
EXTERIOR

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CONTENTS

5110900272

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WARNINGS REGARDING SERVICING OF SUPPLEMENTAL RESTRAINT SYSTEM (SRS) EQUIPPED VEHICLES

WARNING!

- (1) Improper service or maintenance of any component of the SRS, or any SRS-related component, can lead to personal injury or death to service personnel (from inadvertent firing of the air bag) or to the driver and passenger (from rendering the SRS inoperative).
- (2) Service or maintenance of any SRS component or SRS-related component must be performed only at an authorized MITSUBISHI dealer.
- (3) MITSUBISHI dealer personnel must thoroughly review this manual, and especially its GROUP 52B – Supplemental Restraint System (SRS) before beginning any service or maintenance of any component of the SRS or any SRS-related component.

NOTE

The SRS includes the following components: SRS-ECU, SRS warning lamp, air bag module, clock spring and interconnecting wiring. Other SRS-related components (that may have to be removed/installed in connection with SRS service or maintenance) are indicated in the table of contents by an asterisk (*).

51-2 EXTERIOR – Service Specifications/Sealant and Adhesive/Special Tools

SERVICE SPECIFICATIONS

51100030225

Items	Standard value
Windshield wiper blade installation position mm	30±5

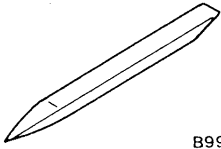
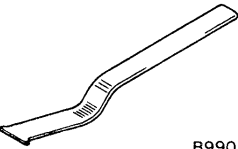
SEALANT AND ADHESIVE

51100050207

Items	Specified sealant and adhesive
Side protect moulding to body panel	Adhesive tape:3M ATD part No.6382 or equivalent [12 mm wide and 0.8 mm thick]
	Primer:3M ATD part No.8608 Super Fast Urethane Primer or equivalent and 3M ATD part No.8609 Super Fast Urethane Primer or equivalent

SPECIAL TOOLS

51100060033

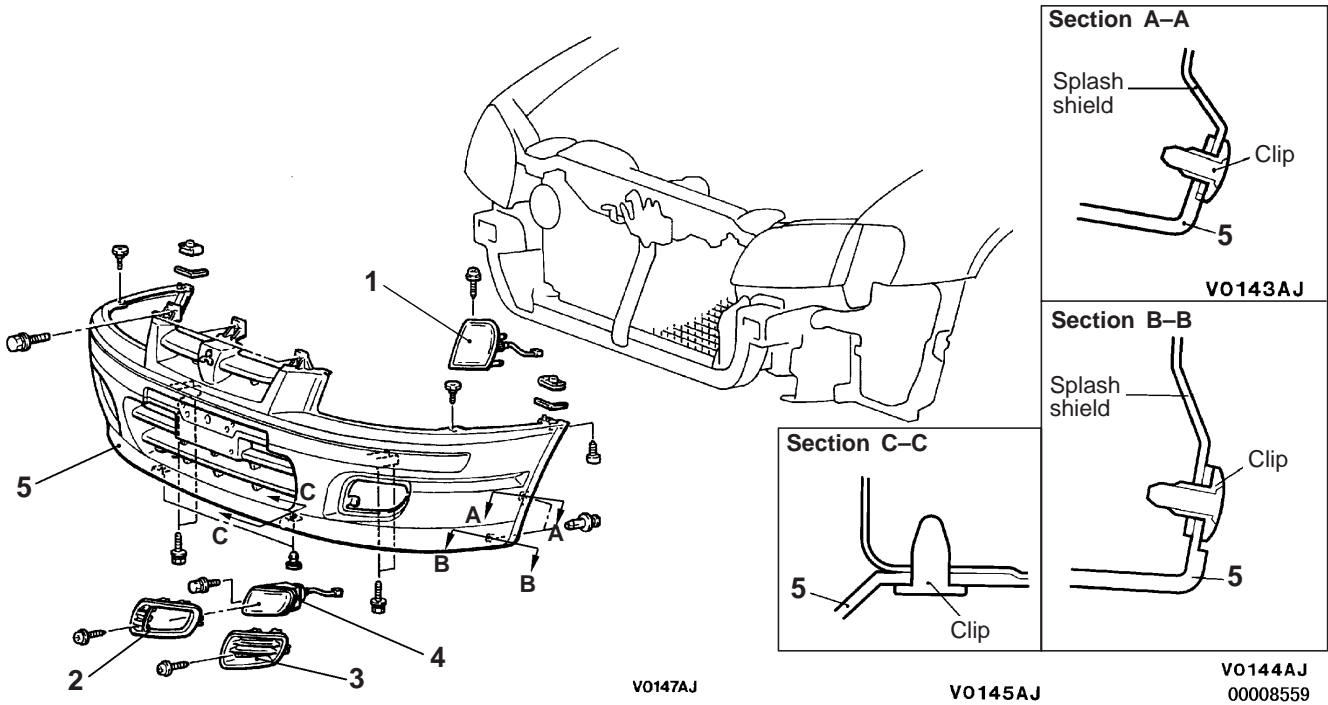
Tool	Number	Name	Use
 B990784	MB990784	Ornament remover	Removal of rear wiper and washer switch and door mirror control switch.
 B990449	MB990449	Window moulding remover	Removal of roof drip moulding, etc.

FRONT BUMPER

51100140249

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Front Under Cover Panel Removal and Installation

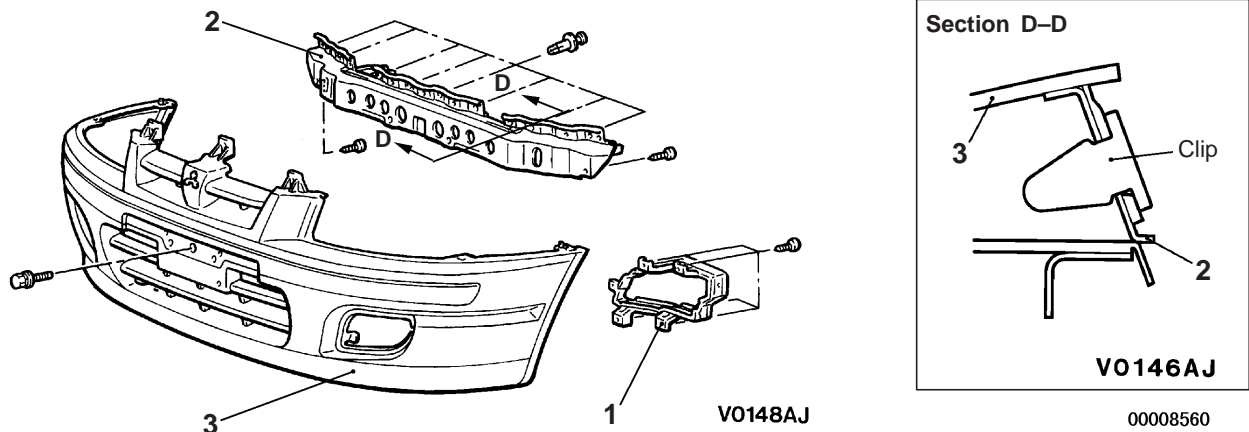


Removal steps

- 1. Front turn signal lamp
- 2. Front fog lamp bezel
- 3. Front fog lamp bezel
- 4. Front fog lamp
- 5. Front bumper assembly

DISASSEMBLY AND REASSEMBLY

51100160276



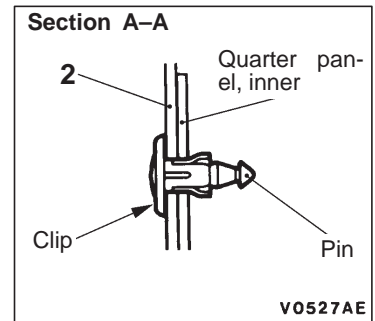
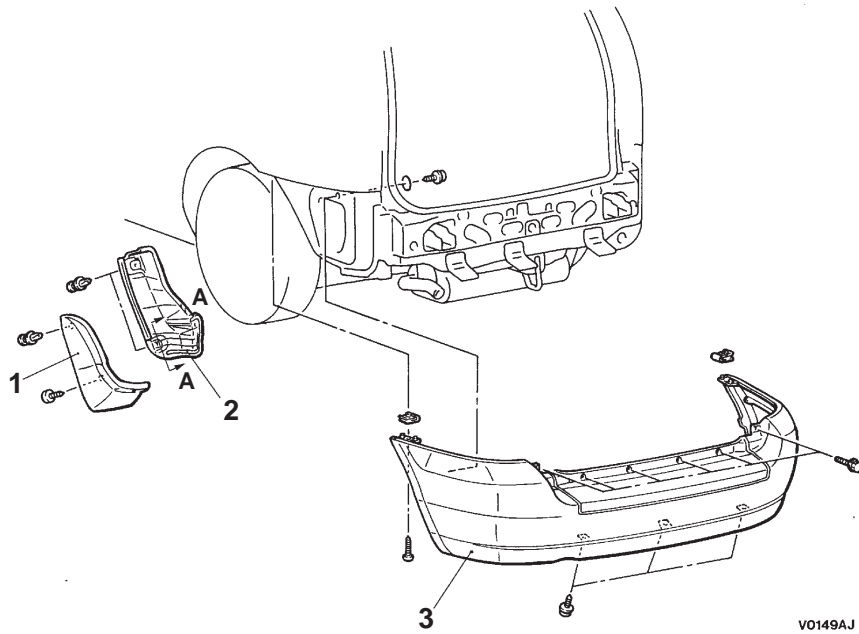
Disassembly steps

- 1. Front fog lamp bracket assembly
- 2. Bumper reinforcement
- 3. Bumper face

REAR BUMPER

51100190268

REMOVAL AND INSTALLATION

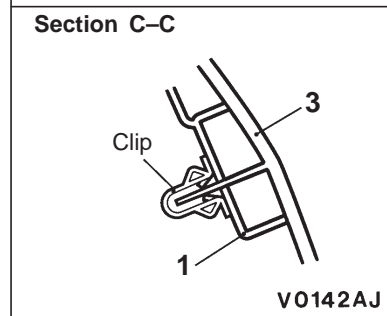
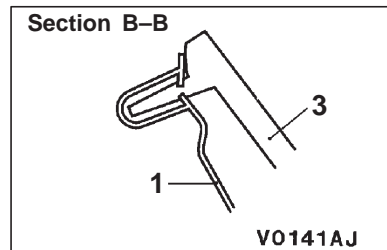
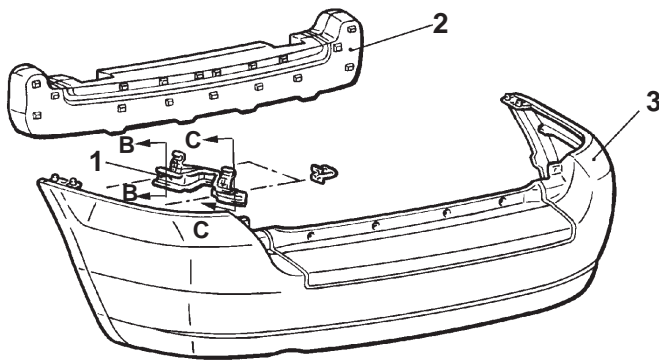


Removal steps

1. Mud guard
2. Splash shield
3. Bumper assembly

DISASSEMBLY AND REASSEMBLY

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V0150AJ
00008562

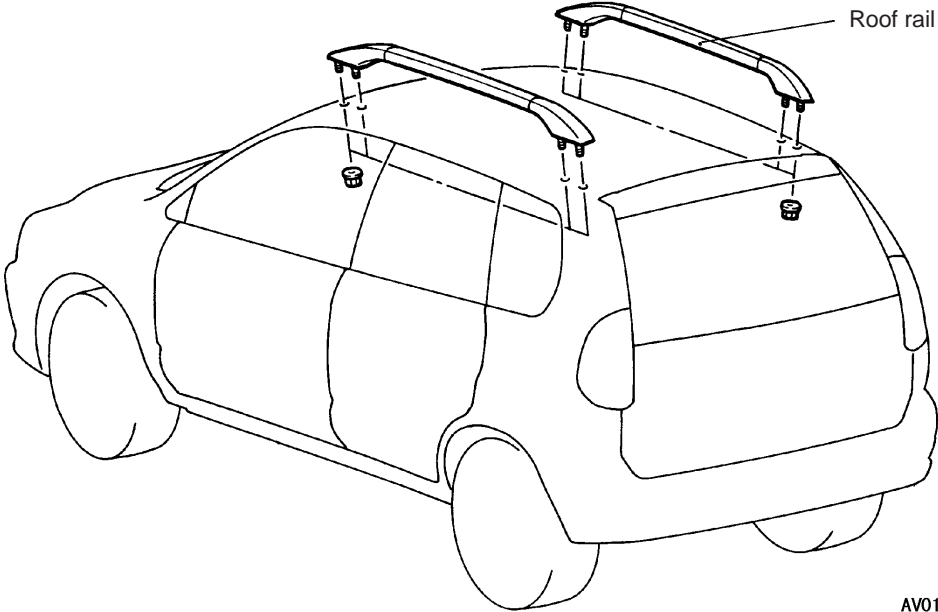
Disassembly steps

1. Bumper side bracket
2. Bumper core
3. Bumper face

ROOF RAIL

REMOVAL AND INSTALLATION

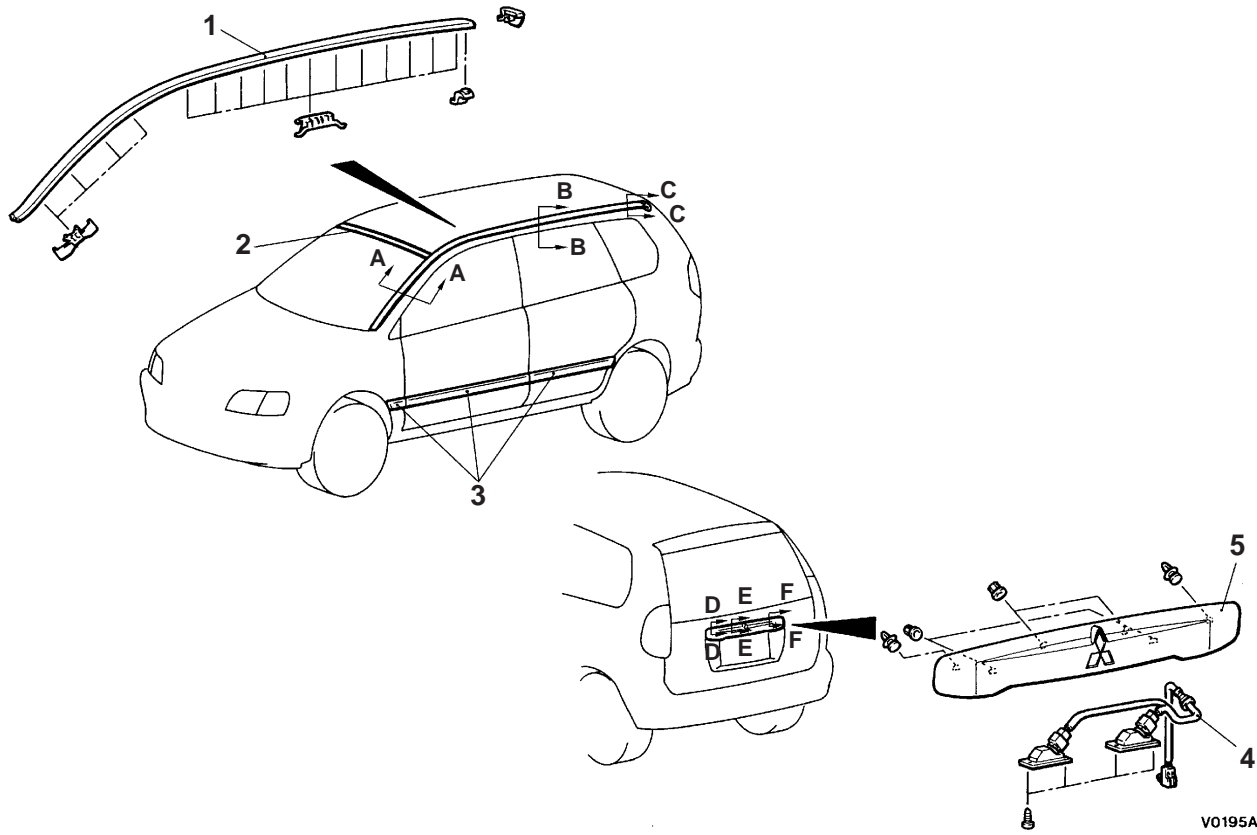
Pre-removal and Post-installation Operation
Headlining Removal and Installation



AV0151AJ

**MOULDING AND GARNISH
REMOVAL AND INSTALLATION**

51100440073



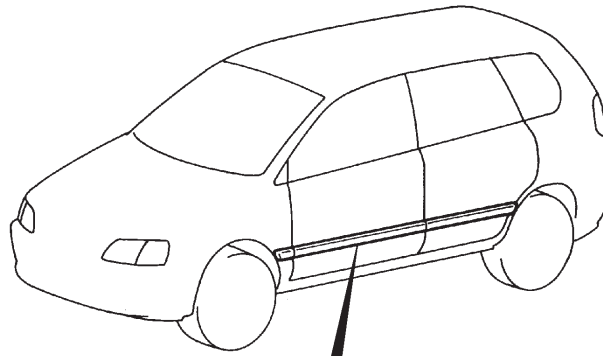
V0195AJ
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<p>Section A-A</p> <p>Clip V0196AE</p>	<p>Section B-B</p> <p>Clip V0197AJ</p>	<p>Section C-C</p> <p>Clip V0198AJ</p>
<p>Section D-D</p> <p>Clip 5 V0199AJ</p>	<p>Section E-E</p> <p>Nut Flange bolt 5 V0200AJ</p>	<p>Section F-F</p> <p>Clip 5 V0201AJ</p>

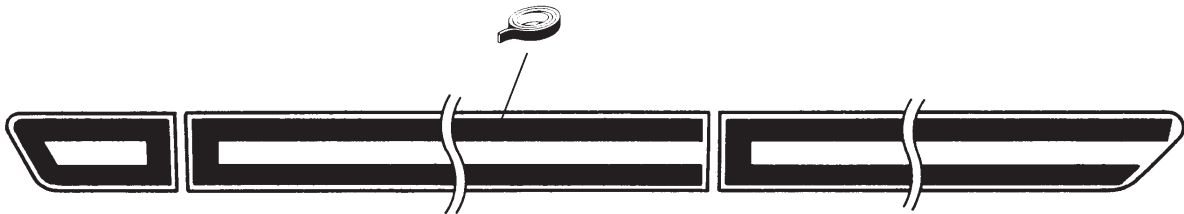
Disassembly steps

- ◀A▶ ▶B▶
1. Roof drip moulding
 2. Windshield upper moulding
(Refer to GROUP 42 – Windshield.)

- ◀B▶ ▶A▶
3. Side protector moulding
 4. License plate lamp assembly
 5. License plate lamp garnish

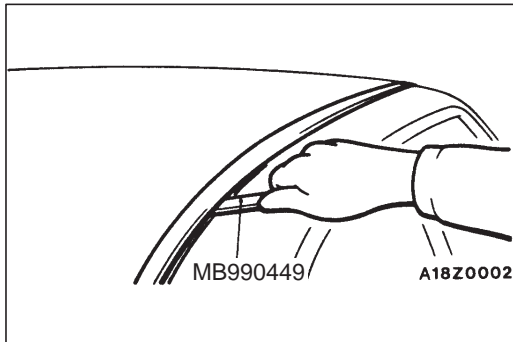


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Adhesive tape: double-sided tape [12 mm wide and 0.8 mm thick]



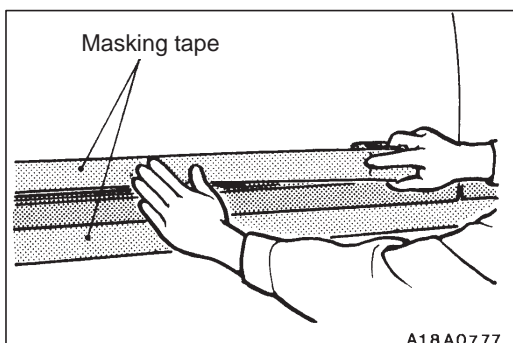
REMOVAL SERVICE POINT

◀A▶ ROOF DRIP MOULDING REMOVAL

Use the special tool to lever out the moulding.

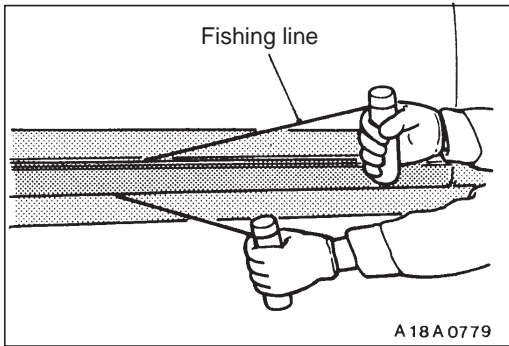
Caution

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



◀B▶ SIDE PROTECTOR MOULDING REMOVAL

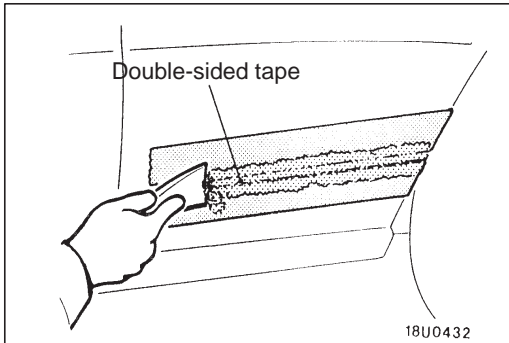
1. Attach protection tape all the way along the edges of the double-sided tape which is still adhering to the body.



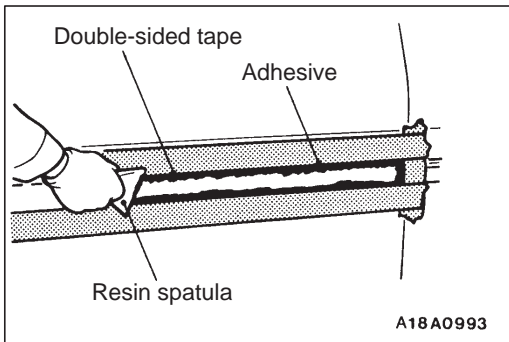
2. Insert fishing line [Ø0.8 mm] in between the body and the moulding, and pull both ends alternately to cut the adhesive section and remove the moulding.

Caution

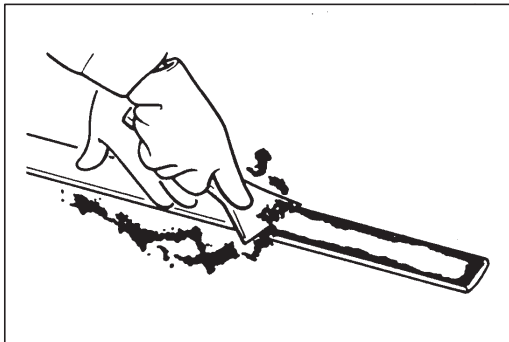
- (1) If the moulding is to be reused, pull the fishing line along the edge of the body so as not to damage the edge of the moulding.
- (2) If the adhesive is difficult to remove, heat it to 40°C. If the moulding has become warped, it should not be reused.



3. Scrape off the double-sided tape with a resin spatula.
4. Peel off the protection tape.
5. Scrape off a small amount of the adhesive with a cutter knife.



6. Wipe the body surface clean with a rag moistened with isopropyl alcohol.



INSTALLATION SERVICE POINT

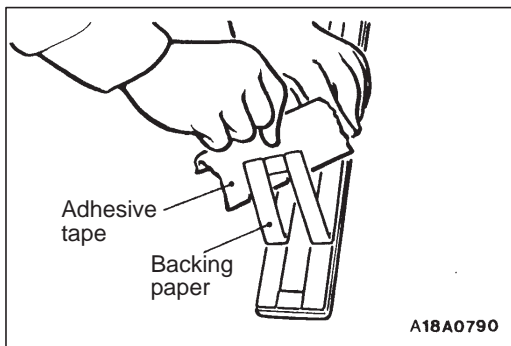
▶A◀ SIDE PROTECTOR MouldING INSTALLATION

Affixing Double-sided tape to the mouldings (when reusing mouldings)

1. Scrape off the double-sided tape with a resin spatula or gasket scraper.
2. Wipe the moulding adhesion surface clean with a rag moistened with isopropyl alcohol.
3. Affix the specified double-sided tape to the side protect moulding. (Refer to P.51-7.)

Specified adhesive tape:

Double-sided tape [12 mm wide and 0.8 mm thick]



4. Remove the strip paper from the pressure sensitive double-side tape.

NOTE

Affix double-sided tape to the end of strip paper for ease of strip paper removal.

5. Remove strip paper from the pressure sensitive double-side tape.

NOTE

If it is hard to affix the double-side tape in winter, heat the application surfaces at both the vehicle body and the side protector moulding.

Body 40–60°C

Side protect moulding 20–30°C

Apply pressure fully to the side protector moulding.

►B◄ ROOF DRIP MOULDING INSTALLATION

1. Install the clips to the clip installation bosses on the roof.
2. Install the roof moulding with the clips.

WINDSHIELD WIPER AND WASHER

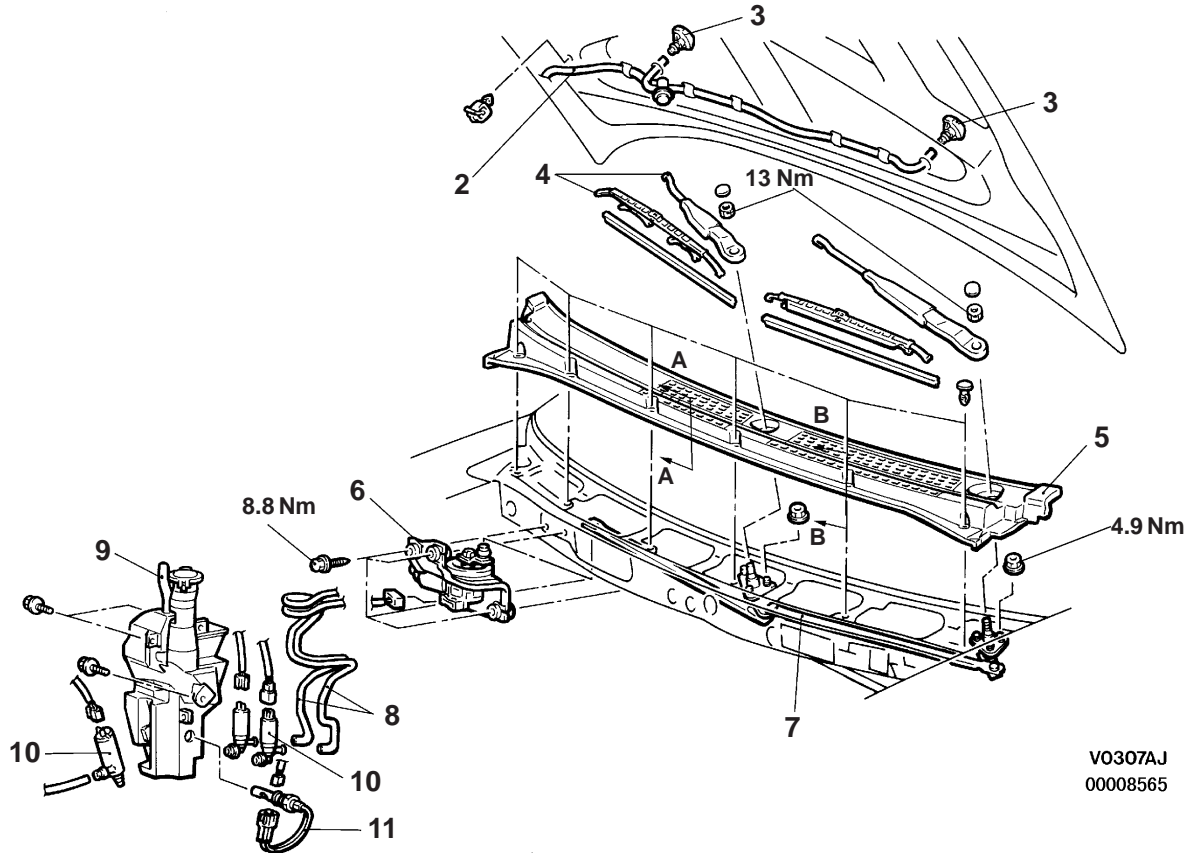
REMOVAL AND INSTALLATION

CAUTION: SRS

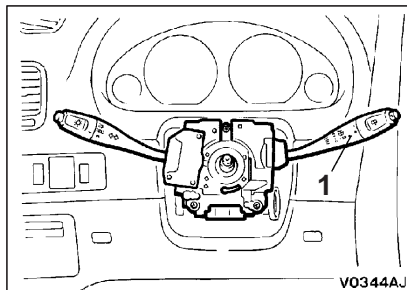
Before removal of air bag module and clock spring, refer to GROUP 52B – SRS Service Precautions and Air Bag Module and Clock Spring.

Pre-removal and Post-installation Operation

- Relay Box Removal and Installation
<R.H. drive vehicles>

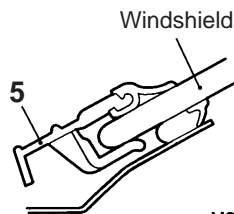


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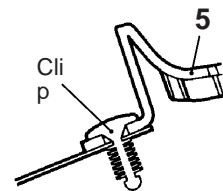
V0344AJ

Section A-A



V0308AJ

Section B-B



V0309AJ

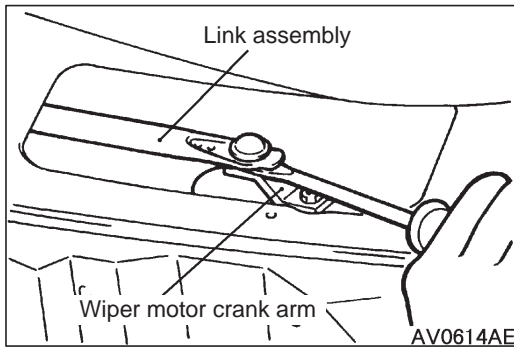
1. Column switch assembly (with built-in wiper and washer switch, and wiper relay)
(Refer to GROUP 37A – Steering wheel and shaft.)
2. Washer hose
3. Washer nozzle

Wiper motor and linkage removal steps

- ▶◀ 4. Wiper arm and blade assembly
- ◀▶ 5. Front deck garnish
- ◀▶ 6. Wiper motor
- ◀▶ 7. Linkage

Washer tank removal steps

- Draining of washer fluid
- Front bumper (Refer to P.51-3.)
- 8. Washer hose
- 9. Washer tank
- 10. Washer motor
- 11. Washer fluid level switch



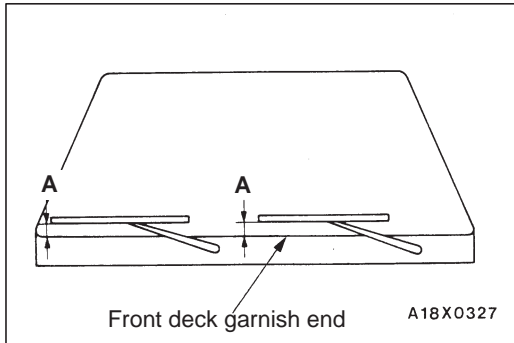
REMOVAL SERVICE POINT

◀A▶ WIPER MOTOR REMOVAL

Loosen the wiper motor assembly mounting bolts, and then remove the wiper motor assembly. Disconnect the linkage and the motor assembly, and then remove the linkage.

Caution

Because the installation angle of the crank arm and the motor has been set, do not remove them unless it is necessary to do so. If they must be removed, remove them only after marking their mounting positions.



INSTALLATION SERVICE POINT

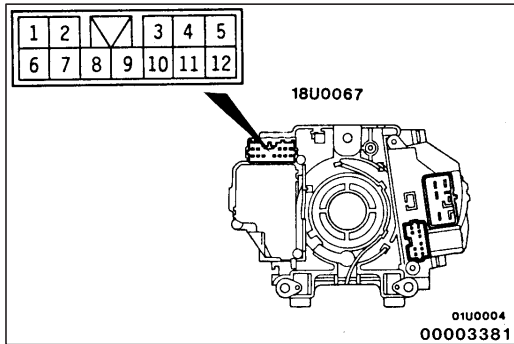
▶A◀ WIPER ARM AND BLADE ASSEMBLY INSTALLATION

1. The movements of the left and right wiper arms are different, so check the identification marks.
2. Install the wiper blade in the specified position (standard value) as shown in the illustration.

Standard value:

Passenger's side (A): 20 ± 5 mm

Driver's side (B): 25 ± 5 mm



INSPECTION

51100770035

COLUMN SWITCH CHECK

Wiper and Washer Switch

Switch position		Terminal No.				
		6	7	8	9	10
Wiper switch	OFF		○—○			
	INT		○—○			
	1 (LO)			○—○		○—○
	2 (HI)				○—○	○—○
Washer switch	ON	○—○				○—○

Intermittent Wiper Relay (Intermittent Operation Inspection)

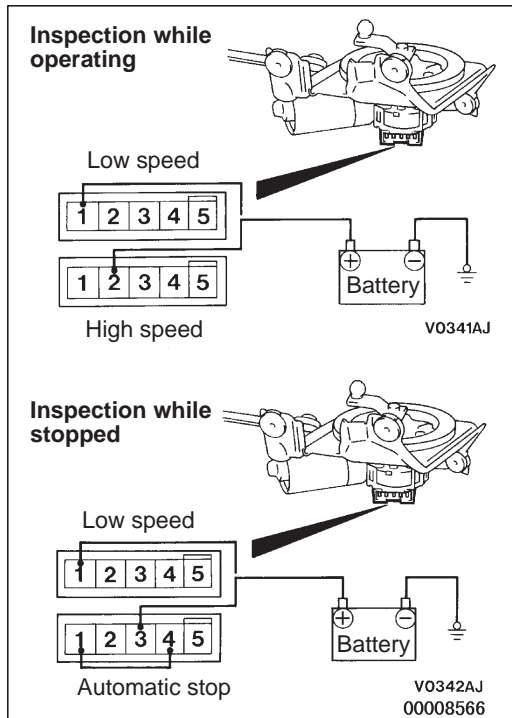
1. Connect the column switch connector.
2. Turn the ignition switch to ACC.

3. Inspect the intermittent operation time when the wiper switch is turned to INT.

Vehicles with variable intermittent control

FAST: Approx. 3 seconds

SLOW: Approx. 12 seconds



WIPER MOTOR CHECK

51101260135

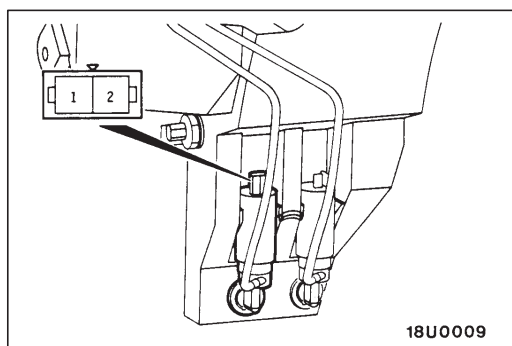
Check the wiper motor after disconnecting the wiring harness connector, and with the wiper motor remaining installed to the body.

Wiper Motor at Low Speed and High Speed Operation

Connect a battery to the wiper motor as shown in the illustration and inspect motor operation at low speed and high speed.

Wiper Motor at Stop Position Operation

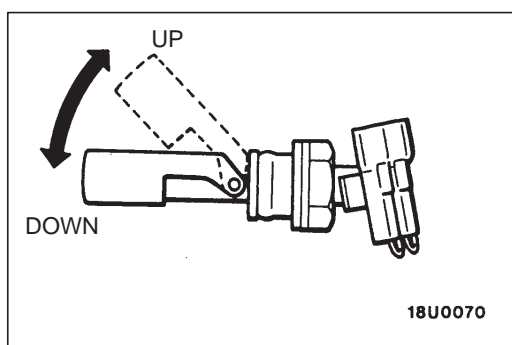
1. Run the wiper motor at low speed, disconnect the battery, and stop the motor.
2. Reconnect the battery as shown in the illustration, and confirm the after the motor starts turning at low speed, it stops at the automatic stop position.



WASHER MOTOR CHECK

51101270015

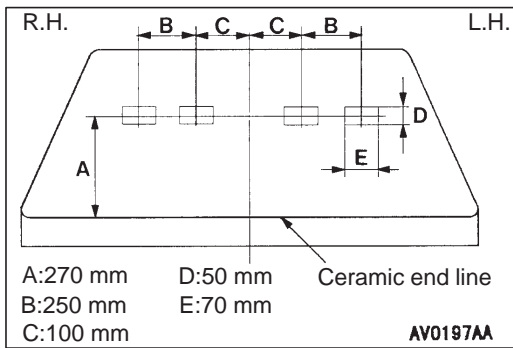
1. With the washer motor installed to the washer tank, fill the washer tank with water.
2. Check that the water squirts out strongly when battery voltage is applied to terminals (1) and (2).



WASHER FLUID LEVEL SWITCH CHECK

51101280018

1. Remove the washer fluid level switch from the washer tank.
2. Connect a circuit tester to the connector of washer fluid level switch.
3. Move the float up and down.
4. Check to be sure that there is continuity between the terminals when the float is down.



WASHER FLUID EJECTION POINT CHECK

51101270138

Adjust the ejection angle by moving a ball in the nozzle.

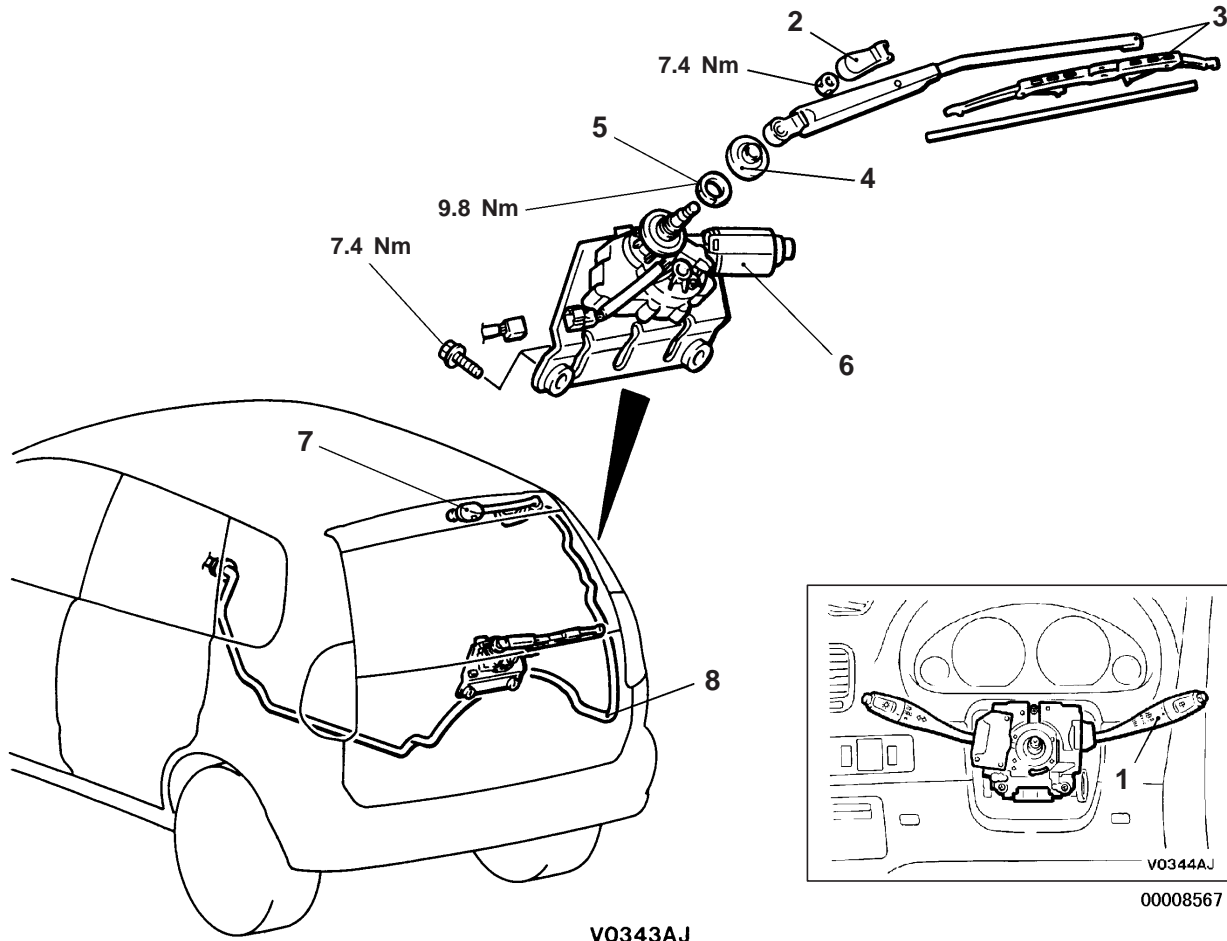
REAR WIPER AND WASHER

51100880028

REMOVAL AND INSTALLATION

CAUTION: SRS

Before removal of air bag module and clock spring, refer to GROUP 52B – SRS Service Precautions and Air Bag Module and Clock Spring.



1. Column switch assembly
(with built-in rear wiper and washer switch)
(Refer to GROUP 37A – Steering wheel and shaft.)

Wiper motor removal steps

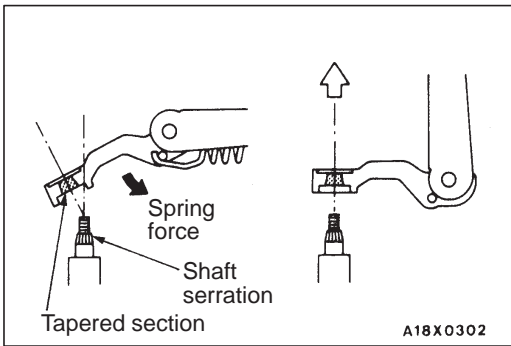
2. Cover
3. Wiper arm and blade
4. Shield cap
5. Nut



6. Wiper motor and bracket assembly

Rear washer hose removal steps

- Front seat (Refer to GROUP 52A – Front seat.)
- rear seat (Refer to GROUP 52A – Rear seat.)
- Washer fluid draining and supplying
- 7. Washer nozzle
- 8. Washer hose



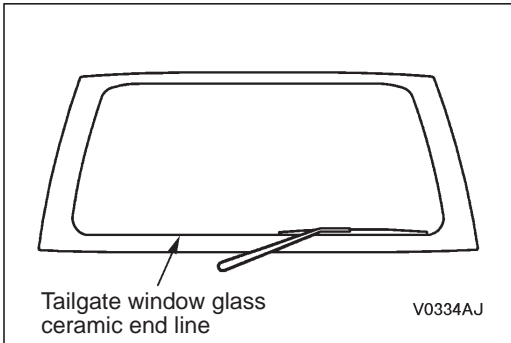
REMOVAL SERVICE POINT

◀A▶ WIPER ARM AND BLADE REMOVAL

Remove the wiper arm from the shaft while the wiper arm is raised.

Caution

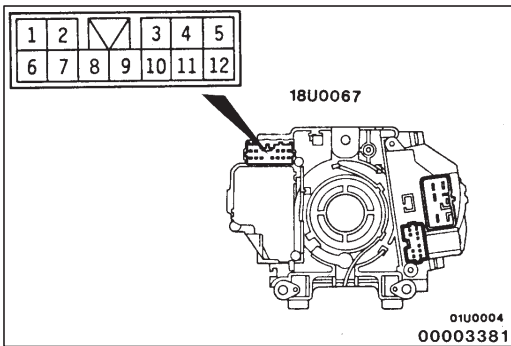
If the wiper arm is forced while it is still lowered, the tapered section of the wiper arm will be scraped by the shaft serrations and the diameter of the tapered section will become too big, so sufficient care should be exercised.



INSTALLATION SERVICE POINT

▶A◀ WIPER ARM ASSEMBLY INSTALLATION

Install so that the wiper blade is positioned at the tailgate window glass ceramic end line when it stops.



INSPECTION

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REAR WIPER AND WASHER SWITCH CHECK

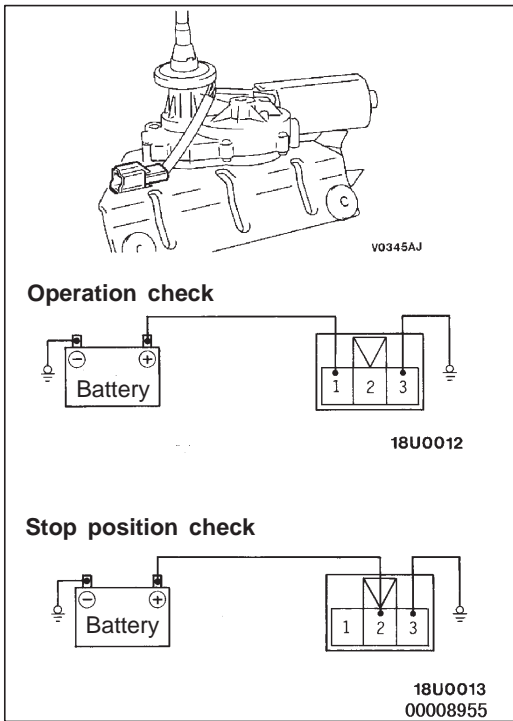
Rear Wiper and Washer Switch

<VEHICLES WITHOUT INTERMITTENT WIPER>

Switch position		Terminal No.		
		3	4	10
Wiper Switch	OFF	○	○	
	ON		○	○

<VEHICLES WITH INTERMITTENT WIPER>

Switch position		Terminal No.		
		3	4	10
Wiper Switch	OFF			
	INT	○		○
	ON		○	○



WIPER MOTOR CHECK

51101290103

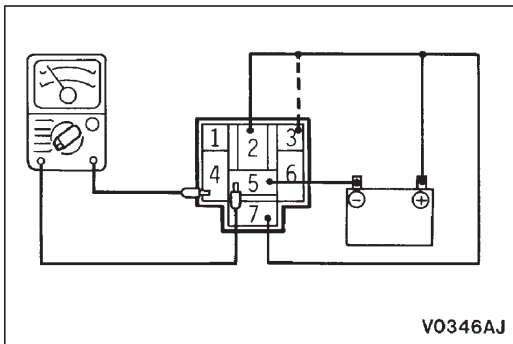
Check the wiper motor after first disconnecting the wiring harness connector, and with the wiper motor remaining installed to the body.

Wiper Motor Operation

Connect a battery to the wiper motor as shown in the illustration and inspect the motor operation.

Wiper Motor at Stop Position Operation

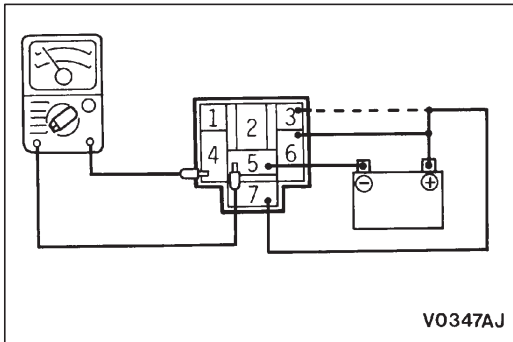
1. Run the wiper motor, disconnect the battery, and stop the motor.
2. Reconnect the battery as shown in the illustration, and confirm that after the motor starts turning, it stops at the automatic stop position.



INTERMITTENT WIPER RELAY CHECK

51101300080

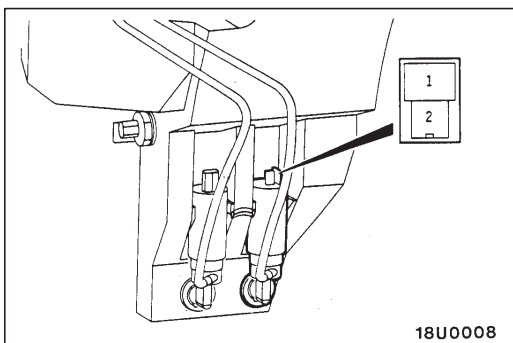
1. After checking that there is continuity between terminals 4 and 5, connect a multimeter and battery as shown in the illustration.
2. Check that the multimeter displays battery voltage at this time.
3. Check that the multimeter needle moves approximately once every 10 seconds when the battery (+) terminal disconnected from terminal 2 is connected to terminal 3.
4. Check that the multimeter displays battery voltage approximately one second after the battery (+) terminal is disconnected from terminal 3 and connected to terminal 6.
5. Check that the multimeter displays battery voltage for approximately 6 seconds and then displays 0 V after the battery (+) terminal is disconnected from terminal 6.



WASHER MOTOR CHECK

51101310014

1. With the washer motor installed to the washer tank, fill the washer tank with water.
2. Check that the water squirts out strongly when battery voltage is applied to terminals 1 and 2.

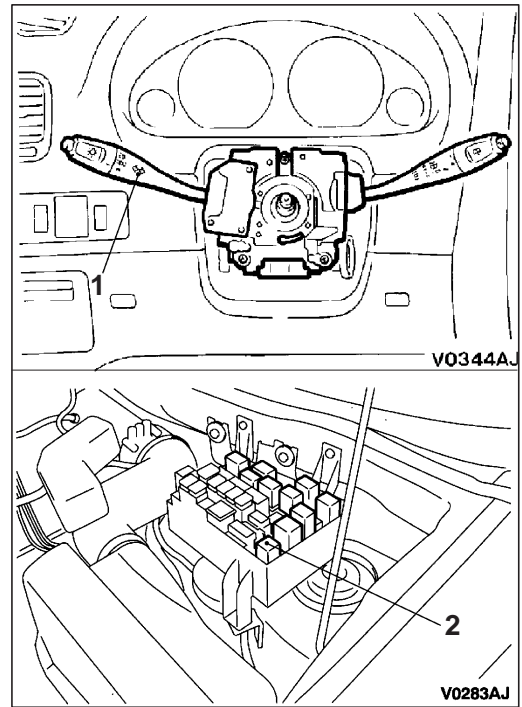
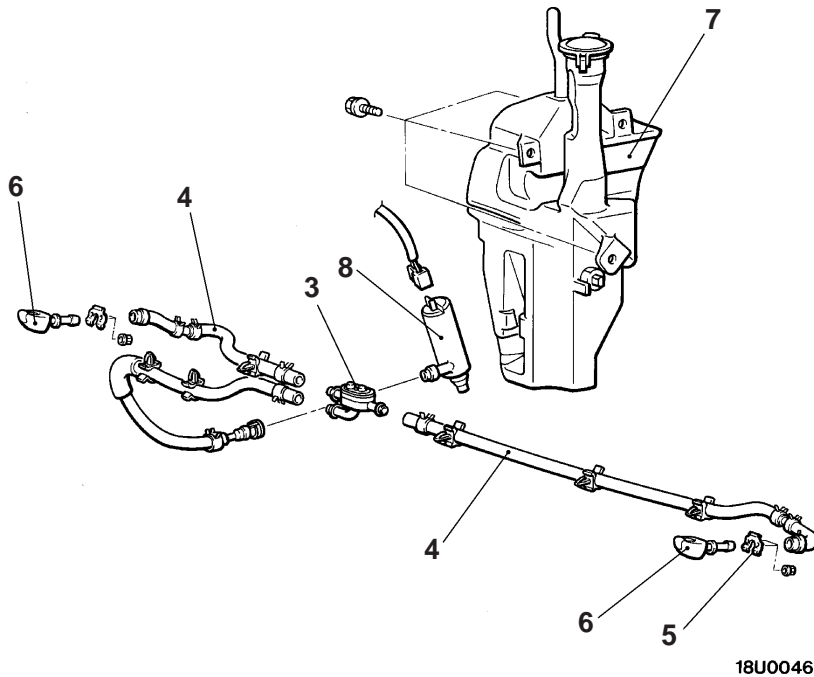


HEADLAMP WASHER

51100970121

REMOVAL AND INSTALLATION**CAUTION: SRS**

Before removal of air bag module and clock spring, refer to **GROUP 52B – SRS Service Precautions and Air Bag Module and Clock Spring.**



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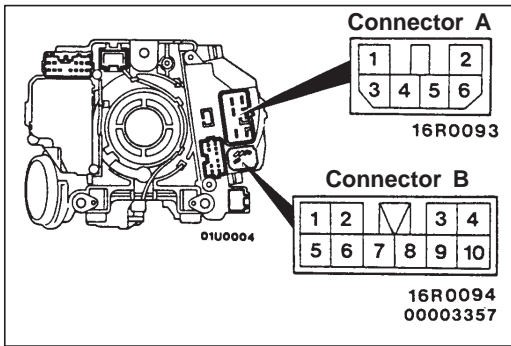
1. Column switch assembly (with built-in headlamp washer switch) (Refer to GROUP 37A – Steering Wheel and Shaft.)
2. Headlamp washer relay

Nozzle and check valve removal steps

- Draining of washer fluid
- Front bumper (Refer to P.51-3.)
- 3. Check valve
- 4. Washer hose assembly
- 5. Bracket
- 6. Nozzle

Washer tank removal steps

- Draining of washer fluid
- Front bumper (Refer to P.51-3.)
- 7. Washer tank assembly
- 8. Headlamp washer motor

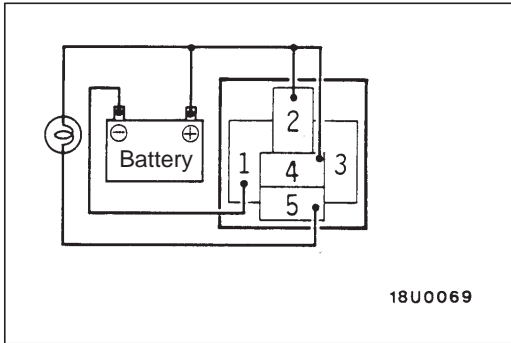


INSPECTION

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HEADLAMP WASHER SWITCH CHECK

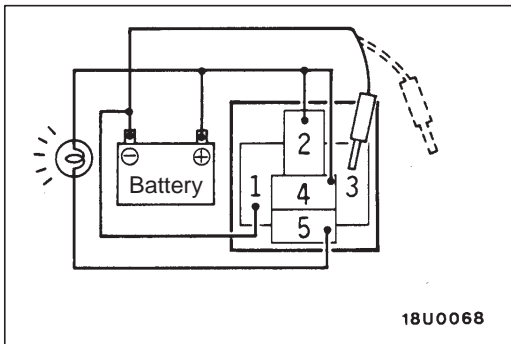
Switch position	Connector A Terminal No. 1	Connector B Terminal No. 3
Washer switch OFF		
ON		



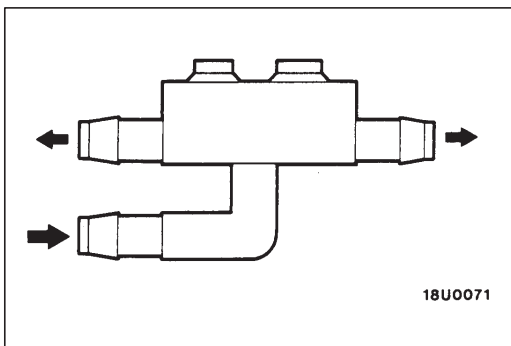
HEADLAMP WASHER RELAY CHECK

51101320017

1. Connect battery and test lamp to the relay as illustrated.



2. The relay is normal if the lamp lights for approximately 0.5 second upon connection of terminal 3) to battery (-).

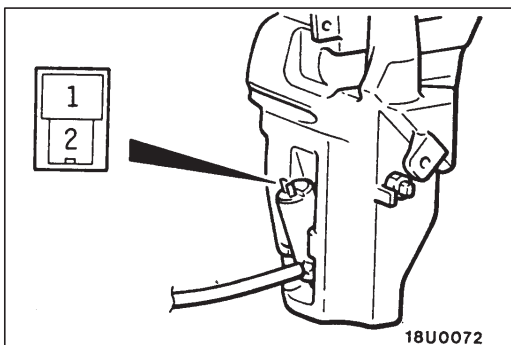


CHECK VALVE CHECK

51101330010

Apply pressure to the inlet of the check valve to check its opening pressure.

Opening pressure: 78 kPa



HEADLAMP WASHER MOTOR CHECK

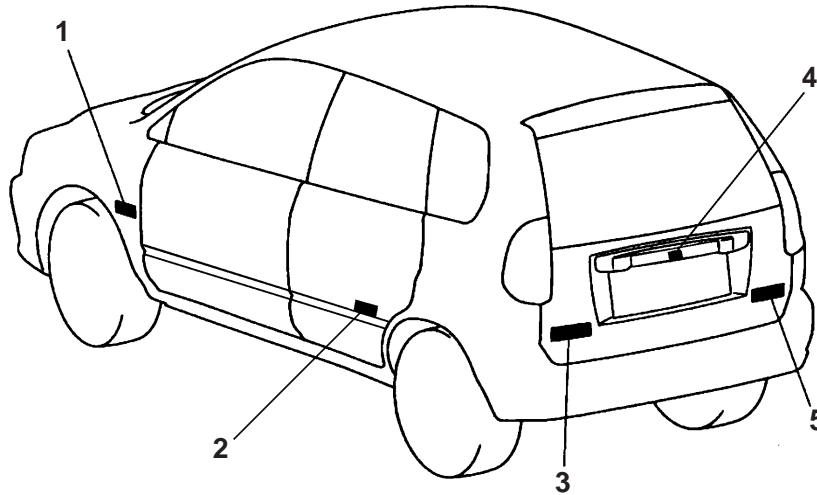
51101340013

1. With the washer motor installed to the washer tank, fill the washer tank with water.
2. Connect battery (+) and (-) cables to terminals 2 and 1 respectively to see that the washer motor runs and water is injected.

MARKS

51101180172

REMOVAL AND INSTALLATION



AV0348AJ

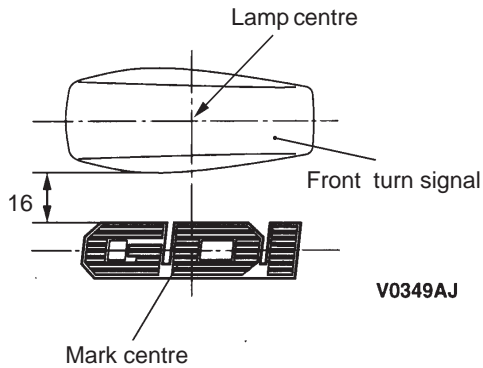
- ▶◀ 1. GDI mark
- ▶◀ 2. GRADE mark
- ▶◀ 3. GDI mark

- ▶◀ 4. Three dia. mark
- ▶◀ 5. SPACE STAR mark

INSTALLATION SERVICE POINT

▶◀ **MARK INSTALLATION**

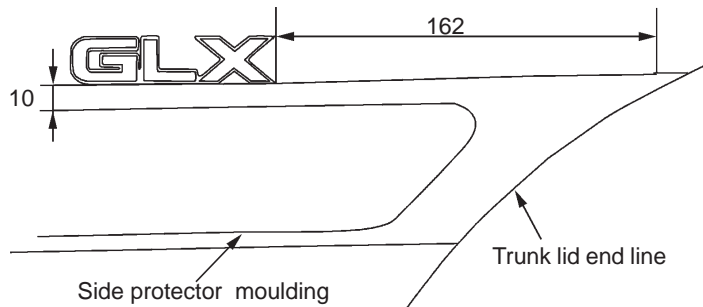
GDI MARK



V0349AJ

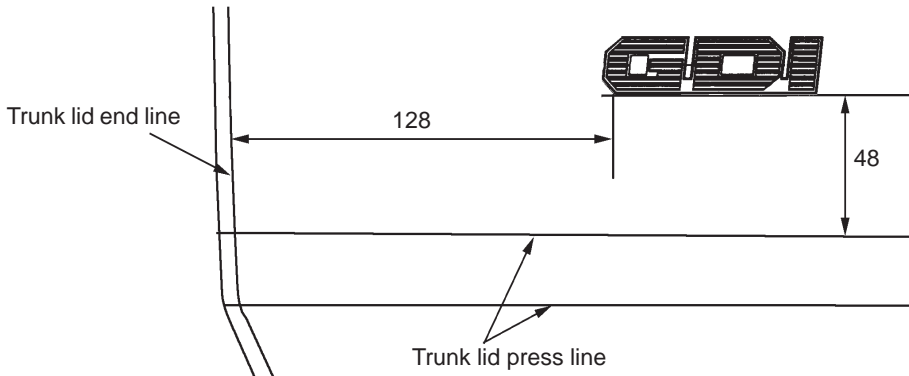
GRADE MARK

Unit: mm



W0296AJ

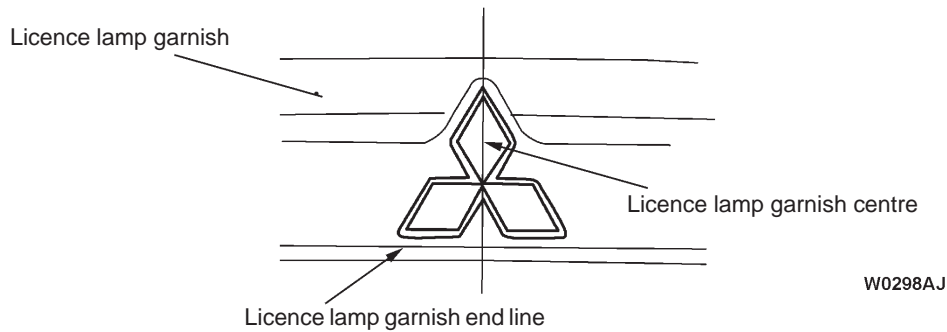
GDI MARK



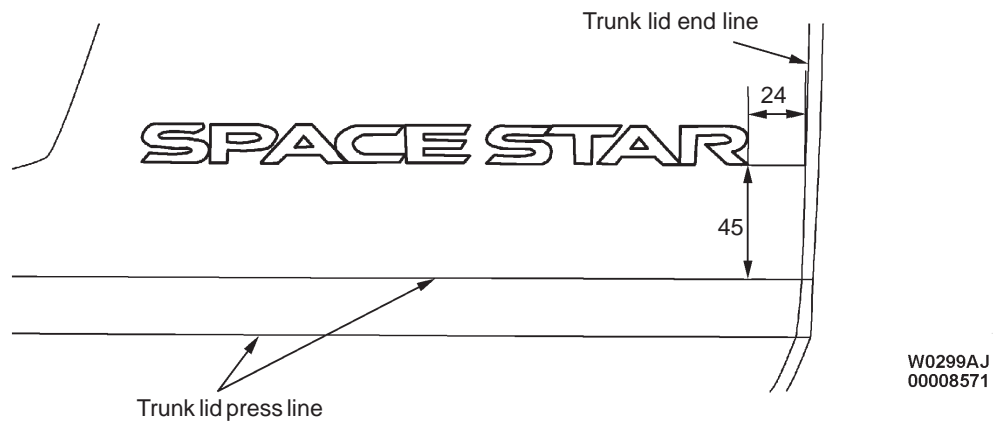
W0297AJ
00008570

Three dia. MARK

Unit: mm



SPACE STAR MARK



1. Clean the mark installation surfaces on the body with unleaded petrol.
2. Peel off the backing paper from the reverse side of the marks, and then attach the marks to the vehicle body so that they fit properly into position.

Caution

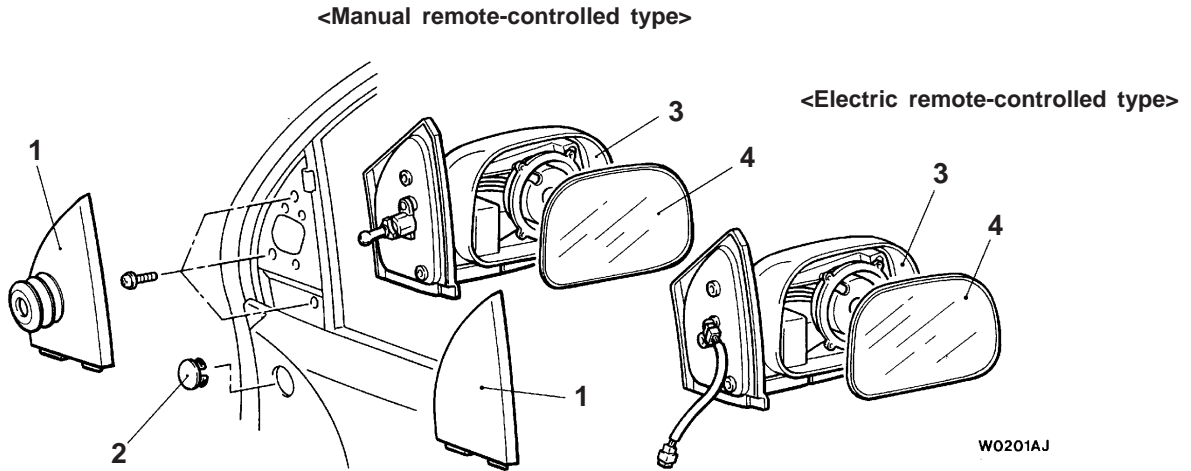
When attaching the marks, the surrounding temperature should be 20 – 38°C and the air should be completely free from dust.

If the surrounding temperature is lower than 20°C, the marks and the places on the body where the marks are to be attached should be heated to 20 – 38°C.

DOOR MIRROR

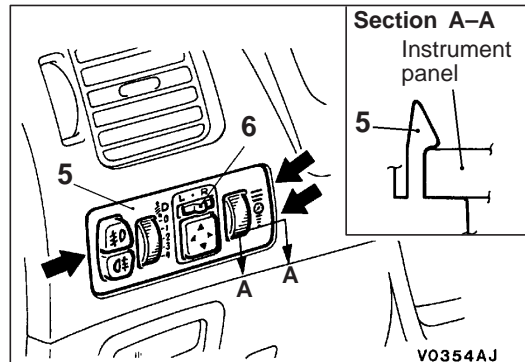
51100670038

REMOVAL SERVICE POINT



W0201AJ

NOTE
 ← : Clip positions



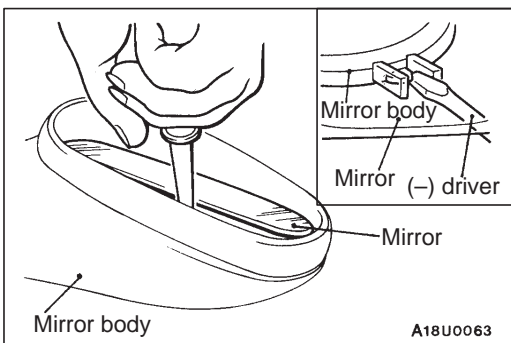
V0354AJ
 00008959

Door mirror removal steps

1. Delta cover, inner
2. Cap
3. Door mirror
4. Mirror

Door mirror control switch removal steps

5. Instrument panel switch assembly
6. Door mirror control switch

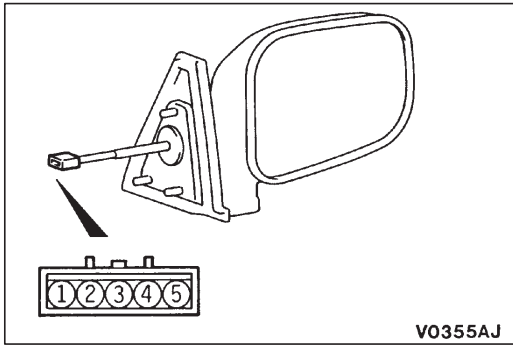


A18U0063

REMOVAL SERVICE POINT

◀A▶ MIRROR REMOVAL

Turn the mirror by hand so that it faces upwards, insert the (-) driver wound with masking tape into the notched section, and lever out the mirror to remove it.



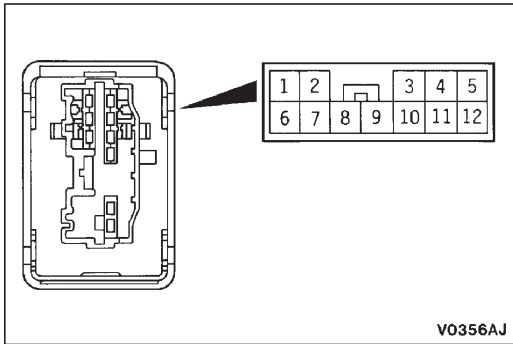
INSPECTION

51100650148

REMOTE CONTROL MIRROR ASSEMBLY CHECK

1. Check to be sure that the mirror moves as described in the table when each terminal is connected to the battery.
2. Check if there is continuity between terminals 1 and 2.

Battery connection terminal					Direction of operation
1	2	3	4	5	
⊕		⊖	Printed heating wire		UP
⊖		⊕			DOWN
	⊕	⊖			RIGHT
	⊖	⊕			LEFT



DOOR MIRROR CONTROL SWITCH CONTINUITY CHECK

51101350092

Switch position		Terminal No.									
		3	4	5	6	7	9	10	11	12	
Left side	UP	○—○		○						○	
	DOWN	○	○							○	
	RIGHT	○—○								○—○	
	LEFT	○	○							○	○
Right side	UP	○—○							○—○		
	DOWN	○	○							○	
	RIGHT	○—○						○—○			
	LEFT	○	○							○	

SWITCH AND RELAY OF DOOR MIRROR PRINTED HEATING WIRE CHECK

51101360019

The printed heating wire of the door mirror operates in conjunction with the rear window defogger. The switch and relay are used for the rear window defogger also, so refer to GROUP 54 for inspection service points.

GROUP 51 EXTERIOR

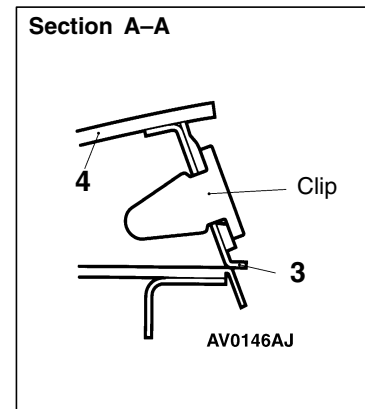
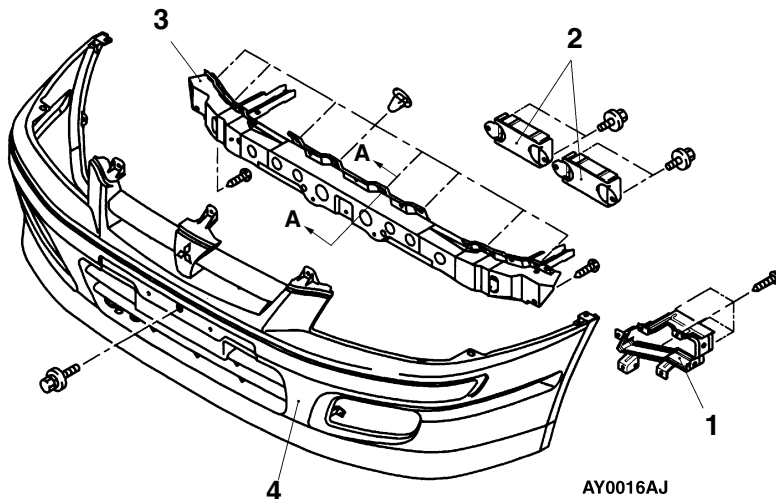
GENERAL

OUTLINE OF CHANGES

- Service adjustment procedures have been changed to correspond to the addition of a dynamic damper to the front bumper structural parts. <Diesel vehicles>
- Service adjustment procedures have been changed to correspond to changes to the side protector mouldings.
- Service adjustment procedures have been changed to correspond to the addition of a DI-D mark and changes to the application position for the GDI mark.

FRONT BUMPER <FOR DIESEL>

DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Front fog lamp bracket assembly
2. Dynamic damper

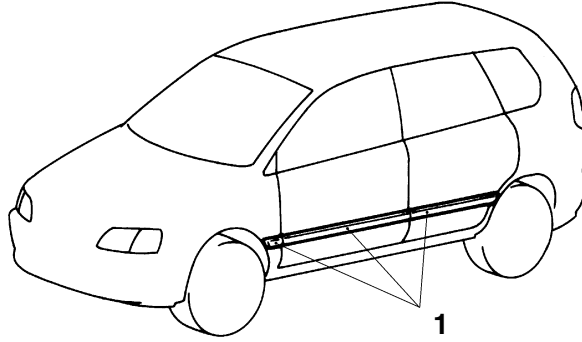
3. Bumper reinforcement
4. Bumper face

MOULDING

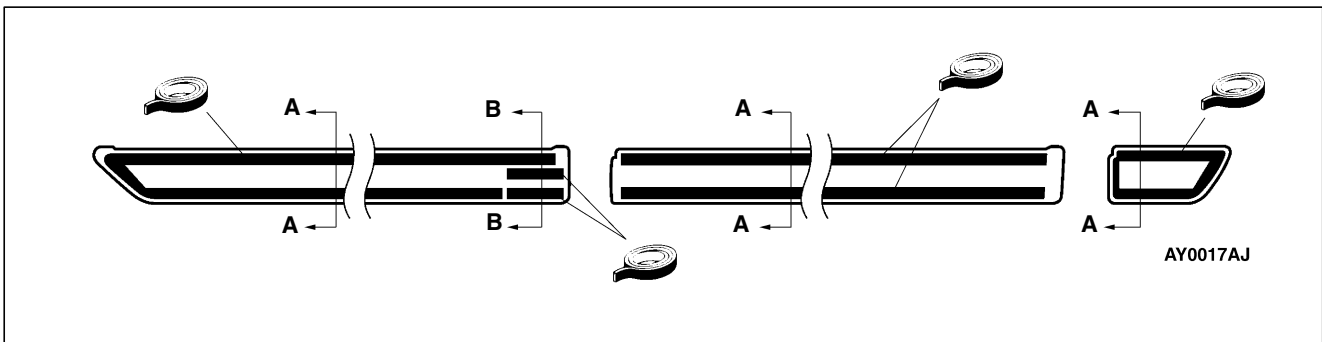
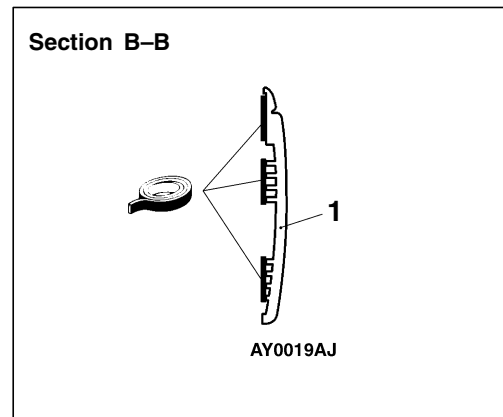
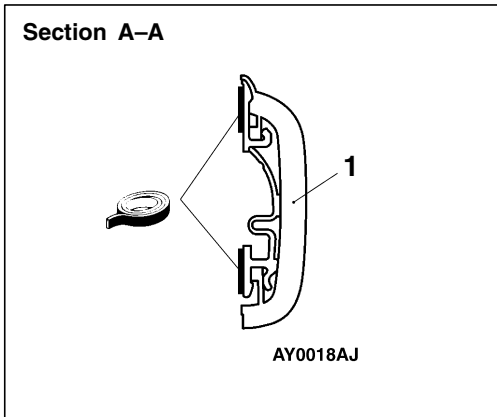
SEALANT AND ADHESIVE

Items	Specified sealant and adhesive
Side protect moulding to body panel	Adhesive tape: 3M ATD part No. 6382 or equivalent [12 mm wide and 0.8 mm thick]
	Primer: 3M ATD part No.8608 Super Fast Urethane Primer or equivalent and 3M ATD part No. 8609 Super Fast Urethane Primer or equivalent

REMOVAL AND INSTALLATION



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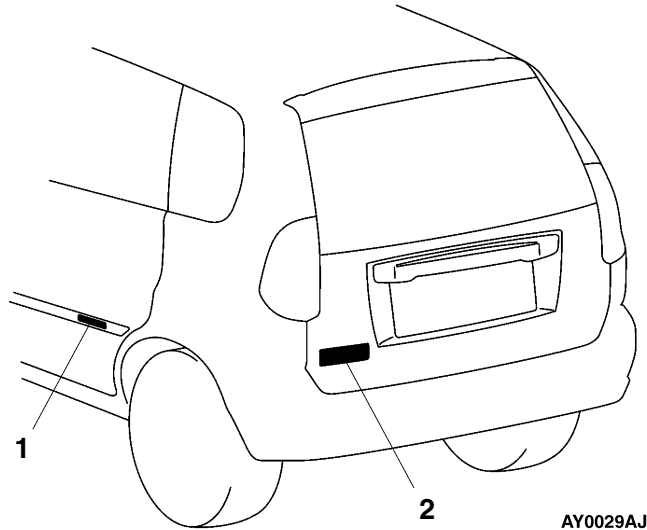
Adhesive tape: double-sided tape [12 mm wide and 0.8 mm thick]

◀A▶ ▶A◀ 1. Side protector moulding

NOTE
For service point, refer to Basic Manual.

MARKS

REMOVAL AND INSTALLATION



▶A◀ 1. GRADE mark

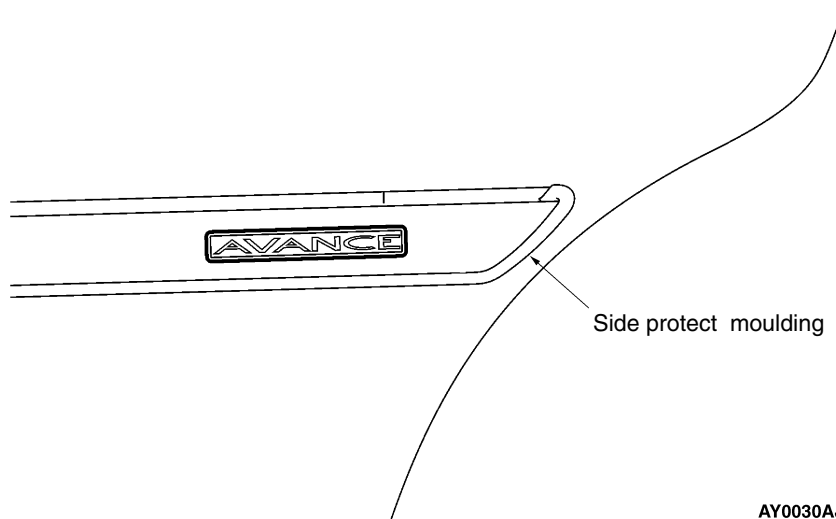
▶A◀ 2. GDI or DI-D mark

INSTALLATION SERVICE POINT

▶A◀ MARK INSTALLATION

(1) GRADE MARK

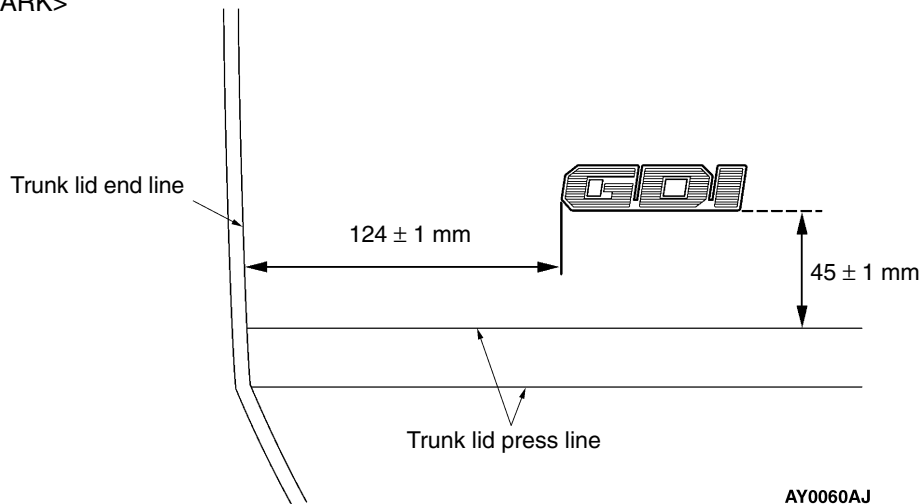
<COMFORT, SPORT, ADVANCE, FAMILY>



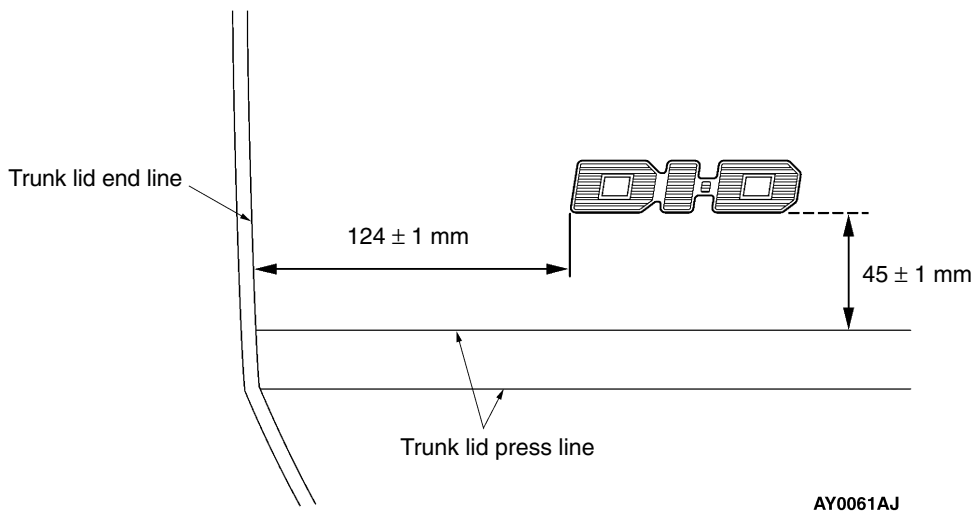
AY0030AJ

(2) GDI OR DI-D MARK

<GDI MARK>



<DI-D MARK>



1. Clean the mark installation surfaces on the body with unleaded petrol.
2. Peel off the backing paper from the reverse side of the marks, and then attach the marks to the vehicle body so that they fit properly into position.

Caution

When attaching the marks, the surrounding temperature should be 20 – 38°C and the air should be completely free from dust.

If the surrounding temperature is lower than 20°C, the marks and the places on the body where the marks are to be attached should be heated to 20 – 38°C.

GROUP 51

EXTERIOR

GENERAL

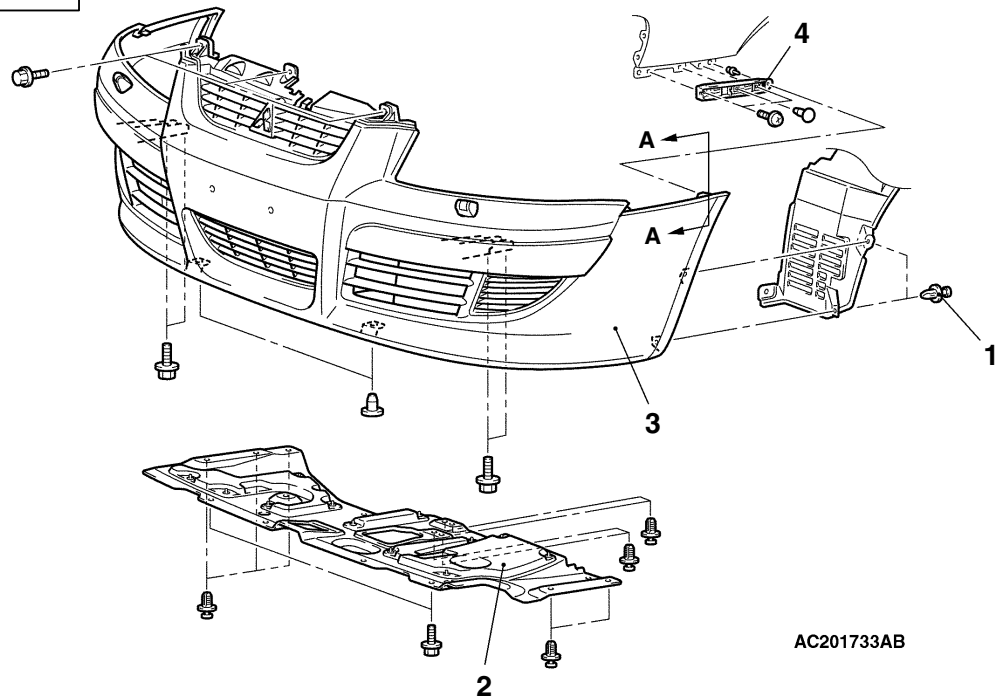
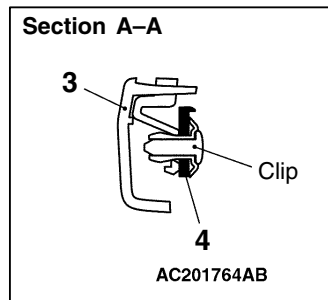
OUTLINE OF CHANGES

The service procedures have been established due to the following changes and adoption. The other service procedures are the same as before.

- The shape of the front bumper has been revised.
- The shape of the headlamp washer has been revised.
- A heated door mirror controlled by the A/C-ECU has been adopted.

FRONT BUMPER

REMOVAL AND INSTALLATION



Removal steps

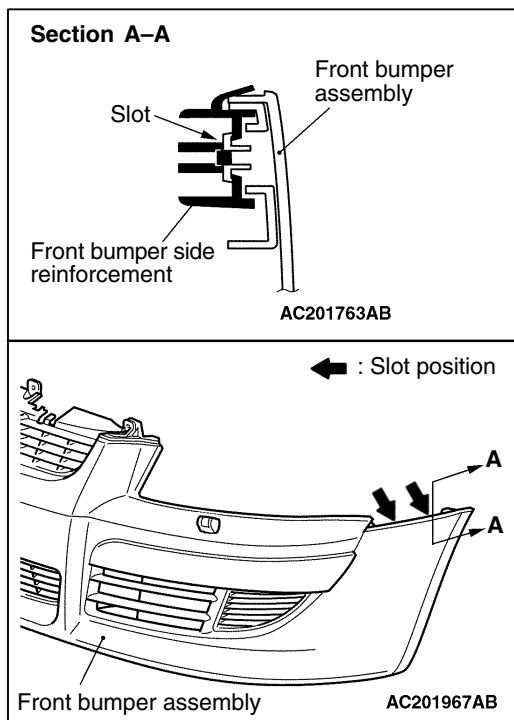
- Draining of washer fluid
- 1. Splash shield connecting clip
- 2. Front under cover
- Front fog lamp connector connection



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

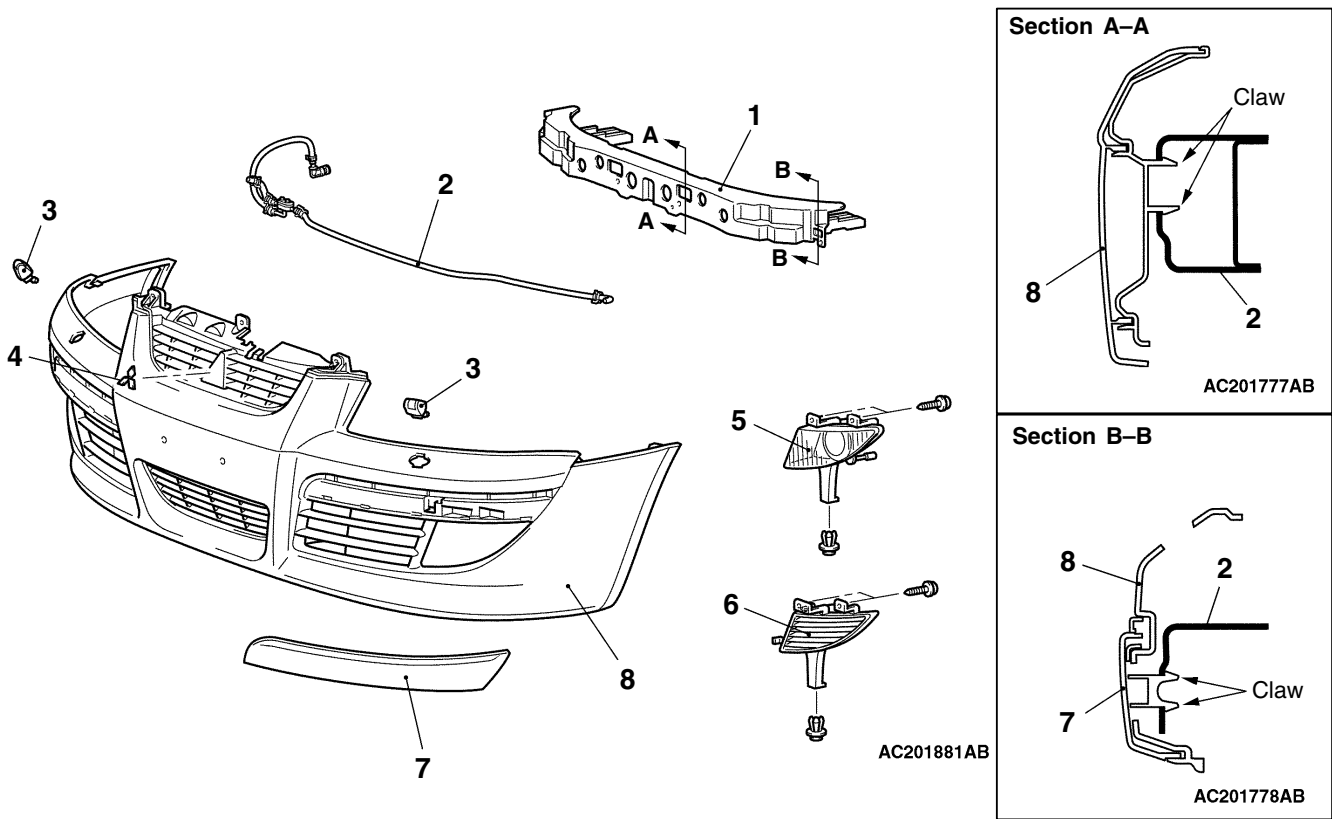
REMOVAL SERVICE POINT**◀A▶ FRONT BUMPER ASSEMBLY REMOVAL**

Remove the connecting clips and bolts and then slide out the front bumper assembly towards the front of the vehicle.

**INSTALLATION SERVICE POINT****▶A◀ FRONT BUMPER ASSEMBLY INSTALLATION**

Engage the front bumper assembly with the slot of the front bumper side reinforcement, and slide in the assembly securely towards the rear of the vehicle.

DISASSEMBLY AND REASSEMBLY

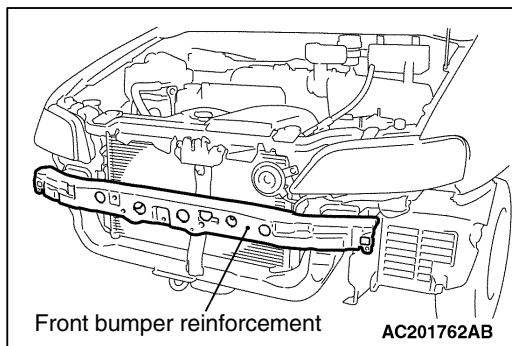


Disassembly steps



1. Front bumper reinforcement
2. Headlamp washer hose assembly
3. Headlamp washer nozzle
4. Three diamonds mark
5. Front fog lamp

6. Front fog lamp cover (Vehicles without front fog lamp)
7. Corner garnish
8. Front bumper face



INSTALLATION SERVICE POINT

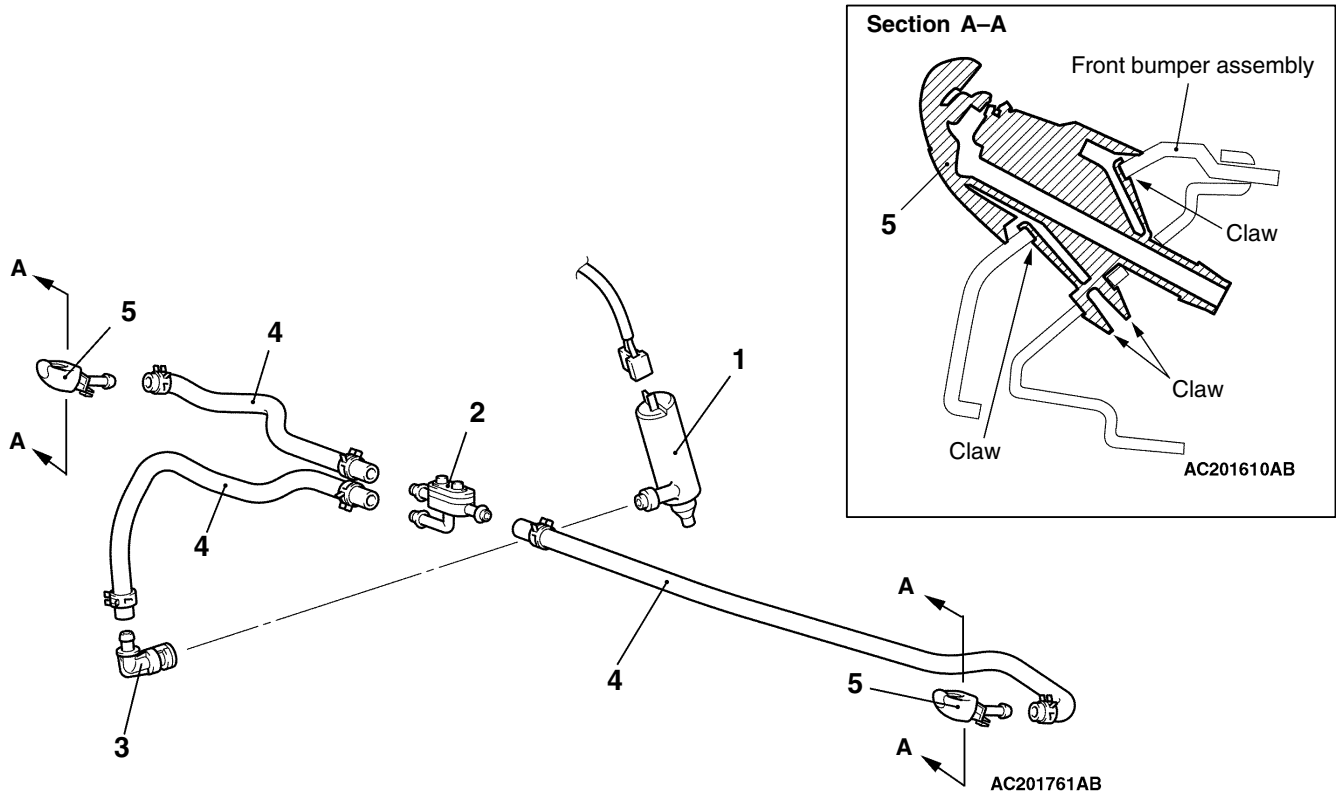
▶A◀ FRONT BUMPER REINFORCEMENT INSTALLATION

Install the front bumper reinforcement to the body.

NOTE

The front bumper reinforcement should be installed to the body first in order to facilitate the installation of the front bumper assembly.

HEADLAMP WASHER REMOVAL AND INSTALLATION



Nozzle and check valve removal steps

- Draining of washer fluid
 - Front bumper assembly (Refer to P.51-1.)
1. Headlamp washer motor

2. Check valve
3. Socket
4. Washer hose assembly
5. Nozzle

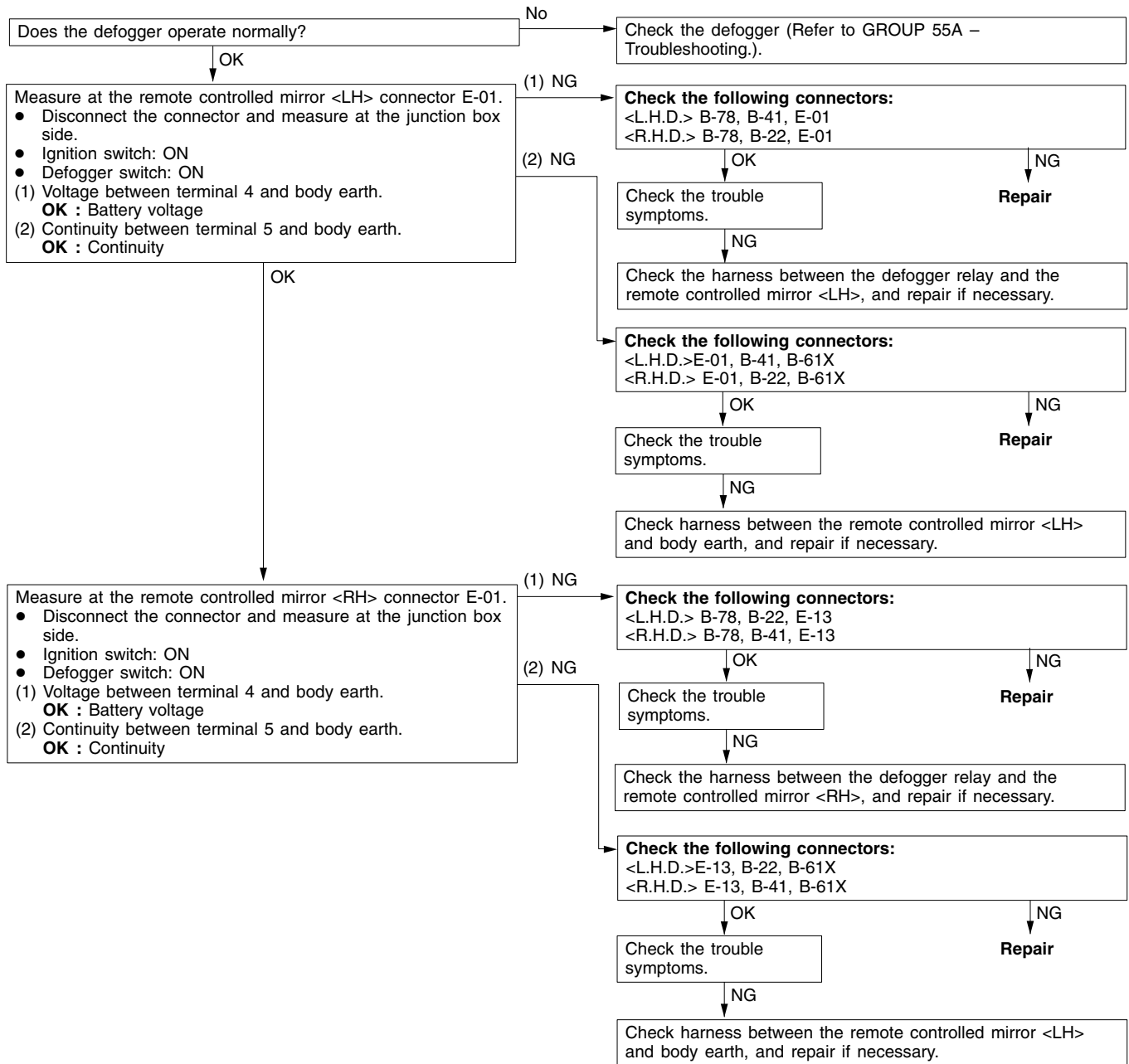
DOOR MIRROR TROUBLESHOOTING

INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptom	Inspection procedure	Reference page
The heated door mirrors do not work at all.	1	51-5
The timer function of the heated door mirrors does not work at all.	2	51-5

Inspection procedure 1

The heated door mirrors do not work at all.	Probable cause
The defogger circuit may be defective if the heated door mirrors do not work at all.	<ul style="list-style-type: none"> Remote-controlled mirror Harness or connector fault A/C-ECU fault



Inspection procedure 2

The timer function of the heated door mirrors does not work at all.	Probable cause
The defogger timer function may be faulty if the heated door mirrors are not deactivated in approx. 11 minutes after the defogger switch is turned on.	<ul style="list-style-type: none"> A/C-ECU fault

Replace the heater controller assembly (A/C-ECU).

NOTES