

Healey Hardtop Repair

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For years I have wanted to disassemble my 3000's hardtop and repair the many dings and scratches in the aluminum trim pieces, but have shied away from doing so because no one seemed to be able to tell me the details of how it came apart. Since the headliner was in perfect condition, I was most concerned about damaging it, as the material is very thin and fragile, and is not obtainable anywhere.

The greatest concern was removal of the aluminum (Al) trim, as it seemed that it might be glued, and all sorts of bad things can happen when trying to break bonded pieces apart. The shop manuals say nothing in their Body section on hardtops, and the parts book shows a diagram of the major pieces, but doesn't show enough details for figuring out how not to make damaging mistakes.

Well, the puzzle was ultimately solved, and this photo essay shows how. The pictures were taken on re-assembly, so in the tradition of instruction books one might paraphrase to say that "DISASSEMBLY is the reverse of the above." Not exactly true, but close, as there are two delicate aspects of taking things apart.

First, is to avoid damage to the headliner, or any of the pieces covered with this material. If the plastic is not torn, it can be re-dyed to the correct color, so don't assume it has to be discarded just because it is stained. As can be seen in Figure (6), during assembly the headliner is slid in from the rear after the side and front Al trim pieces have been attached to the fiberglass shell. However, there was some sort of caulk used in the channel of each trim piece that slips over a lip, or edge, of the fiberglass, and this has hardened over the years, calling for some "hammering" to break them loose. Since the upper rear window (backlight) presents only a thin edge to apply force to, the chance of tearing the liner is pretty good. Thus, it works out safer to first remove the side and front trim pieces, then the headliner, and finally the rear ones.

The second delicate part is the fiberglass shell. The molded edge is fairly fragile, so care needs to be used to minimize forces that might break it off. Some repair work to it might be inevitable, but at least knowing its

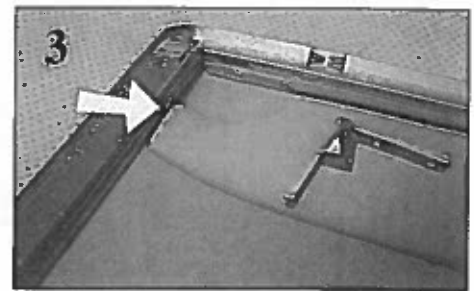
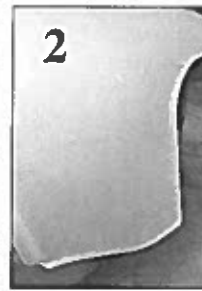
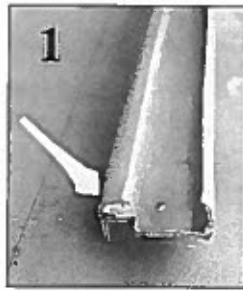


Photo 1: Shows the aluminum edging trim cross-section. The arrow points to a channel that fits over the fiberglass shell edge. There was some sort of caulk used to seal this joint, which hardens over time and effectively becomes a glue holding the pieces together. Breaking it free can be tricky, but with care and patience you can avoid damaging the headliner. How to do this will be described later. **Photo 2:** The second delicate part is the fiberglass shell. The molded edge is fairly fragile, so care needs to be used to minimize forces that might break it off. Some repair work to it might be inevitable, but at least knowing its vulnerability helps to keep damage to a minimum. **Photo 3:** Remove the front corner brackets. They trap a small tab at each end of the front pad. Slide the pad rearward to remove.

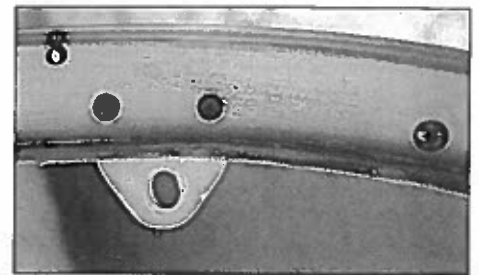
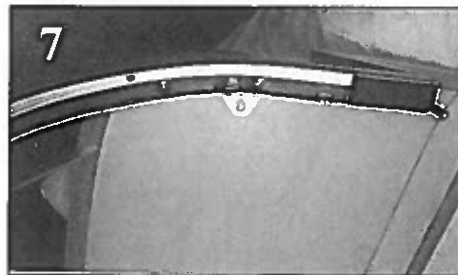


Photo 7: A plain rubber strip covers the screws on the bottom side of the rear rail. A sponge seal strip is glued on top and butts to the thick pad at each corner. **Photo 8:** The hold-down tab bracket attaches to the rear rail with two pan-head screws. The single screw to the side is one of 9 that attach the aluminum lip piece, to which the rear window rubber strip fits, to this rail.

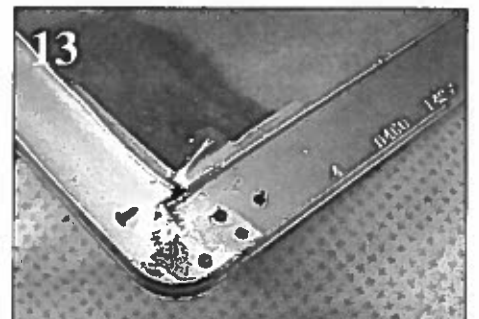
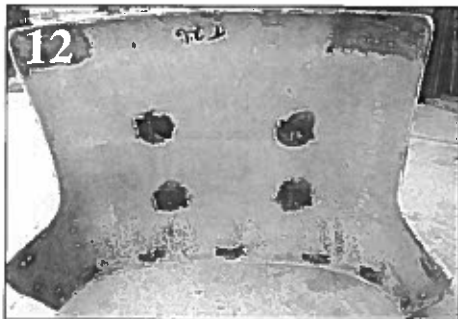


Photo 12: The fiberglass shell is fragile too. Note the carpet and rubber block pads that are glued to the under side. These do not need to be removed. **Photo 13:** The serial number and date of manufacture is stamped to the underside of the right cant rail (side window opening).

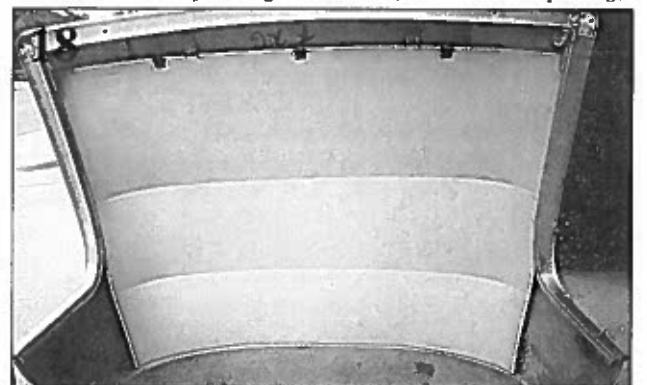


Photo 17: The wood blocks are mirror images of each other. They are attached by the top two screws in the side rails. **Photo 18:** The headliner slides in from the rear. Remember to handle it VERY carefully, as it is fragile and the exact material is not available from any source.

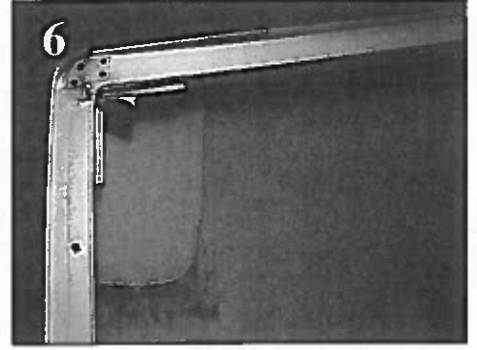
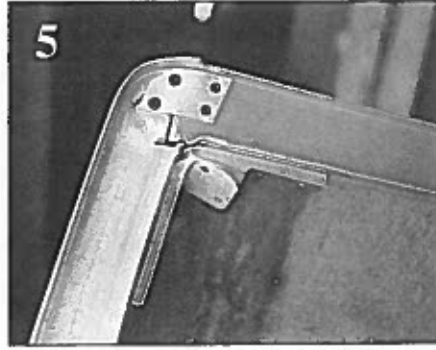
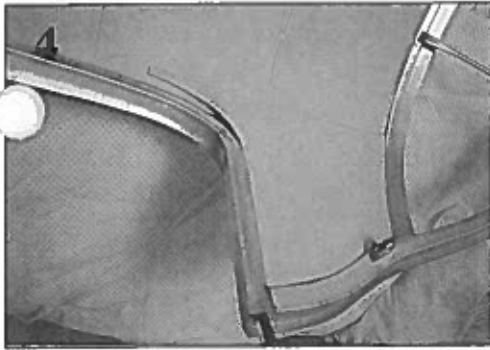


Photo 4: Slide the rear quarter panels upward to release. Once they are pushed up about 1 inch, they will clear the door opening trim and be easier to work free. **Photo 5:** Remove the two corner plates that join the front and side aluminum pieces. They are attached by very small sheet metal screws. **Photo 6:** This view shows one of the front corner pieces of trim material that is glued to the shell above the hold down clamp.

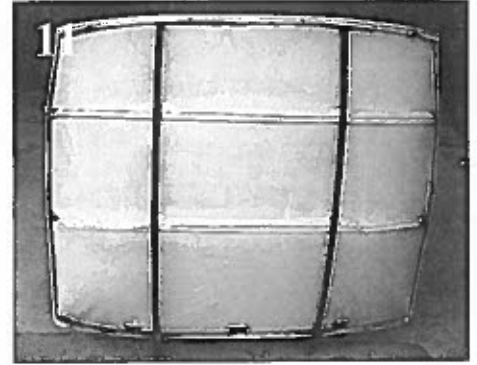
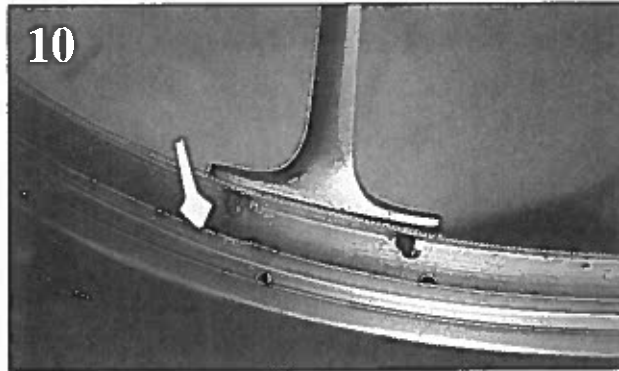
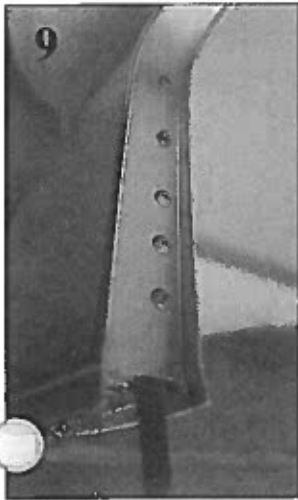


Photo 9: The top two screws attach the wood blocks; the bottom three are for the steel angle bracket. **Photo 10:** The bottom of each rear bracing bar is mounted with countersunk screws and acorn nuts. The inner face of the rear rail is covered with headliner material. The separate flange to which the rear window rubber seats is marked by the arrow. It has not yet been screwed to the rear rail. **Photo 11:** The headliner mounts to a steel subframe. Vinyl dyes can restore stained material to the original off-white/light gray color.

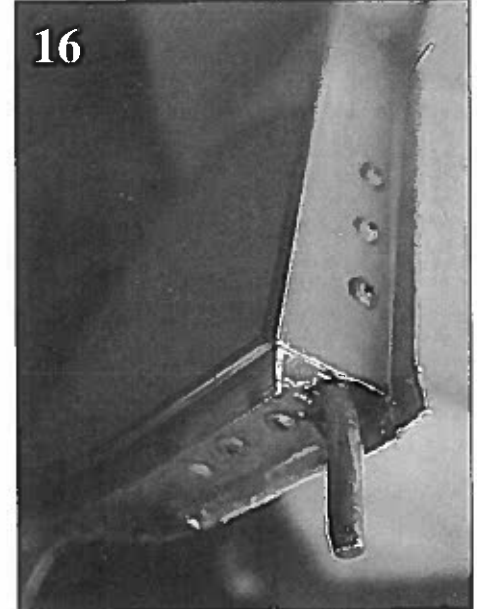
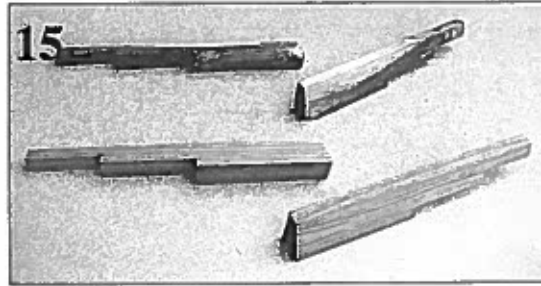
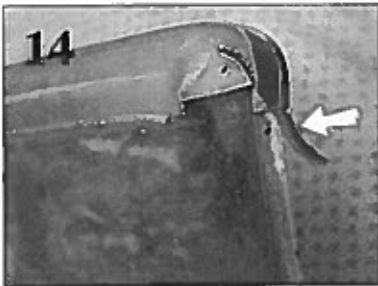


Photo 14: Slide the aluminum trim pieces onto the shell using a $\frac{1}{4}$ " wide by $\frac{1}{8}$ " thick clay sealing strip. **Photo 15:** Make new wood pieces if your old ones are rotted or warped. The shape is rather complex, being both beveled and tapered. **Photo 16:** Insert the steel angle brackets when fitting the lower rear rail, and tighten using six screws on each.

vulnerability helps to keep this to a minimum.

The first step in disassembly is to remove the front corner brackets to which the latches are mounted. You will find that there are two metal tabs at either end of the front pad which are "trapped" by these brackets against the inside of the side trim pieces. By sliding them the pad will readily slide rearwards off the three tabs in the headliner frame.

The second step should be carefully sliding out the two rear quarter panels trim pieces. Once they are pushed up about one

inch, they will clear the curved part of the door opening trim, and be easier to work free.

Third, slide off the cloth-covered edging trim. It fits over a lip of the sealing rubber, and may be hard to remove without causing damage. There are also many metal clips along the Al trim edge, which help keep things in place. To avoid tearing the rubber seal strips (replacements for all rubber pieces are now available) use a spatula blade or small screwdriver to pry the finisher away before trying to slide it off.

Fourth, remove the two corner plates

attaching the front and side trim pieces. They are held with very small screws — in my experience two were tiny flat head phillips, while the other two were mushroom head. They may be stuck, but can be loosened with a hand impact screwdriver. It sometimes helps to give one or two blows in the "tight-

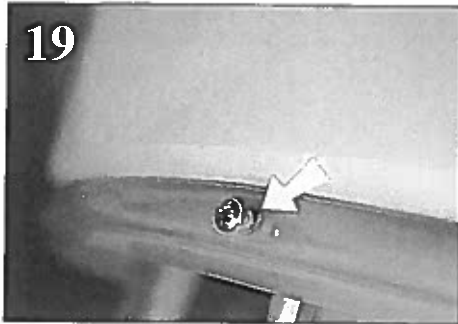


Photo 19: Wrap a small ring of clay around the screw that attaches the top of the rear window braces. This seals out water. **Photo 20:** When mounting the hardtop, position the hold-down J hooks so that they do not touch the cockpit surround aluminum. Careful positioning of the hood will allow the wing nut to just clear the trim material when tightened. **Photo 21:** Correct fit shows a uniform gap between the side curtain and cant rail. Still, the hardtop rides somewhat high at the corner against the cockpit surround. This space is filled by the thick rubber block at these corners.

ening" direction before changing to "loosening." At the rear, carefully pry out the two locking rubber strips from the backlight seals, push the Perspex window outwards, and pull free the sealing rubber.

Fifth, pull off the rubber pads and seal strips lining the under side of the rear Al rail. I found that heat from a hair dryer would soften the trim cement, allowing a spatula to be used to separate each rubber layer. Use the impact screwdriver to remove the eight screws holding the wooden blocks and corner steel angle pieces (with locating pins). These will come out by sliding them upwards, but they fit rather snugly.

To remove the front and side Al trim pieces, use sharp blows from a hammer on a small wood block placed against their relatively large and flat inside surfaces. The aluminum is SOFT, and will ding and bend from even the slightest direct blow from a hammer. Because the caulk between trim and shell is hard, it should crack from the shock of these blows. Take the front trim piece off first, and then one of the sides. This should allow you to easily remove the headliner.

Remove the two rear bars, thick Al hold down tabs for the J hooks, and all remaining screws along the lower rear rail. Use the hammer and wooden blocks to break the rear Al trim piece, remaining side Al trim piece, and back rail free from the shell. Use the heat gun to separate the two 4"x6" inside front corner liner pieces from the shell, as well as to uncover the cockpit side of the rear rail. The material is very fragile, and probably will have worn holes or small tears. Mine looked a bit like a lacy rusted floor panel, but still came off in one piece, given patience to get the glue soft and gently prying with the spatula.

The Al lip to which the lower backlight rubber attaches (see Figure 11) is held to the rear rail with a number (9 or so) of small screws.

With the pieces all disassembled, there are a few things to note. The rubber blocks and carpet pieces glued to the inside of the

shell do not have to be removed, but should be checked to make sure they don't fall free and get lost. On the bottom side of the right side door opening trim piece will be found some stamped numbers, giving the hardtop date of manufacture and its serial number (see Figure 13). And finally, stripped of its trim, the fiberglass shell is fairly fragile and vulnerable to damage. Look it over carefully for cracks, especially along the flanges where the Al pieces attach.

A spatula, screwdriver and coarse sand paper can be used to chip out and otherwise remove the black caulk left in root of the trim piece channels. Files and various grades of carbide paper will remove pits and scratches, however you should first have the anodizing removed at your friendly plating shop. I finished preparation prior to reanodizing by rubbing with 4/0 steel wool and polishing with one of the cremes sold for dressing up aluminum, brass and other soft metals. Be sure to protect the pieces from scratching as they are extremely vulnerable to even the slightest contact with anything.

It is a good idea to paint and polish out the shell prior to re-assembly. Remember to handle it gently, and make sure that there is adequate support for pressure from the buffing wheel.

To re-assemble the top, follow the sequence in the photos. I found it necessary to use the inside front corner brackets to draw the front and side rails snug before I could attach the small corner plates. Be very careful not to strip threads by over tightening the screws. These corner brackets were later removed for fitting of the front inner pad. For caulking I used a 1/8" thick clay strip, bought at an RV place as the strip often used between camper shells and pick-up truck bodies. Cut it into narrow pieces about



Photo 22: The hardtop looks good and provides quiet protection from sun and wind on tours. The rear window (backlight) has "PERSPEX" heat stamped into the left corner, parallel with the bottom edge (about 3" back from the front edge and 1 1/4" up from the bottom one).