GROUP 51

EXTERIOR

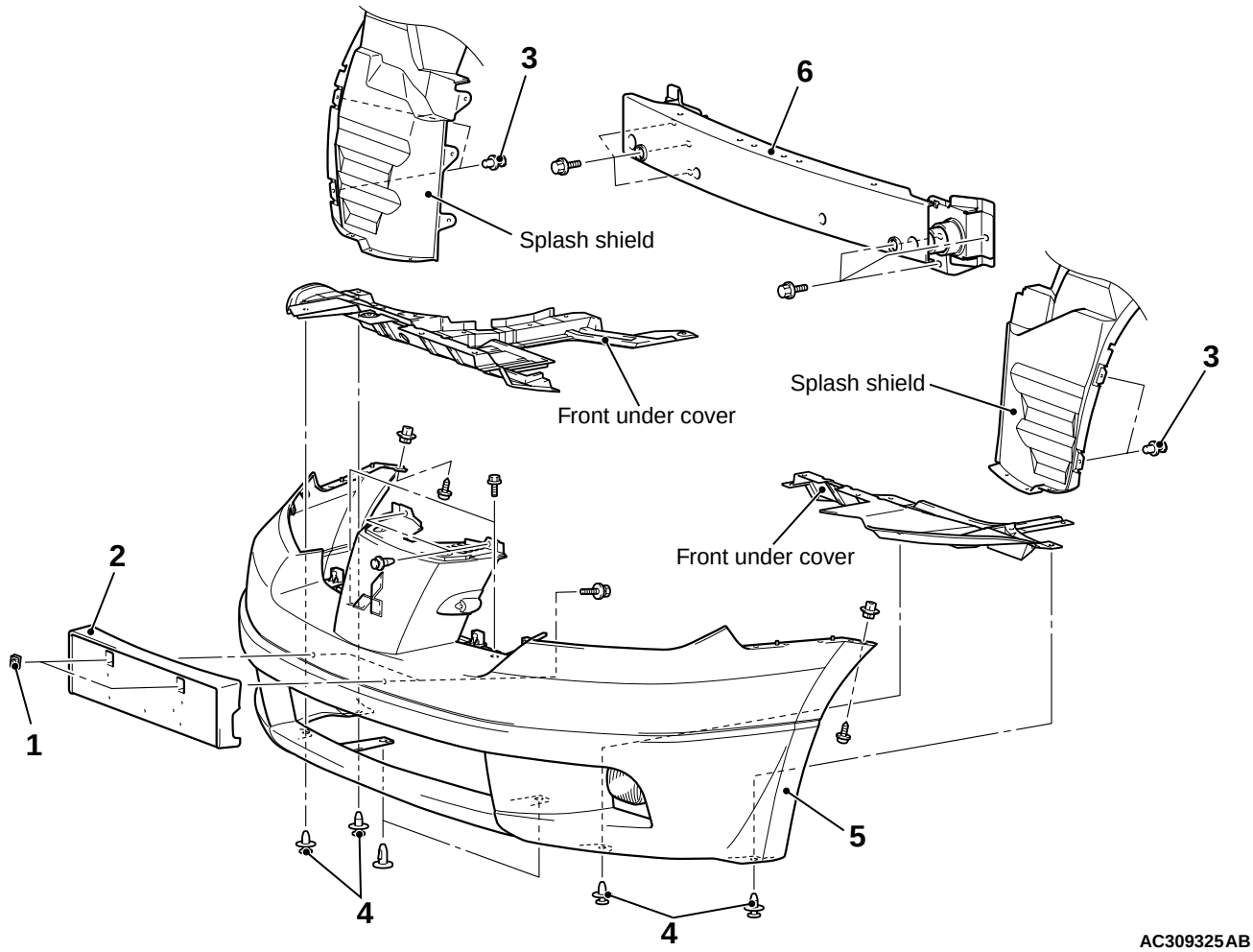
CONTENTS

Continued on next page

FRONT BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001400563



AC309325AB

Removal steps

- Radiator grille (Refer to P.51-10).

1. Spring nut
2. Licence plate garnish
3. Splash shield mounting clips

Removal steps (Continued)

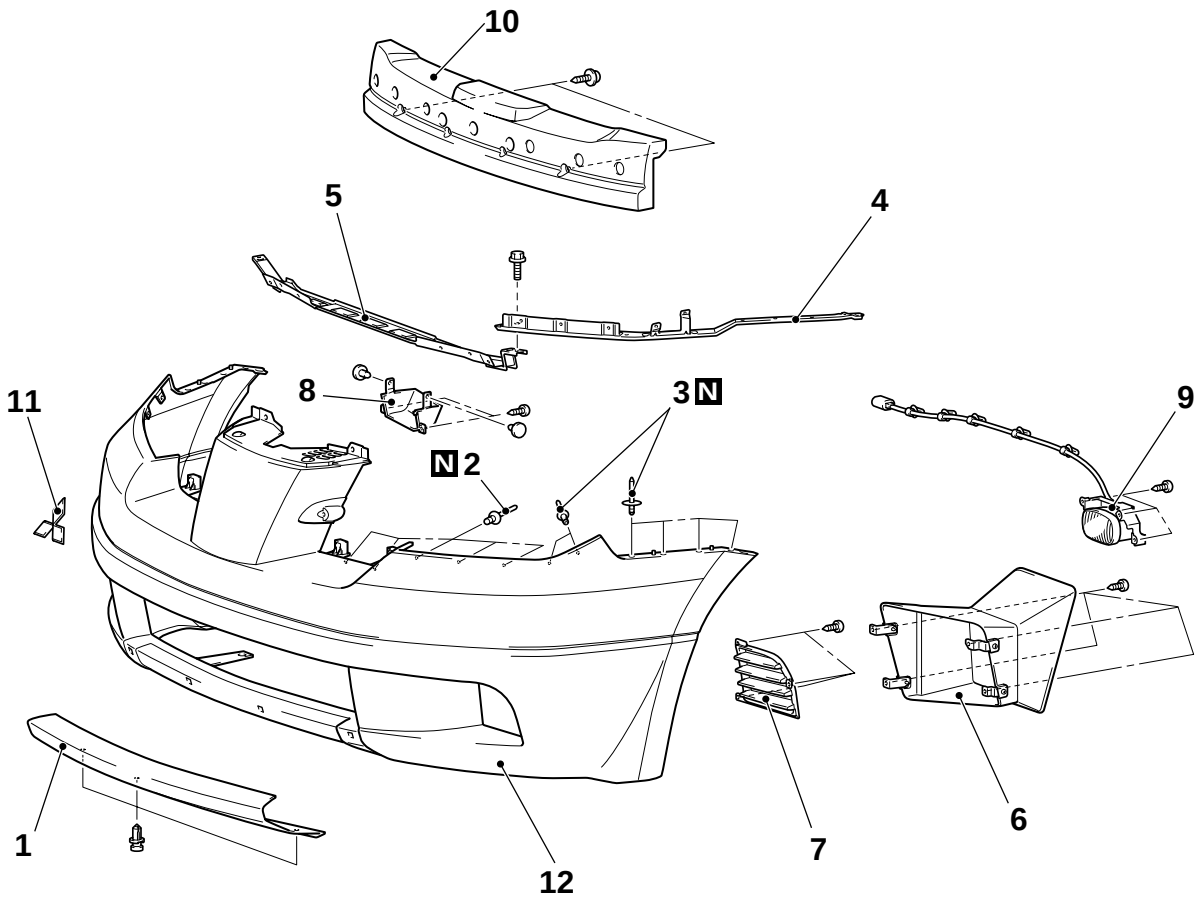
4. Front under cover mounting clips

- Fog lamp connector connection

5. Front bumper assembly
6. Front bumper beam

DISASSEMBLY AND REASSEMBLY

M1511001600578



AC300676 AB

Disassembly steps

1. Center cover

<<A>> >>A<< 2. Rivets A

<<A>> >>A<< 3. Rivets B

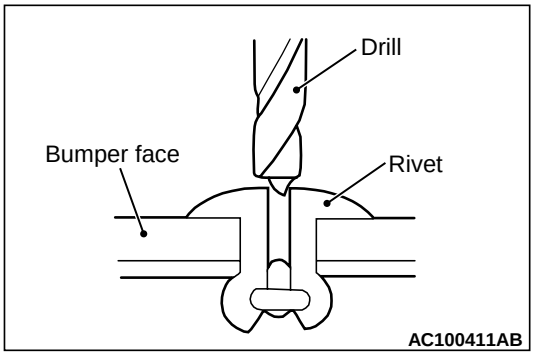
4. Front bumper side plate
5. Front bumper center reinforcement
6. Oil cooler duct

Disassembly steps (Continued)

7. Air intake bezel (Vehicles without fog lamp)
8. Fog lamp bezel
9. Fog lamp assembly
10. Front bumper core
11. Three-diamond mark
12. Front bumper face

DISASSEMBLY SERVICE POINT

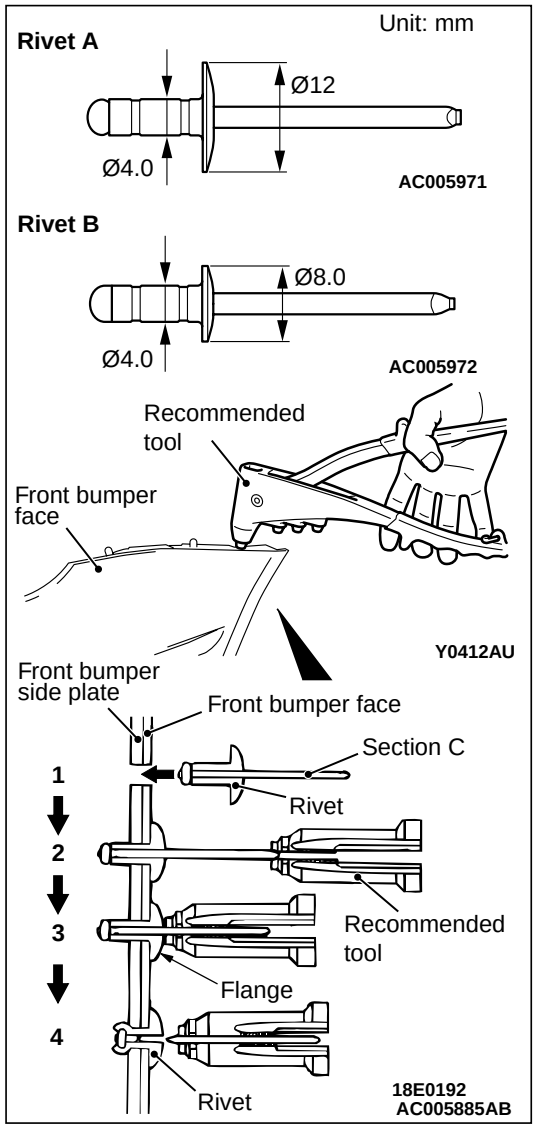
<<A>> RIVETS A / RIVETS B REMOVAL



Use a drill (ϕ4.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

REASSEMBLY SERVICE POINT

>>A<< RIVETS B / RIVETS A INSTALLATION



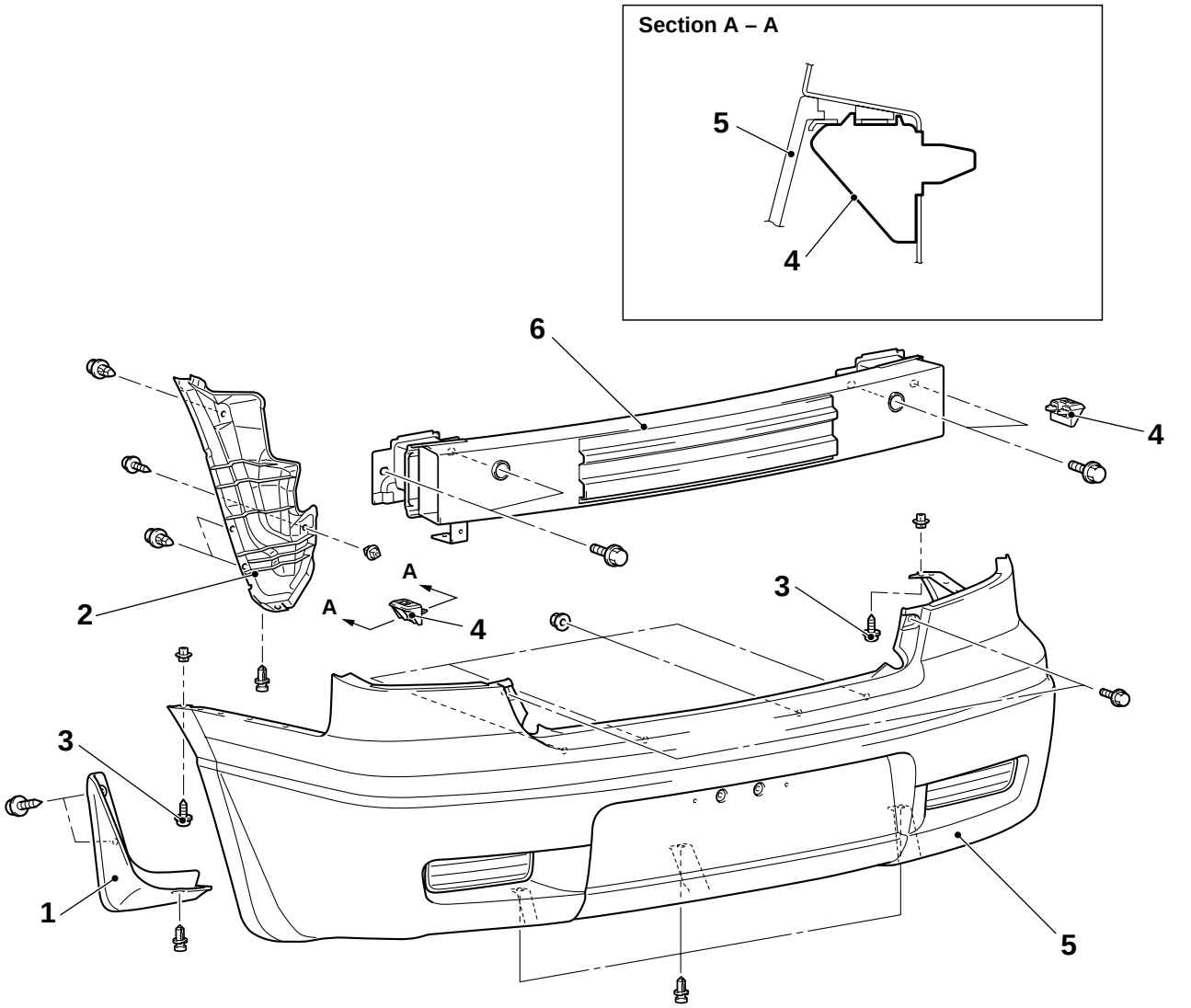
Use recommended tool shown in the illustration to connect the rivet by the following procedure.

1. Insert rivets A and rivets B into the front bumper face and front bumper upper plate.
2. Place the recommended tool over section C of 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 C of the rivet will break and the rivet will then be attached.

REAR BUMPER ASSEMBLY

REMOVAL AND INSTALLATION

M1511001900483



AC300293
AC300454AB

Removal steps
- Rear combination lamp
- Rear end trim

1. Mud guard
2. Rear splash shield
3. Tapping screw

<<A>>

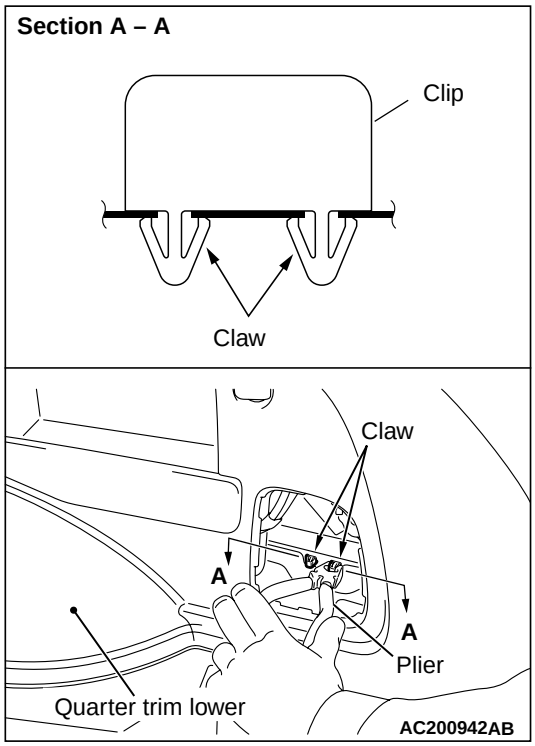
Removal steps (Continued)
- Ventilation cap (Refer to GROUP 52A, Trims P.52A-18).

4. Clips
- Rear bumper harness connector connection

5. Rear bumper assembly
6. Rear bumper beam

REMOVAL SERVICE POINT

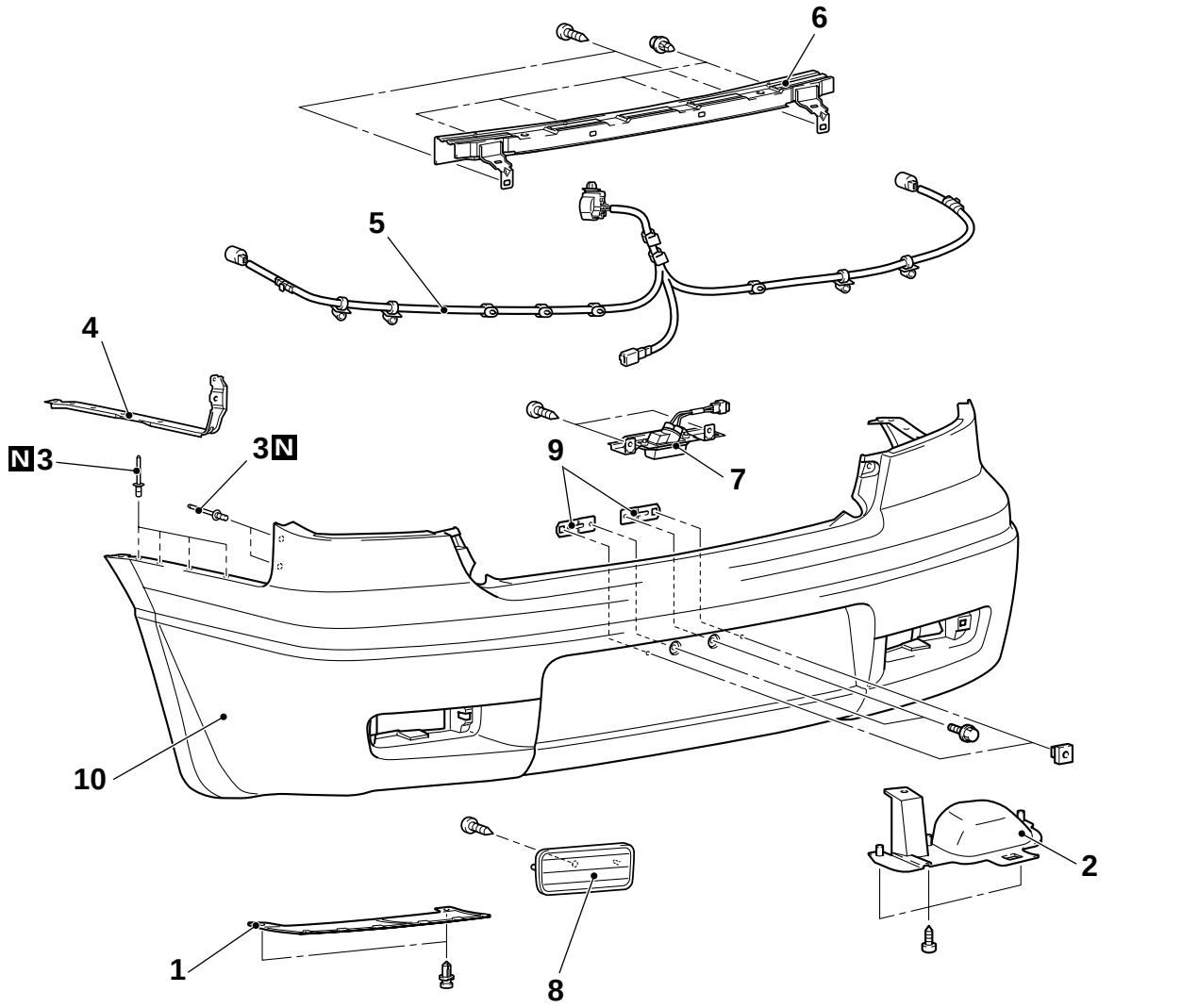
<<A>> CLIPS REMOVAL



Remove the clip with a pair of pliers by removing the claw of the clip from the cabin side.

DISASSEMBLY AND REASSEMBLY

M1511002100338



Disassembly steps

1. Side cover
2. Muffler cover

<<A>> >>A<< 3. Rivets

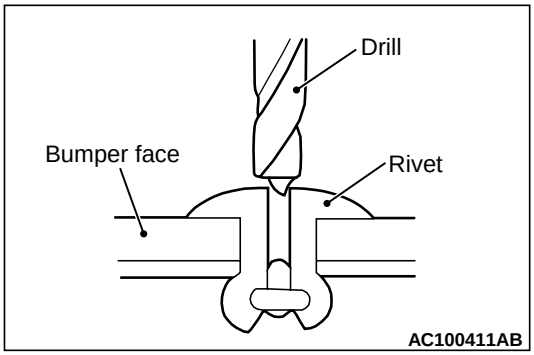
4. Rear bumper side plate
5. Rear bumper harness

Disassembly steps (Continued)

6. Rear bumper reinforcement
7. Licence plate lamp assembly
8. Reflector
9. Licence plate bracket
10. Rear bumper face

DISASSEMBLY SERVICE POINT

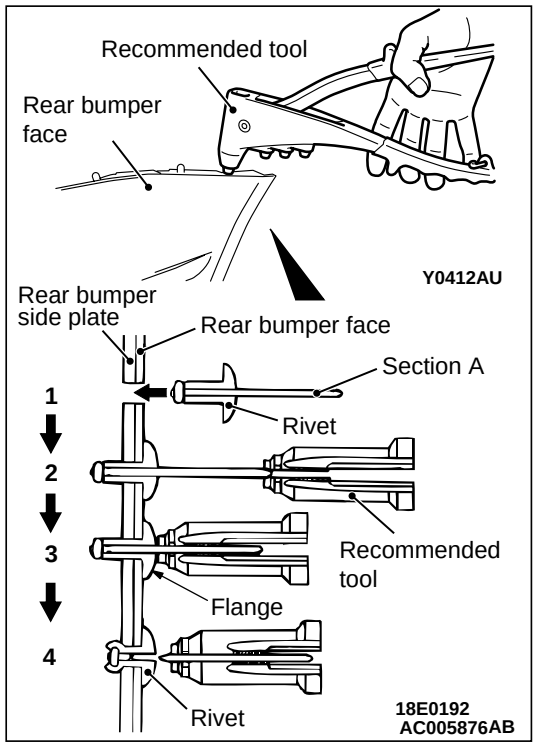
<<A>> RIVETS REMOVAL



Use a drill (ϕ4.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

REASSEMBLY SERVICE POINT

>>A<< RIVETS INSTALLATION



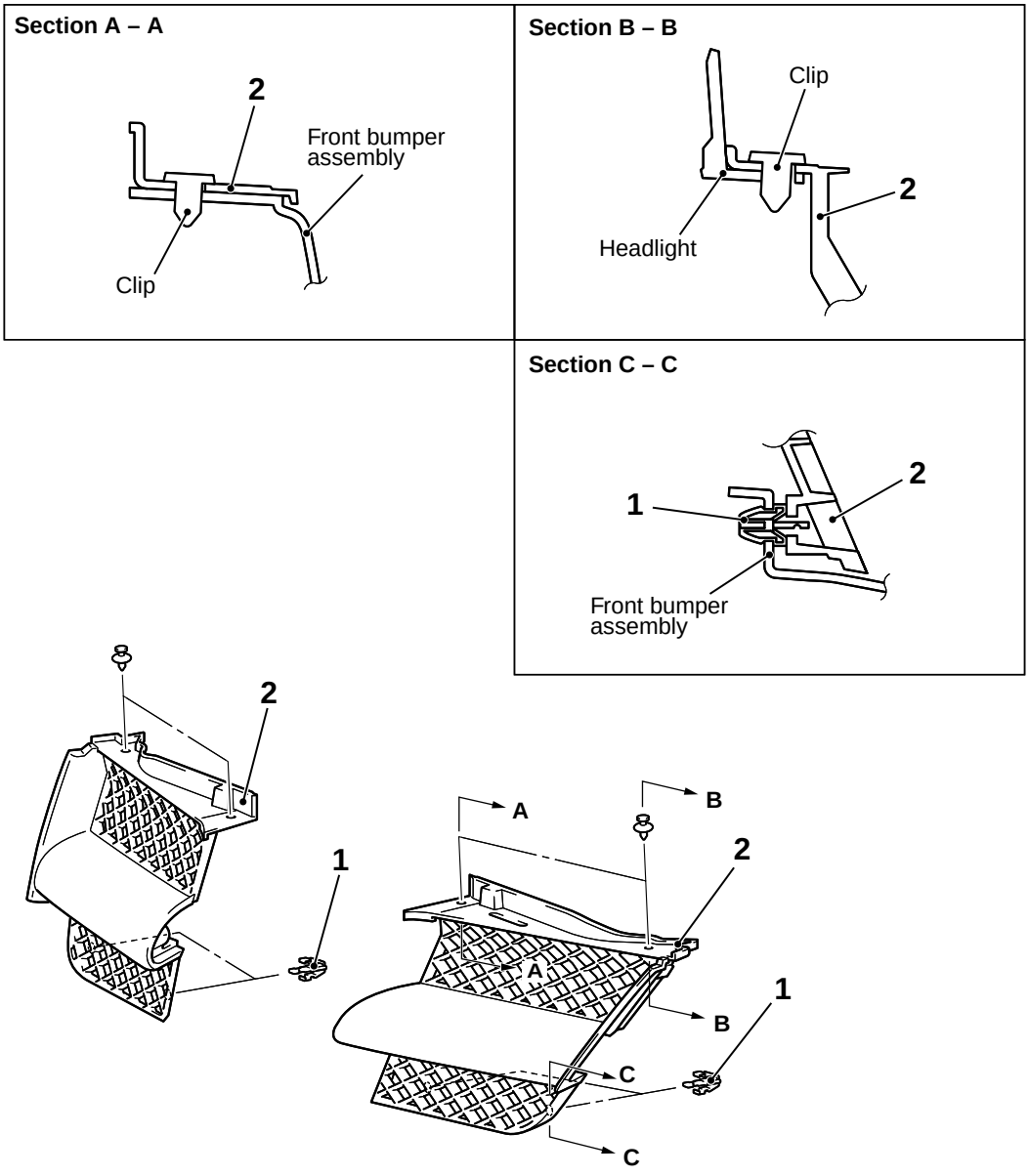
Use recommended tool shown in the illustration to connect the rivet by the following procedure.

1. Insert the rivet into the base material (rear bumper face, rear bumper side plate).
2. Place the recommended tool over section A of 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.

RADIATOR GRILLE

REMOVAL AND INSTALLATION

M1511002900301



AC200008AB

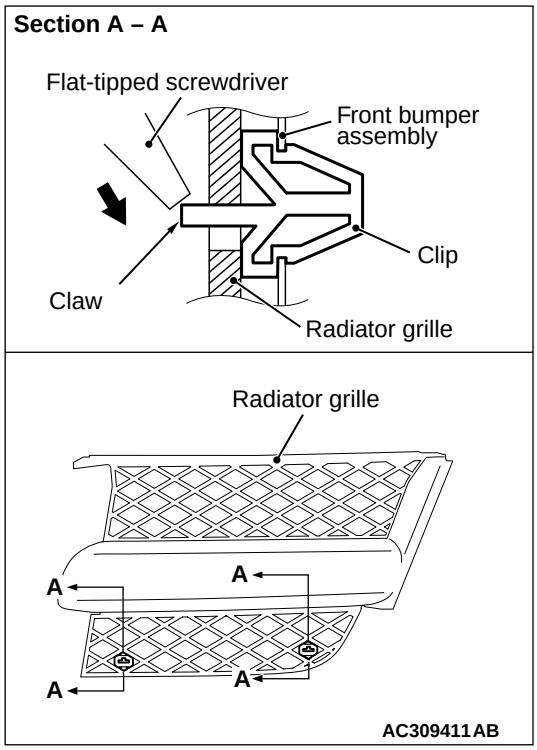
Removal steps

<<A>> 1. Clips

>>A<< 2. Radiator grilles

REMOVAL SERVICE POINT

<<A>> CLIPS REMOVAL



To remove the clips from the radiator grille, gently pull forward the radiator grille, and use a flat-tipped screwdriver to hold the claw of the clip in the direction of the arrow.

INSTALLATION SERVICE POINT

>>A<< RADIATOR GRILLE INSTALLATION

Install the radiator grille with the clips installed.

GARNISHES

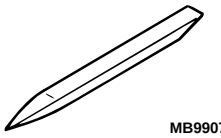
ADHESIVE

M1511000500352

Application	Brand
Side sill garnish	Double-sided tape [5.0 mm width 0.8 mm thickness, 5.0 width 1.2mm thickness]

SPECIAL TOOL

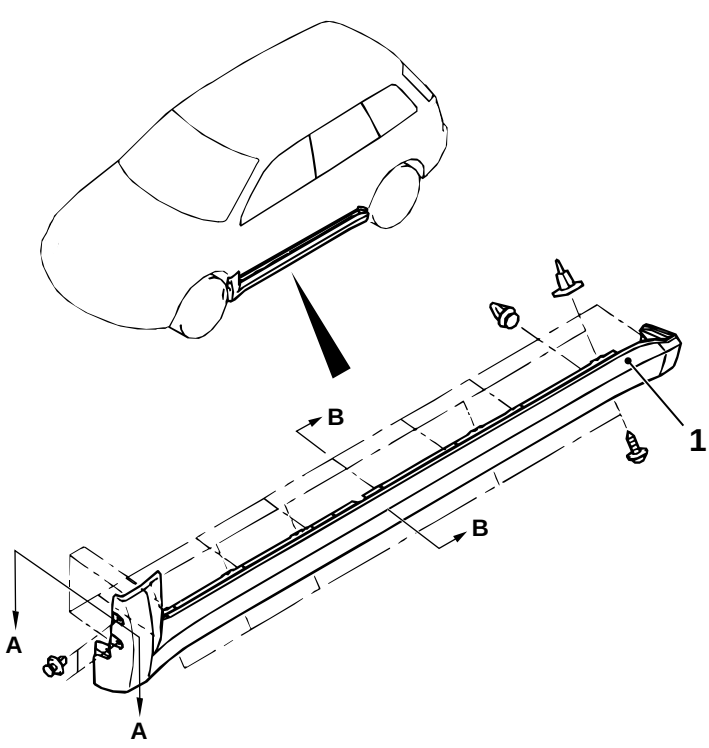
M1511000600995

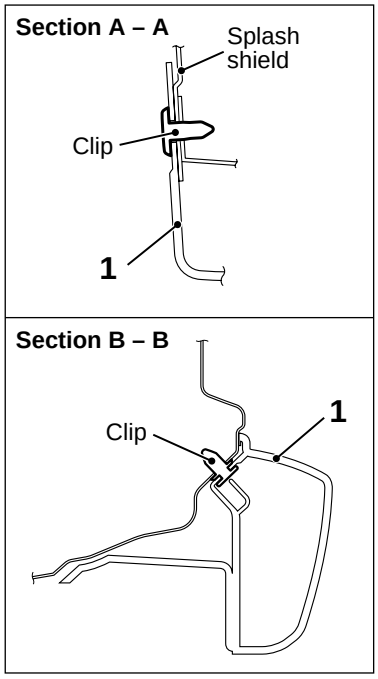
Tool	Number	Name	Application
 MB990784	MB990784	Ornament remover	Removal of side sill garnish

GARNISHES

GARNISH REMOVAL AND INSTALLATION

M1511004100141





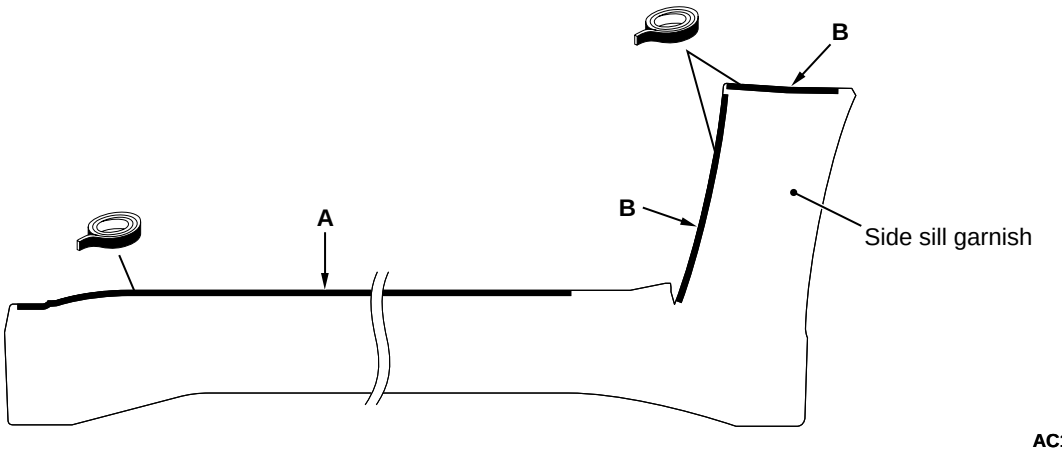
AC301940 AB

Removal steps

- Front deck garnish (Refer to P.51-21).

<<A>> >>A<< 1. Side sill garnish

DOUBLE-SIDED TAPE AFFIXED LOCATION



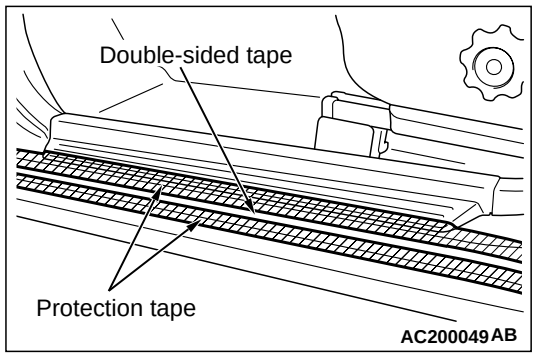
Double-sided tape: Generic products
A : 5.0 mm width, 0.8 mm thickness, B : 5.0 mm width, 1.2 mm thickness

REMOVAL SERVICE POINT

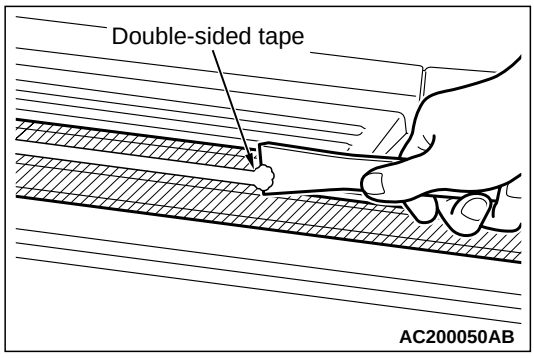
<<A>> SIDE SILL GARNISH REMOVAL

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

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

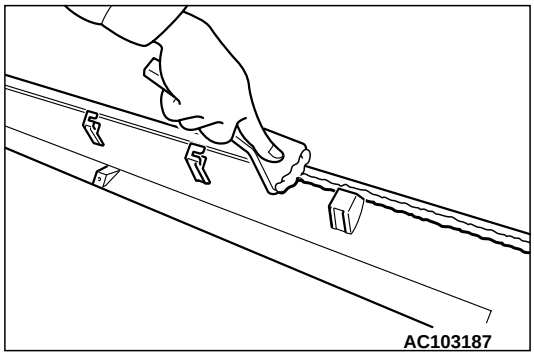


1. Attach protection tape all the way along the edges of the double-sided tape which is still adhering to the body.



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

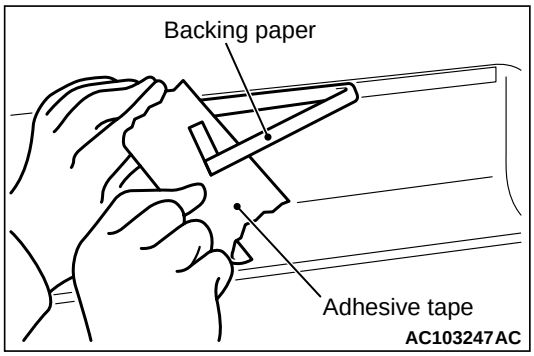
<Remove double-sided tape remaining on side sill garnish and adhere double-sided tape (when re-using side sill garnish)>



1. Scrape off the double-sided tape on the side sill garnish with a resin spatula 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 sill garnish (Refer to double-sided tape adherence location).

INSTALLATION SERVICE POINT

>>A<< SIDE SILL GARNISH INSTALLATION.



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

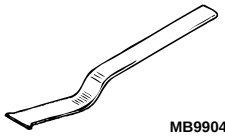
   NOTE: If you attach the adhesive tape to the edge of the backing paper, it will be easy to tear off.
2. Install the side sill garnish.

   NOTE: If the double-sided tape is difficult to affix in cold temperature, etc., warm the bonding surfaces of the body and side sill garnish to about 40 – 60°C before affixing the tape.
3. Firmly press in the side sill garnish.

MOULDINGS

SPECIAL TOOL

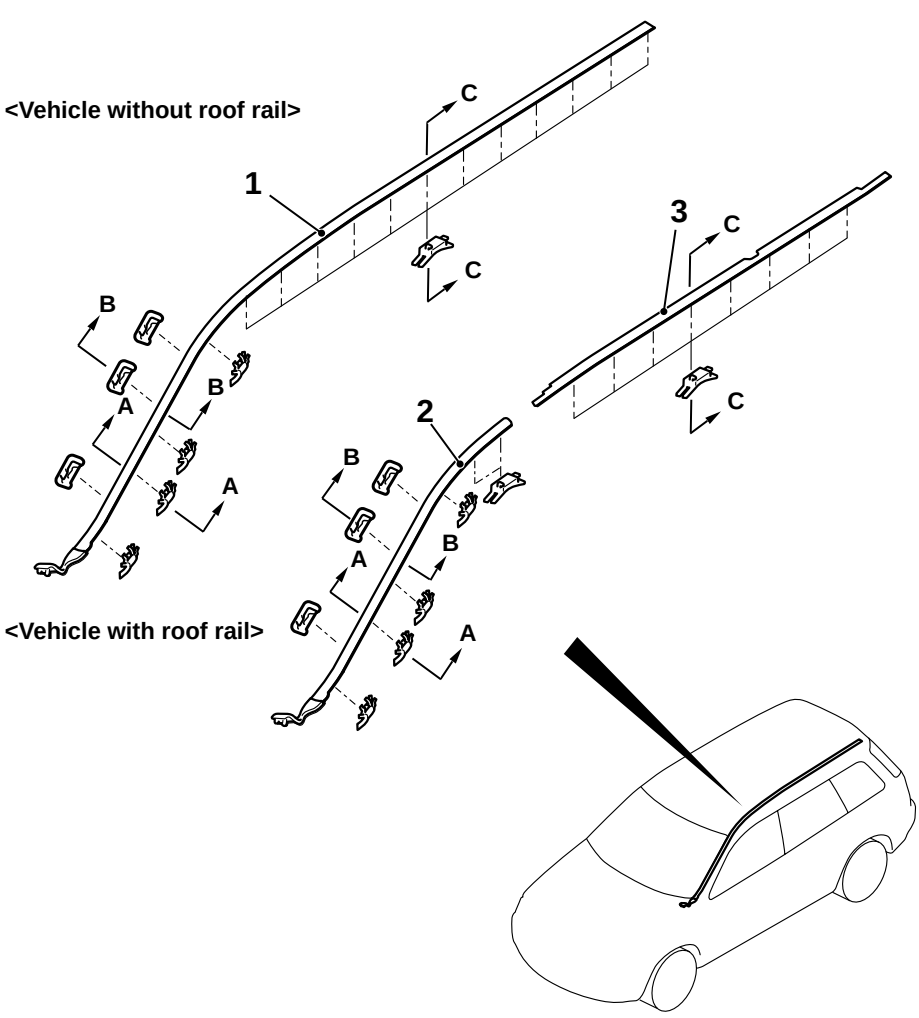
M1511000601006

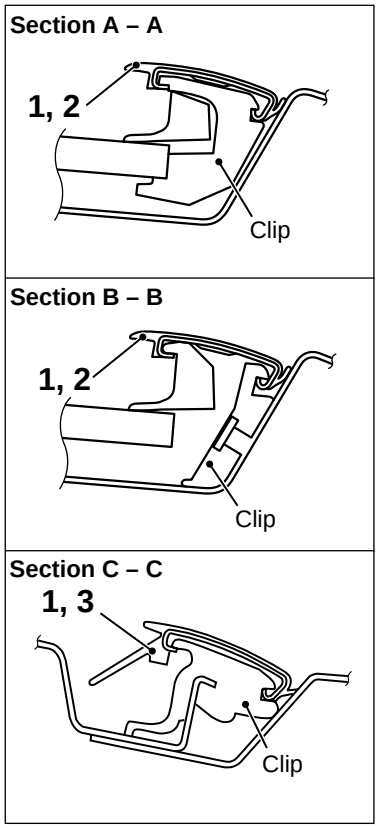
Tool	Number	Name	Application
 MB990449	MB990449	Window moulding remover	Removal of drip moulding

MOULDINGS

REMOVAL AND INSTALLATION

M1511004700132





AC301945 AB

Roof drip moulding removal steps
<Vehicles without roof rail>

<<A>> >>A<< 1. Roof drip moulding

Roof drip moulding removal steps
<Vehicles with roof rail>

- Roof rail (Refer to P.51-18).

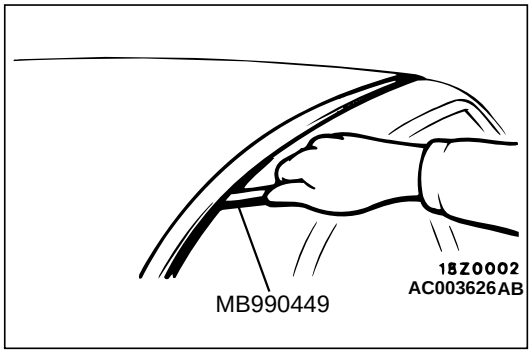
<<A>> >>A<< 2. Front roof drip moulding
<<A>> >>A<< 3. Centre roof drip moulding

REMOVAL SERVICE POINT

<<A>> ROOF DRIP MOULDING REMOVAL

⚠ CAUTION

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



Use special tool MB990449 to pry out the moulding.

INSTALLATION SERVICE POINT

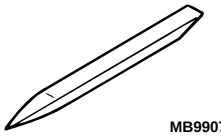
>>A<< ROOF DRIP MOULDING INSTALLATION

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

TAILGATE SPOILER

SPECIAL TOOL

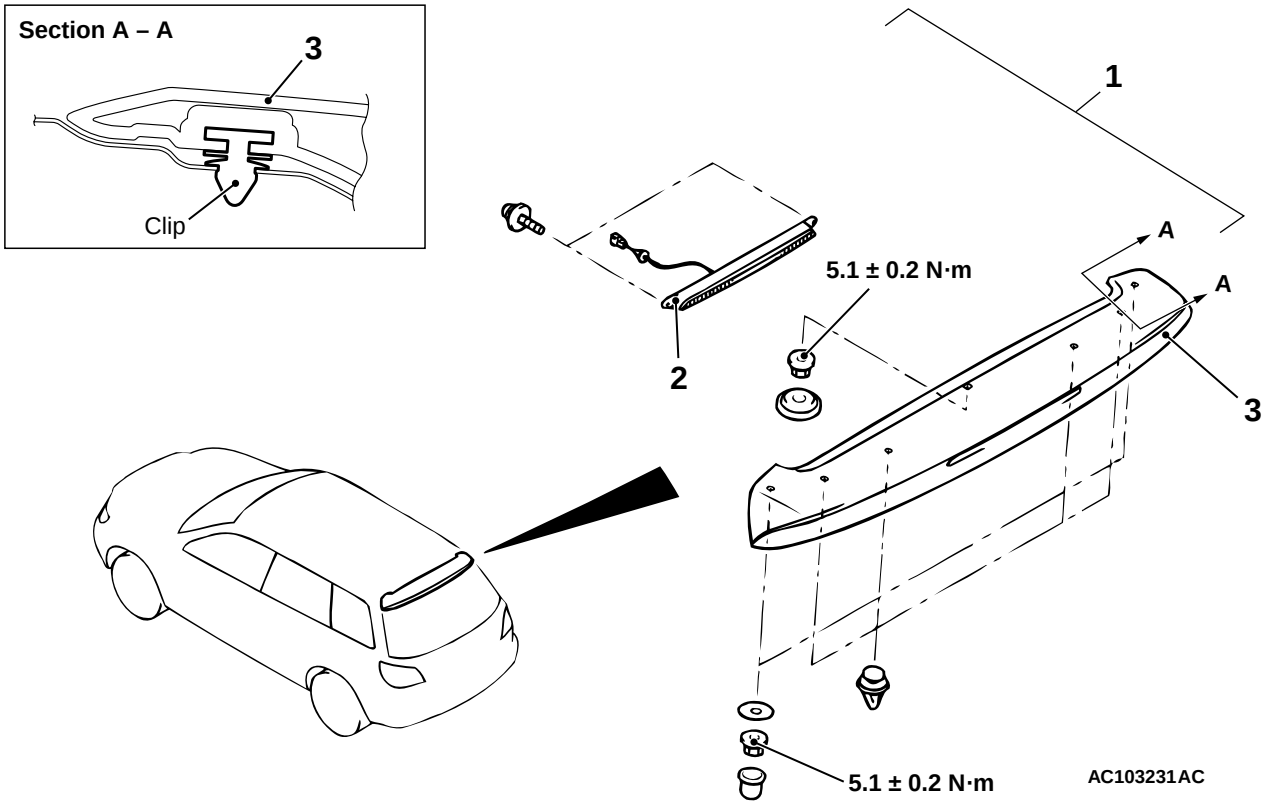
M1511000601017

Tool	Number	Name	Application
 MB990784	MB990784	Ornament remover	Removal of tailgate spoiler

TAILGATE SPOILER

REMOVAL AND INSTALLATION

M1511020800043



Removal steps

- Tailgate upper trim (Refer to GROUP 52A, Tailgate trim P.52A-25).
- High-mounted stop lamp connector connection

Removal steps (Continued)

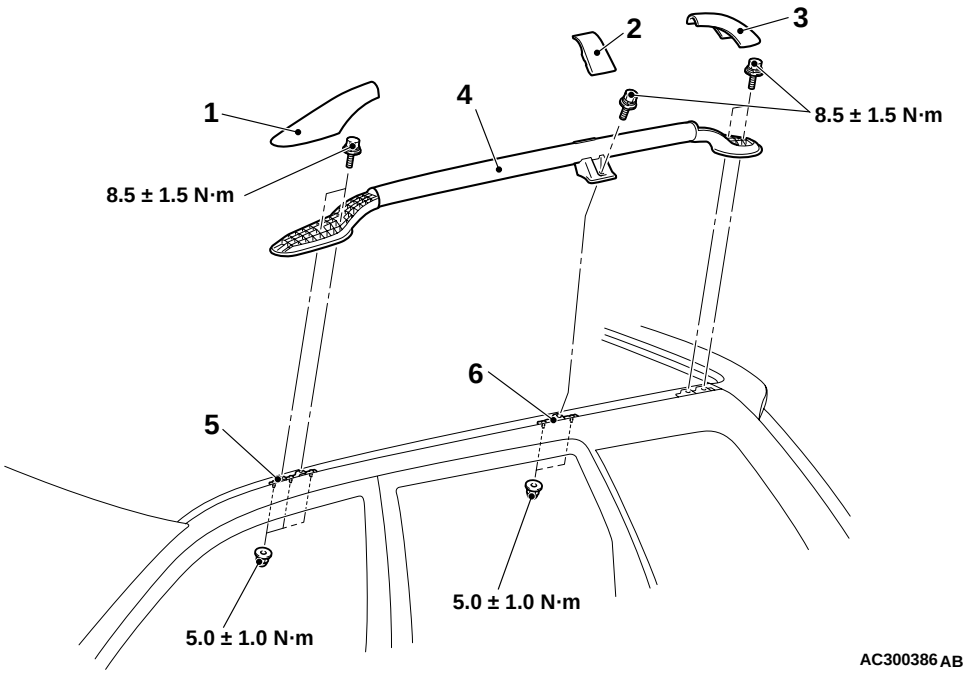
- Rear washer hose connection

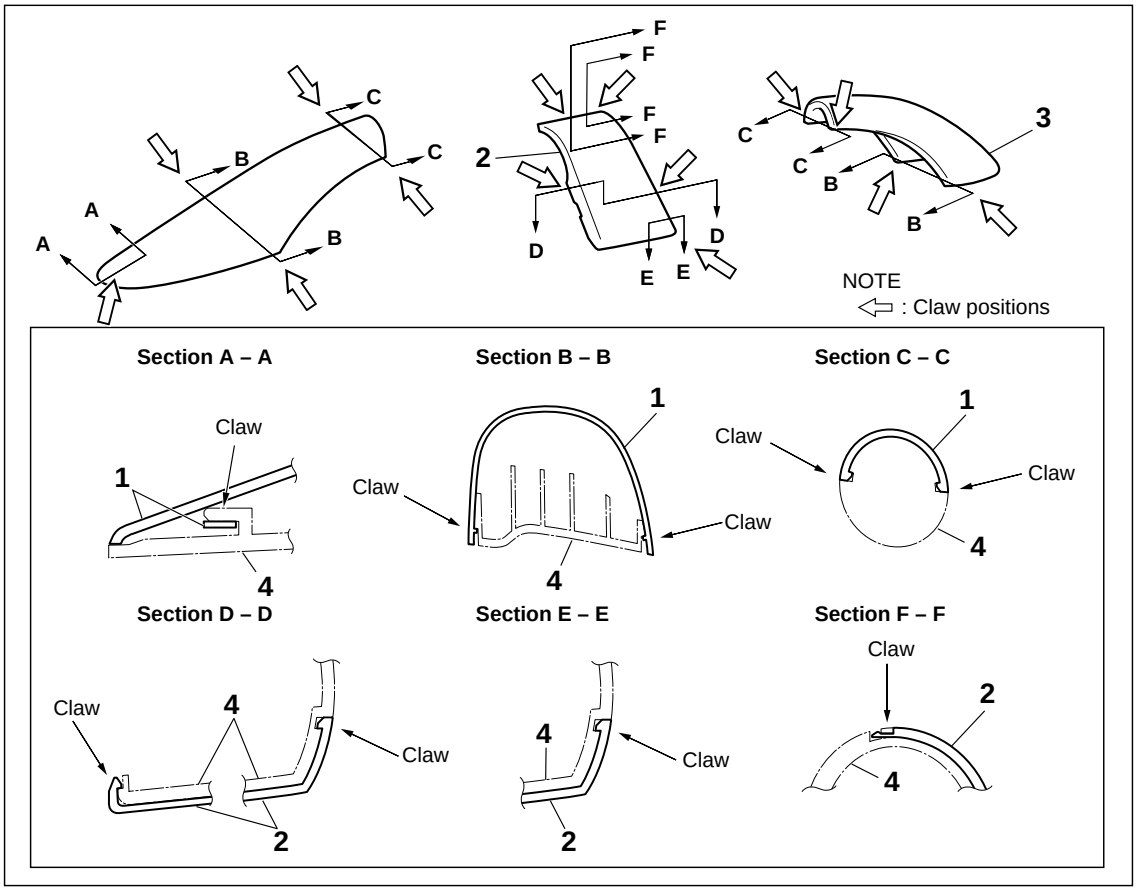
1. Tailgate spoiler assembly
2. High-mounted stop lamp assembly
3. Tailgate spoiler

ROOF RAIL

REMOVAL AND INSTALLATION

M1511016600165





Removal steps

1. Front roof rail cover
2. Centre roof rail cover
3. Rear roof rail cover

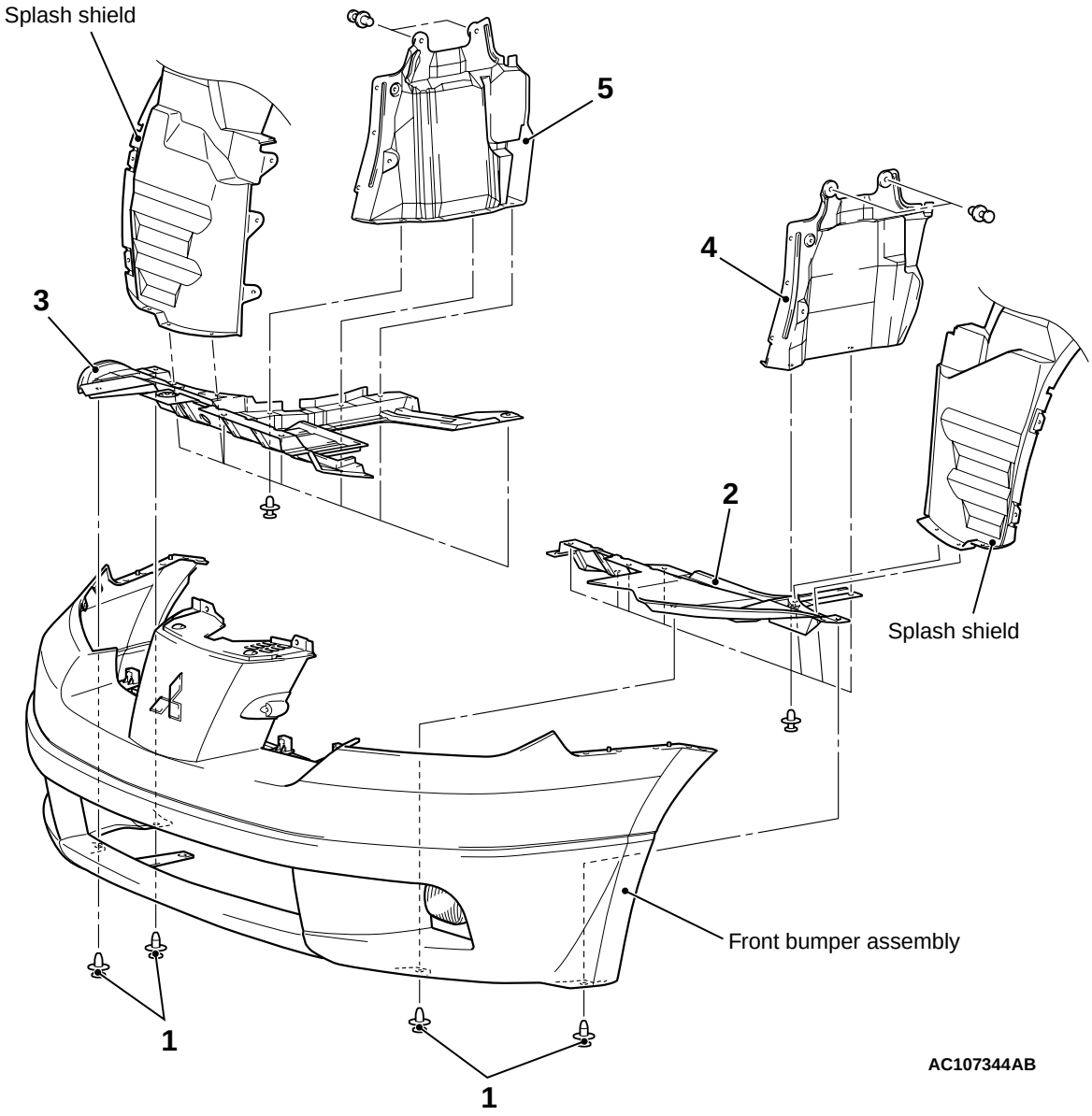
Removal steps (Continued)

4. Roof rail
5. Front roof rail bracket
6. Centre roof rail bracket

UNDER COVER

REMOVAL AND INSTALLATION

M1511019600108



Removal steps

1. Front bumper assembly mounting clips
2. Front under cover (LH)

Removal steps (Continued)

3. Front under cover (RH)
4. Side under cover (LH)
5. Side under cover (RH)

WINDSHIELD WIPER AND WASHER

SERVICE SPECIFICATION

M1511000300392

Item	Standard value
Stop position of the windshield wiper arm/blade assembly (Distance between the edge of the wiper blade and the end of the deck garnish) mm	Driver's side: 35 ± 5 Passenger's side: 25 ± 5

TROUBLESHOOTING

M1511000700431

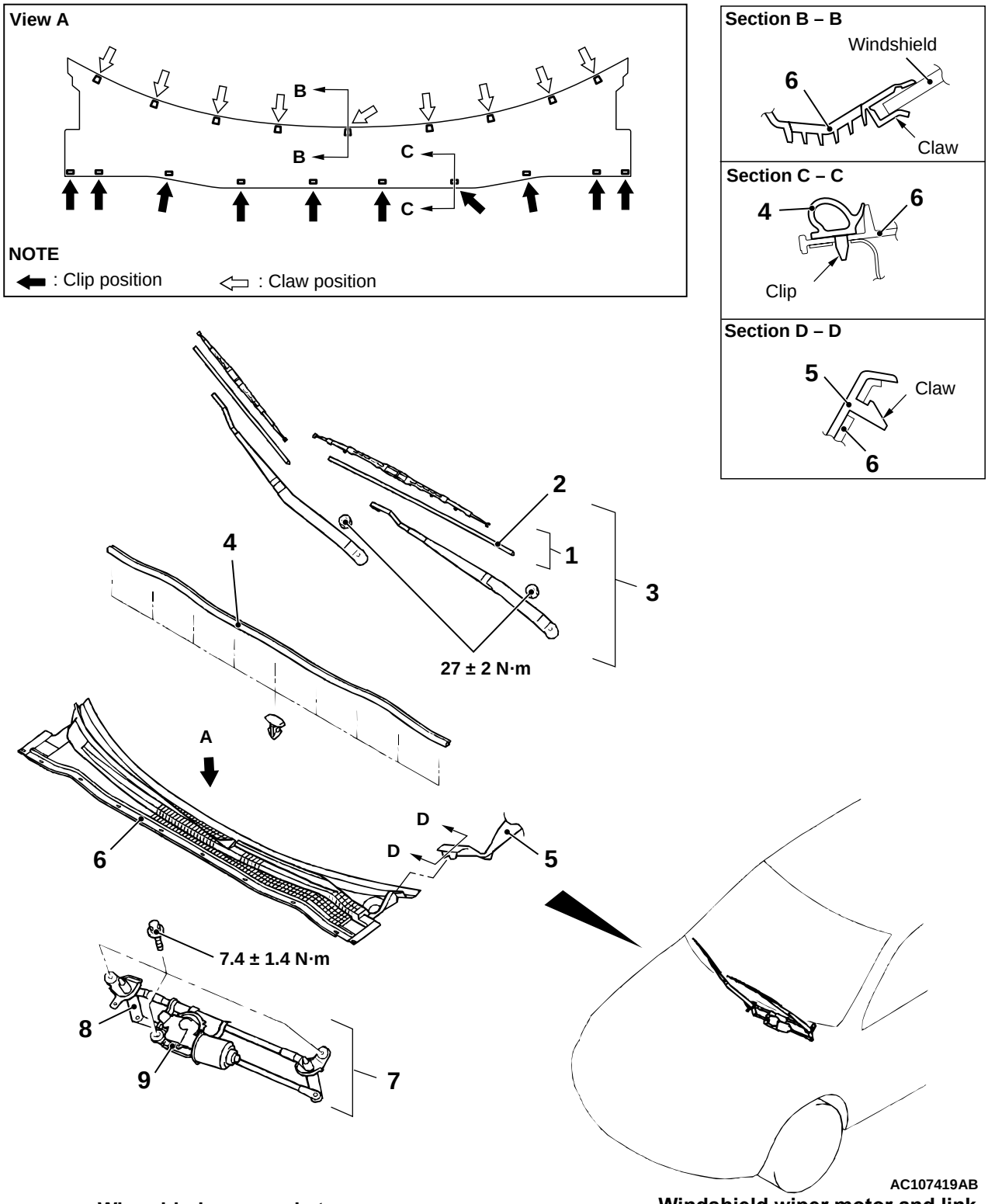
The windshield wiper and washer are controlled by the smart wiring system (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-41 or GROUP 54C, Troubleshooting P.54C-25.

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

WINDSHIELD WIPER

REMOVAL AND INSTALLATION

M1511007900180



Wiper blade removal steps

1. Wiper blade assembly

>>B<< 2. Wiper blade

Windshield wiper motor and link assembly removal steps

>>A<< 3. Wiper arm and blade assembly
4. Hood weather strip
5. Roof drip moulding and front deck garnish connection

Windshield wiper motor and link assembly removal steps (Continued)

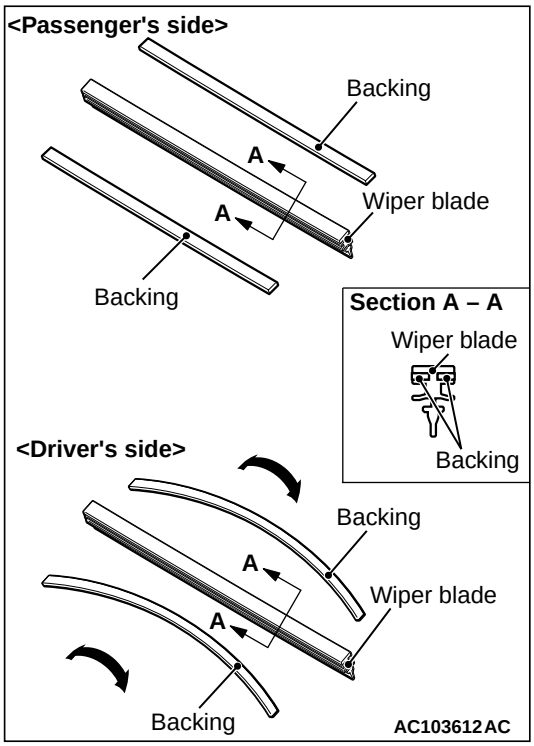
6. Front deck garnish
7. Windshield wiper motor and link assembly
8. Link assembly
9. Windshield wiper motor assembly

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-94.

INSTALLATION SERVICE POINTS

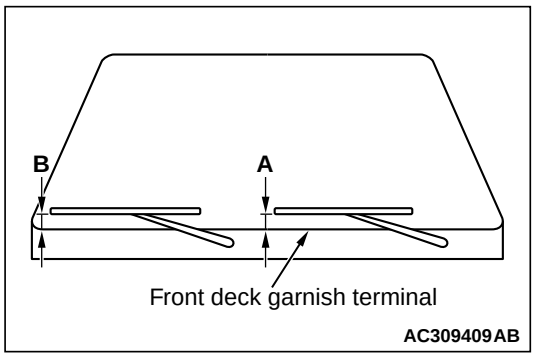
>>A<< WIPER BLADE INSTALLATION

⚠ CAUTION



For good windshield wiper wiping performance, use a passenger-side windshield wiper without an curve in the backing of the wiper blade. The windshield wiper on the driver's side should be a wiper blade with a curved backing.

>>B<< WIPER BLADE ASSEMBLY INSTALLATION



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

Standard value:
Driver's side (A): 35 ± 5 mm
Passenger's side (B): 25 ± 5 mm

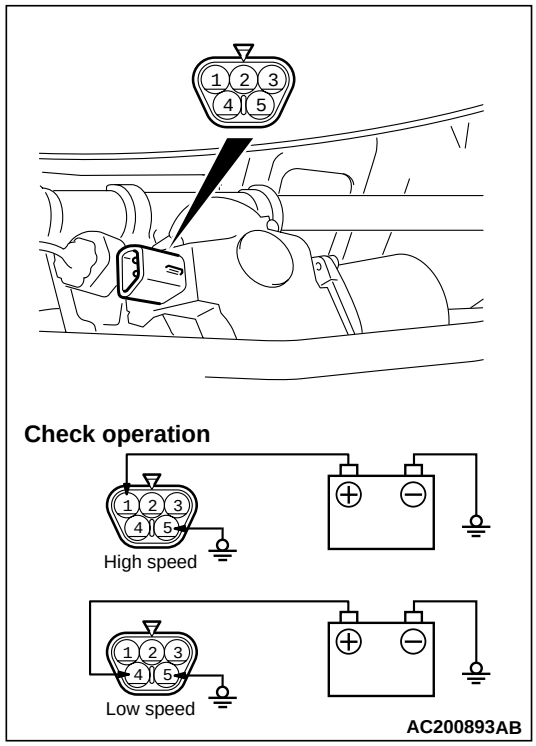
INSPECTION

M1511008000179

WINDSHIELD WIPER MOTOR CHECK

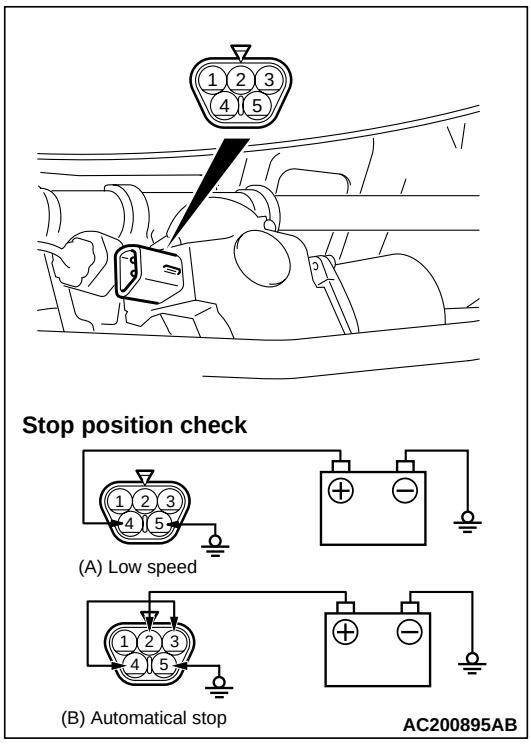
Inspect the windshield wiper motor by removing the harness connector with the motor attached to the vehicle.

Wiper motor at low-speed and high-speed operation



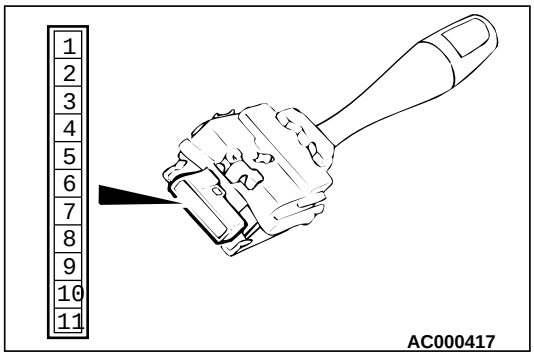
Connect the battery to the windshield wiper motor to inspect the operation of motor rotation in low or high speed.

Wiper motor at stop position operation



1. Connect the battery to the windshield wiper motor as shown in the illustration (A).
2. Run the windshield wiper motor at low speed, then disconnect the battery in the middle of the motor turning and check to see that the motor stops.
3. As shown in the illustration (B), connect the terminals of the windshield wiper motor connectors.
4. Check to see that the windshield wiper motor runs at low speed and then stops at the automatic stop position.

WINDSHIELD WIPER SWITCH CHECK <L.H.DRIVE VEHICLE>



Check continuity between the switch terminals.

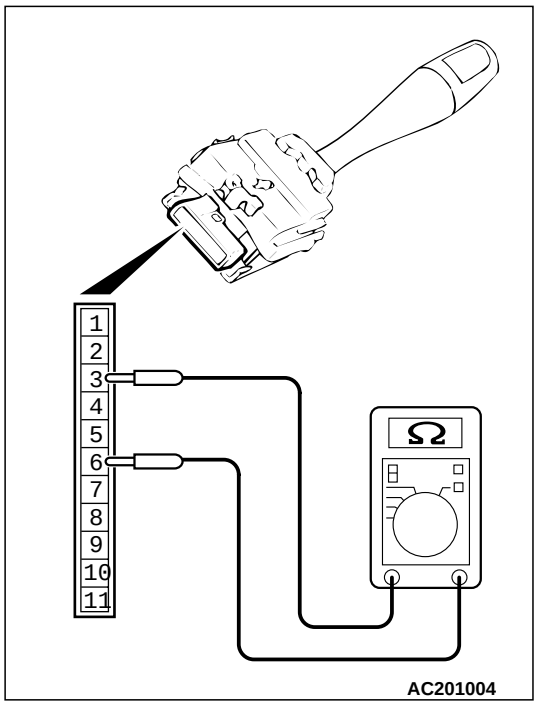
Switch position	Tester connection	Specified condition
OFF	6 – 11, 6 – 10, 6 – 9, 6 – 8	Open circuit
Windshield mist wiper switch	6 – 11	Less than 2 ohms
Windshield intermittent wiper switch	6 – 10	
Windshield low-speed wiper switch	6 – 9	
Windshield high-speed wiper switch	6 – 8	

<R.H.DRIVE VEHICLE>

NOTE: The windshield wiper switch is integrated in the column-ECU, so can not be checked as an individual part. However, its operation can be checked by the input signal check.

- *Not using SWS monitor: Refer to GROUP 54B, SWS Diagnosis P.54B-15.*
- *Using SWS monitor: Refer to GROUP 54C, SWS Diagnosis P.54C-29.*

WINDSHIELD INTERMITTENT WIPER VOLUME CHECK <L.H.DRIVE VEHICLE>



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

<R.H.DRIVE VEHICLE>

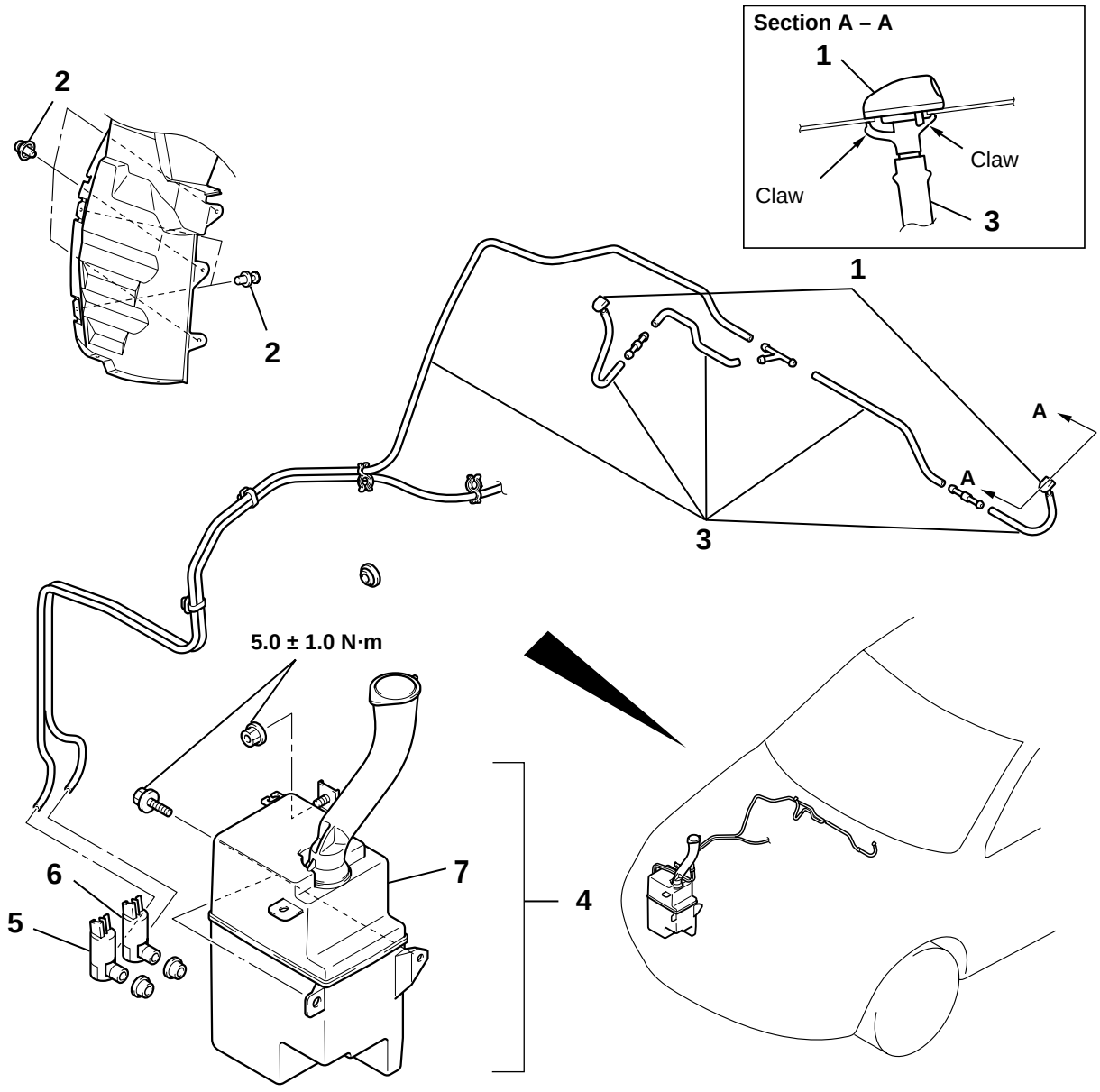
NOTE: The windshield wiper switch is integrated in the column-ECU, so can not be checked as an individual part. However, its operation can be checked by the input signal check.

- *Not using SWS monitor: Refer to GROUP 54B, SWS Diagnosis P.54B-15.*
- *Using SWS monitor: Refer to GROUP 54C, SWS Diagnosis P.54C-29.*

WINDSHIELD WASHER

REMOVAL AND INSTALLATION

M1511008200236



AC200400AB

Windshield washer nozzle removal steps

- Connection of windshield washer hose

1. Windshield washer nozzle

Washer hose removal steps

2. Front splash shield (LH) mounting clip
- Connection of windshield washer nozzle

3. Windshield washer hose

Washer tank removal steps

- Front under cover (RH) (Refer to P.51-19).

2. Front splash shield (RH) mounting clip
- Connection of front washer hose and rear washer hose

4. Washer tank assembly
5. Windshield washer motor
- Head lamp washer motor (Refer to P.51-44).

6. Rear washer motor
7. Washer tank

Washer motor removal steps

- Front under cover (LH) (Refer to P.51-19).
- Connection of front washer hose and rear washer hose

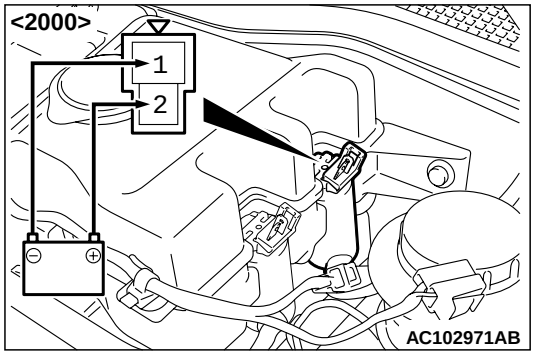
5. Windshield washer motor
6. Rear washer motor

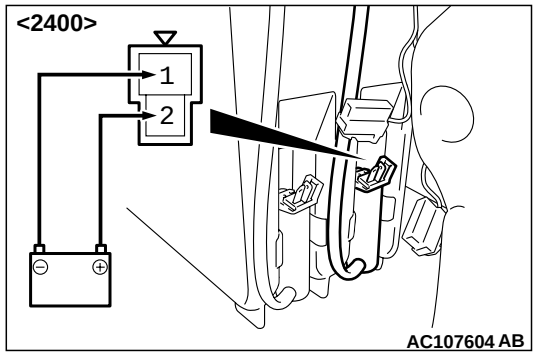
NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-94.

INSPECTION

M1511008300170

WINDSHIELD WASHER MOTOR CHECK





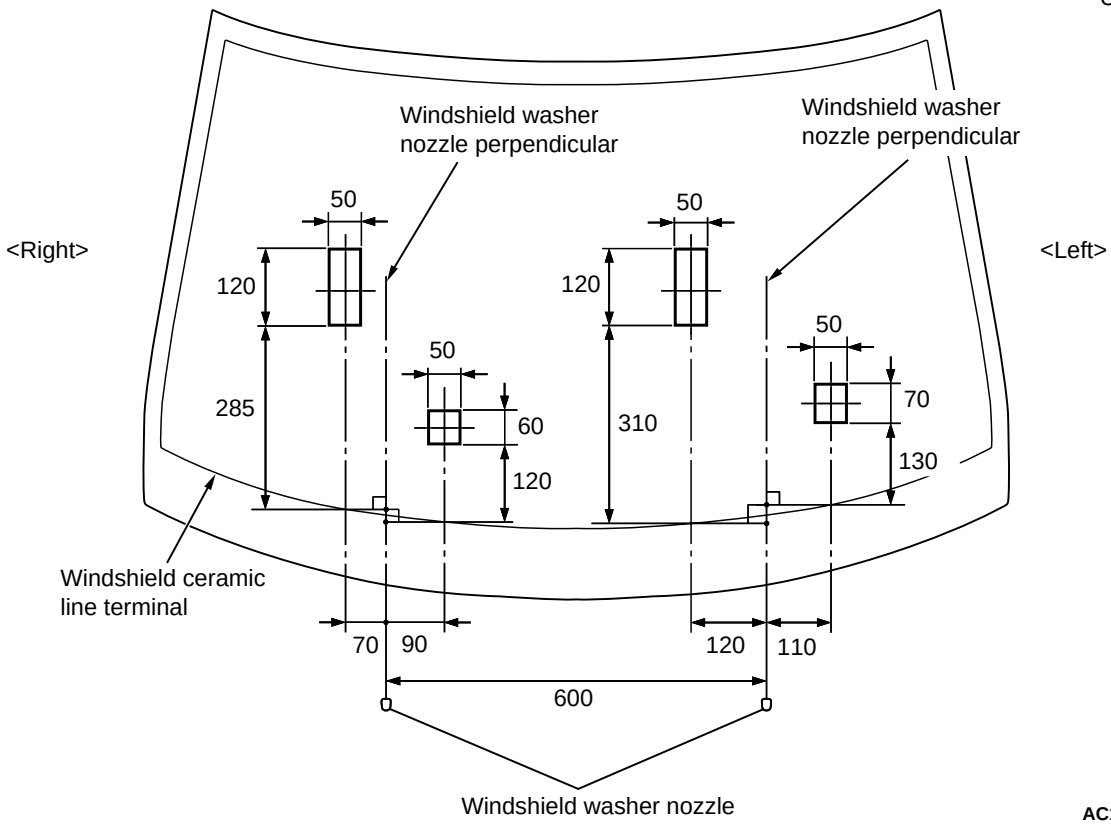
1. Remove the washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to the negative battery terminal.

WINDSHIELD WASHER FLUID EJECTION CHECK

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

<L.H.DRIVE VEHICLE>

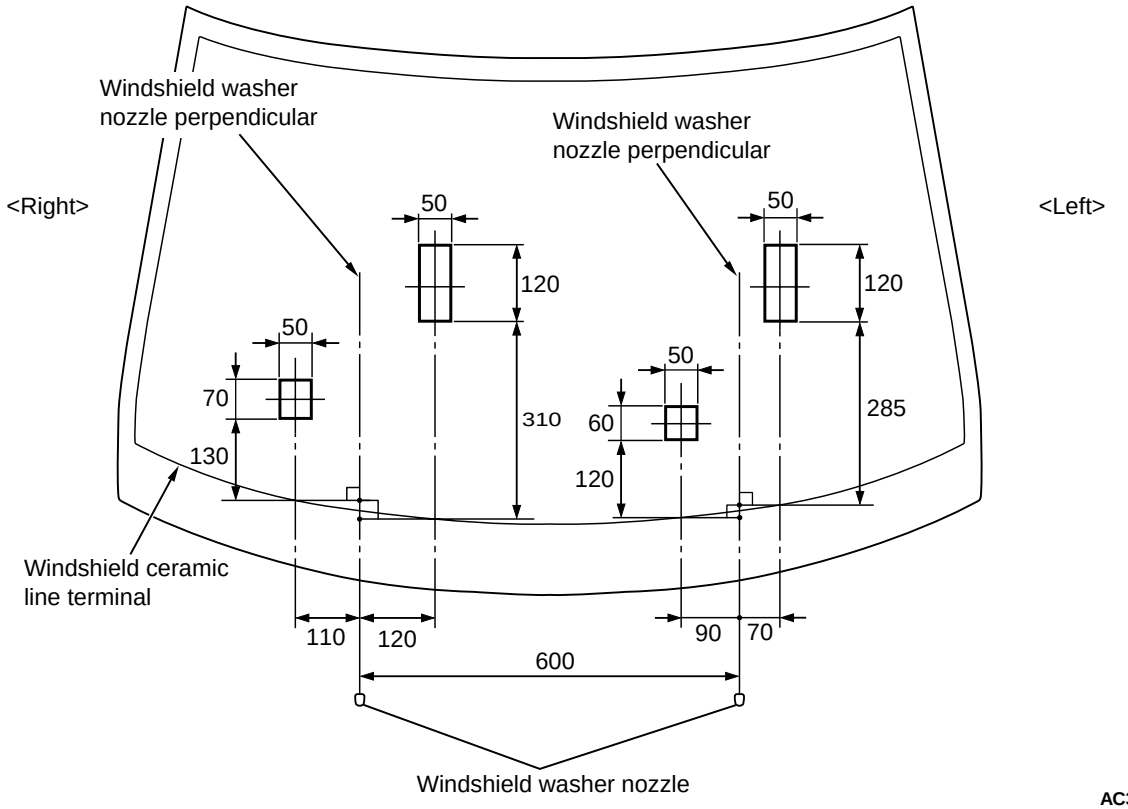
Units: mm



AC107158 AB

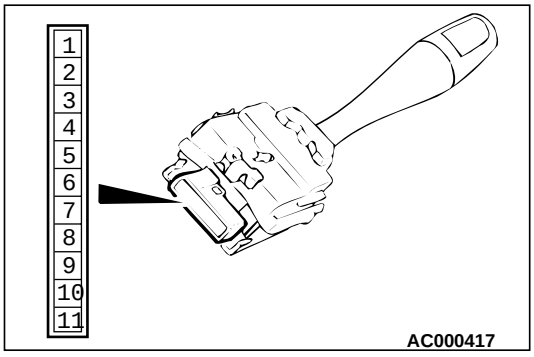
<R.H.DRIVE VEHICLE>

Units: mm



AC300509 AB

WINDSHIELD WASHER SWITCH CHECK <L.H.DRIVE VEHICLE>



AC000417

Check continuity between the switch terminals.

Switch position	Tester connection	Specified condition
OFF	6 – 7	Open circuit
Windshield washer switch	6 – 7	Less than 2 ohms

<R.H.DRIVE VEHICLE>

NOTE: The windshield washer switch is integrated in the column-ECU, so can not be checked as an individual part. However, its operation can be checked by the input signal check.

- *Not using SWS monitor: Refer to GROUP 54B, SWS Diagnosis P.54B-15.*
- *Using SWS monitor: Refer to GROUP 54C, SWS Diagnosis P.54C-29.*

REAR WIPER AND WASHER

SERVICE SPECIFICATION

M1511000300303

Item	Standard value
Rear wiper arm and blade assembly stop position (Distance from end wiper blade and the end of tailgate galss) mm	30 ± 5

TROUBLESHOOTING

M1511000700442

The rear wiper and washer are controlled by the smart wiring system (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-41 or GROUP 54C, Troubleshooting P.54C-25.

ON-VEHICLE SERVICE

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

M1511022100040

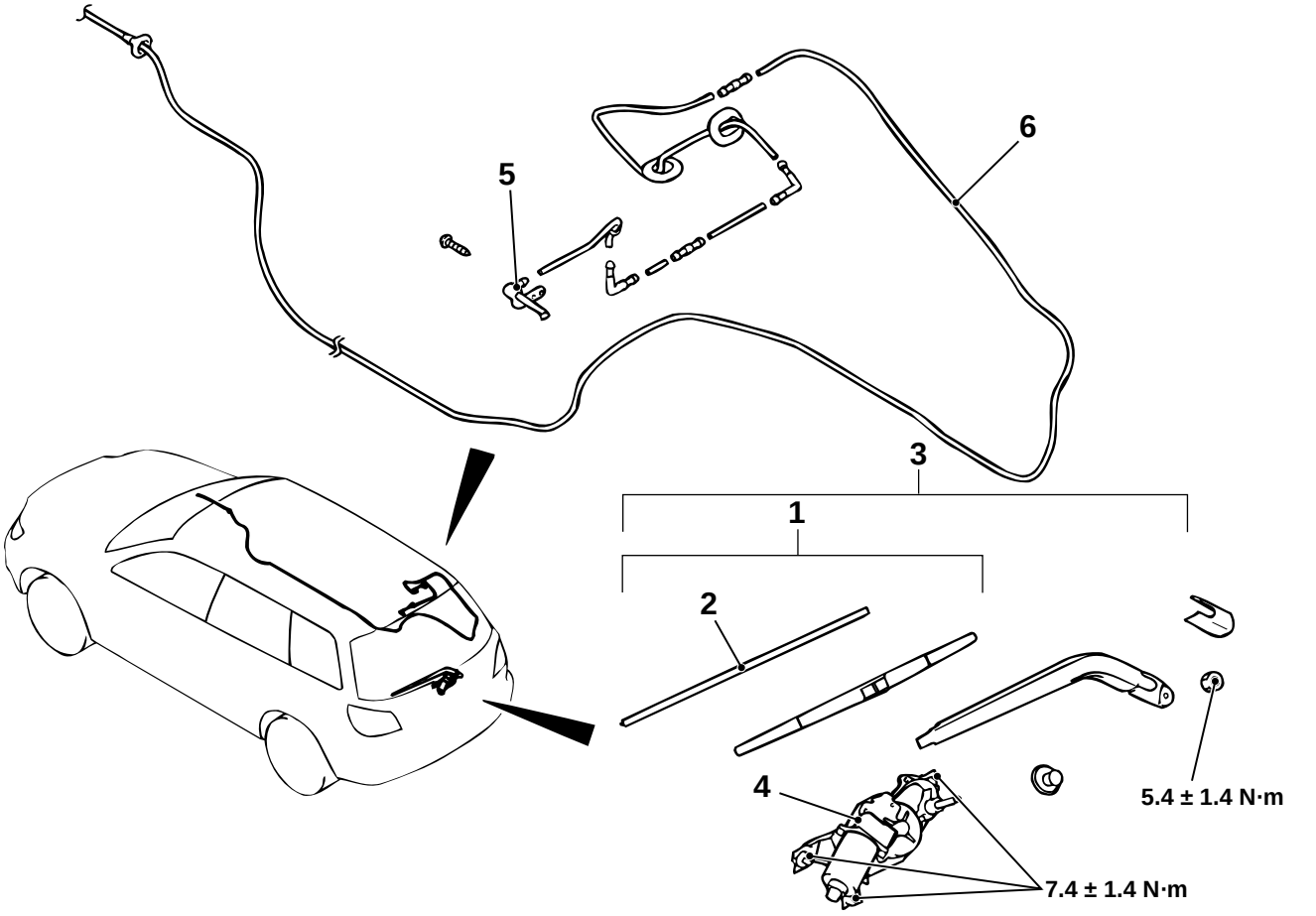
1. When the selector lever is moved to the "R" position with the rear wiper switch at the "INT" position, the wiper should operate twice or three times at low speed after approximately one second.
2. If not, troubleshoot the system (Refer to GROUP 54B, Troubleshooting P.54B-41 or GROUP 54C, Troubleshooting P.54C-25).

REAR WIPER AND WASHER

REMOVAL AND INSTALLATION

M1511008500215

Pre-removal and Post-installation Operation
Washer Tank Assembly and Rear Washer Motor Removal and Installation (Refer to P.51-25).



AC300618AB

Wiper blade assembly removal steps
1. Wiper blade assembly

>>B<< 2. Wiper blade

Rear wiper motor removal steps

>>A<< 3. Wiper arm and blade assembly
- Tailgate lower trim (Refer to GROUP 52A, Tailgate trim P.52A-25).
- Tailgate waterproof film (Refer to GROUP 42, Tailgate P.42-45).

4. Rear wiper motor assembly

Rear washer nozzle removal steps
- High-mounted stop lamp assembly (Refer to GROUP 54A, High-mounted stop lamp P.54A-90).

5. Rear washer nozzle

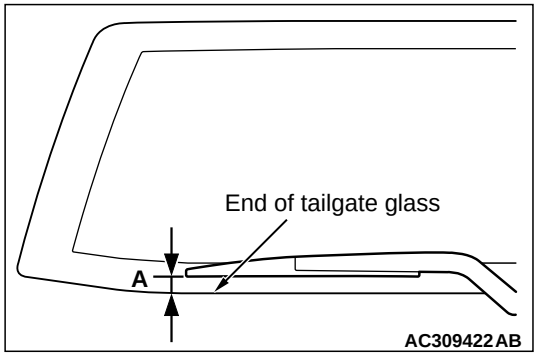
Washer hose removal steps
- Cowl side trim, front scuff plate, center pillar trim lower, rear scuff plate, rear pillar trim and rear shelf trim (Refer to GROUP 52A, Trims P.52A-18).
- Tailgate lower trim, tailgate side trim, tailgate upper trim (Refer to GROUP 52A, Tailgate trim P.52A-25).
- High-mounted stop lamp assembly (Refer to GROUP 54A, High-mounted stop lamp P.54A-90).

6. Rear washer hose

NOTE: For removal and installation of the wiper and washer switch, refer to GROUP 54A, Column switch P.54A-94.

INSTALLATION SERVICE POINTS

>>A<< REAR WIPER ARM AND BLADE ASSEMBLY INSTALLATION

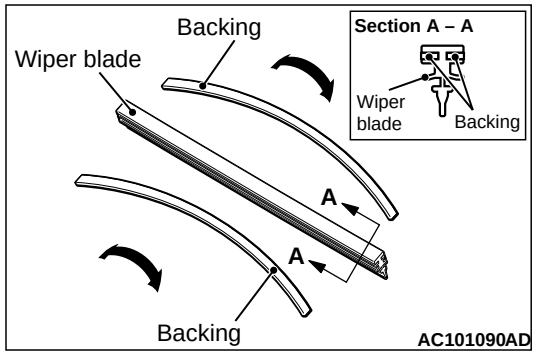


Before installing the rear wiper arm and blade assembly, operate the rear wiper motor so that the motor stops at the predetermined park position. Install the rear wipe arm and blade assembly and adjust the rear wiper blade position so that the blade end stops at the predetermined position (standard position).

Standard value: (A) 30 ± 5 mm

>>B<< WIPER BLADE INSTALLATION

⚠ CAUTION

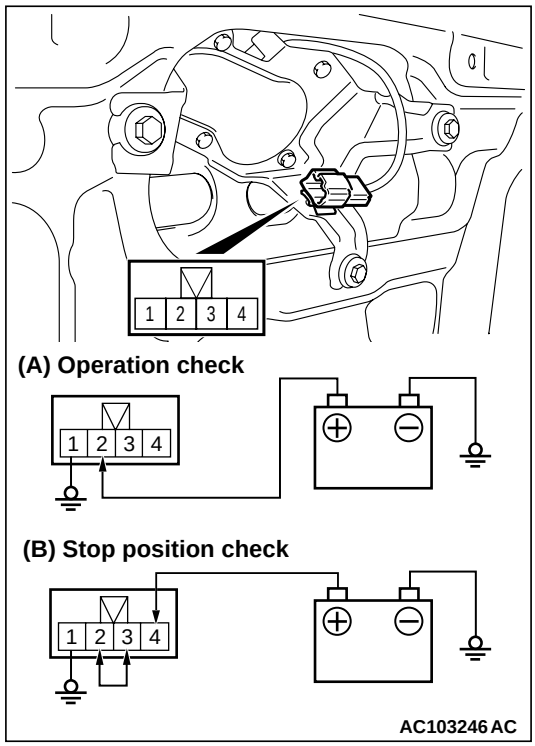


Use a curved backing like that shown for the backing of a wiper blade to ensure sustained wiper wiping performance.

INSPECTION

M1511008600223

REAR WIPER MOTOR CHECK



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

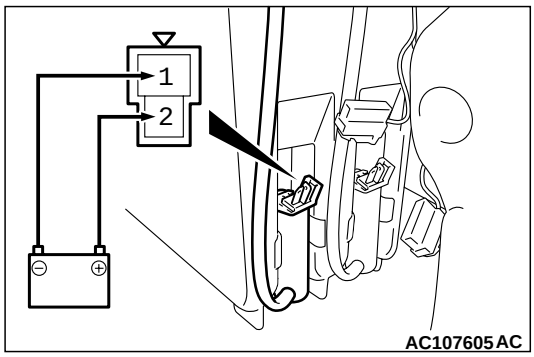
Wiper motor operation

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

Wiper motor at stop position operation

1. Connect the battery to the rear wiper motor as shown in the illustration (A).
2. Disconnect the battery cable from the rear wiper motor while it is turning and then check to see that the motor stops.
3. Re-connect the battery as shown in Figure (B).
4. Check to see that the rear wiper motor runs and then stops at the automatic stop position.

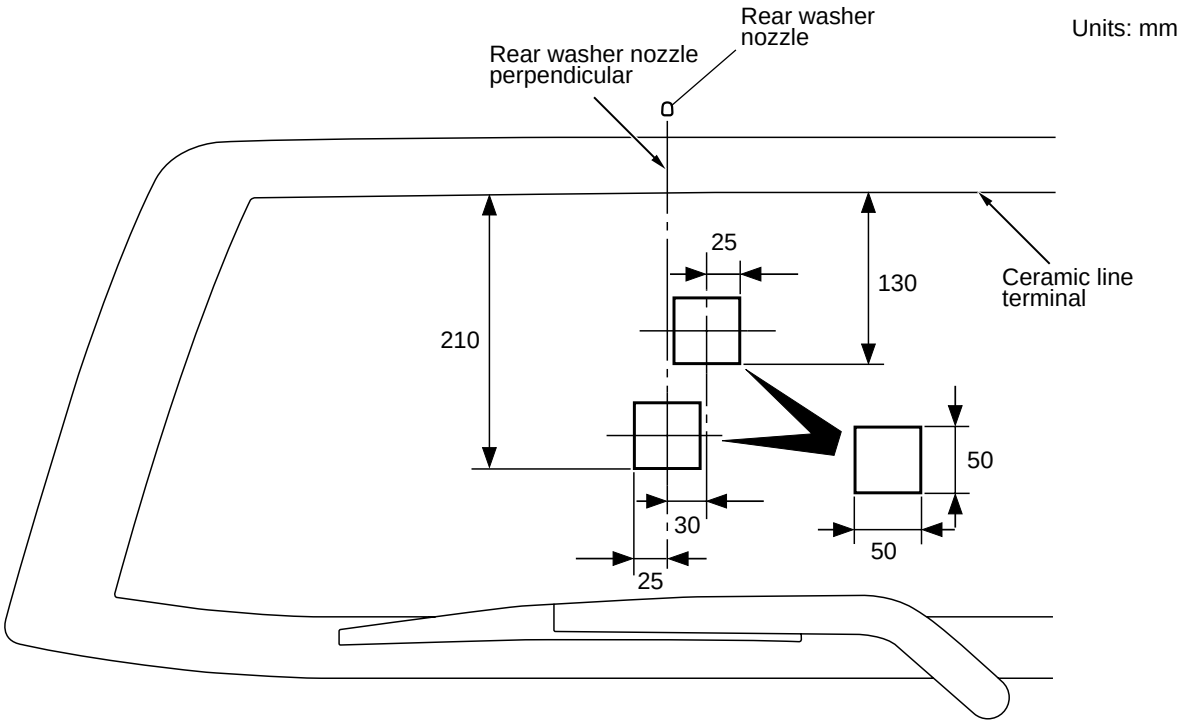
REAR WASHER MOTOR CHECK



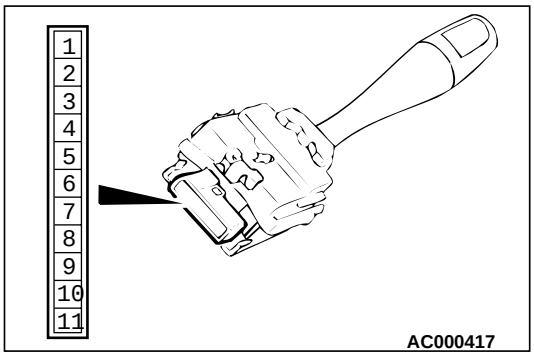
1. Remove the rear washer tank assembly with the washer hose attached. Then fill the washer tank with water.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 2 and terminal number 1 to the negative battery terminal.

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 <L.H.DRIVE VEHICLE>



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	

<R.H.DRIVE VEHICLE>

NOTE: The rear wiper and washer switch is integrated in the column-ECU, so can not be checked as an individual part. However, its operation can be checked by the input signal check.

- *For 2400 (not using SWS monitor): GROUP 54B, SWS Diagnosis P.54B-15.*
- *For 2400 (using SWS monitor): GROUP 54C, SWS Diagnosis P.54C-29.*

WIPER DEICER

GENERAL INFORMATION

M1511000100688

Wiper Deicer operation

The defogger relay switch is activated (ON) by turning on the A/C-ECU built-in defogger switch when the ignition switch is in the "ON" position. When the defogger relay is turned ON, power is supplied to the rear defogger and wiper deicer, and the heater of the wiper deicer starts operations. The defogger comes with a timer function and will automatically turn OFF the switch approximately 11 minutes <manual A/C> or 20 minutes <automatic A/C> after the defogger switch is turned ON. The wiper deicer operations are also terminated along with the rear defogger, at this time.

TROUBLESHOOTING

DIAGNOSIS TROUBLESHOOTING FLOW

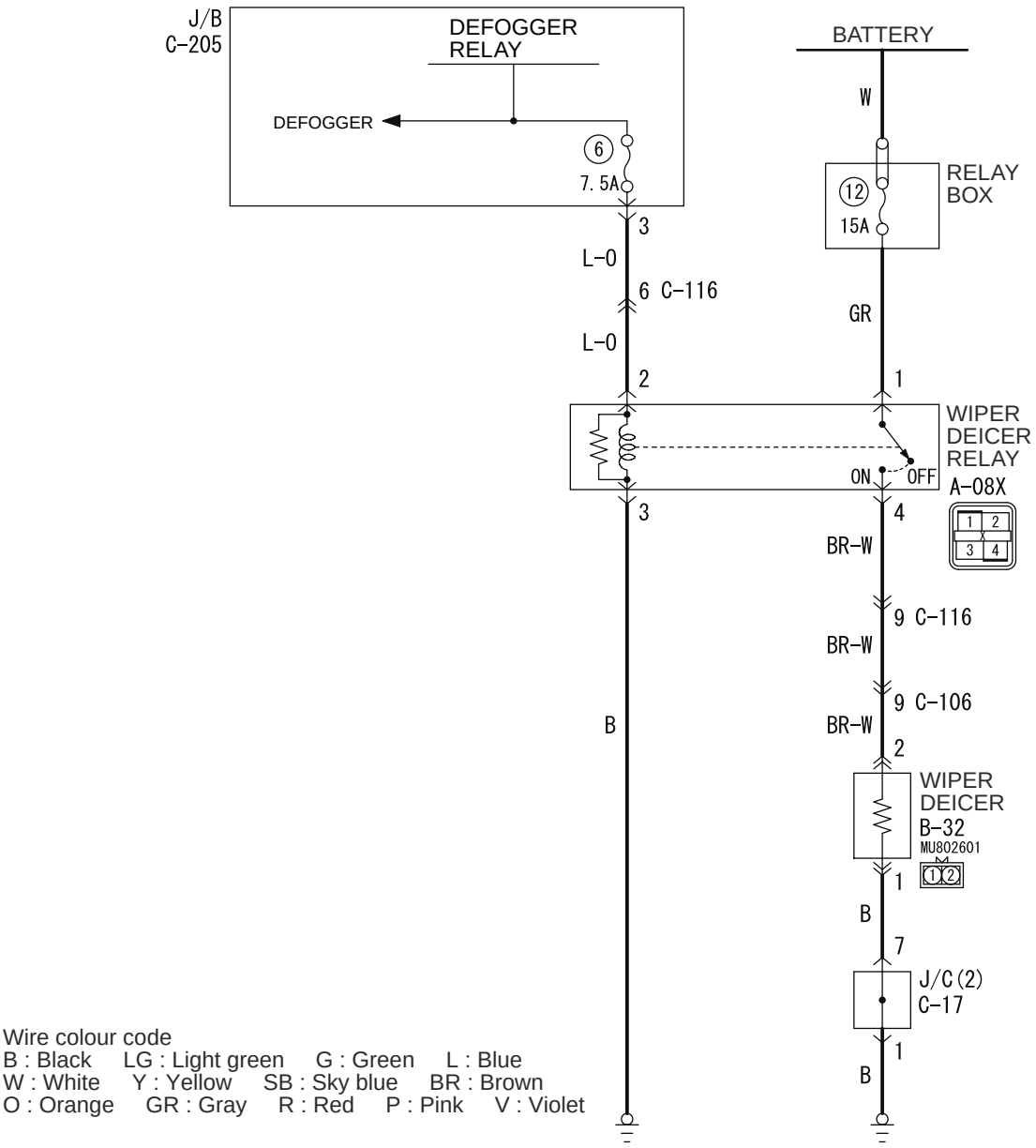
M1511014600095

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points P.00-6.

SYMPTOM PROCEDURES

INSPECTION PROCEDURE : Wiper Deicer Does not Operate

Wiper deicer Circuit



Wire colour code
B : Black LG : Light green G : Green L : Blue
W : White Y : Yellow SB : Sky blue BR : Brown
O : Orange GR : Gray R : Red P : Pink V : Violet

W3Z13E02AA

COMMENTS ON TROUBLE SYMPTOM

The wiper deicer should work for approximately 11 minutes <manual A/C> or 20 minutes <automatic A/C> when the rear defogger switch is turned on. If the wiper deicer does not work for the specified period, the defogger relay circuit and the power supply and/or earth circuit to the wiper deicer may be defective. The wiper deicer itself or its relay may be also defective.

POSSIBLE CAUSES

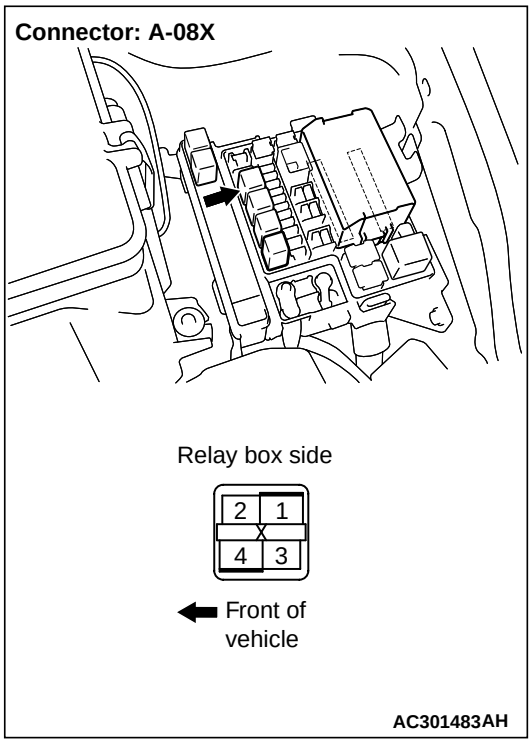
- Malfunction of the wiper deicer
- Malfunction of the wiper deicer relay
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

STEP 1. Check the defogger.
Check that the rear defogger works normally.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Troubleshoot the rear defogger (Refer to GROUP 55A – Trouble symptom chart P.55A-4 or GROUP 55B – Trouble symptom chart P.55B-28).

STEP 2. Connector check: A-08X wiper deicer relay connector

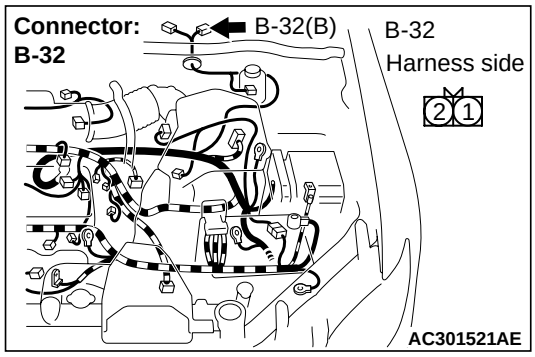


Q: Is the check result normal?
YES : Go to Step 3.
NO : Repair the defective connector.

STEP 3. Check the wiper deicer relay.
Check that the wiper deicer relay works normally (Refer to wiper deicer relay check P.51-43).

Q: Is the check result normal?
YES : Go to Step 4.
NO : Replace the wiper deicer relay.

STEP 4. Connector check: B-32 wiper deicer connector

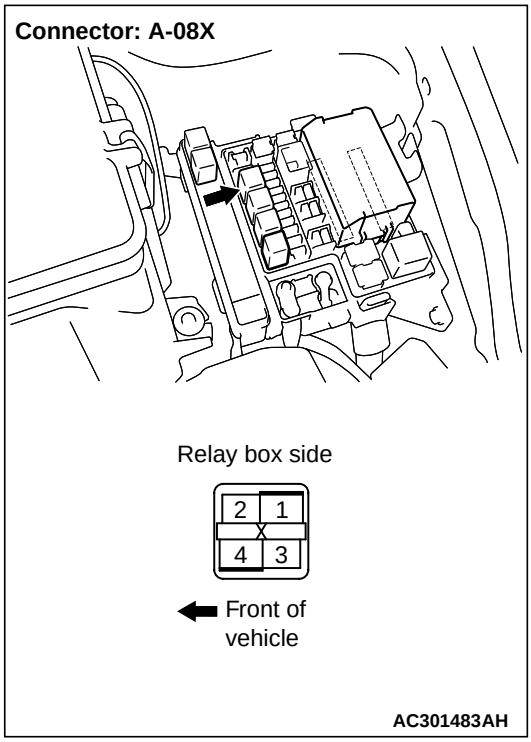


Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the defective connector.

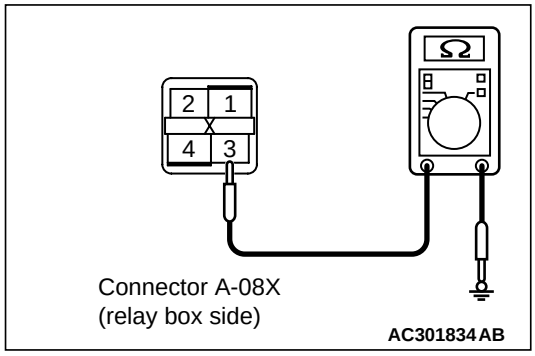
STEP 5. Check the wiper deicer.
Check that the wiper deicer works normally (Refer to wiper deicer check P.51-43).

Q: Is the check result normal?
YES : Go to Step 6.
NO : Replace the wiper deicer.

STEP 6. Measure the resistance at the A-08X wiper deicer relay connector.



(1) Disconnect the connector, and measure at the relay box side.



(2) Resistance between A-08X wiper deicer relay connector terminal No.3 and body earth

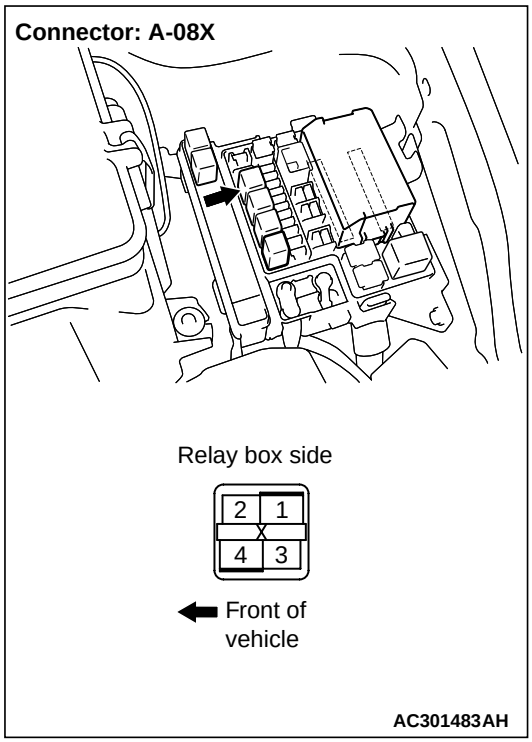
OK: 2 Ω or less

Q: Is the check result normal?

YES : Go to Step 8.

NO : . Go to Step 7.

STEP 7. Check the wiring harness between A-08X wiper deicer relay connector terminal No.3 and body earth.



- Check the earth wires for open circuit.

Q: Is the check result normal?

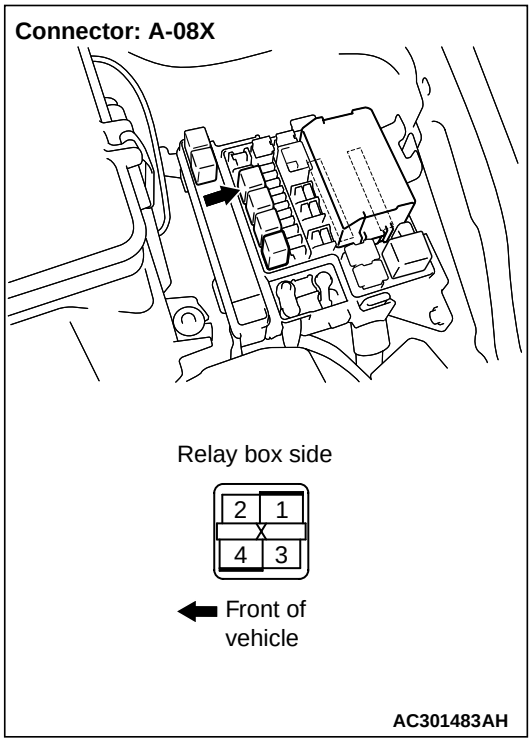
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

NO : Repair the wiring harness.

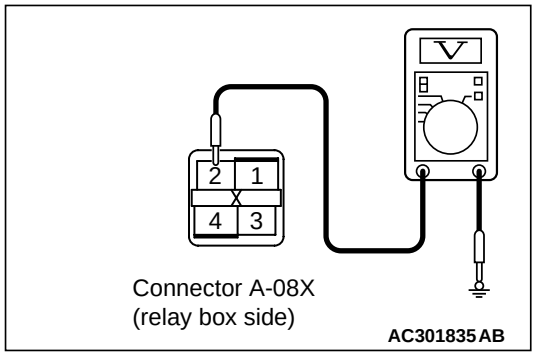
STEP 8. Measure the voltage at the A-08X wiper deicer relay connector.

(1) Turn the ignition switch to the ON position.

(2) Defogger switch: ON



(3) Disconnect the connector, and measure at the relay box side.

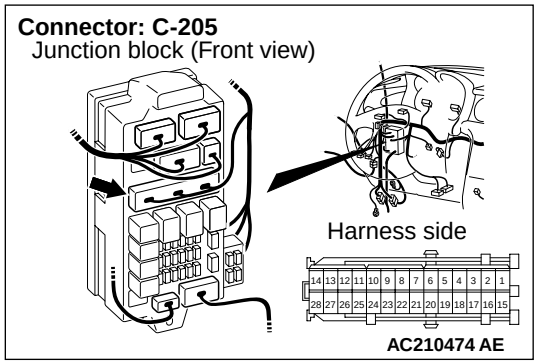


(4) Voltage between A-08X wiper deicer relay connector terminal No.2 and body earth

OK: System voltage

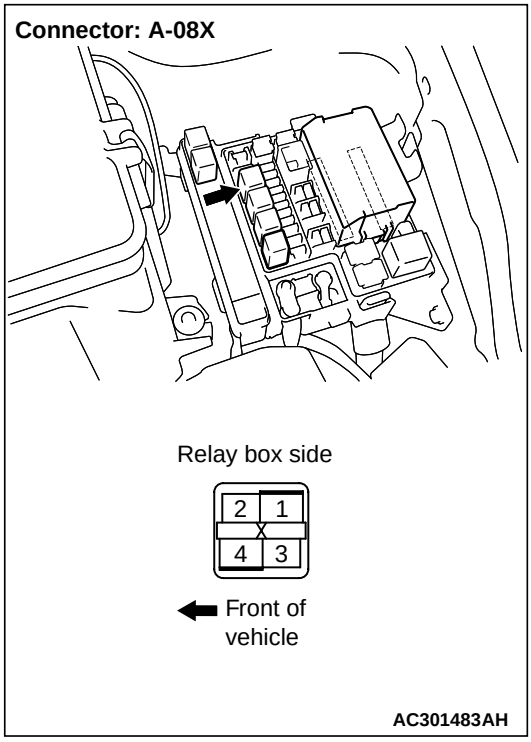
Q: Is the check result normal?
YES : Go to Step 11.
NO : Go to Step 9.

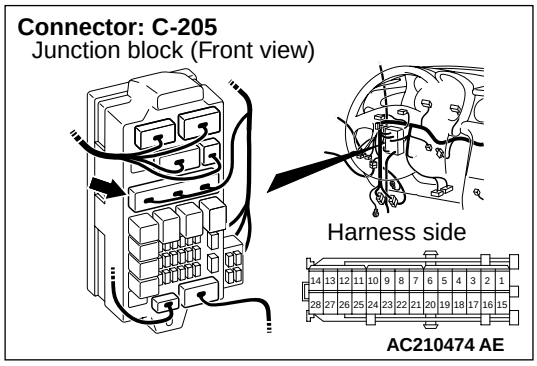
STEP 9. Connector check: C-205 junction block connector



Q: Is the check result normal?
YES : Go to Step 10.
NO : Repair the defective connector.

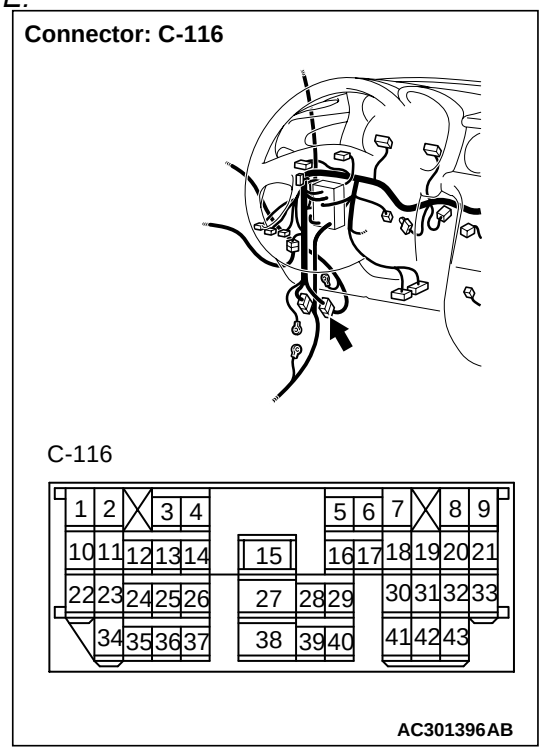
STEP 10. Check the wiring harness between A-08X wiper deicer relay connector terminal No.2 and C-205 junction block connector terminal No.3.





- Check the power supply line for open circuit.

NOTE:

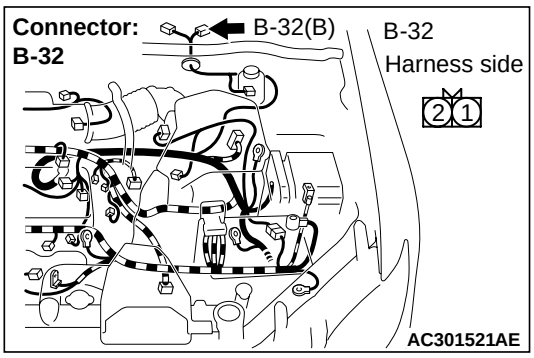


Prior to the wiring harness inspection, check intermediate connector C-116, and repair if necessary.

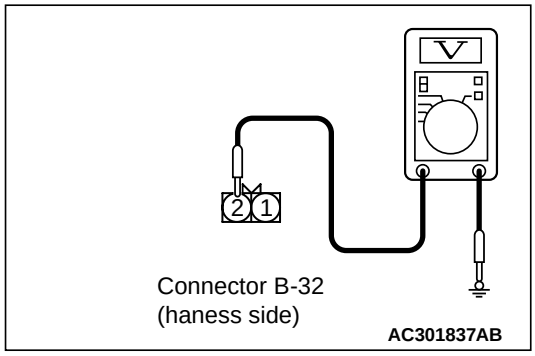
Q: Is the check result normal?
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Repair the wiring harness.

STEP 11. Measure the voltage at B-32 wiper deicer connector.
(1) Turn the ignition switch to the ON position.

(2) Defogger switch: ON



(3) Disconnect the connector, and measure at the wiring harness side.

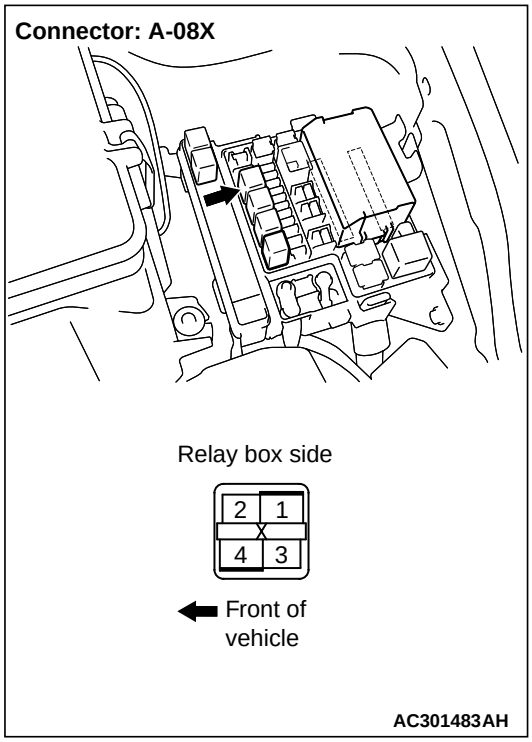


(4) Voltage between B-32 wiper deicer connector terminal No.2 and body earth

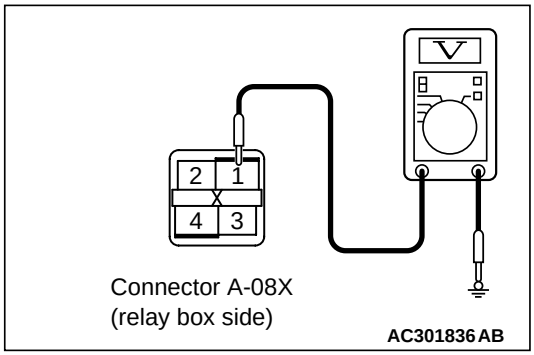
OK: System voltage

Q: Is the check result normal?
YES : Go to Step 15.
NO : Go to Step 12.

STEP 12. Measure the voltage at the A-08X wiper deicer relay connector.



(1) Disconnect the connector, and measure at the relay box side.

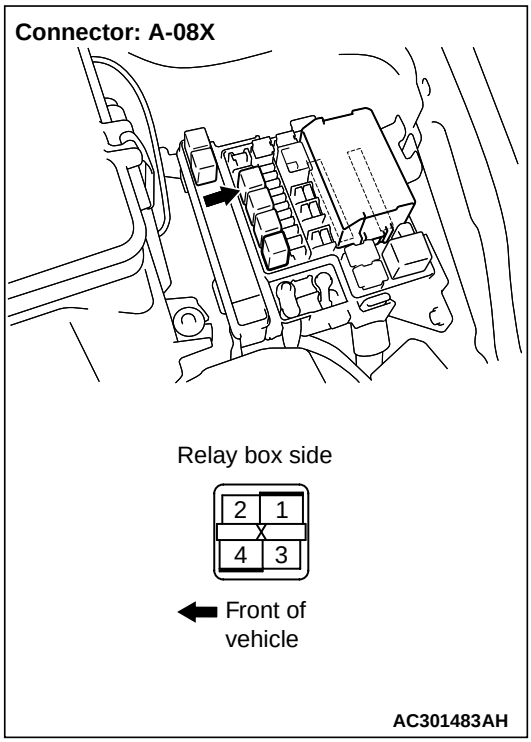


(2) Voltage between A-08X wiper deicer relay connector terminal No.1 and body earth

OK: System voltage

Q: Is the check result normal?
YES : Go to Step 14.
NO : . Go to Step 13.

STEP 13. Check the wiring harness between A-08X wiper deicer relay connector terminal No.2 and the battery.



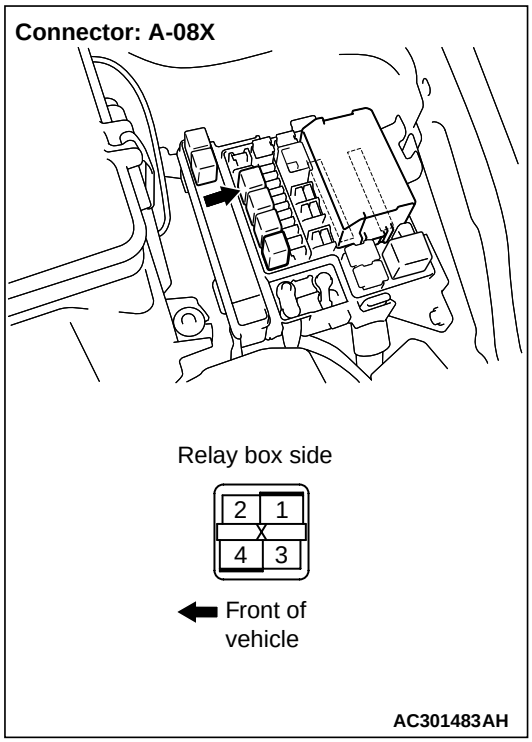
- Check the power supply line for open circuit.

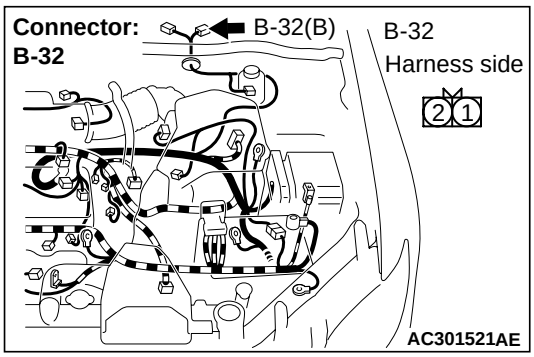
Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

NO : Repair the wiring harness.

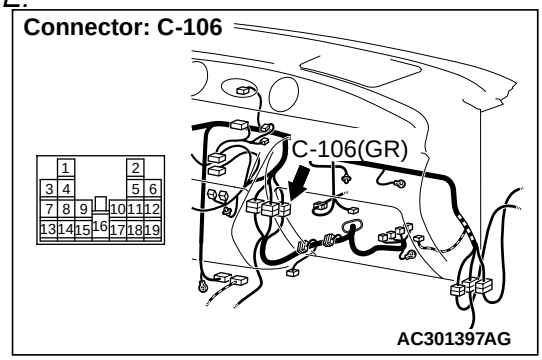
STEP 14. Check the wiring harness between A-08X wiper deicer relay connector terminal No.4 and B-32 wiper deicer connector terminal No.2.

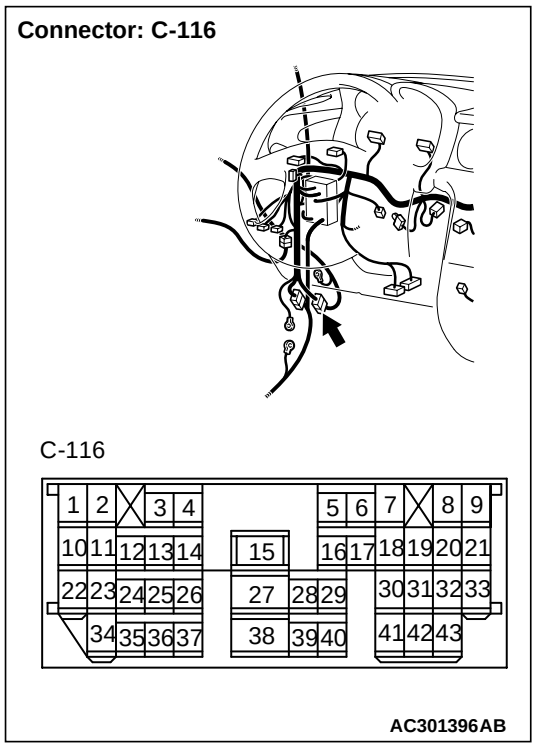




- Check the power supply line for open circuit.

NOTE:

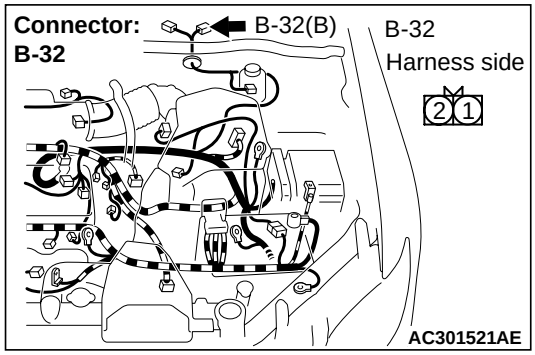




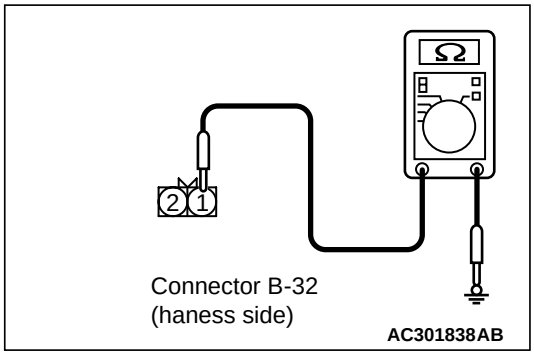
Prior to the wiring harness inspection, check intermediate connectors C-106 and C-116, and repair if necessary.

Q: Is the check result normal?
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Repair the wiring harness.

STEP 15. Measure the resistance at B-32 wiper deicer connector.



(1) Disconnect the connector, and measure at the wiring harness side.

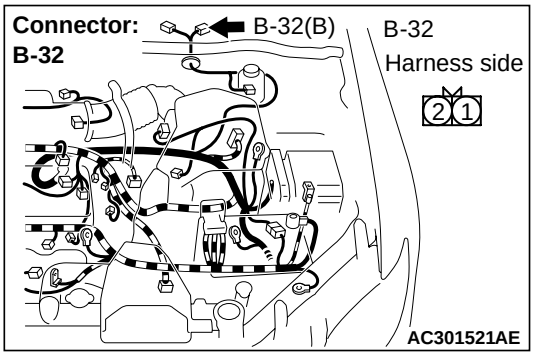


(2) Resistance between B-32 wiper deicer connector terminal No.1 and body earth

OK: 2 Ω or less

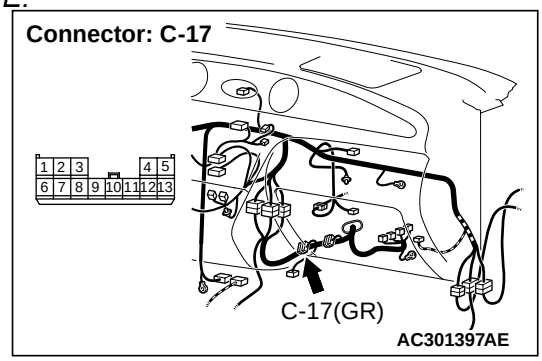
Q: Is the check result normal?
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Go to Step 16.

STEP 16. Check the wiring harness between B-32 wiper deicer connector terminal No.1 and body earth.



- Check the earth wires for open circuit.

NOTE:



Prior to the wiring harness inspection, check joint connector C-17, and repair if necessary.

Q: Is the check result normal?

YES : . The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

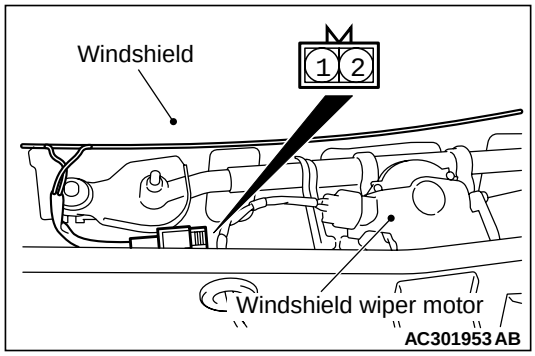
NO : . Repair the wiring harness.

WIPER DEICER

INSPECTION

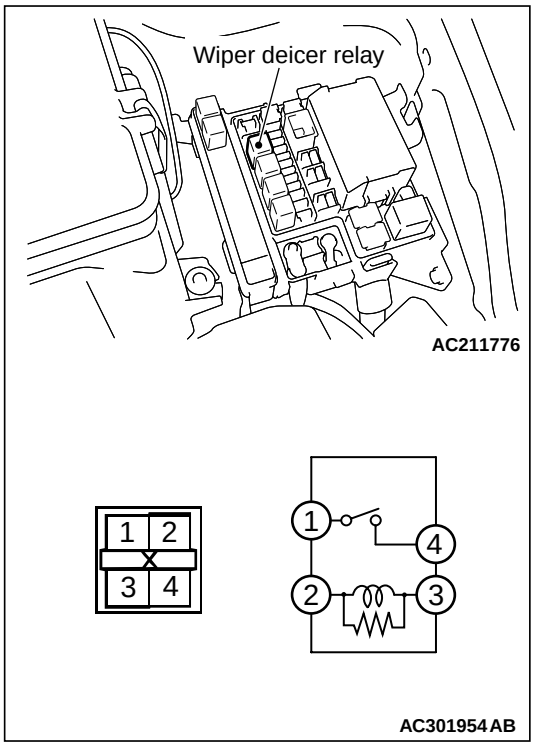
M1511019100619

WIPER DEICER CHECK



There should be continuity between the wiper deicer connector terminal No.1 and 2.

WIPER DEICER RELAY CHECK



Battery voltage	Terminal number to be connected to tester	Continuity test results
Not applied	1 – 4	Open circuit
Connect terminal No.3 and battery (–) terminal. Connect terminal No.2 and battery (+) terminal.	1 – 4	Less than 2 ohms

HEADLAMP WASHER

TROUBLESHOOTING

M1511000700486

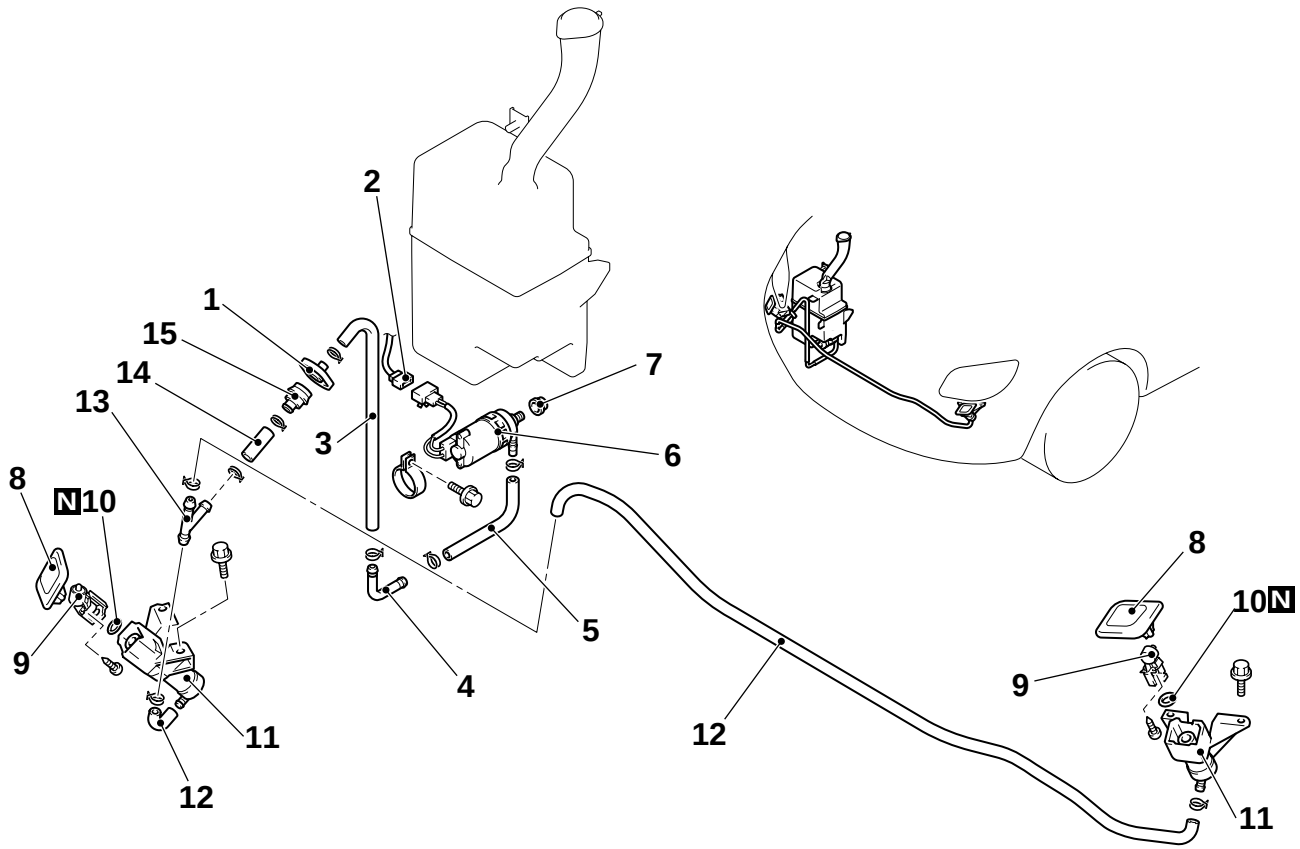
The headlamp washer is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-41 or GROUP 54C, Troubleshooting P.54C-25.

HEADLAMP WASHER

REMOVAL AND INSTALLATION

M1511009700041

Pre-removal and Post-installation Operation
- Radiator Grille Removal and Installation (Refer to P.51-10).
- Front Bumper Extension Removal and Installation (Refer to P.51-3).
- Under Cover Removal and Installation (Refer to P.51-19).



AC300298AB

Removal steps
- Washer fluid draining

1. Headlamp washer hose connection
2. Headlamp washer motor connector
3. Headlamp washer hose
4. Headlamp washer joint

Removal steps (Continued)

5. Headlamp washer hose
6. Headlamp washer motor
7. Headlamp washer motor packing
- Front bumper (Refer to P.51-3).

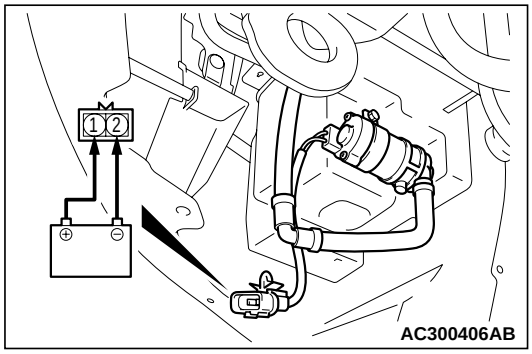
8. Headlamp washer cover

Removal steps (Continued)
9. Headlamp washer nozzle
10. O-ring
11. Headlamp washer actuator assembly
12. Headlamp washer hose
13. Headlamp washer joint
14. Headlamp washer hose
15. Headlamp washer joint

INSPECTION

M1511009800060

HEADLAMP WASHER MOTOR CHECK

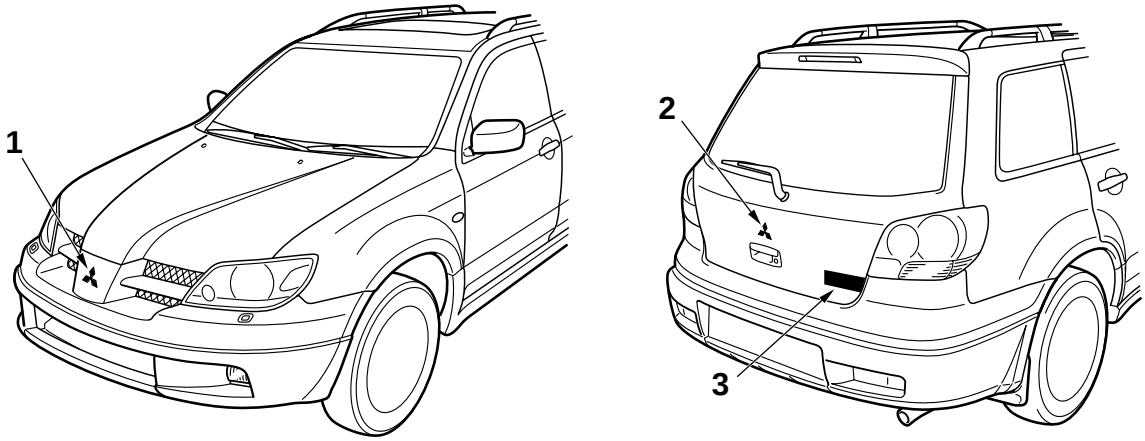


1. Remove the headlamp washer motor connector.
2. Check to see that the water is vigorously sprayed when connecting the positive battery terminal to terminal number 1 and terminal number 2 to the negative battery terminal.

MARK

REMOVAL AND INSTALLATION

M1511011800603



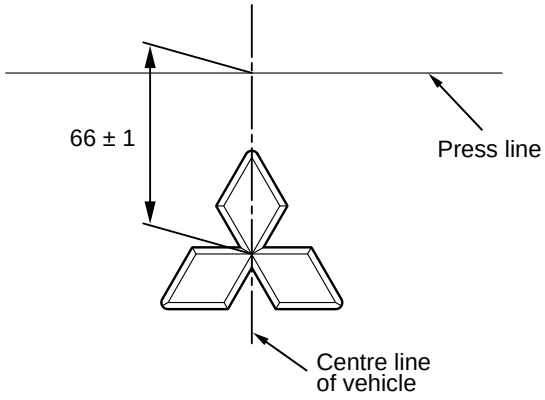
1. Front three-diamond mark
>>A<< 2. Rear three-diamond mark
>>A<< 3. OUTLANDER mark and 4WD mark

INSTALLATION SERVICE POINT

>>A<< MARK INSTALLATION

Three-diamond mark

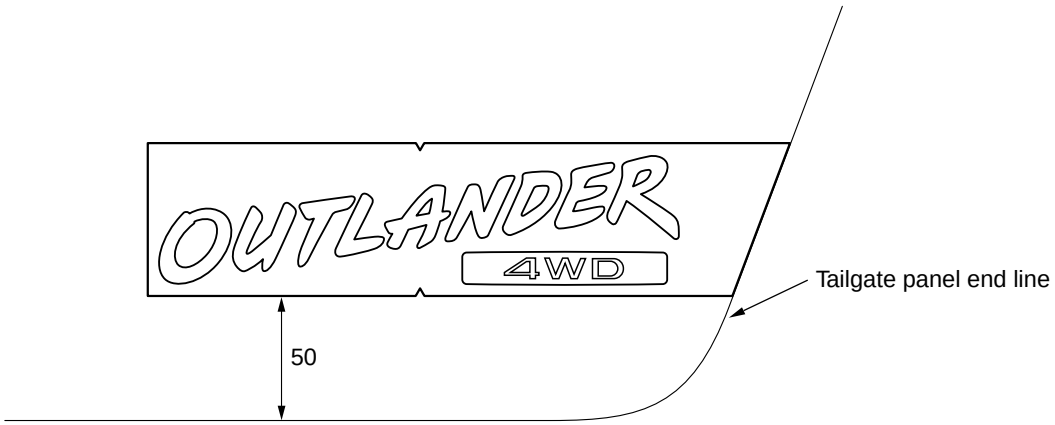
Units: mm



AC309427AB

OUTLANDER mark and 4WD mark

Units: mm



AC309426AB

1. Clean the mark installation surfaces on the body with unleaded petrol.

⚠ CAUTION

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

2. Peel off the protection sheet on the back of the mark to paste it on the installation position.

DOOR MIRROR

GENERAL INFORMATION

M1511000100699

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 defogger relay switch is activated (ON) by turning on the A/C-ECU built-in defogger switch when the ignition switch is in the "ON" position. When the defogger relay is turned ON, power is supplied to the defogger and door mirror, and the heater of the door mirror (heated door mirror) starts operations. The defogger comes with a timer function and will automatically turn OFF the switch approximately about 11 minutes <manual A/C> or about 20 minutes <automatic A/C> after the defogger switch is turned ON. The heated door mirror operations are also terminated along with the defogger, at this time.

TROUBLESHOOTING

DIAGNOSIS TROUBLESHOOTING FLOW

M1511014600103

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points P.00-6.

TROUBLE SYMPTOM CHART

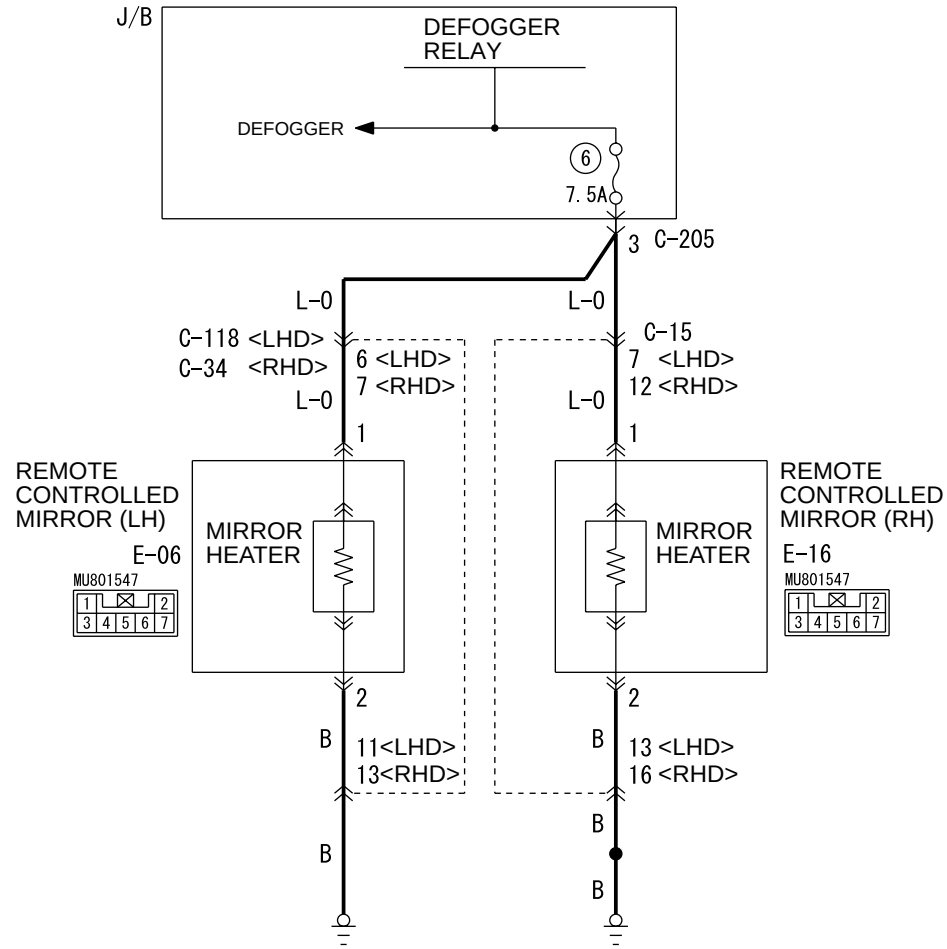
M1511015000115

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
All heated door mirrors do not operate	1	P.51-48
The right or left heated door mirror does not operate	2	P.51-50

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: All Heated Door Mirrors do not Operate

Heated door mirror circuit



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Gray R : Red P : Pink V : Violet

W4Z51E00AA

COMMENTS ON TROUBLE SYMPTOM

The heated door mirrors should work for approximately 11 minutes <manual A/C> or 20 minutes <automatic A/C> when the rear defogger switch is turned on. If the mirror heater does not work for the specified period, the defogger relay circuit (heated door mirror power supply circuit) may be defective.

POSSIBLE CAUSES

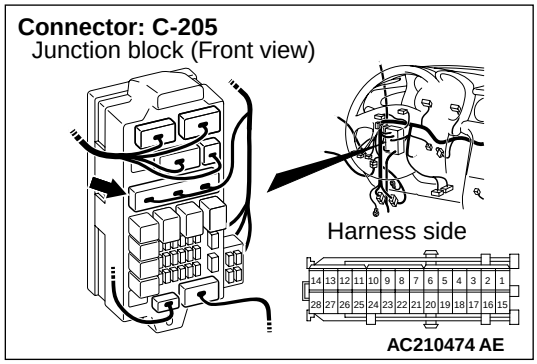
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

STEP 1. Check the defogger.
Check that the rear defogger system should work normally.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Troubleshoot the rear defogger (Refer to GROUP 55A – Trouble symptom chart P.55A-4 or GROUP 55B – Trouble symptom chart P.55B-28).

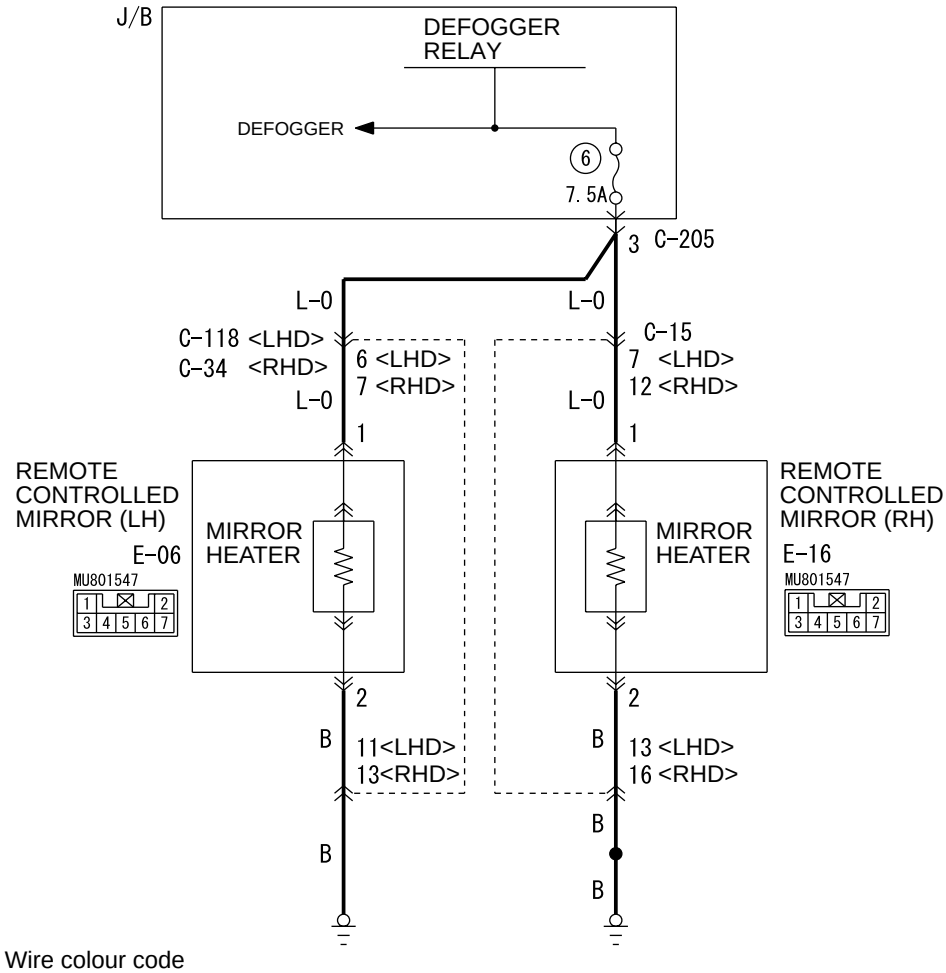
STEP 2. Connector check: C-205 junction block connector



Q: Is the check result normal?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Repair the defective connector.

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

Heated door mirror circuit



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Gray R : Red P : Pink V : Violet

W4Z51E00AA

COMMENTS ON TROUBLE SYMPTOM
If either of the heated door mirrors does not work, the door mirror assembly may be defective.

POSSIBLE CAUSES
- Malfunction of the door mirror assembly
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

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

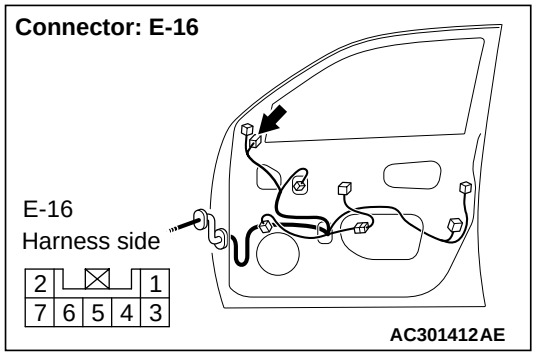
Q: Which door mirror does not heat?

Door mirror (RH) : Go to Step 2.
Door mirror (LH) : Go to Step 9.

STEP 2. Check the door mirror assembly (RH).
Check that the heater element of the door mirror assembly (RH) is in good condition (Refer to the heated door mirror check P.51-48).

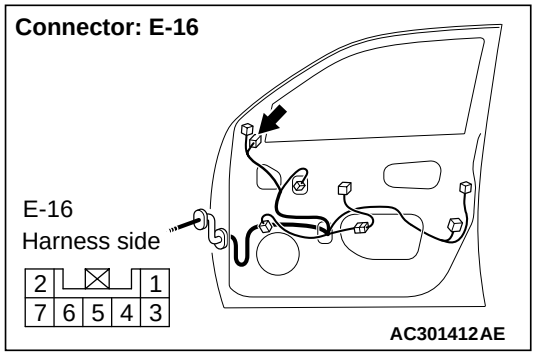
Q: Is the check result normal?
YES : Go to Step 3.
NO : Replace the door mirror assembly (RH).

STEP 3. Connector check: E-16 door mirror assembly (RH) connector

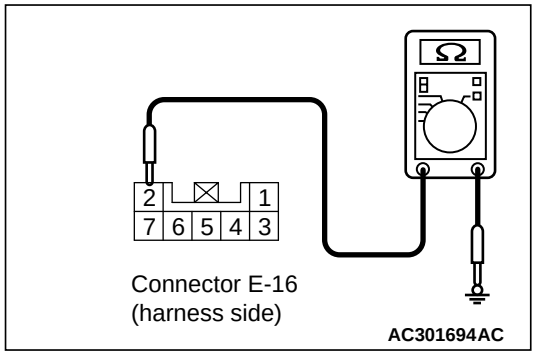


Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the defective connector.

STEP 4. Measure the resistance at the E-16 door mirror assembly (RH) connector.



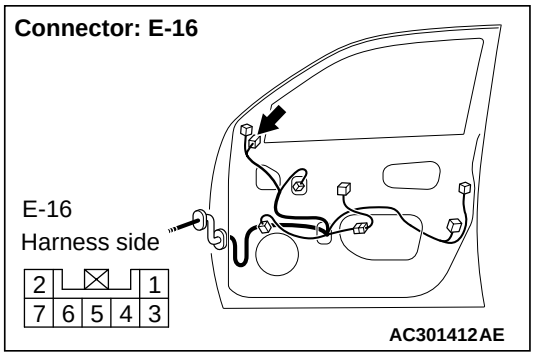
(1) Disconnect the connector, and measure at the wiring harness side.



(2) Resistance between E-16 door mirror assembly connector terminal No.2 and body earth
OK: 2 Ω or less

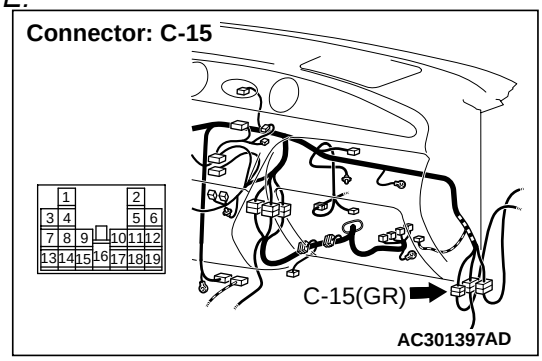
Q: Is the check result normal?
YES : Go to Step 6.
NO : Go to Step 5.

STEP 5. Check the wiring harness between E-16 door mirror assembly (LH) connector terminal No.2 and body earth.



- Check the earth wires for open circuit.

NOTE:



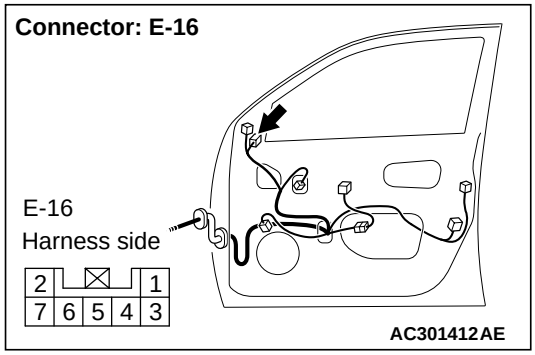
Prior to the wiring harness inspection, check intermediate connector C-15, and repair if necessary.

Q: Is the check result normal?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Repair the wiring harness.

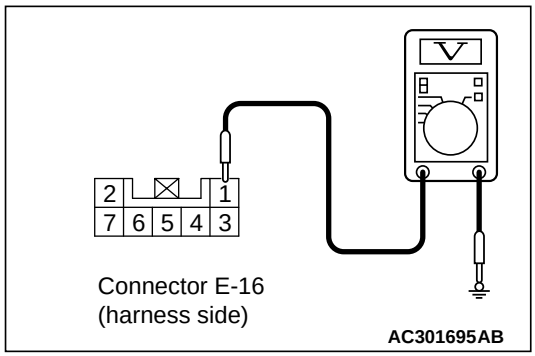
STEP 6. Measure the voltage at the E-16 door mirror assembly (RH) connector.

(1) Turn the ignition switch to the ON position.

(2) Defogger switch: ON



(3) Disconnect the connector, and measure at the wiring harness side.



(4) Voltage between E-16 door mirror assembly connector terminal No.1 and body earth

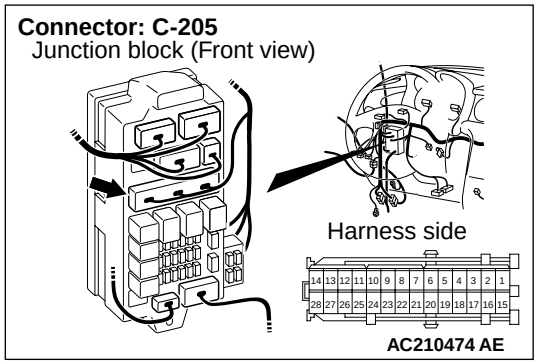
OK: System voltage

Q: Is the check result normal?

YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

NO : Go to Step 7.

STEP 7. Connector check: C-205 junction block connector

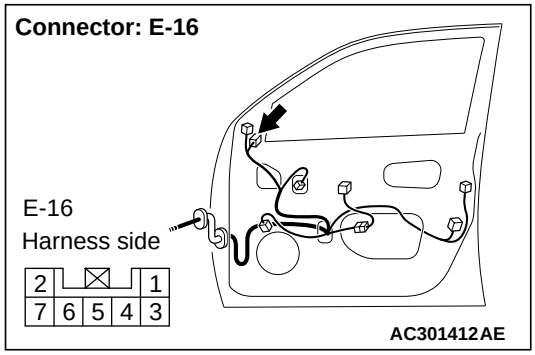


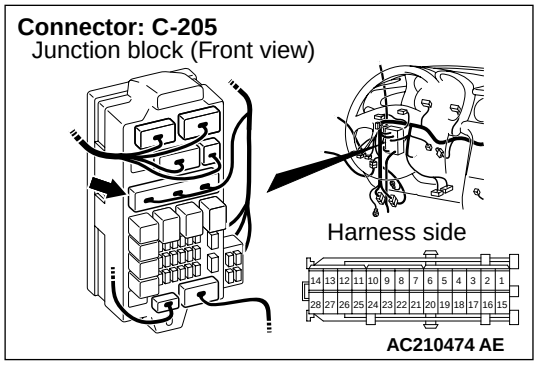
Q: Is the check result normal?

YES : Go to Step 8.

NO : Repair the defective connector.

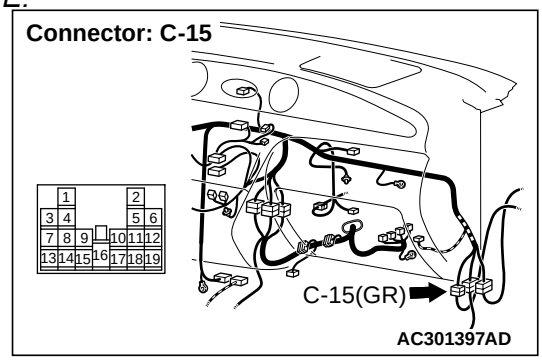
STEP 8. Check the wiring harness between E-16 door mirror assembly (RH) connector terminal No.1 and C-205 junction block connector terminal No.3.





- Check the power supply line for open circuit.

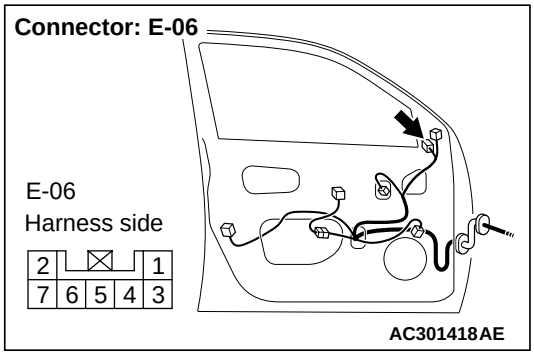
NOTE:



Prior to the wiring harness inspection, check intermediate connector C-15, and repair if necessary.

Q: Is the check result normal?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Repair the wiring harness.

STEP 9. Connector check: E-06 door mirror assembly (LH) connector

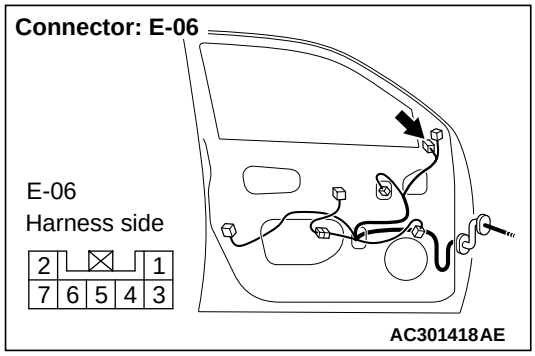


Q: Is the check result normal?
YES : Go to Step 10.
NO : Repair the defective connector.

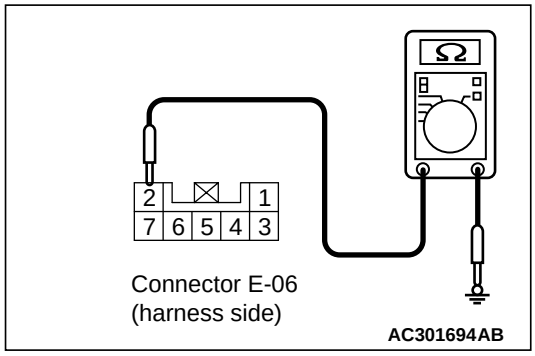
STEP 10. Check the door mirror assembly (LH).
Check that the heater element of the door mirror assembly (LH) is in good condition (Refer to the heated door mirror check P.51-48).

Q: Is the check result normal?
YES : Go to Step 11.
NO : Replace the door mirror assembly (LH).

STEP 11. Measure the resistance at the E-06 door mirror assembly (LH) connector.



(1) Disconnect the connector, and measure at the wiring harness side.



(2) Resistance between E-06 door mirror assembly connector terminal No.2 and body earth

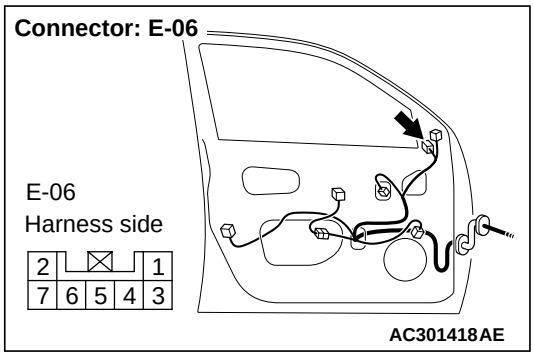
OK: 2 Ω or less

Q: Is the check result normal?

YES : Go to Step 14.

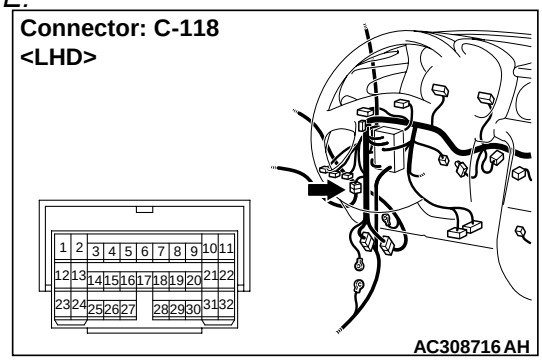
NO : Go to Step 12.

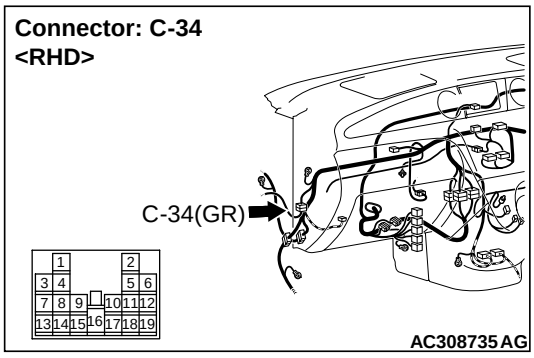
STEP 12. Check the wiring harness between E-06 door mirror assembly (LH) connector terminal No.2 and body earth.



- Check the earth wires for open circuit.

NOTE:





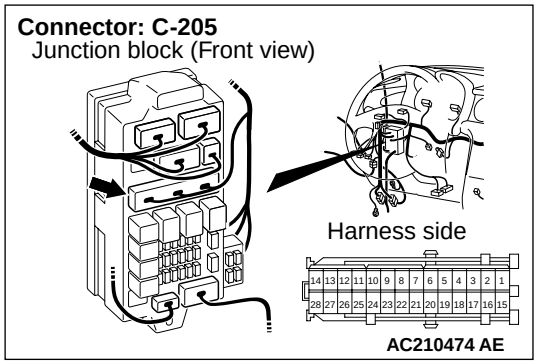
Prior to the wiring harness inspection, check intermediate connector C-118 <L.H. driver vehicles> and C-34 <R.H. driver vehicles>, and repair if necessary.

Q: Is the check result normal?

YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

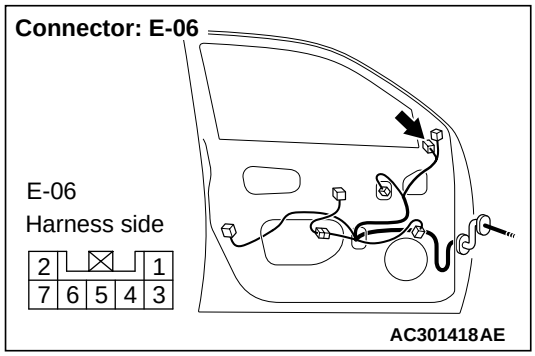
NO : Repair the wiring harness.

STEP 13. Connector check: C-205 junction block connector

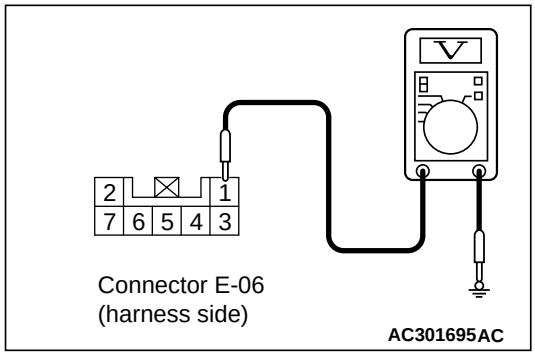


Q: Is the check result normal?
YES : Go to Step 14.
NO : Repair the defective connector.

STEP 14. Measure the voltage at the E-06 door mirror assembly (LH) connector.
(1) Turn the ignition switch to the ON position.
(2) Defogger switch: ON



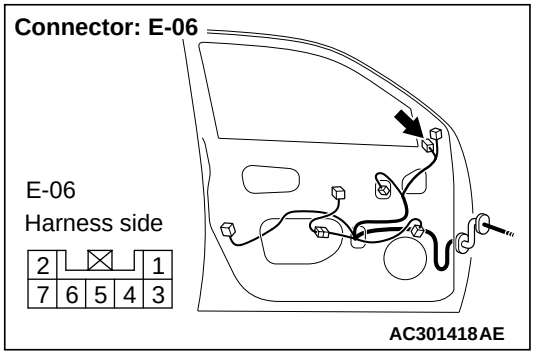
(3) Disconnect the connector, and measure at the wiring harness side.

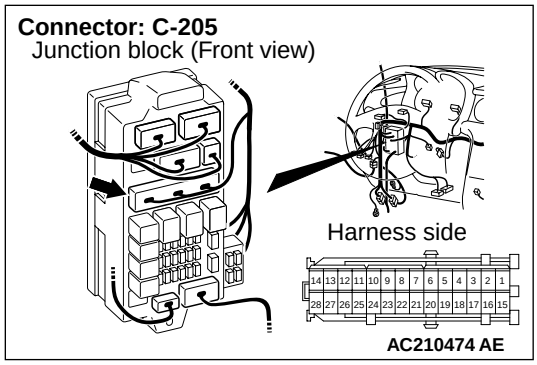


(4) Voltage between E-06 door mirror assembly connector terminal No.1 and body earth
OK: System voltage

Q: Is the check result normal?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).
NO : Go to Step 15.

STEP 15. Check the wiring harness between E-06 door mirror assembly (LH) connector terminal No.1 and C-205 junction block connector terminal No.3.

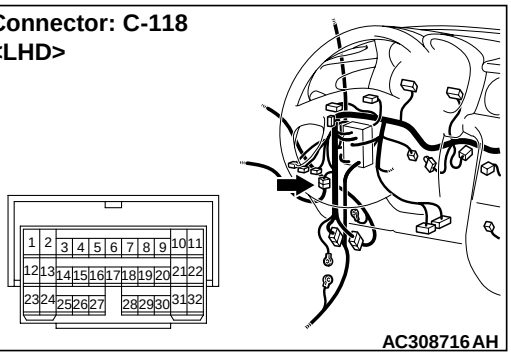




- Check the power supply line for open circuit.

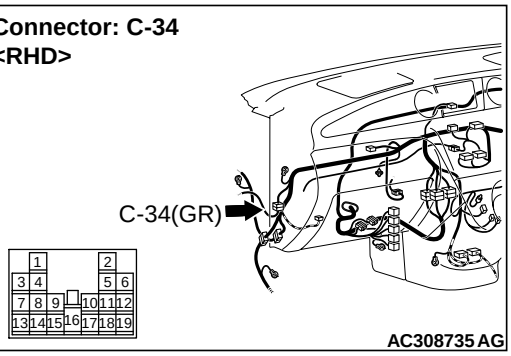
NOTE:

Connector: C-118
<LHD>



AC308716 AH

Connector: C-34
<RHD>



AC308735 AG

Prior to the wiring harness inspection, check intermediate connector C-118 <L.H. driver vehicles> and C-34 <R.H. driver vehicles>, and repair if necessary.

Q: Is the check result normal?

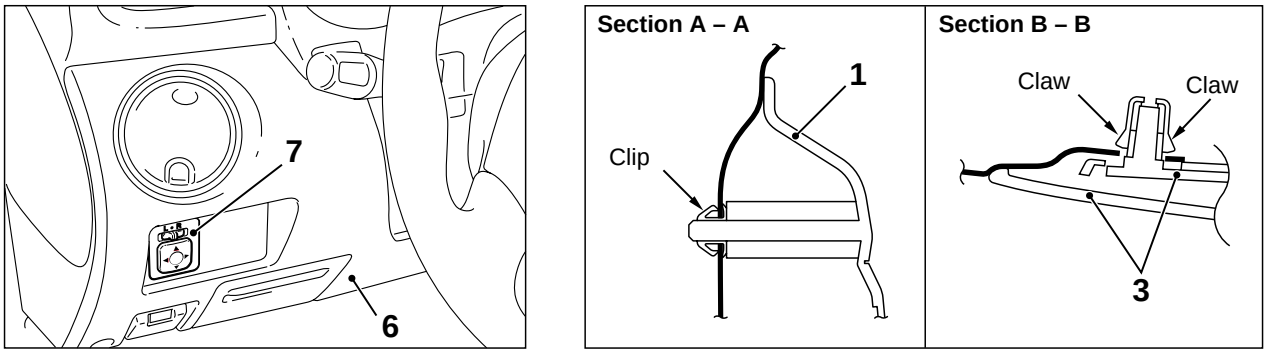
YES : . Intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-6).

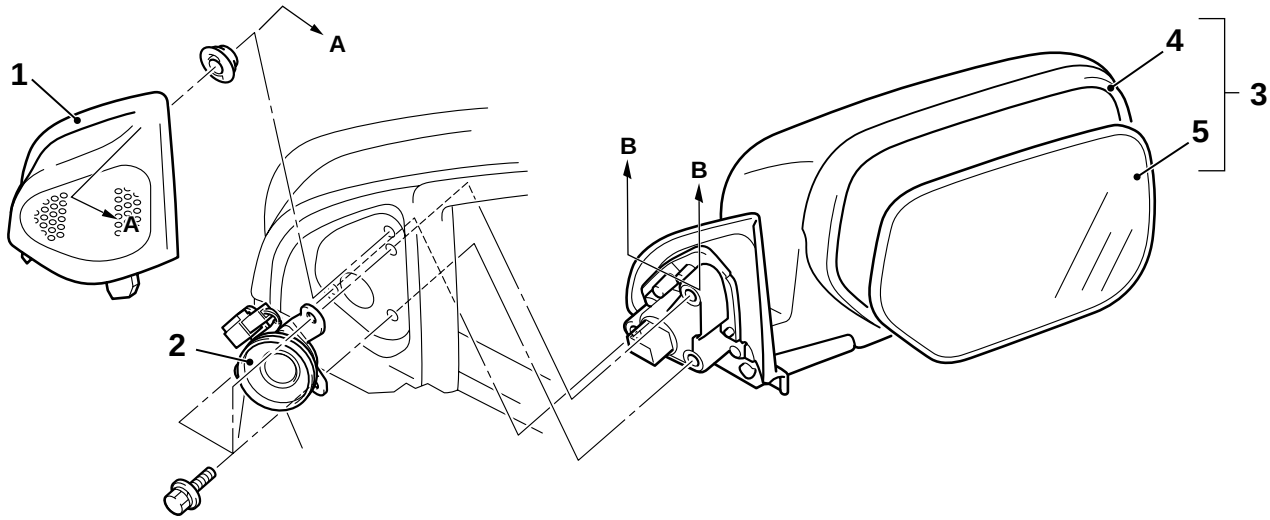
NO : . Repair the wiring harness.

DOOR MIRROR

REMOVAL AND INSTALLATION

M1511006400405





AC201696AB

Door mirror removal steps

1. Delta cover
2. Tweeter

>>A<< 3. Door mirror assembly

4. Door mirror body assembly

<<A>> 5. Mirror

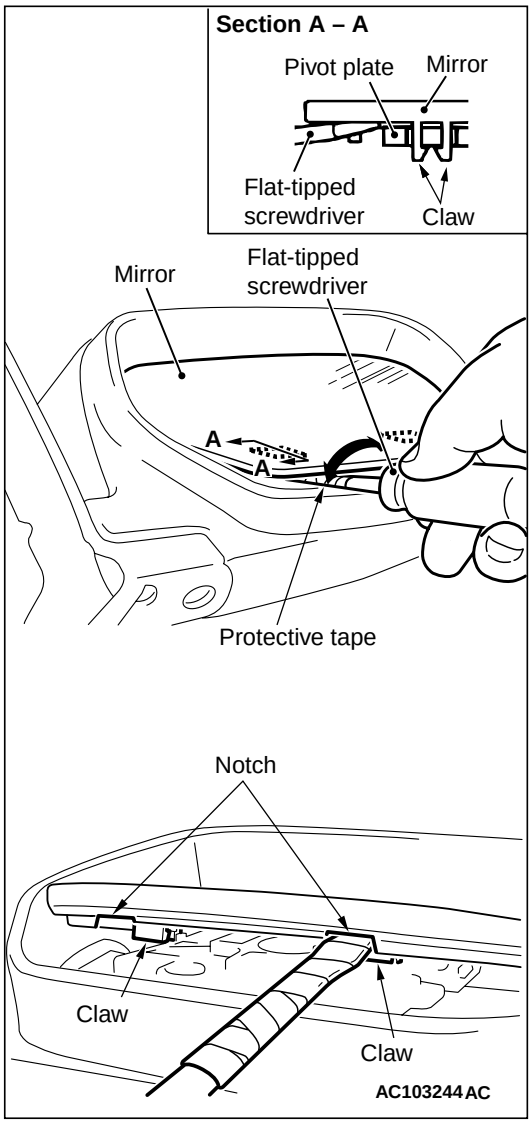
Remote controlled mirror switch removal steps

6. Instrument panel lower cover (Refer to GROUP 52A, Instrument panel P.52A-2<L.H. drive vehicles>, P.52A-8<R.H. drive vehicles>.)
7. Remote controlled mirror switch

REMOVAL SERVICE POINT

<<A>> MIRROR REMOVAL

⚠ CAUTION



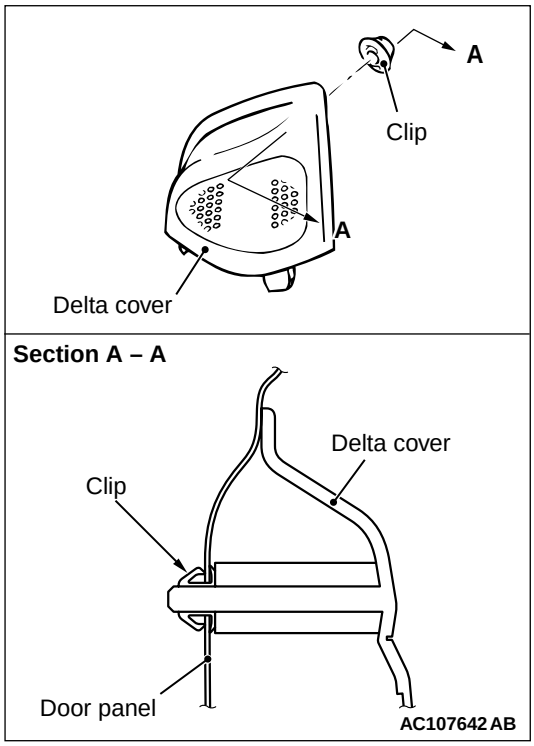
The thumb of the mirror is prone to breakage when working in cold temperatures. Always warm up the mirror thumb and thumb periphery to 20°C or higher before handling.

Slant the mirror upward with your hands. Then insert a flat-tipped screwdriver wrapped with protective tape between the pivot plate and mirror through the cut-out from behind the mirror. Now pry off the mirror thumb and remove the mirror as shown.

INSTALLATION SERVICE POINT

>>A<< DELTA COVER INSTALLATION

⚠ CAUTION

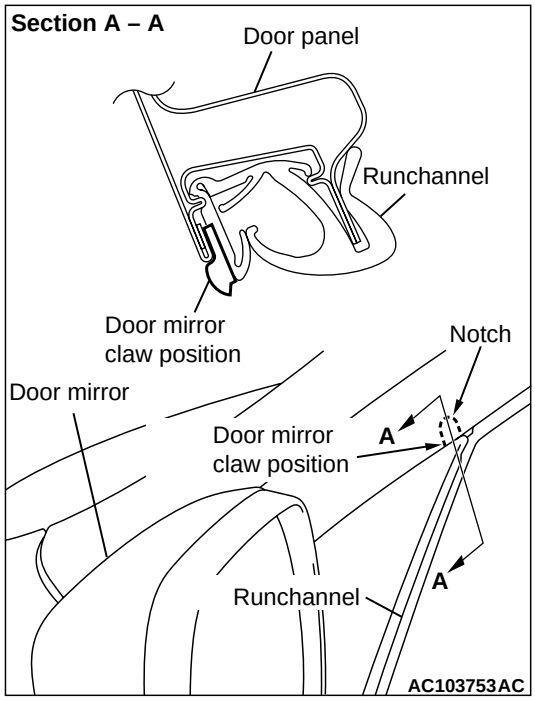


If the delta cover is placed with the clip on the door panel, the clip may be pushed into the door panel and fall off. Thus, special care is necessary.

Install the delta cover with the clip installed.

>>B<< DOOR MIRROR ASSEMBLY INSTALLATION

⚠ CAUTION

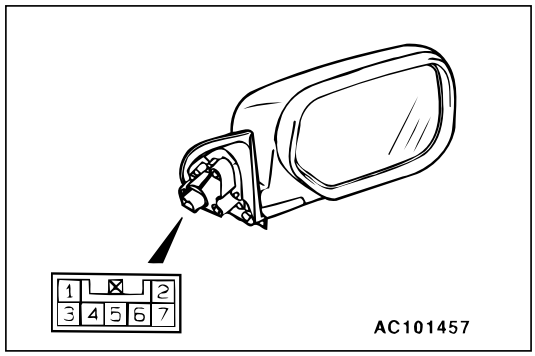


When assembling the door mirror, check to see that the thumb of the door mirror is inserted in the cut-out of the front door runchannel.

INSPECTION

M1511006500350

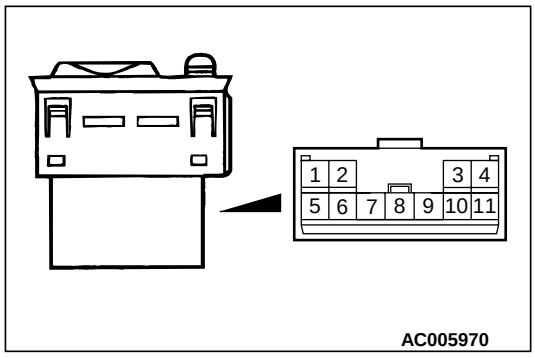
ELECTRIC REMOTE CONTROL MIRROR OPERATION CHECK



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
• 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

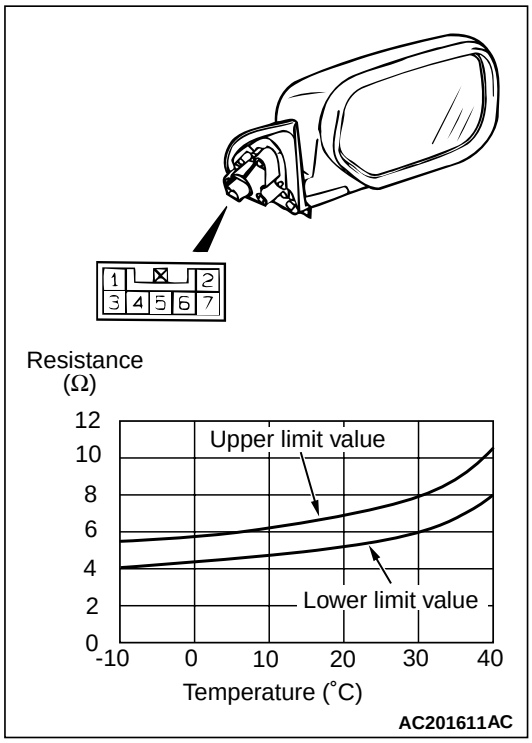


Switch position		Tester connection	Specified condition
OFF		9 – 2, 9 – 3, 9 – 6, 9 – 10, 9 – 11, 1 – 2, 1 – 3, 1 – 6, 1 – 10, 1 – 11	Open circuit
Left side	OFF	9 – 6, 9 – 10, 9 – 11, 1 – 6, 1 – 10, 1 – 11	Open circuit
	Up	1 – 6, 9 – 11	Less than 2 ohms
	Down	1 – 11, 6 – 9	
	Right	1 – 6, 9 – 10	
	Left	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.



Check to see that the resistance shown in the graph is almost satisfied when measuring the resistance of terminal 1 and 2 of the door mirror connectors under 2 or more different temperature conditions.