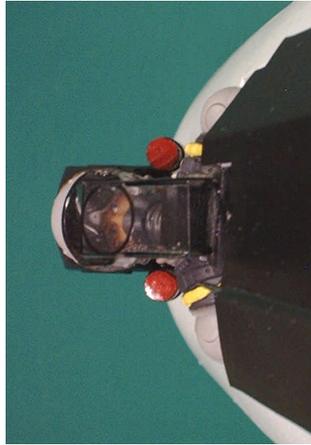
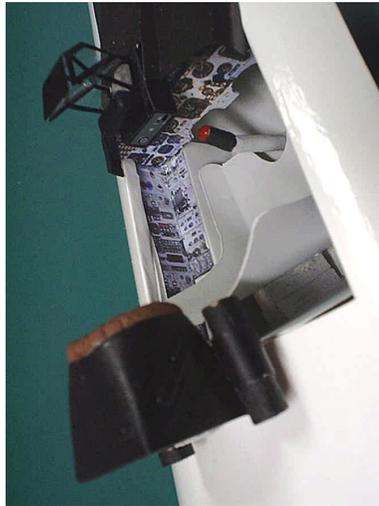


The Savage Light Sukhoi Su-27 Cockpit Kit contains everything you need to build a full depth semi scale Su-27 cockpit, yet adds less than an ounce to your finished model's weight (not including pilot).

Our Cockpit Kit is a perfect compliment to our Sukhoi Su-27 laser cut wood kit and will accept a wide assortment of 3-3/4" action figures currently available.

Needed to finish kit:

- Model Master Semi-Gloss Black (4700)
- Model Master Light Gray (4765)
- Model Master Clear Red (4630)
- Model Master Leather (4674)
- Medium CA Glue
- Thin CA Glue
- Spray Adhesive



(Pilot Not Included In Kit.)

Savage Light Industries

17 Brisa Ribera ♦ Rancho Santa Margarita

CA ♦ 92688 ♦ (949) 589-7120

Cockpit@SavageLight.com ♦ www.SavageLight.com

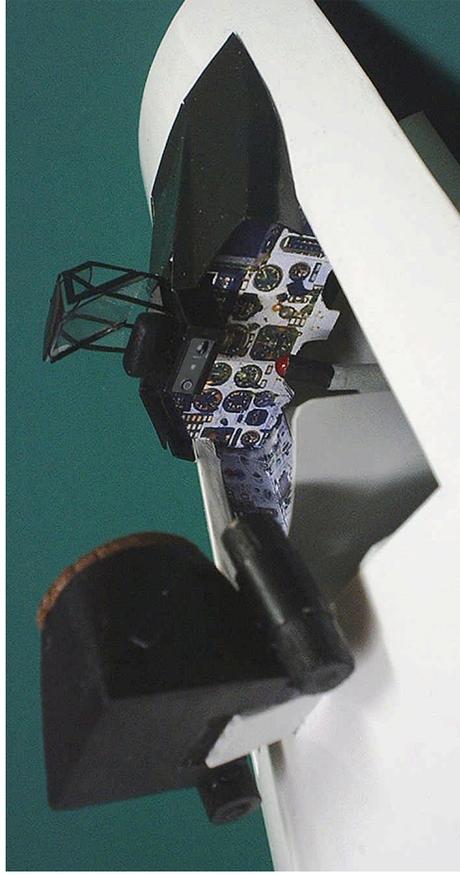


SUKHOI CY-27

Cockpit Kit

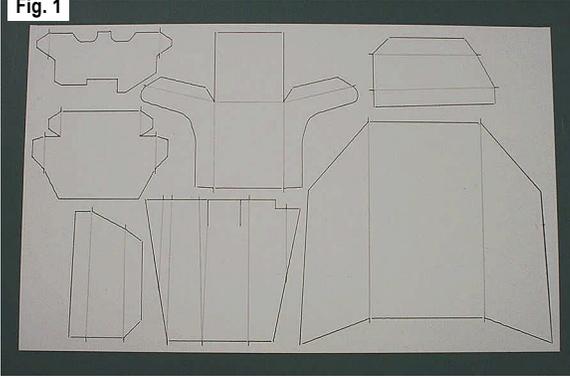
Full Depth - Builds Quickly - Light Weight

READ THROUGH THIS INSTRUCTION MANUAL FIRST. IT CONTAINS IMPORTANT INSTRUCTIONS CONCERNING THE ASSEMBLY OF THIS KIT.



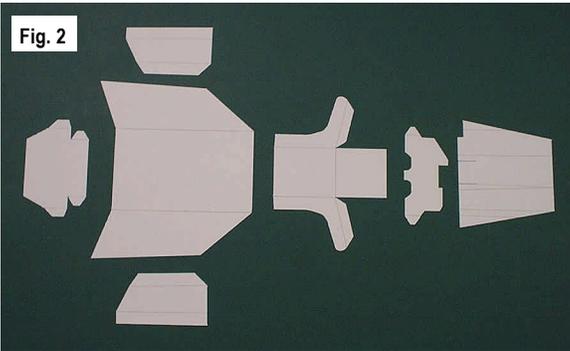
INSTRUCTION MANUAL

Fig. 1



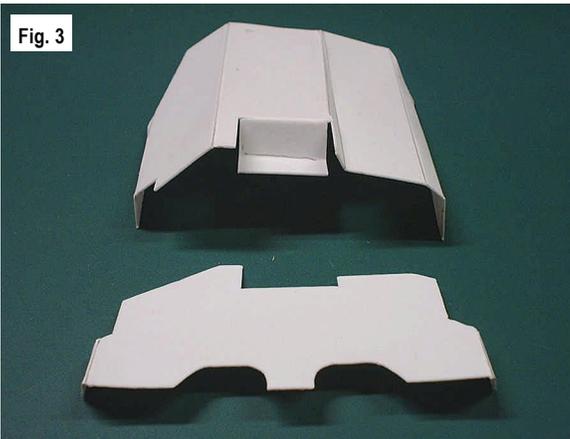
❑ 1. Use a sharp pencil or fine point marker to mark the fold lines on the laser cut styrene plastic sheet as shown in Fig. 1.

Fig. 2



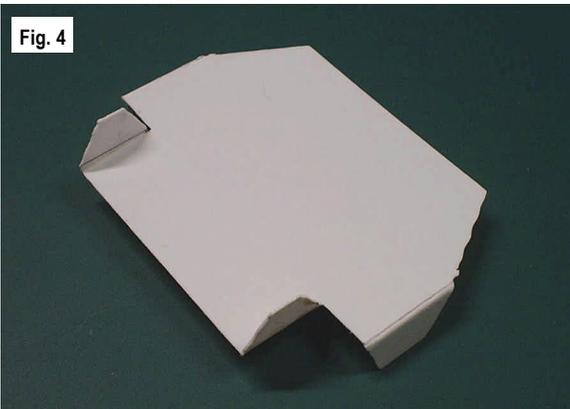
❑ 2. Once all laser-cut pieces have been marked, remove the bulkhead, tub, left and right side panels, seat, instrument panel and coaming from the carrier sheet. Set the carrier sheet aside as you will need this later.

Fig. 3

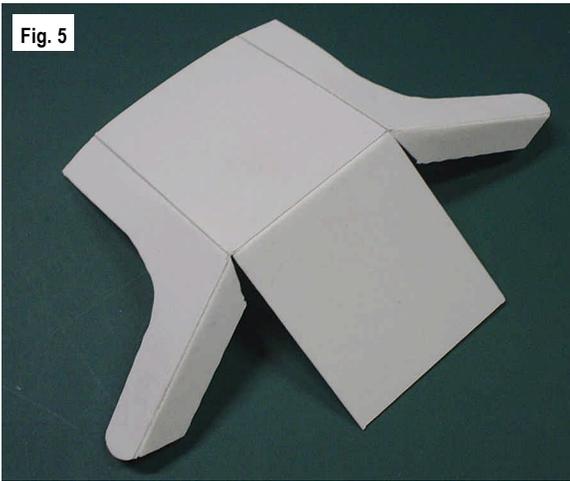


❑ 3. Fold the coaming and instrument panel as shown in Fig. 3.

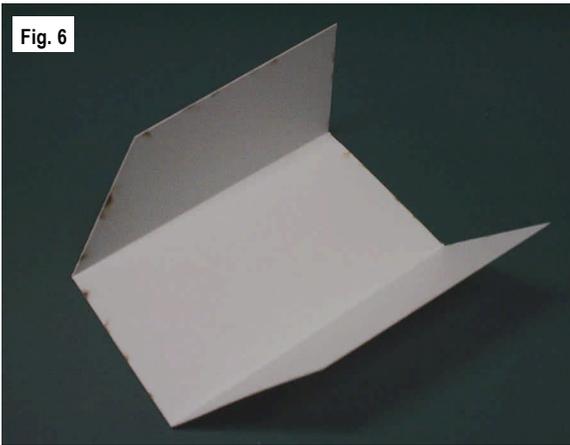
Fig. 4



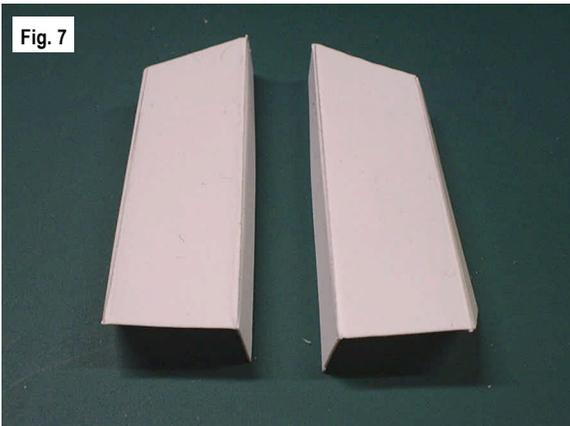
❑ 4. Fold the bulkhead as shown in Fig. 4..



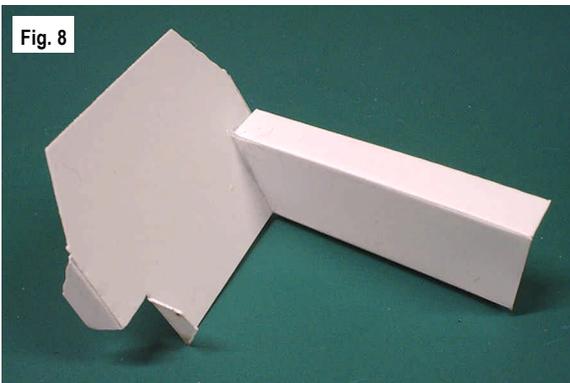
□ 5. Fold the seat as shown in Fig. 5.



□ 6. Fold the tub as shown in Fig. 6.

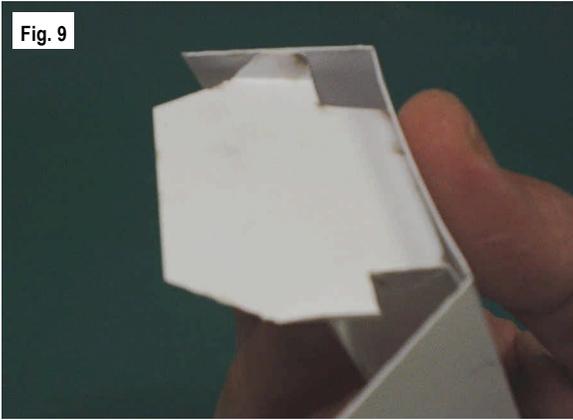


□ 7. Fold the left and right side panels as shown in Fig. 7.



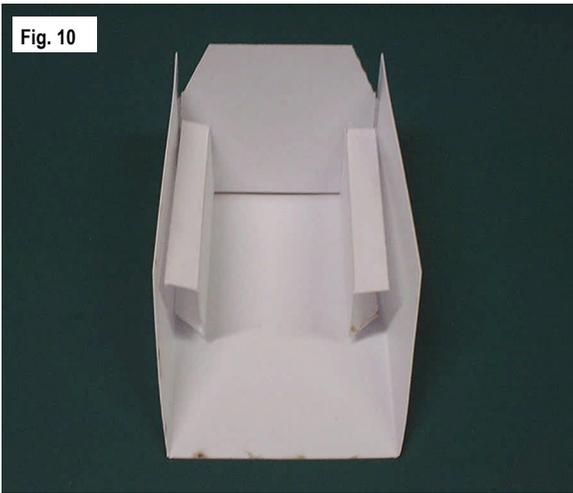
□□ 8. Using thin CA glue, carefully tack glue the rear of the left side panel to the lower bulkhead tab as shown in Fig. 8.

Repeat for the right side panel.



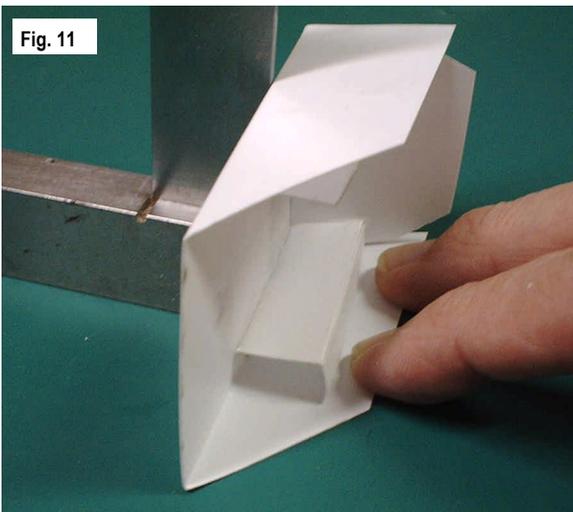
 **9.** Align the bulkhead upper right tab with the rear of the tub and tack glue as shown in Fig. 9.

Repeat for bulkhead upper left tab.



 **10.** Lightly press the right lower flap side panel to the tub floor and tack glue as shown in Fig. 10.

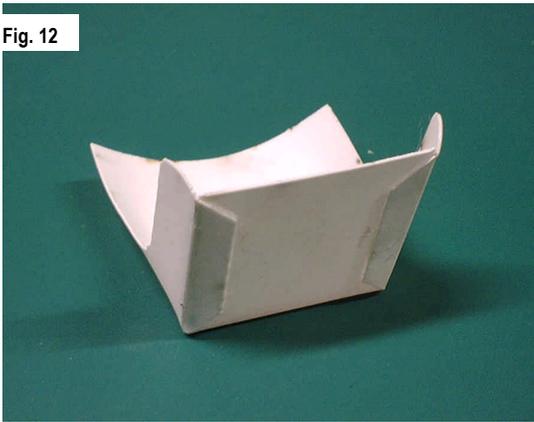
Repeat for left lower flap side panel.



 **11.** Holding the tub floor square, tack glue the left side panel edge to the left tub side as shown in Fig. 11.

Repeat for right side panel edge.

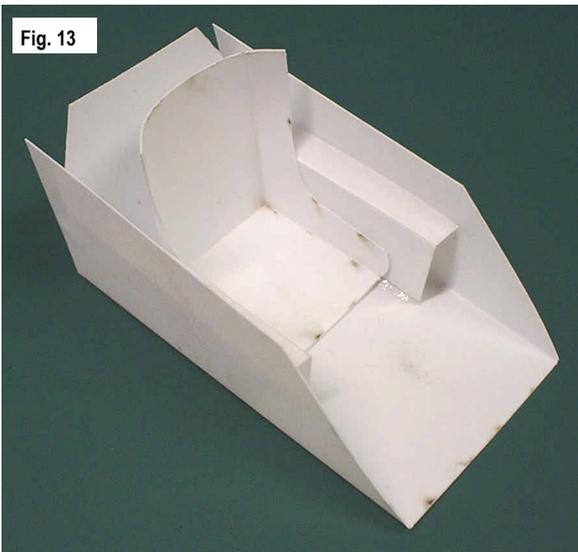
Fig. 12



☐ **12.** Tack glue the seat side tabs to the seat bottom as shown in Fig. 12.

Note: Seat included in kit may differ in appearance than the seat shown here.

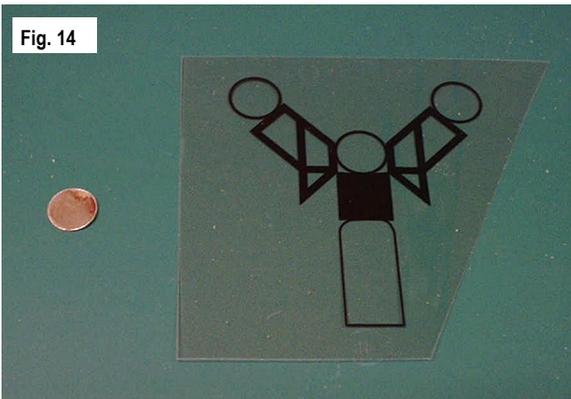
Fig. 13



☐ **13.** Test fit the seat and tub assembly as shown in Fig. 13.

Note: This finishes the basic construction of the cockpit seat and tub assembly, set them aside for now.

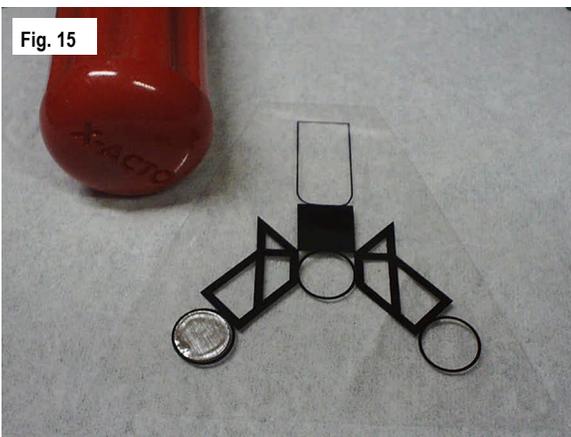
Fig. 14



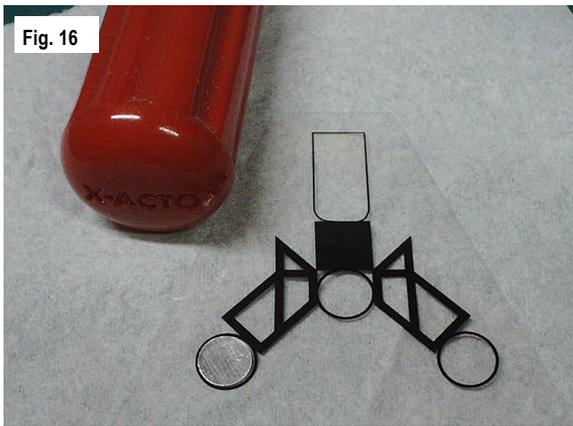
☐ **14.** Cut one of the HUD assemblies as shown in Fig. 14.

Note: The kit includes 2 HUD frame assemblies (2 printed frames and 2 aluminum reflectors). Folding and gluing the HUD frame assembly is a delicate part of the kit construction. If you have a problem with the first attempt, you have a back up. ;-)

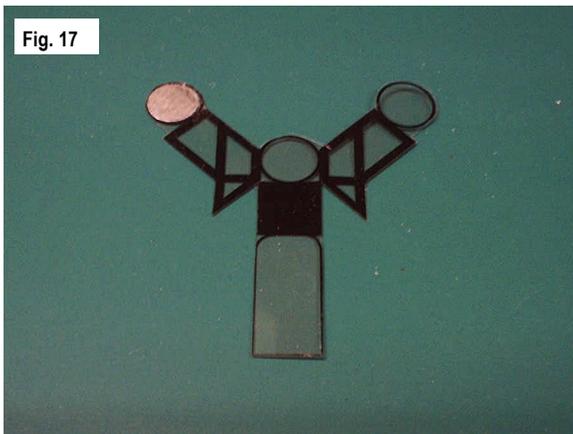
Fig. 15



☐ **15.** First identify the printed side of the HUD frame. Peel the backing from the self-adhesive aluminum reflector and carefully place it on the unprinted side of the HUD frame as shown in Fig. 15.

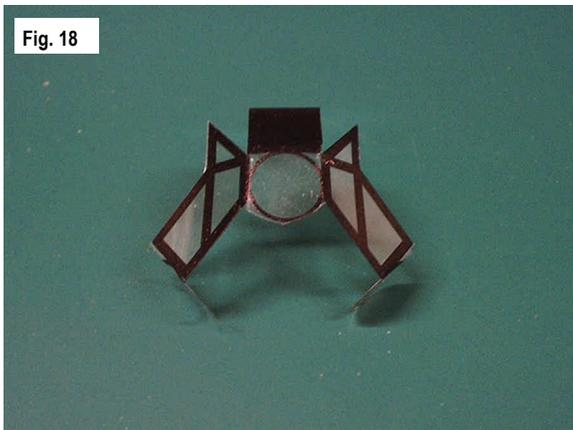


□ **16.** Place the HUD frame on a square of bathroom tissue and using any smooth tool similar to what is shown in Fig. 16, lightly burnish the aluminum reflector to smooth the surface.



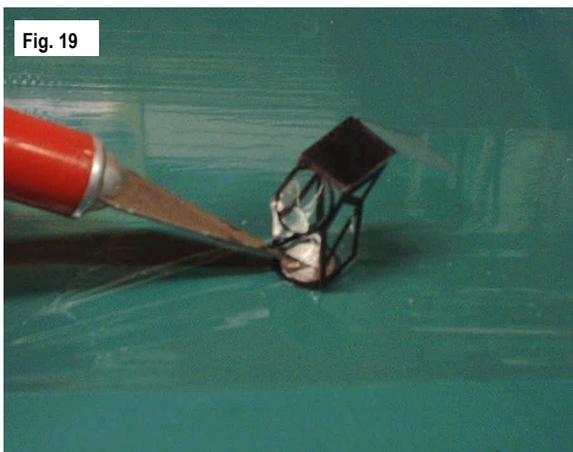
□ **17.** Carefully cut out the HUD frame as shown in Fig. 17.

Note: Before attempting to fold the HUD frame, study all photos included in this instruction manual. The HUD frame is folded with the printed side out. Gradually work the plastic into the correctly angled folds, beginning from the outer extremities inward to the center of the HUD frame.



□ **18.** Before gluing HUD frame, double check the accuracy of your folds as shown in Fig. 18.

Note: Lay out some plastic wrap over your building board prior to gluing the HUD frame.



□ **19.** Place the HUD frame bottom without the aluminum reflector flat onto your covered building board and put a small drop of thin CA in the center. Then lightly clamp the other frame bottom using a sharp blade as shown in Fig. 19.

You should now have the aluminum reflector clamped between the two pieces of plastic with the non-adhesive side of the aluminum reflector facing up.

Make any final adjustments as necessary before the glue sets. The HUD frame sides should be as square and parallel as possible.

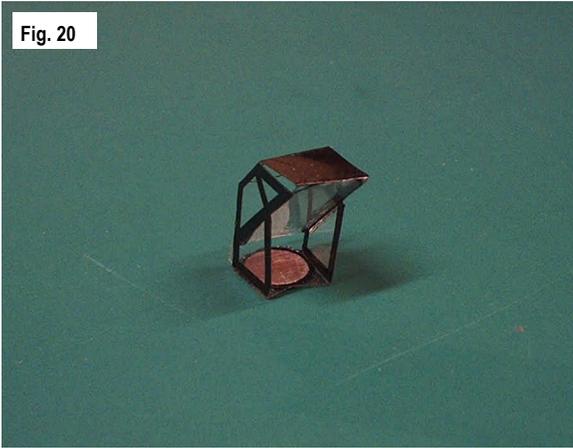


Fig. 20

☐ **20.** Once the HUD frame bottoms have dried, work the angle glass between the HUD frame sides. Adjust HUD frame top so that it is even with the HUD frame sides

Lay the HUD frame on its side over the plastic wrap and tack glue using thin CA

Repeat for the other side. After glue has dried your HUD frame is now complete.

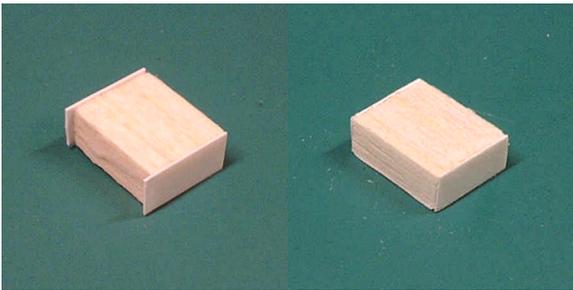


Fig. 21a

Fig. 21b

☐ **21a.** Cut two 1/4" x 1/2" scrap pieces from the styrene carrier sheet and glue to the ends of the HUD box (3/16" x 1/2" x 3/8" balsa block) as shown in Fig. 21a.

☐ **21b.** Sand the styrene so that it is flush with the sides of the HUD box as shown in Fig. 21b.

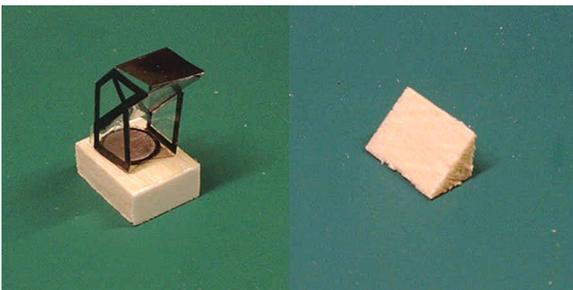


Fig. 22a

Fig. 22b

☐ **22a.** Check the HUD frame for alignment and mark the HUD frame's location on the top of the HUD box as shown in Fig. 22a.

☐ **22b.** Locate the HUD bumper (1/4" x 1/4" x 7/16" balsa triangle stock) as shown in Fig. 22b.

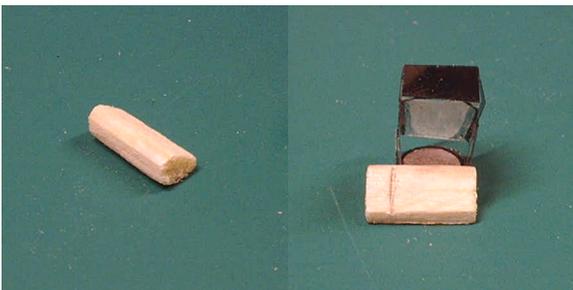


Fig. 23a

Fig. 23a

☐ **23a.** Shape the HUD bumper as shown in Fig. 23a.

☐ **23b.** Using the HUD frame, mark the HUD bumper and cut to length as shown in Fig. 23b.

Note: Locate one of the 3/32" x 5/8" x 5/8" balsa sheets. This will be your headrest cushion. Using the template found on the Parts and Templates page, cut out and trace onto the headrest cushion. Cut the cushion slightly larger than the trace line as shown in Fig. 24 (next page).

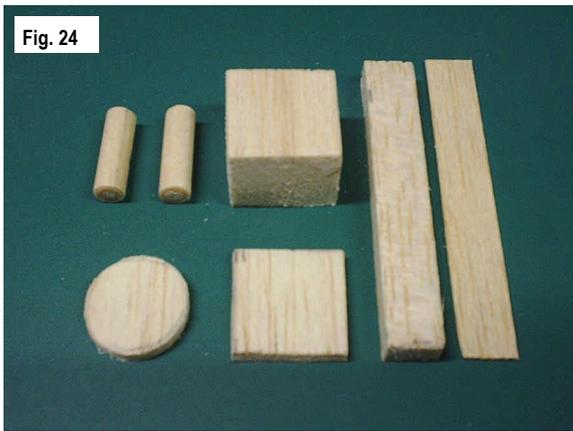


Fig. 24

24. Locate the ejection seat stabilizers, cushion, headrest, headrest back, seat back and seat extension as shown in Fig. 24.

2– 3/32" x 5/8" x 5/8" balsa (cushion, headrest back)

1– 1/2" x 5/8" x 5/8" balsa (headrest)

1– 3/16" x 3/8" x 2" balsa (headrest support)

1– 1/32" x 3/8" x 2-1/4" balsa (headrest support back)

1– 3/16" x 1-1/4" H.W. dowels (ejector stabilizers)

Note: You will need to cut the 3/16" dowel in half.

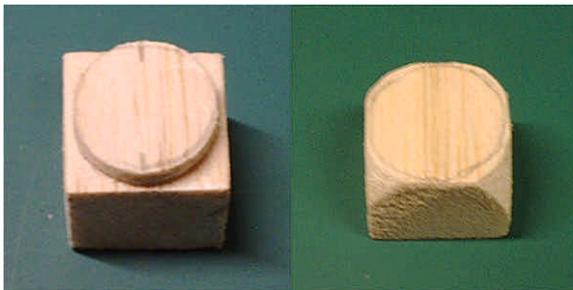


Fig. 25a

Fig. 25b

25a. Trace the cushion shape onto the headrest as shown in Fig. 25a.

25b. Sand the corners of the headrest as shown in Fig. 25b.

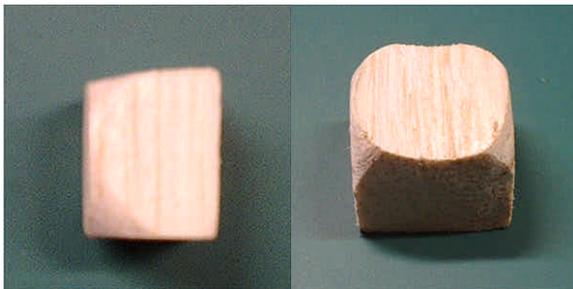


Fig. 26a

Fig. 26b

26a. Bevel the top of the headrest as shown in Fig. 26a.

26b. Sand the front of the headrest as shown in Fig. 26b.

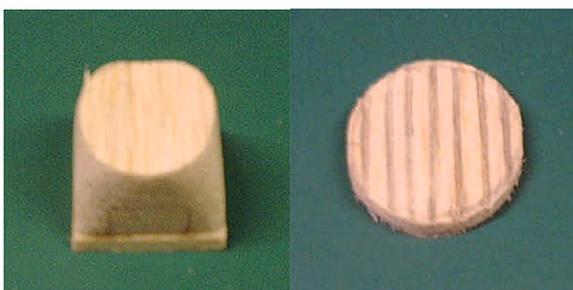


Fig. 27a

Fig. 27b

27a. Glue the headrest to the headrest back as shown in Fig. 27a.

27b. Mark the cushion as shown in Fig. 27b.

Note: Use the photos of the finished cushion in this manual to shape the cushion. Emery boards make excellent sanding sticks and can be found in most supermarkets.

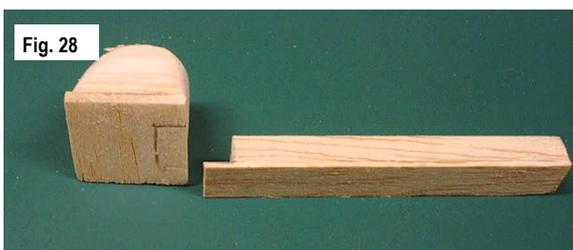


Fig. 28

28. Glue the seat back to the seat extension. Mark the gluing area on the headrest assembly as shown in Fig. 28.

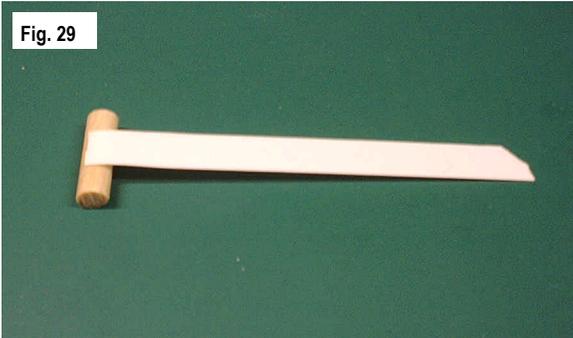


Fig. 29

29. Cut a 1/4" x 2" strip from the styrene carrier sheet. Tack glue one end of styrene strip to one of the ejector stabilizers as shown in Fig. 29.

Wrap styrene strip around ejector stabilizer and cut to length for a smooth butt joint. Tack glue the styrene strip to the ejector stabilizer. Repeat for other ejector stabilizer.

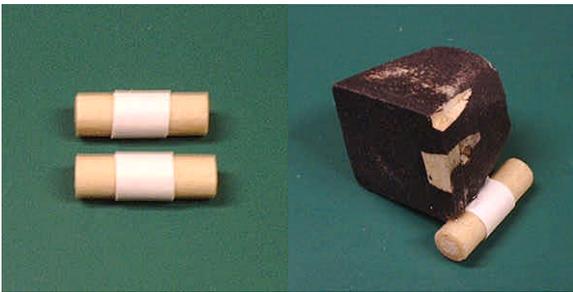


Fig. 30a

Fig. 30b

30a. Sand and smooth the completed ejector stabilizers as shown in Fig. 30a.

30b. Carve small notches into the lower corners of the headrest assembly and glue the ejector stabilizers square and straight according to the rear of the headrest as shown in Fig. 30b.

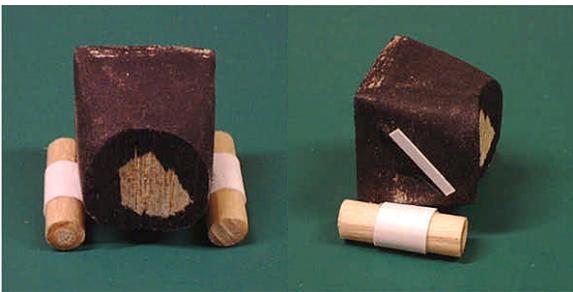


Fig. 31a

Fig. 31b

31a. Tack glue the second ejector stabilizer and double check the alignment as shown in Fig. 31a.

31b. Cut 2 (two) 1/16" strip from your 1/4" styrene strip you made in step 29 and tack glue to each side of the headrest assembly as shown in Fig. 31b.

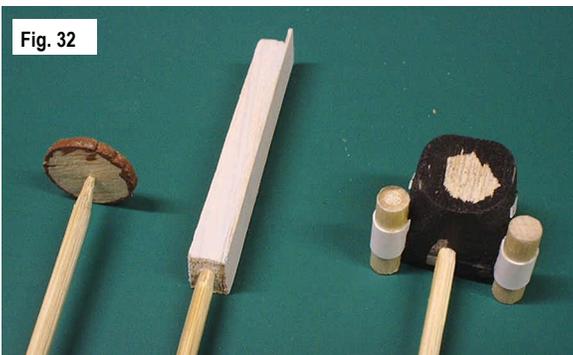


Fig. 32

Note: You will now need to finish your wooden headrest parts. We suggest using a sanding sealer and balsa filler coats. Fill and sand until the desired paint ready surface is achieved.

32. Use sharpened bamboo dowels for painting the headrest parts as shown in Fig. 32.

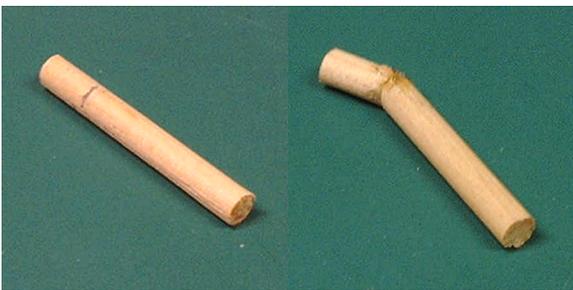


Fig. 33a

Fig. 33b

33a. Locate the 3/16" x 2" H.W. dowel and mark a line 1/4" from one end as shown in Fig. 33a.

33b. Partially cut the dowel and angle the end as shown in Fig. 33b.

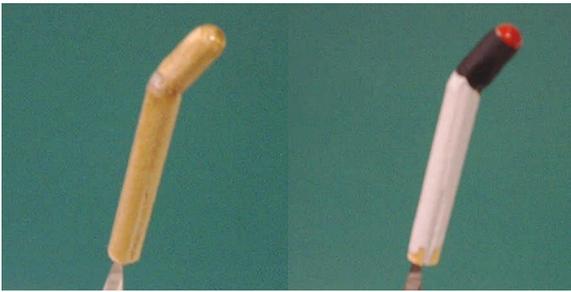


Fig. 34a

Fig. 34b

□ **34a.** Use medium CA to fill the gap created when the dowel was bent and add a small drop to the end to simulate a firing button as shown in Fig. 34a.

□ **34b.** Sand and paint the joystick as shown in Fig. 34b.

Note: the final color of your joystick grip should be contrasting to your pilot's glove. A light colored glove would dictate a dark grip and vice versa.

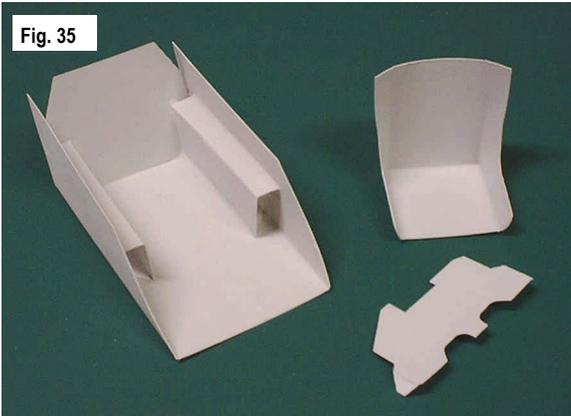


Fig. 35

□ **35.** Paint the tub assembly, seat and instrument panel as shown in Fig. 35.

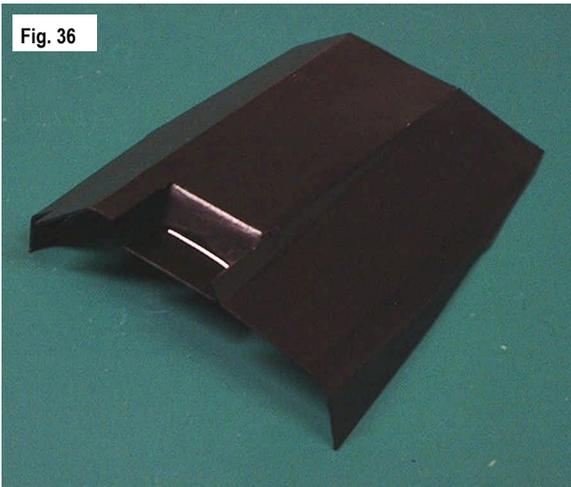


Fig. 36

□ **36.** Paint the top of the coaming as shown in Fig. 36.

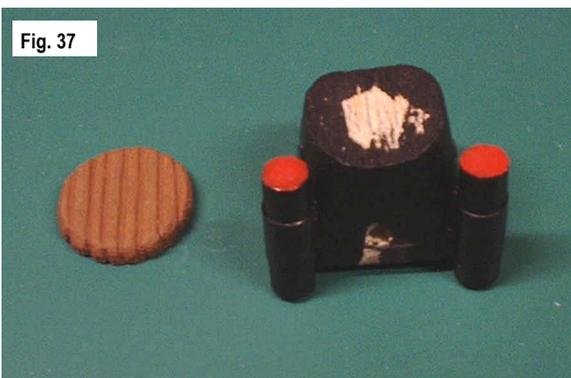
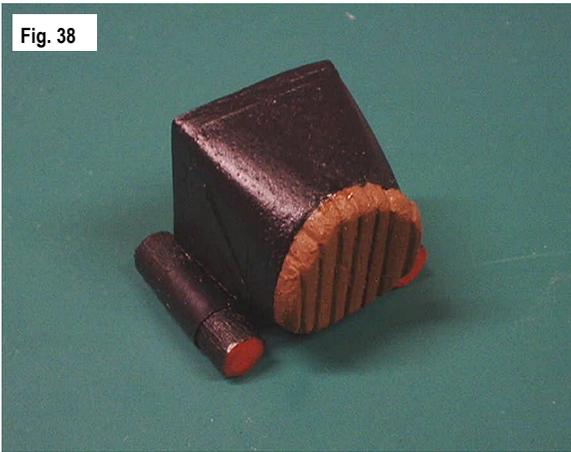


Fig. 37

□ **37.** Paint the front of the ejector stabilizers as shown in Fig. 37.

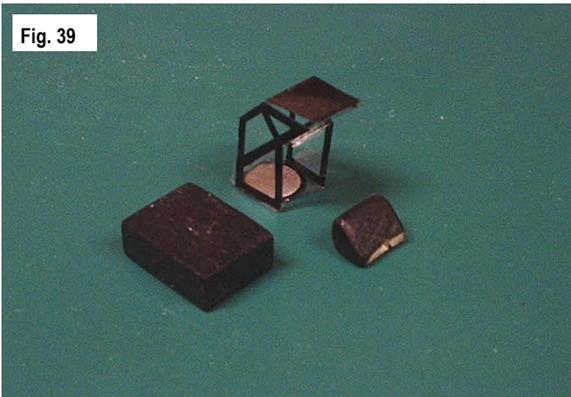
Note: Dampen the back of the cushion with water to soften the wood prior to gluing it to the headrest assembly. This will minimize the chance of cracking the cushion when bending.

Fig. 38



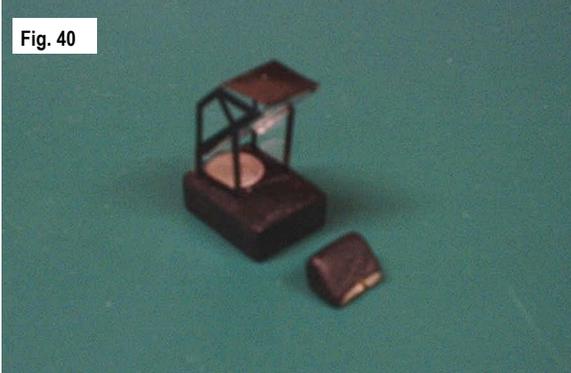
☐ **38.** Tack glue the cushion to the headrest assembly as shown in Fig. 38.

Fig. 39



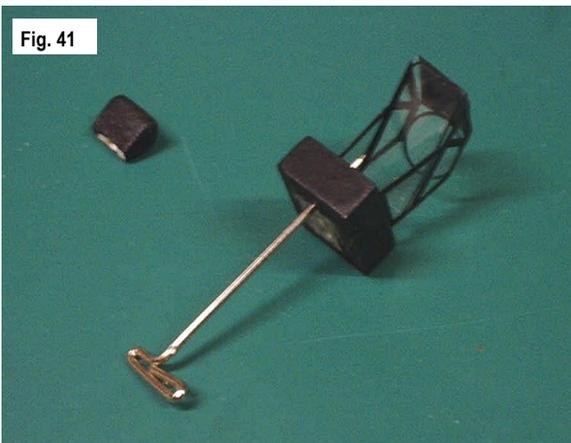
☐ **39.** Sand, fill and paint the HUD box and bumper as shown in Fig. 39.

Fig. 40



☐ **40.** Tack glue the HUD frame to the HUD box as shown in Fig. 40.

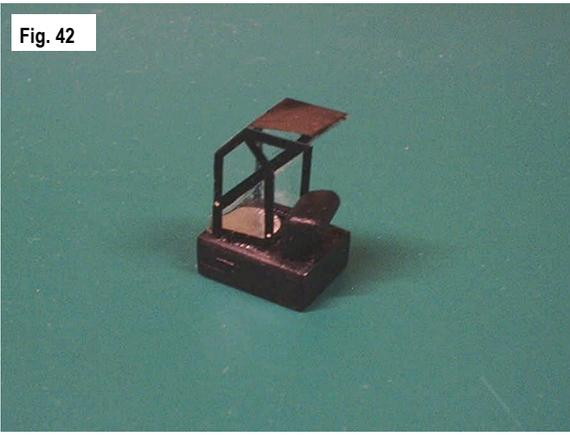
Fig. 41



☐ **41.** Use a T-pin to hold and align the HUD bumper as shown in Fig. 41.

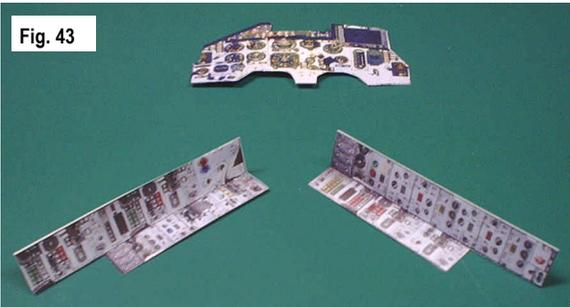
Once you're satisfied with the alignment, tack glue the HUD bumper to the HUD assembly.

Fig. 42



☐ 42. The HUD assembly is now complete as shown in Fig. 42.

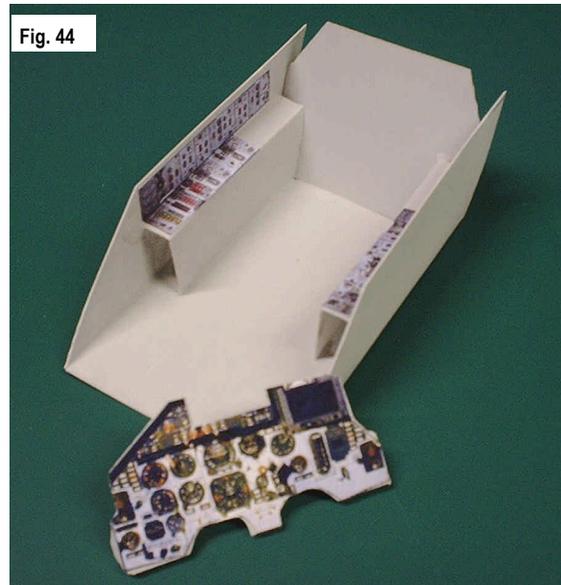
Fig. 43



☐ 43. Locate and cut out the instrument panel, and two side panel placards as shown in Fig. 43. Side placards included in the kit are full length, not notched as seen here.

Note: Not seen in these photos is the HUD switch plate. Cut the HUD switch plate out at this time also and glue it to the front of the finished HUD box as seen in the photos in this manual.

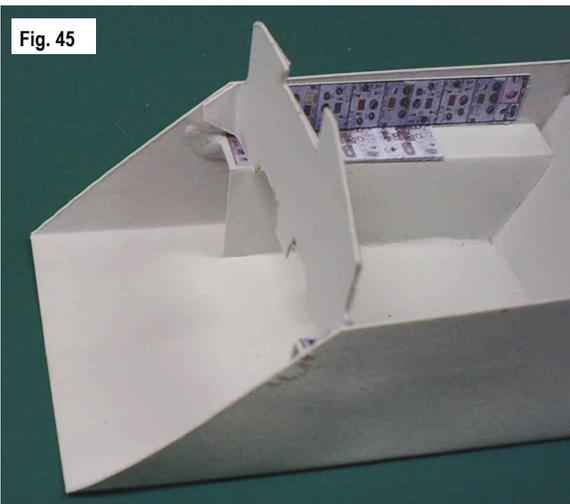
Fig. 44



☐ 44. Glue the side panel placards 1/32" from the front edge of the side panels as shown in Fig. 44.

Glue the instrument panel placard to the instrument panel.

Fig. 45



☐ 45. Carefully align and tack glue the right side of the instrument panel with the side corner of the tub assembly as shown in Fig. 45.

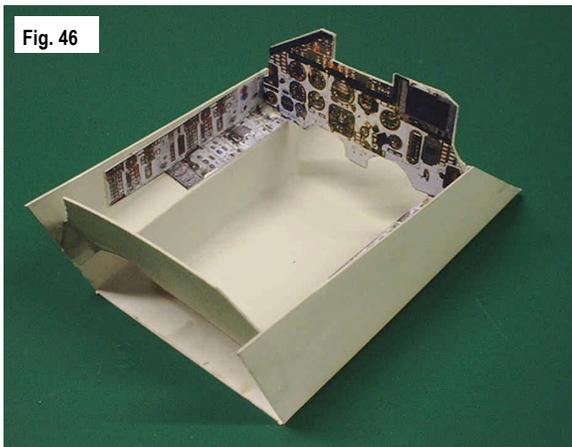


Fig. 46

❑ **46.** When gluing the left side of the instrument panel to the tub, make sure that the panel is square to the sides and level with the bottom as shown in Fig. 46.

It may be necessary to trim the bottom of the instrument panel on the left to ensure that the panel is properly aligned.

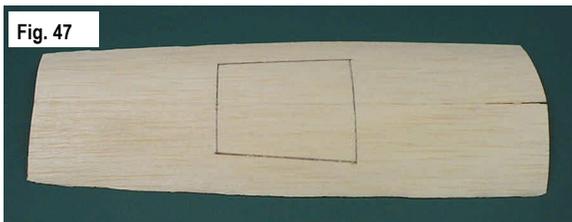


Fig. 47

❑ **47.** Mark the hatch opening 2-5/8" back from the leading edge of the cockpit hatch. The hatch opening is 2" long. The front is 1-1/2" wide and the rear is 1/3/4" wide as shown in Fig. 47.



Fig. 48

❑ **48.** First cut the balsa sheeting and peel it free of the hatch. Then carefully cut the plywood frame work as shown in Fig. 48.



Fig. 49

❑ **49.** Cut the plywood frame work 1/4" back from the edge of the hatch opening as shown in Fig. 49.

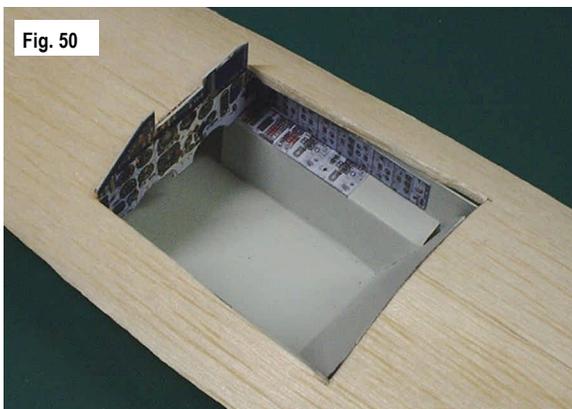
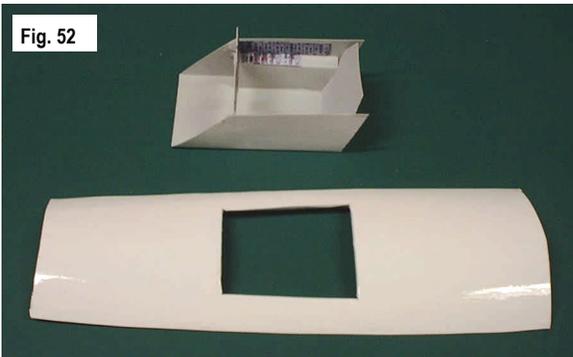


Fig. 50

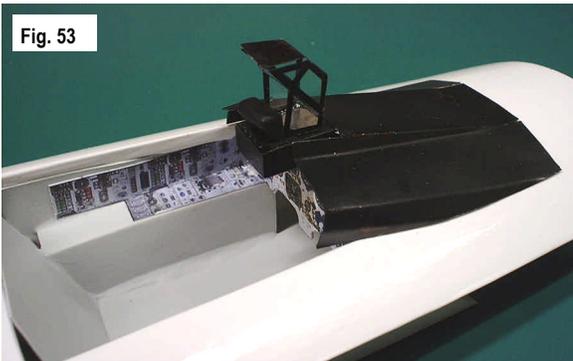
❑ **50.** Test fit the tub assembly into the hatch opening and sand the hatch opening as necessary to get a snug, but not tight fit as shown in Fig. 50.



❑ **51.** The tub assembly sides should fit flush with the inside of the cockpit hatch sheeting as shown in Fig. 51.

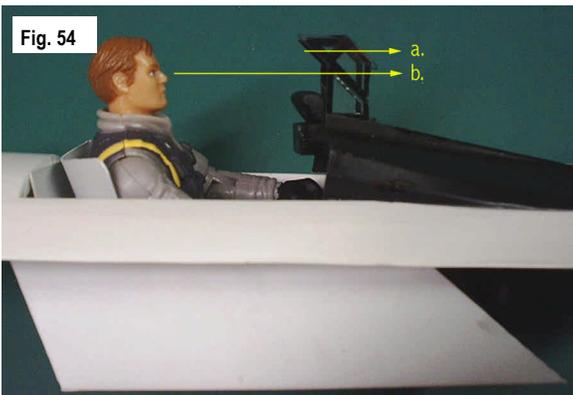


❑ **52.** Finish the cockpit hatch using your favorite method before gluing in the tub assembly as shown in Fig. 52.



❑ **53.** Once the tub assembly is glued in, carefully tack glue the coaming to the top of the instrument panel leaving a $5/32$ " overhang on the instrument panel as shown in Fig. 53.

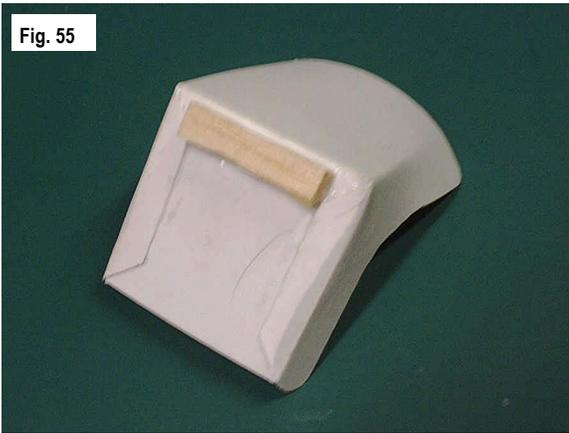
Only tack glue the front center of the coaming at this time. Once the coaming is glued, tack glue the HUD assembly to the HUD support bracket and instrument panel.



❑ **54.** Now is the time to determine the height your seat needs to be. Temporarily place seat and pilot into the cockpit and check height using Fig. 54 as your guide.

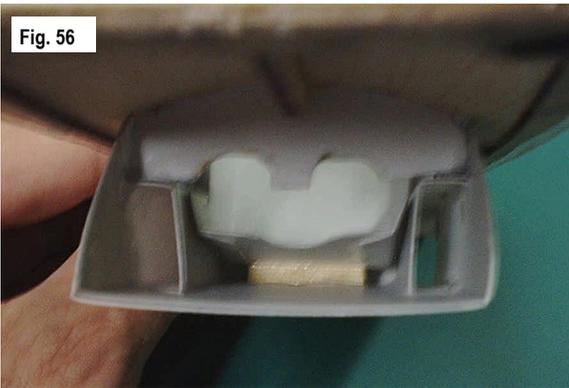
Your pilot's eyes should be as close to sight line (a) as possible, but no lower than sight line (b).

Fig. 55



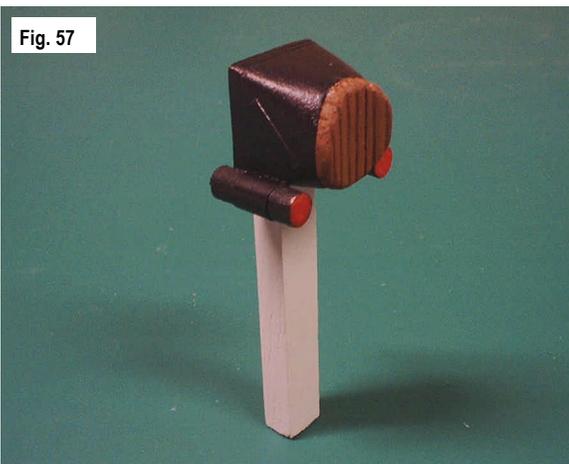
□ 55. Add some scrap balsa as needed to correctly align pilot's height as shown in Fig. 55.

Fig. 56



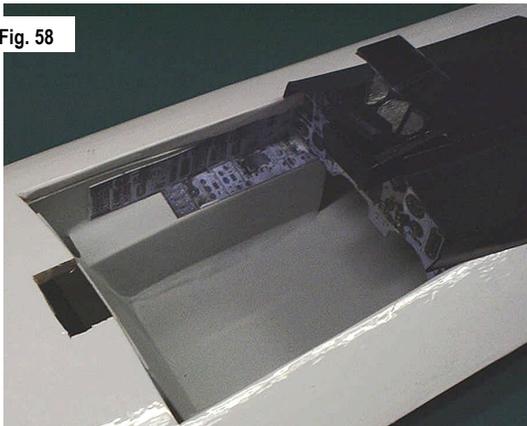
□ 56. The height of the seat front will be determined by the angle that the seat is raked backwards. It is only necessary to have the rear block as shown in Fig. 56.

Fig. 57



□ 57. Lightly tack glue the headrest assembly to the headrest support as shown in Fig. 57.

Fig. 58



□ 58. Cut a 9/16" x 1/2" hole into the rear of cockpit opening behind the bulkhead as shown in Fig. 58.

Place your seat, pilot and headrest assembly into the hatch. The headrest support should rest flush against the rear of the bulkhead.

DO NOT GLUE AT THIS TIME!

Fig. 59



❑ **59.** Your pilot should be able to look through the HUD as shown in Fig. 59.

Note: Trim the bottom of the headrest support so the headrest height will be aligned just behind the pilot's head.

DO NOT GLUE AT THIS TIME!

Fig. 60



❑ **60.** Add as much wood as necessary behind the seat to adjust your pilot's fore-aft position and glue to the tub floor and bulkhead as shown in Fig. 60.

Note: Once the seat is glued in, you may need to adjust the headrest angle so that the top slopes down slightly to the front. If necessary, break loose the headrest from the headrest support and sand or trim as necessary to get the proper angle on the headrest.

Check the height, angle and level of the headrest and glue to the rear of the bulkhead.

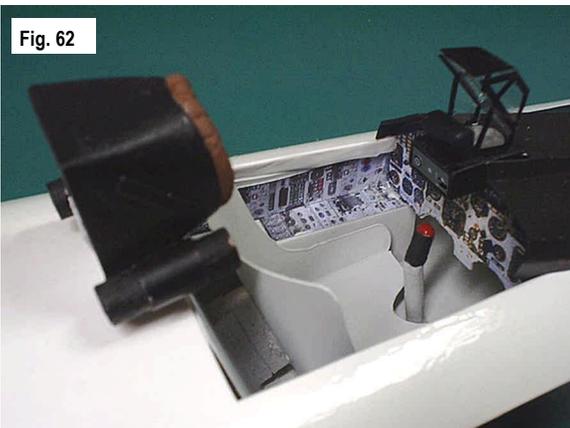
Fig. 61



❑ **61.** Mark the floor with the location of your joystick as shown in Fig. 61.

Note: Once the hole is drilled in the tub floor, place the pilot in the cockpit with the stick in his hand and glue the joystick to the floor.

Fig. 62



❑ **62. Your cockpit is now complete!**

You will need to complete the finishing of the hatch in preparation for attaching the canopy. Once you have marked the forward canopy location, trim the excess forward coaming corners as necessary so that the canopy rests flush against the hatch.

Parts and Template Sheet

Parts included in kit:

Styrene

? 1- Cockpit assembly styrene sheet

Balsa

? 2- $3/32$ " x $5/8$ " x $5/8$ " balsa

? 1- $1/2$ " x $5/8$ " x $5/8$ " balsa

? 1- $3/16$ " x $3/8$ " x 2" balsa

? 1- $1/32$ " x $3/8$ " x 2- $1/4$ " balsa

Hardwood

? 1- $3/16$ " x 1- $1/4$ " H.W. dowel

? 1- $1/8$ " x 1" H.W. dowel

Print

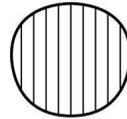
? 1- Instrument panel placards sheet

? 1- HUD Frame sheet

Misc.

? 1- Instruction Manual

? 2- Self-adhesive aluminum discs



Cushion
Template

Notes: