

# 2005 Lotus Elise Roadster

By Gilbert R. Gutierrez

## Vehicle information



**Vehicle type:** Two-door roadster

**Dealer part numbers:** Windshield part number A17B0094E; door glass F116B0185F, F116B0186F L and R; and back glass A117B0138F

**Helpful tools or supplies:** Retention tape to protect the fender and hood, and to prevent the windshield and back glass from slipping; duct tape to wrap the sheath of the Equalizer cutout tool; a PryBaby for molding and panel removal; two temporary, universal windshield gravity stops; two temporary rubber setting blocks; and a leak detector

**Watch for:** The two Velcro tabs that secure the panel to the door's inner skin; there is one at the top on the center of the panel and another directly below it. When removing the door trim panel, be careful not to bend the panel or scratch the paint.

## A. Windshield

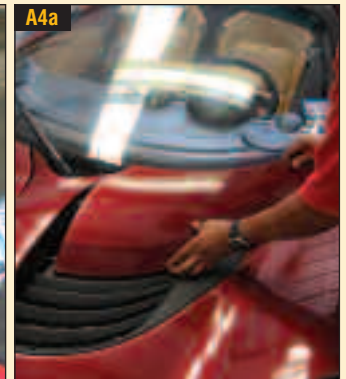
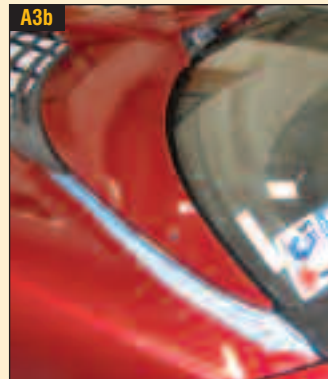
### Preparation

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

**Note:** Always wear eye and hand protection when working with glass. Make sure you have the right glass and the urethane systems are current. Windshield dealer part number is A17B0094E.

2. Remove the Allen screw using a  $\frac{3}{4}$  Allen screw tip or wrench.

3. Tape the edge of the fender and hood area on both



cowling covers with molding-retention tape to avoid gnarling or scratching the cowling during removal.

4. Remove the cowl by pulling it in an upward-outward motion toward the windshield, disengaging the two cowling pins from the center-hood bar area at the base of the windshield.

5. Lift up the windshield-wiper nut cover using a hook tool, small flat-tip screwdriver, pick or No. 2 PryBaby.

6. Remove the wiper nut using a wrench or socket. If the nut is tight, loosen it with a 13-millimeter wrench and then come back with your socket. Move the wiper arm in an up-and-down motion to break it loose from the post.

7. Remove the door weatherstrip.



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8. If using a cold knife or power tool, remove the A-pillar trim panels using a door-panel remover or No. 3 PryBaby. The windshield fits close to the pinchweld. **Note:** Before beginning windshield removal, verify the new windshield is the correct one and the urethanes and primers are current. Never use outdated products as this could jeopardize the structural integrity of the vehicle and the safety of its passengers.

### Removal

9. Make sure cutting blades are sufficiently sharp.
10. Before cutting out the windshield, remove contaminants from the glass and pinchweld to prevent contact with the urethane.
11. When using an Equalizer or any power tool, lubricate the cutting area with water. Spray the top and sides; then make your cuts. After cutting the sides and top, spray the bottom of the windshield at least 4 to 5 inches above the urethane on the glass, so the water flows down into the urethane while you make your final cut across the bottom of the windshield.
12. If using a cold knife, use a  $\frac{3}{4}$ -inch blade. Remove the encapsulation by cutting the top and sides with a utility knife; then use an Equalizer with an 8-inch blade or an Equalizer Express to cut the bottom of the windshield. If trying to save the windshield, use an Equalizer with an 8-inch blade.

**Caution:** Be careful not to scratch the paint when using the utility knife. **Note:** There are no gravity stops on this windshield.

13. Take the windshield out of the opening using a set of vacuum cups. Lift the glass and place it on a windshield stand or suitable workstation.

### Installation

14. After cutting the windshield out, remove contaminants such as dirt, moisture and other debris from the pinchweld. Clean the dashboard.
15. Place two temporary, universal windshield gravity stops at the bottom corners.
16. Dry fit the new glass to the opening. Mark your glass using a grease pencil or molding-retention tape.
17. Place your vacuum cups on the windshield in the appropriate location for a one-person set.
18. For driver-side setting of the windshield using a Glass Handler Kit, place the kit's elbow setting pad on the driver's side of the uncovered cowl area; then lift the windshield from the stand using the vacuum cups.
19. Reach over, place your elbow on the setting pad and set the windshield onto the old urethane.
20. With the windshield resting in the opening, make sure it is in the right spot.
21. Adjust both sides to the correct setting, marking the passenger's side, then the driver's side. Lift the glass and place it on a windshield stand or suitable workstation.
22. Follow the urethane manufacturer's recommendations for installation.
23. Clean the inside of the windshield using a urethane manufacturer-recommended product; follow recommended steps. **Note:** Do not touch the windshield after cleaning, prepping or priming it.

24. Wear powder-free Nitrile gloves to keep off chemicals.  
25. Apply the glass prep, then the glass primer, following the urethane manufacturer's recommendations.

26. Using a pinchweld-preparation tool, remove as much of the original urethane as the urethane manufacturer recommends. **Note:** Before removing the old urethane, make sure there are no contaminants and do not touch the pinchweld after you have prepped the area.

27. Apply the pinchweld primer only to the areas where needed, and follow the urethane manufacturer's recommendations. **Caution:** Allow preps and primers to dry as recommended by the urethane manufacturer.

28. Apply a triangular bead of urethane to the same path as the freshly cut urethane on the pinchweld. **Note:** Before cutting your V-notch with a Top Notch tool, cut the tip off of your nozzle with a nozzle cutter. With the cut nozzle, measure to the top of the A-pillar, and at  $\frac{1}{16}$ -inch higher than the A-pillar, make a mark on the nozzle with a pen or marker. Notch the nozzle up to the marked line; this will give you the appropriate triangular bead.

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

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

31. Before re-installing the parts, 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 to ensure the glass makes contact with the wet urethane.

32. Tape the windshield in place with molding-retention tape so it does not slide down when you remove the temporary gravity stops.

33. Remove the two temporary, universal windshield gravity stops.

34. Re-install the removed parts in reverse order.

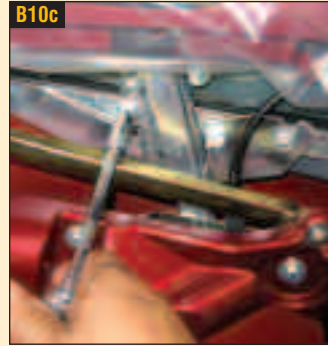
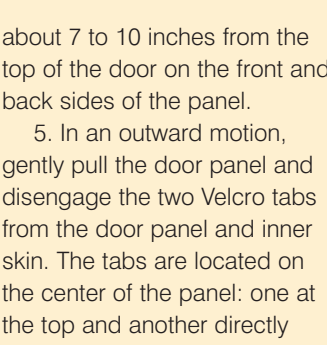
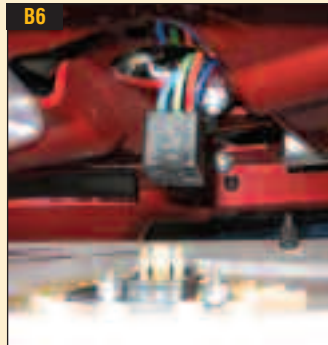
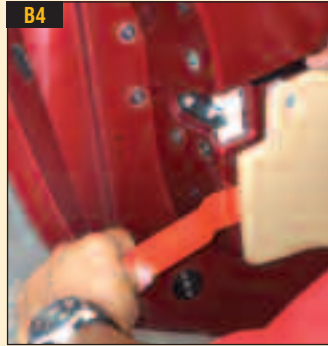
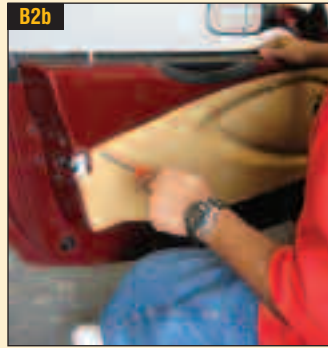
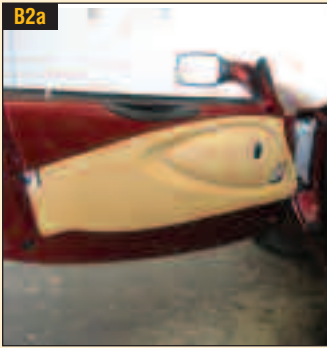
35. Allow the urethane to cure according to the urethane manufacturer's recommended cure time before returning the vehicle to the customer. **Warning:** Disregarding the safe drive-away time that your urethane manufacturer recommends could jeopardize the structural integrity of the vehicle and the safety of its passengers.

36. You have completed the removal and replacement of the windshield.

## B. Door glass

### Removal

1. Make sure you have the right glass. Door glass dealer part numbers are F116B0185F, and F116B0186F L and R.
2. To remove the door panel, first remove the four Allen screws using a  $\frac{7}{64}$  Allen screw tip or wrench.
3. Remove the Allen screw at the front lower corner of the panel, beneath the outer edge of the trim panel.
4. Pop loose the trim panel using a door-panel remover or No. 3 PryBaby to disengage the two plastic fasteners located



about 7 to 10 inches from the top of the door on the front and back sides of the panel.

5. In an outward motion, gently pull the door panel and disengage the two Velcro tabs from the door panel and inner skin. The tabs are located on the center of the panel: one at the top and another directly below it.

6. Continue gently pulling the door panel to disconnect the window-switch assembly. Disengage the switch and door panel at the same time. **Note:** The electrical window-switch assembly harness is short and can be hard to reconnect.

7. Set the door panel in a safe place.

8. Remove the plastic sound-weather barrier.

9. Lower the glass to align the mounting hardware with the openings.

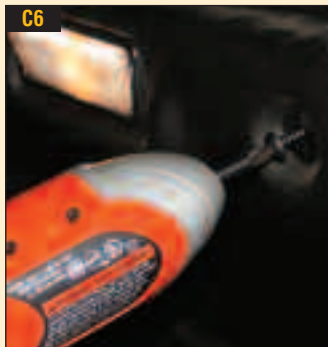
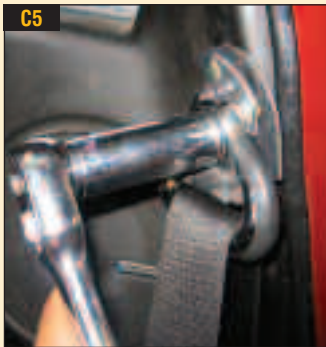
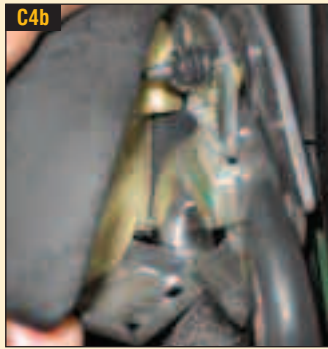
10. Remove the five 10-millimeter bolts on the glass retainer channel: one on the left side of the door, one located three-quarters of the way down the channel toward the right side of

the door, one on the left side of the regulator guide bar; one on the right side of the regulator guide bar; and one at the end, on the right side of the channel.

11. Remove the glass by lifting the backside first to disengage it from the front railing weatherstrip channel and slipping it through the top of the door opening.

### Replacement

12. To replace the door glass, slip it back into the door in the same manner you removed it. Make sure it is fully in the weatherstrip channel and not on the backside of the metal carrier.



Align the carrier before bolting it to the hardware on the glass.

13. Check the operation of the glass before replacing the panel to ensure proper installation.

14. Re-install the removed parts in reverse order.

15. You have completed the removal and replacement of the door glass.

## C. Back glass

### Preparation

1. Make sure you have the right glass. Back glass dealer part number is A117B0138F.
2. Move the seats all the way forward to gain access to the rear panels.
3. Remove the weatherstrip from the door opening.
4. Remove the seat-belt cover using a small flat-tip screwdriver or a hook and pick No. 4. Disengage the top portion; then slip the bottom-side loose.
5. Unbolt the 17-millimeter seat-belt post using a wrench or socket. If the nut is tight, loosen it with a 17-millimeter wrench and then come back with your socket.
6. Remove the four Phillips-tip screws from the lower back glass trim panel. Remove the screw-retainer insert.



7. Remove the five Phillips-tip screws from the upper back glass trim panel. Remove the screw-retainer insert.

8. Remove the lower panel by pulling on it, starting at the front of the panel closest to the seat-belt post. Pull the rest of the lower panel out, going across the bottom of the back glass.

9. Remove the upper panel by pulling on it, starting at the front of the panel closest to the seat-belt post. Pull the rest of the upper panel out, going across the top of the back glass.

### Removal

10. Make sure cutting blades are sufficiently sharp.
11. Before cutting out the back glass, remove contaminants from the glass and pinchweld to prevent contact with the urethane.
12. When using an Equalizer or any power tool, lubricate the cutting area with plain water. Spray the top and sides; then make your cuts. Spray the bottom of the back glass at least 4 to 5 inches above the urethane on the glass, so the water flows down into the urethane while you make your final cut across the bottom of the back glass.
13. If trying to save the back glass, use an Equalizer with an 8-inch blade. Cut from outside the vehicle, making sure the unsharpened side is facing the glass, not the vehicle body.
14. Wrap the sheath of your Equalizer with duct tape to create a barrier between the glass and sheath, to prevent damage to the glass and vehicle body.
15. Tape the edge of the back glass to the back glass area on the vehicle interior so it does not fall off when you make your final cut.
16. Take the back glass out of the opening from the inside, using a set of vacuum cups. Lift the glass out and place it on a windshield stand or suitable workstation.

