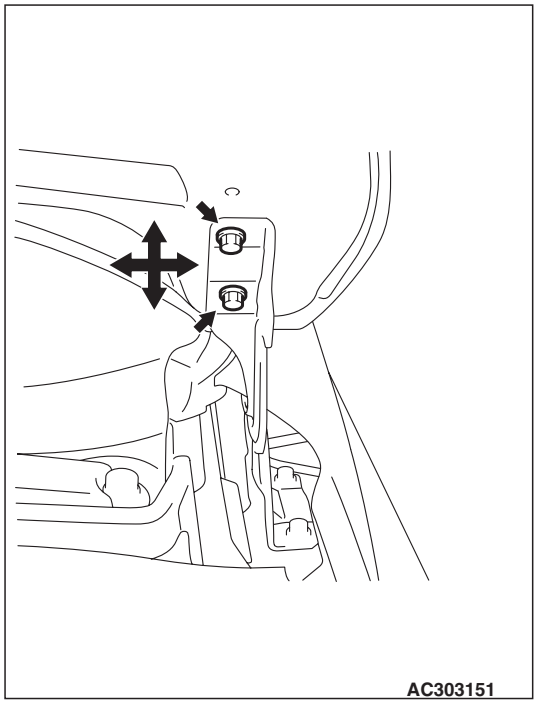
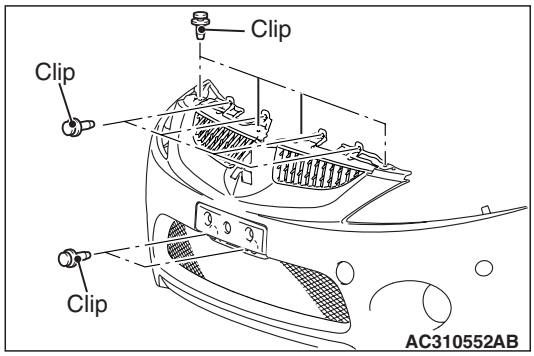
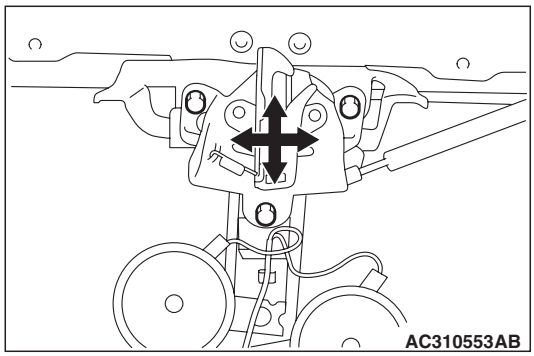


ADJUSTMENT OF ALIGNMENT OF HOOD STEPPED PORTION AND HOOD STRIKER

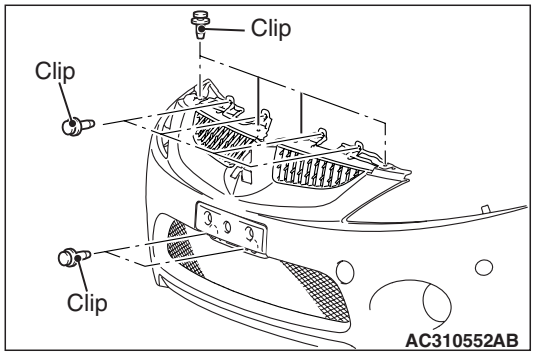
M1421007300159



1. Release the clips shown in the illustration.
2. Remove the hood latch cover.



3. Loosen the hood latch mounting bolts but do not remove them. Then move the hood latch to align the hood level and adjust the hood striker engagement.
4. If the hood latch is engaged with the striker properly, tighten the hood latch mounting bolts to 9.0±2.0 N· m.
5. Install the hood latch cover.



6. Secure the clips shown in the illustration.

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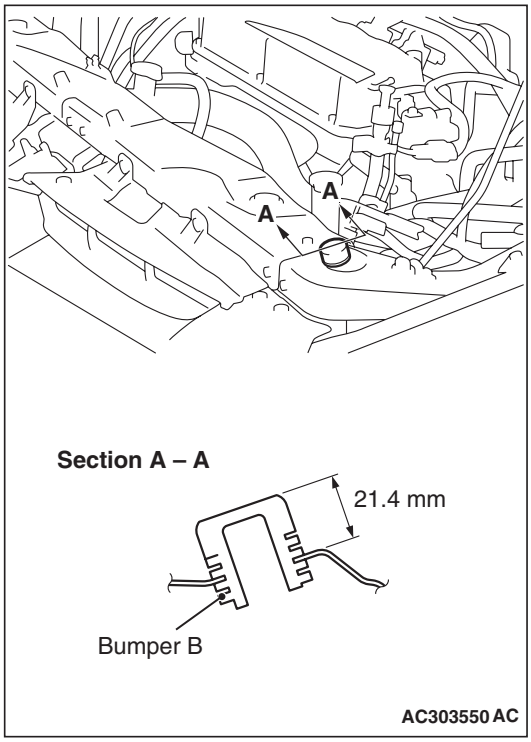
ADJUSTMENT OF HOOD HEIGHT

M1421007400178



Turn bumper (B) to the shown dimension to adjust the hood height. If the hood height is still not even, turn bumper (B) again until the height is even.

NOTE: . If bumper (B) is turned once, its height changes by approximately 3 mm.

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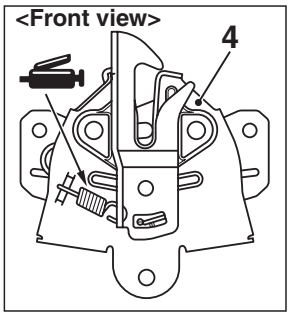
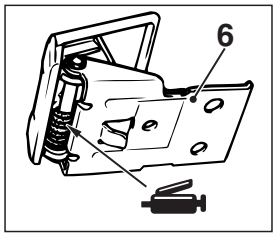
HOOD

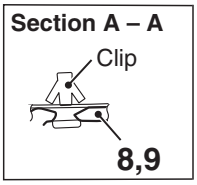
REMOVAL AND INSTALLATION <EXCEPT VEHICLES FOR HONG KONG AND SINGAPORE>

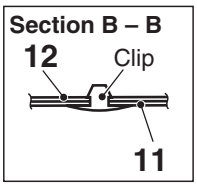
M1421001600754

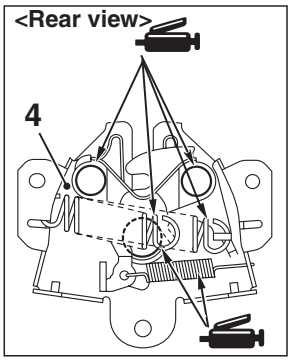
Post-installation Operation
- Adjustment of Clearance Around Hood (Refer to P.42-4).
- Adjustment of Alignment of Hood Stepped Portion and Hood Striker (Refer to P.42-4).
- Adjustment of Hood Height (Refer to P.42-5).

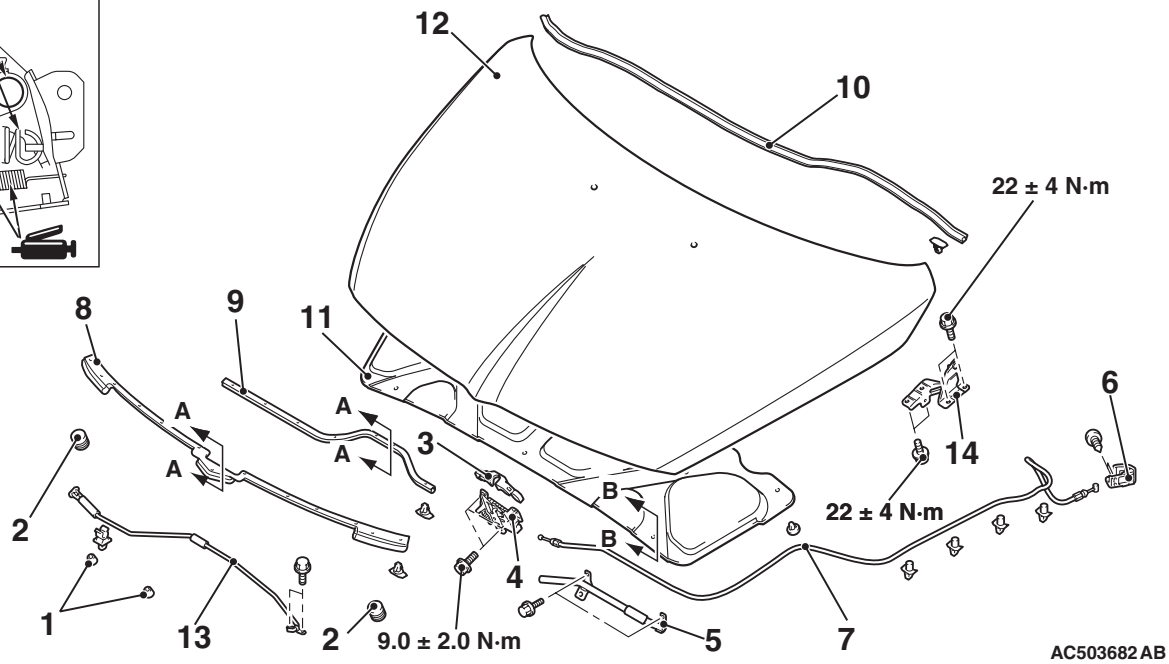












AC503682 AB

Hood bumper removal steps
1. Hood bumper A
2. Hood bumper B

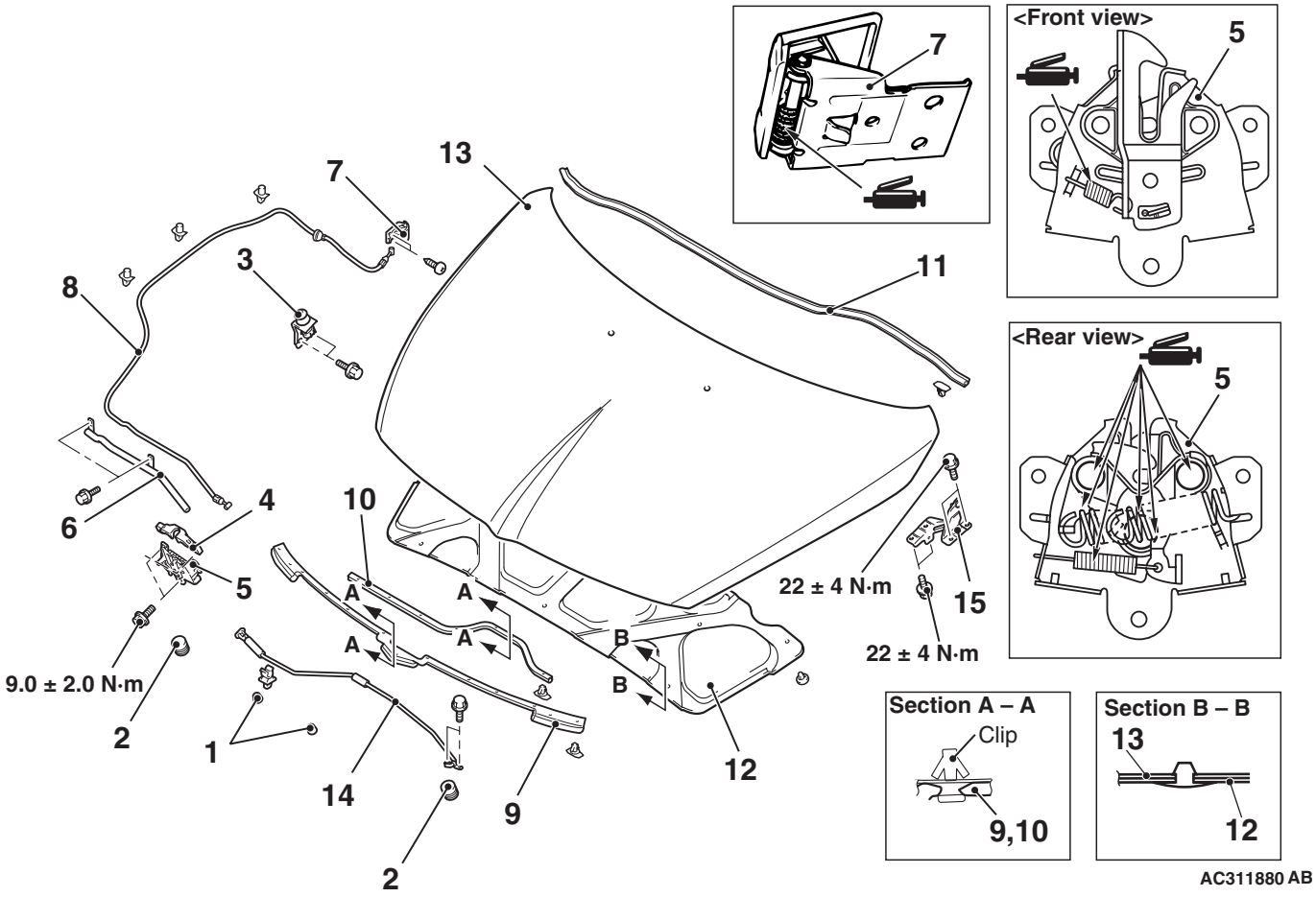
Hood latch and hood lock release cable removal steps
3. Hood latch cover
   - Front bumper (Refer to GROUP 51, Front Bumper P.51-3).
4. Hood latch
5. Hood lock release cable cover
   - Cowl side trim (Refer to GROUP 52A, Interior Trim P.52A-10).
6. Hood lock release handle
   - Splash shield LH (Refer to P.42-9).
7. Hood lock release cable

Hood and hood hinge removal steps
8. Hood opening weatherstrip
9. Hood weatherstrip front
10. Hood weatherstrip rear
11. Hood Insulator
    - Washer hose, Washer nozzle (Refer to GROUP 51, Windshield Washer P.51-21).
12. Hood
13. Hood support rod
    - Fender (Refer to P.42-9).
14. Hood hinge

REMOVAL AND INSTALLATION <VEHICLES FOR HONG KONG AND SINGAPORE>

M1421001600453

Post-installation Operation
- Adjustment of Clearance Around Hood (Refer to P.42-4).
- Adjustment of Alignment of Hood Stepped Portion and Hood Striker (Refer to P.42-4).
- Adjustment of Hood Height (Refer to P.42-5).



Hood bumper removal steps
1. Hood bumper A
2. Hood bumper B

Hood switch
3. Hood switch

Hood latch and hood lock release cable removal steps
4. Hood latch cover
- Front bumper (Refer to GROUP 51, Front Bumper P.51-3).

5. Hood latch
6. Hood lock release cable cover
- Cowl side trim (Refer to GROUP 52A, Interior Trim P.52A-10).

7. Hood lock release handle

Hood latch and hood lock release cable removal steps (Continued)
- Splash shield LH (Refer to P.42-9).

8. Hood lock release cable

Hood and hood hinge removal steps
9. Hood opening weatherstrip
10. Hood weatherstrip front
11. Hood weatherstrip rear
12. Hood Insulator
- Washer hose,Washer nozzle (Refer to GROUP 51, Windshield Washer P.51-21).

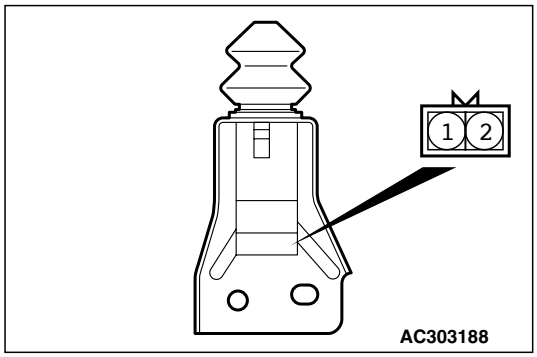
13 Hood
14 Hood support rod
- Fender (Refer to P.42-9).

15. Hood hinge

INSPECTION

M1421001700245

HOOD SWITCH CONTINUITY CHECK <VEHICLES FOR HONG KONG AND SINGAPORE>

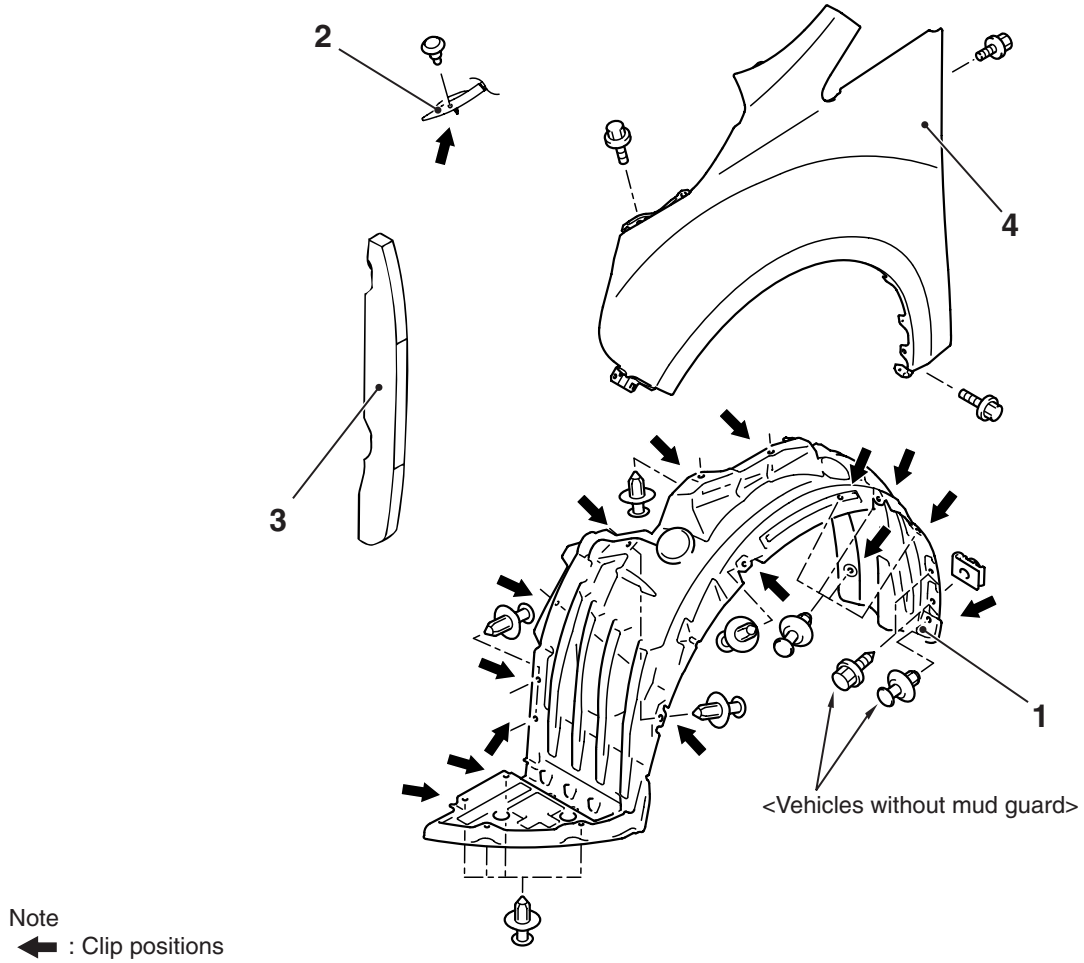


Switch position	Terminal number	Normal value
Release (ON)	1 –2	Less than 2 ohms
Depressed (OFF)	1 –2	Open circuit

FENDER

REMOVAL AND INSTALLATION

M1421001900476



Note
◀ : Clip positions

AC312057 AB

Splash shield removal step
1. Splash shield

Fender removal steps
1. Splash shield
- Front bumper assembly (Refer to GROUP 51, Front Bumper P.51-3).
- Headlamp assembly (Refer to GROUP 54A, Headlamp P.54A-109).

2. Tip of roof drip moulding
3. Fender rear protector
4. Fender
- Delta window glass (Refer to P.42-17).

Fender installation steps
4. Fender
- Delta window glass (Refer to P.42-17).

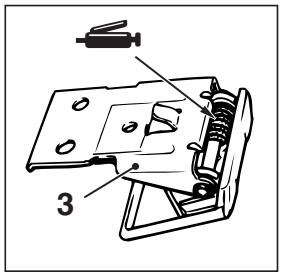
3. Fender rear protector
2. Tip of roof drip moulding
- Headlamp assembly (Refer to GROUP 54A, Headlamp P.54A-109).
- Front bumper assembly (Refer to GROUP 51, Front Bumper P.51-3).

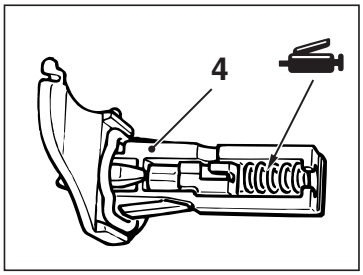
1. Splash shield

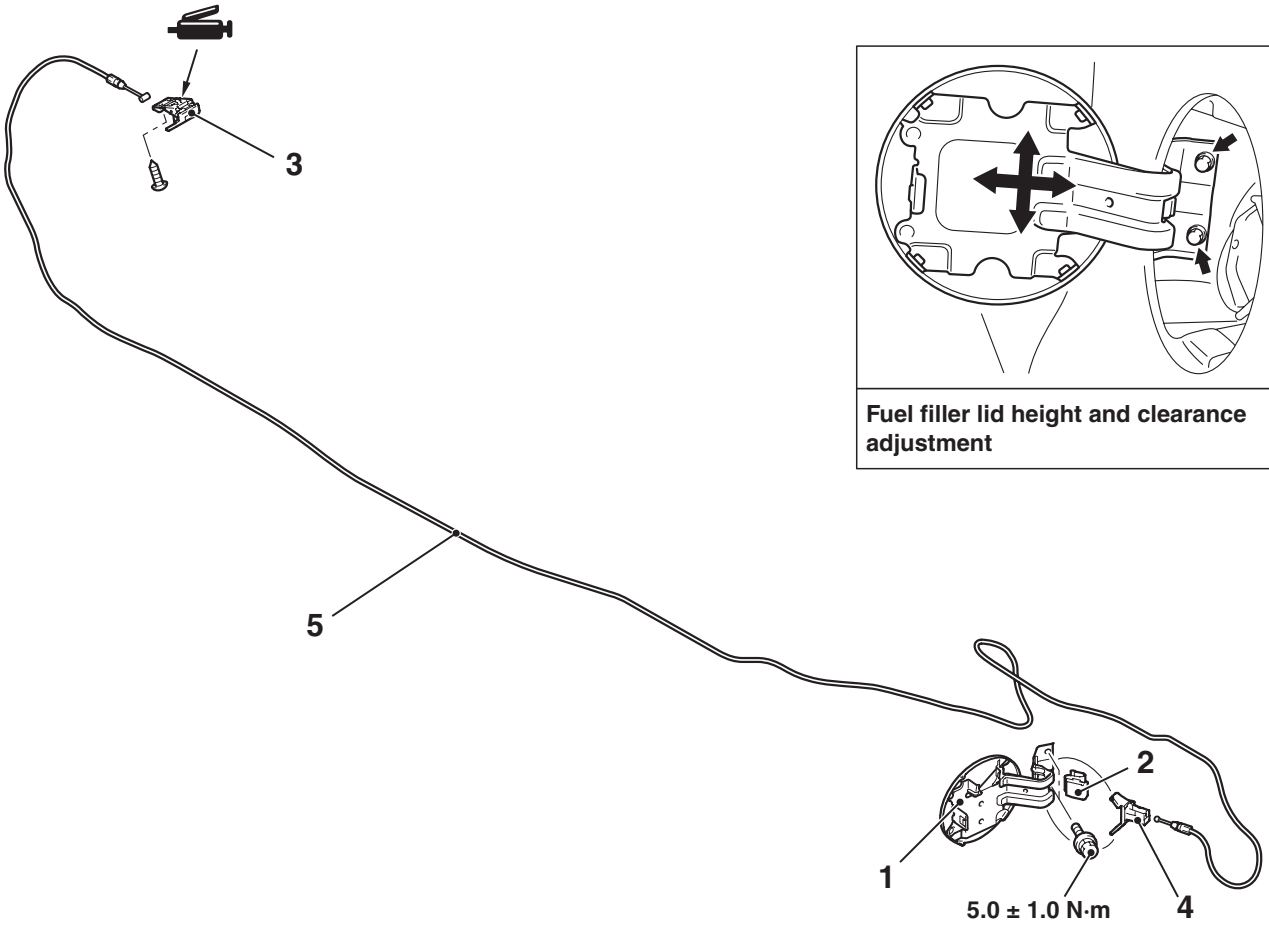
FUEL FILLER LID

REMOVAL AND INSTALLATION

M1421002500363







Fuel filler lid height and clearance adjustment

AC310400AB

Removal steps

1. Fuel filler lid
2. Fuel filler lid damper spring
3. Fuel filler lid lock release handle
- Front scuff plate, Rear scuff plate, Center pillar trim lower (Refer to GROUP 52A, Interior Trim P.52A-10).

Removal steps (Continued)

- Third seat assembly (Refer to GROUP 52A, Third Seat P.52A-35).
- Cargo floor box (Refer to GROUP 52A, Interior Trim P.52A-10).

4. Fuel filler lid hook
5. Fuel filler lid lock release cable

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Group TOC

WINDOW GLASS

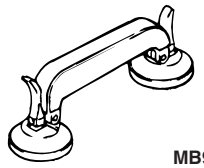
ADHESIVE

M1422000500122

Item	Specified adhesive
Windshield	3M ATD Part No.8609 Super Fast Urethane Auto Glass Sealant or equivalent 3M ATD Part No.8608 Super Fast Urethane Primer or equivalent
Delta window glass	
Quarter window glass	
Tailgate window glass	

SPECIAL TOOL

M1422000600345

Tool	Number	Name	Use
 MB990480	MB990480	Window glass holder	Window glass removal and installation

GENERAL

M1422000100470

The windshield, delta window glass, quarter window glass and tailgate window glass are attached by an urethane-base adhesive to the window frame. This adhesive provides improved glass holding and sealing, and also gives body openings a greater structural strength.

ITEMS

Name	Remark
Adhesive	3M ATD Part No.8609 Super Fast Urethane Auto Glass Sealant or equivalent
Primer	3M ATD Part No.8608 Super Fast Urethane Primer or equivalent
Spacers	Available as service part
Dam	Available as service part
Anti-rust solvent (or Tectyl 506T.Valvoline Oil Company)	For rust prevention
Isopropyl alcohol	For grease removal from bonded surface
Steel piano wire	Dia. × length. 0.6mm × 1m For cutting adhesive
Glass adhesive knife	For cutting adhesive
Adhesive gun	For pressing-out adhesive

HANDLING OF AUTO WINDOW SEALER

Keep the sealant in a cool place, not exposed to the direct rays of the sun. Do not place any heavy article on the sealant nor press it, otherwise it will become deformed. Avoid storing the sealant for more than 6 months, because it will lose its sealing effect.

BODY PINCH-WELD FLANGE SERVICING

Before servicing the body pinch-weld flange, remove old adhesive completely. If the flange requires painting, bake it after painting is completed.

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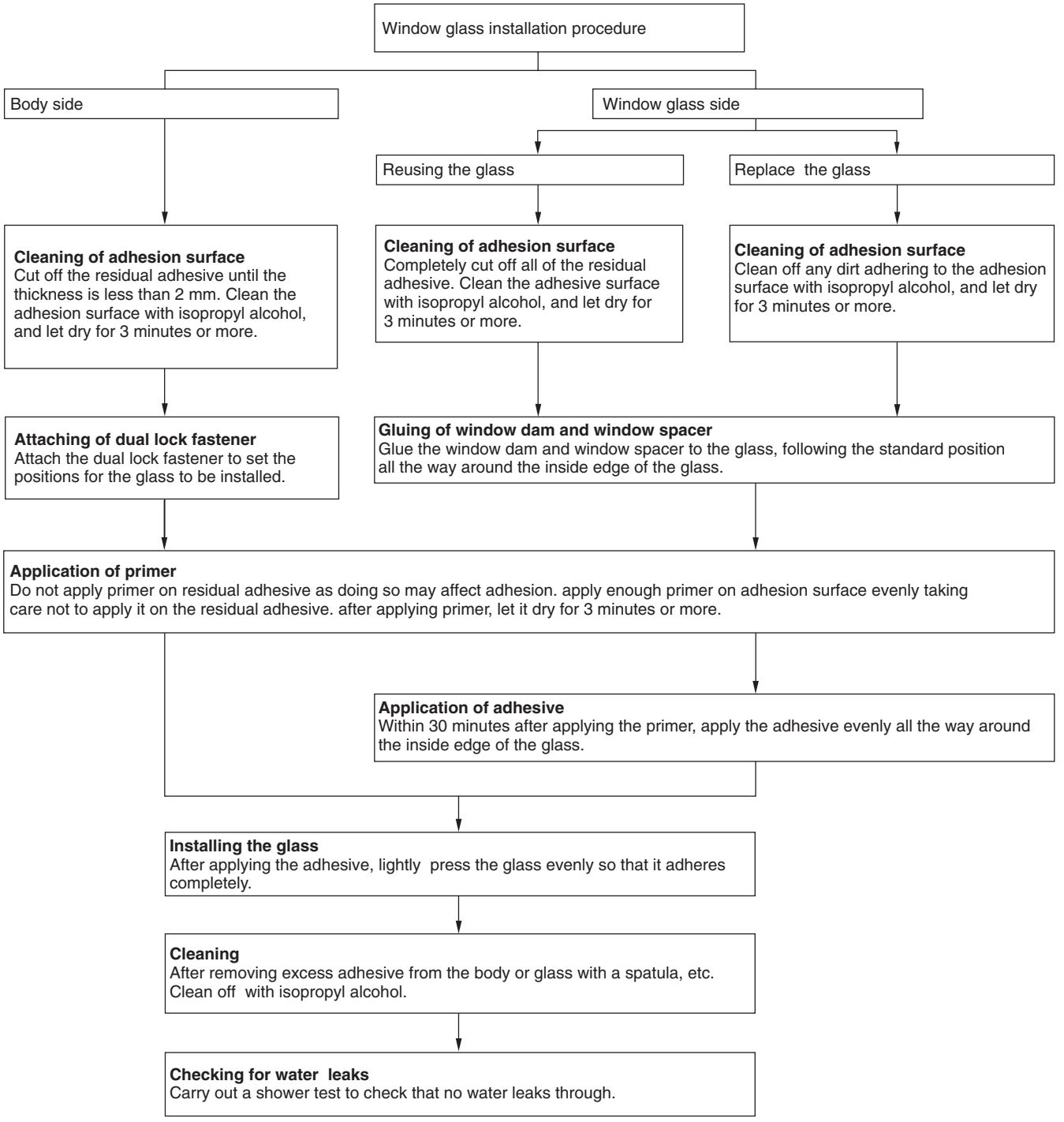
WINDOW GLASS INSTALLATION



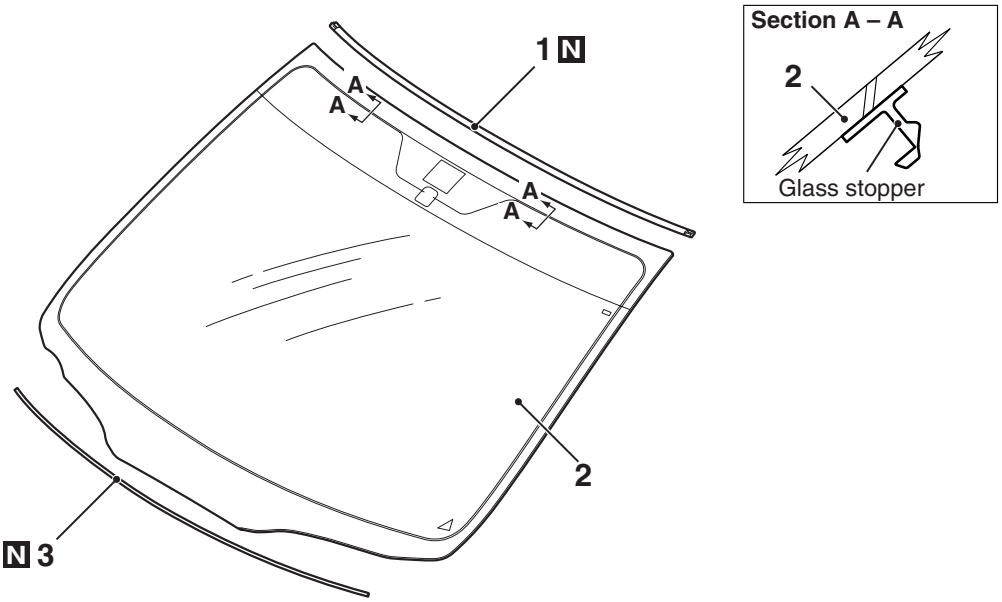
AC306636 AD

WINDSHIELD

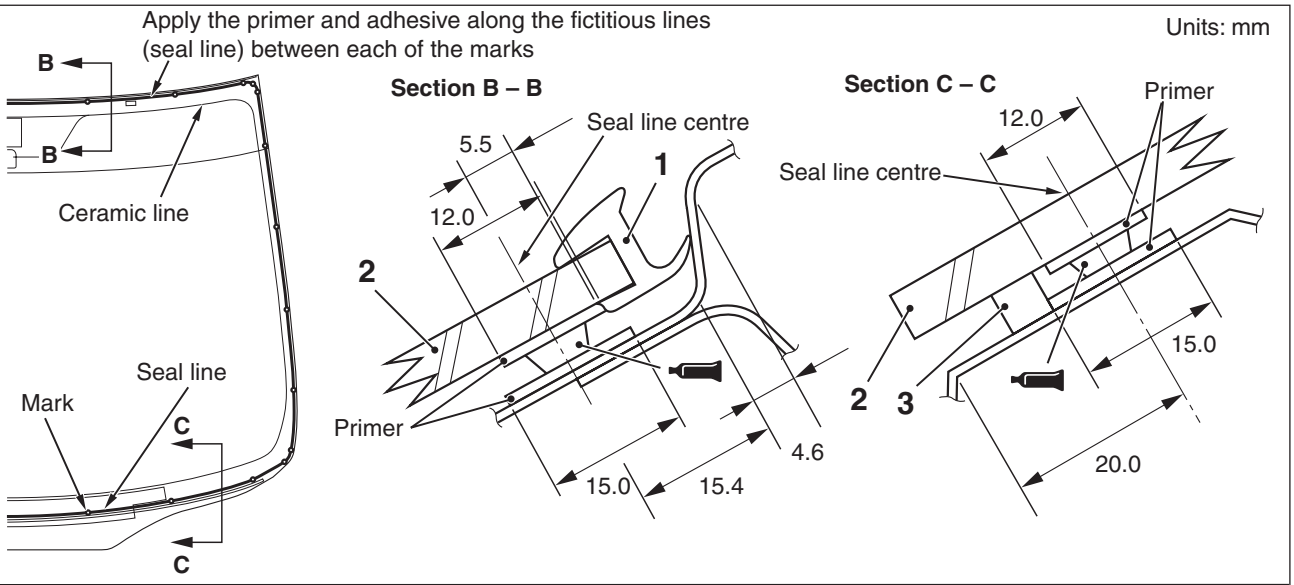
REMOVAL AND INSTALLATION

M1422001000465

Pre-removal and Post-installation Operation
- Front Deck Garnish Removal and Installation (Refer to GROUP 51, Windshield Wiper P.51-17).
- Roof Drip Moulding Removal and Installation (Refer to GROUP 51, Moulding P.51-9).
- Front Pillar Trim Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-10).
- Room Mirror Removal and Installation (Refer to GROUP 52A, Inside Rearview Mirror P.52A-20).



AC310088AB



Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC303446AG

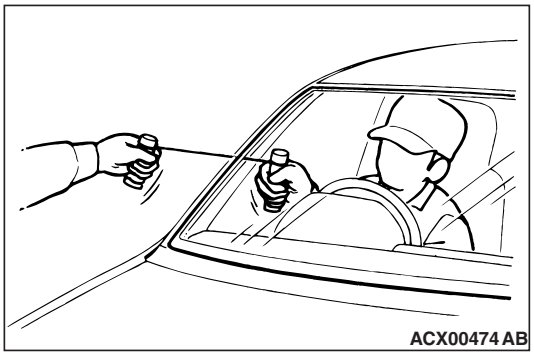
Removal steps
1. Windshield moulding

Removal steps (Continued)
<<A>> >>B<< 2. Windshield
>>A<< 3. Windshield spacer

REMOVAL SERVICE POINT

<<A>> WINDSHIELD REMOVAL

1. To protect the body (paint surface), apply cloth tape to all body areas around the installed windshield.
2. Using piano wire.
   (1) Use a knife to cut away the moulding.
   (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.

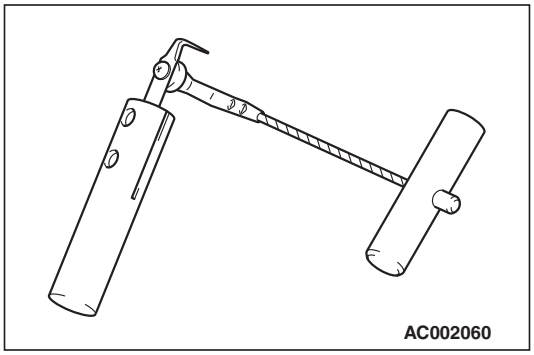


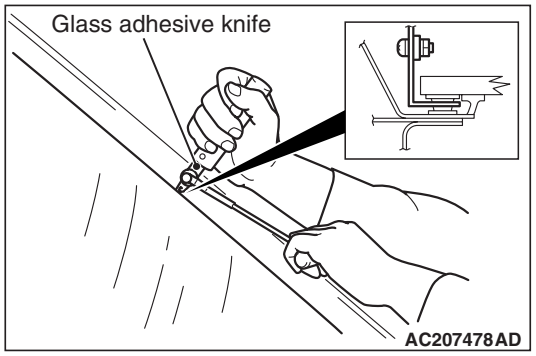
⚠ CAUTION

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.

⚠ CAUTION

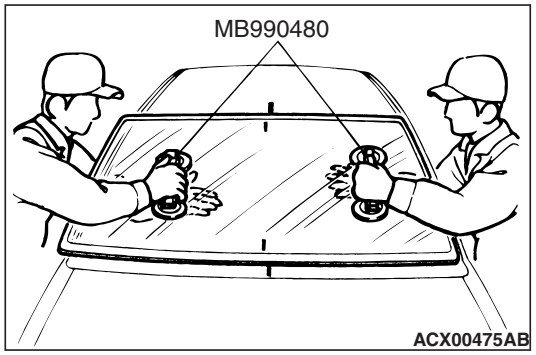




Inserting the glass adhesive knife too deeply into windshield adhesive may damage windshield.

3. Using glass adhesive knife

   Keep glass adhesive knife at right angles with the windshield edge, and put the blade at windshield edge and surface. Then cut away adhesive along the windshield edge.



4. Use special tool window glass holder MB990480 to remove the windshield.

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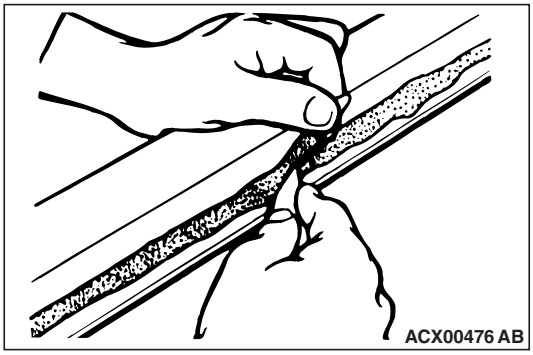
⚠ CAUTION



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.**

5. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.

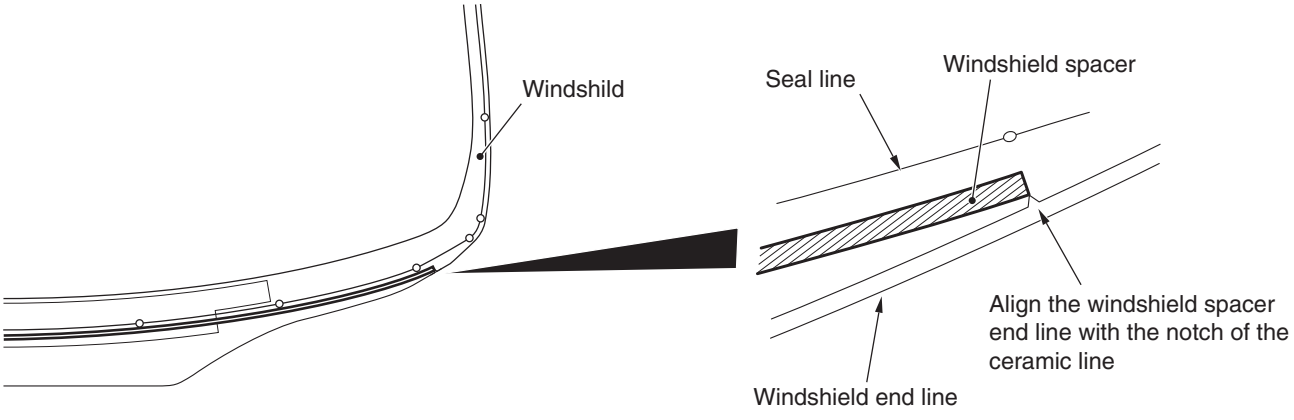
INSTALLATION SERVICE POINTS

>>A<< WINDSHIELD SPACER INSTALLATION

⚠ CAUTION

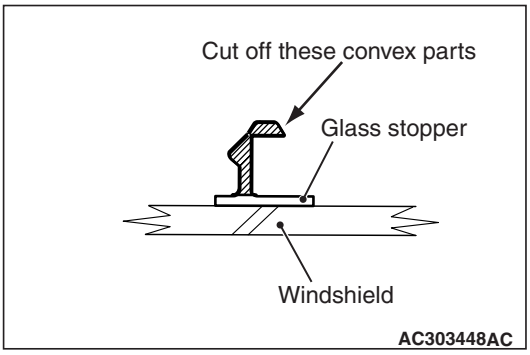
Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

1. Use isopropyl alcohol to degrease the inside and outside of the windshield and the body flanges.



2. The inner side of the windshield is curved, therefore, make a point to assemble the glass stopper and windshield spacer without any lifting and assemble in the position shown.

6. Finish the flange surfaces so that they are smooth.



7. If the windshield is reused, scrape away all traces of old adhesive, the glass stopper (shown in the illustration) and the windshield spacer.

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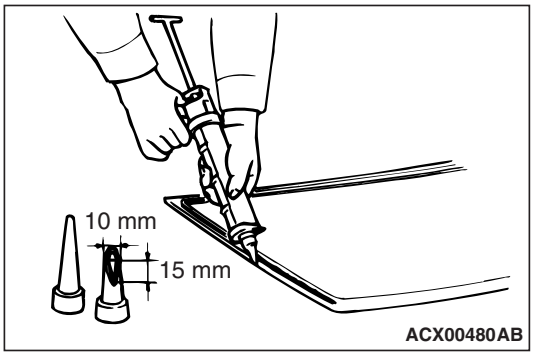
>>B<< WINDSHIELD INSTALLATION

1. Install the windshield moulding to the windshield.
2. When replacing the windshield, temporarily set the windshield against the body, and place a mating mark on the windshield and body.

⚠ 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.**
- **Do not apply the primer on the remaining adhesive because of weakening the adhesive.**

3. Soak a sponge in the primer, and apply evenly to the windshield and the body in the specified places. If the old adhesive does not remain on the body flange because of the body panel or others, also apply the primer to the specified body side.
4. Allow the windshield to dry for at least three minutes after applying primer.



5. 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.
6. Align the mating marks on the windshield and the body, and lightly press the windshield evenly so that it adheres completely.
7. Use spatula or the like to remove any excessive adhesive. Then clean the surface with isopropyl alcohol.
8. Bond the windshield to the body, and install the roof drip moulding quickly before the adhesive cures. (Refer to GROUP51, Moulding P.51-9).

⚠ 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.**

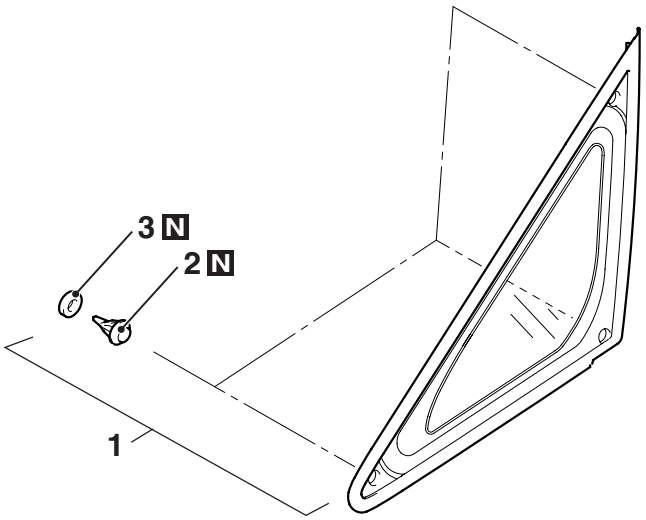
9. Wait 30 minutes or more, and then test for water leakage.

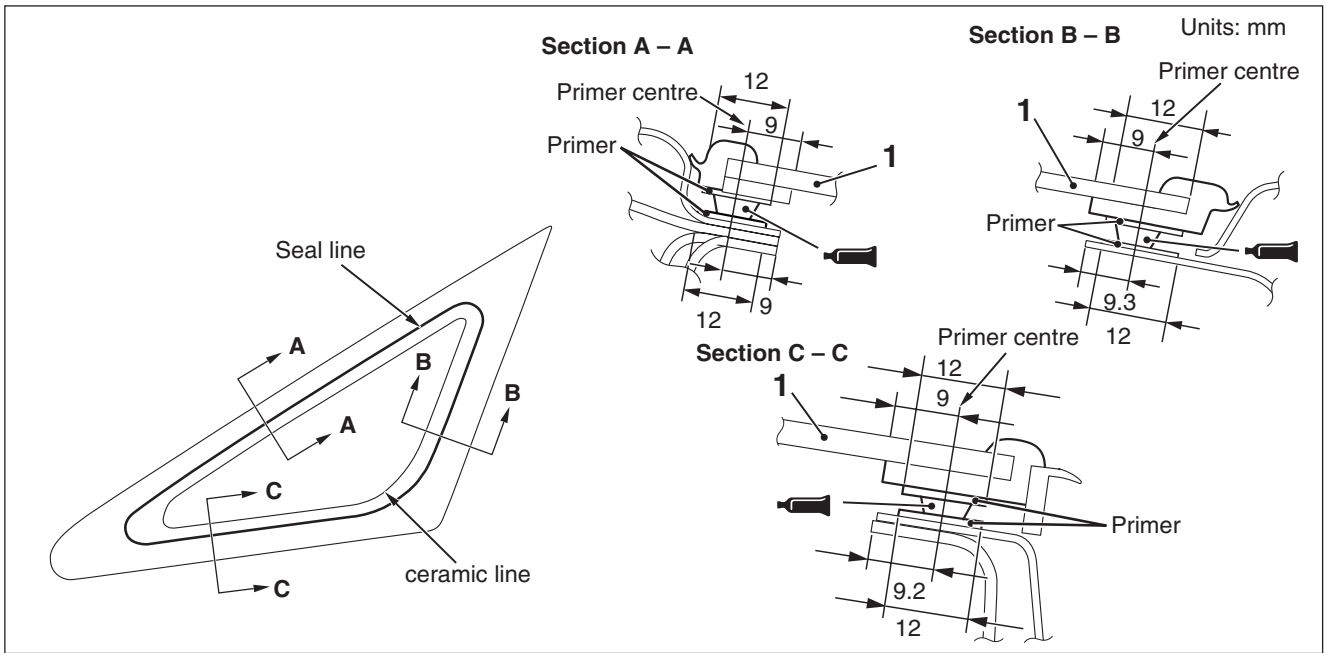
DELTA WINDOW GLASS

REMOVAL AND INSTALLATION

M1422001300080

Pre-removal and Post-installation Operation
- Front Pillar Trim, Cowl Side Trim Upper Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-10).
- Side Defroster Duct A Removal and Installation (Refer to GROUP 55, Ducts P.55-248).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC303449 AG

Removal steps
- Fender (Refer to P.42-9).

<<A>> 1. Delta window glass assembly
2. Clip
3. Gasket

Installation steps
- Fender (Refer to P.42-9).

>>A<< 3. Gasket
>>A<< 2. Clip
>>A<< 1. Delta window glass assembly

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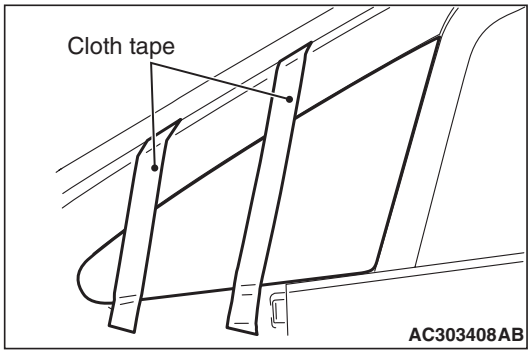
REMOVAL SERVICE POINT

<<A>>DELTA WINDOW GLASS ASSEMBLY REMOVAL

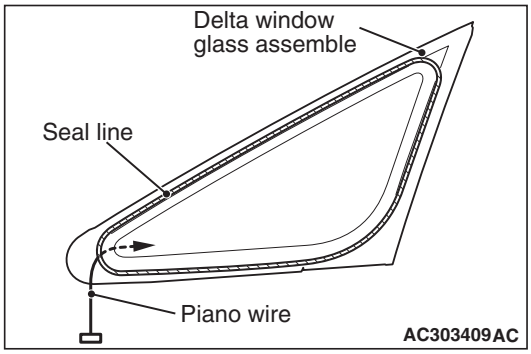
1. In order to protect the body (paint surface), apply cloth tape to all body areas around the installed delta window glass.



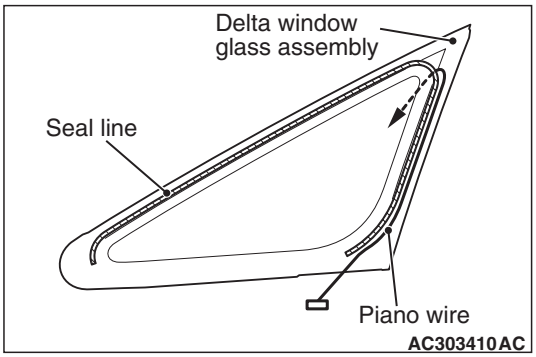
2. Stick cloth tape to avoid the delta window glass from dropping.
3. Using a sharp-point drill, make hole in the delta window glass adhesive.

⚠ CAUTION
Do not let the piano wire touch the edge of the delta window glass.

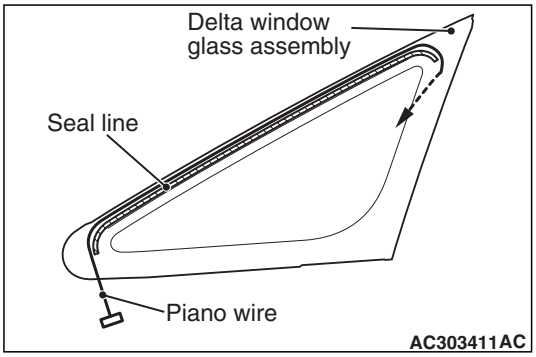
4. Cut off the delta window glass adhesive according to the procedure below.



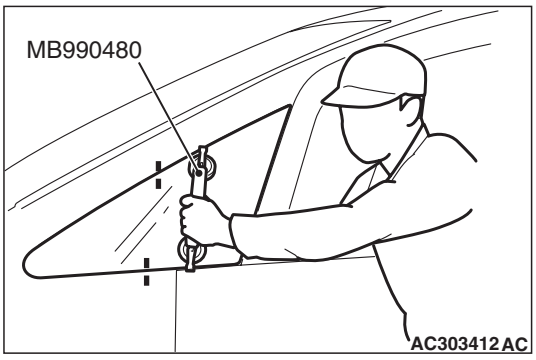
(1) To remove the adhesive from the bottom of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



(2) To remove the adhesive from the rear of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



(3) To remove the adhesive from the front of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



5. Make mating marks on the delta window glass and body, and use the special tool (window glass holder, MB990480) to remove the delta window glass.

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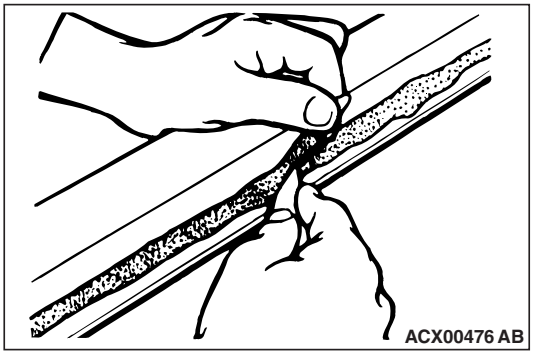
⚠ CAUTION



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.**

6. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
7. Finish the flange surfaces so that they are smooth.
8. If the delta window glass is reused, scrape away all traces of old adhesive from the glass.

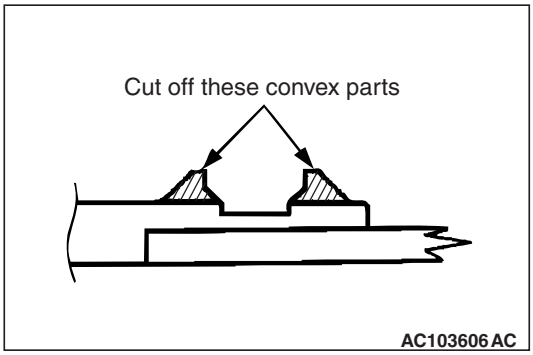
INSTALLATION SERVICE POINT >>A<<GASKET/CLIP/DELTA WINDOW GLASS ASSEMBLY INSTALLATION

1. If the delta window glass is reused, follow the procedure below.

⚠ CAUTION

Do not forget gasket.

(1) Fit clips into body.



(2) Cut away clip fitting convex on quarter window glass.

NOTE: Convex gets broken when quarter window glass is removed.

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

2. Use isopropyl alcohol to degrease the inside and outside of the delta window glass and the body flanges.
3. Apply the primer and adhesive.
4. Install the delta window glass by the same procedure as for the windshield (refer to P.42-13).

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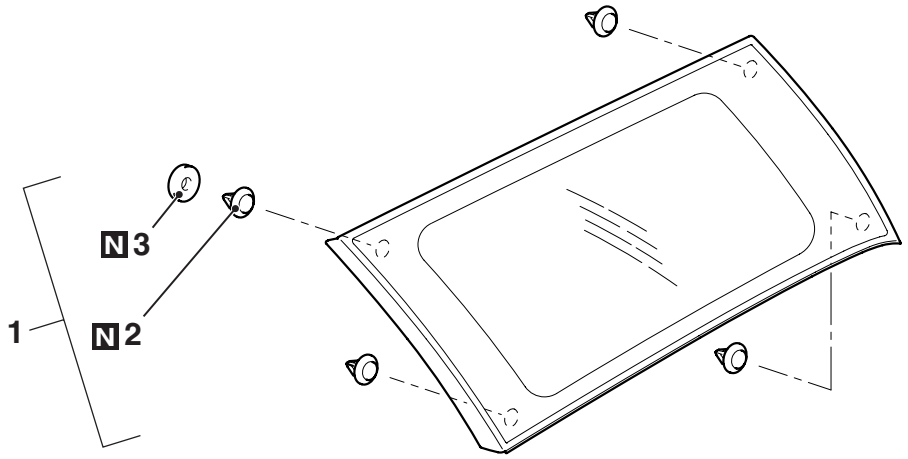
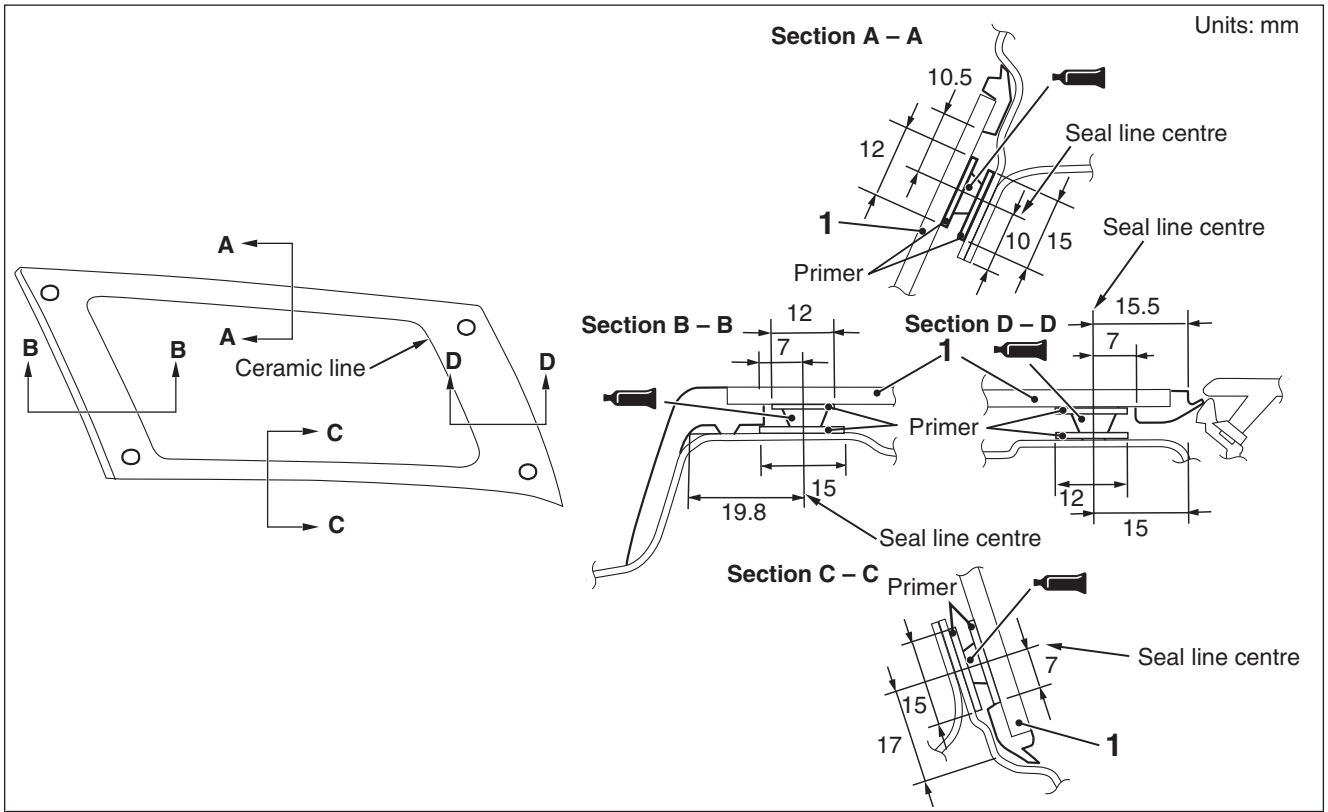
QUARTER WINDOW GLASS

REMOVAL AND INSTALLATION

M1422002500355

Pre-removal and Post-installation Operation
- Quarter Trim Upper Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-10).
- Rear Combination Lamp Assembly Removal and Installation (Refer to GROUP 54A, Rear Combination Lamp P.54A-153).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC303564AC

Removal steps

<<A>> >>A<< 1. Quarter window glass

Removal steps (Continued)

>>A<< 2. Clip
>>A<< 3. Gasket

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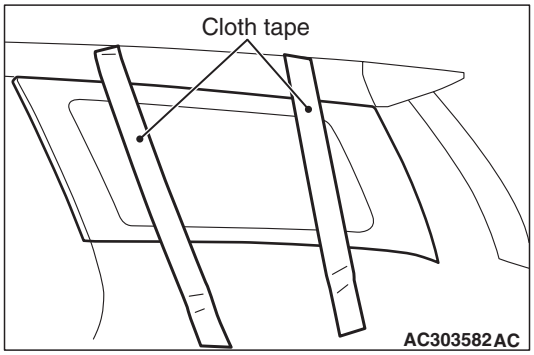
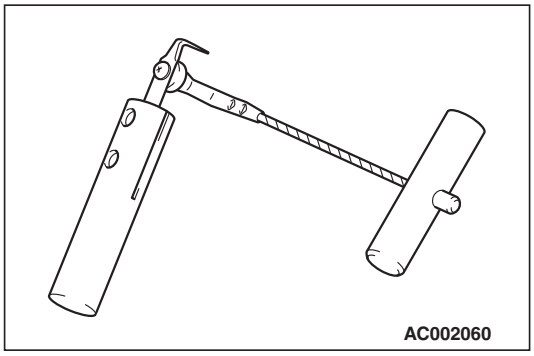
REMOVAL SERVICE POINT

<<A>> QUARTER WINDOW GLASS REMOVAL

1. In order to protect the body (paint surface), apply cloth tape to all body areas around the installed quarter window glass.

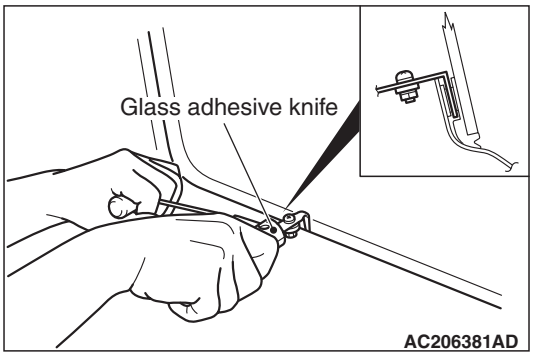


2. Apply cloth tape to protect the quarter window glass.



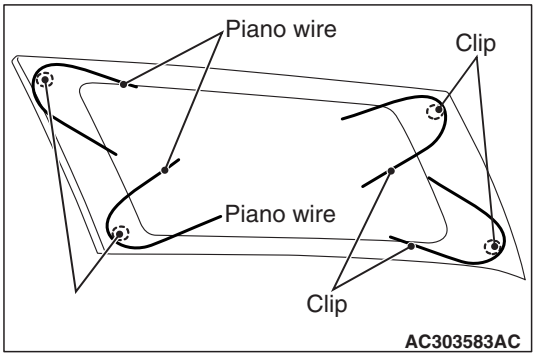
3. Use glass adhesive knife to cut away adhesive.

⚠ CAUTION

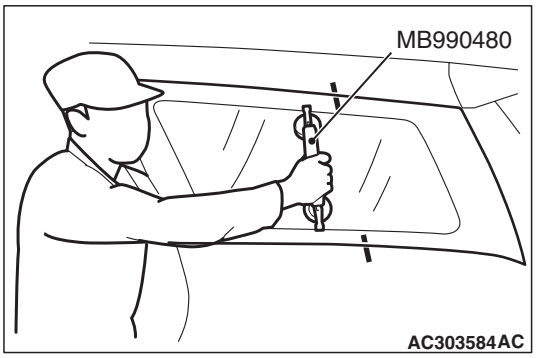


Inserting the adhesive knife too deeply into windshield adhesive may damage quarter window glass.

4. Keep the glass adhesive knife at right angles with body flange (from inside the vehicle), and put the blade at body flange. Then cut away adhesive along the body flange.

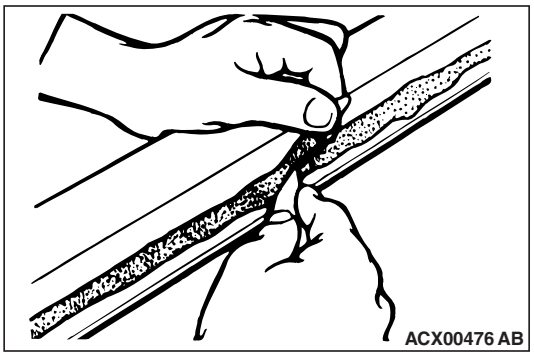


5. Separate the clips by using a piano wire.



6. Make mating marks on the quarter window glass and body.
7. Use special tool window glass holder(MB990480) to remove the quarter window glass.

⚠ 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.**

8. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
9. Finish the flange surfaces so that they are smooth.
10. When reusing the quarter window glass, remove the adhesive still adhering to the quarter window glass, and clean with isopropyl alcohol.
11. Clean the body side in the same way.

INSTALLATION SERVICE POINT

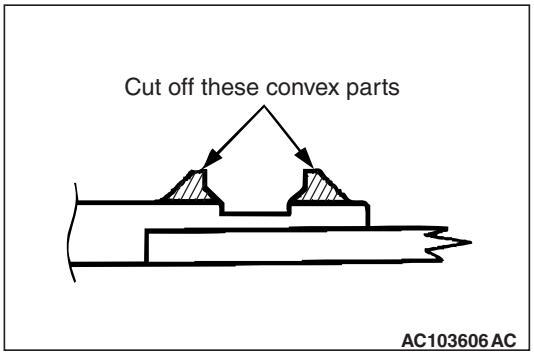
>>A<< GASKET/CLIP/QUARTER WINDOW GLASS INSTALLATION

1. Carry out the following procedure to re-install quarter window glass.

⚠ CAUTION

Do not forget gasket.

(1) Fit clips into body.



(2) Cut away clip fitting convex on quarter window glass.

NOTE: . Convex gets broken when quarter window glass is removed.

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

2. Use isopropyl alcohol to degrease the inside and outside of the quarter window glass and the body flanges.
3. Apply the primer and adhesive.
4. Install the glass by the same procedure as for the windshield (refer to P.42-13).

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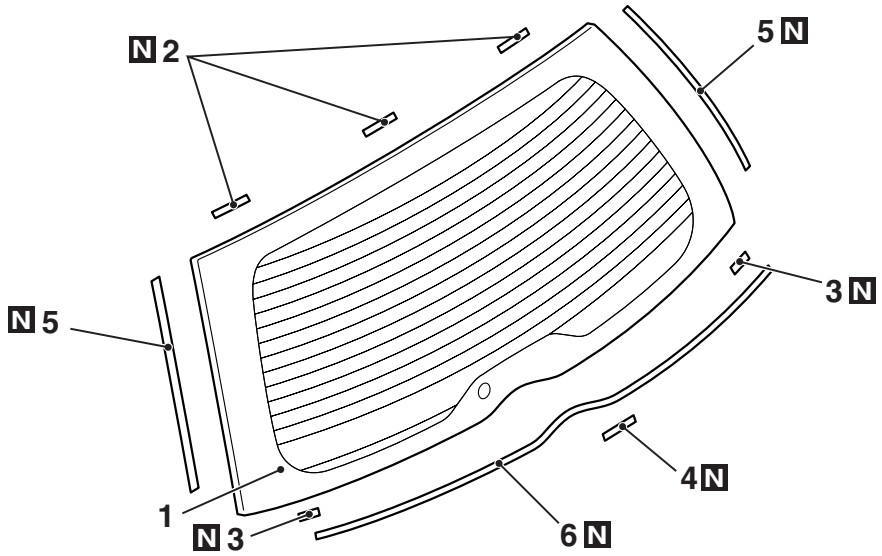
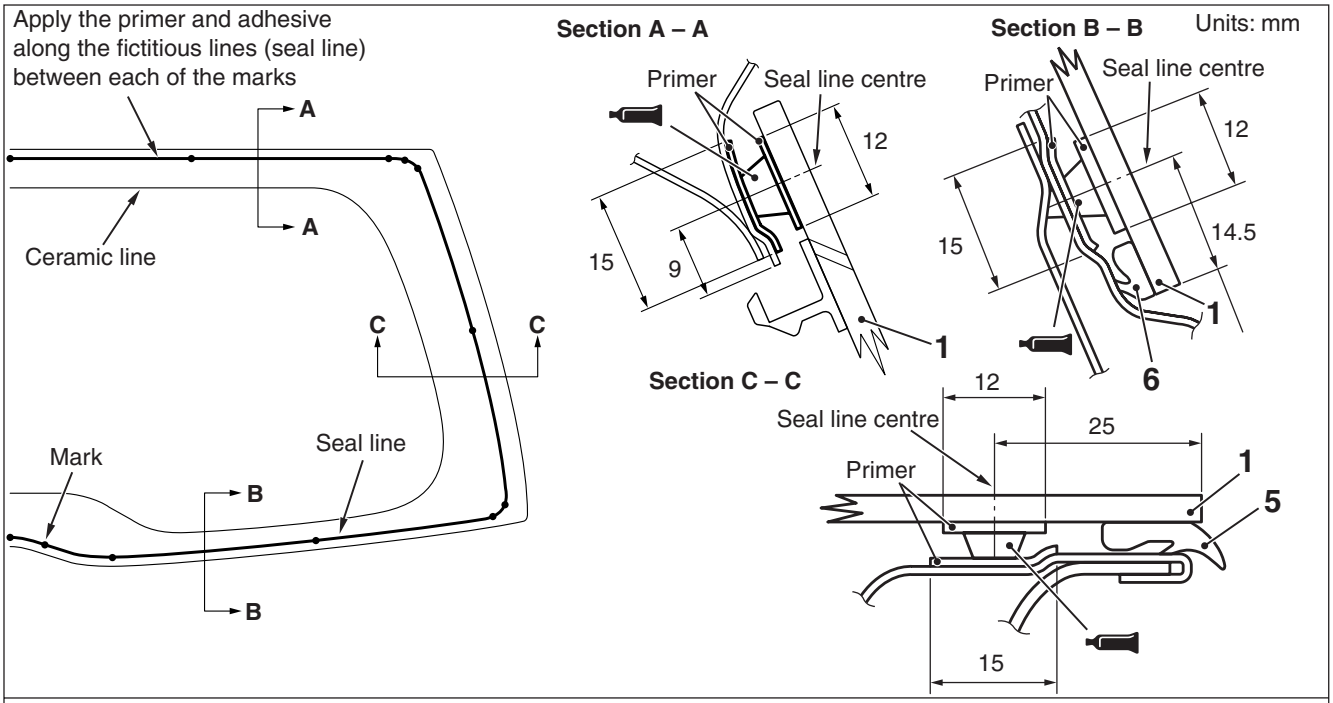
TAILGATE WINDOW GLASS

REMOVAL AND INSTALLATION

M1422003700255

Pre-removal and Post-installation Operation
- Rear Wiper Blade and Arm Assembly Removal and Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-25).
- Tailgate Spoiler Assembly Removal and Installation (Refer to GROUP 51,Tailgate Spoiler P.51-14).
- Tailgate Trim Removal and Installation (Refer to GROUP 52A, Tailgate Trim P.52A-16).
- Rear Wiper Motor Assembly Removal and Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-25).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC303189AC

Removal steps
- Harness connector

<<A>> >>B<< 1. Tailgate window glass
>>A<< 2. Glass stopper

Removal steps (Continued)
>>A<< 3. Dual lock fastener
>>A<< 4. Pin
>>A<< 5. Tailgate dam side
>>A<< 6. Tailgate dam lower

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REMOVAL SERVICE POINT

<<A>> TAILGATE WINDOW GLASS REMOVAL

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

NOTE: Use a piano wire to remove the tailgate window glass.

INSTALLATION SERVICE POINTS

>>A<< TAILGATE DAM LOWER/TAILGATE DAM SIDE/GLASS STOPPER/PIN/DUAL LOCK FASTENER INSTALLATION

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

1. Use isopropyl alcohol to degrease the inside and outside edges of the tailgate window glass and the surface of the tailgate flange.

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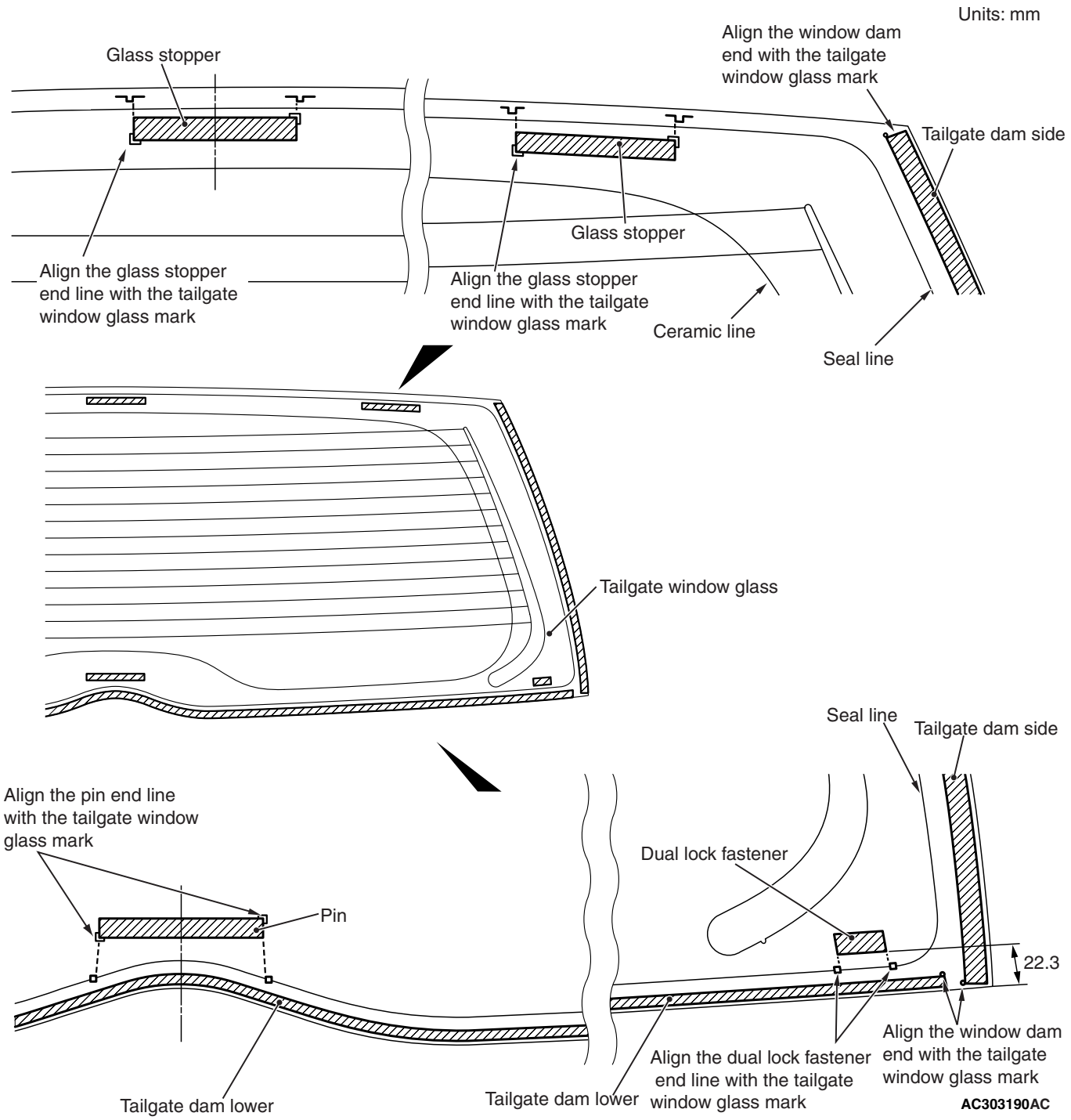
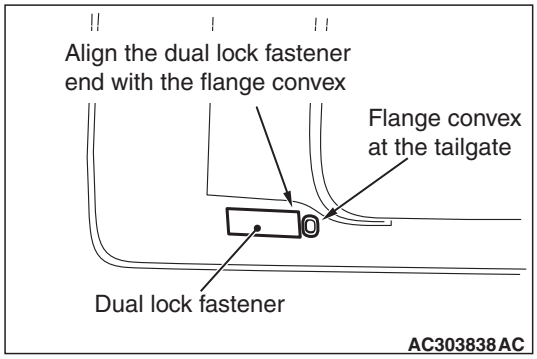


2. Install the tailgate dam lower, the tailgate dam side, the pin, the glass stopper and the dual lock fastener as shown in the illustration.



3. Assemble the dual lock fastener in alignment with the protrusion of the tailgate flange.

>>B<< TAILGATE WINDOW GLASS INSTALLATION

1. Apply the primer and adhesive.
2. Install the tailgate window glass in the same way as for the windshield installation (Refer to P.42-13).

DOOR

SERVICE SPECIFICATIONS

M1423000300121

Item	Standard value
Power window operation current (Power supply voltage 14.5 ±0.5 V, at 25 °C) A	7 or less
Door outside handle play mm	0 - 5.1 (target value: 2.2)
Door inside handle knob play mm	5.2 - 19.6 (target value: 10.9)
Stroke of the door inside handle lock knob mm	15

SEALANTS AND ADHESIVES

M1423000500114

Item		Specification
Door waterproof film		3M ATD Part No.8633 or equivalent
Door opening weatherstrip outer	Front door	Adhesive tape: Double-sided tape 5 mm width, 45 mm length and 0.5 mm thickness
	Rear door	Adhesive tape: Double-sided tape a: 5 mm width, 45 mm length and 0.5 mm thickness b: 5 mm width, 55 mm length and 0.8 mm thickness

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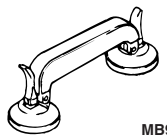
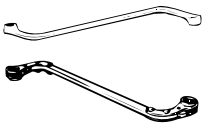
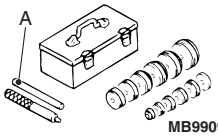
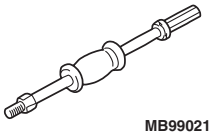
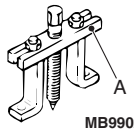
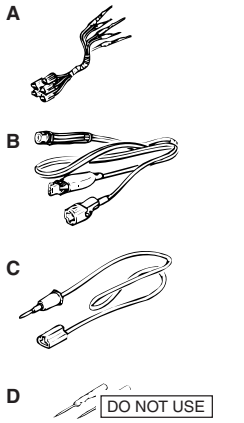
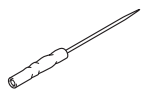
SPECIAL TOOLS

M1423000600586

Tool	Number	Name	Use
 MB990480	MB990480	Window glass holder	Removal of power window regulator and motor assembly
 MB990900	MB990900 or MB991164	Door hinge adjusting wrench	Door adjustment
 MB990925AF	MB990925 A: MB990939	Bearing and oil seal installer set A: Brass bar	Door striker adjustment
 MB990211	MB990211	Sliding hammer	
 MB990241AE	MB990241 A: MB990243	Axle shaft puller A: Body puller	
 MB991223AZ	MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222	Harness set A: Test harness B: LED harness C: LED harness adapter D: Probe	Terminal voltage measurement A: For checking connector pin contact pressure B: For checking power supply circuit C: For checking power supply circuit D: For connecting a locally sourced tester
 MB992006	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

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TROUBLESHOOTING

M1423000700367

The door system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

ON-VEHICLE SERVICE

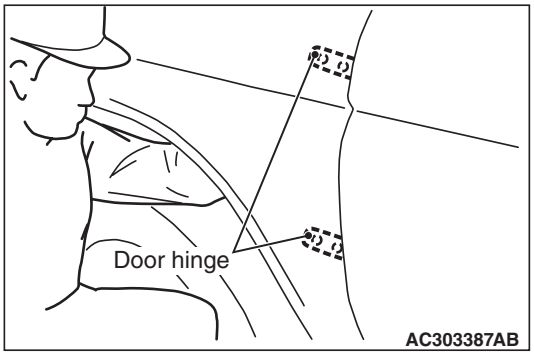
DOOR FIT ADJUSTMENT

M1423000900178

⚠ CAUTION

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

1. When the clearance between the door and the body is uneven
   (1) Remove the fender rear protector <Front door> (Refer to P.42-9).
   (2) Remove the centre pillar trim <Rear door> (Refer to GROUP 52A, Interior Trim P.52A-10).



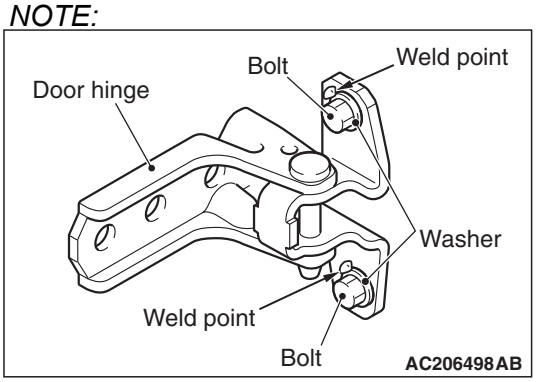
   (3) Use the special tool (door hinge adjusting wrench, MB990900 or MB991164) to loosen the body-side door hinge mounting bolts.

   NOTE: The body-side mounting nuts of the rear door upper hinge can be loosened from inside the passenger compartment. No special tools are required.

   (4) Move the door to adjust until the clearance around the door is even.

2. When the door is not flush with the vehicle body surface.
   (1) Loosen the door-side hinge mounting bolts.

NOTE:

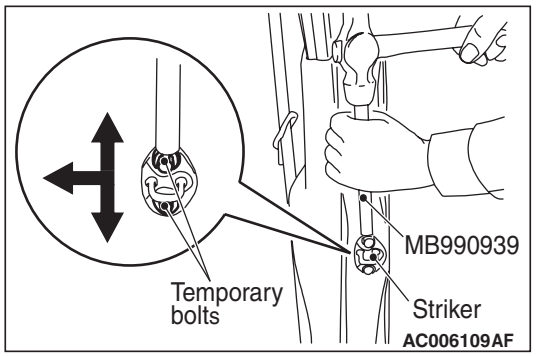


If the door hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.

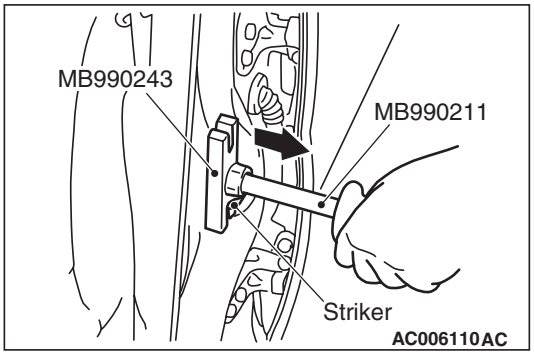
   a. Remove the door hinge (Refer to P.42-35).
   b. Use a chisel or grinder to release the door hinge mounting bolt washer, which is welded to the door hinge.
   c. On completion, paint the affected area with a suitable touch-in brush to prevent corrosion.
   d. Install the door hinge (Refer to P.42-35).

   (2) Move the door to adjust until the door is flush with the vehicle body.

3. When the door is stiff to lock and unlock:

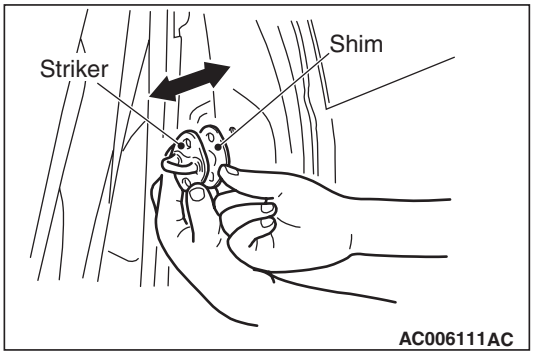


   (1) Adjustment by using the striker (toward the inside of the vehicle and vertical direction)
   Install an temporary bolts instead of the striker mounting bolt, and use special tool brass bar (MB990939) and a hammer to tap the bolts to the desired direction.



(2) Adjustment by using the striker (toward the outside of the vehicle)

Use special tools sliding hammer (MB990211) and body puller (MB990243) to pull the striker toward the outside of the vehicle.



(3) Adjustment by using shims (forward and rearward)

Increase or decrease the number of shims so that the striker engages with the door latch properly.

DOOR WINDOW GLASS ADJUSTMENT

M1423001000402

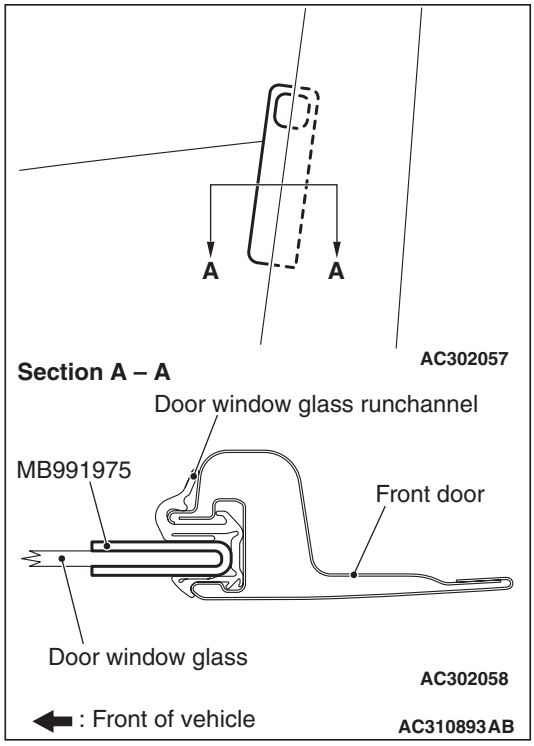
FRONT DOOR WINDOW GLASS ADJUSTMENT

⚠ CAUTION

Be careful not to damage the front door window glass when the special tool Glass Retainer (MB991975) is removed and installed.

Check that the front door window glass operates smoothly when it is fully raised and fully lowered. If there is a problem, adjust by the following procedure.

1. Removal the front door trim assembly. Refer to GROUP 52A, Door Trim P.52A-12.
2. Removal the waterproof film. Refer to P.42-47.
3. Loosen the front door window glass mounting bolts.



4. Install the special tool (glass retainer, MB99175) as shown. Adjust the clearance between the rear end of the front door window glass and the door window glass runchannel. Finally, tighten the front door window glass mounting bolts to 5.0±1.0 N· m.

REAR DOOR WINDOW GLASS ADJUSTMENT

⚠ CAUTION

Be careful not to damage the rear door window glass when the special tool Glass Retainer (MB991975) is removed and installed.

Check that the rear door window glass operates smoothly when it is fully raised and fully lowered. If there is a problem, adjust by the following procedure.

1. Removal the rear door trim assembly. Refer to GROUP 52A, Door Trim P.52A-12.
2. Removal the waterproof film. Refer to P.42-47.
3. Loosen the rear door window glass mounting bolts.

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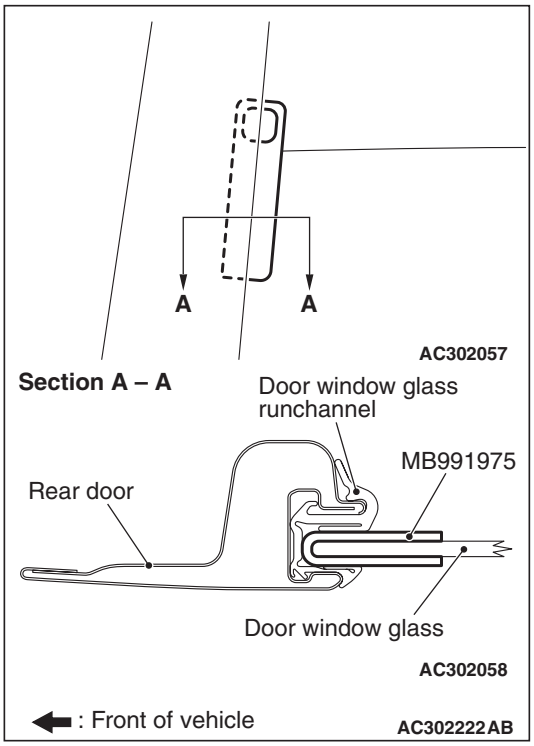


4. Install the special tool (glass retainer, MB99175) as shown. Adjust the clearance between the rear end of the front door window glass and the door window glass runchannel. Finally, tighten the front door window glass mounting bolts to 5.0±1.0 N· m.

POWER WINDOW CHECK

M1429004400300

Check the system as described below. If the system does not work, carry out troubleshooting.Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

- Turn off the power window lock switch of the power window main switch, and operate each of the power window swithces to check that each power window operates.
- Turn on the power window lock switch of the power window main switch, and operate the front and rear passenger's power window sub switches to check that the power windows do not work.
- Turn on the power window lock switch of the power window main switch, and operate the power window main switch to check that each power window operates.

NOTE: The adjustment function allows you to change the power window lock switch's setting from "All the power window switches can be operated when the power window lock switch is ON (initial setting)" to "The power window switches except the switch at the driver's seat can not be operated when the power window lock switch is ON". Prior to the check, confirm which setting is activated.

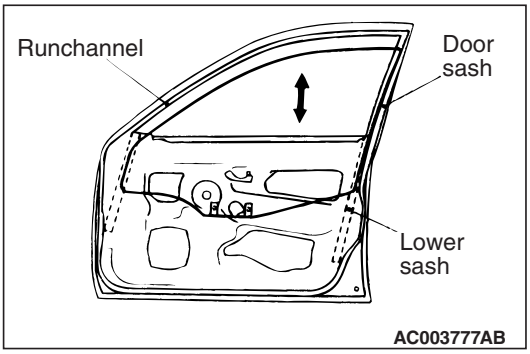
GLASS SLIDING MECHANISM CHECK AND ADJUSTMENT

M1429000900165

If the window glass automatically starts moving downwards at the wrong time while it is being raised, carry out the following adjustment or replacement procedures.

1. Remove the door trim assembly (Refer to GROUP 52A, Door trim P.52A-12).
2. Remove the waterproof film (Refer to P.42-47).
3. Remove the window regulator assembly from the door window glass, and then raise and lower the door window glass by hand to check the operation force.

   NOTE: Insert a cushion or similar object to prevent damage to the glass if it should happen to fall down.



4. If the door window glass does not move up and down smoothly, check or repair the following points.
   - Check the installation condition of the runchannel.
   - Repair any twisting in the door sash.
   - Check the installation condition of the lower sash.
5. If repair or adjustment is not possible, replace the door assembly.

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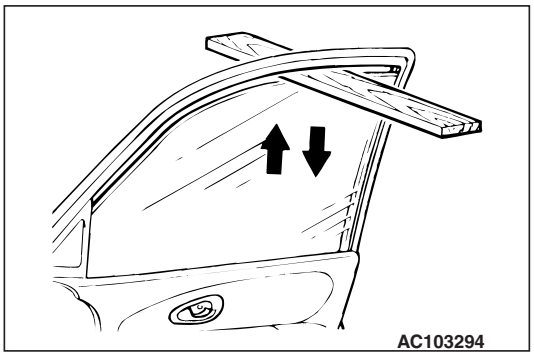
POWER WINDOW SAFETY MECHANISM CHECK <VEHICLES FOR HONG KONG AND SINGAPORE>

M1429001000336



1. Place a wooden board about 10 mm thick as shown. Then, raise the window glass.
2. Check that the window lowers by about 150 mm when the window clamps the board. If this doesn't happen, carry out troubleshooting. Refer to GROUP 54D, Troubleshooting P.54D-26, or refer to GROUP 54E, TroubleshootingP.54E-5.

   NOTE: If the anti-trap function (safety mechanism) is activated consecutively three times or more, make the power window switch learn the fully closed position of the power window (Refer to P.42-41).

POWER WINDOW TIMER FUNCTION CHECK

M1429004300217

Check the system as described below. If the system does not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

- Close the door and turn the ignition switch to the LOCK (OFF) position, and then check that the power windows operate for 30 seconds.
- The timer activates by closing the doors and turning the ignition switch to the LOCK (OFF) position. Check if the power windows operates within 30 seconds after the driver's door is opened while the timer is being activated. The timer period will be extended if the driver's door is opened, but the timer will be cancelled if the driver's door is closed while the timer is being activated.<Except vehicles for Australia and New Zealand>

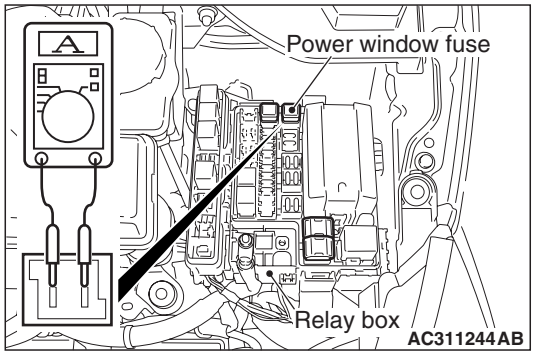
NOTE: The customisation function allows you to change the power window timer period from 30 seconds (default setting) to 3, 10 minutes or "without function". Prior to the check, confirm which setting is activated.<Vehicles for Hong Kong and Singapore>

- Check that the all of the door windows can be operated by using the power window main switch while the timer is on.

NOTE: The customisation function allows you to change the power window timer setting from "all of the door windows can be operated by using the power window main switch (default setting)" to "none of the door windows excluding the driver's door can be operated by using the power window main switch". Prior to that check, confirm which setting is activated.

POWER WINDOW OPERATING CURRENT CHECK

M1429001100270



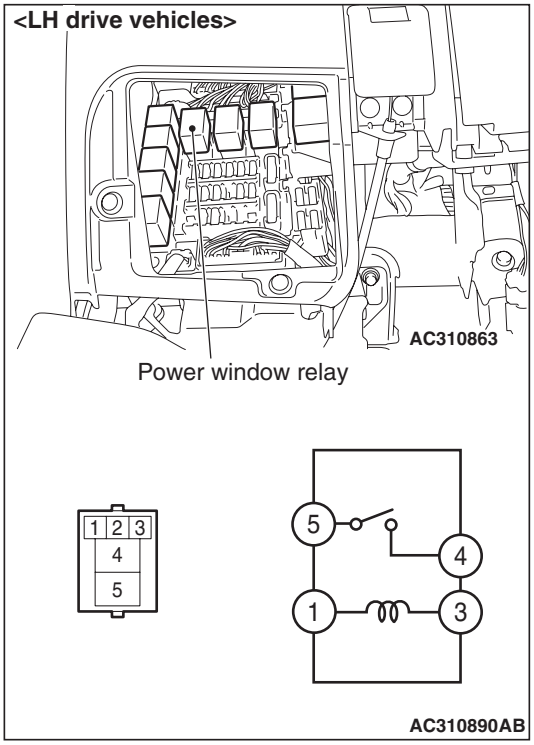
1. Remove the power window fuse and connect an ammeter as shown in the illustration.
2. When the power window switch is pressed to the "UP" position, a large amount of current flows at the time the window starts to close and when it is fully closed, so measure the operation current in the interval between these two points.

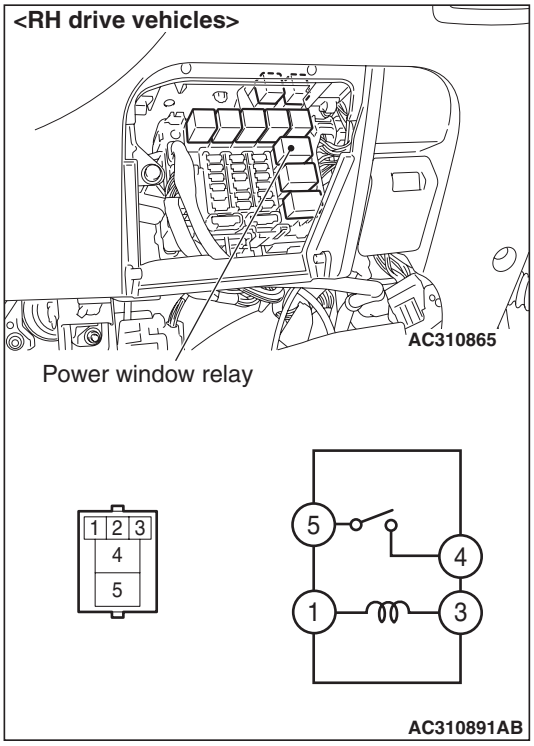
   Standard value: 7A or less (Power supply voltage 14.5 ±0.5V, 25° C)

   NOTE: If the power supply voltage does not meet the standard value, check and repair the alternator and the battery. Then carry out this check again.
3. If the operation current is outside the standard value, refer to P.42-30.

POWER WINDOW RELAY CHECK

M1429001800257





BATTERY VOLTAGE	TESTER CONNECTION	SPECIFIED CONDITION
Not applied	4 –5	Open circuit
• Connect terminal No.1 and the positive battery terminal. • Connect terminal No.3 and the negative battery terminal.	4 –5	Less than 2 ohms

CIRCUIT BREAKER (INCORPORATED IN THE POWER WINDOW MOTOR) INSPECTION

M1429001700131

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.

CENTRAL DOOR LOCKING SYSTEM INSPECTION

M1427001100230

- Check that the central door locking functions when the central door lock switch the key cylinder of the driver's door <Vehicles for Hong Kong and Singapore>, the key cylinder of the driver's door, the front passenger's door or the tailgate (vehicles without keyless entry system) or the driver's door inside lock knob <Except vehicles for Hong Kong and Singapore> is operated. If it does not operate, perform troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

NOTE: When the driver's door inside lock knob is operated with the driver's door opened, the driver's door is not locked.

- Check whether the driver's door is opened when the driver's door inside handle is pulled with all the doors locked. If it does not operate, replace the driver's door latch assembly. Refer to P.42-42.

CHECK OF KEY LOCK PREVENTION FUNCTION

M1427003300058

Check that the driver's door is not locked when the driver's door inside lock knob is operated with the driver's door opened. If it is locked, replace the door latch. Refer to P.42-42.

SHIFT "P" INTERLINK DOOR UNLOCK FUNCTION CHECK <VEHICLES FOR HONG KONG AND SINGAPORE>

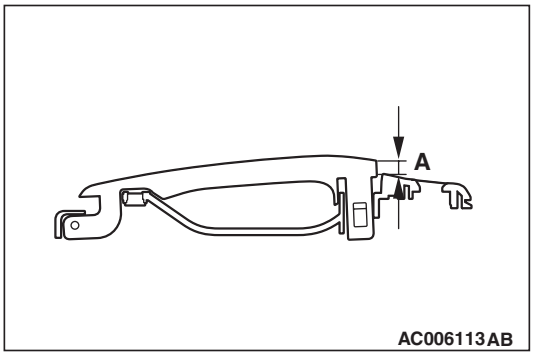
M1427003400033

When the selector is moved to the P (parking) position with the ignition switch on, all the doors and the tailgate will be unlocked.
Carry out troubleshooting if the door is unlocked.Refer to GROUP 54D, Troubleshooting P.54D-26, or refer to GROUP 54E, TroubleshootingP.54E-5.

NOTE: The adjustment function allows you to change the selector "P" position-linked door unlocking's setting from disabled (initial setting)" to "enabled only with the power window lock switch off" or "enabled". Prior to the check, confirm which setting is activated.

DOOR OUTSIDE HANDLE PLAY CHECK

M1423001600318

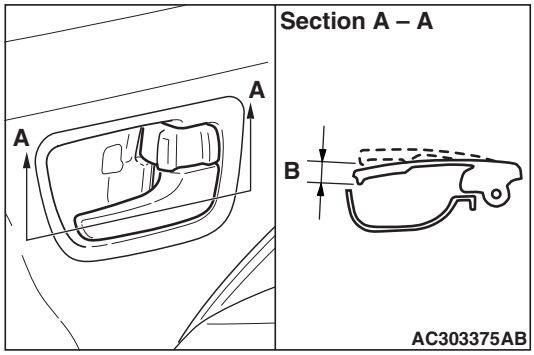


1. Check that the door outside handle play is within the standard value range.
   Standard value (A): 0 – 5.1 mm (target value: 2.2 mm)
2. If the door outside handle play is not within the standard value range, check the door outside handle or the door latch assembly. Replace if necessary.

DOOR INSIDE HANDLE PLAY ADJUSTMENT

M1423001500344

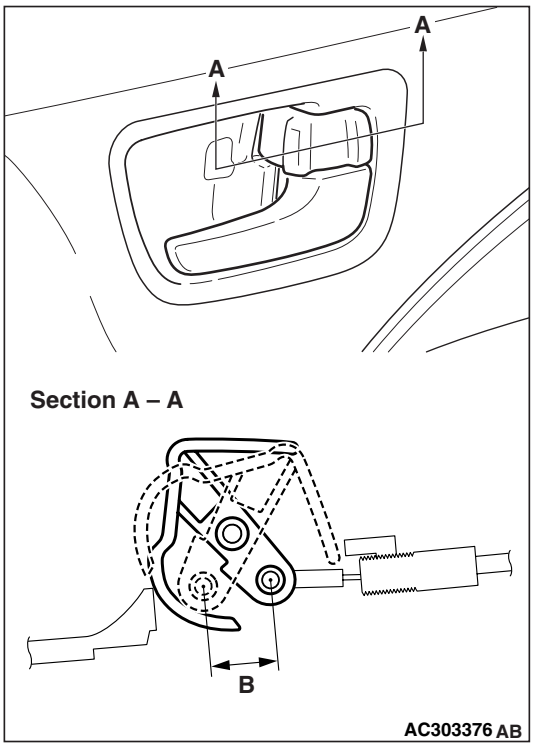
DOOR INSIDE HANDLE KNOB PLAY CHECK



1. Check that the door inside handle knob play satisfies the standard value.
   Standard value (B): 5.2 – 19.6 mm (target value: 10.9 mm)
2. Check the door inside handle and door latch assembly, and replace them if they are out of the standard value. Refer to P.42-42.

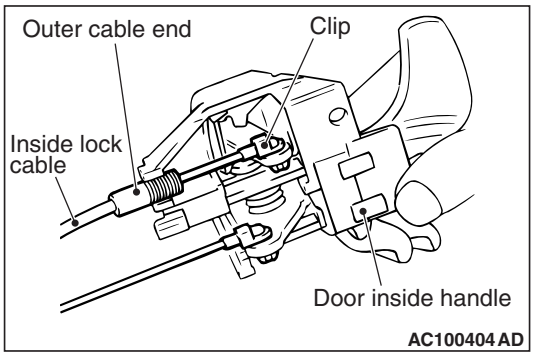
DOOR INSIDE HANDLE LOCK KNOB STROKE CHECK

1. Removal the door trim assembly. Refer to GROUP 52A, Door Trim P.52A-12.



2. Check that the stroke of the door inside handle lock knob satisfies the standard value.

   Standard value (B): 15 mm



3. If it is outside the standard value, adjust the stroke of the inside handle lock knob by using the outer cable end, which connects the inside handle lock knob to the inside lock cable.

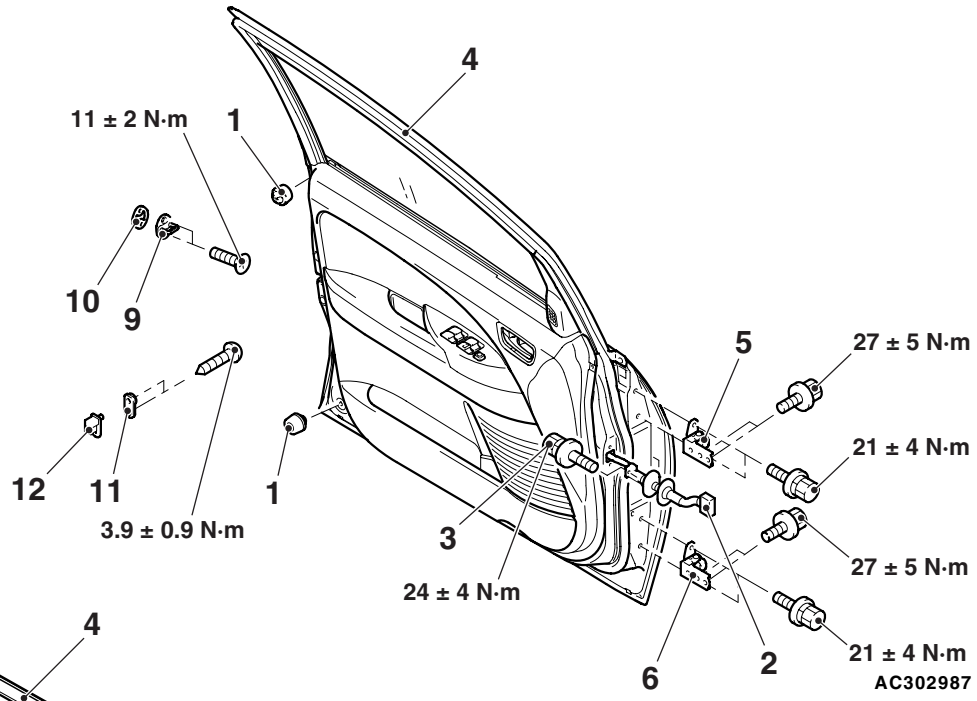
DOOR ASSEMBLY

REMOVAL AND INSTALLATION

M1423002200357

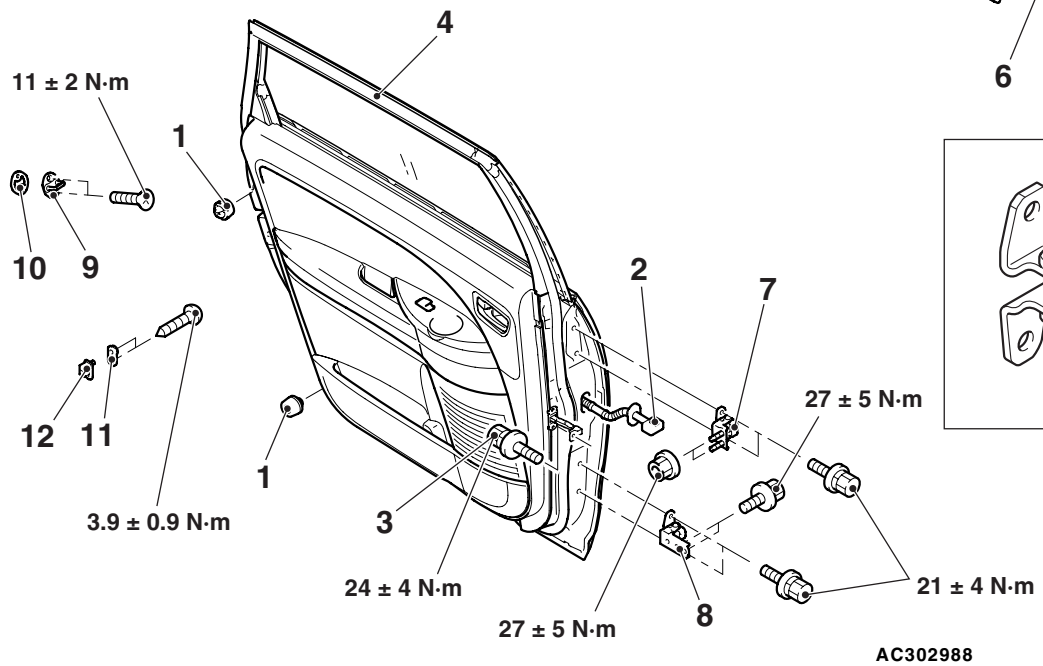
Post-installation Operation
- Door Fit Adjustment (Refer to P.42-28).

<Front door>

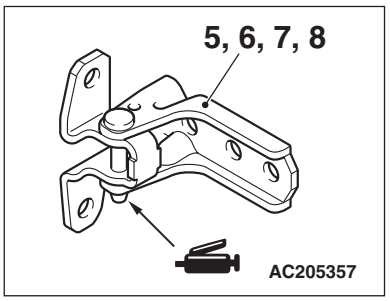


AC302987

<Rear door>



AC302988



AC205357

AC310898AB

Damper removal
1. Damper

Door assembly removal steps
- Front scuff plate and cowl side trim <Front door> (Refer to GROUP 52A, Interior Trim).P.52A-10
2. Harness connector
3. Door check connecting bolt
4. Door assembly

Front door hinge removal steps
- Fender rear protector (Refer to P.42-9).
5. Front door upper hinge
6. Front door lower hinge

Rear door hinge removal steps
- Centre pillar trim (Refer to GROUP 52A, Interior Trim P.52A-10).
7. Rear door upper hinge
8. Rear door lower hinge

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Striker removal steps

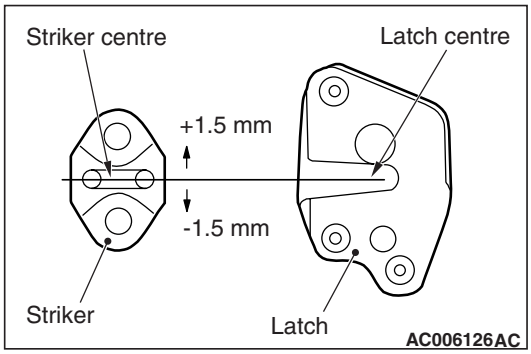
>>A<< 9. Striker
10. Striker shim

Door switch removal steps

11. Door switch cover
12. Door switch

INSTALLATION SERVICE POINT

>>A<< STRIKER INSTALLATION

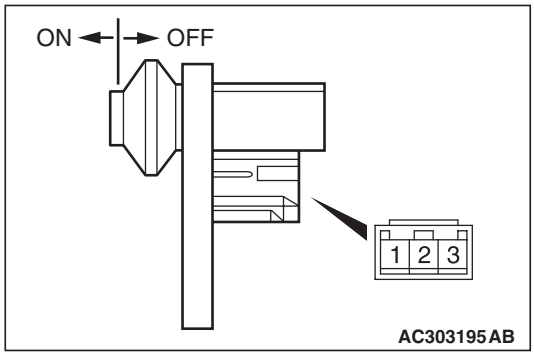


Align the centre of the striker and latch within ±1.5 mm, and install.

INSPECTION

M1423006000399

DOOR SWITCH CHECK



Switch position	Tester connection	Specified condition
Released (ON)	1 –switch body, 2 –switch body	Less than 2 ohms
Depressed (OFF)	1 –switch body, 2 –switch body	Open circuit

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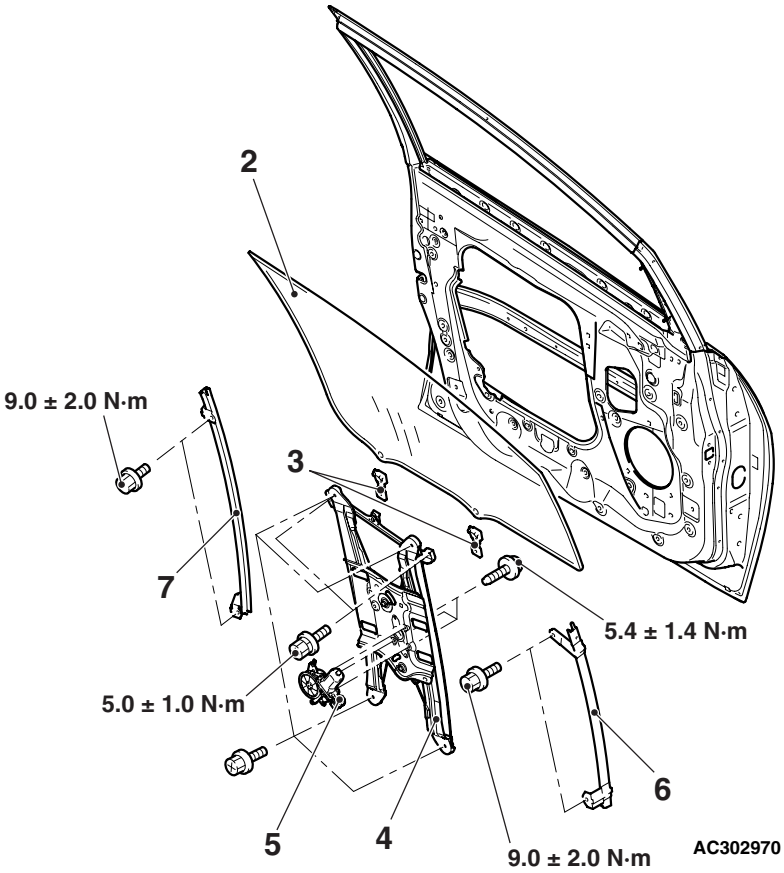
DOOR GLASS AND REGULATOR

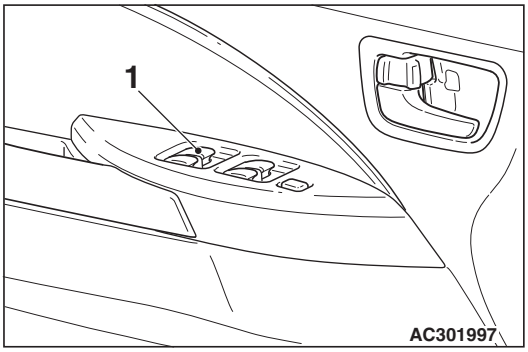
REMOVAL AND INSTALLATION

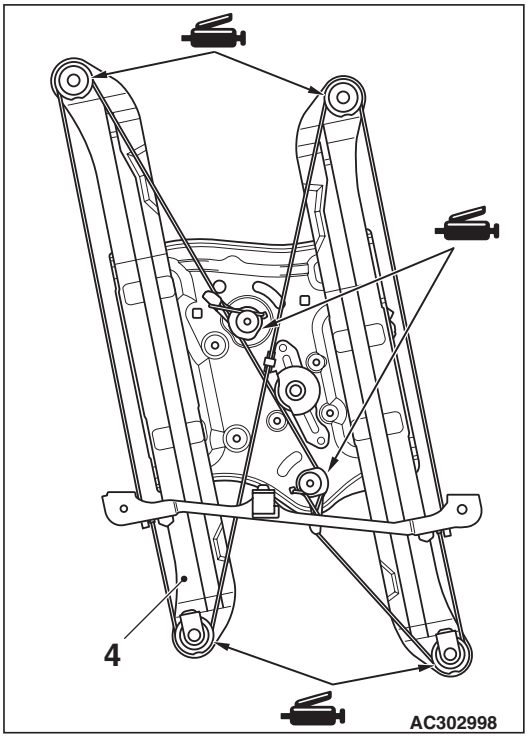
M1429001300490

Pre-removal Operation	Post-installation Operation
• Door Trim Assembly Removal (Refer to GROUP 52A, Door Trim P.52A-12). • Waterproof Film Removal (Refer to P.42-47).	• Door Window Glass Adjustment (Refer to P.42-29). • Waterproof Film Installation (Refer to P.42-47). • Door Trim Assembly Installation (Refer to GROUP 52A, Door Trim P.52A-12).

<Front door>







AC310917AB

Power switch removal

1. Power window main switch <Driver's side> and power window sub switch <Passenger's side> (Refer to GROUP 52A, Door Trim P.52A-14).

Door window glass assembly removal steps <<A>>

- Door beltline moulding and Door beltline inner weatherstrip (Refer to P.42-47).

Door window glass assembly removal steps (Continued)

2. Door window glass assembly
3. Glass holder

Power window regulator removal steps

>>A<<
- Post-installation operation check

4. Power window regulator
5. Power window motor

Front lower sash removal steps

2. Door window glass assembly

<<A>>

4. Power window regulator

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Front lower sash removal steps
- Door window glass runchannel (Refer to P.42-47).

>>B<< 6. Front lower sash

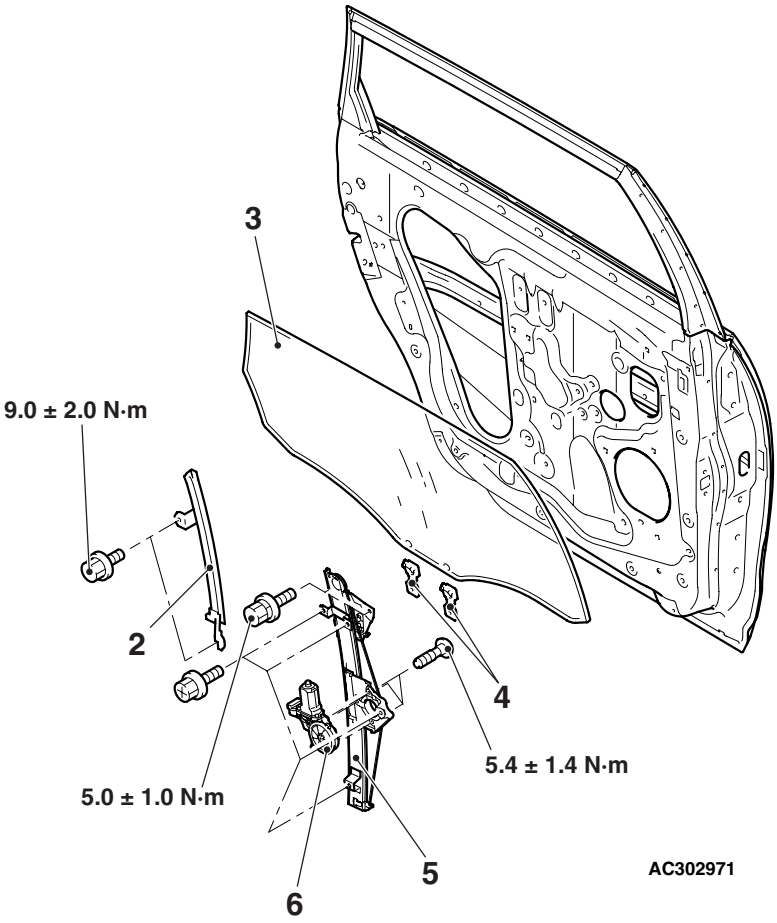
Rear lower sash removal steps

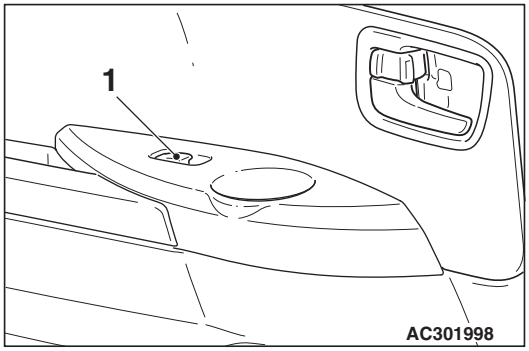
2. Door window glass assembly

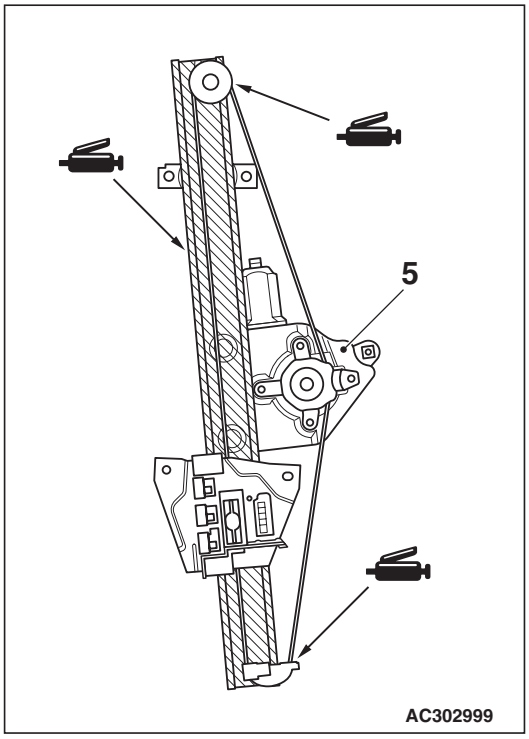
<<A>> 4. Power window regulator
- Door window glass runchannel (Refer to P.42-47).

7. Rear lower sash

<Rear door>







AC310918AB

Power window sub switch removal

1. Power window sub switch (Refer to GROUP 52A, Door Trim P.52A-14).

Door window glass assembly removal steps
- Door beltline moulding and Door beltline inner weatherstrip (Refer to P.42-47).

>>B<< 2. Rear lower sash

Door window glass assembly removal steps (Continued)

3. Door window glass assembly
4. Glass holder

Power window regulator removal steps

>>A<<
- Post-installation operation check

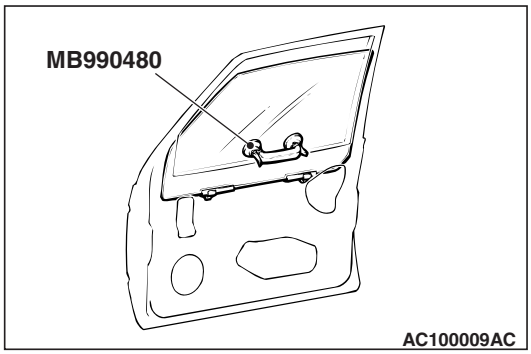
5. Power window regulator
6. Power window motor

REMOVAL SERVICE POINT

<<A>> POWER WINDOW REGULATOR REMOVAL

1. Remove the door window glass installation bolts.

⚠ CAUTION



If tinting film is adhered to the door window glass, attach special tool window glass holder (MB990480) to the outside of the glass to prevent the film from peeling off.

2. Lift the door window glass, and attach special tool window glass holder (MB990480) to the glass as shown to prevent the glass from falling.
3. Remove the window regulator.

INSTALLATION SERVICE POINTS

>>A<< POST-INSTALLATION OPERATION CHECK

When the following procedures are carried out, make the power window switch learn the fully closed position of the power window (Refer to P.42-41).

- Power window regulator removal or replacement
- Power window switch removal or replacement

>>B<< REAR LOWER SASH AND FRONT LOWER SASH INSTALLATION

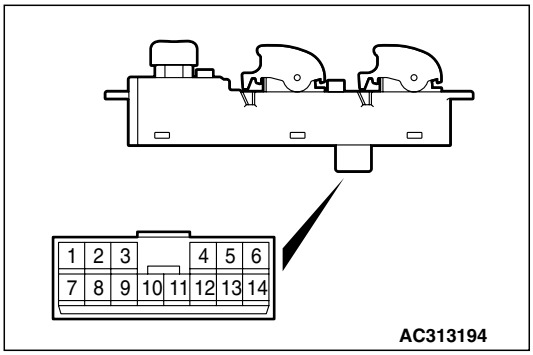
Engage the rear lower sash and the front lower sash with the window sash (door) securely.

INSPECTION <EXCEPT VEHICLES FOR HONG KONG AND SINGAPORE>

M1429001400419

POWER WINDOW SWITCH CONTINUITY CHECK

Remove the power window switch (Refer to GROUP 52A, Door Trim P.52A-14).

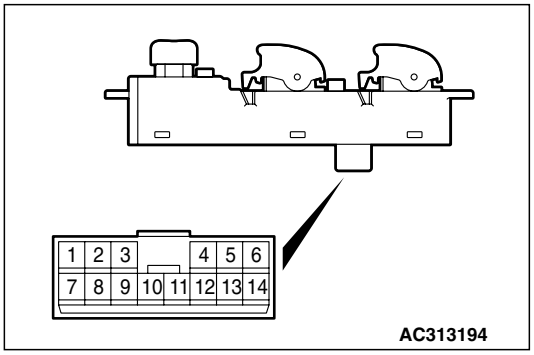


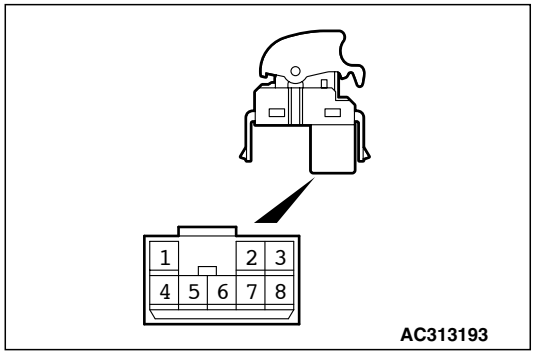
MAIN SWITCH <LH DRIVE VEHICLES>

SWITCH POSITION		TESTER CONNECTION	SPECIFIED CONDITION
FRONT (LH)	UP	7 –10, 8 –9	Less than 2 ohms
	OFF	7 –8, 8 –9	Less than 2 ohms
	DOWN	9 –10, 7 –8	Less than 2 ohms
FRONT (RH)	UP	10 –12, 8* –14	Less than 2 ohms
	OFF	8* –12, 8* –14	Less than 2 ohms
	DOWN	10 –14, 8* –12	Less than 2 ohms
REAR (LH)	UP	1 –10, 3 –8*	Less than 2 ohms
	OFF	1 –8*, 3 –8*	Less than 2 ohms
	DOWN	3 –10, 1 –8*	Less than 2 ohms
REAR (RH)	UP	4 –10, 6 –8*	Less than 2 ohms
	OFF	4 –8*, 6 –8*	Less than 2 ohms
	DOWN	6 –10, 4 –8*	Less than 2 ohms

*NOTE: *: Set the window lock switch to UNLOCK position.*

Main Index
Group TOC





MAIN SWITCH <RH DRIVE VEHICLES>

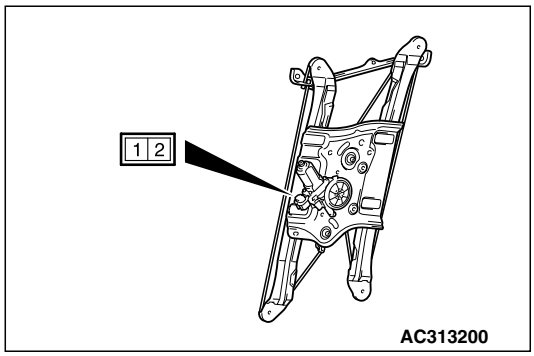
SWITCH POSITION		TESTER CONNECTION	SPECIFIED CONDITION
FRONT (LH)	UP	7 –10, 2* –9	Less than 2 ohms
	OFF	2* –7, 2* –9	Less than 2 ohms
	DOWN	9 –10, 2* –7	Less than 2 ohms
FRONT (RH)	UP	10 –12, 2 –14	Less than 2 ohms
	OFF	2 –12, 2–14	Less than 2 ohms
	DOWN	10 –14, 2 –12	Less than 2 ohms
REAR (LH)	UP	1 –10, 2* –3	Less than 2 ohms
	OFF	1 –2*, 2* –3	Less than 2 ohms
	DOWN	3 –10, 1 –2*	Less than 2 ohms
REAR (RH)	UP	4 –10, 2* –6	Less than 2 ohms
	OFF	2* –4, 2* –6	Less than 2 ohms
	DOWN	6 –10, 2* –4	Less than 2 ohms

*NOTE: *: Set the window lock switch to UNLOCK position.*

SUB SWITCH

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
UP	6 –7, 4 –5	Less than 2 ohms
OFF	7 –8, 4 –5	Less than 2 ohms
DOWN	4 –6, 7 –8	Less than 2 ohms

POWER WINDOW MOTOR CONTINUITY CHECK



<FRONT DOOR>

TESTER CONNECTION	SLIDER POSITION
• Connect terminal No.2 and the negative battery terminal. • Connect terminal No.1 and the positive battery terminal.	UP
• Connect terminal No.2 and the negative battery terminal. • Connect terminal No.1 and the positive battery terminal.	DOWN

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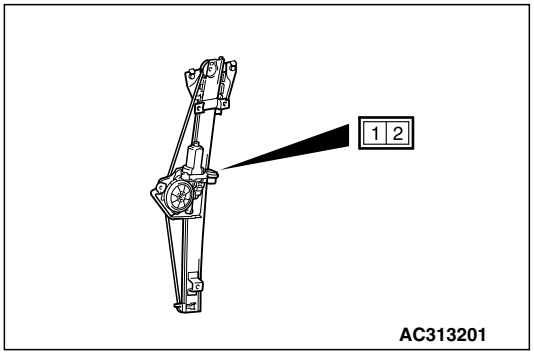
Group TOC



<REAR DOOR>

TESTER CONNECTION	SLIDER POSITION
• Connect terminal No.1 and the negative battery terminal. • Connect terminal No.2 and the positive battery terminal.	UP
• Connect terminal No.2 and the negative battery terminal. • Connect terminal No.1 and the positive battery terminal.	DOWN

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.

INSPECTION <VEHICLES FOR HONG KONG AND SINGAPORE>

M1429001400390

HOW TO MAKE THE POWER WINDOW SWITCH LEARN THE FULLY CLOSED POSITION OF THE POWER WINDOW

HOW TO MAKE THE POWER WINDOW SWITCH LEARN THE FULLY CLOSED POSITION WHEN THE POWER WINDOW SWITCH IS REMOVED, OR THE POWER WINDOW REGULATOR ASSEMBLY IS REMOVED OR REPLACED

1. If the anti-trap function (safety mechanism) is activated consecutively three times or more, the fully closed position that the power window switch has learned will be erased (initialised).
2. Operate the power window switch and fully open the door window glass.

⚠ CAUTION

The anti-trap function does not work until the power window switch completes learning the fully closed position (It is because the anti-trap function is reset).

3. Operate the power window switch and fully close the door window glass. The power window activates for 0.7 second and stops automatically when the power window switch is pressed once. Repeat this operation until the door window glass fully closes and release the switch once. Then, hold the power window switch to the fully closed side again for one second so that the power window switch completes learning the fully closed position.

   NOTE: If the power window switch is operated to open the door window glass while the switch is learning, learning will be cancelled. If this happens, return to step 2.

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HOW TO MAKE THE POWER WINDOW SWITCH LEARN THE FULLY CLOSED POSITION WHEN THE POWER WINDOW SWITCH IS REPLACED WITH A NEW ONE

⚠ CAUTION

The anti-trap function does not work until the power window switch completes learning the fully closed position (It is because the anti-trap function is reset).

Operate the power window main switch to fully close the door window glass by one-shot up action so that the power window switch will complete learning (Initialisation is not needed).

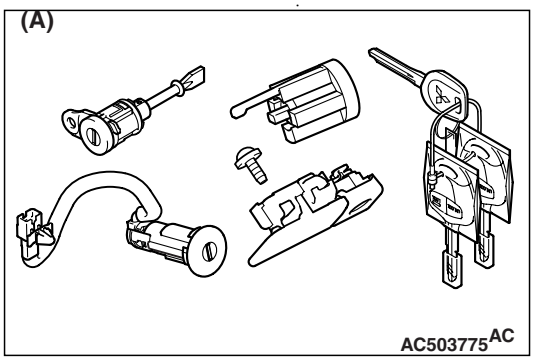
NOTE: When the power window sub switch of each seat is replaced, operate the power window main switch to fully close the applicable power window by one-shot up action (It is because the power window sub switch does not have one-shot up/down function).

DOOR HANDLE AND LATCH

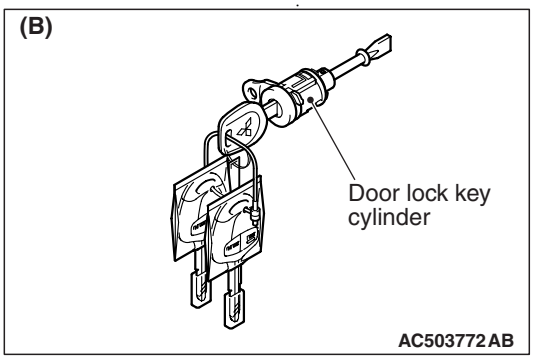
REMOVAL AND INSTALLATION

M1423004600715

⚠ CAUTION



When the door lock key cylinder is replaced by key set (A) in the figure, register the encrypted code of the bar code attached to the ignition key. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-9 <Vehicles for Hong Kong and Singapore>.



When the door lock key cylinder (B) in the figure is replaced, do not register the encrypted code of the bar code attached to the ignition key. If the encrypted code is registered, the engine cannot start <Vehicles for Hong Kong and Singapore>.

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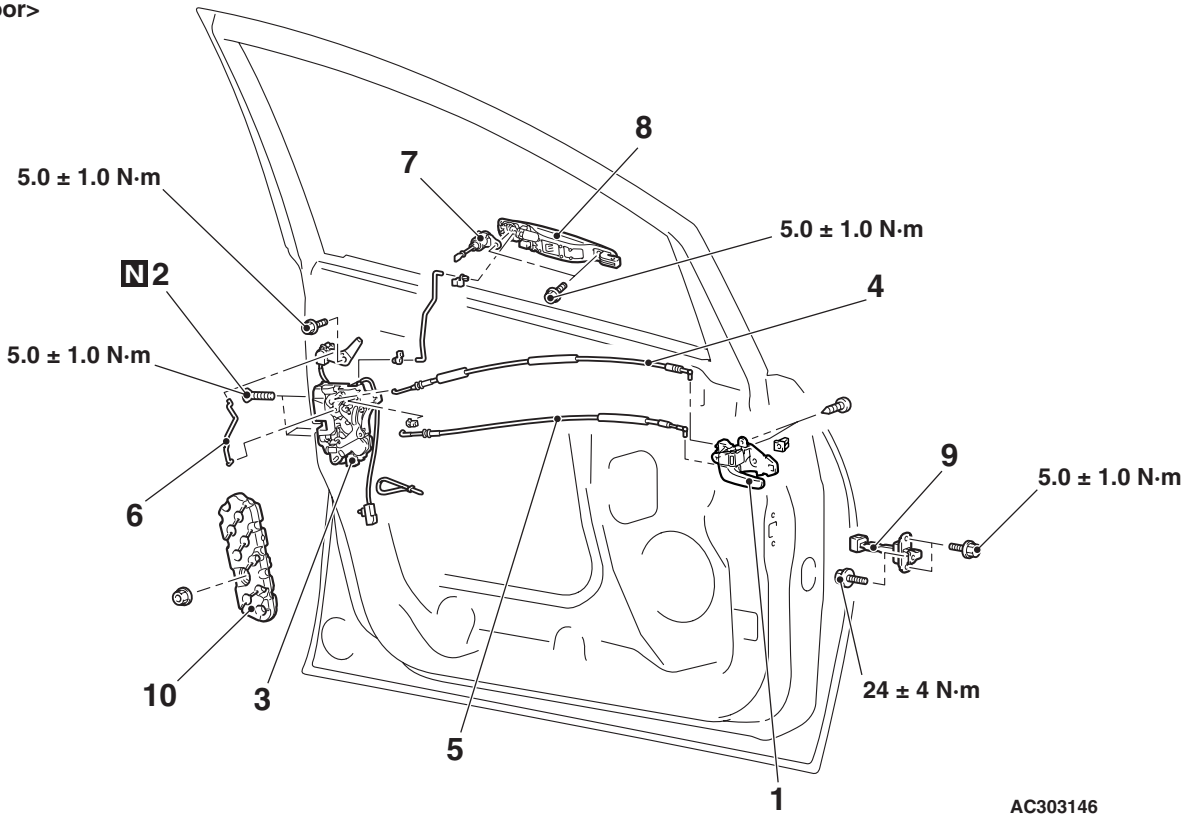
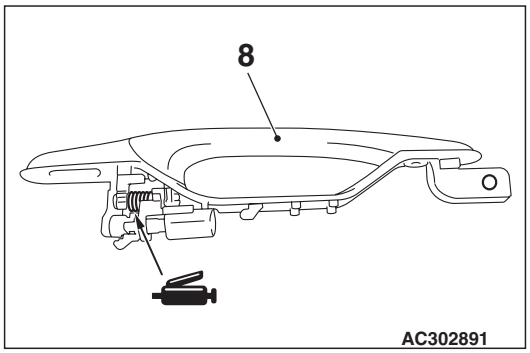
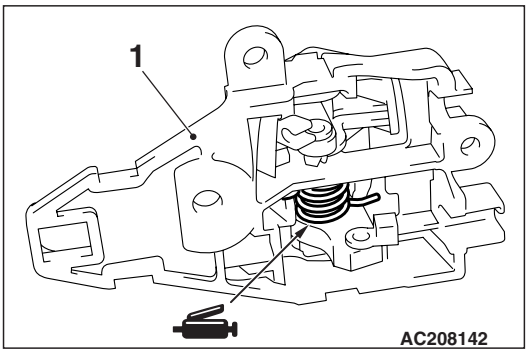
Pre-removal Operation	Post-installation Operation
• Door Trim Assembly Removal (Refer to GROUP 52A, Door Trim P.52A-12).	• Door Inside Handle Play Check (Refer to P.42-33). • Door Outside Handle Play Check (Refer to P.42-33). • Door Trim Assembly Installation (Refer to GROUP 52A, Door Trim P.52A-12).

<Front door>







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Door handle and door latch removal steps

>>B<< 1. Door inside handle
- Rear lower sash (Refer to P.42-37).

2. Screw
3. Door latch assembly
4. Inside lock cable
5. Inside handle cable
6. Outside handle rod
7. Key cylinder
8. Door outside handle

Door check removal steps
- Waterproof film (Refer to P.42-47).
- Front lower sash (Refer to P.42-37).

>>A<< 9. Door check

Door panel core removal steps
- Power window regulator (Refer to P.42-37).

10. Door panel core <Vehicles for Hong Kong and Singapore>

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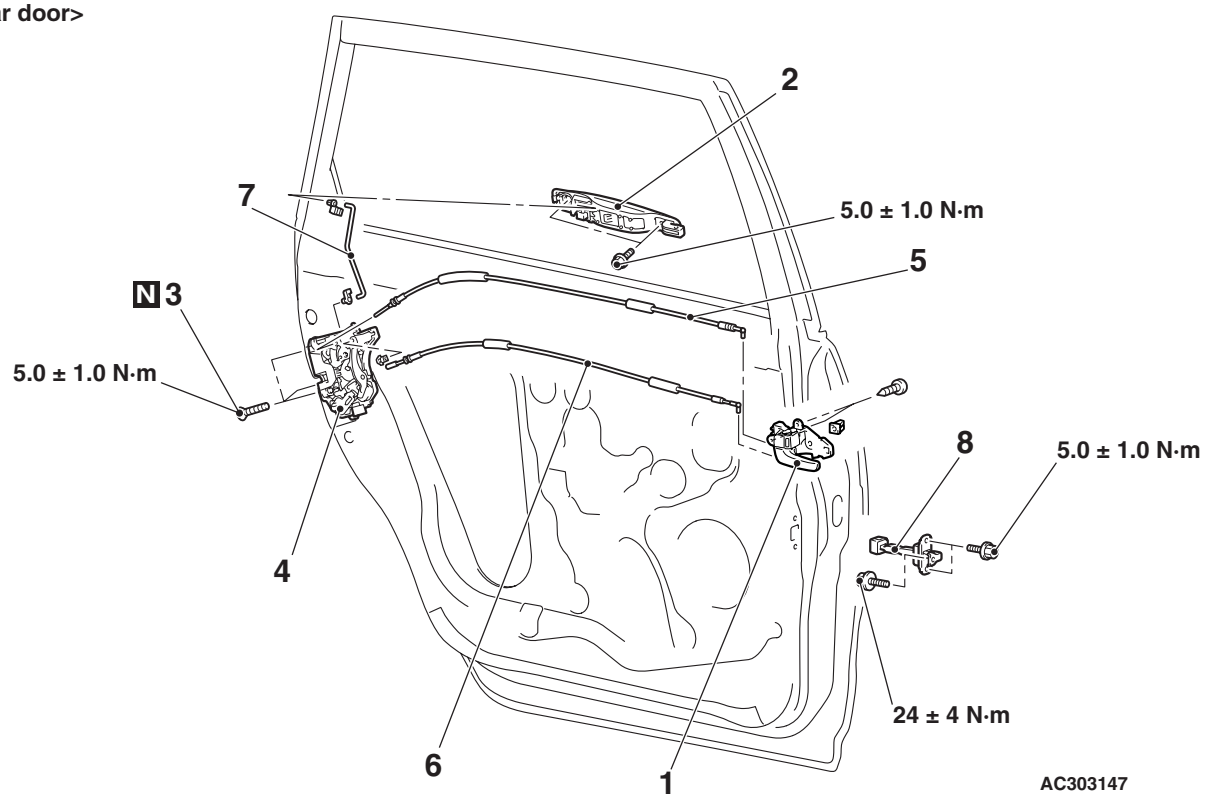
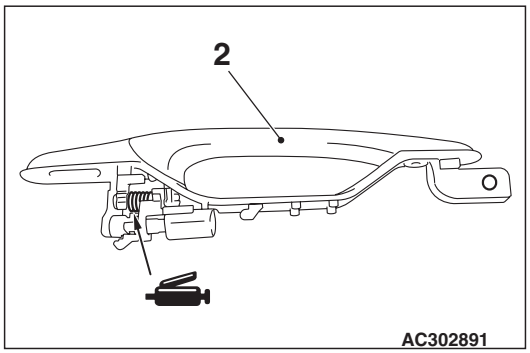
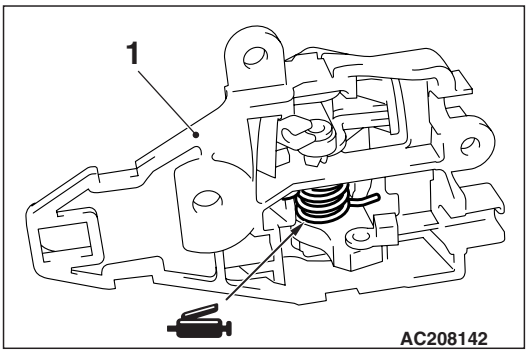
Group TOC

<Rear door>







AC310941AB

Door handle and door check removal steps

>>B<< 1. Door inside handle
- Waterproof film (Refer to P.42-47).

2. Door outside handle
- Rear lower sash (Refer to P.42-37).

3. Screw
4. Door latch assembly

Door handle and door check removal steps (Continued)

5. Inside lock cable
6. Inside handle cable
7. Outside handle rod

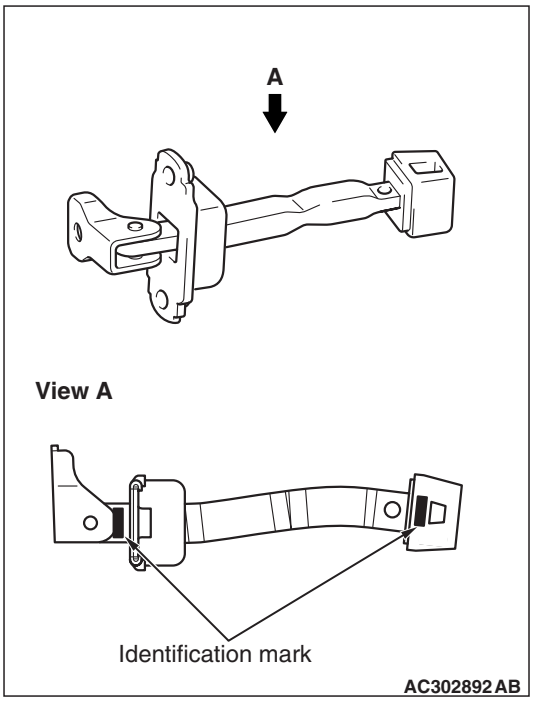
Door check removal steps

- Waterproof film (Refer to P.42-47).

>>A<< 8. Door check

INSTALLATION SERVICE POINTS

>>A<< DOOR CHECK INSTALLATION



Install the door check with the following identification marks facing upward.

Item		Identification mark
Front Door	Left side	55L
	Right side	55R
Rear Door	Left side	56L
	Right side	56R

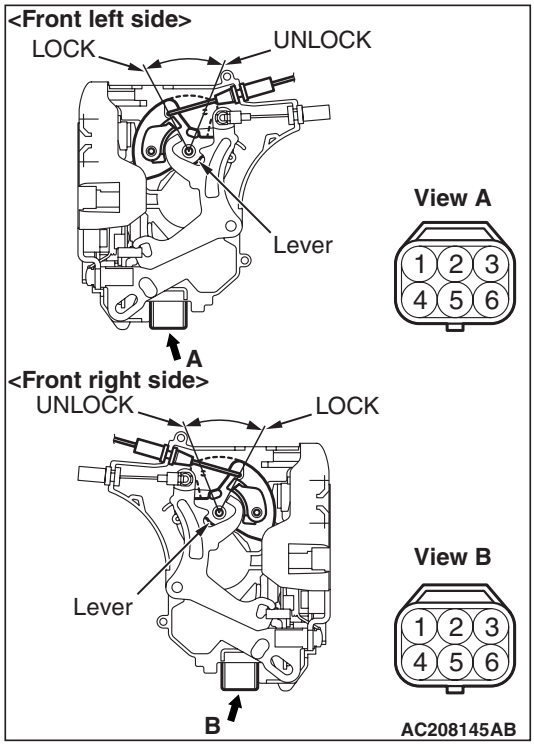
>>B<< DOOR INSIDE HANDLE INSTALLATION

When connecting the inside cable to the door inside handle, ensure that the door latch and the inside handle are unlocked.

INSPECTION

M1423004700767

FRONT DOOR LOCK ACTUATOR CHECK



ACTUATOR OPERATION CHECK

Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.4 and the negative battery terminal. • Connect terminal No.6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No.6 and the negative battery terminal. • Connect terminal No.4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

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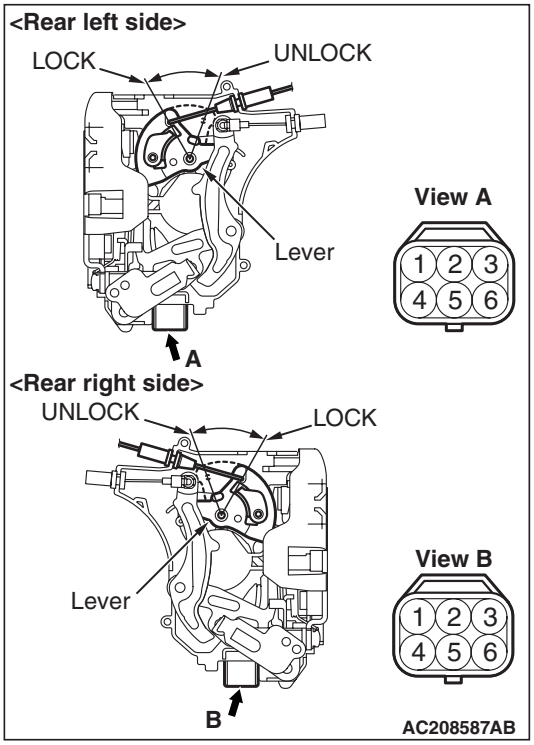
ACTUATOR SWITCH CHECK <DRIVER'S SIDE (LH DRIVE VEHICLES)>

Lever position	Tester connection	Specified condition
At the "LOCK" position	1 –2	Less than 2 ohms
At the "UNLOCK" position	1 –3	Less than 2 ohms

ACTUATOR SWITCH CHECK <DRIVER'S SIDE (RH DRIVE VEHICLES)>

Lever position	Tester connection	Specified condition
At the "LOCK" position	2 –3	Less than 2 ohms
At the "UNLOCK" position	1 –3	Less than 2 ohms

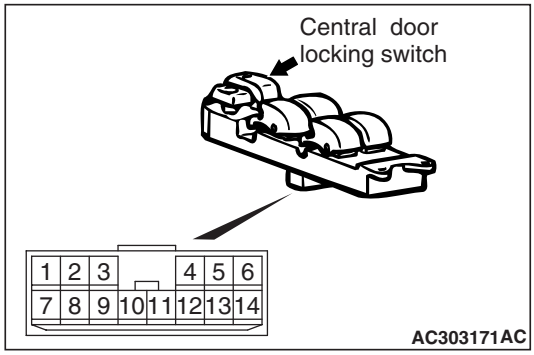
REAR DOOR LOCK ACTUATOR CHECK



ACTUATOR OPERATION CHECK

Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.4 and the negative battery terminal. • Connect terminal No.6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No.6 and the negative battery terminal. • Connect terminal No.4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

CENTRAL DOOR LOCKING SWITCH CHECK <VEHICLES FOR HONG KONG AND SINGAPORE>



Switch position	Tester connection	Specified condition
LOCK	2 –13	Less than 2 ohms
UNLOCK	2 –5	Less than 2 ohms

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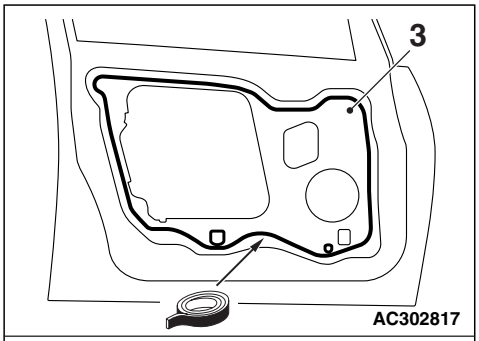
WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP

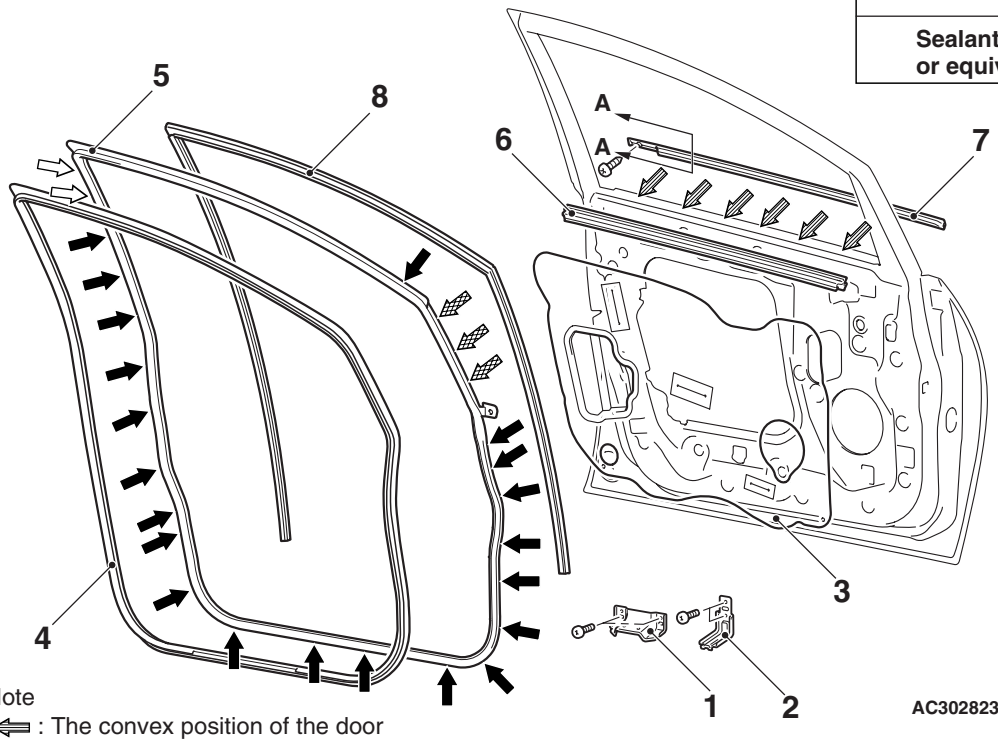
REMOVAL AND INSTALLATION

M1423003100450

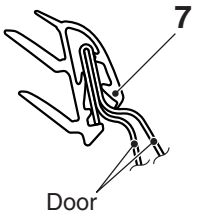
<Front door>



Sealant: 3M ATD Part No. 8633 or equivalent



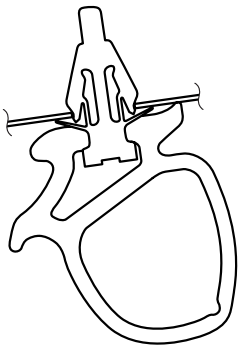
Section A – A



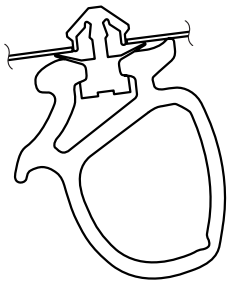
Note
⇦ : The convex position of the door

AC310969AB

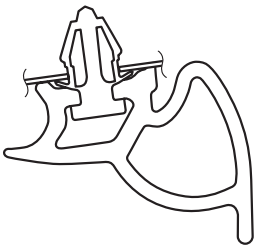
⬅:Sectional view of clip position



⇦:Sectional view of clip position



⇦:Sectional view of clip position



AC303042AB

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Waterproof film removal steps
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-12).

1. Pull handle bracket
2. Armrest bracket (Passenger's side)
- Speaker (Refer to GROUP 54A, Speaker P.54A-253).

>>A<< 3. Waterproof film

Door opening weatherstrip inner removal steps
- Cowl side trim and scuff plate (Refer to GROUP 52A, Interior Trim P.52A-10).

4. Door opening weatherstrip inner

Door opening weatherstrip outer removal steps
- Door check mounting bolt (Body side) (Refer to P.42-42).

<<A>> >>B<< 5. Door opening weatherstrip outer

Door beltline weatherstrip inner removal steps
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-12).

6. Door beltline weatherstrip inner

Door beltline moulding removal steps
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-12).
- Door mirror assembly (Refer to GROUP 51, Door Mirror P.51-32).

7. Door beltline moulding

Door window glass runchannel removal steps

>>A<< 2. Waterproof film
- Door window glass (Refer to P.42-37).

8. Door window glass runchannel

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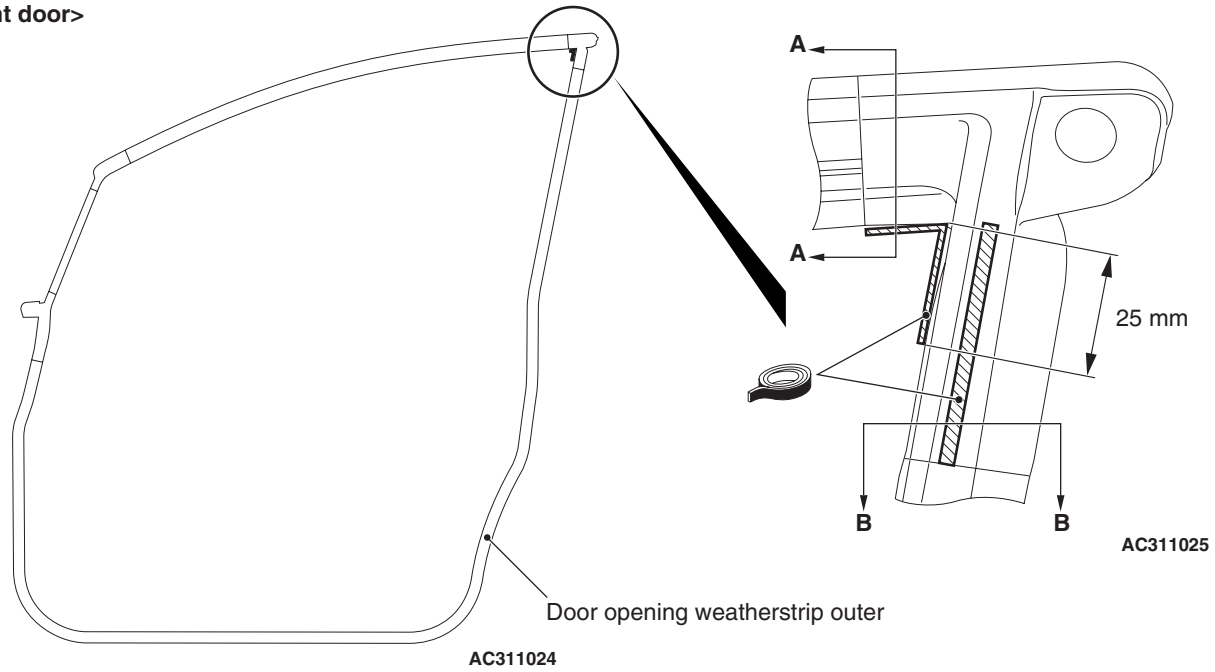
DOUBLE-SIDED TAPE POSITION

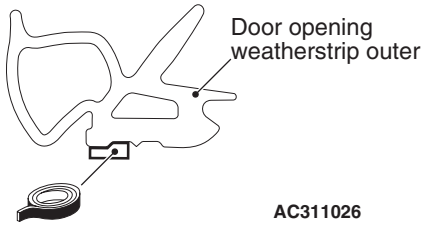
<Front door>



AC311025

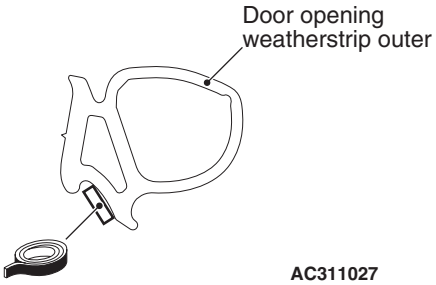
AC311024

Section A – A



AC311026

Section B – B



AC311027

AC311386 AB

Adhesive tape: Double-sided tape 5 mm width, 45 mm length and 0.5 mm thickness

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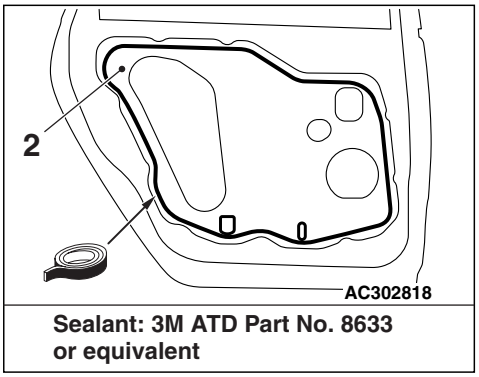
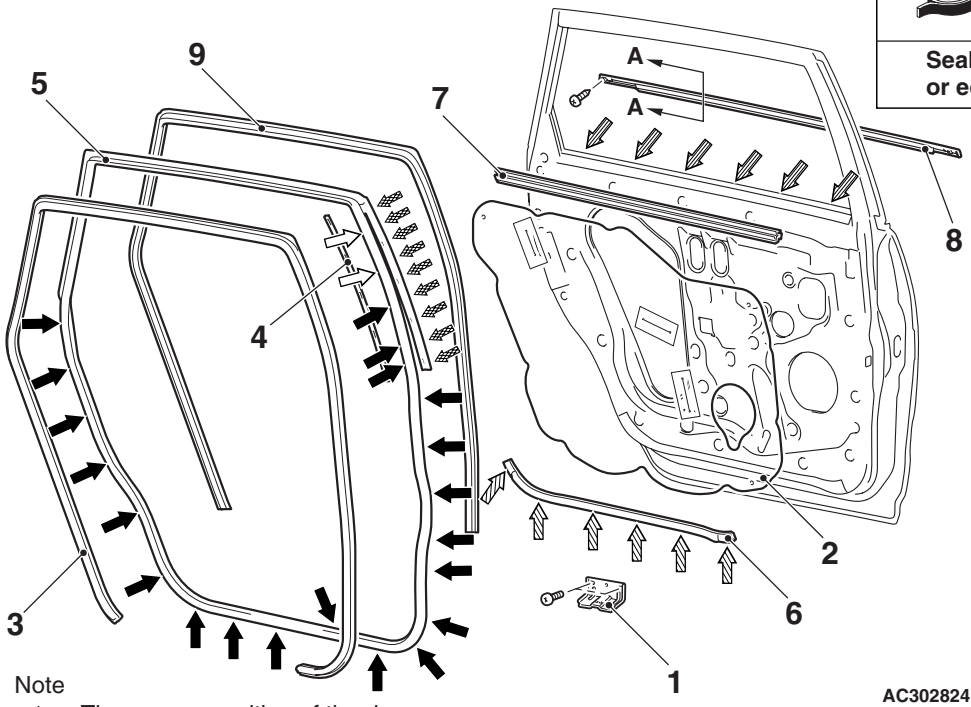
Group TOC

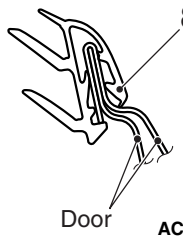
<Rear door>



Sealant: 3M ATD Part No. 8633 or equivalent



Section A – A



Note
⇐ : The convex position of the door

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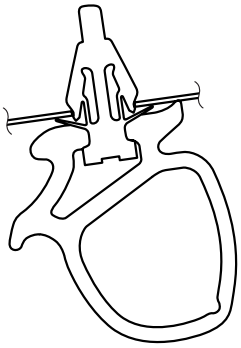
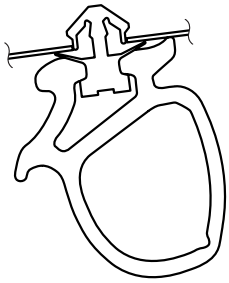
AC310970AB

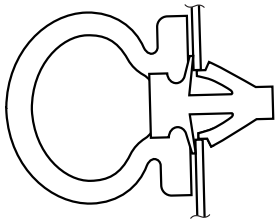
⬅:Sectional view of clip position



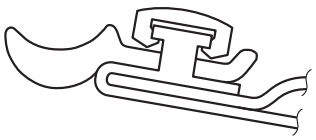
⇦:Sectional view of clip position



⇐:Sectional view of clip position



⇐:Sectional view of clip position



AC303043AB

Waterproof film removal steps
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-12).

1. Pull handle bracket
- Speaker (Refer to GROUP 54A, Speaker P.54A-253).

>>**A**<< 2. Waterproof film

Door opening weatherstrip inner removal steps
- Scuff plate (Refer to GROUP 52A, Interior Trim P.52A-10).

3. Door opening weatherstrip inner

Door opening weatherstrip outer removal steps
- Door check mounting bolt (Body side) (Refer to P.42-42).

<<**A**>> >>**B**<<

Door opening weatherstrip outer removal steps (Continued)

4. Weatherstrip retainer

<<**A**>> >>**B**<< 5. Door opening weatherstrip outer

Door opening weatherstrip lower removal

<<**A**>> 6. Door opening weatherstrip lower

Door beltline weatherstrip inner removal steps
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-12).

7. Door beltline weatherstrip inner

Door beltline moulding removal

8. Door beltline moulding

Door window glass runchannel removal

9. Door window glass runchannel

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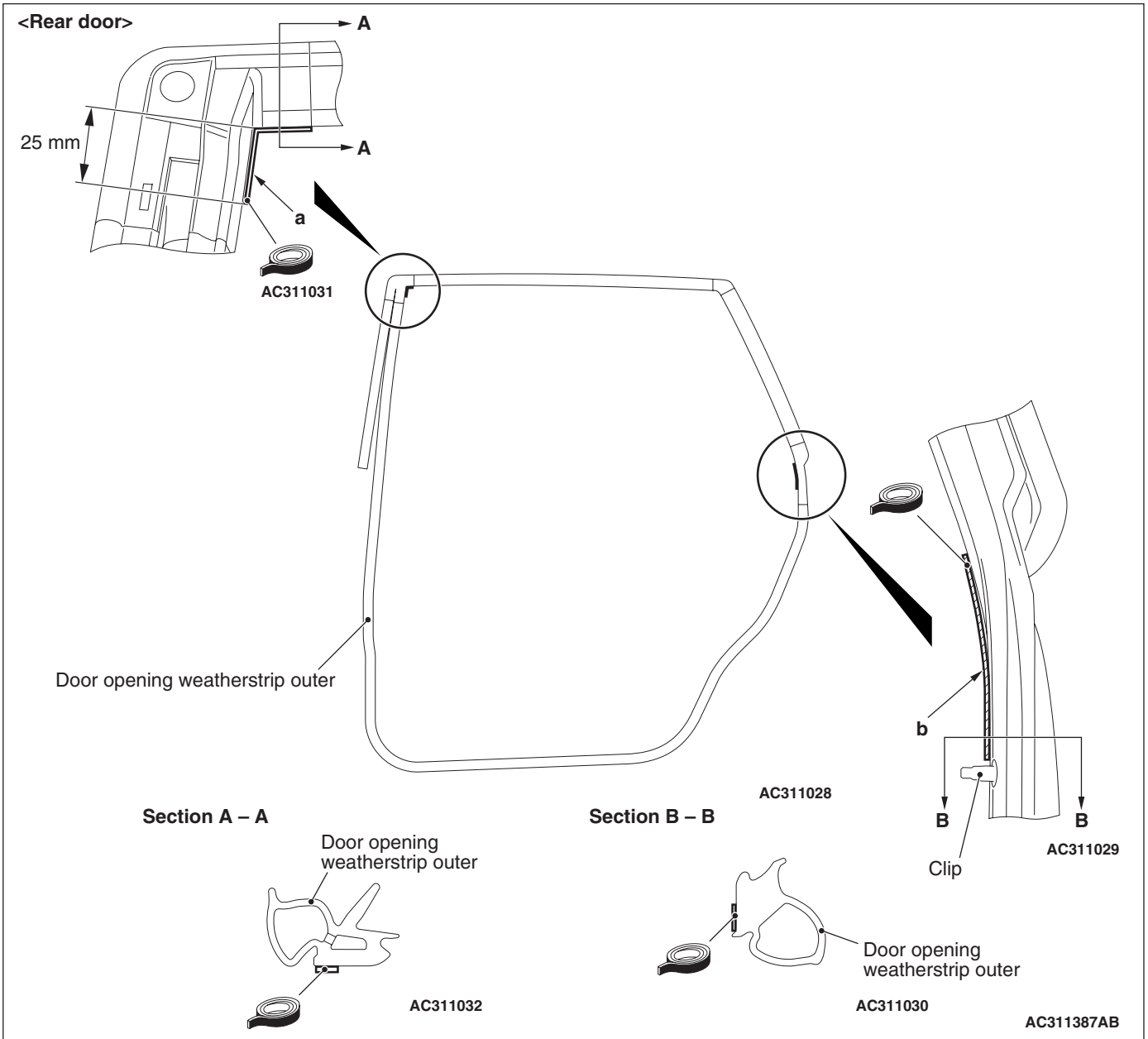
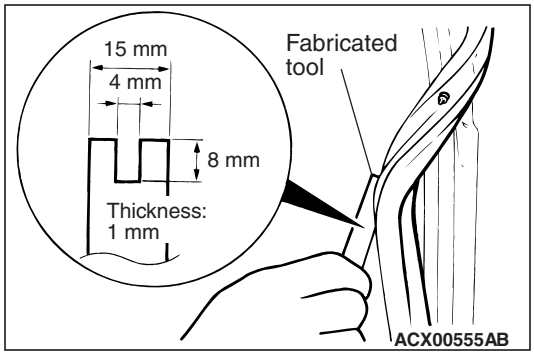
DOUBLE-SIDED TAPE POSITION



Adhesive tape: Double-sided tape **a: 5 mm width, 45 mm length and 0.5 mm thickness,**
b: 5 mm width, 55 mm length and 0.8 mm thickness

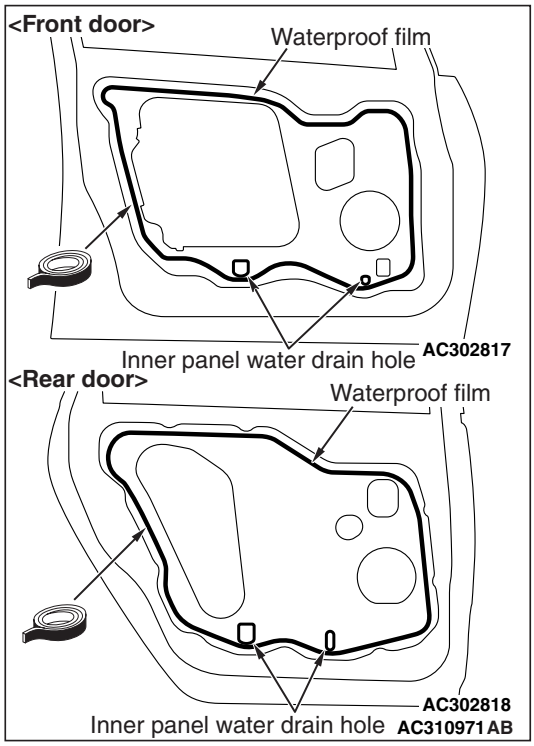
REMOVAL SERVICE POINT
<<A>> DOOR OPENING WEATHERSTRIP LOWER AND DOOR OPENING WEATHERSTRIP OUTER REMOVAL



Make a fabricated tool as shown in the illustration to remove the door weatherstrip.

INSTALLATION SERVICE POINTS
>>A<< WATERPROOF FILM INSTALLATION

⚠ CAUTION



When sticking the water-proof film, ensure that the sealant is applied under the inner panel water drain hole.

Apply the specified adhesive to the water-proof film as shown and stick the film.

Specified sealant: 3M ATD Part No.8633 or equivalent

>>B<< DOOR OUTER OPENING WEATHERSTRIP OUTER INSTALLATION

The clip colour identifies the left and right weatherstrips so be sure to see the colours so as to install correctly.

Applicable side	Identification colour
Left door	Natural (White)
Right door	Blue

TAILGATE

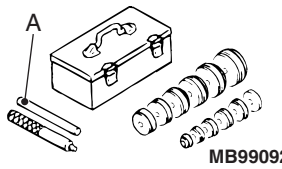
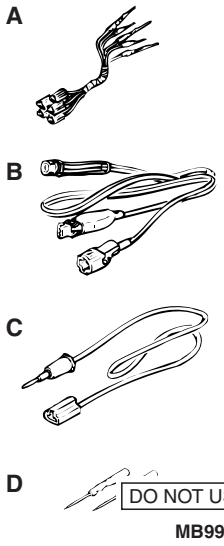
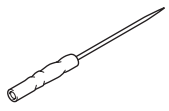
SEALANT

M1424000500117

Item	Specified sealant
Tailgate hinge	3M ATD Part No.8531 Heavy drip check sealer, 3M ATD Part No.8646 Automotive joint and seam sealer or equivalent

SPECIAL TOOLS

M1424000600363

Tool	Number	Name	Use
 MB990925AF	MB990925 A: MB990939	Bearing and oil seal installer set A: Brass bar	Tailgate striker adjustment
 MB991223AZ	MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222	Harness set A: Test harness B: LED harness C: LED harness adapter D: Probe	Terminal voltage measurement A: For checking connector pin contact pressure B: For checking power supply circuit C: For checking power supply circuit D: For connecting a locally sourced tester
 MB992006	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

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TROUBLESHOOTING

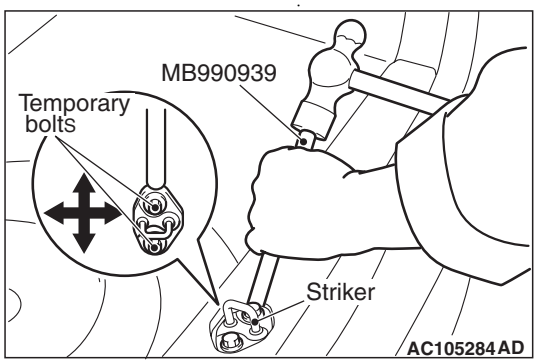
M1424000700241

The tailgate system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

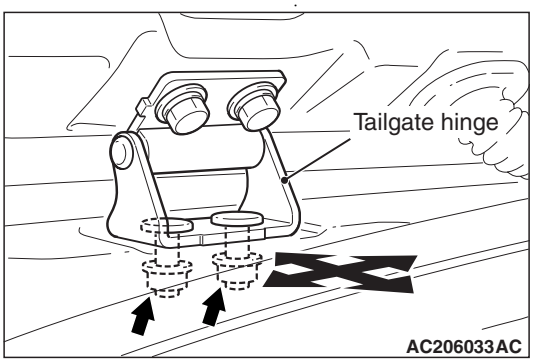
ON-VEHICLE SERVICE

TAILGATE FIT ADJUSTMENT

M1424000900193



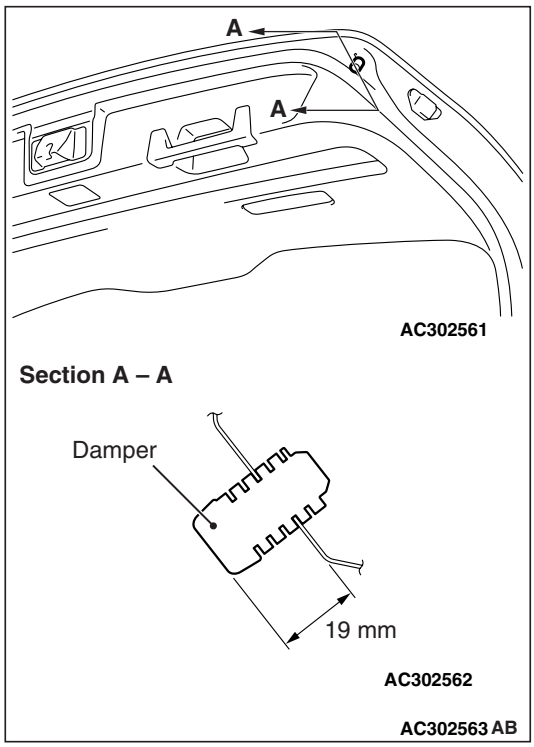
If the striker is not engaged with the tailgate latch properly, remove the rear end trim (Refer to GROUP 52A, Interior Trim P.52A-10). Replace the striker mounting screw with an adequate bolt, and use the special tool (brass bar, MB990939) and a hammer to tap the bolt head to adjust the striker.



If the clearance between the tailgate and the vehicle body is uneven, remove the headlining (Refer to GROUP 52A, Headlining P.52A-17) and loosen the body-side tailgate hinge mounting nuts to adjust the tailgate.

ADJUSTMENT OF TAILGATE HEIGHT

M1424003500127



Rotate the damper by using arrow mark on the damper as a guide to adjust the tailgate height. The damper height is altered by roughly 3 mm when the damper is rotated once.

NOTE: If a rattling noise is heard due to the vibration of the tailgate when the vehicle is being driven, adjust the damper height until the damper is seated on the vehicle body. The damper should be seated on the vehicle body regardless of a rattling noise.

TAILGATE OPENER CHECK

M1424004100036

If the tailgate cannot be opened by operating the tailgate lock release handle when the tailgate is unlocked with the vehicle stationary, refer to GROUP 54B, Troubleshooting P.54B-24, GROUP 54C, Troubleshooting P.54C-5, GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

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TAILGATE

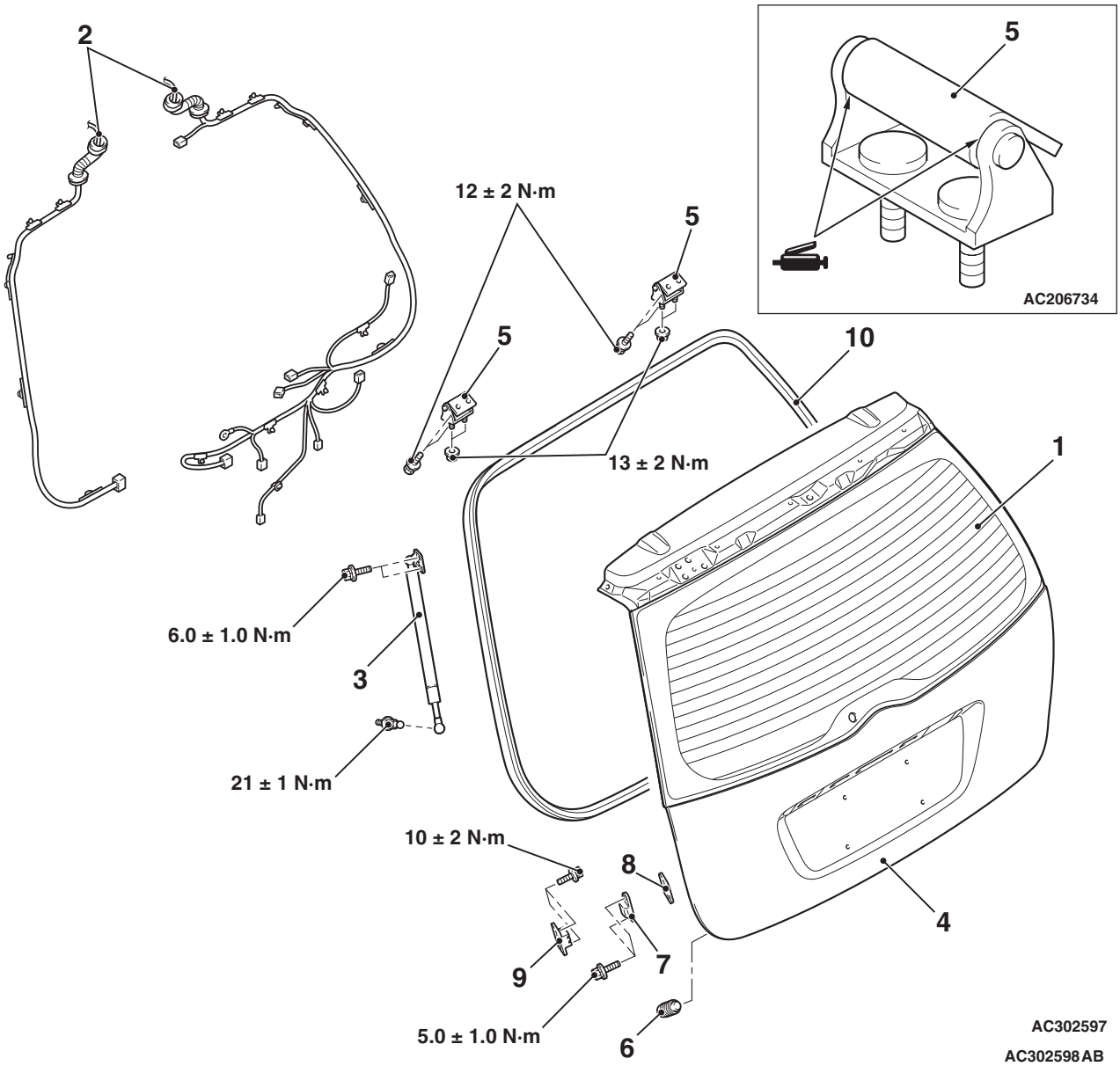
REMOVAL AND INSTALLATION

M1424001100253

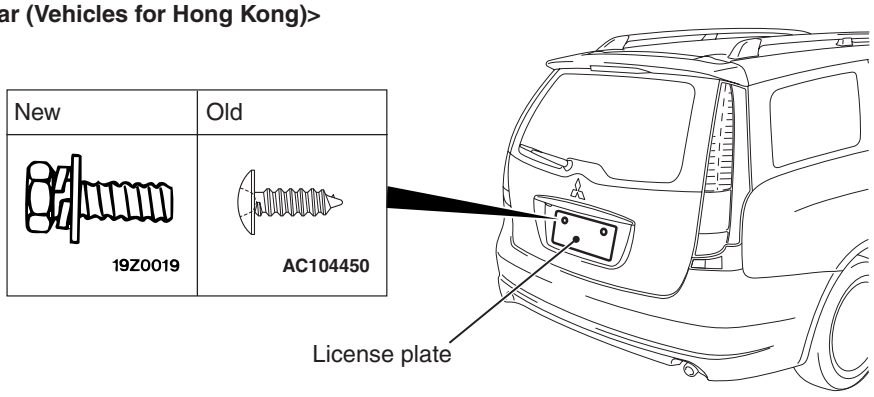
⚠ CAUTION

- **Do not disassemble or throw the tailgate gas spring into fire.**
- **Punch a hole in the gas spring before disposal to release the gas inside.**
- **Ensure the tailgate gas spring piston rod does not come into contact with foreign material.**

Pre-removal Operation	Post-installation Operation
• Tailgate Spoiler Assembly Removal (Refer to GROUP 51, Tailgate Spoiler P.51-14). • Tailgate Trim Assembly Removal (Refer to GROUP 52A, Tailgate Trim P.52A-16). • Tailgate Garnish Removal (Refer to GROUP 51, Garnishes P.51-11). • Rear Wiper Motor Removal (Refer to GROUP 51, Rear Wiper and Washer P.51-25).	• Tailgate Fit Adjustment (Refer to P.42-55). • Adjustment of Tailgate Height (Refer to P.42-55). • Rear Wiper Motor Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-25). • Tailgate Garnish Installation (Refer to GROUP 51, Garnishes P.51-11). • Tailgate Trim Assembly Installation (Refer to GROUP 52A, Tailgate trim P.52A-16). • Tailgate Spoiler Assembly Installation (Refer to GROUP 51, Tailgate Spoiler P.51-14).



<From 2004 model year (Vehicles for Hong Kong)>



Tailgate assembly removal steps

1. Tailgate window glass (Refer to P.42-23).
2. Tailgate wiring harness
3. Tailgate gas spring
4. Tailgate assembly
   - Headlining (Refer to GROUP 52A, Headlining P.52A-17).

>>B<< 5. Tailgate hinge

Damper removal

6. Damper

Tailgate damper removal steps

7. Tailgate damper upper
8. Tailgate damper stopper shim

Tailgate damper lower removal

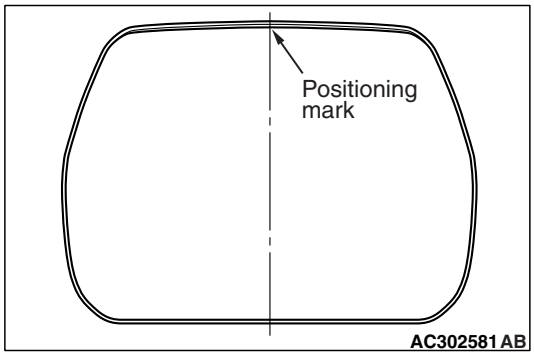
9. Tailgate damper lower

Tailgate opening weatherstrip removal

>>A<< 10. Tailgate opening weatherstrip

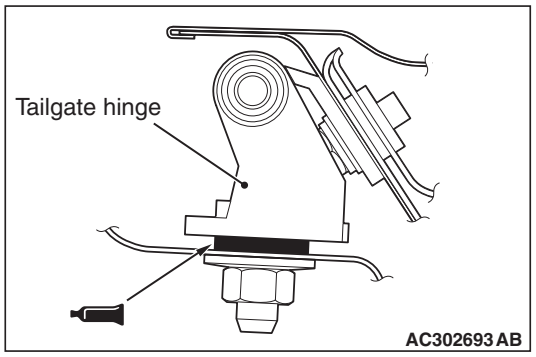
INSTALLATION SERVICE POINTS

>>A<< TAILGATE OPENING WEATHER-STRIP INSTALLATION



The marking on the tailgate opening weatherstrip should be positioned at the centre of the vehicle.

>>B<< TAILGATE HINGE INSTALLATION



Apply the specified sealant to the tailgate hinge mounting surface, and install the tailgate hinge.

Specified Adhesive: 3M ATD Part No.8531 Heavy drip check sealer, 3M ATD Part No.8646 Automotive joint and seam sealer or equivalent

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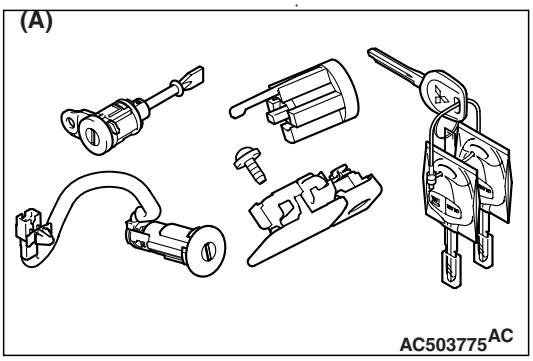
TAILGATE HANDLE AND LATCH

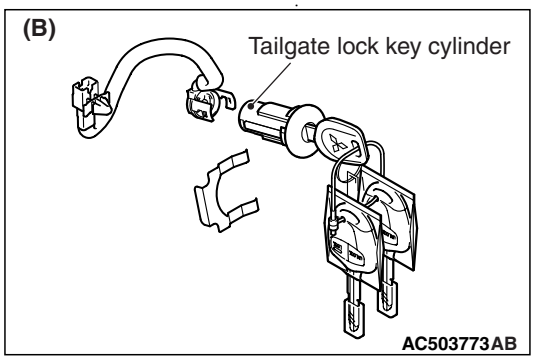
REMOVAL AND INSTALLATION

M1424001700471

⚠ CAUTION



When the tailgate lock key cylinder is replaced by key set (A) in the figure, register the encrypted code of the bar code attached to the ignition key. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-9 <Vehicles for Hong Kong and Singapore>.



When the tailgate lock key cylinder (B) in the figure is replaced, do not register the encrypted code of the bar code attached to the ignition key. If the encrypted code is registered, the engine cannot start <Vehicles for Hong Kong and Singapore>.

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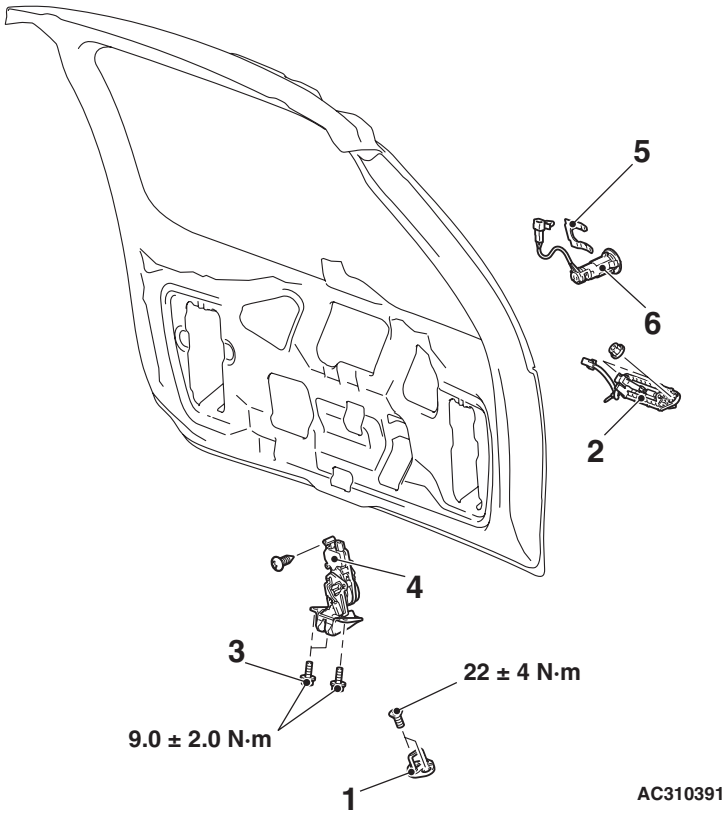
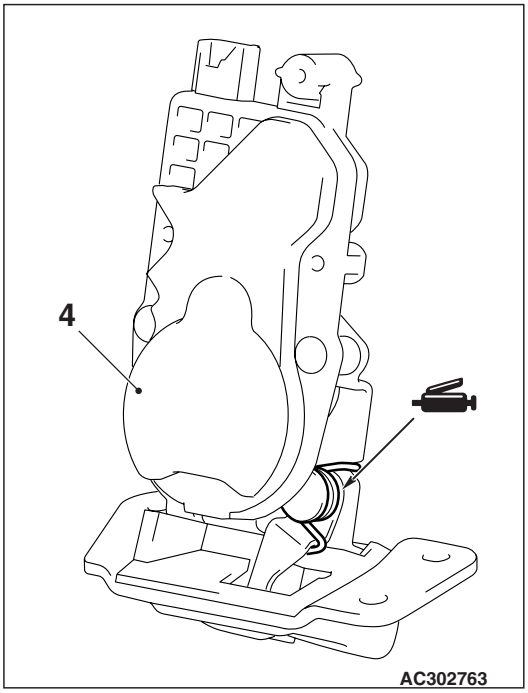
Post-installation Operation
- Tailgate Fit Adjustment (Refer to P.42-55).



AC310391



AC302763

AC310781 AB

Striker removal steps
- Rear end trim (Refer to GROUP 52A, Interior Trim P.52A-10).

>>A<< 1. Striker

Tailgate lock release handle and lock key cylinder removal steps
- Tailgate trim lower (Refer to GROUP 52A, Tailgate Trim P.52A-16).

2. Tailgate lock release handle

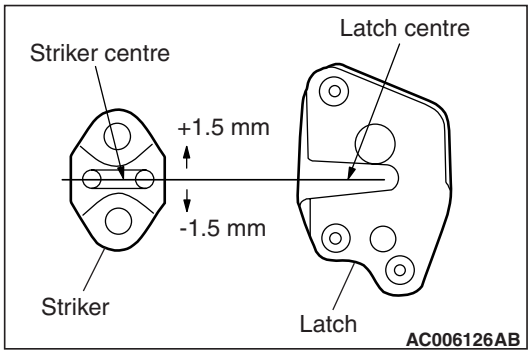
Tailgate latch removal steps
- Tailgate trim lower (Refer to GROUP 52A, Tailgate Trim P.52A-16).

3. Earth bolt
4. Tailgate latch assembly

Tailgate lock key cylinder removal steps
- Tailgate trim lower (Refer to GROUP 52A, Tailgate Trim P.52A-16).

5. Retainer
6. Tailgate lock key cylinder <Vehicles without keyless entry system>

INSTALLATION SERVICE POINT
>>A<< STRIKER INSTALLATION

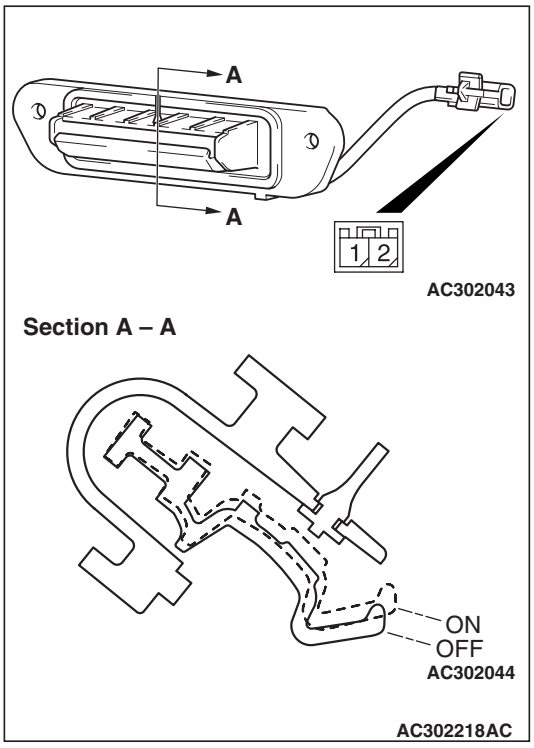


Install the striker so that the striker centre does not deviate more than ±1.5 mm from the latch centre.

INSPECTION

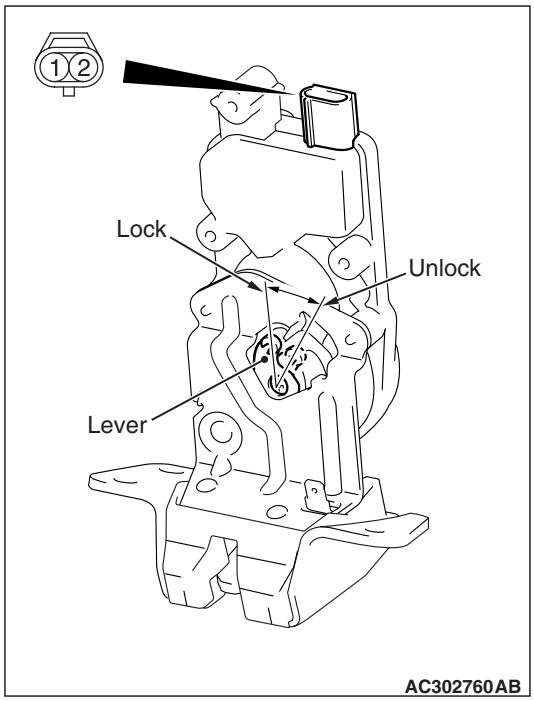
M1424001200175

TAILGATE RELEASE HANDLE CHECK



Handle position	Tester connection	Specified condition
At the "ON" position	1 –2	Less than 2 ohms
At the "OFF" position	1 –2	Open circuit

TAILGATE LOCK ACTUATOR CHECK



Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.2 and the negative battery terminal. • Connect terminal No.1 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.

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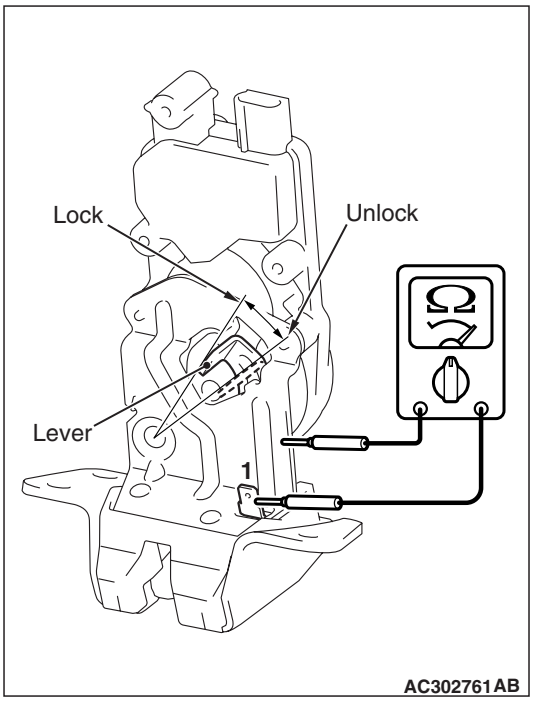
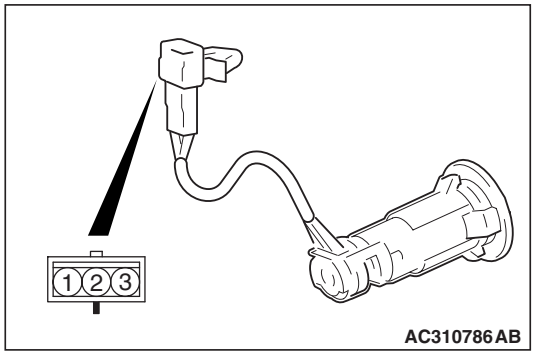
TAILGATE LATCH CHECK



Lever position	Tester connection	Specified condition
At the "LOCK" position	1 –Earth	Open circuit
At the "UNLOCK" position	1 –Earth	Less than 2 ohms

TAILGATE LOCK KEY CYKINDER SWITCH CHECK <VEHICLES WITHOUT KEYLESS ENTRY SYSTEM>



Switch position	Tester connection	Specified condition
LOCK	1 –2	Less than 2 ohms
NEUTRAL (OFF)	1 –2, 2 –3	Open circuit
UNLOCK	2 –3	Less than 2 ohms

KEYLESS ENTRY SYSTEM

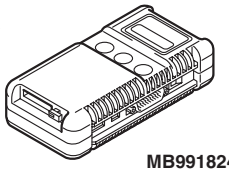
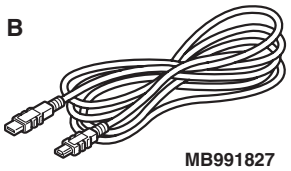
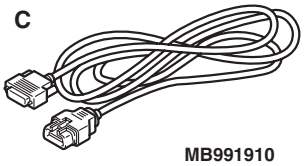
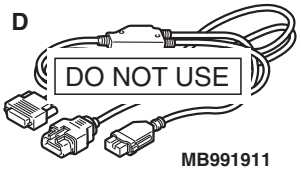
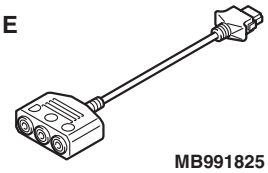
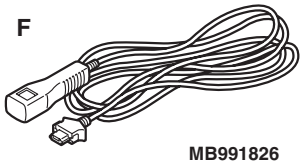
SERVICE SPECIFICATIONS

M1428000300074

Item	Standard value
Voltage of transmitter battery V	2.5 –3.2

SPECIAL TOOLS

M1428000600473

Tool	Number	Name	Use
A  MB991824 B  MB991827 C  MB991910 D  MB991911 E  MB991825 F  MB991826 MB991955	MB991955 A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991825 F: MB991826	M.U.T.-III sub-assembly A: Vehicle communication interface (V.C.I.) B: M.U.T.-III USB cable C: M.U.T.-III main harness A (Vehicles with CAN communication system) D: M.U.T.-III main harness B (Vehicles without CAN communication system) E: M.U.T.-III measurement adapter F: M.U.T.-III trigger harness	Encrypted code registration ⚠ CAUTION **For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.**

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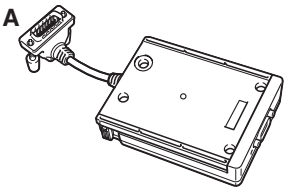
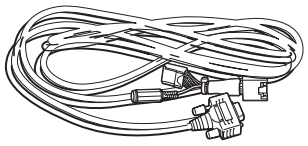
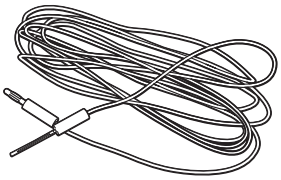
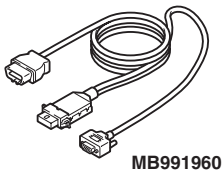
Group TOC

Tool	Number	Name	Use
A  B  C  B991813	MB991813 A: MB991806 B: MB991812 C: MB991822	SWS monitor kit A: SWS monitor cartridge B: SWS monitor harness (for column-ECU) C: Probe harness	Encrypted code registration
 MB991960	MB991960	SWS customize harness	Encrypted code registration

TROUBLESHOOTING

M1428000700384

The keyless entry system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-24, GROUP 54C, Troubleshooting P.54C-5, GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

ON-VEHICLE SERVICE

KEYLESS ENTRY SYSTEM CHECK

M1428001400160

Check the system as described below. If the system does not work, carry out troubleshooting.Refer to GROUP 54B, Troubleshooting P.54B-24, GROUP 54C, Troubleshooting P.54C-5, GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

- Operate the transmitter to check that the doors and tailgate can be locked and unlocked.
- Operate the transmitter to check that the answer-back function works in response to door and tailgate locking/unlocking.

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NOTE:

- *The customisation function allows you to change the answerback setting as follows. Prior to that check, confirm which setting is activated.*
  - *The hazard warning lights flash once when locked and twice when unlocked. The room lamp flashes once when locked and illuminates for 15 seconds when unlocked (default setting).*
  - *The hazard warning lights flash once when locked and do not flash when unlocked. The room lamp flashes once when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights do flash when locked and flash twice when unlocked. The room lamp flashes once when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights do not flash when both locked and unlocked. The room lamp flashes once when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights flash twice when locked and once when unlocked. The room lamp flashes twice when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights flash twice when locked and do not flash when unlocked. The room lamp flashes twice when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights do not flash when locked and flash once when unlocked. The room lamp flashes twice when locked and illuminates for 15 seconds when unlocked.*
  - *The hazard warning lights do not flash when both locked and unlocked. The room lamp flashes twice when locked and illuminates for 15 seconds when unlocked.*
- *Only if the auto-light manner switch is equipped as accessory, the horn answerback can be used. The customisation allows you to change the horn answerback setting from "disabled (initial setting)" to "sounds once when locked" or "sounds once when locked twice within one second". Prior to the check, confirm which setting is activated. When the auto-light manner switch is turned on, the horn answerback operates as specified in the setting during daytime hours, but does not operate during nighttime hours. <Vehicles for Hong Kong and Singapore>*

MULTIMODE KEYLESS ENTRY FUNCTION CHECK

M1428004100061

<EXCEPT VEHICLES FOR HONG KONG AND SINGAPORE>

Check that the transmitter operates the electric outside mirrors. If they do not operate, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-24 or GROUP 54C, Troubleshooting P.54C-5.

<VEHICLES FOR HONG KONG AND SINGAPORE>

Operate the transmitter to check that the power windows, the electric-folding door mirrors and the rear sunroof work. If they do not work, carry out troubleshooting. Refer to GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

NOTE:

- *The customisation allows you to change the power window and rear sunroof setting from "automatic close (initial setting)" to "automatic open and close (only power windows)" or "without function". Prior to that check, confirm which setting is activated.*
- *Prior to that check, confirm whether the electric-folding door mirrors are set to "keyless-linked" or not.*

KEYLESS ENTRY SYSTEM TIMER LOCK FUNCTION INSPECTION

M1428004000213

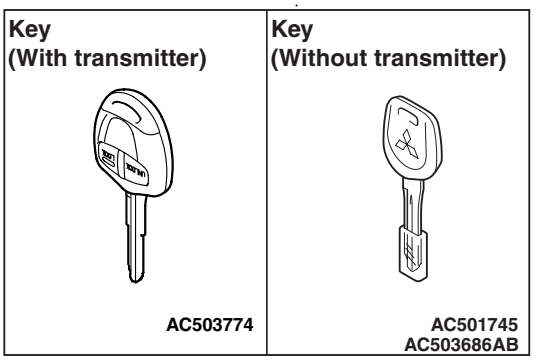
Attempt to unlock the doors and the tailgate by using the transmitter. If the doors and the tailgate are not locked within 30 seconds, carry out troubleshooting. Note that the doors and the tailgate will not be locked if the ignition key is inserted within the 30-second period, one of the doors or the tailgate is opened, or the multi-mode keyless entry function is triggered.Refer to GROUP 54B, Troubleshooting P.54B-24, GROUP 54C, Troubleshooting P.54C-5, GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

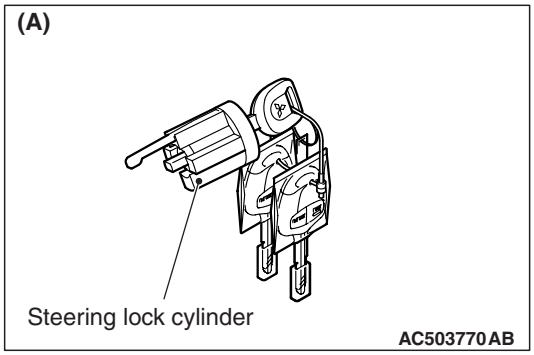
NOTE: The customisation function allows you to change the keyless entry system timer lock period from 30 seconds (default setting) to 60, 120 or 180 seconds. Prior to the check, confirm which setting is activated.

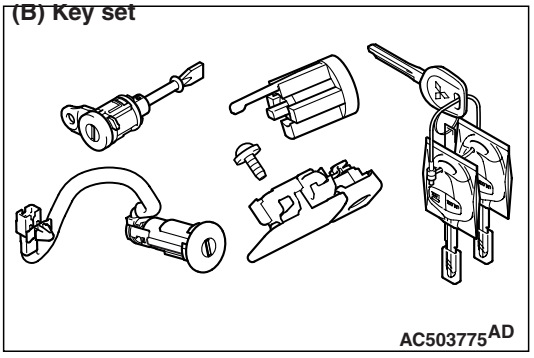
HOW TO REGISTER SECRET CODE

M1428001000816

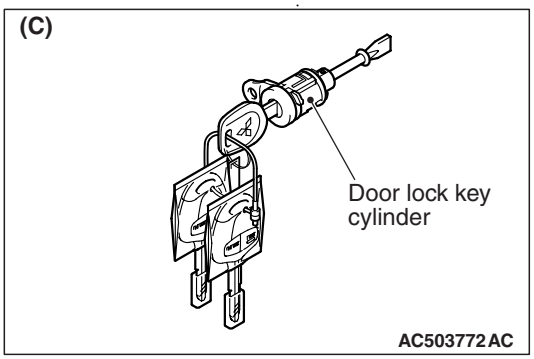
⚠ CAUTION

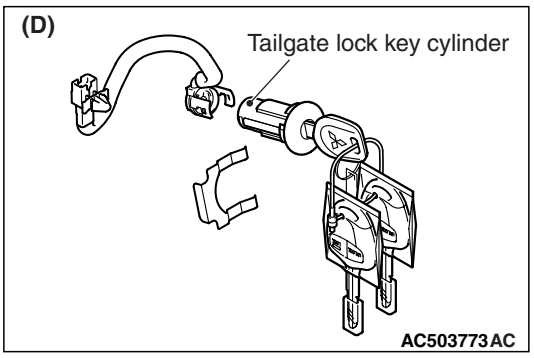


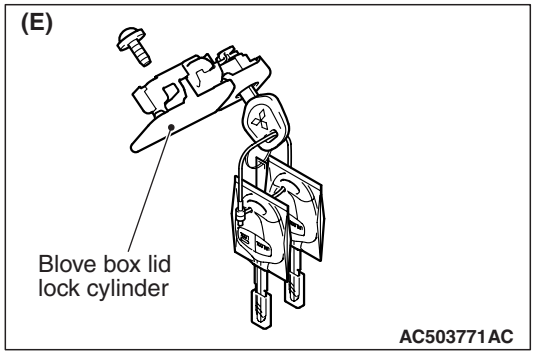




When an ignition key is added or replaced, or steering lock cylinder (A) in the figure is replaced, or key set (B) in the figure is replaced, register the ID code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-9 <Vehicles for Hong Kong and Singapore>.







When door lock key cylinder (C) in the figure is replaced, tailgate lock key cylinder (D) in the figure is replaced or glove box lid lock cylinder (E) in the figure is replaced, do not register the encrypted code of the bar code attached to the key. If the encrypted code is registered, the engine cannot start <Vehicles for Hong Kong and Singapore>.

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.

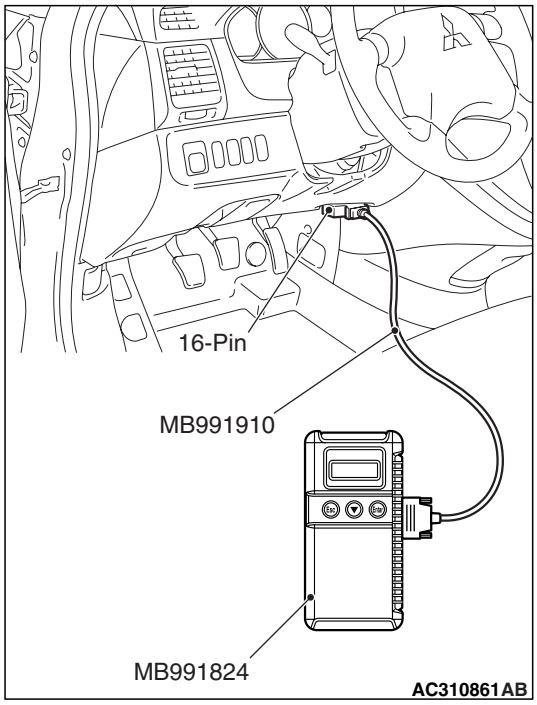
A maximum of four different codes can be stored in the EEPROM memory (four different transmitters can be used). When the code for the first transmitter is registered, the previously registered codes for all transmitters are cleared. Therefore, if you are using four transmitters or are adding more transmitters,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

WHEN THE SPECIAL TOOL V.C.I. (MB991824) IS USED

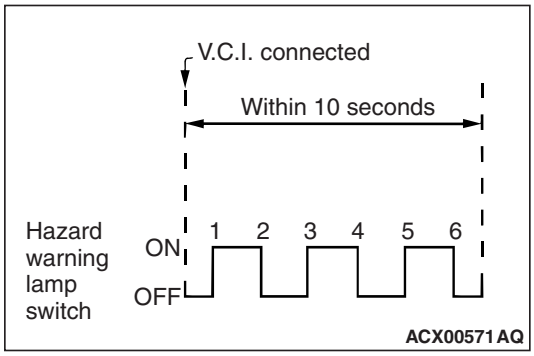
1. Check that the doors lock normally when the key is used.
2. Insert the ignition key.

⚠ CAUTION

Before connecting or disconnecting the V.C.I., turn the ignition switch to the "LOCK" (OFF) position.



3. Connect the V.C.I. to the diagnosis connector.



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

   NOTE: Once the process is completed six times, then it will operate with all doors lock and unlock operations once and then go to the save mode.

   NOTE: The hazard warning lamp switch is turned on and off alternately whenever it is pushed.
5. Press the transmitter button, and then press it two times within 10 seconds of the first press. This will register the code.
6. Once the program is saved, it will operate once with the all doors and tailgate lock and unlock operations.
7. If you are using two or more transmitters or have added a second transmitter, the next transmitter should be registered within one minute after registering the code for the previous transmitter. The registration procedure is common for all the transmitter.
8. Registration mode will be cancelled under the following conditions:
   - When the secret code for four transmitters has been registered;
   - When passing one minute after finishing the registration of all transmitter;
   - When no secret codes have been registered for more then one minute after the registration mode is entered;
   - When the V.C.I. is disconnected from the diagnosis connector;
   - When the key is removed from the key cylinder;
9. After the registration is completed, remove the ignition key and close all the doors, and then check that the keyless entry system operates normally.

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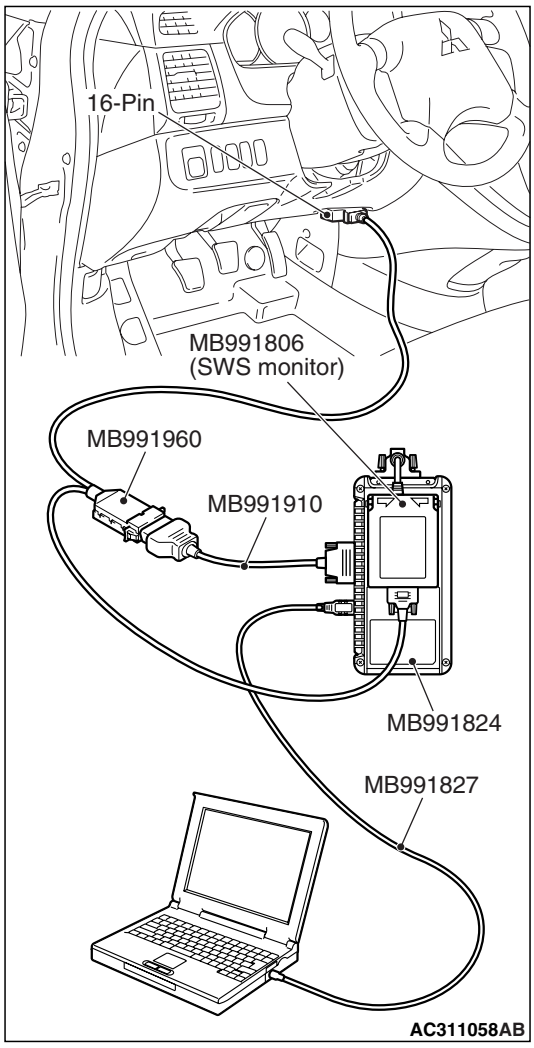
WHEN THE M.U.T.-III AND SWS MONITOR IS USED

1. Check that the doors lock normally when the ignition key is inserted into the door key cylinder and turned.
2. Insert the ignition key in the ignition switch.

⚠ CAUTION

Before connecting or disconnecting the M.U.T.-III and SWS monitor, turn the ignition switch to the "LOCK" (OFF) position.



3. Connect the SWS monitor to the M.U.T.-III. Refer to GROUP 54C, How to Connect The SWS Monitor P.54C-6 <Except vehicles for Hong Kong and Singapore> or GROUP 54E, How to Connect The SWS Monitor P.54E-6 <Vehicles for Hong Kong and Singapore>.
4. Connect the M.U.T.-III to the diagnosis connector.
5. Select "Interactive Diagnosis" from the main menu.
6. Select "System Select" from "Interactive Diagnosis".
7. Select "BODY" from the upper tab on "System Select" window.
8. Select "SWS" from "BODY".
9. Select "SWS Monitor" from "SWS".
10. If "New communication between doors" is selected from "SWS monitor", the display screen will be changed. Select "Keyless Entry" from that screen.
11. Select "Keyless ID Regist" from "Keyless Entry" items.
12. Press the YES key to clear encrypted codes for all the current registered transmitters.
13. Push the hazard warning lamp switch to clear all the encrypted codes completely.
14. Push the button of the transmitter to be registered consecutively three times. If another transmitter is registered, push the button of that transmitter again consecutively three times.
15. Return to the previous step.
16. Select "Recept Inspect" from "Keyless Entry" items.
17. Push the transmitter button. If the transmitter can receive signal normally, the screen will show variation of the received signals and whether the transmitter button has been registered or not.

    NOTE: For the keyless entry system, the signal reception can be examined regardless of whether the transmitter is registered or not.
18. Return to the main menu and complete.
19. Remove the M.U.T.-III.
20. Disconnect the SWS monitor.
21. Check that the keyless entry system works normally.

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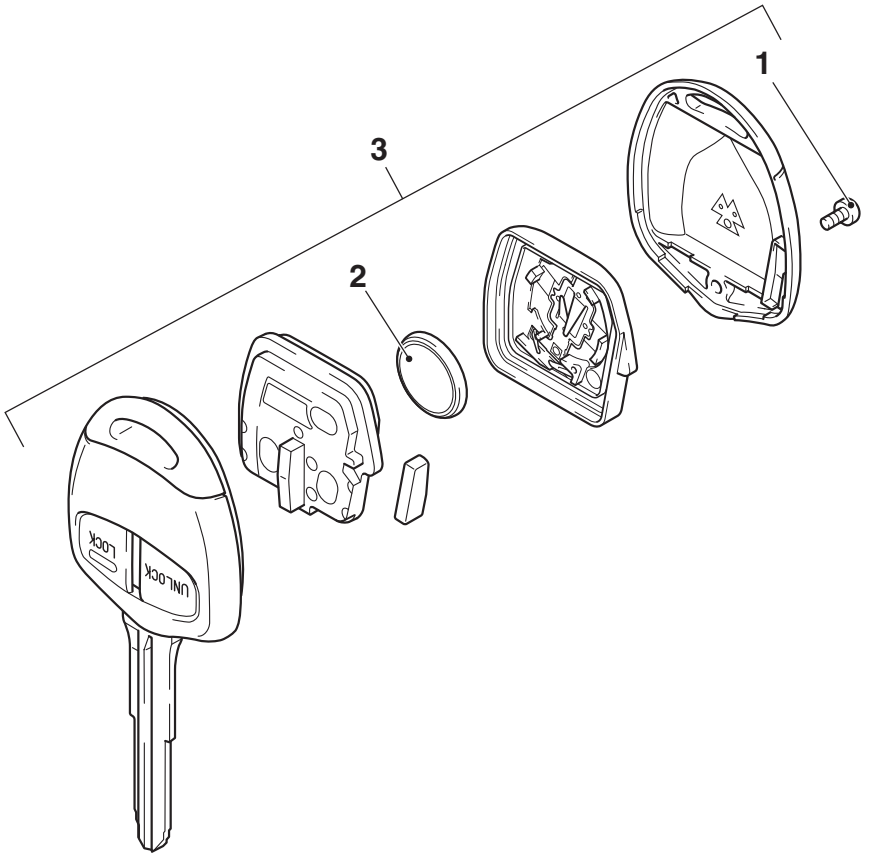
TRANSMITTER

DISASSEMBLY AND REASSEMBLY

M1428002800105

Post-installation operation
- Transmitter operation check



AC310838 AB

Disassembly steps
1. Screw

<<A>> >>A<<

Disassembly steps (Continued)
2. Battery
3. Master key assembly

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DISASSEMBLY SERVICE POINT

<<A>> BATTERY REMOVAL

⚠ CAUTION

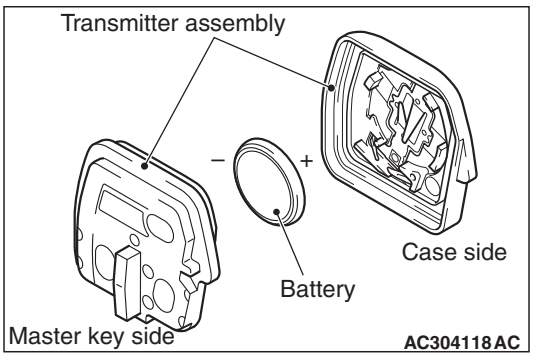
Do not allow water or dust to enter the inside of the transmitter assembly when it is open. Also, do not touch the precision electronic device.

REASSEMBLY SERVICE POINT

>>A<< BATTERY INSTALLATION

⚠ CAUTION

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



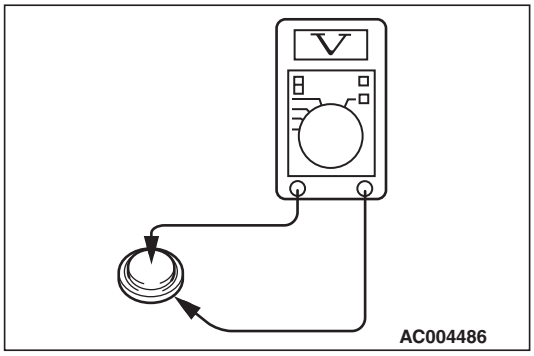
Install a new battery to the transmitter assembly with its (+) side facing towards the case side.

Battery required for replacement: Coin type battery CR1616

INSPECTION

M1428003800089

TRANSMITTER BATTERY CHECK



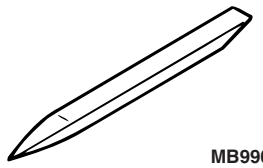
Measure the voltage of the battery. If the voltage of the battery is not within the standard value, replace the battery.

Standard value:2.5 –3.2 V

SECURITY ALARM
<Vehicles for Hong Kong and Singapore>

SPECIAL TOOL

M1428501000048

Tool	Number	Name	Use
 MB990784	MB990784	Ornament remover	Removal of switches and trims

TROUBLESHOOTING

M1428500100031

The security alarm is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5.

ON-VEHICLE SERVICE

SECURITY ALARM FUNCTION CHECK

M1428004200109

Check that the security alarm works. If the alarm does not work, carry out troubleshooting. (Refer to GROUP 54D, Troubleshooting P.54D-26 or GROUP 54E, Troubleshooting P.54E-5).

NOTE: The customize function allows you to change the security alarm function from "without function (initial setting)" to "alarm by horns and hazard warning lamp". Prior to that check, confirm which setting is activated.

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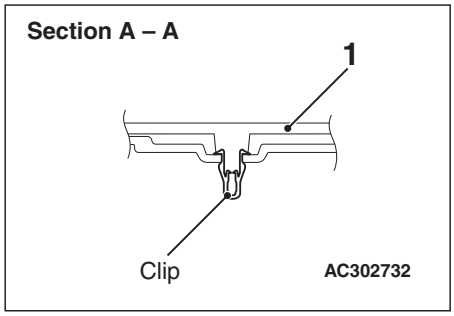
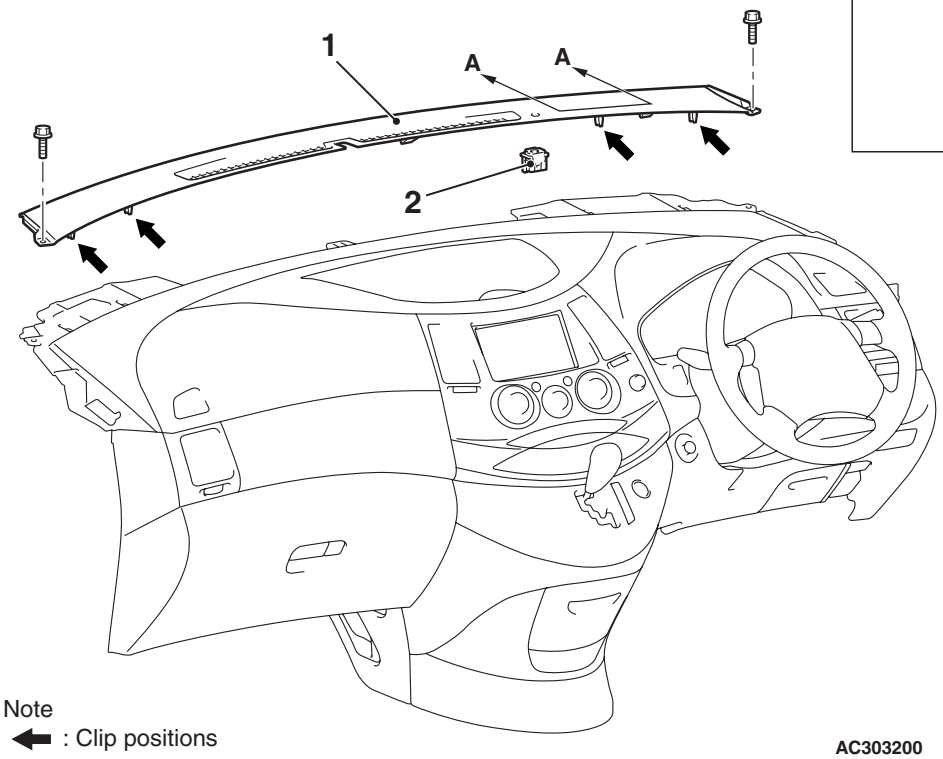
SECURITY ALARM

REMOVAL AND INSTALLATION

M1428502000041





AC303574AB

Removal steps

- Front pillar trim (Refer to Group 52A –Interior Trim P.52A-10).

Removal steps (Continued)

1. Defroster garnish
2. Security indicator lamp

SUNROOF ASSEMBLY

SERVICE SPECIFICATIONS

M1421000300330

Item	Standard value
Sunroof lid glass operation current A (at 20 °C)	7 or less

TROUBLESHOOTING

M1426000700377

The rear sunroof system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

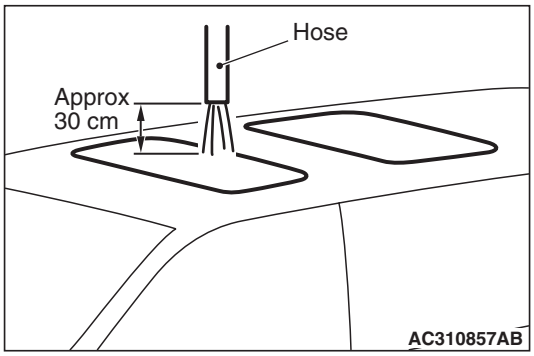
ON-VEHICLE SERVICE

WATER TEST

M1426000900304

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

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

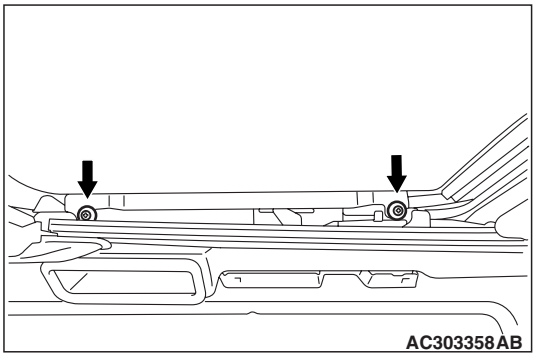


3. Hold the end of the hose approximately 30 cm above the roof and let the water run onto the weatherstrip for 5 minutes or more.
4. Check if any water leaks can be found in the room while watering. Even though there are any water leaks around the sunroof lid glass, it can be acceptable as long as water is caught in the drip area.

REAR SUNROOF FIT ADJUSTMENT

M1426001000326

1. Close the rear sunroof lid glass fully.
2. Open the rear sun shade fully.



3. Loosen the rear sunroof lid glass assembly mounting screws. Adjust the rear sunroof lid glass height by moving the glass assembly along the guide oblong hole so that the clearance between the glass and the vehicle body is even.
4. After adjustment, check that the rear sunroof operates smoothly.

SUNROOF CHECK

M1426004700164

Check to see that the rear sunroof operates by pressing the sunroof switch. Perform troubleshooting if operations malfunction. Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

SUNROOF LOCK SWITCH FUNCTION INSPECTION

M1426005600029

When the window lock switch (sunroof lock switch) of the driver's power window switch is turned on, the sunroof switch should be disabled. If the sunroof operates, perform troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

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REAR SUNROOF SAFETY FUNCTION CHECK

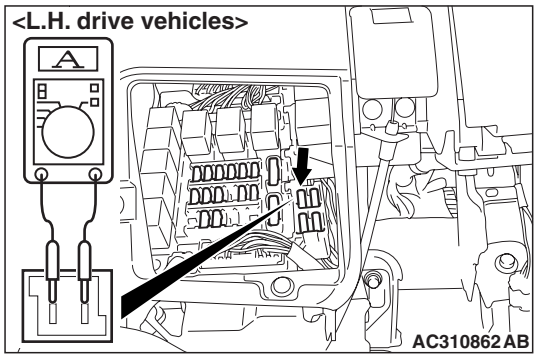
M1426004400185

1. Close the rear sunroof lid glass by applying an approximately 10mm thickness wood chip placed at a right angle to the rear sunroof lid glass.
2. Check to see if the rear sunroof lid glass opens after the sunroof motor assembly turns when the rear sunroof lid glass catches the wooden chip. Refer to GROUP 54B, Troubleshooting P.54B-24, refer to GROUP 54C, Troubleshooting P.54C-5, refer to GROUP 54D, Troubleshooting P.54D-26 or refer to GROUP 54E, Troubleshooting P.54E-5.

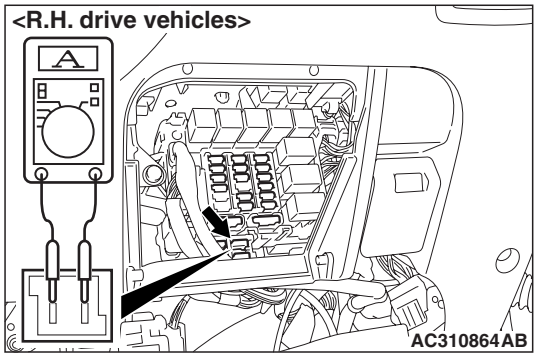
REAR SUNROOF LID GLASS OPERATION CURRENT CHECK

M1426003200199

<L.H. drive vehicles>



<R.H. drive vehicles>



1. Remove the sunroof fuse from the fuse box, and then connect a circuit tester as shown.
2. Operate the sunroof switch to open the sunroof. Measure when the sunroof is half opened.

   Standard value: 7 A or less (at 20 °C)
3. Check the following areas if the operating current of the rear sunroof lid glass exceeds the standard value.
   - Improperly installed rear sunroof assembly, deformation or any foreign substances
   - Drive cable fastening
   - Tilting of rear sunroof lid glass

INITIALISATION OF REAR SUNROOF

M1426004600156

1. Press and hold the OPEN switch to move the sunroof lid glass from the fully closed position to the fully opened position.
2. Press and hold the CLOSE switch to move the sunroof lid glass from the fully opened position to the fully closed position.

   NOTE: If the sunroof lid glass stops halfway when the switch is pressed and held, the initialisation process has not been completed properly. Repeat the initialisation process above.

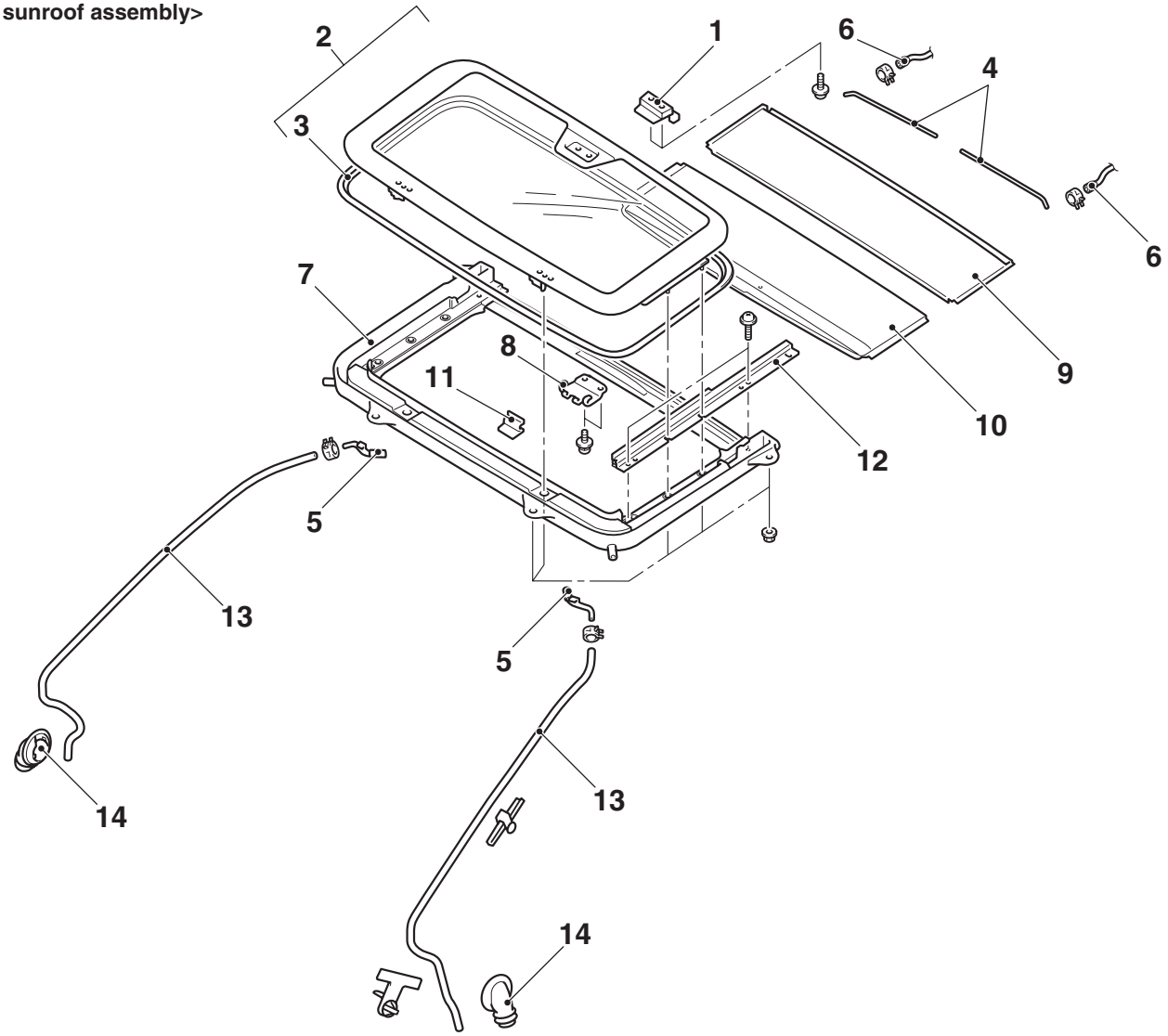
SUNROOF ASSEMBLY

REMOVAL AND INSTALLATION

M1426001200427

Post-installation Operation <Front sunroof lid glass assembly, Front tilt up sunroof assembly>
- Sunroof Water Test (Refer to P.42-72).

<Front sunroof assembly>



AC310746 AB

Front sunroof lid glass assembly removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

1. Sunroof lid latch
2. Front sunroof lid glass assembly
3. Sunroof lid outer weaterstrip

Opening weatherstrip removal

4. Opening weaterstrip

Front sunroof assembly removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

5. Sunroof drain pipe connection
6. Centre drain pipe connection
7. Front sunroof assembly

Striker removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

8. Striker

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Sunshade removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

5. Sunroof drain pipe
6. Centre drain pipe connection
7. Front sunroof assembly
9. Front sunroof sunshade rear
10. Front tilt up sunroof sunshade front
11. Front tilt up sunroof sunshade stopper

Tilt roof rail removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

2. Front sunroof lid glass assembly

>>**A**<<

Tilt roof rail removal steps
7. Front sunroof assembly
12. Tilt roof rail

Front drain pipe removal steps
- Instrument panel assembly (Refer to GROUP 52A, Instrument Panel Assembly P.52A-2).
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

5. Sunroof drain pipe
- Splash shield (Refer to P.42-9).

13. Front drain pipe
14. Grommet

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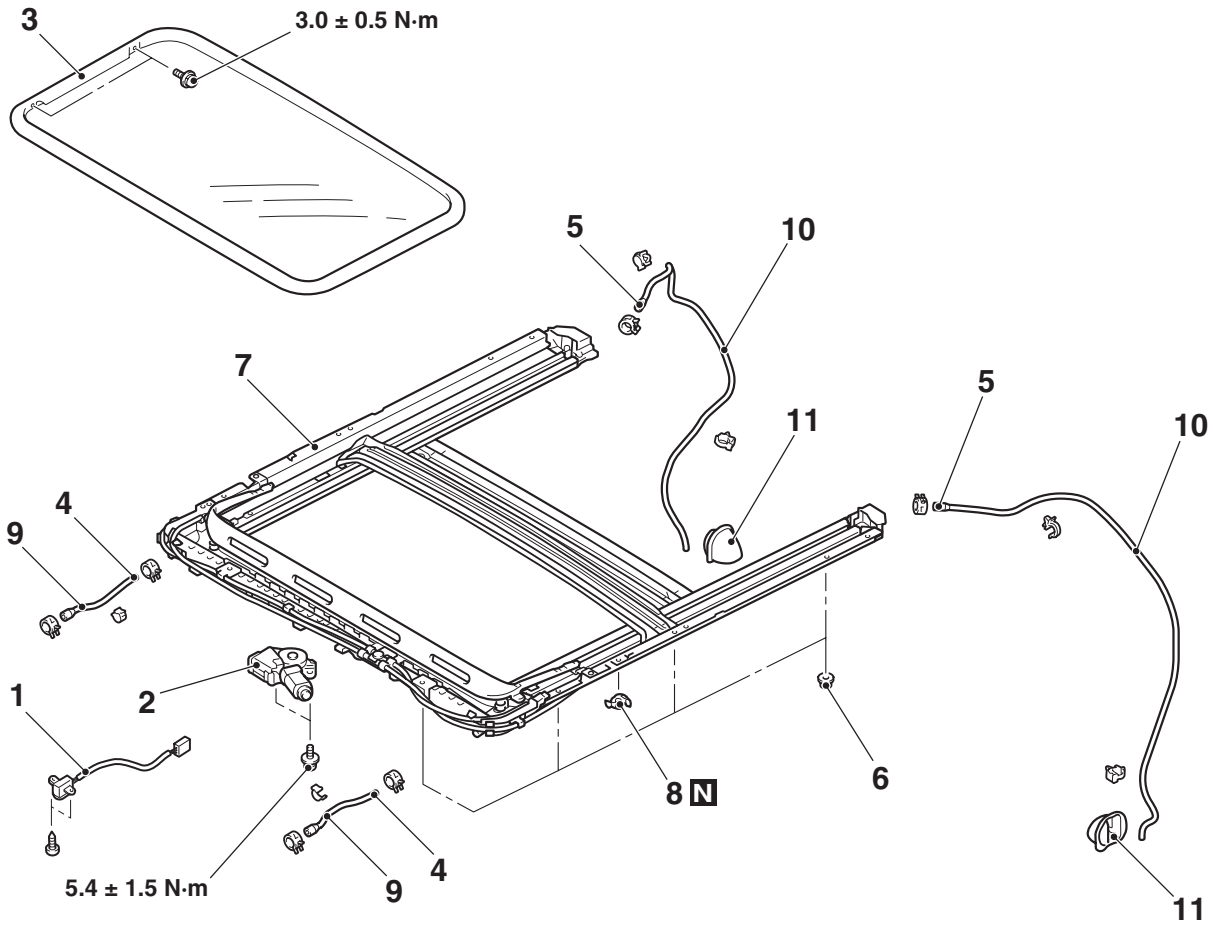
Post-installation Operation <Rear sunroof lid glass assembly, Rear sunroof assembly>
- Sunroof Water Test (Refer to P.42-72).
- Rear Sunroof Fit Adjustment (Refer to P.42-72).
- Sunroof Initialising Adjustment (Refer to P.42-73).

<Rear sunroof assembly>



AC310668 AB

Sunroof switch removal steps
- Rear heater controller assembly (Refer to GROUP 52A, Headlining P.52A-17).

1. Sunroof switch

Sunroof motor assembly removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

2. Sunroof motor assembly

Rear sunroof lid glass assembly removal

3. Rear sunroof lid glass assembly

Rear sunroof assembly removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

1. Sunroof switch

<<A>>

>>B<<

Rear sunroof assembly removal steps (Continued)
- Rear heater controller bracket (Refer to GROUP 55, Rear Air Conditioner Switch P.55-228).

2. Sunroof motor assembly
3. Rear sunroof lid glass assembly
4. Centre drain pipe connection
5. Rear drain pipe connection
6. Rear sunroof assembly mounting nut
7. Rear sunroof assembly
8. Plate nut

Centre drain pipe removal steps
- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).

9. Centre drain pipe

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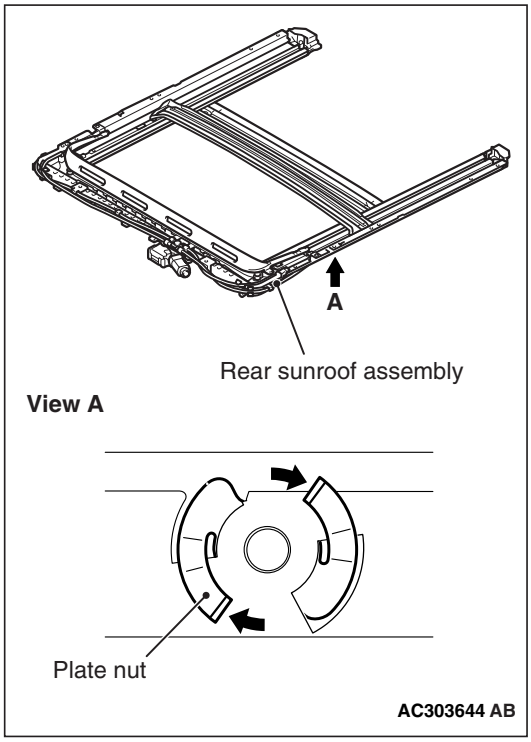
Rear drain pipe removal steps

- Headlining assembly (Refer to GROUP 52A, Headlining P.52A-17).
- Rear heater unit (Refer to GROUP 55, Rear Heater Unit P.55-230).
- Insulator pad

>>A<< 10. Rear drain pipe
11. Grommet

REMOVAL SERVICE POINT

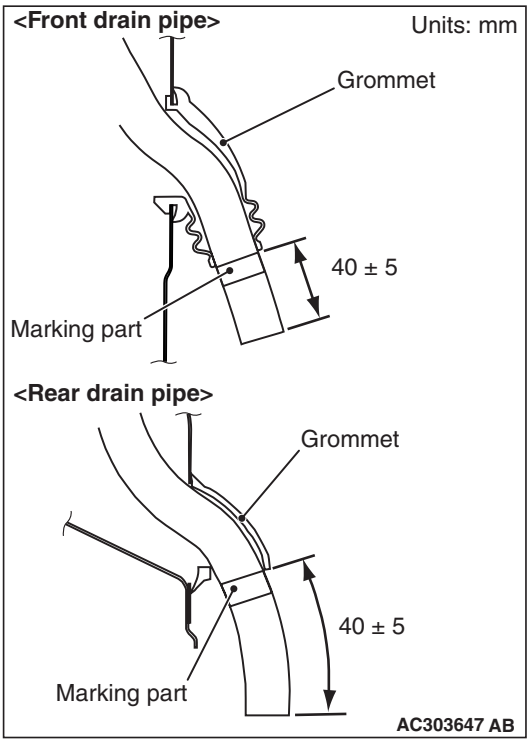
<<A>> REAR SUNROOF ASSEMBLY REMOVAL



Rotate the plain nut to the direction shown by using a flat-tipped screwdriver. Then remove the rear sunroof assembly.

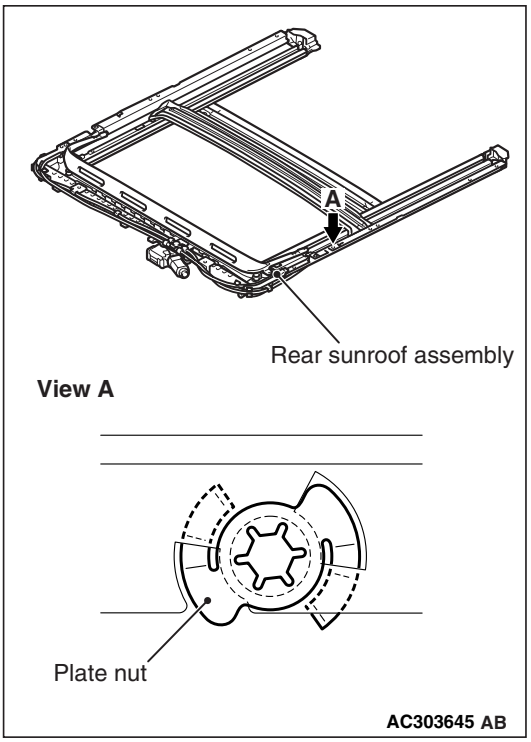
INSTALLATION SERVICE POINTS

>>A<< FRONT DRAIN PIPE/REAR DRAIN PIPE INSTALLATION



Install the grommet. Adjust the drain pipe projection as shown.

>>B<< PLATE NUT INSTALLATION



Install the plain nut to the rear sunroof assembly as shown.

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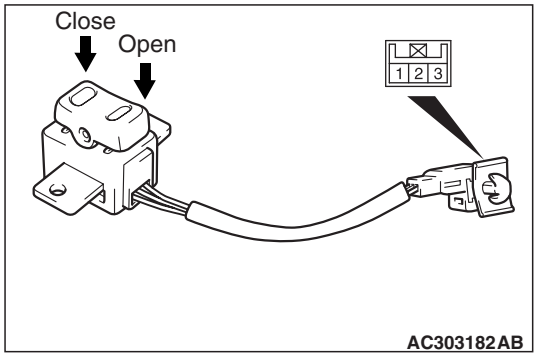
INSPECTION

M1426001600135

SUNROOF SWITCH CONTINUITY CHECK



Switch position	Tester connection	Specified condition
Open	1 –2	Less than 2 ohms
OFF	1 –2, 1 –3, 2 –3	Open circuit
Close	2 –3	Less than 2 ohms

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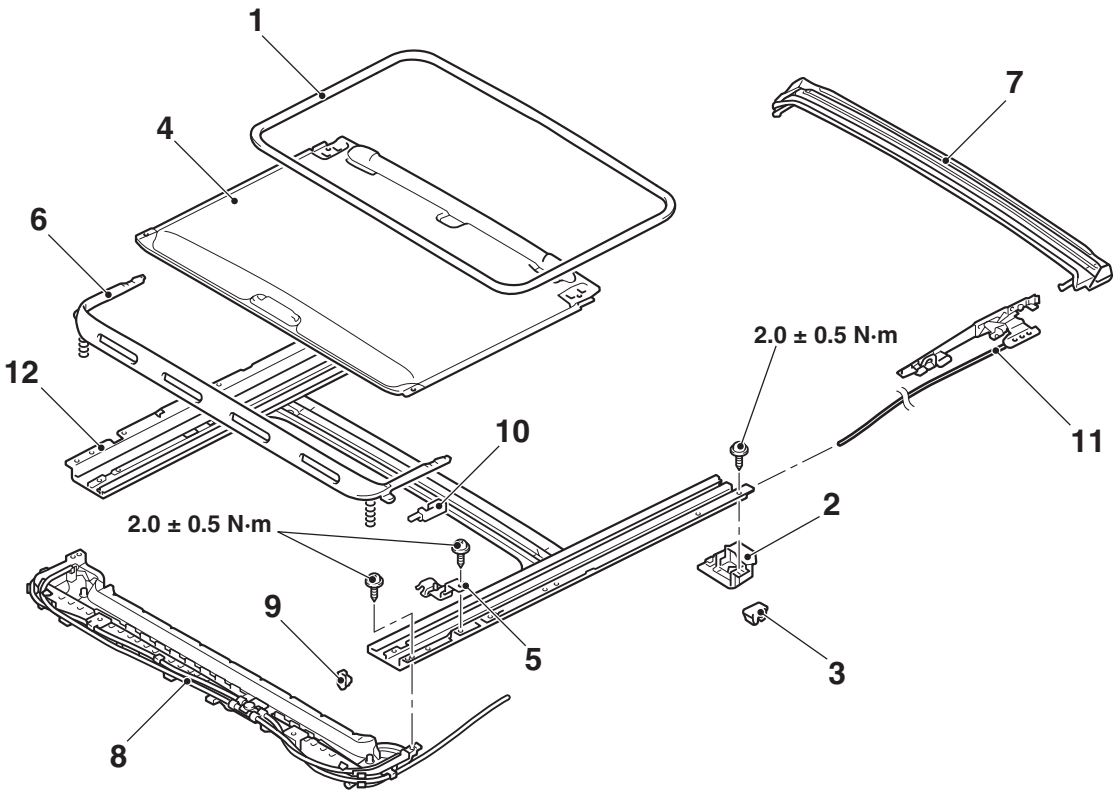
DISASSEMBLY AND REASSEMBLY

M1426001400335



AC310669 AB

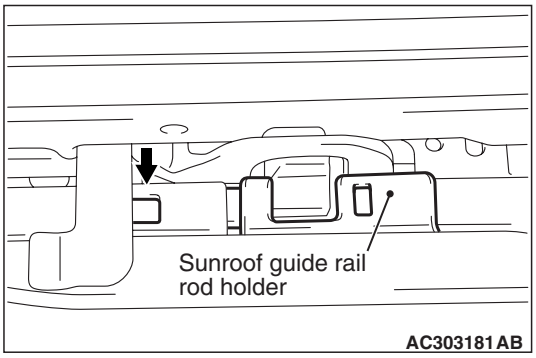
Disassembly steps

1. Weatherstrip
2. Sunroof drip plate
3. Sunshade stopper rear
4. Sunshade
5. Sunroof lid glass holder front
6. Deflector assembly
7. Sunroof drip rail
8. Sliding roof operating unit
9. Roof blind stopper

<<A>> 10. Sunroof guide rail rod holder

11. Roof lid lifter
12. Sunroof housing

DISASSEMBLY SERVICE POINT
<<A>> SUNROOF GUIDE RAIL ROD HOLDER REMOVAL



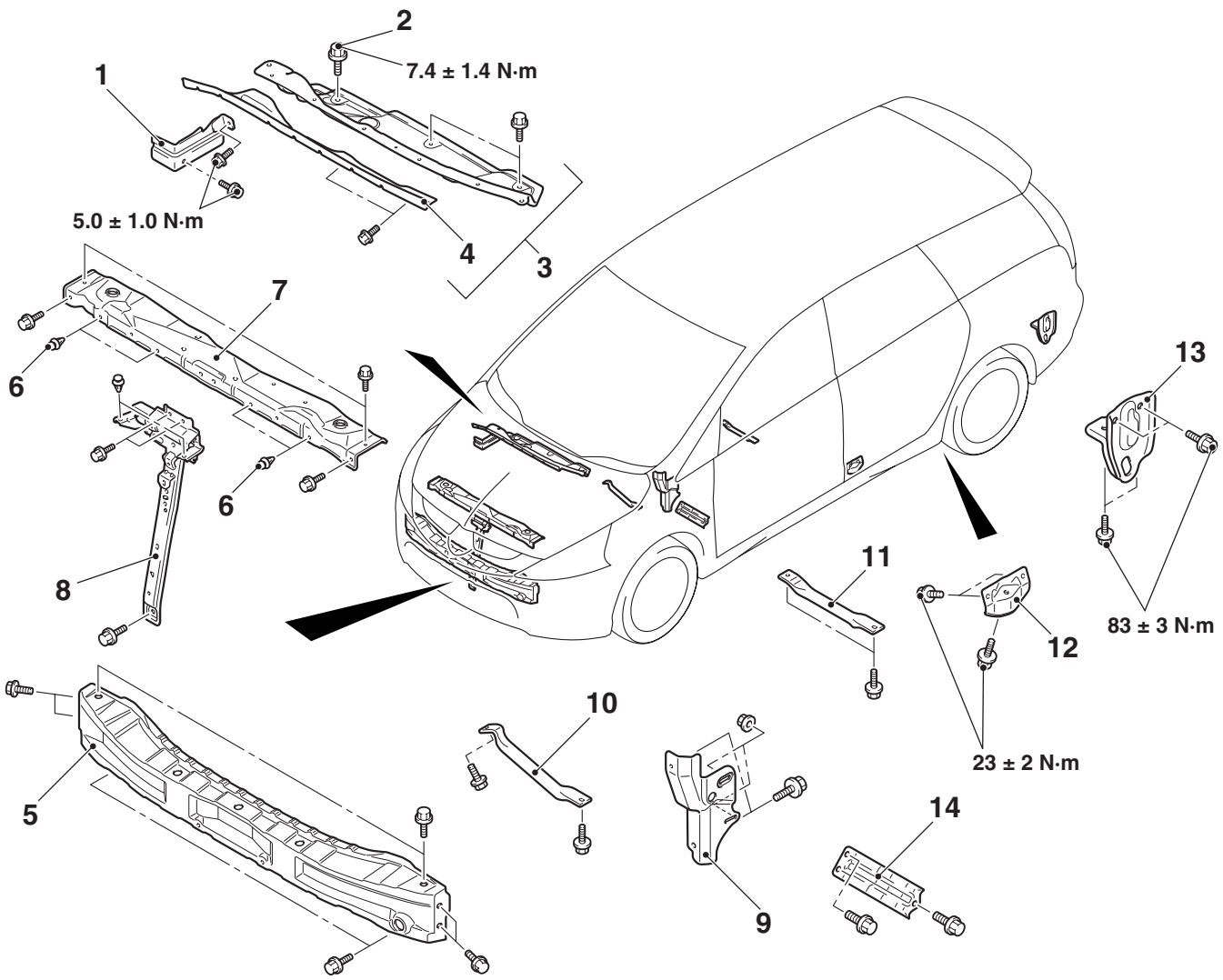
AC303181 AB

Slide the sunroof guide rail rod holder to the rear of the vehicle while pushing the shown spot with a flat-tipped screwdriver.

LOOSE PANEL

REMOVAL AND INSTALLATION

M1421003100227



AC502974 AB

Cowl top panel removal steps

1. Heat protector <R.H. drive vehicles>
- Front deck garnish (Refer to GROUP 51, Windshield Wiper P.51-17.)
2. Windshield wiper link assembly mounting bolt
3. Cowl top panel front
4. Cowl top extension

Front end beam removal steps

- Front bumper assembly (Refer to GROUP 51, Front Bumper P.51-3.)
5. Front end beam

Front end upper bar removal steps

6. Front bumper upper grille mounting clip
7. Front end upper bar

Hood lock stay removal steps

- Hood latch (Refer to P.42-6 <Except vehicles for Hong Kong and Singapore>, P.42-7 <Vehicles for Hong Kong and Singapore>.)
- Front bumper assembly (Refer to GROUP 51, Front Bumper P.51-3).
- Horn

8. Hood lock stay

Dash side plate removal steps

- Front deck crossmember and heater unit assembly (Refer to GROUP 55, Heater Unit and Blower Assembly P.55-213.)

9. Dash side plate <Driver's side only>

Front backbone stay removal

10. Front backbone stay

Rear backbone stay removal

11. Rear backbone stay

Jack up point bracket removal

12. Jack up point bracket

Rear floor hook removal steps

- Rear splash shield (Refer to GROUP 51, Rear Bumper P.51-8.)

13. Rear floor hook

Upper frame to front pillar brace removal steps

- Splash shield (Refer to P.42-9.)

14. Upper frame to front pillar brace