

Optima 6V Battery in a Full Height Ford Script Case

“Gutting” the Ford script case

1. Assuming that the battery has been neutralized, and no longer contains any charge, use a hack saw blade to cut off the two lead ‘Ford’ cell connectors for later use on the new top. Protect the cell caps and the raised and threaded cell filler openings for later use as well.
2. Use a heat gun to loosen the tar between the three cell tops and remove using a screw driver blade. Do the same with the wax like material under the tar strips.
3. With the cell connector bars removed, the cells should slide out of the case. Cut the plate connectors from the terminal posts with a hack saw.
4. Use a small band saw to cut around the battery cap openings in each of the three cell tops. Leave at least ¼” past the point where the filet flattens out. Using the band saw, cut off any extra from the bottom of the cell filler threads, leaving about 1/8” to grind off.
5. Using a combination of the flat side of a bench grinder wheel and sandpaper, grind down the excess material from the filler cap cell tops until any material left just flakes away from the filler radius. These will be glued onto the new cell tops and the caps can then be screwed back in
6. The two cell dividers have to be cut out of the case. I used a “Multi-Mate” type of tool that uses an oscillating flat cutter saw that allows you to flush cut along the sides. The battery case I had is very old, and produces a lot of black dust during any cutting process. You will probably have to remove these dividers by making several cuts along the sides and in the center of the dividers, and break them out in pieces.
7. The bottom of the battery has a grid of raised dividers that does not allow the Optima to seat far enough down for a new top to fit. Rather than trying to remove these from the top, and not achieving a good, flat surface for the Optima, I decided to cut an opening in the bottom that allows the case to slip over the battery. Using the template, I marked the opening, drilled a ½” pilot hole for my jig saw blade, and cut out the bottom. Using the cut out opening in the case, I cut a piece of 1” (actually ¾”) wood, painted in black, and secured it to the case with 4 1-1/2” dry wall screws, countersunk, into the base of the battery. This provides a flat stable base for the battery, at the right height, and can be removed.

Note: Be very careful when marking the bottom of the battery case for the cut out. Make sure you have the correct diagonal placement for the battery, as viewed from the bottom.

8. You will have to remove the lower mounting tabs from the Optima battery to allow it to fit into the case. I used a sharp blade in a utility knife to do this.

Making the New Top

I used the technique of utilizing the flat rubber from a pair of truck mud flaps as the material for the battery top from Bill Royer of the Northern Ohio Regional Group. I picked up a set of mud flaps off ebay for \$6.00 that did the trick. They are made with a layer of fiberglass laminated into the rubber, which is about 1/8” thick. The top base plus the battery cell tops comes to about ¼” thick, which still allows the majority of the battery post to be available for the battery cable end clamps. The Optima battery template is used to cut the top base and the individual cell tops. They were assembled using “Gorilla” brand Super Glue and clamped with wood blocks to allow the adhesive to set. The template was also used to mark the location of the cell filler cap openings and the battery terminal posts. A ½” drill was used for the pilot hole for the 1” step drill. The filler cap and terminal holes are drilled to a 1” diameter. The rescued filler cap openings are also glued to the

new cell tops with Super Glue. The battery caps were screwed on to the cell openings and a small bead of glue applied to the bottom of the opening ring. The battery cap threads extension provides the alignment with the hole in the cell top while gluing. The 1" hole in the cell top provided a perfect fit. Small holes were drilled to allow for the lead cell connector bars to be attached with 1/8" sheet metal screws from the bottom. Starter holes should be marked and drilled in the bottom of the connectors. The assembled rubber top was spray painted with "Krylon" Satin Black. Enamel base paints will not dry correctly on the rubber. I used Krylon "Fusion" Semi-gloss Black on the battery case.

I used flat black DAP brand acrylic latex caulk, available at Home Depot, for the 'tar' cell sealant. I filled the seams between the inner cell tops first, which allows you to easily smooth out the caulk prior to mounting the lead cell connectors

The assembled top sits on the top of the optima and the small shelf ridges on the battery case sides. You will have to use a small utility knife or sharp chisel to remove the remnants of the cell dividers from the top mounting area. The end sides of the case do not have the ridge for the top to sit on, so small strips of rubber from the mud flaps are cut and glued to the ends to provide additional support for the top.

Finally, the caulk is applied to the side and end seams of the top as it sits in the battery case, over the Optima battery. I decided that I wanted to be able to remove the top, so I slit the caulk at the edges to allow it to be removed. Bad choice, as it allowed the caulk to shrink away from the sides of the case as it set up. I'll be removing the top this winter, and re-doing the caulk. The battery will come out of the bottom just as easily by removing the screws and bottom mounting board.

You'll notice that the Optima terminal posts do not line up exactly where the original posts would be. They are slightly further out to the end sides, and up closer to the filler cap. The battery cable end that goes from the negative post to the starter solenoid is a tight fit at a right angle. I mounted the cable so that the terminal clamp bolt is away from the filler cap, as shown in the photos.

Note on printing the Optima battery Template

There is an option on the 'Print' dialogue box in Adobe Acrobat Reader that lets you choose Print Scaling Options. This should be set to 'None' to preserve the original dimensions of the template. There is also a 4" measurement reference line that can be checked after the template is printed to ensure that it is the correct size.

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Figure 1 - Case with cell dividers removed



Figure 2 - Case cell dividers removed (2)



Figure 3 - Bottom of case with cutout and 3/4" base board mounted



Figure 4 - Countersunk drywall screws to hold the base board. Use four screws



Figure 5 - Optima positioned in case. Positive terminal goes to the Ford script side.



Figure 6 - View of the Optima sitting on the base board



Figure 7 - Cap and cell top opening. The cell top opening was cut out and carefully ground down so that the radius is preserved. The cap will still screw in to the remaining thread portion.



Figure 8 - Lead cell connector after being cut from the original battery.



Figure 9 - Truck mud flaps used for top rubber pieces (Chevy's are good for something)

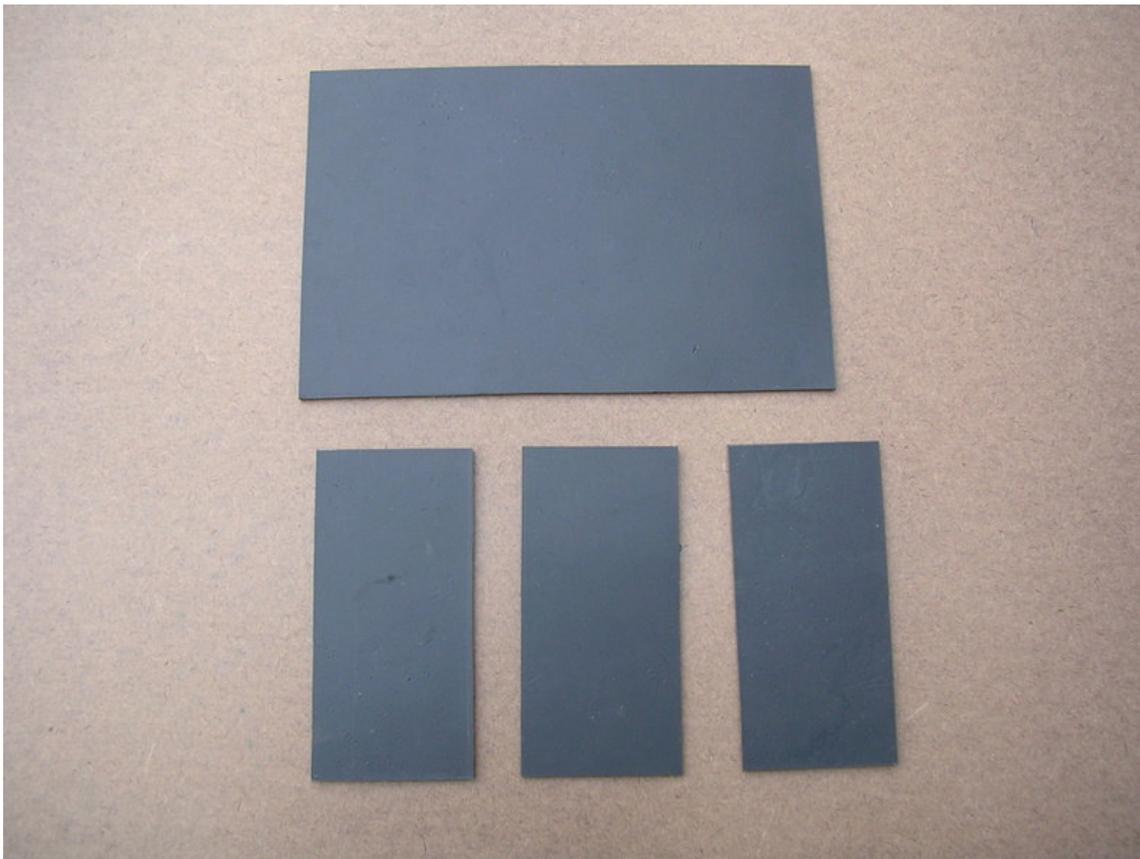


Figure 10 - Top and cell tops cut from mud flaps

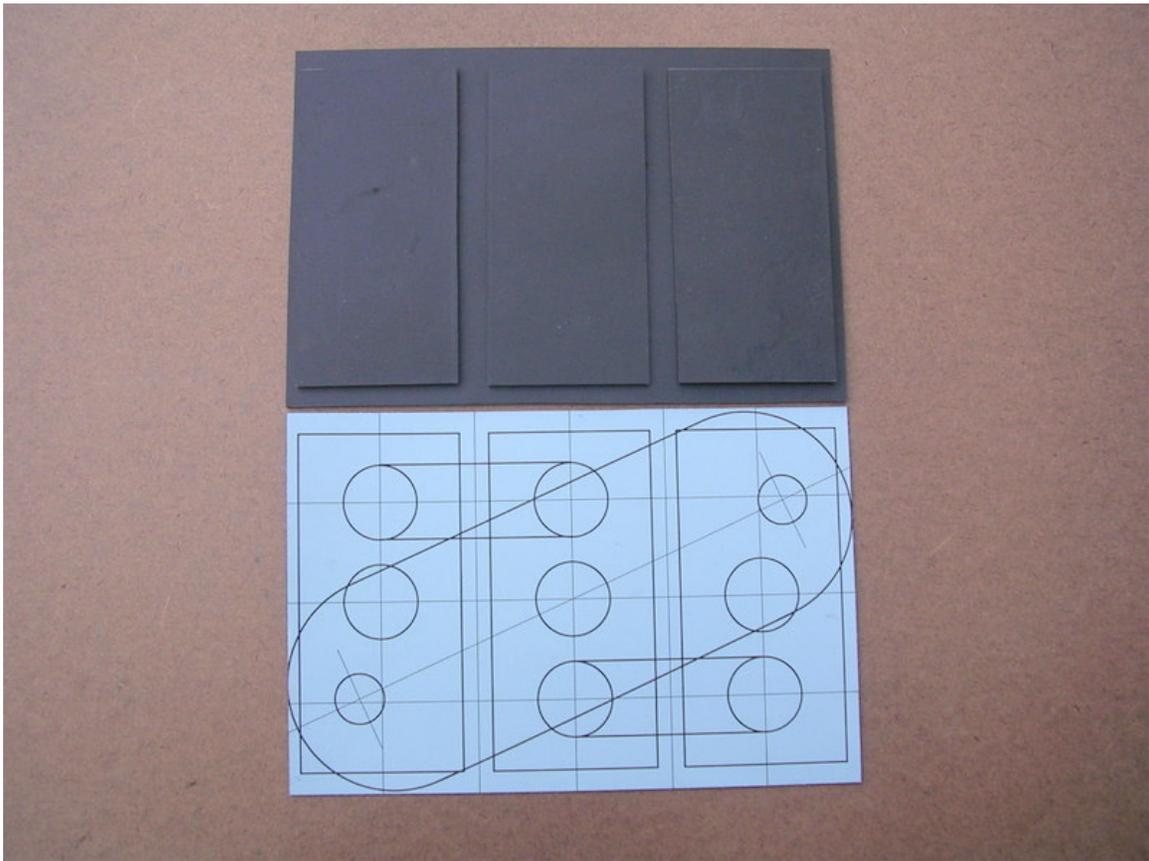


Figure 11 - View with template

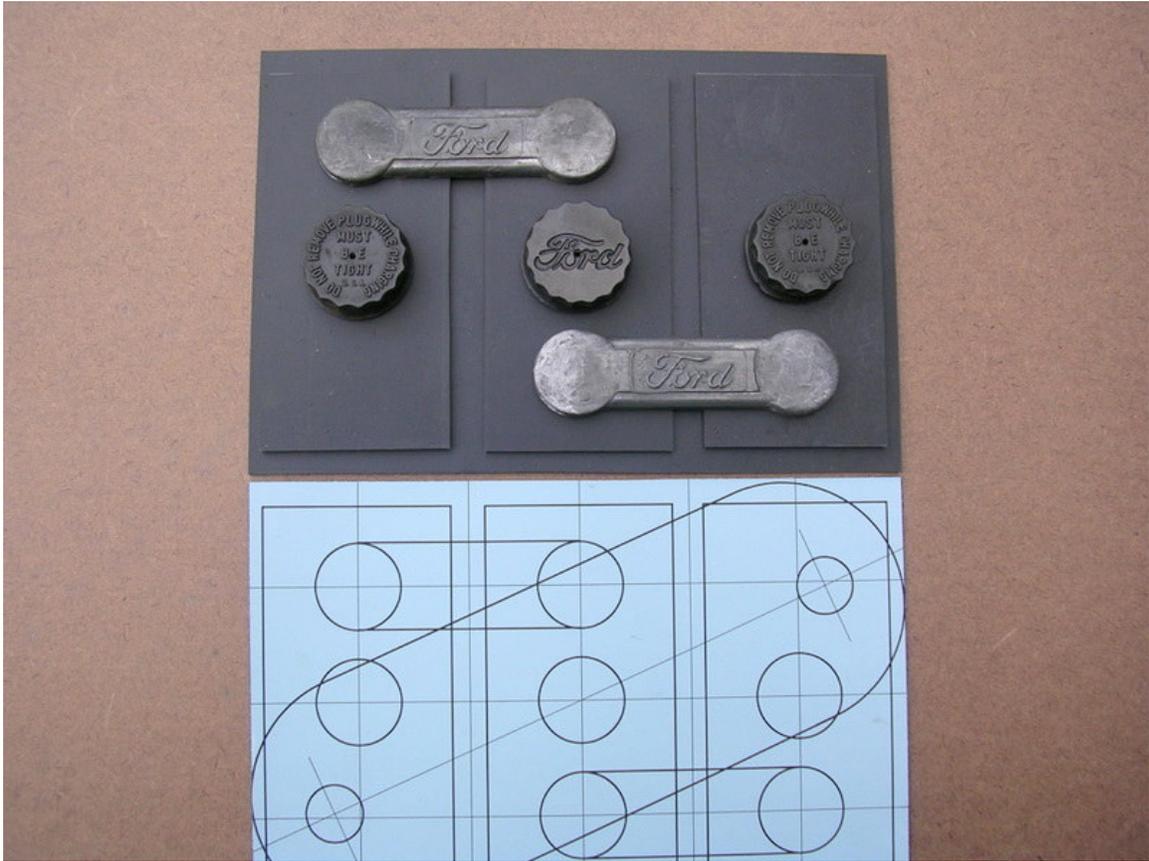


Figure 12 - View with template (2)



Figure 13 - 1/2" drill for pilot hole, and 1" step drill used for holes for battery caps and terminal posts



Figure 14 - Top with cell holes and cap openings glued on. Painted with Krylon Satin Black



Figure 15 - Case before black caulking. Case has been painted with Krylon 'Fusion' Satin Black



Figure 16 - Finished case with top

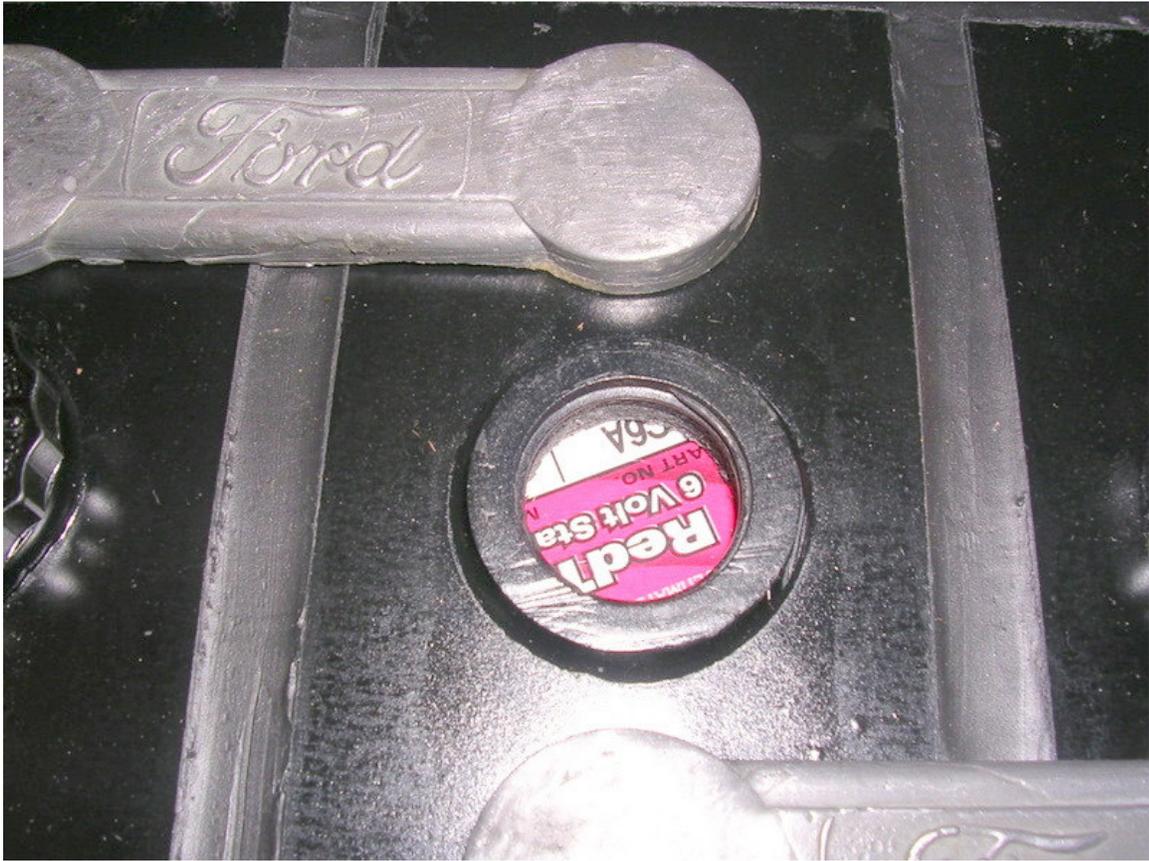


Figure 17 - Close up of cell top with battery cap removed

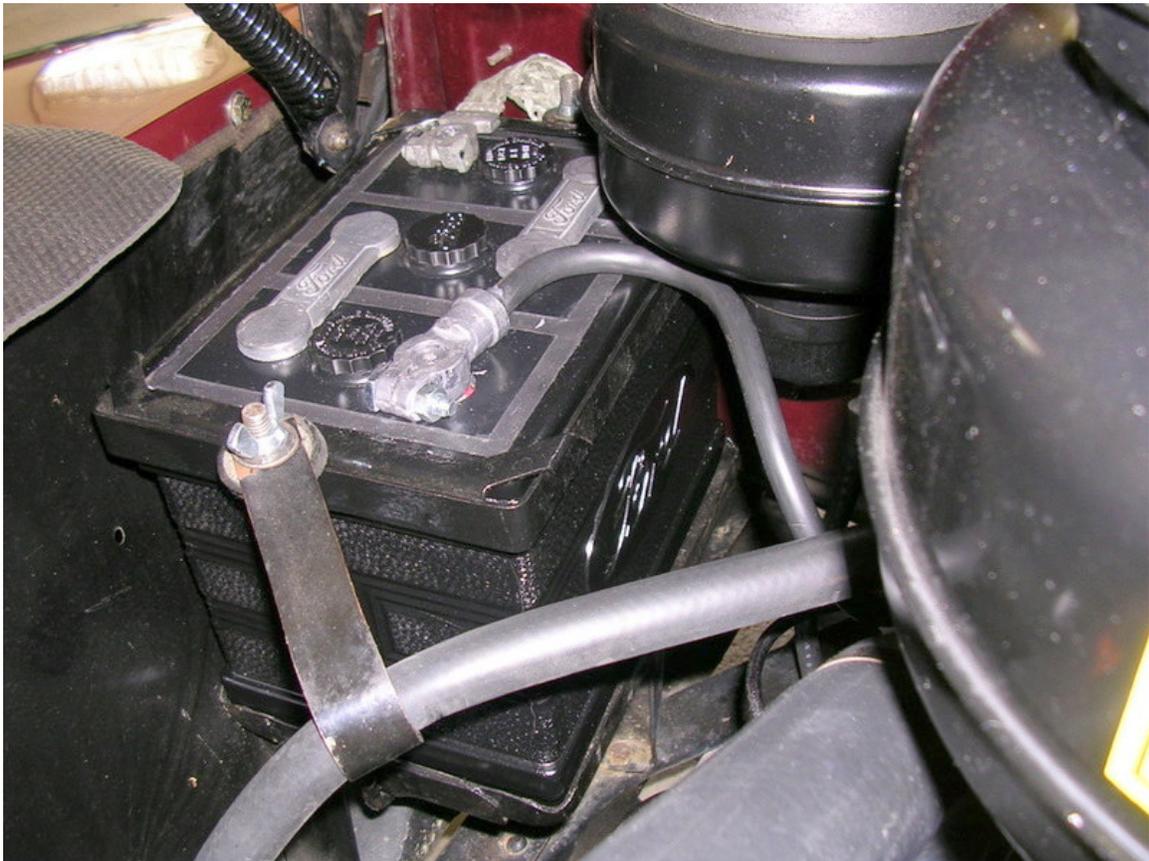


Figure 18 - Ford Script case with Optima Installed in '47 Tudor

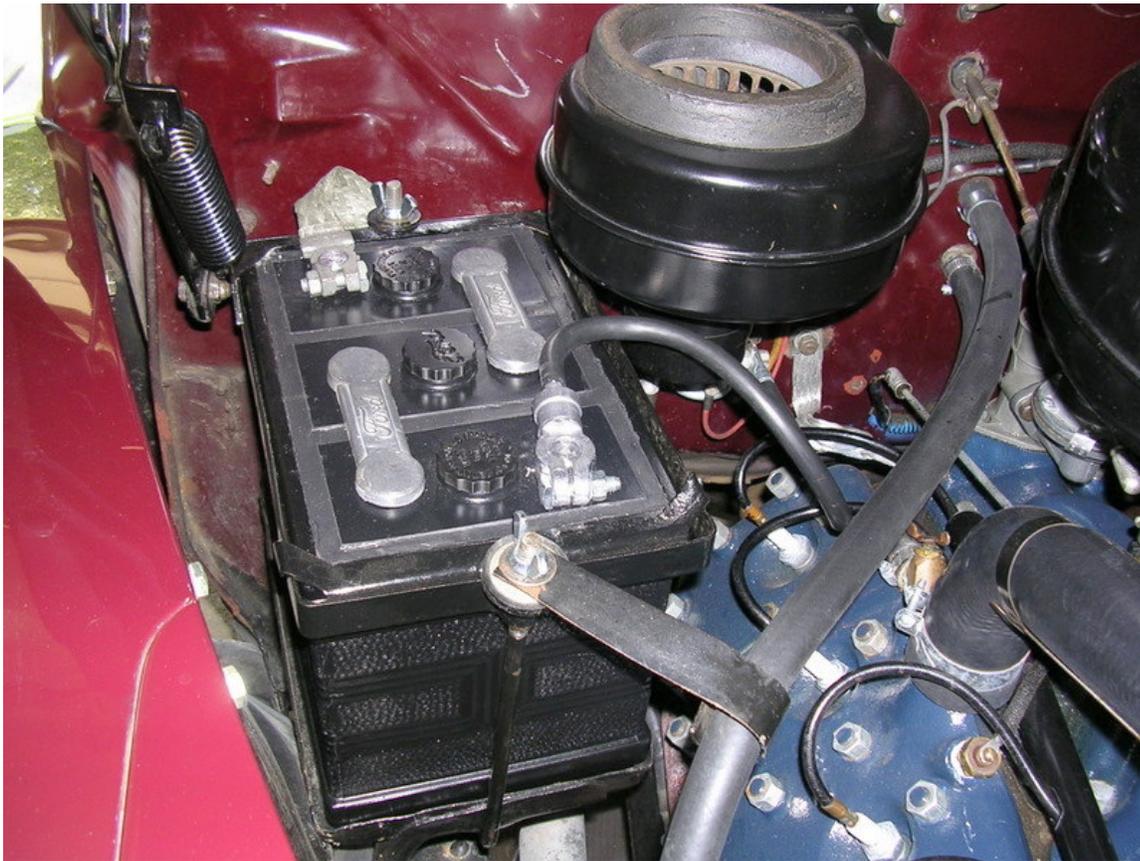


Figure 19 - Installed case (2)

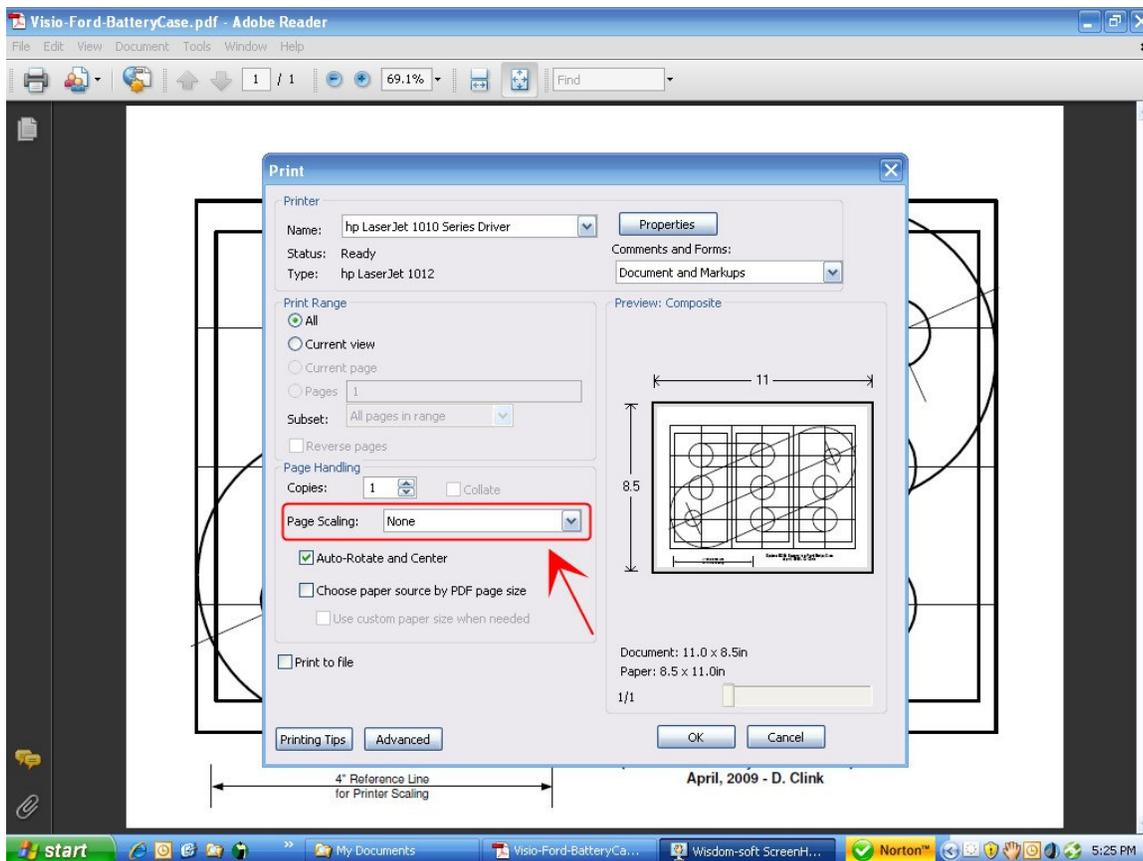
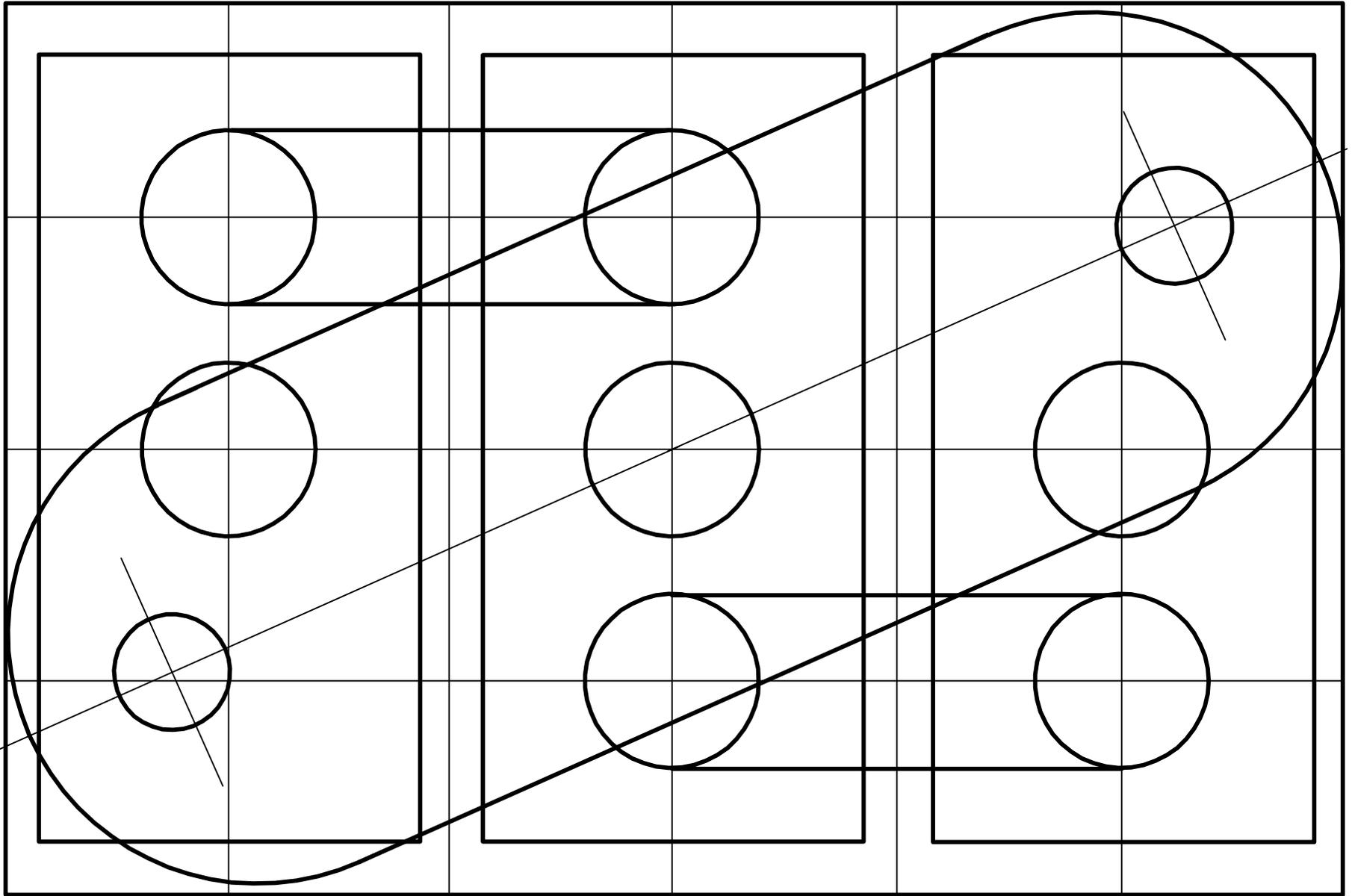


Figure 20 - Acrobat Reader 'Page Scaling' setting for printing template. Set to 'None' to ensure correct size.



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April, 2009 - D. Clink