Building a wind blocker for a TR6

LIST OF MATERIALS:

1'X3'x ¼" Piece of lexan (polycarbonate resin)	$63.28
1/8"x1"x3' aluminium angle	12.99
1/8"x1"x3' flat aluminium	9.09
1/8"x1 ¼" x36" flat stock steel	5.39
A small box 10-32 1" pan head screw (QTY. 16)	1.99
10-32 ACORN nut (QTY. 16)	3.40
Snaps female (DOMES) (QTY. 5)	1.25
Snaps male (BUTTONS???) (QTY. 5)	1.25
Gloss black anti-rust spray paint	8.00
Epoxy cement	5.00
2 black finger knobs with appropriate 5/16-24 1" bolts	5.00
TOTAL	$115.38

I bought everything at Home Depot except the domes, buttons, and the lexan.
I had a supply of the domes and buttons but know the price is $.25/pc at Speedy Auto Glass where I bought the lexan. Sorry lost receipt for knobs and bolts so took a guess. The only thing not in the same isle at Home Depot is the epoxy glue. Any good hardware supply store should be able to supply the same.

PROCEDURE:

1: cut 2 pcs.stock steel to 5" long length. Round the edges. And mark at ¼" and 2 ¾". With welders torch bend at the 2 marks forming an "S" shape. You will need to do a little extra bending (using vice and hammer) of the vertical and top long flat sides in order to be square and level across the back of the car. The bars of the soft top cover are not quite at right angles to the back shelf area. You will see this. The short ¼" bend will act as a "stop" to prevent the lexan from rocking forwards and backwards. The vertical 2 ¾" side face will be where you will drill a hole for the mounting thumb bolt and the top flat 2 ¼" will be where the angle aluminium piece gets bolted to.
2: cut the 5/16-24 bolts to ½" long. (looked for ½" but only saw 1" bolts) epoxy the bolt heads into the black thumb nut.

3: Drill a 9/32” hole centerline about 1” forward of the top frame joint. Tap with 5/16-24.

Place the bent support bar on the outside (outside towards the outside of the car) and center it over the tapped hole. Hold the ¼” bend tight to the bottom of the soft top frame piece. Scribe a circle onto the bar and then drill a hole using a 9/32” drill. Clean off the metal burs. Mark your 2 support brackets L and R.

4: Mount the left and right support brackets to the top frame with the thumb nuts and place the angled aluminium piece on top of them both. You will now see that hammering on the side edge of the flat top side will “twist” the vertical piece so the top flat piece becomes square with the aluminium piece …what a mouth full that was! You will need to bend down the top flat side so it is level. This will take several trips back and forth to your vise.
Here is what the 2 pieces look like when painted. You can slightly see the twist in the left piece.

You can also see the 3 drilled mounting holes on the right piece (next step). There are more pictures of these 2 pieces yet.
5: Using a #7 drill, (closest is 13/64”) drill 3 mounting holes in the angled aluminium piece then place it on the support brackets and mark the steel for the 3 holes and drill using same drill. Again keep track of which is the L and R bracket. They will be different.
6: sand and paint the 2 brackets. Set aside to dry. Here is what it will look like when finished. The 6 pan head bolts are cut to ½” length. (You can see the slight twist to the vertical section of the bracket).

The following can be done in any order you want.
NOTE: leave the protective cover on the lexan until the very end.
7: Round the top edges of the lexan piece. You pick the radius you want. A fine jigsaw blade will cut it very easily.

8: I used a vibrating palm sander with good quality sand paper to sand all edges of the lexan. You want to get it very smooth with no “cutting” marks. When I had it clean of all marks and slightly rounded I then started the wet sandpaper sanding. Start with say 300 and slowly work up to a final 2000 all by hand sanding. Use plenty of water so your paper lasts. You can do a final polish with a plastic polish. This stuff is a LOT tougher than plexiglass.

9: It is now time to mount the lexan to the 2 aluminium pieces.

Note here: see step 13 as you may wish to change a few of the bolts and nuts here to be used as the mounting points for 5 snaps. Your 10-32 pan head bolts need to be cut down to 11/16" long. You are going through both pieces of aluminium and the ¼" lexan. I first drilled the angle aluminium piece with a 13/64" drill. For even spacing I drilled the first hole from left at 1" then 4,8,12,16,20,24,28,32,and finally 35" marks. This gave me even spacing with the outside 2 holes close to the edge. This is probably overkill with holes but this is how I did it.

10: remove about 1 ½" of protective cover from the bottom of the lexan piece.

11: Using clamps sandwich the lexan between the flat piece and angle piece of the aluminium. My piece of lexan is slightly longer than the 2 pieces of aluminium so I simply gave same"overhang" to both ends.

Using the outside 2 holes as pilot holes I drilled through the lexan and the flat aluminium. I then put the bolts and acorn nuts into these 2 holes to keep the pieces from shifting. I went to the center and worked out drilling the remaining holes. I put another nut and bolt in the center hole before drilling the rest.
NOTE. If for any reason you want to take it all apart at this point, be sure to mark the left sides of the 2 aluminium pieces and the front left of the lexan so that they go back together the same way. Here is a final pic. Note: In the picture below I reversed the acorn nuts to the inside to make the mounting of the soft top cover a “flatter” fit.

12: Attach the braces to the finished aluminium wind-blocker.

The above picture shows the acorn nuts on the inside.

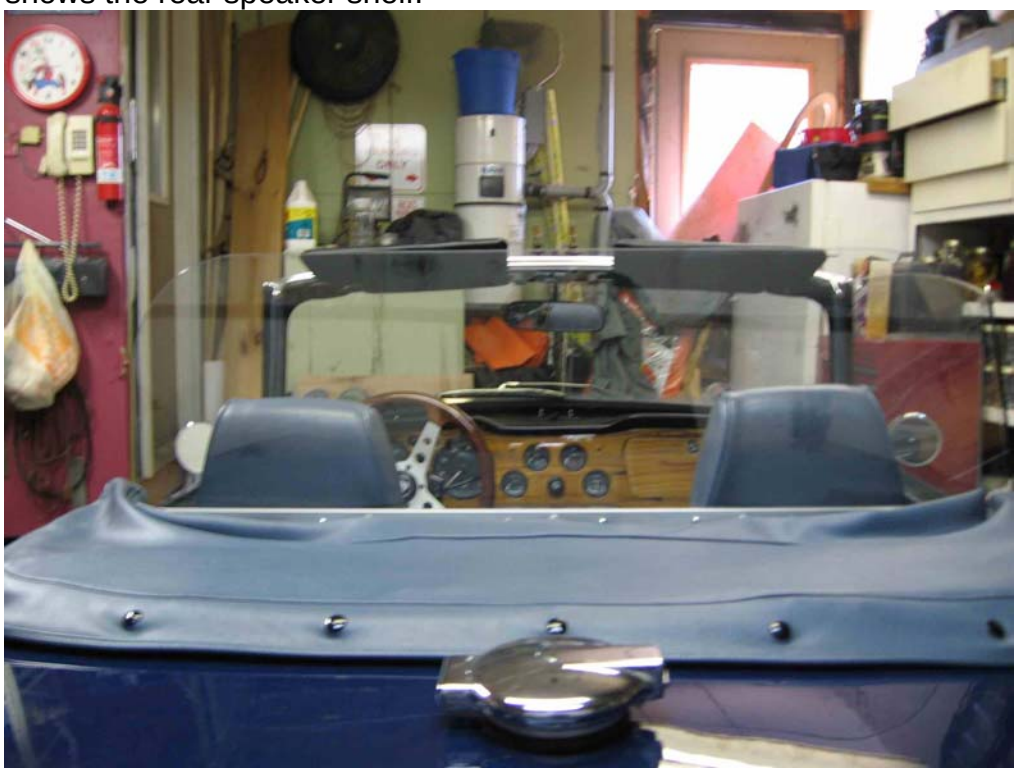
13: SEE STEP 9 AS A POSSIBLE CHANGE HERE. Otherwise, drill 5 7/64” holes 7/16” deep as per the picture below for the snaps. I found in my inventory 5 #6 ½” wood screws and used these to attach the snaps. It is only aluminium and lexan so wood screws will do. Sheet metal screws will have a self-tapping tip before the thread and I did not want the hole to go through to the other side.

The flat head #6 screw sits flat inside the snap. It will not interfere with the dome piece. You cannot use a pan head here, as it will contact the “rolled over” piece of the dome.

Below are pics of it attached. I had the snaps below the piping on the soft top cover then moved them to 1.5 inches the other side of the piping in order to tighten up the snap location so the soft top cover sat flatter.

I am not terribly happy with the flatness. I might move the right-pictured dome so as to stretch the material a little tighter to look like the left dome. I have not attached the outside snaps as I want to cut the slots in the soft top cover for the support bracket bar first to see where the soft top finally sits.
Attaching the soft top cover like this does stop a lot of air coming in under the blocker and I still get to listen to my music.

The above pic is before I moved the position of the domes on the soft top cover . This still shows the rear speaker shelf.



You can see the twist of the support bracket.

There is definitely less wind buffeting with the side windows up. The Right pic above shows before I attached the soft top cover to the blocker.
Have fun.

Rick Crawford
1971 TR6