

WIPER AND WASHER SYSTEM (w/ Rain Sensor)

PRECAUTION

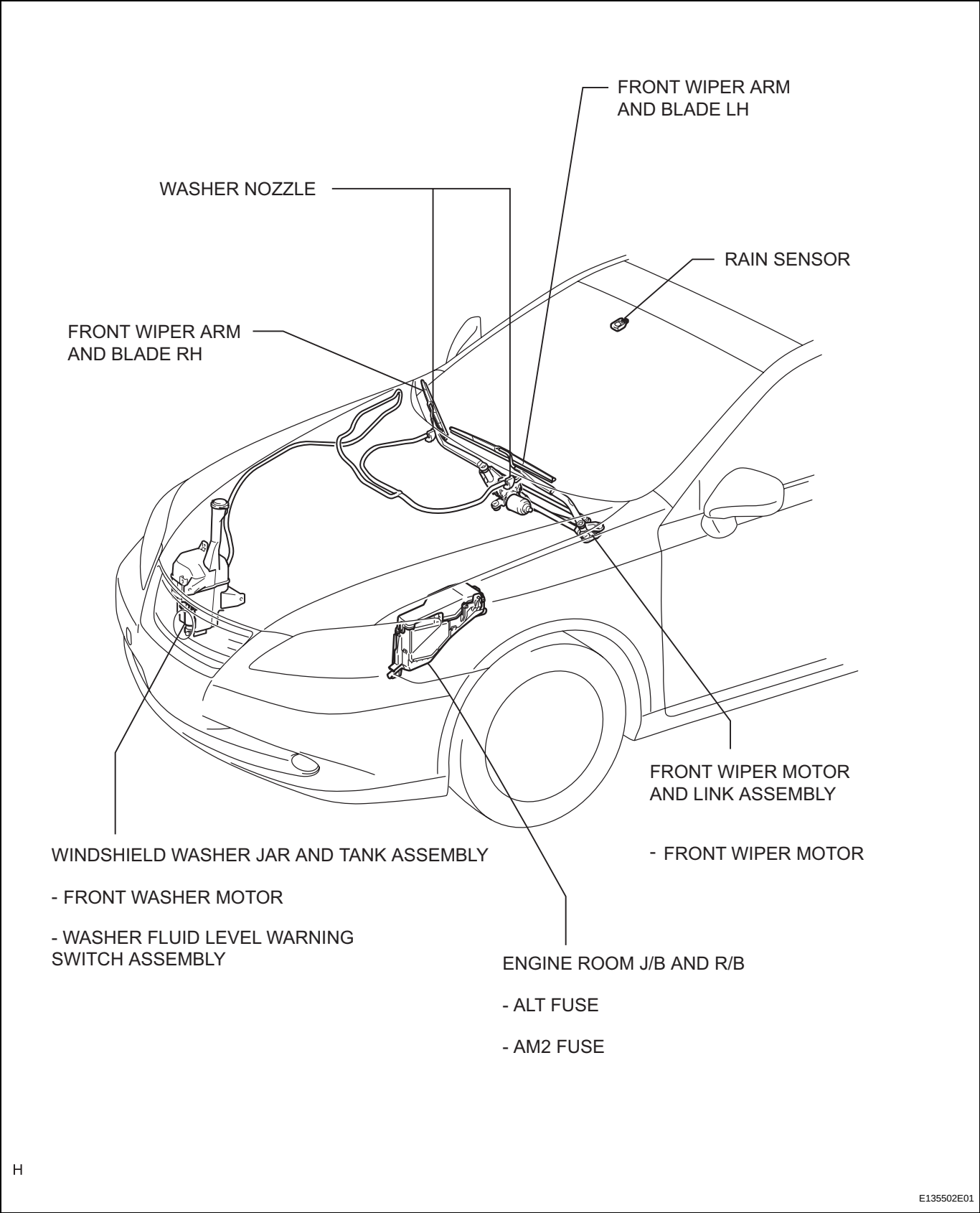
NOTICE:

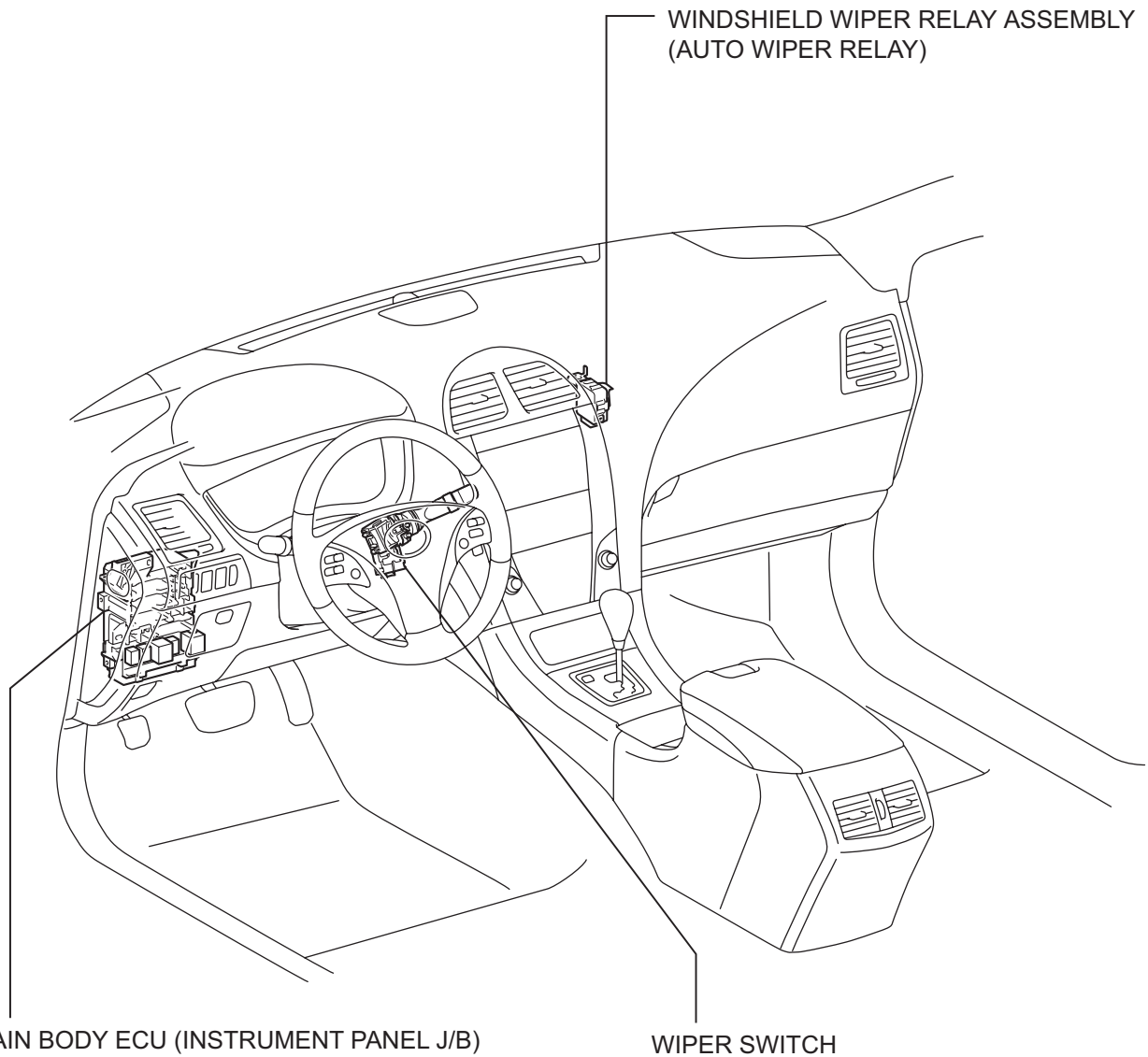
Some systems need to be initialized after reconnecting the negative (-) battery terminal (See page [IN-33](#)).

1. PRECAUTION OF WASHER NOZZLE ADJUSTMENT

- (a) Do not clean or adjust the washer nozzle with a safety pin, etc. because:
 - (1) The washer nozzle tip is made of resin and could be damaged.
 - (2) Adjustment is not necessary for this spray type washer nozzle. If it is necessary to change the nozzle angle, replace the washer nozzle with one that has a different nozzle angle. (See page [WW-61](#))
- (b) In case the washer nozzle is clogged with wax, etc., remove it and clean the nozzle hole with a soft resin brush or other cleaning tool.

PARTS LOCATION



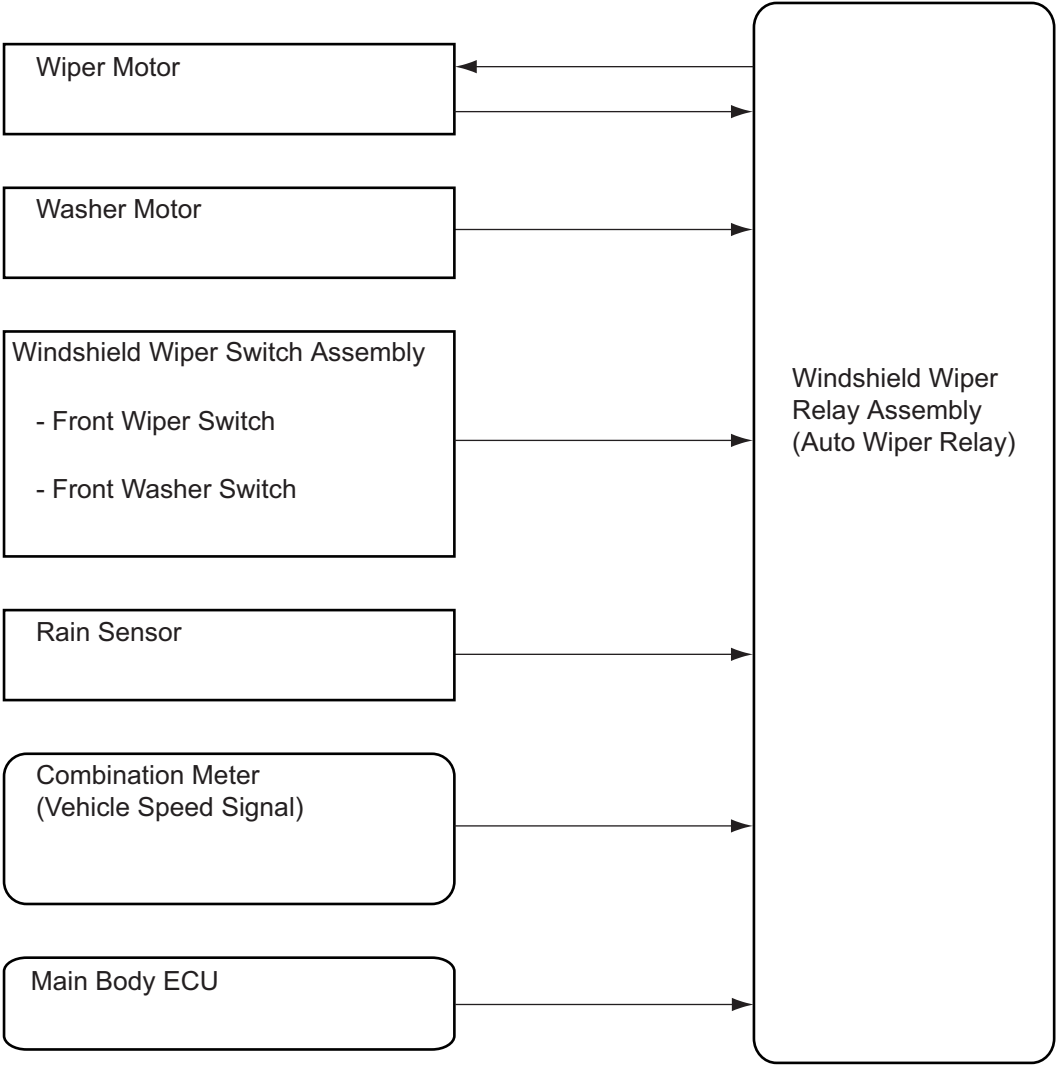


- ECU IG NO. 1 FUSE
- WIP FUSE
- WASH FUSE

WW

SYSTEM DIAGRAM

Wiper and Washer System:



SYSTEM DESCRIPTION

1. WIPER AND WASHER SYSTEM

- (a) The wiper and washer system may have some of the following functions:

Function	Note
Raindrop Sensing	-
Washer Fluid Level Warning	-

- (b) The windshield wiper relay assembly (auto wiper relay) controls the wiper system.

2. RAINDROP SENSING FUNCTION

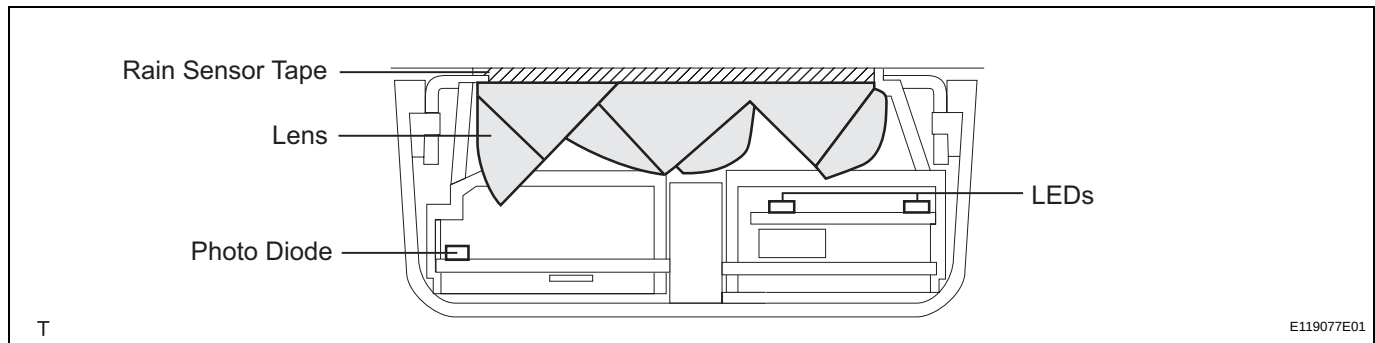
- (a) General

- (1) The raindrop sensing function controls the wiper timing in accordance with the amount of raindrops that strike the windshield glass when the windshield wiper switch assembly is in the AUTO position.

- The windshield wiper relay assembly (auto wiper relay) adjusts the wiper timing based on commands from the rain sensor. These adjustments are based on the vehicle speed and whether the vehicle is being driven or stops during automatic operation.
- The windshield wiper relay assembly (auto wiper relay) adjusts the wiper timing based on a command from the main body ECU. Wiper speed is adjusted based on the degree of brightness.
- The rain sensor sends a wiper operation instruction signal to the windshield wiper relay assembly (auto wiper relay) based on the amount of rainfall.
- The wiper speed sensitivity can be adjusted by operating the adjustment ring on the windshield wiper switch assembly.
- When the windshield wiper relay assembly is in the AUTO position, the rain sensor determines the wiper speed based on the vehicle speed received from the combination meter and the amount of raindrops. The rain sensor sends a signal to the windshield wiper relay assembly (auto wiper relay). The windshield wiper relay assembly (auto wiper relay) will vary the wiper speed in accordance with the signal received from the windshield wiper relay assembly (auto wiper relay).

(b) Rain Sensor

- (1) The rain sensor consists of 2 LEDs (Light Emitting Diodes) that emit infrared rays, a photo diode that can receive those rays, a lens, and rain sensor tape.

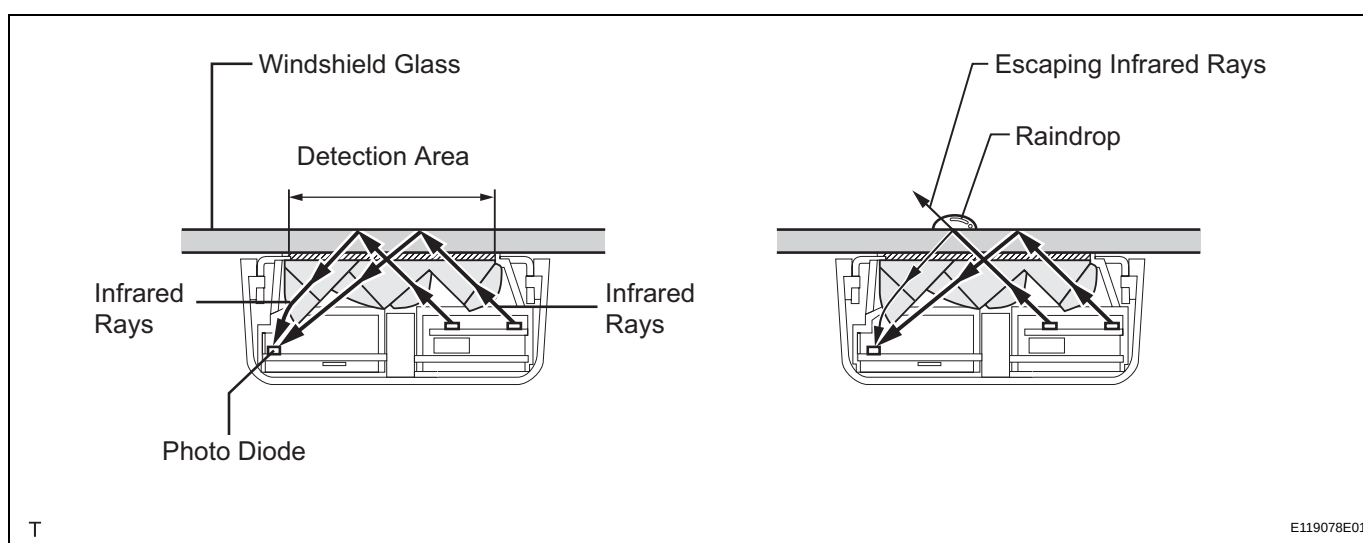


HINT:

If the windshield glass is being replaced, make sure to use new rain sensor tape. Failure to do so will lead to a system malfunction.

- If no raindrops are present in the detection area, the infrared rays emitted by the LED are all reflected from the outer surface of the windshield glass and are received by the photo diode.

- If raindrops are present in the detection area, a portion of the emitted infrared rays penetrates the windshield glass due to the change in the difference of the index of refraction between the glass and the area outside the windshield glass (difference between air and water). The ability of the windshield glass to reflect the emitted rays back inside changes due to the presence of raindrops. This reduces the amount of infrared rays that are received by the photo diode. The amount of this reduction is then used to determine the amount of raindrops. Thus, this function selects the LO, and HI wiper operation in order to operate the wipers at an optimal speed and timing.



3. WASHER FLUID LEVEL WARNING

- (a) When the volume of washer fluid decreases to below a certain level (when the washer fluid level warning switch is turned ON), the combination meter assembly warns the driver through the master warning light illumination, the buzzer and the warning message on the multi-information display.

HOW TO PROCEED WITH TROUBLESHOOTING

- HINT:
- Use the following procedures to troubleshoot the wiper and washer system.
 - *: Use the intelligent tester.

1

VEHICLE BROUGHT TO WORKSHOP

NEXT

2

PROBLEM SYMPTOM CONFIRMATION

WW

Result

Result	Proceed to
Symptom does not occur	A
Symptom occurs	B

B

GO TO STEP 4

A

3

SYMPTOM SIMULATION

NEXT

4

PROBLEM SYMPTOMS TABLE

NEXT

5

CIRCUIT INSPECTION*

NEXT

6

TERMINALS OF ECU

NEXT

7

IDENTIFICATION OF PROBLEM

NEXT

8**REPAIR OR REPLACE****NEXT****9****CONFIRMATION TEST****NEXT****END**

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of the problem symptom. The potential cases of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to the system before inspecting the suspected areas below.

Front Wiper and Washer System:

Symptom	Suspected Area	See page
Front wiper and washer system does not operate	1. Power source circuit	WW-28
	2. Windshield wiper relay assembly (Auto wiper relay)	-
Front wiper system does not operate	1. Wiper motor power source circuit	WW-14
	2. Windshield wiper relay assembly (Auto wiper relay)	-
Front wiper system does not operate in LO or HI	1. Wiper and washer switch circuit	WW-16
	2. Front wiper motor circuit	WW-12
	3. Windshield wiper relay assembly (Auto wiper relay)	-
Front wiper system does not operate in AUTO	1. Rain sensor tape (*)	-
	2. Wiper and washer switch circuit	WW-16
	3. Rain sensor circuit	WW-20
	4. Rain sensor	-
	5. Windshield wiper relay assembly (Auto wiper relay)	-
Front washer system does not operate	1. Washer motor circuit	WW-22
	2. Wiper and washer switch	WW-55
	3. Windshield wiper relay assembly (Auto wiper relay)	-

HINT:

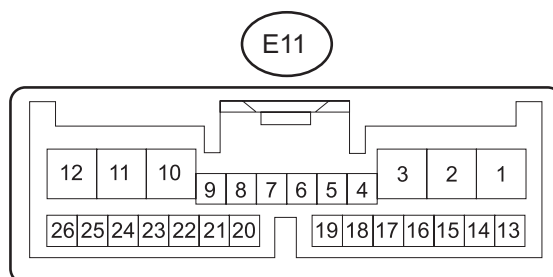
*: Before beginning diagnosis of the rain sensor, first check if the rain sensor tape is correctly installed.

Others:

Symptom	Suspected Area	See page
Washer fluid level warning system does not operate	1. Washer fluid level warning switch circuit	WW-26
	2. Combination meter assembly	-

TERMINALS OF ECU

1. CHECK WINDSHIELD WIPER RELAY ASSEMBLY (AUTO WIPER RELAY)



E125552E03

- (a) Disconnect the E11 relay connector.
- (b) Measure the voltage and resistance according to the value(s) in the table below.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
W (E11-4) - Body ground	L - Body ground	Front washer switch circuit	Front washer switch is ON	Below 1 Ω
			Front washer switch is OFF	10 k Ω or higher
IG (E11-12) - Body ground	L - Body ground	IG signal circuit	Engine switch on (IG)	10 to 14 V
			Engine switch off	Below 1 V
WIG (E11-23) - Body ground	B - Body ground	WIG signal circuit	Engine switch on (IG)	10 to 14 V
			Engine switch off	Below 1 V
E (E11-26) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

- (c) Reconnect the E11 relay connector.
- (d) Measure the voltage according to the value(s) in the table below.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+2S (E11-1) - Body ground	Y - Body ground	Front wiper LO speed signal circuit	Engine switch on (IG), front wiper switch LO	10 to 14 V
			Engine switch on (IG), front wiper switch except LO	Below 1 V
+1 (E11-2) - Body ground	Y - Body ground	Front wiper motor LO speed signal circuit	Front wiper motor is in LO operation	10 to 14 V
			Front wiper motor is OFF	Below 1 V
+2 (E11-3) - Body ground	R - Body ground	Front wiper motor HI speed signal circuit	Front wiper motor is in HI operation	10 to 14 V
			Front wiper motor is OFF	Below 1 V
W (E11-4) - Body ground	L - Body ground	Front washer motor circuit	Front washer switch is ON	Below 1 V
			Front washer switch is OFF	10 to 14 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+SM (E11-10) - Body ground	W - Body ground	Front wiper motor operation signal	Front wiper motor is in LO or HI operation	10 to 14 V
			Front wiper motor is OFF	Below 1 V
C1 (E11-17) - C0 (E11-16)	P - R	IG signal circuit	Engine switch on (IG)	10 to 14 V
			Engine switch off	Below 1 V

If the result is not as specified, the relay may have a malfunction.

FAIL-SAFE CHART

1. FRONT WIPER SYSTEM

- (a) When the windshield wiper switch assembly is in any position other than "OFF" and the blades are frozen or a wiper pivot is seized, a malfunction is detected by the windshield wiper relay assembly (auto wiper relay) and the wiper operation is stopped.

HINT:

Recovery condition: Engine switch off or windshield wiper switch assembly off.

- (b) When the rain sensor is malfunctioning and the windshield wiper switch assembly is in the AUTO position, the front wiper system will use the mode that the rain sensor is determined to be appropriate before the rain sensor malfunctioned.

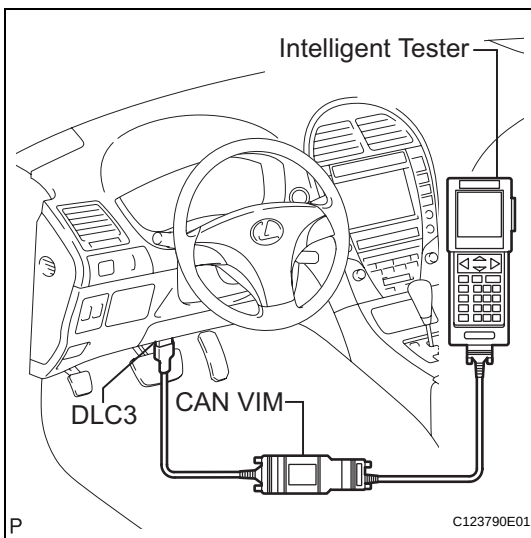
HINT:

Recovery condition: Signal level error cancellation from rain sensor.

- (c) When the rain sensor overheats and the front wiper is in the HI operation mode, the front wiper system is changed to the LO operation mode.

HINT:

- Recovery condition: Engine switch off or wiper operation signal is not AUTO or LO.
- A mode change is not carried out when the rain sensor is malfunctioning in high temperature, or in low temperature.



DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the intelligent tester to read the DATA LIST allows the values or states of switches, sensors, actuators, and other items to be read without removing any parts. This nonintrusive inspection can be very useful as intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the DATA LIST information early in troubleshooting is one way to save diagnostic time.

- Connect the intelligent tester to the DLC3.
- Turn the engine switch on (IG).
- Read the DATA LIST.

METER:

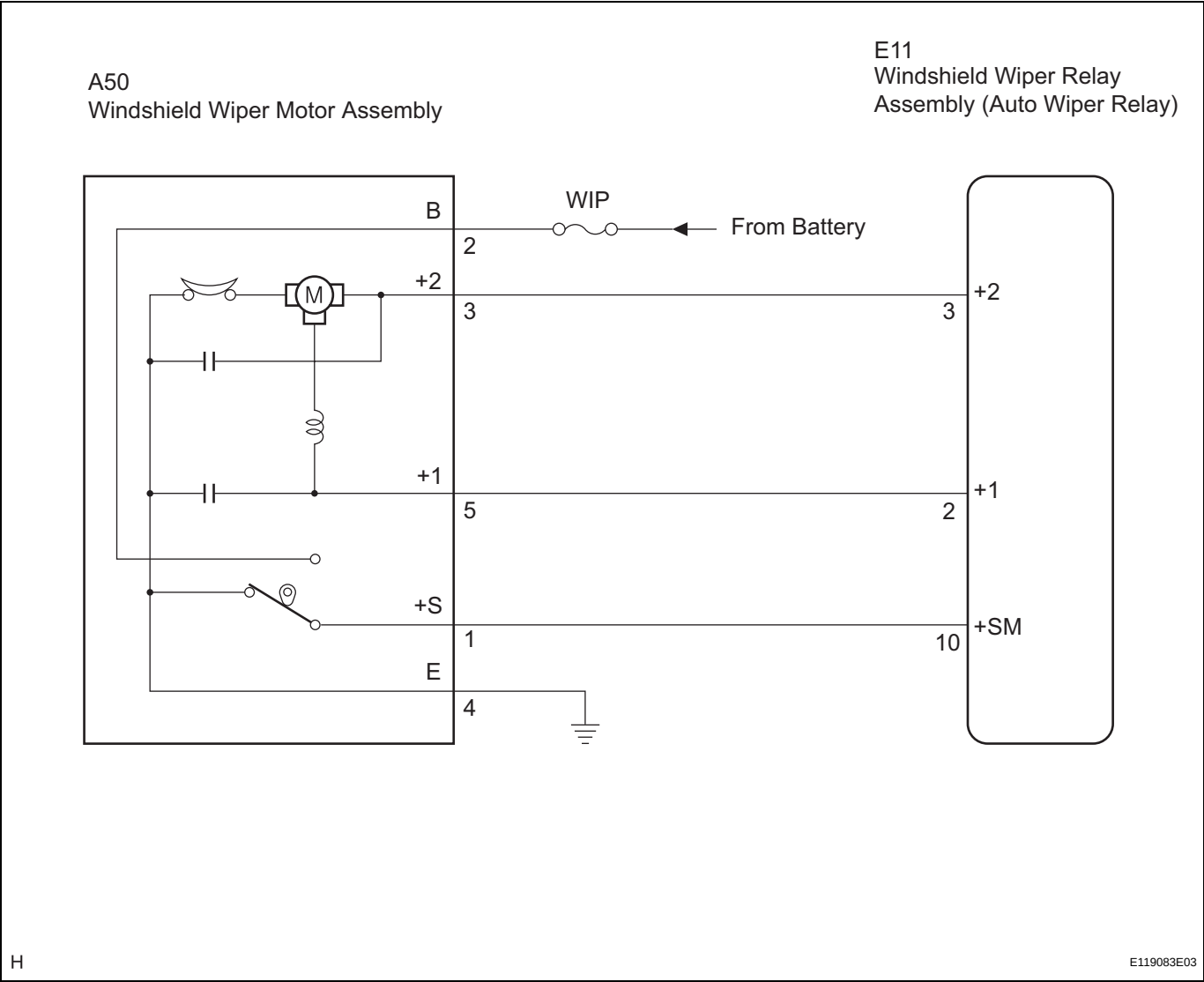
Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
WASHER SW	Washer fluid level switch / ON or OFF	ON: Washer jar is empty OFF: Washer jar is full	-

Front Wiper Motor Circuit

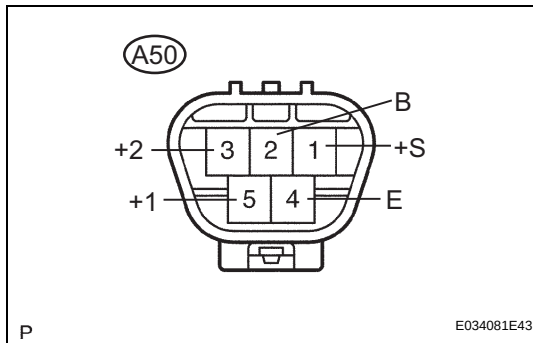
DESCRIPTION

The auto wiper relay controls the front wiper motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY

- (a) Remove the windshield wiper motor assembly (See page [WW-58](#)).
- (b) Check the LO operation.
 - (1) Connect the positive (+) battery lead to terminal A50-5 (+1) of the connector, and the negative (-) battery lead to terminal A50-4 (E), and check that the motor operates at a low speed.
- (c) Check the HI operation.
 - (1) Connect the positive (+) battery lead to terminal A50-3 (+2) of the connector, and the negative (-) battery lead to terminal A50-1 (+S), and check that the motor operates at a high speed.

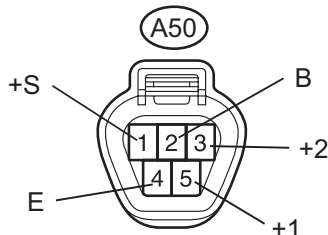
NG

REPLACE WINDSHIELD WIPER MOTOR ASSEMBLY

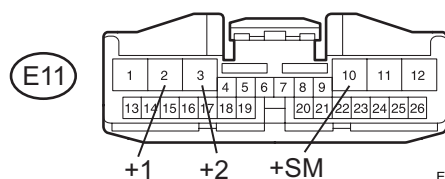
OK

2 CHECK HARNESS AND CONNECTOR (WIPER MOTOR - WIPER RELAY, BODY GROUND)**Wire Harness Side:**

Windshield Wiper Motor Assembly



Auto Wiper Relay



- (a) Disconnect the A50 windshield wiper motor assembly connector.
- (b) Disconnect the E11 windshield wiper relay assembly (auto wiper relay) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A50-1 (+S) - E11-10 (+SM)	Always	Below 1 Ω
A50-1 (+S) - Body ground	Always	10 k Ω or higher
A50-3 (+2) - E11-3 (+2)	Always	Below 1 Ω
A50-3 (+2) - Body ground	Always	10 k Ω or higher
A50-4 (E) - Body ground	Always	Below 1 Ω
A50-5 (+1) - E11-2 (+1)	Always	Below 1 Ω
A50-5 (+1) - Body ground	Always	10 k Ω or higher

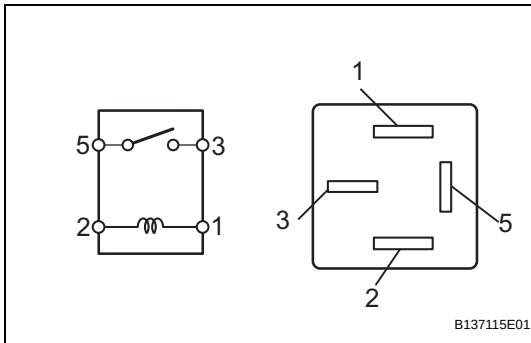
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

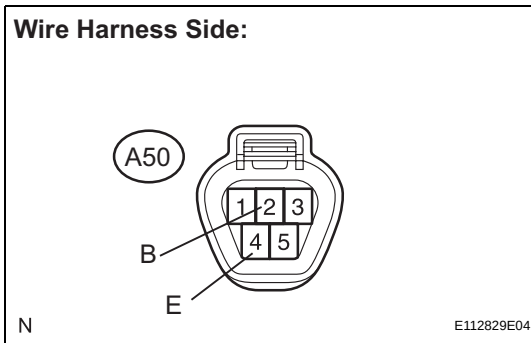
INSPECTION PROCEDURE

2 INSPECT IG1 RELAY

- (a) Remove the IG1 relay from the instrument panel J/B.
(b) Measure the resistance of the relay.

Standard resistance

Tester Connection	Condition	Specified Condition
3 - 5	Always	10 k Ω or higher
	When battery voltage is applied to terminals 1 and 2	Below 1 Ω

NG**REPLACE IG1 RELAY****OK****3 CHECK HARNESS AND CONNECTOR (WIPER MOTOR - BATTERY, BODY GROUND)**

- (a) Disconnect the A50 windshield wiper motor assembly connector.
(b) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester Connection	Condition	Specified Condition
A50-2 (B) - Body ground	Engine switch on (IG)	10 to 14 V

- (c) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A50-4 (E) - Body ground	Always	Below 1 Ω

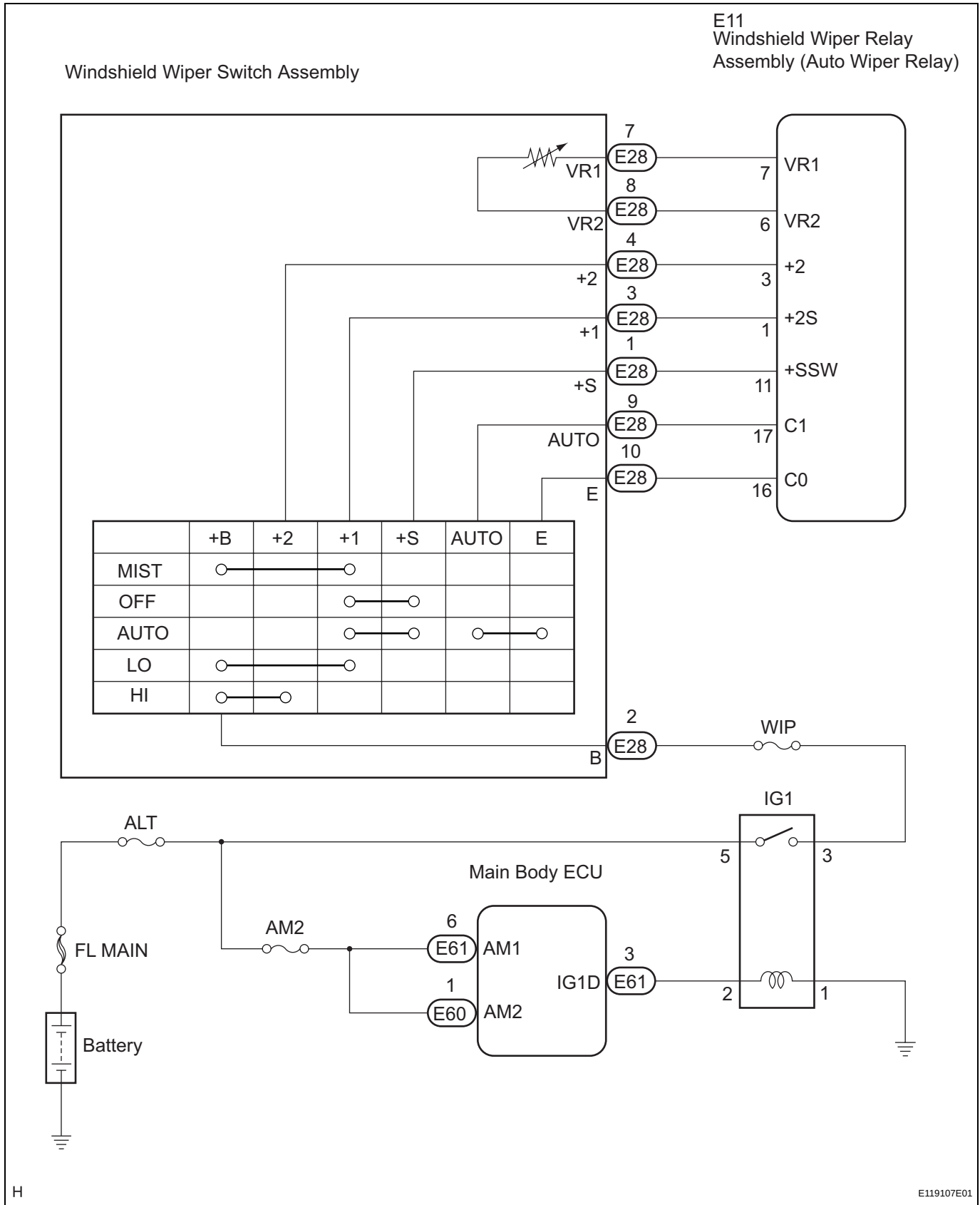
NG**REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

Wiper and Washer Switch Circuit

DESCRIPTION

This circuit detects the state of the windshield wiper switch assembly and sends it to the windshield wiper relay assembly (auto wiper relay).

WIRING DIAGRAM

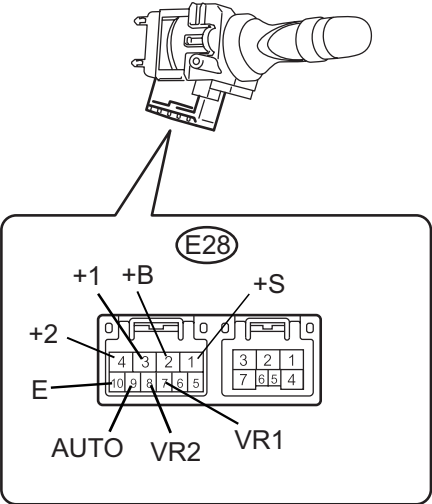


INSPECTION PROCEDURE

1

CHECK WINDSHIELD WIPER SWITCH ASSEMBLY (WIPER SWITCH AND WASHER SWITCH)

Windshield Wiper Switch Assembly:



- (a) Remove the windshield wiper switch assembly (See page [WW-54](#)).
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Switch Connection	Specified Condition
E28-2 (+B) - E28-4 (+2)	HI	Below 1 Ω
E28-3 (+1) - E28-2 (+B)	MIST	
	LO	
E28-3 (+1) - E28-1 (+S)	OFF	
E28-9 (AUTO) - E28-10 (E)	AUTO	Approximately 50 kΩ
E28-7 (VR1) - E28-8 (VR2)	AUTO	

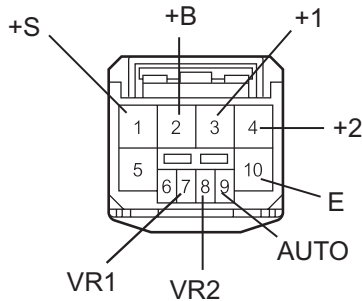
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REPLACE WINDSHIELD WIPER SWITCH ASSEMBLY

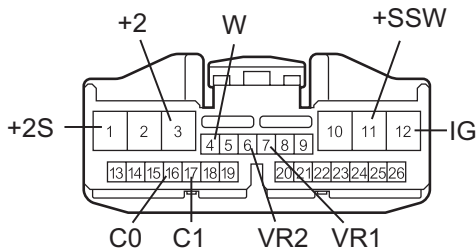
OK

2**CHECK HARNESS AND CONNECTOR (WIPER SWITCH - AUTO WIPER RELAY, BODY GROUND)****Wire Harness Side:**

Windshield Wiper Switch

E28

Auto Wiper Relay

E11

H

E119091E02

- (a) Disconnect the E11 windshield wiper relay assembly (auto wiper relay) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
E28-1 (+S) - E11-11 (+SSW)	Always	Below 1 Ω
E28-1 (+S) - Body ground	Always	10 k Ω or higher
E28-2 (+B) - E11-12 (IG)	Always	Below 1 Ω
E28-2 (+B) - Body ground	Always	10 k Ω or higher
E28-3 (+1) - E11-1 (+2S)	Always	Below 1 Ω
E28-3 (+1) - Body ground	Always	10 k Ω or higher
E28-4 (+2) - E11-3 (+2)	Always	Below 1 Ω
E28-4 (+2) - Body ground	Always	10 k Ω or higher
E28-7 (VR1) - E11-7 (VR1)	Always	Below 1 Ω
E28-7 (VR1) - Body ground	Always	10 k Ω or higher
E28-8 (VR2) - E11-6 (VR2)	Always	Below 1 Ω
E28-8 (VR2) - Body ground	Always	10 k Ω or higher
E28-9 (AUTO) - E11-17 (C1)	Always	Below 1 Ω
E28-9 (AUTO) - Body ground	Always	10 k Ω or higher
E28-10 (E) - E11-16 (C0)	Always	Below 1 Ω
E28-10 (E) - Body ground	Always	Below 1 Ω

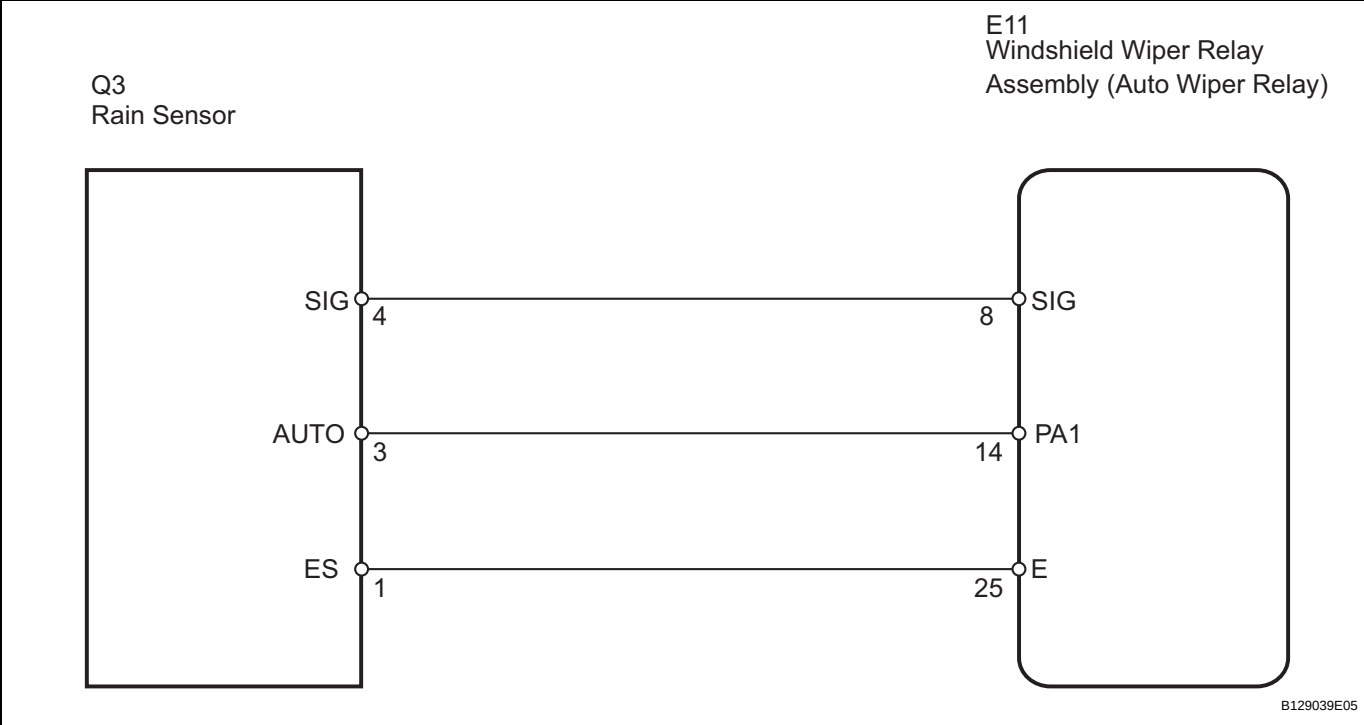
NG**REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

Rain Sensor Circuit

DESCRIPTION

This circuit provides power to operate the rain sensor.
The auto wiper system operates when the windshield wiper switch assembly is in the AUTO position.

WIRING DIAGRAM



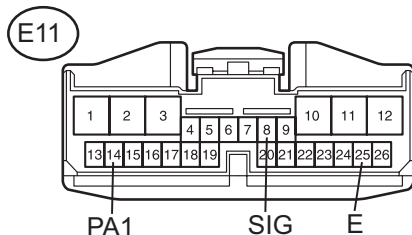
INSPECTION PROCEDURE

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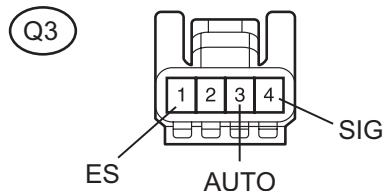
CHECK HARNESS AND CONNECTOR (WIPER RELAY - RAIN SENSOR)

Wire Harness Side:

Auto Wiper Relay



Rain Sensor



N

E125076E03

- Disconnect the E11 windshield wiper relay assembly (auto wiper relay) connector.
- Disconnect the Q3 rain sensor connector.
- Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
E11-8 (SIG) - Q3-4 (SIG)	Always	Below 1 Ω
E11-14 (PA1) - Q3-3 (AUTO)	Always	Below 1 Ω
E11-25 (E) - Q3-1 (ES)	Always	Below 1 Ω
Q3-4 (SIG) - Body ground	Always	10 k Ω or higher
Q3-3 (AUTO) - Body ground	Always	10 k Ω or higher
Q3-1 (ES) - Body ground	Always	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

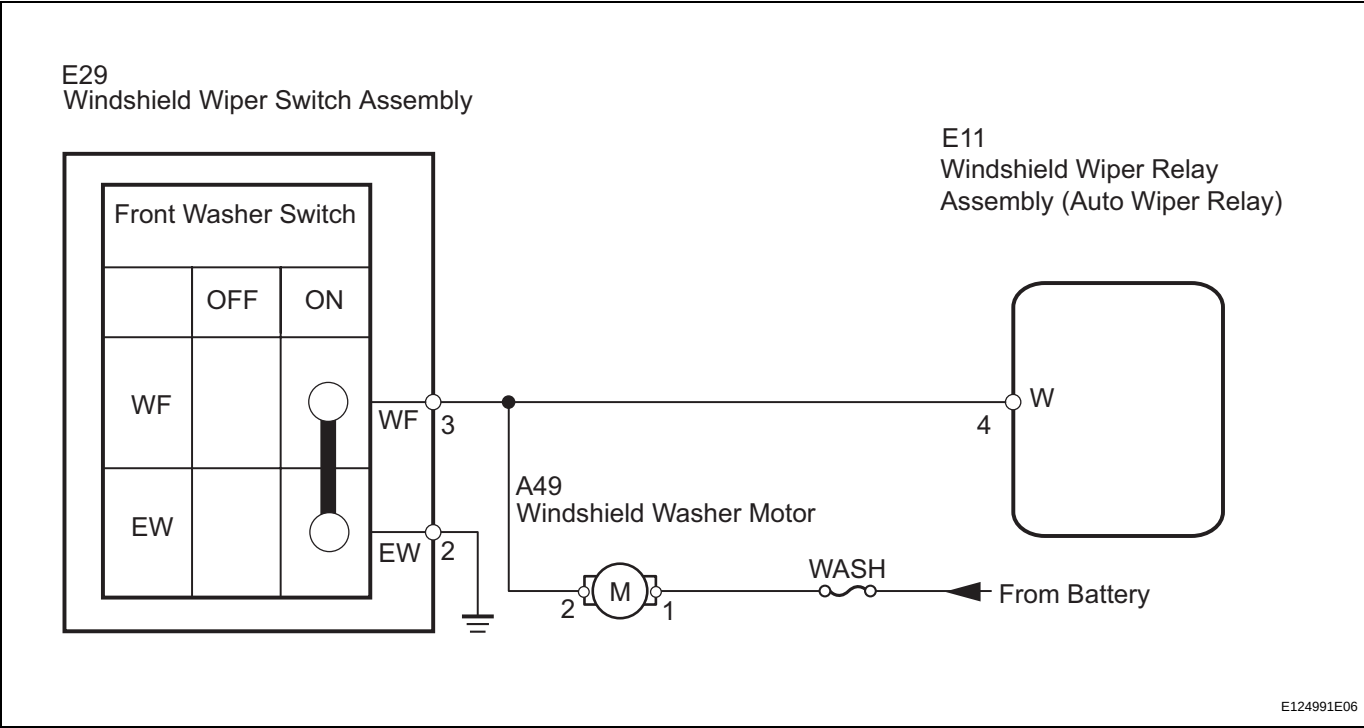
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Washer Motor Circuit

DESCRIPTION

The windshield wiper relay assembly (auto wiper relay) controls the front washer motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT FUSE (WASH)

- (a) Remove the WASH fuse from the instrument panel J/B.
- (b) Measure the resistance of the fuse.

Standard resistance:

Below 1 Ω

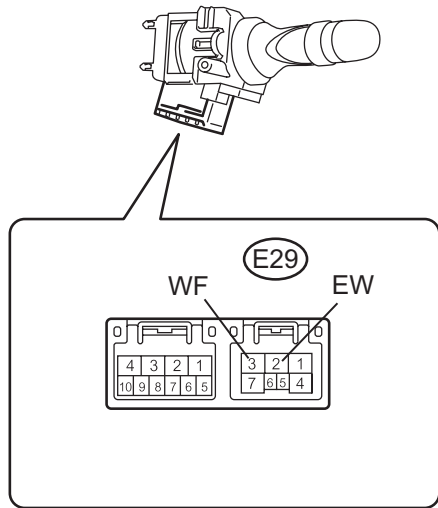
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REPLACE FUSE

OK

2 INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY (WASHER SWITCH)

Windshield Wiper Switch Assembly:



H

E119108E02

OK

- (a) Remove the windshield wiper switch assembly (See page [WW-54](#)).
- (b) Measure the resistance according to the value(s) in the table below.

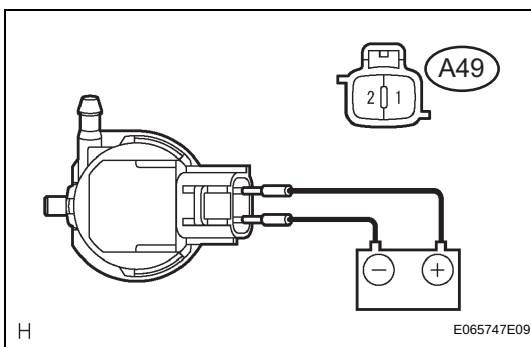
Standard resistance

Tester Connection	Switch Connection	Specified Condition
E29-2 (EW) - E29-3 (WF)	ON	Below 1 Ω
	OFF	10 k Ω or higher

NG

REPLACE WINDSHIELD WIPER SWITCH ASSEMBLY

WW

3 INSPECT WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

H

E065747E09

OK

- (a) Remove the washer jar.
- (b) Apply battery voltage to the windshield washer motor connector and check the operation of the windshield washer motor assembly.

OK

Measurement Condition	Specified Condition
Battery positive (+) → Terminal A49-1 Battery negative (-) → Terminal A49-2	Washer fluid flows from washer jar

HINT:

The check should be performed with the windshield washer motor and pump installed to the washer jar.

NG

REPLACE WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY**4 CHECK HARNESS AND CONNECTOR (BATTERY - WASHER MOTOR)**

- (a) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester connection	Condition	Specified condition
A49-1 - Body ground	Engine switch on (IG)	10 to 14 V

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

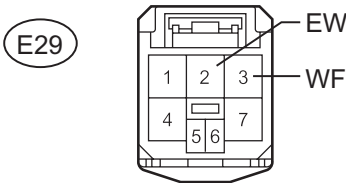
OK

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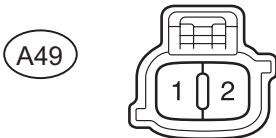
CHECK HARNESS AND CONNECTOR (WASHER MOTOR - WIPER RELAY, WASHER SWITCH)

Wire Harness Side:

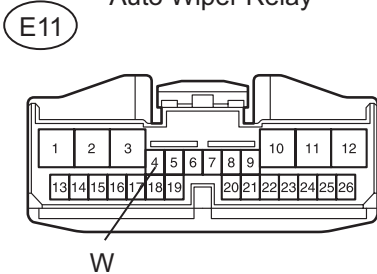
Windshield Washer Switch



Windshield Washer Motor



Auto Wiper Relay



- (a) Disconnect the E11 windshield wiper relay assembly (auto wiper relay) connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A49-2 - E11-4 (W)	Always	Below 1 Ω
E29-3 (WF) - A49-2	Always	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

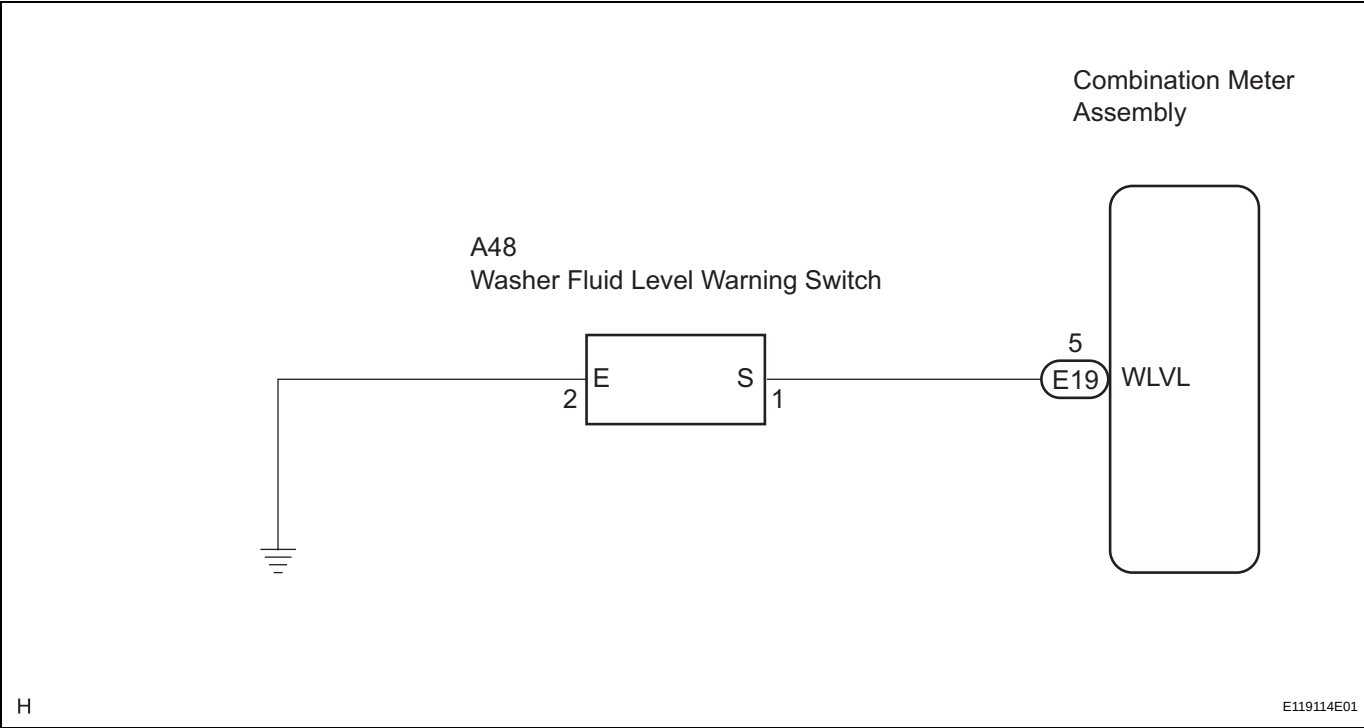
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Washer Fluid Level Warning Switch Circuit

DESCRIPTION

When the volume of washer fluid decreases to below a certain level (when the washer fluid level warning switch is turned ON), the combination meter warns the driver through the master warning light illumination, the buzzer and the warning message on the multi-information display.

WIRING DIAGRAM



INSPECTION PROCEDURE

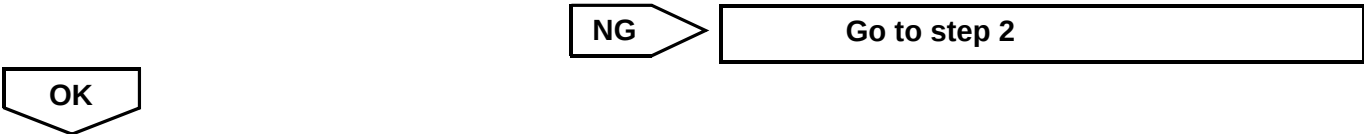
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READ VALUE OF INTELLIGENT TESTER (WASHER LEVEL)

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the engine switch on (IG) and turn the intelligent tester main switch on.
- (c) Select the item below in the DATA LIST, and read the displays on the intelligent tester.

METER:

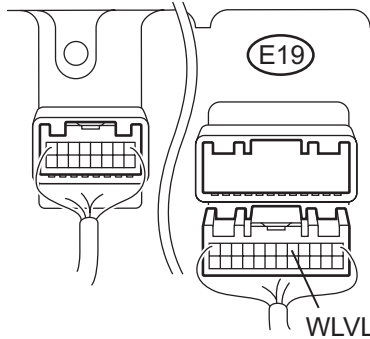
Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
WASHER SW	Washer fluid level switch / ON or OFF	ON: Washer jar is empty OFF: Washer jar is full	-



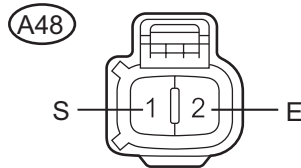
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

2 CHECK HARNESS AND CONNECTOR (COMBINATION METER - WARNING SWITCH, BODY GROUND)

Combination Meter Assembly:



Washer Fluid Level Warning Switch:



H

E135501E01

- Disconnect the E19 combination meter assembly connector.
- Disconnect the A48 washer fluid level warning switch connector.
- Measure the resistance according to the value(s) in the table below.

Standard resistance

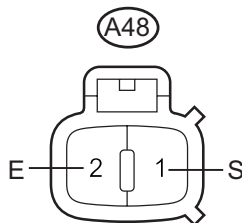
Tester Connection	Condition	Specified Condition
E19-5 (WLVL) - A48-1 (S)	Always	Below 1 Ω
A48-1 (S) - Body ground	Always	10 k Ω or higher
A48-2 (E) - Body ground	Always	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3 CHECK WASHER FLUID LEVEL WARNING SWITCH ASSEMBLY



H

E113074E04

- Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A48-1 (S) - A48-2 (E)	Washer jar is empty	Below 1 Ω
A48-1 (S) - A48-2 (E)	Washer jar is full	10 k Ω or higher

NG

REPLACE WASHER FLUID LEVEL WARNING SWITCH ASSEMBLY

OK

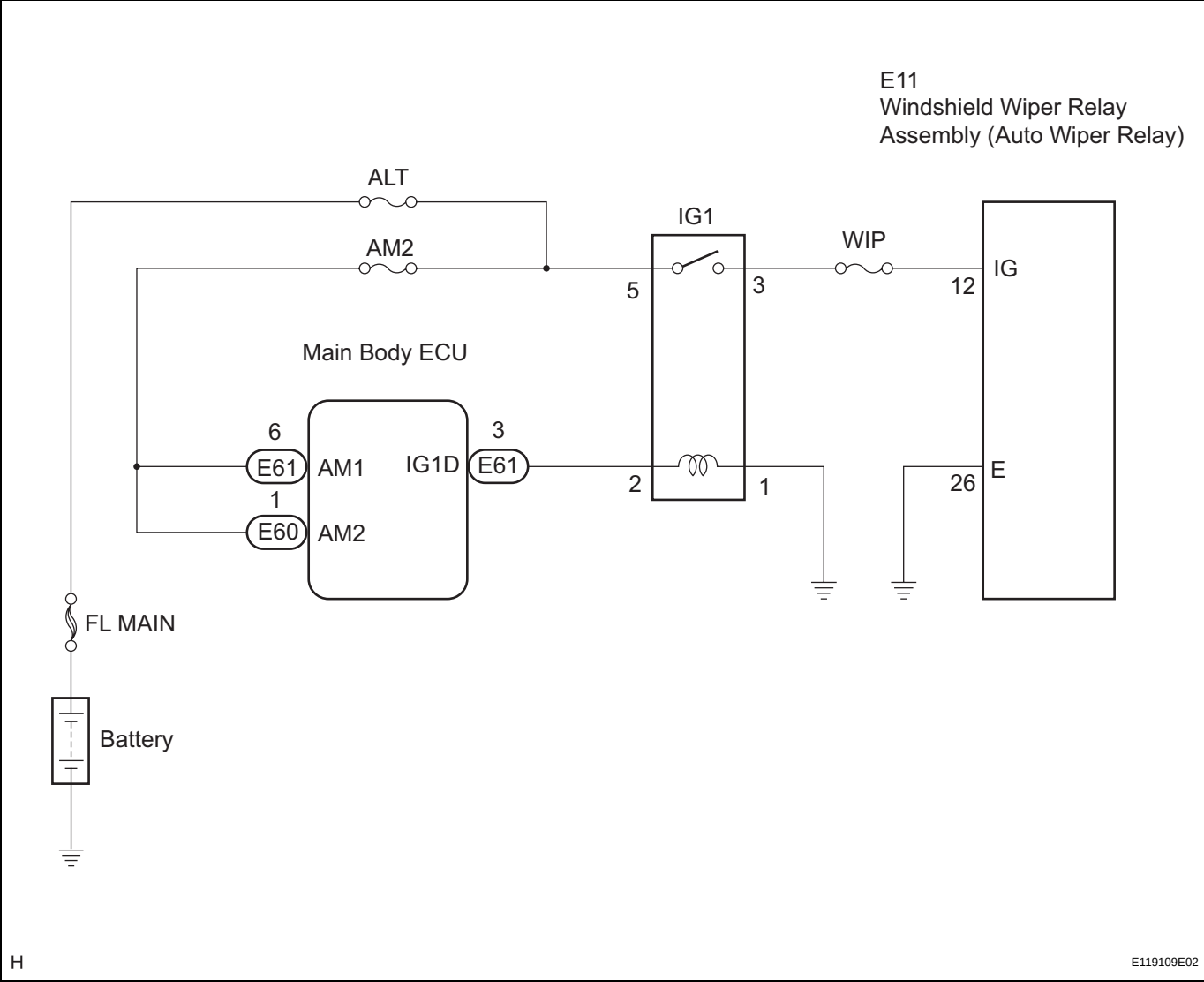
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Power Source Circuit

DESCRIPTION

This circuit provides power to the windshield wiper relay assembly (auto wiper relay).

WIRING DIAGRAM



INSPECTION PROCEDURE

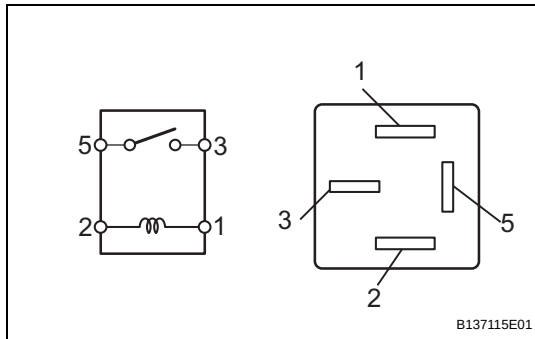
1 INSPECT FUSE (WIP)

- (a) Remove the WIP fuse from the instrument panel J/B.
- (b) Measure the resistance of the fuse.

Standard resistance:
Below 1 Ω

NG REPLACE FUSE

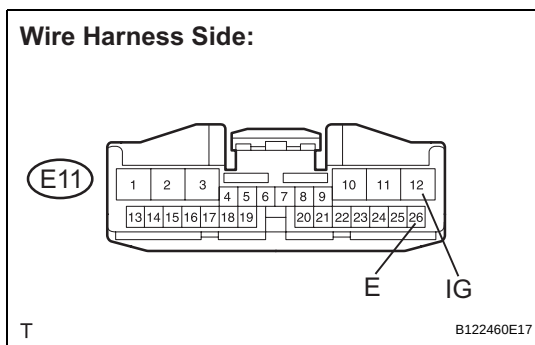
OK

2 INSPECT IG1 RELAY

- (a) Remove the IG1 relay from the instrument panel J/B.
 (b) Measure the resistance of the relay.

Standard resistance

Tester Connection	Condition	Specified Condition
3 - 5	Always	10 k Ω or higher
	When battery voltage is applied to terminals 1 and 2	Below 1 Ω

NG**REPLACE IG1 RELAY****OK****3 CHECK HARNESS AND CONNECTOR (WIPER RELAY - BATTERY, BODY GROUND)**

- (a) Disconnect the E11 windshield wiper relay assembly (auto wiper relay) connector.
 (b) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester Connection	Condition	Specified Condition
E11-12 (IG) - Body ground	Engine switch on (IG)	10 to 14 V

- (c) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
E11-26 (E) - Body ground	Always	Below 1 Ω

NG**REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

WIPER AND WASHER SYSTEM (w/o Rain Sensor)

PRECAUTION

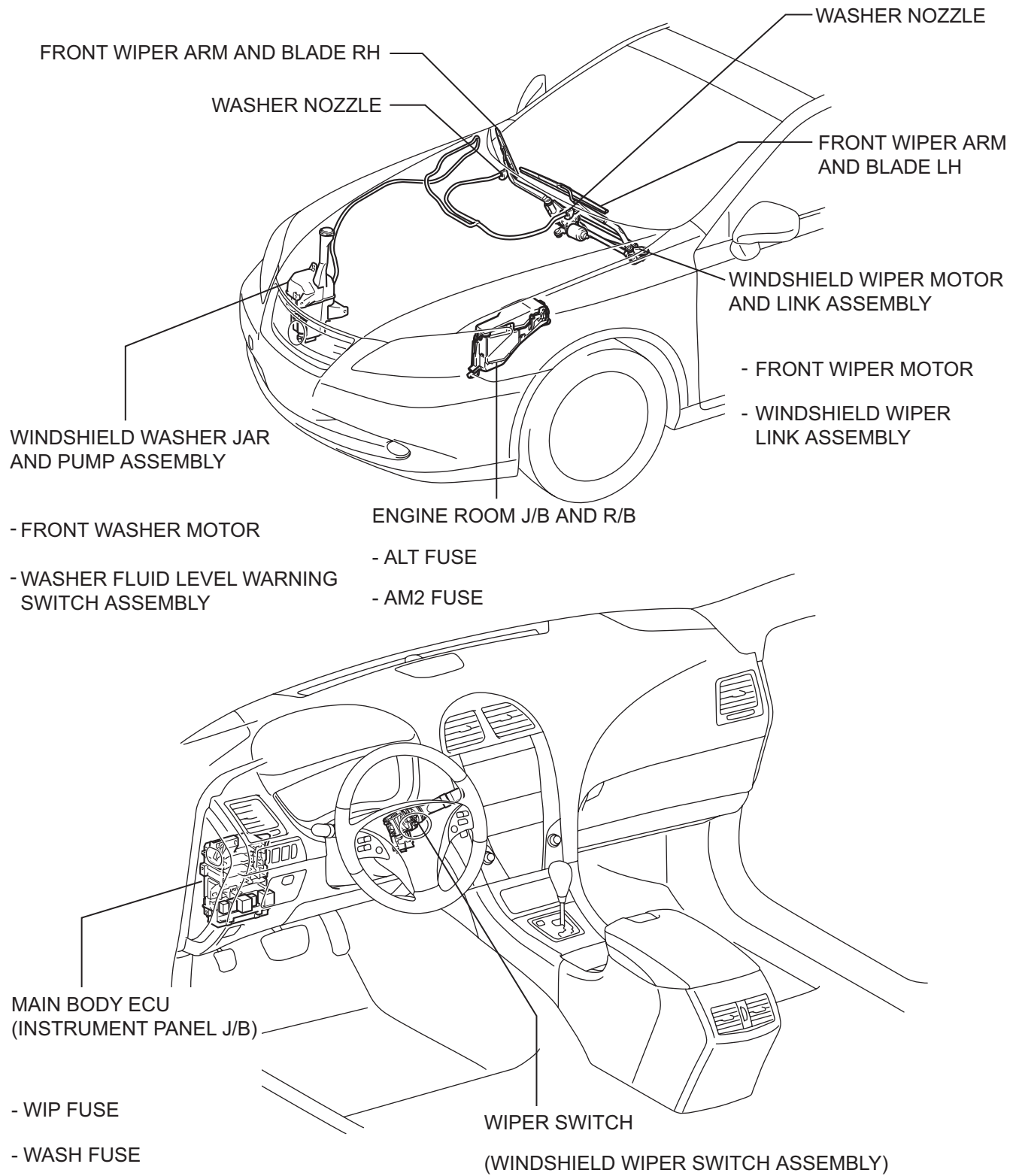
NOTICE:

Some systems need to be initialized after reconnecting the negative (-) battery terminal (See page [IN-33](#)).

1. PRECAUTION OF WASHER NOZZLE ADJUSTMENT

- (a) Do not clean or adjust the washer nozzle with a safety pin, etc. because:
 - (1) The washer nozzle tip is made of resin and could be damaged.
 - (2) Adjustment is not necessary for this spray type washer nozzle. If it is necessary to change the nozzle angle, replace the washer nozzle with one that has a different nozzle angle. (See page [WW-61](#))
- (b) In case the washer nozzle is clogged with wax, etc., remove it and clean the nozzle hole with a soft resin brush or other cleaning tool.

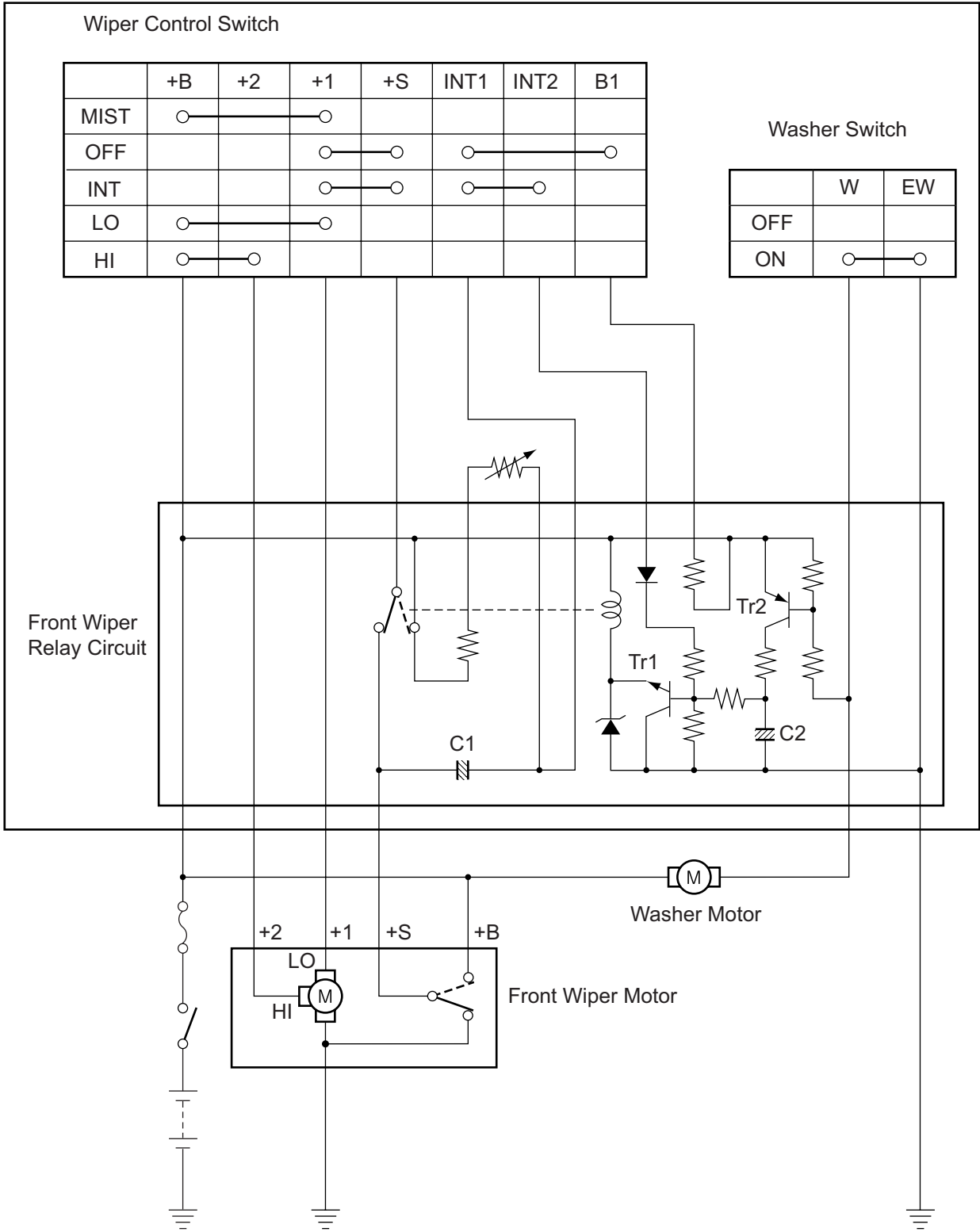
PARTS LOCATION



WW

SYSTEM DIAGRAM

Windshield Wiper Switch Assembly



SYSTEM DESCRIPTION

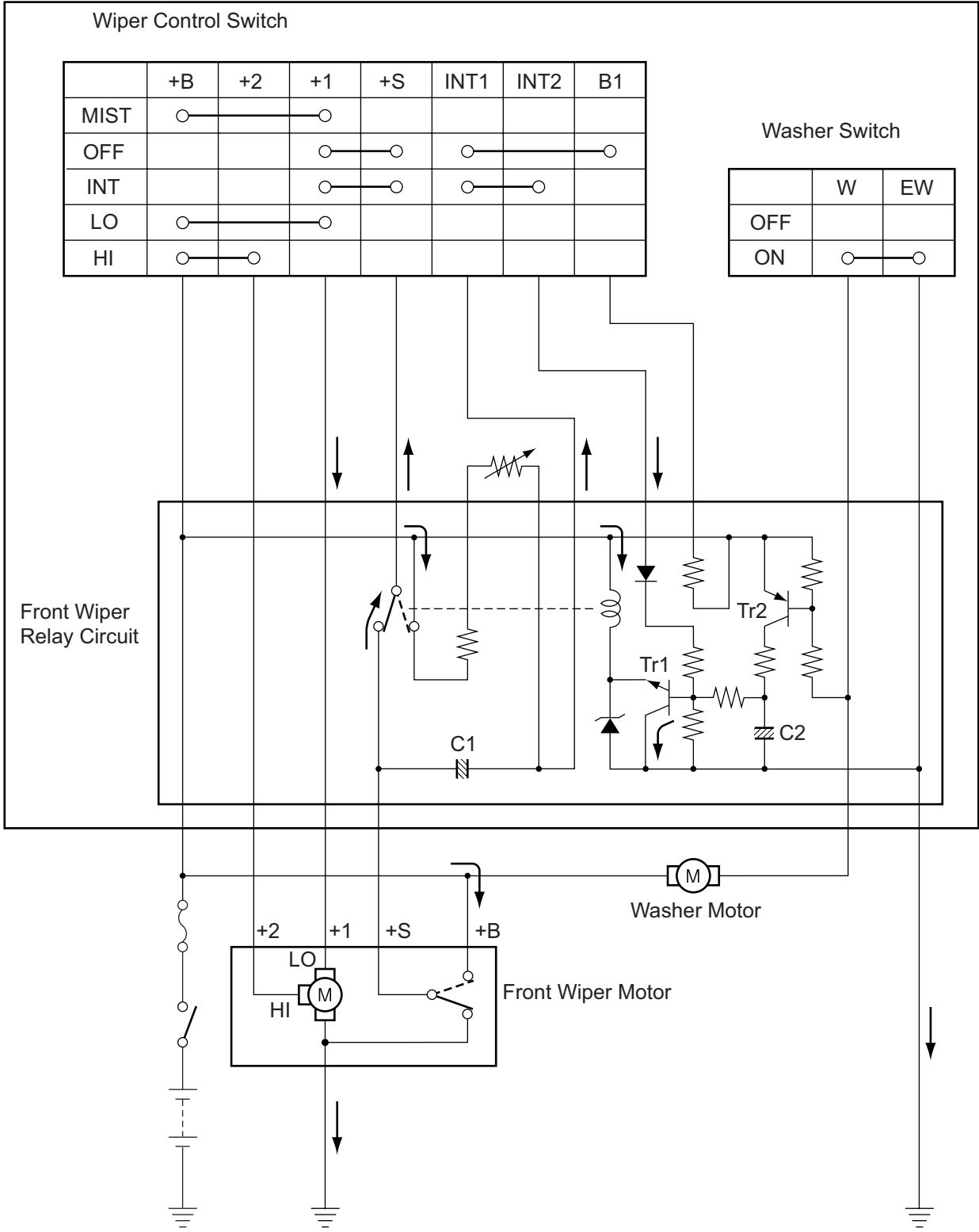
1. WASHER LINKED OPERATION

- (a) This system operates the front wipers at a low speed immediately after a jet of washer fluid when the front washer switch is turned on for approximately 0.3 seconds or more. If the switch is turned off within approximately 1.5 seconds, the system stops the wipers when the switch is turned off. If the switch is turned on for approximately 1.5 seconds or more, the system stops the wipers approximately 2.2 seconds after the switch is turned off.

2. INTERMITTENT OPERATION

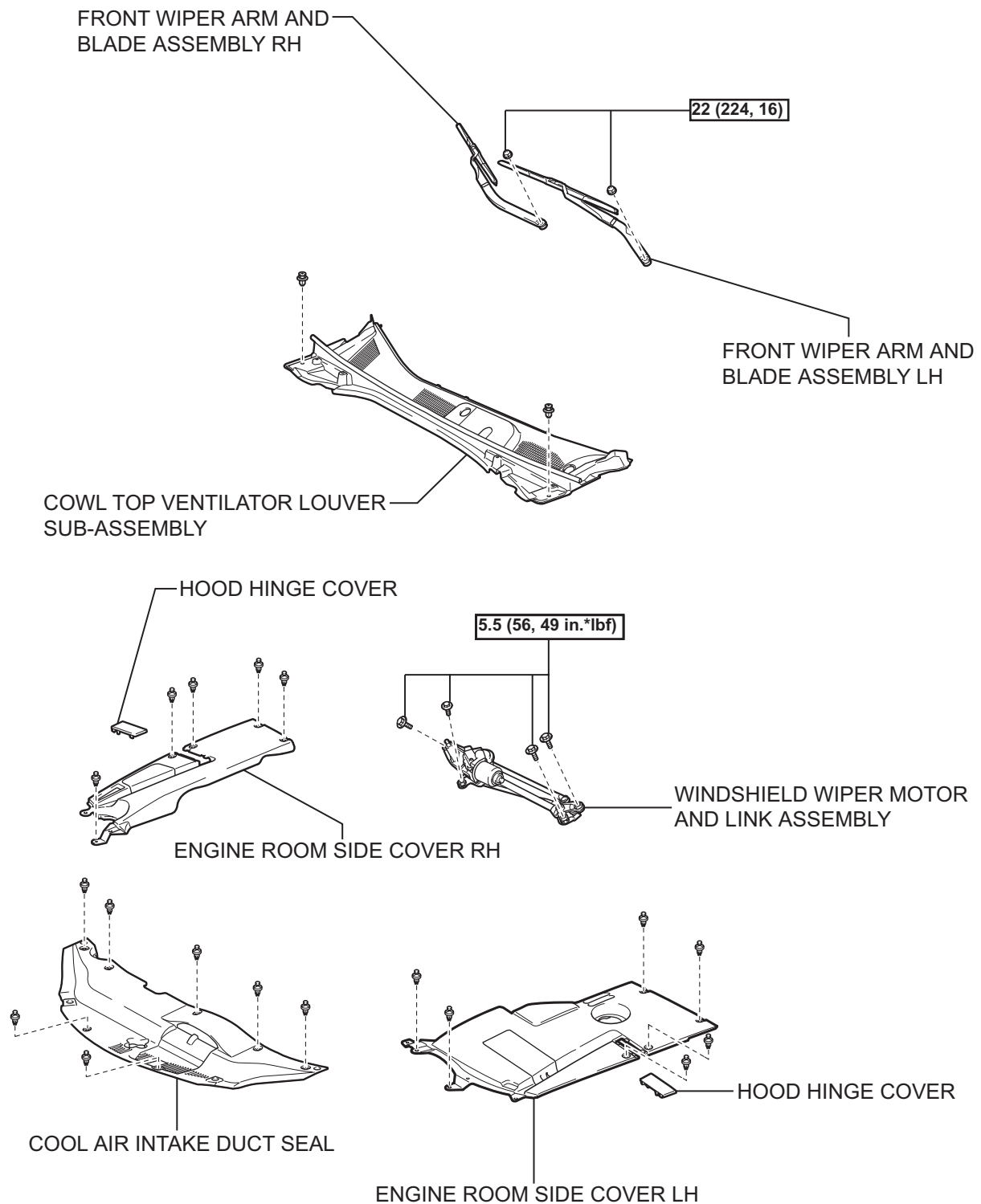
- (a) The system operates the front wipers once in approximately 1.6 to 10.7 seconds when the front wiper switch is turned to the INT position. The intermittent time can be adjusted between 1.6 and 10.7 seconds.
- (b) If the wiper control switch is turned to the INT position, current flows from the already charged capacitor C1 to Tr1 (transistor) through terminals INT1 and INT2 of the wiper control switch. When Tr1 turns on, current flows from terminal +S of the wiper control switch to terminal +1 of the wiper motor, to the wiper motor, and finally to the ground, causing the wiper motor to operate. At the same time, current flows from capacitor C1 to terminal INT1 of the wiper control switch and then INT2. When the current flow from capacitor C1 ends, Tr1 turns off to stop the relay contact point and halt the wiper motor. When the relay contact point turns off, capacitor C1 begins to charge again and Tr1 remains off until charging has been completed. This period corresponds to the intermittent time. When capacitor C1 is fully charged, Tr1 turns on and then the relay contact point activates, causing the motor to operate. This cycle is the intermittent operation. The intermittent time can be adjusted by using the intermittent time adjust dial (variable resistor) to change the charge time of capacitor C1.

Windshield Wiper Switch Assembly



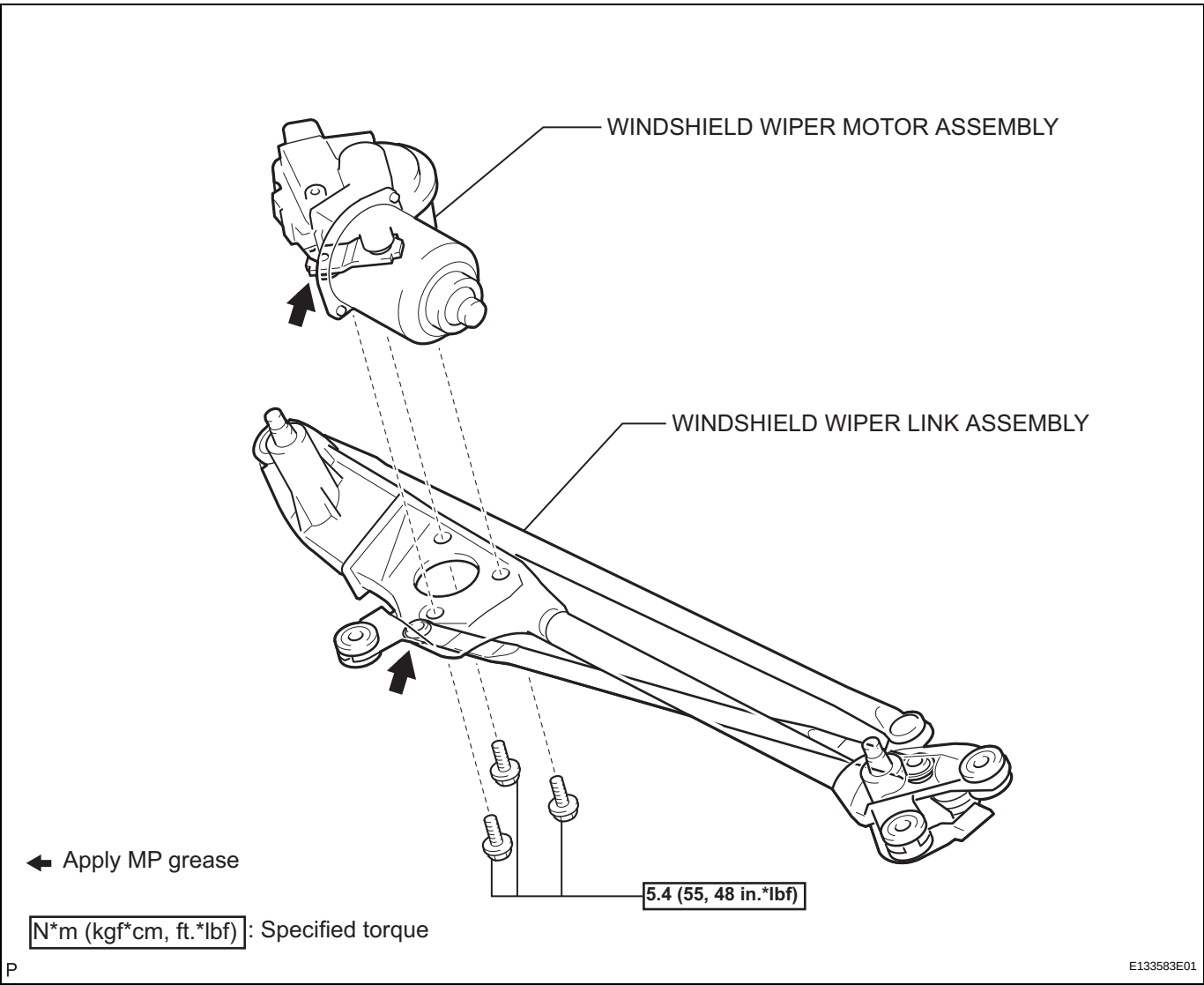
FRONT WIPER MOTOR

COMPONENTS



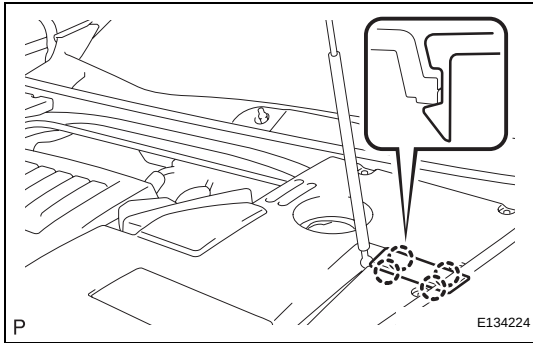
N*m (kgf*cm, ft.*lbf): Specified torque

WW

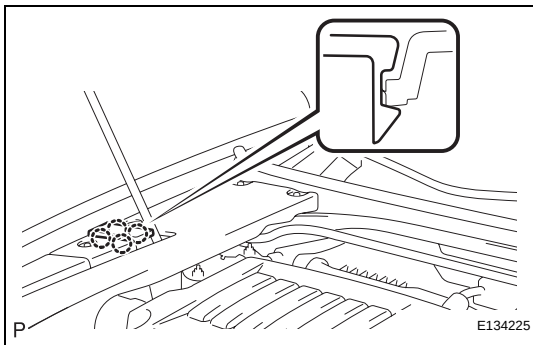


REMOVAL

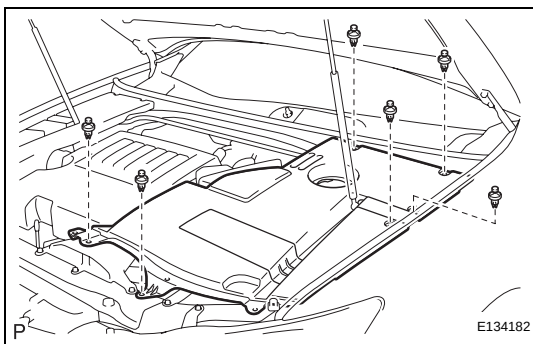
1. REMOVE COOL AIR INTAKE DUCT SEAL (See page [ET-4](#))



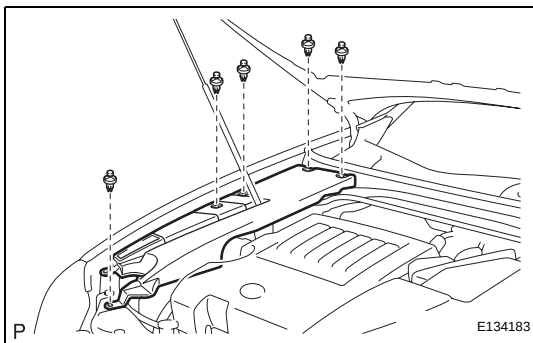
2. REMOVE HOOD HINGE COVER (for LH Side)
(a) Disengage the 4 claws and remove the hood hinge cover.



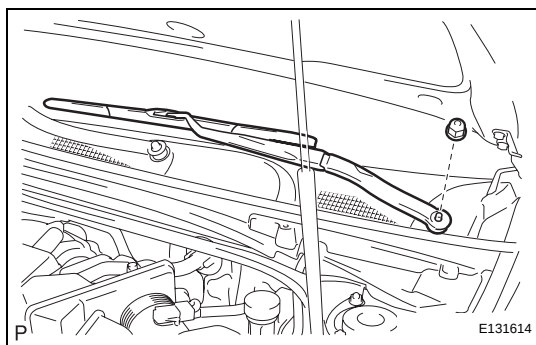
3. REMOVE HOOD HINGE COVER (for RH Side)
(a) Disengage the 4 claws and remove the hood hinge cover.



4. REMOVE ENGINE ROOM SIDE COVER LH
(a) Remove the 6 clips, and the engine room side cover LH.

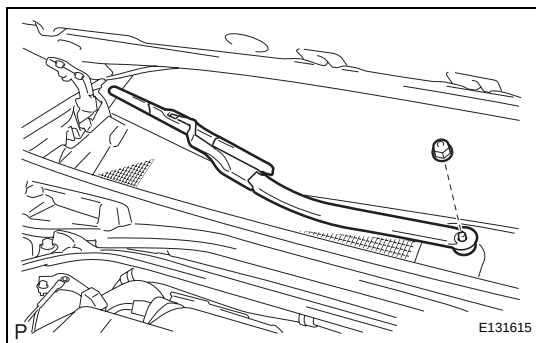


5. REMOVE ENGINE ROOM SIDE COVER RH
(a) Remove the 5 clips, and the engine room side cover RH.



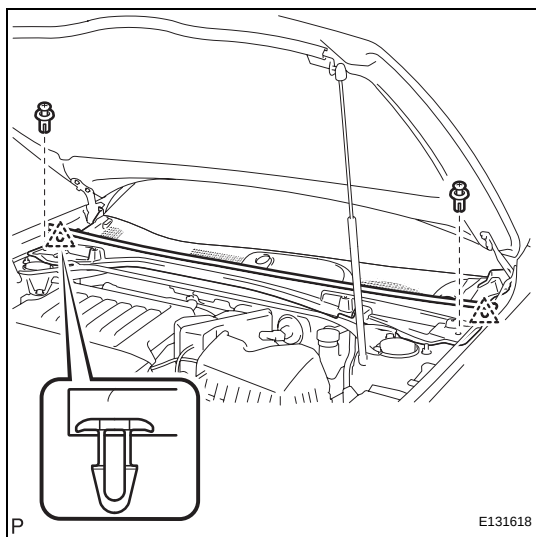
6. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH

- (a) Remove the nut, and the front wiper arm and blade assembly LH.



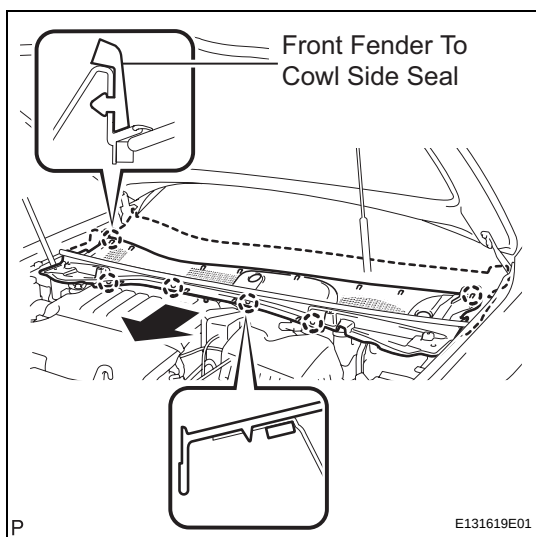
7. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH

- (a) Remove the nut, and the front wiper arm and blade assembly RH.



8. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

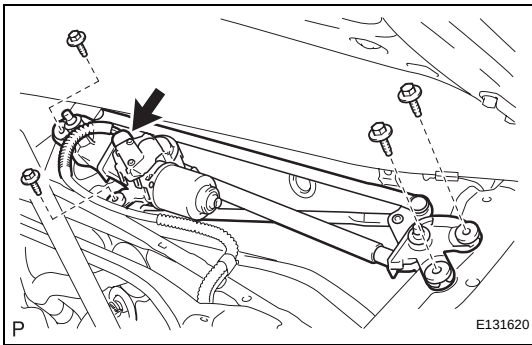
- (a) Disengage the 2 clips and separate the hood to cowl top seal.
(b) Remove the 2 clips.



- (c) Disengage the 6 claws and remove the cowl top ventilator louver sub-assembly as shown in the illustration.

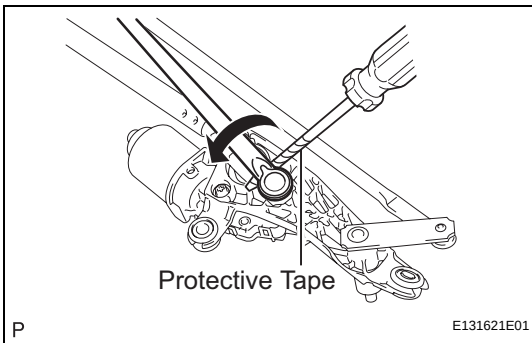
NOTICE:

When removing the cowl top ventilator louver sub-assembly, hold the front fender to cowl side seals by hand to prevent them from coming off the windshield. The front fender to cowl side seals are attached to the windshield with double-sided tape. Once the front fender to cowl side seals come off, the adhesion of the tape is reduced. The double-sided tape is not available as a supply part. If the tape loses its adhesion, it is necessary to apply new high-heat resistant double-sided tape and install the front fender to cowl side seals to the windshield.



9. REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY

- Disconnect the connector.
- Remove the 4 bolts and the windshield wiper motor and link assembly.

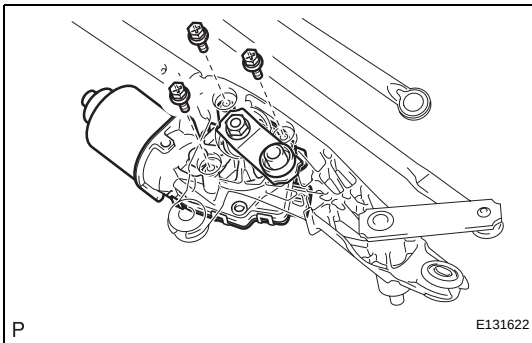


10. REMOVE WINDSHIELD WIPER MOTOR ASSEMBLY

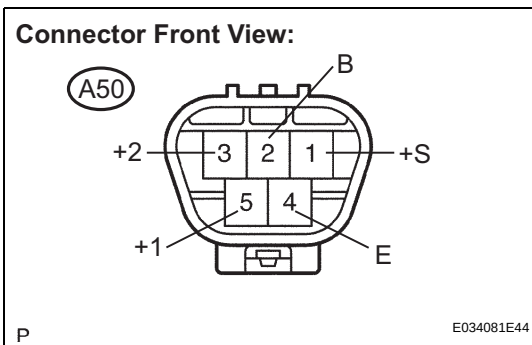
- Using a screwdriver, separate the No. 2 windshield wiper link rod from the crank arm pivot of the front wiper motor assembly as shown in the illustration.

HINT:

Tape the screwdriver tip before use.



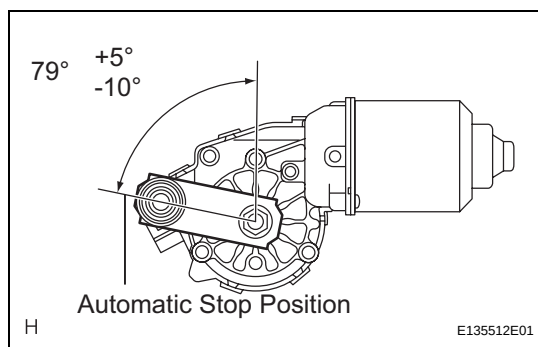
- Remove the 3 bolts and the windshield wiper motor assembly from the windshield wiper link assembly.



INSPECTION

1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY

- LO Operation Check
 - Connect a positive (+) battery lead to terminal A50-5 (+1) of the connector, and a negative (-) battery lead to terminal A50-4 (E), and check that the motor operates at a low speed (LO).
- HI Operation Check
 - Connect a positive (+) lead to terminal A50-3 (+2) of the connector, and a negative (-) battery lead to terminal A50-4 (E), and check that the motor operates at a high speed (HI).



(c) Automatic Stop Operation Check

- (1) Put matchmarks on the windshield wiper motor assembly. The matchmarks will be used to confirm the return of the motor shaft to the park position.
- (2) Connect a positive (+) battery lead to terminal A50-5 (+1) of the connector on the wiper motor and connect a negative battery lead to terminal A50-4 (E) of the wiper motor. With the motor operating at a low speed (LO), disconnect terminal A50-5 (+1) to stop the wiper motor at a position where the matchmarks do not line up. HINT:

In the following step, connections will be made at the wiper motor to allow verification of the operation of the park contacts that are operated by the cam in the wiper motor. After the connections have been made, when the motor is not in the park position, current will flow from terminal A50-2 (B) through the park contacts in the wiper motor, to terminal A50-1 (+S). The current will then flow through the jumper wire to terminal A50-5 (+1) through the motor to ground (causing it to operate). When the motor reaches the park position, the park contacts should open, stopping the operation of the wiper motor in the correct location. Terminals A50-2 (B) and A50-1 (+S) are connected by the internal cam in the wiper motor when the wiper motor is not in the park position. Terminals A50-1 (+S) and A50-4 (E) are connected by the internal cam in the wiper motor when the wiper motor is in the park position.

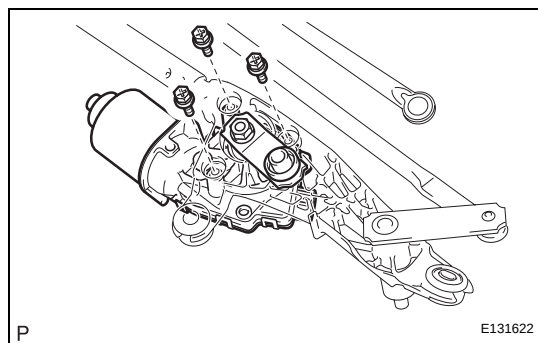
- (3) With the ground wire still attached from the previous step, connect a jumper lead between terminal A50-1 (+S) and terminal A50-5 (+1). Next, connect a positive (+) battery lead to terminal A50-2 (B) to cause the wiper motor to operate at a low speed. If the wiper motor is operating correctly, the wiper will operate until it reaches the park position. When it reaches the park position, it will automatically stop.
- (4) Verify that the matchmarks on the windshield wiper motor assembly are lined up.

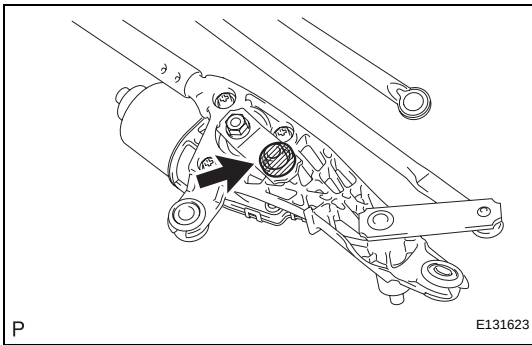
INSTALLATION

1. INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY

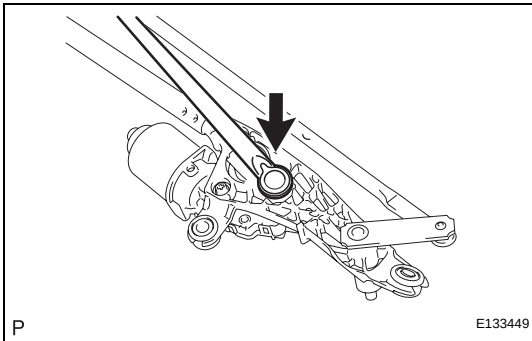
- (a) Install the windshield wiper motor assembly with the 3 bolts.

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

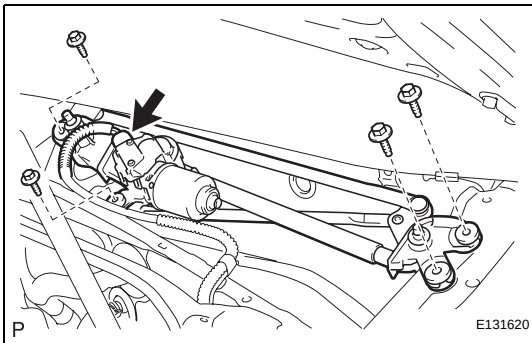




- (b) Apply MP grease to the crank arm pivot of the windshield wiper motor assembly.



- (c) Install the No. 2 windshield wiper link rod to the pivot of the windshield wiper motor assembly.



2. INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY

- (a) Install the windshield wiper motor and link assembly with the 4 bolts.

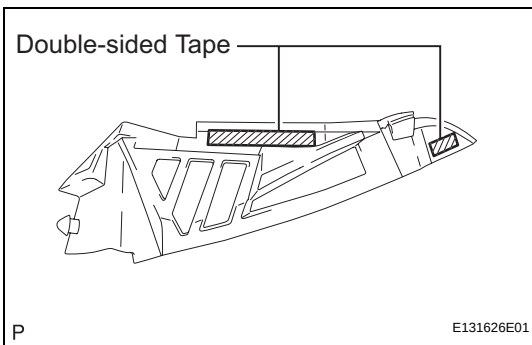
Torque: 5.5 N*m (56 kgf*cm, 49 in.*lbf)

- (b) Connect the connector.

3. INSTALL FRONT FENDER TO COWL SIDE SEAL RH

HINT:

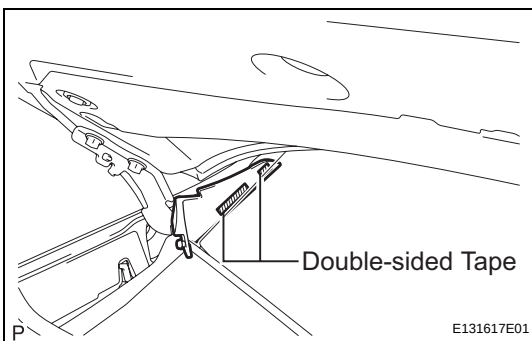
In cases where double-sided tape cannot be reused.



- (a) Apply double-sided tape to locations as shown in the illustration.

HINT:

The double-sided tape is not available as a supply part. Use commercial high-heat resistant double-sided tape.

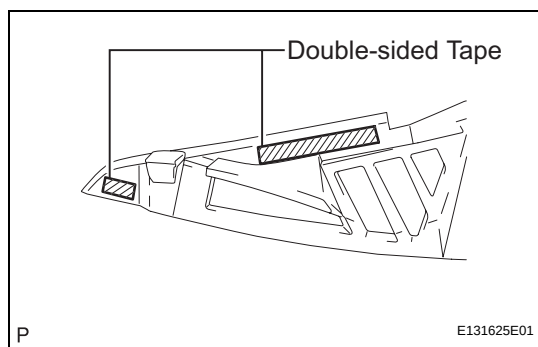


- (b) Fix the double-sided tape to install the front fender to cowl side seal RH.

4. INSTALL FRONT FENDER TO COWL SIDE SEAL LH

HINT:

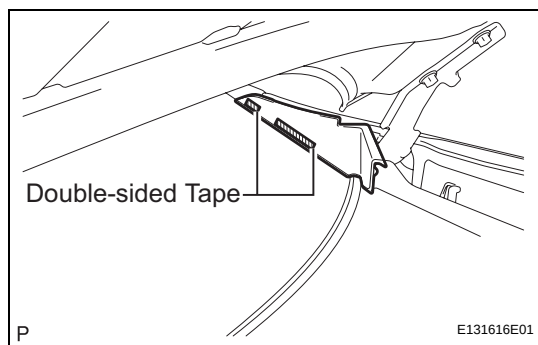
In cases where double-sided tape cannot be reused.



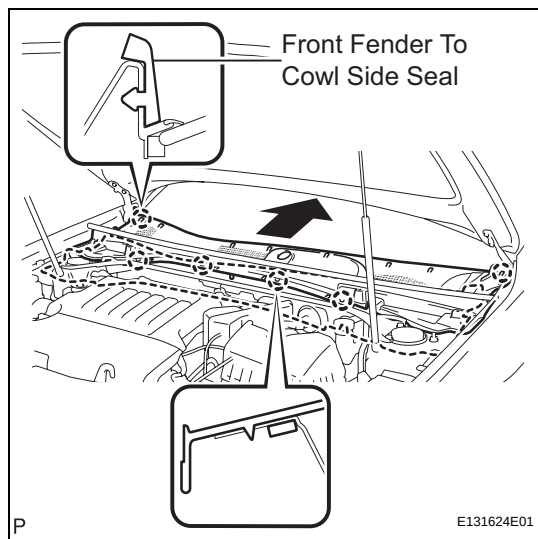
- (a) Apply new double-sided tape to locations as shown in the illustration.

HINT:

The double-sided tape is not available as a supply part. Use commercial high-heat resistant double-sided tape.



- (b) Fix the double-sided tape to install the front fender to cowl side seal LH.

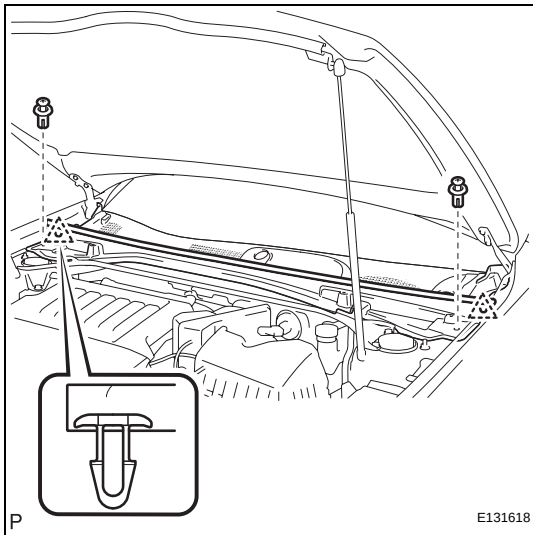


5. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

- (a) Engage the 6 claws and install the cowl top ventilator louver sub-assembly as shown in the illustration.

NOTICE:

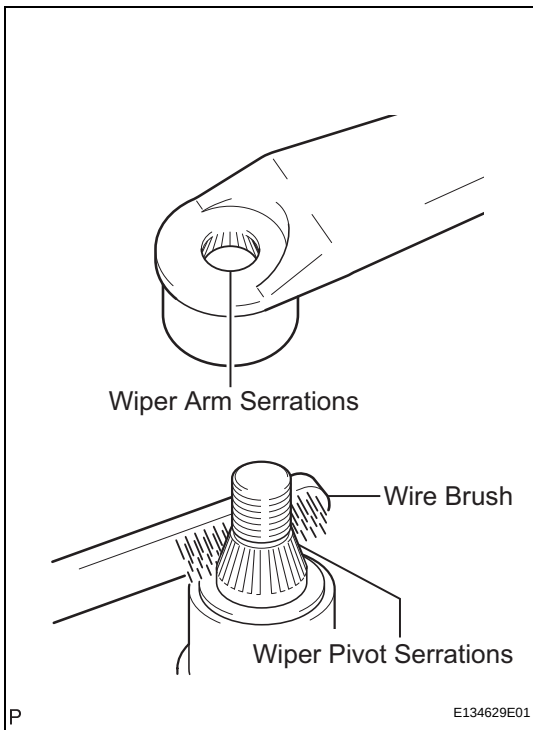
When installing the cowl top ventilator louver sub-assembly, hold the front fender to cowl side seals by hand to prevent them from coming off the windshield. The front fender to cowl side seals are attached to the windshield with double-sided tape. Once the front fender to cowl side seals come off, the adhesion of the tape is reduced. The double-sided tape is not available as a supply part. If the tape loses its adhesion, it is necessary to apply new high-heat resistant double-sided tape and install the front fender to cowl side seals to the windshield.



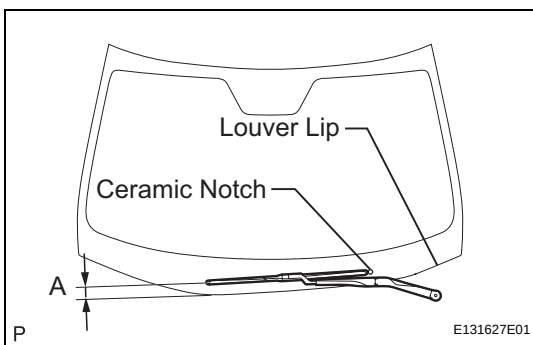
- (b) Install the 2 clips.
- (c) Engage the 2 clips and install the hood to cowl top seal.

6. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH

- (a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.



- (b) Clean the wiper arm serrations.
- (c) When reinstalling:
 - (1) Clean the wiper pivot serrations with a wire brush.



- (d) Install the front wiper arm and blade assembly LH with the nut to the position shown in the illustration.

Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf)

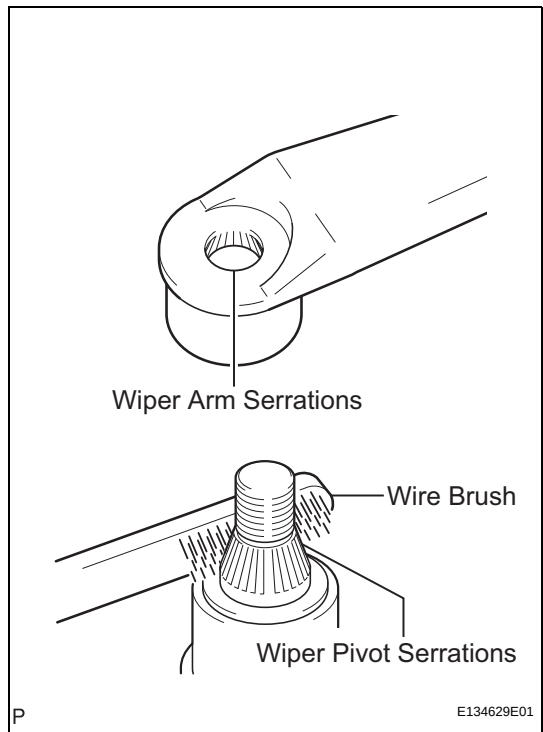
HINT:

Hold the arm hinge by hand to fasten the nut.

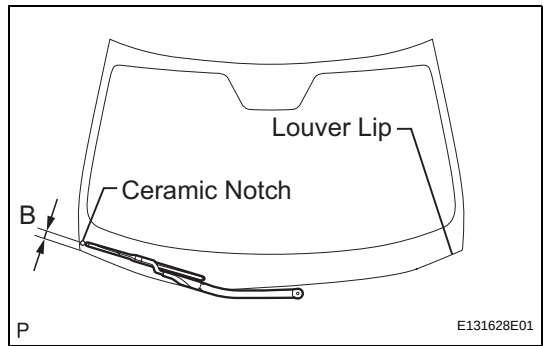
Area	Measurement
A	18 to 33 mm (0.71 to 1.30 in.)

7. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH

- (a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.



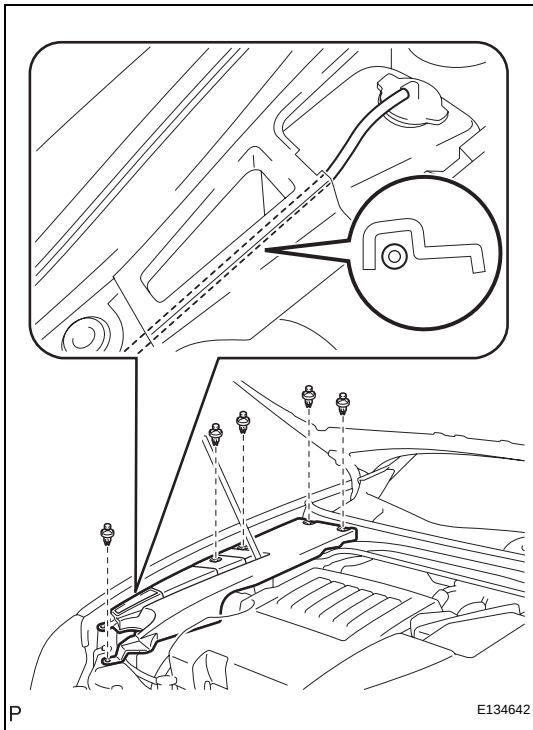
- (b) Clean the wiper arm serrations.
- (c) When reinstalling:
 - (1) Clean the wiper pivot serrations with a wire brush.



- (d) Install the front wiper arm and blade assembly RH with the nut to the position shown in the illustration.
Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf)
HINT:
Hold the arm hinge by hand to fasten the nut.

Area	Measurement
B	20 to 35 mm (0.79 to 1.38 in.)

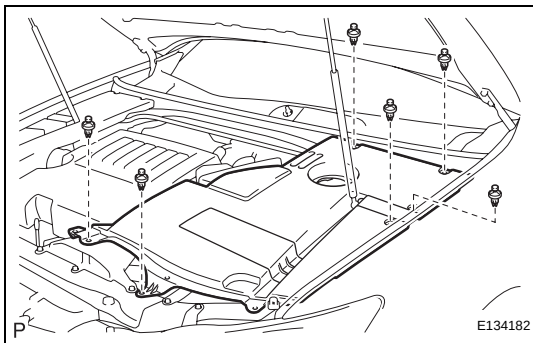
- (e) Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and the wipers do not come into contact with the vehicle body.

**8. INSTALL ENGINE ROOM SIDE COVER RH**

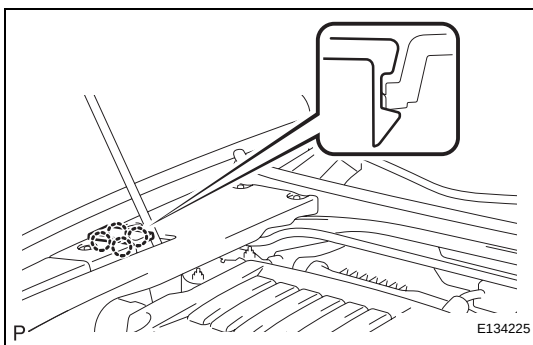
- (a) Install the engine room side cover RH with the 5 clips.

NOTICE:

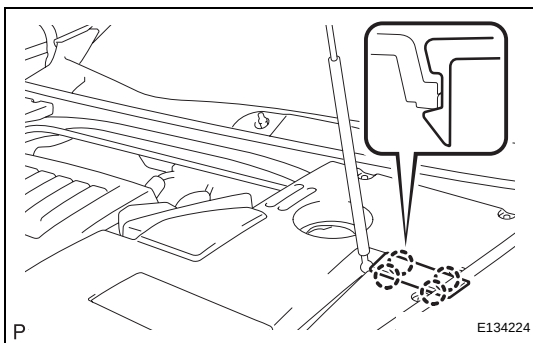
When installing the engine room side cover RH, make sure that the engine coolant reservoir hose is positioned as shown in the illustration.

**9. INSTALL ENGINE ROOM SIDE COVER LH**

- (a) Install the engine room side cover LH with the 6 clips.

**10. INSTALL HOOD HINGE COVER (for RH Side)**

- (a) Engage the 4 claws and install the hood hinge cover.

**11. INSTALL HOOD HINGE COVER (for LH Side)**

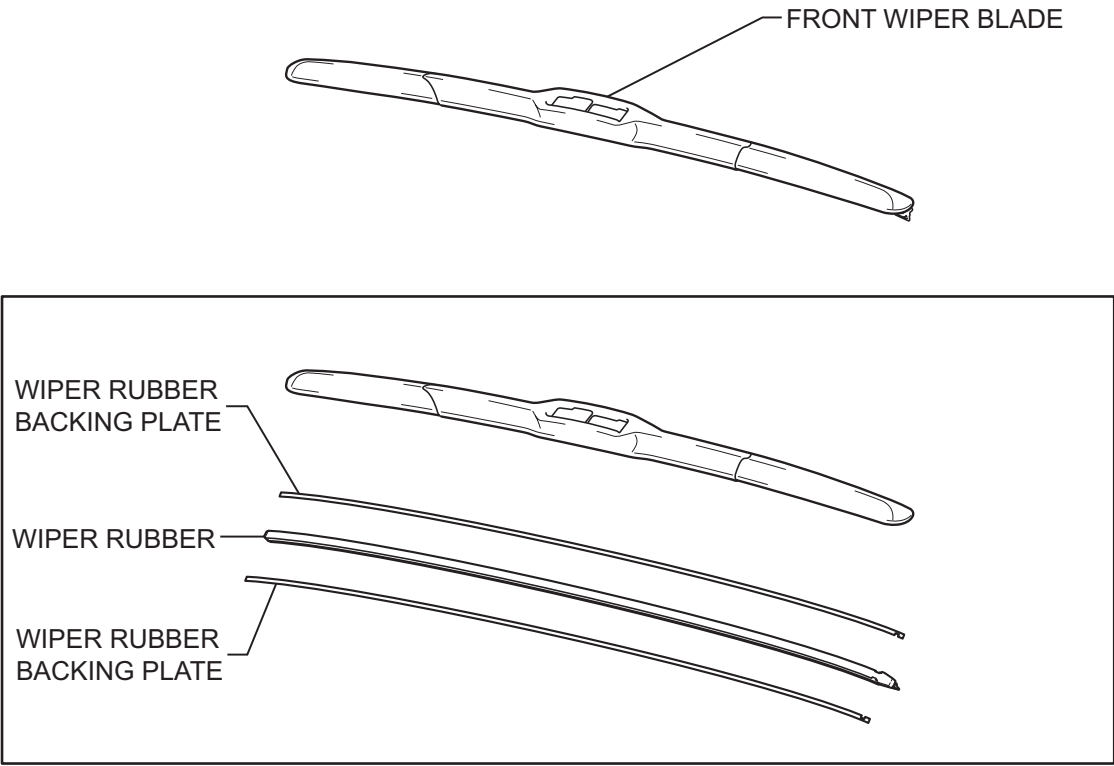
- (a) Engage the 4 claws and install the hood hinge cover.

12. INSTALL COOL AIR INTAKE DUCT SEAL (See page ET-14)

FRONT WIPER RUBBER

COMPONENTS

WW



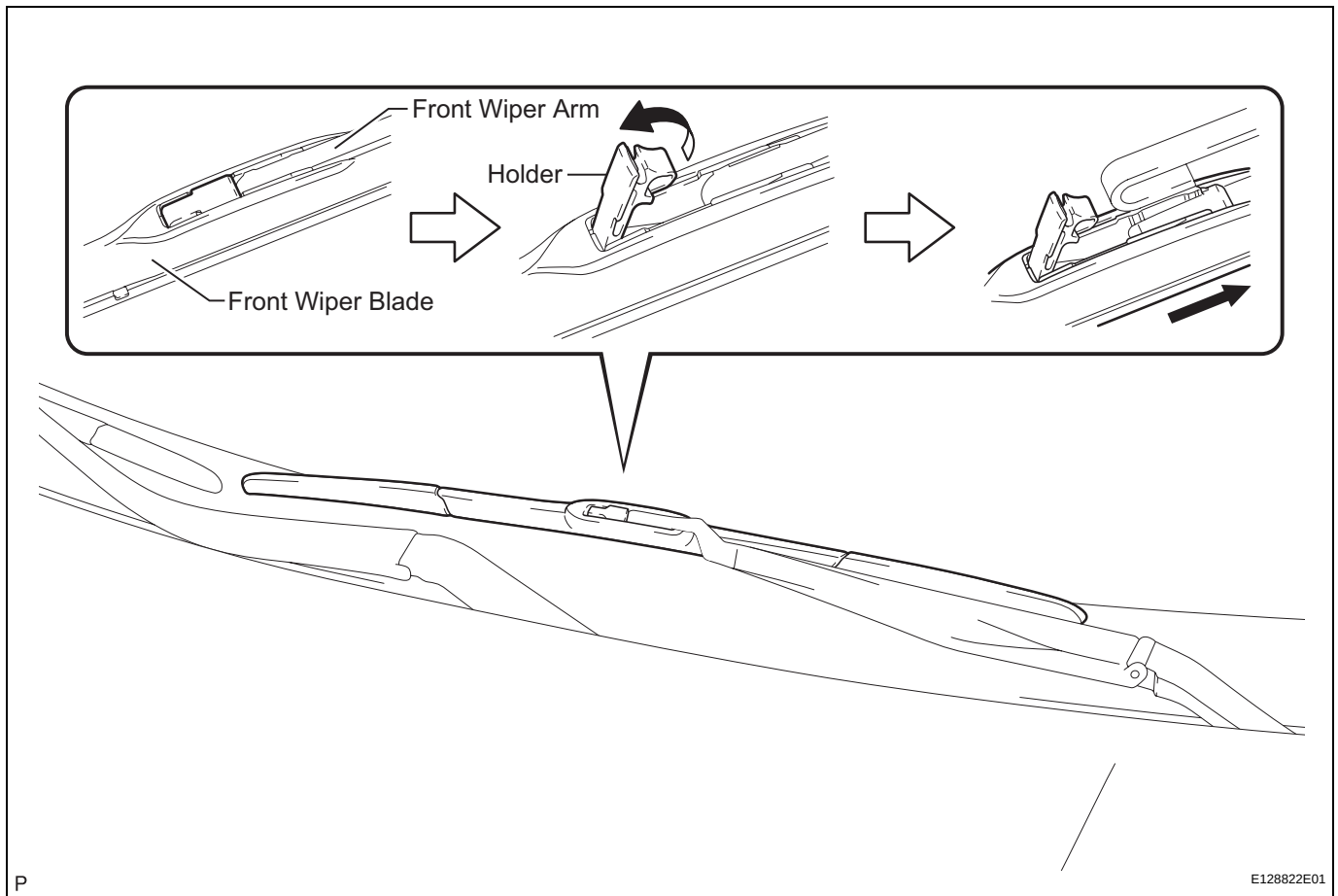
REMOVAL

1. REMOVE FRONT WIPER BLADE

- (a) Disengage the holder of the front wiper blade.
- (b) Remove the front wiper blade from the front wiper arm as shown in the illustration.

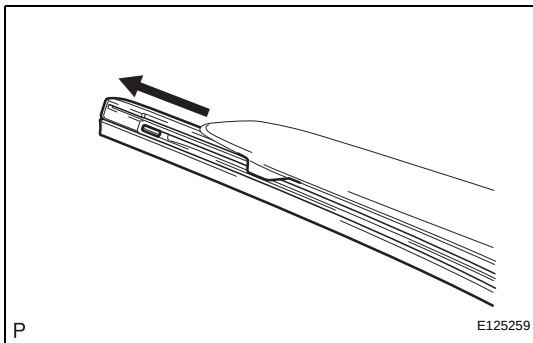
NOTICE:

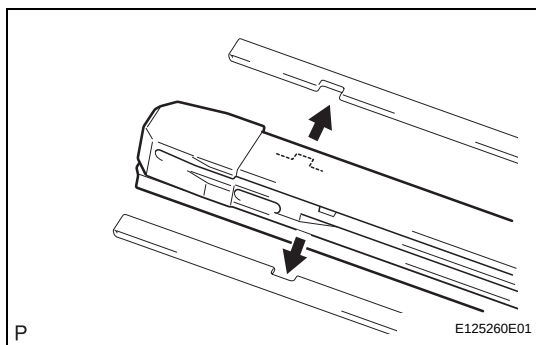
Do not bend the front wiper arm with the front wiper blade removed because the arm tip could damage the windshield surface.



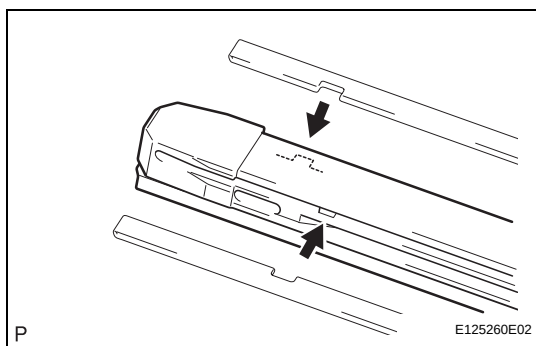
2. REMOVE WIPER RUBBER

- (a) Remove the wiper rubber and the wiper rubber backing plates from the front wiper blade.





- (b) Remove the 2 wiper rubber backing plates from the wiper rubber.



INSTALLATION

1. INSTALL WIPER RUBBER

- (a) Install the 2 wiper rubber backing plates to the wiper rubber.

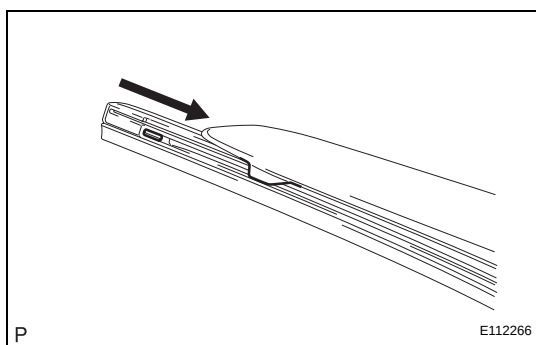
NOTICE:

- Align the protrusions on the wiper rubber with the notches in the backing plates.
- Align the curves of the backing plates with the curve of the glass.

- (b) Install the wiper rubber to the front wiper blade with the tip of the rubber (curved end) facing the axis of the wiper arm.

NOTICE:

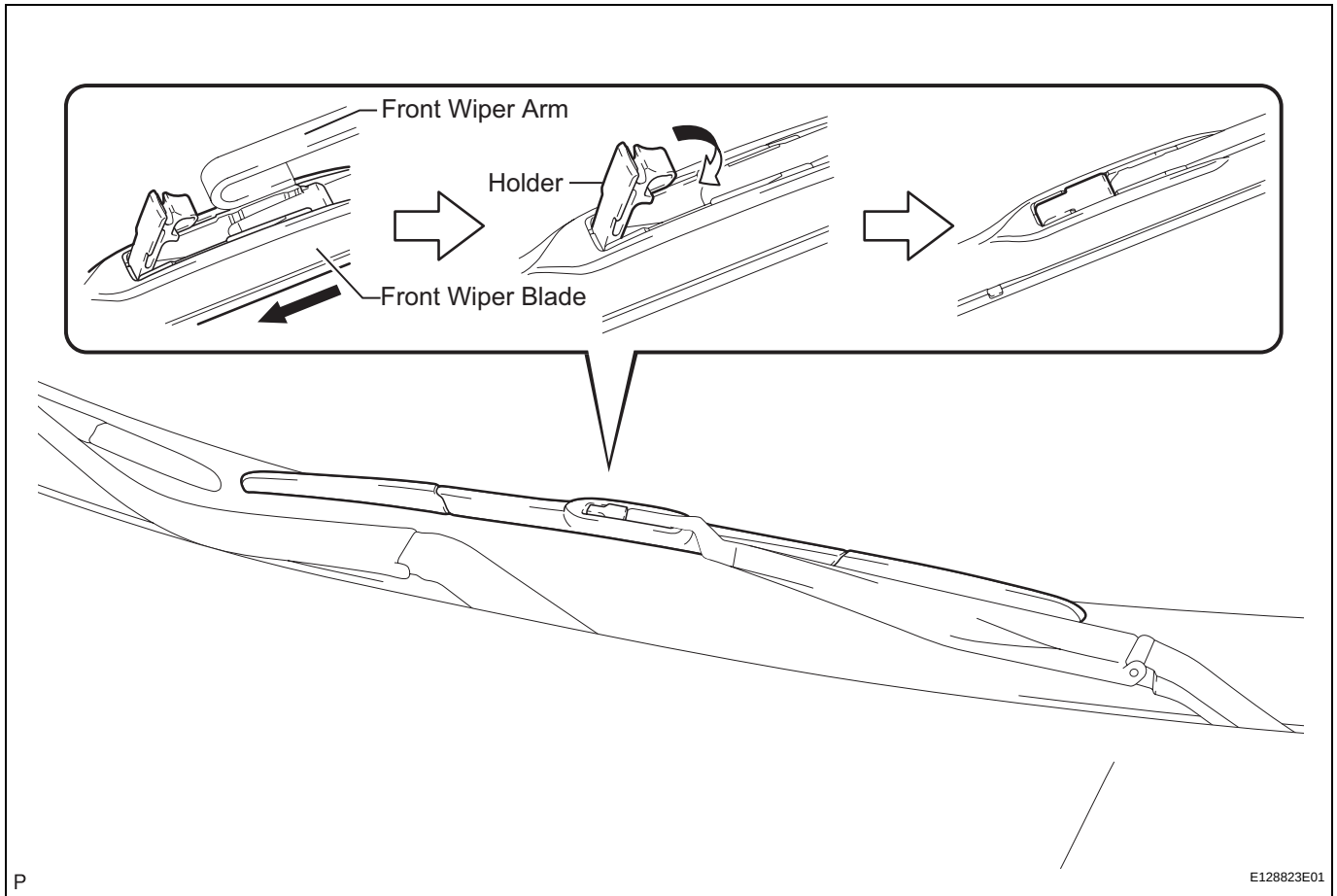
Firmly push the wiper rubber into the wiper blade to securely engage them.



2. INSTALL FRONT WIPER BLADE

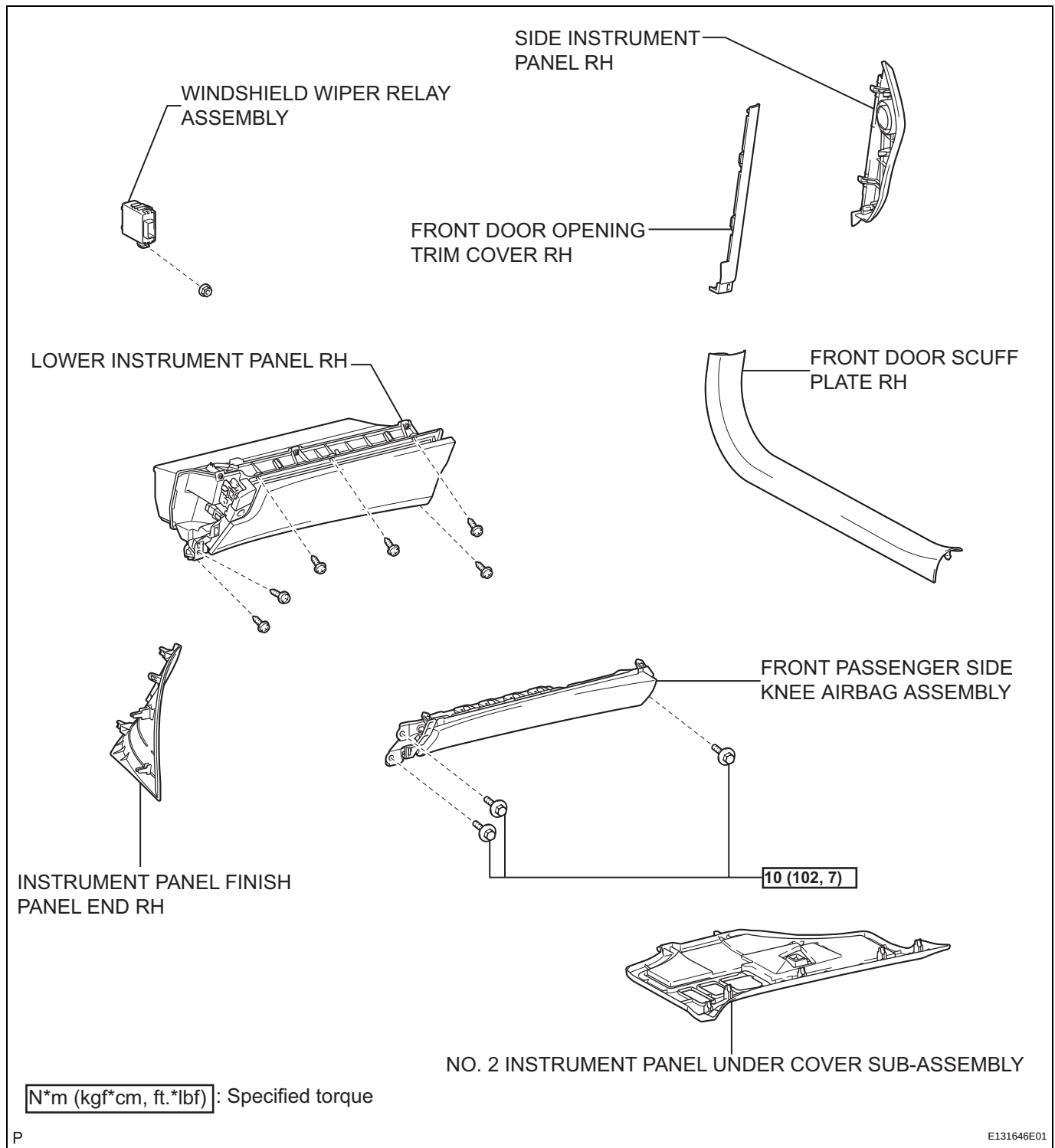
- (a) Install the front wiper blade as shown in the illustration.

(b) Engage the holder of the front wiper blade.



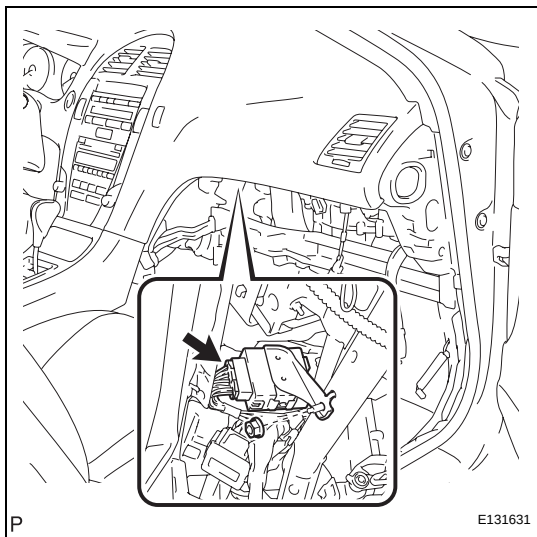
WIPER RELAY

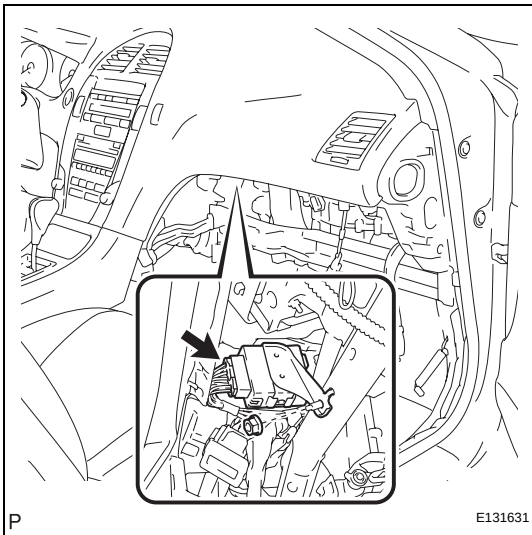
COMPONENTS



REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
CAUTION:
Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (see page [RS-1](#)).
2. REMOVE INSTRUMENT PANEL FINISH PANEL END RH (See page [IP-15](#))
3. REMOVE FRONT DOOR SCUFF PLATE RH (See page [IR-42](#))
4. REMOVE FRONT DOOR OPENING TRIM COVER RH (See page [IR-42](#))
5. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY (See page [IP-15](#))
6. REMOVE SIDE INSTRUMENT PANEL RH (See page [IP-15](#))
7. REMOVE FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY (See page [RS-396](#))
8. REMOVE LOWER INSTRUMENT PANEL RH (See page [IP-16](#))
9. REMOVE WINDSHIELD WIPER RELAY ASSEMBLY
 - (a) Disconnect the connector.
 - (b) Remove the nut and the windshield wiper relay assembly.





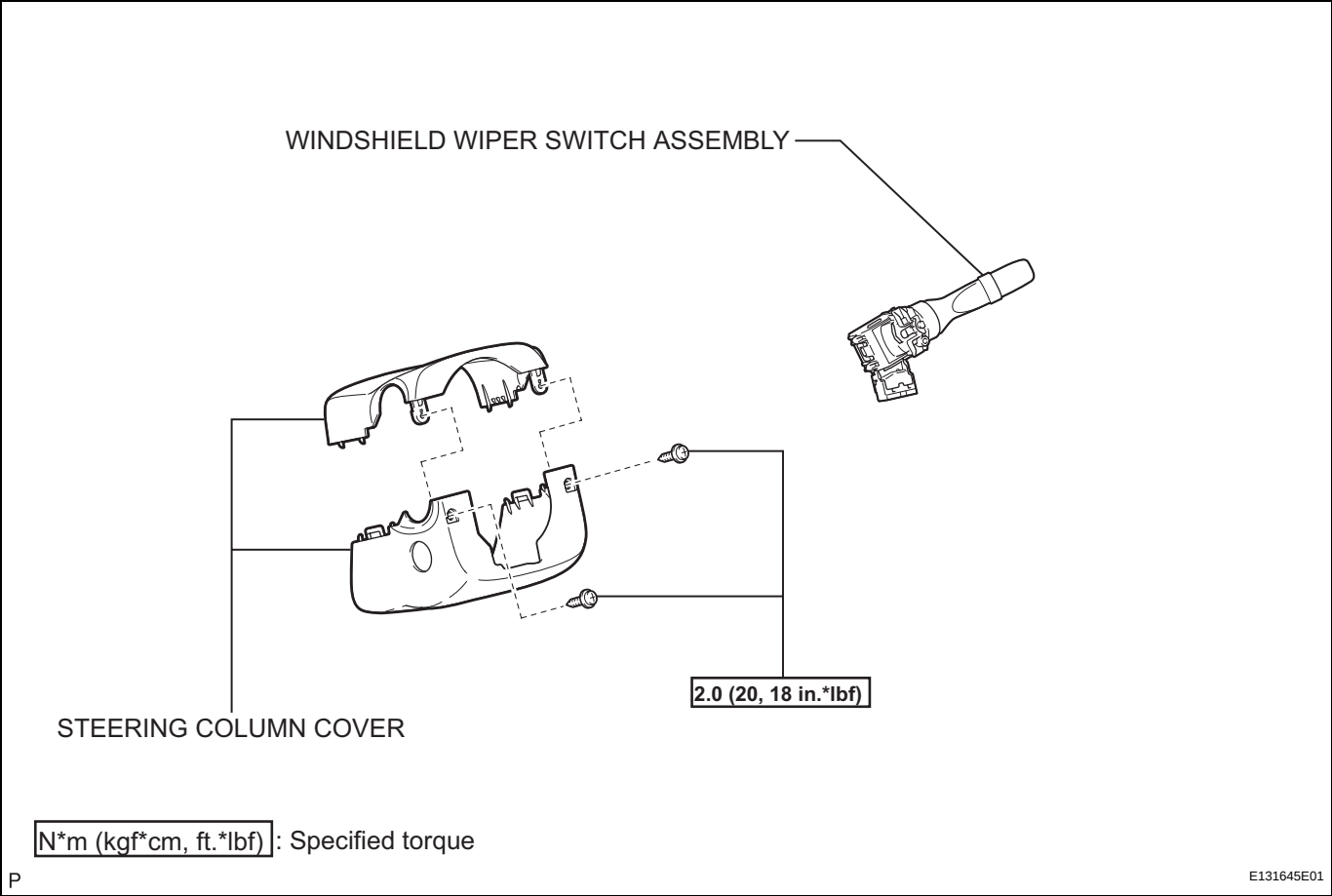
INSTALLATION

1. **INSTALL WINDSHIELD WIPER RELAY ASSEMBLY**
 - (a) Install the windshield wiper relay assembly with the nut.
 - (b) Connect the connector.
2. **INSTALL LOWER INSTRUMENT PANEL RH** (See page [IP-42](#))
3. **INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY** (See page [RS-396](#))
4. **INSTALL SIDE INSTRUMENT PANEL RH** (See page [IP-43](#))
5. **INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY** (See page [IP-44](#))
6. **INSTALL FRONT DOOR OPENING TRIM COVER RH** (See page [IR-65](#))
7. **INSTALL FRONT DOOR SCUFF PLATE RH** (See page [IR-65](#))
8. **INSTALL INSTRUMENT PANEL FINISH PANEL END RH** (See page [IP-44](#))
9. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
10. **INSPECT FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY** (See page [RS-395](#))
11. **INSPECT SRS WARNING LIGHT** (See page [RS-397](#))
12. **PERFORM INITIALIZATION**

NOTICE:
Some systems need initialization after reconnecting the cable to the negative battery terminal (see page [IN-33](#)).

WIPER SWITCH

COMPONENTS

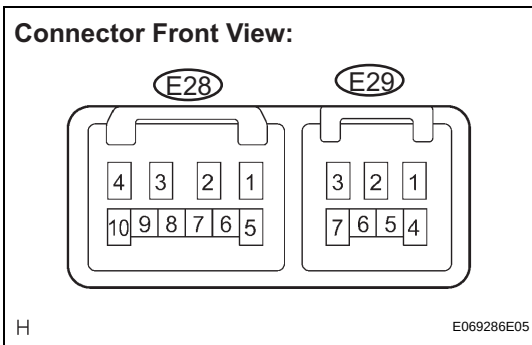
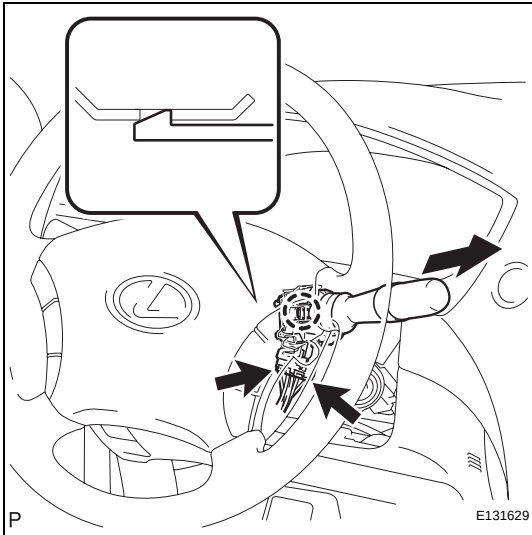


REMOVAL

1. REMOVE STEERING COLUMN COVER (See page [SR-80](#))
2. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY
 - (a) Disconnect the 2 connectors.
 - (b) Disengage the claw and remove the windshield wiper switch assembly as shown in the illustration.

NOTICE:

If the claw is pushed with excessive force, it may break.



INSPECTION

1. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY
 - (a) Check for continuity of the windshield wiper switch assembly.
 - (1) Measure the resistance according to the value(s) in the table below.

Standard resistance:
Front Wiper Switch

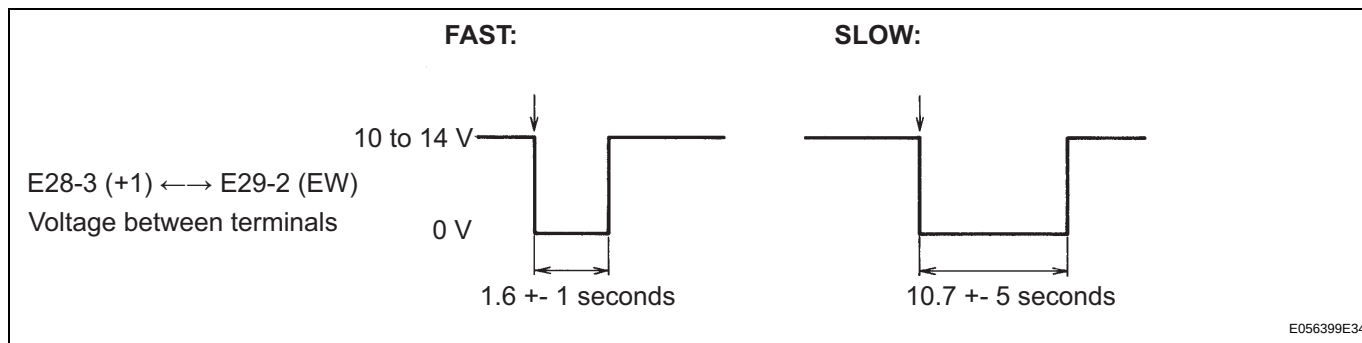
Tester Connection	Switch Condition	Specified Condition
E28-3 (+1) - E28-2 (+B)	MIST	Below 1 Ω
	LO	
E28-3 (+1) - E28-1 (+S)	OFF	
E28-9 (AUTO) - E28-10 (E)	AUTO	
E28-2 (+B) - E28-4 (+2)	HI	

Front Washer Switch

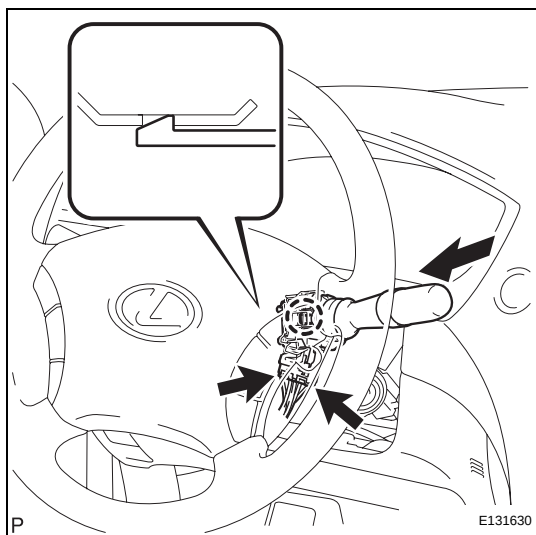
Tester Connection	Switch Position	Specified Resistance
E29-3 (WF) - E29-2 (EW)	OFF	10 k Ω or higher
E29-3 (WF) - E29-2 (EW)	ON	Below 1 Ω

- (b) Intermittent Operation Check
 - (1) Connect the voltmeter (+) terminal to terminal E28-3 (+1) of the connector and the voltmeter (-) terminal to terminal E29-2 (EW).
 - (2) Connect a positive (+) battery lead to terminal E28-2 (+B) of the connector and a negative (-) battery lead to terminals E29-2 (EW) and E28-1 (+S).
 - (3) Turn the wiper switch to the INT position.
 - (4) Connect a positive (+) battery lead to terminal E28-1 (+S) of the connector for 5 seconds.

- (5) Connect a negative (-) battery lead to terminal E28-4 (+2) of the connector. Operate the intermittent wiper adjustment ring and measure the voltage between terminals E28-3 (+1) and E29-2 (EW).



WW

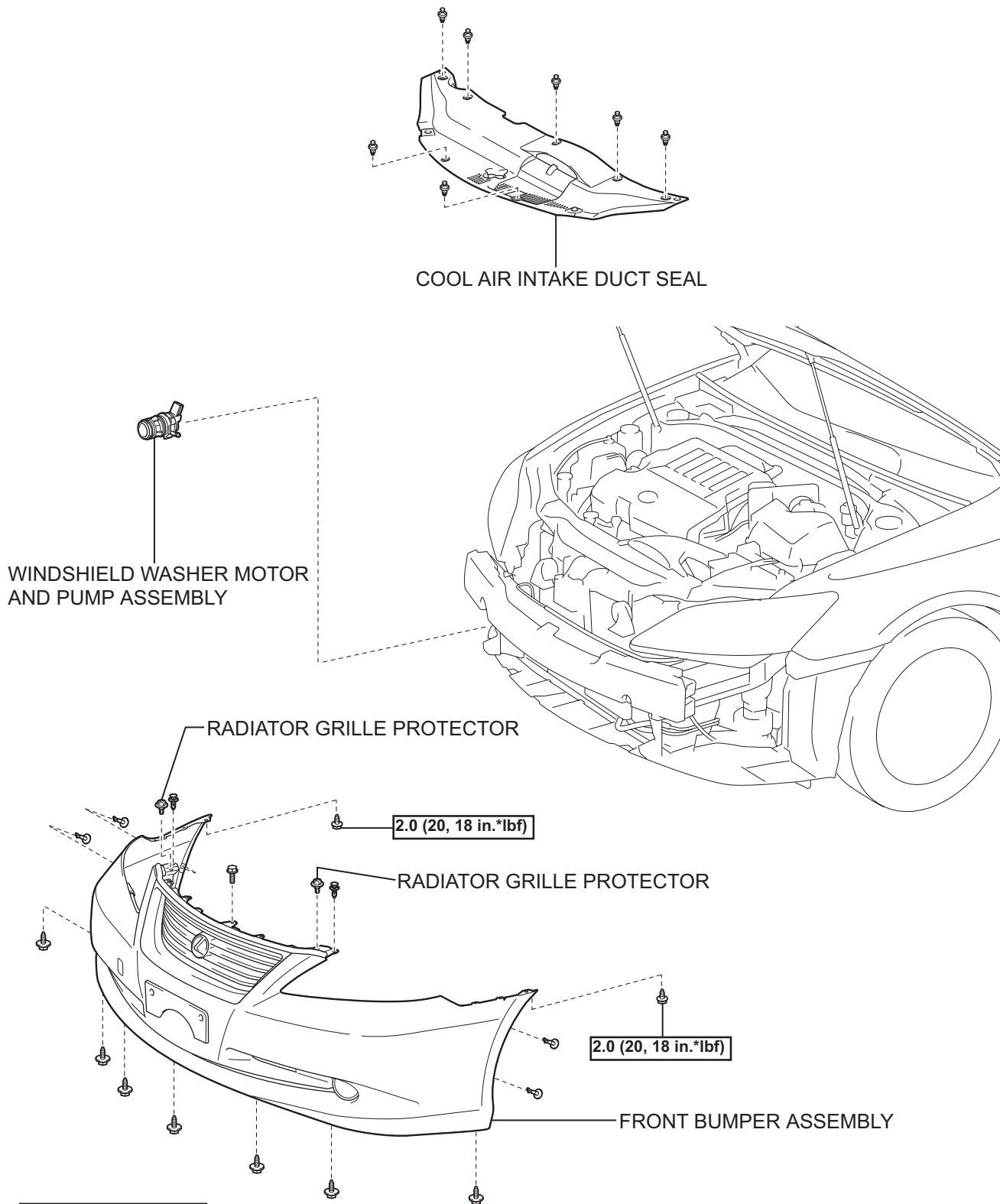


INSTALLATION

1. **INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY**
 - (a) Engage the claw and install the windshield wiper switch assembly as shown in the illustration.
 - (b) Connect the 2 connectors.
2. **INSTALL STEERING COLUMN COVER** (See page [SR-87](#))

FRONT WASHER MOTOR

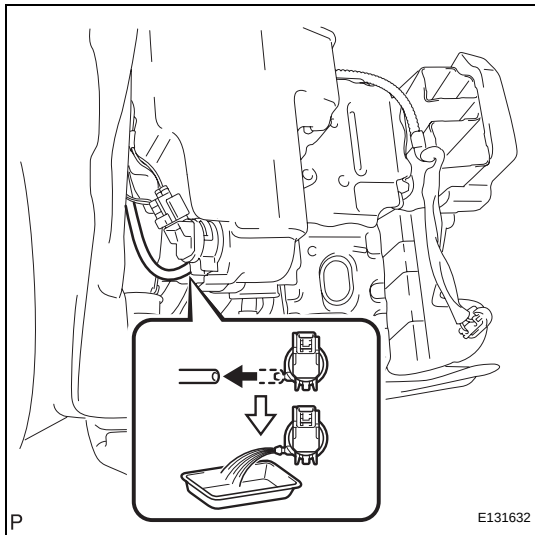
COMPONENTS



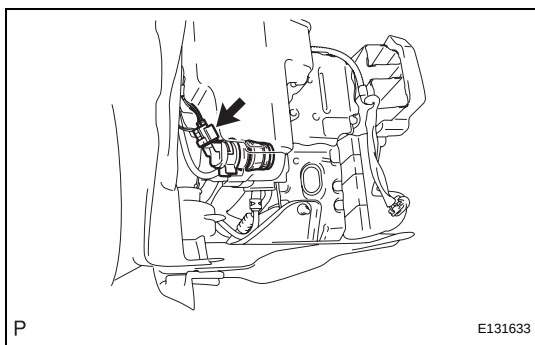
N*m (kgf*cm, ft.*lbf) : Specified torque

REMOVAL

1. REMOVE COOL AIR INTAKE DUCT SEAL (See page [ET-4](#))
2. REMOVE FRONT BUMPER ASSEMBLY (See page [ET-5](#))
3. DRAIN WASHER FLUID
 - (a) Disconnect the washer hose from the windshield washer motor and pump assembly, and drain the washer fluid.



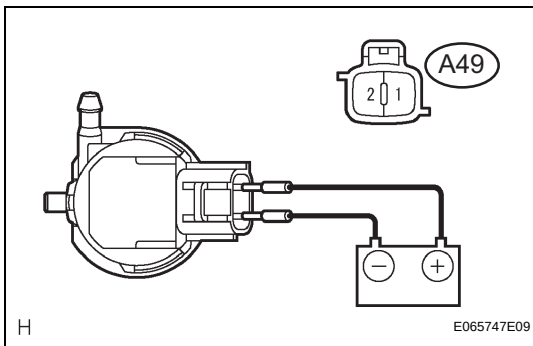
4. REMOVE WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY
 - (a) Disconnect the connector.
 - (b) Remove the windshield washer motor and pump assembly.



INSPECTION

1. INSPECT FRONT WASHER MOTOR

- (a) Operation Check
 - (1) Fill the washer jar with washer fluid.
 - (2) Connect the positive battery (+) lead to terminal A49-1 of the windshield washer motor and pump assembly, and the negative battery (-) lead to terminal A49-2. Check that washer fluid flows from the washer jar.



2. INSPECT WASHER FLUID LEVEL WARNING SWITCH ASSEMBLY

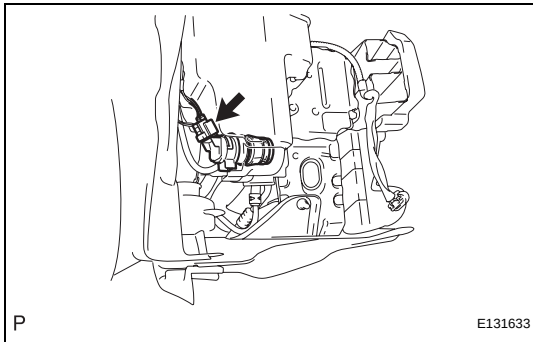
HINT:

The following check should be performed with the windshield washer motor and pump installed to the washer jar.

- (a) Fill the washer jar with washer fluid.
- (b) Disconnect the connector from the washer fluid level sensor.
- (c) Measure the resistance according to the value(s) in the table below.

Standard resistance

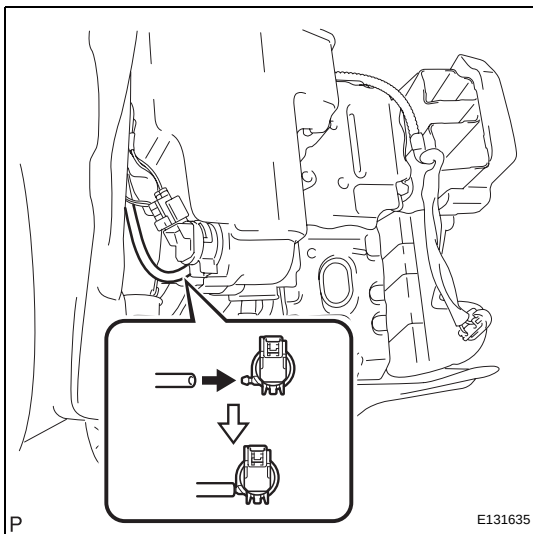
Fluid Volume	Specified Condition
More than 900 ml	10 k Ω or higher
Less than 900 ml	Below 1 Ω



INSTALLATION

1. INSTALL WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

- (a) Install the windshield washer motor and pump assembly.
- (b) Connect the connector.



2. FILL WASHER JAR WITH WASHER FLUID

- (a) Connect the washer hose to the windshield washer motor and pump assembly and fill the washer jar with washer fluid.

3. INSTALL FRONT BUMPER ASSEMBLY (See page [ET-14](#))

4. INSTALL COOL AIR INTAKE DUCT SEAL (See page [ET-14](#))

5. VEHICLE PREPARATION FOR FOG LIGHT AIM ADJUSTMENT (See page [LI-141](#))

6. PREPARATION FOR FOG LIGHT AIMING (See page [LI-142](#))

7. FOG LIGHT AIMING INSPECTION (See page [LI-143](#))

8. FOG LIGHT AIMING ADJUSTMENT (See page [LI-144](#))

WASHER NOZZLE

ON-VEHICLE INSPECTION

1. INSPECT WASHER NOZZLE SUB-ASSEMBLY

- (a) With the engine running, check the position that the washer fluid hits the windshield.

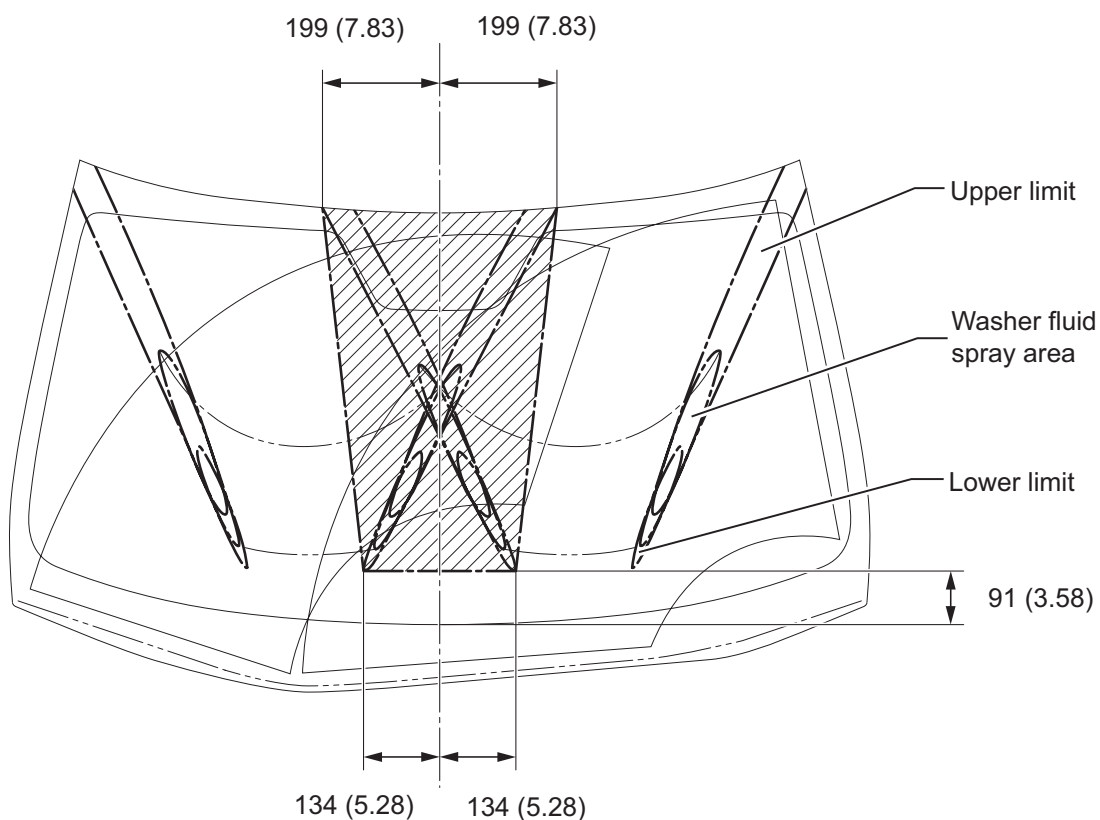
Standard:

Washer fluid hits the windshield in the areas shown in the illustration.

HINT:

If the result is not as specified, replace the washer nozzle.

for Standard:

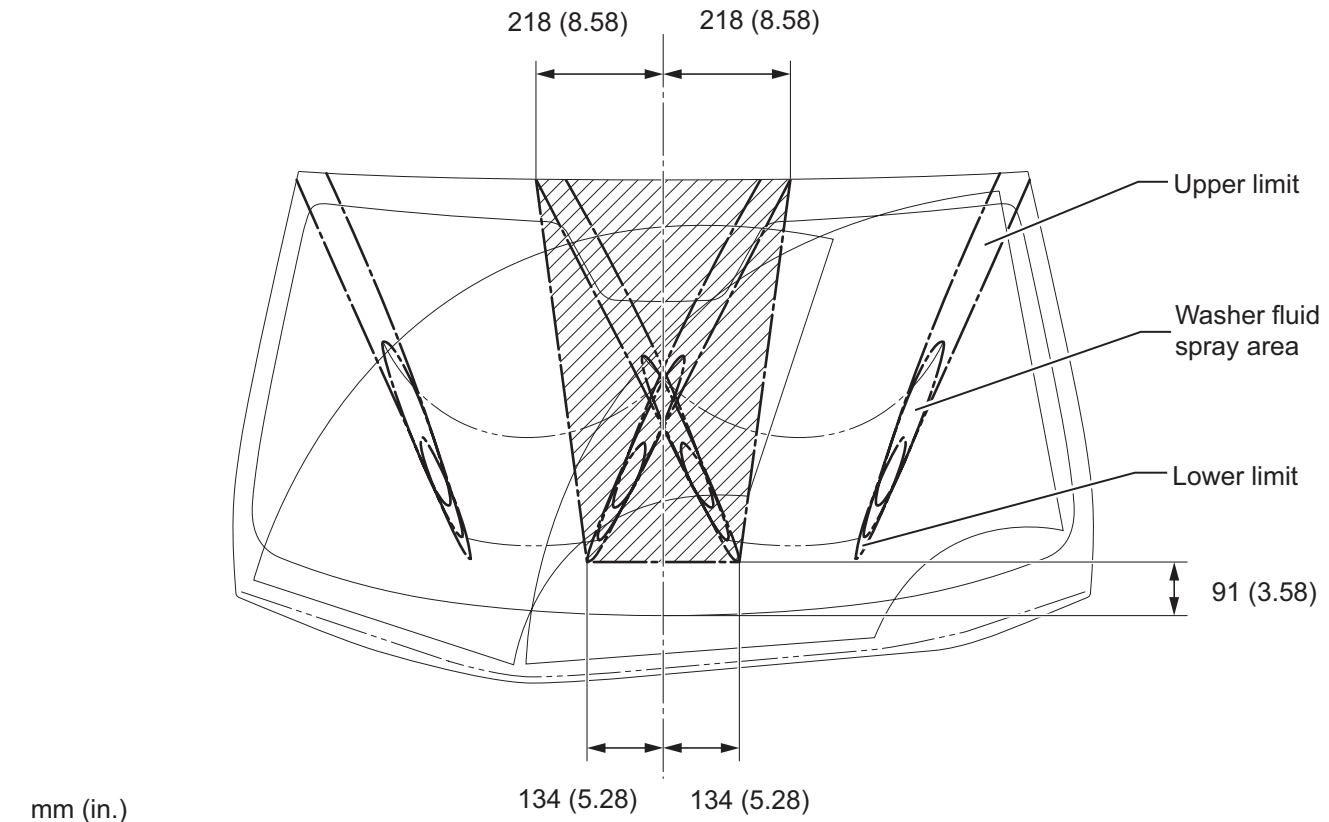


mm (in.)

P

E131636E01

for Glass Roof:



E134630E01

ADJUSTMENT

1. ADJUST WASHER NOZZLE SUB-ASSEMBLY

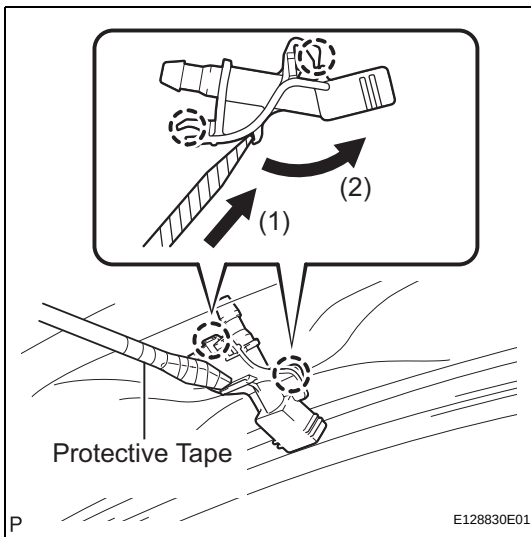
- Using a screwdriver, disengage the 2 claws and separate the washer nozzle sub-assembly as shown in the illustration.

NOTICE:

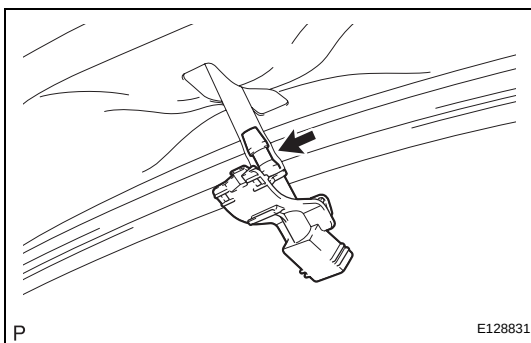
Be careful not to damage the windshield.

HINT:

Tape the screwdriver tip before use.



E128830E01



E128831

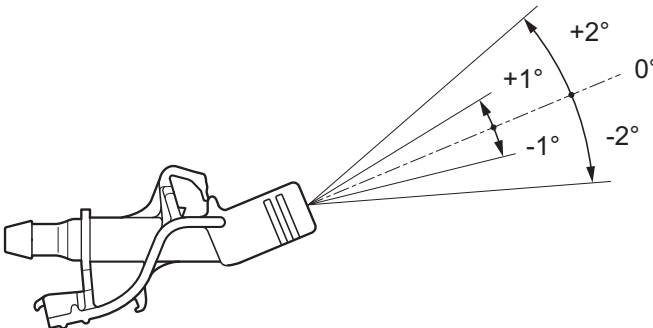
- Disconnect the washer nozzle sub-assembly from the washer hose.

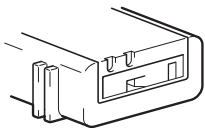
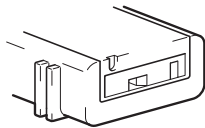
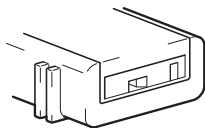
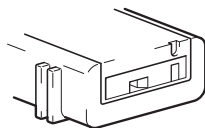
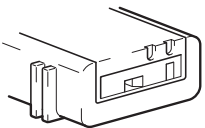
NOTICE:

Washer nozzles cannot be reused.

- (c) Select a washer nozzle sub-assembly so that the washer fluid spray area is within the standard.

Available Washer Nozzles:



					
Washer Fluid Spray Angle	-2°	-1°	0°	+1°	+2°
Part Number	85381-30210	85381-30190	85381-30170	85381-30180	85381-30200

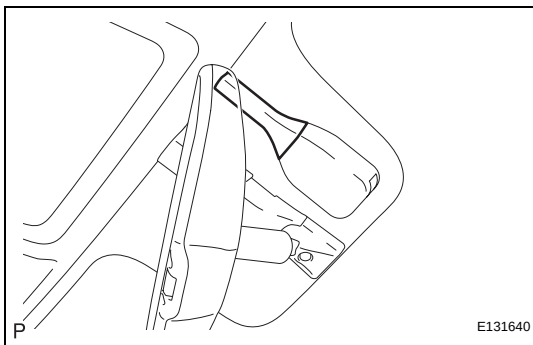
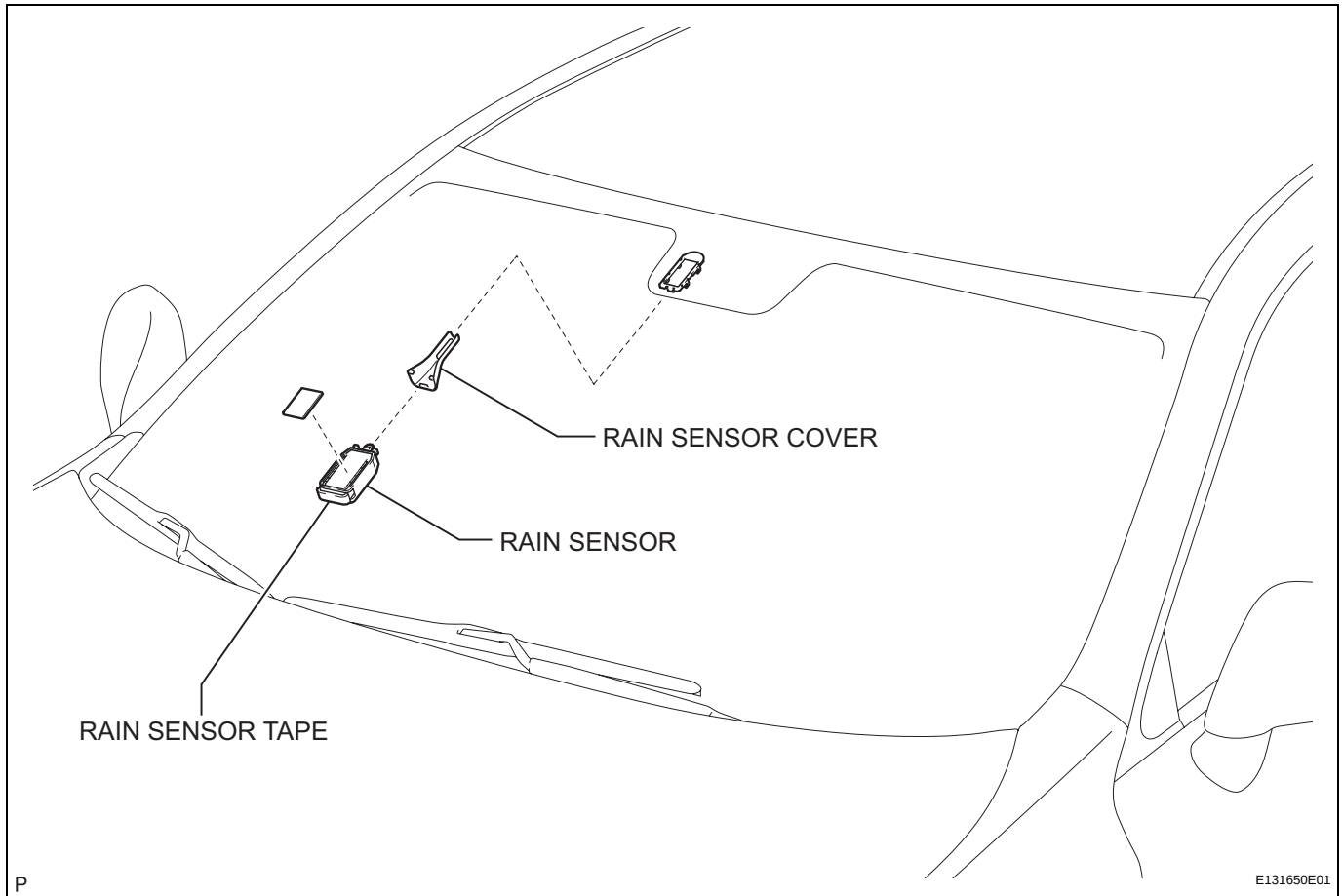
P

E128832E03

- (d) Connect the selected washer nozzle sub-assembly to the washer hose.
- (e) Engage the 2 claws and install the washer nozzle sub-assembly.

RAIN SENSOR

COMPONENTS



REMOVAL

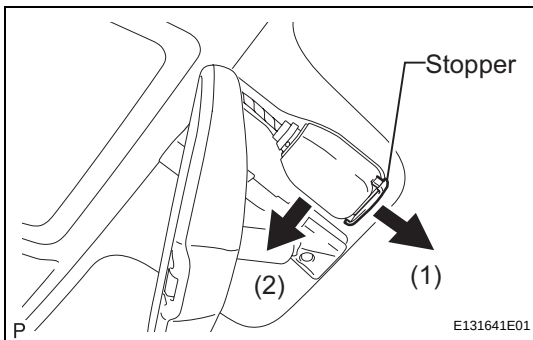
1. REMOVE RAIN SENSOR COVER

- (a) Remove the rain sensor cover.

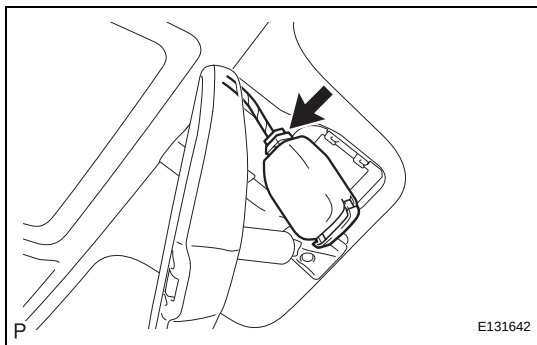
2. REMOVE RAIN SENSOR

HINT:

This step should be performed only when the rain sensor tape needs to be replaced.



- (a) Release the stopper by pulling the stopper down and disconnect the rain sensor as shown in the illustration.



- (b) Disconnect the connector and remove the rain sensor.

3. REMOVE RAIN SENSOR TAPE

HINT:

This step should be performed only when the rain sensor tape needs to be replaced.

- (a) Remove the rain sensor tape.

NOTICE:

The rain sensor tape can be reused, however, replace it with a new one if it is dirty or damaged.

INSTALLATION

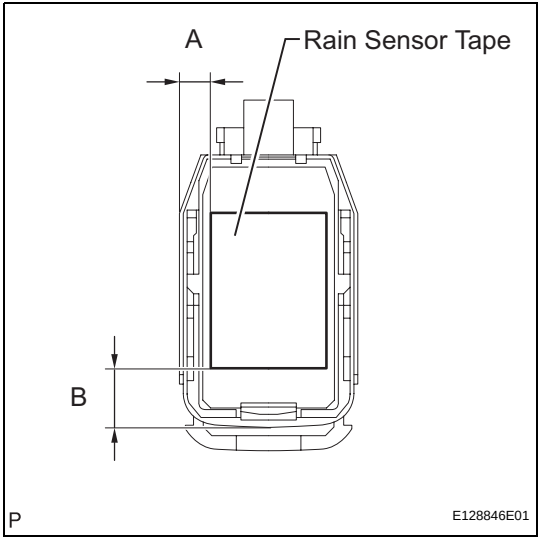
1. INSTALL RAIN SENSOR TAPE

NOTICE:

The rain sensor tape can be reused, however, replace it with a new one if it is dirty or damaged.

HINT:

This step should be performed only when the rain sensor tape needs to be replaced.



- (a) Remove the releasing sheet (yellow side) from new rain sensor tape and apply the tape to the position indicated in the illustration (the sensor part of the rain sensor) while pushing out air bubbles with your fingers.
- (b) Remove the releasing sheet (white side) from the rain sensor tape.

NOTICE:

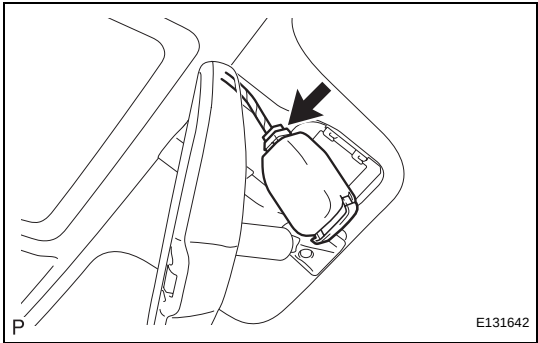
- Check that the old rain sensor tape is not left on the windshield glass. If the tape is still on the windshield glass, remove it before installing the rain sensor.
- Do not touch the sensor tape surface or the glass surface directly with your fingers.
- Clean up dirt on the glass with a cloth, etc.

Area	Measurement
A	7.3 mm (0.287 in.)
B	13.5 mm (0.531 in.)



2. INSTALL RAIN SENSOR

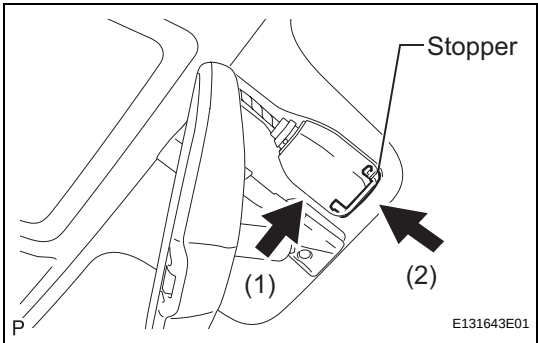
- (a) Connect the connector.

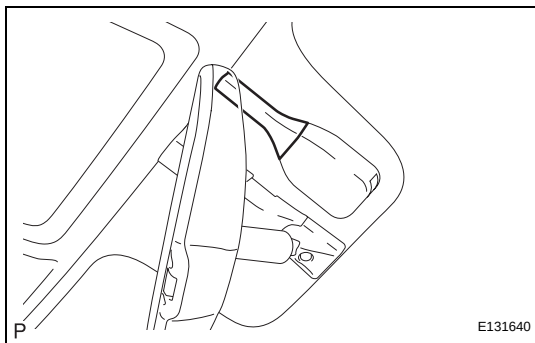


- (b) Gradually attach the rain sensor to the glass surface to prevent air bubbles from forming between them.
- (c) Push in the stopper.

NOTICE:

- Do not touch the sensor tape surface or the glass surface directly with your fingers.
- Clean up dirt on the glass with a cloth, etc.
- After installing the rain sensor, there should be no air bubbles between the windshield glass and the rain sensor tape.



**3. INSTALL RAIN SENSOR COVER**

- (a) Install the rain sensor cover.