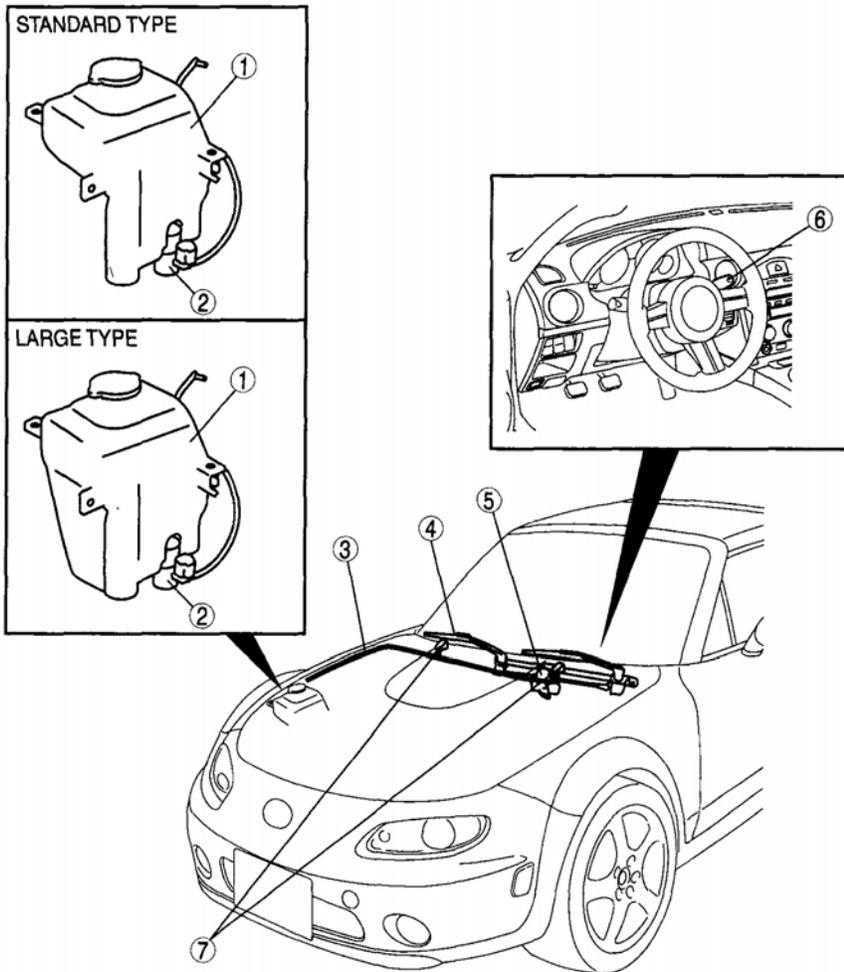


2007 ACCESSORIES & BODY, CAB

Wiper/Washer System - MX-5 Miata

WIPER/WASHER SYSTEM LOCATION INDEX



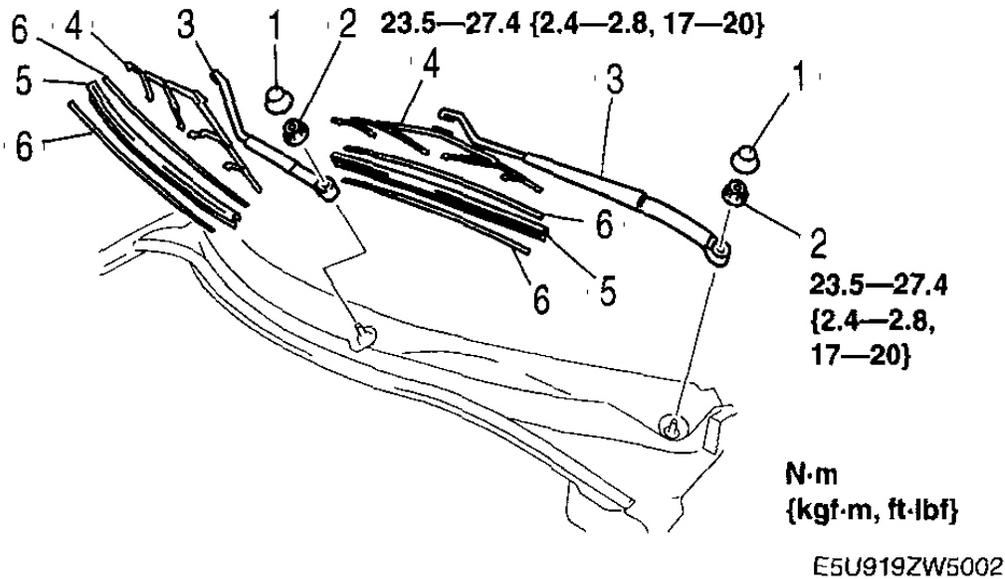
E5U919ZW5001

1	Washer tank
2	Washer motor
3	Washer hose
4	Wiper arm and blade
5	Wiper motor
6	Wiper and washer switch
7	Washer nozzle

Fig. 1: Identifying Location Of Wiper/Washer System Components
 Courtesy of MAZDA MOTORS CORP.

WIPER ARM AND BLADE REMOVAL/INSTALLATION

1. Remove in the order indicated in **Fig. 2**.



1	Cap
2	Nut
3	Wiper arm
4	Wiper blade
5	Rubber brush
6	Backing plate

Fig. 2: Removing/Installing Wiper Arm & Blade (With Torque Specifications)
 Courtesy of MAZDA MOTORS CORP.

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

WIPER ARM INSTALLATION NOTE

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

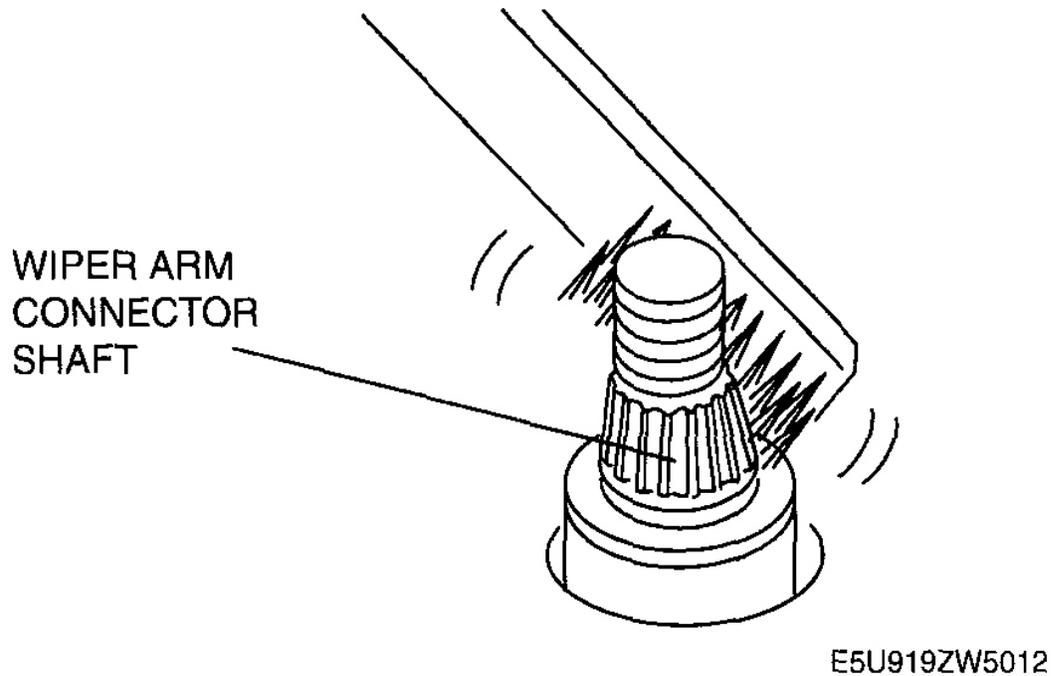


Fig. 3: Cleaning Wiper Arm Connector Shafts Using Wire Brush
Courtesy of MAZDA MOTORS CORP.

WIPER ARM AND BLADE ADJUSTMENT

1. Operate the wipers, and then turn off the wiper motor to set the wipers in the park position.
2. Slide the serrated connecting part and adjust the wiper arm and blade so that its end is aligned with the clear dot in the black ceramic coating on the inside of the windshield.

NOTE:

- If the hollowed mark in the ceramic coating cannot be located, measure the distance from the cowl grille end line, and adjust the wiper arm and blade.

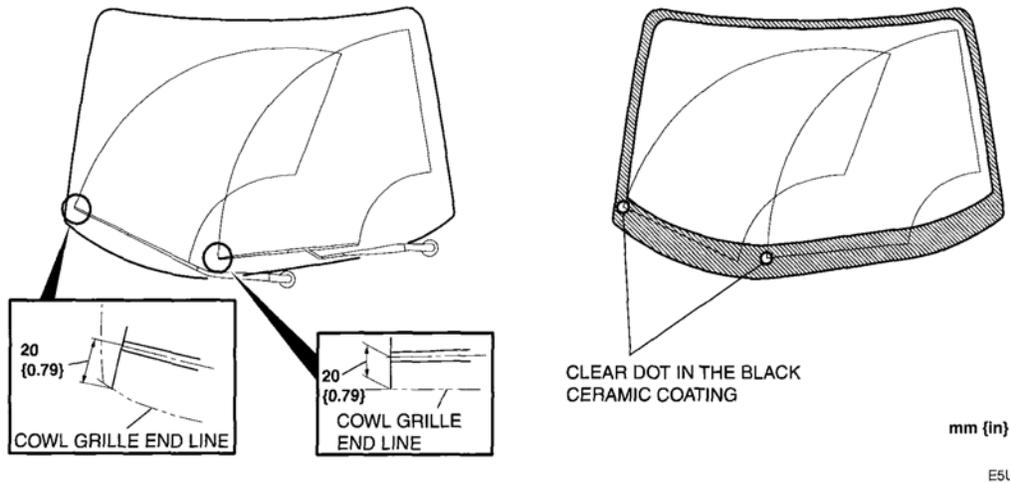
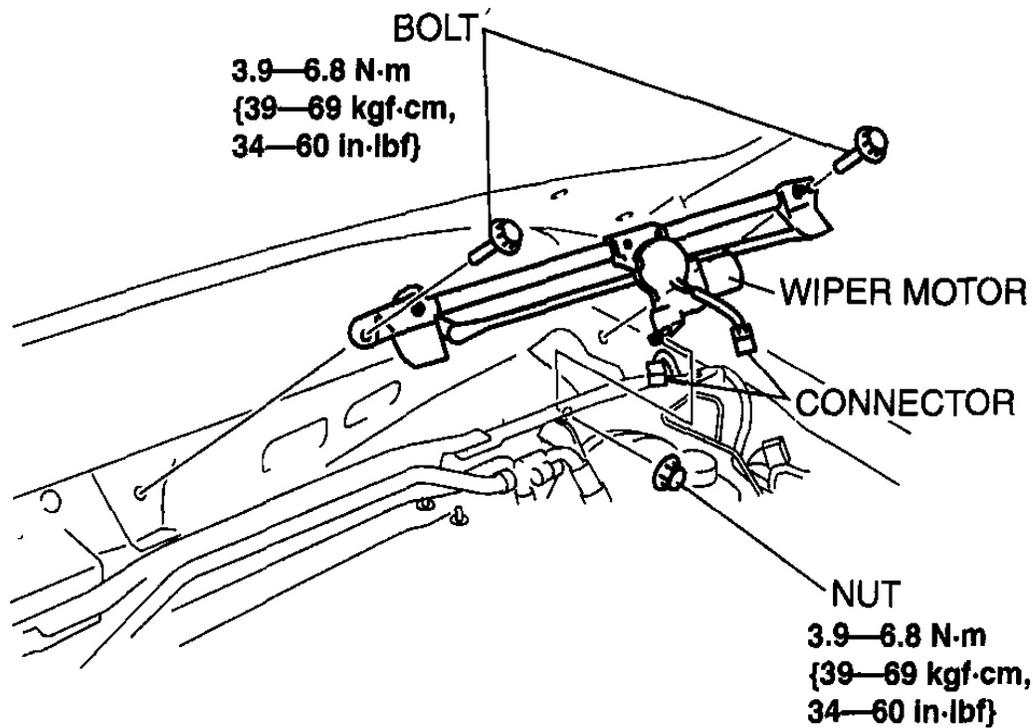


Fig. 4: Identifying Wiper Arm & Blade Slide Area
Courtesy of MAZDA MOTORS CORP.

WIPER MOTOR REMOVAL/INSTALLATION

1. Remove the battery cover.
2. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Remove the wiper arm and blade. (See **WIPER ARM AND BLADE REMOVAL/INSTALLATION** .)
4. Remove the cowl grille. (See **COWL GRILLE REMOVAL/INSTALLATION** .)
5. Disconnect the connector.
6. Remove the bolts.
7. Remove the nut.
8. Install in the reverse order of removal.



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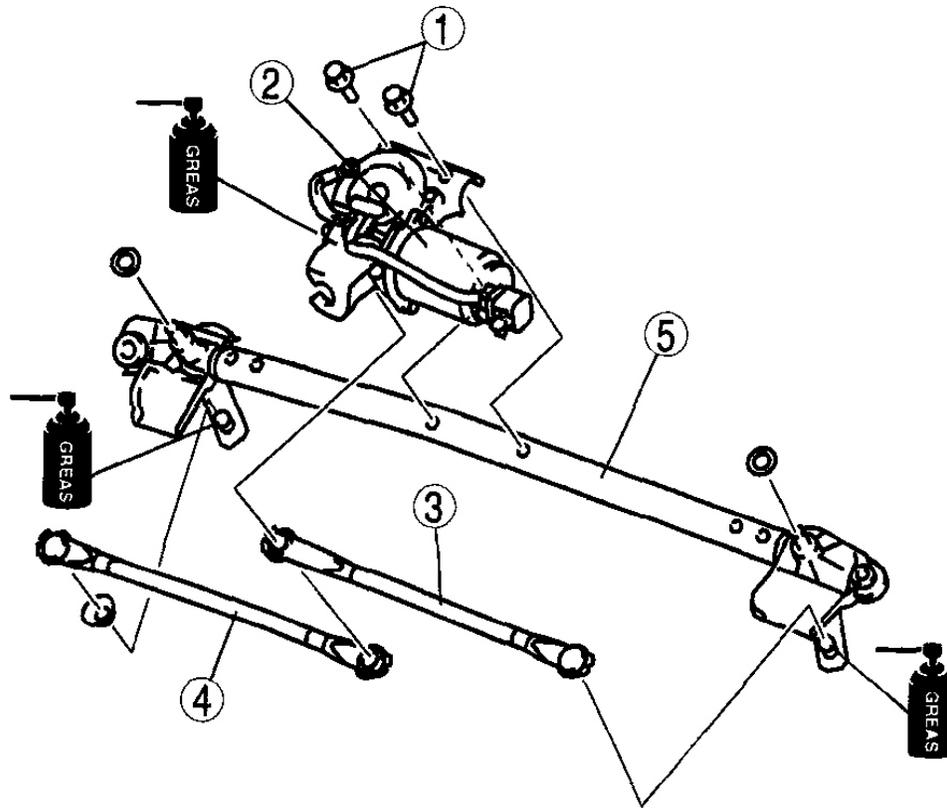
Fig. 5: Removing/Installing Wiper Motor (With Torque Specifications)
Courtesy of MAZDA MOTORS CORP.

WIPER MOTOR DISASSEMBLY/ASSEMBLY

1. Disassemble in the order indicated in **Fig. 6**.

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2007 ACCESSORIES & BODY, CAB Wiper/Washer System - MX-5 Miata



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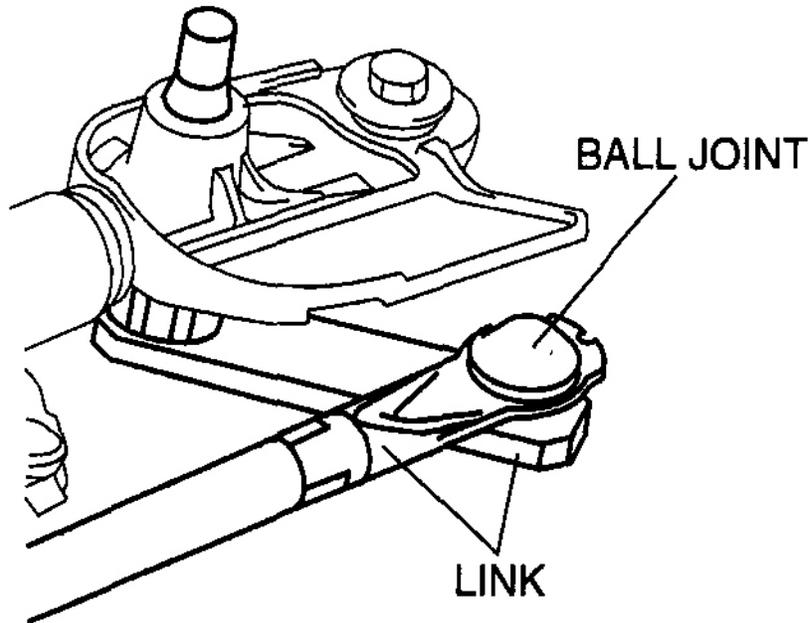
1	Bolt
2	Wiper motor
3	Wiper link No.1
4	Wiper link No.2
5	Main link

Fig. 6: Disassembling/Assembling Wiper Motor (With Torque Specifications)
Courtesy of MAZDA MOTORS CORP.

2. Assemble in the reverse order of disassembly.

BALL JOINT ASSEMBLY NOTE

1. Use a clean rag to protect the link, and squeeze using pliers.

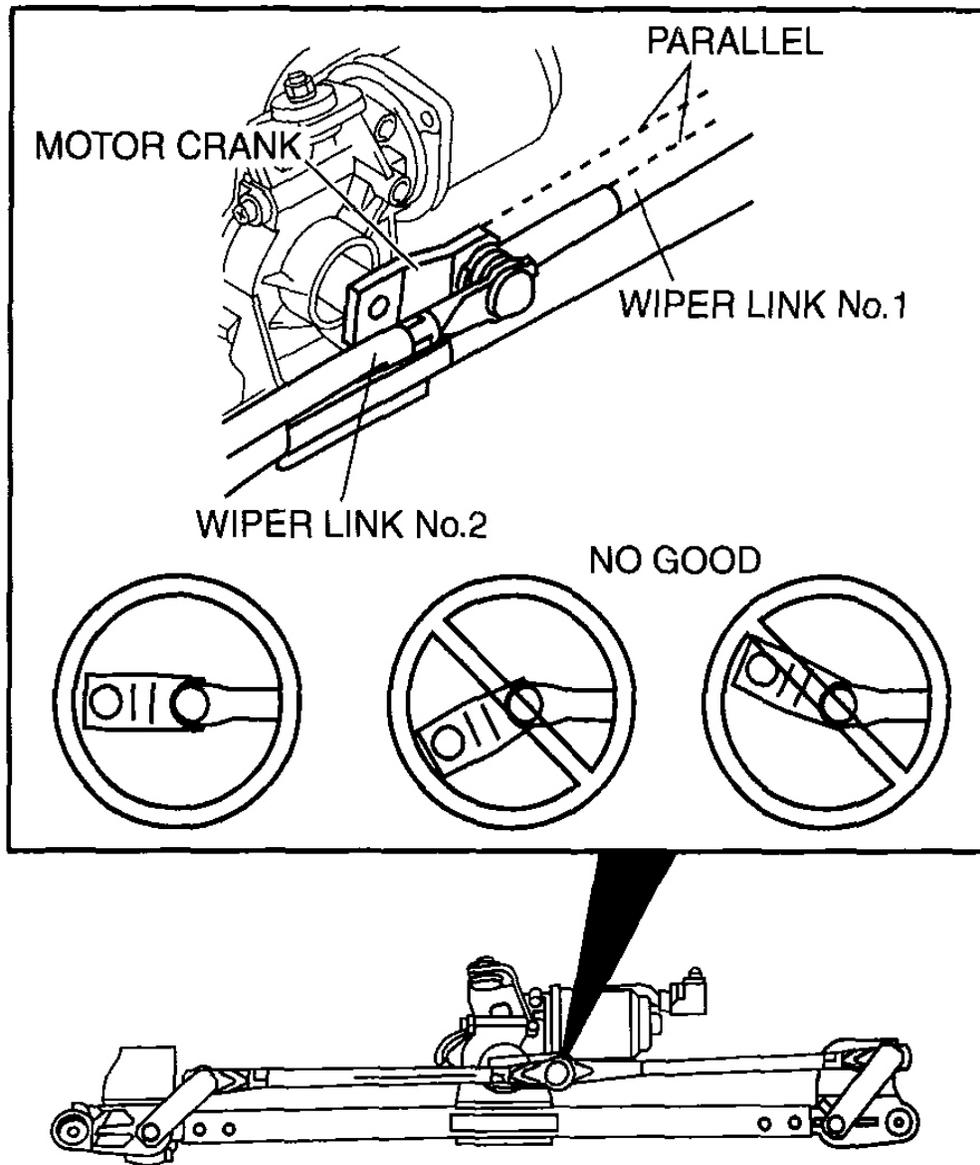


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Fig. 7: Identifying Ball Joint Assembly
Courtesy of MAZDA MOTORS CORP.

WIPER MOTOR ASSEMBLY NOTE

1. Connect the wiper motor to the vehicle wiring harness connector, operate the wipers, and then stop them at the auto-stop position.
2. Adjust the motor crank, wiper link No.1 and wiper link No.2 so that they are parallel as shown in **Fig. 8**.
3. Assemble the wiper motor.

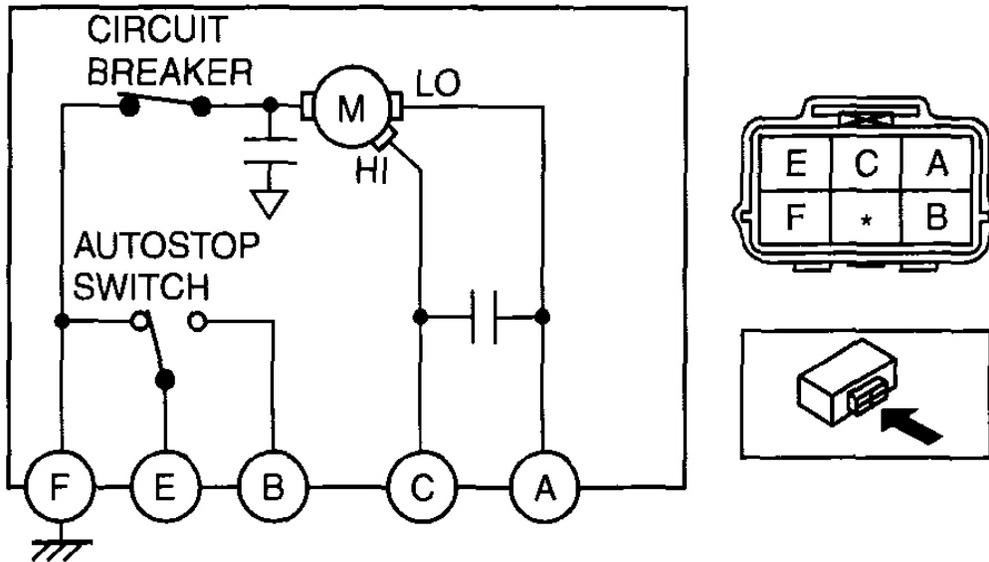


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Fig. 8: Identifying Proper Wiper Link Adjustment
Courtesy of MAZDA MOTORS CORP.

WIPER MOTOR INSPECTION

1. Disconnect the wiper motor connector.
2. Connect battery positive voltage to wiper motor terminal A or C, and ground to terminal F, then verify that the wipers operate as shown in **Fig. 9**.



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Fig. 9: Identifying Wiper Motor Circuit
 Courtesy of MAZDA MOTORS CORP.

- If the wipers do not operate as indicated in **Fig. 9**, replace the wiper motor.
3. Operate the wipers, disconnect battery positive voltage from terminal C, and then verify that the wipers stop.
 4. Connect wiper motor terminals E and A, and apply battery positive voltage to terminal B.
 5. Operate the wipers at low speed, and verify that they stop in the park position.
 - If there is any malfunction, replace the wiper motor.

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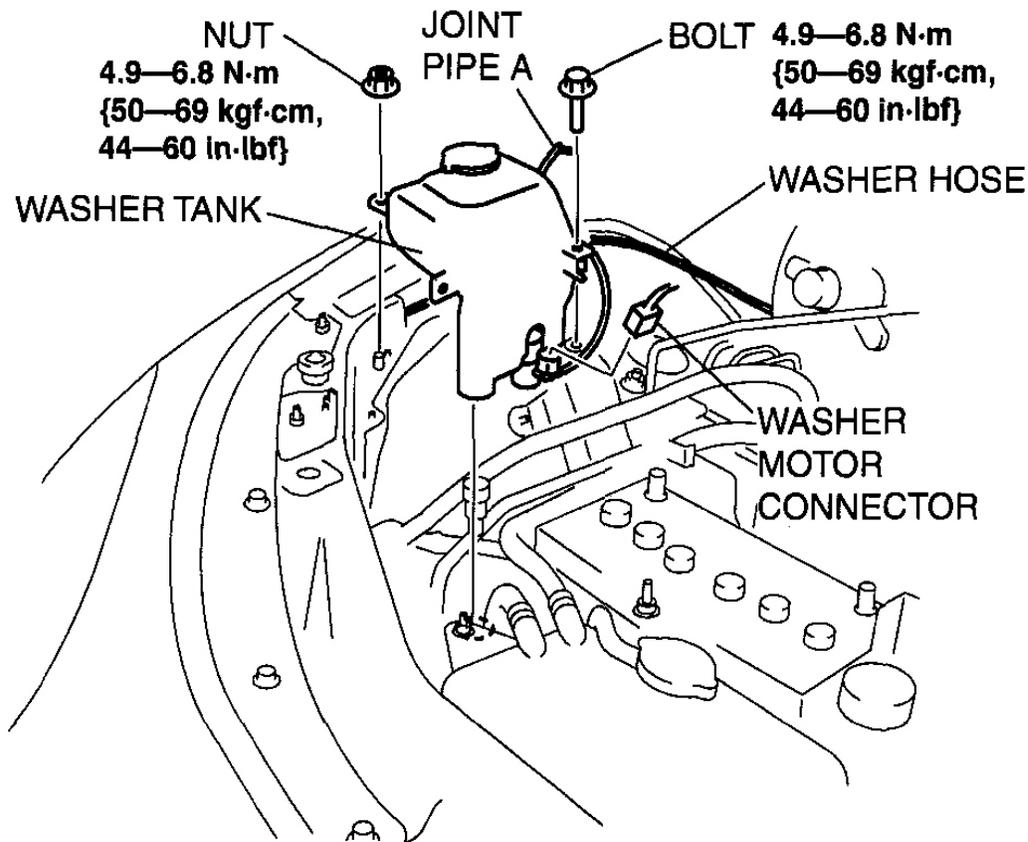
Terminal connected to battery positive voltage	Operation condition
C	HI
A	LO

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Fig. 10: Wiper Operation Condition Table
Courtesy of MAZDA MOTORS CORP.

WASHER TANK REMOVAL/INSTALLATION

1. Remove the battery cover.
2. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Disconnect the washer hose from joint pipe A.
4. Remove the bolt and nut, then remove the washer tank.
5. Disconnect the washer motor connector.
6. Install in the reverse order of removal.

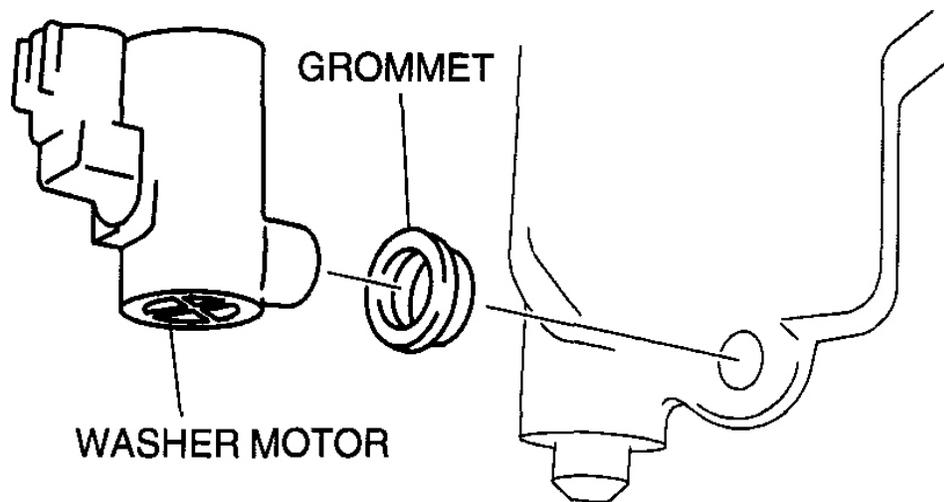


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Fig. 11: Washer Tank (With Torque Specifications)
Courtesy of MAZDA MOTORS CORP.

WASHER MOTOR REMOVAL/INSTALLATION

1. Remove the battery cover.
2. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Remove the washer tank. (See **WASHER TANK REMOVAL/INSTALLATION** .)
4. Remove the washer motor, then remove the grommet.
5. Install in the reverse order of removal.

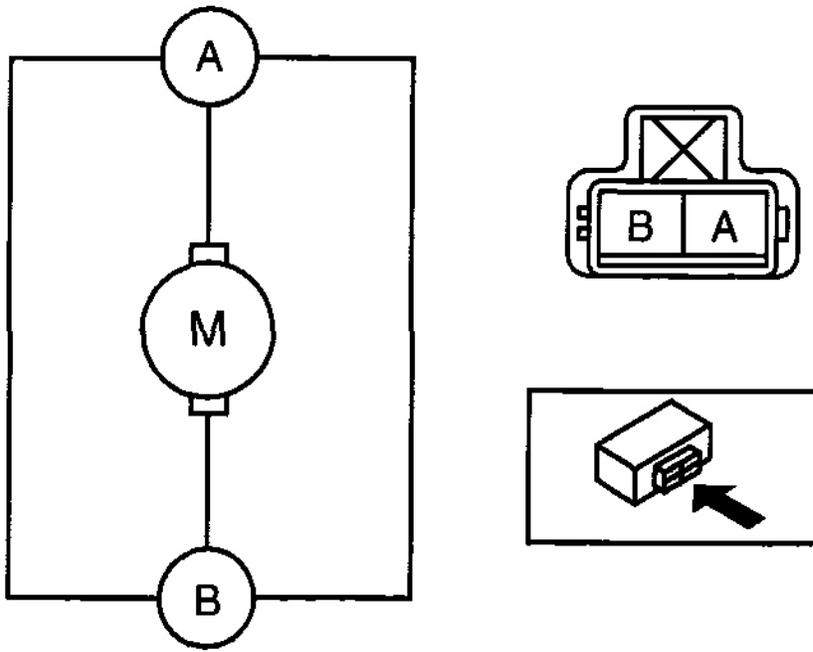


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Fig. 12: Washer Motor & Grommet
Courtesy of MAZDA MOTORS CORP.

WASHER MOTOR INSPECTION

1. Connect battery positive voltage to washer motor terminal A and terminal B to ground.
2. Verify that the washer motor operates normally.
 - If there is any malfunction, replace the washer motor.

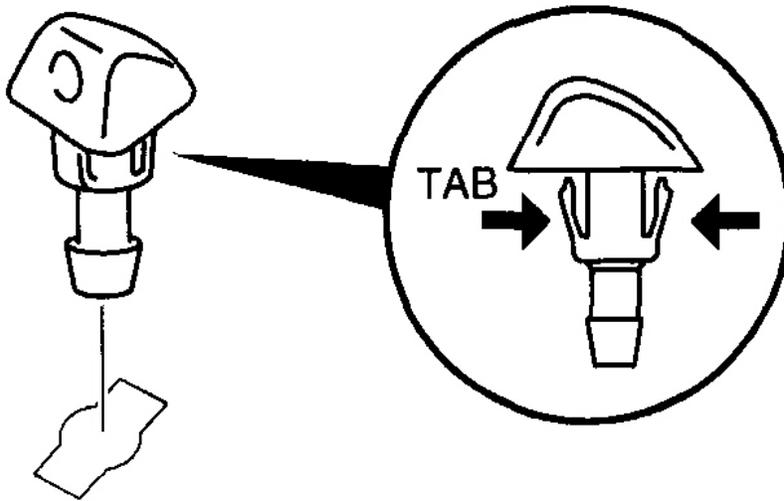


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Fig. 13: Identifying Washer Motor Connector
Courtesy of MAZDA MOTORS CORP.

WASHER NOZZLE REMOVAL/INSTALLATION

1. Remove the cowl grille. (See COWL GRILLE REMOVAL/INSTALLATION .)
2. Remove the washer hose from the washer nozzle.
3. Squeeze the tabs of the washer nozzle.
4. Pull the washer nozzle out to remove it.
5. Install in the reverse order of removal.

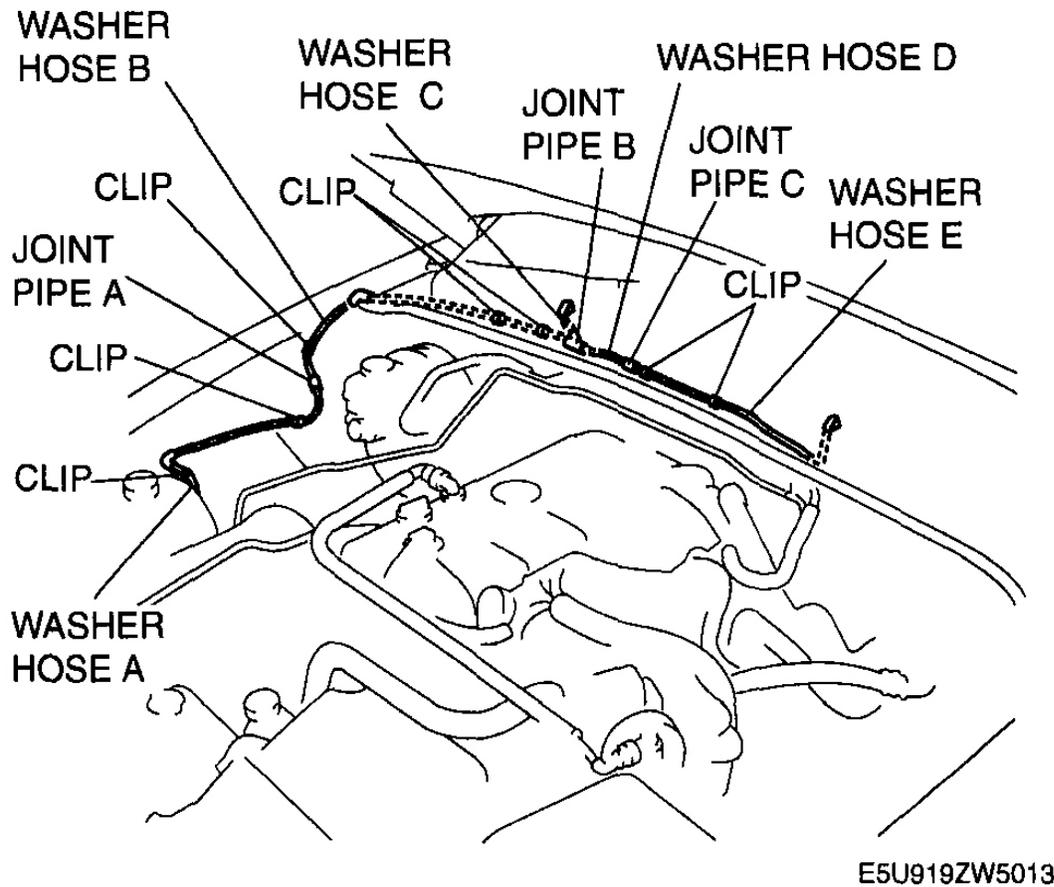


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Fig. 14: Removing/Installing Washer Nozzle
Courtesy of MAZDA MOTORS CORP.

WASHER HOSE REMOVAL/INSTALLATION

1. Remove the wiper arm and blade. (See WIPER ARM AND BLADE REMOVAL/INSTALLATION .)
2. Disconnect joint pipe A, then remove washer hose A from clip.
3. Remove the cowl grille. (See COWL GRILLE REMOVAL/INSTALLATION .)
4. Remove clip.
5. Disconnect joint pipe B, then remove washer hose A.
6. Disconnect washer hose B from the washer nozzle, then remove washer hose B.
7. Disconnect joint pipe C, then remove washer hose C.
8. Remove washer hose D from clips.
9. Disconnect washer hose D from the washer nozzle, then remove washer hose D.
10. Install in the reverse order of removal.

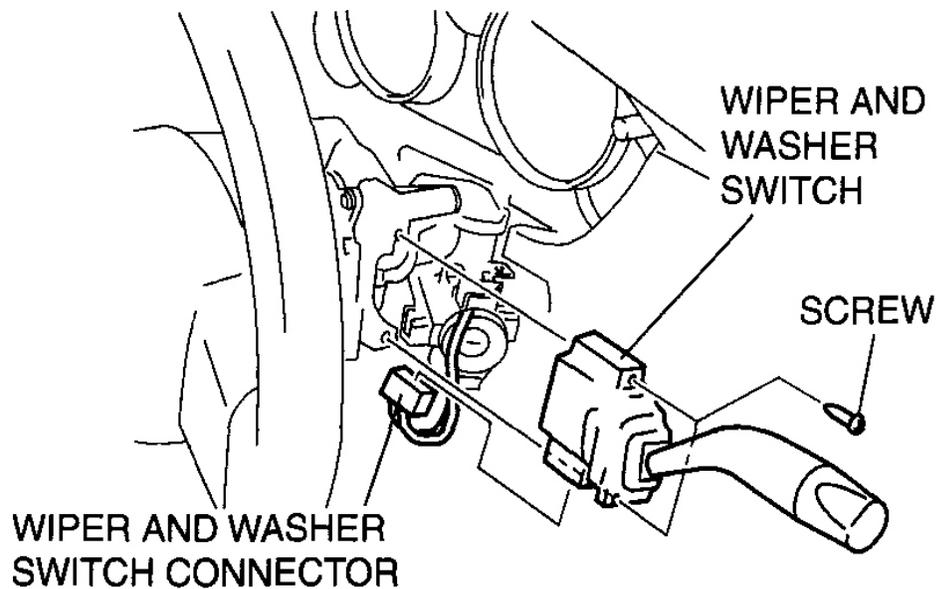


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Fig. 15: Removing/Installing Washer Hose
Courtesy of MAZDA MOTORS CORP.

WIPER AND WASHER SWITCH REMOVAL/INSTALLATION

1. Remove the battery cover.
2. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Remove the column cover. (See **COLUMN COVER REMOVAL/INSTALLATION** .)
4. Disconnect the wiper and washer switch connector.
5. Remove the screws, then remove the wiper and washer switch.
6. Install in the reverse order of removal.



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Fig. 16: Removing Wiper & Washer Switch
Courtesy of MAZDA MOTORS CORP.

WIPER AND WASHER SWITCH INSPECTION

1. Verify that the continuity between the wiper and washer switch is as indicated in **Fig. 17**.
 - If not as indicated in **Fig. 17**, replace the wiper and washer switch.

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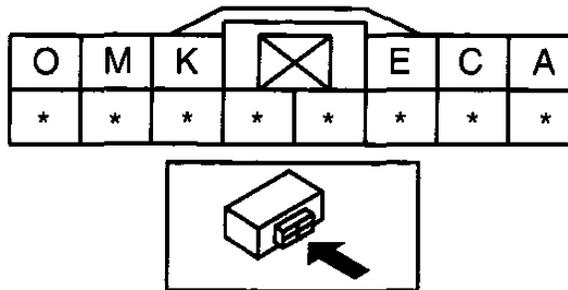
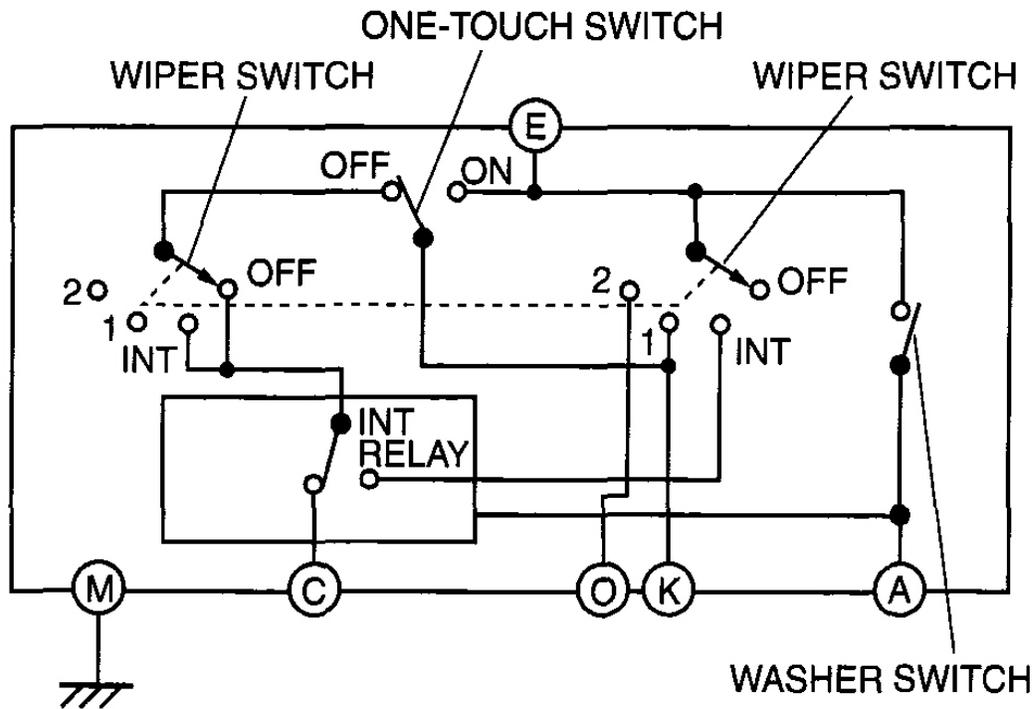
2007 ACCESSORIES & BODY, CAB Wiper/Washer System - MX-5 Miata

○—○ : Continuity

Switch position		One-touch switch	Terminal				
			A	C	E	K	O
Wind-shield wiper switch	OFF	OFF		○—○			
		ON			○—○		
	INT	-		○—○			
	1	-			○—○		
	2	-			○—○	○	
Wind-shield washer switch	ON		○—○				

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Fig. 17: Wiper/Washer Switch Continuity Table
 Courtesy of MAZDA MOTORS CORP.



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Fig. 18: Identifying Wiper & Washer Switch Circuit
 Courtesy of MAZDA MOTORS CORP.