09–19

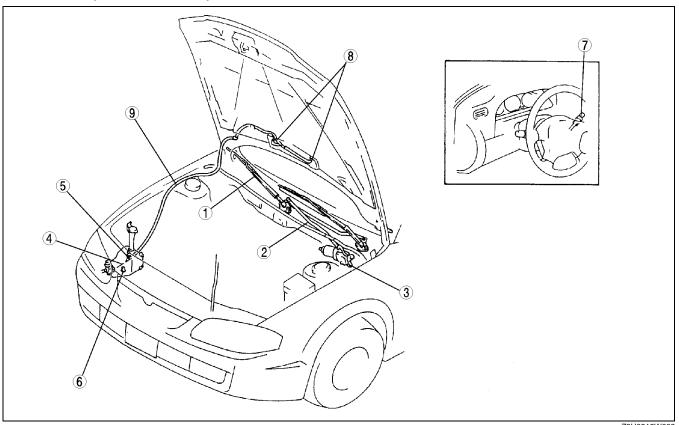
09-19 WIPER/WASHER SYSTEM

LOCATION INDEX 09–19–2	WINDSHIELD WASHER NOZZLE
Windshield Wiper and Washer System 09–19–2	ADJUSTMENT
Rear Wiper and Washer System 09–19–3	WINDSHIELD WASHER NOZZLE
WIPER/WASHER SYSTEMS	CLEANING
WIRING DIAGRAM 09–19–4	WINDSHIELD WASHER NOZZLE
WINDSHIELD WIPER ARM AND BLADE	REMOVAL
ADJUSTMENT	WINDSHIELD WASHER NOZZLE
WINDSHIELD WIPER ARM AND BLADE	INSTALLATION
REMOVAL/INSTALLATION 09-19-5	WINDSHIELD WASHER HOSE
Windshield Wiper Arm	REMOVAL/INSTALLATION09-19-11
Installation Note 09–19–5	REAR WIPER ARM AND BLADE
WINDSHIELD WIPER LINK	ADJUSTMENT09-19-12
REMOVAL/INSTALLATION 09-19-5	REAR WIPER ARM AND BLADE
WINDSHIELD WIPER MOTOR	REMOVAL/INSTALLATION09-19-12
REMOVAL/INSTALLATION 09-19-6	Rear Wiper Arm Installation Note 09–19–12
WINDSHIELD WIPER MOTOR	REAR WIPER MOTOR
INSPECTION	REMOVAL/INSTALLATION09-19-12
WASHER TANK	REAR WIPER MOTOR INSPECTION09-19-13
REMOVAL/INSTALLATION 09-19-7	REAR WASHER MOTOR
WINDSHIELD WASHER MOTOR	REMOVAL/INSTALLATION09-19-14
REMOVAL/INSTALLATION 09-19-7	REAR WASHER MOTOR INSPECTION . 09-19-14
WINDSHIELD WASHER MOTOR	REAR WASHER NOZZLE
INSPECTION	REMOVAL/INSTALLATION09-19-14
WASHER FLUID-LEVEL SENSOR	REAR WASHER NOZZLE
REMOVAL/INSTALLATION 09-19-8	ADJUSTMENT09–19–15
WASHER FLUID-LEVEL SENSOR	REAR WASHER NOZZLE CLEANING09-19-15
INSPECTION	REAR WASHER HOSE
WIPER AND WASHER SWITCH	REMOVAL/INSTALLATION09-19-15
REMOVAL/INSTALLATION 09-19-9	INTERMITTENT REAR WIPER RELAY
WIPER AND WASHER SWITCH	REMOVAL/INSTALLATION09-19-16
INSPECTION	INTERMITTENT REAR WIPER RELAY
Windshield Wiper and Washer 09–19–9	INSPECTION
Rear Wiper and Washer 09–19–10	Terminal Voltage Table (Reference)09–19–16

LOCATION INDEX

Windshield Wiper and Washer System





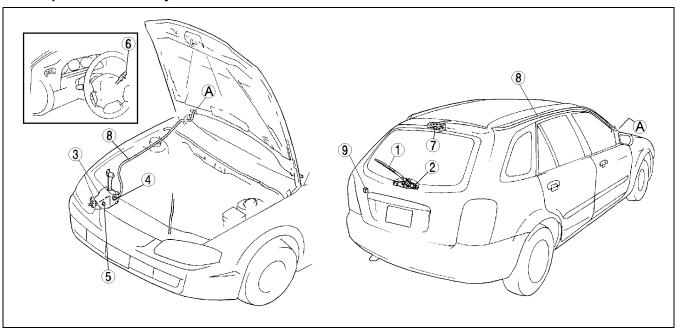
Z3U0919W003

1	Windshield wiper arm and blade (See 09–19–5 WINDSHIELD WIPER ARM AND BLADE ADJUSTMENT) (See 09–19–5 WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION)
2	Windshield wiper link (See 09–19–5 WINDSHIELD WIPER LINK REMOVAL/INSTALLATION)
3	Windshield wiper motor (See 09–19–6 WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION) (See 09–19–6 WINDSHIELD WIPER MOTOR INSPECTION)
4	Washer tank (See 09–19–7 WASHER TANK REMOVAL/ INSTALLATION)
5	Windshield washer motor (See 09–19–7 WINDSHIELD WASHER MOTOR REMOVAL/INSTALLATION) (See 09–19–8 WINDSHIELD WASHER MOTOR INSPECTION)

6	Washer fluid-level sensor (See 09–19–8 WASHER FLUID-LEVEL SENSOR REMOVAL/INSTALLATION) (See 09–19–8 WASHER FLUID-LEVEL SENSOR INSPECTION)
7	Wiper and washer switch (See 09–19–9 WIPER AND WASHER SWITCH REMOVAL/INSTALLATION) (See 09–19–9 WIPER AND WASHER SWITCH INSPECTION)
8	Windshield washer nozzle (See 09–19–10 WINDSHIELD WASHER NOZZLE ADJUSTMENT) (See 09–19–11 WINDSHIELD WASHER NOZZLE CLEANING) (See 09–19–11 WINDSHIELD WASHER NOZZLE REMOVAL) (See 09–19–11 WINDSHIELD WASHER NOZZLE INSTALLATION)
9	Windshield washer hose (See 09–19–11 WINDSHIELD WASHER HOSE REMOVAL/INSTALLATION)

09–19

Rear Wiper and Washer System

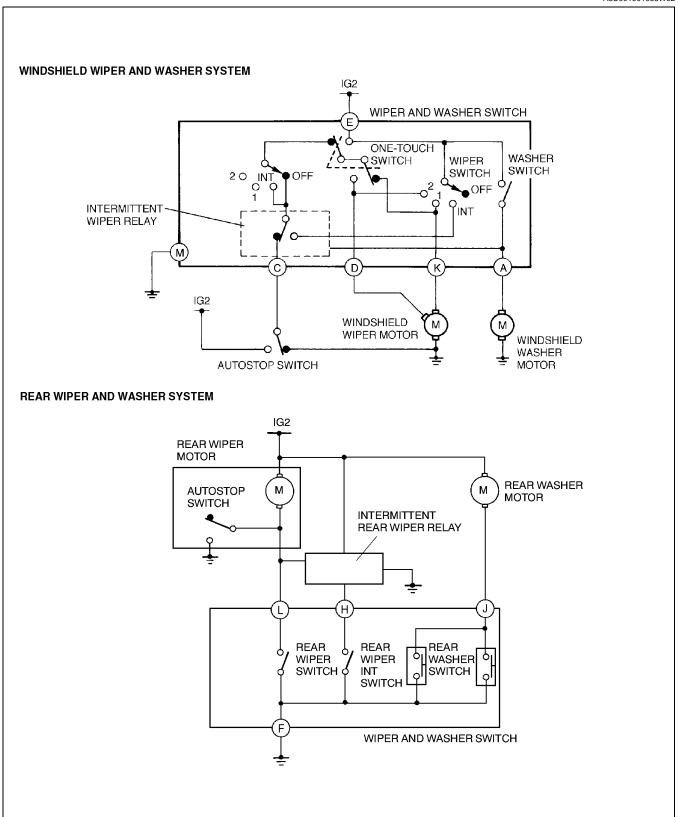


1	Rear wiper arm and blade (See 09–19–12 REAR WIPER ARM AND BLADE ADJUSTMENT) (See 09–19–12 REAR WIPER ARM AND BLADE REMOVAL/INSTALLATION)
2	Rear wiper motor (See 09–19–12 REAR WIPER MOTOR REMOVAL/ INSTALLATION) (See 09–19–13 REAR WIPER MOTOR INSPECTION)
3	Windshield washer tank (See 09–19–7 WASHER TANK REMOVAL/ INSTALLATION)
4	Rear washer motor (See 09–19–14 REAR WASHER MOTOR REMOVAL/INSTALLATION) (See 09–19–14 REAR WASHER MOTOR INSPECTION)
5	Washer fluid-level sensor (See 09–19–8 WASHER FLUID-LEVEL SENSOR REMOVAL/INSTALLATION) (See 09–19–8 WASHER FLUID-LEVEL SENSOR INSPECTION)

6	Wiper and washer switch (See 09–19–9 WIPER AND WASHER SWITCH REMOVAL/INSTALLATION) (See 09–19–9 WIPER AND WASHER SWITCH INSPECTION)
7	Rear washer nozzle (See 09–19–15 REAR WASHER NOZZLE ADJUSTMENT) (See 09–19–15 REAR WASHER NOZZLE CLEANING) (See 09–19–14 REAR WASHER NOZZLE REMOVAL/INSTALLATION)
8	Rear washer hose (See 09–19–15 REAR WASHER HOSE REMOVAL/ INSTALLATION)
9	Intermittent rear wiper relay (See 09–19–16 INTERMITTENT REAR WIPER RELAY REMOVAL/INSTALLATION) (See 09–19–16 INTERMITTENT REAR WIPER RELAY INSPECTION)

WIPER/WASHER SYSTEMS WIRING DIAGRAM

A3U091901063W02

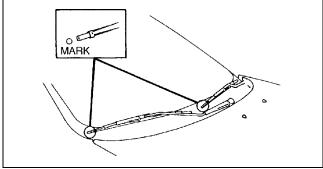


WINDSHIELD WIPER ARM AND BLADE ADJUSTMENT

1. Operate the windshield wiper motor to set the wipers in the park position.

2. Align the windshield wiper blades to the marks.

A3U091967320W01



X3U919WA4

WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION

1. Remove in the order indicated in the table.

1	Сар
2	Nut
3	Windshield wiper arm (See 09–19–5 Windshield Wiper Arm Installation Note)
4	Windshield wiper blade
5	Rubber brush

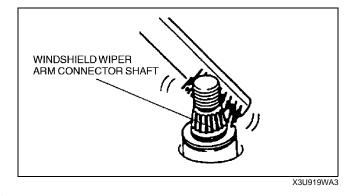
- 2. Install in the reverse order of removal.
- 3. Adjust the windshield wiper arm and blade. (See 09-19-5 WINDSHIELD WIPER ARM AND **BLADE ADJUSTMENT.)**

A3U091967320W02 16-19 {1.6-2.0, 12-14} N·m {kgf·m, ft·lbf}

X3U919WA2

Windshield Wiper Arm Installation Note

1. Clean the windshield wiper arm connector shafts using a wire brush before installing the windshield wiper arms.



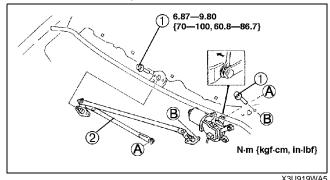
WINDSHIELD WIPER LINK REMOVAL/INSTALLATION

A3U091967360W01

- 1. Remove the windshield wiper arm and blade. (See 09–19–5 WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION.)
- 2. Remove the cowl grille. (See 09-16-1 COWL GRILLE REMOVAL/INSTALLATION.)
- 3. Pry off the connection between the windshield wiper motor and windshield wiper link.
- 4. Remove in the order indicated in the table.

1	Bolt
2	Windshield wiper link

- 5. Install in the reverse order of removal.
- 6. Adjust the windshield wiper arm and blade. (See 09-19-5 WINDSHIELD WIPER ARM AND **BLADE ADJUSTMENT.)**



X3U919WA5

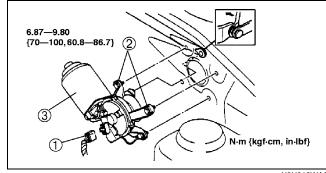
WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION

A3U091967340W01

- 1. Disconnect the negative battery cable.
- 2. Remove the windshield wiper arm and blade. (See 09–19–5 WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION.)
- 3. Remove the cowl grille. (See 09-16-1 COWL GRILLE REMOVAL/INSTALLATION.)
- 4. Pry off the connection between the windshield wiper motor and windshield wiper link.
- 5. Remove in the order indicated in the table.

1	Connector
2	Bolt
3	Windshield wiper motor

- 6. Install in the reverse order of removal.
- 7. Adjust the windshield wiper arm and blade. (See 09–19–5 WINDSHIELD WIPER ARM AND BLADE ADJUSTMENT.)



X3U919WA0

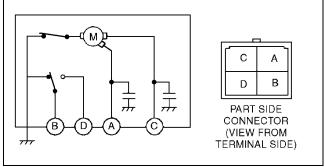
A3U091967340W02

WINDSHIELD WIPER MOTOR INSPECTION

- 1. Disconnect the windshield wiper motor connector.
- 2. Connect battery positive voltage and inspect the operation of the windshield wiper motor as indicated below.

Terminal	Operation
Α	High
С	Low

- 3. Disconnect battery positive voltage from terminal C of the motor while the wipers are operating.
- 4. Verify that the wipers do not stop in the park position.
- Short between terminal B and C of the motor and connect battery positive voltage to terminal D of the motor.

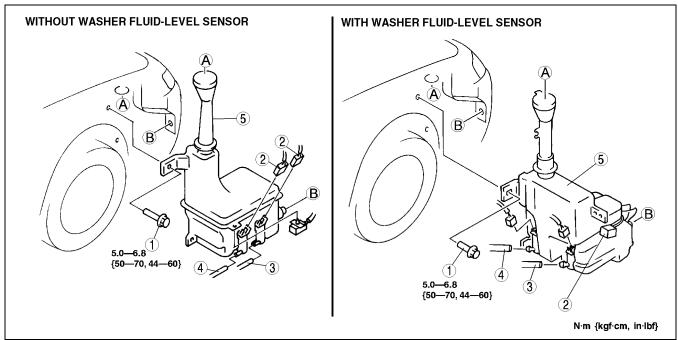


Z3U0919W001

- 6. Verify that the wipers operate at low speed again, then stop in the park position.
 - If not as specified, replace the windshield wiper motor.

A3U091967480W01

- 1. Disconnect the negative battery cable.
- 2. Partially peel off the right side mud guard.
- 3. Partially remove the right side front bumper (if equipped with washer fluid-level sensor). (See 09–10–5 FRONT BUMPÉR REMOVAL/INSTALLATION.)
- 4. Remove in the order indicated in the table.
- 5. Install in the reverse order of removal.



A3U0919W112

A3U091976670W01

1	Bolt
2	Connector
3	Windshield washer hose

4	Rear washer hose
5	Washer tank

WINDSHIELD WASHER MOTOR REMOVAL/INSTALLATION

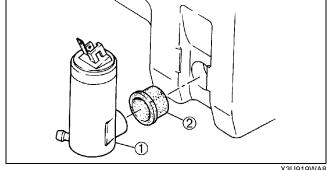
1. Disconnect the negative battery cable.

2. Remove the washer tank. (See 09-19-7 WASHER TANK REMOVAL/INSTALLATION.)

3. Remove in the order indicated in the table.

1	Windshield washer motor
2	Grommet

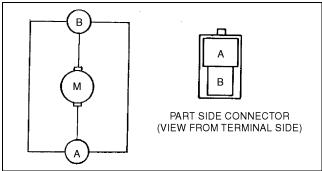
4. Install in the reverse order of removal.



X3U919WA8

WINDSHIELD WASHER MOTOR INSPECTION

- 1. Disconnect the negative battery cable.
- 2. Remove the washer tank. (See 09-19-7 WASHER TANK REMOVAL/INSTALLATION.)
- 3. Connect battery positive voltage to the terminal B and ground to the terminal A of the motor.
- 4. Verify that the windshield washer motor operates.
 - If the motor does not operate, replace the windshield washer motor.



Y3U919WA3

WASHER FLUID-LEVEL SENSOR REMOVAL/INSTALLATION

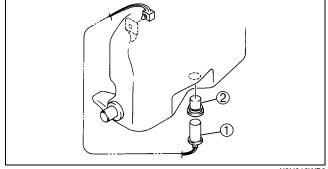
A3U091967488W01

A3U091976670W02

- 1. Disconnect the negative battery cable.
- 2. Remove the washer tank. (See 09-19-7 WASHER TANK REMOVAL/INSTALLATION.)
- 3. Remove in the order indicated in the table.

1	Washer fluid-level sensor
2	Grommet

4. Install in the reverse order of removal.



X3U919WB0

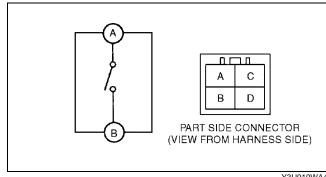
WASHER FLUID-LEVEL SENSOR INSPECTION

A3U091967488W02

- 1. Disconnect the negative battery cable.
- 2. Remove the washer tank. (See 09–19–7 WASHER TANK REMOVAL/INSTALLATION.)
- 3. Inspect for continuity between the washer fluid-level sensor terminals using an ohmmeter.
 - If not as specified, replace the washer fluid-level sensor.

	(CONTINUITY		
Fluid level	Terminal			
Fiuld level	Α	В		
Above Low				
Below Low	0	$\overline{}$		

X3U919WB1



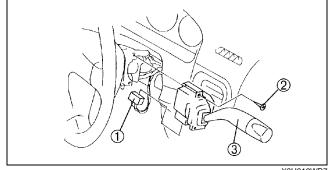
Y3U919WA4

WIPER AND WASHER SWITCH REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Remove the column cover. (See 09-17-5 COLUMN COVER REMOVAL/INSTALLATION.)
- 3. Remove in the order indicated in the table.

1	Connector
2	Screw
3	Wiper and washer switch

4. Install in the reverse order of removal.



X3U919WB7

A3U091966122W02

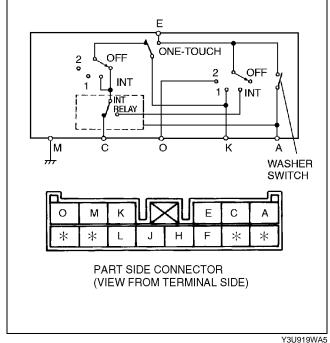
WIPER AND WASHER SWITCH INSPECTION

Windshield Wiper and Washer

- 1. Disconnect the negative battery cable.
- 2. Remove the wiper and washer switch. (See 09-19-9 WIPER AND WASHER SWITCH REMOVAL/ **INSTALLATION.)**
- 3. Inspect for continuity between the wiper and washer switch terminals using an ohmmeter.
 - If not as specified, replace the wiper and washer switch.

O—──○ : Continuity							
Switch position		One-	Terminal				
		touch	Α	С	E	K	0
	OFF	OFF		0		0	
		ON			0	-0	
Wiper switch	INT			0		0	
SWILCH	1				0	0	
	2				0		$\overline{}$
Washer on switch		N	0—		0		

X3U919WB8



Rear Wiper and Washer

Wiper INT

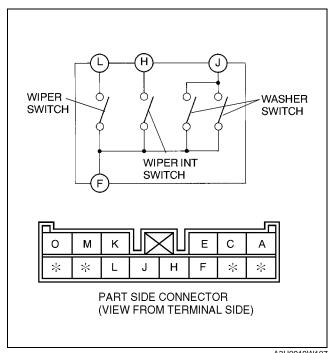
- 1. Disconnect the negative battery cable.
- 2. Remove the wiper and washer switch. (See 09-19-9 WIPER AND WASHER SWITCH REMOVAL/ INSTALLATION.)
- 3. Inspect for continuity between the wiper and washer switch terminals using an ohmmeter.
 - · If not as specified, replace the wiper and washer switch.

			⊃—○ : c	Continuity		
Switch position		Terminal				
Switch position	F	J	Н	L		
OFF						
Wiper	0					
Washer	0	-0				
Wiper and washer	0	0		-0		

 \bigcirc

A3U0919W017

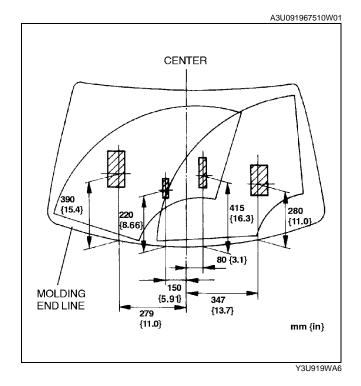
0



A3U0919W107

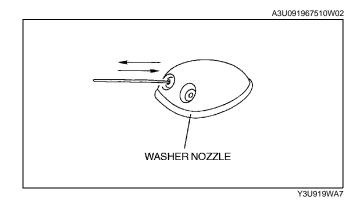
WINDSHIELD WASHER NOZZLE ADJUSTMENT

1. Insert a needle or equivalent tool into the spray hole of the windshield washer nozzle and adjust the nozzle direction as shown.



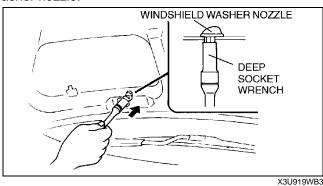
WINDSHIELD WASHER NOZZLE CLEANING

- 1. Clean the washer nozzle by inserting and moving a needle or similar tool back and forth.
 - If the nozzle becomes cloqued again after cleaning, remove the hose from washer nozzle. Make sure there is enough washer fluid. Then turn the washer switch on and flush the inside of the hose.



WINDSHIELD WASHER NOZZLE REMOVAL

- 1. Remove the bonnet insulator.
- 2. Disconnect the windshield washer hose to windshield washer nozzle.
- 3. Remove the windshield washer nozzle using a 10 mm {0.4 in} deep socket wrench from underneath the bonnet.



A3U091967510W04

A3U091967500W01

A3U091967510W03

WINDSHIELD WASHER NOZZLE INSTALLATION

1. Connect the windshield washer hose to windshield washer nozzle.

2. Push the windshield washer nozzle into the installation hole.

3. Adjust the windshield washer nozzle. (See 09-19-10 WINDSHIELD WASHER NOZZLE ADJUSTMENT.)

4. Install the bonnet insulator.

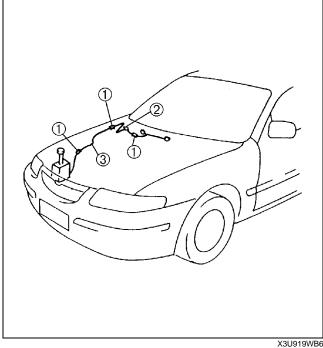
WINDSHIELD WASHER HOSE REMOVAL/INSTALLATION

1. Remove the bonnet insulator.

- 2. Partially peel off the right side mud guard.
- 3. Remove in the order indicated in the table.

1	Clip
2	Joint pipe
3	Windshield washer hose

4. Install in the reverse order of removal.

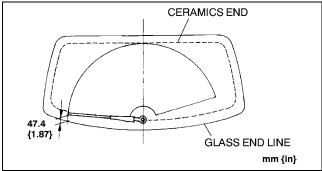


REAR WIPER ARM AND BLADE ADJUSTMENT

1. Operate the rear wiper motor to set the wiper in the park position.

2. Set the rear wiper arm height as shown.





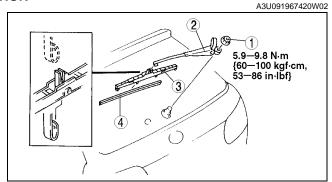
A3U0919W008

REAR WIPER ARM AND BLADE REMOVAL/INSTALLATION

1. Remove in the order indicated in the table.

1	Nut
2	Rear wiper arm (See 09–19–12 Rear Wiper Arm Installation Note)
3	Rear wiper blade
4	Rubber brush

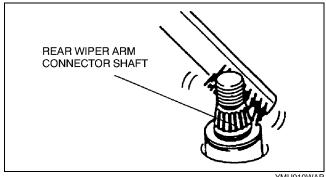
- 2. Install in the reverse order of removal.
- 3. Adjust the rear wiper arm and blade. (See 09-19-12 REAR WIPER ARM AND BLADE ADJUSTMENT.)



A3U0919W006

Rear Wiper Arm Installation Note

1. Clean the rear wiper arm connector shaft using a wire brush before installing the rear wiper arm.



YMU919WAR

A3U091967450W01

REAR WIPER MOTOR REMOVAL/INSTALLATION

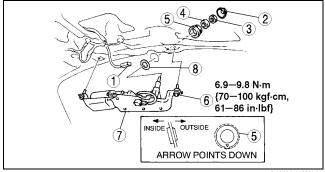
1. Disconnect the negative battery cable.

- 2. Remove the rear wiper arm and blade. (See 09-19-12 REAR WIPER ARM AND BLADE REMOVAL/ INSTALLATION.)
- 3. Remove the liftgate trim. (See 09-17-16 LIFTGATE TRIM REMOVAL/INSTALLATION.)
- 4. Remove in the order indicated in the table.

1	Connector
2	Seal cap
3	Nut
4	Washer
5	Outer bushing
6	Bolt
7	Rear wiper motor
8	Washer

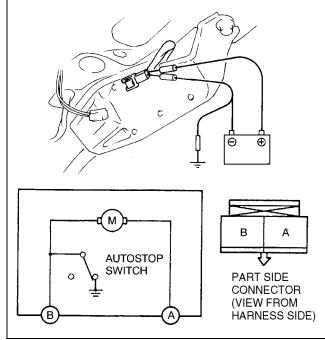
5. Install in the reverse order of removal.

6. Adjust the rear wiper arm and blade. (See 09-19-12 REAR WIPER ARM AND BLADE ADJUSTMENT.)



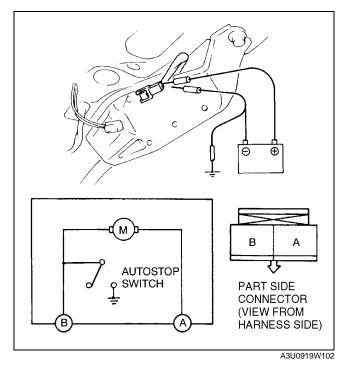
A3U091967450W02

- 1. Disconnect the negative battery cable.
- 2. Remove the liftgate trim. (Refer to 09-17-16 LIFTGATE TRIM REMOVAL/INSTALLATION.)
- 3. Disconnect the rear wiper motor connector.
- 4. Connect battery positive voltage to the rear wiper motor terminal A and the ground to a bare metal part of the vehicle and the rear wiper motor terminal B.
- 5. Verify that the rear wiper motor operates.



A3U0919W101

- 6. Disconnect the ground to the terminal B while the rear wiper is operating.
- 7. Verify that the rear wiper stops in the park position.
 - If not as specified, replace the rear wiper motor.



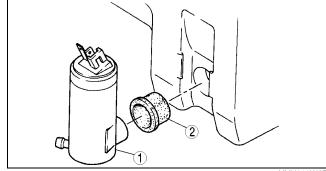
09-19-13

REAR WASHER MOTOR REMOVAL/INSTALLATION

- 1. Disconnect the negative battery cable.
- 2. Partially peel off the right side mud guard.
- 3. Remove the washer tank. (See 09-19-7 WASHER TANK REMOVAL/INSTALLATION.)
- 4. Remove in the order indicated in the table.

1	Rear washer motor
2	Grommet

5. Install in the reverse order of removal.



YMU919WAT

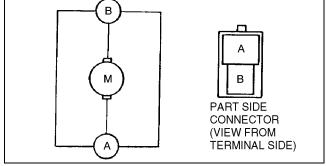
REAR WASHER MOTOR INSPECTION

1. Remove the washer tank. (See 09–19–7 WASHER TANK REMOVAL/INSTALLATION.)

A3U091976672W02

A3U091976672W01

- 2. Connect battery positive voltage to the terminal B and ground to the terminal A of the motor.
- 3. Verify that the rear washer motor operates.
 - If the motor does not operate, replace the rear washer motor.

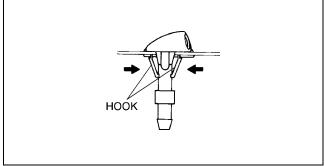


A3U0919W103

REAR WASHER NOZZLE REMOVAL/INSTALLATION

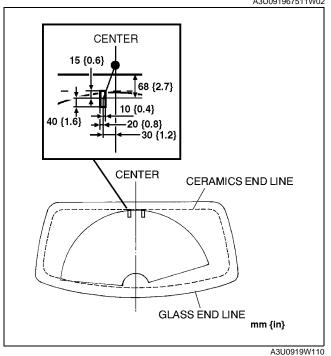
A3U091967511W01

- 1. Disconnect the negative battery cable.
- 2. Remove the rear spoiler. (See 09-16-8 REAR SPOILER REMOVAL/INSTALLATION.)
- 3. Remove the rear washer hose from the rear washer nozzle.
- 4. Compress the hooks of the rear washer nozzle.
- 5. Pull the rear washer nozzle out to remove it.
- 6. Install in the reverse order of removal.
- 7. Adjust the rear washer nozzle. (See 09–19–15 REAR WASHER NOZZLE ADJUSTMENT.)



REAR WASHER NOZZLE ADJUSTMENT

 Insert a needle or equivalent tool into the spray hole of the rear washer nozzle and adjust the nozzle direction as shown.



REAR WASHER NOZZLE CLEANING

1. Clean the rear washer nozzle. (See 09–19–11 WINDSHIELD WASHER NOZZLE CLEANING.)

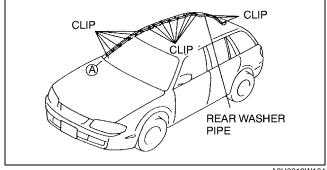
A3U091967511W03

A3U091967470W01

REAR WASHER HOSE REMOVAL/INSTALLATION

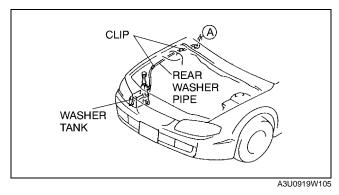
1. Disconnect the negative battery cable.

- 2. Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
- 3. Remove the rear washer hose from the clips.
- 4. Partially peel off the right side mud guard and remove the rear washer hose from the clip.



A3U0919W104

- Remove the rear washer hose from the washer tank.
- 6. Install in the reverse order of removal.



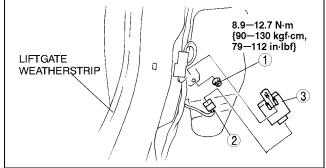
INTERMITTENT REAR WIPER RELAY REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.

- 2. Remove the left side trunk side trim. (See 09-17-15 TRUNK SIDE TRIM REMOVAL/INSTALLATION.)
- 3. Remove in the order indicated in the table.

1	Nut
2	Connector
3	Intermittent rear wiper relay

4. Install in the reverse order of removal.



A3U0919W111

A3U091966810W02

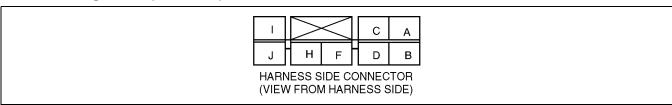
A3U091966810W01

INTERMITTENT REAR WIPER RELAY INSPECTION

1. Measure the voltage at the intermittent rear wiper relay terminals as indicated below.

- 2. Disconnect the intermittent rear wiper relay connector before inspecting for continuity at the terminal H.
 - If not as specified, inspect the parts listed under "Action".
 - If the parts and wiring harnesses are okay but the system still does not work properly, replace the intermittent rear wiper relay.

Terminal Voltage Table (Reference)



Terminal	Signal	Connected to	Test condition		Voltage (V)/ Continuity	Action
Α	_	_	_		_	_
В	IG2	R. WIP 10 A fuse	Ignition switch at	ON position	B+	Inspect R. WIP 10 A fuse
	102	IX. WIF TO A TUSE	Other		Below 1.0	 Inspect related harness
С	_	_	-	_	_	_
D	_	_	-	_	_	_
_	Rear wiper switch INT	Rear wiper switch	Ignition switch at ON position	Rear wiper switch at INT position	Below 1.0	 Inspect R. WIP 10 A fuse Inspect wiper and washer switch
F				Rear wiper switch at OFF position	B+	(See 09–19–9 WIPER AND WASHER SWITCH INSPECTION) • Inspect related harness
Н	GND	GND	Under any condition: inspect for continuity to ground		Yes	Inspect GND
ı	_	_	-	_	_	_
	Autostop			Rear wiper is operating (INT position)	Alternates below 1.0 and B+	 Inspect R. WIP 10 A fuse Inspect wiper and washer switch
J		J Autostop		Ignition switch at ON position	Other	B+