

GROUP 51

EXTERIOR

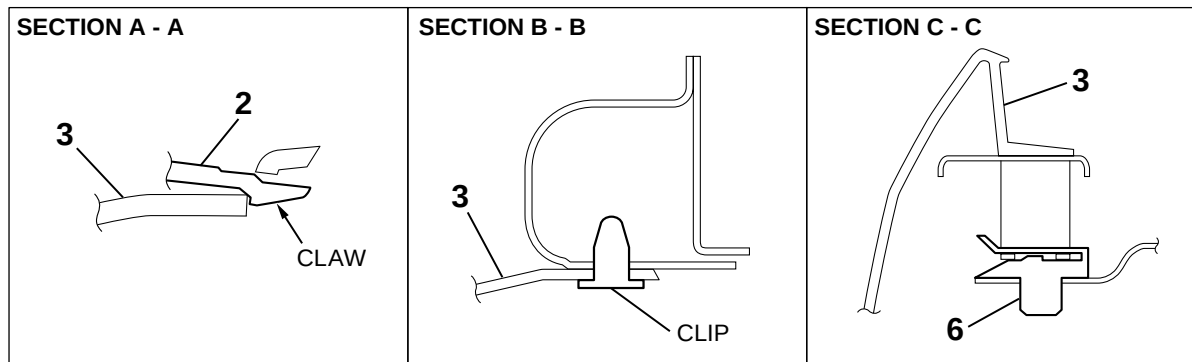
CONTENTS

FRONT BUMPER ASSEMBLY	51-2	REAR WIPER AND WASHER	51-22
REMOVAL AND INSTALLATION	51-2	GENERAL DESCRIPTION	51-22
DISASSEMBLY AND ASSEMBLY	51-3	REAR WIPER AND WASHER DIAGNOSIS	51-22
REAR BUMPER ASSEMBLY	51-5	ON-VEHICLE SERVICE	51-22
REMOVAL AND INSTALLATION	51-5	REAR WIPER AND WASHER	51-23
DISASSEMBLY AND ASSEMBLY	51-6	REMOVAL AND INSTALLATION	51-23
GARNISHES AND MOLDINGS	51-8	INSPECTION	51-25
SPECIAL TOOLS	51-8	MARK	51-26
GARNISHES AND MOLDINGS	51-9	REMOVAL AND INSTALLATION	51-26
REMOVAL AND INSTALLATION	51-9	DOOR MIRROR	51-29
SIDE AIR DAM	51-12	GENERAL DESCRIPTION	51-29
REMOVAL AND INSTALLATION	51-12	SPECIAL TOOL	51-29
REAR SPOILER	51-14	HEATED DOOR MIRROR DIAGNOSIS <Vehicles for CANADA>	51-29
REMOVAL AND INSTALLATION	51-14	TROUBLESHOOTING STRATEGY	51-29
WINDSHIELD WIPER AND WASHER	51-15	TROUBLE SYMPTOM CHART	51-29
GENERAL DESCRIPTION	51-15	SYMPTOM PROCEDURES <Vehicles for CANADA>	51-30
WINDSHIELD WIPER AND WASHER DIAGNOSIS	51-16	DOOR MIRROR	51-46
ON-VEHICLE SERVICE	51-16	REMOVAL AND INSTALLATION	51-46
WINDSHIELD WIPER AND WASHER	51-17	INSPECTION	51-48
REMOVAL AND INSTALLATION	51-17	SPECIFICATIONS	51-51
INSPECTION	51-19	FASTENER TIGHTENING SPECIFICATIONS	51-51
		SERVICE SPECIFICATIONS	51-51
		ADHESIVES	51-51
		COMPONENT IDENTIFICATIONS	51-51

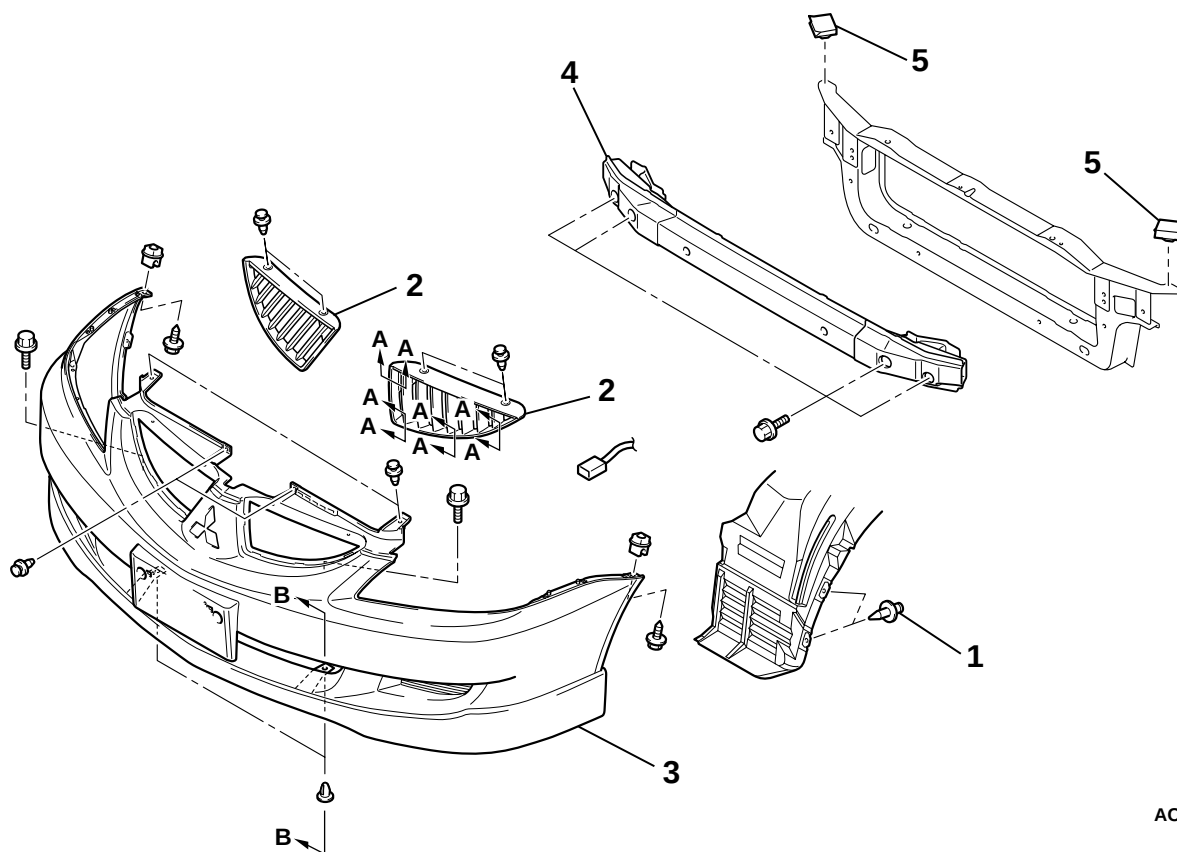
FRONT BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001400552



AC308900AB



AC308442AB

REMOVAL STEPS

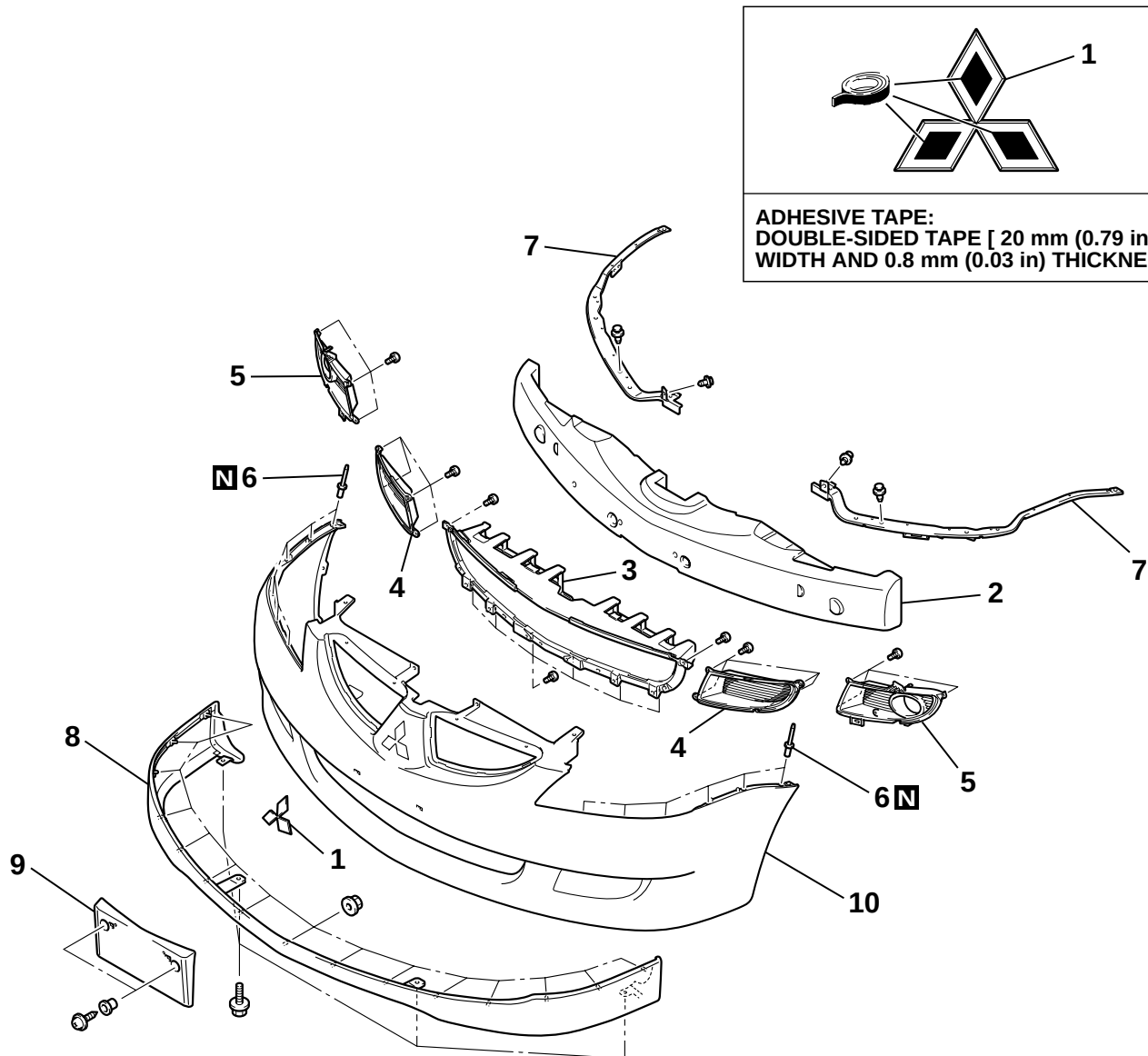
1. SPLASH SHIELD MOUNTING CLIP
2. RADIATOR GRILLE ASSEMBLY
3. FRONT BUMPER ASSEMBLY
- FOG LIGHT CONNECTOR CONNECTION

REMOVAL STEPS (Continued)

4. FRONT BUMPER BACK BEAM ASSEMBLY
5. FRONT BUMPER FIXING CLIP

DISASSEMBLY AND ASSEMBLY

M1511001600545



DISASSEMBLY STEPS

1. FRONT THREE-DIAMOND MARK
2. FRONT BUMPER CORE
3. UNDER DUCT
4. AIR INTAKE BEZEL <VEHICLES WITHOUT FOG LIGHT>
5. AIR INTAKE BEZEL <VEHICLES WITH FOG LIGHT>
6. FRONT BUMPER RIVET

<<A>> >>A<<

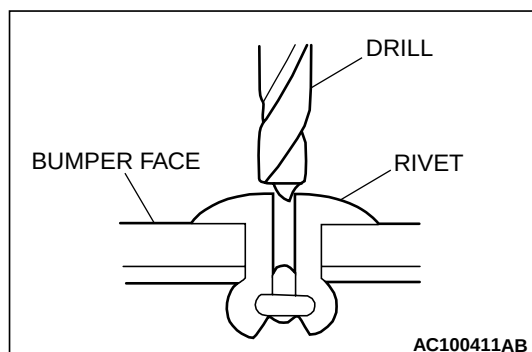
DISASSEMBLY STEPS (Continued)

7. FRONT BUMPER SIDE PLATE ASSEMBLY
8. FRONT BUMPER EXTENSION <RALLIART>
9. LICENSE PLATE GARNISH
10. FRONT BUMPER FACE

AC308901AB

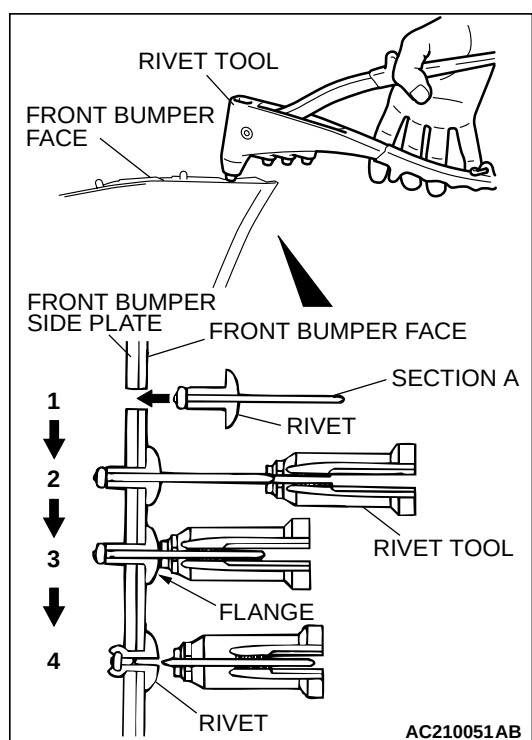
DISASSEMBLY SERVICE POINT**<<A>> FRONT BUMPER SIDE PLATE ASSEMBLY
REMOVAL**

Use a drill [4.0 mm (0.16 inch)] to make a hole in the rivet to break it, and then remove the rivet.

**ASSEMBLY SERVICE POINT****>>A<< FRONT BUMPER SIDE PLATE ASSEMBLY**

Use the rivet tool shown in the illustration to attach the rivet by the following procedure.

1. Insert the rivet into the base material front bumper side plate assembly.
2. Place the recommended tool over section A of the rivet.
3. While pushing the flange surface of the rivet with the recommended tool, press the handle of the tool.
4. The thin part of section A of the rivet will break and the rivet will then be attached.



REAR BUMPER ASSEMBLY

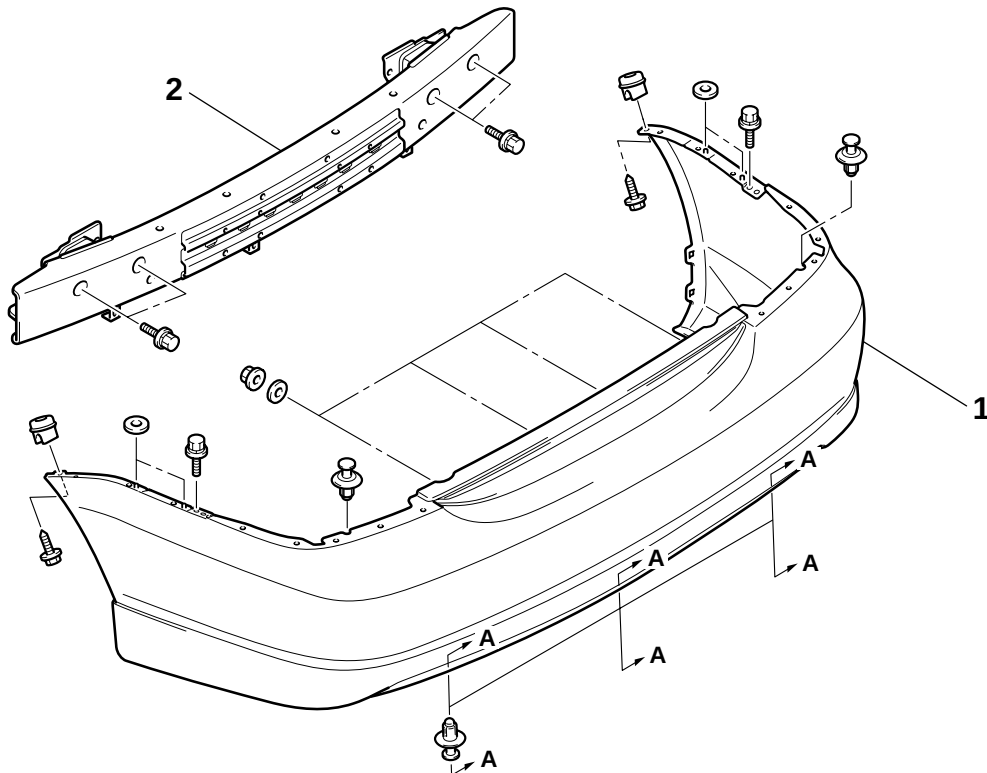
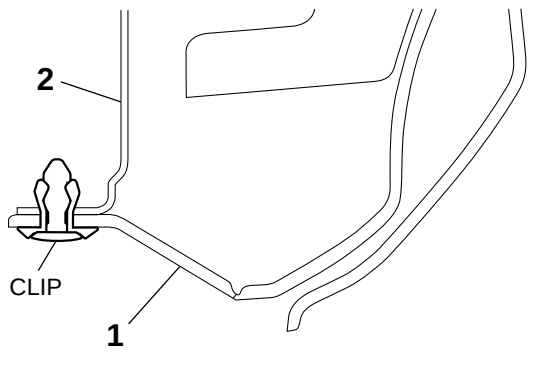
REMOVAL AND INSTALLATION

M1511001900472

Pre-removal and Post-installation Operation

- Rear Combination Light Removal and Installation (Refer to GROUP 54A, Rear Combination Light [P.54A-62](#)).
- Rear End Trim Removal and Installation (Refer to GROUP 52A, Trim [P.52A-12](#)).
- Rear Splash Shield Removal and Installation.

SECTION A - A



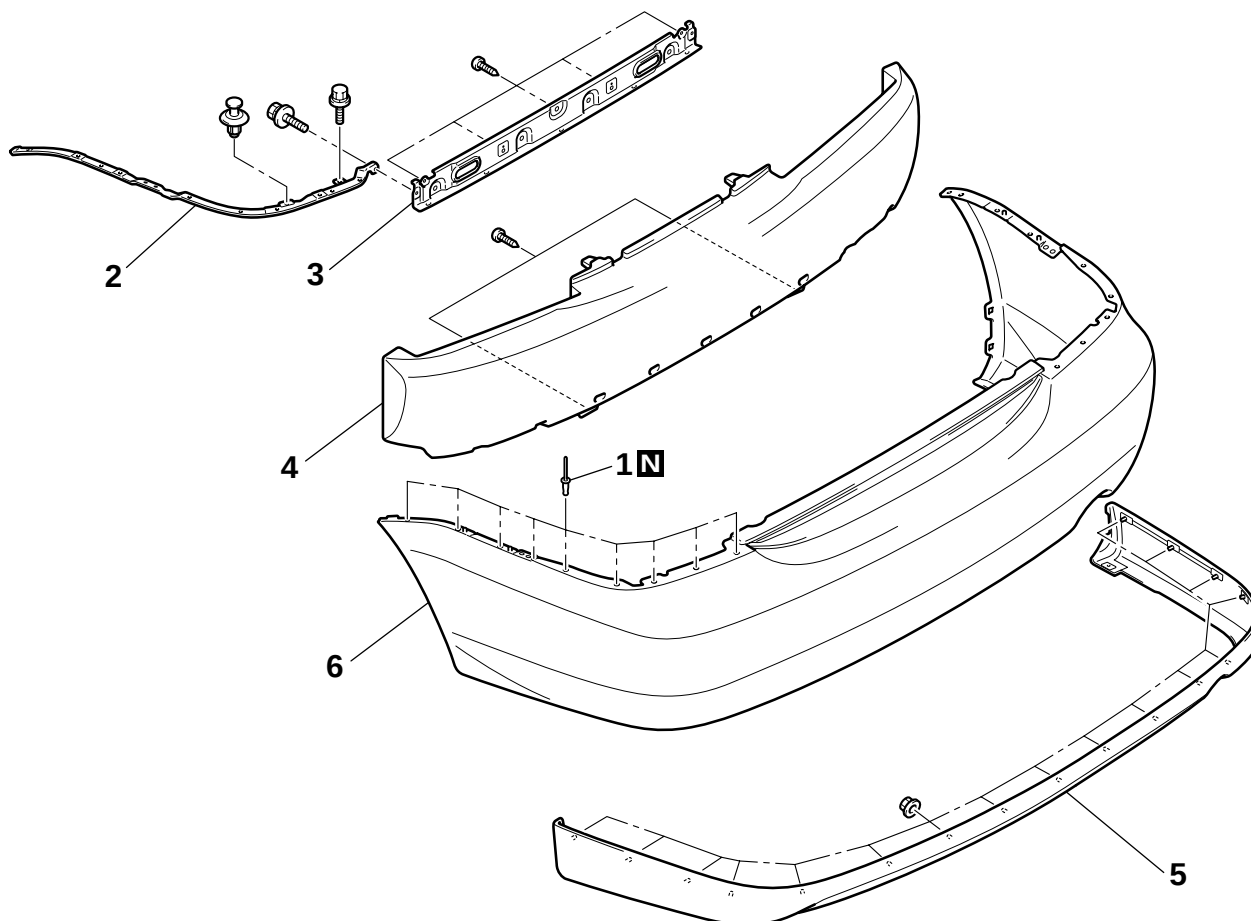
DISASSEMBLY STEPS

1. REAR BUMPER ASSEMBLY
2. REAR BUMPER BEAM ASSEMBLY

AC309167 AB

DISASSEMBLY AND ASSEMBLY

M1511002100394



AC3089168 AB

DISASSEMBLY STEPS

<<A>> >>A<<

1. REAR BUMPER RIVET
2. REAR BUMPER SIDE PLATE ASSEMBLY
3. REAR BUMPER CENTER REINFORCEMENT ASSEMBLY

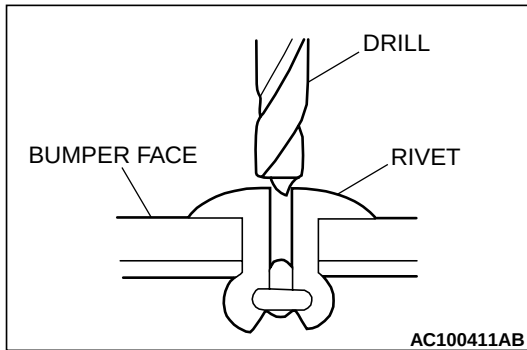
DISASSEMBLY STEPS (Continued)

4. REAR BUMPER CORE
5. REAR BUMPER EXTENSION <RALLIART>
6. REAR BUMPER FACE

DISASSEMBLY SERVICE POINTS

<<A>> RIVET REMOVAL

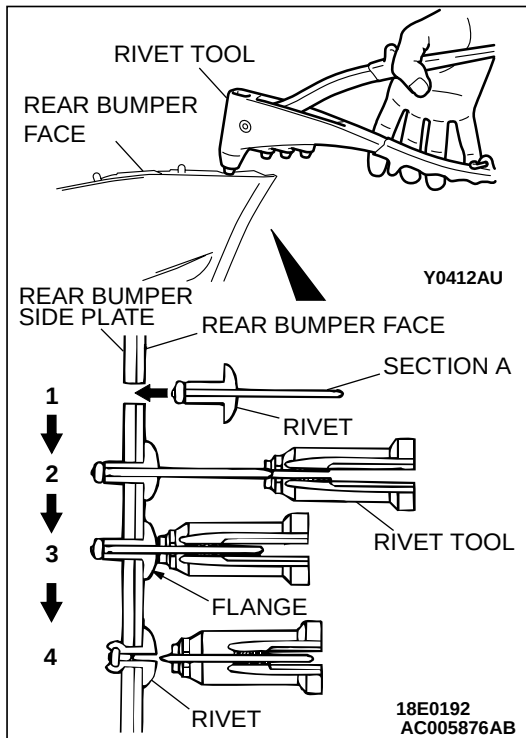
Use a drill [4.0 mm (0.16 inch)] to make a hole in the rivet to break it, and then remove the rivet.



ASSEMBLY SERVICE POINT

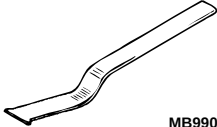
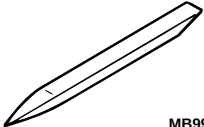
>>A<< RIVET INSTALLATION

1. Insert the rivet into the rear bumper face and rear bumper side plate.
2. Insert "A" of the rivet into the rivet tool.
3. Pressing the flange surface of the rivet, move the handle of the rivet tool.
4. The thinnest point of "A" is cut and the rivet is held in position.



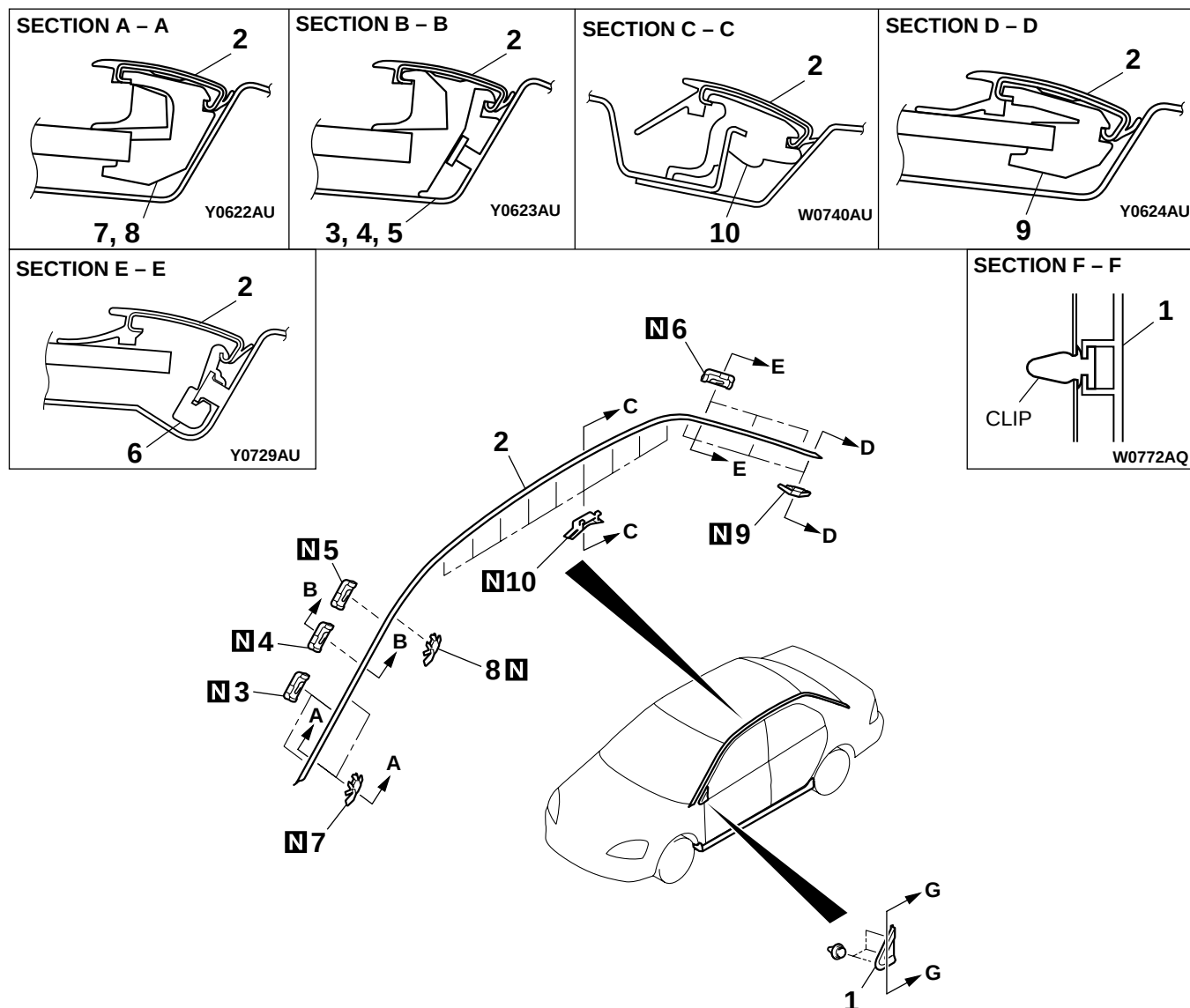
GARNISHES AND MOLDINGS**SPECIAL TOOLS**

M1511000601211

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB990449	MB990449 Window molding remover	General service tool	Removal of drip molding
 MB990784	MB990784 Ornament remover	General service tool	Removal of air dam

GARNISHES AND MOLDINGS REMOVAL AND INSTALLATION

M1511004400175



AC308655 AB

REMOVAL

1. DELTA OUTER GARNISH
 - FRONT DECK GARNISHES (REFER TO P.51-17).

ROOF DRIP MOLDING REMOVAL STEPS

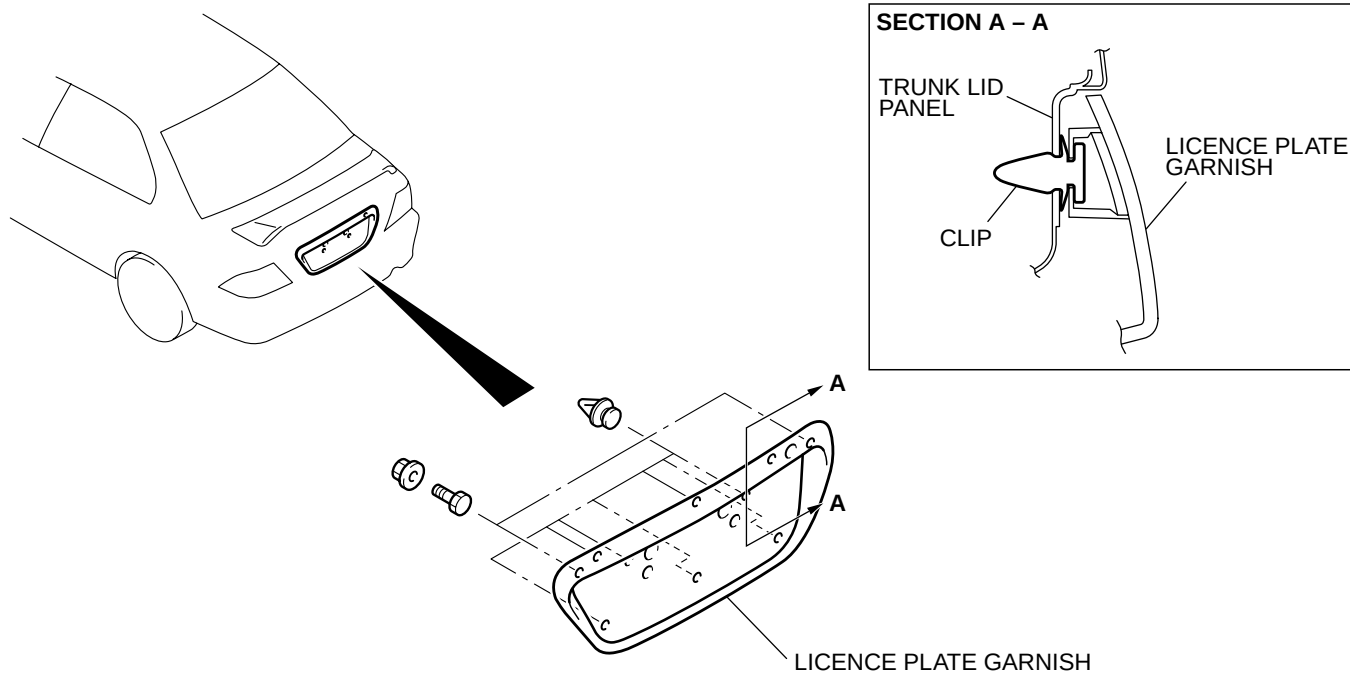
- <<A>> >>C<< 2. ROOF DRIP MOLDING
>>B<< 3. FRONT DRIP MOLDING CLIP A
>>B<< 4. FRONT DRIP MOLDING CLIP B
>>B<< 5. FRONT DRIP MOLDING CLIP C
>>B<< 6. REAR DRIP MOLDING CLIP

ROOF DRIP MOLDING REMOVAL STEPS (Continued)

- >>A<< 7. DRIP MOLDING CLIP A
>>A<< 8. DRIP MOLDING CLIP B
>>A<< 9. DRIP MOLDING CLIP C
10. ROOF DRIP MOLDING CLIP

Required Special Tools:

- MB990449: Window Molding Remover
- MB990784: Ornament Remover



AC308674 AB

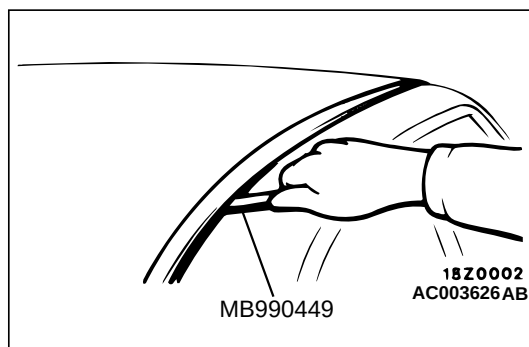
REMOVAL SERVICE POINTS

<<A>> ROOF DRIP MOLDING REMOVAL

⚠ CAUTION

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

Use special tool MB990449 to pry out the molding.

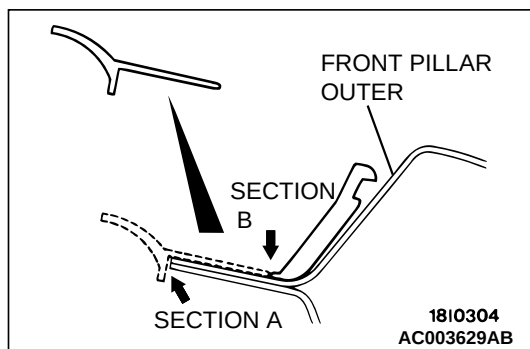


INSTALLATION SERVICE POINTS

>>A<< DRIP MOLDING CLIP C/DRIP MOLDING CLIP B/DRIP MOLDING CLIP A INSTALLATION

1. The drip molding clips A, B and C differ according to where they are used, so check the identification color before installation.

APPLICABLE LOCATION	IDENTIFICATION COLOR
Drip molding clip A	Yellow
Drip molding clip B	Blue
Drip molding clip C	Milky white



2. After installing the clip to the front pillar outer in alignment with its section A, cut from section B.

>>B<< REAR DRIP MOLDING CLIP/FRONT DRIP MOLDING CLIP C/FRONT DRIP MOLDING CLIP B/FRONT DRIP MOLDING CLIP A INSTALLATION

The front drip molding clips A, B, C and rear drip molding clip differ according to where they are used, so check the identification color before installation.

APPLICABLE LOCATION	IDENTIFICATION COLOR
Front drip molding clip A	Orange
Front drip molding clip B	Purple
Front drip molding clip C	Blue
Rear drip molding clip	Gray

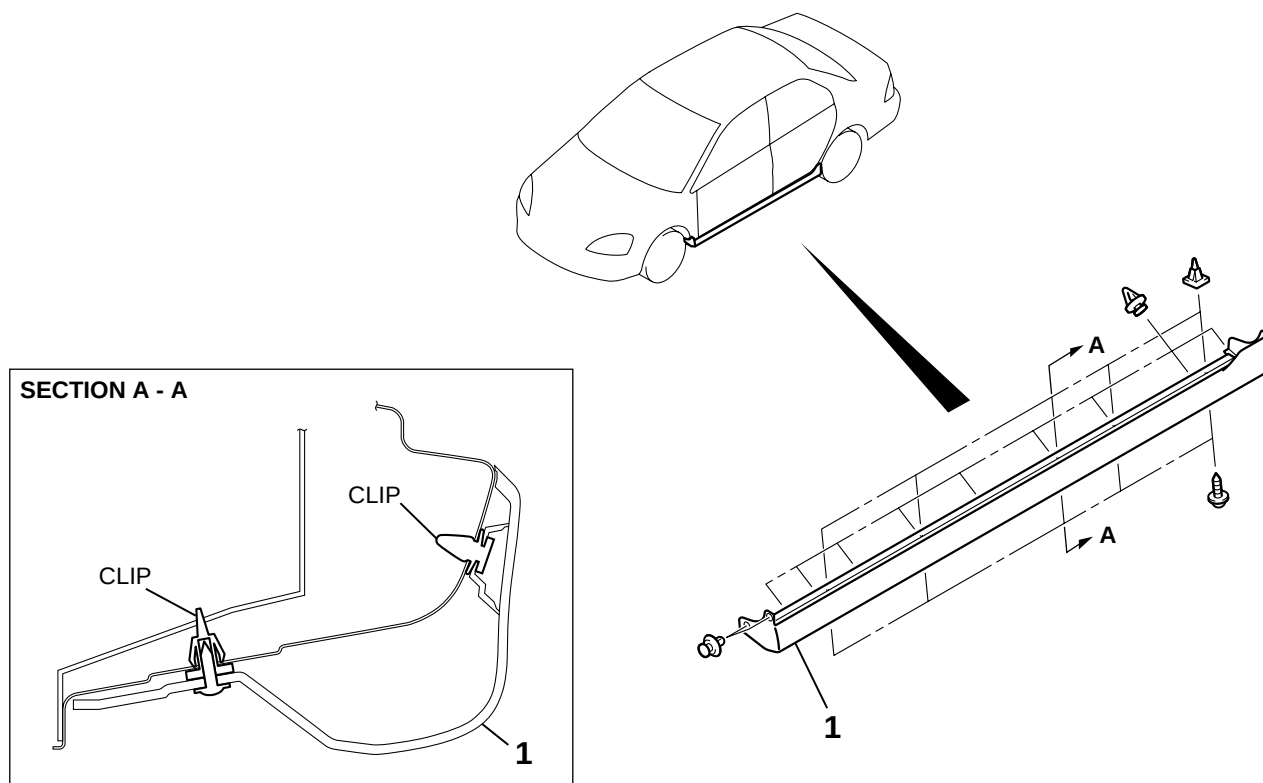
>>C<< ROOF DRIP MOLDING INSTALLATION

Install the clips to the roof drip molding before installing the molding to the vehicle body.

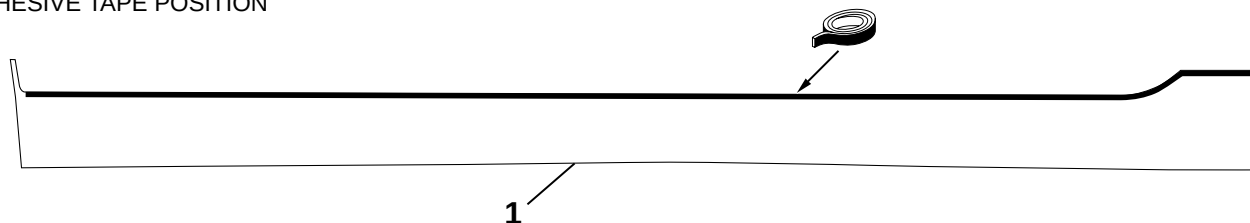
SIDE AIR DAM

REMOVAL AND INSTALLATION

M1511005500142



ADHESIVE TAPE POSITION



ADHESIVE TAPE:

DOUBLE-SIDED TAPE [4 mm (0.16 inch) WIDTH AND 1.2 mm (0.05 inch) THICKNESS]

AC308670 AB

REMOVAL

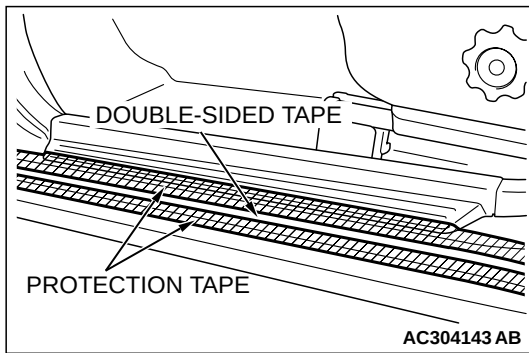
<<A>> >>A<< 1. SIDE AIR DAM

REMOVAL SERVICE POINTS

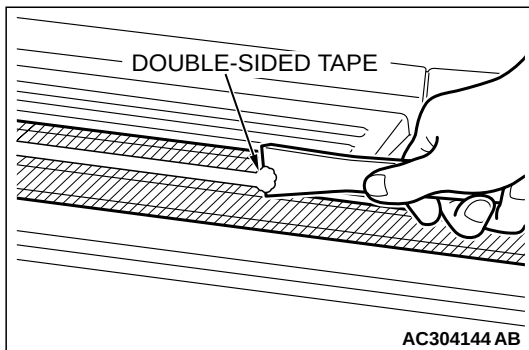
<<A>> SIDE AIR DAM REMOVAL

Gently lift and remove the side air dam. If there is any double-sided tape remaining on the side air dam, remove according to the following instructions.

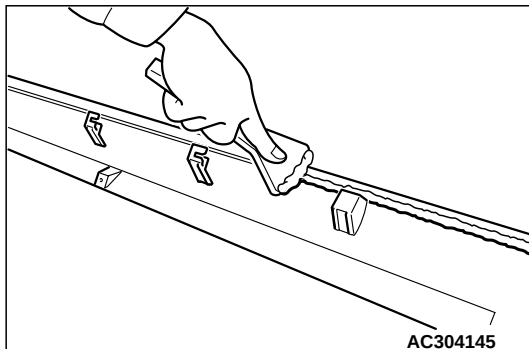
<Remove both-side tape remaining on the body surface>



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



2. Scrape off the double-sided tape with a resin spatula as much as possible.
3. Peel off the protection tape.
4. Wipe the body surface and clean it with a rag moistened with isopropyl alcohol.



<Remove double-sided tape remaining on side air dam and adhere double-sided tape (when re-using side air dam)>

1. Scrape off the double-sided tape on the side air dam with a resin spatula as much as possible.
2. Wipe the side sill garnish surface and clean it with a rag moistened with isopropyl alcohol.
3. Remove only a small portion of the residual adhesive.
4. Adhere the double-sided tape as specified on the side air dam.

INSTALLATION SERVICE POINT

>>A<< SIDE AIR DAM INSTALLATION.

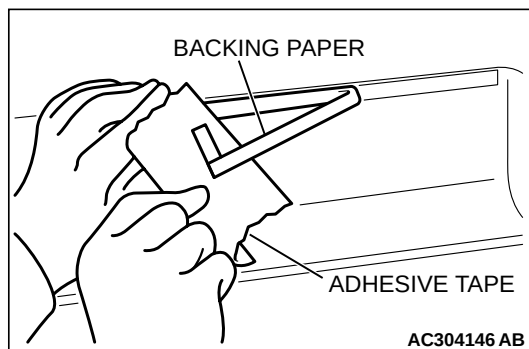
1. Tear off the double-sided tape backing paper.

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

2. Install the side air dam.

NOTE: If the double-sided tape is difficult to affix in cold temperature, etc., warm the bonding surfaces of the body and side air dam to about 40 – 60 °C (104 – 140 °F) before affixing the tape.

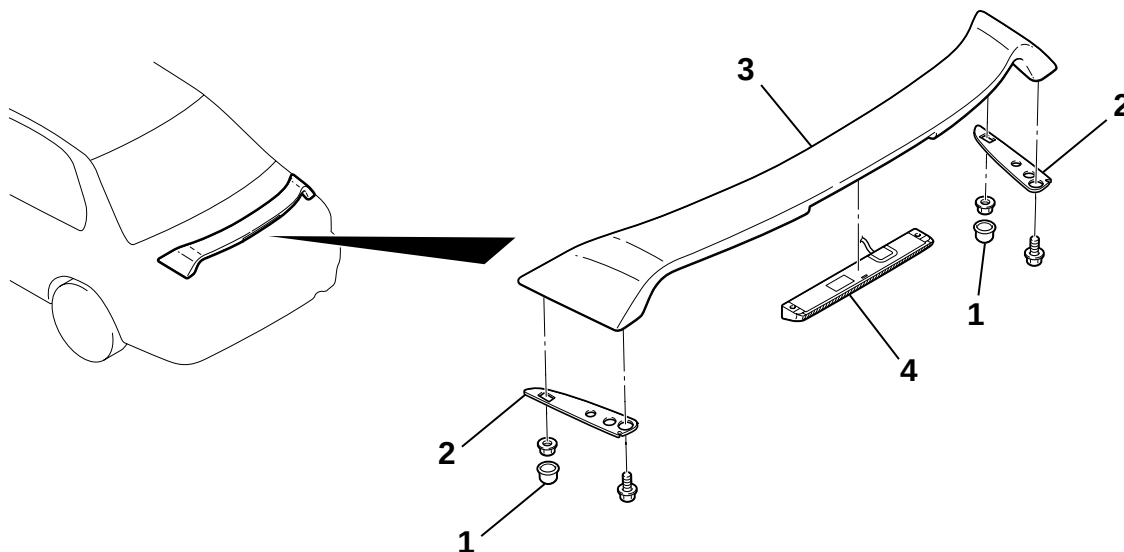
3. Firmly press in the side air dam.



REAR SPOILER

REMOVAL AND INSTALLATION

M1511006100158



AC301074AF

REAR SPOILER REMOVAL STEPS

- TRUNK LID BUMPER (REFER TO GROUP 42, TRUNK LID [P.42-56](#)).
1. CAP

<<A>>

REAR SPOILER REMOVAL STEPS

2. GASKET
3. REAR SPOILER
4. HIGH-MOUNTED STOPLIGHT

REMOVAL SERVICE POINT

<<A>> HIGH-MOUNTED STOPLIGHT REMOVAL

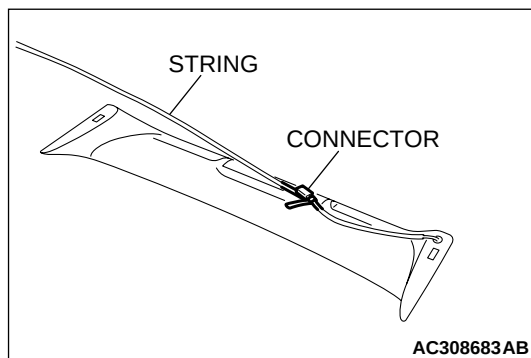
Use the following steps to easily route high-mounted stoplight harness in the event of installation:

1. Tie string on high-mounted stoplight harness (at connector side).

CAUTION

Ensure that the string is tightly tied.

2. Carefully pull out high-mounted stoplight.



AC308683AB

WINDSHIELD WIPER AND WASHER

GENERAL DESCRIPTION

M1511000100611

WINDSHIELD WIPER AND WASHER OPERATION

WINDSHIELD LOW-SPEED (AND HIGH-SPEED) WIPER OPERATION

- If the windshield low-speed wiper switch is turned to the ON position with the ignition switch at the "ACC" or "ON" position, the column switch sends a low-speed wiper ON and high-speed wiper OFF signals to the front-ECU. This turns the wiper signal on and the wiper speed control relay off (low-speed), causing the wipers to operate at low-speed.
- If the windshield high-speed wiper switch is turned to the ON position, the column switch sends a low-speed wiper OFF and high-speed wiper ON signals to the front-ECU. This turns both the wiper signal and the wiper speed control relay on (high-speed), causing the wipers to operate at high-speed.

NOTE: The windshield wiper speed is adjustable with the built-in wiper speed control relay.

High-speed operations take place when the wiper speed control relay is set to "ON" and low-speed operations take place when the wiper speed control relay is set to "OFF".

WINDSHIELD INTERMITTENT WIPER OPERATION

The ETACS-ECU calculates the wiper operation interval according to the voltage signal sent from the column switch. Then the ETACS-ECU sends a signal to the front-ECU. The front-ECU determines the wiper operation interval and turns on the wiper relay signal relay. This causes the wiper auto stop relay to turn on. Then the wiper auto stop relay will turn off after the wipers reach the park position. This causes the wiper signal relay and then the wipers to turn off. If the wiper signal relay remains off for the wiper operation interval, the relay turns on again, causing the wipers to operate in intermittent mode.

WINDSHIELD MIST WIPER OPERATION

- If the windshield mist wiper switch is turned to the ON position with the ignition switch at the "ACC" or "ON" position, the mist wiper high-speed operation signal is sent to the front-ECU. This signal turns on the wiper speed control relay, causing the wipers to work at high-speed while the mist switch is on.
- While the windshield mist wiper switch remains turned on when the intermittent mode is still working, the wipers work as the mist wiper. However, the wipers return to the intermittent mode again when the switch is changed back to "INT" position.
- To prevent the windshield mist wiper from operating when the windshield wiper switch is turned OFF, the windshield mist wiper does not work for 0.5 second after the windshield intermittent wiper switch, the windshield low-speed wiper switch and the windshield high-speed wiper switch are turned OFF.

WINDSHIELD WASHER OPERATION

- If the windshield washer switch is turned to ON position with the ignition switch at "ACC" or "ON" position, the windshield washer ON signal is sent to the front-ECU. After 0.3 second, the windshield wiper signal turns on. After the windshield washer switch signal turns off, the windshield wiper signal turns off in three seconds.
- If the windshield washer switch is turned on while the windshield wiper is at intermittent mode, when the windshield washer switch is turned OFF within 0.2 second, the wiper works only once to perform mist operation. When the ON condition of the windshield washer switch continues more than 0.2 second, the wiper performs the same movement as normal condition from the time when 0.2 second has elapsed and then returns to the intermittent motion.

WINDSHIELD WIPER AND WASHER DIAGNOSIS

M1511000700390

The windshield wiper and washer are controlled by the Simplified Wiring System (SWS). For troubleshooting, refer to GROUP 54B, SWS Diagnosis

[P.54B-23](#).

NOTE: Even when the ETACS-ECU has failed, the windshield wiper can work at low speed as fail-safe mode. (Normally, the windshield wiper operates when the ignition switch is at the "ACC" position. But, if it enters the fail-safe mode, the wiper can operate only when the ignition switch is at the "ON" position.)

ON-VEHICLE SERVICE

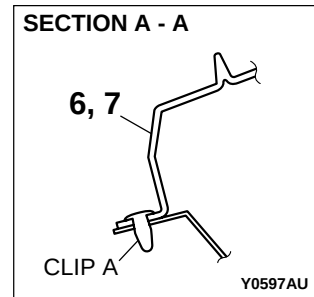
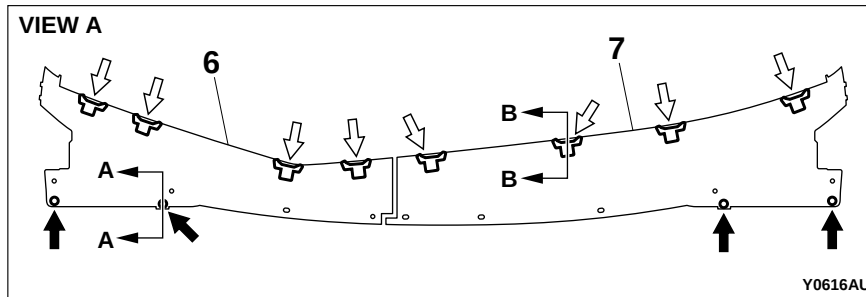
M1511000800513

**WINDSHIELD INTERMITTENT WIPER
INSPECTION**

1. If the windshield intermittent wiper interval adjusting knob is operated, the wiper interval should change.
2. Holding the windshield intermittent wiper interval adjusting knob, input the simulated vehicle speed with scan tool MB991958 (MUT-III sub assembly) and check that the wiper interval changes as the vehicle speed changes.
3. If not, carry out the troubleshooting (Refer to GROUP 54B, Diagnosis [P.54B-23](#)).

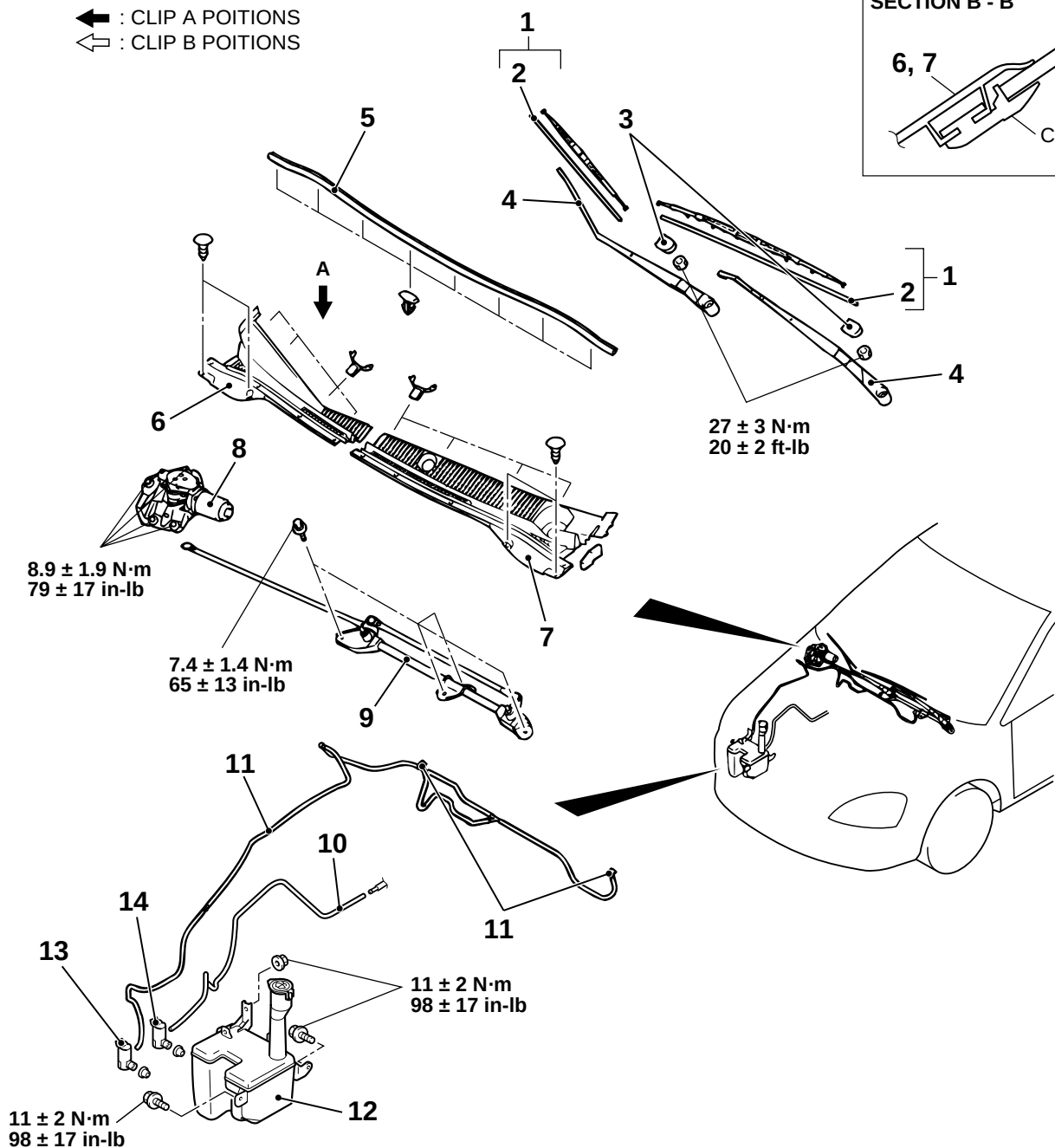
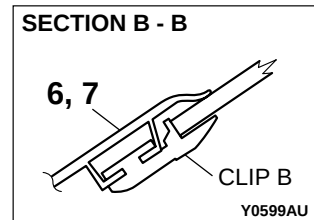
WINDSHIELD WIPER AND WASHER REMOVAL AND INSTALLATION

M1511007600242



NOTE

- ← : CLIP A POITIONS
- ↔ : CLIP B POITIONS



AC304408 AB

WIPER BLADE ASSEMBLY REMOVAL STEPS

>>B<< 1. WIPER BLADE ASSEMBLY

>>A<< 2. WIPER BLADE

WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY REMOVAL STEPS

3. COVER

4. WIPER ARM

5. HOOD WEATHER STRIP

6. FRONT DECK GARNISH (PASSENGER'S SIDE)

7. FRONT DECK GARNISH (DRIVER'S SIDE)

<<A>>

8. WINDSHIELD WIPER MOTOR ASSEMBLY

9. LINK ASSEMBLY

WASHER HOSE REMOVAL STEPS

- FRONT SPLASH SHIELD (REFER TO GROUP 42, SPLASH SHIELD P.42-9).

10. REAR WASHER HOSE

11. FRONT WASHER HOSE

WINDSHIELD WASHER NOZZLE REMOVAL STEPS

- CONNECTION OF FRONT WASHER HOSE

11. WASHER NOZZLE

WASHER TANK AND WASHER MOTOR REMOVAL STEPS

- SIDE UNDERCOVER (RH)

- FRONT SPLASH SHIELD (REFER TO GROUP 42, SPLASH SHIELD P.42-9).

- CONNECTION OF FRONT WASHER HOSE AND REAR WASHER HOSE

12. WASHER TANK ASSEMBLY

13. FRONT WASHER MOTOR

14. REAR WASHER MOTOR

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-70.

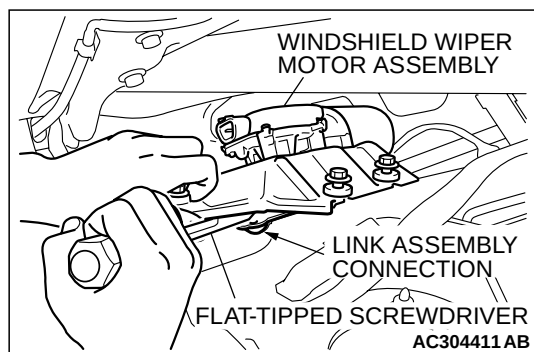
REMOVAL SERVICE POINT**<<A>> WINDSHIELD WIPER MOTOR ASSEMBLY REMOVAL**

1. Remove the windshield wiper motor assembly mounting bolt.

⚠ CAUTION

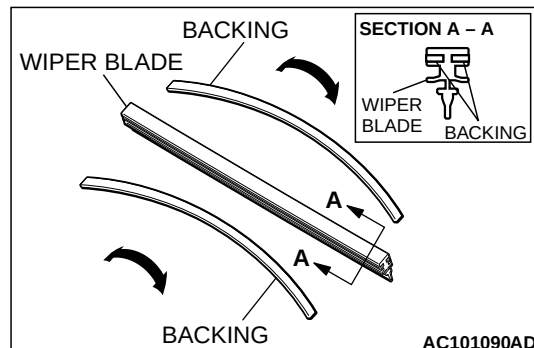
Be careful not to damage the windshield glass when the windshield wiper motor assembly is removed.

2. Use a flat-tipped screwdriver to disengage the link between the windshield wiper motor assembly and the link assembly to remove the windshield wiper motor assembly.

**INSTALLATION SERVICE POINTS****>>A<< WIPER BLADE INSTALLATION****⚠ CAUTION**

The driver's side wiper blade is not warped.

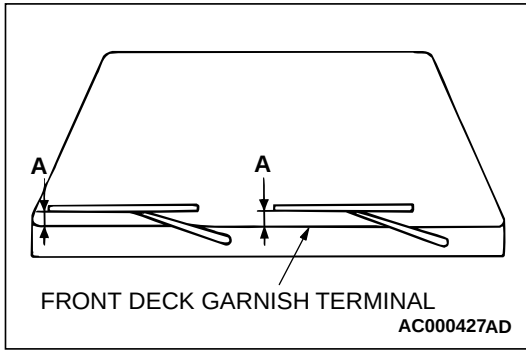
When installing the passenger's wiper blade, check that the backing inside the wiper blade is warped toward the wiper arm.



>>B<< WIPER BLADE ASSEMBLY INSTALLATION

Install the wiper blade at the specified position (standard value).

Standard value: (A) $34 \pm 5 \text{ mm}$ ($1.3 \pm 0.20 \text{ inch}$)



INSPECTION

M1511007700346

FRONT WIPER MOTOR CHECK

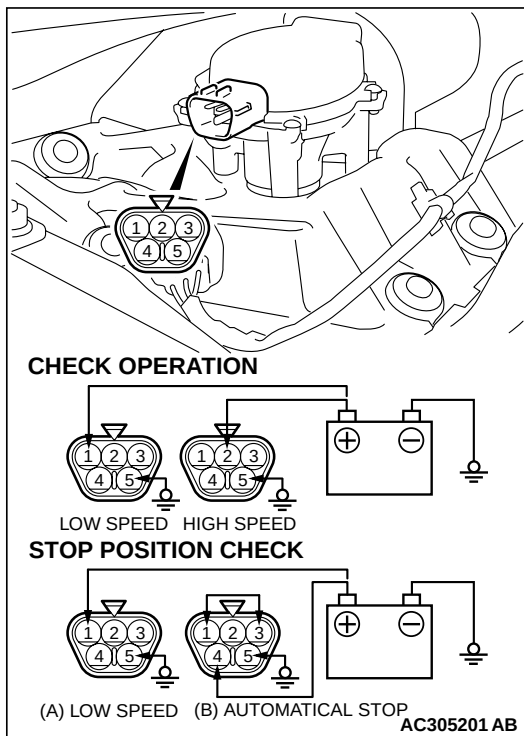
Inspect the windshield wiper motor by removing the harness connector with the motor attached to the vehicle.

WIPER MOTOR AT LOW-SPEED AND HIGH-SPEED OPERATION

Connect the battery to the windshield wiper motor to inspect the operation of motor rotation in low or high speed.

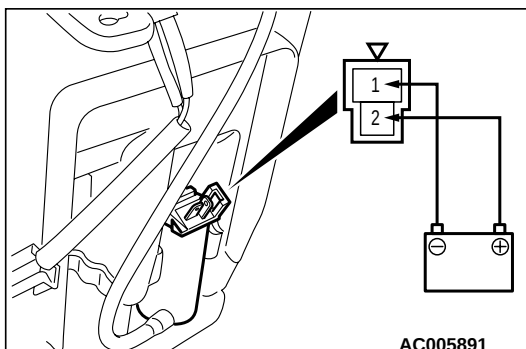
WIPER MOTOR AT STOP POSITION OPERATION

1. Connect the battery to the windshield wiper motor to rotate the motor in a low speed as shown in the illustration (A) and disconnect the battery during rotation to stop the motor.
2. Connect between the terminals and the battery as shown in the illustration (B) and confirm whether the motor stops at the automatic stop position after rotating in a low speed.



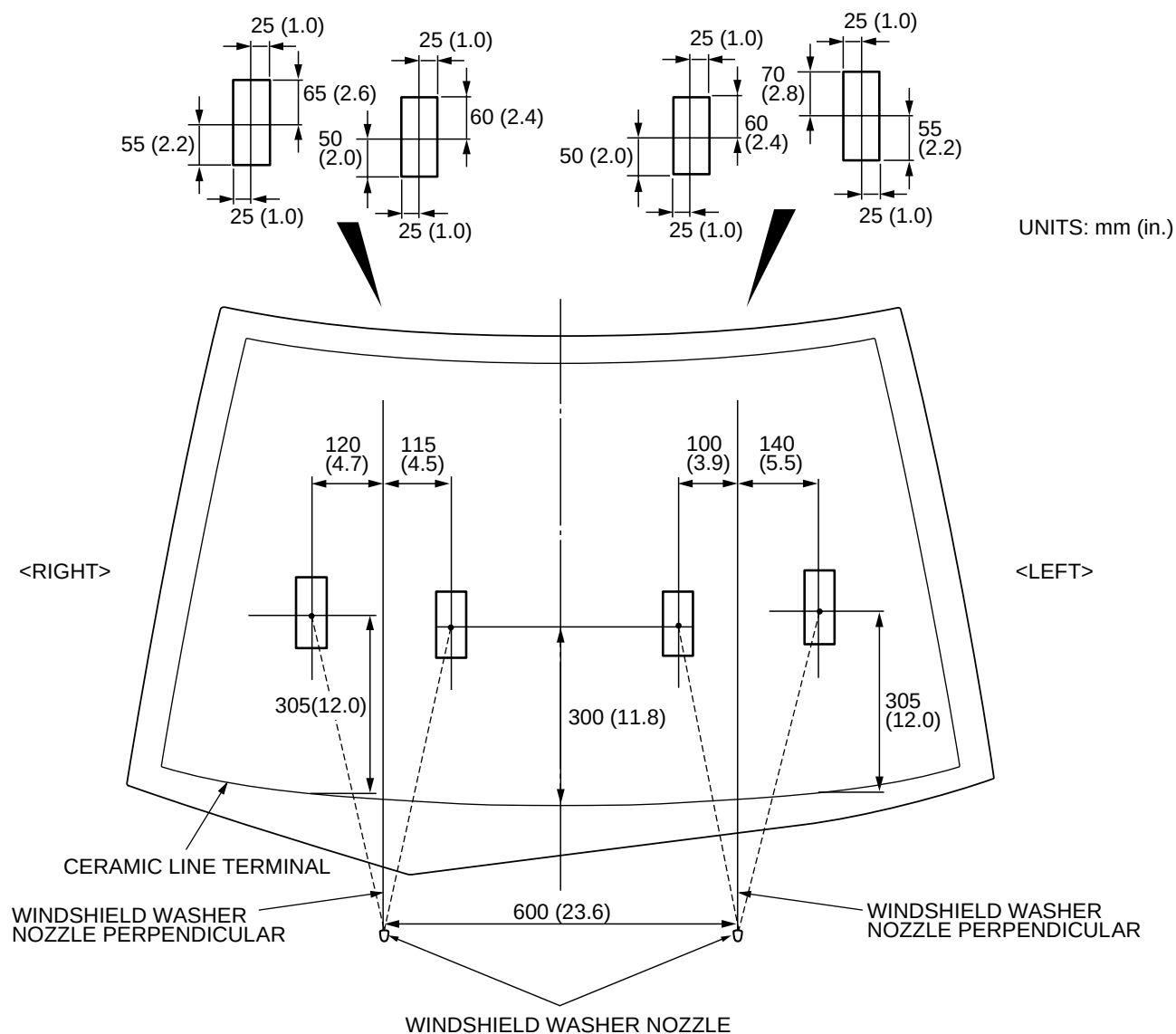
FRONT WASHER MOTOR CHECK

1. Remove the washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water sprays vigorously when connecting the positive battery terminal to terminal number 2 and terminal number 1 to the negative battery terminal.



WINDSHIELD WASHER FLUID EJECTION CHECK

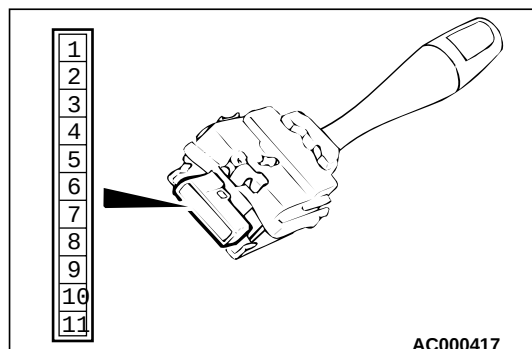
Move the nozzle to adjust the position so that the spray is in area shown in the area shown in the illustration.



AC306988AB

**WINDSHIELD WIPER AND WINDSHIELD WASHER
SWITCH CHECK**

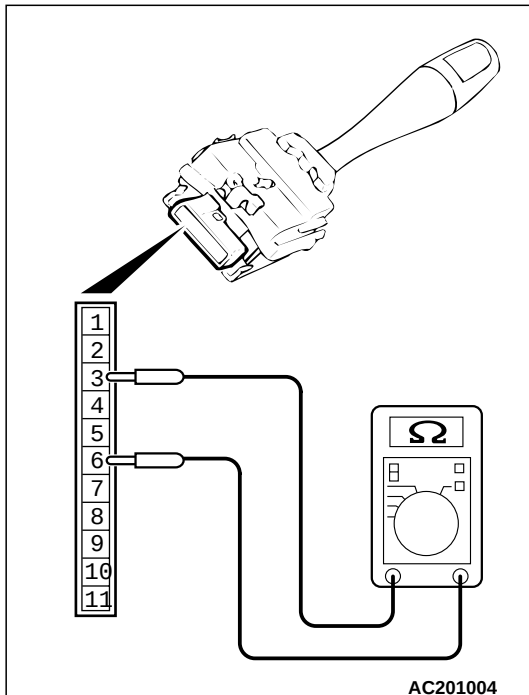
Check continuity between the switch terminals.



SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
OFF	6 – 11, 6 – 10, 6 – 9, 6 – 8, 6 – 7	Open circuit
Windshield mist wiper switch	6 – 11	Less than 2 ohms
Windshield intermittent wiper switch	6 – 10	
Windshield low-speed wiper switch	6 – 9	
Windshield high-speed wiper switch	6 – 8	
Windshield washer switch	6 – 7	

WINDSHIELD INTERMITTENT WIPER INTERVAL CHECK

Check that the resistance varies between 0 and 1 kilohm when the windshield intermittent interval control is turned from FAST to SLOW by after measuring resistance between connector terminals 3 and 6 at the column switch.



REAR WIPER AND WASHER

GENERAL DESCRIPTION

M1511000100622

REAR WIPER AND WASHER OPERATION

REAR WIPER OPERATION

- If the rear wiper and washer switch is turned to "INT" position with the ignition switch at "ACC" or "ON" position, the ETACS-ECU turns ON the rear wiper drive signal for three seconds (approximately two cycles), then 7.4 seconds later the intermittent motion operates every eight seconds. If the selector lever is moved to the "R" position when the rear wiper and washer switch is turned to the "INT" position and the ignition switch is at the "ACC" or "ON" position, the transmission range switch "R" turns ON. One second later, the ETACS-ECU turns ON the rear wiper drive signal for three seconds (approximately two cycles). Then, 7.4 seconds later, the intermittent motion of eight seconds' cycle is restored.

REAR WIPER AND WASHER DIAGNOSIS

M1511000700408

The rear wiper and washer are controlled by the Simplified Wiring System (SWS). For troubleshooting, refer to GROUP 54B, SWS Diagnosis [P.54B-23](#).

REAR WASHER OPERATION

- If the rear wiper and washer switch is turned to the ON (washer) position with the ignition switch at the "ACC" or "ON" position, the rear washer ON signal is sent to the ETACS-ECU, causing the rear wiper signal to turn on after 0.3 second. After the rear washer switch signal turns off, the rear wiper signal turns off in three seconds. If the rear washer switch is turned to the ON position while the rear wiper is in intermittent mode, the rear washer works for that period when the washer switch remains on. Then the rear wipers return to the intermittent mode.

ON-VEHICLE SERVICE

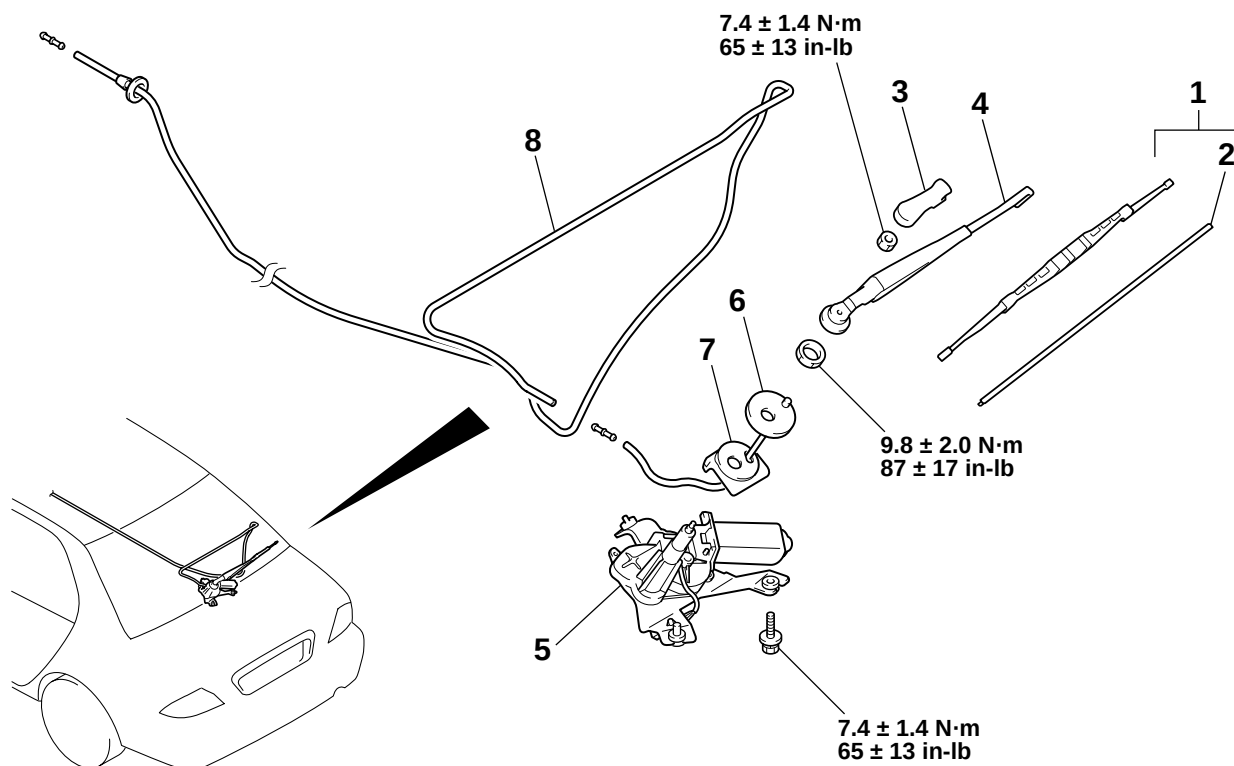
M1511000800524

CHECK OF REAR WIPER OPERATION WHEN SELECTOR LEVER IS AT THE "R" POSITION

1. When the selector lever is moved to the "R" position with the rear wiper switch at the "INT" position, the wiper should operate twice or three times at low speed after approximately one second.
2. If not, carry out the troubleshooting (Refer to GROUP 54B, Diagnosis [P.54B-23](#)).

REAR WIPER AND WASHER REMOVAL AND INSTALLATION

M1511008500204



AC308846AB

- WASHER TANK ASSEMBLY AND REAR WASHER MOTOR (REFER TO [P.51-17](#)).

WIPER BLADE ASSEMBLY REMOVAL STEPS

- >>C<< 1. WIPER BLADE ASSEMBLY
>>B<< 2. WIPER BLADE

REAR WIPER MOTOR AND REAR WASHER NOZZLE REMOVAL STEPS

- <<A>> >>A<< 3. COVER
4. WIPER ARM
5. REAR WIPER MOTOR ASSEMBLY
6. NOZZLE AND COLLAR ASSEMBLY
7. PACKING AND WASHER ASSEMBLY

WASHER HOSE REMOVAL STEPS

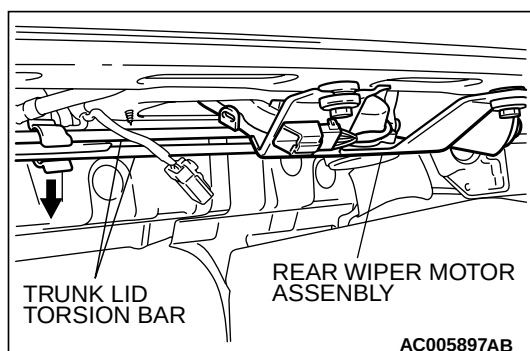
- COWL SIDE TRIM, FRONT SCUFF PLATE, CENTER PILLAR TRIM LOWER, REAR SCUFF PLATE, REAR PILLAR TRIM AND REAR SHELF TRIM (REFER TO GROUP 52A, TRIM [P.52A-12](#)).
- REAR SEAT (REFER TO GROUP 52A, REAR SEAT [P.52A-23](#)).
- 8. REAR WASHER HOSE

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch [P.54A-70](#).

REMOVAL SERVICE POINT

<<A>> REAR WIPER MOTOR ASSEMBLY REMOVAL

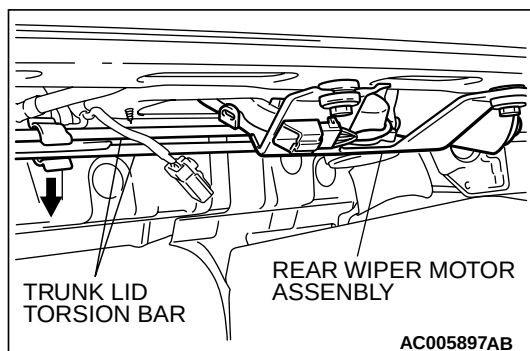
Close the trunk lid slightly and lower the trunk lid torsion bar slightly when removing the rear wiper motor assembly. If you fail to do this, the rear wiper motor assembly will interfere with the trunk lid torsion bar.



INSTALLATION SERVICE POINTS

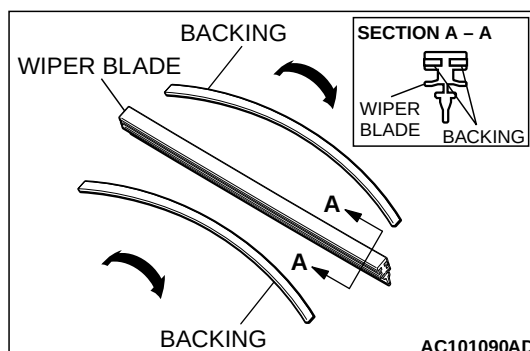
>>A<< REAR WIPER MOTOR ASSEMBLY INSTALLATION

Close the trunk lid slightly and lower the trunk lid torsion bar slightly when installing the rear wiper motor assembly. If you fail to do this, the rear wiper motor assembly will interfere with the trunk lid torsion bar.



>>B<< WIPER BLADE INSTALLATION

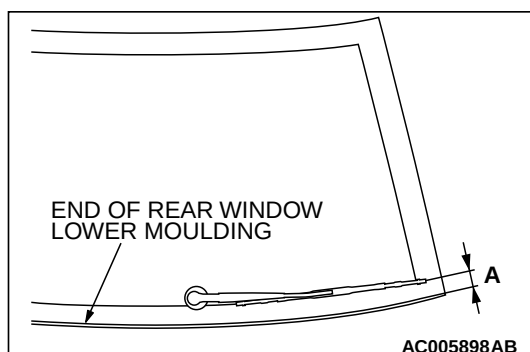
When installing the wiper blade, check that the backing inside the wiper blade is warped toward the wiper arm.



>>C<< WIPER BLADE ASSEMBLY INSTALLATION

Before installing the rear wiper arm and blade assembly, operate the rear wiper motor so that the motor stops at the predetermined park position. Install the rear wiper arm and blade assembly and adjust the rear wiper blade position so that the blade end stops at the predetermined position (standard position).

Standard value: (A) 38 ± 5 mm (1.5 ± 0.20 inch)



INSPECTION

M1511008600201

REAR WIPER MOTOR CHECK

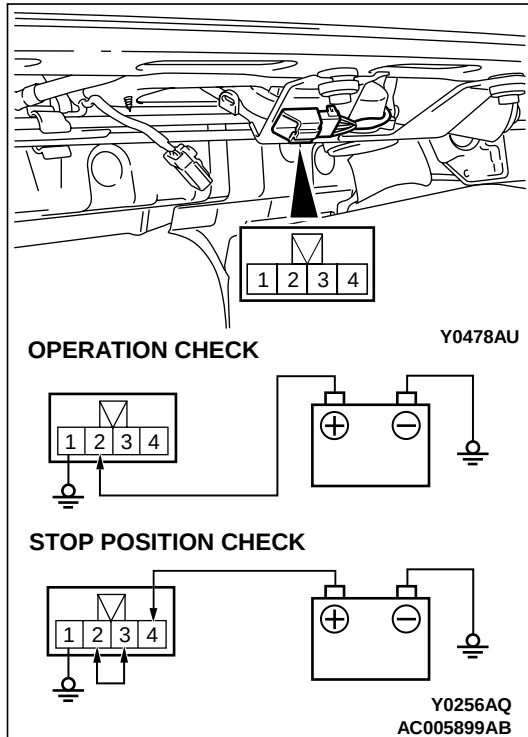
Inspect the rear wiper motor is conducted by removing the harness connector with the motor attached to the vehicle.

Wiper Motor Operation

Connect the battery to the rear wiper motor as shown in the illustration and check the motor operation.

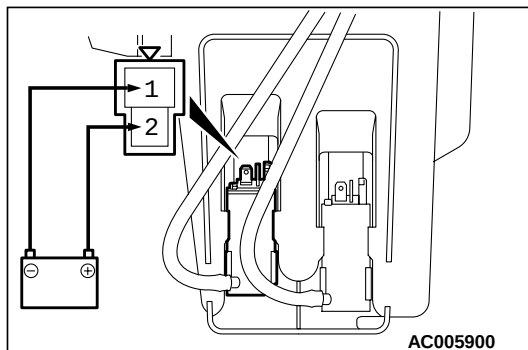
Wiper Motor at Stop Position Operation

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.



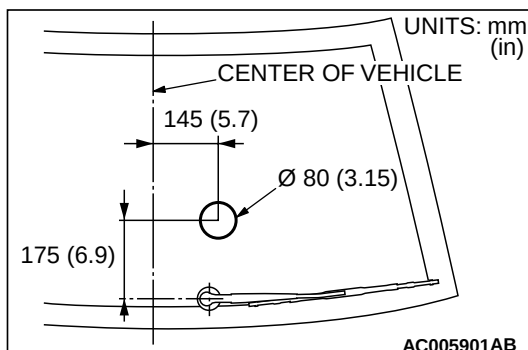
REAR WASHER MOTOR CHECK

1. Remove the rear washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to the negative battery terminal.



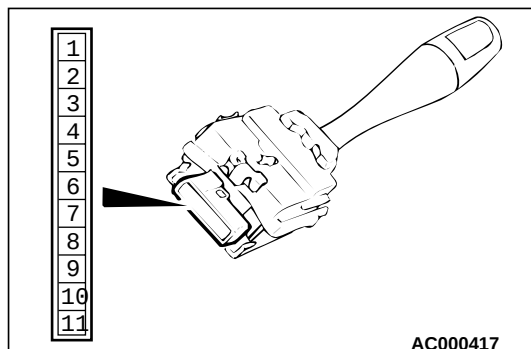
REAR WASHER FLUID EJECTION CHECK

Move the nozzle to adjust the position so that the spray is in the area shown in the illustration.



REAR WIPER AND WASHER SWITCH CHECK

Check continuity between the switch terminals.

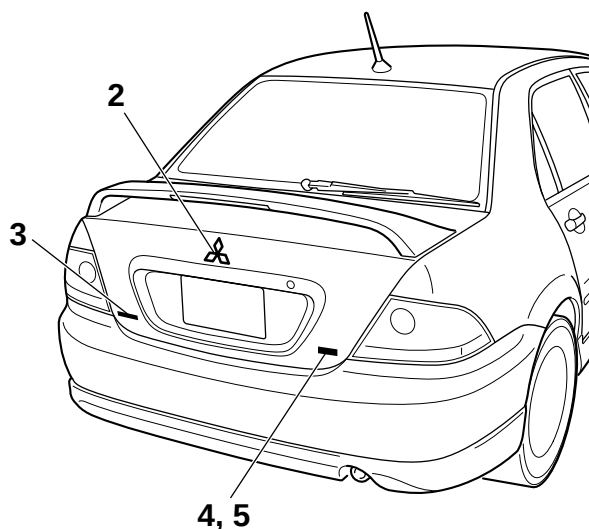
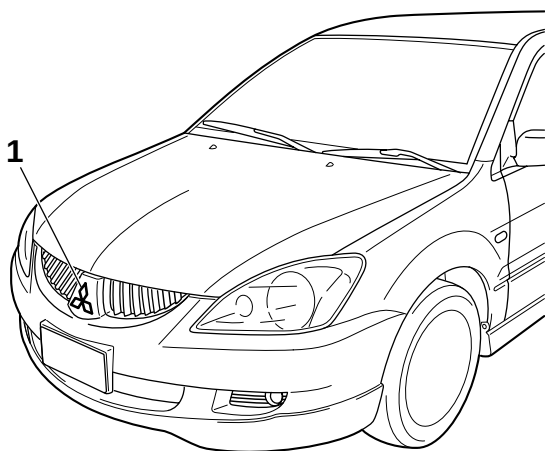


SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
OFF	4 – 6, 5 – 6	Open circuit
Rear wiper switch	4 – 6	Less than 2 ohms
Rear washer switch	5 – 6	Less than 2 ohms

MARK

REMOVAL AND INSTALLATION

M1511011800551



AC308642 AB

1. FRONT THREE-DIAMOND MARK
 >>A<< 2. REAR THREE-DIAMOND MARK
 >>A<< 3. LANCER MARK

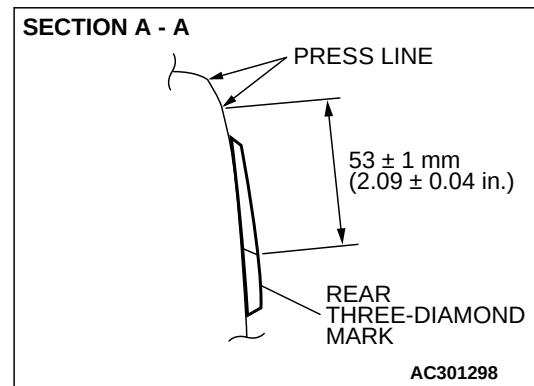
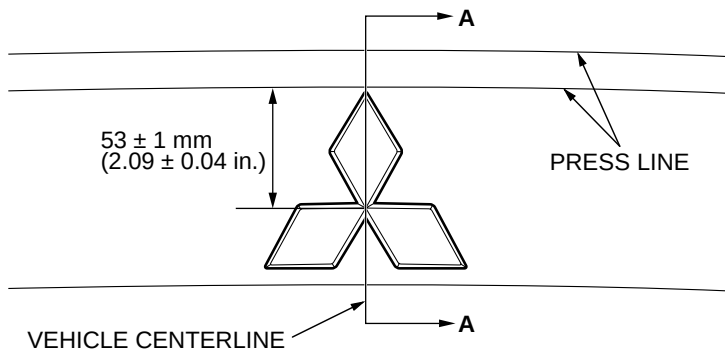
- >>A<< 4. GRADE MARK (DE, ES, LS)
 >>A<< 5. RALLIART MARK

INSTALLATION SERVICE POINT

>>A<< MARK APPLICATION

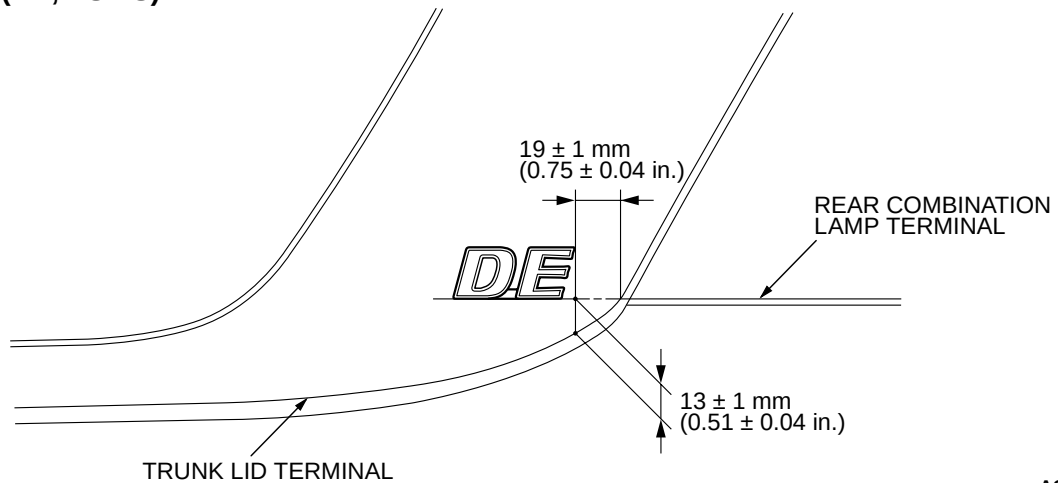
1. Installation position
 Attach each mark to the position shown in the illustration.

FRONT THREE-DIAMOND MARK



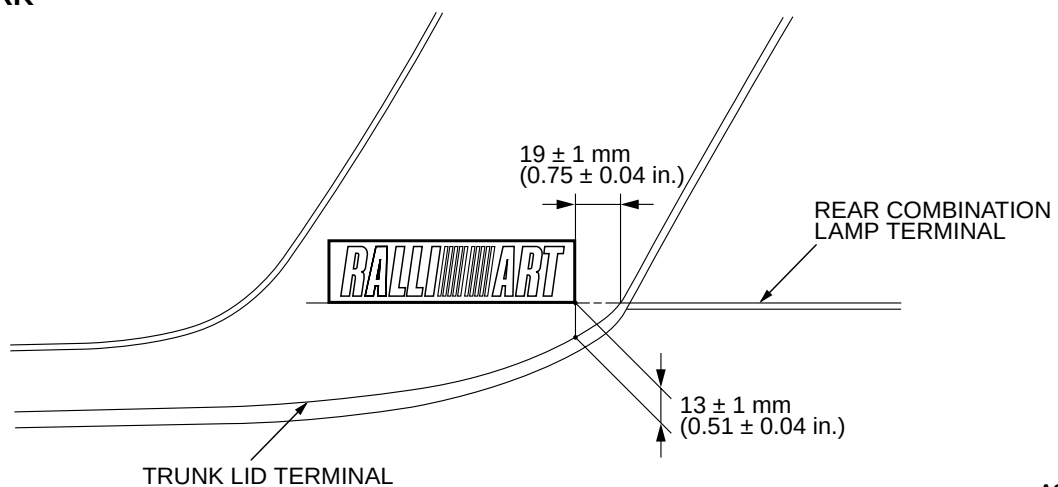
AC308640 AB

GRADE MARK (DE, ES LS)



AC308299 AB

RALLIART MARK



AC308298 AB

2. Installation procedure

- (1) Use 3M™ AAD Part number 8906 or equivalent to clean the mark installation surfaces on the body.

** CAUTION**

When attaching the marks, the ambient temperature should be 20° – 38°C (60° – 100°F) and the air should be completely free of dust. If the ambient temperature is lower than 20°C (60°F), the marks and the places on the vehicle body where the marks are to be attached should be heated to 20° – 38°C (60° – 100°F).

- (2) Peel off the protection sheet on the back of the marks to affix it in position.

DOOR MIRROR

GENERAL DESCRIPTION

OPERATION DOOR MIRROR

REMOTE CONTROLLED MIRROR OPERATION

- The mirror on the door mirror moves up/down and left/right by operating the remote controlled door mirror switch when the ignition switch is in the "ON" or "ACC" position.

HEATED DOOR MIRROR OPERATION

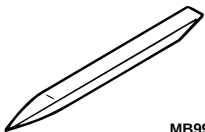
- The rear window defogger relay switch is activated (ON) by turning on the A/C-ECU built-in rear window defogger switch when the ignition switch is in the "ON" position. When the rear window defogger relay is turned ON, power is sup-

plied to the rear window defogger and door mirror, and the heater of the door mirror (heated door mirror) starts operations. The rear window defogger comes with a timer function and will automatically turn OFF the switch approximately 20 minutes after the rear window defogger switch is turned ON. The heated door mirror operations are also terminated along with the rear window defogger, at this time.

M1511000100655

SPECIAL TOOL

M1511000601233

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB990784	MB990784 Ornament remover	General service tool	Removal of remote controlled mirror switch

HEATED DOOR MIRROR DIAGNOSIS <Vehicles for CANADA>

TROUBLESHOOTING STRATEGY

M1511014600211

Diagnosis should be carried out by the following procedures.

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

TROUBLE SYMPTOM CHART

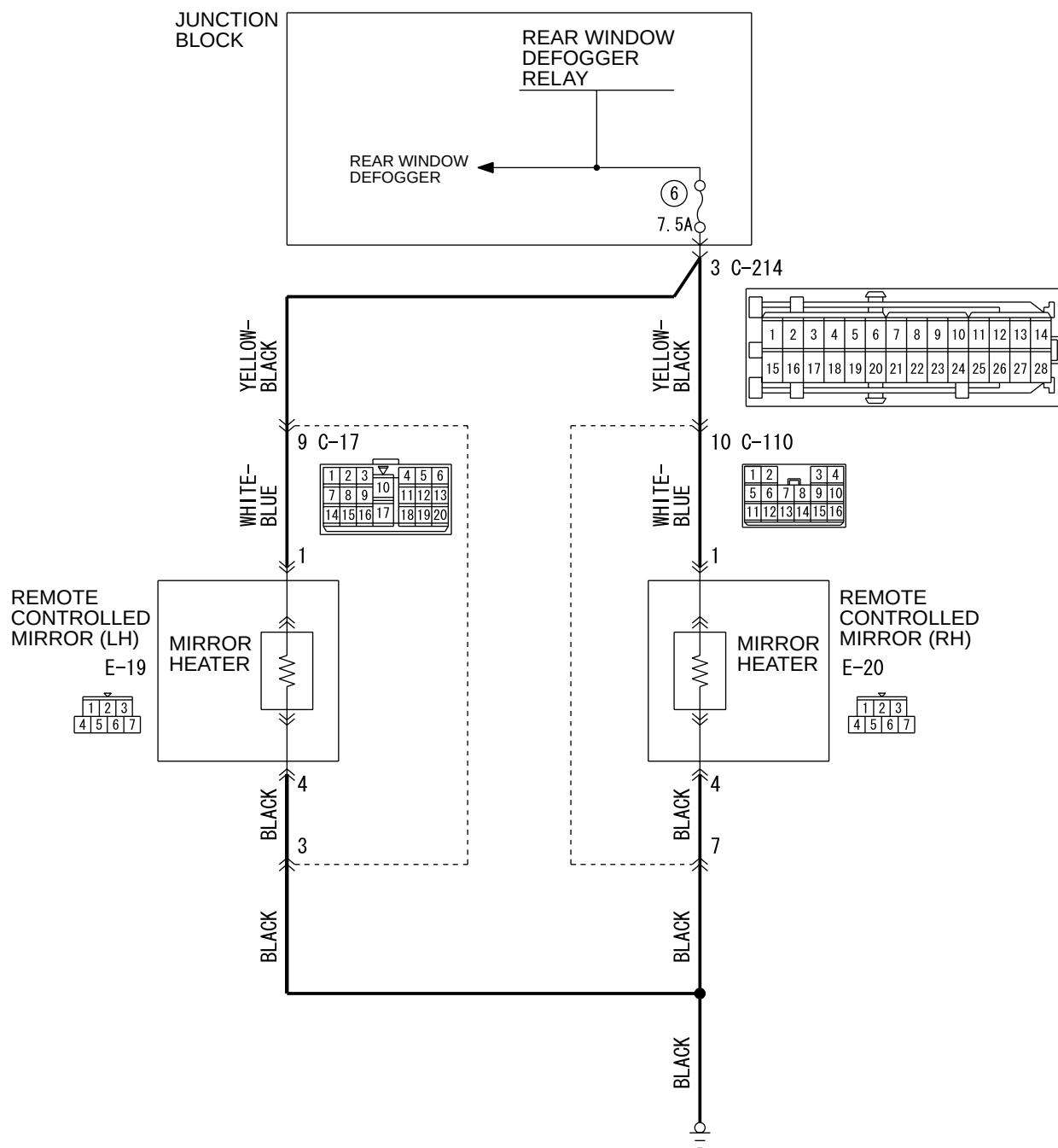
M1511015000234

SYMPTOMS	INSPECTION PROCEDURE	REFERENCE PAGE
All heated door mirrors do not operate	1.	P.51-30
The right or left heated door mirror does not operate	2.	P.51-36

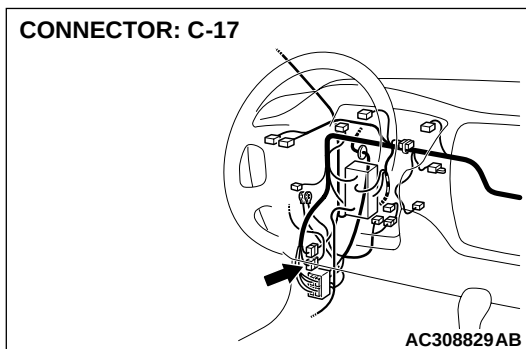
SYMPTOM PROCEDURES <Vehicles for CANADA>

INSPECTION PROCEDURE 1: All Heated Door Mirrors do not Operate

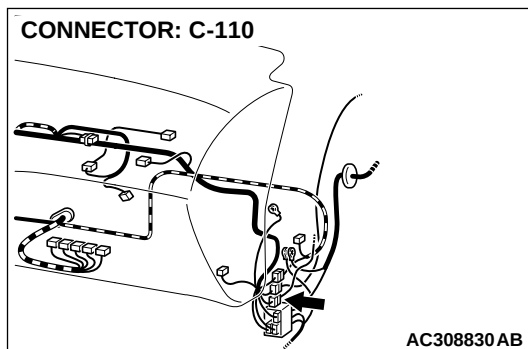
Heated door mirror circuit



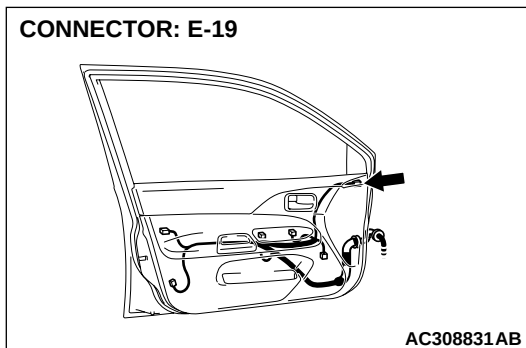
CONNECTOR: C-17



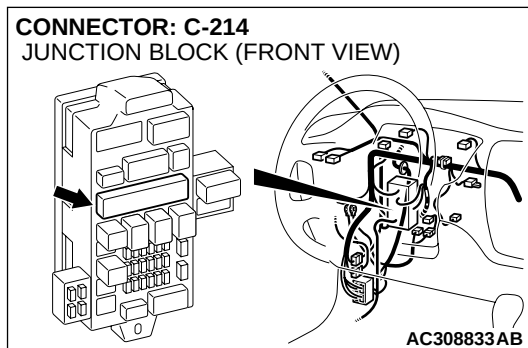
CONNECTOR: C-110



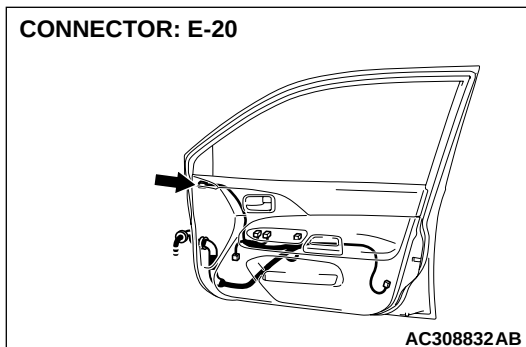
CONNECTOR: E-19



CONNECTOR: C-214
JUNCTION BLOCK (FRONT VIEW)



CONNECTOR: E-20



CIRCUIT OPERATION

If both of the door mirror heaters do not operate normally it may be due to a malfunction in the rear window defogger system.

TROUBLESHOOTING HINTS

- Malfunction of the rear window defogger system
- The wiring harness or connectors may have loose, corroded or damaged terminals, or terminals pushed back in the connector.

DIAGNOSIS

Required Special Tools:

- MB991223: Test Harness Set

STEP 1. Check the rear window defogger.

Check that the rear window defogger works normally as follows.

- (1) Turn the ignition switch to the "ON" position.
- (2) Push the rear window defogger switch to operate the defogger.

Q: Does the defogger work normally?

YES : Go to Step 2.

NO : Because of malfunction of the rear window defogger, carry out the troubleshooting (Refer to GROUP 55A, Manual A/C Diagnosis [P.55-5](#)).

STEP 2. Check the remote controlled mirror (RH) connector E-20 and junction block connector C-214 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

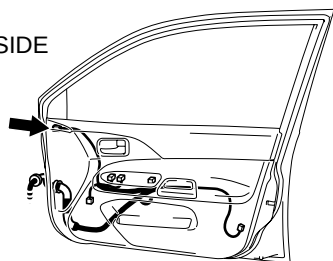
Q: Are the remote controlled mirror (RH) connector E-20 and junction block connector C-214 in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check if the door mirrors works normally.

CONNECTOR: E-20

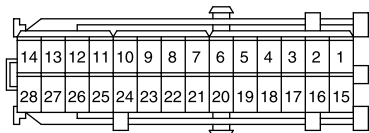
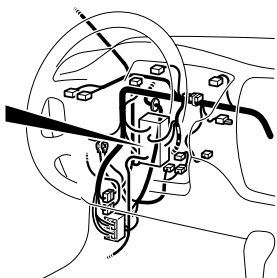
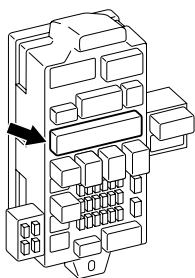
HARNESS SIDE



AC308832AC

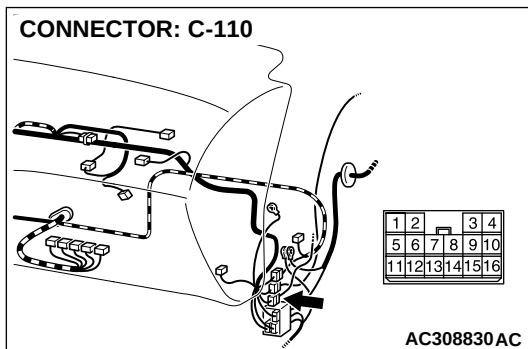
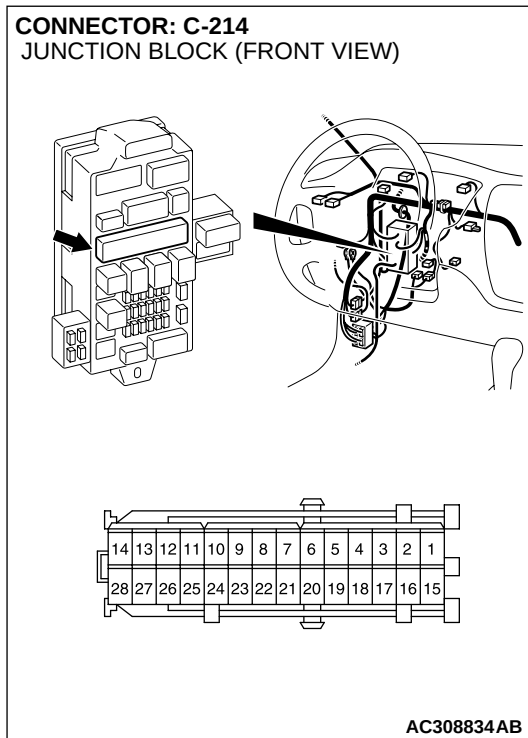
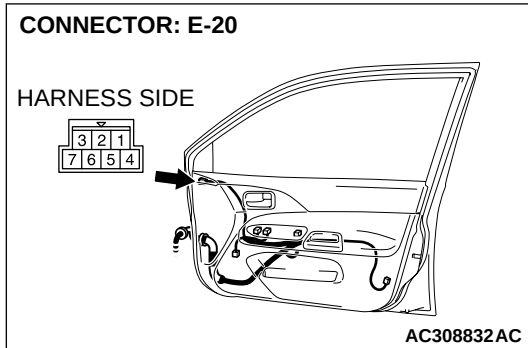
CONNECTOR: C-214

JUNCTION BLOCK (FRONT VIEW)



AC308834AB

STEP 3. Check the wiring harness between the remote controlled mirror (RH) connector E-20 (terminal 1) and junction block connector C-214 (terminal 3).

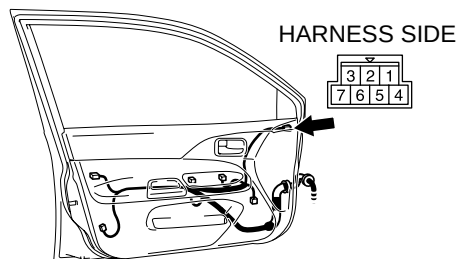


NOTE: Also check intermediate connector C-110 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-110 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

Q: Is the wiring harness between remote controlled mirror (RH) connector E-20 (terminal 1) and junction block connector C-214 (terminal 3) in good condition?

YES : Go to step 4.

NO : Repair the wiring harness as necessary. Check if the all heated door mirrors work normally.

CONNECTOR: E-19

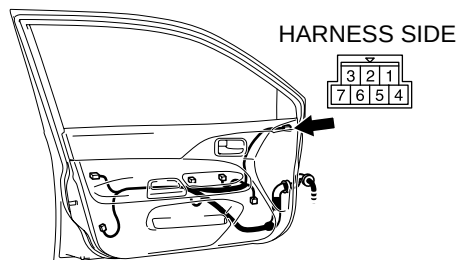
AC308831AC

STEP 4. Check remote controlled mirror (LH) connector E-09.

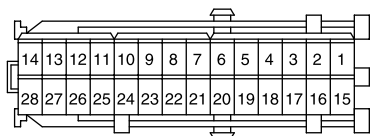
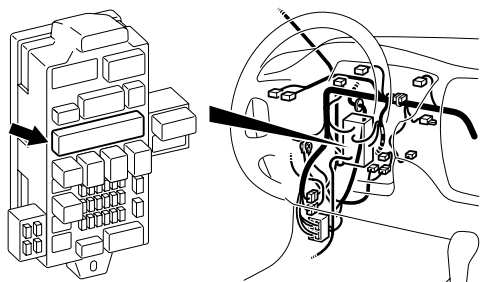
Q: Is remote controlled mirror (LH) connector E-19 in good condition?

YES : Go to Step 5.

NO : Repair or replace the damaged component(s). Check if the all heated door mirrors works normally.

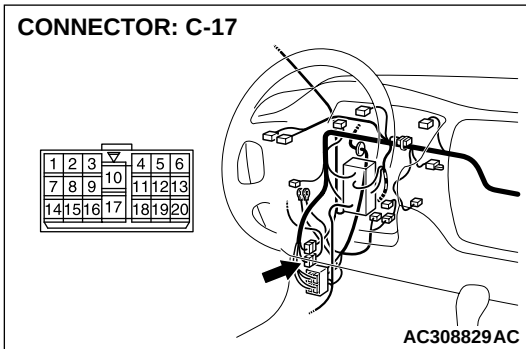
CONNECTOR: E-19

AC308831AC

STEP 5. Check the wiring harness between remote controlled mirror (LH) connector E-19 (terminal 1) and junction block connector C-214 (terminal 3).**CONNECTOR: C-214****JUNCTION BLOCK (FRONT VIEW)**

AC308834AB

CONNECTOR: C-17



NOTE: Also check intermediate connector C-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-17 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

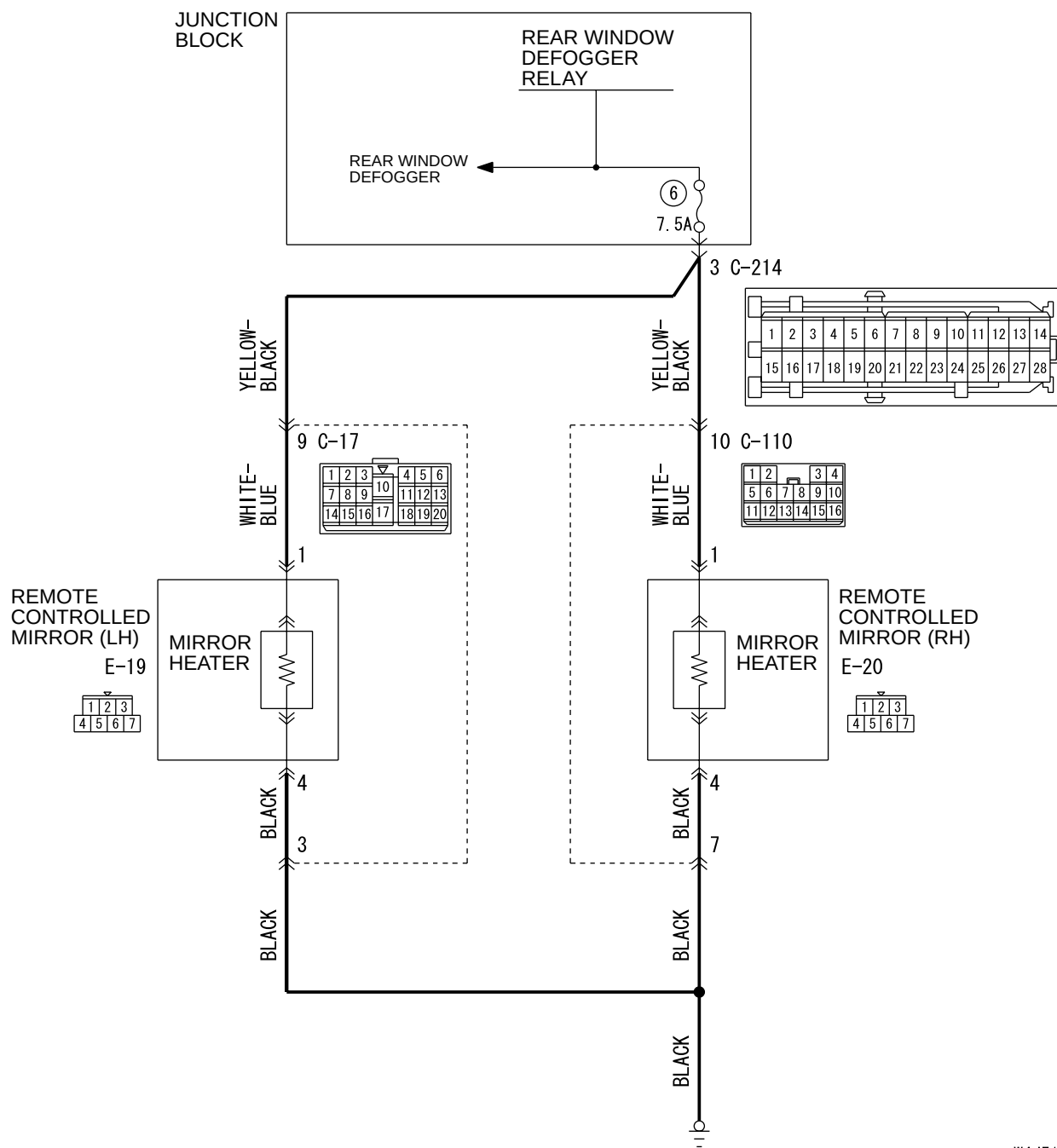
Q: Is the wiring harness between remote controlled mirror (RH) connector E-19 (terminal 1) and junction block connector C-214 (terminal 3) in good condition?

YES : The procedure is complete.

NO : Repair the wiring harness as necessary. Check if the all heated door mirrors work normally.

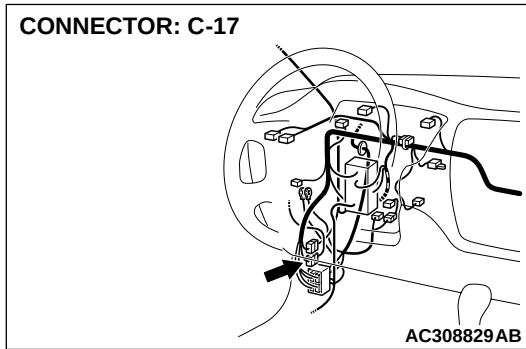
INSPECTION PROCEDURE 2: Right or Left Heated Door Mirror does not Operate

Heated door mirror circuit

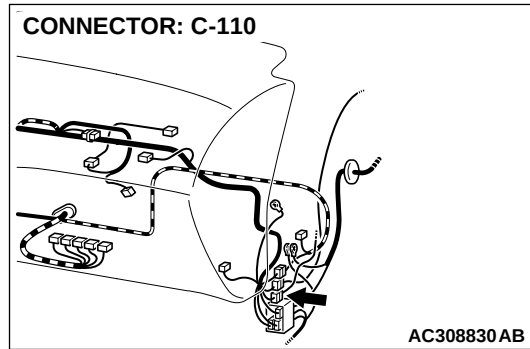


W4J51M00AA

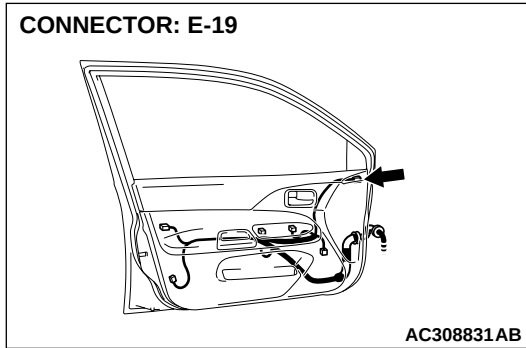
CONNECTOR: C-17



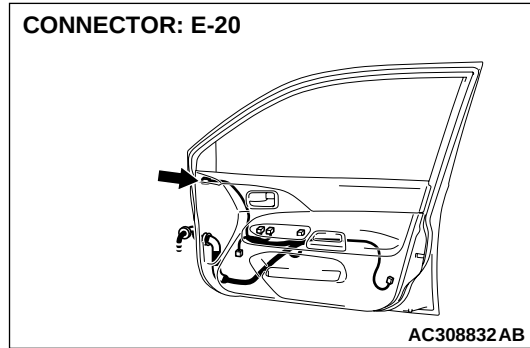
CONNECTOR: C-110



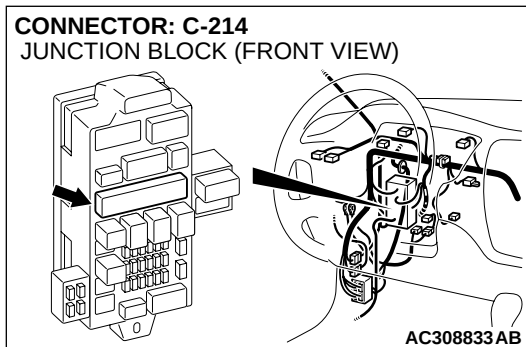
CONNECTOR: E-19



CONNECTOR: E-20



CONNECTOR: C-214
JUNCTION BLOCK (FRONT VIEW)



CIRCUIT OPERATION

If either of the heated door mirrors do not operate normally, it may be due to malfunctions in the heated door mirror circuit or door mirror.

TROUBLESHOOTING HINTS

- Malfunction of the heated door mirror circuit
- Malfunction of the door mirror
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector.

DIAGNOSIS

STEP 1. Verify the operation of each heated door mirror.

Q: Which door mirror does not heat?

Door mirror (LH) : Go to Step 2.

Door mirror (RH) : Go to Step 8.

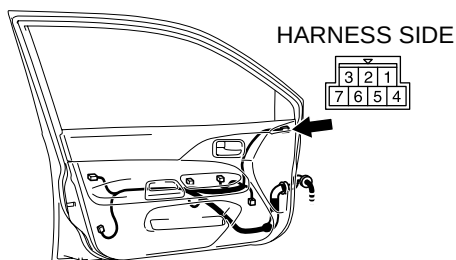
STEP 2. Check remote controlled mirror (LH) connector E-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is remote controlled mirror (LH) connector E-19 in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (LH) operates normally.

CONNECTOR: E-19



AC308831AC

STEP 3. Check the heater of the door mirror (LH).

⚠ CAUTION

When relocating the car between locations of extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

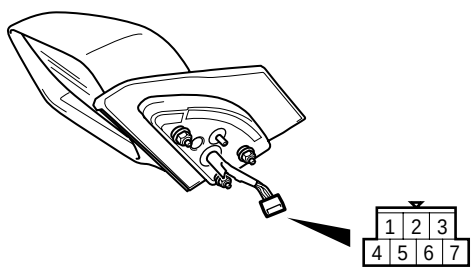
The resistance value between door mirror (LH) connector terminals 1 and 4 should meet the standard value with the ambient temperature at a steady 25°C (77°F).

Standard value: 5.9 – 7.8 Ω

Q: Is the resistance normal?

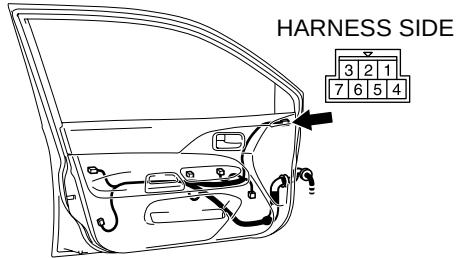
YES : Go to Step 4.

NO : Replace the door mirror (LH). And then check to see that the heater function of the door mirror (LH) is operating normally.



AC307107

CONNECTOR: E-19



AC308831AC

**CONNECTOR: E-19
(HARNESS SIDE)**



AC308839AB

STEP 4. Check the ground circuit to between remote controlled mirror (LH) connector E-19 and ground for open circuit. Measure the resistance at remote controlled mirror (LH) connector E-19.

(1) Disconnect remote controlled mirror (LH) connector E-19 and check at the wiring harness side connector.

(2) Measure the resistance value between terminal 4 and ground.

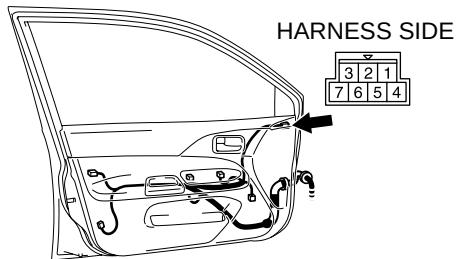
- The resistance should equal 2 ohms or less.

Q: Is the measured resistance 2 ohms or less?

YES : Go to Step 6.

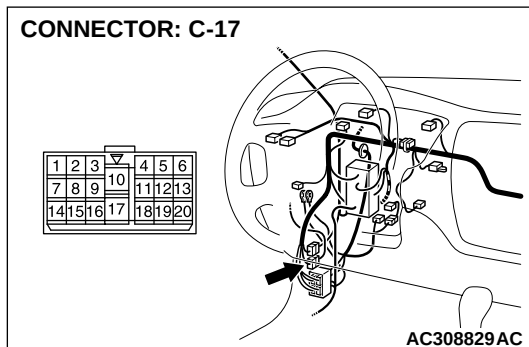
NO : Go to Step 5.

CONNECTOR: E-19



AC308831AC

STEP 5. Check the wiring harness between remote controlled mirror (LH) connector E-19 (terminal 4) and ground.

CONNECTOR: C-17

NOTE: Also check intermediate connector C-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-17 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

Q: Is the wiring harness between remote controlled mirror (LH) connector E-19 (terminal 4) and ground in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged. Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (LH) operates normally.

STEP 6. Check junction block C-214 for loose, corroded damaged terminal, or terminals pushed back in the connector.

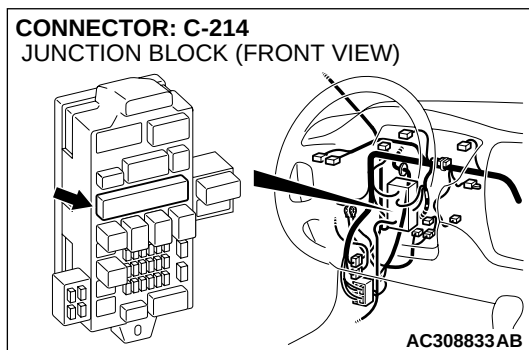
Q: Is junction block C-214 in good condition?

YES : Go to Step 7.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (LH) operates normally.

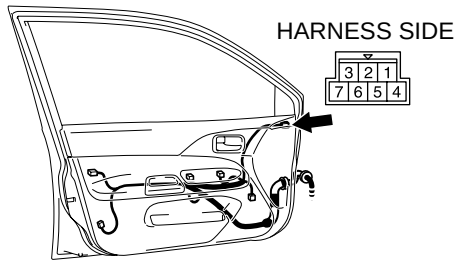
CONNECTOR: C-214

JUNCTION BLOCK (FRONT VIEW)



STEP 7. Check the wiring harness between remote controlled mirror (LH) connector E-19 (terminal 1) and junction block connector C-214 (terminal 3).

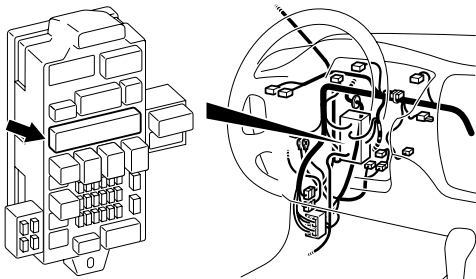
CONNECTOR: E-19



AC308831AC

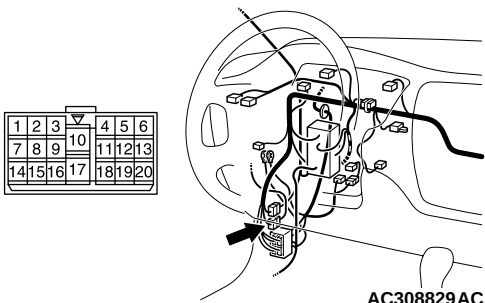
CONNECTOR: C-214

JUNCTION BLOCK (FRONT VIEW)



AC308834AB

CONNECTOR: C-17



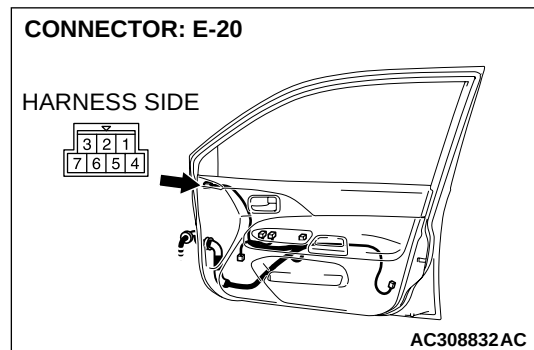
AC308829AC

NOTE: Also check intermediate connector C-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-17 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

Q: Is the wiring harness between remote controlled mirror (LH) connector E-19 (terminal 1) and junction block connector C-214 (terminal 3) in good condition?

YES : No action is necessary and testing is complete.

NO : Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (LH) operates normally.

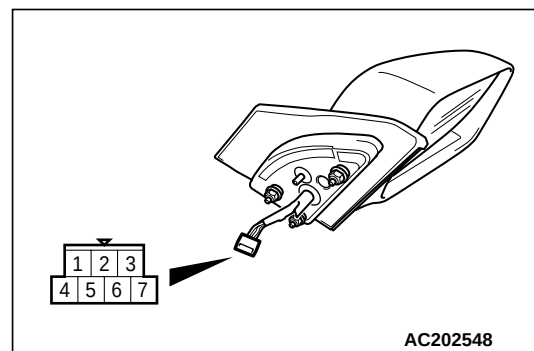


STEP 8. Check the remote controlled mirror (RH) connector E-20 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the remote controlled mirror (RH) connector E-20 in good condition?

YES : Go to Step 9.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (RH) operates normally.



STEP 9. Check the heater function of the door mirror (RH).

⚠ CAUTION

When relocating the car between locations of extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

The resistance value between door mirror (RH) connector terminals 1 and 4 should meet the standard value with the ambient temperature at a steady 25°C (77°F).

Standard value: 5.9 – 7.8 Ω

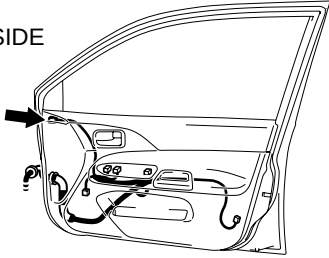
Q: Is the resistance normal?

YES : Go to Step 10.

NO : Replace the door mirror (RH). And then check to see that the heater function of the door mirror (RH) operates normally.

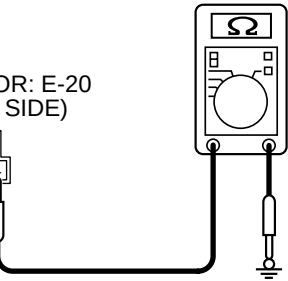
CONNECTOR: E-20

HARNESS SIDE



AC308832AC

CONNECTOR: E-20
(HARNESS SIDE)



AC308839AC

STEP 10. Check the ground circuit between remote controlled mirror (RH) connector E-20 and ground for open circuit. Measure the resistance at remote controlled mirror (RH) connector E-20.

(1) Disconnect remote controlled mirror (RH) connector E-20, and check at the wiring harness side connector.

(2) Measure the resistance value between terminal 4 and ground.

- The resistance should equal 2 ohms or less.

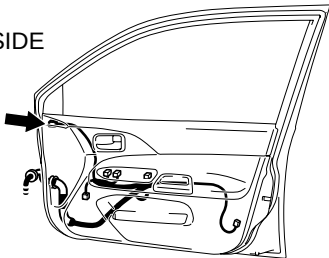
Q: Is the measured resistance 2 ohms or less?

YES : Go to Step 12.

NO : Go to Step 11.

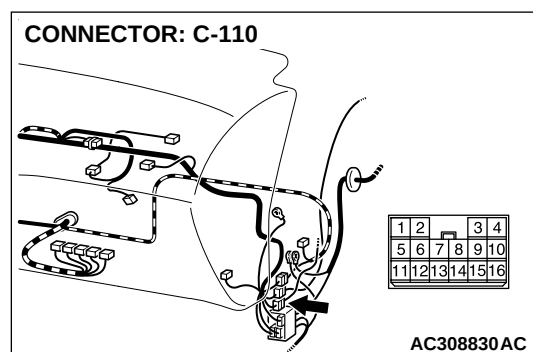
CONNECTOR: E-20

HARNESS SIDE



AC308832AC

STEP 11. Check the wiring harness between remote controlled mirror (RH) connector E-20 (terminal 4) and ground.

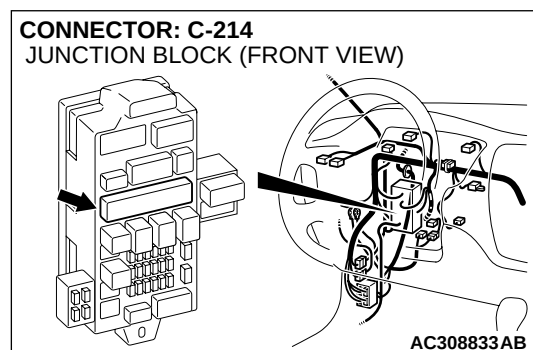


NOTE: Also check intermediate connector C-110 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-110 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

Q: Is the wiring harness between remote controlled mirror (RH) connector E-20 (terminal 4) and ground in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged. Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (RH) operates normally.



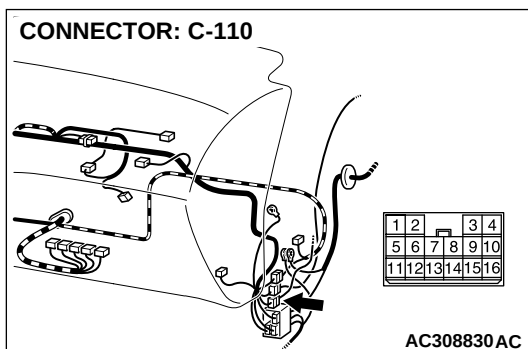
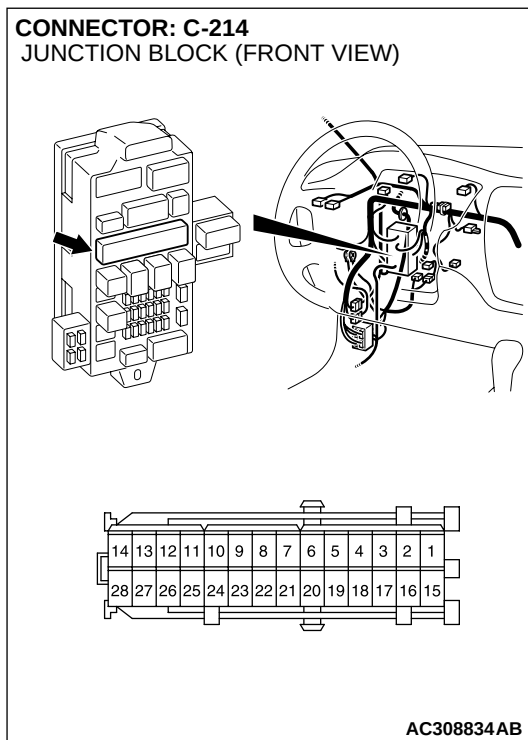
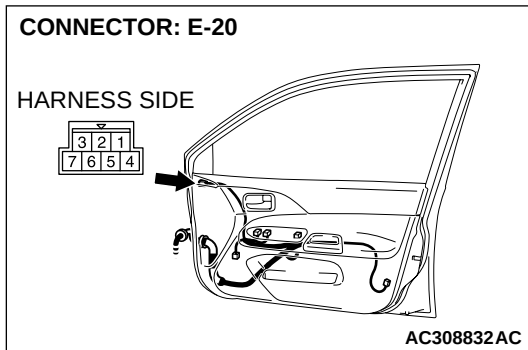
STEP 12. Check junction block C-214 for loose, corroded damaged terminal, or terminals pushed back in the connector.

Q: Is junction block C-214 in good condition?

YES : Go to Step 13.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). And then check to see that the heater function of the door mirror (RH) operates normally.

STEP 13. Check the wiring harness between remote controlled mirror (RH) connector E-20 (terminal 1) and junction block connector C-214 (terminal 3).



NOTE: Also check intermediate connector C-110 for loose, corroded or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-110 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

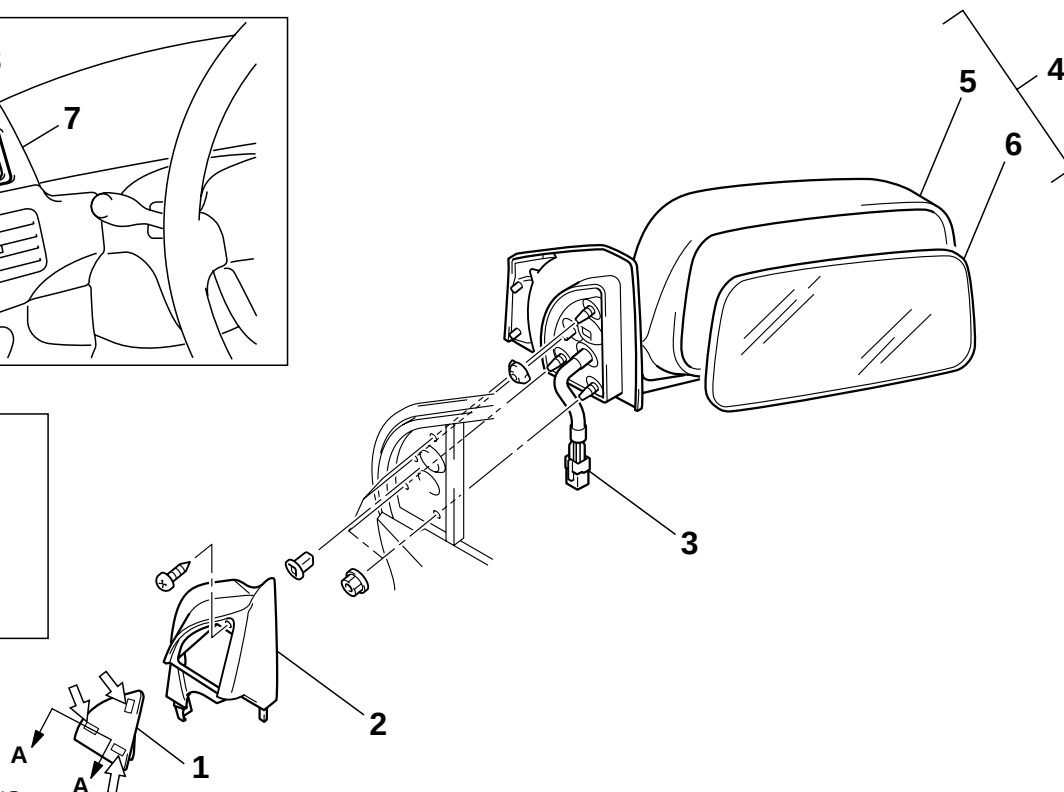
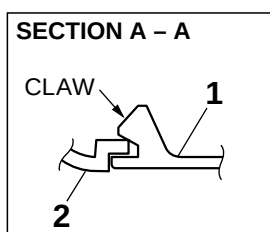
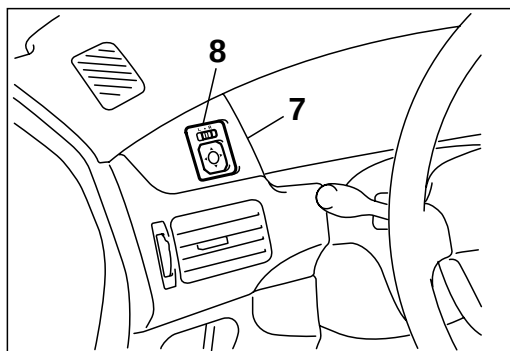
Q: Is the wiring harness between remote controlled mirror (RH) connector E-20 (terminal 1) and junction block connector C-214 (terminal 3) in good condition?

YES : No action is necessary and testing is complete.

NO : Repair the wiring harness as necessary. And then check to see that the heater function of the door mirror (RH) operates normally.

DOOR MIRROR
REMOVAL AND INSTALLATION

M1511006400375



NOTE
 : CLAW POITIONS

AC211103AB

DOOR MIRROR REMOVAL STEPS

1. COVER
2. DELTA INNER COVER
3. HARNESS CONNECTOR
 <VEHICLES WITH REMOTE
 CONTROLLED MIRROR>
4. DOOR MIRROR ASSEMBLY
5. DOOR MIRROR BODY ASSEMBLY
6. MIRROR

**REMOTE CONTROLLED MIRROR
SWITCH REMOVAL STEPS**

7. INSTRUMENT PANEL ORNAMENT
 (REFER TO GROUP 52A,
 INSTRUMENT PANEL [P.52A-3](#)).
8. REMOTE CONTROLLED MIRROR
 SWITCH

<<A>> >>A<<

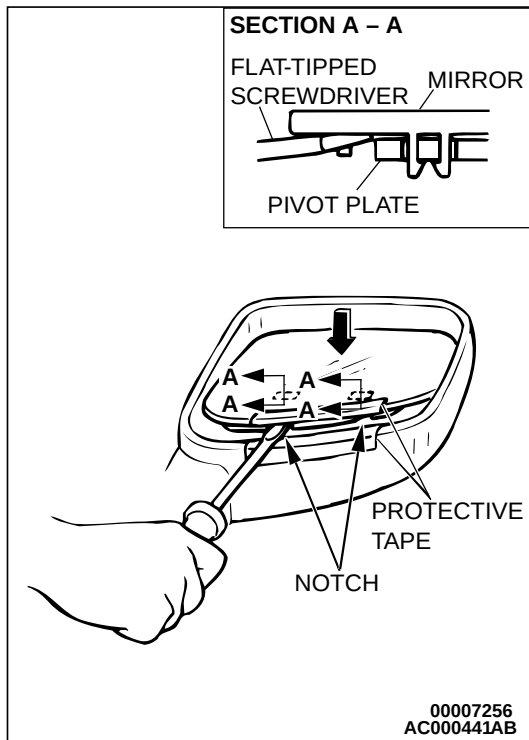
Required Special Tool:

- MB990784: Ornament Remover

REMOVAL SERVICE POINT

<<A>> MIRROR REMOVAL

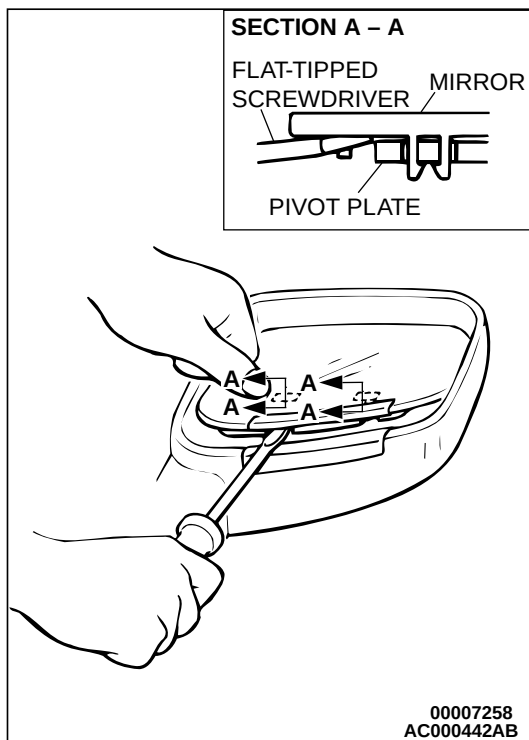
Push the top of the mirror with your hand to tilt it and attach the protective tape as shown in the illustration. Then insert a flat-tipped screwdriver in between the notch at the rear of the mirror and the pivot plate, and disengage the bottom of the mirror.



INSTALLATION SERVICE POINT

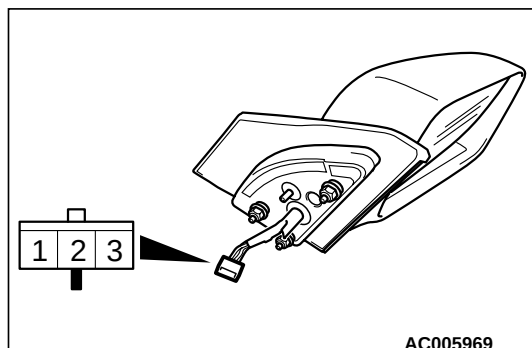
>>A<< MIRROR INSTALLATION

While supporting the clip position on the underside of the pivot plate with a flat-tipped screwdriver, press the clip at the front of the mirror to engage the bottom of the mirror.



INSPECTION**ELECTRIC REMOTE CONTROL MIRROR
OPERATION CHECK <VEHICLES WITHOUT
HEATED DOOR MIRROR>**

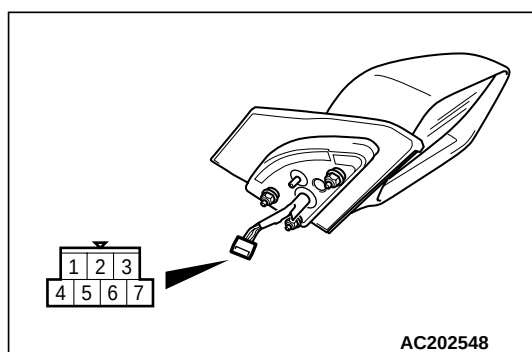
Check that the mirror moves as described in the table when each terminal is connected to the battery.



BATTERY CONNECTION	DIRECTION OPERATION
- Connect terminal 1 to the negative battery terminal. - Connect terminal 3 to the positive battery terminal.	Up
- Connect terminal 1 to the positive battery terminal. - Connect terminal 3 to the negative battery terminal.	Down
- Connect terminal 1 to the negative battery terminal. - Connect terminal 2 to the positive battery terminal.	Right
- Connect terminal 1 to the positive battery terminal. - Connect terminal 2 to the negative battery terminal.	Left

**ELECTRIC REMOTE CONTROL MIRROR
OPERATION CHECK <VEHICLES WITH HEATED
DOOR MIRROR>**

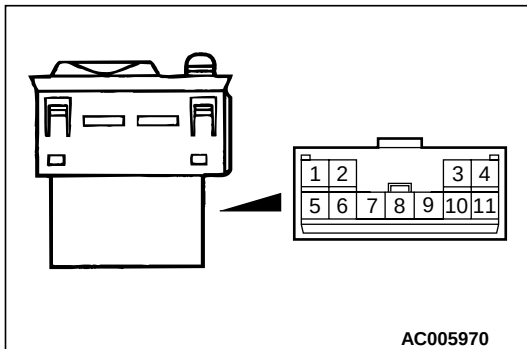
Check that the mirror moves as described in the table when each terminal is connected to the battery.



BATTERY CONNECTION	DIRECTION OPERATION
- Connect terminal 5 to the negative battery terminal. - Connect terminal 7 to the positive battery terminal.	Up

BATTERY CONNECTION	DIRECTION OPERATION
- Connect terminal 5 to the positive battery terminal. - Connect terminal 7 to the negative battery terminal.	Down
- Connect terminal 5 to the negative battery terminal. - Connect terminal 6 to the positive battery terminal.	Right
- Connect terminal 5 to the positive battery terminal. - Connect terminal 6 to the negative battery terminal.	Left

DOOR MIRROR CONTROL SWITCH CONTINUITY CHECK



SWITCH POSITION		TESTER CONNECTION	SPECIFIED CONDITION
OFF		9 – 2, 9 – 3, 9 – 6, 9 – 10, 9 – 11, 1 – 2, 1 – 3, 1 – 6, 1 – 10, 1 – 11	Open circuit
Left side	OFF	9 – 6, 9 – 10, 9 – 11, 1 – 6, 1 – 10, 1 – 11	Open circuit
	Up	1 – 6, 9 – 11	Less than 2 ohms
	Down	1 – 11, 6 – 9	
	Right	1 – 6, 9 – 10	
	Left	1 – 10, 6 – 9	
Right side	OFF	9 – 2, 9 – 3, 9 – 6, 1 – 2, 1 – 3, 1 – 6	Open circuit
	Up	1 – 6, 3 – 9	Less than 2 ohms
	Down	1 – 3, 6 – 9	
	Right	1 – 6, 2 – 9	
	Left	1 – 2, 6 – 9	

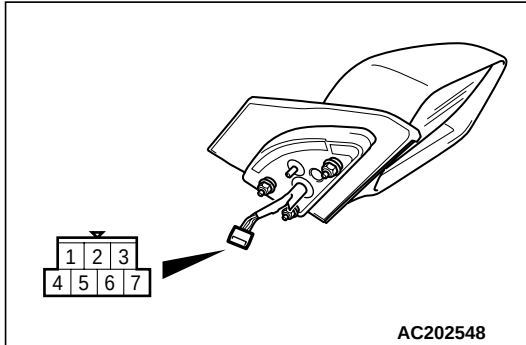
HEATED DOOR MIRROR CHECK

⚠ CAUTION

When relocating the car between locations with extremely different temperatures (warm and cold), leave the car in the location for a while to adapt to the temperature prior to checking it.

The resistance value between door mirror connector terminals 1 and 4 should meet the standard value with the ambient temperature at a steady 25°C (77°F).

Standard value: 5.9 – 7.8 Ω



SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1511015300309

ITEM	SPECIFICATION
Windshield wiper and washer	
Wiper arm and blade assembly nut	27 ± 3 N·m (20 ± 2 ft-lb)
Wiper link assembly bolt	7.4 ± 1.4 N·m (65 ± 13 in-lb)
Wiper motor bolt	8.9 ± 1.9 N·m (79 ± 17 in-lb)
Washer tank bolt and nut	11 ± 2 N·m (98 ± 17 in-lb)
Rear wiper and washer	
Nozzle and collar assembly nut	9.8 ± 2.0 N·m (87 ± 17 in-lb)
Wiper arm and blade assembly nut	7.4 ± 1.4 N·m (65 ± 13 in-lb)
Wiper motor bolt	7.4 ± 1.4 N·m (65 ± 13 in-lb)

SERVICE SPECIFICATIONS

M1511000300381

<WIPER AND WASHER>

ITEM	STANDARD VALUE
Windshield wiper blade park position mm (in)	34 ± 5 (1.3 ± 0.20)
Rear wiper blade park position mm (in)	38 ± 5 (1.5 ± 0.20)

<DOOR MIRROR>

ITEM	STANDARD VALUE
Heated door mirror resistance value Ω	5.9 – 7.8 [25°C (77°F)]

ADHESIVES

M1511000500471

ITEM	SPECIFICATION
Side air dam assembly	Adhesive tape: Double-sided tape 4 mm (0.16 in) width and 1.2 mm (0.05 in) thickness

COMPONENT IDENTIFICATIONS

M1511019000043

APPLICABLE LOCATION	IDENTIFICATION COLOR
Drip molding clip A	Yellow
Drip molding clip B	Blue
Drip molding clip C	Milky white
Front drip molding clip A	Orange
Front drip molding clip B	Purple
Front drip molding clip C	Blue
Rear drip molding clip	Gray

NOTES