

Materials:

Two sheets 4x8 .040 aluminum - not important the type – whatever is available

One sheet 4x8 3/8 plywood

Two boards – 1.5"x0.75x8' wood for slats

1.25" deck screws

Flat head sheet metal screws – 1/2" long



Cut two circles out of the 3/8 plywood not more than 39" in diameter – 39.00" seems to work OK, but will be "snug". If you want – make it a bit smaller and add foam into the gap to seal – patch the foam black or use black foam.

Cut 8 pieces of 1.5x0.75 slats – 23.5" long.



Mark the plywood circles at eight points around the circumference – 45 deg.



Screw the wood pieces to create a 39" diameter wooden cylinder as a base frame.





Cut the 4x8 sheets of aluminum down to 42"x96" and wrap the first sheet around the wood cylinder frame and secure. Start over slat and just work your way around keeping the sheet metal close to the frame.



You will need to cut the second aluminum sheet to 42"x33" (less or more depending on the size of the first sheet – 33" if it's 8') and underlap that beneath the first sheet around the plywood frame – secure it with the sheet metal screws – metal to metal. If you have 4x10 sheet of aluminum – expect to cover the additional space with

3-4" aluminum strip 24" long – use the gap left for one of the gapes in the inner eyelids.



Measure down 18" from the top of the open aluminum cylinder and mark around the outside of the cylinder. Then mark the eyelids and blank spaces – starting with a blank space centered over what is the seam of the two aluminum sheets or the gap left from the filler sheet. Blank spaces are 5" give or take what is necessary to make the full circumference – measure the circumference – subtract

12x5.5" strips (66") then divide by 12 to get the gaps to cut out. Lower eyelids are 5.5" wide – and 18" long. Mark on the cylinder and cut – remove the blanks - +/-5" wide pieces (12) and leave the lower eyelid pieces 5.5" wide. (Total 12)



Cut a circle of aluminum 26" in diameter. Drill 1/16" or small enough for safety wire holes at 30 degree intervals at the end of the circle. This is to safety wire the inner eyelids to the circle to for the aft end of the AB.

Cut sheets 6" wide – 20" long for the upper eyelids.

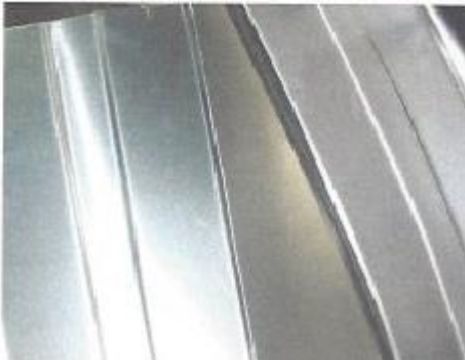




Rib the upper eyelids using a metal shaping tool as required. 1.25" is the width of the inner ridge, with the edges bent UP when the inner ridge "open side" is down.



Secure the center of the inner eyelids to the 26" circle holes previously drilled. Secure with safety wire the center of the outer eyelids to the 26" circle in the center of the gapes life by the inner eyelids – should be about 1" or so. As you work your way around the circle you will have secured both inner and outer eyelids to the circle, forming a perfectly round shape and a much more stable structure.



Now, keeping the outer eyelids in the center of the open gap between inner eyelids, secure the lower end of the outer eyelids to the metal cylinder with sheet metal screws – total 12 outer eyelids. I used three screws per out eyelid. Once all outer eyelids are secured, the structure is essentially complete.



This time – we went back and pop riveted the outer eyelid corners to the inner eyelids using 1/8" pop rivets. It looks better and is more secure.



Paint as desired – suggest aluminum or dull silver – perhaps black. Here we used granite satin and flag black for the end plate. I might also suggest a “pebble” satin – about the color of used car muffler.

Optional – Install a grp handle on the rear wooden circle to aid in installing into the fuselage.



Now go stuff it in an airplane.