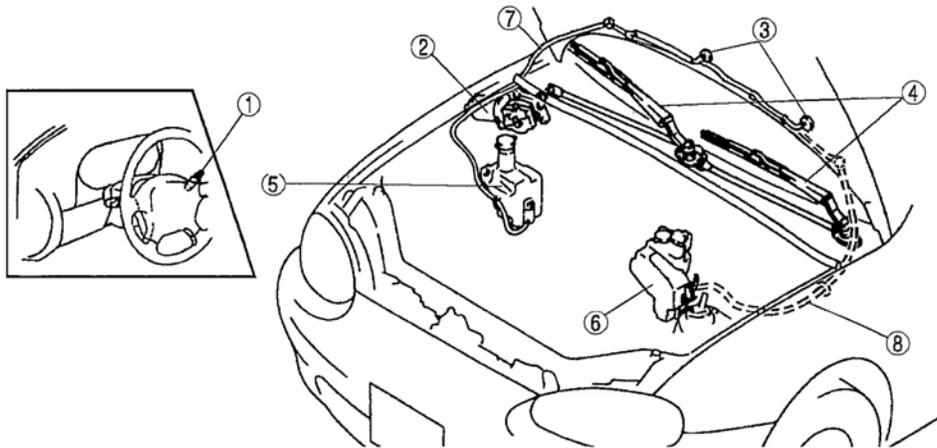


2005 ACCESSORIES & EQUIPMENT

Wiper / Washer System - MX-5 Miata

WIPER/WASHER SYSTEMS LOCATION INDEX



1	Windshield wiper and washer switch (See Windshield Wiper and Washer Switch)
2	Windshield wiper motor (See WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION) (See WINDSHIELD WIPER MOTOR INSPECTION)
3	Windshield washer nozzle (See WINDSHIELD WASHER NOZZLE ADJUSTMENT) (See WINDSHIELD WASHER NOZZLE CLEANING) (See WINDSHIELD WASHER NOZZLE REMOVAL) (See WINDSHIELD WASHER NOZZLE INSTALLATION)

4	Windshield wiper arm and blade (See WINDSHIELD WIPER ARM AND BLADE ADJUSTMENT) (See WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION)
5	Windshield washer tank (Except Canada: with ABS) (See WINDSHIELD WASHER TANK REMOVAL/INSTALLATION)
6	Windshield washer tank (Canada, except Canada: without ABS) (See WINDSHIELD WASHER TANK REMOVAL/INSTALLATION)
7	Windshield washer hose (Except Canada: with ABS) (See WINDSHIELD WASHER HOSE REMOVAL/INSTALLATION)
8	Windshield washer hose (Canada, except Canada: without ABS) (See WINDSHIELD WASHER HOSE REMOVAL/INSTALLATION)

G03638974

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

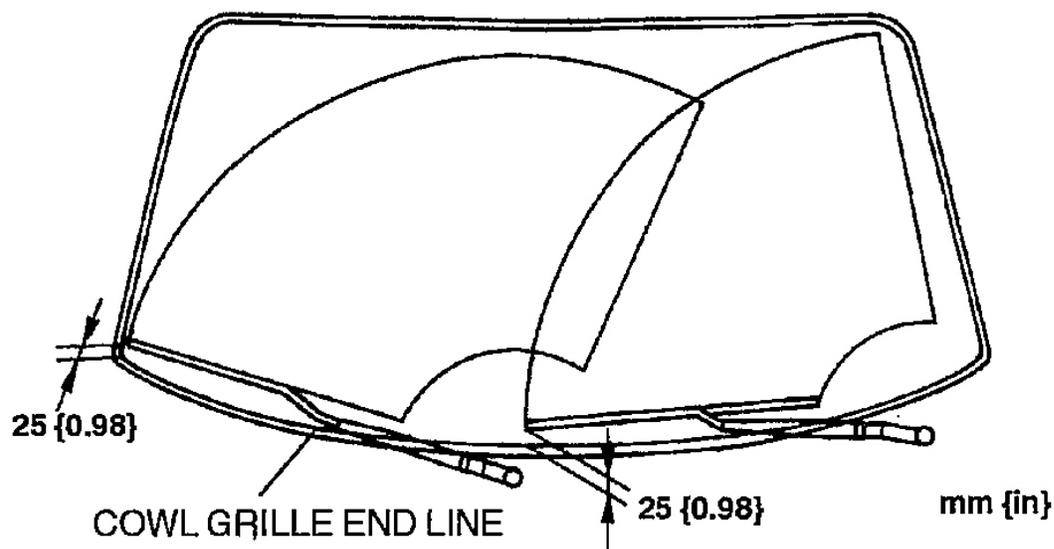
WIPER/WASHER SYSTEM WIRING DIAGRAM

See WIPER/WASHER.

WINDSHIELD WIPER ARM AND BLADE ADJUSTMENT

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

2. Set the windshield wiper arm height as shown.

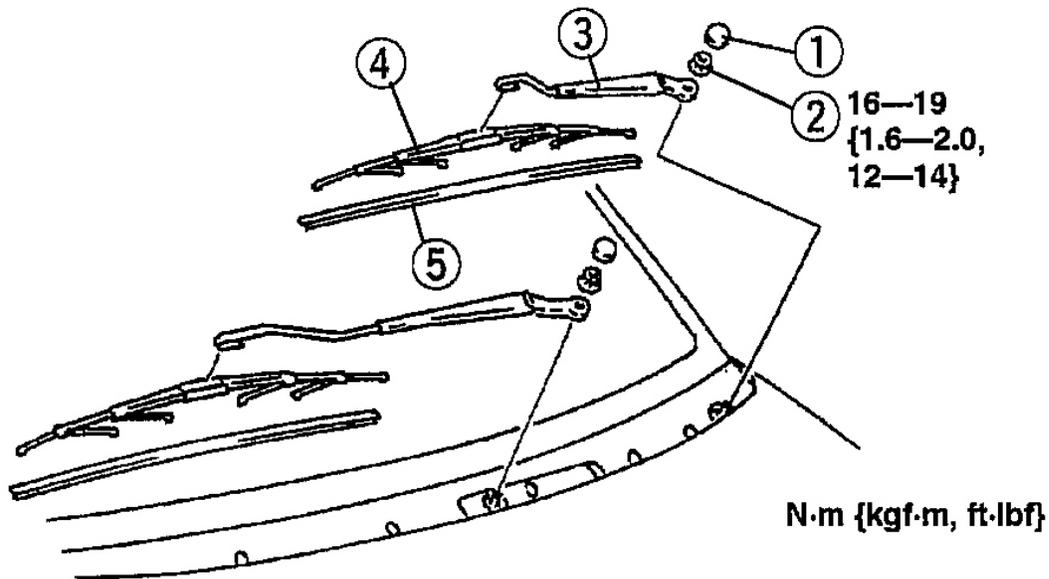


G03638976

Fig. 2: Identifying Windshield Wiper Arm Height
Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION

1. Remove in the order indicated in the table.



1	Cap
2	Nut
3	Windshield wiper arm (See Windshield Wiper Arm Installation Note)
4	Windshield wiper blade
5	Rubber brush

G03638977

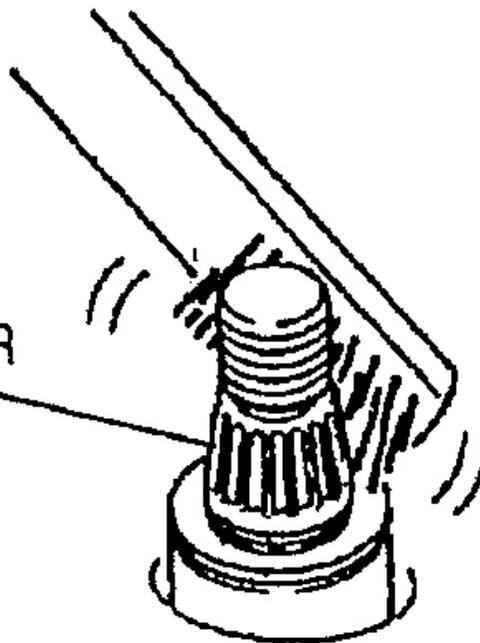
Fig. 3: Removing Windshield Wiper Arm And Blade
 Courtesy of MAZDA MOTORS CORP.

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

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
ARM CONNECTOR
SHAFT

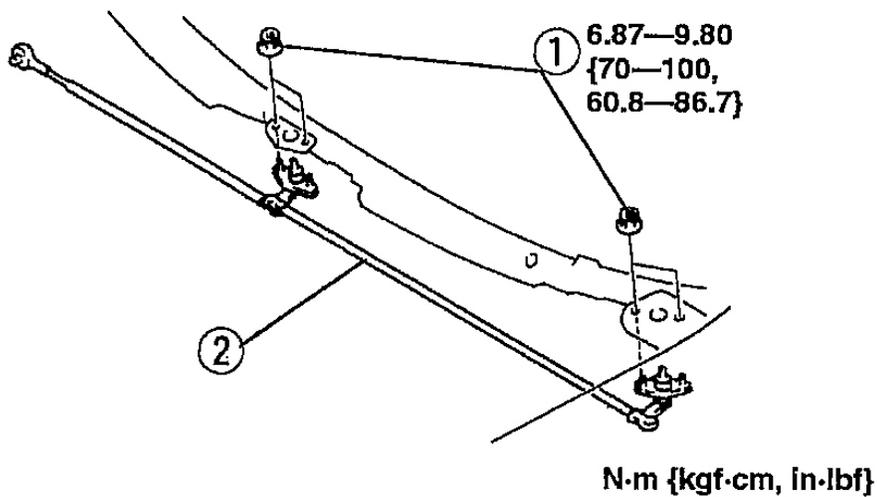


G03638978

Fig. 4: Cleaning Windshield Wiper Arm Connector Shafts
Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WIPER LINK REMOVAL/INSTALLATION

1. Remove the windshield wiper arm and blade. (See WINDSHIELD WIPER ARM INSTALLATION NOTE.)
2. Remove the cowl grille.
3. Pry off the connection between the windshield wiper motor and the windshield wiper link.
4. Remove in the order indicated in the table.



1	Nut
2	Windshield wiper link

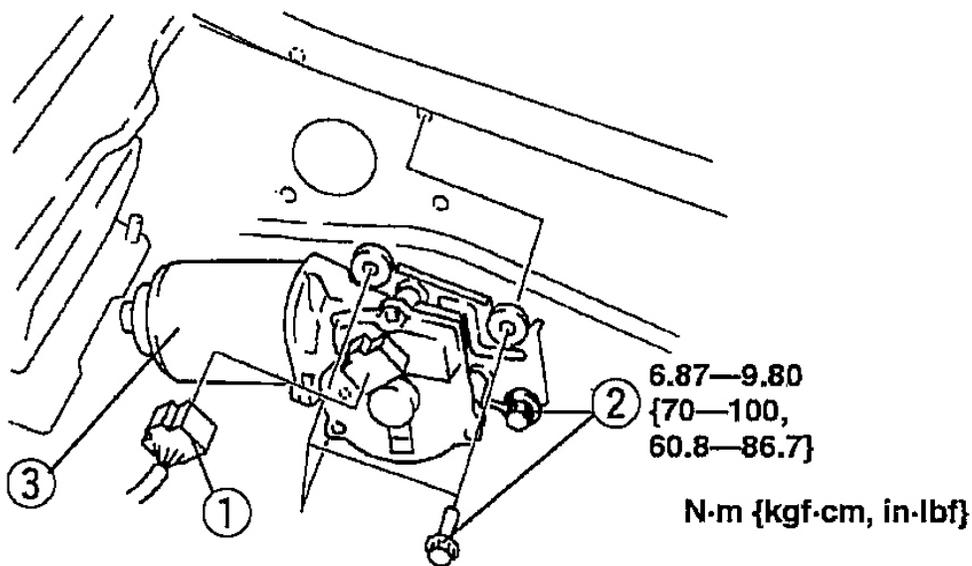
G03638979

Fig. 5: Removing Windshield Wiper Link
 Courtesy of MAZDA MOTORS CORP.

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

WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Pry off the connection between the windshield wiper motor and windshield wiper link.
3. Remove in the order indicated in the table.



1	Connector
2	Bolt
3	Windshield wiper motor (See Windshield Wiper Motor Removal Note)

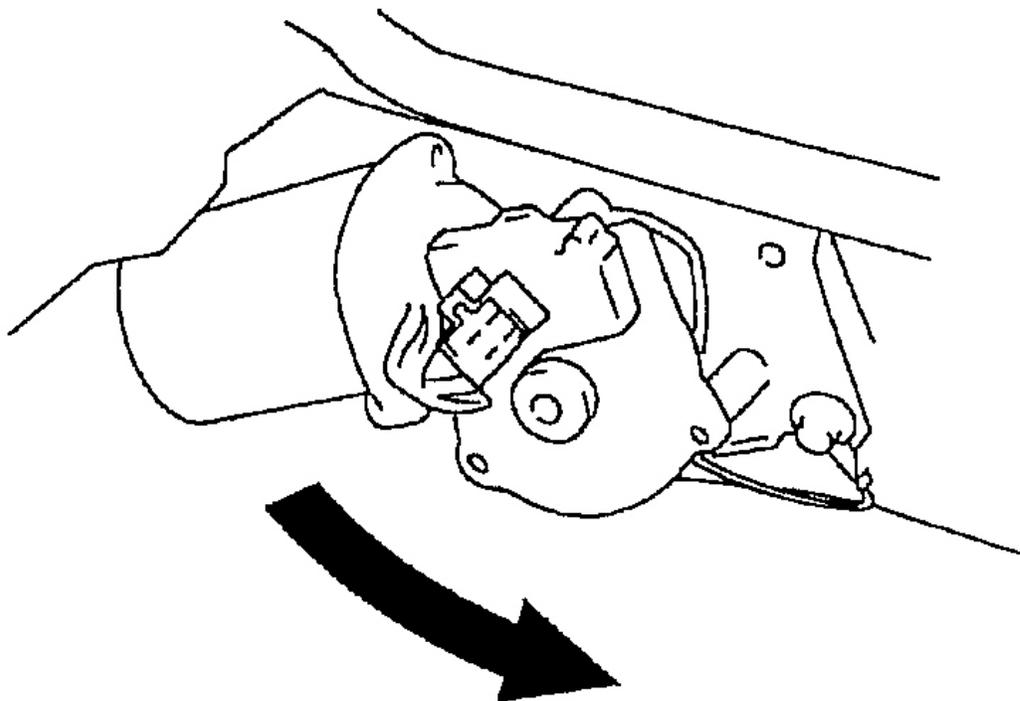
G03638980

Fig. 6: Removing Windshield Wiper Motor - With Torque Specifications
Courtesy of MAZDA MOTORS CORP.

4. Install in the reverse order of removal.

WINDSHIELD WIPER MOTOR REMOVAL NOTE

1. Rotate the windshield wiper motor counterclockwise and then remove it.



G03638981

Fig. 7: Rotating Windshield Wiper Motor
 Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WIPER MOTOR INSPECTION

1. Disconnect the windshield wiper motor connector.
2. Apply B+ and inspect the operation of the windshield wiper motor as indicated below.

Terminal	Operation
A	High
C	Low

3. Connect the windshield wiper motor connector.
4. Turn the ignition switch to the ON position and turn the windshield wiper switch on.
5. Turn the ignition switch to the LOCK position while the windshield wipers are operating.
6. Verify that the windshield wipers do not stop in the park position.
7. Disconnect the windshield wiper motor connector.

8. Inspect for continuity between the windshield wiper motor terminals using an ohmmeter.

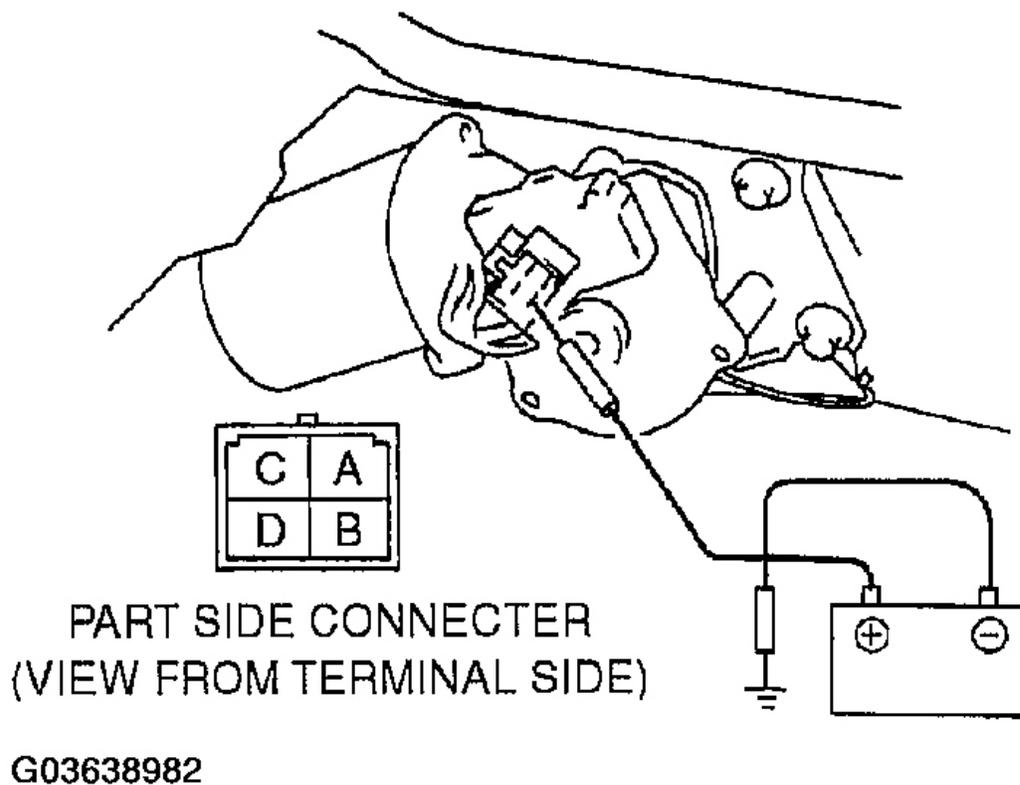


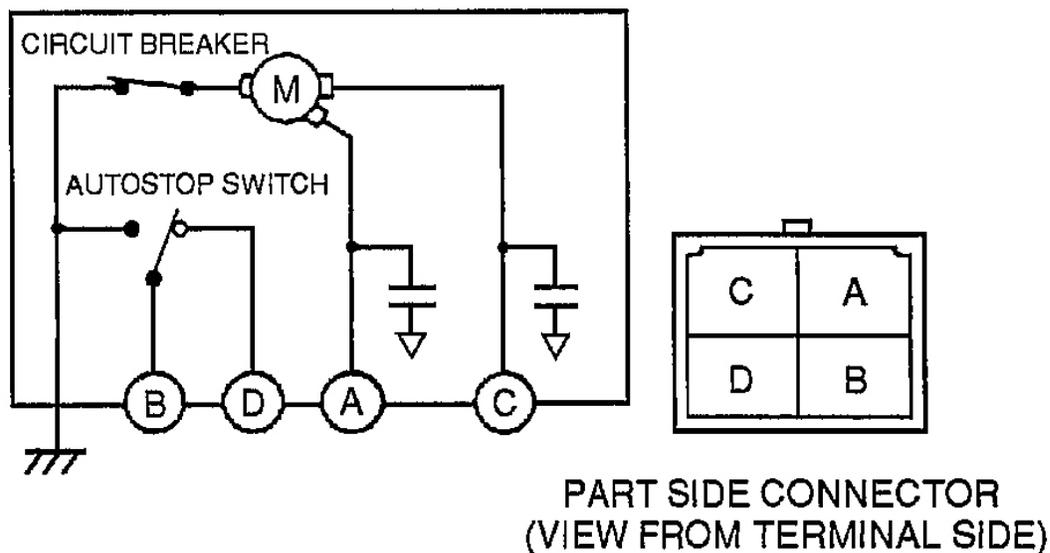
Fig. 8: Inspecting For Continuity Between Windshield Wiper Motor Terminals Using An Ohmmeter
Courtesy of MAZDA MOTORS CORP.

○—○ : Continuity

Windshield wiper motor position	Terminal				
	C	A	B	D	Body GND
Except park position	○—○	○—○	○—○	○—○	○—○

G03638983

Fig. 9: Windshield Wiper Motor Terminal Connector Continuity
 Courtesy of MAZDA MOTORS CORP.



G03638984

Fig. 10: Inspecting For Continuity Between Windshield Wiper Motor Connector Terminals
 Courtesy of MAZDA MOTORS CORP.

9. Connect the windshield wiper motor connector.
10. Turn the ignition switch to the ON position and turn the windshield wiper switch on.

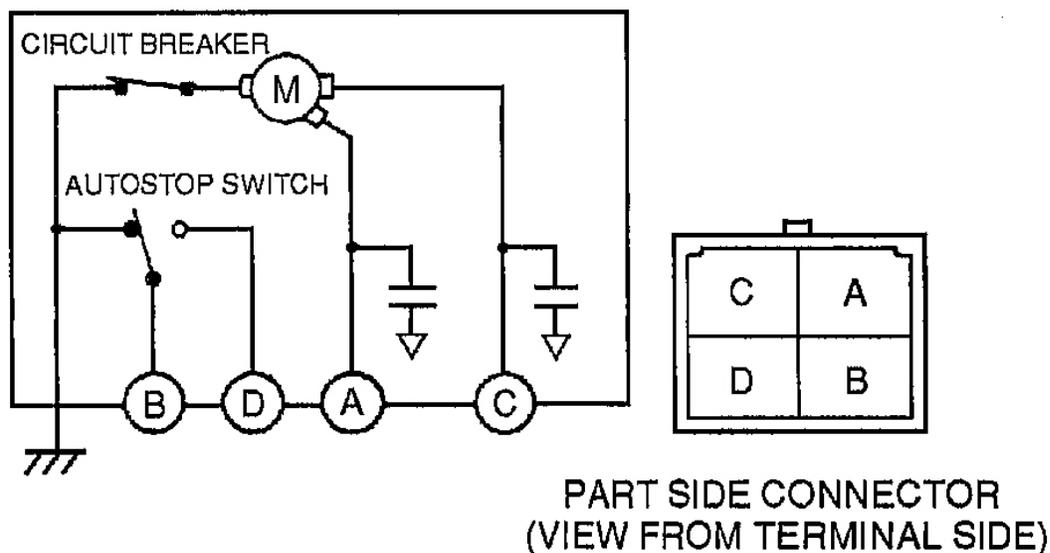
11. Turn the windshield wiper switch off while the windshield wipers are operating.
12. Verify that the windshield wipers stop in the park position.
13. Disconnect the windshield wiper motor connector.
14. Inspect for continuity between the windshield wiper motor terminals using an ohmmeter.
 - If not as specified, replace the windshield wiper motor.

○—○ : Continuity

Windshield wiper motor position	Terminal			
	A	B	C	Body GND
Park position	○—○	○—○	○—○	○—○

G03638985

Fig. 11: Windshield Wiper Motor Position Terminal Connector Continuity
 Courtesy of MAZDA MOTORS CORP.



G03638986

Fig. 12: Inspecting For Continuity Between Windshield Wiper Motor Terminals Using An

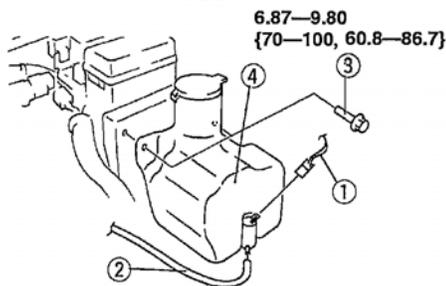
Ohmmeter

Courtesy of MAZDA MOTORS CORP.

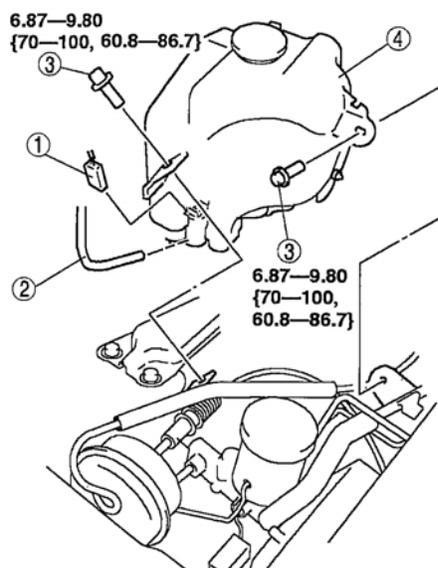
WINDSHIELD WASHER TANK REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Remove in the order indicated in the table.

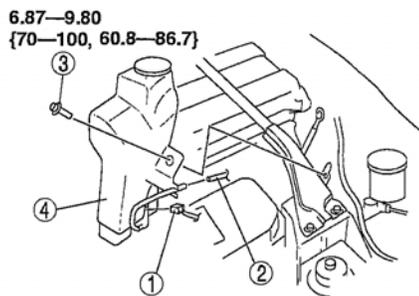
EXCEPT CANADA: WITH ABS



CANADA



EXCEPT CANADA: WITHOUT ABS



N-m {kgf-cm, in-lbf}

1	Connector
2	Windshield washer hose
3	Bolt
4	Windshield washer tank

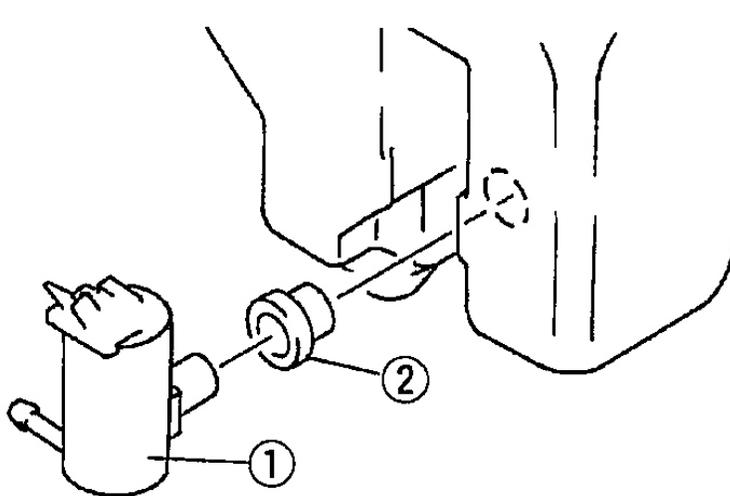
G03638987

Fig. 13: Removing Windshield Washer Tank - With Torque Specifications
 Courtesy of MAZDA MOTORS CORP.

3. Install in the reverse order of removal.

WINDSHIELD WASHER MOTOR REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Remove the windshield washer tank.
3. Remove in the order indicated in the table.



1	Windshield washer motor
2	Grommet

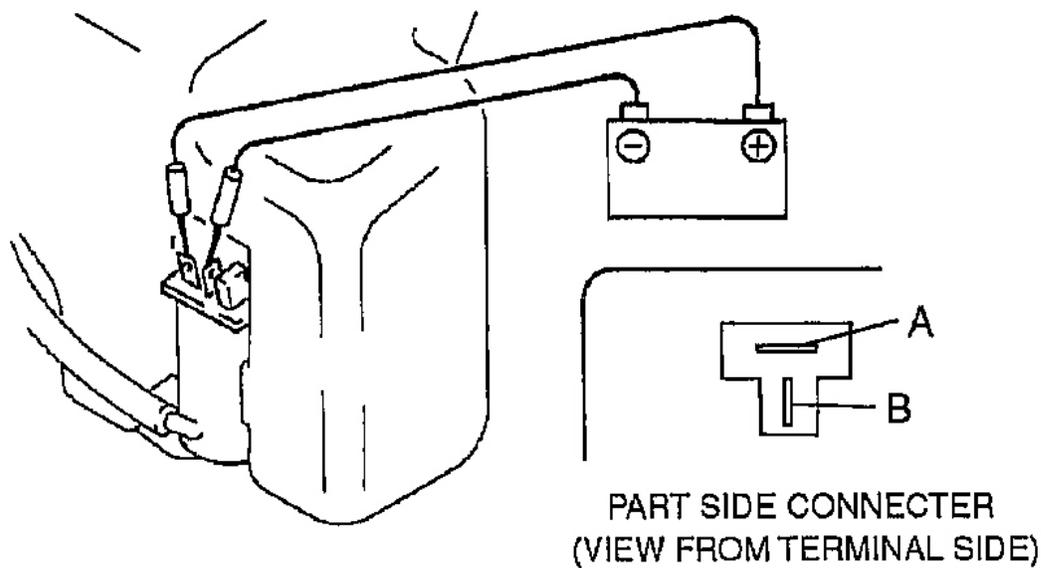
G03638988

Fig. 14: Removing Windshield Washer Tank
Courtesy of MAZDA MOTORS CORP.

4. Install in the reverse order of removal.

WINDSHIELD WASHER MOTOR INSPECTION

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

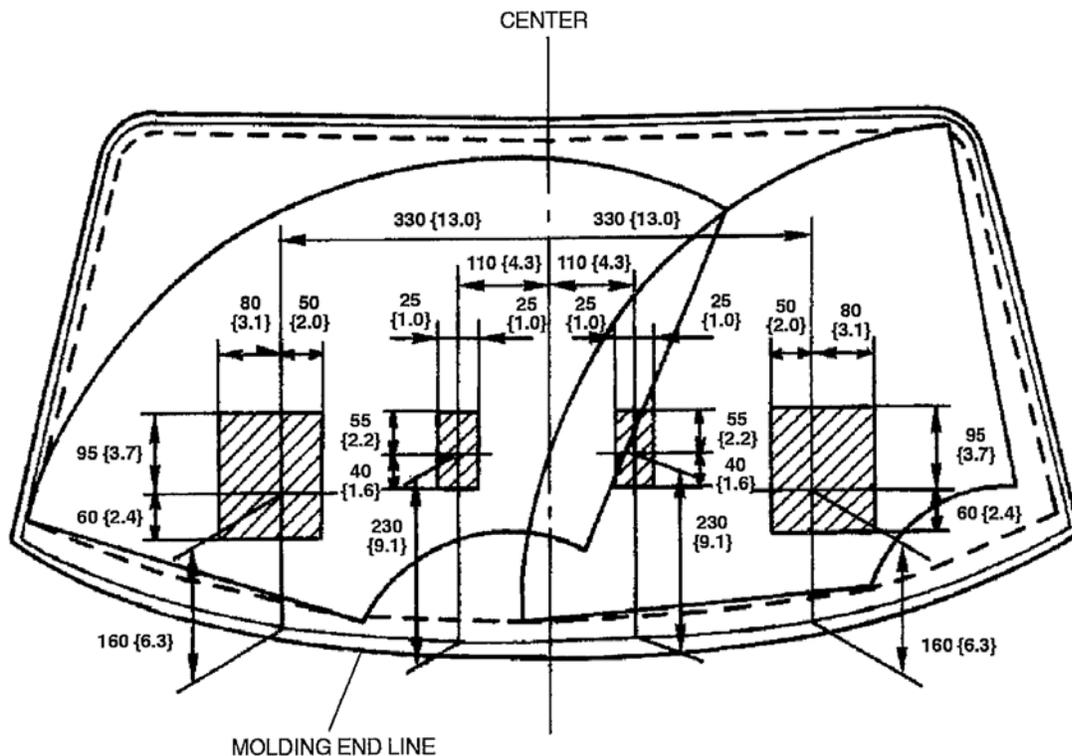


G03638989

Fig. 15: Inspecting Windshield Washer Motor
Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WASHER NOZZLE ADJUSTMENT

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

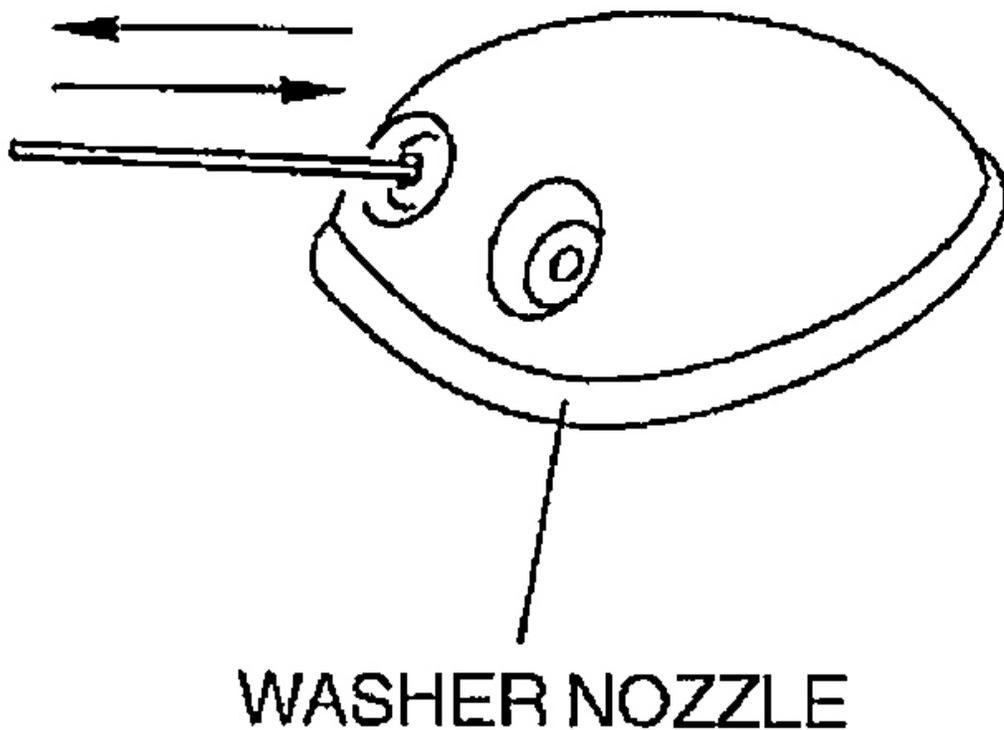


G03638990

Fig. 16: Identifying Dimension Of Windshield Washer Nozzle Adjustment
 Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WASHER NOZZLE CLEANING

1. Clean the washer nozzle by inserting and moving a needle or an equivalent tool back and forth.
 - If the nozzle becomes clogged 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.

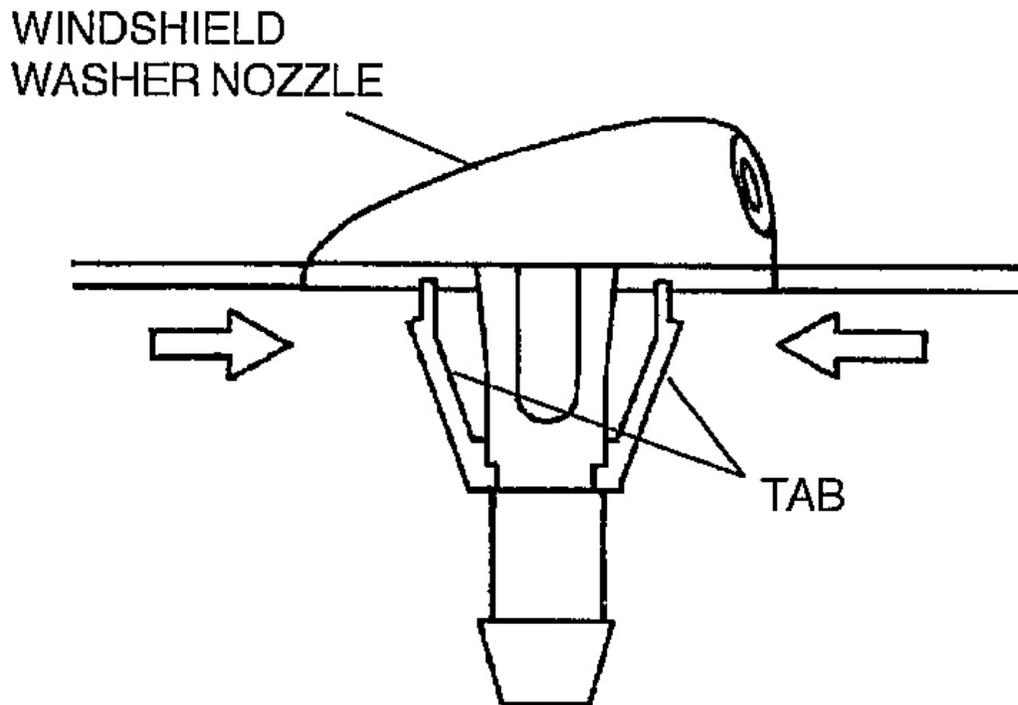


G03638991

Fig. 17: Cleaning Windshield Washer Nozzle
Courtesy of MAZDA MOTORS CORP.

WINDSHIELD WASHER NOZZLE REMOVAL

1. Disconnect the windshield washer hose from the windshield washer nozzle.



G03638992

Fig. 18: Removing Windshield Washer Nozzle
Courtesy of MAZDA MOTORS CORP.

2. Remove the windshield washer nozzle by squeezing the tabs.

WINDSHIELD WASHER NOZZLE INSTALLATION

1. Connect the windshield washer hose to the windshield washer nozzle.
2. Push the windshield washer nozzle into the installation hole.
3. Adjust the windshield washer nozzle. (See WINDSHIELD WASHER NOZZLE ADJUSTMENT.)

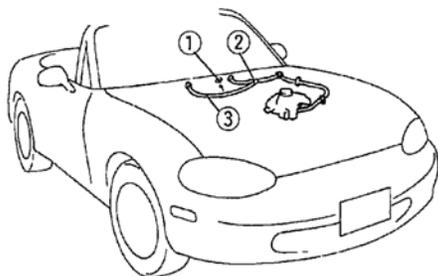
WINDSHIELD WASHER HOSE REMOVAL/INSTALLATION

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.

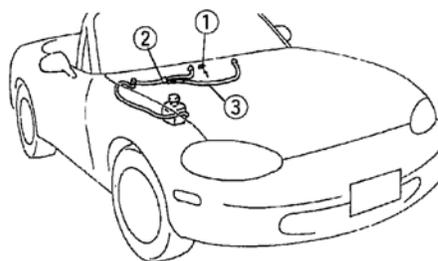
2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Wiper / Washer System - MX-5 Miata

CANADA, EXCEPT CANADA: WITH ABS



EXCEPT CANADA: WITHOUT ABS



1	Clip
2	Joint pipe
3	Windshield washer hose

G03638993

Fig. 19: Identifying Windshield Washer Hose
Courtesy of MAZDA MOTORS CORP.