

## **Switch Panel Modification**

I did this modification using some 18 gauge aluminum sheet metal. The switch panel is made with a total of four separate parts. The two ends are mirror images of one another and simply bolt to the existing switch bezel. The existing switch bezel needs to be modified by cutting and filing the right side (where the ash tray was) to match the left side so that it is the same all the way around.

I made the bends in the aluminum sheet metal using a Harbor Freight \$60 30" bench top sheet metal brake, a pair of vice grip sheet metal pliers, a pair of Harbor Freight sheet metal seaming pliers, and a couple of different sized of regular vice grip pliers, and my bench top vice.

My project drawings are included in this write up. I started by designing and drawing out the end pieces on a piece of graph paper of the actual size. I then cut out the drawing and made the appropriate folds on the paper and matched it to the bezel to confirm that it would work. Once I knew that the measurements were okay, I used the cut out drawing as a template to mark the two pieces of sheet aluminum that would become the ends. I used my metal cutting band saw to cut out the pieces, but I think that a saber saw with a fine tooth metal blade clamped upside down in a vice would work equally well. The nice thing about aluminum is that it machines easily, and is easy to file and sand.



Harbor Freight Sheet Metal Brake



Cheap Vise Grip Type Sheet Metal Pliers  
Harbor Freight Seaming Pliers

Once the ends were cut out and bent, I cut some small pieces of 1/8" x 1/2" wide aluminum bar stock to epoxy to the back of the bent flaps that the front face plates will be bolted to. This provided enough thickness to allow me to drill and tap for the face plate mounting bolts which will allow the face plates to be taken off without removing the bezel. See the drawings for the locations.

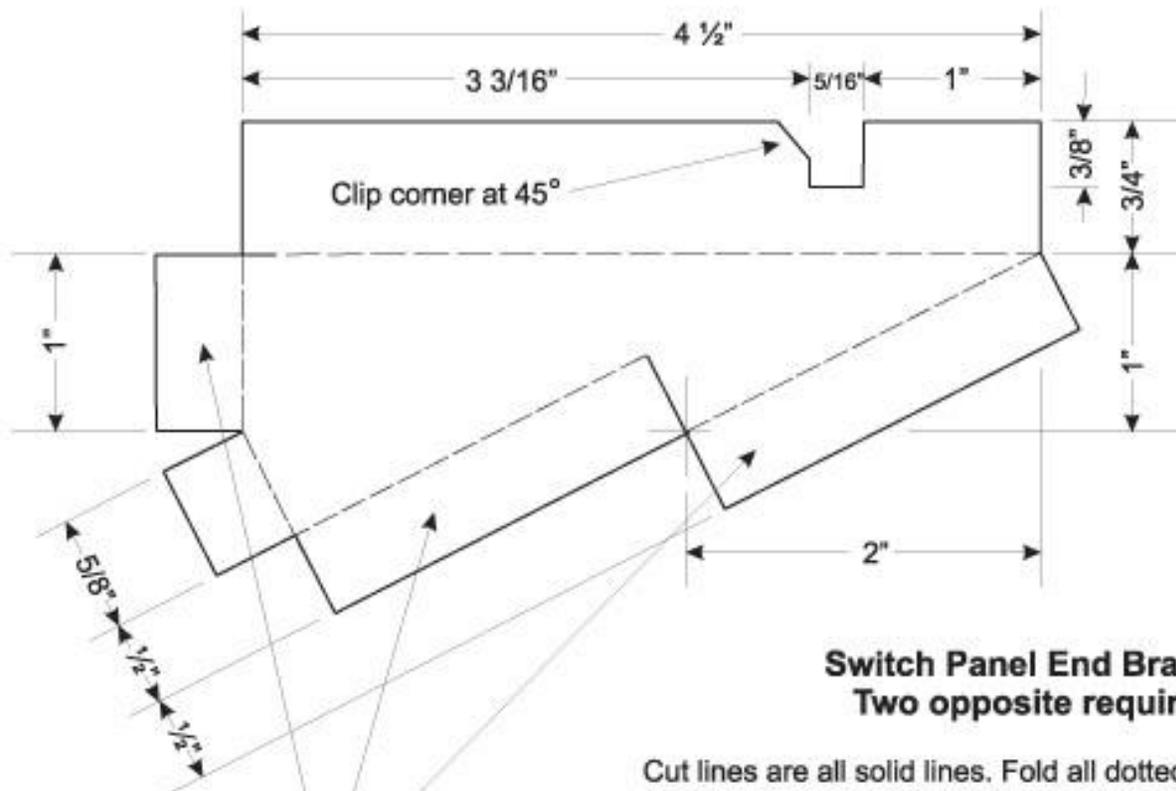
In bending the front face plates, the only issue I ran into was on the first attempt I had already cut the upper plate to size and found that the 3/16" top lip was too small of a bend for the brake to handle. On the second attempt, I left it wider, then cut it down after the bend.

Once the ends were finished and the faces were bent, I marked and drilled the face plate holes with a small 1/16" bit. I then clamped the face plates to the ends and continued the 1/16" holes through the end pieces. After that I increased the diameter of the end piece holes to a #36 drill bit and tapped them to 6-32. I then redrilled the face plate holes out to 1/8".

After temporarily bolting the whole thing together, I set it inside the bezel from the back and used a pencil to mark the radius on the upper corners of the face plate. I just used a file to round over the corners to match the radius on the bezel. The plastic bezel opening is slightly wider on the bottom, but I made the switch panel straight up and down. Once everything is black, it will look fine.

Note: Please don't judge me on the condition of the bezel. It is a trashed one that a wrecking yard gave me to lay this project out. Once finished I will be using the one that is installed in my Jeep.

Being an old woodworker, I made a couple of router jigs to cut out the switch openings, although it would be easy to cut them with a saber saw with a very fine tooth metal blade. I cut one switch hole in the center of the bottom face that will house my three OTRATTW switches for my lights, and one switch hole in the upper face on the right hand end for three more OTRATTW switches for my compressor, front, and rear lockers. I will be cutting another switch hole on the upper left side for my winch switches, but at this point I haven't received them yet. I also cut two 7/8" holes on the lower face plate for power outlets using a 1/2" electrical conduit knockout punch. The plan is to install one that is switched with the ignition, and one that is powered full time. Here are some pictures of the progress:

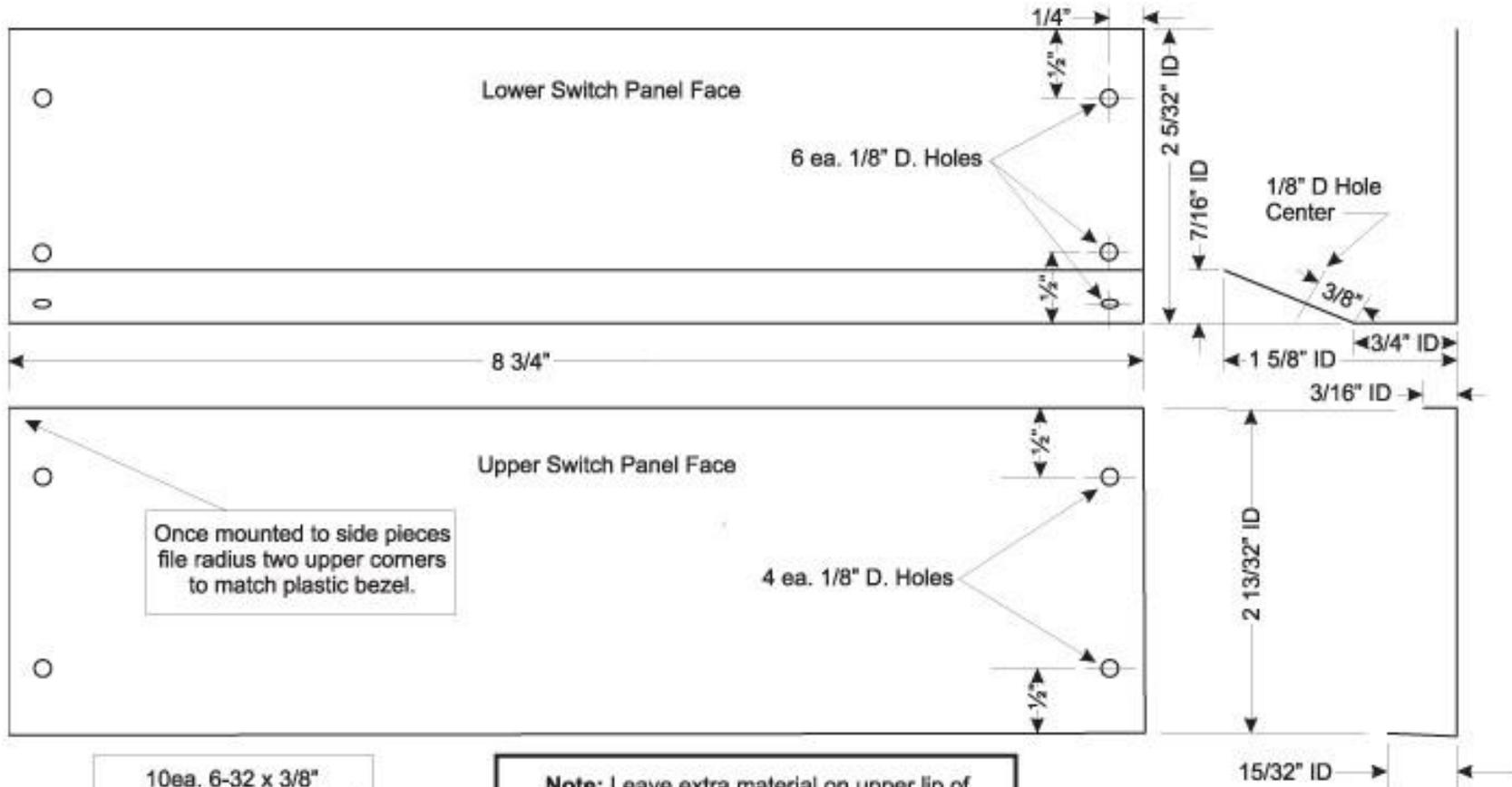


**Switch Panel End Bracket.  
Two opposite required.**

Cut lines are all solid lines. Fold all dotted lines at 90°. Fold the large flap with the notch one direction and the remaining flaps the opposite direction.

**Note:** Cut pieces of 1/8" x 1/2" aluminum bar stock and epoxy to backs of mounting flaps after bending where shown to facilitate later drilling and tapping for 6-32 machine screws for face plate mounting.

### Switch Panel Faces



10ea. 6-32 x  $\frac{3}{8}$ " machine screws required

**Note:** Leave extra material on upper lip of upper switch panel face to facilitate bending, then cut to  $\frac{3}{16}$ " and finish once bend is made.















After receiving the winch switch from 12 Volt Guys, I went ahead and cut the winch switch hole, then primed and painted all the parts flat black. Once the paint was dry, I installed all the switches, and mounted the switch panel in the plastic bezel. The switches were then wired to the appropriate circuits and the whole thing reinstalled in the Jeep.

I had been slightly concerned about the clearance between the switches and the gear shift lever especially with the winch switch protective cover, but there is enough clearance between the lever and switches (even though it is close) and the winch switch is far enough to the left, that in first gear the shift lever doesn't make it that far to the left.

All in all, pretty happy with the way it came out, and it is all easy to see and get to from the driver's seat.







