

# EXTERIOR

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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) If it is possible that the SRS components are subjected to heat over 93°C in baking or drying after painting, remove the SRS components (air bag module and SRS-ECU) beforehand.
- (3) Service or maintenance of any SRS component or SRS-related component must be performed only at an authorised MITSUBISHI dealer.
- (4) 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

Section titles with the asterisk (\*) in the table of contents in each group indicate operations requiring warnings.



**SERVICE SPECIFICATION**

Item	Standard value
Windshield wiper blade installation position mm	65–80 (driver) 20–35 (passenger)

**SEALANT AND ADHESIVE**

Items	Specified sealant and adhesive
Side sill splash protector	3M ATD Part No. 5357 or equivalent
Side protector moulding	3M ATD Part No. 4213 or equivalent
Side air dam	3M ATD Part No. 5356 or equivalent

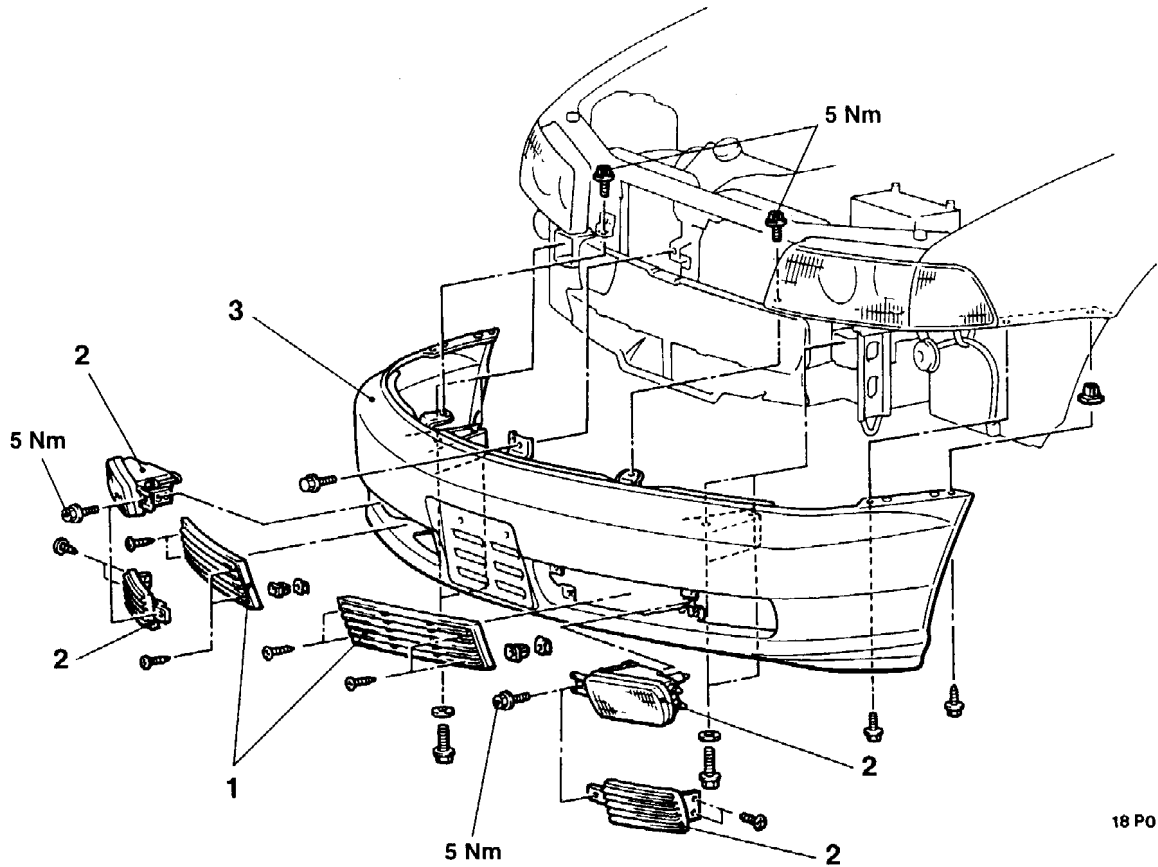
**SPECIAL TOOLS**

Tool	Number	Name	Use
	MB990784	Ornament remover	Removal of door mirror control switch
	MB990449	Window moulding remover	Removal of roof drip moulding, etc.

# FRONT BUMPER

## REMOVAL AND INSTALLATION

- Pre-removal and Post-installation Operation**
- Undercover panel Removal and Installation
  - Splash shield Removal and Installation
  - Radiator grille Removal and Installation (Refer to P.51-7)



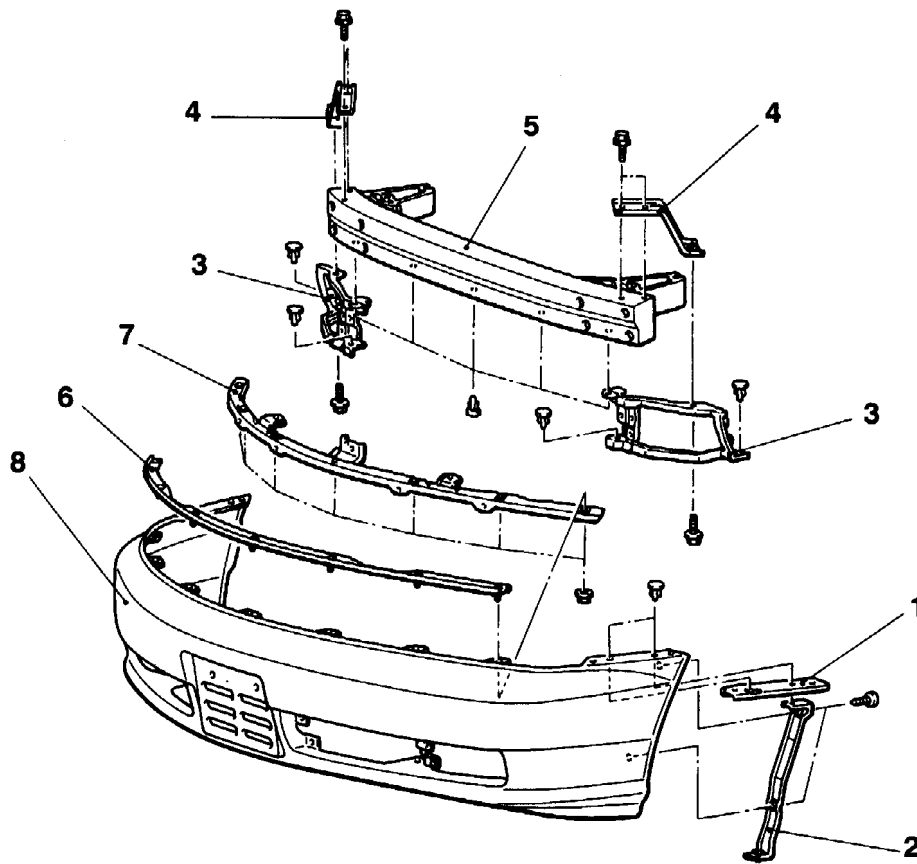
18 P0110

**Removal steps**

1. Under grille
2. Fog lamp or fog lamp cover

3. Bumper assembly

## DISASSEMBLY AND REASSEMBLY



18P0107

**Disassembly steps**

1. Upper side plate
2. Rear side plate
3. Lower reinforcement
4. Reinforcement extension

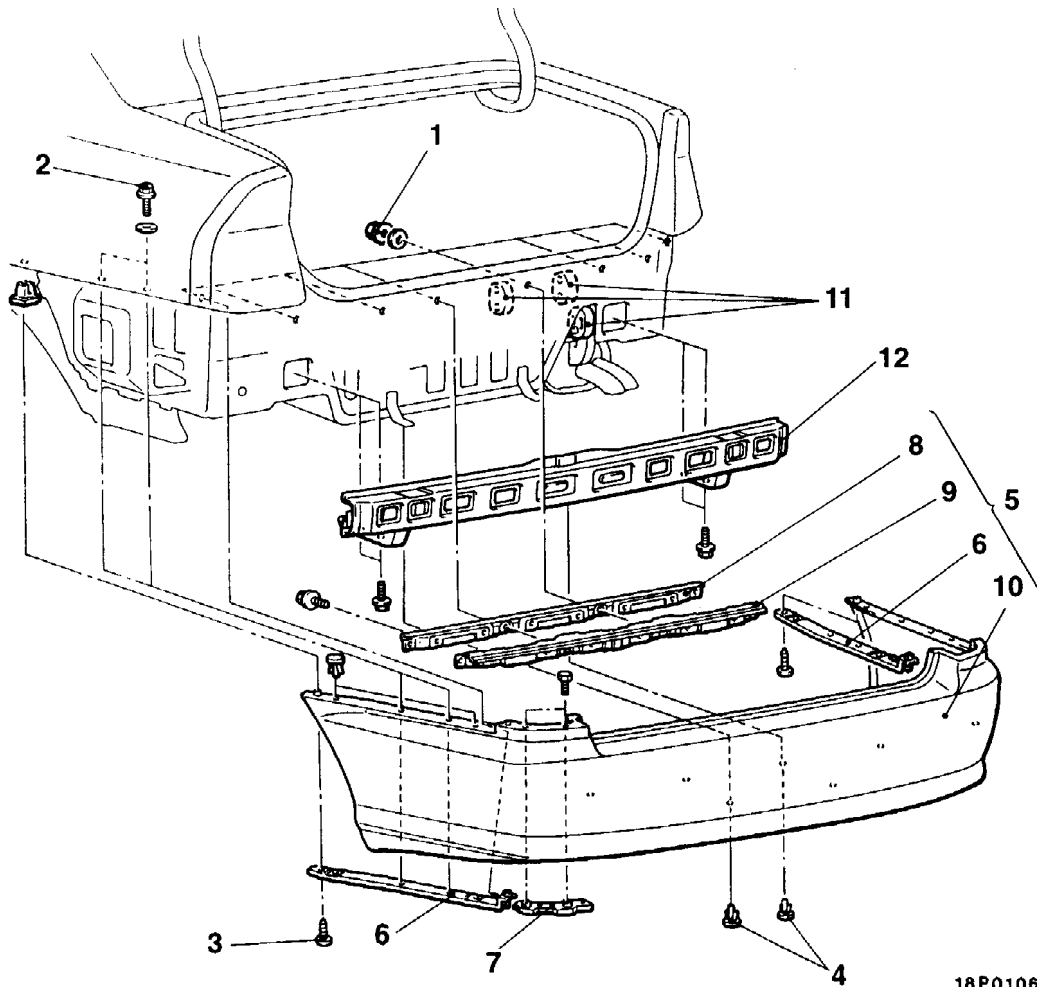
5. Bumper reinforcement
6. Upper plate
7. Upper support
8. Bumper face

## REAR BUMPER

### REMOVAL AND INSTALLATION

#### Pre-removal and Post-installation Operation

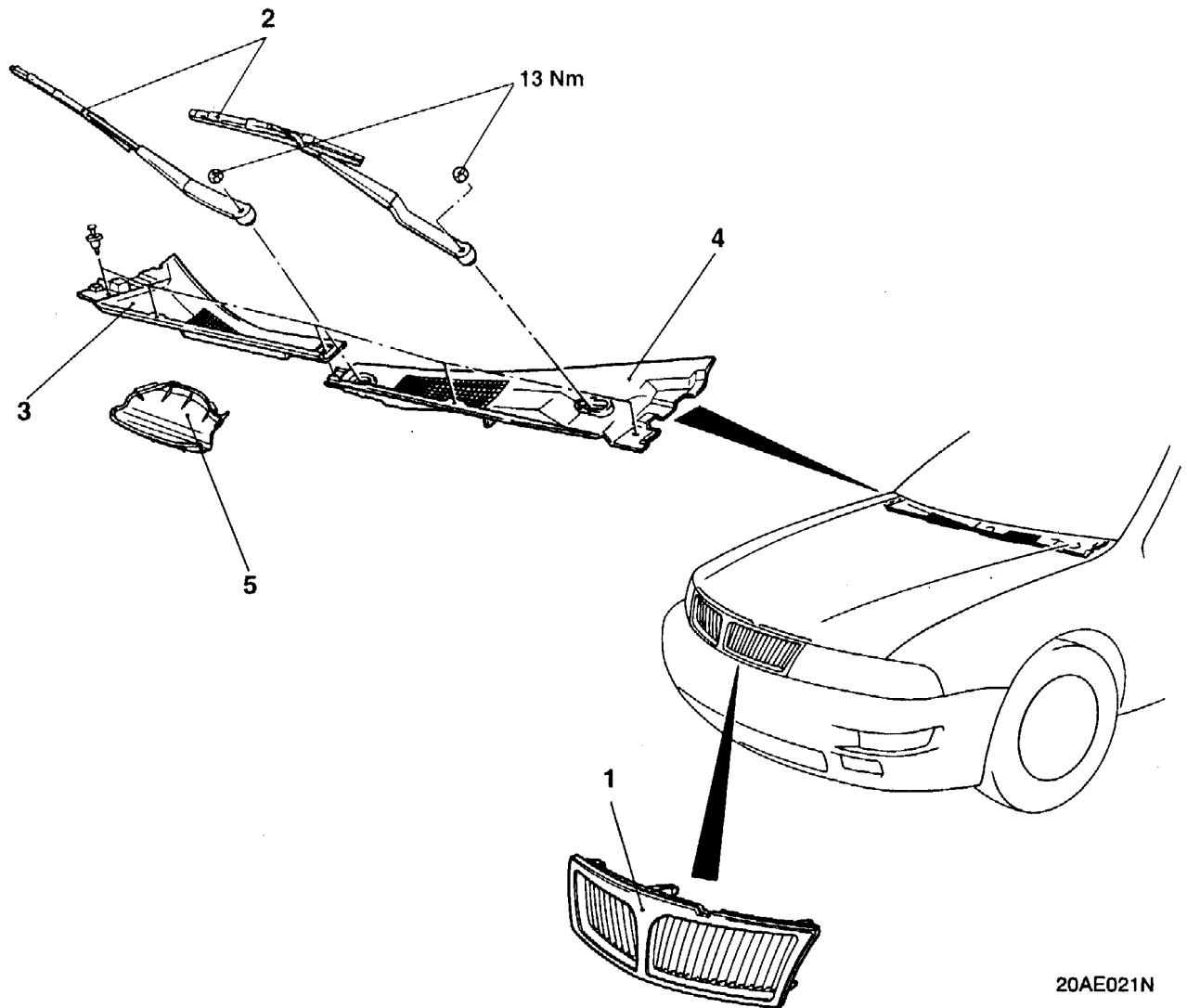
- Trunk rear trim cover, trunk rear centre trim and trunk rear side trim Removal and Installation (Refer to Group 52A)
- Splash shield Removal and Installation



18P0106

#### Removal steps

- |                         |                                    |
|-------------------------|------------------------------------|
| 1. Nut                  | 7. Side support                    |
| 2. Bolt                 | 8. Upper centre plate              |
| 3. Screw                | 9. Upper support                   |
| 4. Clip                 | 10. Bumper face                    |
| 5. Bumper face assembly | 11. Main muffler hanger connection |
| 6. Side reinforcement   | 12. Bumper reinforcement           |

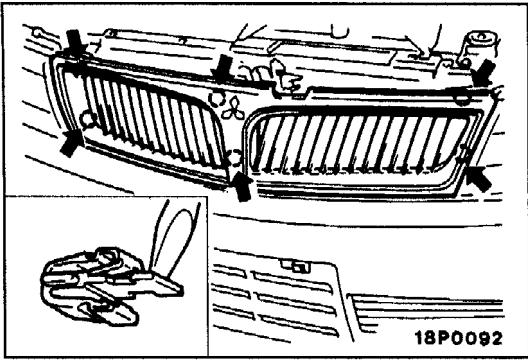
**GRILLES AND GARNISHES****REMOVAL AND INSTALLATION****Radiator grille removal**

1. Radiator grille

**Air inlet grille removal steps**

2. Wiper arm assembly
3. Front deck garnish (R.H.)
4. Front deck garnish (L.H.)
5. Air intake garnish

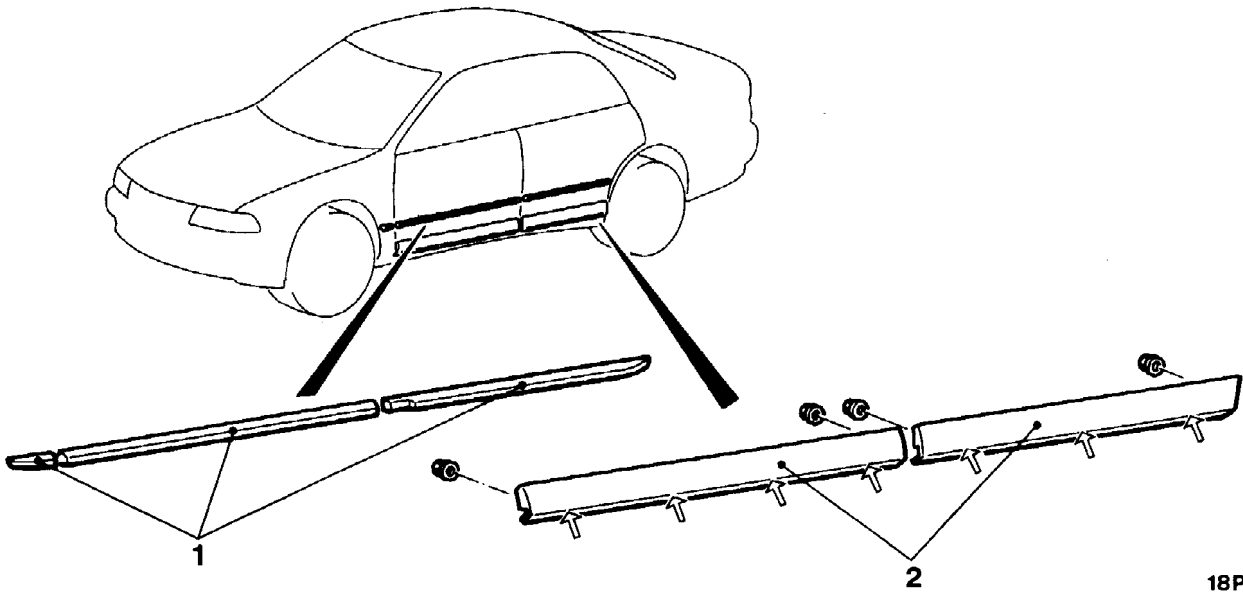


**REMOVAL SERVICE POINT****◀A▶ RADIATOR GRILLE REMOVAL**

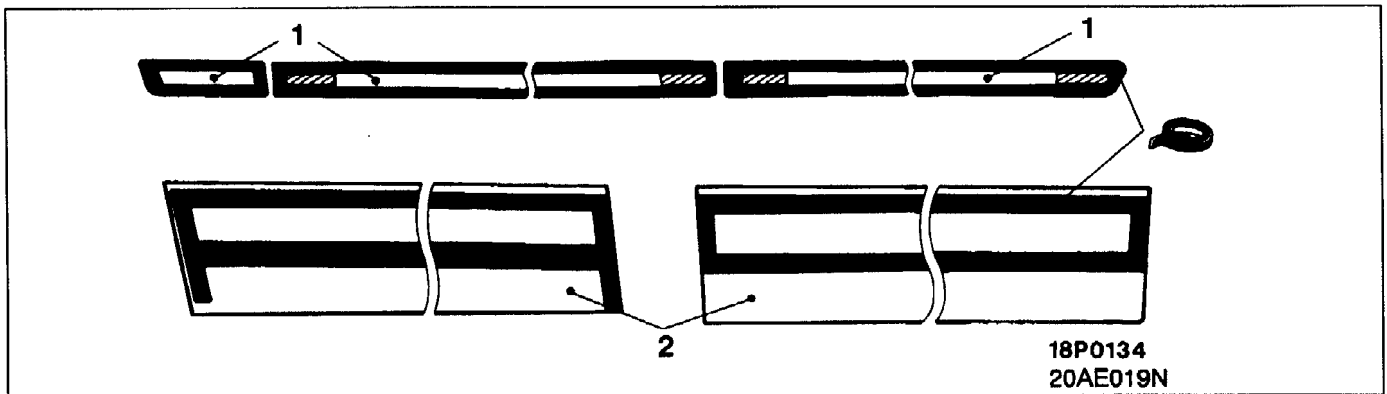
While gently pulling the radiator grille towards you, use a flat-bladed screwdriver to push the clip catches in the direction indicated by the arrows.

**MOULDINGS**

**REMOVAL AND INSTALLATION**



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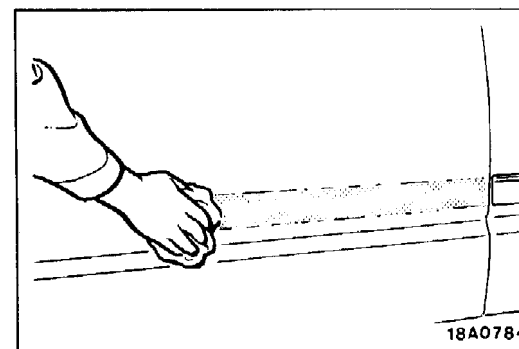
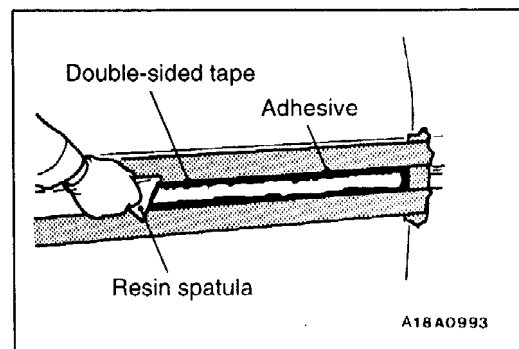
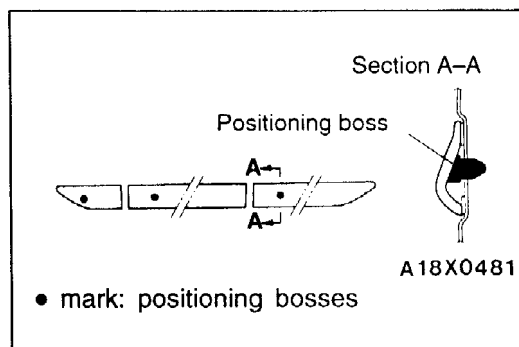
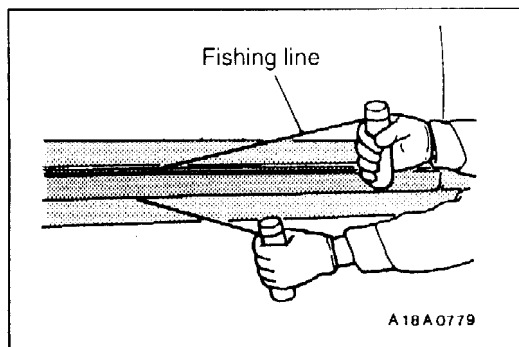
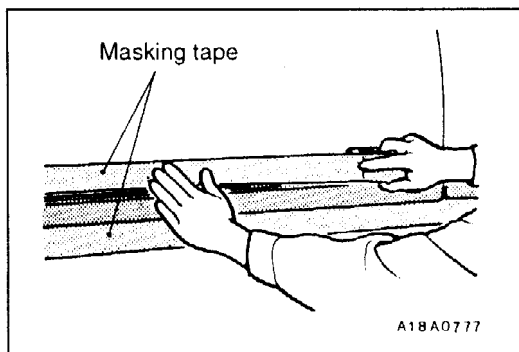


**Adhesive tape:**

- Side sill splash protector: 3M Part No. 5357 or equivalent  
8 mm wide and 1.2 mm thick
  - Side protector moulding: 3M Part No. 4213 or equivalent 5 mm wide and 0.8 mm thick
- Primer:** 3M Part No. K500 or equivalent polypropylene primer

- ◀A▶ ▶A▶ 1. Side protector moulding
- ◀A▶ ▶A▶ 2. Side sill splash protector





**REMOVAL SERVICE POINT**

**◀A▶ SIDE PROTECTOR MOULDING/SIDE SILL  
SPLASH PROTECTOR REMOVAL**

1. Apply masking tape along the outside edges(s) of the moulding.

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.

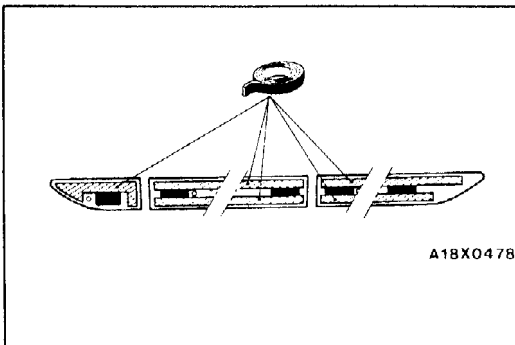
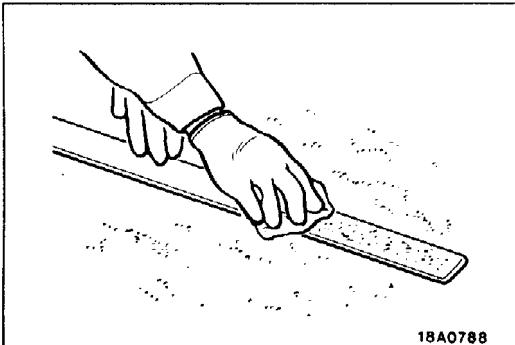
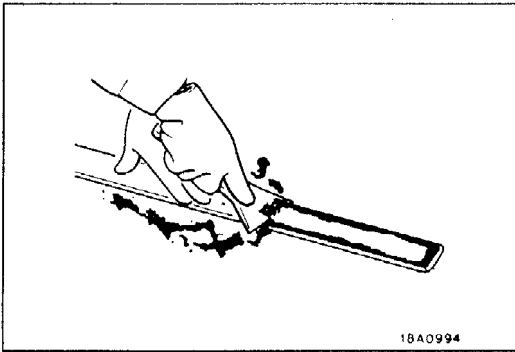
**Caution**

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.

3. Pull the section of the side protector moulding with the positioning bosses towards you to remove the bosses from the mounting holes.

4. Scrape off the double-sided tape with a resin spatula.
5. Pull off the masking tape.
6. Scrape off a small amount of the adhesive with a cutter knife.

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



## INSTALLATION SERVICE POINT

### ▶A◀ SIDE PROTECTOR MOULDING/SIDE SILL SPLASH PROTECTOR INSTALLATION

#### Affixing double-sided tape to the mouldings (when re-using 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. Apply the specified primer to the area where the double-sided tape is to be attached and allow to dry thoroughly.

**Specified primer: 3M Part No. K500 or equivalent polypropylene primer**

4. Heat the adhesive surface of the double-sided tape on the side protector moulding to about 40–60°C.
5. Affix the specified double-sided tape to the moulding.

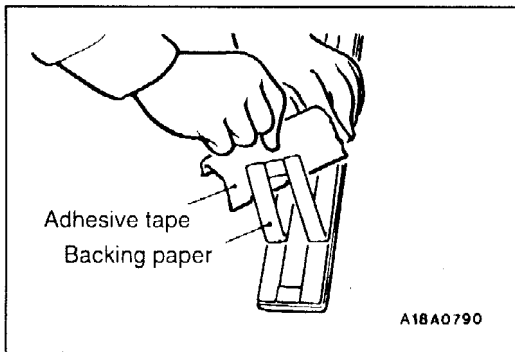
#### **Specified adhesive tape:**

##### **Side protector moulding:**

**3M ATD Part No. 5357 or equivalent  
8 mm wide and 1.2 mm thick**

##### **Side sill splash protector**

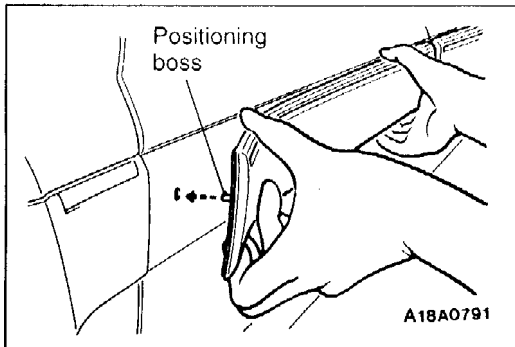
**3M ATD Part No. 4213 or equivalent  
5 mm wide and 0.8 mm thick**

**MOULDING INSTALLATION**

1. Tear off the double-sided tape backing paper.

**NOTE**

If you attach adhesive tape to the edge of the backing paper, it will be easy to tear off.



2. Install the side protector moulding so that the positioning bosses match the body holes.

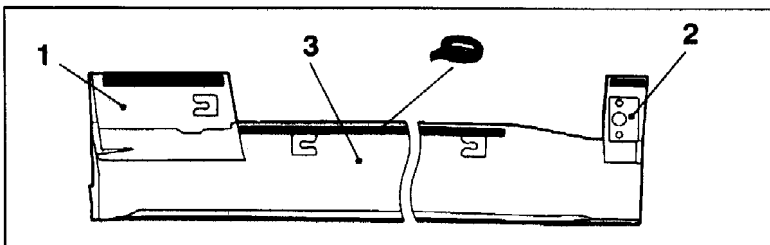
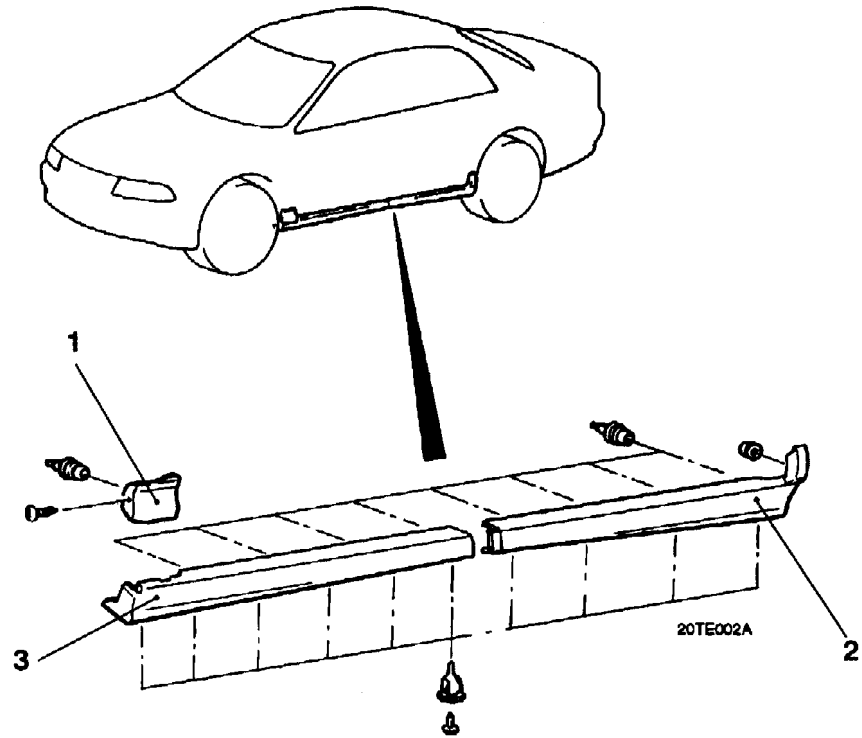
**NOTE**

If the double-sided tape is difficult to affix during winter, etc., warm the bonding surfaces of the body and the side protector moulding to about 40–60°C before affixing the tape.

3. Firmly press in the side protector moulding.

**AERO PARTS**

**REMOVAL AND INSTALLATION**



**Adhesive tape:** 3M ATD Part No. 5356 or equivalent 4.0 mm wide and 1.6 mm thick  
**Primer:** 3M Part No. K500 or equivalent polypropylene primer

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**Removal steps**



1. Front side air dam
2. Rear side air dam
3. Lower side air dam



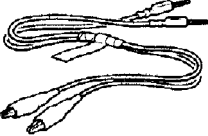
**REMOVAL SERVICE POINTS****◀A▶ FRONT SIDE AIR DAM/REAR SIDE AIR  
DAM/LOWER SIDE AIR DAM REMOVAL**

Remove by following the procedure described for the side protector moulding and side sill splash protector. Refer to P.51-9.

**INSTALLATION SERVICE POINTS****▶A◀ FRONT SIDE AIR DAM/REAR SIDE AIR  
DAM/LOWER SIDE AIR DAM INSTALLATION**

Install by following the procedure described for the side protector moulding and side sill splash protector. Refer to P.51-10.

**WINDSHIELD WIPER AND WASHER****SPECIAL TOOLS**

Tool	Number	Name	Use
	MB991502	MUT-II	Simplified Wiring System (SWS) diagnostic checking
		ROM pack	
	MB991529	Diagnostic trouble code check harness	Simplified Wiring System (SWS) diagnostic checking (when using a voltmeter)

**TROUBLESHOOTING****STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING**

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.

**DIAGNOSIS FUNCTION****DIAGNOSIS CODE FUNCTION**

Read a diagnosis code by the MUT-II or high beam indicator lamp. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.)

**ERASING DIAGNOSIS CODES**

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.

**SWS SIMPLIFIED FAULT DIAGNOSTIC MODE**

The following tests can be performed using the SWS Simplified Fault Diagnosis Mode:

- SWS-ECU specification
- Switch input signals for each ECU
- Diagnosis trouble code output

Refer to Group 54 – SWS for details of the SWS Simplified Fault Diagnosis Mode.

**SWS DIAGNOSIS CODE CLASSIFICATION TABLE**

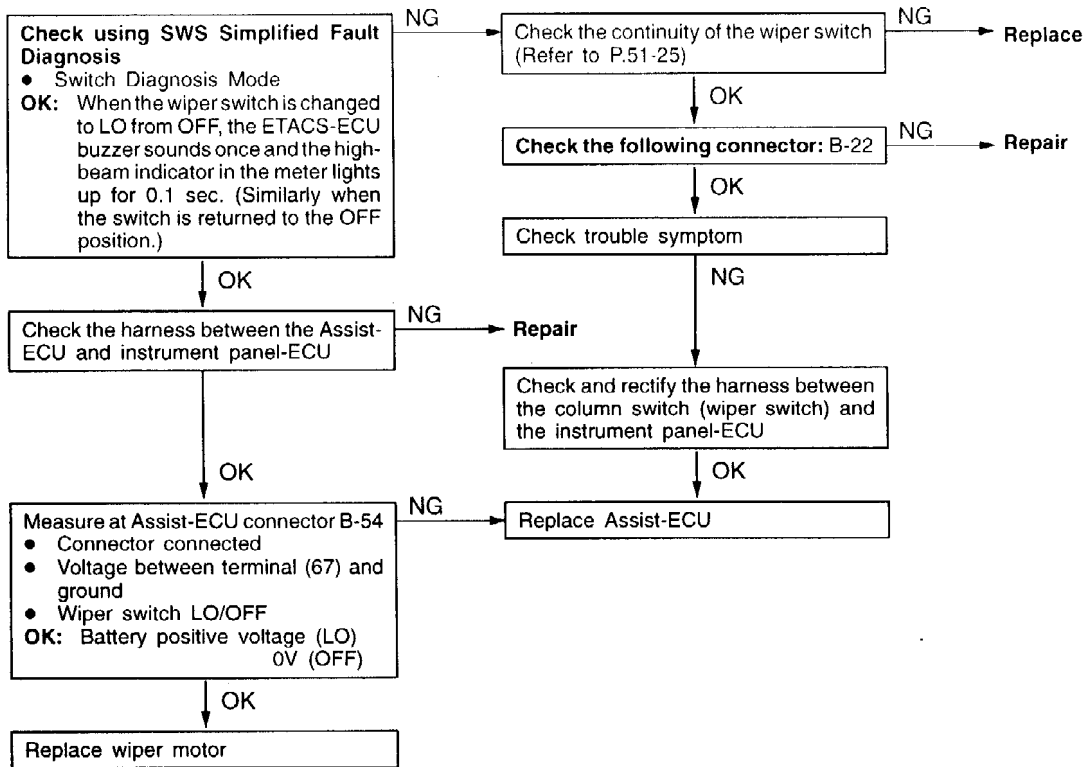
Refer to Group 54–SWS.

**INSPECTION CHART FOR TROUBLE SYMPTOMS**

Trouble symptom	Inspection procedure No.	Reference page
Communication with MUT-II not possible	Refer to Group 54 – SWS	
Switching to SWS Simplified Fault Diagnosis mode not possible		
The wipers do not operate on LO with the wiper switch in the LO position	1	51-16
The wipers operate on LO but not on HI with the wiper switch in the HI position	2	51-17
The wipers do not operate intermittently with the wiper switch in the INT position (wipers operate normally on LO and HI)	3	51-18
The wipers do not stop when the wiper switch is OFF (wiper speed is LO)	4	51-18
The wipers do not operate intermittently but continuously (at LO speed) with the wiper switch set on INT (the wipers stop when switched OFF)	5	51-19
The intermittent wiper speed does not vary when the variable speed switch is changed (vehicle speed is constant)	6	51-20
The intermittent wiper speed does not change when the vehicle speed changes (variable speed setting is constant)		
The washers do not operate when the washer switch is pressed	7	51-21
When the washer switch is pressed the wipers do not operate (washers operate normally)	8	51-22

**INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS**  
**INSPECTION PROCEDURE 1**

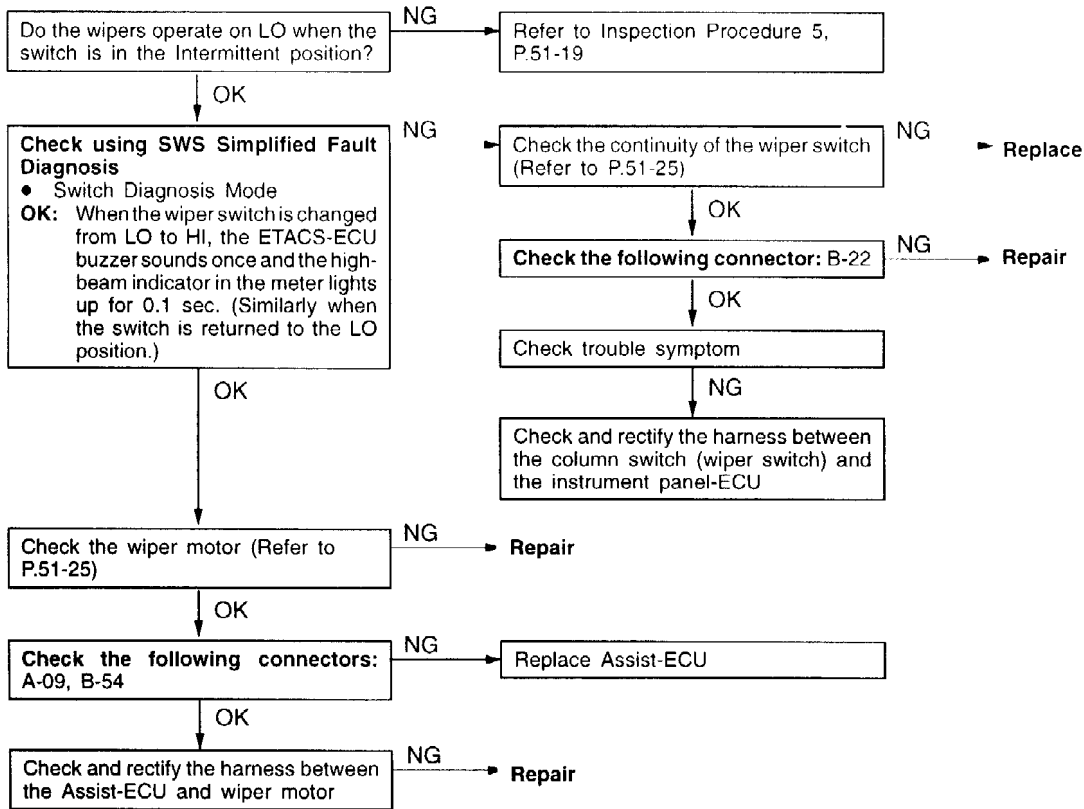
The wipers do not operate on LO with the wiper switch in the LO position	Probable cause
Possible causes include a wiper switch input circuit system fault, a harness or connector fault, or a backup circuit and Assist-ECU breakdown.	<ul style="list-style-type: none"> <li>● Wiper switch malfunction</li> <li>● Harness or connector defective</li> <li>● Wiper motor malfunction</li> <li>● Assist-ECU breakdown</li> </ul>





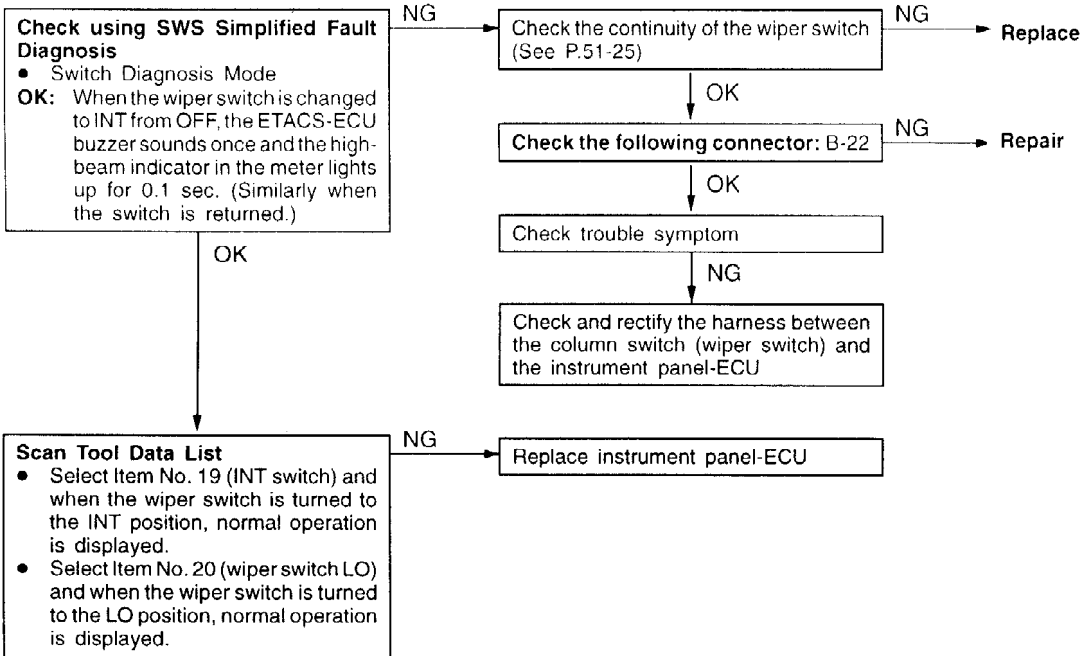
**INSPECTION PROCEDURE 2**

The wipers operate on LO and not on HI with the wiper switch in the HI position	Probable cause
Possible causes include an instrument panel-ECU breakdown, a wiper motor breakdown, a harness or connector fault, or an assist-ECU breakdown. Because the wipers operate on LO, it is possible that the failsafe is operating with the backup circuit.	<ul style="list-style-type: none"> <li>● Wiper switch fault</li> <li>● Harness or connector fault</li> <li>● Assist-ECU breakdown</li> <li>● Instrument panel-ECU breakdown</li> </ul>



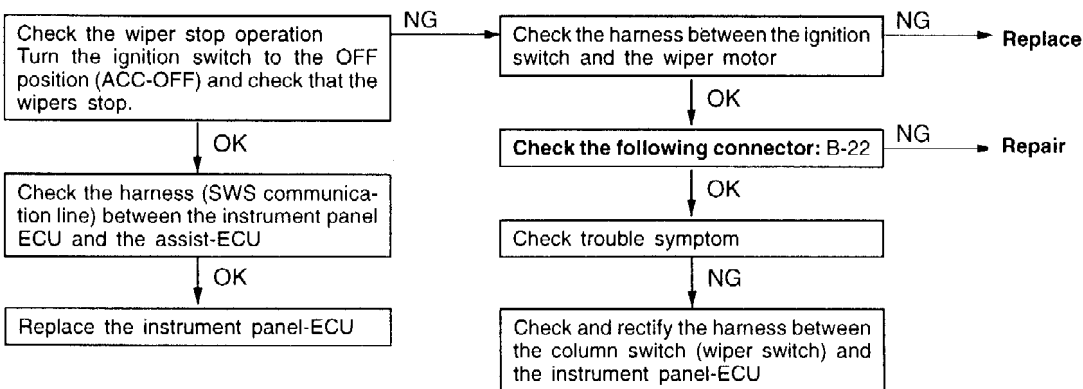
**INSPECTION PROCEDURE 3**

<p><b>The wipers do not operate intermittently with the wiper switch in the INT position (wipers operate normally on Lo and HI)</b></p>	<p><b>Probable cause</b></p>
<p>Possible causes include a wiper switch input circuit system fault, or a harness or connector fault. Because the wipers work normally with the wiper switch on LO or HI, the Assist-ECU is probably normal.</p>	<ul style="list-style-type: none"> <li>• Wiper switch defective</li> <li>• Harness or connector fault</li> <li>• Instrument panel ECU malfunction</li> </ul>



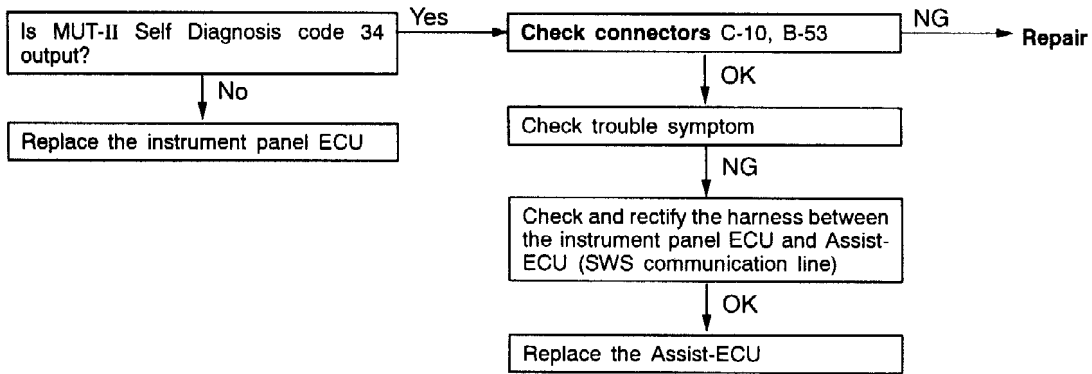
**INSPECTION PROCEDURE 4**

<p><b>The wipers do not stop when the wiper switch is turned OFF (wiper speed is LO)</b></p>	<p><b>Probable cause</b></p>
<p>It is possible that a fault has occurred in the communication line during wiper operation, and that the status prior to breakdown is maintained by the Assist-ECU failsafe function.</p>	<ul style="list-style-type: none"> <li>• Harness or connector fault</li> <li>• Instrument panel ECU malfunction</li> </ul>



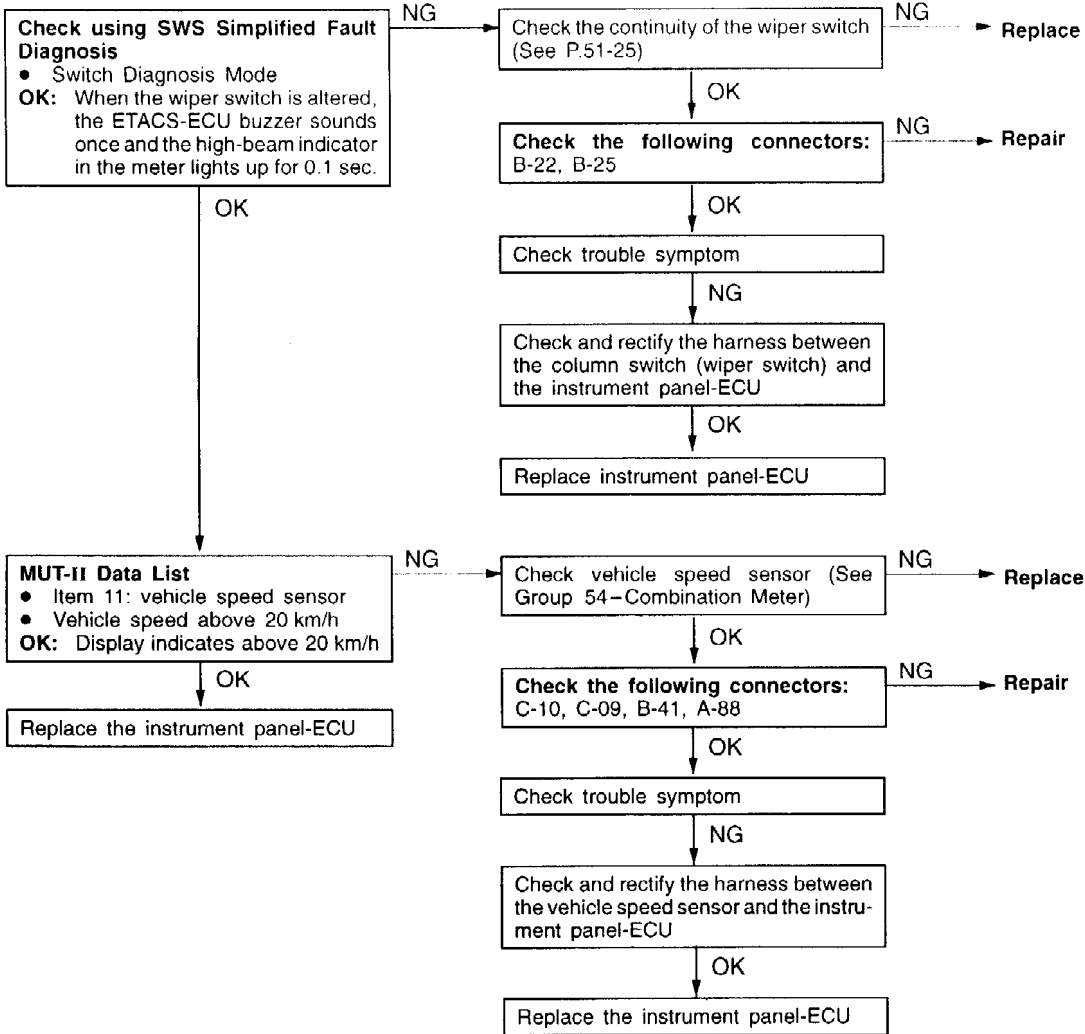
**INSPECTION PROCEDURE 5**

<p><b>The wipers do not operate intermittently but continuously (at LO speed) with the wiper switch set to INT (the wipers stop when switched OFF)</b></p>	<p><b>Probable cause</b></p>
<p>Possible causes include an wiper switch input circuit fault,, a harness or connector fault, or an instrument panel ECU breakdown. Because the wipers operate on LO, it is possible that the fallsafe is operating with the backup circuit.</p>	<ul style="list-style-type: none"> <li>● Wiper switch fault</li> <li>● Harness or connector fault</li> <li>● Instrument panel ECU breakdown</li> </ul>



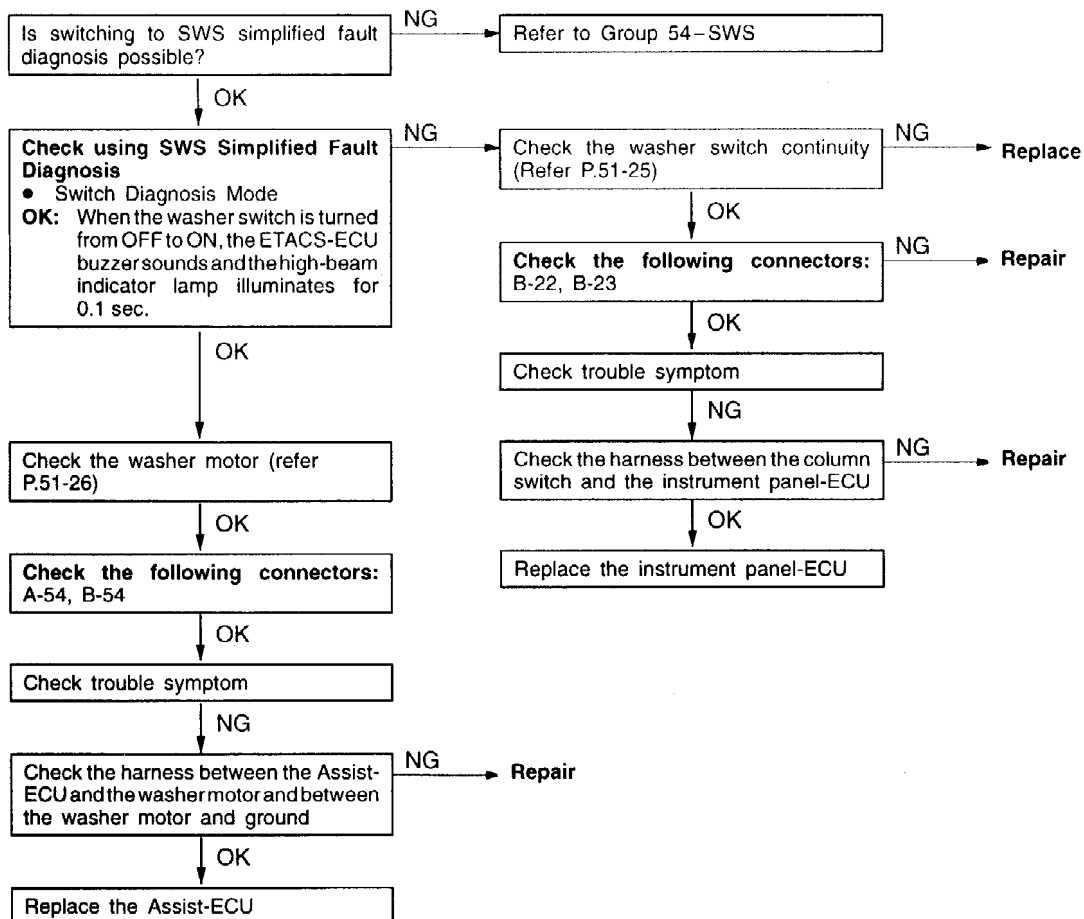
**INSPECTION PROCEDURE 6**

<ul style="list-style-type: none"> <li>• The intermittent wiper speed does not vary when the variable speed switch is changed (vehicle speed is constant)</li> <li>• The intermittent wiper speed does not change when the vehicle speed changes (variable speed setting is constant)</li> </ul>	<p><b>Probable cause</b></p>
<p>Possible causes include a wiper switch input circuit system fault, or a harness or connector fault. Because the wipers work normally with the wiper switch on LO or HI, the Assist-ECU is probably normal.</p>	<ul style="list-style-type: none"> <li>• Wiper switch fault</li> <li>• Harness or connector fault</li> <li>• Instrument panel ECU breakdown</li> <li>• Vehicle speed sensor breakdown</li> </ul>



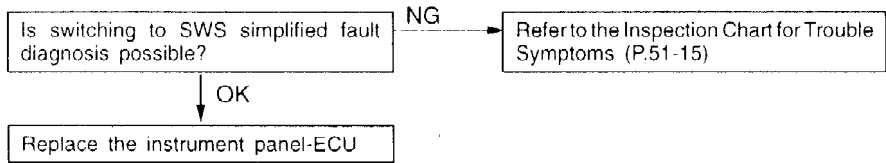
**INSPECTION PROCEDURE 7**

The washers do not operate when the washer switch is pressed	Probable cause
Washer switch input circuit, Assist-ECU, instrument panel ECU, harness or connector defective or communication line malfunction.	<ul style="list-style-type: none"> <li>● Washer switch malfunction</li> <li>● Harness or connector defective</li> <li>● Washer motor malfunction</li> <li>● Assist-ECU malfunction</li> <li>● Instrument panel ECU malfunction</li> </ul>



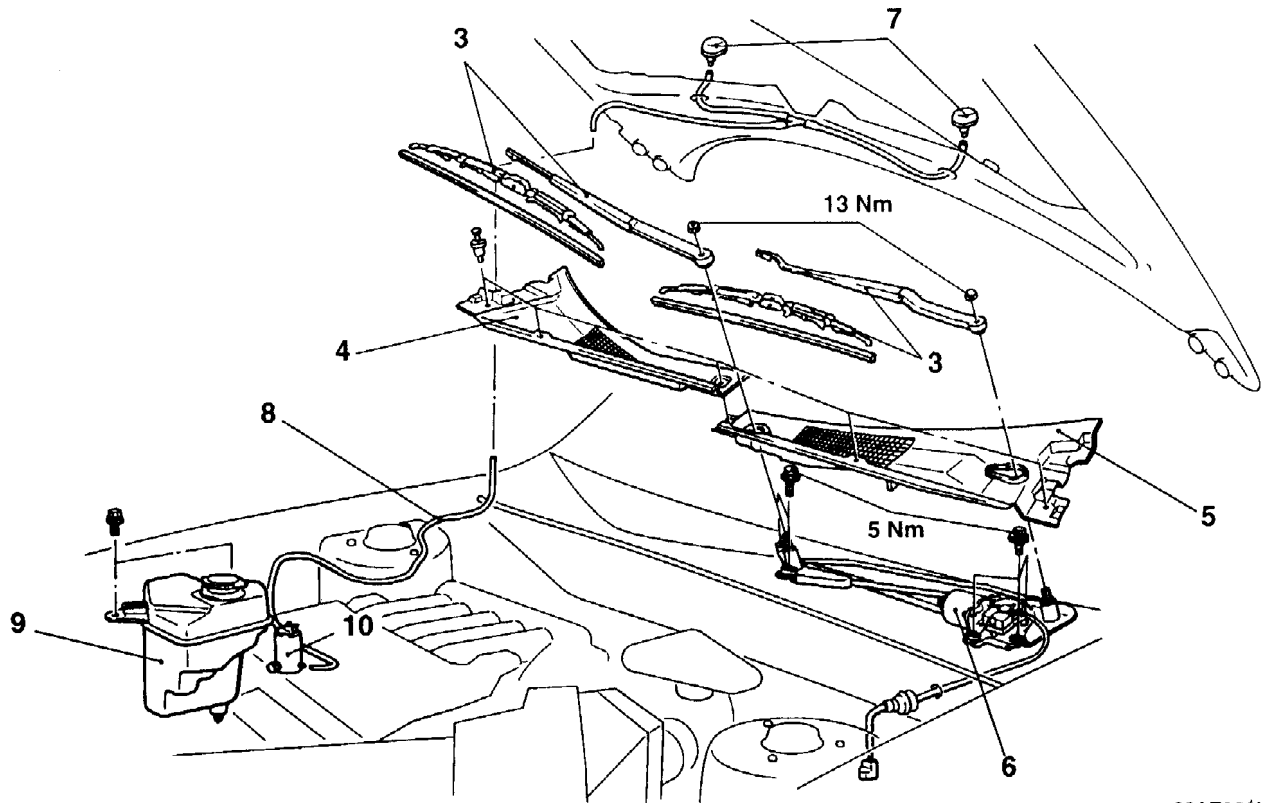
**INSPECTION PROCEDURE 8**

<p><b>When the washer switch is pressed, the wipers do not operate (washers operate normally)</b></p> <p>The wiper motor, instrument panel ECU, the Assist-ECU, a harness or connector may be defective</p>	<p><b>Probable cause</b></p> <ul style="list-style-type: none"> <li>• Wiper motor malfunction</li> <li>• Instrument panel ECU malfunction</li> <li>• Assist-ECU malfunction</li> <li>• Harness or connector defective</li> </ul>
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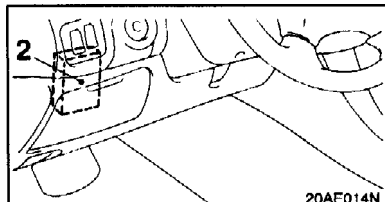
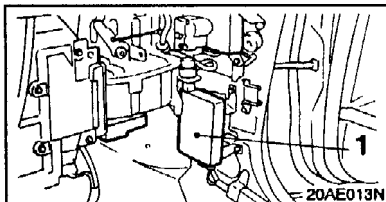


# WINDSHIELD WIPER AND WASHER

## REMOVAL AND INSTALLATION



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1. Assist-ECU (Refer to Group 54-SWS)
2. Instrument panel-ECU (Refer to Group 54-SWS)

### Wiper motor and linkage removal steps

- ▶◀
3. Wiper arm and blade assembly
  4. Front deck garnish (R.H.)
  5. Front deck garnish (L.H.)
  6. Wiper motor and linkage

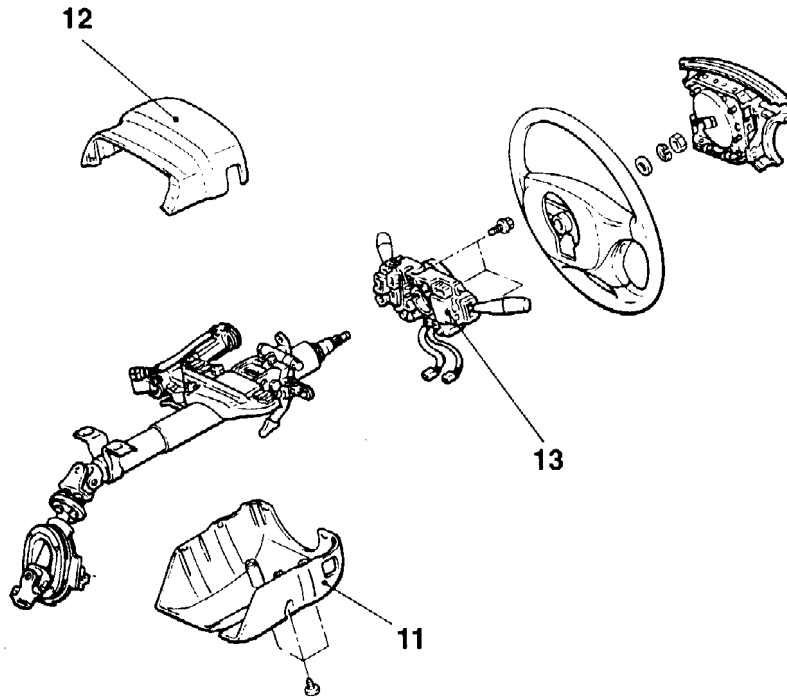
### Washer nozzle removal

7. Washer nozzle

### Washer tank removal steps

8. Washer hose
9. Washer tank
10. Washer motor

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



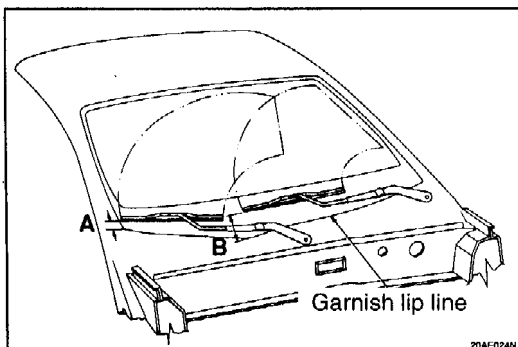
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#### Column switch removal steps

- Air bag module (Refer to GROUP 52B – Air Bag Module and Clock Spring.)
- Steering wheel (Refer to GROUP 37A – Steering Wheel and Shaft.)
- Column cover lower
- Column cover upper
- Column switch assembly (with built-in wiper and washer switch)
- Clock spring\* (Refer to GROUP 52B – Air Bag Module and Clock Spring.)

#### NOTE

Parts marked with \* should not be removed from the column switch except when removal is absolutely necessary.



#### INSTALLATION SERVICE POINT

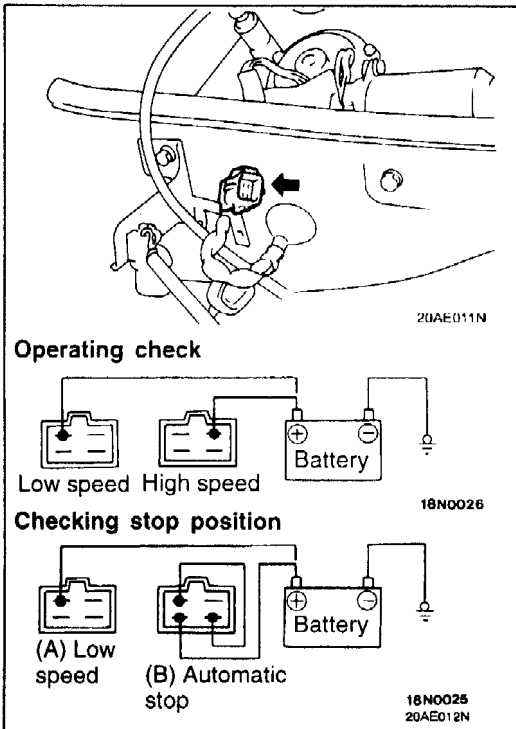
##### ▶A◀ WIPER ARM AND BLADE ASSEMBLY INSTALLATION

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 (A): 20–35 mm**

**Standard value (B): 65–80 mm**





**INSPECTION**

**WIPER MOTOR CHECK**

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

**Wiper Motor Low Speed and High Speed Operation**

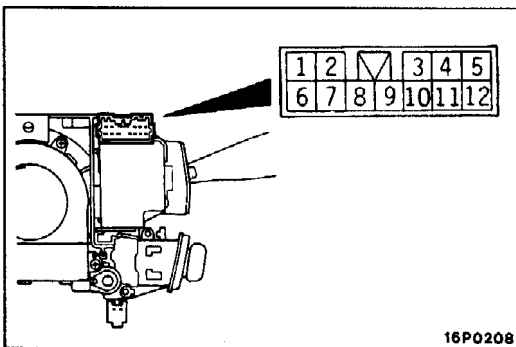
Connect a battery to the wiper motor as shown in the illustration and inspect motor operation at low speed and high speed.

**Wiper Motor 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 that after the motor starts turning at low speed, it stops at the automatic stop position.

**ASSIST-ECU CHECK**

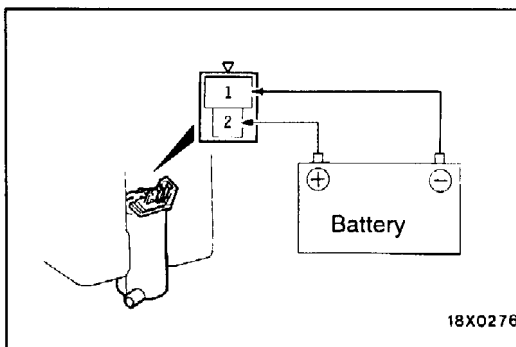
Refer to Group 54–SWS.



**COLUMN SWITCH CHECK**

**Wiper and Washer Switch Continuity check**

Switch position	Terminal No.						
	3	7	8	9	10	11	6
Wiper switch	OFF						
	INT		○				○
	LO			○		○	
	HI				○	○	
Intermittent variable speed switch	○					○	
Washer switch ON					○		○

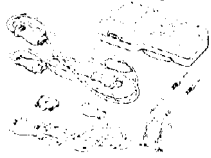

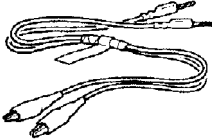


**WASHER MOTOR CHECK**

1. With the washer motor installed to the washer tank, fill the washer tank with water.
2. When the battery is connected as shown in the figure, check that the water squirts out strongly.

## DOOR MIRROR

### SPECIAL TOOLS

Tool	Number	Name	Use
	MB991502	MUT-II	Simplified Wiring System (SWS) diagnostic checking
		ROM pack	
	MB991529	Diagnostic trouble code check harness	Simplified Wiring System (SWS) diagnostic checking (when using a voltmeter)

## TROUBLESHOOTING

### STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.

### DIAGNOSIS FUNCTION

#### DIAGNOSIS CODE FUNCTION

Read a diagnosis code by the MUT-II or high beam indicator lamp. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.)

### ERASING DIAGNOSIS CODES

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.

**SWS SIMPLIFIED FAULT DIAGNOSTIC MODE**

The following tests can be performed using the SWS Simplified Fault Diagnosis Mode:

- SWS-ECU specification
- Switch input signals for each ECU
- Diagnosis code output

Refer to Group 54 – SWS for details of the SWS Simplified Fault Diagnosis Mode.

**SWS DIAGNOSIS CODE CLASSIFICATION TABLE**

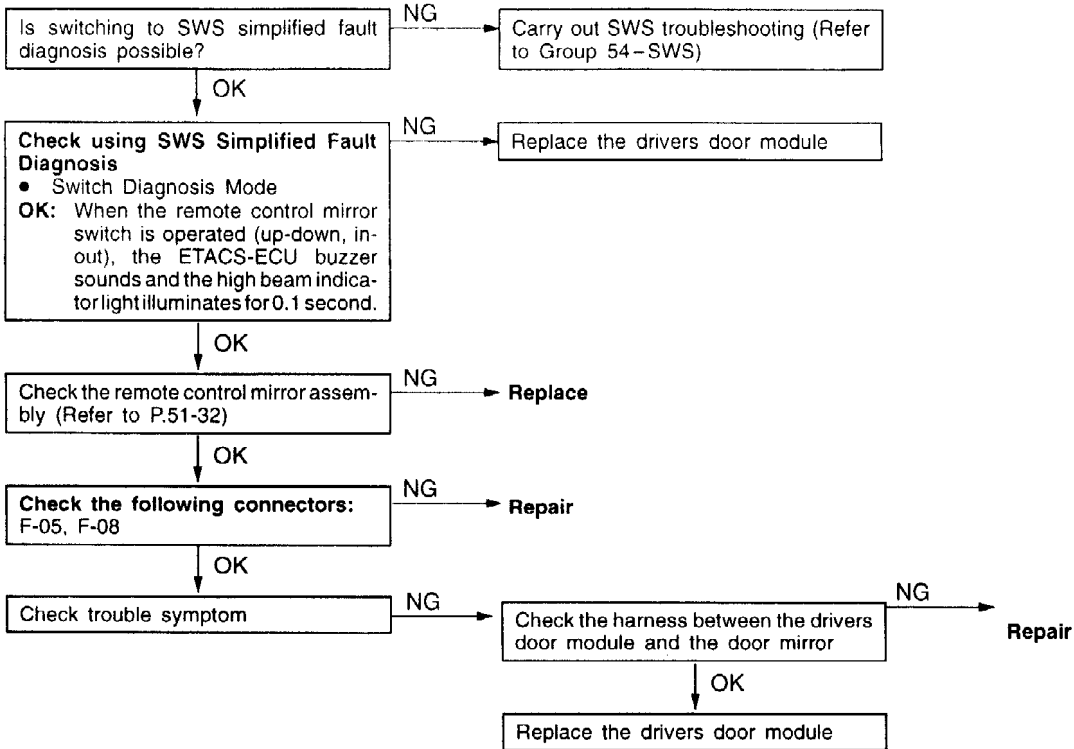
Refer to Group 54 – SWS.

**INSPECTION CHART FOR TROUBLE SYMPTOMS**

Trouble symptom	Inspection procedure No.	Reference page
Communication with MUT-II is not possible	Refer to Group 54 – SWS	
Switching to SWS Simplified Fault Diagnosis mode is not possible		
The remote control mirror switch does not operate the passenger door mirror.	1	51-28
The remote control mirror switch does not operate the passenger door mirror.	2	51-29

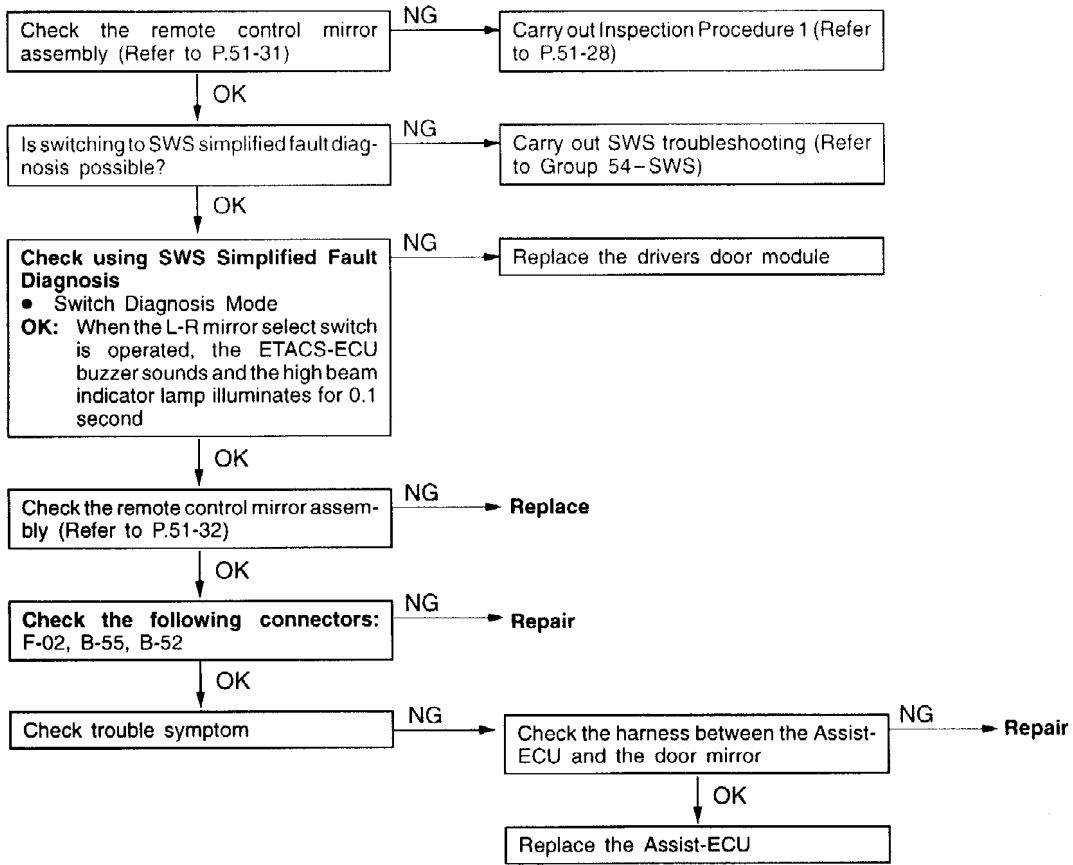
**INSPECTION PROCEDURE 1**

<p><b>The remote control mirror switch does not operate the driver's door mirror</b></p> <p>The remote control mirror switch input circuit, the drivers door module, the door mirror actuator or the harness or a connector may be defective.</p>	<p><b>Probable cause</b></p> <ul style="list-style-type: none"> <li>• Defective mirror actuator</li> <li>• Defective drivers door module</li> <li>• Defective harness or connector</li> </ul>
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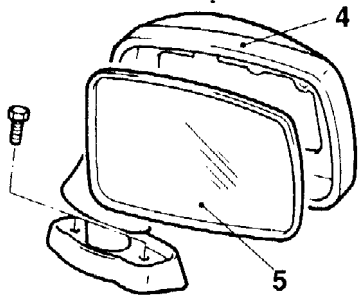
**INSPECTION PROCEDURE 2**

<p><b>The remote control mirror switch does not operate the passenger door mirror</b></p>	<p><b>Probable cause</b></p>
<p>The mirror switch, the drivers door module, the Assist-ECU, the mirror actuator or a harness or connector may be defective.</p>	<ul style="list-style-type: none"> <li>• Defective mirror actuator</li> <li>• Defective Assist-ECU</li> <li>• Defective harness or connector</li> </ul>

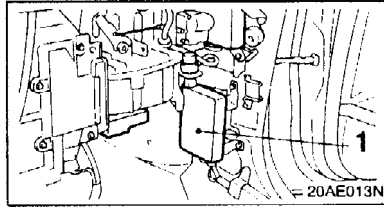


# DOOR MIRROR

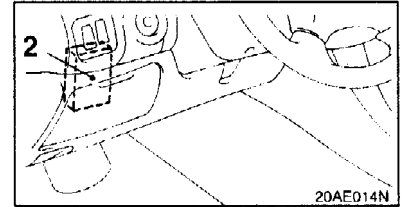
## REMOVAL AND INSTALLATION



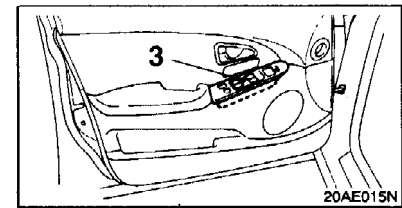
18P0131



20AE013N



20AE014N



20AE015N

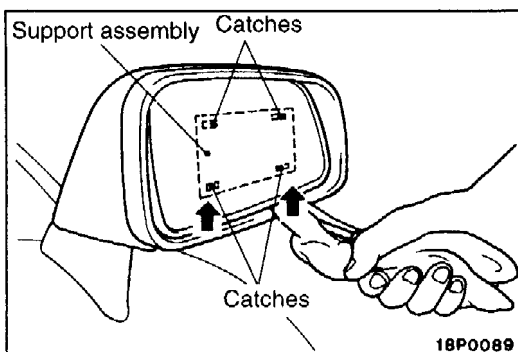
20AE016N

1. Assist-ECU (Refer to Group 54-SWS)
2. Instrument panel ECU (Refer to Group 54-SWS)
3. Front door module (LH) (Refer to Group 54-SWS)



### Door mirror removal steps

4. Door mirror
5. Mirror

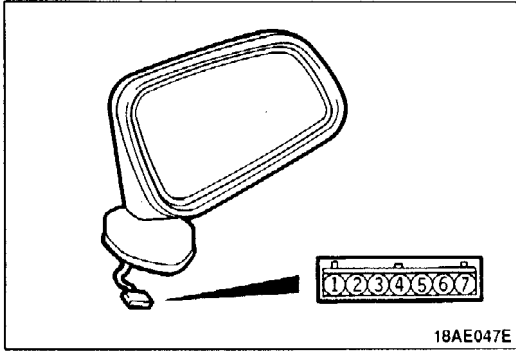


18P0089

### 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 to release the mirror from the bottom catches. Remove the mirror from the upper catches by pulling downwards.



**INSPECTION**

**REMOTE CONTROL MIRROR ASSEMBLY CHECK**

Check to be sure that the mirror moves as described in the table when each terminal is connected to the battery.

Direction of operation	Terminal No.		
	3	4	5
LEFT	⊖ - - - - -	- - - - -	- - - - - ⊕
RIGHT	⊕ - - - - -	- - - - -	- - - - - ⊖
UP	⊕ - - - - -	- - - - - ⊖	
DOWN	⊖ - - - - -	- - - - - ⊕	

**ASSIST-ECU, INSTRUMENT PANEL-ECU AND FRONT DOOR MODULE (DRIVER SIDE) CHECK**

Refer to Group 54-SWS.