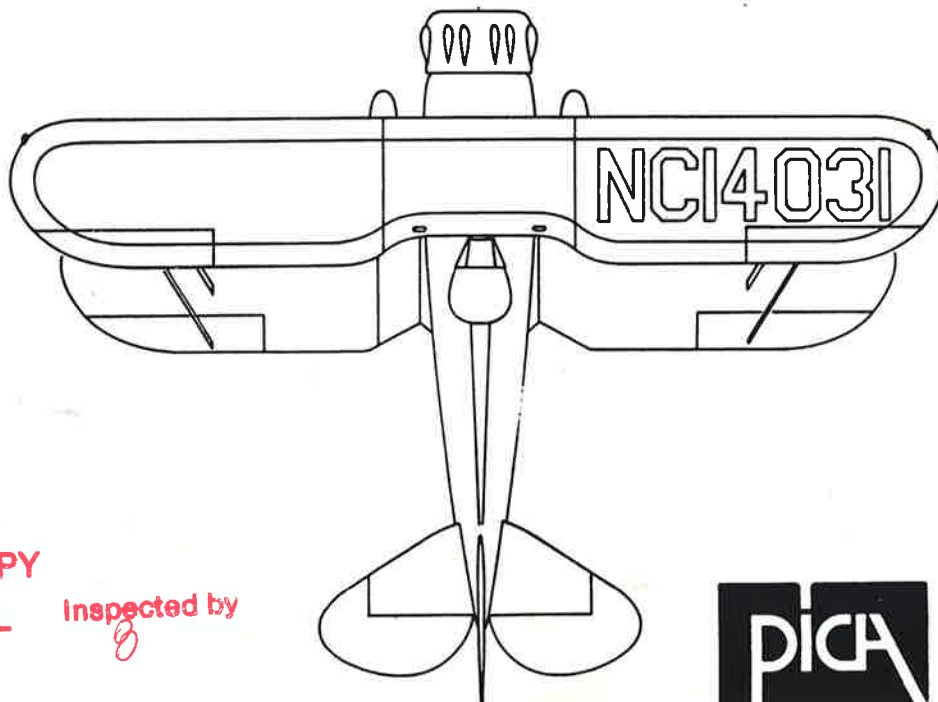
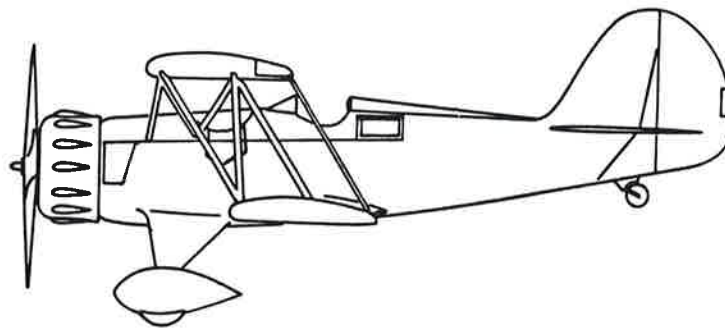
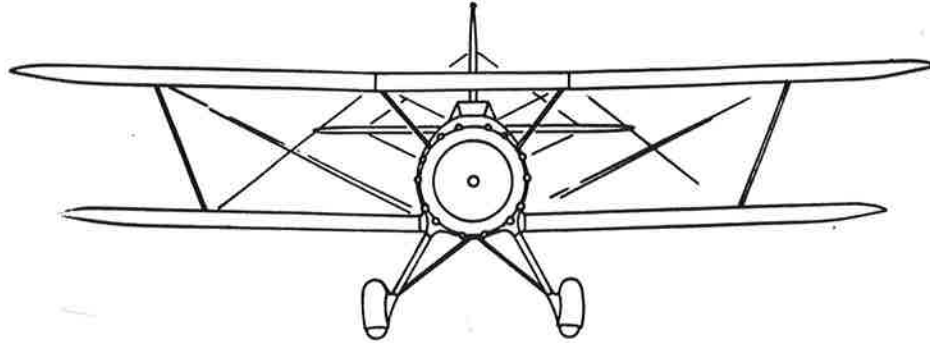


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1/6th SCALE WACO YMF-3

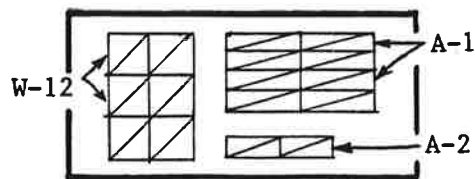
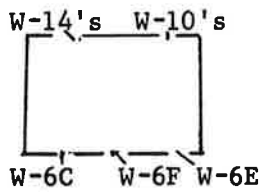
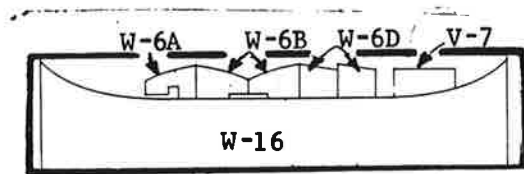
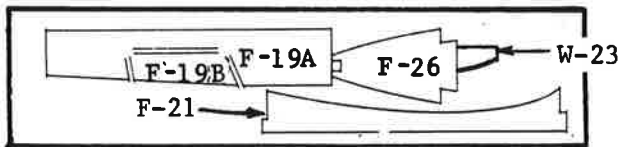
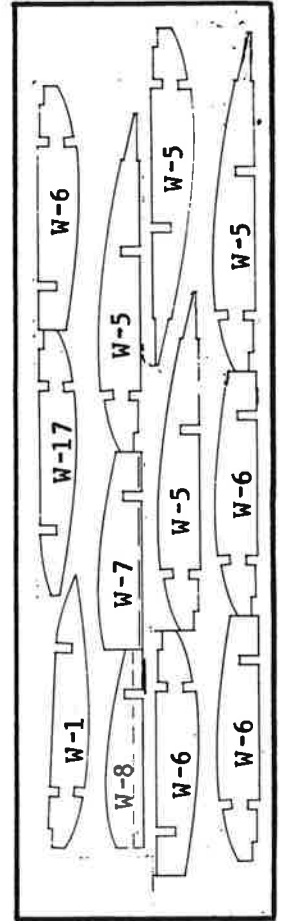
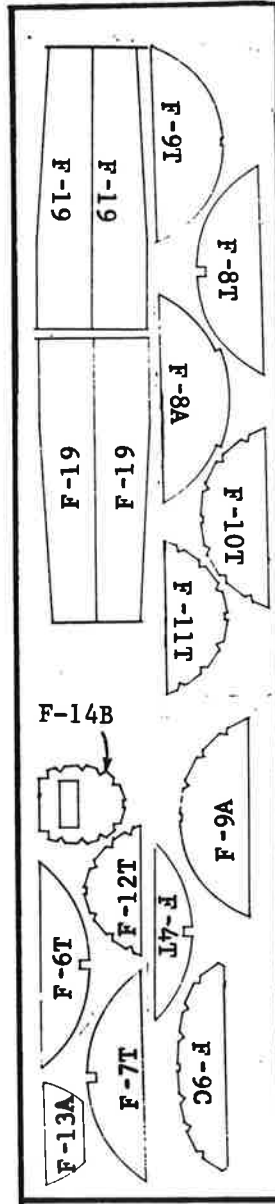
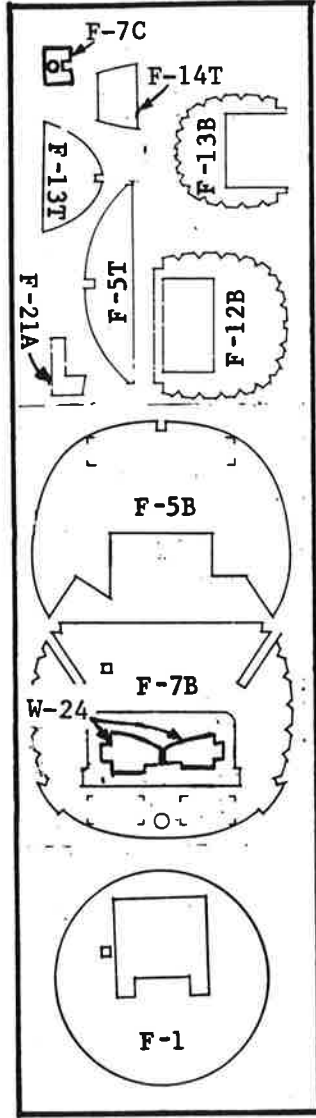
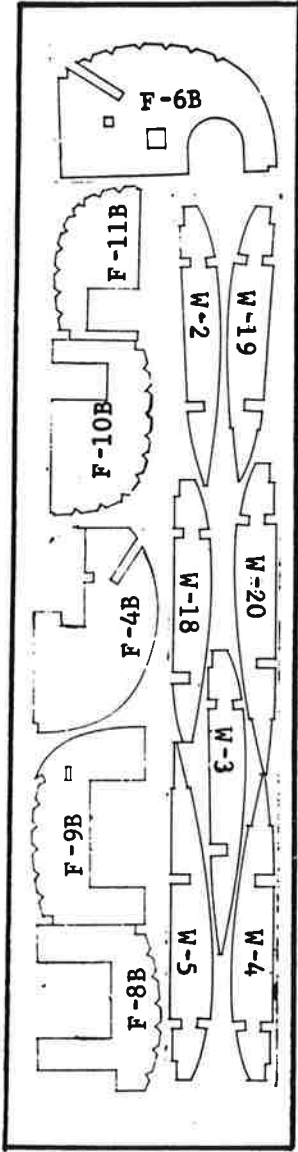


- COWL
- CANOPY
- DECAL

Inspected by
[Signature]



RC-4 DIE IDENTIFICATION SHEET



THANK YOU!

You have just purchased what we believe to be one of the best, most highly developed standoff scale kits in the world.

Usually, standoff scale models are designed to compromise between accurate appearance and safe flying characteristics. In the case of the Waco F-3/5, it was not necessary to change the outline, and the result is a 100% scale outline model with excellent and safe flying qualities.

INTRODUCTION

The Waco "F" models were first introduced in 1930, and it is felt by many that the 1934 F-3 version was one of the most attractive of all biplanes. This elegance combined with excellent handling and flying qualities made it a much sought after aircraft.

There has been some confusion about the difference between the F-3 and the F-5 models. Essentially, the only difference was that the F-5 was a little more plush in its appointments. When a Continental engine was used the designation was UMF, with the Jacobs engine it became YMF.

All F-3 and F-5's were constructed with two cockpits and a cover was provided as standard equipment for the front cockpit. When used, this gave a single-cockpit appearance to the ship.

Before starting construction of this kit, we urge you to familiarize yourself with it by carefully reviewing the plans while reading the complete instruction manual, step by step.

Most problems which arise are a direct result of not becoming familiar with the kit, plans and instructions. Follow the building sequence using the plans, isometric drawings and instructions closely.

The individual bundles have a parts list, either wrapped or attached to that particular bundle or bag. Using these, inventory all the parts. Mark those parts which are not easily identified. DO NOT mix the bundles and bags together, that is until you are ready to use that one part, or number of parts. Leave the parts list with the their respective bundles. The [BOX] at the start of each step indicates the parts BUNDLE or BAG where to find the particular part needed for that step.

For the most part when you buy a kit you would naturally assume that the entire kit would be top notch. What may be good to one is top rate to another, a half glass of water is either half full or half empty. Usually one comes up with some judgement factor depending on ones background and experience. Over the past dozen or more years, we at PICA have endeavored to put out the best of the best, or as "good" as we know how. Some of the things that you the buyer must take into consideration is that we are dealing with a natural grown wood and there aren't really two alike of anything. We stand behind our product with you. You must be satisfied, if you're not then we're not.

BUNDLE "A" 3" SHORT DIES & SHEETS

DESCRIPTION	SIZE	MATERIAL	QTY
W-14,W-10,W-6C,F,E	1/16 x 3 x 5	D/C Balsa	2
W-16,W-6A,B,D,V-7	1/16 x 3 x 15	D/C Balsa	2
F-19A,F-21,F-26	1/8 x 3 x 18	D/C Balsa	2
A-1,A-2,W-12	1/8 x 3 x 12	D/C Balsa	1
Top Wing Center Sheet	1/16 x 3 x 12-1/2	Balsa	4
Bottom Wing Center Sheet	1/16 x 3 x 7-1/2	Balsa	2
Landing Gear Fairing	5/32 x 3 x 12	Balsa	1

BUNDLE "B" PLYWOOD DIE BUNDLE

DESCRIPTION	SIZE	MATERIAL	QTY
F-1,5B,5T,7B,7C,13T,14T	1/8 x 7-7/8 x 32	PLYWOOD	1
F-4T,6T,7T,8A,9A,10T,19	1/8 x 7-7/8 x 32	PLYWOOD	1
F-4B,6B,8B,W-2,3,4,5,19	1/8 x 7-7/8 x 32	PLYWOOD	2
W-1,5,6,7,8,17	1/8 x 7-7/8 x 24	PLYWOOD	4

BUNDLE "D" LEADING EDGE SHEETING (Both Wings)

DESCRIPTION	SIZE	MATERIAL	QTY
Outer Panel L.E. Sheet	1/16 x 2 x 20	Balsa	8
Bottom Wing Center Sheet	1/16 x 2 x 7-1/2	Balsa	3

BUNDLE "E" WING T.E. & AILERON SHEET

DESCRIPTION	SIZE	MATERIAL	QTY
A-3 Aileron Sheet	1/16 x 2-1/2 x 11-3/4	Shaped Balsa	8
W-15 Wing T.E. Sheet	1/16 x 1-1/2 x 10-7/8	Shaped Balsa	4
W-21 Wing T.E. Sheet	1/16 x 1-7/16 x 9-3/4	Shaped Balsa	4

BUNDLE "F" LONG STICKS

DESCRIPTION	SIZE	MATERIAL	QTY
Cabane Fairings	1/16 X 3/8 X 36	Balsa	2
Cabane Fairings, Tail Ribs	1/8 x 1/8 x 36	Balsa	7
A,B,C,D Fuselage Stringers	3/16 x 3/16 x 36	Balsa	8
Fuselage Crutch	1/4 x 3/8 x 33	Balsa	2
Outer Wing N-Struts	1/4 > 1/16 x 1/2 x 30	Shaped Bass	2

BUNDLE "G" MEDIUM STICKS

DESCRIPTION	SIZE	MATERIAL	QTY
E,F Fuselage Stringers	3/16 x 3/16 x 24	Balsa	4
L.E. Backup Support	1/8 x 1/2 x 24	Balsa	4
Aileron Connect Strip	1/4 > 1/16 x 3/8 x 20	Shaped Balsa	1
Outer Panel Front Spars	1/4 x 1/4 x 24	Balsa	8
Main Wing Spars & L.E.	1/4 x 1/2 x 24	Balsa	8
X,Y,Z, & Bottom Stringer	3/16 x 3/16 x 18	Balsa	7

BAG "H" SMALL PARTS

DESCRIPTION	SIZE	MATERIAL	QTY
Bottom Wing Filler	1/2 x 1/2 x 3	Balsa	1
Bottom Wing Center T.E.	3/8 x 1/2 x 7-1/2	Balsa	1
Wing Tip L.E. Block	1 x 1-1/2 x 3-3/4	Shaped Balsa	4
Tail Wheel Block	3/4 x 2-1/4 x 3-3/4	Balsa	1
L.G. Mount Block	3/8 x 3/4 x 4	Notched Bass	1
L.G. Mount Block	3/8 x 3/4 x 1-1/2	Notched Bass	2
Fuselage Wing Mount Block	1/2 x 1 x 4	Maple	1
Top Wing Strut Mount Block	1/2 x 1/2 x 1-1/8	Maple	4
Elevator Joiner	3/8 Dowel x 4	Birch	1
L.G. Spreader Bar	3/16 Dowel x 7-1/8	Birch	2
Bottom Wing Mount	1/4 Dowel x 2	Birch	1
Bellcrank Mount	1/8 x 1/2 x 2	Plywood	2
A-5 Aileron Horn Mount	1/8 x 1/2 x 2	Plywood	2
Aileron Servo Mount	1/8 x 3/4 x 3-5/8	Plywood	2
Motor Mount Brace	1/8x2-3/8 > 1/2x2-3/4	Plywood	2
Tail Wheel Wire	.080 x 5	Steel	1
Wheel Pant Mount Brace	1/8 x 1 x 2	Plywood	2
W-22 Wing Sheet	1/16 x 1-7/16 x 4-1/2	Shaped Balsa	4
F-10A Fuselage Former	1/8 x 2 x 2-1/2	Shaped Balsa	1
Tail End Joiner	1/4 x 1/4 x 2-1/2	Balsa	1
Tail End Cap	1/4 x 1/2 x 2-3/4	Balsa	1

BUNDLE "I" SHORT STICKS

DESCRIPTION	SIZE	MATERIAL	QTY
Front Bottom Stringer	1/4 x 1/4 x 7-5/8	Balsa	1
Front Top Stringer	1/4 x 1/4 x 12	Balsa	1
Bottom Wing Front Spar	1/4 x 1/4 x 7-1/2	Balsa	2
Top Wing Front Spar	1/4 x 1/4 x 12-1/2	Balsa	2
Fin Trailing Edge	1/4 x 3/8 x 7-3/4	Balsa	1
Bottom Wing L.E. & Spar	1/4 x 1/2 x 7-1/2	Balsa	2
Top Wing L.E. & Spar	1/4 x 1/2 x 12-1/2	Balsa	2
Top Center Fuse Stringer	3/16 x 3/16 x 15	Balsa	4
Top Rear Fuse Stringer	3/16 x 3/16 x 10	Balsa	3
Former Stiffener	1/8 x 1/4 x 12	Balsa	3
S-6 Stabilizer T.E.	1/8 x 1/4 x 14-3/8	Balsa	2
Rudder L.E.	1/8 x 1/4 x 10-1/2	Balsa	2
E-5 Elevator L.E.	1/8 x 1/4 x 5-1/4	Balsa	4
Bottom Wing L.E. Backup	1/8 x 1/2 x 7-1/2	Balsa	1
Top Wing L.E. Backup	1/8 x 1/2 x 12-1/2	Balsa	1
Servo Rails	1/4 x 3/8 x 12	Bass	1
Motor Mounts	1/2 x 1/2 x 9	Maple	2

BUNDLE "J" DIHEDRAL BRACE

DESCRIPTION	SIZE	MATERIAL	QTY
W-11 Rear Main Spar Brace	1/8 x 3/8 x 2-3/4	Plywood	4
W-11 L.E. Brace	1/8 x 5/16 x 2-3/4	Plywood	4

BUNDLE "K" FUSELAGE PARTS

DESCRIPTION	SIZE	MATERIAL	QTY
F-15 Stab Seat	1/8 x 1-5/8 x 6-7/16	Shaped Balsa	1
F-16 Tank Bottom	1/8 x 1-1/2 x 5-1/4	Balsa	1
F-17A Fuse Crutch Support	1/8x2-1/2x5-3/8>5-3/16	Shaped Balsa	1
F-17B Fuse Crutch Support	1/8x2-3/4x5-7/16>5-11/32	Shaped Balsa	1
F-17C Fuse Crutch Support	1/8x2-1/8x5-5/16>5-3/16	Shaped Balsa	1
F-18 Tank Sides	1/8x2-11/16>2-5/8x5-1/4	Shaped Balsa	2
F-20 Spacer For F-5 Former	1/8 x 1-1/2>1x 2-5/8	Shaped Balsa	2
F-22A Front Wing Saddle	1/8 x 2-3/4 x 1-3/16	Shaped Balsa	2
F-22B Center Wing Saddle	1/8 x 2-3/4 x 1-3/16	Shaped Balsa	2
F-22C Rear Wing Saddle	1/8 x 15/16 x 2-7/16	Shaped Balsa	2
F-23 Cockpit Sides	1/8 x 3-1/2 x 4	Shaped Balsa	2
F-24A Bottom Front Sheet	1/8 x 2-3/4 x 7-3/4	Balsa	2
F-24B Side Front Sheet	1/8 x 3 x 8	Shaped Balsa	2
F-24C Side Front Sheet	1/8 x 3-1/4 x 3	Shaped Balsa	2
F-25 Top Fuselage Sheet	1/8 x 3-3/4 x 11-3/4	Shaped Balsa	2
F-27 Fuselage Side Sheet	1/8 x 3-1/2 x 3-1/4	Shaped Balsa	1
F-28 Stab Brace	1/8x1-5/16>1-1/8x6-1/2	Shaped Balsa	2

BUNDLE "L" LOOSE PARTS

DESCRIPTION	SIZE	MATERIAL	QTY
W-9 Tips	1/8 x 1-3/8 x 6	Shaped Balsa	4
Bottom Wing Center Sheet	1/16 x 4 x 7-1/2	Balsa	2
Aileron Cover & Wing Tank	.020	Plastic	8/1
Headrest	1-1/2 x 1 > 0 x 15	Shaped Balsa	1
Top Cowl Block	3/4 x 4 x 7-1/4	Shaped Balsa	1
Bottom Cowl Block	3/4 x 3 x 7-1/4	Shaped Balsa	1
Wheel Pant Lamination 1	1/4 x 3 x 8	Balsa	2
Wheel Pant Lamination 2	1/2 x 3 x 7-1/2	Balsa	4
Wheel Pant Lamination 3	1/4 x 3 x 5	Balsa	4
Webbing	3/32 x 3 x 7/8	Balsa	50
Main Landing Gear Front	5/32 Shaped Wire	Steel	1
Main Landing Gear Rear	1/8 Shaped Wire	Steel	1
Cabane	1/8 Shaped Wire	Steel	2
Cowling	8-1/2 Dia x 5	Plastic	1
Window	1/32 x 3 x 5-1/2	Butyrate	1
Landing Gear & Cabane Wrap	Stranded Wire	Copper	1

BUNDLE "M" PUSHROD BUNDLE

DESCRIPTION	SIZE	MATERIAL	QTY
Aileron Pushrod	1/16 x 33	Steel Wire	1
Threaded Rods	1/16 x 10	Steel Wire	7
Rudder & Elevator Connect	1/16 x 12 *	Steel Wire	1
Cabane Support	.080 x 6	Steel Wire	2
Throttle Pushrod	3/16 x 12 2 part	Plastic	1
Rudder & Elevator Pushrod	5/16 Dowel x .36	Birch	2
Clevis	2-56 Threaded Connect	Steel	8
Throttle Connect	2-56 x 3/4 Screw	Steel	1
Wing N-Strut Connector	1/16 x 4	Steel Wire	4

BUNDLE "N" Wing T.E. & Aileron L.E.

DESCRIPTION	SIZE	MATERIAL	QTY
W-13 Wing Outer Panel T.E.	1/4 x 3/4 x 12	Shaped Balsa	4
A-4 Aileron L.E.	1/4 x 9/16 x 11-1/2	Shaped Balsa	4

BUNDLE "S" STAB/ELEVATOR/FIN

DESCRIPTION	SIZE	MATERIAL	QTY
S-1 Stabilizer L.E	1/8 x 1/2 x 5	Shaped Balsa	1
S-2 Stabilizer Core	1/8 x 2-3/4 x 14-1/2	Shaped Balsa	1
S-3 Stabilizer	1/8 x 2-3/4 x 14-3/8	Balsa	1
S-4 Top Center Stab Sheet	1/8 x 1 > 1/2 x 5-5/8	Shaped Balsa	1
S-5 Bottom Center Stab.	1/8 x 1-7/8 x 5-5/8	Shaped Balsa	1
E-1 Front Elevator	1/8 x 2-3/4 x 3-1/8	Shaped Balsa	2
E-2 Elevator Core	1/8 x 2-3/4 x 10-3/8	Shaped Balsa	2
E-3 Rear Elevator	1/8 x 1-1/8 x 7	Shaped Balsa	2
E-4 Top Bottom Cap	1/8 x 2-1/8 x 3	Shaped Balsa	4
V-1 Dorsal Fin	1/8 x 1-7/8 x 2-1/8	Shaped Balsa	1
V-2 Front Fin	1/8 x 2-3/4 x 6-1/2	Shaped Balsa	1
V-3 Rear Fin	1/8 x 2-3/4 x 7-1/2	Shaped Balsa	1
V-4 Side Fairing	1/8 x 1-1/4 x 7-3/8	Shaped Balsa	2
V-5 Front Rudder	1/8 x 2-3/4 x 10-3/4	Shaped Balsa	1
V-6 Rear Rudder	1/8 x 2 x 8-1/2	Shaped Balsa	1
V-8 Tail Wheel Support	1/8 x 1-3/16 >0 x 2	Shaped Balsa	2

ADDITIONAL BUILDING INFORMATION

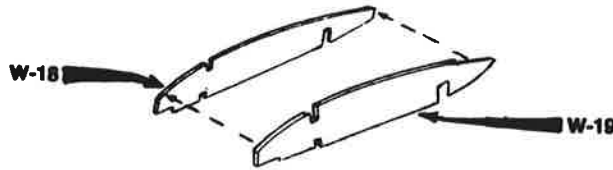
1. In some cases the Waco Cowl may form with a cold roll lip along the front radius. You can sand the overlap using a 220/300 grit sandpaper for starters, and finishing it with a 400/500 grit sandpaper. This does not mean that the part is defective or its structural integrity has been compromised. It's a vacuum forming malady.
2. We have upgraded the Waco's bulkheads and wing ribs using 3mm light-ply. We have found that using light ply offers you the builder a consistently uniform wood-type to work with.

One problem with using light ply is, there is a tendency to form its own radii (curves), when relieved in the die-cutting process. If this happens then lightly moisten both sides with a water-alcohol mix, and place the parts on a flat surface. Then place a weight on them overnight, then voila, it works....

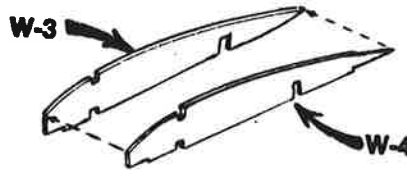
(Seagrams may be best, but use 25% isopropyl alcohol and 75% water, its less seductive)

WING LAMINATIONS

- [B] A. Glue [1] W-18 PLY RIB (1/8 Die-Cut) to [1] W-19 PLY RIB (1/8 Die-Cut). [MAKE TWO], one left set, and one right set.



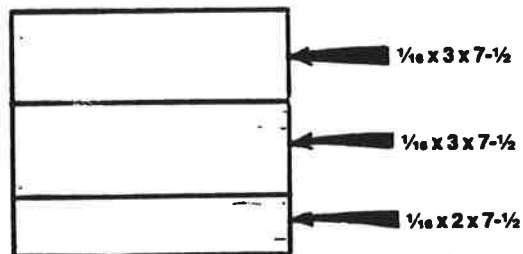
- [B] B. Glue [1] W-3 PLY RIB (1/8 Die-Cut) to [1] W-4 PLY RIB (1/8 Die-Cut). [MAKE TWO], one left set, and one right set.



- [A] C. Construct the TOP WING TOP CENTER SHEETING using the diagram below.



- [A]
[D] D. Construct the BOTTOM WING TOP CENTER SHEETING using the diagram below.



- [A] E. Glue [2] W-23's (1/8 Die-Cut) together. Glue [1] W-24
 [B] PLY RIB (1/8 Die-Cut) to each side sandwiching the
 W-23's.



TOP WING

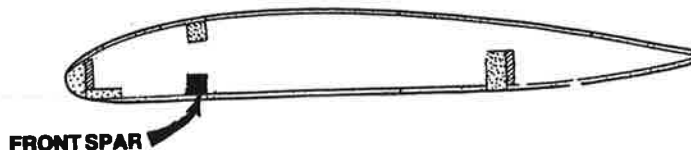
- [I] 1. Construct the REAR SPAR ASSEMBLY. Take [1] CENTER
 [J] SECTION REAR SPAR (1/4 x 1/2 x 12-1/2) and pin it to
 the TOP WING PLAN. Glue [1] TOP WING W-11 (1/8 x 3/8
 x 2-3/4) REAR MAIN SPAR PLY DIHEDRAL BRACE to each
 rear side of the spar so it is flush with the top of
 the spar, starting at the W-2 RIB POSITION. Wipe off
 excess glue.



- [G] 2. Angle one end of [2] OUTER PANEL REAR SPARS (1/4 x 1/2
 x 24). Glue against the CENTER SECTION SPAR forming a
 2 degree diedral. (Two degrees is equal to 11/16" at
 outer most W-6 PLY RIB). Place a scrap piece of wood
 under the SPARS to keep them at the proper diedral.

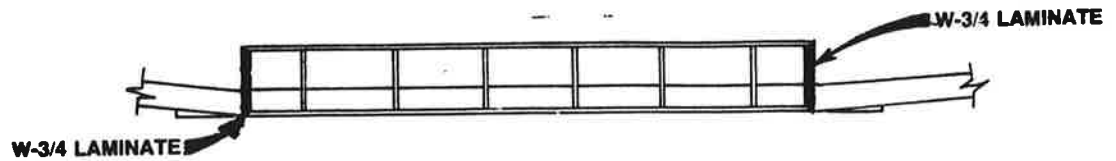


- [A] 3. Glue [2] CENTER SHEET (1/16 x 3 x 12-1/2) in front of
 the REAR SPAR.
 [B] 4. Use a W-1 PLY RIB (1/8 Die-Cut) for spacing only, glue
 [I] [1] TOP WING FRONT SPAR (1/4 sq. x 12-1/2) in position
 on top of the SHEETING.

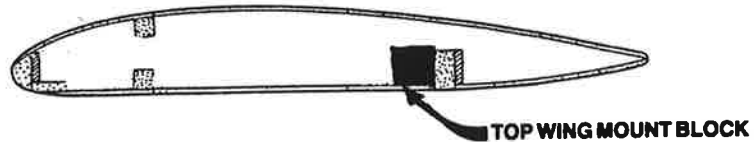


- [B] 5. Glue [4] W-1 PLY RIBS (1/8 Die-Cut) in place. Use rib
 position indicators as a guide.

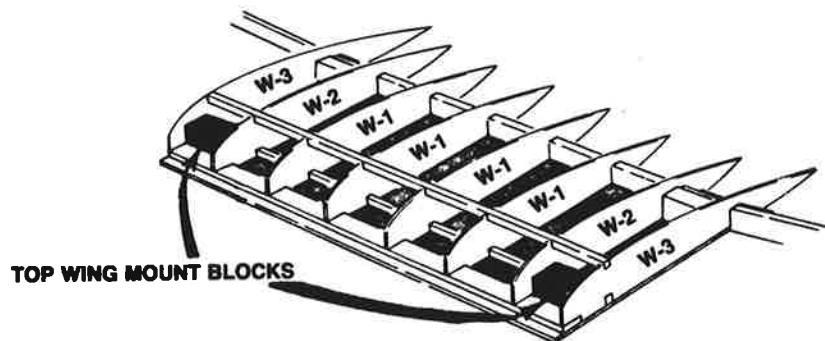
- [] 6. Glue both W-3/W-4 laminates (Made in Step "B") in place so the W-4 PLY RIB is against the center sheet edge and the W-3 PLY RIB is on top of it.



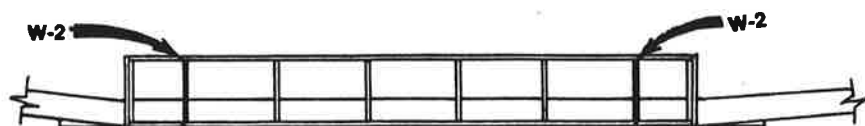
- [H] 7. Glue [2] TOP WING MOUNT BLOCKS (1/2 x 1/2 x 1-1/8) MAPLE against the W-3 PLY RIB, in front of the REAR SPAR and on top of the CENTER SHEET.



- [H] 8. Glue [2] TOP WING MOUNT BLOCKS (1/2 x 1/2 x 1-1/8) MAPLE against the W-3 PLY RIB, in front of the FRONT SPAR and on top of the CENTER SHEET.



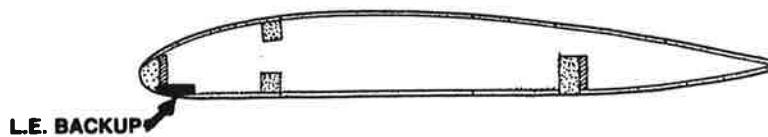
- [B] 9. Glue [2] W-2 PLY RIBS (1/8 Die-Cut) in place, so they are against the TOP WING MOUNT BLOCKS.



- [I] 10. Glue [1] FRONT SPAR (1/4 sq. x 12-1/2) on top of the RIBS.



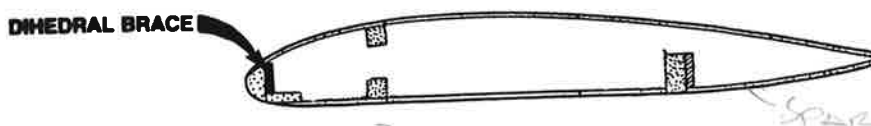
- [I] 11. Glue [1] TOP WING L.E. BACKUP ($1/8 \times 1/2 \times 12-1/2$) in place under the front of the RIBS and on top of the BOTTOM L.E. SHEET.



- [I] 12. Glue [1] LEADING EDGE ($1/4 \times 1/2 \times 12-1/2$) in place so its flush with the top edge of the RIBS.



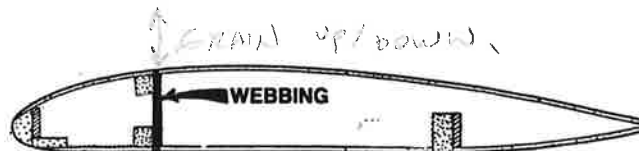
- [J] 13. Glue [2] W-11 ($1/8 \times 5/16 \times 2-3/4$) FRONT L.E. PLY DIHEDRAL BRACES to the rear edge of the L.E. and against the W-2 PLY RIB.



- [] 14. When the entire assembly is dry, lift the wing from the plans and sand the L.E. to match the rib contour.

- [A] 15. Glue [1] W-16 ($1/16$ Die Cut), to the rear bottom edge of the REAR SPAR. Dampen the outside of the sheet to aid in curving, and glue to all W-1, W-2 and W-3 PLY RIBS.

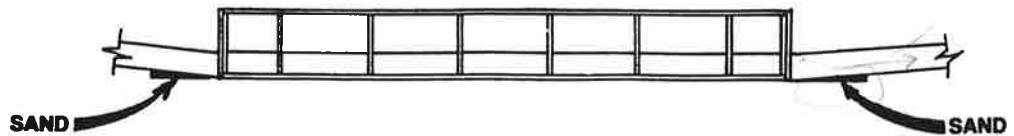
- [LP] 16. Fit and glue WEBBING ($3/32 \times 3 \times 7/8$) against the rear edge of the TOP and BOTTOM FRONT SPARS, between all PLY RIBS from W-1 thru W-3 .



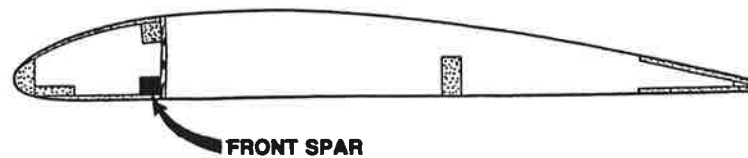
NOTE: The WEBBING may be ($3/32 \times 3 \times 1-3/4$). It would therefore be necessary to trim it down to ($3/32 \times 3 \times 7/8$).

- [] 17. Sand the top's of all RIBS to remove any burrs, rough spots and the sort. Glue TOP CENTER SHEETING LAMINATE (Made in Step "C"), starting with the trailing edge and working forward. This LAMINATE should fit between both W-4 PLY RIBS. Wet to aid in curving.

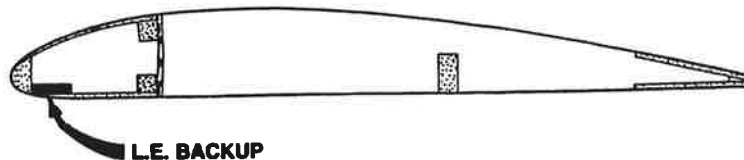
- [] 18. Sand the bottom edges of both the W-11 L.E. PLY and the W-11 REAR SPAR PLY DIHEDRAL BRACES. Pin the REAR SPAR over the TOP LEFT WING PLAN. Support the center section so there is no pressure on any joints.



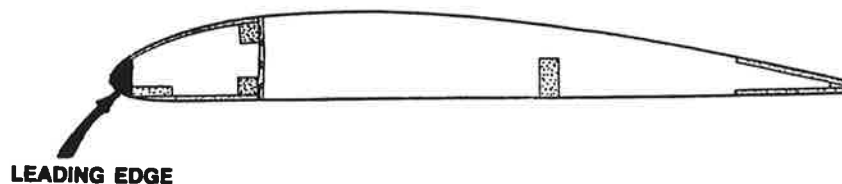
- [D] 19. Pin [1] BOTTOM L.E. SHEET (1/16 x 2 x 20) in place, gluing one edge to the W-4 PLY RIB.
- [G] 20. Glue [1] BOTTOM FRONT SPAR (1/4 sq. x 24) on top of, and flush with the rear edge of the BOTTOM L.E. SHEET. Make sure it is against the CENTER SECTION SPAR.



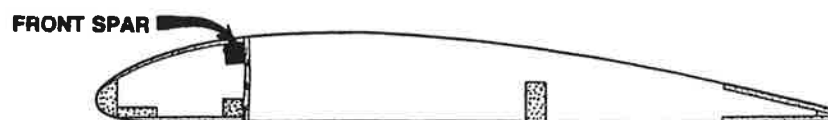
- [B] 21. Glue [5] W-5 PLY RIBS (1/8 Die-Cut) and [4] W-6 PLY RIBS (1/8 Die-Cut) in place.
- [G] 22. Glue [1] OUTER PANEL L.E. BACKUP (1/8 x 1/2 x 24) in place on top of the BOTTOM L.E. SHEETING and under the W-4 PLY RIB, W-5 PLY RIBS and W-6 PLY RIBS.



- [G] 23. Bevel one end of [1] OUTER PANEL L.E. (1/4 x 1/2 x 24) to fit tightly against the CENTER SECTION L.E. Glue to the W-4 PLY RIB, all W-5 PLY RIBS, and all W-6 PLY RIBS so the top edge is flush with the tops of the RIBS.



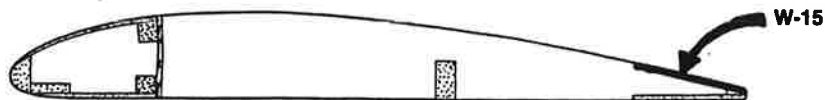
- [G] 24. Glue [1] TOP FRONT SPAR (1/4 sq. x 24) in place against the center section and along all W-4 thru W-6 PLY RIBS.



- [] 25. Trim the FRONT SPARS, LEADING EDGE and BOTTOM L.E. SHEET flush with the outermost W-6 PLY RIB.

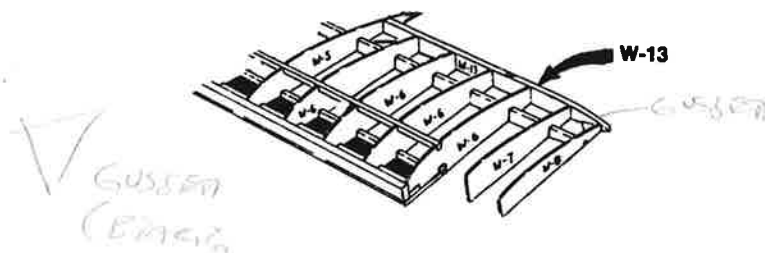
NOTE: DO NOT TOUCH THE REAR SPAR!!!

- [A] 26. Glue [1] W-15 WING T.E. SHEET (1/16 x 1-1/2 x 10-7/8)
[E] and [1] W-14 (1/16 Die-Cut) in position on the top rear notches of the W-4 PLY RIB and W-5 PLY RIBS.



- [B] 27. Carefully punch-out [1] W-7 PLY RIB (1/8 Die-Cut) and [1] W-8 PLY RIB (1/8 Die-Cut) leaving the bottom tabs attached. Glue in position to the REAR SPAR.

- [N] 28. Glue [1] W-13 OUTER PANEL T.E. (1/4 x 3/4 x 12) against the outermost W-5 PLY RIB, and the rear edges of W-6 thru W-8 PLY RIBS.



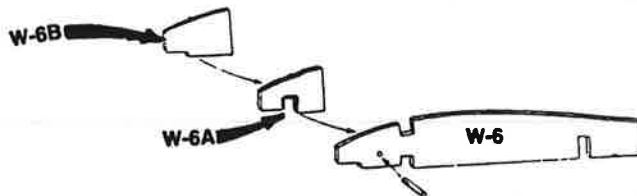
NOTE: The black mark on the W-13 T.E. must be on TOP.

- [H] 29. Glue [1] WING TIP BLOCK (1 x 1-1/2 x 3-3/4) to the outer most W-6 PLY RIB and to the front of the W-7 PLY RIB and the W-8 PLY RIB. Trim off flush with the outside edge of the W-8 PLY RIB.

- [A] 30. Glue [3] W-12 GUSSETS (1/8 Die Cut) in place as shown on plans.

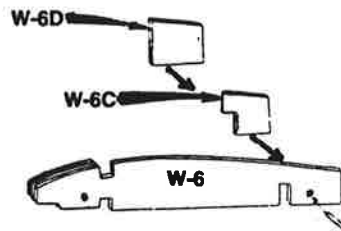
- [A] 31. Glue [1] W-6A TOP WING N-STRUT FITTING BRACE (1/16 Die Cut) in place against the front of W-6 PLY RIB. See Plans for position.

- [A] 32. Glue [1] W-6B (1/16 Die Cut) RIBLET against W-6A.



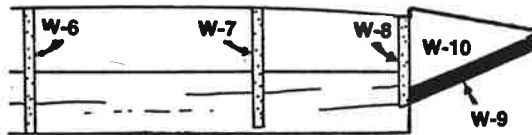
- [A] 33. Glue [1] W-6C TOP WING N-STRUT FITTING BRACE (1/16 Die Cut) in place against the rear of W-6 PLY RIB. See Plans for position.

- [A] 34. Glue [1] W-6D (1/16 Die Cut) RIBLET against W-6C.

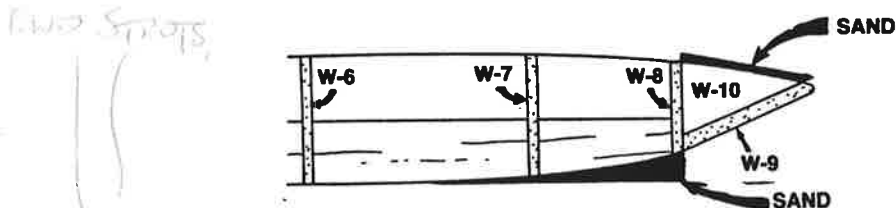


- [] 35. Once dry, remove the wing and sand all rough spots, burrs etc. Sand the L.E. to follow the RIB contour. Cut the REAR SPAR flush with the outside of the W-8 PLY RIB. Remove the bottom tabs on the W-7 PLY RIB and the W-8 PLY RIB.

- [A] [LP] 36. Using [1] W-9 WINGTIP (1/8 x 1-3/8 x 6) and [2] W-10 TIP SUPPORTS (1/16 Die Cut), construct the tip so that W-9 is flush with the bottom of the W-8 PLY RIB and against W-13 T.E.



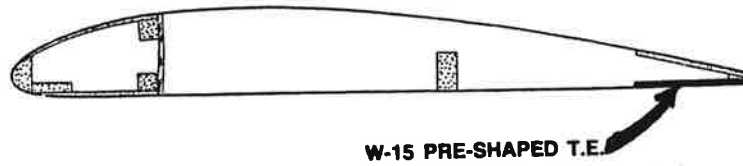
- [] 37. Sand the top of W-10's and the bottom of the REAR SPAR as shown below. Sand W-13 T.E. to match RIB contour.



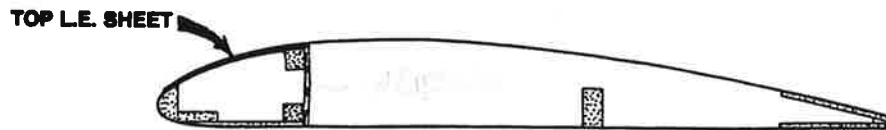
- [] 38. Using section "D" as a guide, cut [2] NYLON STRUT FITTINGS as shown. Place the fittings in the slots in W-6A and W-6C. (1/16 Die Cut). Rotate a 1/16" drill between your pointer finger and thumb to drill a hole through the Strut Fitting Assembly.

- [] 39. Glue a TOOTH PICK into the holes, holding the STRUT FITTINGS in place.

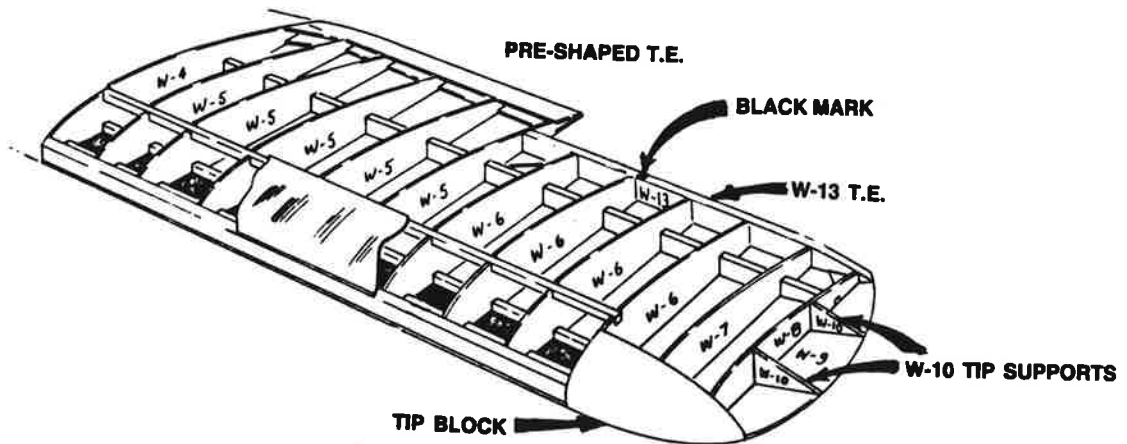
- [A] 40. Glue [1] W-15 WING T.E. SHEET (1/16 x 1-1/2 x 10-7/8)
 [E] and [1] W-14 (1/16 Die Cut) in position on the bottom rear notches of the W-4 PLY RIB and the W-5 PLY RIBS.



- [D] 41. Trim and glue [1] TOP L.E. SHEET (1/16 x 2 x 20) in place.



- [] 42. Carve and sand WING TIP BLOCK to match the outer contour of RIBS.

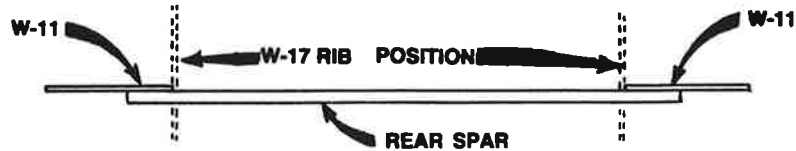


- [LP] 43. Fit and glue WEBBING (3/32 x 3 x 7/8) between all RIBS as explained in step 16.

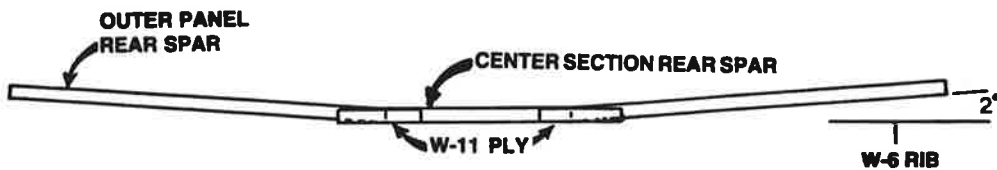
- [] 44. Repeat steps 19 thru 43 for TOP RIGHT WING PANEL.

BOTTOM WING

- [I] 1. Construct the REAR SPAR ASSEMBLY. Take [1] CENTER
 [J] SECTION REAR SPAR (1/4 x 1/2 x 7-1/2) and pin it into
 to the BOTTOM WING PLAN. Glue [1] W-11 (1/8 x 3/8 x
 2-3/4) REAR MAIN SPAR PLY DIHEDRAL BRACE to each rear
 side of the SPAR, so it is flush with the top of the
 SPAR, starting at the W-17 PLY RIB position. Wipe off
 excess glue.

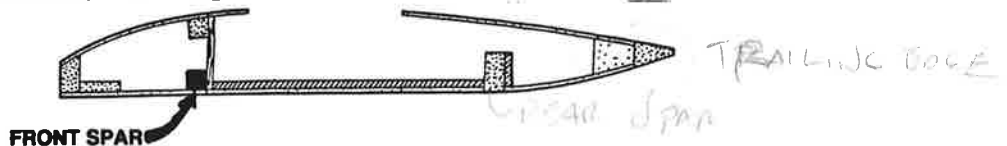


- [G] 2. Angle one end of [2] OUTER PANEL REAR SPARS (1/4 x 1/2
 x 24). Glue against the center section spar, forming a
 2 degree dihedral. (Two degrees is equal to 5/8" at
 outer most W-6 PLY RIB). Place scrap wood under the
 SPARS to support them keeping the proper dihedral.

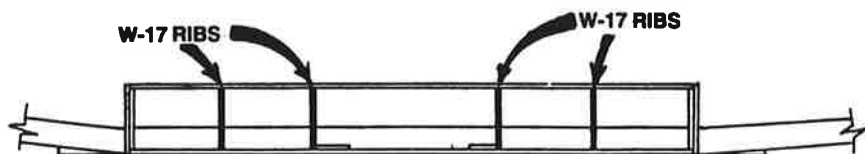


- [D] 3. Glue & pin [1] CENTER SHEET (1/16 x 4 x 7-1/2) and
 [LP] [1] CENTER SHEET (1/16 x 2 x 7-1/2) in front of the
 REAR SPAR.

- [B] 4. Use a W-17 PLY RIB (1/8 Die-Cut) for spacing only to
 [I] glue [1] BOTTOM WING FRONT SPAR (1/4 sq. x 7-1/2) in
 position, on top of the SHEETING.



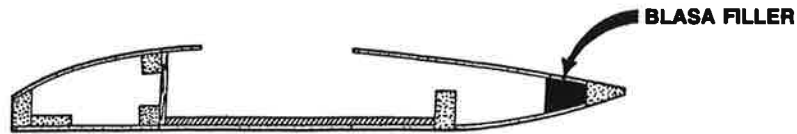
- [B] 5. Drill a 1/4 inch hole for the pushrod access thru the
 punch marks on all W-17 PLY RIBS. Glue [4] W-17 PLY
 RIBS (1/8 Die-Cut) in place using rib position
 indicators as a guide.



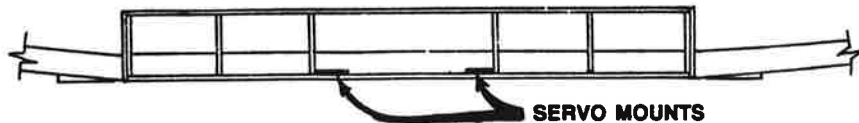
- [] 6. Drill a 1/4 inch hole for the pushrod access thru the
 punch marks on both W-18/W-19 PLY RIBS (Made in Step
 "A"). Glue both W-18/W-19 PLY laminates in place so
 the W-19 PLY RIB is against the CENTER SHEET and the
 W-18 PLY RIB is on top of it.



- [H] 7. Glue [1] **BOTTOM WING Balsa FILLER** ($1/2 \times 1/2 \times 3$) to the inside edges of the **W-17 PLY RIBS**, so the **T.E.** is flush with the rear edge of the **RIBS**.



- [H] 8. Glue [2] **AILERON SERVO MOUNTS** ($1/8 \times 3/4 \times 3-5/8$) **PLY** between the **REAR SPAR**, the **FRONT SPAR**, on top of the **CENTER SHEETING** and against **W-17 PLY**.



- [I] 9. Glue [1] **FRONT SPAR** ($1/4 \text{ sq.} \times 7-1/2$) on top of the **RIBS**.



- [I] 10. Glue [1] **BOTTOM WING L.E. BACKUP** ($1/8 \times 1/2 \times 7-1/2$) in place on top of the **L.E. SHEET** and under the front of all **RIBS**.



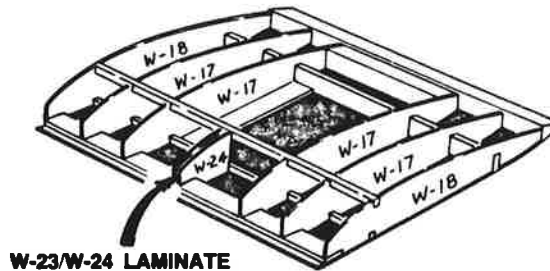
- [I] 11. Glue [1] **LEADING EDGE** ($1/4 \times 1/2 \times 7-1/2$) in place, so it's flush with the top edge of the **RIBS**.



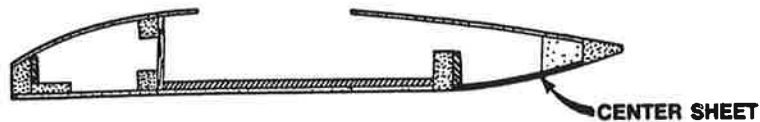
- [J] 12. Glue [2] W-11 (1/8 x 5/16 x 2-3/4) L.E. PLY DIHEDRAL BRACES to the rear edge of the L.E. and against the W-17 PLY RIB.



- [] 13. Glue the W-23/W-24 LAMINATE ASSEMBLY (Made in Step "E") in place.



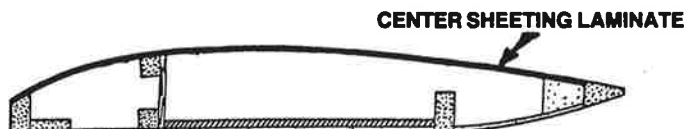
- [] 14. When the entire assembly is dry, sand the L.E. and the T.E. to match the rib contour.
- [H] 15. Using a 1/4 inch bit, drill thru the L.E. and into the slot in the W-23/W-24 ASSEMBLY. Glue [1] WING MOUNT DOWEL (1/4 round x 2) into this hole.
- [D] 16. Fit and glue [1] CENTER SHEET (1/16 x 2 x 7-1/2) to the rear bottom edge of the REAR SPAR.



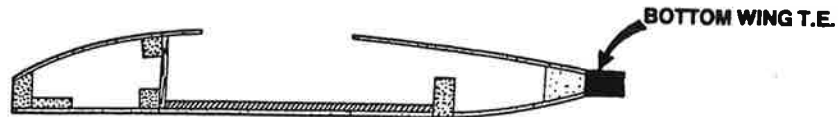
- [LP] 17. Fit and glue the WEBBING (3/32 x 3 x 7/8) between all RIBS. (NOTE) Webbing is not shown on plans.



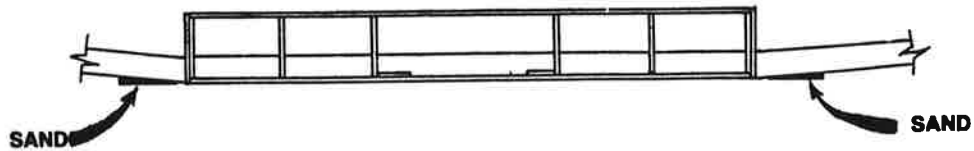
- [] 18. Use sandpaper to smooth all RIBS. Glue the TOP CENTER SHEETING LAMINATE (Made in Step "D") starting with the trailing edge and working forward. This laminate should fit between both W-19 PLY RIBS. Wet to aid in curving.



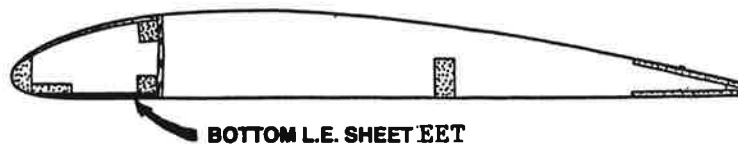
- [I] 19. Glue [1] BOTTOM WING T.E. (3/8 x 1/2 x 7-1/2) to the rear edges of W-17 PLY RIBS, W-18 PLY RIBS, and the inside edges of the W-19 PLY RIBS.



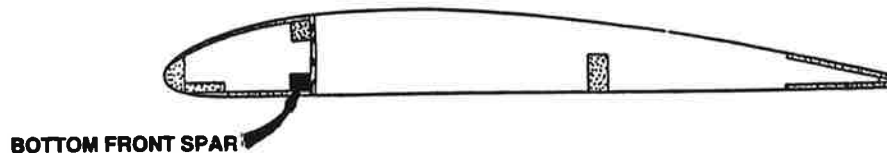
- [] 20. Sand the bottom edges of W-11 FRONT PLY, W-11 REAR PLY DIHEDRAL BRACES. Pin down the REAR SPAR over the BOTTOM LEFT WING PLAN. Prop up the center section with shims, so there is no pressure on the joints.



- [D] 21. Glue [1] BOTTOM L.E. SHEET (1/16 x 2 x 20) to the W-19 PLY RIB, and pin the rest of the BOTTOM L.E. SHEET to the plans.



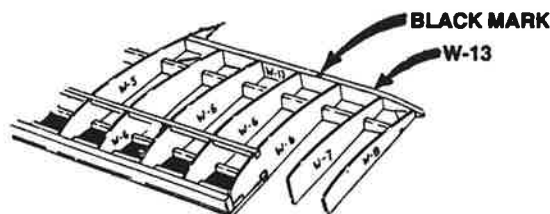
- [G] 22. Glue [1] BOTTOM FRONT SPAR (1/4 sq. x 24) on top of and flush with the rear edge of the BOTTOM L.E. SHEET. Make sure it's against the center section spar.



- [B] 23. Drill a 1/4 inch hole for the pushrod access thru the punch marks on W-20 PLY, W-5 PLY and W-6 PLY RIBS. Glue [1] W-20 PLY RIB (1/8" Die-Cut), [4] W-5 PLY RIBS (1/8" Die-Cut), and [4] W-6 PLY RIBS (1/8" Die-Cut) in place.

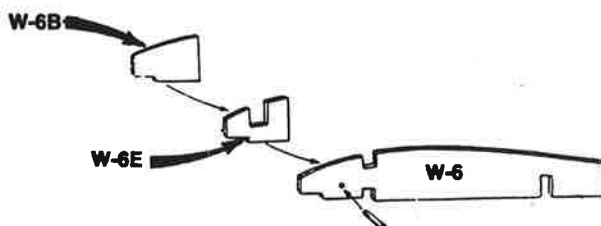
- [G] 24. Glue [1] OUTER PANEL L.E. BACKUP (1/8 x 1/2 x 24) in place on top of the BOTTOM L.E. SHEETING and under the front of the W-19 PLY, W-20 PLY, W-5 PLY and W-6 PLY RIBS.

- [N] 32. Glue [1] W-13 OUTER PANEL T.E. (1/4 x 3/4 x 12) against the outermost W-5 PLY RIB and the rear edges of W-6 PLY thru W-8 PLY RIBS.

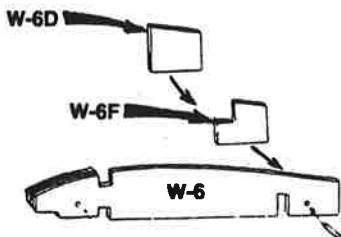


NOTE: The black mark on the W-13 must be on TOP.

- [H] 33. Glue [1] TIP BLOCK (1 x 1-1/2 x 3-3/4) to the outermost W-6 PLY RIB and to the front's of W-7 PLY and the W-8 PLY RIBS. Trim off flush with the outside edge of the W-8 PLY RIB.
- [A] 34. Glue [3] W-12 GUSSETS (1/8 Die-cut) in place as shown in plans.
- [A] 35. Using Section "D" as a guide, Glue [1] W-6E (1/16 Die-Cut) BOTTOM WING N-STRUT FITTING BRACE in place against the front of W-6 PLY RIB.
- [A] 36. Glue [1] W-6B (1/16 Die-Cut) RIBLET against W-6E.

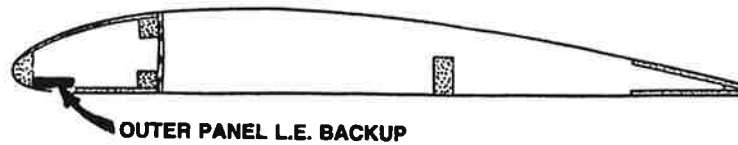


- [A] 37. Using Section "D" as a guide, Glue [1] W-6F (1/16 Die-Cut) BOTTOM WING N-STRUT FITTING BRACE in place against the rear of W-6 PLY RIB.
- [A] 38. Glue [1] W-6D (1/16 Die-Cut) RIBLET against W-6F.



- [] 39. Once dry, remove the WING and sand all rough spots. Sand the L.E. to follow the RIB contour. Cut the REAR SPAR flush with the outside of the W-8 PLY RIB. Remove the bottom tabs on the W-7 PLY RIB and the W-8 PLY RIB.

- [G] 25. Bevel one end of [1] OUTER PANEL L.E. (1/4 x 1/2 x 24) to fit tightly against the CENTER SECTION L.E. Glue from the W-19 PLY thru W-6 PLY RIBS, so the top edge is flush with the top of the RIBS.



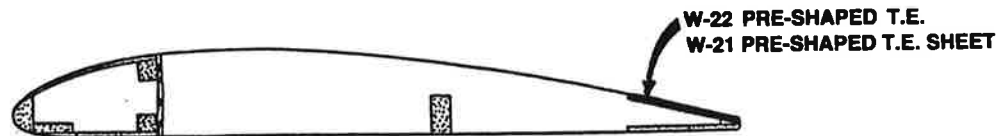
- [G] 26. Glue [1] TOP FRONT SPAR (1/4 sq. x 24) in place against the center section and along all W-19 PLY thru W-6 PLY RIBS.



- [] 27. Trim the FRONT SPARS, LEADING EDGE and BOTTOM L.E. SHEET flush with the outer-most W-6 PLY RIB.

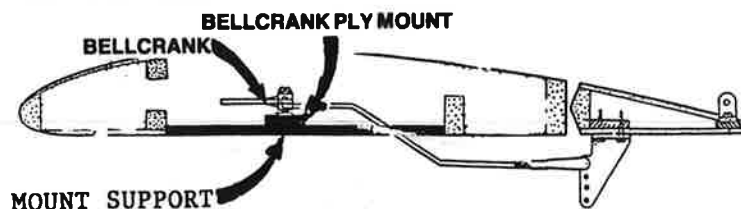
NOTE: DO NOT TOUCH THE REAR SPAR!!!
Or you'll will end up with a Clipped wing Waco...

- [E] 28. Glue [1] W-21 WING T.E. SHEET (1/16 x 1-7/16 x 9-3/4)
[H] and [1] W-22 WING SHEET (1/16 x 1-7/16 x 4-1/2) in position on the top rear notches of the W-19 PLY, W-20 PLY and W-5 PLY RIBS.



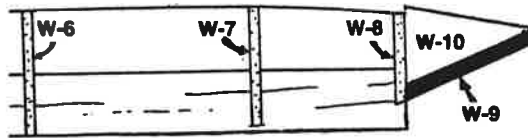
- [H] 29. Glue [1] BELLCRANK MOUNT (1/8 x 1/2 x 2) PLY in place
[F] using HORN MOUNT SUPPORT cut from (1/8 sq x 36) STRIPS as a base.

- [] 30. Mount the BELLCRANK on the PLY MOUNT using [1] BRASS
[M] EYELET , [1] 3-48 x 3/4 MACHINE SCREW , [1] # 3 WASHER and [1] 3-48 HEX NUT for each BELLCRANK. Feed [1] 1/16 x 33 WIRE thru the RIBS. Put a "Z" bend on the end and connect the BELLCRANK.



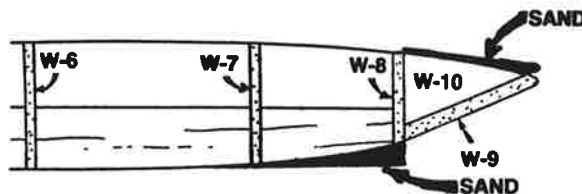
- [B] 31. Carefully punch-out [1] W-7 PLY RIB (1/8 Die-Cut) and [1] W-8 PLY RIB (1/8 Die-Cut) keeping the bottom tabs attached. Glue in position to the REAR SPAR.

- [LP] 40. Using [1] W-9 WINGTIP (1/8 x 1-3/8 x 6) and [2] W-10 TIP SUPPORTS (1/16 Die Cut) glue in place to form the WING TIP so that W-9 is flush with the bottom of the W-8 PLY RIB and against W-13 T.E.



1,

- [] 41. Sand the top of the W-10's and the bottom of the REAR SPAR as shown below. Sand W-13 T.E. to match RIB contour.



- [] 42. Using section "D" as a guide, cut [2] NYLON STRUT FITTINGS as shown. Place the fittings in position. Rotate a 1/16 drill bit between your pointer finger and thumb to drill a hole through the Strut Fitting Assembly.

- [] 43. Glue a TOOTH PICK into the holes, holding the STRUT FITTINGS in place.

- [E] 44. Glue [1] W-21 WING T.E. SHEET (1/16 x 1-7/16 x 9-3/4) and [1] W-22 WING SHEET (1/16 x 1-7/16 x 4-1/2) onto the bottom rear notches of the W-19 PLY, W-20 PLY and W-5 PLY RIBS.



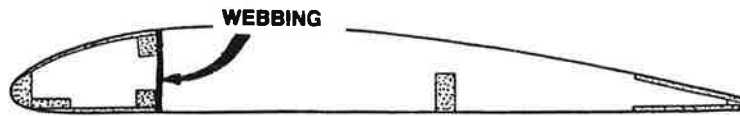
W-21 PRE-SHAPED T.E.

- [D] 45. Trim and glue [1] TOP L.E. SHEET (1/16 x 2 x 20) in place. Cut a notch into the TOP L.E. SHEET for the STRUT BRACKET to fit through.

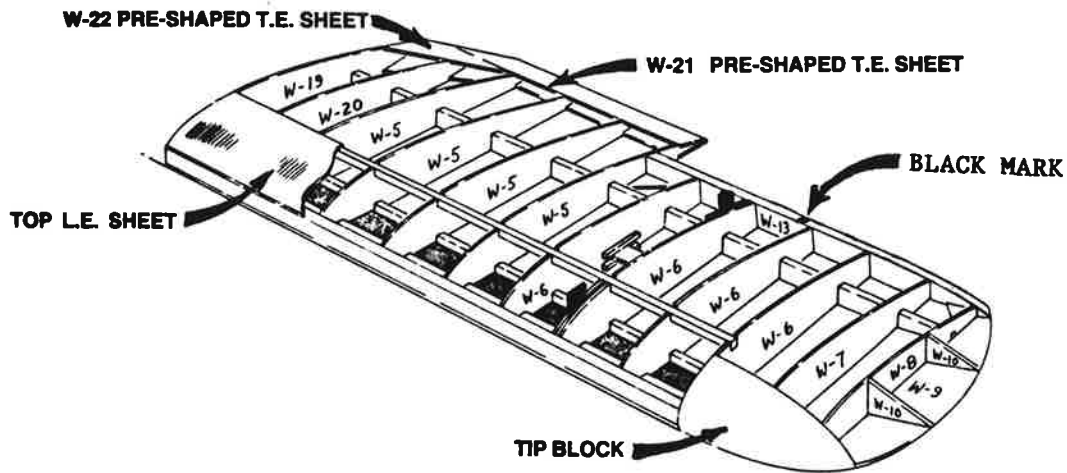
TOP L.E. SHEET



- [LP] 46. Fit and glue WEBBING (3/32 x 3 x 7/8) between all RIBS as shown on the plan top view.



- [] 47. Carve and sand the WING TIP BLOCK to match the outer contour of the RIBS.



- [] 48. Repeat steps 21 thru 47 for BOTTOM RIGHT WING.

BOTTOM WING AILERON

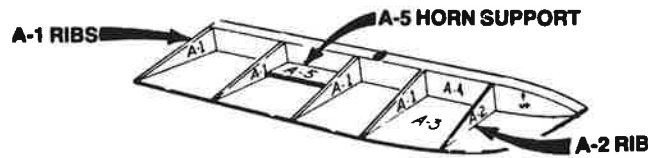
- [E] 1. Pin [1] A-3 PRE-SHAPED AILERON SHEET (1/16 x 2-1/2 x
[N] 11-3/4) to the plan. Glue [1] A-4 AILERON L.E. (1/4 x
9/16 x 11-1/2) in place on the sheeting only as far out
as the taper.



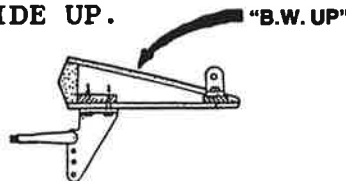
NOTE: The black mark on A-4 is the top.

- [A] 2. Glue [4] A-1 RIBS (1/8 Die Cut) in position as shown on the wing plan sheet.

- [H] 3. Glue [1] A-5 HORN SUPPORT (1/8 x 1/2 x 2) PLY in place between the 2nd and 3rd A-1 RIBS and against A-4.
- [] 4. Remove from plan. Glue remaining portion of the A-3 sheet to the tapered part of A-4.
- [A] 5. Glue [1] A-2 RIB (1/8 Die Cut) in place.



- [] 6. Sand the top of A-4 to match the rib contour (see wing section "D").
- [] 7. Cut [1] SCRAP PLY (1/8 x 1/2 x 1/2) and glue it in place as shown on AILERON TOP VIEW.
- [E] 8. Glue [1] A-3 AILERON SHEET (1/16 x 2-1/2 x 11-3/4) in place on top of A-4, all of the ribs and join both A-3's at the T.E. Mark this sheet "B.W. UP" for BOTTOM WING THIS SIDE UP.



- [] 9. Repeat Steps 1 thru 8 making a left and a right aileron set for the bottom wing.

TOP WING AILERON

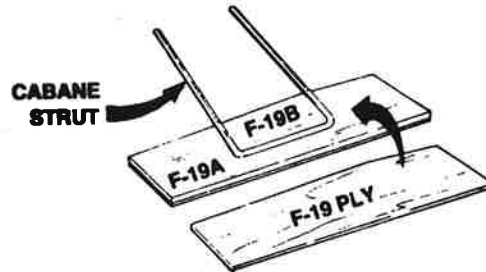
- [] 1. Repeat Steps 1, 2, 4, 5, 6 and 7 of the BOTTOM WING AILERON instructions.
- [] 2. Do Step 8 but mark "T.W. UP" for TOP WING THIS SIDE UP. Make a left and a right aileron set for the top wing.



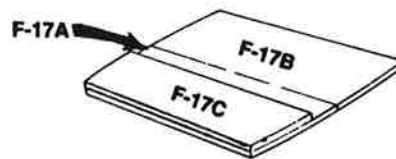
FUSELAGE

Laminate the Following:

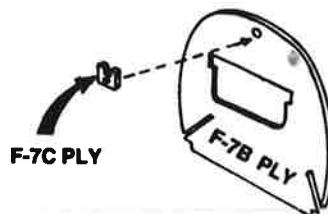
- [A] A. Glue [1] F-19A (1/8 Die Cut) to [1] F-19 PLY (1/8 Die Cut).
[B] Place [1] 1/8" formed CABANE STRUT into the recess. Glue [1] F-19B (1/8 Die Cut) between the CABANE STRUT and against F-19 PLY (1/8 Die Cut). Glue [1] F-19 PLY (1/8 Die Cut) to the top of the assembly sandwiching the CABANE in place. Make 2 assemblies.



- [A] B. Glue [2] F-26's (1/8 Die Cut) together making one F-26 laminate 1/4" thick.
- [K] C. Edge glue [1] F-17A FUSE CRUTCH SUPPORT (1/8 x 2-1/2 x 5-3/8 > 5-3/16) to [1] F-17B FUSE CRUTCH SUPPORT (1/8 x 2-3/4 x 5-7/16 > 5-11/32). Glue [1] F-17C FUSE CRUTCH SUPPORT (1/8 x 2-1/8 x 5-5/16 > 5-3/16) to the top front edge of F-17A. When dry, sand the assembly to match the contour on FUSELAGE PLAN TOP VIEW.



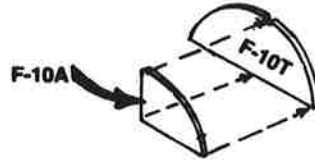
- [B] D. Glue [1] F-7C PLY (1/8 Die Cut) WING MOUNT SUPPORT onto the bottom of [1] F-7B PLY (1/8 Die Cut) FORMER centering the two holes.



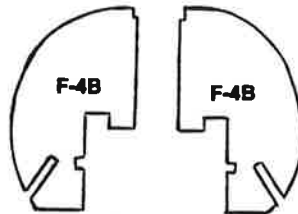
- [B] E. Glue [1] F-9A PLY (1/8 Die Cut) FORMER to [1] F-9T PLY (1/8 Die Cut) FORMER matching their radius.



- [B] F. Glue [1] F-10A FUSELAGE FORMER (1/8 x 2 x 2-1/2) to
[H] the right side of [1] F-10T PLY (1/8 Die Cut) matching their radius.



- [B] G. Edge glue [2] F-4B PLY (1/8 Die Cut) FORMERS together.

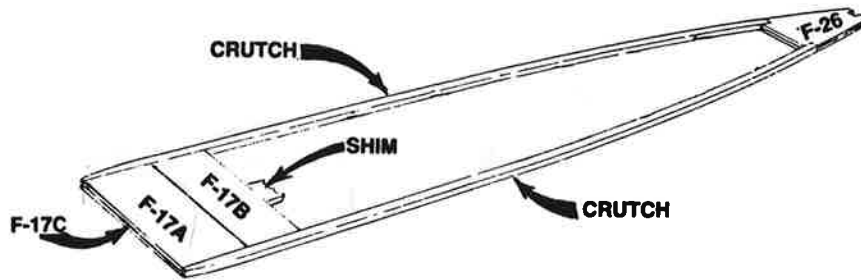


- [B] H. Edge glue [2] F-6B PLY (1/8 Die Cut) FORMERS together.
[B] I. Edge glue [2] F-8B PLY (1/8 Die Cut) FORMERS together.
[B] J. Edge glue [2] F-9B PLY (1/8 Die Cut) FORMERS together.
[B] K. Edge glue [2] F-10B PLY (1/8 Die Cut) FORMERS together.
[B] L. Edge glue [2] F-11B PLY (1/8 Die Cut) FORMERS together.

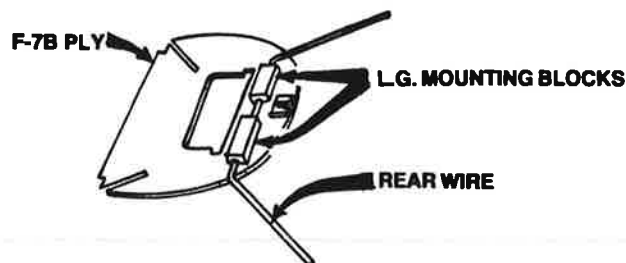
BUILDING PROCESS:

- [] 1. Pin the F-17 laminated assembly (Made in STEP C) in place to the PLAN TOP VIEW. Use a 1/8" scrap shim under F-17B so the assembly is flat.
[] 2. Pin F-17 (Made in STEP B) in place.

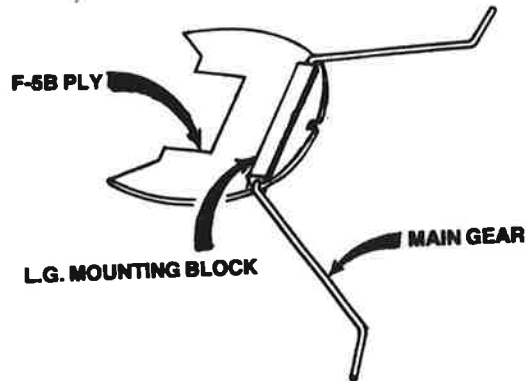
- [F] 3. Glue [2] CRUTCHES (1/4 x 3/8 x 33) into the notches on F-26 and to the side of the F-17 assembly. Trim flush to the front of the F-17 assembly.



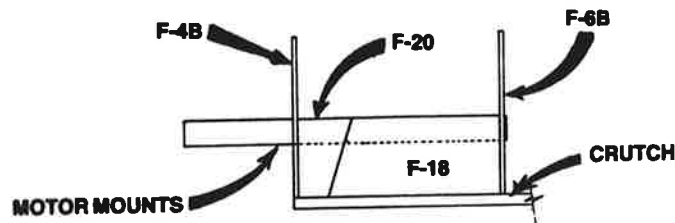
- [] 4. Glue [1] F-4B PLY FORMER (Made in STEP G.) and [1] F-6B PLY FORMER (Made in STEP H.) in place. Make sure all formers are perpendicular to the building board unless otherwise noted.
- [K] 5. Glue [2] F-18 TANK SIDES (1/8 x 2-11/16 > 2-5/8 x 5-1/4) to the inside edge of F-4B PLY, against F-6B PLY and along the F-17 assembly.
- [I] 6. Slide [2] MAPLE MOTOR MOUNTS (1/2 sq. x 9) in place to check fit. Trim notches if necessary. Epoxy both MAPLE MOTOR MOUNTS in place against the F-18's and into the notch on F-6B PLY.
- [K] 7. Glue [1] F-16 TANK BOTTOM (1/8 x 1-1/2 x 5-1/4) in place between the MOTOR MOUNTS and against the inside edge of F-4B PLY.
- [H] 8. Using the punch marks as a guide, place the MAIN GEAR REAR WIRE (1/8") on top of F-7B PLY FORMER (1/8 Die Cut). Then epoxy [2] L.G. MOUNTING BLOCKS (3/8 x 3/4 x 1-1/2) POPLAR against F-7B PLY, straddling the WIRE. The L.G. must be able to rotate freely within the mounts.



- [H] 9. Using the punch marks as a guide, place the MAIN GEAR FRONT WIRE (5/32") on top of F-5B PLY FORMER (1/8 Die Cut) and epoxy [1] L.G. MOUNTING BLOCK (3/8 x 3/4 x 4) POPLAR against F-5B PLY FORMER, straddling the WIRE. The L.G. must be able to rotate freely within the mounts.

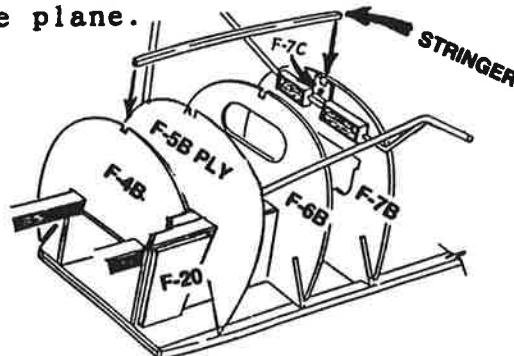


- [K] 10. Glue [1] F-20 "F-5" FORMER SPACER (1/8 x 1-1/2 > 1 x 2-5/8) to each side of F-18 and against F-4B PLY.



NOTE: The wide end is up. Wipe off all excess glue.

- [] 11. Glue the F-7B PLY FORMER assembly (Made in STEP 8) to the CRUTCH. Be sure it is perpendicular to the board, with the mounted landing gear block assembly facing the FRONT of the plane.
- [] 12. Glue the F-5B PLY FORMER assembly (Made in STEP 9) against F-20 and F-18 allowing the former to angle back toward the tail. Refer to the SIDE VIEW. Make sure the landing gear block assembly is facing the REAR of the plane.

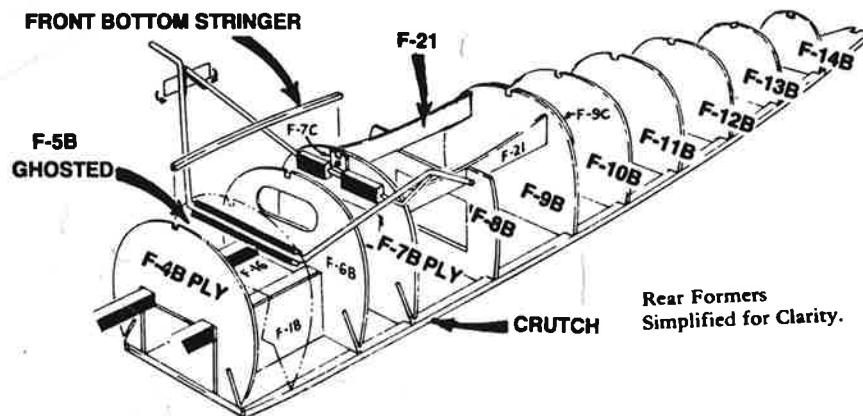


NOTE: F-20 sets the angle of F-5B PLY (1/8 Die Cut) assembly.

- [I] 13. Glue [1] FRONT BOTTOM STRINGER (1/4 sq. x 7-5/8) from F-4B PLY thru F-7B PLY.
- [] 14. Glue [1] F-8B PLY FORMER (Made in STEP I.) in place on the CRUTCH.
- [A] 15. Glue [2] F-21 WING SADDLES (1/8 Die Cut) in place on top of F-8B PLY FORMER with the larger notch fitting into F-7B PLY FORMER.

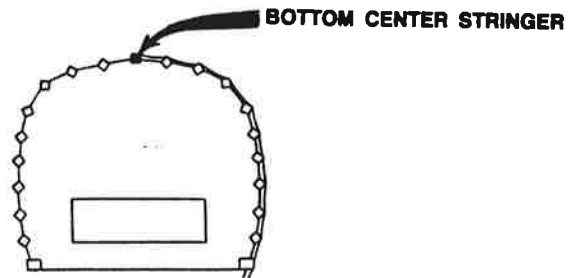
NOTE: Remember if the larger notch at one end of F-21 fits into the large notch of F-7B PLY without anything hanging over, you may assume that this is where it is supposed to go, so go ahead and glue it.

- [A] 16. Glue F-9B PLY FORMER (Made in STEP J.) in place on the CRUTCH. Fit the [2] F-21's into the cut-out's on F-9B PLY FORMER.
- [] 17. Glue F-10B PLY FORMER (Made in STEP K.) in place on the CRUTCH.

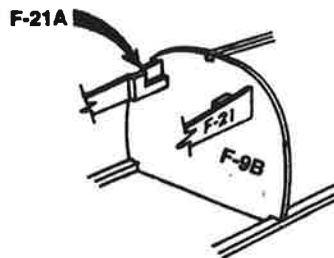


- [] 18. Glue F-11B PLY FORMER (Made in STEP L.) in place on the CRUTCH.
- [B] 19. Glue F-12B PLY FORMER (1/8 Die Cut) in place on the CRUTCH.
- [B] 20. Glue F-13B PLY FORMER (1/8 Die Cut) in place on the CRUTCH.
- [B] 21. Glue F-14B PLY FORMER (1/8 Die Cut) in place on the crutch and against F-26.
- [B] 22. Glue F-9C PLY FORMER (1/8 Die Cut) to the rear side of F-9B PLY FORMER (1/8 Die Cut). Use side view of the plans for position.

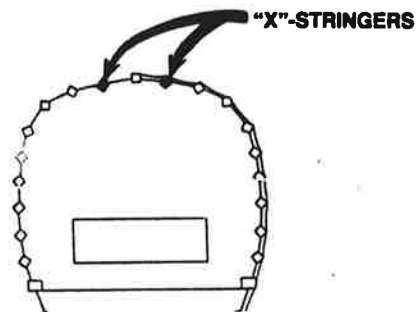
- [G] 23. Glue [1] **BOTTOM CENTER STRINGER** (3/16 sq. x 18) to formers F-9C PLY thru F-14B PLY. Trim excess length, that is the stuff what's hanging over to far. [I enjoy a few excess's on occasion.]



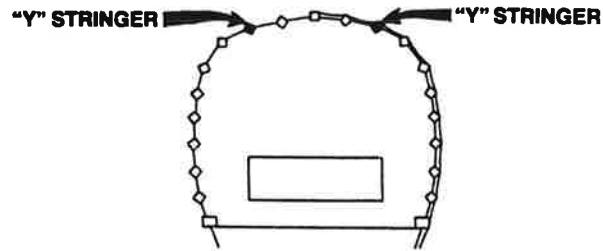
- [I] 24. Cut and trim **FORMER STIFFENERS** from [3] (1/8 x 1/4 x 12) to fit between the **CRUTCHES** and along the bottom edge of F-8B FORMER thru F-13B FORMER. Glue in place.
- [B] 25. Glue [2] F-21A's **PLY WING BOLT MOUNT BLOCK SUPPORTS** (1/8 Die Cut) to the inside of both F-21's and against F-9B PLY FORMER. Be sure they are flush to the flat edge of F-21. See side view.



- [G] 26. Glue [2] "x"-STRINGERS (3/16 sq. x 18) next to the **BOTTOM CENTER STRINGER** starting from F-9C PLY FORMER and thru F-13B PLY FORMER. Trim excess length.



- [G] 27. Fit and trim [2] "Y"-STRINGERS (3/16 sq. x 18) to each side of the "x"-STRINGERS from F-9C PLY FORMER to the inside edge of F-14B PLY FORMER. This stringer must butt against F-14B PLY. Glue in place.



- [G] 28. Glue [2] "Z"-STRINGERS (3/16 sq. x 18) to each side of the "Y"-STRINGERS starting with F-9C PLY FORMER and thru F-14B PLY FORMERS. Trim excess length again.
- [H] 29. Glue [1] MAPLE WING MOUNT BLOCK (1/2 x 1 x 4) to both F-21A's and against F-9B PLY FORMER.

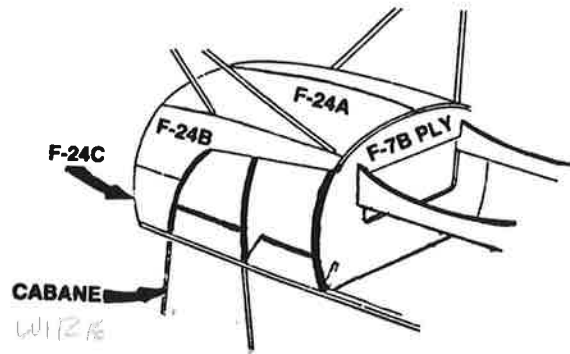
[ALLOW FUSELAGE TO DRY THOROUGHLY]

- [] 30. Remove all pins, clothespins, tape, etc... Lift the fuselage from the building board. Trim both CRUTCHES to allow the CABANE ASSEMBLY (Made in Step "A") to slide into place. When satisfied with the fit, glue the CABANE ASSEMBLY in place so the front edge is flush against F-4B PLY FORMER. Make sure the assembly is set firmly in place then RE-GLUE all joints. Bear in mind these joints support the structure that holds the TOP WING on. With out the top wing you would be flying a low wing mono-plane. Your wing loading will double.

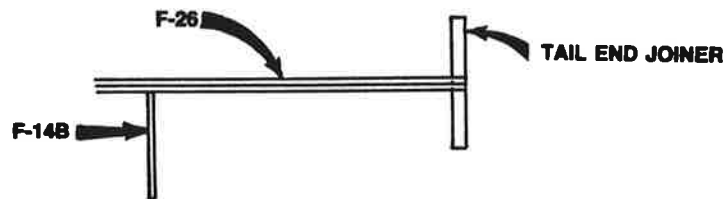
- [K] 31. Fit and glue [2] F-24A's (1/8 x 2-3/4 x 7-3/4) BOTTOM FRONT FUSELAGE SHEETING between the landing gear struts and from formers F-7B PLY thru F-4B PLY. Wet the outside of the SHEETING with a water and alcohol solution, to help curve the wood to the radius.

NOTE: This is so you do not cuss or crack the wood, which means that if you crack the wood you will call us complaining that the wood ain't good etc... etc... etc... and the bind you place us in is unimaginable n' my nerves are shot albeit.

- [K] 32. Glue [2] F-24B SIDE FRONT SHEET (1/8 x 3 x 8) and [2] F-24C SIDE FRONT SHEET (1/8 x 3-1/4 x 3) in place using the same technique that you should have used in step 31.

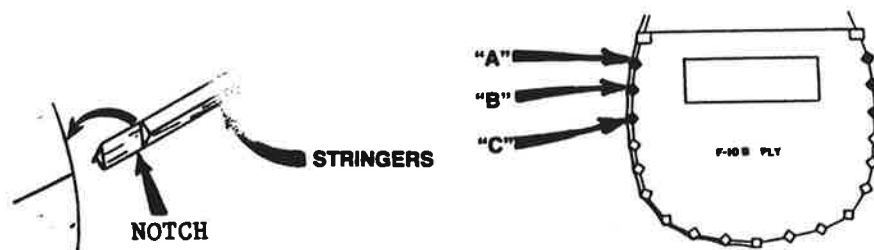


- [H] 33. Glue [1] TAIL END JOINER (1/4 sq. x 2-1/2) into the notch on F-26. Make sure it is perpendicular to F-26 and precisely, ONE INCH above F-26. Giving you or the plane which ever, the correct stabilizer incidence.

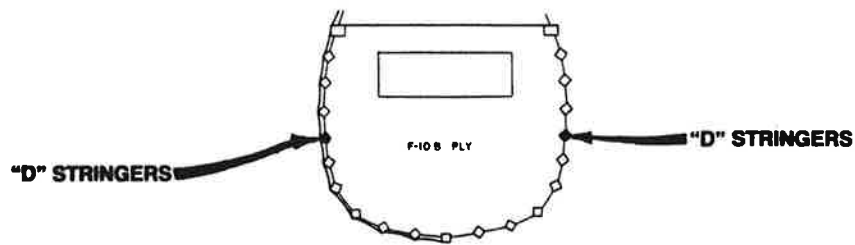


NOTE: Perpendicular is from the word to perp any end that is not connected to the flagermouse. You see that the correct stabilizer incidences is making the aeroplainer to flying in the correct angle of attack and all that sort of business of which only other people are really aware of what is happening around them.

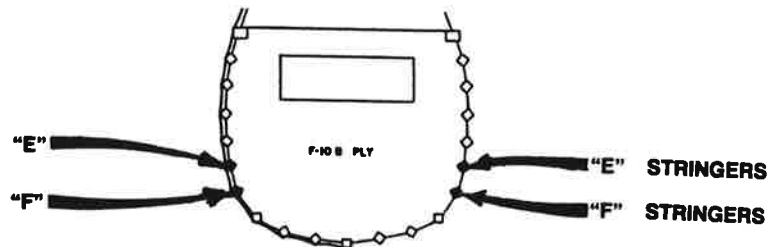
- [F] 34. Notch one end of [6] "A", "B", "C", STRINGERS (3/16 sq. x 36) as in the illustration below. Glue three of these stringers on each side of the fuselage just below the CRUTCH. The notched end glues behind F-24's and the STRINGERS then extend to the TAIL END JOINER.



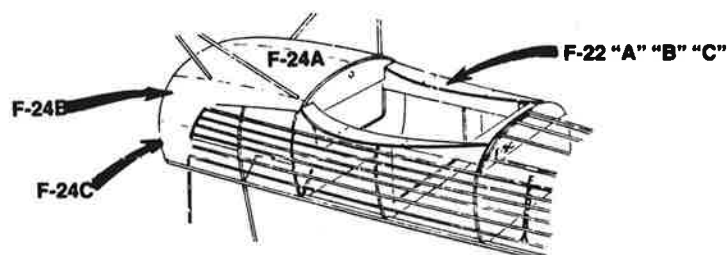
- [F] 35. Notch one end of [2] "D" STRINGERS (3/16 sq. x 36) as above. Glue [1] STRINGER from behind F-24's to the inside edge of F-14B PLY. Repeat for the other side.



- [G] 36. Notch [4] "E" & "F" STRINGERS (3/16 sq. x 24) as in step # 34. Glue "E" STRINGERS below "D" STRINGERS from F-24's to F-12B PLY. Glue "F" STRINGERS below "E" STRINGERS from F-24's to F-11B PLY.

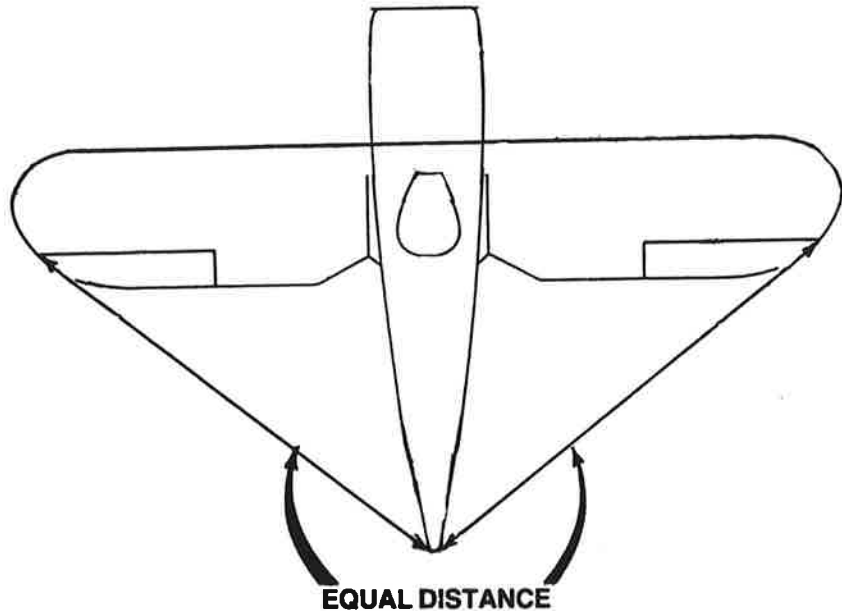


- [K] 37. Join [1] F-22A FRONT WING SADDLE (1/8 x 2-3/4 x 1-3/16) [1] F-22B CENTER WING SADDLE (1/8 x 2-3/4 x 1-3/16) and [1] F-22C REAR WING SADDLE (1/8 x 15/16 x 2-7/16) together and glue to F-21 so the flat edge of F-22's are flush with the inside edge of F-21. Repeat for the other side.



[]

38. Pin the lower wing in place so it is square to the fuselage (the distance from each wing tip to the tailpost is equal). Drill thru the WING T.E. and MAPLE WING MOUNTING BLOCK with a #26 drill bit (5/32"). One side only. Remove the wing and enlarge the hole in the T.E. with a #12 drill bit (3/16"). Tap the WING MOUNTING BLOCK with the 8-32 tapping screw supplied. Hold the wing in position with one nylon screw and repeat the process for the other side.

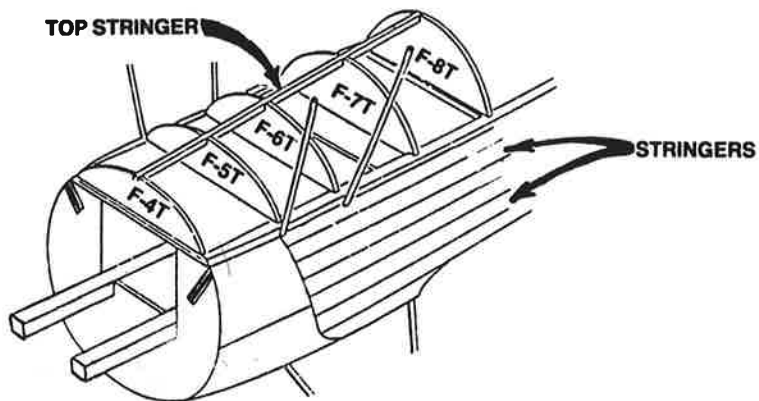


[B]

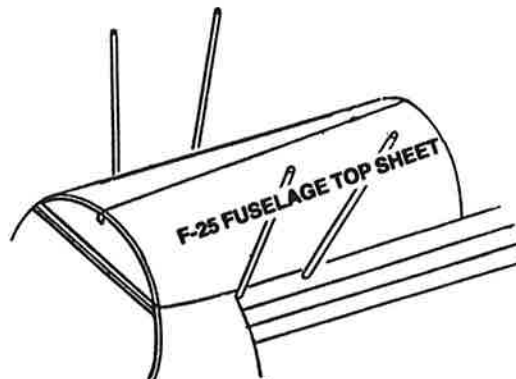
39. Glue F-4T PLY FORMER (1/8 Die Cut) thru F-8T PLY FORMER (1/8 Die Cut) to the tops of the respective formers.

[I]

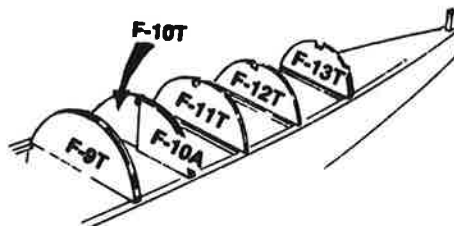
40. Glue [I] TOP FRONT STRINGER (1/4 sq. x 12) onto the formers to hold the TOP FORMERS in place.



- [K] 41. Glue [1] F-25 FUSELAGE TOP SHEET (1/8 x 3-3/4 x 11-3/4) in place between formers F-4T PLY thru F-8T PLY. The flat edge is glued to the center of the TOP STRINGER and the curved edge is glued to the CRUTCH. If necessary, wet the outside of the sheeting to aid in forming. Repeat for the other side.

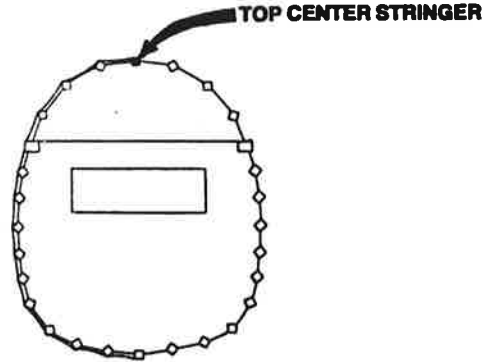


- [] 42. [OPTIONAL STEP:] Cut the front cockpit out as shown on the fuselage side view. The size of the cockpit cutout is 1/2" smaller than the cover drawing on the template sheet.
- [] 43. Trim all excess sheeting flush with F-4 PLY and F-8 PLY FORMERS.
- [] 44. OMIT THIS STEP TAKE A BREAK
- [] 45. Glue F-9A/F-9T PLY laminate (Made in STEP "E") onto F-9B, PLY be sure that F-9T PLY is facing the front of the fuselage.
- [] 46. Glue F-10A/F-10T laminate (Made in STEP "F") onto F-10B PLY with F-10A facing the front of the fuselage.



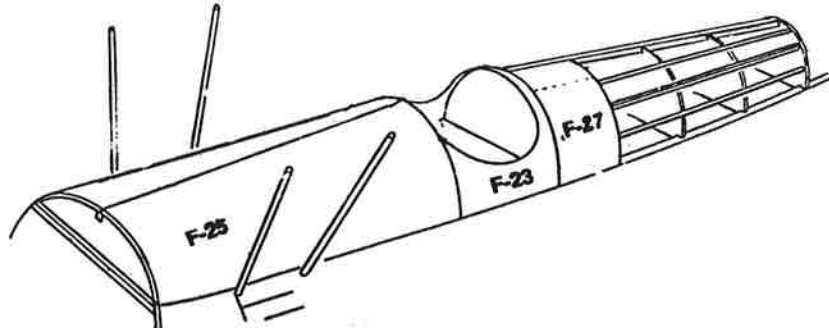
- [B] 47. Glue F-11T PLY FORMER (1/8 Die Cut), F-12T PLY FORMER (1/8 Die Cut), and F-13T PLY FORMER (1/8 Die Cut) onto their respective bottom formers. Meaning F-11T PLY onto F11B PLY etc., etc.

- [I] 48. Glue [1] TOP CENTER STRINGER (3/16 sq. x 15) in place starting with F-9T PLY and thru F-13T PLY.

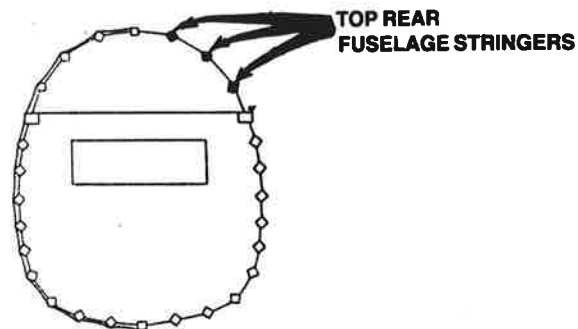


- [K] 49. Glue both F-23 COCKPIT SIDES (1/8 x 3-1/2 x 4) along the CRUTCH and between formers F-8T PLY and F-9A PLY. Wet the outside of the sheet to aid in curving.

- [K] 50. Glue [1] F-27 FUSELAGE SIDE SHEET (1/8 x 3-1/2 x 3-1/4) (to the left side of the fuselage only) against the CRUTCH and against the edges of F-9A PLY and F-10A. This is for a simulated side door/hatch, which if you want can be functional.



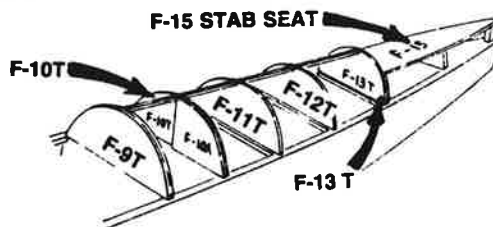
- [I] 51. Trim [3] TOP REAR FUSELAGE STRINGERS (3/16 sq. x 10) fitting them against the inside edge of F-13T PLY FORMER and thru F-10T PLY FORMER. Glue in place to the left side of the fuselage.



- [I] 52. Trim [3] TOP CENTER FUSELAGE STRINGERS (3/16 sq. x 15) fitting them against the inside edge of F-13T PLY FORMER and thru F-9A PLY FORMER. Glue in place on the right side of the FUSELAGE. Same thing as Step 51 but longer sticks and on the other side.

- [B] 53. Glue F-13A PLY FORMER (1/8 Die Cut) to the rear side of F-13T PLY FORMER and to the top of F-26.

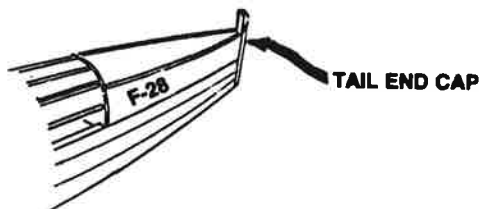
- [B] 54. Glue F-14T PLY FORMER (1/8 Die Cut) to F-14B PLY FORMER so that it is perpendicular to F-26.
- [K] 55. Glue F-15 STAB SEAT (1/8 x 1-5/8 x 6-7/16) to the top of F-13A PLY, F-14T PLY and the TAIL END JOINER (1/4 sq. x 2-1/2).



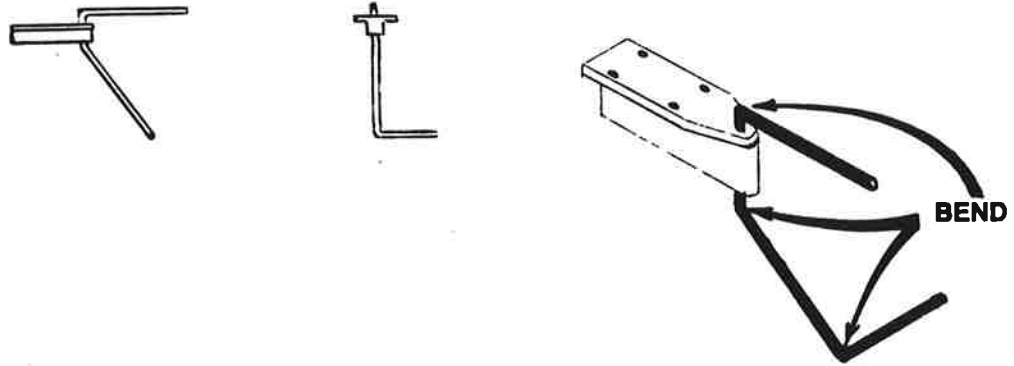
- [K] 56. Sand the edges of F-15 to match the contour of these formers. Glue [1] F-28 STABILIZER BRACE (1/8 x 1-5/16 > 1-1/8 x 6-1/2) in place against F-13A PLY, F-14T PLY, TAIL END JOINER and F-15 and to the top of F-26.

NOTE: The wide end heads toward the front.
 NOTE: Repeat STEP 56 for the other side.
 NOTE: Wow! Three notes in a row, soon we'll be composing entire symphonies.

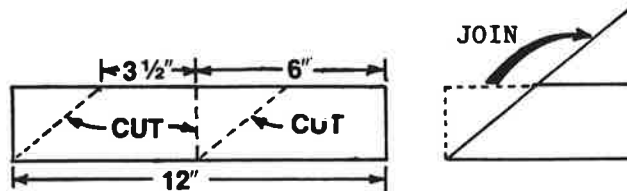
- [H] 57. Glue [1] TAIL END CAP (1/4 x 1/2 x 2-3/4) in place flush with the bottom of the TAIL END JOINER and the top of F-15. See fuselage side view.



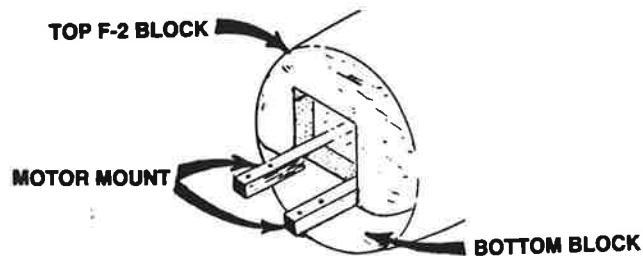
- [H] 58. Glue [1] TAIL BLOCK (3/4 x 2-1/4 x 3-3/4) in place on STRINGERS "C" and between F-14B PLY FORMER and the tail end joiner. Cut and shape the TAIL BLOCK at this time.
- [] 59. Using (4) SHEET METAL SCREWS (#2 x 3/8) mount the NYLON TAIL WHEEL BRACKET in place as shown on the plan side view. Bend [1] TAIL WHEEL WIRE (.080 x 5) two inches from one end 90 degrees, and slide it into the bracket. Bend the three remaining inches just under the bracket at a 45 degrees angle to the first bend, now at the 1-1/2 inch point from the bend just under the nylon bracket, put 90 degree bend to the 45 degree angle, and there you have it. Use the wire that is resting along the top of the bracket as you would a boat tiller arm. OR Just bend it so that the tail wheel is heading in the same direction as the two up front. If you choose to do it the other way then you can glue the optional tail wheel gear in place at this time.



- [] 60. Sand the FRONT L.G. WIRE and the REAR L.G. WIRE at and around the point where they join. Wrap the JOINT tightly with copper wire (supplied). For best results silver solder, or braze everything together.
- [A] 61. Make [2] L.G. FAIRING SHEETS from [1] (5/32 x 3 x 12) as shown below. Trim to fit leaving a 1/8" gap between the fuselage and the top of the sheet allowing the L.G. to flex during take-off's and landings. Cyano the sheet in place onto the wire.

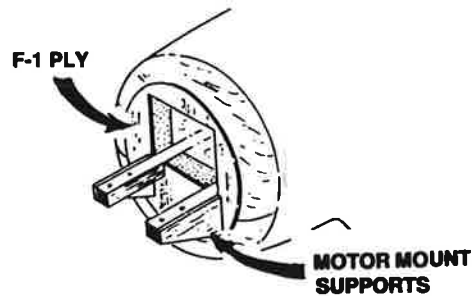


- [LP] 62. In the TOP F-2 COWL BLOCK (3/4 x 4 x 7-1/4) there are 2 vertical saw cuts. Cut and discard the wood between these cuts. Now glue F-2 TOP COWL BLOCK and F-2 BOTTOM COWL BLOCK (3/4 x 3 x 7-1/4) to F-4 PLY FORMER aligning the cutout evenly with the tank box.



- [B] 63. Glue [1] F-1 PLY FORMER (1/8 Die Cut) onto the front of the F-2 BLOCKS. When this is dry, shape the F-2 BLOCKS as per the fuselage side view.

- [H] 64. Glue [2] PLY MOTOR MOUNT SUPPORTS ($1/8 \times 2-3/8 > 1/2 \times 2-3/4$) in place to the outside edge of both MOTOR MOUNTS and against F-1 PLY FORMER, See fuselage side view.



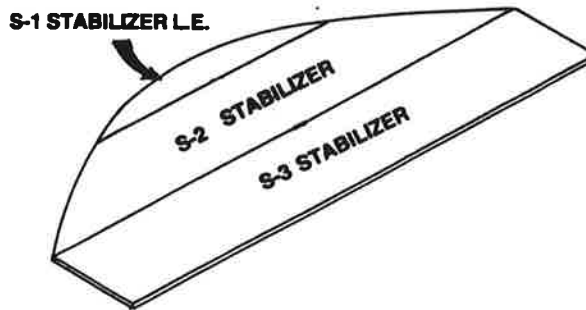
- [LP] 65. The HEADREST ($1 \times 1-1/2 > 0 \times 15$) should now be carved and sanded to shape as per the cross section below. Do not glue in place until the fuselage is covered.



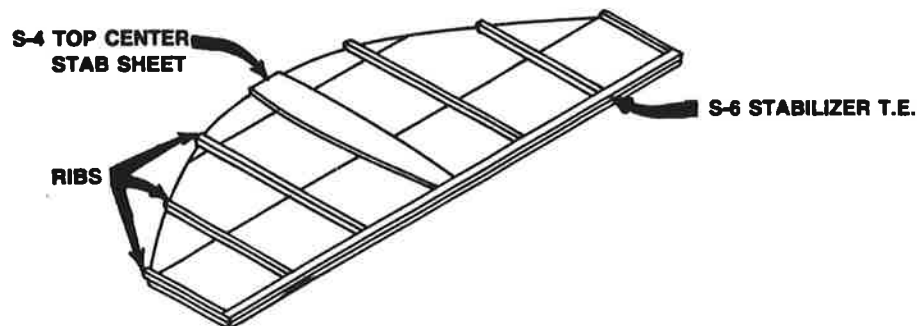
- [I] 66. Using the front view on fuselage plans, bevel and glue both the L.G. BARS ($3/16$ round $\times 7-1/8$) DOWEL to the $5/32$ front BALSA FAIRING. Cut a slot through the bottom of F-24A allowing the L.G. BAR to move freely while the L.G. flex.

STABILIZER

- [S] 1. Edge glue [1] S-1 STABILIZER L.E. ($1/8 \times 1/2 \times 5$) to the front of [1] S-2 STABILIZER CORE ($1/8 \times 2-3/4 \times 14-1/2$).
- [S] 2. Edge glue [1] S-3 STABILIZER ($1/8 \times 2-3/4 \times 14-3/8$) to the rear edge of S-2.



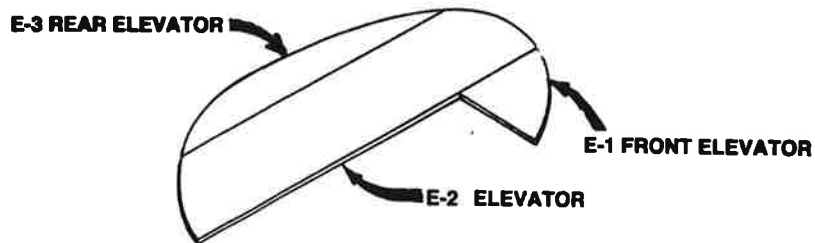
- [I] 3. Glue [1] S-6 STABILIZER T.E. ($1/8 \times 1/4 \times 14-3/8$) on top of S-3 and flush with the rear edge of S-3.
- [S] 4. Glue [1] S-4 TOP CENTER STAB SHEET ($1/8 \times 1 > 1/2 \times 5-5/8$) on top of S-1, S-2, S-3 and against S-6. Be sure it is perfectly centered.
- [F] 5. Cut and glue in place [6] RIBS from ($1/8$ sq. x 36) sticks.



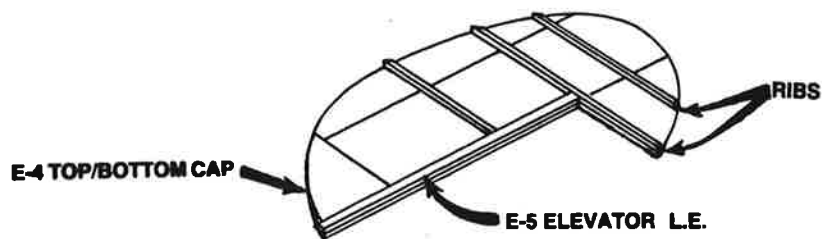
- [I] 6. When dry, glue [1] S-6 STABILIZER T.E. ($1/8 \times 1/4 \times 14-3/8$) to the other side of S-3 as in Step 3.
- [S] 7. Glue [1] S-5 BOTTOM CENTER STAB SEAT ($1/8 \times 1-7/8 \times 5-5/8$) to the bottom of S-1, S-2, S-3 and against S-6. Be sure it is perfectly centered.
- [F] 8. Cut and glue in place [6] RIBS from ($1/8$ sq. x 36) sticks.

ELEVATORS

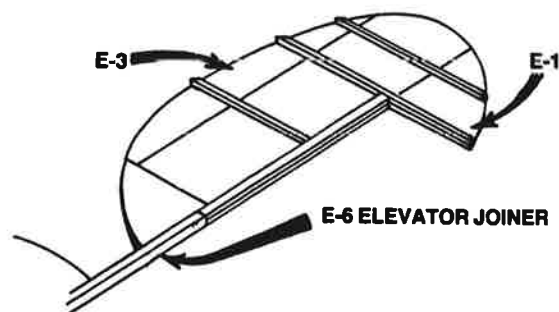
- [] 1. Make both elevators at the same time. For every step, repeat it for the other ELEVATOR making a left side and a right side.
- [S] 2. Edge glue [1] E-3 REAR ELEVATOR (1/8 x 1-1/8 x 7) to the rear edge of [1] E-2 ELEVATOR CORE (1/8 x 2-3/4 x 10-3/8).
- [S] 3. Edge glue [1] E-1 FRONT ELEVATOR (1/8 x 2-3/4 x 3-1/8) to the outside front edge of E-2.



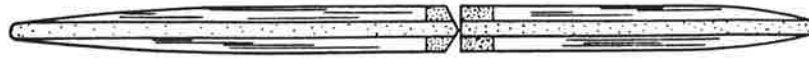
- [I] 4. Glue [1] E-5 ELEVATOR L.E. (1/8 x 1/4 x 5-1/4) to the top of E-2 as shown on the plan view.
- [F] 5. Cut and glue in place [3] RIBS from (1/8 sq. x 36) sticks.
- [S] 6. Glue [1] E-4 TOP/BOTTOM CAP (1/8 x 2-1/8 x 3) in place on E-2, E-3 and against E-5.



- [] 7. Repeat steps 4, 5 and 6 for the bottom side of the ELEVATORS.
- [H] 8. Cut a 1/4 wide x 1-1/2 long notch into the front inside edge of E-2 to allow for the E-6 ELEVATOR JOINER (3/8 round x 4) BIRCH DOWEL. Check position against the plans and glue E-6 in place.

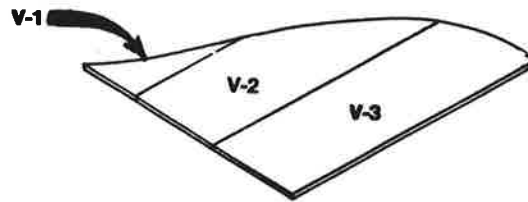


- [] 9. Sand the STABILIZER and the ELEVATORS to shape using the STABILIZER CROSS SECTION as a guide.

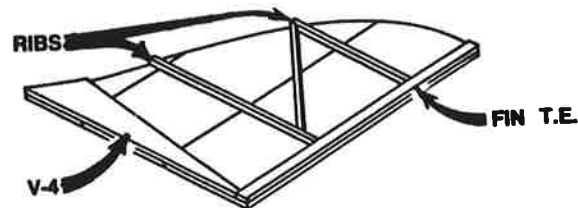


VERTICAL FIN

- [S] 1. Edge glue [1] V-1 DORSAL FIN ($1/8 \times 1-7/8 \times 2-1/8$) to the front edge of [1] V-2 FRONT FIN ($1/8 \times 2-3/4 \times 6-1/2$).
- [S] 2. Edge glue [1] V-3 REAR FIN ($1/8 \times 2-3/4 \times 7-1/2$) to the rear edge of V-2.



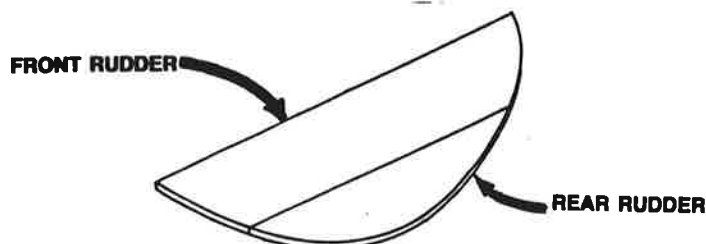
- [I] 3. Glue [1] FIN T.E. ($1/4 \times 3/8 \times 7-3/4$) to V-3 so it is flush with the rear edge and top of V-3.
- [S] 4. Glue [1] V-4 SIDE FAIRING ($1/8 \times 1-1/4 \times 7-3/8$) to V-1, V-2, V-3 and against the FIN T.E. The bottom of V-4 is flush to the bottom of V-1, V-2 and V-3.
- [F] 5. Cut and glue in place [3] RIBS using ($1/8$ sq. x 36) sticks.



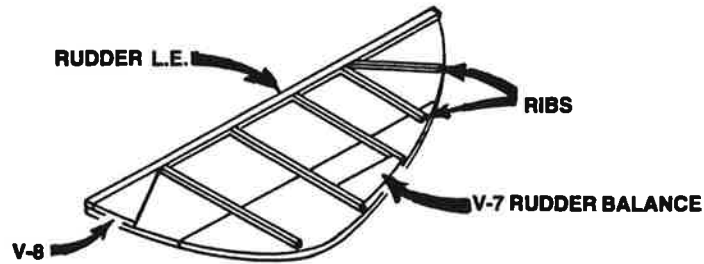
- [] 6. Repeat Steps 4 and 5 for the other side.

RUDDER

- [S] 1. Edge glue [1] V-5 FRONT RUDDER ($1/8 \times 2-3/4 \times 10-3/4$) to the front of [1] V-6 REAR RUDDER ($1/8 \times 2 \times 8-1/2$).



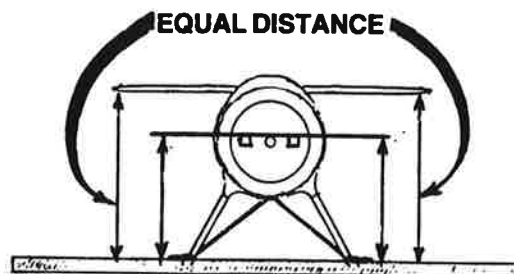
- [I] 2. Glue [1] RUDDER L.E. (1/8 x 1/4 x 10-1/2) to V-5 so it is flush with the front edge of V-5.
- [S] 3. Glue [1] V-8 TAIL WHEEL SUPPORT (1/8 x 1-3/16 x 0 x 2) in place on V-5 and against the RUDDER L.E. as shown on the plan view.
- [F] 4. Cut and glue in place [5] RIBS using (1/8 sq. x 36) sticks.
- [A] 5. Glue [1] V-7 RUDDER BALANCE (1/16 Die Cut) in place on V-6 as shown on the plan view.

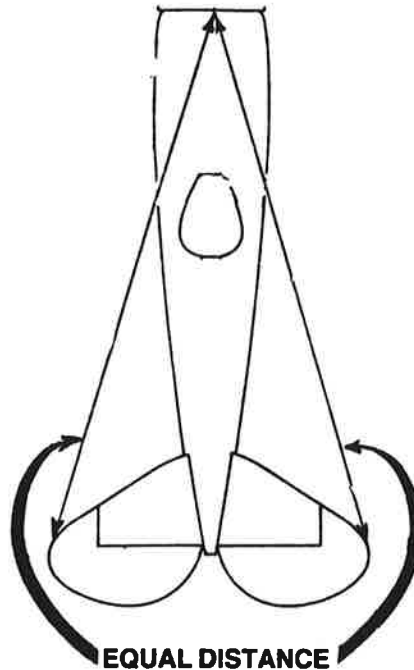


- [] 6. Repeat Steps 2, 3, 4 and 5 for the other side of the RUDDER.
- [] 7. Sand the FIN and the RUDDER to shape using the STABILIZER CROSS SECTION as a guide.

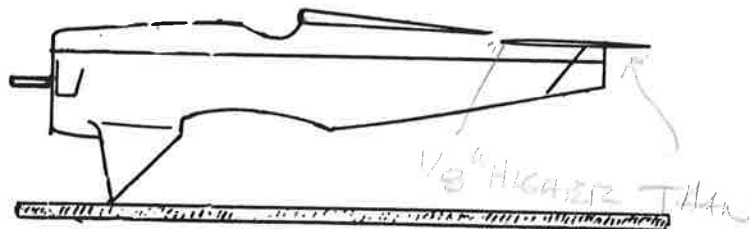
MOUNTING THE TAIL SURFACES

- [] 1. Clamp the MAIN LANDING GEAR firmly to your work table. Attach a 12" ruler to the MOTOR MOUNTS and square the ruler ends to the work table. Shim the L.G. if necessary.
- [] 2. Mate the STABILIZER assembly to the FUSELAGE. Measure the distance from from each TIP of the STABILIZER to a fixed single point on the front top of the FUSELAGE. This distance should be equal. Pin the STABILIZER in place.



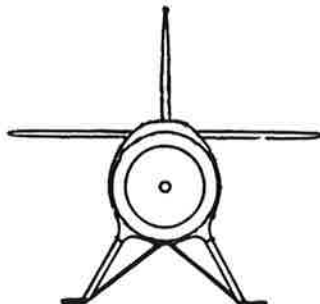


- [] 3. Measure the distance from each TIP of the STABILIZER to the work table, this distance should also be equal. Check the ruler for square again and double check the other measurements. Mark the position of the STABILIZER.



- [] 4. If you have an incidence meter, the incidence should be 1-1/2 positive relative to the CRUTCH. If you don't have a meter, the front of the STABILIZER should be 1/8 higher then the rear when measured from the CRUTCH.
- [] 5. Once assured that all alignment is correct, glue the STABILIZER permanently in place.

- [] 6. After the STABILIZER is dry, position the VERTICAL FIN on top of the STABILIZER. Center the VERTICAL FIN and check that it is perpendicular to the STABILIZER. Look down the front of the model to double check the VERTICAL FIN position.



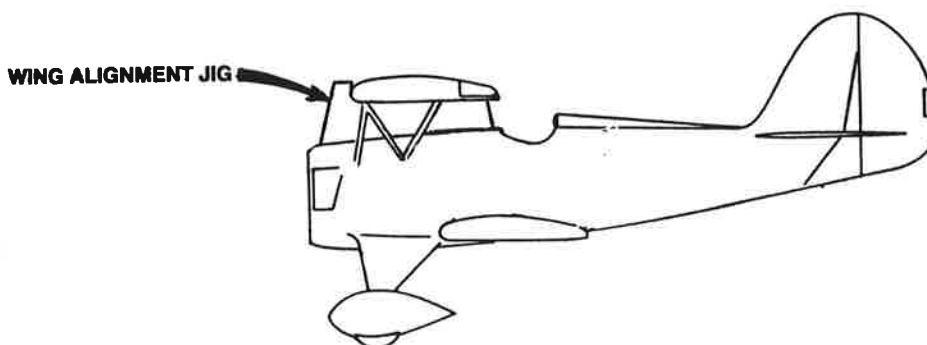
- [] 7. Glue the VERTICAL FIN permanently to the STABILIZER and to the rear of F-13.

- [] 8. Bevel the front edge of the ELEVATOR and the RUDDER as shown below.

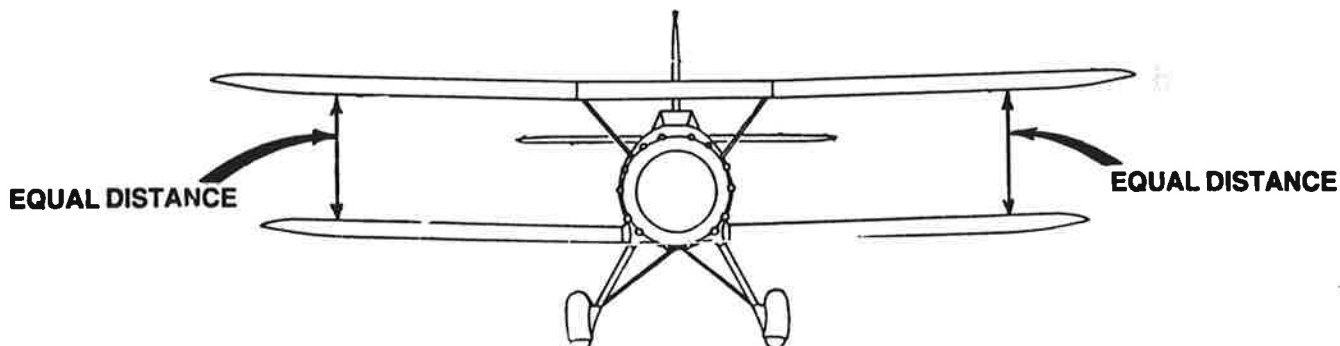


MOUNTING THE TOP WING

- [] 1. Mount the **BOTTOM WING** in place, making sure it is secure. Cut out and glue the **WING ALIGNMENT JIG** (From Fuselage Side View) to a piece of cardboard. Lightly tack-glue the **WING ALIGNMENT JIG** to the **FUSELAGE**, lining it up at the front of F-25. Make sure the **JIG** is perpendicular and centered accurately on the **FUSELAGE**.



- [] 2. Referring to the **TOP WING PLANS**, measure and mark the positions of the **CABANE SCREWS** on the underside of the **WING**. Drill each of the four locations with a #30 drill bit (1/8 inch bit).
- [] 3. Bend the [4] **CABANE TERMINALS** using the plan front view as a guide. Screw them to the wing using #8 x 3/4 sheet metal screws. Tighten the screws just enough to prevent the **TERMINALS** from moving, but leave enough slack so that you can swivel them by hand.
- [] 4. Now place the **WING** on the **CABANE STRUTS**, turning the **TERMINALS** to slip down onto the **CABANE STRUTS**. The idea is to lay the **WING** exactly into the **WING ALIGNMENT JIG**.
- [] 5. Check the front view for zero wing tilt. This should be done by measuring the **BOTTOM WING L.E.** to the **TOP WING L.E.** This dimension must be the same on both sides.



- [*] 6. Now measure the distance from the WING TIP to the STABILIZER, picking the same reference points on both sides. This dimension also must be the same on both sides.
- [*] 7. When satisfied the TOP WING is plumb with the BOTTOM WING squeeze the CABANE TERMINALS tightly around the CABANE STRUT WIRE and silver solder the TERMINALS to the STRUTS. Recheck all alignment measurements. Now you can discard the jig.
- [M] 8. Bend the CABANE STRUT BRACE (.080 x 6) WIRE as per the side view. Bind and solder in place.
- [F] 9. The CABANE STRUT FAIRINGS are not essential but they do help the appearance of the model. If you wish to use them, first cut 1/8" sq. to proper length and glue to both the front and back of each strut wire. Then glue a 1/16 x 3/8 capping strip to each side. When dry, sand to shape.

N-STRUTS

- [F] 1. The N-STRUTS are constructed over plans. Cut them from [2] (1/4 x 1/16 x 1/2 x 30) POPLAR STRUTS. When completed, sand N-strut to the cross section shown and bevel the ends to match the wing dihedral.
- [M] 2. Drill [1] 1/16 hole into the ends of the N-STRUTS for the 1/16 STEEL ROD N-STRUT CONNECT. Cut and bend the wire as shown in the drawing provided. Glue the wire in place with a good grade of epoxy.

RADIO AND PUSHROD INSTALLATION

- [I] 1. Cut and glue 1/4 x 3/8 HARDWOOD SERVO RAILS in place according to the plan. Note the front SERVO RAIL can be adjusted to suit your servos. Install the Radio gear and mount the servos.
- [*] 2. Using the FUSELAGE SIDE VIEW as a guide, cut out the slots in F-28 for the RUDDER and the ELEVATOR PUSHRODS.
- [M] 3. Make up the PUSHRODS (Use 5/16 x 36 dowel, threaded rod and 1/16 x 6 rod supplied) and install them into the FUSELAGE, noting that the ELEVATOR PUSHROD exits the right side and the RUDDER PUSHROD the left side.



- [M] 4. Install the THROTTLE PUSHROD as shown (Construct using the flexible pushrod one threaded rod, one 2-56 x 3/4 and one clevis supplied). Remount the engine and connect to the PUSHROD.



- [G] 5. Construct the AILERON CONNECT PUSHROD. Cut [1] (1/4 x 1/16 x 3/8 x 20) into [2] 10 inch pieces. Shape them into an airfoil. Drill [1] 1/16 hole on each end. Cut and bend [2] THREADED RODS to the appropriate shape and epoxy in place. Connect the aileron servo to the pushrod.
- [M]
- [*] 6. Install the RUDDER, ELEVATOR and AILERON HORNS exactly where shown. Temporarily mount all control surfaces. Hook up the PUSHRODS and check that the PUSHRODS do not bind. "Z" bend [2] THREADED RODS and connect the rods to the bellcrank and aileron horns.
- [*] 7. Mount the WINGS and check all movement. There should be free movement of all surfaces. If there is any binding, correct it at this time.

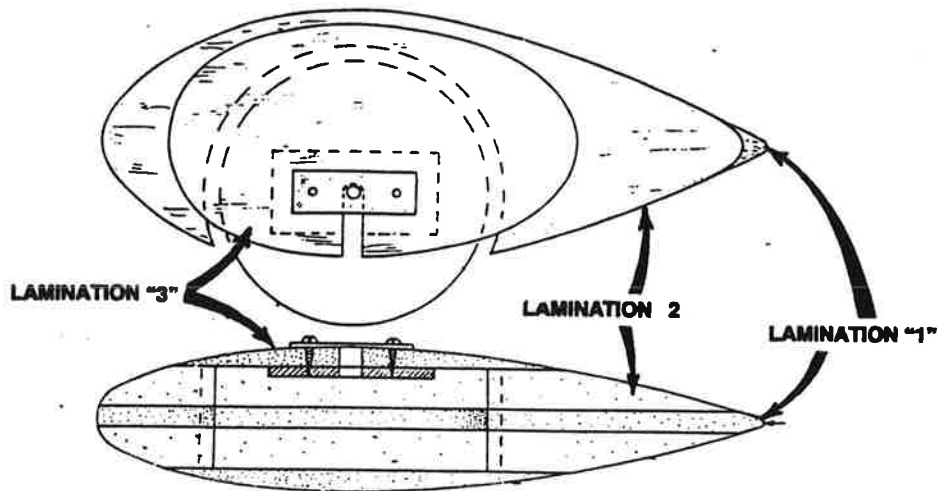
THE SUGGESTED THROWS FOR THE INITIAL TRIMMING OF THE SURFACES ARE :

AILERONS: 1/2" EACH DIRECTION
 ELEVATOR: 3/4" EACH DIRECTION
 RUDDER: MAXIMUM THROW POSSIBLE
 THROTTLE: MAXIMUM THROW POSSIBLE

WHEEL PANTS

- [LP] 1. Using the top and side views as a guide, shape [2] LAMINATION "1" from (1/4 x 3 x 8) and [4] LAMINATION "3" from (1/4 x 3 x 5) SHEETS.
- [LP] 2. Using the top and side views as a guide, shape [4] LAMINATION "2" from (1/2 x 3 x 7-1/2) SHEETS.
- [*] 3. Glue LAMINATIONS 1, 2, and 3 together.
- [H] 4. Glue the WHEEL PANT MOUNT BRACE (1/8 x 1 x 2) PLYWOOD to the inside of LAMINATION 3. (Make a left and right set)

- [*] 5. Trim and sand the entire assembly to shape.



WINDSHIELD, AILERON CAPS AND GAS TANK

- [LP] 1. Use the template on the plans to cut [1] BUTYRATE WINDSHIELD (.030 x 3 x 5-1/2) to shape.

- [*] 2. Carefully bend where indicated and glue to the FUSELAGE as shown on the side view.

NOTE: The model should be covered before WINDSHIELD installation.

- [LP] 3. Supplied with the kit are [8] AILERON CAPS made from ABS plastic. They can be glued to the balsa aileron frame or to the covered aileron. Scratch the undersurface with a rough grit sandpaper. Cut and fit each CAP onto the aileron after it is beveled and hinged. Once satisfied with the fit, use cyanoacrylic to bond the ABS to the ailerons.

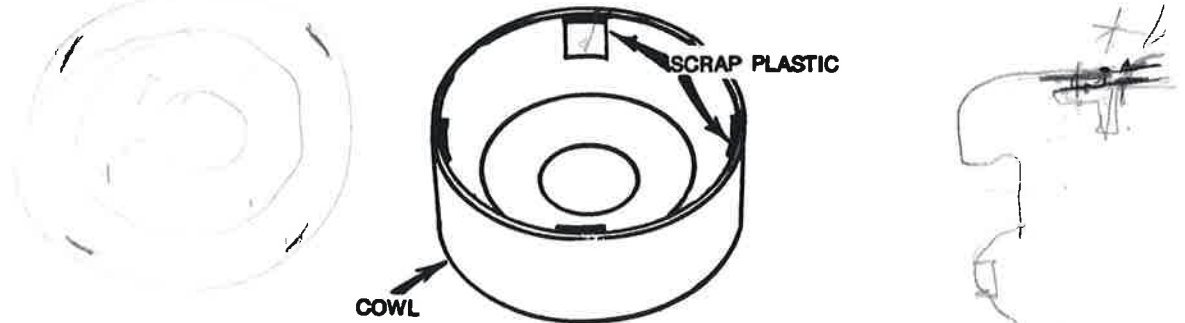
- [LP] 4. Cut the GAS TANK cover along the bend line, using a sharp razor or sissors. The line indentations should be cut out allowing the covering to be seen through the "cut-outs". Using cyano, slow cure, glue the GAS TANK cover to the top of the wing.

- [*] 5. For that added touch, contact PICA for a realistic Cockpit Kit, designed specifically for this model.

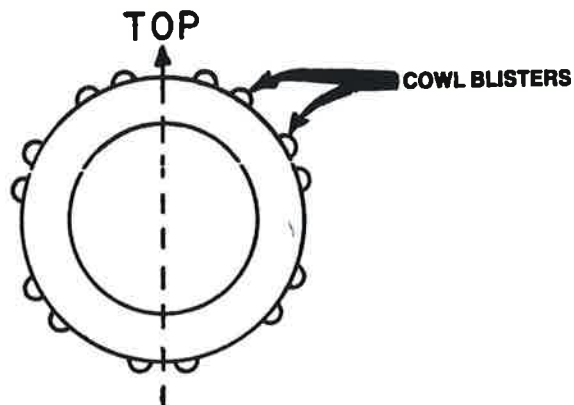
- [*] 6. [OPTIONAL STEP] Functional rigging on the WACO can be installed using the illustration on Page 50. Use care in the set-up not to twist the WINGS. Non-functional rigging that has scale appearance can be installed using black elastic thread. (Ask your Wife).....

COWLING

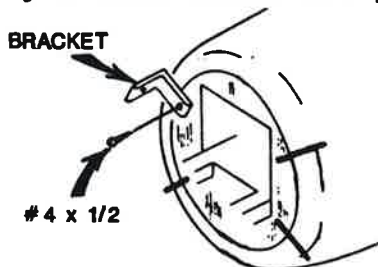
- [LP] 1. Remove the front center plastic ring with an x-acto knife and sand smooth.
- [*] 2. Cut the plastic from step #1 into 1 x 2 strips and glue to the inside rear edge of the COWL at 60 degree intervals forming a double thickness seat for the NYLON COWL BRACKETS.



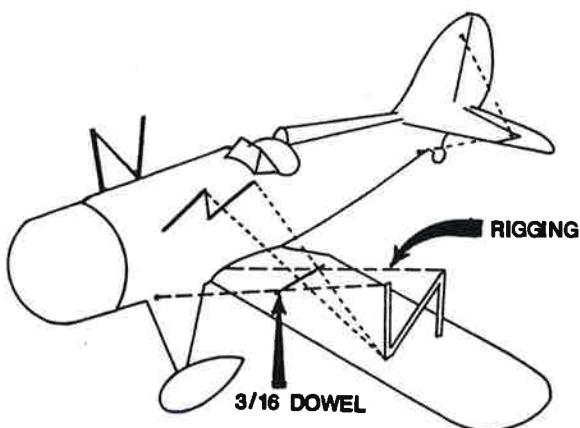
- [*] 3. Hold one leg of the BRACKETS against the COWL. See plan side view for position. Drill thru both the COWL and the BRACKETS simultaneously with a 1/16 bit. Screw all of the BRACKETS to the COWL with #2 x 3/8 screws.
- [*] 4. Drill a 1/8 inch hole in the other leg of the BRACKETS for attachment to the FUSELAGE later. See plan side view for position.
- [*] 5. The template strip on the FUSELAGE PLAN SHEET gives the location of the BLISTERS around the COWL. Note the locating mark on the template gives the position of the top dead center of the COWL. Cut the template out and wrap it around the rear edge of the COWL and tape it in place.
- [*] 6. Mark the positions of the BLISTERS on the COWL. See plan side view and mark the point where the BLISTER ends on the COWL.
- [LP] 7. Carefully cut out all of the BLISTERS and glue them in place with liquid plastic cement, or cyanoacralate. Allow the glue to dry completely before straining its joints or your patience and certainly before painting the COWL.



- [*] 8. Holding the COWL against the model (center it carefully), mark the position of each of the screw holes onto F-1 PLY. Try using a sharp pencil, just works great. Drill these marked spots on F-1 PLY with a 1/16" drill bit. Remove the nylon brackets from the COWL and attach them to FUSELAGE with #4 x 1/2 screws. As you've guessed the brackets stay attached to the FUSELAGE when you remove the COWL. Now screw the COWL in place. As long as there isn't or is it aren't any pushing or shoving on your part to get the COWL in place then you have lined everything up OK.



- [*] 9. Cut any holes needed for glo-plug, needle valve, etc.



DIRECTIONS — PRESSURE SENSITIVE DECALS

1. Clean oil, dirt, and any foreign matter from finish of entire plane or surface.
2. Cut out markings to be applied.
3. Peel backing from decal just enough to position. After getting position brush liquid dish soap over entire surface to be covered with decal. Now proceed to put on decal by peeling balance of backing (paper) and putting decal on surface. Squeegee out decal from center toward edges, working out any air bubbles. Wipe entire area clean (balance of liquid).
4. DO NOT use any sharp instrument to rub decals.
5. These decals are made with a special adhesive, which does not cure for 24 hours. If any misplacement of decals occur, lift decal by using a sharp instrument to loosen an edge. Carefully peel off decal and replace.
6. If clear finishes of Dope or Acrylics are desired, they MUST be sprayed on. Polyurethane and Epoxy finishes may be brushed or sprayed over decal.
7. These decals are completely fuel-proof, and fade proof.
8. By brushing or spraying on a flat or Matte polyurethane varnish you will obtain a flat finish. If you wish to use a very fine sand paper (400-600) you may lightly sand the surface and achieve the same matte effect.