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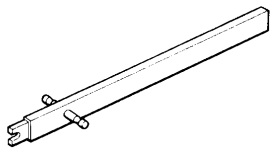
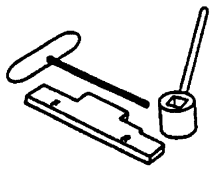
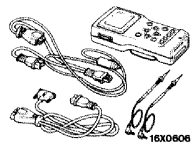
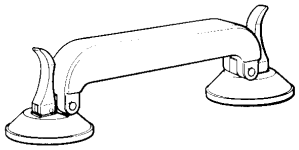
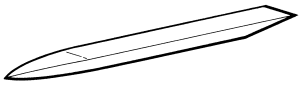
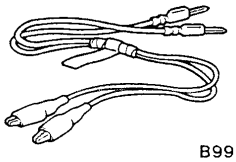
SPECIAL TOOLS

Tool	Tool number and name	Supersession	Application
	MB991244 Torsion bar remover and installer	–	Removal and installation of trunk lid torsion bar
	E42M4 Door glass adjusting kit	–	Adjusting door glass
	MB991502 MUTT-II sub assembly	–	Registering the radio wave key-less entry transmitter
	MB990480 Glass holder	–	Removal and installation of win-dow glass
	MB990784 Ornament remover	E23M6	Removal of the door trims
	MB991529 Diagnosis code check harness	MB991529-01	For checking of fault codes

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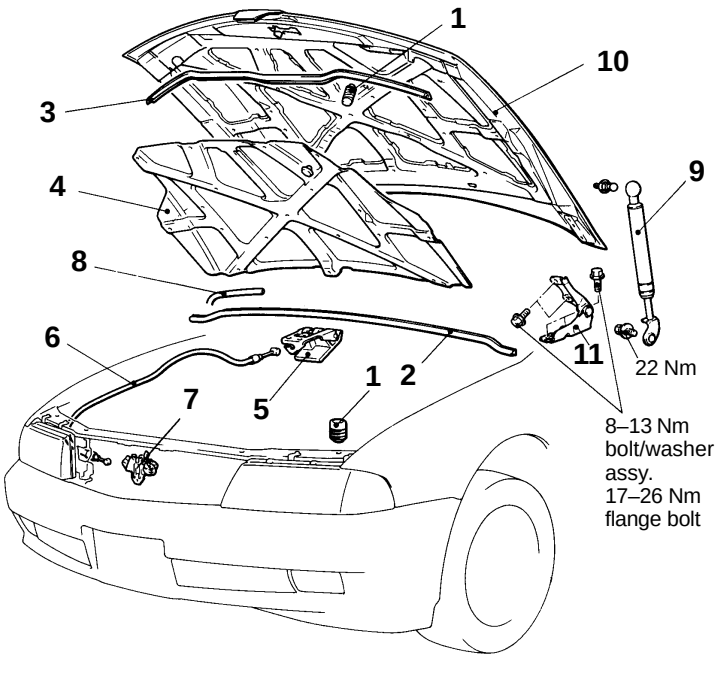
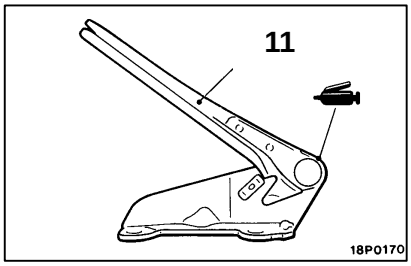
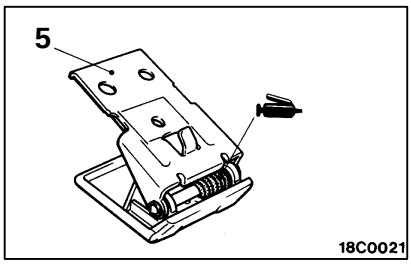
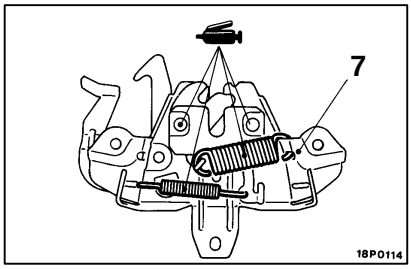
HOOD

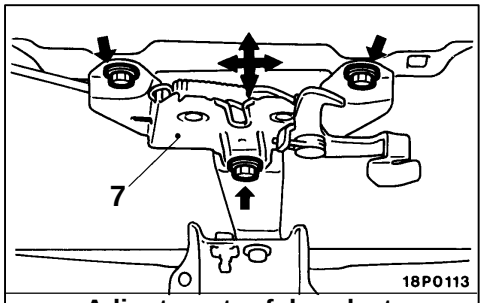
REMOVAL AND INSTALLATION



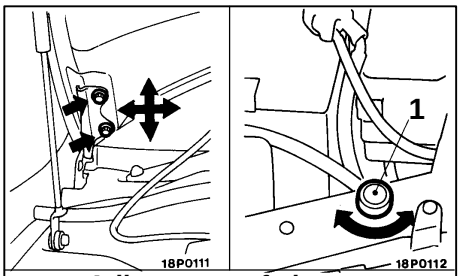








Adjustment of hood step and hood striker linkage



Adjustment of clearance around hood and height

20TJ070A

▶A◀ 1. Bumper
2. Hood weatherstrip
3. Hood weatherstrip
4. Hood silencer
5. Lock release handle

Hood lock release cable removal steps

- Splash shield (Refer On vehicle service.)

6. Hood lock release cable

Hood latch removal steps

- Radiator grille (Refer Group 51.)

7. Hood latch

Hood and hinges removal steps

8. Washer tube connection
9. Hood gas spring
10. Hood
11. Hood hinge

Caution:

1. Do not disassemble or dispose of the hood gas spring in a fire.
2. Before disposing of the hood gas spring, refer to gas spring disposal.

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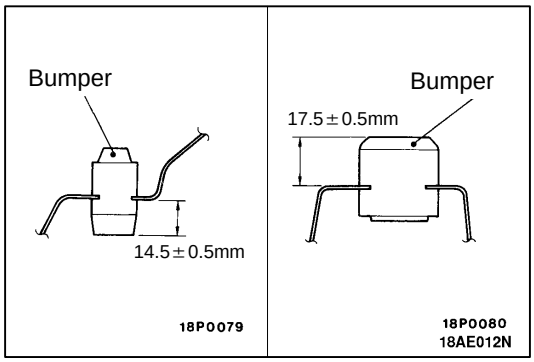
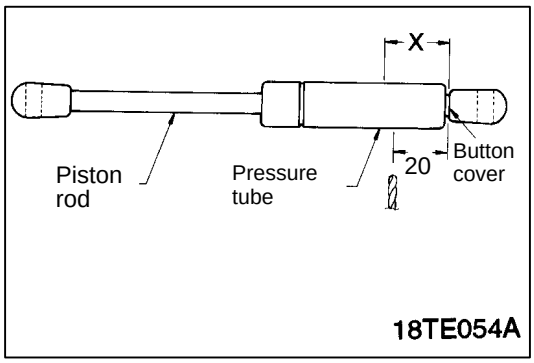


INSTALLATION SERVICE POINTS

▶A◀ BUMPER INSTALLATION

Install the bumper as shown in the diagram.



HOOD GAS SPRING DISPOSAL

Caution
The gas springs are under pressure and must be vented in accordance with the following instructions before being discarded.

1. The pressure tube must be clamped between two V–blocks without being deformed. Dimension “X” as shown in the illustration must be at least 25 mm and left unobstructed by V–blocks.
2. Suitable safety measures must be taken before performing the above venting operations. Full face visor, leather gloves and protective clothings must be worn by the person performing the venting operations. Any persons in close vicinity of the area must also observe these safety measures.
3. To vent the pressure tube, drill a 3 mm diameter hole 20 mm from the bottom cover as shown in the illustration.
4. The cylinder is correctly vented when the piston rod can be moved in and out without the use of force.
5. The gas springs are partially filled with oil. Be sure to comply with the laws of your state regarding the disposal of oil.

NOTE:
If correct disposal in accordance with these instructions is not possible, please return the gas springs to your authorised Mitsubishi Dealer. This procedure also applies for the disposal of tailgate gas springs.

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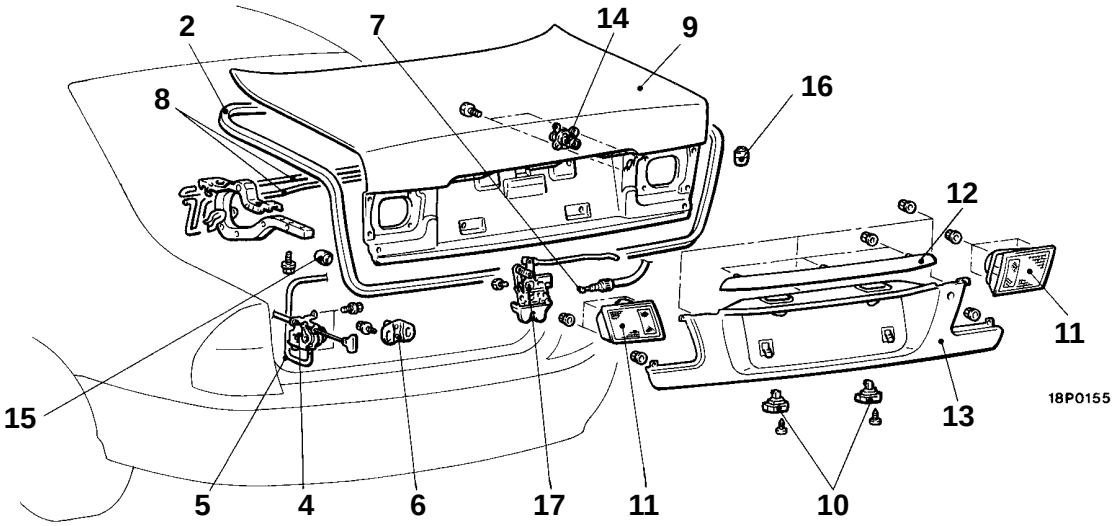
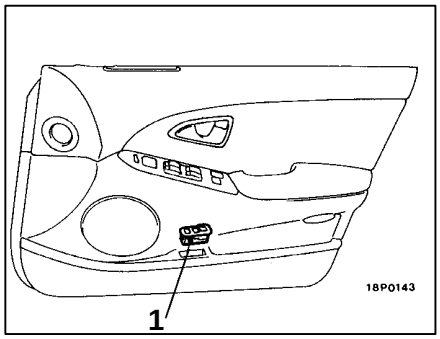
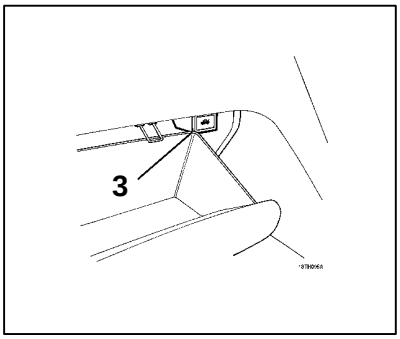
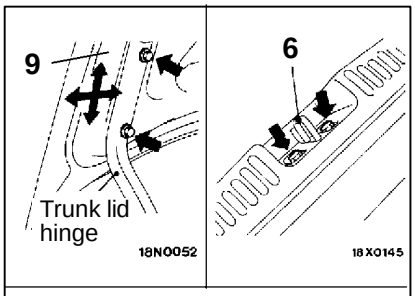
TRUNK LID

REMOVAL AND INSTALLATION









Adjusting the trunk lid

18TH097A

Trunk lid release cable and lid lock release handle (wire-type opener) removal steps

- Front seat (driver side) (Refer Group 52A.)
- Rear seat (Refer Group 52A.)
- Front scuff plate (LH) (Refer Group 52A)
- Centre pillar lower trim A (LH) (Refer Group 52A.)
- Rear scuff plate (LH) (Refer Group 52A.)
- Trunk rear trim cover (Refer Group 52A.)
- Trunk rear centre trim (Refer Group 52A.)
- Trunk rear side trim (LH) (Refer Group 52A.)
- Trunk side trim (LH) (Refer Group 52A)

1. Lid lock release handle
2. ▶A◀ Trunk lid weather strip

Electric trunk lid release cable removal steps

- Trunk rear side trim (LH) (Refer Group 52A.)
- Trunk lid trim (Refer Group 52A.)

3. Trunk lid opener.
4. Trunk lid and fuel filler door opener actuator.

Trunk lid striker removal steps

- Trunk rear trim cover (Refer Group 52A.)

5. Trunk lid release cable

Trunk lid removal steps

- Trunk lid trim (Refer Group 52A.)
- Rear lid harness connection

6. Trunk lid striker
7. Trunk lid release cable connection
8. ◀A▶ ▶C◀ Trunk lid torsion bar
9. Trunk lid panel assembly
10. Licence plate lamp
11. Rear lid lamp
12. Rear panel upper garnish
13. Rear panel lower garnish
14. Trunk lid lock cylinder
15. Bumper

Trunk lid latch removal steps

- Trunk lid trim (Refer Group 52A.)

16. ▶B◀ Bumper

Trunk lid weatherstrip removal

17. Trunk lid latch assembly

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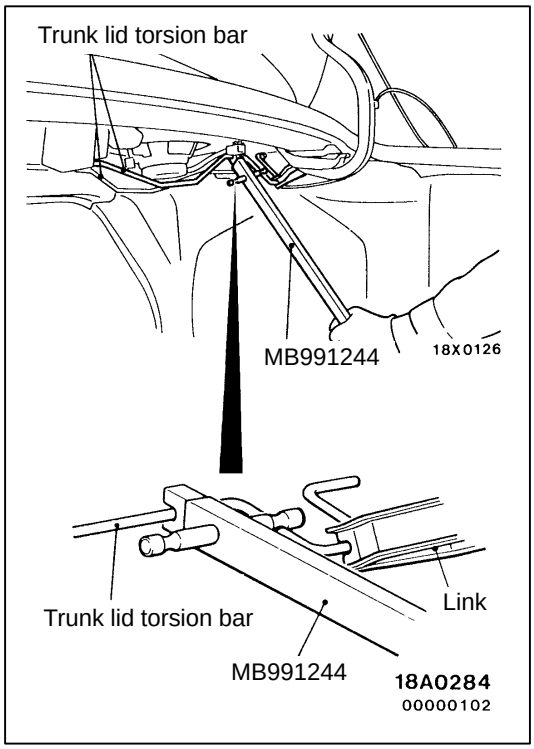


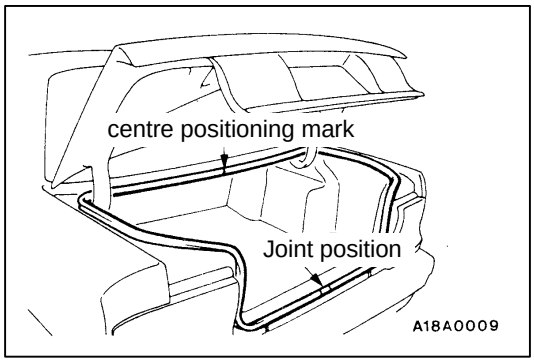
REMOVAL SERVICE POINTS

◀A▶ TRUNK LID TORSION BAR REMOVAL

1. Disconnect the body harness and the harness connector of the rear shelf lower panel.
2. Attach the special tool to the link side of the torsion bar as shown in the figure, and push downwards to remove the torsion bar from the link.

NOTE
When removing the torsion bars, the left and right torsion bars cross at the centre, so the bar that is towards you at the crossed section should be removed first.

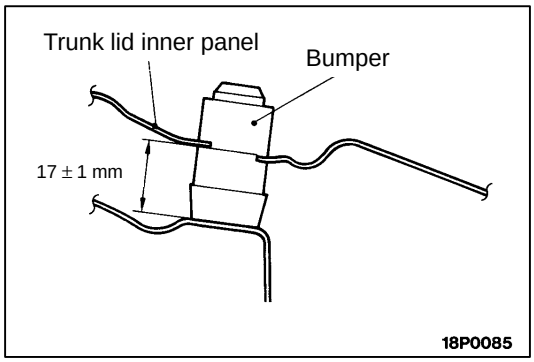
Caution
Be sure to attach the special tool properly, as the body or parts could be damaged when the torsion is removed from the special tool.



INSTALLATION SERVICE POINTS

▶A◀ TRUNK LID WEATHERSTRIP INSTALLATION

Install the trunk lid weatherstrip so that the marked part is at the position shown in the illustration.



▶B◀ BUMPER INSTALLATION

Install the bumper as shown in the figure.

▶C◀ TRUNK LID TORSION BAR INSTALLATION

1. Insert the end of the torsion bar through the link side mounting hole.
2. Attach the special tool as described previously. Refer to – Trunk Lid Torsion Bar Removal.

Caution
Be sure to attach the special tool properly, as the body or parts could be damaged when the torsion bar is removed from the special tool.

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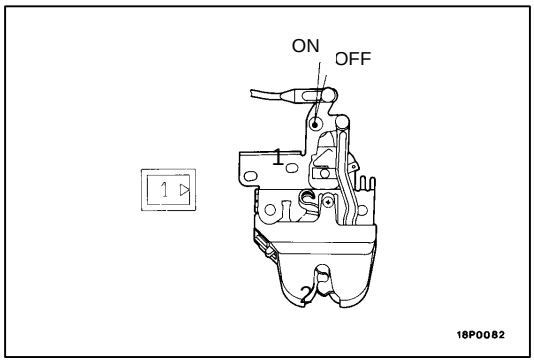
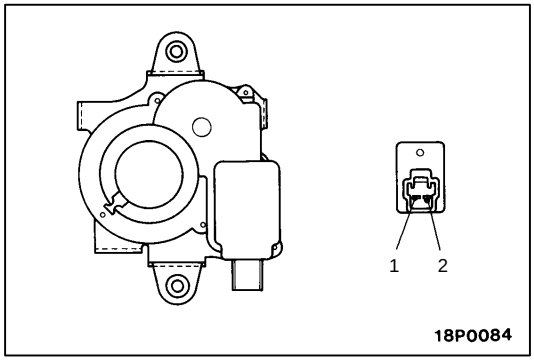


INSPECTION

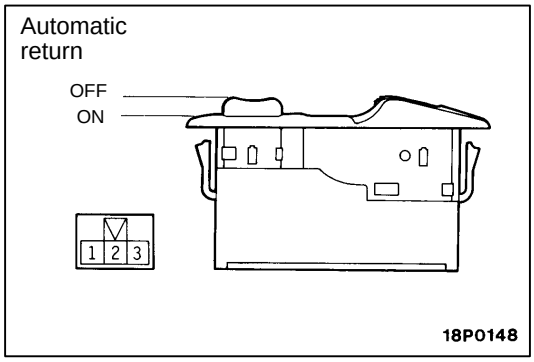
TRUNK LID LATCH SWITCH CONTINUITY CHECK

Switch position	Terminal Number	
	1	Body Ground
ON (Latch open)	○	○
OFF (Latch shut)		



TRUNK LID AND FUEL FILLER DOOR OPENER ACTUATOR

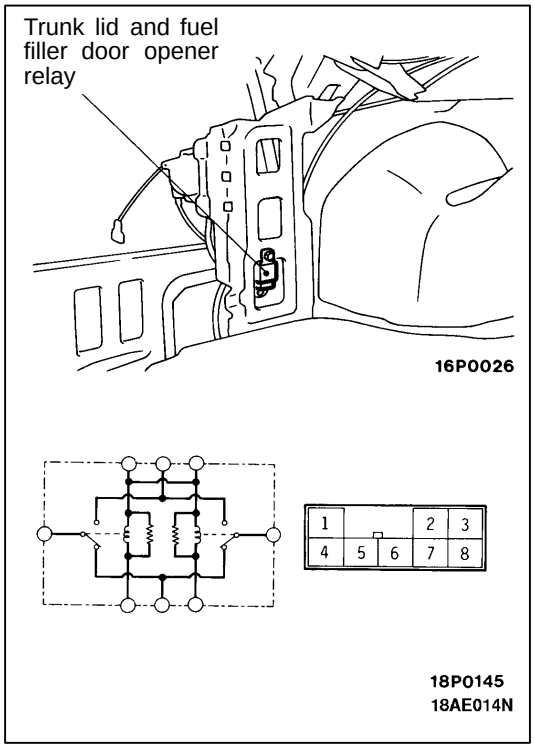
1. Connect a battery directly to the actuator terminals and check that the motor rotates smoothly.
2. Check that the motor rotates in the reverse direction when the polarity of the battery is reversed.



TRUNK LID AND FUEL FILLER DOOR OPENER SWITCH CONTINUITY CHECK

Switch position	Terminal Number	
	1	2
OFF	○	○
ON		

NOTE
See the Fuel Filler Door section for section for instructions on checking the fuel filler door side.



TRUNK LID AND FUEL FILLER DOOR OPENER RELAY CONTINUITY CHECK

Battery Voltage	Terminal Numbers					
	1	2	3	4	5	7
Continuity no voltage	○		○		○	
Continuity with voltage	○	○		⊖		⊕

NOTE
See the Fuel Filler Door section for section for instructions on checking the fuel filler door side.

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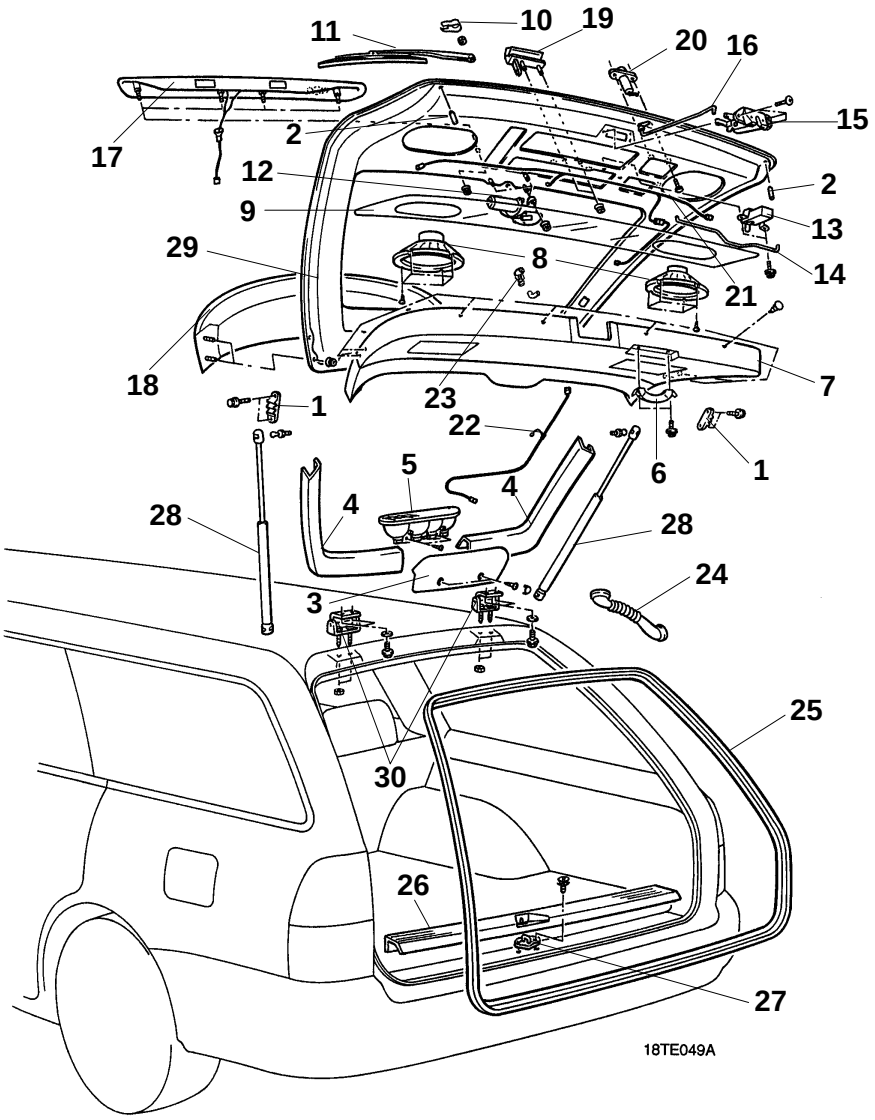
TAILGATE

REMOVAL AND INSTALLATION



Removal Procedure

1. Damper
2. Bumper
3. High mount stop lamp cover
4. Tailgate side trim
5. High mount stop lamp
6. Grab handle
7. Tailgate trim
8. Speaker
9. Waterproof film
10. Wiper arm cover
11. Wiper arm assembly
12. Wiper motor
13. Tailgate lock actuator
14. Rod
15. Tailgate latch assembly
16. Rod
17. Rear garnish panel
18. Tailgate air deflector

● . Rear window glass (Refer On vehicle service.)

19. Tailgate handle
20. Tailgate lock cylinder
21. Harness
22. Harness and rear washer tube
23. Washer nozzle
24. Harness grommet
25. Weatherstrip
26. Tailgate scuff plate
27. Tailgate striker
28. Tailgate gas spring

◀A▶ ▶A◀ 29. Tailgate assembly

30. Tailgate hinge

Caution:

1. **Do not disassemble or dispose of the tailgate gas spring in a fire.**
2. **Before disposing of the tailgate gas spring, refer to tailgate gas spring disposal.**

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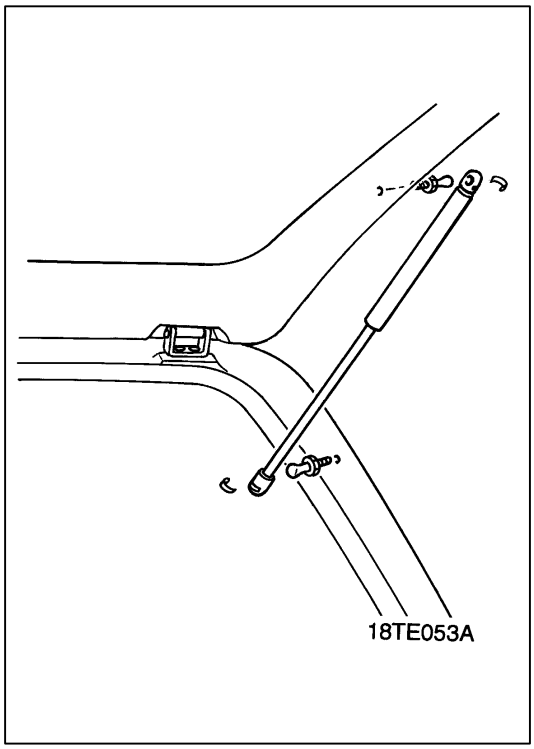
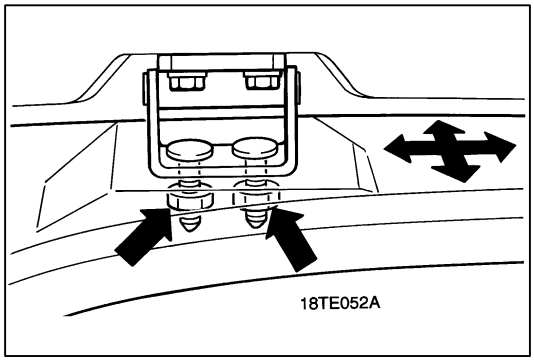


REMOVAL SERVICE POINTS

◀A▶ TAILGATE GAS SPRING

Caution
Before removing the gas springs, ensure the tailgate is well supported in the open position. Failure to observe this may cause serious personal injury.

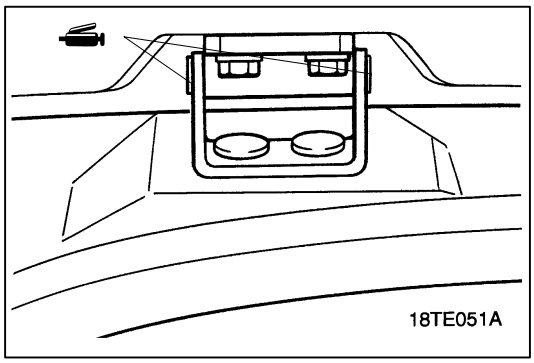
1. Gently lever the metal clips at each end of the gas spring as shown in the illustration, to remove the gas spring.



INSTALLATION SERVICE POINTS

▶A◀ TAILGATE

1. Adjust the clearance around the tailgate by adjusting the hinges on both sides as shown in the illustration.



2. Apply multi–purpose grease in the areas shown in the illustration.

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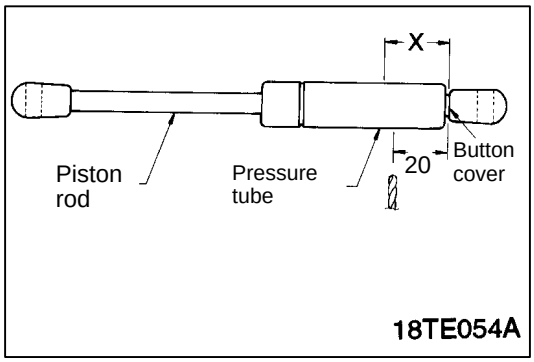

TAILGATE GAS SPRING DISPOSAL

Caution
The gas springs are under pressure and must be vented in accordance with the following instructions before being discarded.

1. The pressure tube must be clamped between two V–blocks without being deformed. Dimension “X” as shown in the illustration must be at least 25 mm and left unobstructed by V–blocks.
2. Suitable safety measures must be taken before performing the above venting operations. Full face visor, leather gloves and protective clothings must be worn by the person performing the venting operations. Any persons in close vicinity of the area must also observe these safety measures.
3. To vent the pressure tube, drill a 3 mm diameter hole 20 mm from the bottom cover as shown in the illustration.
4. The cylinder is correctly vented when the piston rod can be moved in and out without the use of force.
5. The gas springs are partially filled with oil. Be sure to comply with the laws of your state regarding the disposal of oil.

NOTE:
If correct disposal in accordance with these instructions is not possible, please return the gas springs to your authorised Mitsubishi Dealer. This procedure also applies for the disposal of hood gas springs.

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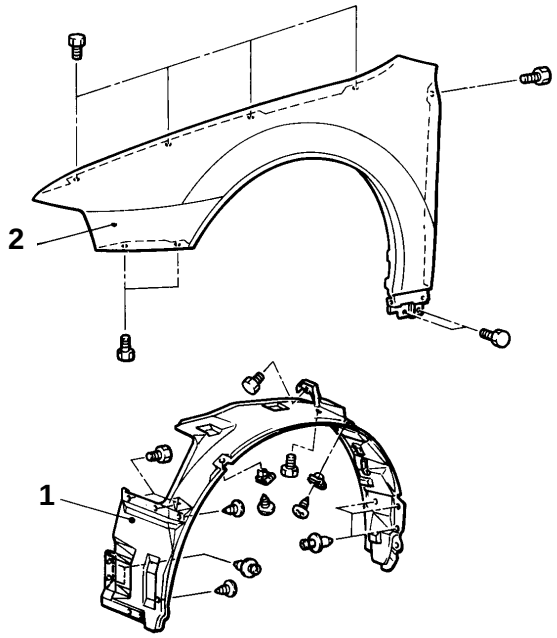
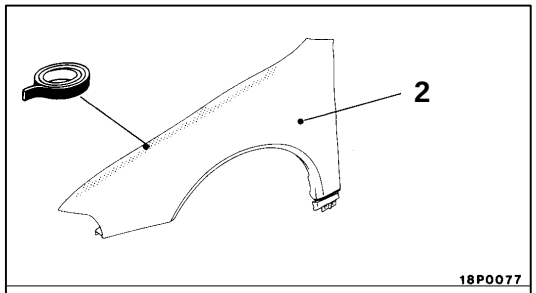
FENDER

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Front Bumper Removal and Installation (Refer Group 51.)
- Front Side Air Dam Removal and Installation (Refer Group 51.)

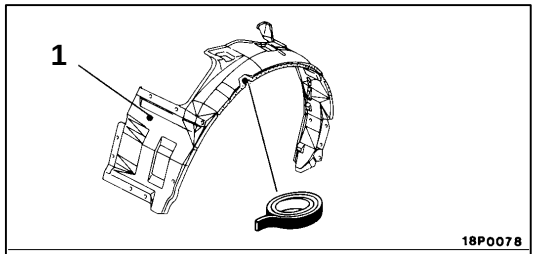


18P0087



18P0077

Sealant:
3M ATD Part No. 8625 or equivalent



18P0078

Sealant:
3M ATD Part No. 8625 or equivalent

18AE013N

Removal steps
1. Splash shield
2. Fender

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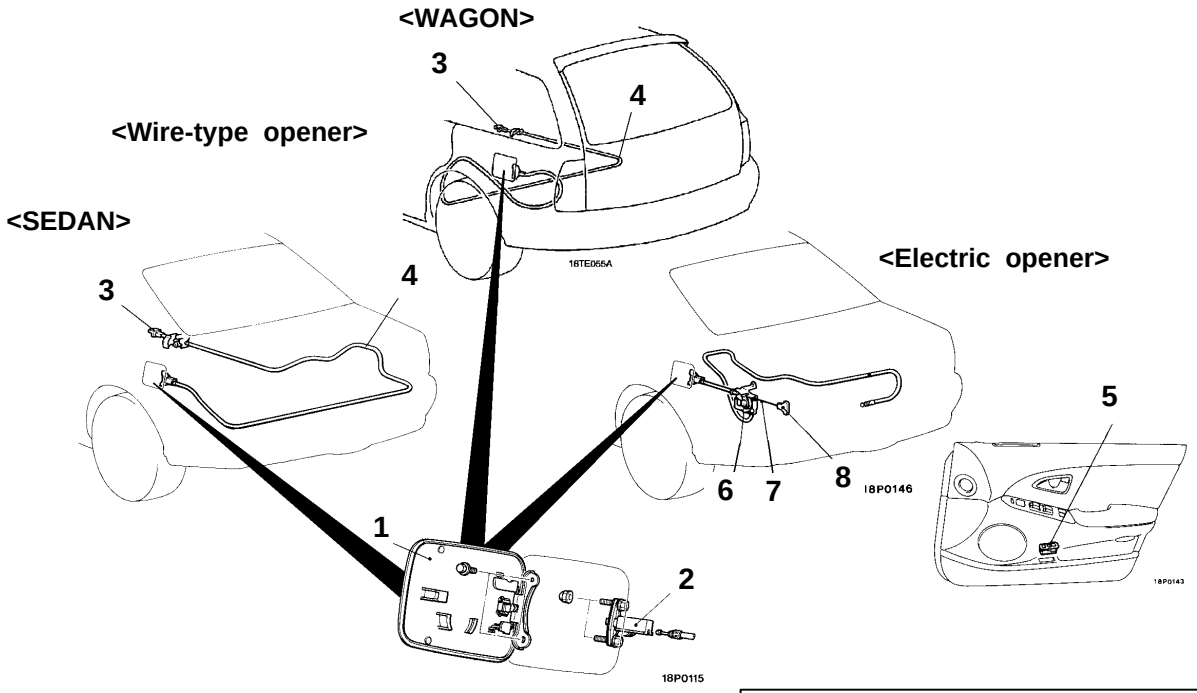
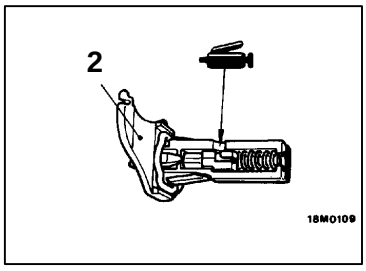
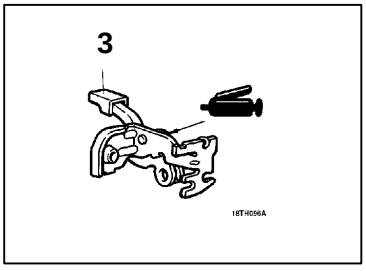
FUEL FILLER DOOR

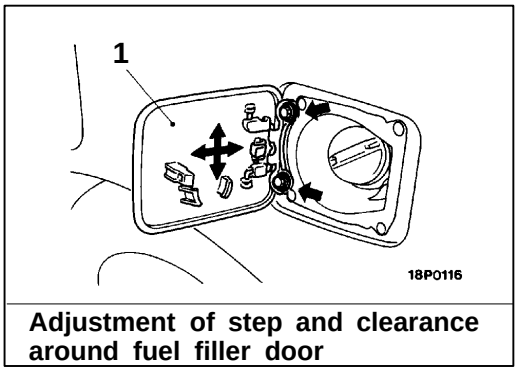
REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Front Seat (driver's side) Removal and Installation (Refer Group 52A.)
  Rear Seat Removal and Installation (Refer Group 52A.)
- Centre Pillar Lower Trim (driver's side), Front Scuff Plate (driver's side), Rear Scuff Plate (driver's side), Trunk Side Trim, Rear End Trim Cover, Trunk Rear Trim Removal and Installation (Refer Group 52A.)









Adjustment of step and clearance around fuel filler door

18TH105A

Removal steps
<Wire type opener>
1. Fuel filler door panel
2. Fuel filler door hook
3. Lid lock release handle
4. Fuel filler door lock release cable

Electric Removal steps
<Electric opener>
1. Fuel filler door panel
2. Fuel filler door hook
5. Trunk and fuel filler door opener switch
6. Trunk and fuel filler door opener actuator
7. Fuel filler door lock release cable
8. Emergency lever

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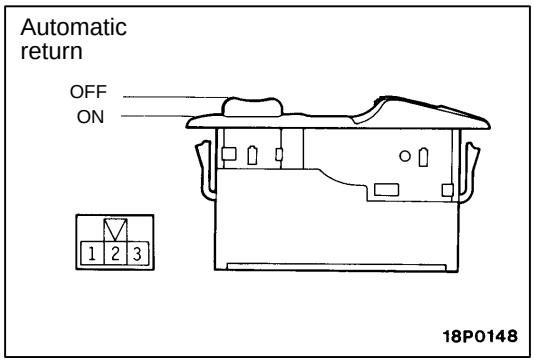
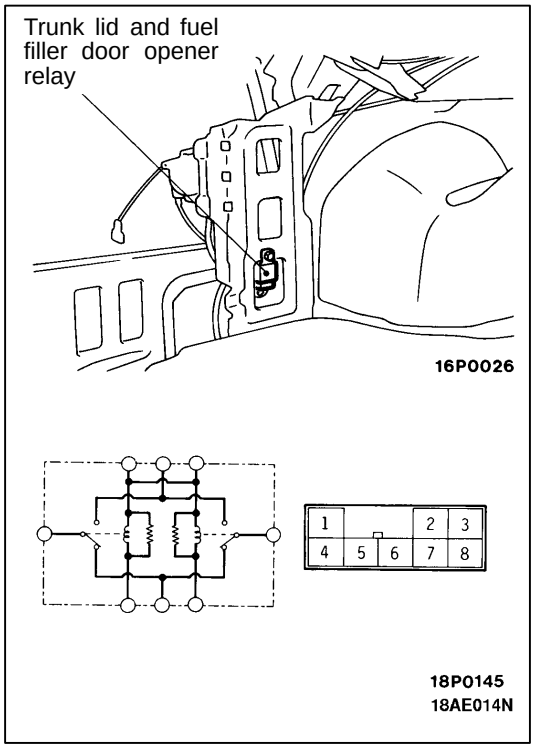


INSPECTION

TRUNK LID AND FUEL FILLER DOOR OPENER SWITCH CONTINUITY CHECK

Switch position	Terminal Numbers	
	2	3
OFF		
ON	○	○

NOTE
See the Trunk Lid section for instructions on checking the trunk lid side.



TRUNK LID AND FUEL FILLER DOOR OPENER RELAY CONTINUITY CHECK

Battery Voltage	Terminal Numbers					
	1	2	3	5	7	8
Continuity no voltage	○		○	○		
Continuity with voltage		○	○		⊕	⊖

NOTE
See the Trunk Lid section for instructions on checking the trunk lid side.

TRUNK LID AND FUEL FILLER DOOR OPENER ACTUATOR CHECK

See On vehicle service.

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WINDSHIELD AND WINDOW GLASS

WINDOW GLASS

GENERAL

The windshield and rear window glass are attached by an urethane-base adhesive to the window frame. This adhesive not only provides improved glass holding and sealing, but also permits use of body openings having a greater structural strength.

ITEMS NEEDED

Name	Remarks
Adhesive	Betaseal – 58702
Primer Body Glass	 Betaseal – 43432 Betaseal – 43520A
Spacers	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. x length – 0.6mm x 1mm 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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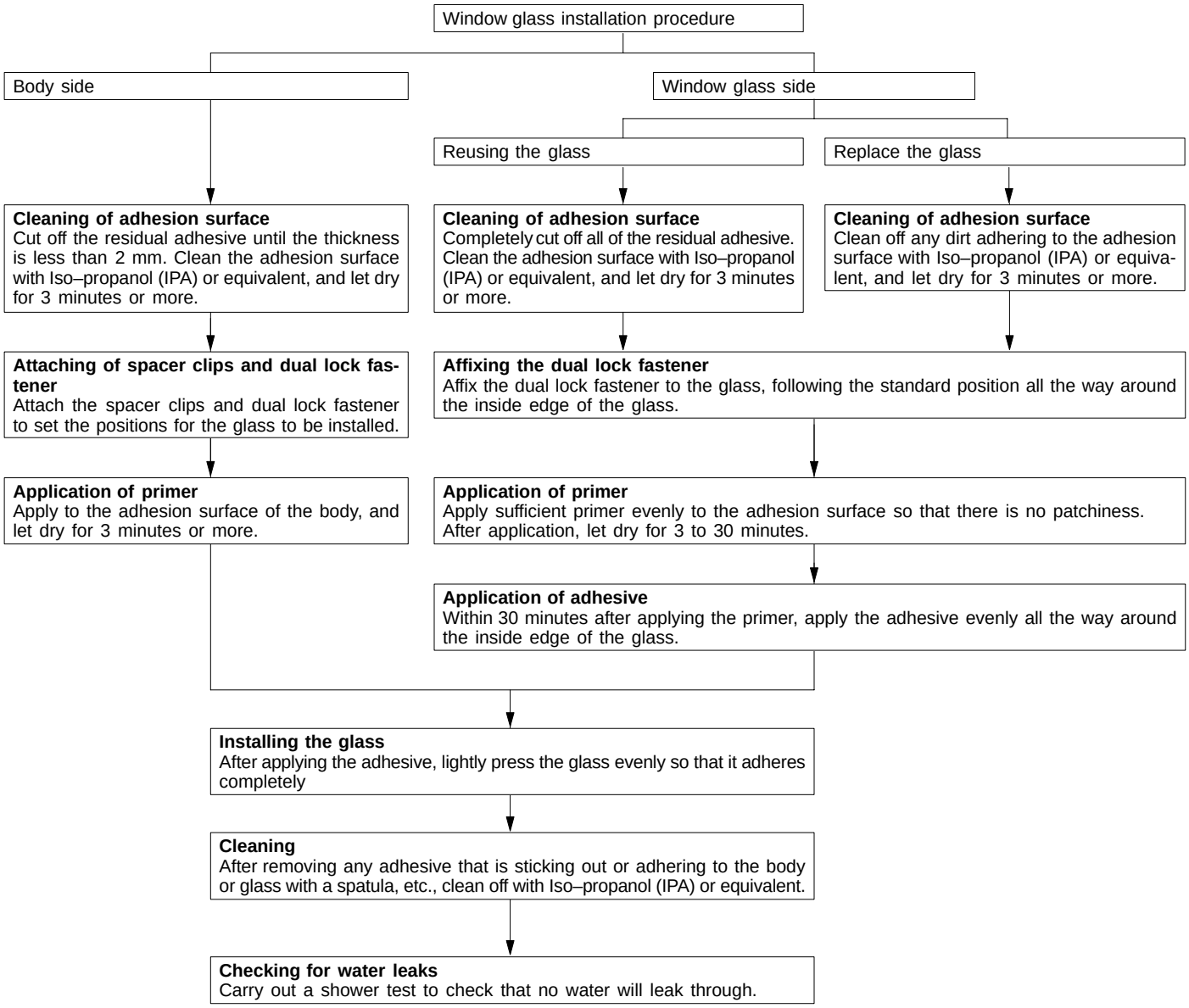
WORKING PROCESS



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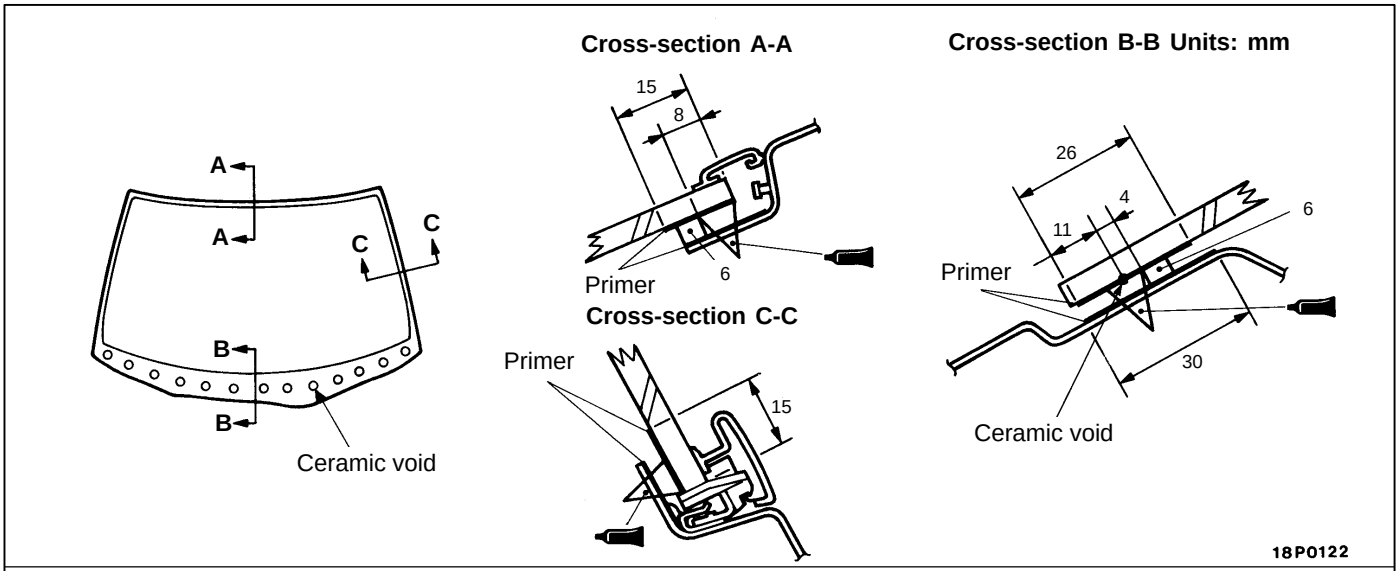
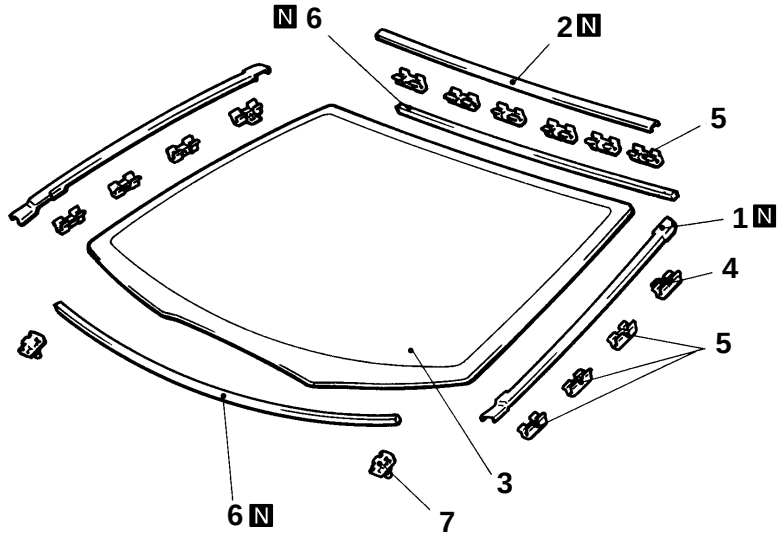
WINDSHIELD

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Removal and Installation
- Front Deck Garnish (Refer Group 51.)
- Front Pillar Trim (Refer Group 52A.)
- Headlining (Refer Group 52A.)



Specified primer: Body–Betaseal 43532 – Glass–Betaseal 43520A
Specified adhesive: Betaseal 58702 or equivalent



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Removal steps

1. Windshield side moulding
2. ▶A◀ Windshield upper moulding
3. ◀A▶ ▶A◀ Windshield
4. ▶A◀ Windshield moulding fastener
5. ▶A◀ Windshield moulding clip
6. ▶A◀ Window spacer
7. Windshield spacer

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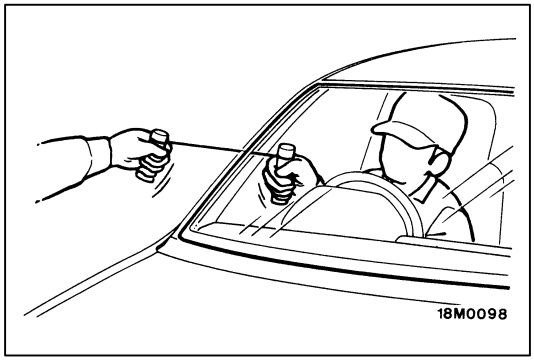
REMOVAL SERVICE POINTS

◀A▶ WINDSHIELD GLASS REMOVAL

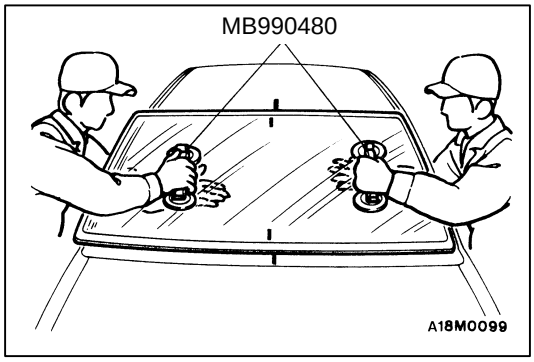
1. In order to protect the body (paint surface), apply cloth tape to all body areas around the installed windshield glass.
2. Remove the windshield side and upper mouldings.



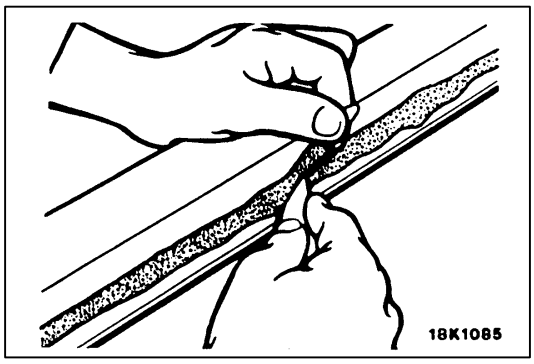
3. Using a sharp-point drill, make hole in the windshield glass adhesive.
4. Pass the piano wire from the inside of the vehicle through the hole.
5. Pull the piano wire alternately from the inside and outside along the windshield glass to cut the adhesive.

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

6. If the glass is to be reused make mating marks on the windshield glass and body.



7. Use the special tool to remove the windshield glass.

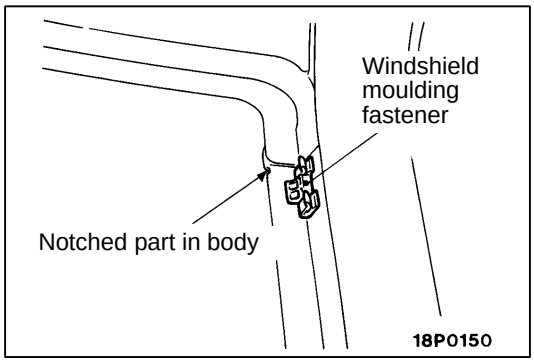


8. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
9. Finish the flange surfaces so that they are smooth.

Caution
1. **Be careful not to remove more adhesive than is necessary.**
2. **Be careful also not 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.**

10. When reusing the glass, remove the adhesive still adhering to the glass, and clean with isopropyl alcohol.
11. Clean the body side in the same way.

Caution
Let the cleaned places stand for 3 minutes or more, and carry out the next procedures after they have dried. Also, do not touch any surface that has been cleaned.



INSTALLATION SERVICE POINTS

▶A◀ WINDOW SPACER/WINDSHIELD MOULDING CLIP/WINDSHIELD MOULDING FASTENER

1. When replacing a windshield, temporarily fit the windshield to the body and make matchmarks on the body and windshield.
2. Degrease the inner perimeter of the windshield and the flange on the body side with iso–propanol (IPA).
3. Soak a sponge in primer, and apply uniformly to the specified locations on the entire perimeter of the windshield and the body.
4. Allow to dry for 3-30 min after applying primer.

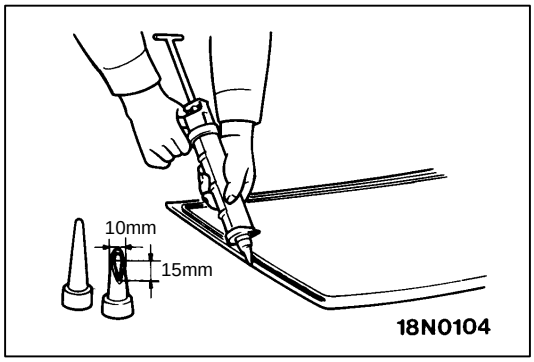
   Specified primer:
   Body – Betaseal 43532 / Glass – Betaseal 43520A or equivalent.

   Caution
   1. The primer strengthens the adhesive strength, so be sure to apply it evenly around the entire circumference. But, a too thick application will cause lowering of the adhesive strength.
   2. Do not touch the coated surface.

5. If there are any bends or lifts on the inside of the windshield, install the window spacers so that the clearance on the right and left are uniform.
6. Match the edge of the windshield moulding fastener to the notch on the body and bond.
7. Fit the windshield moulding clip into the clip stud.

   Caution
   If heat is applied with an infra-red lamp to shorten the setting time, keep the surface temperature of the adhesive below 60°C.

8. Fill a sealant gun with adhesive within 30 min of applying primer, and apply uniformly to the entire perimeter of the windshield.



Note:
Cutting a V-shape in the tip of the sealant gun nozzle will facilitate application.

9. After applying the adhesive, match up marks on the glass and the body.
10. After removing any adhesive that is sticking out or adhering to the body or glass with a spatula, etc., clean off with isopropyl alcohol.
11. After completion of this operation (after installing the glass), place it somewhere where it will not be disturbed, until the adhesive sets.
12. After attaching the windshield glass to the body, let it stand for 30 minutes or more, and then test for water leakage.

    Caution
    1. If moving the vehicle, it should be done gently.
    2. When testing for water leakage, do not pinch the end of the hose to spray the water.

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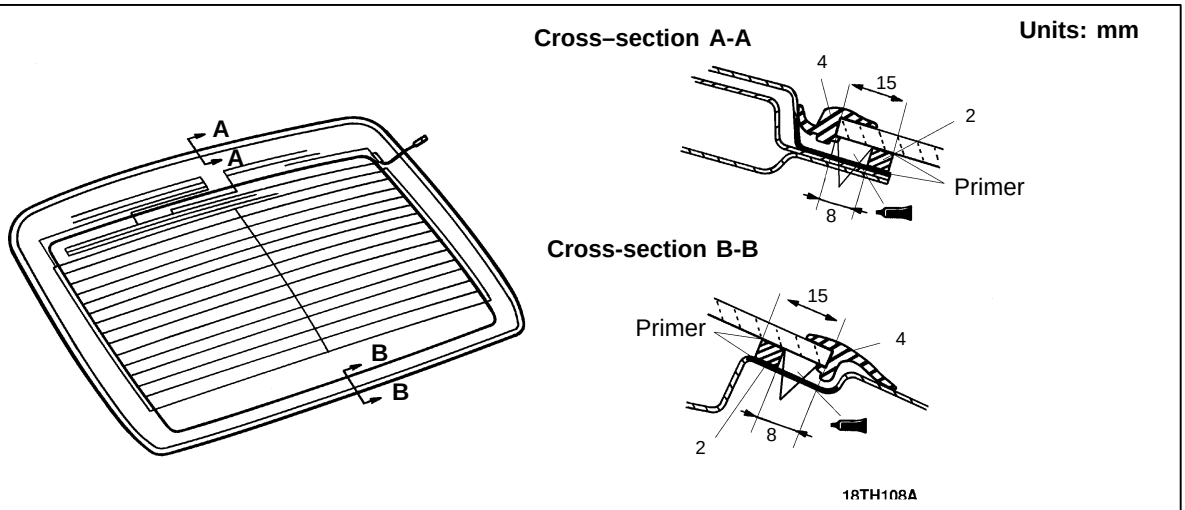
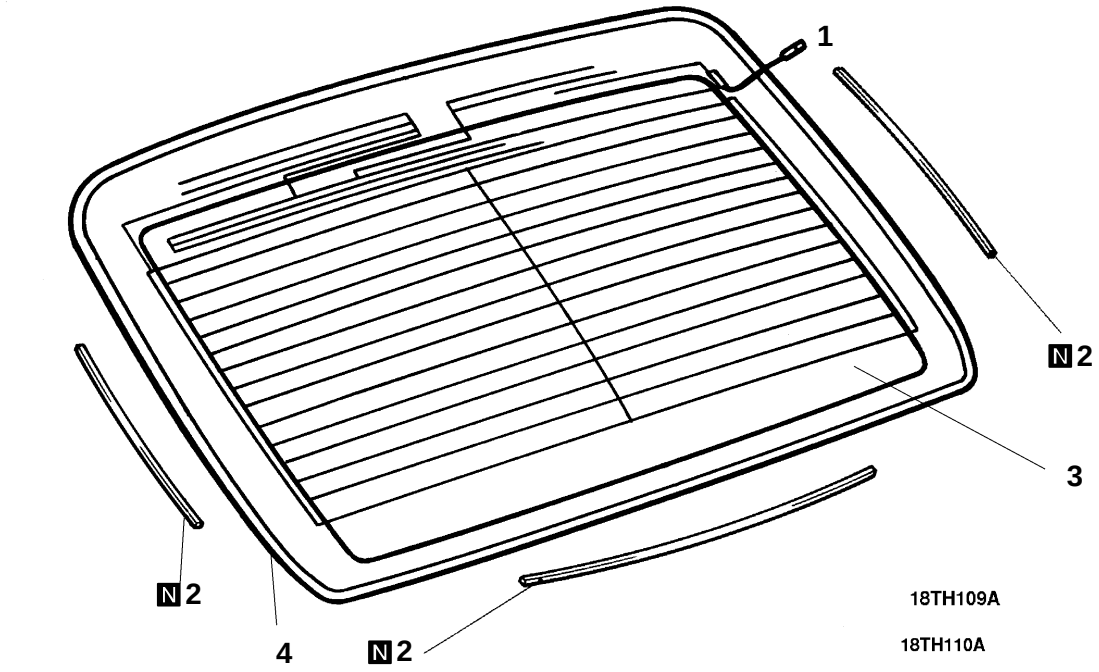
REAR WINDOW GLASS

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Removal and Installation
- Trunk Lid (Refer On vehicle service.)
- Rear shelf trim (Refer Group 52A.)
- Rear Pillar Trim (Refer Group 52A.)
- Headlining (Refer Group 52A.)



Specified primer: Body–Betaseal 43532 – Glass–Betaseal 43520A
Specified adhesive: Betaseal 58702 or equivalent



Removal steps
1. Harness connector
▶A◀ 2. Window spacer
◀A▶ ▶A◀ 3. Rear window glass
4. Urethane moulding

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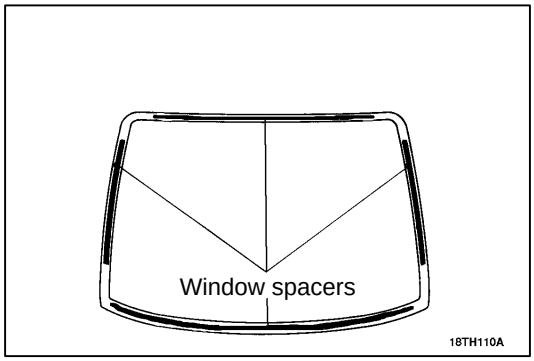
◀A▶ REAR WINDOW GLASS REMOVAL

Remove the window glass by the same procedure as for the windshield. (Refer On vehicle service.)

NOTE: If the window molding is damaged in any way the window must be replaced.



INSTALLATION SERVICE POINTS

▶A◀ WINDOW SPACER/REAR WINDOW GLASS INSTALLATION

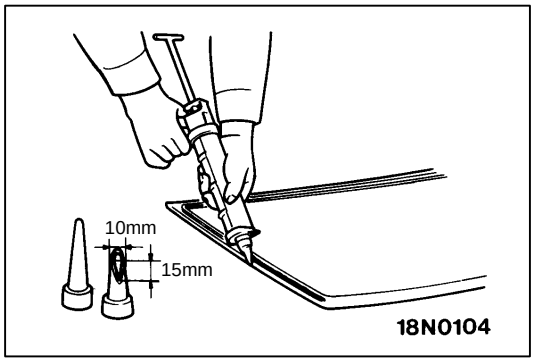
1. When installing the rear window glass, temporarily fit the window to the body and make matchmarks on the body and window glass.
2. Degrease the inner perimeter of the rear window glass and the flange on the body side with iso–propanol (IPA).
3. Soak a sponge in primer, and apply uniformly to the specified locations on the entire perimeter of the window and the body.
4. Allow to dry for 3-30 min after applying primer.

   Specified primer:
   Body – Betaseal 43532 / Glass – Betaseal 43520A or equivalent.

   Caution
   1. The primer strengthens the adhesive strength, so be sure to apply it evenly around the entire circumference. But, a too thick application will cause lowering of the adhesive strength.
   2. Do not touch the coated surface.

5. If there are any bends or lifts on the inside of the window glass, install the window spacers so that the clearance on the right and left are uniform.

   Caution
   If heat is applied with an infra-red lamp to shorten the setting time, keep the surface temperature of the adhesive below 60°C.



6. Fill a sealant gun with adhesive within 30 min of applying primer, and apply uniformly to the entire perimeter of the windshield.

Note:
Cutting a V-shape in the tip of the sealant gun nozzle will facilitate application.

7. After applying the adhesive, match up marks on the glass and the body.

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8. After removing any adhesive that is sticking out or adhering to the body or glass with a spatula, etc., clean off with isopropyl alcohol.
9. After completion of this operation (after installing the glass), place it somewhere where it will not be disturbed, until the adhesive sets.
10. After attaching the rear window glass to the body, let it stand for 30 minutes or more, and then test for water leakage.

Caution

1. If moving the vehicle, it should be done gently.
2. When testing for water leakage, do not pinch the end of the hose to spray the water.

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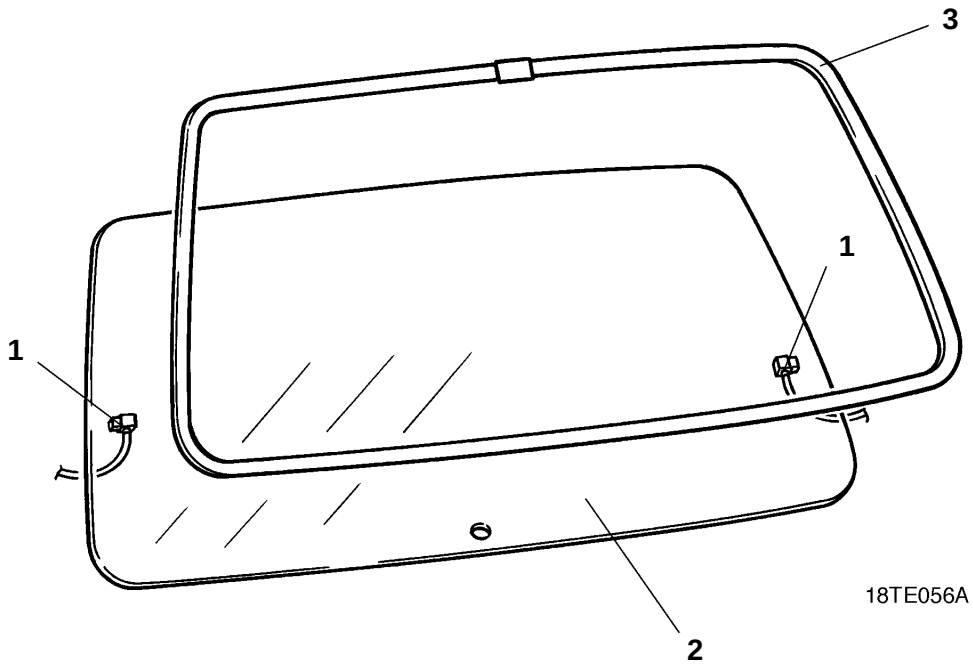
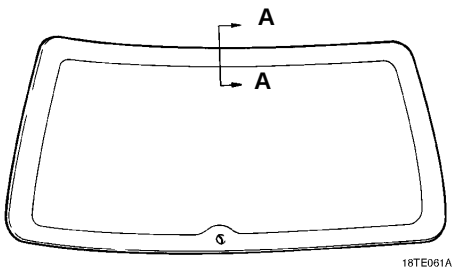
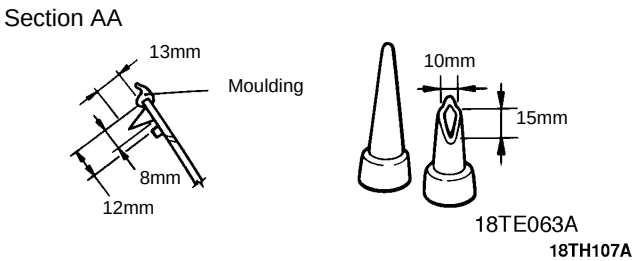
TAILGATE WINDOW GLASS

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Removal and Installation
- Tailgate deflector (Refer On vehicle service.)
- High mount stop lamp cover, tailgate side trim and tailgate lower trim (Refer Group 52A.)
- High mount stop lamp (Refer Group 52A.)
- Rear wiper (Refer Group 51.)







Removal steps

◀A▶ ▶A◀ ▶A◀
1. Rear defogger terminals
2. Tailgate window glass
3. Tailgate window glass moulding

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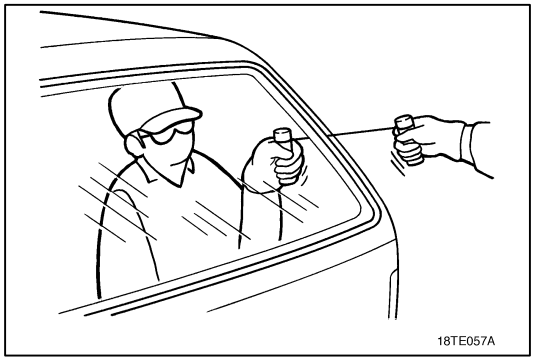
REMOVAL SERVICE POINTS

◀A▶ TAILGATE WINDOW GLASS

1. In order to protect the tailgate (paint surface) apply cloth tape to the areas surrounding the installed tailgate window glass.
2. Using a sharp–point drill, make a hole in the tailgate window glass adhesive.
3. Pass piano wire from the inside of the vehicle through the hole.

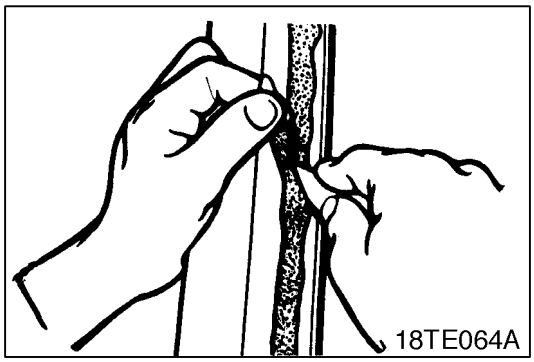


4. Wrap the wire around a suitable blunt ended tool handle and with the aid of an assistant pull the piano wire alternately from the inside and outside of the vehicle, and steadily move around the tailgate glass to cut the adhesive.

Caution

1. **The use of safety glasses and heavy duty gloves is recommended to prevent injury in case of wire breakage.**
2. **Do not let the piano wire touch the edge of the tailgate window glass.**

5. Use the special tool to assist with the removal of the tailgate window glass.



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

Caution

1. **Be careful not to remove more adhesive than is necessary.**
2. **Care must be taken to avoid damage to the paintwork on the body surface with the knife. If the paintwork is damaged, repair the damaged area with repair paint or an anti–rust agent.**

8. Clean the body flange and any remaining adhesive with alcohol.
9. If the glass is to be reused, remove as much of the old adhesive and dam as possible with a knife, taking care not to damage the glass surface and clean with alcohol.

Caution

1. **Let the cleaned areas stand for at least 3 minutes before carrying out the next procedure, to allow for drying.**
2. **Do not touch any surface that has been cleaned.**

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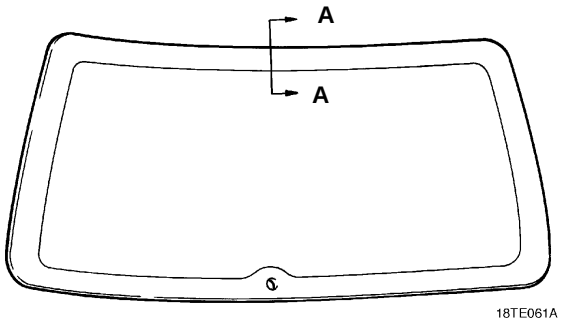
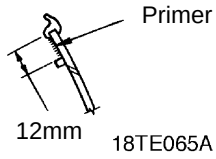
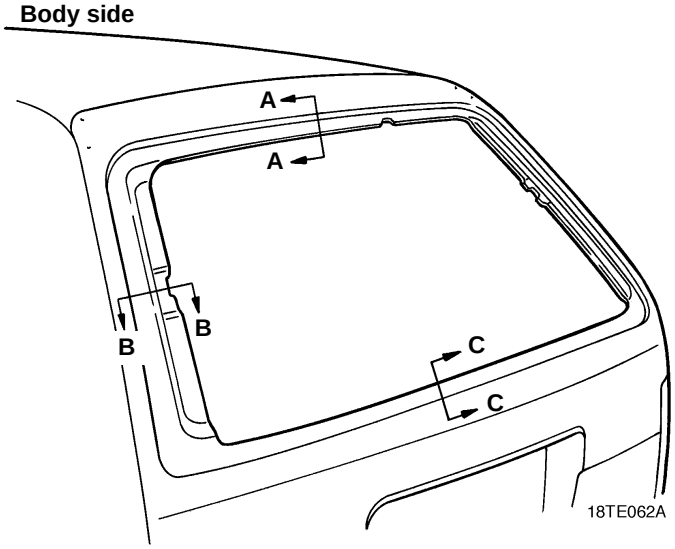
Glass side

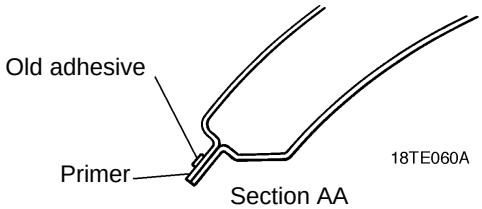


Cross Section A–A (typical)

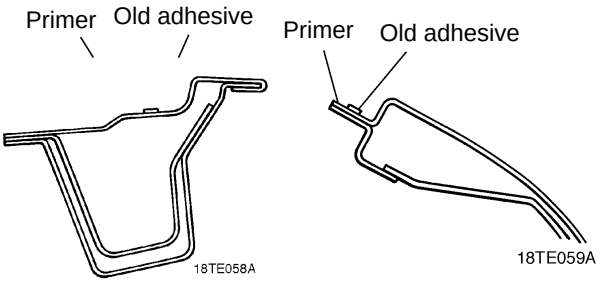


Body side

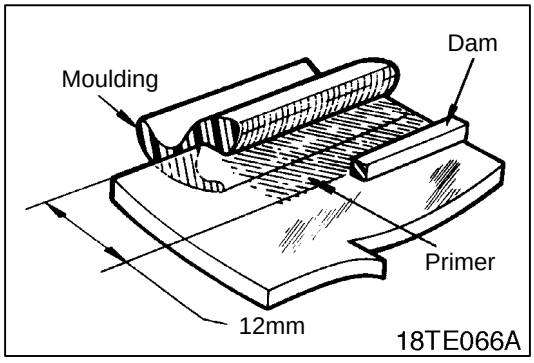




Section AA



Section BB Section CC



INSTALLATION SERVICE POINTS

▶A◀ TAILGATE WINDOW GLASS/TAILGATE WINDOW GLASS MOULDING

1. Position the foam strip adhesive dam material onto the glass as shown in the illustration.
2. Apply the new moulding onto the glass edge as shown in the illustration with the joint at the bottom centre between the marks in the ceramic black out. Use approximately 50 mm of double sided tape 6 mm wide on the glass edge, at joint only to assist with assembly.
3. Apply both the body and glass primers to the areas shown in the illustrations.

Caution

1. **The primer strengthens the adhesive strength so ensure that it is applied evenly around the entire perimeter of the glass. Too thick an application will lower the adhesive strength.**
2. **Do not touch the coated surface. If this occurs re–apply the primer to that area.**

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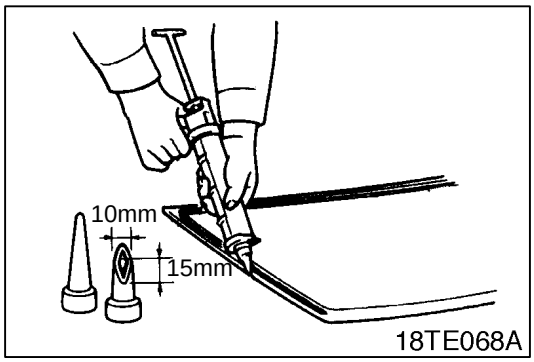


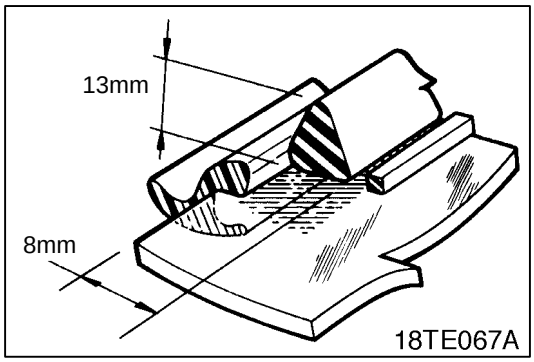
4. After applying the primer allow it to dry for 10 to 15 minutes.
5. Approximately 10–15 minutes after applying the primer, apply an even bead of adhesive around the periphery of the glass between the moulding and the dam as shown in the illustration .

Specified sealant:

Betaseal 58702 or equivalent.

NOTE

Cut the nozzle tip of the sealant tube into a V shape to facilitate adhesive application.



6. Remove the backing paper from the dam material.
7. With the adhesive applied, carefully locate the tailgate glass in position and lightly press the glass evenly so that it adheres completely.
8. After removing any excess adhesive that is sticking out or adhering to the body or glass using a spatula etc., clean off with alcohol. After the installation of the tailgate glass leave the vehicle standing until the adhesive sets.
9. After the vehicle has been left standing for 30 minutes or more the glass can be tested for water leakage.
10. Any leaks can be remedied by applying a bead of sealant from the inside opening around the perimeter, between the dam and body flange. (Do not disturb the moulding).

CAUTION

1. **When testing for water leakage do not pinch the end of the hose to spray the water.**
2. **Due to the curing time required for polyurethane sealant, do not drive the vehicle with the door window glass down for at least 2 days or the tailgate glass may dislodge.**

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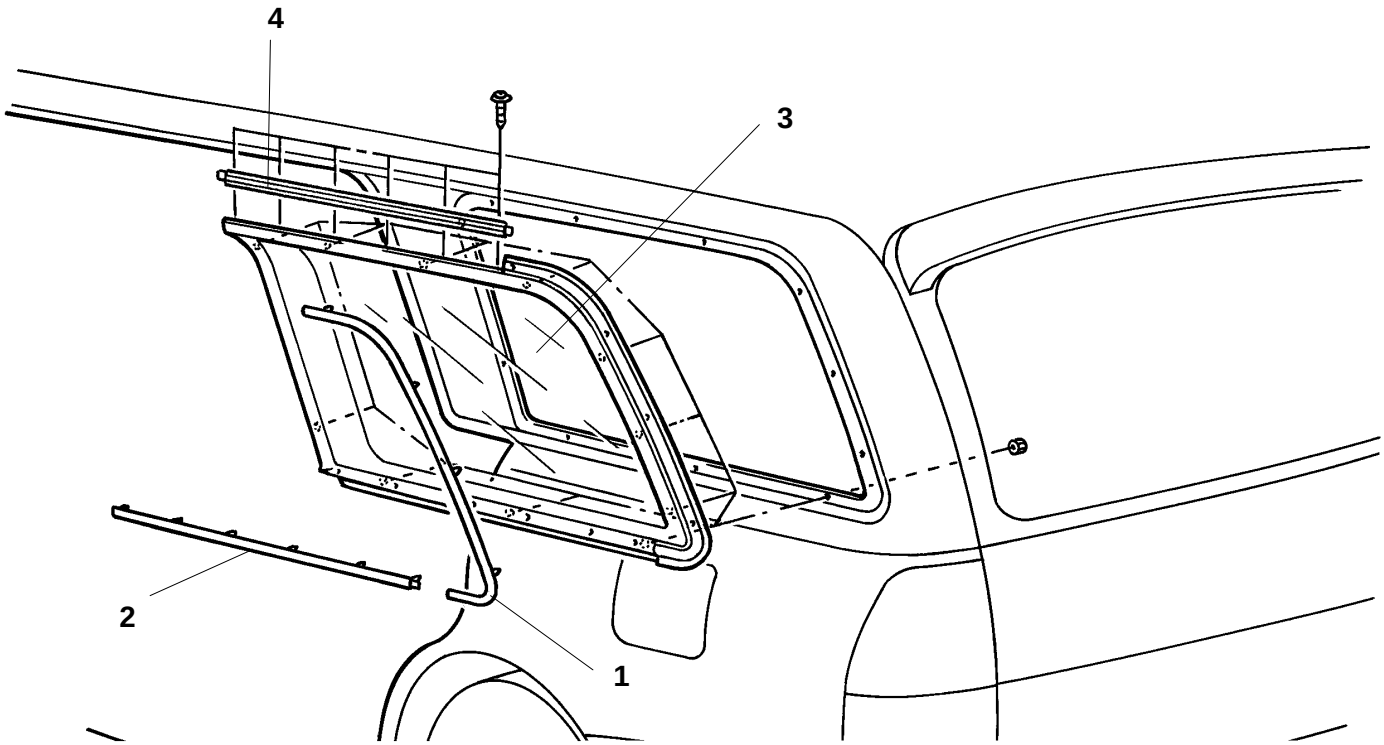
REAR QUARTER WINDOW GLASS

REMOVAL AND INSTALLATION



Removal steps

1. Quarter window rear moulding
2. Quarter window beltline moulding
3. Quarter window
4. Quarter window dripgutter moulding

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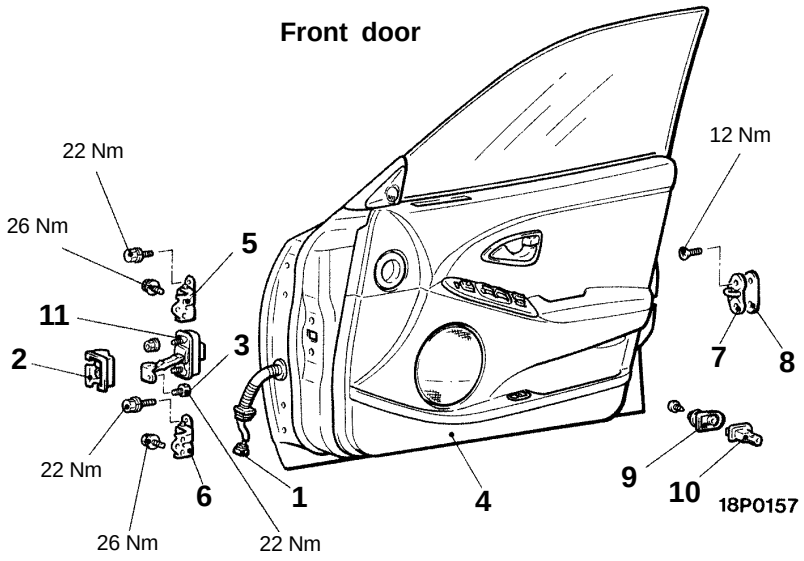
DOOR ASSEMBLY

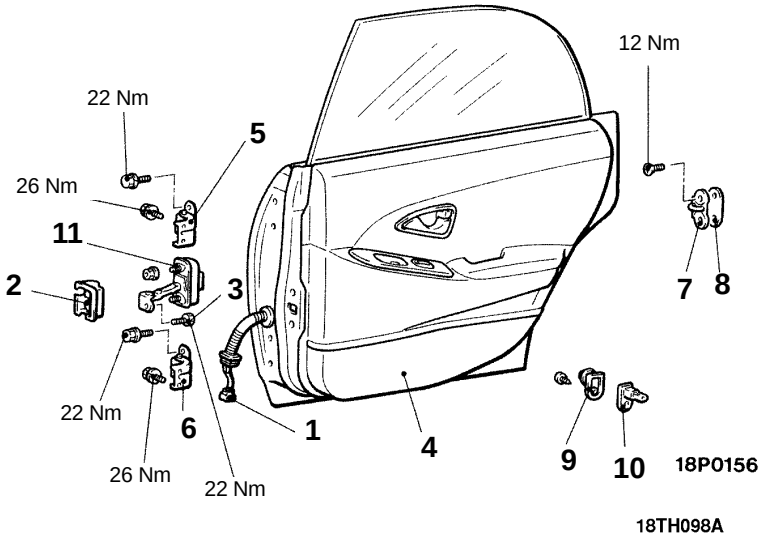
REMOVAL AND INSTALLATION

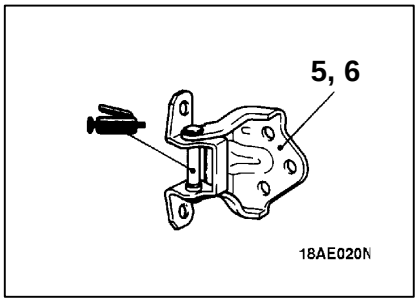
Door Post-installation Operation
- Door Adjustment (Refer On vehicle service.)

Front door



Rear door





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Door assembly removal steps
1. Harness connector
2. Door check cover
3. Bolt
4. Door assembly
- ▶B◀ 5. Door upper hinge
- ▶B◀ 6. Door lower hinge

Door check removal steps
- Door trim and waterproof film (Refer On vehicle service.)

2. Door check cover
- ▶A◀ 7. Door check

Striker removal steps
8. Striker
9. Striker shim

Door switch removal steps
10. Door switch cap
11. Door switch

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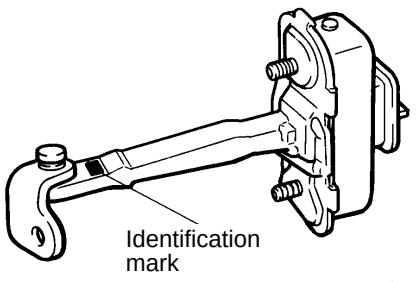


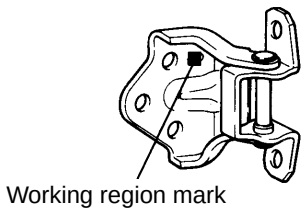
INSTALLATION SERVICE POINTS

▶A◀ DOOR CHECK INSTALLATION

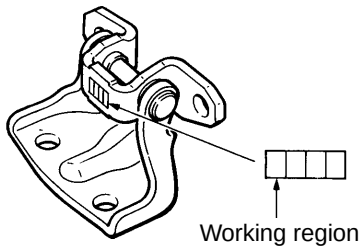
Install the door check so that the identification mark faces upwards.

Applicable location		Identification mark
RH	Front door	1R
	Rear door	2R
LH	Front door	1L
	Rear door	2L

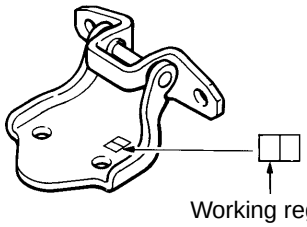
Front door



Front door upper



Front door lower



▶B◀ DOOR LOWER HINGE/ DOOR UPPER HINGE INSTALLATION

The door hinges differ according to where they are used, so check the identification mark before installation.

Applicable location		Identification mark
Front left door	Upper hinge	V
	Lower hinge	U
Front right door	Upper hinge	U
	Lower hinge	V
Rear left door	Upper hinge	1
	Lower hinge	02
Rear right door	Upper hinge	2
	Lower hinge	P2

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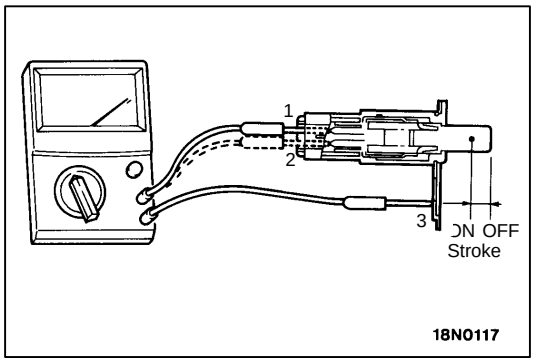

INSPECTION

DOOR SWITCH CONTINUITY CHECK

Driver's door switch and passenger's door switch

Switch position	1	2	3
Open (ON)	○	○	○
Depressed (OFF)			

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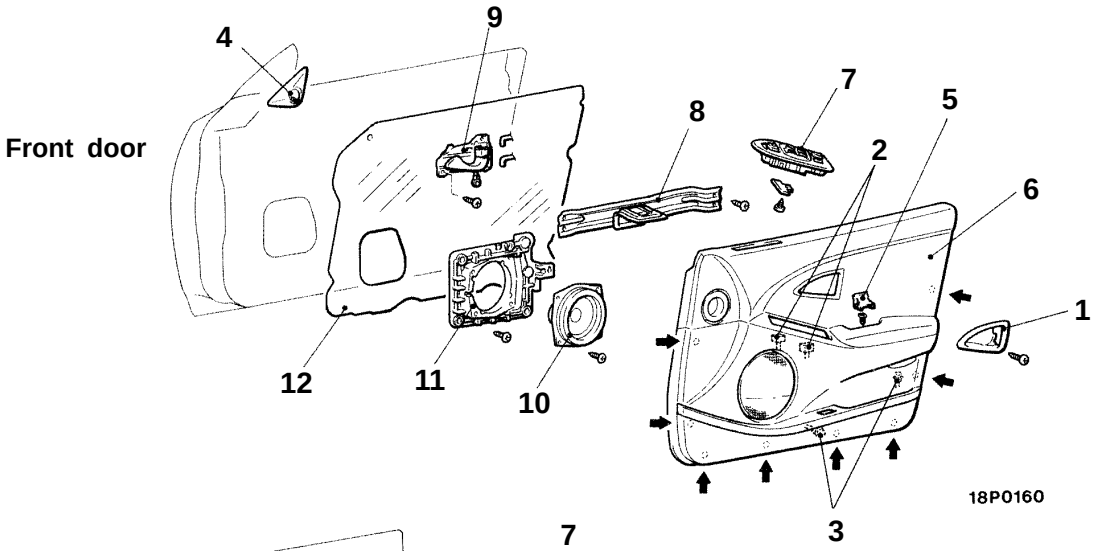
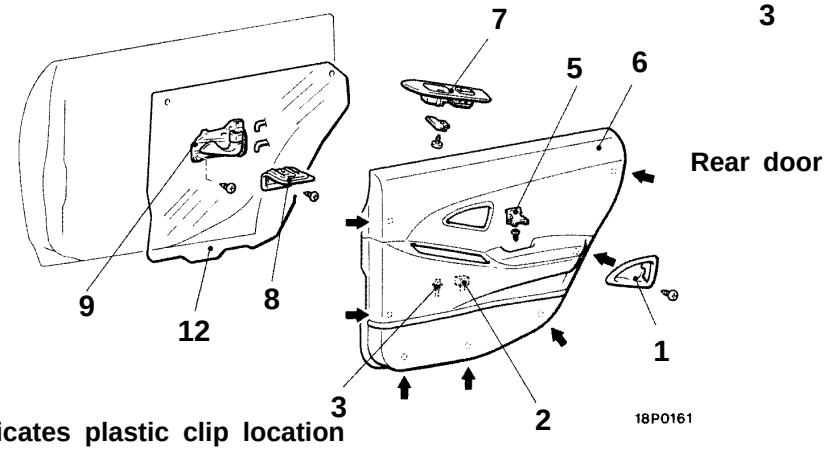
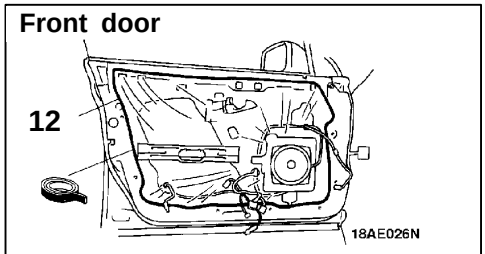
DOOR TRIM AND WATERPROOF FILM

REMOVAL AND INSTALLATION
POWER WINDOWS

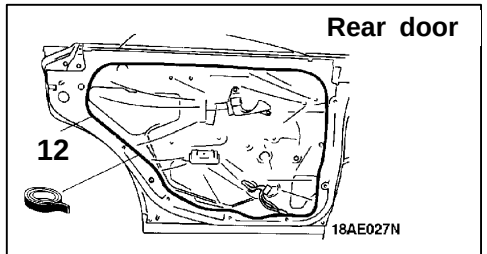




◆ **Symbol indicates plastic clip location**



Sealant: 3M ATD Part No. 8625 or equivalent



Sealant: 3M ATD Part No. 8625 or equivalent

18TH099A

Removal steps

1. Inside handle cover
2. Harness connector
3. Harness
4. Inner delta cover or tweeter cover
5. Cap
6. Door trim
7. Driver side door module or power window sub-switch
8. Pull handle bracket
9. Door inside handle
10. Speaker
11. Speaker cover
12. Waterproof film

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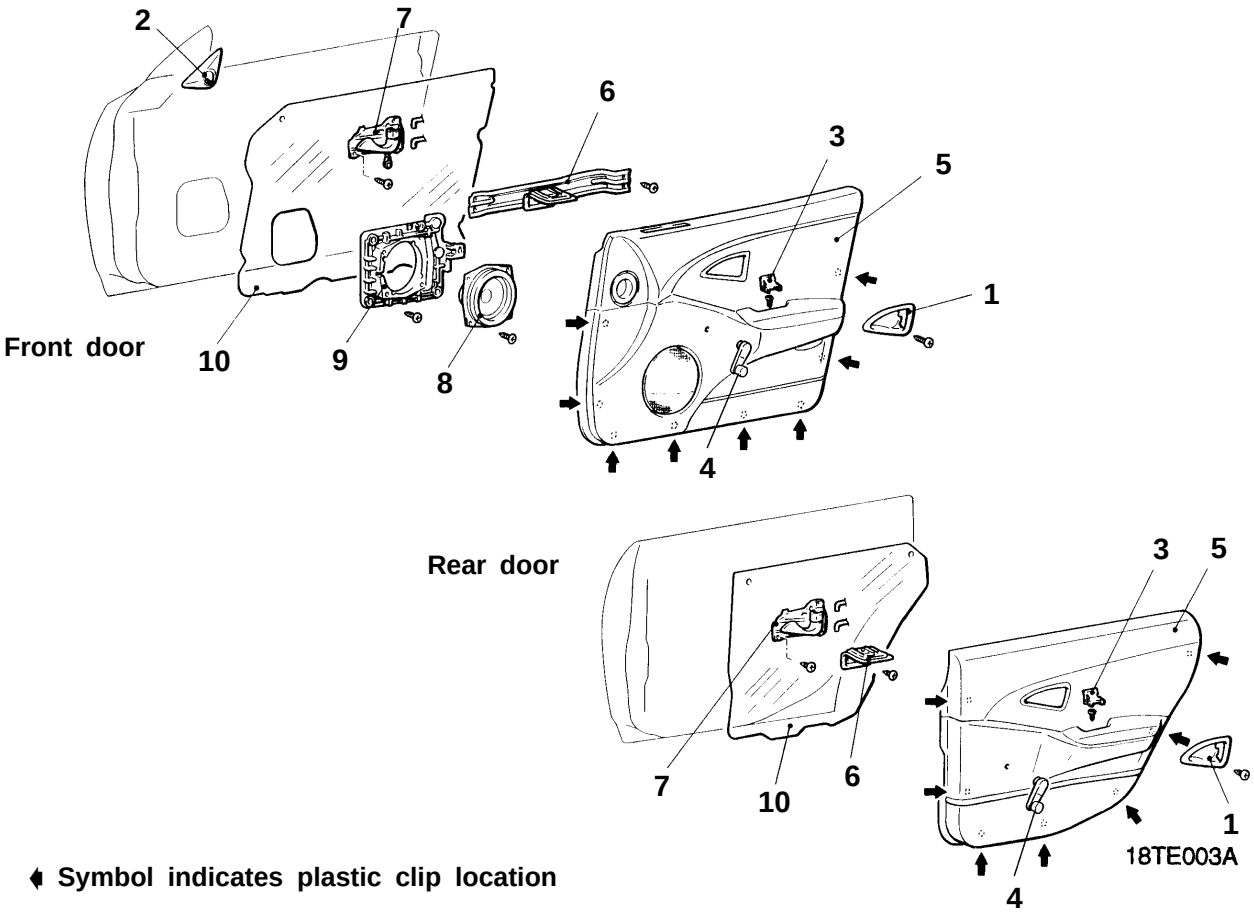
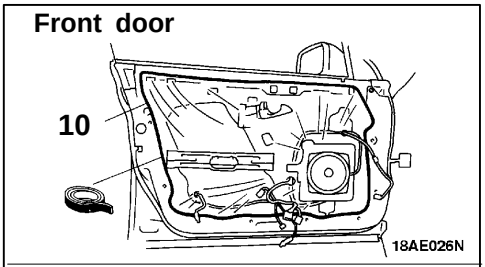
DOOR TRIM AND WATERPROOF FILM

REMOVAL AND INSTALLATION

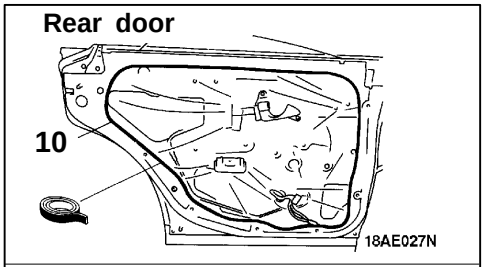
MANUAL WINDOWS



♦ Symbol indicates plastic clip location



Sealant: 3M ATD Part No. 8625 or equivalent



Sealant: 3M ATD Part No. 8625 or equivalent

18TH100A

Removal steps

1. Inside handle cover
2. Inner delta cover
3. Cap
4. ◀A▶ ▶A◀ Window winder handle
5. ◀B▶ Door trim
6. Pull handle bracket
7. Door inside handle
8. Speaker
9. Speaker cover
10. Waterproof film

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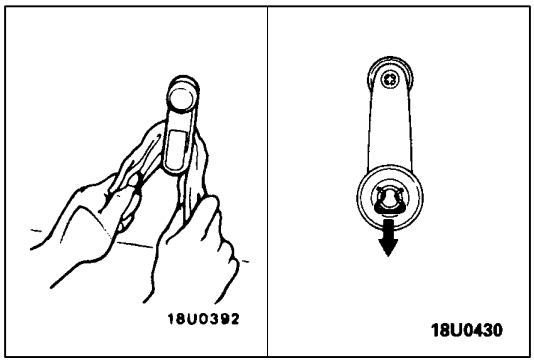
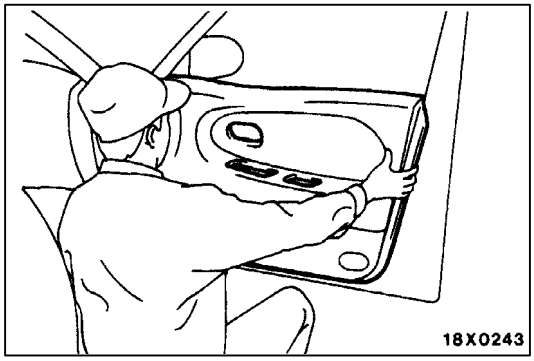


REMOVAL SERVICE POINTS

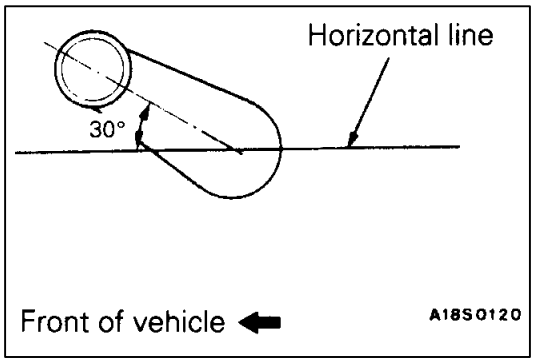
◀A▶ WINDOW WINDER HANDLE

1. Remove the clip by using a rag, and then remove the regulator handle



◀B▶ DOOR TRIM

1. After removing the trim mounting screws and clips, push up the trim to remove it from the door window inner weather–strip clips.



INSTALLATION SERVICE POINTS

▶A◀ WINDOW WINDER HANDLE

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

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DOOR GLASS AND REGULATOR

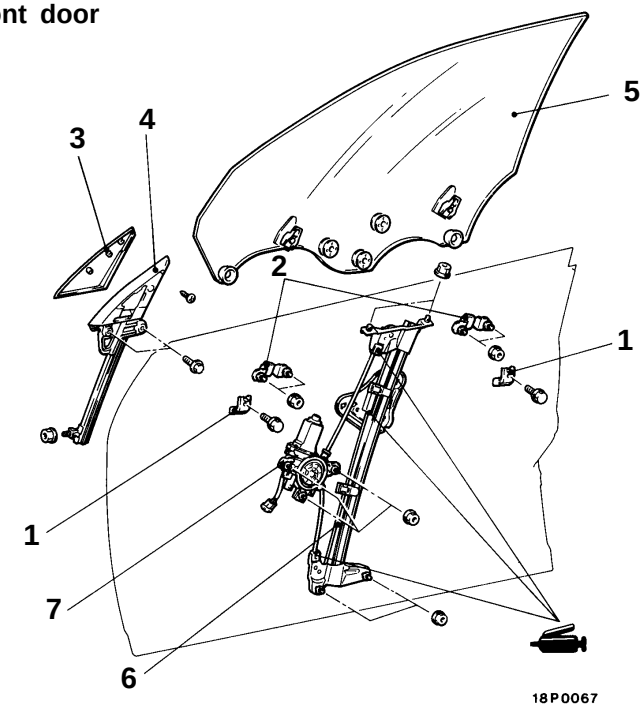
REMOVAL AND INSTALLATION

POWER WINDOWS

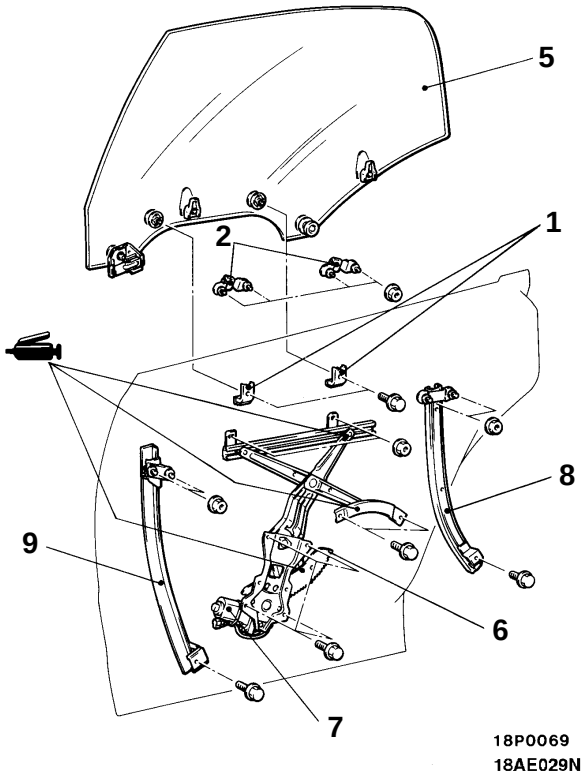
Pre-removal Operation
- Door Trim and Waterproof Film Removal (Refer On vehicle service.)
- Door Belt Line Moulding, Removal (Refer On vehicle service.)

Post-installation Operation
- Door Window Glass Adjustment (Refer On vehicle service.)
- Door Trim and Waterproof Film Installation (Refer On vehicle service.)
- Door Belt Line Moulding, Installation (Refer On vehicle service.)

Front door



Rear door



Front window regulator assembly removal steps

▶A◀ 1. Up stop
2. Inner stabiliser A (left front door)
Inner stabiliser B (right front door)
3. Outer delta cover
4. Delta sash assembly
5. Door window glass
6. Window regulator assembly
7. Power window motor

Rear window regulator assembly removal steps

▶A◀ 1. Up stop
2. Inner stabiliser A (right rear door)
Inner stabiliser B (left rear door)
5. Door window glass
6. Window regulator assembly
7. Power window motor
8. Rear glass guide track
9. Front glass guide track

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DOOR GLASS AND REGULATOR

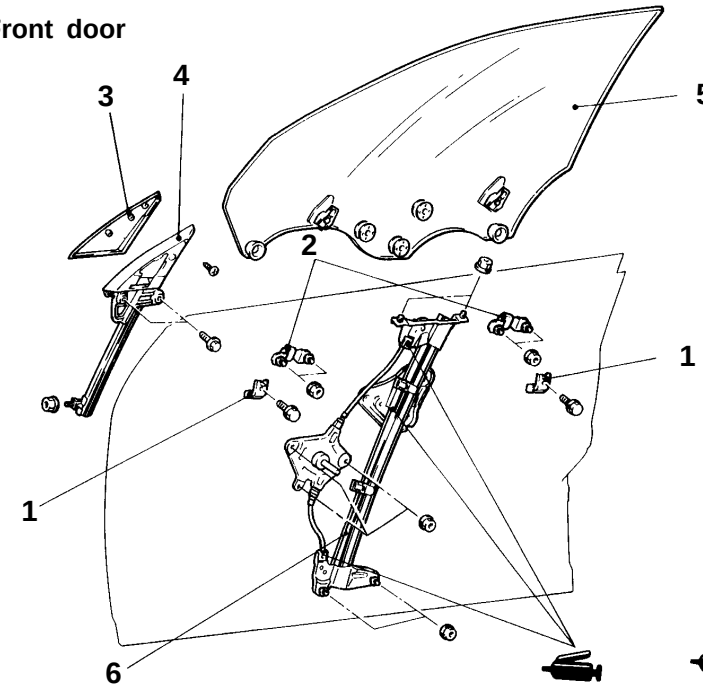
REMOVAL AND INSTALLATION

MANUAL WINDOWS

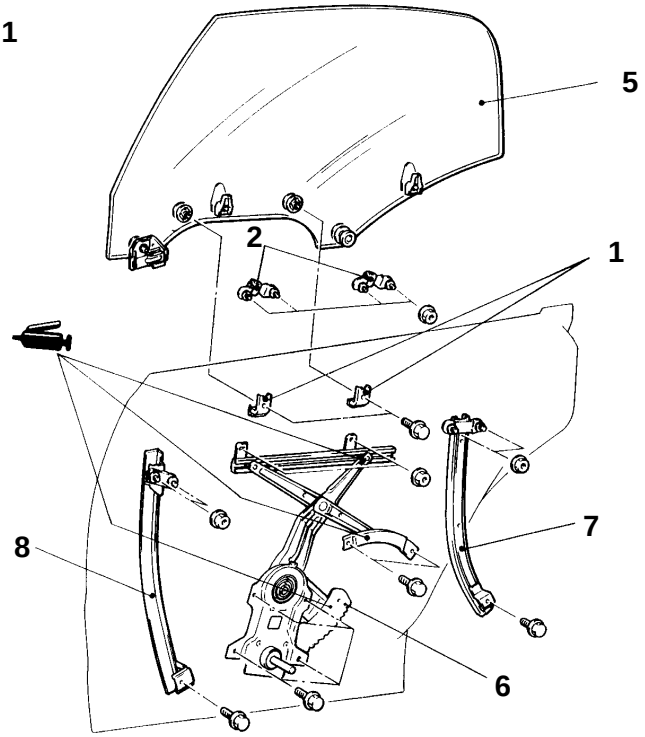
Pre-removal Operation
- Door Trim and Waterproof Film Removal (Refer On vehicle service.)
- Door Belt Line Moulding, Removal (Refer On vehicle service.)

Post-installation Operation
- Door Window Glass Adjustment (Refer On vehicle service.)
- Door Trim and Waterproof Film Installation (Refer On vehicle service.)
- Door Belt Line Moulding, Installation (Refer On vehicle service.)

Front door



Rear door



18TE002A

Front window regulator assembly removal steps

1. Up stop
2. ▶A◀ Inner stabiliser A (left front door)
   Inner stabiliser B (right front door)
3. Outer delta cover
4. Delta sash assembly
5. Door window glass
6. Window regulator assembly

Rear window regulator assembly removal steps

1. Up stop
2. ▶A◀ Inner stabiliser A (right rear door)
   Inner stabiliser B (left rear door)
5. Door window glass
6. Window regulator assembly
7. Rear glass guide track
8. Front glass guide track

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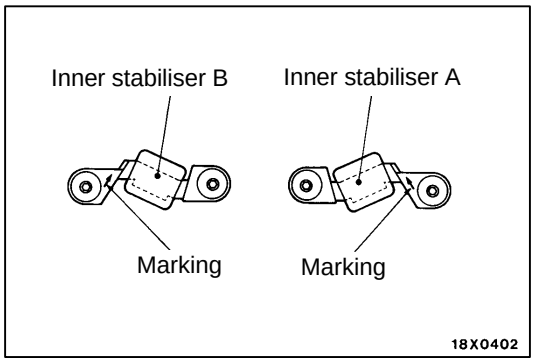


INSTALLATION SERVICE POINTS

▶A◀ INNER STABILISER A AND INNER STABILISER B INSTALLATION

1. Confirm the difference between inner stabilisers A and B using the identification marks.

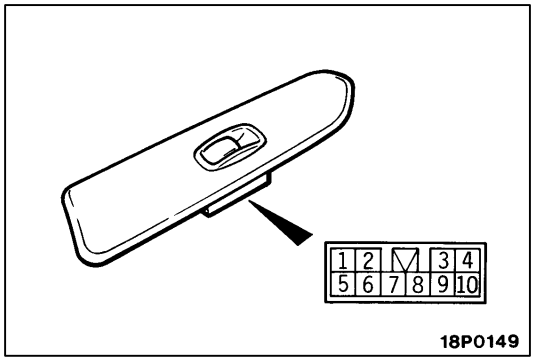
Applicable location		Identifying Colour
Inner stabiliser A	Left door front Right door rear	Yellow
Inner stabiliser B	Right door front Left door rear	Gray

2. Install each inner stabiliser so the arrow symbol points upwards.

INSPECTION

POWER WINDOW MOTOR

1. Check if the slider moves smoothly when the battery is directly connected to the motor terminals.
2. Check if the slider moves in the opposite direction when the battery is connected with the polarities reversed.



POWER WINDOW SWITCH CONTINUITY CHECK

Main switch (Driver side door module)

Sub Switch

Terminal Number	Switch position				
	Up	OFF			Down
		Not Live	Live		
2		○		⊖	
4		○			○
5		○	⊖		
6	○				○
7	○	○	⊕	⊕	○
9			○		
10			○	○	

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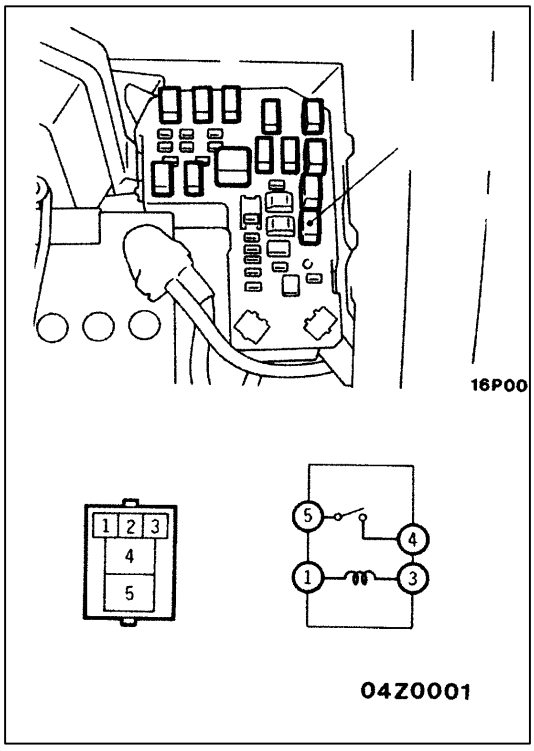

CONTINUITY OF THE POWER WINDOW RELAY

Battery Voltage	Terminal No.			
	1	3	4	5
When not live	○——○			
When live	⊖– – – –⊕		○——○	

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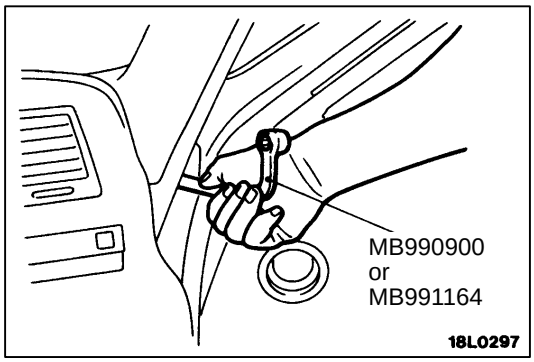
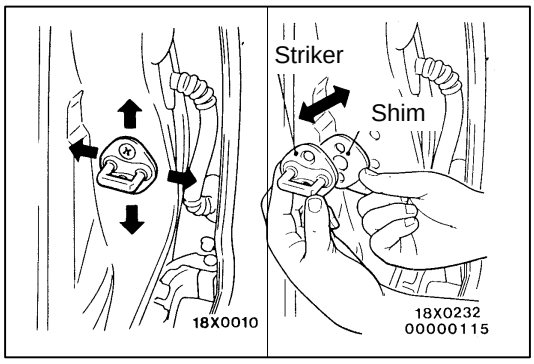
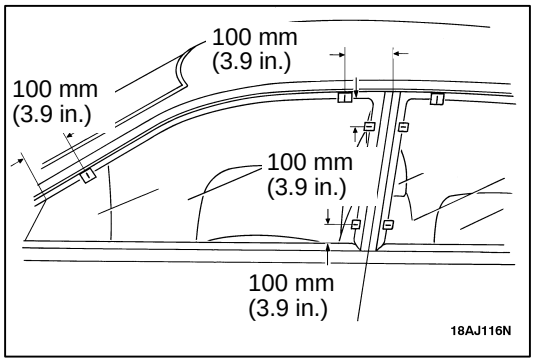
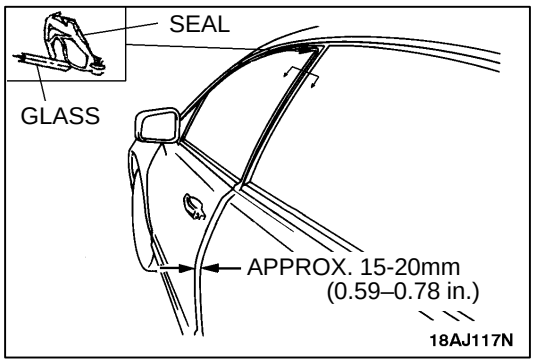








ON-VEHICLE SERVICE

DOOR FIT ADJUSTMENT

1. Use the special tool to loosen the hinge mounting bolts on the body side, and then adjust the clearance around the door so that it is uniform on all sides.
2. When there is a stepped section in the door and body, use the special tool to loosen the door hinge mounting bolt on the door side and adjust the door fit.

   Caution
   Attach protection tape to the fender edges where the hinge is installed.
3. If the door opening or closing is stiff, adjust the engagement of the striker and the door latch using the shim, while moving the striker up and down, or left and right.

DOOR GLASS ADJUSTMENT

CHECKING THE DOOR WINDOW GLASS SETTINGS

FRONT

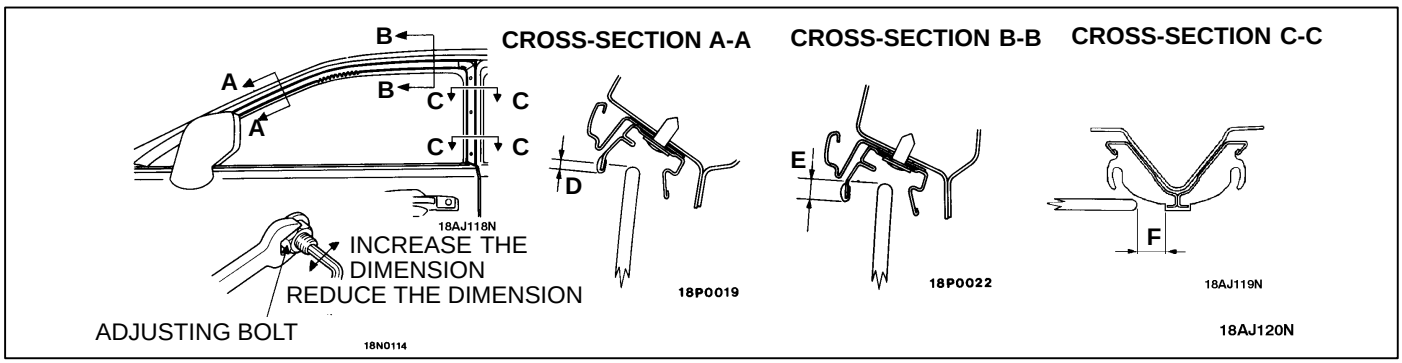
1. Place masking tape on the edge of the door glass in the positions as shown in the illustration.
2. Mark the tape from the catch lip as in cross sections A-A and B-B and measure from the edge of the door glass to the mark on the tape with the door open. This will give dimensions “D” and “E” (glass intrusion).

   Standard value:
   (D) 2.4 ± 1.0 mm (0.09 ± 0.039 in.)
   (E) 3.4 ± 1.0 mm (0.13 ± 0.039 in.)
3. Mark the tape on the “B” pillar 100 mm from the glass catch at the top and 100 mm from the bottom. Measure from “B” pillar to the edge of the glass in both positions. This will give cross section C-C Measurement “F” (glass margin).

   Standard value: 12.7 ± 1.0 mm (0.5 ± 0.039 in.) (parallel within 1.5 mm [0.059 in.])
4. With the glass fully raised, close the door until the rear corner of the door glass just contacts the door seal and measure the distance between the rear edge of the opened door panel and the adjacent panel (rear door) at the widest point of door (soft touch).

   Standard value: 20 – 25 mm (0.78 – 0.98 in.) if weatherstrip is new.

   Standard value: 15 – 20 mm (0.59 – 0.78 in.) if weatherstrip fitted for more than 7 days



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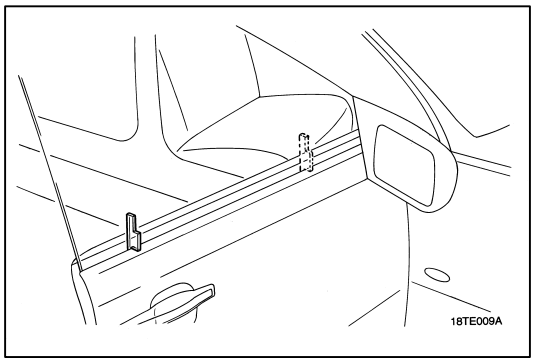
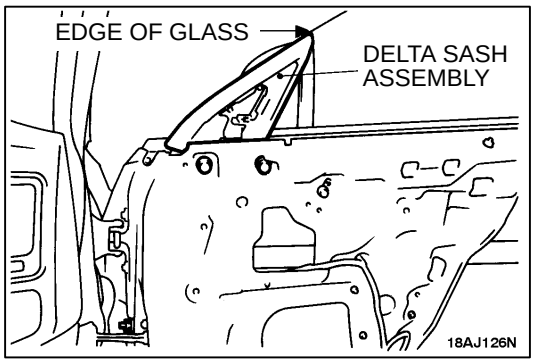


5. Remove the belt line moulding and check the door glass stabilizer setting using a suitable gauge, while maintaining an inboard preload condition on the top of the glass of 2kg (4.4 lbs.) force (or sufficient force to ensure that the stabilizer block fibres are being compressed).

   Standard value: 11.0 ± 0.5 mm (0.43 ± 0.020 in.)



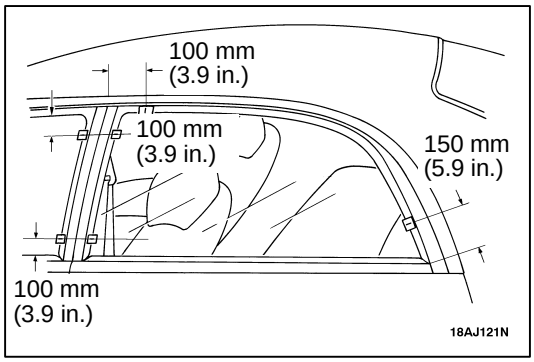
6. Check the top delta setting position between the delta hard surface and top edge of the glass.

   Standard value: 0 ± 0.5 mm (0.020 in.)

   Ensure the top of the delta and the surface of the glass are aligned.

   Standard value: 0 ± 1 mm (0.039 in.)

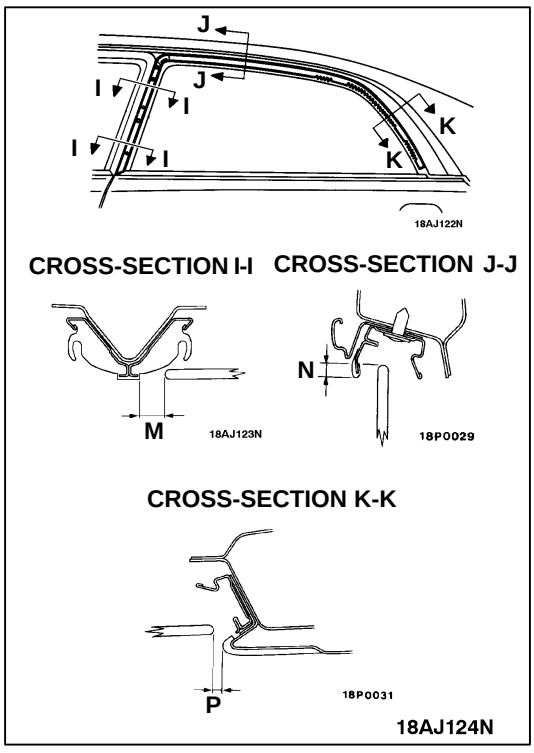
   NOTE: If all dimensions are in specification the customer concern is probably caused by a condition other than door glass settings.



REAR

1. Place masking tape on the edge of the door glass in the positions as shown in the illustration.
2. Mark the tape from the catch lip on the top front piece of tape at cross section J-J.
   Measure from the edge of the door glass to mark on the tape. This gives dimension “N” (glass intrusion).
3. Mark the tape on the “B” pillar 100 mm up and 100 mm down from the glass catch. Measure from the rib on the “B” pillar weather strip to the edge of the glass in both positions. This will give cross section I-I dimension “M” (glass margin).
4. Measure the distance between the rear edge of the glass and the “C” pillar moulding at cross section K-K. This will give dimension “P”.

   Standard value:
   (M) 12.7 ± 1.0 mm (0.5 ± 0.039 in.) (parallel within 1.5 mm [0.059 in.])
   (N) 3.4 ± 1.0 mm (0.13 ± 0.039 in.)
   (P) 4.2 ± 1.0 mm (0.17 ± 0.039 in.)



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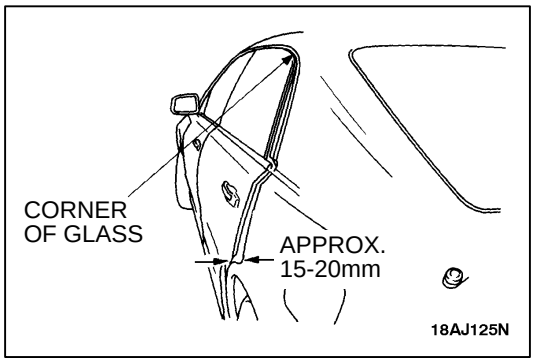


5. With the glass fully raised, close the door until the rear corner of the door glass just contacts the door seal and measure the distance between the rear edge of the opened door panel and the adjacent panel (rear fender) at the widest point (soft touch).

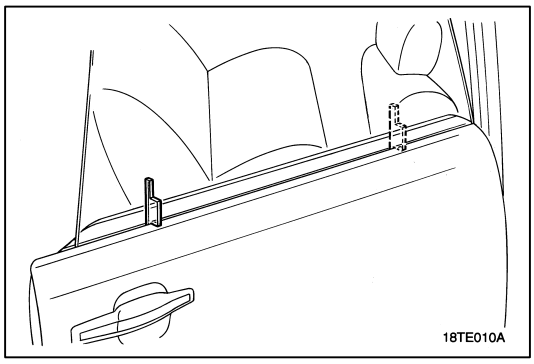
   Standard value: 20 – 25 mm (0.78 – 0.98 in.) if weatherstrip is new.

   Standard value: 15 – 20 mm (0.59 – 0.78 in.) if weatherstrip fitted for more than 7 days

6. Remove the belt line moulding and check the door glass stabilizer setting using a suitable gauge, while maintaining an inboard preload condition on the top of the glass of 2kg (4.4 lbs.) force (or sufficient force to ensure that the stabilizer block fibres are being compressed).

   Standard value:
   Front stabilizer 11.0 ± 0.5 mm (0.43 ± 0.197 in.)
   Rear stabilizer 13 ± 0.5 mm (0.51 ± 0.197 in.)

   NOTE: If all dimensions are in specification, the customer concern is probably caused by a condition other than door glass settings.

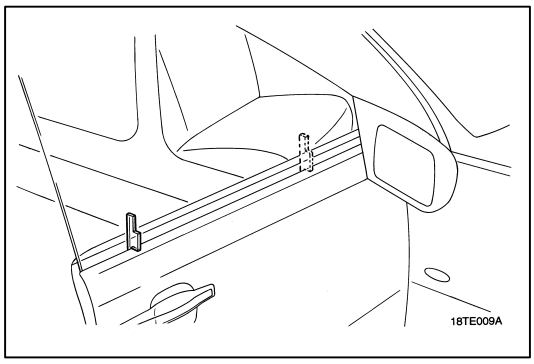


DOOR GLASS ADJUSTMENTS

NOTE: Do not attempt door glass adjustment unless glass settings have been confirmed as being incorrect.

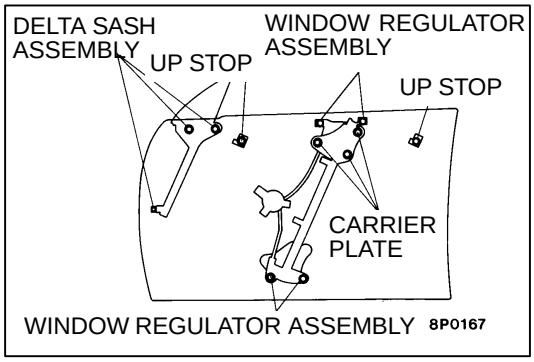
FRONT DOOR

1. Wind the glass fully up.
2. Remove the door trim, waterproof film (refer on vehicle service) and belt line moulding.
3. Loosen the two top regulator attaching nuts.



4 Check and adjust the door glass stabilizer settings ensuring the adjusting screw is held while tightening the lock nut. Tighten the regulator attaching nuts and then re-install the belt line moulding.
5. Loosen the mounting bolts and nuts for up stops, delta sash, carrier plate, and regulator (bottom).

   NOTE: Mark the position of all bolts and nuts before loosening so that they can be returned to the original position if necessary.



6. With the window up, close door carefully.
7. Hold the door glass with both hands, (one hand through the rear window) push the glass towards the glass catch to achieve the glass position specification in the glass catch (glass intrusion) and the “B” pillar glass margin.

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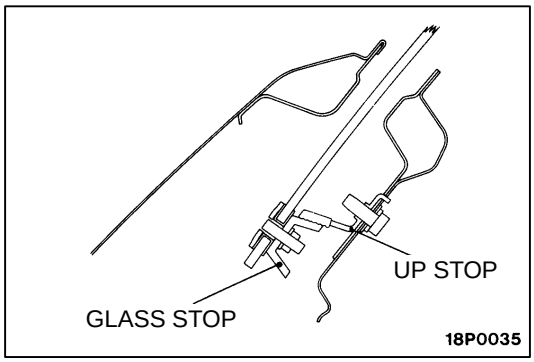
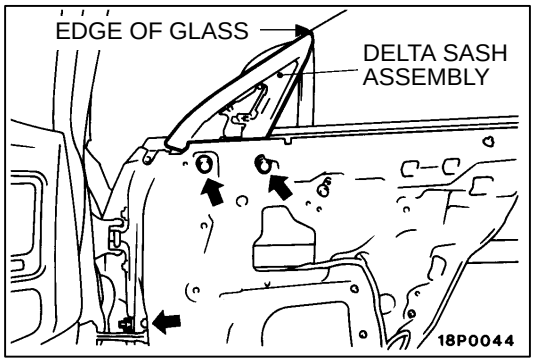


8. If the specification is achieved, keep the door closed and from the inside of the vehicle push the up stops to the glass stops and tighten. Tighten the carrier plate bolts, open the door and tighten the regulator bottom bolts.
9. Check soft touch and if necessary adjust the lower regulator mounting studs and retighten.



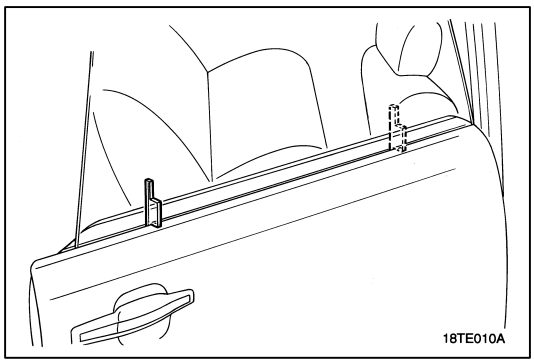
10. Recheck the glass intrusion, “soft touch” and glass margin. Alter glass intrusion by moving the up stops. Alter “soft touch” by adjusting the lower regulator mounting studs.

CAUTION: Always turn each adjustment stud the same amount and ensure that the amount of stud protrusion is equal at stabilizers and lower track attachments.

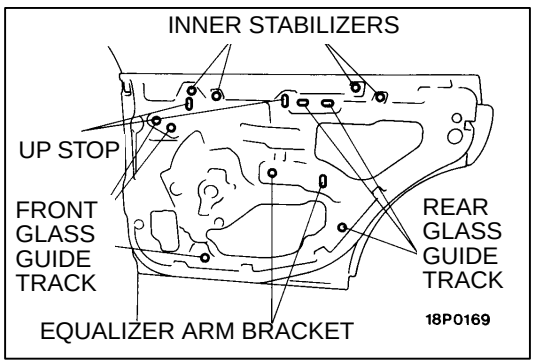
If margin is incorrect, repeat steps 5-10.

11. With the glass fully raised, press the delta onto the glass so that the delta setting is the standard value.
12. Confirm that door can be closed without glass hitting catch.
13. Install the waterproof film and door trim.
14. Perform a leak test to confirm that water does not leak into the interior.

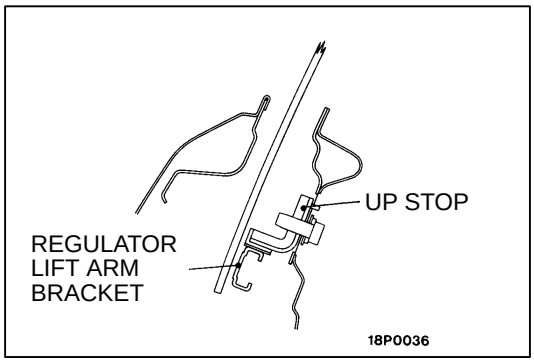
REAR DOOR



1. Remove the door trim, waterproof film, and belt line moulding.
2. Fully raise the door glass and check the door glass stabilizer settings using a suitable gauge. If adjustment is required, loosen top studs on guide tracks, adjust the settings and retighten studs. Reinstall belt line mouldings.



3. Loosen the upper mounting studs and nuts for the front glass guide track, rear glass guide track, up stops and equalizer arm bracket.
4. Move the door glass backwards and forwards by moving the rear glass guide track and at the same time tilt the glass by moving the equalizer arm bracket to set the glass margin, “C” pillar gap and door glass intrusion then tighten the equalizer arm bracket and guide track upper studs.



5. Hold the up stops against the regulator lift arm and tighten.
6. Verify the “soft touch” setting and if necessary adjust by turning the glass track upper studs.

CAUTION: Always turn each adjustment stud the same amount and ensure that the amount of stud protrusion is equal at stabilizers and upper track attachments.

7. Lower and raise the door glass and verify that all dimensions are correct.
   Alter glass intrusion by moving the up stops.
   Alter “soft touch” by adjusting the guide track upper studs.
   If glass margin is incorrect repeat steps 3-7.
8. Install the waterproof film and door trim.
9. Perform a leak test to confirm that water does not leak into the interior.

CIRCUIT BREAKER (INCORPORATED IN THE POWER WINDOW MOTOR) INSPECTION

1. Lift the UP switch to fully close the window glass, and continue to lift the switch for 40 seconds.
2. At the moment that the UP switch is released, press the DOWN switch. The circuit breaker can be considered good if at this time the door window glass begins to open within 60 seconds.

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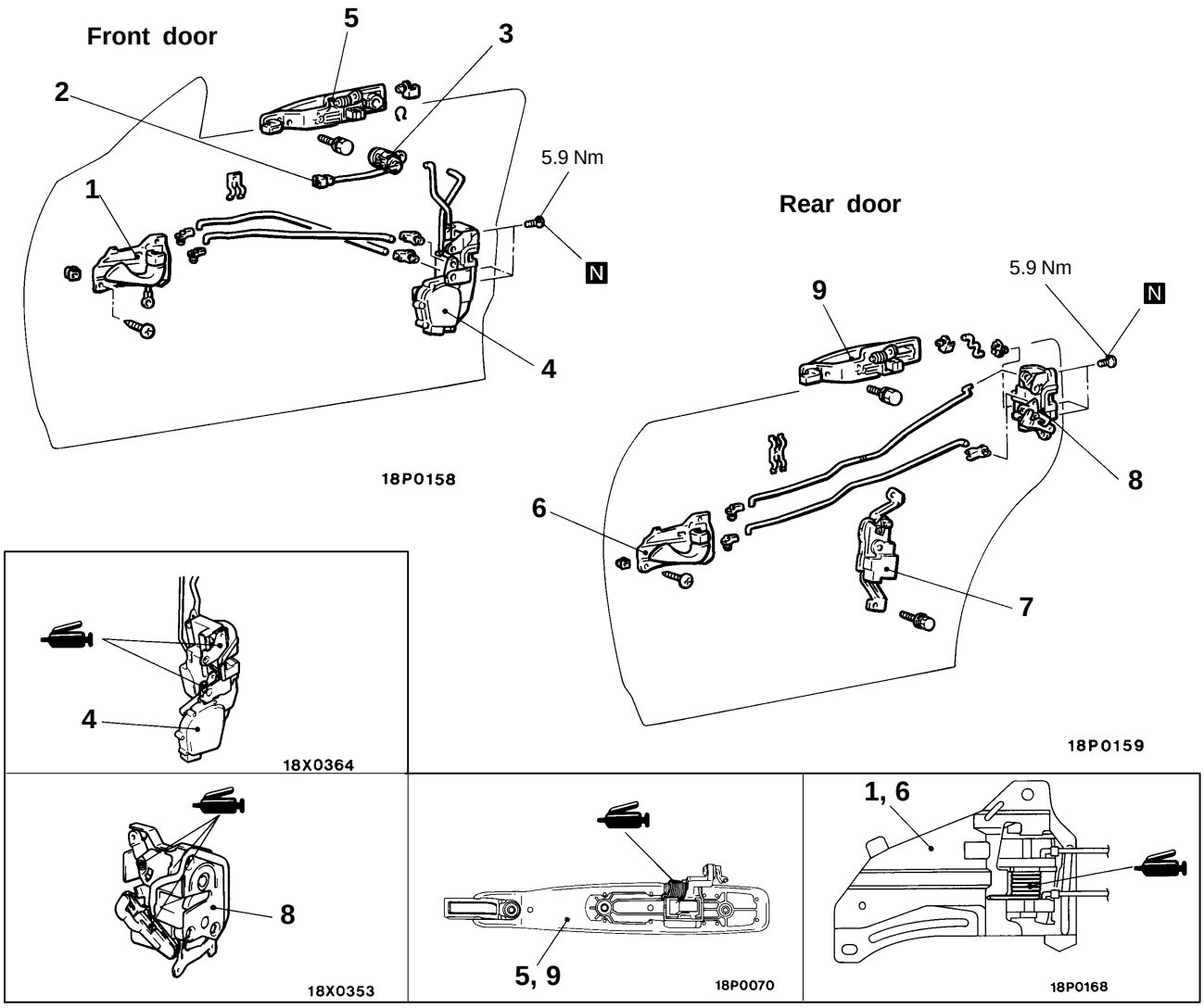
DOOR HANDLE AND LATCH

REMOVAL AND INSTALLATION

Pre-removal Operation
- Door Trim Removal

Post-installation Operation
- Inside Handle Play Adjustment.
- Door Trim Installation



18AE030N

Front door inside handle removal steps

1. Front door inside handle

Front door outside handle and door latch assembly removal steps

1. Front door inside handle
- Waterproof film (Removal.)
2. Harness connector
3. Door lock key cylinder
4. Front door latch assembly
5. Front door outside handle

Rear door inside handle removal steps

6. Rear door inside handle

Rear door outside handle and door latch assembly removal steps

6. Rear door inside handle
- Waterproof film (Removal.)
7. Rear door lock actuator
8. Rear door latch assembly
9. Rear door outside handle

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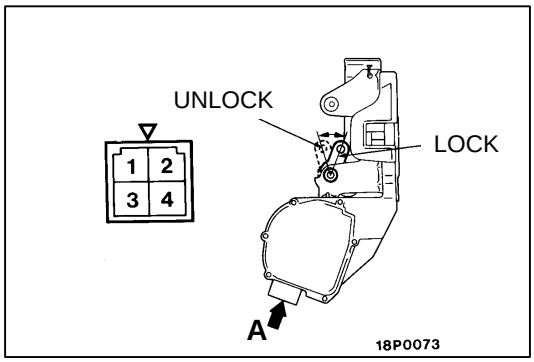


INSPECTION

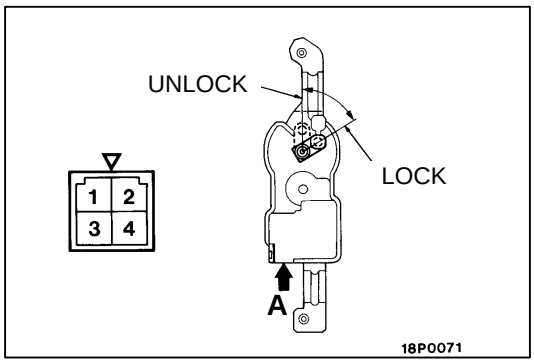
FRONT DOOR LOCK ACTUATOR CHECK

<L.H.>

1. After setting the rod to the LOCK position, apply battery voltage to terminal 3 and check if the rod moves as far as the UNLOCK position when terminal 4 is grounded.
2. After setting the rod to the UNLOCK position and applying battery voltage to terminal 4, check if the rod moves as far as the LOCK position when terminal 3 is grounded.
3. When the rod is set to the UNLOCK position, check if there is continuity between terminal 1 and terminal 2, and when the rod is set to the LOCK position, check that there is no continuity.

<R.H.>

1. After setting the rod to the LOCK position, apply battery voltage to terminal 4 and check if the rod moves as far as the UNLOCK position when terminal 3 is grounded.
2. After setting the rod to the UNLOCK position and applying battery voltage to terminal 3, check if the rod moves as far as the LOCK position when terminal 4 is grounded.
3. When the rod is set to the UNLOCK position. check if there is continuity between terminal 2 and terminal 1, and when the rod is set to the LOCK position, check that there is no continuity.



REAR DOOR LOCK ACTUATOR CHECK

<L.H.>

1. After setting the rod to the LOCK position, apply battery voltage to terminal 1 and check if the rod moves to the UNLOCK position when terminal 3 is grounded.
2. After setting the rod to the UNLOCK position and applying battery voltage to terminal 3, check if the rod moves to the LOCK position when terminal 1 is grounded.

<R.H.>

1. After setting the rod to the LOCK position and applying battery voltage to terminal 3, check if the rod moves to the UNLOCK position when terminal 1 grounded.
2. After setting the rod to the UNLOCK position and applying battery voltage to terminal 1, check if the rod moves to the LOCK position when terminal 3 is grounded.

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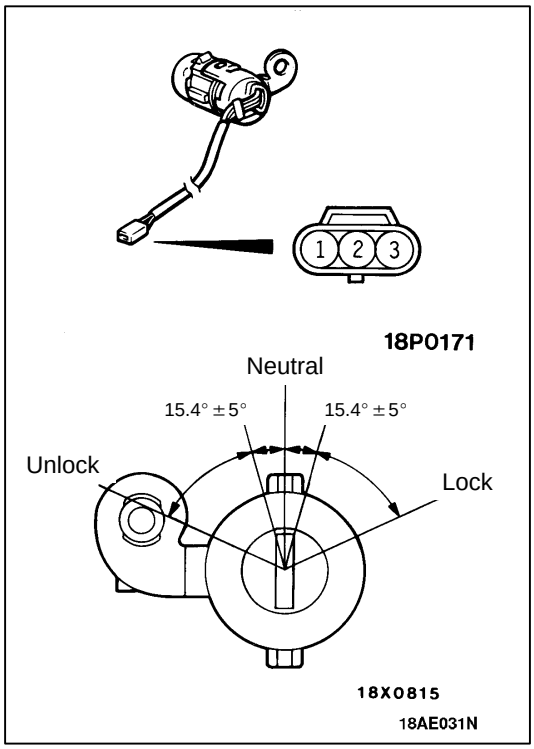
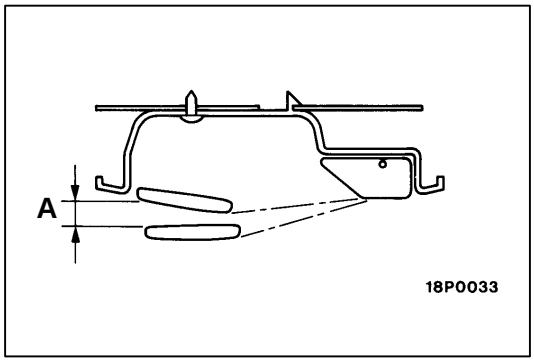


DOOR LOCK KEY CYLINDER SWITCH CONTINUITY CHECK

Switch position	Terminal No.		
	1	2	3
LOCK	○	○	
Neutral (OFF)			
UNLOCK		○	○

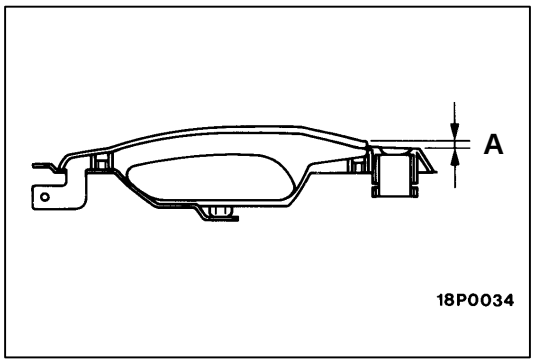


ON-VEHICLE SERVICE

INSIDE HANDLE PLAY ADJUSTMENT

1. Remove the door trim and waterproof film.
2. Move the door inside handle installation position back and forth to adjust so that the inside handle play allowance agrees with the standard value.

Standard value (A):
Front; 2.1 – 10.8 mm
Rear; 4.1 – 12.7 mm



OUTSIDE HANDLE PLAY CHECK

If the door outside handle play does not conform to the standard value, check the door outside handle or door latch assembly, and replace if necessary.

Standard value (A):
Front; 1.7 – 6.0 mm
Rear; 1.9 – 5.8 mm

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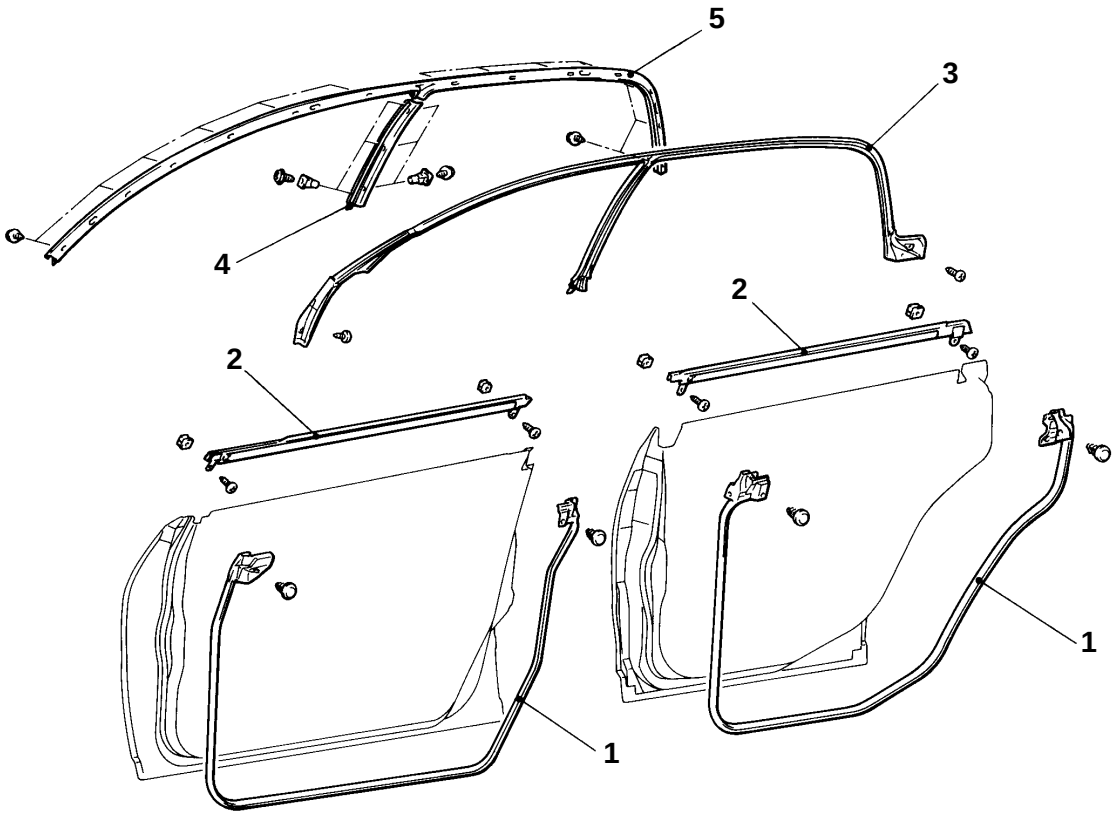
DOOR BELT LINE MOULDING AND DOOR OPENING WEATHERSTRIP

REMOVAL AND INSTALLATION



18P0068

Door outer opening weatherstrip removal steps

- Door trim (Refer On vehicle service.)

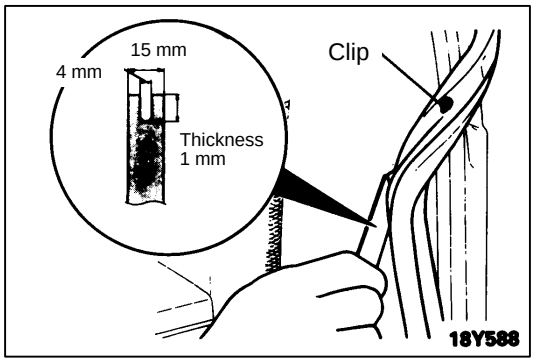
◀A▶ ▶A◀ 1. Door outer opening weatherstrip

Beltline moulding removal steps

1. Door outer opening weatherstrip
2. Beltline moulding

Dripline weatherstrip removal steps

3. Dripline weatherstrip
4. Centre pillar holder
5. Door weatherstrip holder



REMOVAL SERVICE POINTS

◀A▶ DOOR OUTER OPENING WEATHERSTRIP REMOVAL

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

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INSTALLATION SERVICE POINTS

▶A◀ DOOR OUTER OPENING WEATHERSTRIP INSTALLATION

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

Applicable side	Identification colour
Left door	White
Right door	Yellow

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SUNROOF

SERVICE SPECIFICATIONS

Items	Specifications
Roof lid operating current A	9 or less (at 20°C)
Slipping force of sunroof motor clutch N	47-62

TROUBLESHOOTING

INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptom	Inspection procedure no.
Sunroof does not operate with ignition ON	1
When the sunroof is closing, the motor does not reverse when a load of 140N or more is applied.	2
The timer does not operate for 30 seconds after the ignition is switched off (power window timer operates normally)	3

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

INSPECTION PROCEDURE 1

The sunroof does not operate with the ignition switch ON	Probable cause
Possible causes include faults in the sunroof switch, sunroof motor or sunroof ECU power supply circuit, or ground circuit.	• Sunroof switch fault • Sunroof motor fault • Harness or connector fault • Sunroof ECU fault

Continued next page:

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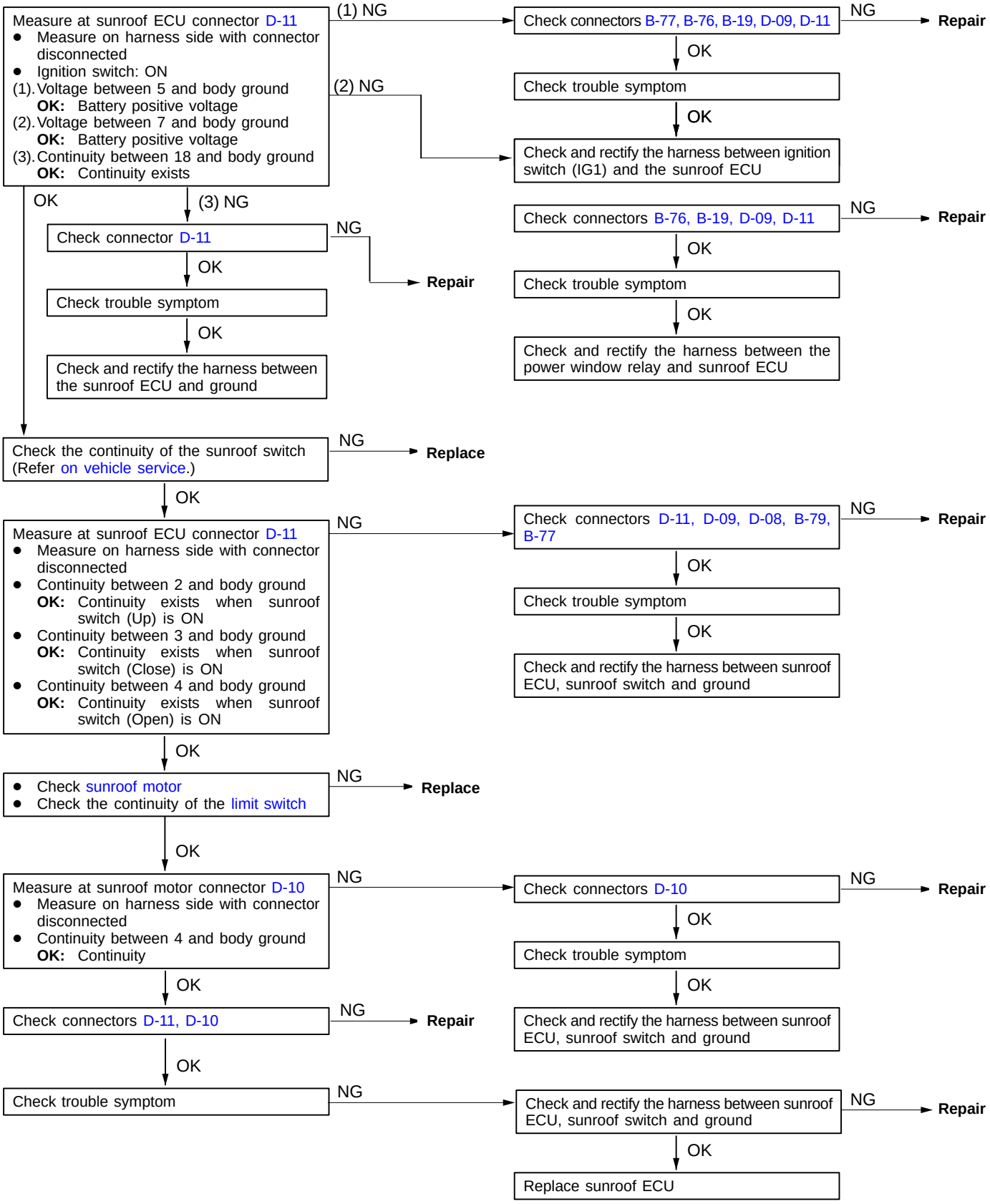

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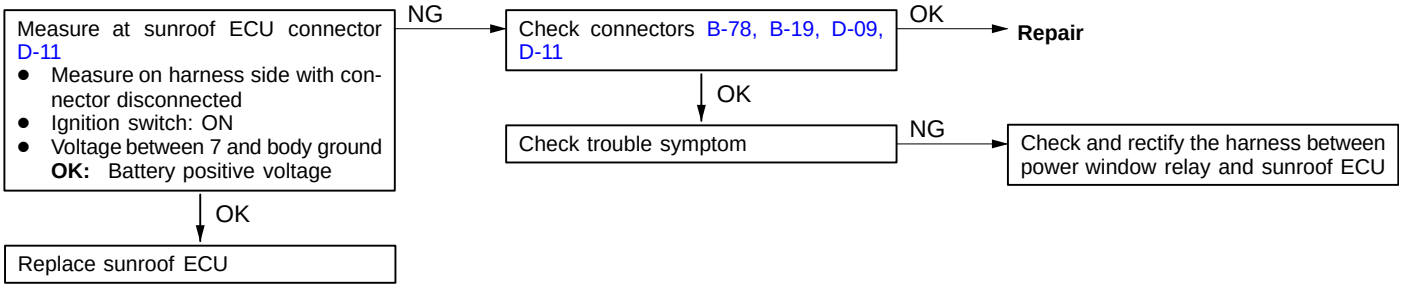
INSPECTION PROCEDURE 2

The motor does not reverse when a load of at least 140N (14.3kgf) is applied to the sunroof when closing	Probable cause
The sunroof ECU monitors the load status from the current flowing in the motor, and if the load exceeds a preset level, reverses the motor to prevent fingers etc. being trapped. If the motor doesn't reverse when the load is excessive, the cause is probably a fault in the sunroof ECU.	• Sunroof ECU fault

Replace sunroof ECU

INSPECTION PROCEDURE 3

The timer does not operate for 30 sec after the ignition switch is turned OFF (However, the power window is timer-operable)	Probable cause
The sunroof ECU has a timer function for the 30 sec after the ignition switch is turned OFF. In addition, power is supplied from the power window relay while the timer is operating. If the timer does not operate therefore, possible causes include a sunroof ECU fault or a fault in the connector harness between the power window relay and the sunroof ECU.	• Harness or connector fault • Sunroof ECU fault



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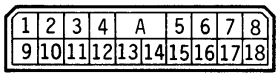
CHECKING THE SUNROOF ECU TERMINALS



18P0142

Terminal	Check Item	Conditions		Terminal Voltage
1	Door switch input	Driver side door switch	ON	0V
			OFF	Battery positive voltage
2	Sunroof switch (up) input	Sunroof switch (up)	ON	0V
			OFF	Battery positive voltage
3	Sunroof switch (close, down) input	Sunroof switch (close, down)	ON	0V
			OFF	Battery positive voltage
4	Sunroof switch (open) input	Sunroof switch (open)	ON	0V
			OFF	Battery positive voltage
5	ECU power supply	Ignition switch: ON		Battery positive voltage
6	Motor output (when opening)	During sunroof opening, down operations		Battery positive voltage
		Other than the above		0V
7	Timer operation power supply	Power window relay: Power window relay: ON		Battery positive voltage
8	Motor output (when closing)	During sunroof closing and up operations		Battery positive voltage
		Other than the above		0V
9	Limit switch 3 input	When sunroof tilting up and fully open		0V
		Other than the above		Battery positive voltage
10	Limit switch 1 input	When sunroof tilting up		Battery positive voltage
		When sunroof is fully closed and fully open		0V
		When sunroof is sliding to close		0V→Battery positive voltage→0V
12	Limit switch 2 input	When sunroof tilting up, fully closed		Battery positive voltage
		Other than the above		0V
13, 18	Ground	At all times		0V

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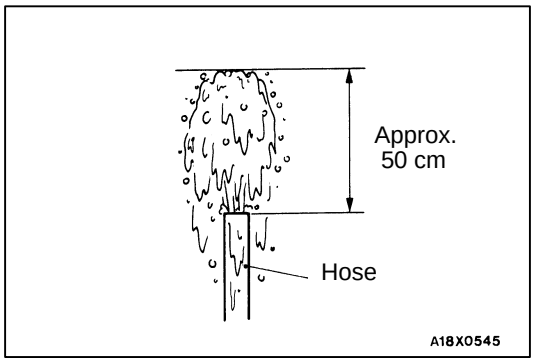
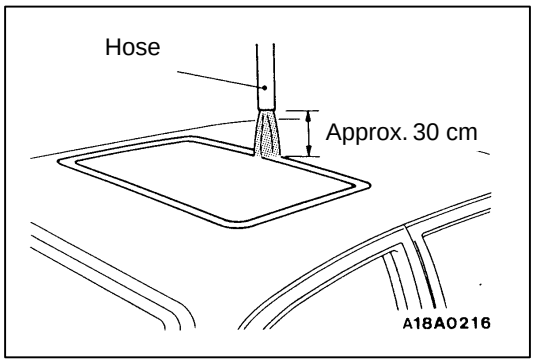


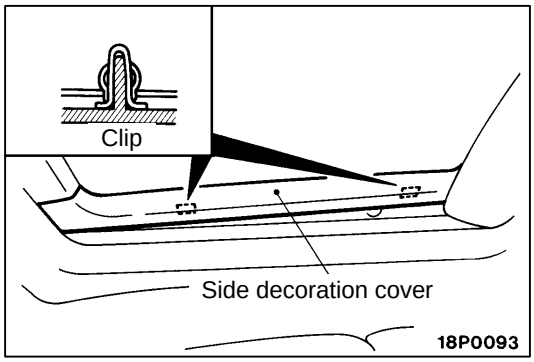
ON-VEHICLE SERVICE

WATER TEST

1. Close roof lid tightly.
2. Hold hose upward and adjust water fountain to about 50 cm high.



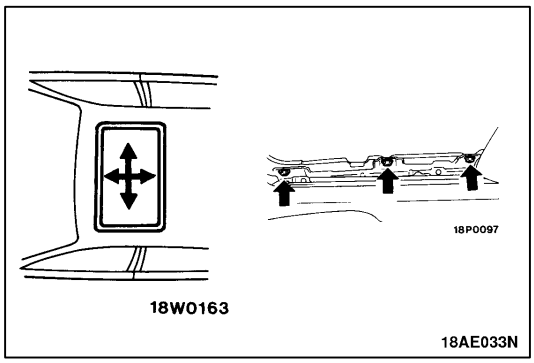
3. Pour water over the roof from about 30 cm above roof for more than 5 minutes.
4. While pouring water, check for leak around roof lid.
5. In the event of leakage, check drain pipe, weatherstrip contact and others.



SUNROOF FIT ADJUSTMENT

FORWARD, BACKWARD AND SIDEWAYS ADJUSTMENT OF THE SUNROOF GLASS

1. Fully close the roof lid glass.
2. Fully open the sun shade.
3. Remove the decoration cover.



4. Loosen the 6 roof lid glass mounting nuts and adjust the glass forward, backward or sideways.

   NOTE
   If the adjustment cannot be made by loosening the mounting nuts, the roof lid glass or the motor have not been fully closed, so they should be adjusted to the fully closed positions.

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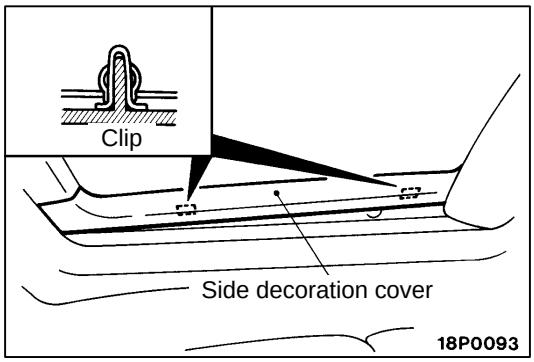
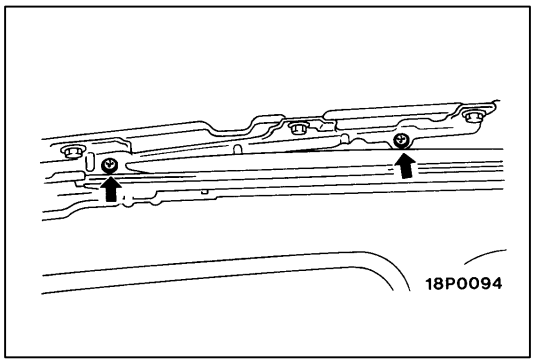


HEIGHT ADJUSTMENT OF THE ROOF LID GLASS AND THE ROOF

1. Fully close the roof lid glass.
2. Fully open the sun shade.
3. Remove the decoration cover.



4. Loosen the four guide (A) assembly mounting screws and move the roof lid glass assembly along the grooves in the guide (A) assembly.
5. After adjustment, confirm that the sunroof operates smoothly.

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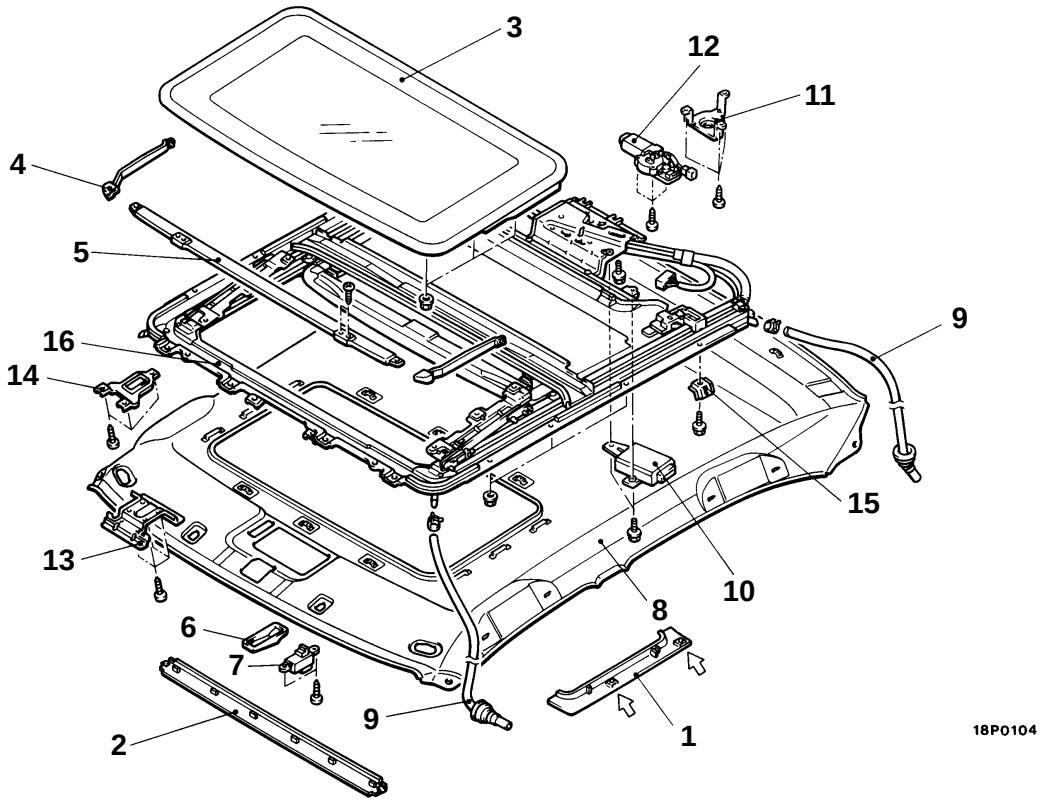
SUNROOF

REMOVAL AND INSTALLATION

Post-installation Operation
- Sunroof Fit Adjustment (Refer On vehicle service.)
- Water Test (Refer On vehicle service.)



NOTE
⇦: Indicates the clip positions

Roof lid glass removal steps

◀A▶
1. Side decoration cover
2. Front decoration cover
3. Roof lid glass assembly

Deflector removal steps

4. Deflector link assembly
5. Deflector

Sunroof motor and sunroof control unit removal steps

6. Sunroof switch cover
7. Sunroof switch
8. Headlining (Refer Group 52A.)
10. Sunroof ECU
11. Headlining bracket

◀C▶
12. Sunroof motor

Sunroof assembly removal steps

6. Sunroof switch cover
7. Sunroof switch
8. Headlining (Refer Group 52A.)
9. Drain hose connection
13. Sunroof switch bracket
15. Set bracket
16. Sunroof assembly

Drain hose removal steps

- Splash shield <Front drain hose> (Refer On vehicle service.)
- Trunk side trim <Rear drain hose> (Refer Group 52A.)

6. Sunroof switch cover
7. Sunroof switch cover
8. Headlining (Refer Group 52A.)

◀B▶ ▶A◀
9. Drain hose

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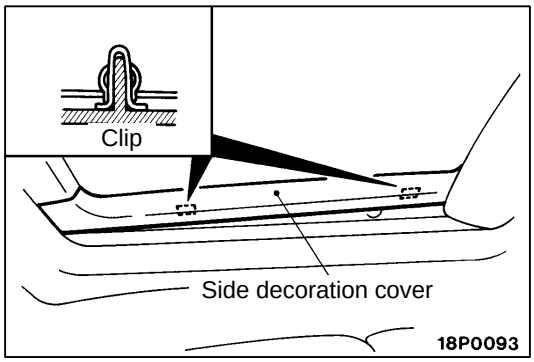


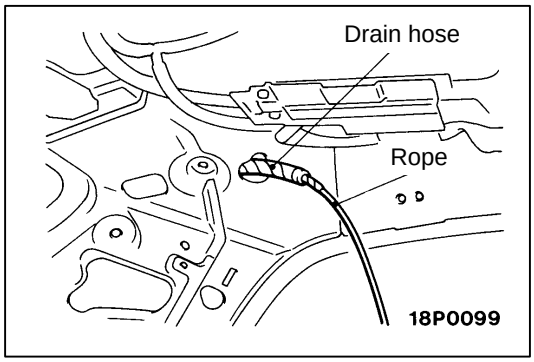
REMOVAL SERVICE POINTS

◀A▶ SIDE DECORATION COVER/FRONT DECORATION COVER/REAR DECORATION COVER REMOVAL

There are clips in the positions shown in the illustration, so be careful of them while pushing the decoration cover downwards with your hand to remove it.

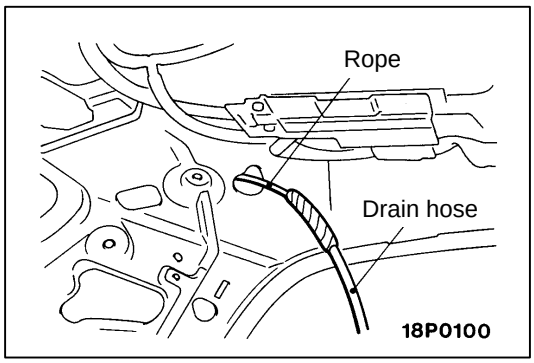
◀B▶ SUNROOF MOTOR REMOVAL

Caution
When removing the sunroof motor, always be sure to fully close the roof lid glass.
If the roof lid glass and the sunroof motor are not both in the fully-closed positions, the sunroof will not operate properly.



◀C▶ DRAIN HOSE REMOVAL

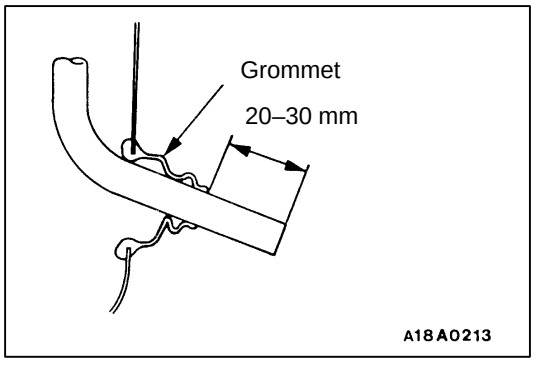
Remove the grommet. Tie a cord to the end of the drain hose, wind tape around it so that there is no unevenness, and pull the drain hose out into the wheel house.



INSTALLATION SERVICE POINTS

▶A◀ DRAIN HOSE INSTALLATION

1. Tie the cord that was used during removal to the end of the drain hose, and wind tape around it so that there is no unevenness.
2. Pull the cord to pull through the drain hose



3. Make the protrusion from the drain hose grommet as shown in the illustration.

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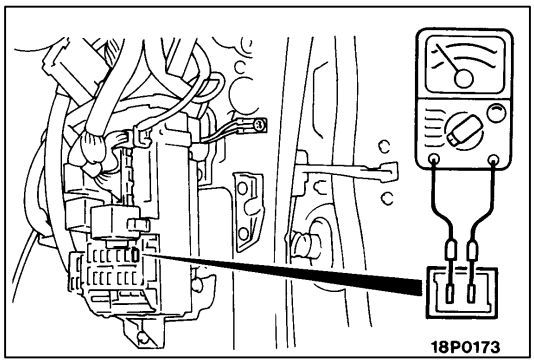
INSPECTION

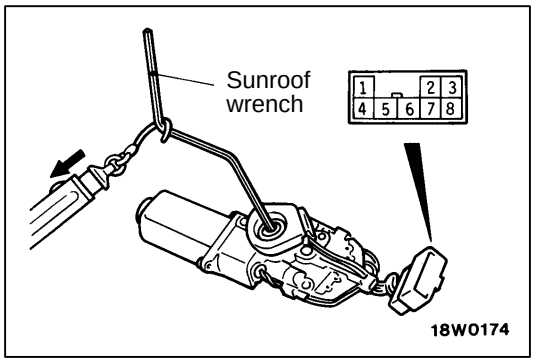
ROOF LID GLASS OPERATING CURRENT CHECK

1. Remove the sunroof fuse, and connect a circuit tester as illustrated.
2. Turn the sunroof switch ON, and measure the current at an intermediate point, excluding the following times: start-up, fully closed, fully open, fully tilted up.

   Standard value: 9A or below (at 20°C)



3. If the roof lid glass operating current exceeds specification check for the following.
   1. The fitting of the sunroof assembly, any deformation or entrapped foreign objects
   2. Sticking of the drive cable
   3. Tilted roof lid glass



SLIDING FORCE OF SUNROOF MOTOR'S CLUTCH CHECK

Inspect the sliding force of the clutch by the following procedure.

1. Place the sunroof wrench from the on-board tools into the hexagonal socket of the sunroof motor drive shaft, and set a spring scale in a position 100 mm from the drive shaft.
2. Connect the battery to sunroof motor connector terminals 1 and 2 to rotate the sunroof motor.
3. Measure the spring scale reading when the rotating force of the sunroof motor equals the spring force of the spring scale.

   Standard value: 47–62 N

   Caution
   1. **The spring scale should be kept a right angle to the sunroof wrench.**
   2. **If a wrench other than that in the on-board tools is used, the value for the clutch sliding force will be different, so only the on-board tool should be used.**
4. If the clutch sliding force is outside the standard value, replace the motor.

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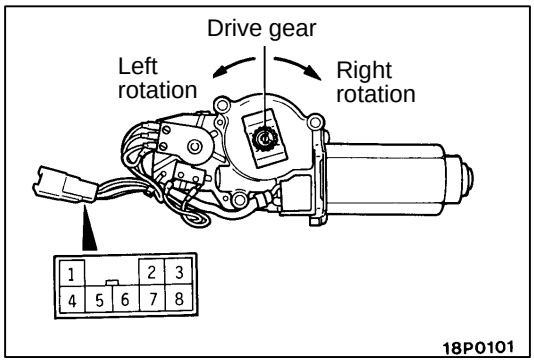
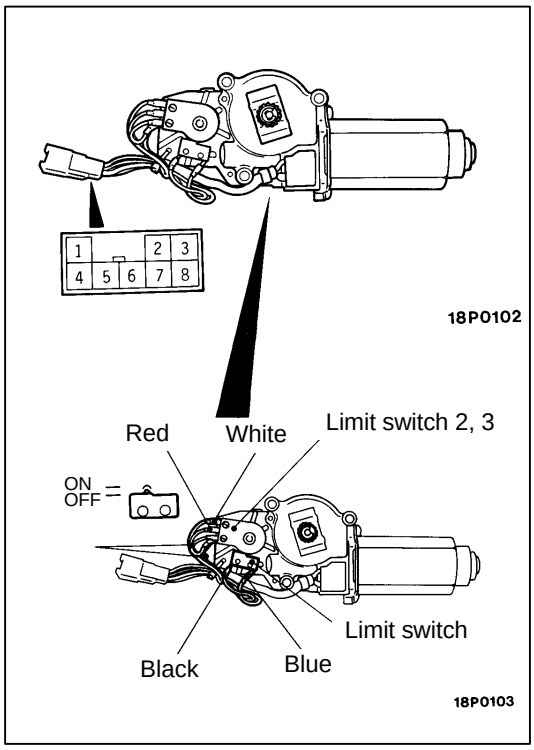


SUNROOF MOTOR OPERATION CHECK

Check the direction of rotation of the drive gear when the battery is connected to the connector.

Terminal 1	Terminal 2	Drive gear rotation direction
–	+	Right
+	–	Left

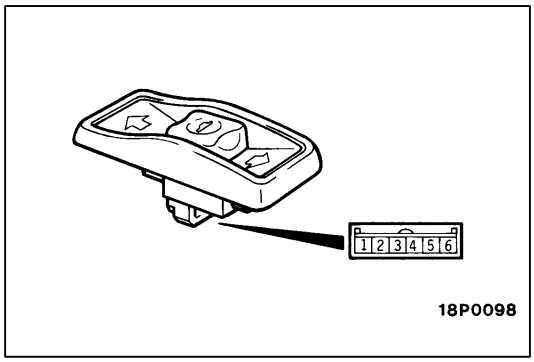


LIMIT SWITCH CONTINUITY CHECK

1. Remove the limit switch from the sunroof motor; then operate the limit switch and check for continuity between the terminals.

Switch		Terminal No.			
		3	5	6	7
Limit switch 1	ON	○	○		
	OFF				
Limit switch 2	ON	○		○	
	OFF				
Limit switch 3	ON	○			○
	OFF				

2. When installing the limit switch, check the wire colours for the limit switches, and install so that the position and direction are as shown in the illustration.



SUNROOF SWITCH CONTINUITY CHECK

Switch Position	Terminal No.			
	4	5	6	7
Open		○	○	
OFF				
Up	○	○		
Close, Down		○		○

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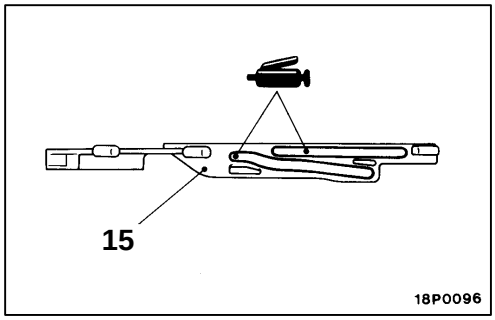
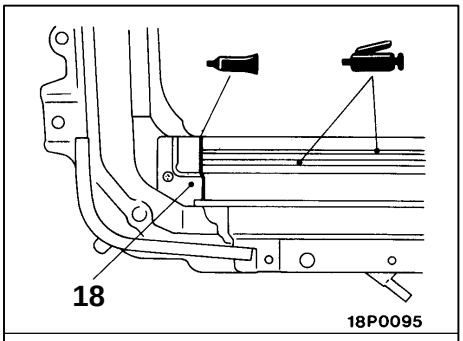
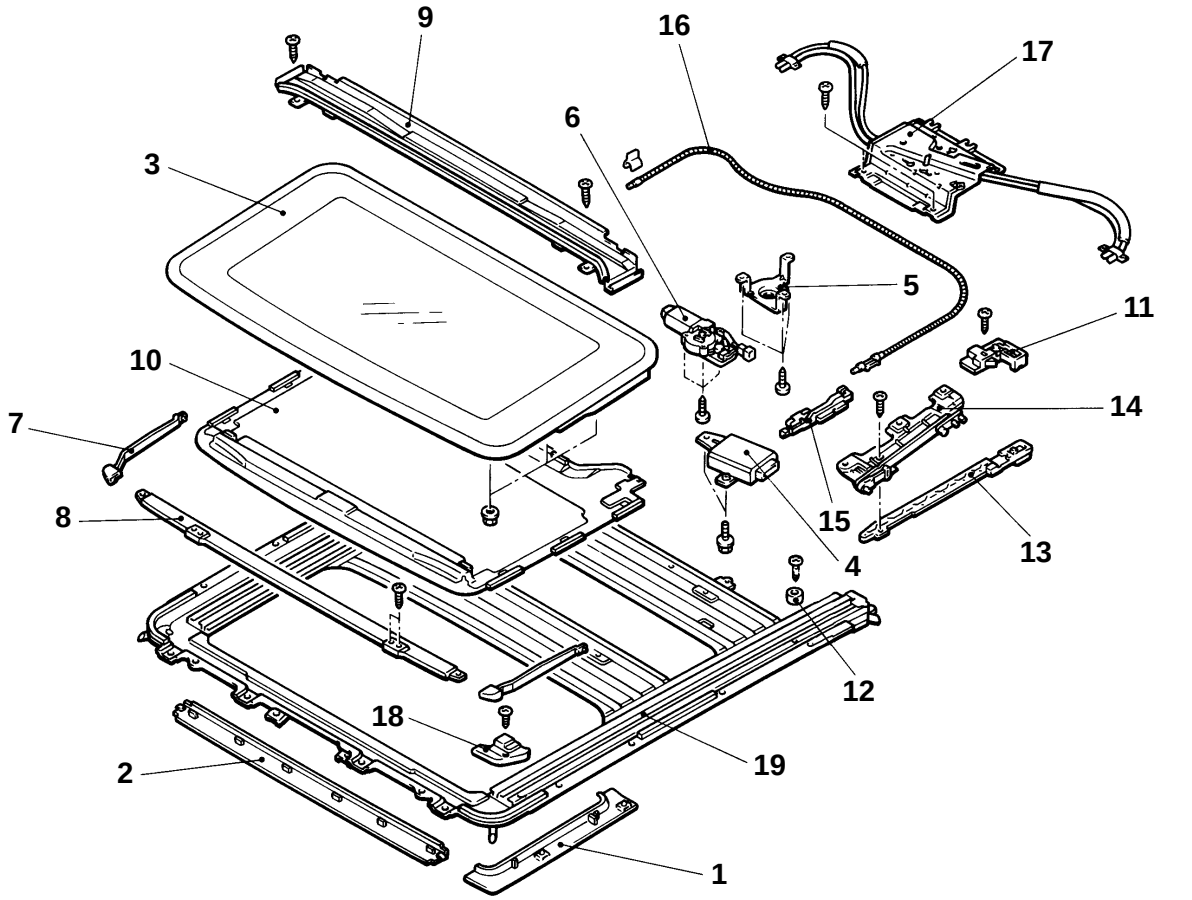
DISASSEMBLY AND REASSEMBLY





Sealant:
3M ATD Part No. 8531 or 3M ATD Part No.8646, or equivalent



Deflector removal steps

1. Side decoration cover
2. Front decoration cover
3. Roof lid glass assembly
4. Sunroof ECU
5. Head lining bracket
6. Sunroof motor
7. Deflector link assembly
8. Deflector assembly
9. Drip rail assembly
10. Sun shade assembly
11. Sun shade slider assembly
12. Cushion (B) assembly
13. Decoration link
14. Guide (A) assembly
15. Slider sub-assembly
16. Cable assembly
17. Drive unit assembly
18. Rail cover assembly
19. Frame assembly