

HOW TO

4 Steps to a Top-Notch Convertible Top

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There are four special steps in the restoration of a convertible.

1. Repair and refinishing of the convertible top frame
2. Installation of the fabric top and rear window
3. R & R gaskets, seals, latches, special hardware, etc.
4. Hydraulic motor and other parts

Repairing & Refinishing Convertible Top Frames

Convertible top frames take a lot of abuse. Nuts, bolts, rivets, screws and grommets break. Bushings wear from years of raising and lowering the top. Top bows can get scratched. The bows can be damaged and throw the geometry off.

Top frame repair kits for popular cars provide new parts to replace all of the old hardware. Suppliers such as Restoration Specialties & Supply (www.restorationspecialties.com) can help find the needed parts if there's no kit for your car. Worn frame hardware can be replaced a piece at a time, but most restorers will disassemble the frame for paint and replace all hardware at once.



This car has a good top frame, but it has rivets that need replacement, the bows need refinishing and the fabric top is badly in need of replacement.

Disassembly involves drilling out rivets and removing nuts and washers. Some "bolts" may be pivots—sometimes multi-diameter—designed to go through different size holes in different pieces. They may be threaded at one end. Egg-shaped holes must be repaired with new parts or welding and re-drilling or with bushings. An egg-shaped hole throws off geometry and causes problems.

Avoid rushing to paint the frame. Some automakers color matched frames to fabric tops. Color-coordinated combos look really nice, so see if they were offered as factory equipment. Books can help determine OEM finishes.



This top frame was cleaned, painted and rebuilt. Reproductions of the chrome plated top latches for this top were available.

Start by removing all removable hardware with hand tools. Don't remove original rivets or spot welds until later. You'll find dozens of parts like bows, scissor assemblies and side frames. Take digital photos. A great way to organize small parts is to get a piece of cardboard and poke holes in it. Plug each removed part into a hole. Put re-assembly notes right on the cardboard.

Save old parts for re-use or to copy. Media blast the old pieces. Prime, sand and paint the top bows. Considering the wear and

tear these parts get subjected to, you may want to have them powder coated instead of painted.

A convertible top manual will specify the correct order for re-assembling the parts. With no manual, use your restoration skills and common sense to build the top. A top frame works like a bridge, so that's how you should think of it.



You will have to check the fit of the side glass against the rebuilt top frame to avoid breaking the glass when the side window is raised.

Fabric Top and Rear Window Parts

If you need a new top, you can: 1.) Pay a shop up to \$2,000 to install a top; 2.) Use the sagging old top as a pattern for a new one and pray; 3. Get a ready-cut kit that's fairly easy to install. Get one for your year and model car.



For proper geometry use spacer sticks between bows or take a bow height measurement from center of top frame to center of the rear body tub.

Here are the contents of top kits for 1968-1972 LeMans/GTO models. The plastic rear window kit is about \$300. The glass rear window kit is around \$400. It includes a glass rear window that won't scratch as easily. Professional installers go by time and materials. Time is often more expensive than materials.



It's wise to tape masking paper over the glass rear window to protect the new glass until you are finished working on car.

PLASTIC REAR WINDOW KIT

Haartz Pinpoint Vinyl Top
Plastic Rear Window.

Pair of Top Hold Down Cables

Top Pads

Pair of Tack Strips

Staples and Glue Kit

GM Instruction Manual, for: 1968-72 Pontiac GTO Convertible
Top

GLASS REAR WINDOW KIT

Haartz Pinpoint Vinyl Top

Glass Rear Window

Pair of Top Hold Down Cables

Top Pads

Pair of Tack Strips

Staples and Glue Kit

Pick your color. Sometimes you'll have to pick single-, double-, or triple-texture fabric. Double-texture is probably best for do-it-yourselfers. It is thin enough to work with and thick enough to last. Canvas tops stain, fade and wear fast. Vinyl-coated fabrics are usually best. Use new top pads if the old top has the "starved-cow" look. The pads hold the top frame in position and protect the top from damage due to wind buffeting and repeated "ups and downs."



The term top pad or stay pad refers to the covered foam or the padded webbing that runs under the top and along the edges of the top frame.

Curtain windows and backlights may be extra. You may need new cables, tacking strip, hardware, wire-on and a front roll. Some

installs require an air-powered upholstery stapler and others only a hand stapler. Stainless steel staples prevent rust. Get cement, trim adhesive, razor blades and a yardstick.

Top install techniques vary widely by car and installer. The factory shop manual may explain how to fabricate spacer sticks to hold the top rails in proper alignment. Sometimes you'll have to measure bow height with a yardstick. The Internet has good tips for convertible top installs. Eastwood (www.eastwood.com) sells a general how-to-install-a-top video by movie-car customizer Eddie Paul.



Some cars have two stay pads, one on each side, from the header to the rear bow. In some cars, there are four (two front and two rear, or quarter, pads.)

Start by removing moldings from the rear of the body well. Cover the deck lid, then remove the molding fasteners. Put them in baggies, along with slips of paper with re-installation notes written on them. Use a grease pen to mark where screws and moldings hit the old top. Take photos or make sketches everything.

Lift top and remove roll strip at front. Remove staples and screws. Save screws and hardware. Remove rubber weatherstripping from side rails, the glued-on quarter flaps and one end of cables. If top is attached to middle bows, remove attaching screws and listings

(thin rails that slide through "pockets" sewn in the top and screw into roof bows). Listings fasten the top to the middle bows.



An installer uses an air stapler and stainless steel staples to attach the front of the new convertible top to the header bar.

Latch the top to the windshield header. Remove wire-on from rear bow. Remove all staples so they don't tear the new top. Remove or pull back well cover to get at fasteners. Sometimes fastener removal loosens a removable metal tacking rail. Sometimes plastic tacking strips are riveted to the outer body edge. If broken sections need fixing, drill rivets, get new strip and rivet in place.

Loosen everything enough to allow removal of the old top. Staples that hold the bottom rear edge of the top to the tacking strip must be removed. Old staples left behind can pierce the new top and cause tears or water leaks.

If installing new pads without spacer sticks, remove one pad and use yardstick to measure bow-height. Check measurement with top kit supplier. Staple first new pad to bows to keep frame aligned when installing second pad.

Remove the rear curtain. Mark the center of rear bow. New curtain will be notched to line up with mark. Staple curtain to bow from center, pulling wrinkles as you move towards edges. Unlatch top and prop up. Fasten bottom of curtain and window to tacking strip with tacking rail or retainer. Latch front and adjust.

Before installing new top, lay it on clean floor under old top. Transfer reference marks like bolt holes and tacking strip locations to new top with a laundry marker. Put new top over old one. Compare reference marks. If you see differences, use half the distance between marks as a reference.

Heat softens fabric, making it easier to stretch. Crank up heat in shop the night before install. A heat gun helps install the plastic curtain window. Gun must be kept at least six inches away. Use swirling motion to avoid too much heat.

Position top over framework until it sits right. Secure top to No. 2 and No. 3 bows with listings. Raise top off header and attach cables. Center top valance over No. 4 bow and staple from center out. Pull out fullness and wrinkles. With screws and cement fasten quarter flaps in position. Re-install weather stripping.

Latch top to windshield. Pull fabric gently over No. 1 bow. Mark position. Raise top and pull fabric past reference mark for car (about a quarter inch). Secure to bow with screws, staples and glue. Check appearance and operation. Install roll over windshield header. Glue with contact cement. Staple from below.

With top latched, look it over. See if it fits straight and evenly on both sides. Make adjustments. When it looks right, staple new fabric to tacking strip. Start at front and move to rear. Use few staples so you can pull and adjust at curves. Eliminate wrinkles. Avoid excessive stretching. Keep top material flat.

You may find a "feature strip" on the rear bow. This molding is covered with same cloth as top, It slides over an aluminum molding that screws into bow. On some cars you can substitute "wire on" from convertible top kit for the feature strip. Make sure you install it with the fold to the front, so wind won't unfold it. Next, install decorative end caps and use a silicone sealer for waterproofing.

Make holes for belt molding studs in bottom edges of top and backlight and line up with holes in tacking strip. Put fasteners on studs where they protrude inside body well. Then, re-install

fasteners that hold well cover in position. Install plastic trunk gutter molding and any body moldings that trim the top well.



This restored car looked great when it was trimmed with great fitting new convertible top.

Websites for Leading Convertible Top Suppliers

[Kee Auto Top Manufacturing Co.](#)

[Electron Top Manufacturing Co.](#)

[1A-AutoMotive](#)

[Robbins Auto Tops](#)

R & R Seals, Latches, Hardware

Repairing convertible roof rail seals and hardware is mostly a question of tracking down parts sources. New windshield header top latches are being reproduced for some cars. Check with Hydro-E-Lectric of Punta Gorda, Fla.

Top Motor Install

Top motors typically reside behind rear seat. The seat bottom is removed first. Then loosen bolts holding seat back in place. Use wrench to detach bolts holding top motor in place. Loosen clips that hold hydraulic lines and use a six-point socket wrench to undo lines. Unplug wiring going to old top motor and take the motor out. Installing a new motor is the reverse of this process.

Top Cylinder Install

If rods in top cylinders are in, you need 50-60 psi pressure to push them out. Don't force them. A convertible top motor can supply pressure needed to fill cylinders to 75 percent of capacity. Fluid that seeps out the vent hole can be saved. The fluid in top motor reservoir goes into cylinders, causing rods to move. You'll see one go up and down before the other. Keep doing this until the rods move fully in or out. If they are in the out position, stop running the pump.

Keep up this process to refill cylinder to 75 percent full. When you can't add more fluid, pull rods back into cylinders. Do final check for 75 percent fluid level, then retract rods and screw plug into reservoir. Use pump to run rods out to be attached to top. Assuming no other problems, your top will now work.