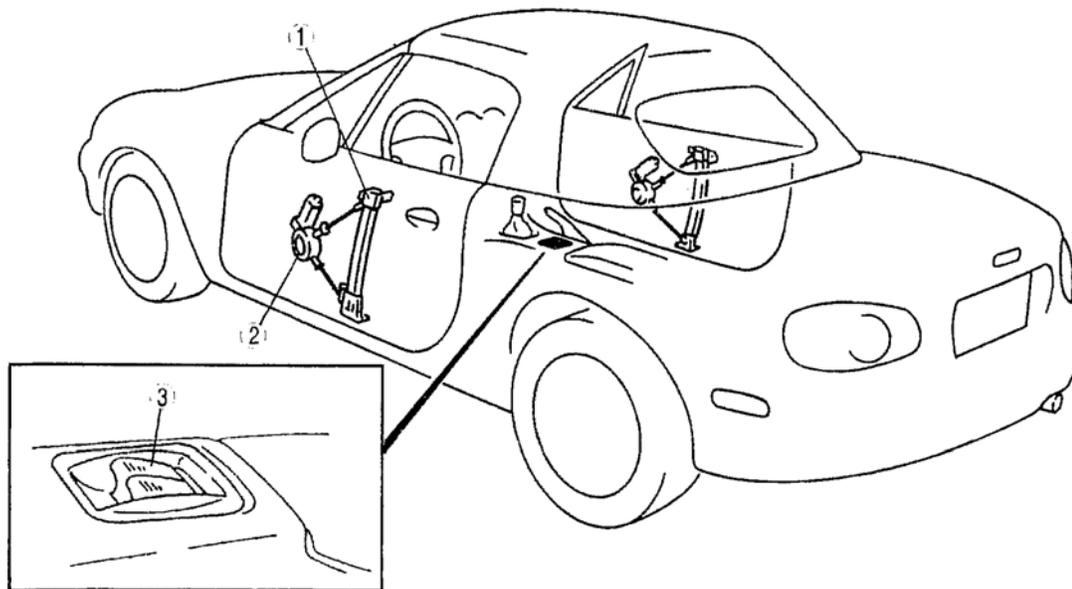


2005 ACCESSORIES & EQUIPMENT

Glass/Windows/Mirrors - MX-5 Miata

POWER WINDOW SYSTEM LOCATION INDEX



1	Power window regulator (See POWER WINDOW REGULATOR REMOVAL/INSTALLATION) (See POWER WINDOW REGULATOR DISASSEMBLY) (See POWER WINDOW REGULATOR ASSEMBLY)
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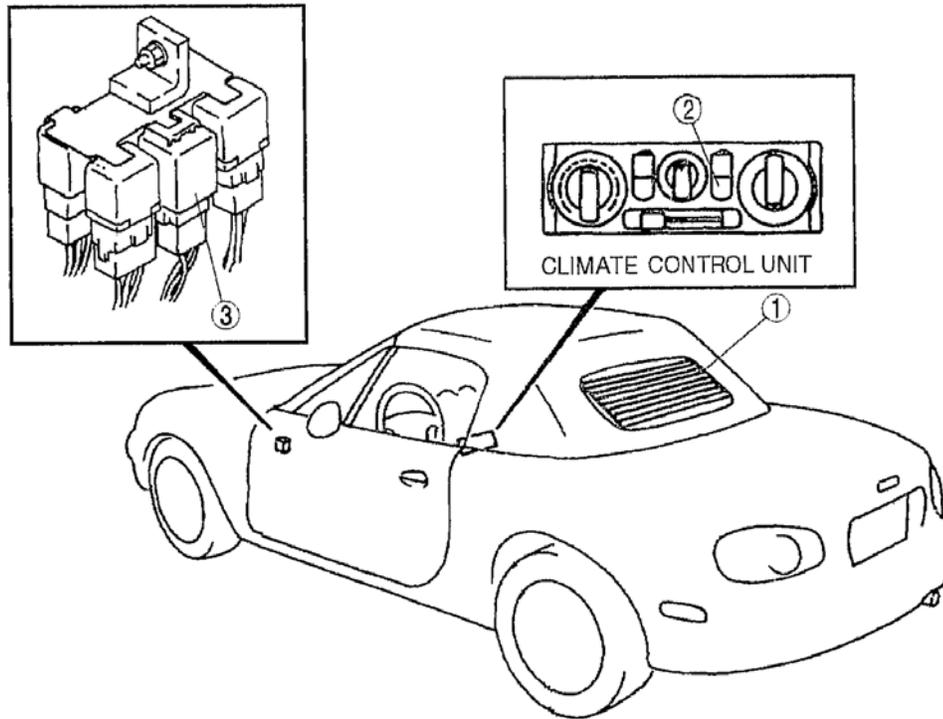
2	Power window motor (See POWER WINDOW MOTOR INSPECTION)
3	Power window switch (See POWER WINDOW SWITCH REMOVAL/INSTALLATION) (See POWER WINDOW SWITCH INSPECTION)

G03638695

Fig. 1: Identifying Power Window System Components

Courtesy of MAZDA MOTORS CORP.

REAR WINDOW DEFROSTER LOCATION INDEX



1	Filament (See FILAMENT INSPECTION) (See FILAMENT REPAIR)
---	--

2	Rear window defroster switch (See CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY) (See REAR WINDOW DEFROSTER SWITCH INSPECTION)
3	Rear window defroster relay (See RELAY INSPECTION)

G03638696

Fig. 2: Identifying Rear Window Defroster Components
 Courtesy of MAZDA MOTORS CORP.

DOOR GLASS ADJUSTMENT

1. Adjust the clearance between the upper edge of the door glass and the ventilator glass weatherstrip.
 - If vehicle has a convertible top, adjust the retainer. (See **RETAINER ADJUSTMENT** .)

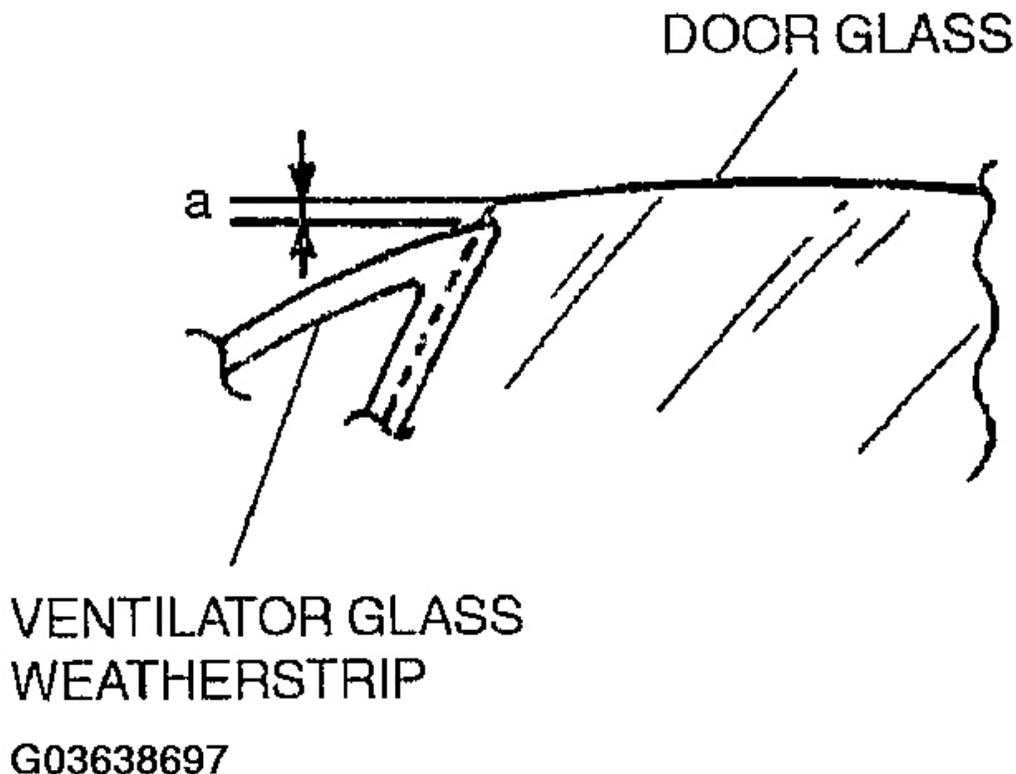


Fig. 3: Identifying Clearance Between Upper Edge Of Door Glass And Ventilator Glass Weatherstrip
 Courtesy of MAZDA MOTORS CORP.

DOOR GLASS CLEARANCE SPECIFICATION

mm {in}			
Clearance	Standard	Minimum	Maximum
a	0{0}	-0.5 {-0.02}	1.0(0.04)

2. Adjust the convertible top. (See **DETACHABLE HARDTOP ADJUSTMENT** .)
3. Adjust the detachable hardtop. (See **DETACHABLE HARDTOP ADJUSTMENT** .)
4. Raise the door glass fully and adjust it so that there is no clearance with the retainer weatherstrip.
5. Remove the retainer weatherstrip.
6. Adjust the door glass vertically.
7. Adjust the door glass forward/backward.
8. Adjust the door glass inward/outward.

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9. Verify the door glass is in correct position when it is fully raised.
10. Install the weatherstrip.
11. Verify the door glass raises and lowers smoothly with the door closed.

NOTE:

- **The front retainer installation hole is named retainer installation hole No.1, and the bottom hole is named retainer installation hole No.8 (convertible top) or retainer installation hole No.6 (detachable hardtop).**

VERTICAL ADJUSTMENT

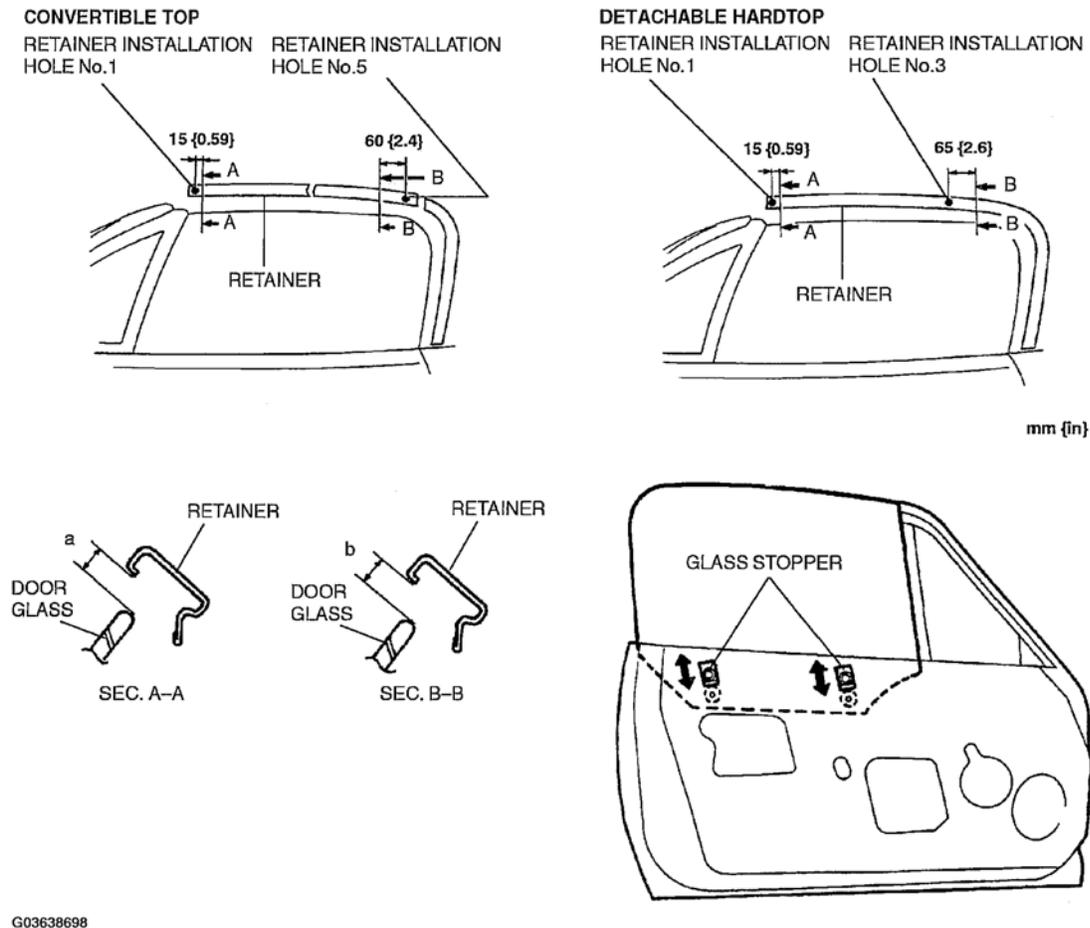
1. Measure the upper edge of the door glass and the retainer.
 - If not as specified, loosen the glass stopper installation bolts, move the glass stopper up or down and reposition the door glass.

DOOR GLASS VERTICAL ADJUSTMENT CLEARANCE SPECIFICATION

	mm {in}		
Clearance	Standard	Minimum	Maximum
a	9.6 {0.38}	6.6 {0.26}	12.6{0.50}
b	9.3 {0.37}	6.3 {0.25}	12.3{0.48}

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G03638698

Fig. 4: Adjusting Door Glass - Vertical Clearance
Courtesy of MAZDA MOTORS CORP.

2. Tighten the bolts.

FORWARD/BACKWARD ADJUSTMENT

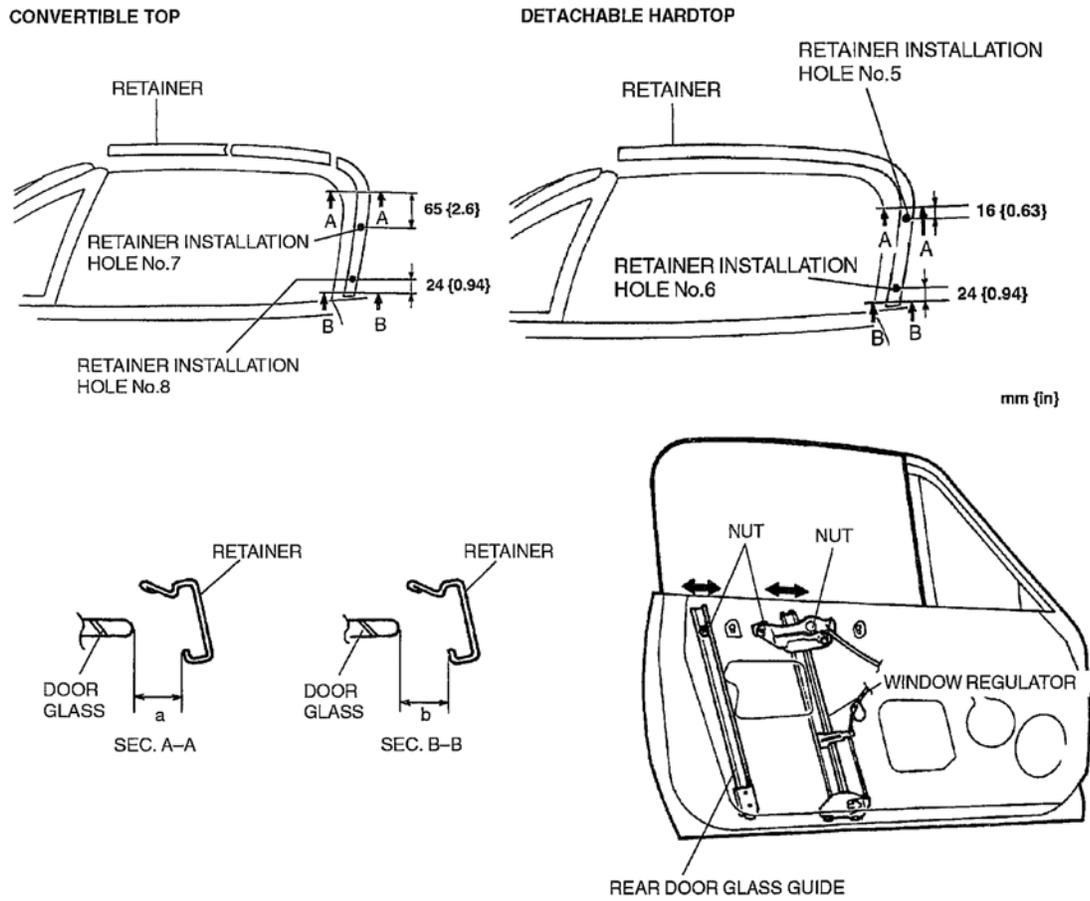
1. Measure the rear edge of the door glass and the retainer.
 - If not as specified, loosen the upper side of the window regulator installation nuts and that of the rear glass guide installation nuts, move the window regulator and the rear glass guide forward or backward and reposition the door glass.

DOOR GLASS FORWARD/BACKWARD ADJUSTMENT CLEARANCE SPECIFICATION

mm {in}			
Clearance	Standard	Minimum	Maximum
a	12.5{0.492}	9.5 {0.374}	15.5 {0.610}
b	12.1 {0.476}	9.1 {0.358}	15.1 {0.594}

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G03638699

Fig. 5: Adjusting Door Glass - Forward/Backward Clearance
 Courtesy of MAZDA MOTORS CORP.

2. Tighten the nuts.

INWARD/OUTWARD ADJUSTMENT

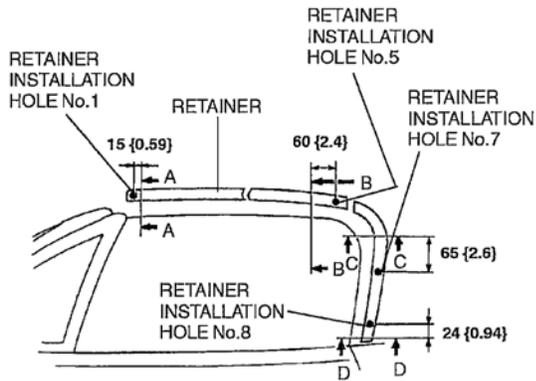
1. Measure the upper and rear edge of the door glass and the retainer.
 - If not as specified, loosen the lower side of the window regulator installation nuts and that of the rear glass guide installation nuts, move the window regulator and the rear glass guide inward or outward and reposition the door glass.

DOOR GLASS INWARD/OUTWARD ADJUSTMENT CLEARANCE SPECIFICATION

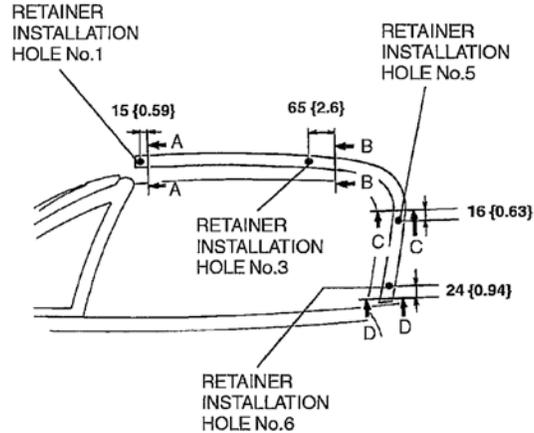
mm {in}			
Clearance	Standard	Minimum	Maximum
a	9.6 {0.38}	6.6 {0.26}	12.6 {0.50}
b	7.8 {0.31}	4.8 {0.19}	10.8 {0.43}
c	6.2 {0.24}	3.2 {0.13}	9.2 {0.36}

d	10.8 {0.43}	7.8 {0.31}	13.8 {0.54}
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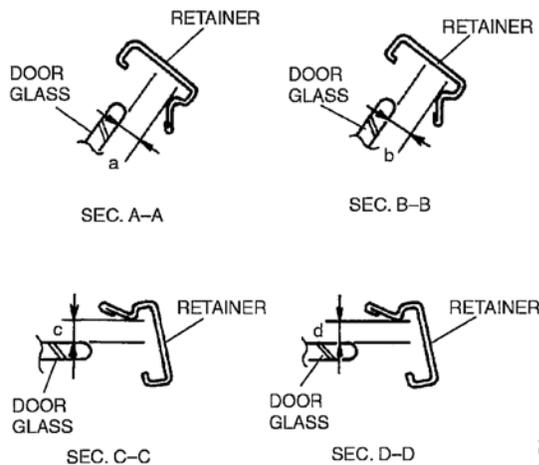
CONVERTIBLE TOP



DETACHABLE HARDTOP



mm {in}



G03638700

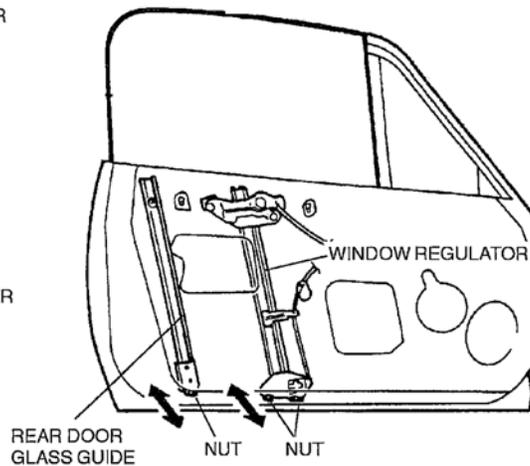


Fig. 6: Adjusting Door Glass - Inward/Outward Clearance
 Courtesy of MAZDA MOTORS CORP.

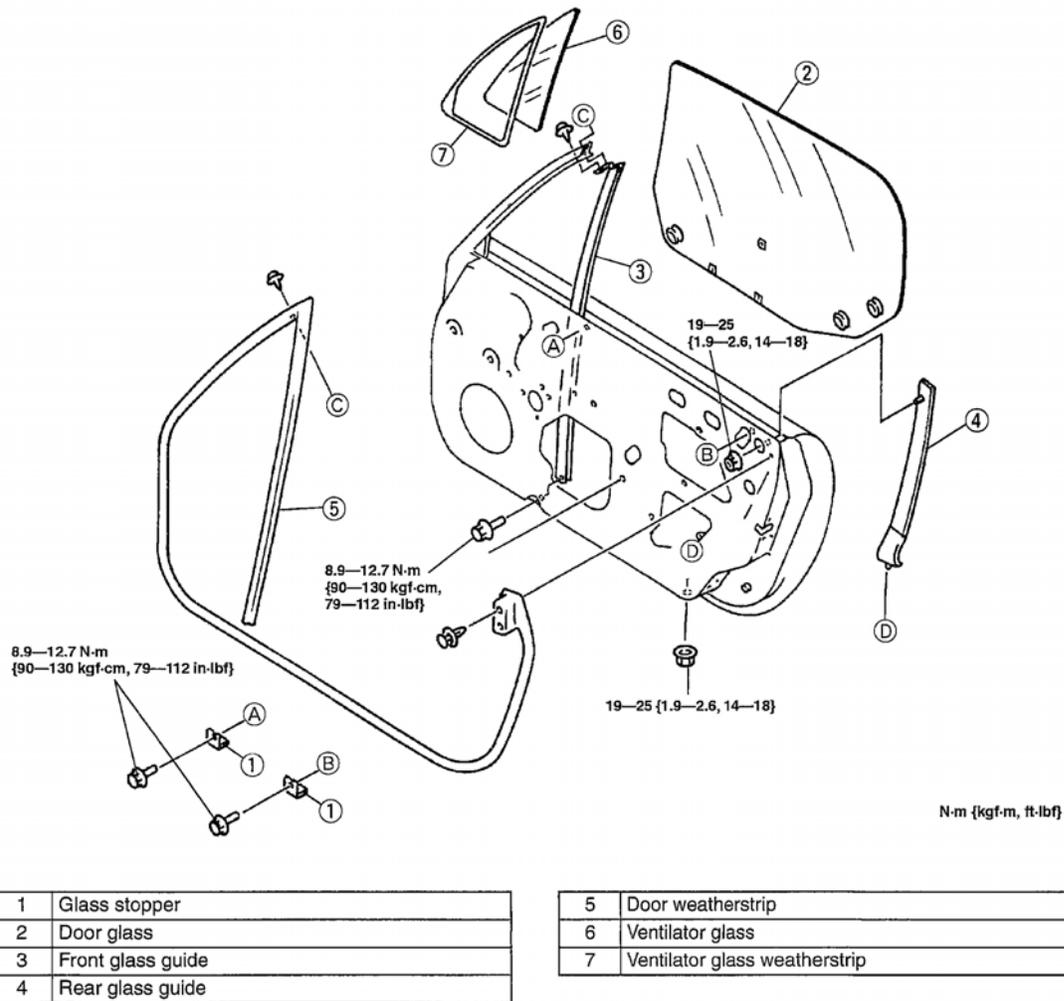
2. Tighten the nuts.

DOOR GLASS AND GUIDE REMOVAL/INSTALLATION

1. Lower or raise the front door glass so that the distance from the top of the front door glass at the molding is **225 mm {8.86 in}**.
2. Disconnect the negative battery cable.
3. Remove the door screen. (See **DOOR DISASSEMBLY/ASSEMBLY**.)
4. Remove in the order indicated in the table.

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G03638701

Fig. 7: Removing Door Glass And Guide
 Courtesy of MAZDA MOTORS CORP.

5. Install in the reverse order of removal.
6. Adjust the door glass. (See **DOOR GLASS ADJUSTMENT.**)

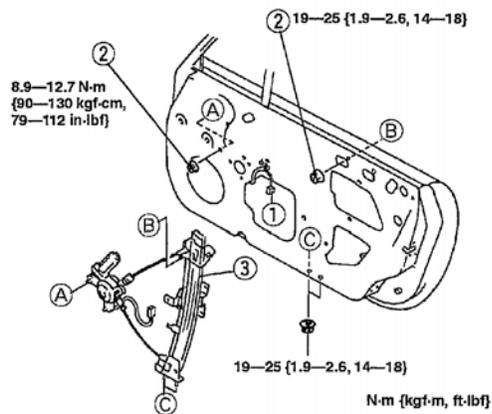
POWER WINDOW REGULATOR REMOVAL/INSTALLATION

1. Remove the front glass guide. (See **DOOR GLASS AND GUIDE REMOVAL/INSTALLATION.**)
2. Disconnect the negative battery cable.
3. Remove in the order indicated in the table.

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Glass/Windows/Mirrors - MX-5 Miata

1	Connector
2	Nut
3	Power window regulator



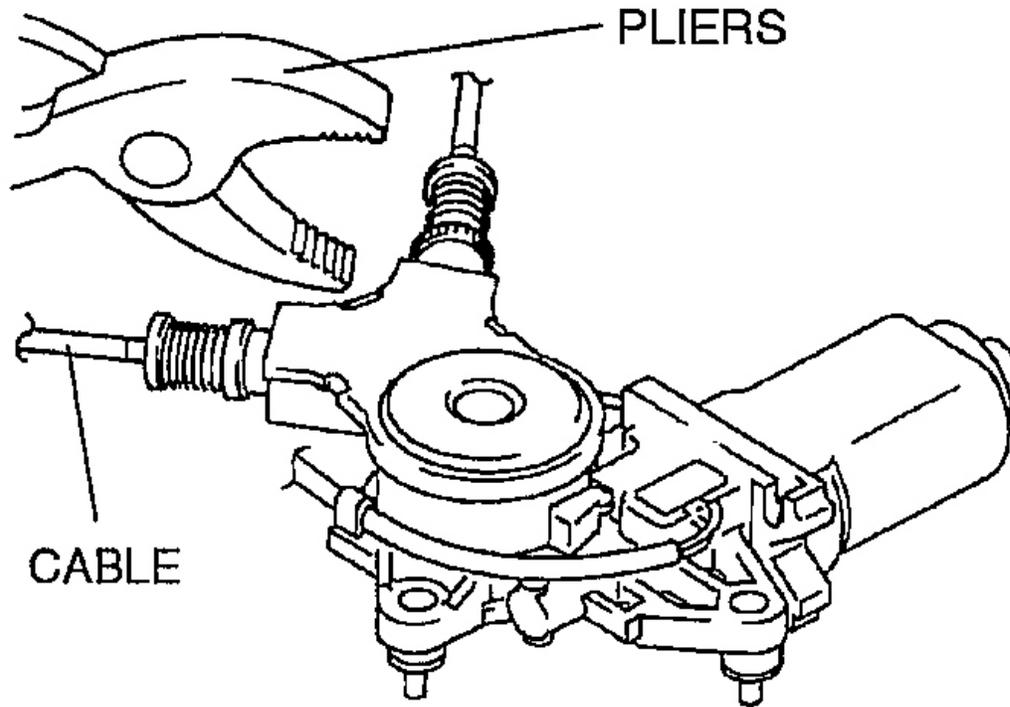
G03638702

Fig. 8: Removing Power Window Regulator - With Torque Specifications
Courtesy of MAZDA MOTORS CORP.

4. Install in the reverse order of removal.
5. Adjust the door glass. (See **DOOR GLASS ADJUSTMENT.**)

POWER WINDOW REGULATOR DISASSEMBLY

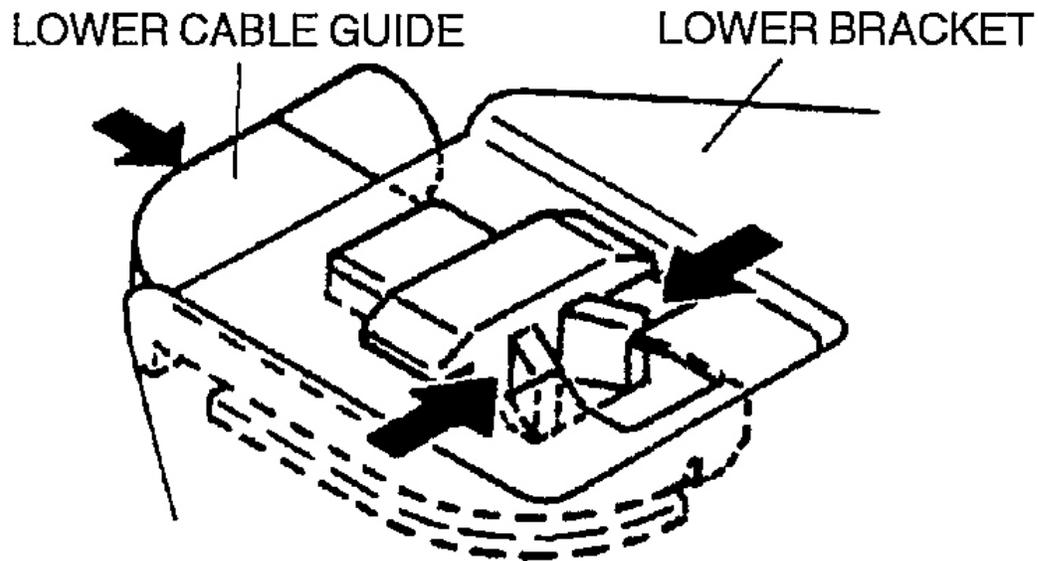
1. Tighten the adjusting bolt with pliers and loosen the cable.



G03638703

Fig. 9: Tightening Adjusting Bolt Using Pliers
Courtesy of MAZDA MOTORS CORP.

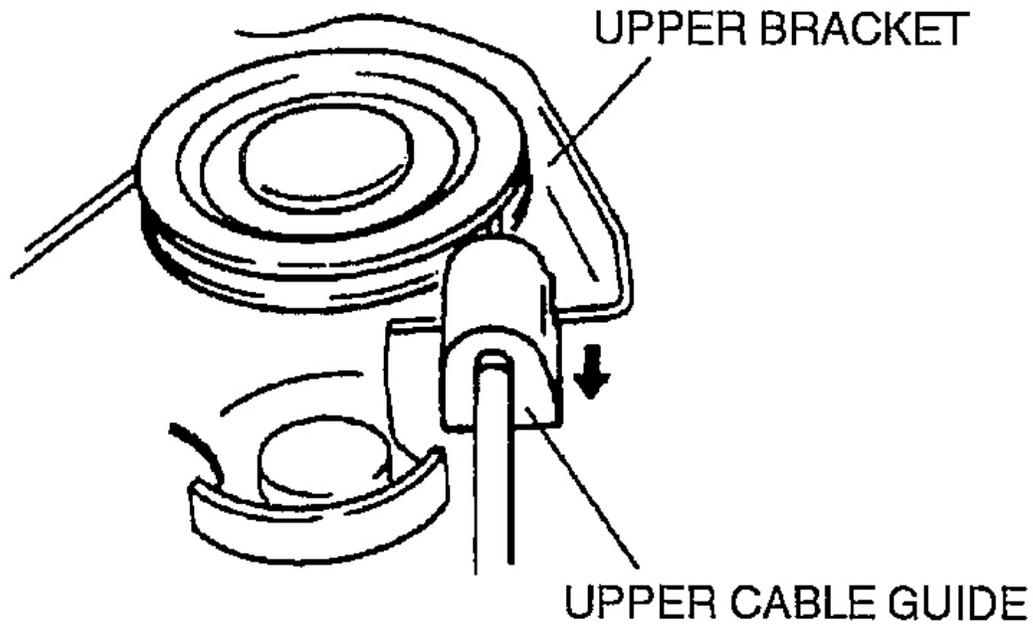
2. Disassemble the lower cable guide from the lower bracket with pliers.



G03638704

Fig. 10: Disassembling Lower Cable Guide From Lower Bracket
Courtesy of MAZDA MOTORS CORP.

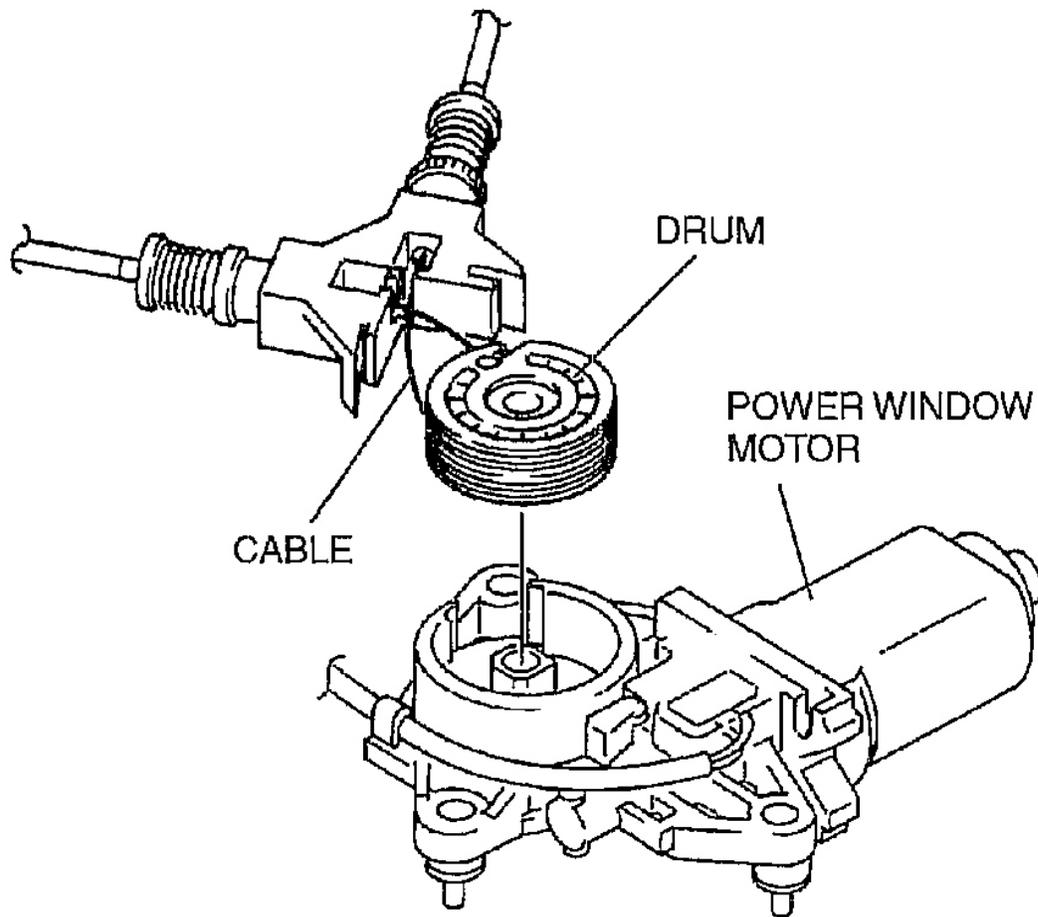
3. Disassemble the upper cable guide from the upper bracket.



G03638705

Fig. 11: Disassembling Upper Cable Guide From Upper Bracket
Courtesy of MAZDA MOTORS CORP.

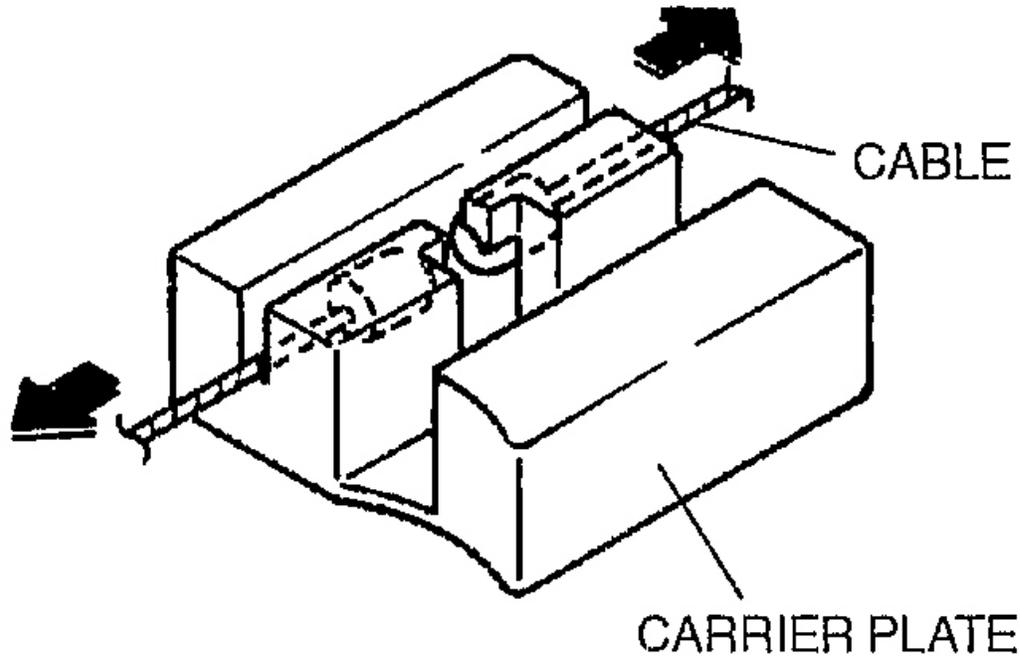
4. Disassemble the drum cover.
5. Take out the drum and disassemble the cable.



G03638706

Fig. 12: Removing Drum
Courtesy of MAZDA MOTORS CORP.

6. Pull the ends of the cables and disassemble from the carrier plate one at a time.



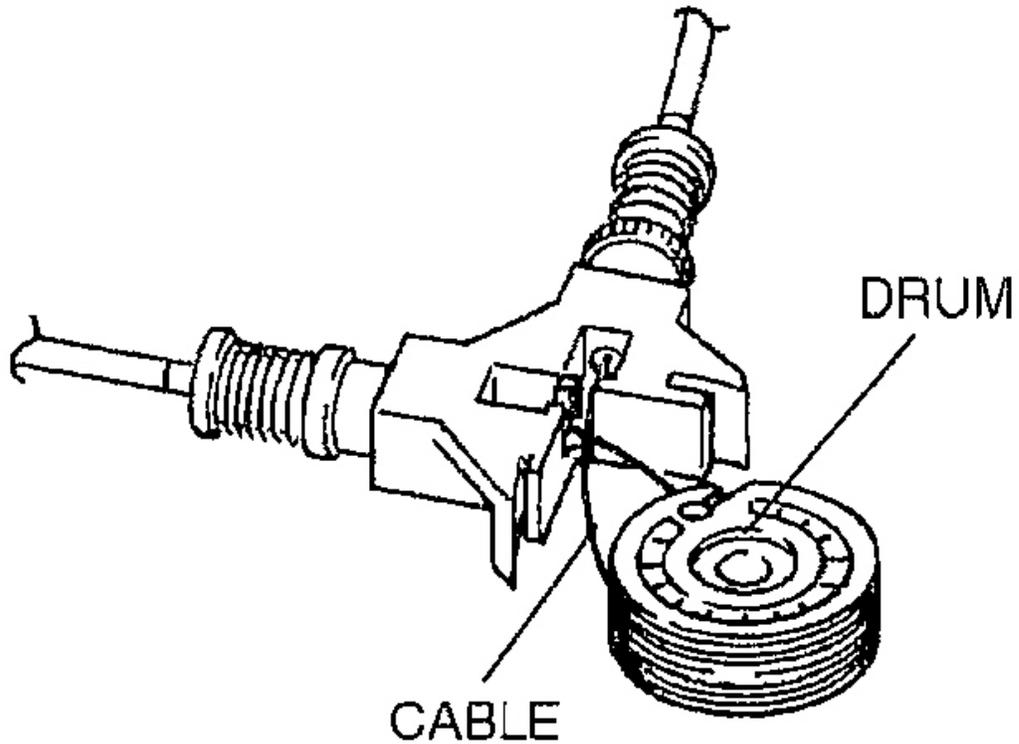
G03638707

Fig. 13: Removing Cables From Carrier Plate
Courtesy of MAZDA MOTORS CORP.

7. Disassemble the adjusting bolts.

POWER WINDOW REGULATOR ASSEMBLY

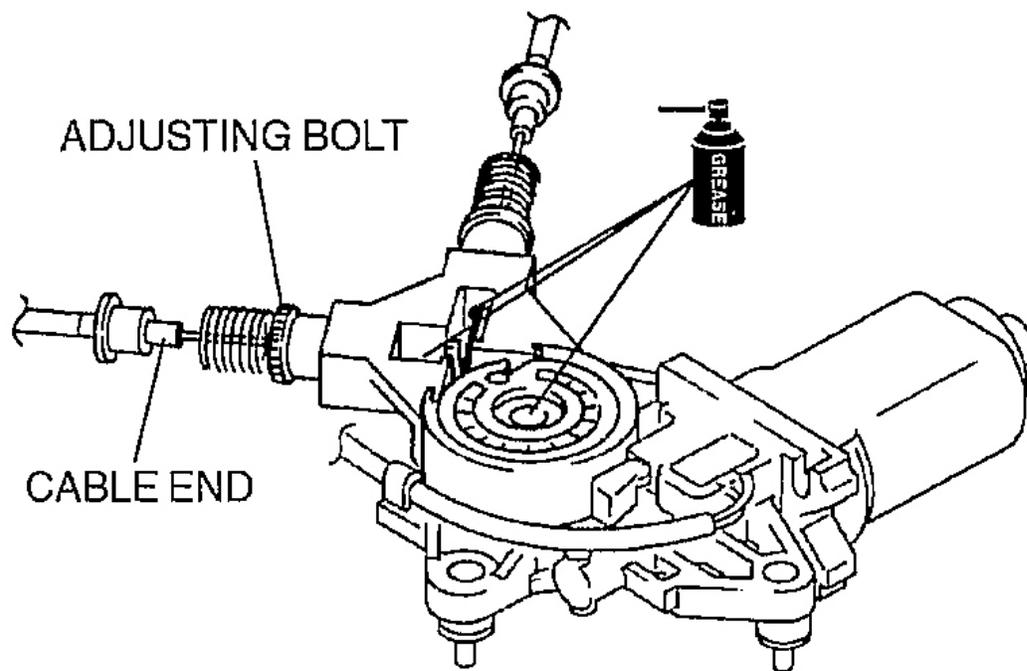
1. Tighten the adjusting bolts fully.
2. Assemble the ends of the cables to the carrier plate.
3. Insert the cables into the adjusting bolts.
4. Wind the cable around the top part of the drum three times and the bottom part twice or around the top part twice and the bottom part three times.
5. Assemble into the power window motor. Taking care to prevent the cable from getting caught between the drum and the motor and the motor housing, carefully assemble the cable onto the upper bracket pulley.
6. Verify that the ends of the cables are inserted into the adjusting bolts, shift the lower cable guide until a clicking sound is heard, and assemble to the lower bracket.



G03638708

Fig. 14: Winding Cable Around Top Part Of Drum
Courtesy of MAZDA MOTORS CORP.

7. Apply grease to the parts shown in the figure.
8. Assemble the drum cover.



G03638709

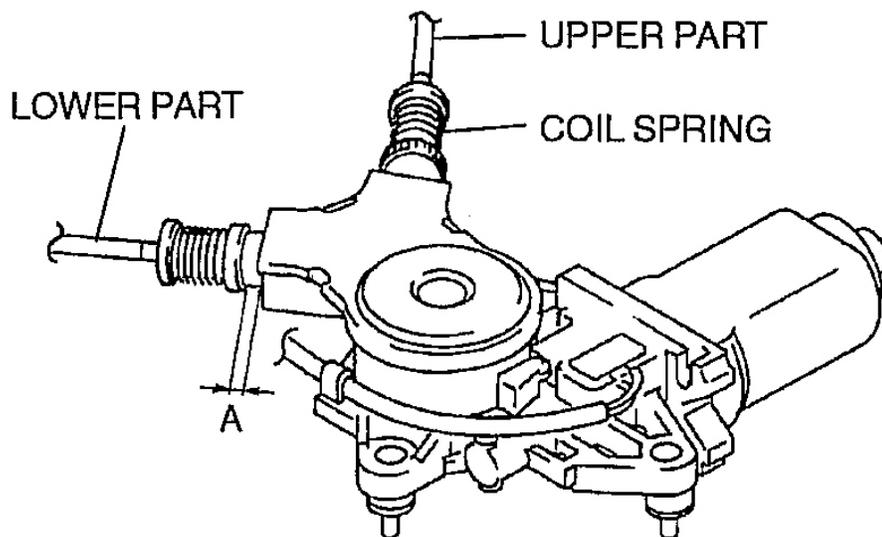
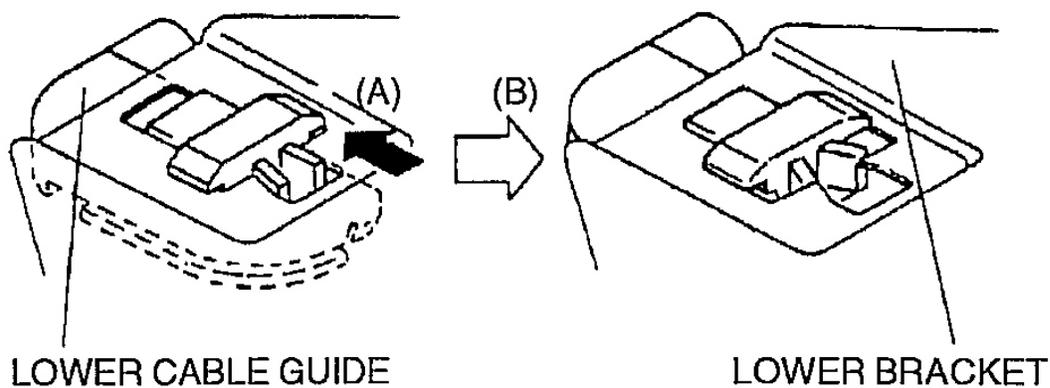
Fig. 15: Applying Grease

Courtesy of MAZDA MOTORS CORP.

9. For the upper part, pull the (A) part of the cable and for the lower part, pull the (B) part of the cable. Adjust the adjusting bolts, making sure the coil springs do not bend.

Adjustment range A:

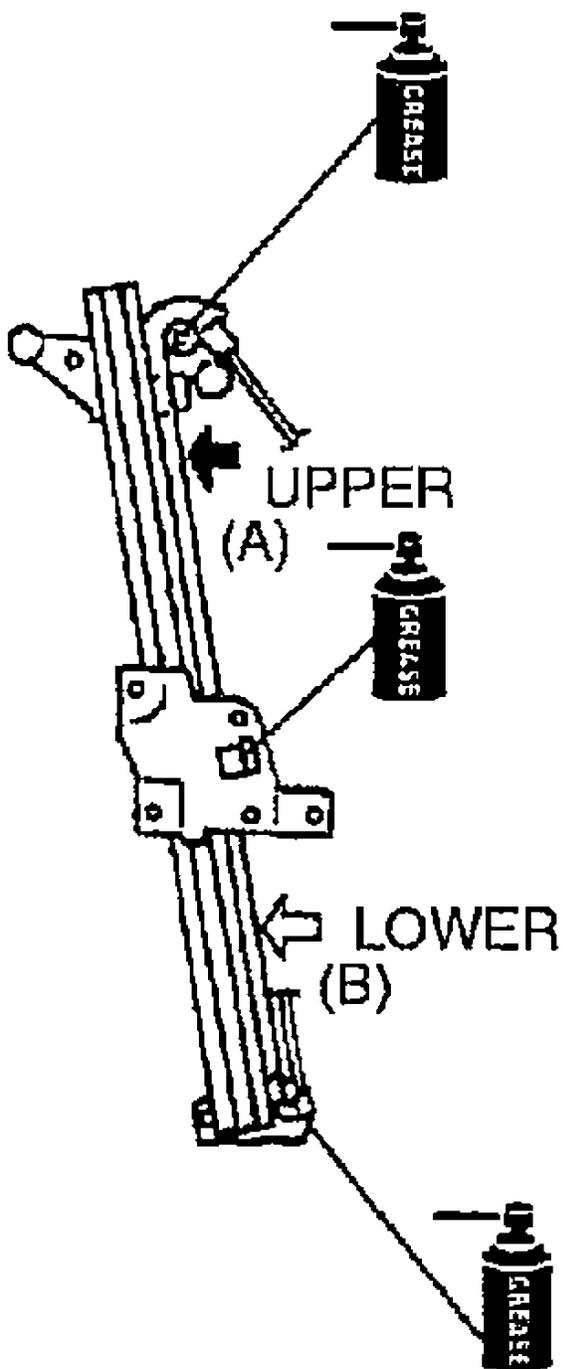
0.5-7.5 mm {0.1-0.2 in}



G03638710

Fig. 16: Pulling Upper And Lower Part Of Cable
Courtesy of MAZDA MOTORS CORP.

10. Fix the adjusting bolts with the thread lock.
11. Apply grease to places where the cable moves along the pulley and to the ends of the cables.



G03638711

Fig. 17: Applying Grease To Places Where Cable Moves Along Pulley And To Ends Of Cables
Courtesy of MAZDA MOTORS CORP.

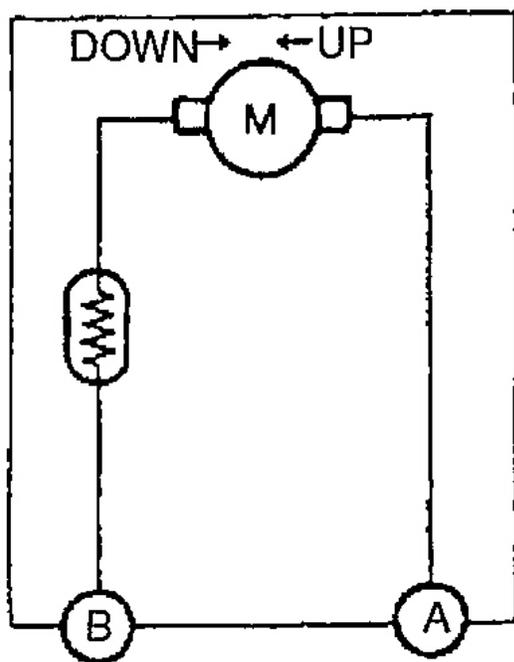
12. After assembling, verify that the cable isn't damaged.

POWER WINDOW MOTOR INSPECTION

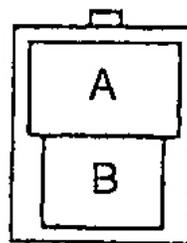
1. Remove the power window motor. (See **POWER WINDOW REGULATOR DISASSEMBLY**.)
2. Apply battery positive voltage to the power window motor terminals and inspect the operation of the power window motor.
 - If not as specified, replace the power window motor.

POWER WINDOW MOTOR OPERATION REFERENCE

Connection		Motor operation
B+	GND	
A	B	Turn left (Up)
B	A	Turn right (Down)



G03638712



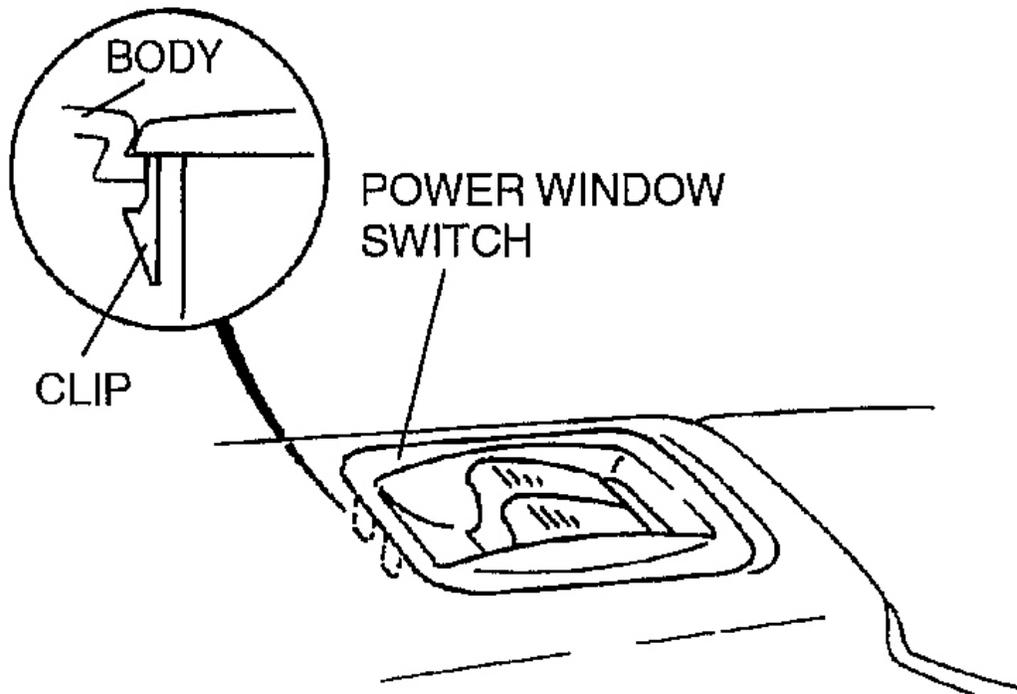
PART SIDE CONNECTOR
(VIEW FROM HARNESS SIDE)

Fig. 18: Inspecting Power Window Motor Connector Terminals
Courtesy of MAZDA MOTORS CORP.

POWER WINDOW SWITCH REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.

2. Remove the power window switch using a flathead screwdriver wrapped with protective tape as shown in the figure.
3. Install in the reverse order of removal.



G03638713

Fig. 19: Removing Power Window Switch
Courtesy of MAZDA MOTORS CORP.

POWER WINDOW SWITCH INSPECTION

1. Disconnect the negative battery cable.
2. Remove the power window switch. (See **POWER WINDOW SWITCH REMOVAL/INSTALLATION.**)
3. Inspect for the continuity between the power window switch terminals using an ohmmeter.
 - If not as specified, replace the power window switch.

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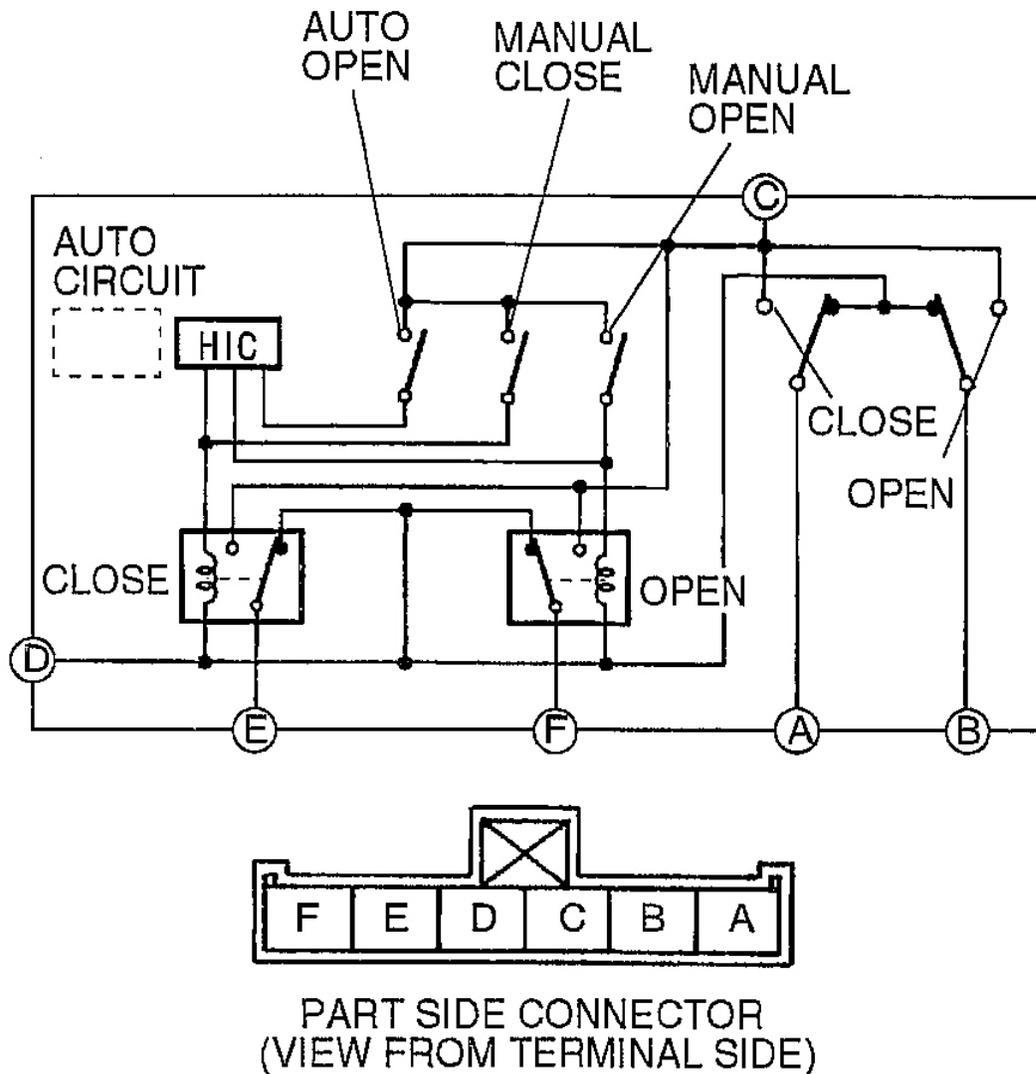
2005 ACCESSORIES & EQUIPMENT Glass/Windows/Mirrors - MX-5 Miata

○—○ : Continuity

Switch position		Terminal					
		F	E	D	C	B	A
OFF		○—○	○—○	○—○	○—○	○—○	○—○
Driver's side	Manual close	○—○	○—○	○—○	○—○	○—○	○—○
	Auto open Manual open	○—○	○—○	○—○	○—○	○—○	○—○
Passen-ger's side	Manual close	○—○	○—○	○—○	○—○	○—○	○—○
	Manual open	○—○	○—○	○—○	○—○	○—○	○—○

G03638714

Fig. 20: Power Window Switch Continuity Table
 Courtesy of MAZDA MOTORS CORP.



G03638715

Fig. 21: Inspecting Power Window Switch Terminals
Courtesy of MAZDA MOTORS CORP.

REAR WINDOW GLASS REMOVAL

DETACHABLE HARDTOP

NOTE:

- The rear window molding is a replacement part.

1. Remove the rear window molding.

2. Apply protective tape along the edge of the body to protect it from damage.
3. Remove the rear window glass installation nuts.
4. Make a hole through the sealant and the dam from the inside of the vehicle using an awl.

WARNING:

- Using a SST (piano wire) with bare hands can cause injury. Always wear gloves when using a SST (piano wire).

5. Pass the SST (piano wire) through the hole.
6. Wind each end of the SST (piano wire) around a bar.

NOTE:

- Use the entire length of SST (piano wire) to prevent it from breaking when cutting through the sealant.

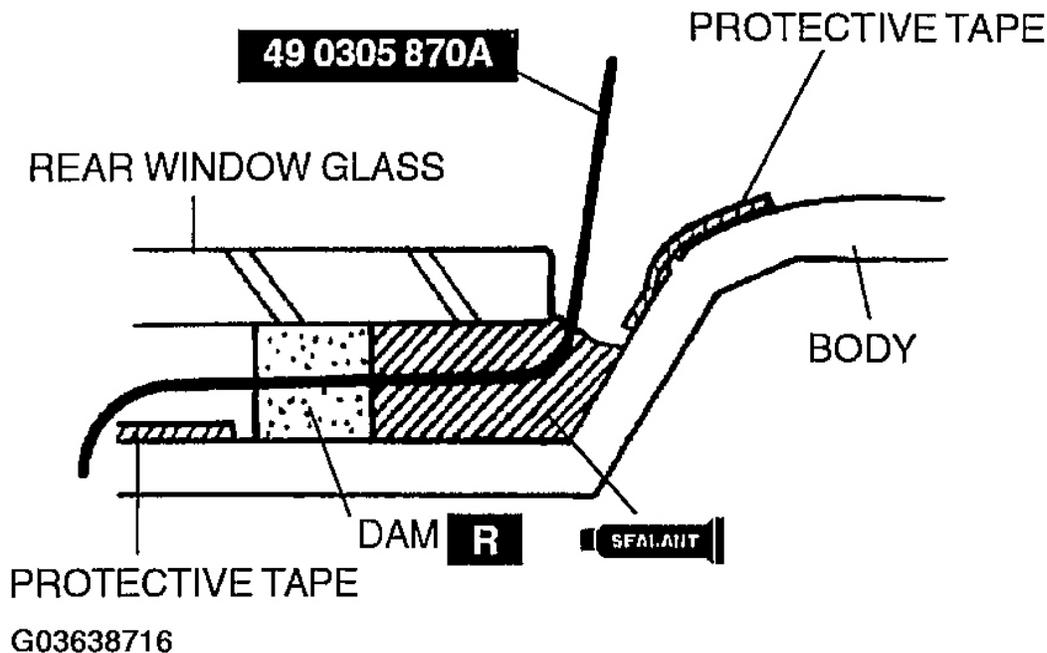
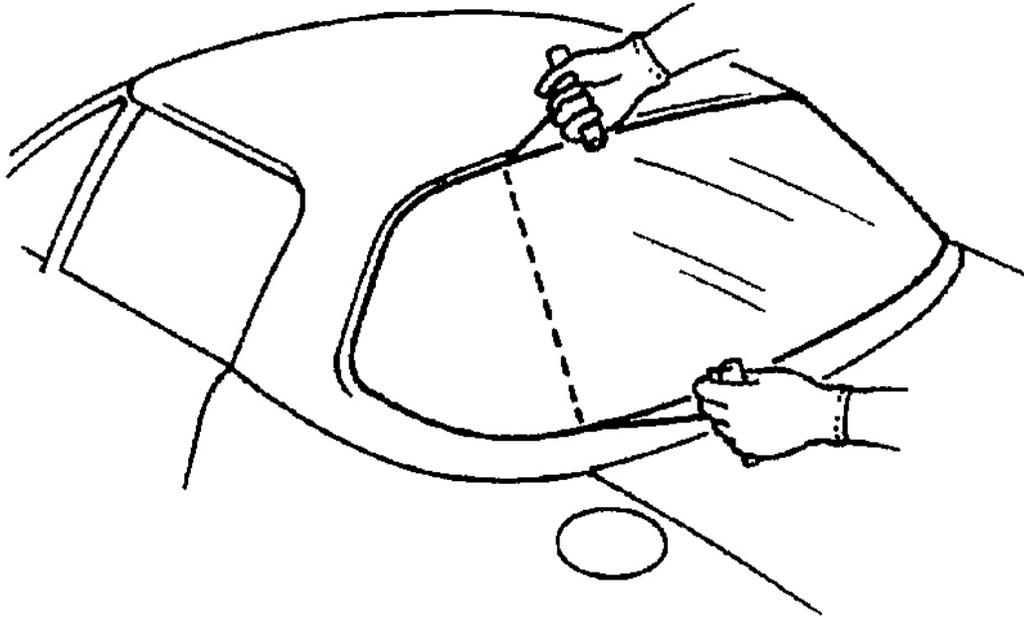


Fig. 22: Inserting Piano Wire
Courtesy of MAZDA MOTORS CORP.

7. Working with another person, saw through the sealant around the edge of the glass, being careful not to damage the body.

WARNING:

- Using a razor with bare hands can cause injury. Always wear gloves when using a razor.

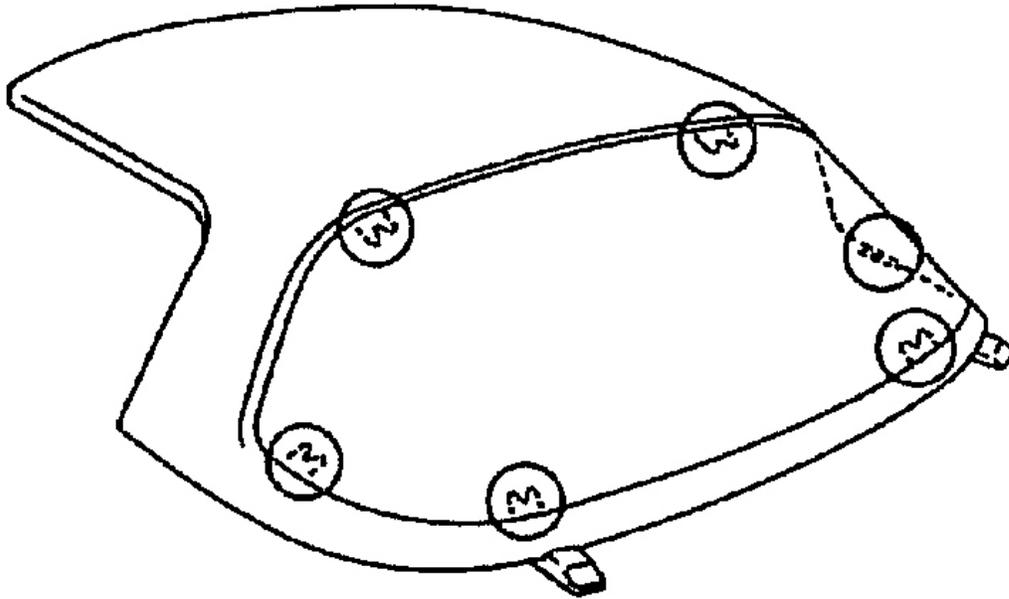


G03638717

Fig. 23: Sawing Through Sealant
Courtesy of MAZDA MOTORS CORP.

8. Use a razor to cut the places of rear window glass installation nuts where the **SST** (piano wire) will not cut.

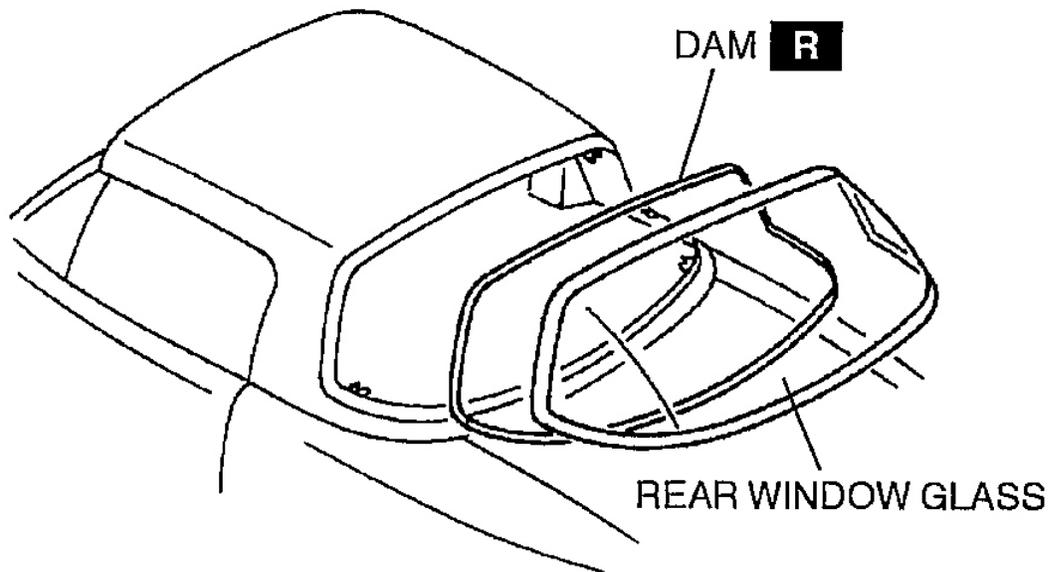
○...PLACES PIANO WIRE WILL NOT CUT



G03638718

Fig. 24: Identifying Places Of Rear Window Glass Where Wire Will Not Cut
Courtesy of MAZDA MOTORS CORP.

9. Remove the rear window glass.
10. Remove the dam.



G03638719

Fig. 25: Removing Rear Window Glass And Dam
Courtesy of MAZDA MOTORS CORP.

REAR WINDOW GLASS INSTALLATION

DETACHABLE HARDTOP

WARNING:

- Using a razor with bare hands can cause injury. Always wear gloves when using a razor.

CAUTION:

- To prevent the sealant from cracking or the glass from being pushed out by air pressure if a door is closed, open all of the windows and leave them open until the sealant has hardened.

1. Cut away the old sealant using a razor so that **1-2 mm {0.04-0.07 in}** thickness of sealant remains around the circumference of the frame.
 - If all the sealant has come off in any one place, apply some primer after decreasing, and allow it **30 minutes** to dry. Then put on new sealant to create a **2 mm {0.08 in}** layer.
2. Clean and degrease an **approximately 50.0 mm {1.97 in}** wide strip around the circumference of the glass and the bonding area on the body.
3. Securely bond a dam around the circumference of the glass **8.0 mm {0.31 in}** from the edge.

- CAUTION:**
- Keep the area free of dirt and grease, and do not touch the surface or the primer may not properly bond to the surface of the glass and body which may cause leaks to occur.

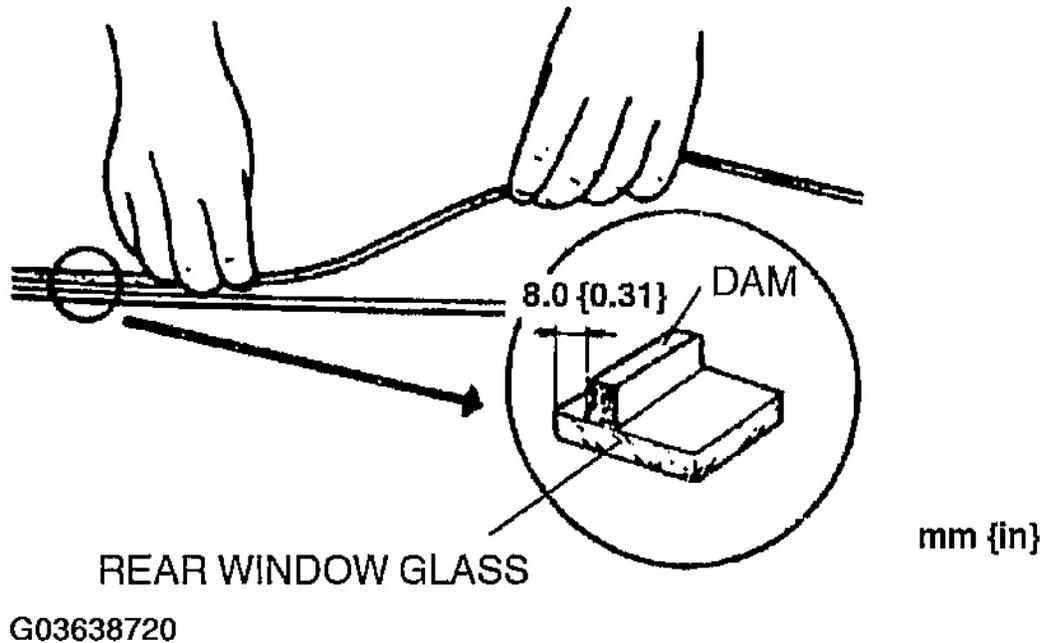
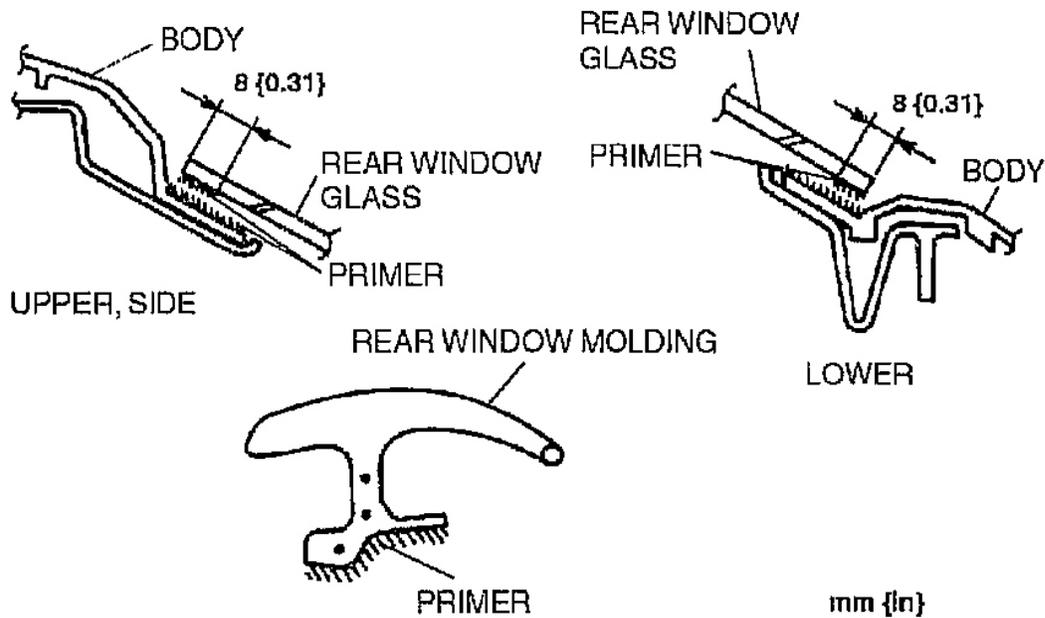


Fig. 26: Bonding Dam Around Circumference Of Glass
Courtesy of MAZDA MOTORS CORP.

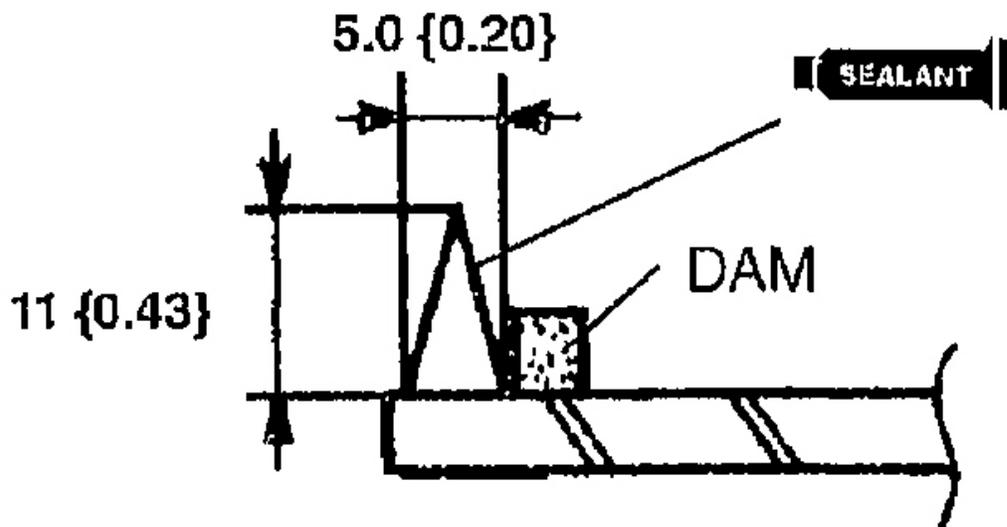
4. Use a brush to apply primer to the bonding area of the glass, the body and the molding within the region shown. Use only glass primer on the glass, and body primer on the body and the molding. Allow it to dry for **approximately 30 minutes**.



G03638721

Fig. 27: Applying Primer
 Courtesy of MAZDA MOTORS CORP.

5. Once the primer is dry, apply sealant around the entire circumference to fill the gap between the dam and the edge of the glass with a **11.0-13.0 mm {0.44-0.51 in}** high and **5.0 mm {0.20 in}** wide bead of sealant.
6. Align the bolts and install the glass onto the body.
7. Press firmly on the glass to compress the sealant.



G03638722

Fig. 28: Applying Sealant Around Gap Between Dam And Edge Of Glass
Courtesy of MAZDA MOTORS CORP.

8. Install the nuts onto the bolts.

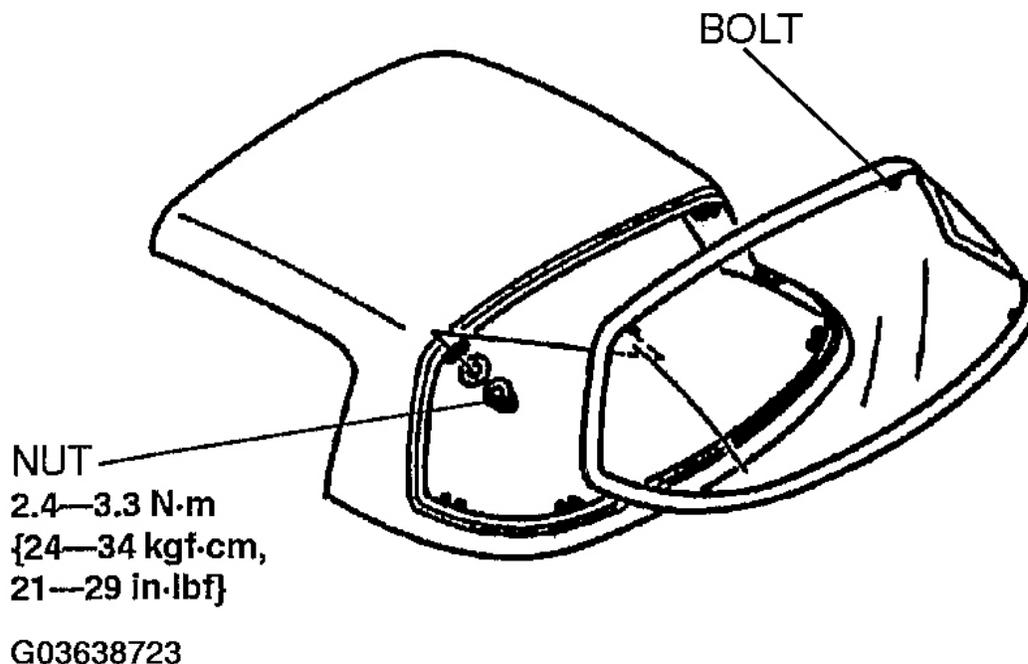
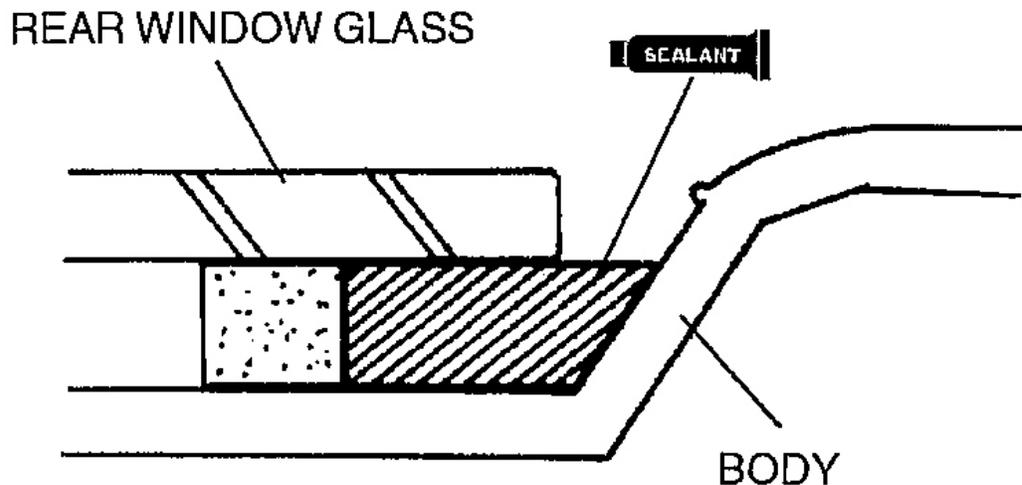


Fig. 29: Installing Nuts Onto Bolts - With Torque Specifications
Courtesy of MAZDA MOTORS CORP.

9. Use a scraper to smooth away any sealant that oozes out. Add more sealant to any points of poor contact. Adjust the sealant as shown if necessary.



G03638724

Fig. 30: Applying Sealant
Courtesy of MAZDA MOTORS CORP.

10. Before the surface of the sealant has hardened, install the rear window molding. (See **REAR WINDOW MOLDING INSTALLATION**)

Hardening time of sealant

SEALANT HARDENING TIME

Temperature	Surface hardening time	Time required until vehicle can be put into service
5°C {41°F}	Approx. 1.5 h	Approx. 12 h
20°C {68°F}	Approx. 1 h	Approx. 4 h
35°C {95°F}	Approx. 10 min.	Approx. 2 h

11. Use isopropyl alcohol to remove any excess sealant.

WINDSHIELD REMOVAL

1. Remove the rearview mirror. (See **REARVIEW MIRROR REMOVAL**.)
2. Remove the base. (See **BASE REMOVAL**.)
3. Remove the A-pillar trim. (See **A-PILLAR TRIM REMOVAL/INSTALLATION**.)

NOTE:

- The windshield molding is a replacement part.

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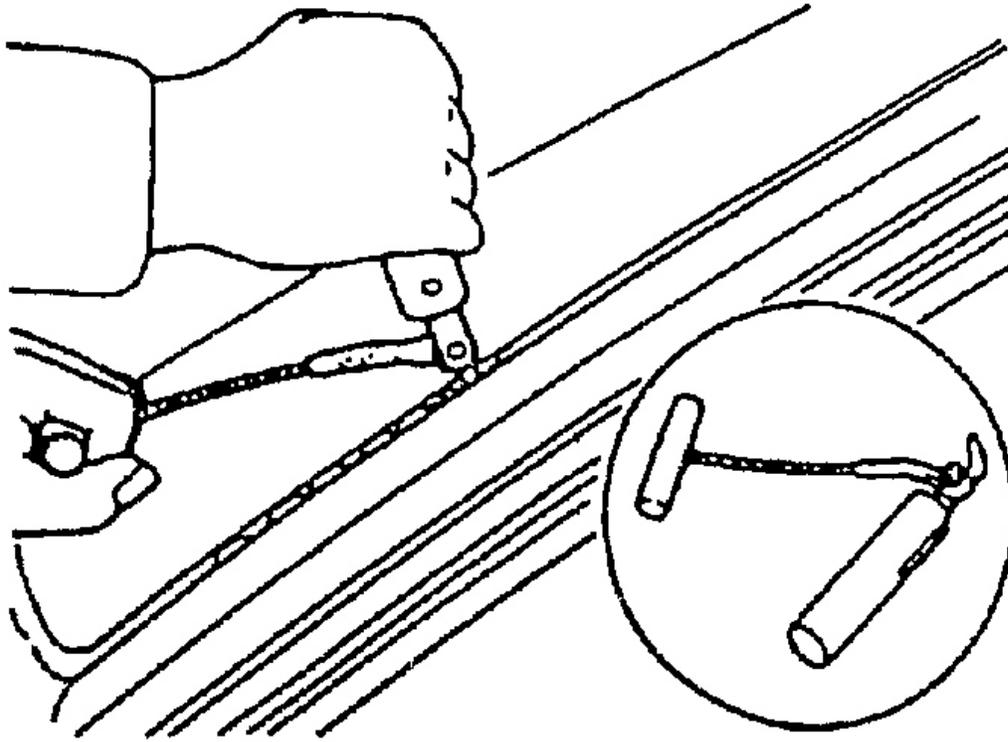
4. Remove the windshield molding. (See **WINDSHIELD MOLDING REMOVAL** .)
5. Remove the cowl grille. (See **COWL GRILLE REMOVAL/INSTALLATION** .)
6. Remove the sunvisor.
7. Remove the striker. (See **CONVERTIBLE TOP DISASSEMBLY/ASSEMBLY** .) (See **DETACHABLE HARDTOP DISASSEMBLY/ASSEMBLY** .)
8. Remove the front header trim. (See **FRONT HEADER TRIM REMOVAL/INSTALLATION** .)
9. Apply protective tape along the edge of the body to protect it from damage.
10. Apply protective tape to the dashboard to protect it from damage.

NOT REUSING WINDSHIELD

NOTE:

- **For the areas of the sealant that are difficult to cut, use the SST (piano wire) and follow the procedures under "Reusing Windshield".**

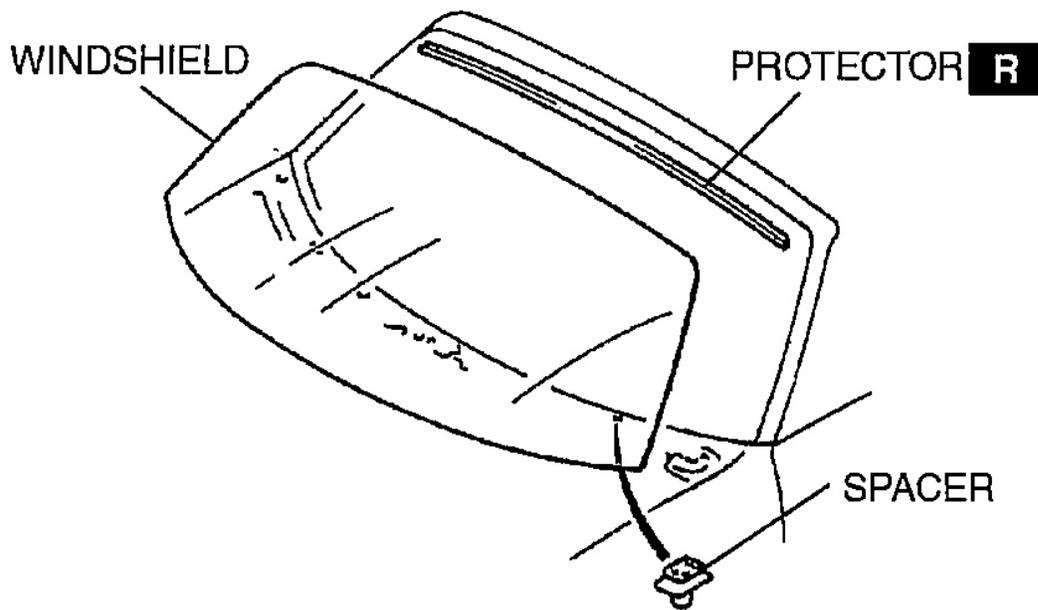
1. Use a tool like that shown in the figure, and insert the blade into the sealant.
2. Pull through the sealant around the edge of the glass.



G03638725

Fig. 31: Inserting Blade Into Sealant
Courtesy of MAZDA MOTORS CORP.

3. Remove the windshield.
4. Remove the protector.
5. Remove the spacers.



G03638726

Fig. 32: Removing Windshield, Protector And Spacer
Courtesy of MAZDA MOTORS CORP.

REUSING WINDSHIELD

1. Make a hole through the sealant from the inside of the vehicle using an awl.

WARNING:

- Using a SST (piano wire) with bare hands can cause injury. Always wear gloves when using a SST (piano wire).

2. Pass the SST (piano wire) through the hole.
3. Wind each end of the SST (piano wire) around a bar.

NOTE:

- Use a long sawing action to spread the work over the whole length of the SST (piano wire) to prevent it from breaking.

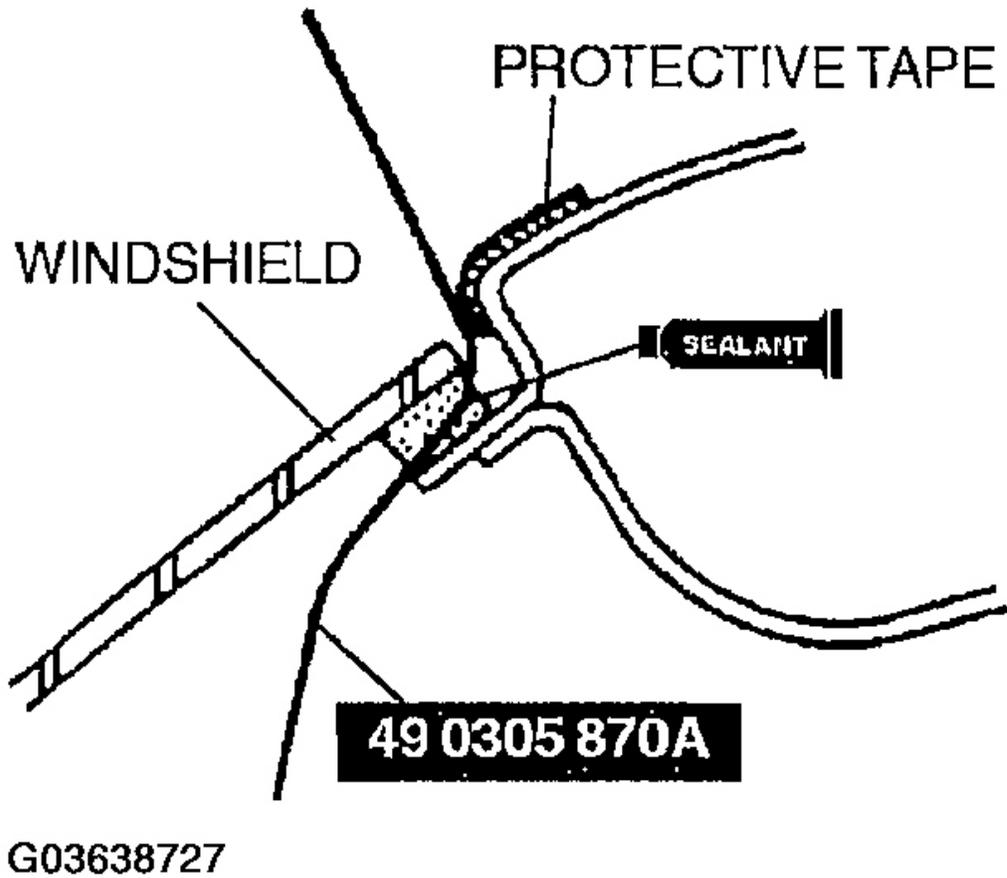
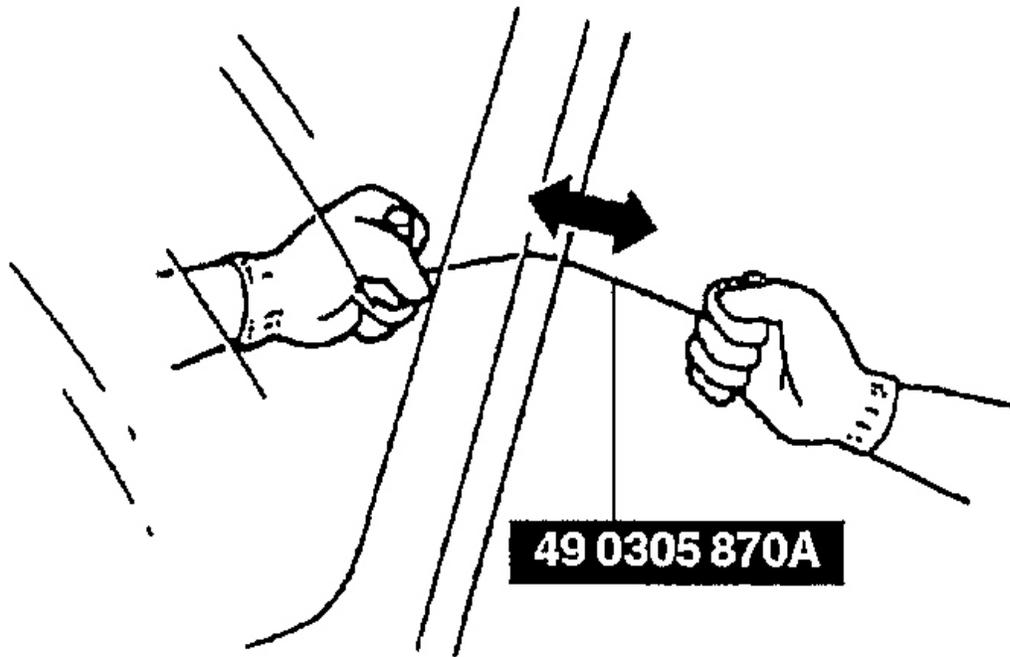


Fig. 33: Passing Piano Wire Through Hole
Courtesy of MAZDA MOTORS CORP.

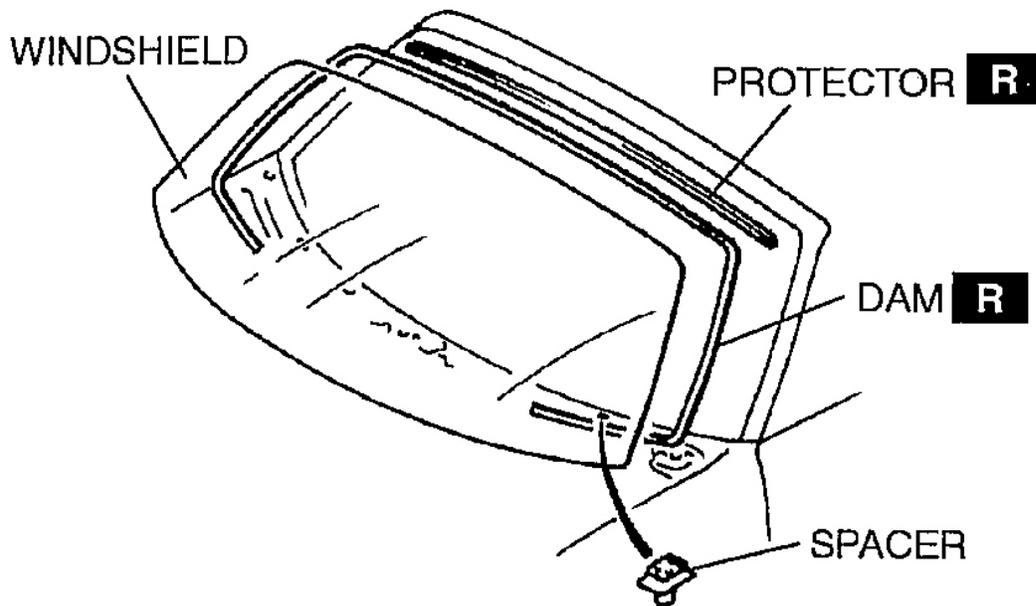
4. Working with another person, saw through the sealant around the edge of the glass.



G03638728

Fig. 34: Sawing Through Sealant
Courtesy of MAZDA MOTORS CORP.

5. Remove the windshield.
6. Remove the dam from the windshield.
7. Remove the protector.
8. Remove the spacers.



G03638729

Fig. 35: Removing Windshield, Dam, Protector & Spacers
 Courtesy of MAZDA MOTORS CORP.

WINDSHIELD INSTALLATION

WARNING:

- Using a razor with bare hands can cause injury. Always wear gloves when using a razor.

CAUTION:

- To prevent the sealant from cracking or the glass from being pushed out by air pressure if a door is closed, open all of the windows and leave them open until the sealant has hardened.

1. Cut away the old sealant using a razor so that **1-2 mm {0.04-0.07 in}** thickness of sealant remains around the circumference of the frame.
 - If all the sealant has come off in any one place, apply some primer after degreasing, and allow it **30 minutes** to dry. Then put on new sealant to create **2 mm {0.08 in}** layer.
2. Clean and degrease an **approximately 50.0 mm {1.97 in}** wide strip around the circumference of the glass and the bonding area on the body.
3. Securely bond a dam along the circumference of the glass **7.0 mm {0.28 in}** from the edge.
4. Install spacers into the hole.
5. Temporarily install the glass onto the body and adjust the glass-to-body clearance.

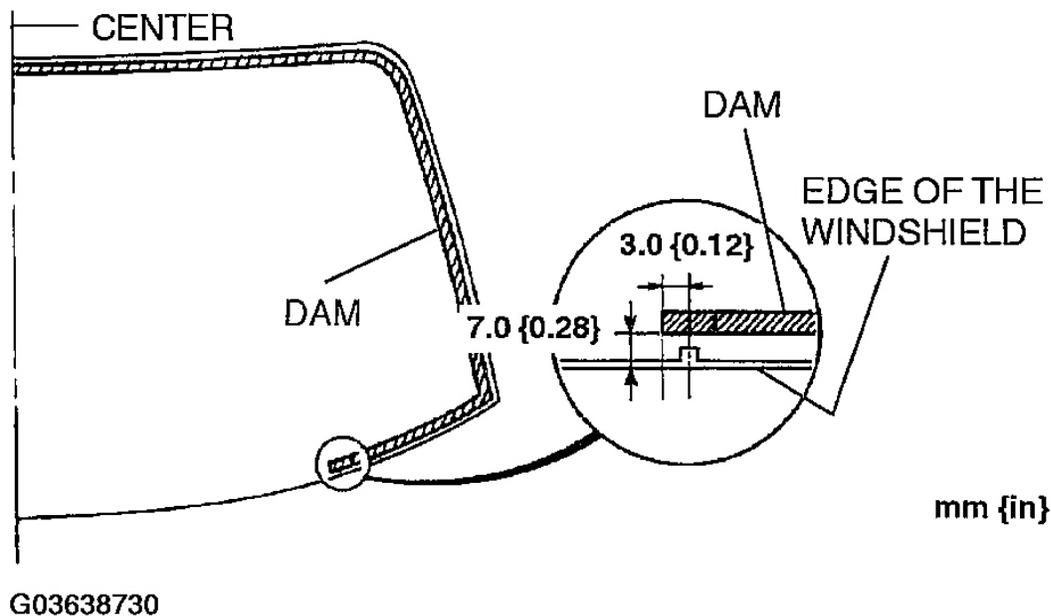
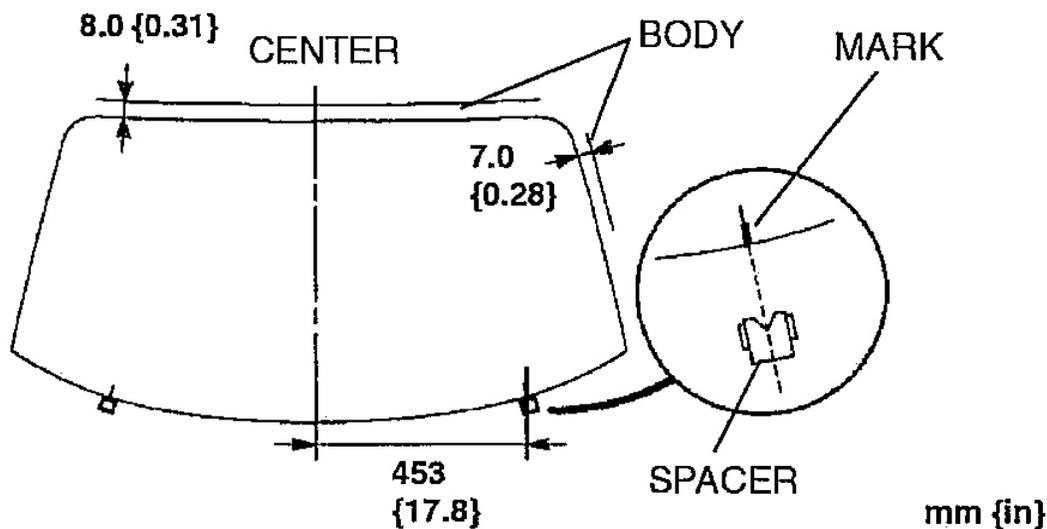


Fig. 36: Bonding Dam Along Circumference Of Glass
Courtesy of MAZDA MOTORS CORP.

6. Make a mark on the glass directly above the V-notch of spacers.
7. Remove the windshield.

CAUTION:

- Keep the area free of dirt and grease, and do not touch the surface or the primer may not properly bond to the surface of the glass and body which may cause leaks to occur.



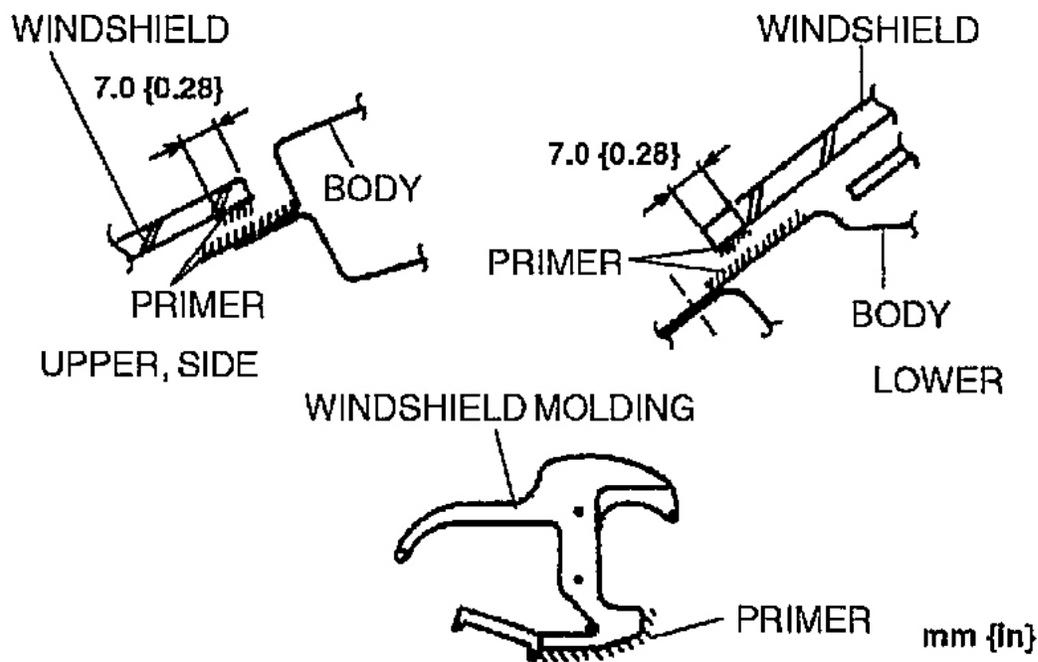
G03638731

Fig. 37: Making Mark On Glass Directly Above V-Notch Of Spacers
Courtesy of MAZDA MOTORS CORP.

- Use a brush to apply primer to the bonding area of the glass, the body and the molding within the region shown.

NOTE:

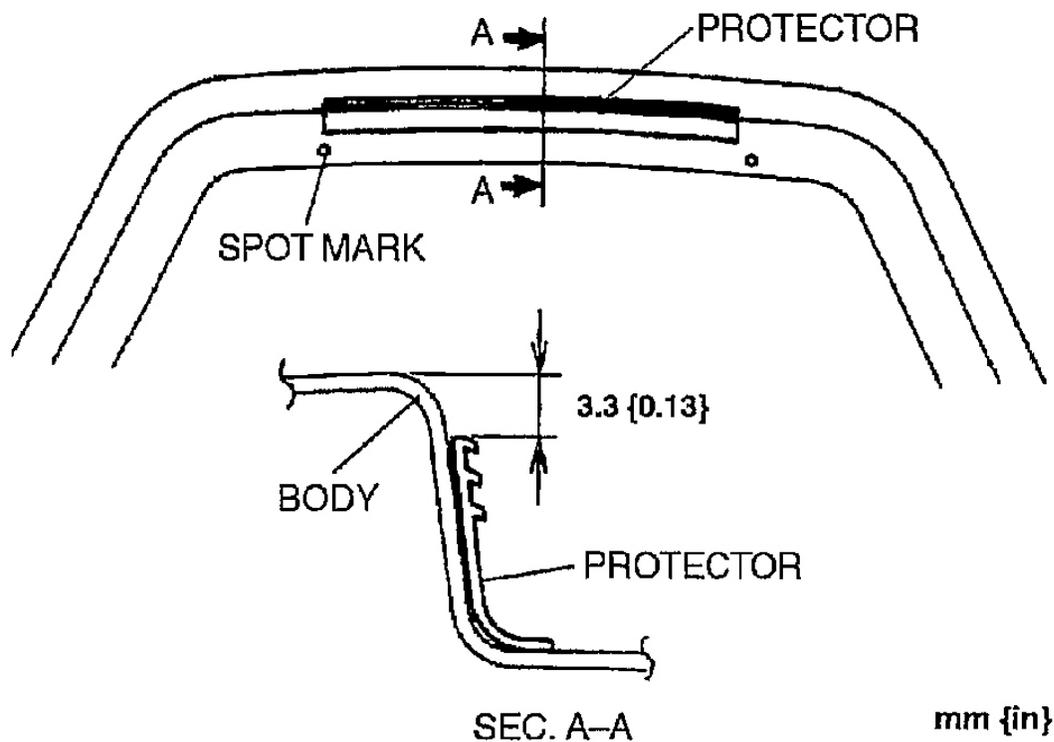
- Use only glass primer on the glass, and body primer on the body and the molding. Allow it to dry for approximately 30 minutes .



G03638732

Fig. 38: Applying Primer To Bonding Area Of Glass
Courtesy of MAZDA MOTORS CORP.

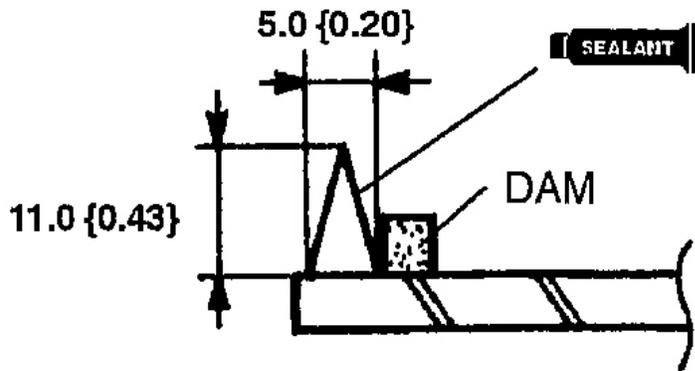
9. Align the edge of the protector to the spot mark.
10. Securely bond the protector to the body as indicated in the figure.



G03638733

Fig. 39: Bonding Protector To Body
Courtesy of MAZDA MOTORS CORP.

11. Once the primer is dry, apply sealant around the entire circumference to fill the gap between the dam and the edge of the glass measuring **11.0 mm {0.43 in}** high and **5.0 mm {0.20 in}** wide.
12. Align the glass marks with the V-notches in spacers and install the glass onto the body.
13. Press firmly inward on the glass to compress the sealant.

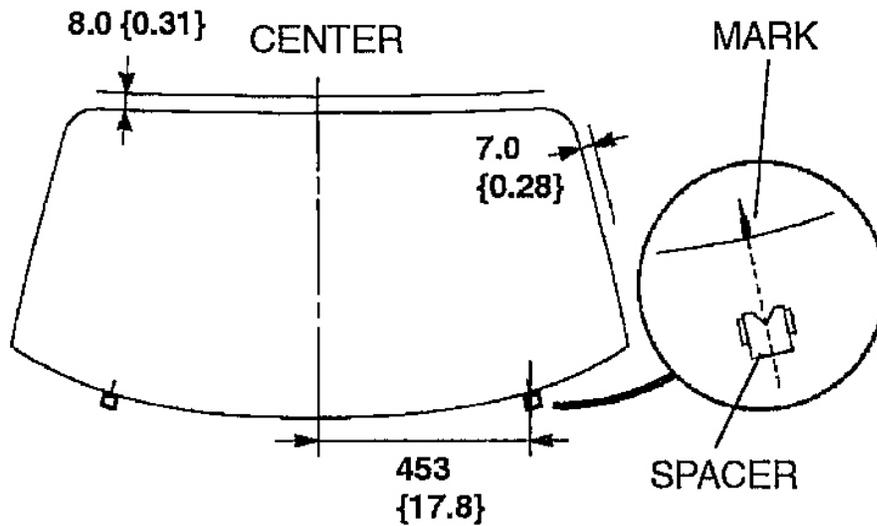


mm {in}

G03638734

Fig. 40: Applying Sealant Around Gap Between Dam And Edge Of Glass Measuring
 Courtesy of MAZDA MOTORS CORP.

14. Verify that the gap along the upper edge is 8.0 mm {0.31 in} and side edge is 7.0 mm {0.28 in} .



mm {in}

G03638735

Fig. 41: Aligning Glass Marks With V-Notches In Spacers
 Courtesy of MAZDA MOTORS CORP.

15. Use a scraper to smooth away any sealant that oozes out. Add more sealant to any points of poor contact. Adjust the sealant as shown if necessary.
16. Before the surface of the sealant has hardened, install the windshield molding. (See **WINDSHIELD MOLDING INSTALLATION** .)

SEALANT HARDENING TIME REFERENCE

Temperature	Surface hardening time	Time required until vehicle can be put into service
5°C {41°F}	Approx. 1.5 h	Approx. 12 h
20°C {68°F}	Approx. 1 h	Approx. 4 h
35°C (95°F)	Approx. 10 min	Approx. 2 h

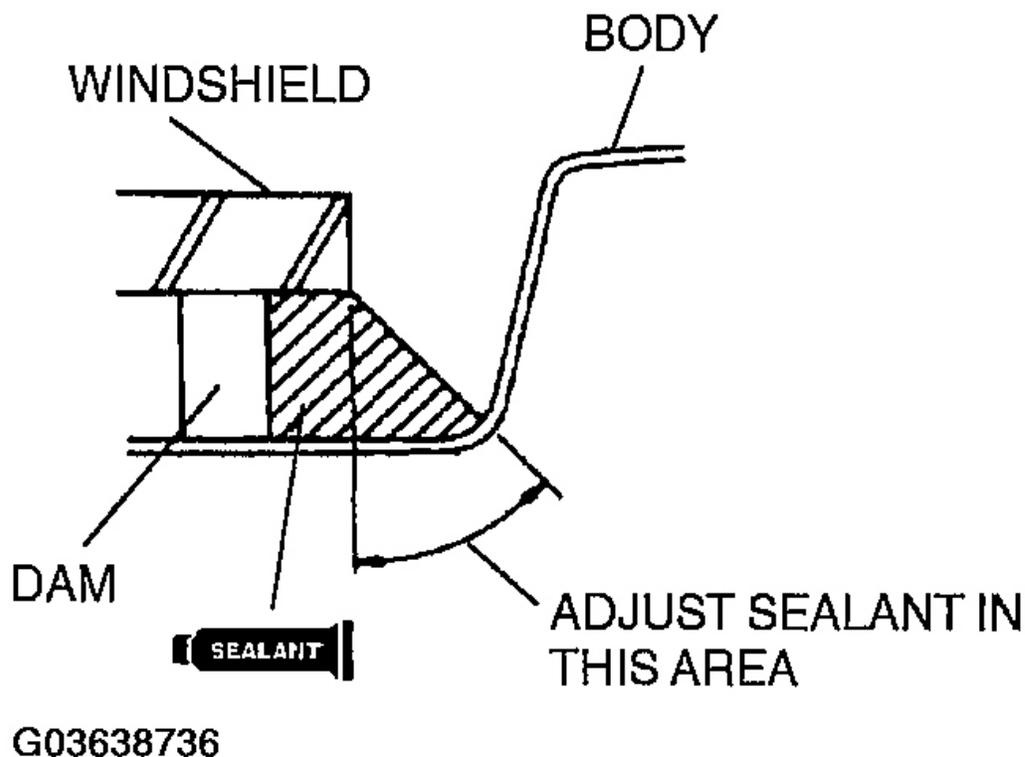


Fig. 42: Adjusting Sealant
 Courtesy of MAZDA MOTORS CORP.

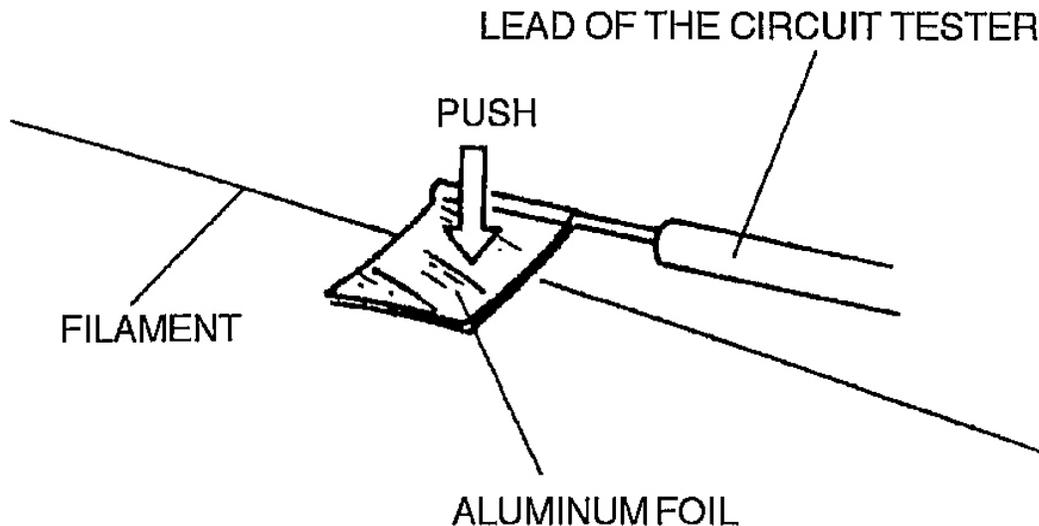
17. Use isopropyl alcohol to remove any excess sealant

18. Install the front header trim. (See **FRONT HEADER TRIM REMOVAL/INSTALLATION** .)
19. Install the striker. (See **CONVERTIBLE TOP DISASSEMBLY/ASSEMBLY** .) (See **DETACHABLE HARDTOP DISASSEMBLY/ASSEMBLY** .)
20. Install the cowl grille. (See **COWL GRILLE REMOVAL/INSTALLATION** .)
21. Install the A-pillar trim. (See **A-PILLAR TRIM REMOVAL/INSTALLATION**)
22. Install the base. (See **BASE INSTALLATION**.)
23. Install the rearview mirror. (See **REARVIEW MIRROR INSTALLATION**.)

FILAMENT INSPECTION

1. Turn the ignition switch to ON position.
2. Turn the rear window defroster switch on.

- CAUTION:**
- Directly touching the rear window defroster filament with the lead of the circuit tester will damage it. Wrap aluminum foil around the end of the lead and test the filament by touching it with the foil.



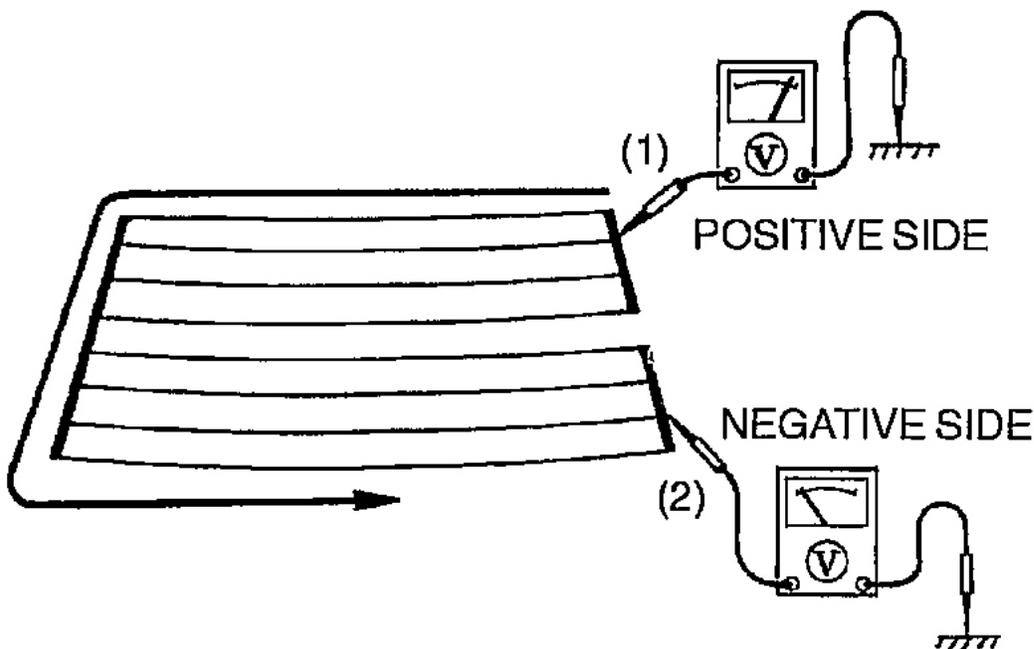
G03638737

Fig. 43: Inspecting Filament
Courtesy of MAZDA MOTORS CORP.

3. Connect the positive (+) lead of the voltmeter to the positive side of each filament and the negative (-) lead to ground.

4. Gradually, slide the positive (+) lead from the positive side to the negative side and measure the voltage. Verify that the voltage decrease accordingly.
- If the voltage is not as specified or it changes rapidly, the filament is faulty. Repair the filament

Measurement place	voltage (Reference value)
(1) --> (2)	Approx.12 V --> Approx.0 V



G03638738

Fig. 44: Connecting Voltmeter To Filament
Courtesy of MAZDA MOTORS CORP.

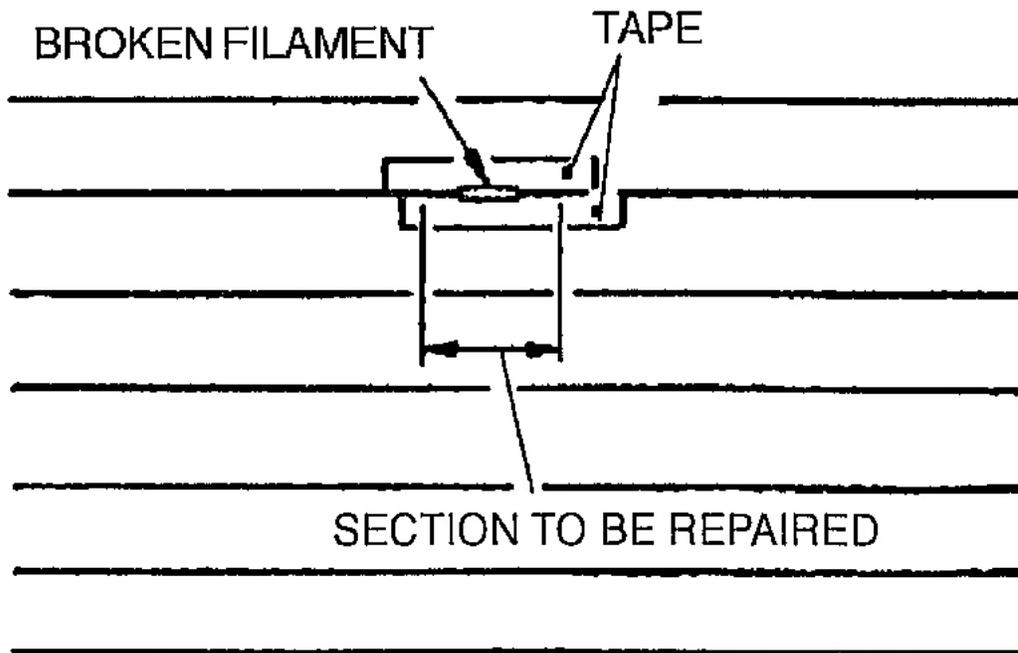
FILAMENT REPAIR

1. Use isopropyl alcohol to clean around the damaged section of the filament.
2. Attach tape above and below the damaged section of the filament.
3. Using a small brush or marking pen, repair the filament with silver paint or equivalent.
4. After **approximately 2-3 minutes**, carefully remove the tape without disturbing the repaired area.

CAUTION:

- Do not use the rear window defroster until the paint is completely dry. It may cause other malfunctions if it is used

before the paint is dry.



G03638739

Fig. 45: Repairing Filament
Courtesy of MAZDA MOTORS CORP.

5. Use a hot air blower heated to **150°C {302°F}** for **30 minutes** or let the paint set for **24 hours at 25°C {77°F}** to allow it to dry completely.

REAR WINDOW DEFROSTER SWITCH INSPECTION

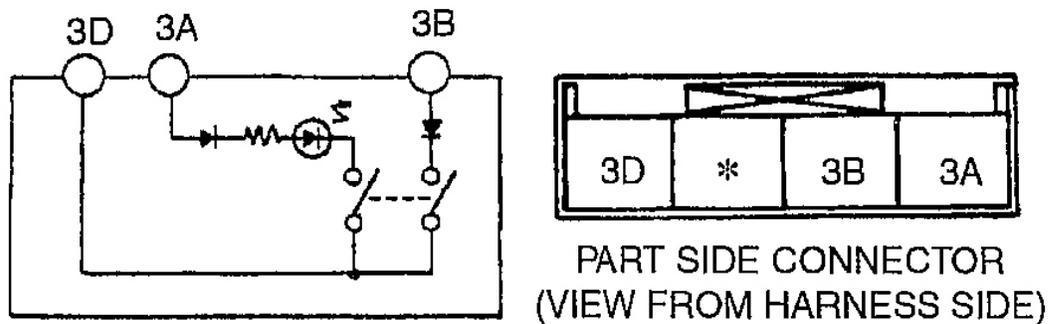
1. Remove the climate control unit. (See **CLIMATE CONTROL UNIT REMOVAL** .)
2. Inspect for continuity between the rear window defroster switch terminals using an ohmmeter.

○ —▶— ○ : Diode

Switch position	Terminal	
	3B	3D
Off		
On	○ —▶—	○

G03638740

Fig. 46: Rear Window Defroster Switch Continuity Table
 Courtesy of MAZDA MOTORS CORP.



G03638741

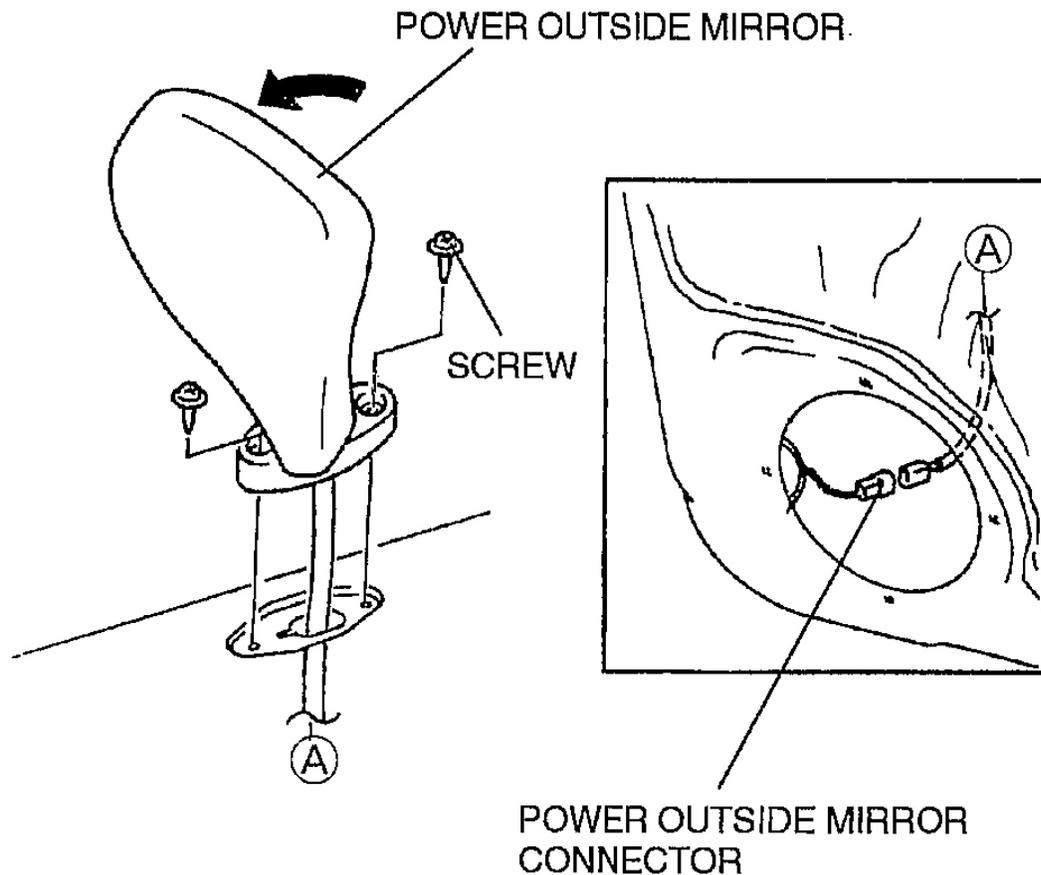
Fig. 47: Identifying Rear Window Defroster Switch Terminal Connectors
 Courtesy of MAZDA MOTORS CORP.

3. Connect battery positive voltage to terminal 3A and ground to the terminal 3D.
4. Turn the rear window defroster switch on.
5. Verify that the LED illuminates.
 - If not as specified, replace the fan and rear window defroster switch.

POWER OUTSIDE MIRROR REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Remove the door speaker. (See **DOOR SPEAKER REMOVAL/INSTALLATION**.)

3. Disconnect the power outside mirror connector.
4. Turn the power outside mirror forward.
5. Remove the screws.
6. Remove the power outside mirror.



G03638742

Fig. 48: Removing Power Outside Mirror
Courtesy of MAZDA MOTORS CORP.

7. Install in the reverse order of removal.

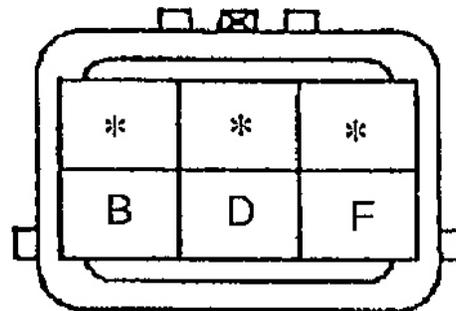
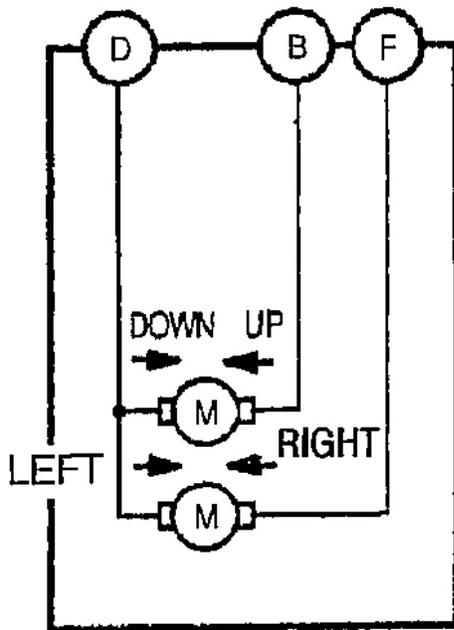
POWER OUTSIDE MIRROR INSPECTION

1. Remove the door speaker. (See **DOOR SPEAKER REMOVAL/INSTALLATION** .)
2. Disconnect the power outside mirror connector. (See **POWER OUTSIDE MIRROR REMOVAL/INSTALLATION**.)

3. Apply battery positive voltage to the power outside mirror terminals and inspect the operation of the power outside mirror.
 - If not as specified, replace the power outside mirror.

MIRROR OPERATION REFERENCE

Terminal		Mirror operation
B+	GND	
B	D	Up
D	B	Down
D	F	Left
F	D	Right



PART SIDE CONNECTOR
(VIEW FROM TERMINAL SIDE)

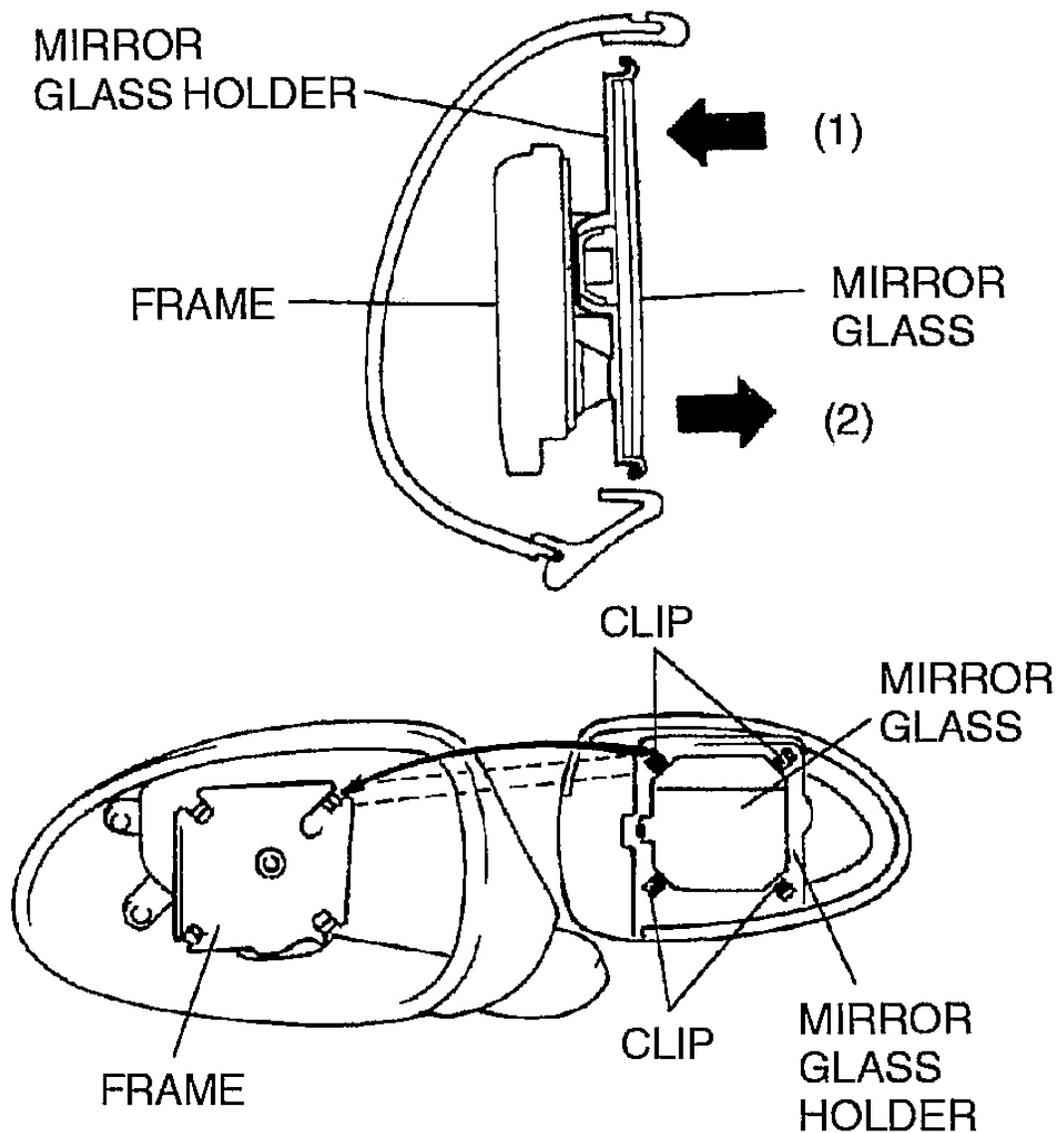
G03638743

Fig. 49: Identifying Power Outside Mirror Connector Terminals
Courtesy of MAZDA MOTORS CORP.

OUTSIDE MIRROR GLASS REMOVAL

1. Put on gloves and safety glasses.
2. Push the top of the mirror glass.(1)
3. Pull the bottom of the mirror glass to disengage clips and remove the mirror glass holder with the mirror

glass from the frame.(2)



G03638744

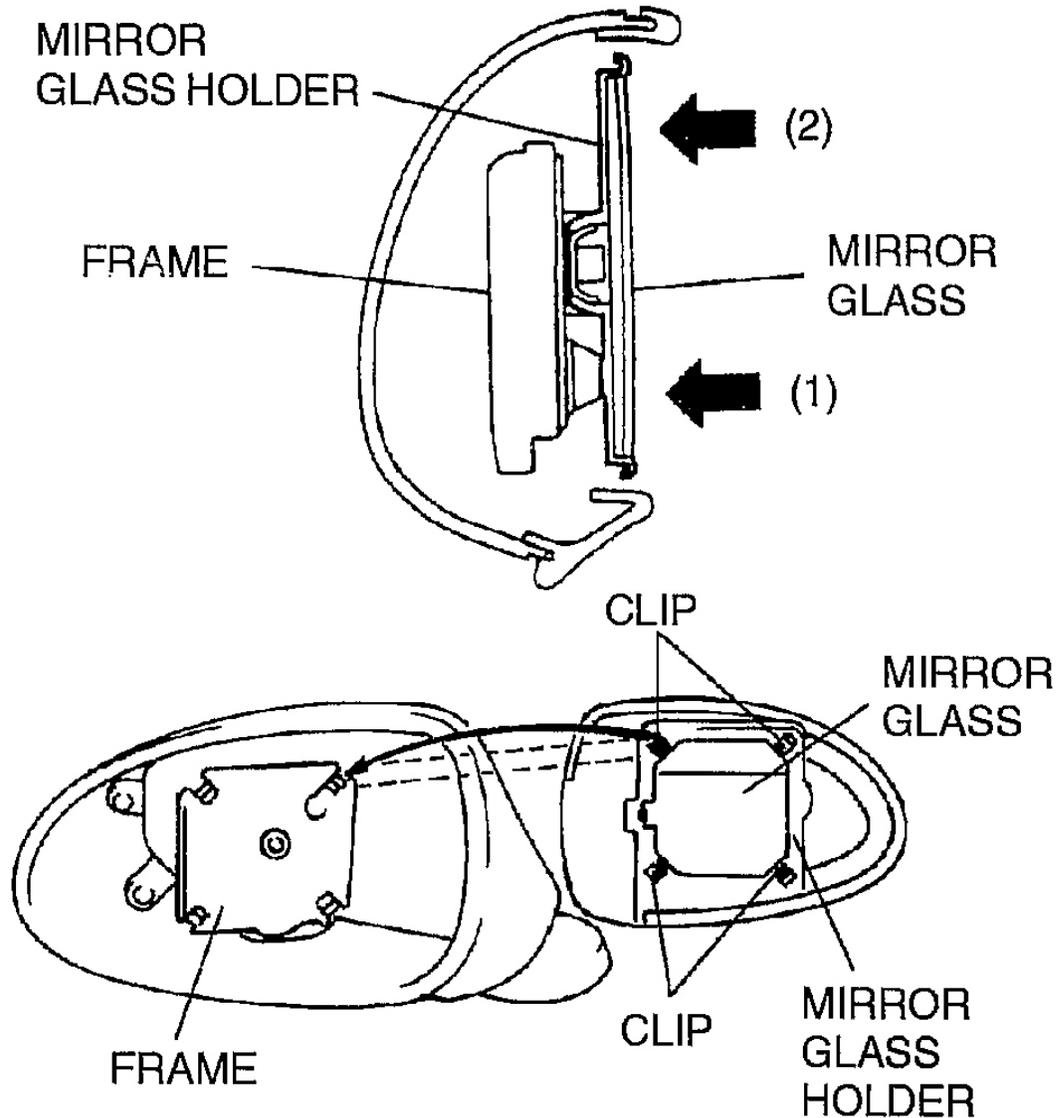
Fig. 50: Removing Outside Mirror Glass
 Courtesy of MAZDA MOTORS CORP.

OUTSIDE MIRROR GLASS INSTALLATION

1. Put on gloves and safety glasses.
2. Insert the bottom of the mirror glass holder with the mirror glass into the frame to install the lower clips.

(1)

3. Press the top of the mirror glass holder with the mirror glass onto the frame to install the upper clips.(2)



G03638745

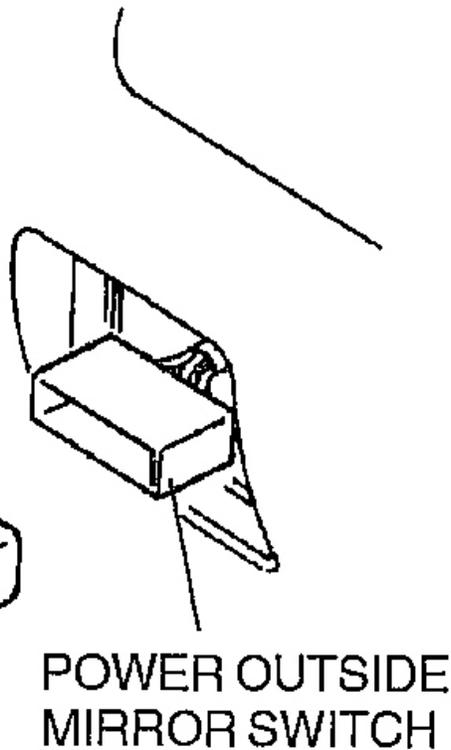
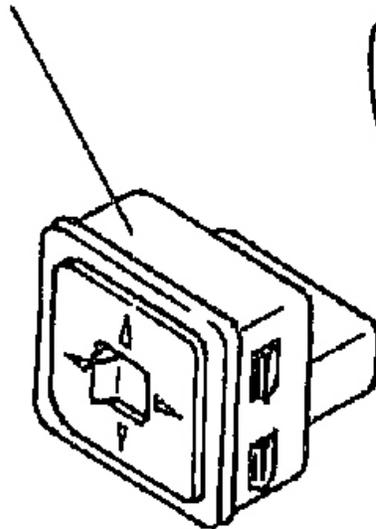
Fig. 51: Installing Outside Mirror Glass
 Courtesy of MAZDA MOTORS CORP.

POWER OUTSIDE MIRROR SWITCH REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.

2. Remove the lower panel.
3. Grasp the left and right sides of the power outside mirror switch and push it out to remove it.
4. Disconnect the power outside mirror switch connector.
5. Remove the power outside mirror switch.

POWER OUTSIDE
MIRROR SWITCH



G03638746

Fig. 52: Removing Power Outside Mirror Switch
Courtesy of MAZDA MOTORS CORP.

6. Install in the reverse order of removal.

POWER OUTSIDE MIRROR SWITCH INSPECTION

1. Remove the power outside mirror switch. (See **POWER OUTSIDE MIRROR SWITCH REMOVAL/INSTALLATION.**)
2. Inspect for continuity between the power outside mirror switch terminals using an ohmmeter.
 - If not as specified, replace the power outside mirror switch.

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Glass/Windows/Mirrors - MX-5 Miata

○—○ : Continuity

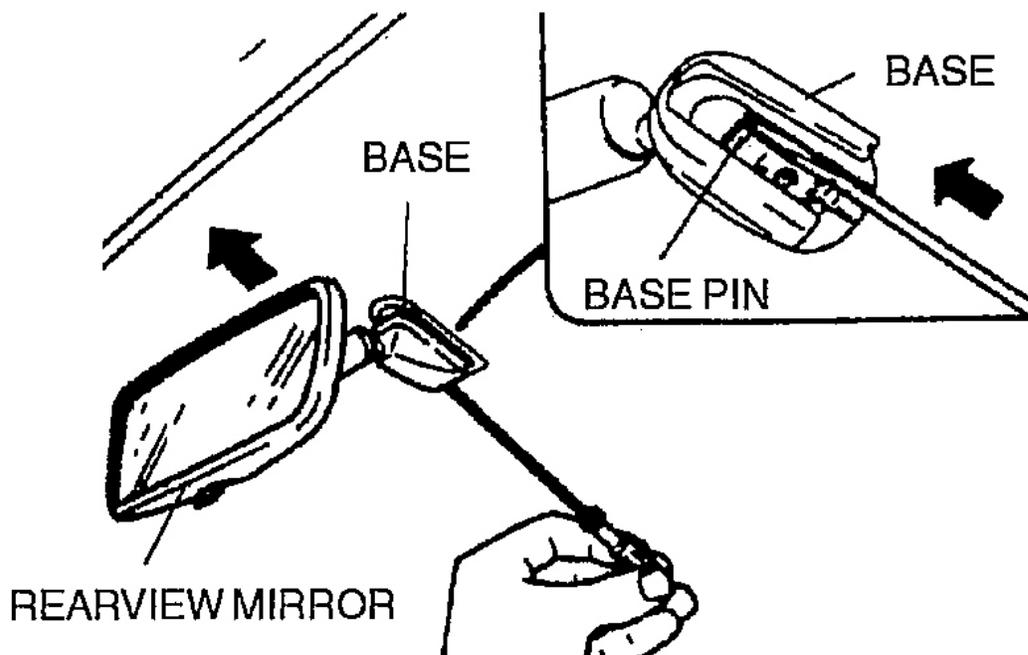
Switch position		Terminal						
		A	B	C	D	F	G	H
LH	Up	○—○				○—○		○
	Down	○—○				○—○	○	○
	Left	○	○			○—○	○	○
	Right	○	○			○—○	○	○
RH	Up			○—○	○	○—○		○
	Down			○—○	○	○—○	○	○
	Left			○	○	○—○	○	○
	Right			○	○	○—○	○	○

G03638747

Fig. 53: Power Outside Mirror Switch Continuity Table
 Courtesy of MAZDA MOTORS CORP.

REARVIEW MIRROR REMOVAL

1. Insert a flathead screwdriver between the mirror and the base.
2. Push the base pin to remove the rearview mirror.

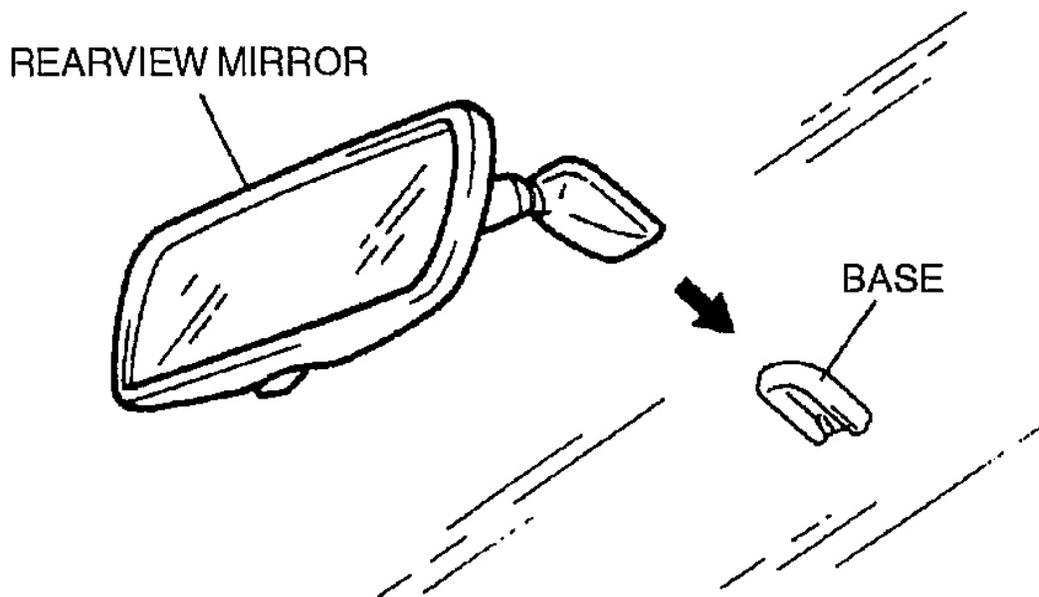


G03638749

Fig. 55: Removing Rearview Mirror
Courtesy of MAZDA MOTORS CORP.

REARVIEW MIRROR INSTALLATION

1. Install the rearview mirror onto the base.



G03638750

Fig. 56: Installing Rearview Mirror Onto Base
Courtesy of MAZDA MOTORS CORP.

BASE REMOVAL

1. Remove the rearview mirror.
2. Wind each end of the SST (piano wire) around a bar.

WARNING:

- Using the SST (piano wire) with bare hands can cause injury. Always wear gloves when using the SST (piano wire).

NOTE:

- Use the entire length of the SST (piano wire) to prevent it from breaking when cutting through the sealant.

3. Saw through the sealant to remove the base.

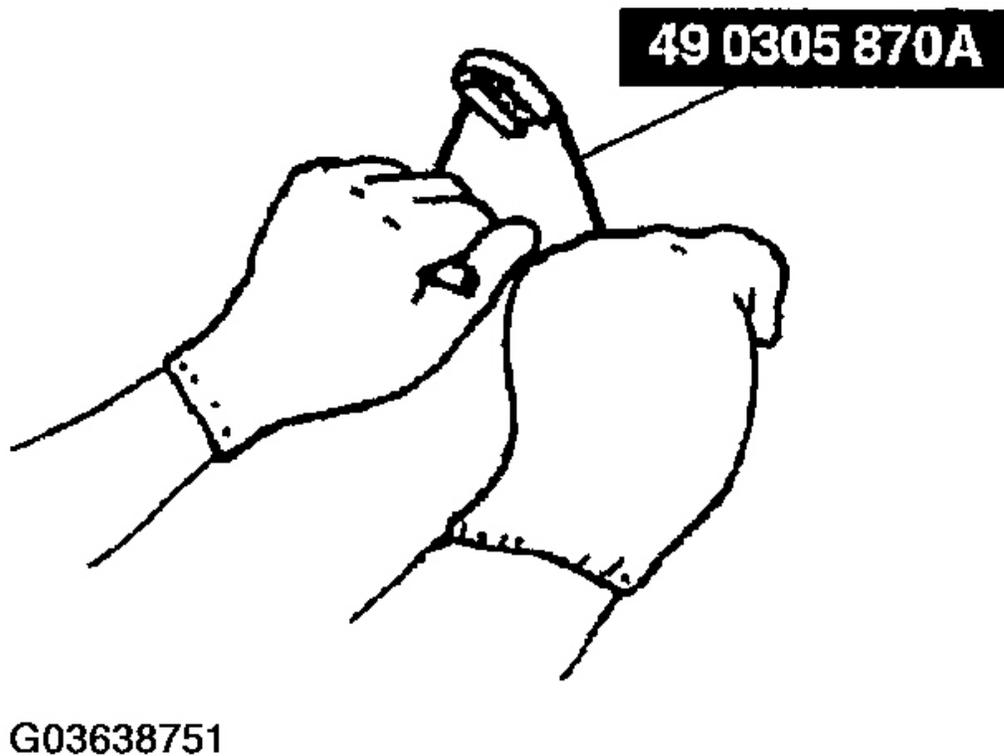


Fig. 57: Sawing Through Sealant Of Base
Courtesy of MAZDA MOTORS CORP.

BASE INSTALLATION

WARNING:

- Using a razor with bare hands can cause injury. Always wear gloves when using a razor.

1. Cut away all of the original sealant using a razor.
2. Clean and degrease the ceramic coating on the glass and the base.

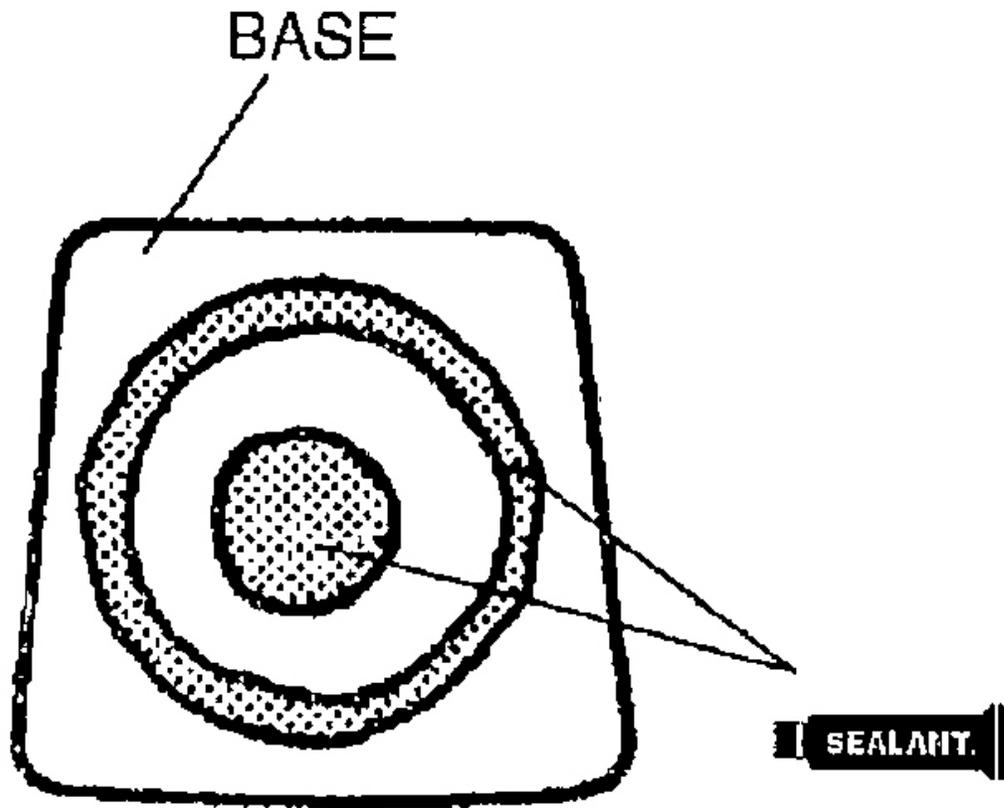
CAUTION:

- Keep the area free of dirt and grease, and do not touch the surface or the primer may not properly bond to the surface of the glass.

3. Apply primer to the bonding area of the glass and the base.
4. Apply a height of **3.0 mm {0.12 in}** sealant to the base.

NOTE:

- Use only glass primer on the glass, and body primer on the base. Allow the primer to dry for approximately 30 minutes .



G03638752

Fig. 58: Applying Primer To Bonding Area Of Glass And Base
Courtesy of MAZDA MOTORS CORP.

5. Center the base in the ceramic coating and press it onto the glass.

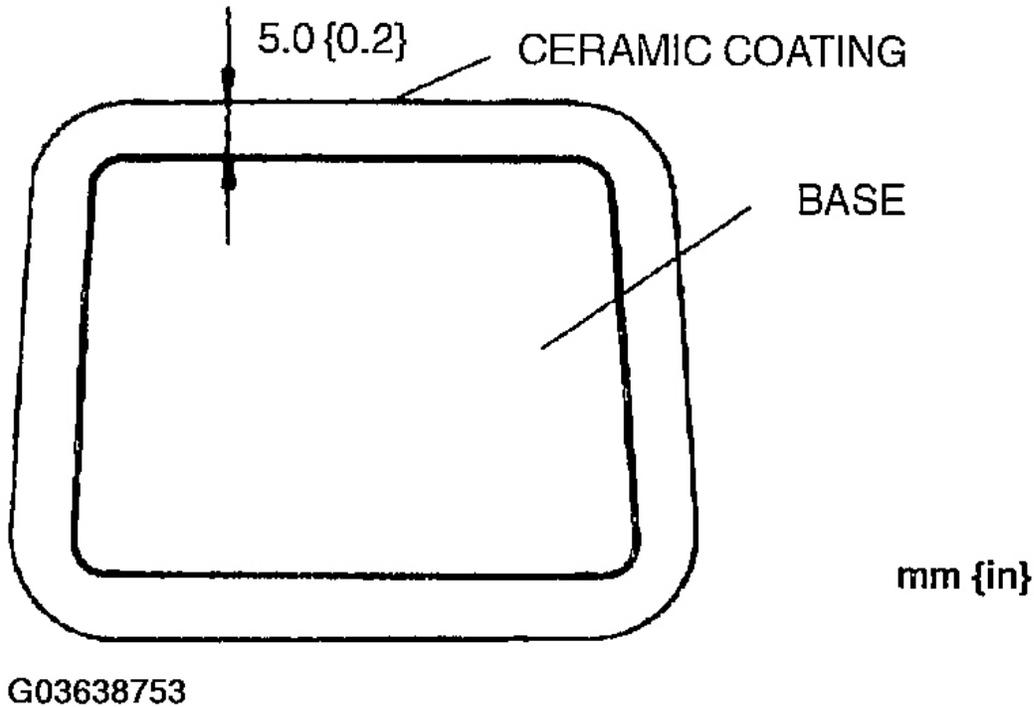


Fig. 59: Centering Base In Ceramic Coating
 Courtesy of MAZDA MOTORS CORP.

- Use isopropyl alcohol to remove any excess sealant.

SEALANT HARDENING TIME

Temperature	Surface hardening time	Time required until vehicle can be put into service
5°C {41°F}	Approx. 1.5 h	Approx. 12 h
20°C {68°F}	Approx. 1 h	Approx. 4 h
35°C {95°F}	Approx. 10 min.	Approx. 2 h

- Install the rearview mirror