

2003-04 Mini Cooper

Vehicle Type: Two-Door Hatchback

NAGS® number:* FW02305GTY (Heat) (Rain Sensor) or FW02304GTY. Original-equipment-manufacturer part numbers are 51311505850 (Heat) (Rain Sensor), or 51311505875. FD21652-53 Door F/R-L GTN. OEM part numbers are: right side, 51337130910; left side, 51337130909. FQ21654-55 Quarter R-L GTN. OEM part numbers are: right side, 51361166580; left side, 51361166579. FB21656 Back Window (Heated)(1Hole). OEM part number is 51311497600. Sunroof OEM part numbers are 54107039736 for the moving part and 54107039715 for the rear stationary sunroof.

Installation time: Windshield, 3.1 hours; front door, 1.5 hours; quarter, 2.7 hours; back glass, 2.5 hours; sunroof moving part, 1.5 hours; stationary sunroof, 3.1 hours.

Technicians needed: One.

Helpful tools or supplies: Retention tape for the cowl; ¼-inch foam tape for the exterior side trim panels.

Watch for: Make sure the bottom windshield moldings and back-glass top and bottom moldings are fastened to the body with the clips. On the upper corner of the windshield moldings closest to the door trim, be sure to slip the corner pieces in a forward motion to disengage these pieces away from the drip rail and the corner clip before removing.

*With permission from the National Auto Glass Specifications 2003 Edition Fall Catalog and 2003 Fall Benchmark Calculator. Contact NAGS at 800/551-4012 or visit www.nags.com.



shield fits close to the pinchweld. Remove trim panels using an installation stick or panel remover. Locate three fasteners: top, center and about 4 inches from the bottom of the panel near the dashboard. This vehicle has air bags on the trim panels; be careful not to disturb them.

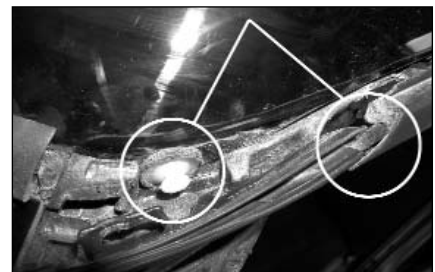
- Remove the weatherstripping from around the weatherstrip retainer from the bottom of the dash area to the top rear end of the door frame at the B pillar post.

- Remove the four No. 2 Phillips screws under the weatherstrip. These hold the exterior side trim moldings. Next, locate four push-in clips that hold the trim moldings. Use an installation stick to lift the molding and then use slight pressure in an upward motion to disengage the molding from the clips.



- Locate the ¼-inch two-way foam tape that holds the molding and keeps it from making wind noise. Using an installation stick, gently take the tape away from the body. If you are not able to save the foam tape, use a similar foam tape, typically used for weatherstripping household storm windows and doors and purchased at hardware stores.

- Remove at least two or three No. 2 Phillips screws from the weatherstrip retainer so that the top corner windshield trim piece can be moved forward. It will disengage from the drip rail and the clip on the underside of the corner piece. Do not try to pop them loose, or the trim and clip will get damaged.



- Release the two bottom moldings by removing the No. 2 Phillips screws at the ends of the moldings.

- On the underside of the molding nearest the bottom of the windshield, locate six push-in fasteners on each side. Disengage them using a Honda and Toyota molding remover or similar tool.

Windshield

- Always wear eye and hand protection when working with glass.

- Be sure that you have the right glass and moldings and that the urethane systems that you are about to use are current.

- Cover front seats, floorboards, dash and steering wheel with a clean drop cloth or disposable plastic covers.

- Remove the windshield-wiper nut covers using an installation stick or small flat-tip screwdriver. Remove the windshield-wiper nuts using a 14-millimeter wrench or socket. Push wiper arm downward so that the wiper will break loose from the wiper post. Wipers can sometimes be hard to remove. To avoid stressing the post, use a wiper puller to take the wiper off the post.



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- Cover the cowl and fender areas closest to the bottom of the windshield with retention tape.
- Using the clip-removal tool, locate the clips and push the clip and lift the molding in an upward motion.

Removal

- Be sure the cutting blades are sufficiently sharp.
- Remove the one-piece top molding, starting at the corner of the windshield, and pull in an upward motion 3- to 4-inches at a time.
- Before cutting out the windshield, remove any contaminant from the glass and pinchweld.
- If using a cold knife, use a $\frac{3}{4}$ -inch cold knife blade. Cut three sides and use a long knife or a power tool to cut the bottom of the windshield. There are no gravity stops on this windshield.
- If trying to save the windshield, use an Equalizer with an 8-inch blade. When using any power tool, use plain water to lubricate the cutting area. Spray the top and sides, then make your cuts.
- After cutting the sides and the top, place a Pumper in the top center of the windshield to open the cutting area on the bottom portion of the windshield. Never use your head as a pushing device as this could result in back and neck injuries.
- Spray the bottom of the windshield at least 4-to-5 inches above the urethane on the glass so that the water will flow down into the urethane while you are making your final cut across the bottom.
- Take the windshield out of the opening using a set of vacuum cups. Lift the glass and place it on a windshield stand or a suitable workstation.

Installation

- Remove contaminants such as dirt, moisture and other debris from the pinchweld. Clean the dashboard.
- Dry fit the new glass to the opening. Make your marks with retention tape or a grease pencil.
- Place the vacuum cups on the windshield in the appropriate location for a one-person set.
- For driver-side setting, place the setting elbow pad on the driver side of the hood. Lift the windshield from the windshield stand using vacuum cups.
- Reaching over, place your elbow on the setting pad on the hood and set the windshield onto the old urethane. Place an alignment mark on your side so that you can easily align the windshield when you install it permanently.
- With the windshield resting in the opening, go to the passenger side and make your dry-fit mark.
- After you have adjusted on the passenger side to the correct setting, walk back to the driver side, lift the glass and place it on a windshield stand or a suitable workstation.
- Follow the urethane manufacturer's recommendations for installation. Verify that the urethanes and primers are up to date.
- Clean the inside of the windshield using what the urethane manufacturer recommends, following its steps. Do not touch the windshield after cleaning it.
- Wear powder-free Nitrile gloves to keep from coming in contact with chemicals.

- Apply the glass prep following the urethane manufacturer's recommendations. Do not touch the windshield after prepping it.
- Apply the glass primer, following the urethane manufacturer's recommendations. Do not touch the windshield after priming it.
- Apply the molding to the windshield. The molding part numbers are OEM 51317051057, Precision WFS2304.
- Using a pinchweld scraper, remove as much of the original urethane as the urethane manufacturer recommends. Before removing the old urethane, make sure there are no contaminants and do not touch the pinchweld after you have prepped the area.
- Apply the pinchweld primer only to areas where needed, and follow the urethane manufacturer's recommendations. Allow preps and primers to dry as recommended by the urethane manufacturer.

- Apply a triangular bead of urethane to the same path as the freshly cut urethane. Before cutting a V notch with a Top Notch tool, cut the tip off of the nozzle with a nozzle cutter. With the cut nozzle, measure to the top of the roofline and, adding $\frac{1}{6}$ of an inch higher than the roofline, make a mark on the nozzle with a pen or marker. Notch the nozzle up to the marked line and this will give you the appropriate triangular bead.

- With vacuum cups, lift the windshield from the windshield stand or workstation. Reaching over, place your elbow on the setting pad on the hood and set the windshield on the urethane at the mark that you made during the dry fit. Lower the driver side of the windshield onto the urethane and line up with the dry-fit mark; it is now in place.

- The windshield is now ready to be decked. Press firmly to ensure a good seal.

- Before reinstalling the parts, take a few minutes to check for leaks. Use a leak detector to go over the perimeter of the windshield. If you find a leak, apply pressure to the spot and ensure that the glass makes contact with the wet urethane.

- Reinstall the removed parts in reverse manner. Install the moldings and wipers. Install the interior and exterior A pillar trim panels. Install the corner and reinstall the drip rail screws. After the urethane has cured, release the car to your customer. To disregard the safe drive-away times that your urethane manufacturer recommends could jeopardize the structural integrity of the car and the safety of its passengers.



Door Glass

- Door-glass part numbers are FD21652-53 Door F/R-L GTN. OEM part numbers are right side, 51337130910, left side, 51337130909.

Remove the three T27 Torx screws from the door panel. The two on the front on the door panel are approximately 2-inch-long T27 Torx screws. A third screw at the rear of the panel is a $\frac{1}{2}$ inch long.



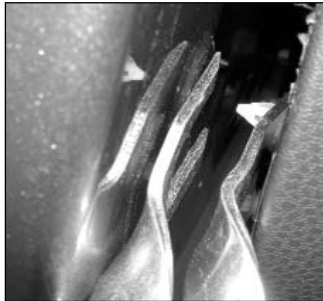


- Remove the trim panel by pulling the top of the panel from the six weather-strip fasteners and pulling in an outward motion. Nine trim panel clips around the door panel can be removed by using a door-panel remover. The retainers start about 5 inches down from the side

and go all around the panel. Gently pull the door panel. Set door panel in a safe place.

- Remove the exterior door beauty trim by pulling in an upward motion from the front to the back or vice versa.

- Lower the glass to align the mounting hardware to the opening. Loosen the 5-millimeter hex stud retaining disc from the carriage. To do this, you will have to reach in the door and get behind the carriage. Feel around with your fingers to locate the center of the retaining disc. Once you have located it, place the 5-millimeter hex wrench and, in a counterclockwise motion, unscrew.



- Remove the front and the back retaining discs from the glass.



- Lift the glass out by lifting the backside of the glass first to disengage from the carriage.

- To replace the door glass, slip the glass back into the door in the same manner as it was removed. Be sure it is in and the holes are in alignment before reinstalling the retaining disc onto the front and rear carriages.

- Align the glass with the hardware and tighten the two 5-millimeter hex retaining discs in a clockwise motion.

- Be sure to check the operation of the glass before replacing the panel.
- Align the door-panel retainers with the door retainer holes, then press or push the retainers back into place.
- Reinstall the exterior door beauty trim by pressing front to back.
- Reinstall the three T27 Torx screws. Be sure that the two longer screws are installed in the two front holes of the door trim panel.
- For good measure, check operation of the glass by rolling up and down.

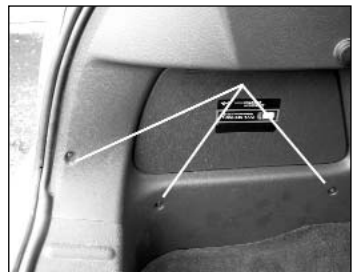
Quarter Glass

- Part numbers are FQ21654-55 Quarter R-L GTN. OEM part numbers are: right side, 51361166580, left side, 51361166579.

- Lower the rear seat.
- Remove the two 13-millimeter bolts from the rear seat striker.

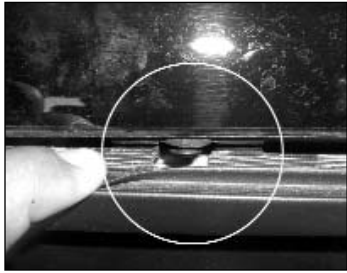
- Loosen the lower quarter panel by disengaging it. Pull on clips with a panel remover and then disengage the upper trim panel. Don't skip this step, or the trim panel could be damaged. The upper trim panel has a leg on the backside of the panel that goes into the body of the B pillar. Pull the trim panel in a downward motion to disengage it from the body.

- Remove the three No. 2 Phillips screws from the rear quarter panel that leads to the back of the hatchback area at the emergency box, then disengage the push-on clips on the upper trim panel of the C pillar post. Be careful: an air bag rests behind this panel.



Notes

After releasing this trim panel, do not remove it, just let the trim hang loosely so that the airbag is not disturbed.



- Remove the drip rail by popping loose the molding from the rear of the car to the front, using a plastic installation stick.
- Remove the weatherstripping from around the weatherstrip retainer from the bottom of the dash area

to the top rear end of the door frame at the B pillar.

- Remove the No. 2 Phillips screw that holds the weatherstrip retainer and move out of the way.
- Remove the exterior lower molding by popping loose the molding from the rear of the car to the front of the car at the B pillar post, using a plastic installation stick.
- If trying to save the quarter glass, use an Equalizer with an 8-inch serrated blade. Adjust the depth of the blade so that only ¼ inch is exposed. When using any power tool, use plain water to lubricate the cutting area. Spray the top, sides and bottom, then make your cuts.

Installation

- After cutting the quarter glass out, remove contaminants from the pinchweld.
- Place vacuum cups on the quarter glass in the appropriate locations.
- Follow the urethane manufacturer's recommendation for installation.
- Clean the inside of the quarter glass, using what the manufacturer recommends, and following its steps.
- Apply the glass prep, following the urethane manufacturer's recommendations. Do not touch the quarter glass after prepping it.
- Apply the glass primer following the urethane manufacturer's recommendations. Do not touch the quarter glass after priming it.
- Using a pinchweld scraper, remove as much of the original urethane as the urethane manufacturer recommends. Before removing the old urethane, make sure there are no contaminants and do not touch the pinchweld after you have prepped the area.
- Apply the pinchweld primer only to the areas where it is needed and follow the urethane manufacturer's recommendations. Make sure to allow preps and primers to dry as recommended by the urethane manufacturers.
- Apply a triangular bead of urethane to the same path as the freshly cut urethane on the pinchweld. Cut a V notch with a nozzle cutter.
- Lift the quarter glass from the windshield stand or a suitable workstation using vacuum cups. Set the quarter glass in the opening. The quarter glass is now ready to be decked. Press firmly to ensure a good seal.
- Before reinstalling the parts, check for leaks and seal them.
- Reinstall the removed parts in reverse manner.
- After the urethane has cured, release the car to your customer.

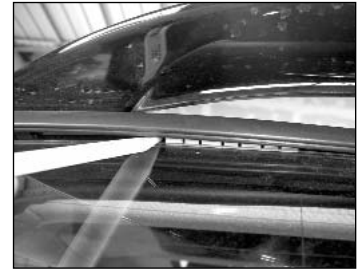
- You have completed the removal and replacement of the quarter glass.

Back Glass

- Part number is FB21656 Back Window (Heated)(1Hole). OEM part number is 51311497600.
- Remove the wiper post cover and back glass window washer sprayer nozzle.



- Remove the windshield-wiper nuts using a 14-millimeter wrench or socket.



- Remove the exterior top and bottom moldings with an installation stick.

- Remove the six No. 2 Phillips head screws that hold the lower trim panel and release the four push-in retainers using a trim panel remover.



- Release the three push-in retainers that hold the side trim panels on each side, using a trim panel remover.

- Remove the top trim panel by releasing the five push-in retainers, using a trim panel remover.



- Disconnect the two defroster electrical connectors, one on each side, by pinching the connectors and sliding in an outward motion.



- Remove the two decklid posts, using a No. 2 Phillips head screwdriver. If trying to save the back glass, use an Equalizer with an 8-inch serrated blade. Adjust the depth of the blade so that only ¼ inch is exposed. When using any power tool, use plain water to lubricate the cutting area. Spray the top, sides and bottom, then make your cuts.

- After cutting the back glass out, remove contaminants from the pinchweld.
- Be sure to dry fit the new glass to the opening. Make your marks with retention tape or a grease pencil.
- Place the vacuum cups on the new back glass in the appropriate location.
- Tape the two electrical defroster connectors, one on each side, to the glass.

- Follow the urethane manufacturer's recommendation for installation.
- Clean the inside of the back glass, using what the manufacturer recommends, and following its steps.
- Apply the glass prep, following the urethane manufacturer's recommendations. Do not touch the back glass after prepping it.
- Apply the glass primer following the urethane manufacturer's recommendations. Do not touch the back glass after priming it.
- Using a pinchweld scraper, remove as much of the original urethane as the urethane manufacturer recommends. Before removing the old urethane, make sure there are no contaminants and do not touch the pinchweld after you have prepped the area.
- Apply the pinchweld primer only to the areas where it is needed, and follow the urethane manufacturer's recommendations. Be sure to allow preps and primers to dry as recommended by the urethane manufacturers.
- Apply a triangular bead of urethane to the same path as the freshly cut urethane on the pinchweld. Cut a V-notch with a nozzle cutter.
- Lift the back glass from the windshield stand or a suitable workstation using vacuum cups. Set the back glass in the opening. The back glass is now ready to be decked. Press firmly to ensure a good seal.
- Before reinstalling the parts, check for leaks and repair them.
- Connect the two rear defroster wires.
- Reinstall the removed parts in reverse manner.
- After the urethane has cured, release the car to your customer.



Moving Sunroof

- There are two sunroofs, one moves and one doesn't. Be sure you have the right glass.
- Open the sunroof slightly so that the screws are exposed.
- Remove 12 T20 Torx screws.
- Gently slide out the sunroof from the rear of the sunroof opening and push up on the glass to remove it from the rails.



Installation

- Gently slide the sunroof in from the rear of the sunroof opening and place the glass on the rails.
- Tighten the 12 T20 Torx screws.
- Check the operation of the glass by opening and closing several times.

Stationary Sunroof

- If trying to save the sunroof, use an Equalizer with an 8-inch serrated blade. Adjust the depth of the blade so that only ¼ inch is exposed. When using any power tool, use plain water to lubricate the cutting area. Spray the top, sides and bottom, then make your cuts.
- After cutting the sunroof out, remove contaminants from the pinchweld.
- Dry fit the new glass to the opening. Make your marks with retention tape or a grease pencil.
- Place the vacuum cups on the new sunroof in the appropriate location.
- Follow the urethane manufacturer's recommendation for installation.
- Clean the inside of the sunroof, using what the manufacturer recommends and following its steps.
- Apply the glass prep, following the urethane manufacturer's recommendations. Do not touch the sunroof after prepping it.
- Apply the glass primer following the urethane manufacturer's recommendations. Do not touch the sunroof after priming it.



- Using a pinchweld scraper, remove as much of the original urethane as the urethane manufacturer recommends. Before removing the old urethane, make sure there are no contaminants and do not touch the pinchweld after you have prepped the area.
- Apply the pinchweld primer only to the areas where it is needed, and follow the urethane manufacturer's recommendations. Be sure to allow preps and primers to dry as recommended by the urethane manufacturers.
- Apply a triangular bead of urethane to the same path as the freshly cut urethane on the pinchweld. Cut a V-notch with a nozzle cutter.
- Lift the sunroof from the windshield stand or a suitable workstation using vacuum cups. Set the sunroof in the opening. The sunroof is now ready to be decked. Press firmly to ensure a good seal.
- Check for leaks and repair.
- After the urethane has cured, release the car to your customer.

— Gilbert R. Gutierrez

Notes
