



*Jack Stafford Models*

**CESSNA O-1E / L-19**

# **BIRD DOG**



## **SPECIFICATIONS**

WINGSPAN	72 INCHES
WING AREA	714 SQ. INCHES
LENGTH	53 1/2 INCHES
RECOMMENDED ENGINE SIZES	
2 CYCLE	.40 TO .60
4 CYCLE	.48 TO .91

**DESIGNED BY: BOB RICH**  
**PLANS AND INSTRUCTIONS BY: BRYCE YOST**

## Fuselage

1. The first step in the construction of the L-19 fuselage is to assemble the box jig. Yes, yes, I know it sounds crazy but believe it or not it actually works rather well as long as your box top hasn't been drop kicked in shipping to many times. Begin this by cutting out the fuselage top view on the plans and adhering it to the top of the box that your L-19 arrived in three minutes ago. I used 3M Super 77 Spray Adhesive as it works wonderful and has numerous other uses in the workshop. Remember to get the plan glued on the box top **exactly straight**. After all it sure would be disappointing if your L-19 did a knife edge on its own, and it makes us look bad too, so just take the extra two seconds to get it glued on straight.

2. The next step is to cut the bulkhead slots out of the shaded areas on the plan. Use the sharpest exacto knife blade you can find and try to keep the slots clean and straight. If anything cut the slots a little narrow and trim them a little at a time so the bulkheads fit very snugly. This will make them less vulnerable to movement later on and make your fuse just that much easier to construct.

3. Set your box aside for a few moments and locate all the components pertaining to the fuse construction. Set one of the two #14's over the plan and mark, with a **straight** edge, where the bulkheads will be glued to the side. Be sure to make a right and left side. Of course, none of us need to be reminded of that, DO WE? Repeat this step for the other #14 and both #15's.

4. Lay the two #15's opposing each other on your work bench, coffee table, kitchen counter top etc. Glue one of the 1\4"sq. #65's flush with the bottom edge of each sheet, again making one right and one left hand side.

5. Next, bring that box top jig you have your feet propped up on, up to the bench. Place the bulkheads #1 through #8 right side up in the slots you cut out from it earlier. Make each bulkhead sit at notch level in the box. Take each side sheet and longeron structure and trial fit them to these bulkheads. When satisfied with the fit begin gluing them to the notches starting at the fire wall and working your way to the rear.

6. After all the notches have been glued in you can begin to glue the sides of the bulkheads to the aircraft. **Do not glue bulkhead #5 as of yet. Be sure that you glue all of the bulkheads at the appropriate angle in relation to the lines you traced on the #14's and #15's in step 3.** Starting at bulkhead #2 gently squeeze the fuse sides together so they make a good joint with the bulkhead and glue with C.A. or other glue of your choice. At bulkheads #3 and #4 you may wish to wet the outer fuse sides with ammonia and water to aid gluing to the inside curvature of these bulkheads. Do your best to keep this mixture only on the outside of the sheet, as C.A. definitely does not stick to wet balsa. While still having the fuse structure in your "jig", **epoxy** the firewall #1 to the fuse sides.

7. Very carefully remove this structure from the box jig and trial fit the two #14's to it. These two parts should butt up against the #15's. Sand any high or low spots in these sheets so they make a very close joint. If all is well, feel free to start by tack gluing these sheets to the #15's. If you are still satisfied with the fit begin to glue each side of these bulkheads with C.A. to the side sheets beginning with #2 and work your way back to #8. Run a good bead of C.A. across the two sheet joints where #15 and #14 come together. Watch your fingers for the dreaded C.A. bleed through. You don't want your peers at the field to know that this is your beautiful airplane just because your the goon with your hand stuck to the side of it. Epoxy the side sheets to the firewall making sure to keep an exceptionally tight joint. I recommend that you place some sort of reinforcement such as triangle stock or light ply and epoxy it to the junction of the firewall and the fuse side. Once again, call me crazy, but I've seen what happens when a firewall departs from an airframe.

8. Next, install the remaining bulkheads #9, #10, #1X and #8X in their appropriate positions and angles in accordance again with the lines some of you drew on the fuse sides in step three.

9. Now comes the fun part. Scribe a line on the outside of sheet #15 running parallel to bulkhead #5. Next take that exacto knife of yours and put a new blade in it because I know that its dull from cutting out the box jig. With your fresh exacto blade begin to make shallow cuts along this line just long enough, and just shallow enough to crack #15 in the top cabin area to get it to angle back into #4. After repeating for the other side, lay some thin C.A. in this crack to stiffen the area up. Don't over do it with the C.A. unless you're are into sanding for no reason.

10. Squeeze both the sheets together and tack glue the tips to the corners of #5. Break out that ammonia and water again and wet #15 on the outside of the cabin area. Bend both of the #15's to the contour of #5 and glue.

11. Next locate the two #63 3/4"X3/8" wing hold down blocks. Form these blocks so they fit in the notches of #4 and #5 and also snugly against the fuse sides. When satisfied with the fit of these blocks, epoxy them in place to the bulkheads and the side sheets.

12. This is a great time to be test fitting your motor configuration. Another thought might be where you are going to install your radio equipment, specifically servos. Now is the time to configure your pushrods or nyrods in the fuse.

13. Locate both 1/4" balsa #12's. These are the top rear turtledeck sheets. Lay them on your work bench or whatever it is that your using that is flat. Place some waxpaper beneath the parts to prevent them from sticking to the bench. Glue them together at the centers with the curved tabs facing out. After it is completely dry, those of you who didn't use wax paper can try to unstick it from your bench. Sand any protruding glue marks and give it the once over.

14. When satisfied with the assembly trial fit it over the turtledeck area. Again, some ammonia and water may be necessary to bend this part over the contours of the bulkheads. When satisfied glue the sheet assy. to the tops of the bulkheads starting with the flat end of the sheet on #8X, then working your way forward.

15. Next, take a long, flat sanding block or T-bar and sand the edges of the #15's and #12's at an angle linear to that of the exposed bulkheads beneath the turtledeck. Sand the full length of these parts until they fair into the angles of the bulkheads flat and flush.

16. Locate the two #13 1/4" balsa rear turtledeck corners. Trial fit them to the area you just sanded. They should fit flat and flush against the bulkheads and #12 and #15 sheets. When satisfied with the fit, glue them to the bulkheads and the edges of #12 and #15. Begin gluing the end with the curved prong portion of #13 up against the cabin upright. Those of you who now have a turtledeck that appears to have planks stuck to the side of it, did it right. And yes, the overlap is supposed to be there. I know this appears strange now, but it will be sanded to contour later making a very scale and clean joint, and also achieving a light structure.

17. The next step in fuse construction is the front turtledeck. Locate the two 1/8" balsa #11's for the front turtledeck sheeting. Much like the assembly of the #12's, lay the #11's on your bench and glue them together in the center. While this assy. is drying, sand the edge of the sheet #15 so when the #11's are curved over the front two bulkheads it has something to meet that is flat and flush. After sanding and the assy. is dry, add some ammonia and water to the turtledeck assy. Trial fit and curve these pieces over the bulkheads so they meet with #15 fluently. Yes these should overlap some also. When satisfied with the fit glue starting at the center and work your way out to #15 on both sides as you curve the balsa.

✓ 18. Glue the 1\8" ply. #72 firewall floor to the firewall and #1X. This is to be done preferably, with epoxy.

✓ 19. Now for a repeat of the turtledeck construction steps with a twist. Locate the 3\16" #18 fuse bottom sheet. Definitely soak one side of this sheet with ammonia and water. I said AMMONIA and water, not just water. Begin to trial fit this sheet to the bottom of the bulkheads beginning at #1X and working your way aft. When you decide the sheet is pliable enough and all is well you can glue it down, Again beginning at #1X and moving to the aft end of the fuse.

20. Sand the edges of only one side of this structure just as you did when you built the turtledecks.

21. Add a piece of scrap balsa just aft of #5 running flush with the angled corner of it.

22. Soak the 3\16" #17 lower sheet corner with your ammonia and water mixture and trial fit it to the fuse. There is considerable overlap built into this piece because the variance between models can be great at this area of the fuse. It is also one of the more difficult sheets to bend as it seems to want to go in two directions, and it may take some trial, error, and trimming to get it to fit correctly to your particular model.

23. When satisfied with the fit of this sheet you can think about gluing it on. Start by gluing it securely to the sheet separation point at #5 and working your way forward. Trim off any excess you have at #1X later on. An extra hand and a big bottle of accelerator are a great help here.

24. Repeat for the other side of the fuse.

25. Next, locate the two 3\16" #19 lower rear sheet corners. Soak one of these sheets and trial fit it just behind a #17. The front of this sheet butts against #17 and gets glued to it and the scrap balsa added aft of #5. When satisfied with the fit and bending ability of the sheet go ahead and glue it down.

26. You must definitely read this entire step before proceeding. This is going to sound the craziest yet. Sand and bevel the sheet you just installed as with the other sheets. Now install the #19 on this side just as you did the last, but as #15 ends, continue to glue this sheet against the previous #19 on the other side. Yes, that is correct, one of these lower sheet corners will look as though it rolls off center.

27. Now it's time to get rid of that planked look. Begin with a semi-course grade of sand paper and start to contour all the curves in the fuse. When you get finished, all the overlaps, of course, will be gone and it should start to resemble the real thing. One thing to remember when sanding any Jack Stafford Model is that the sheeting may get thin, if you are Mr. Lead for hands as I am, you may sand through. If it happens-don't panic-you won't need a new fuse kit, simply fill it, then sand it correct later on. Just don't let it get to out of hand!

28. Now that's starting to look as though you all have something there. I know sanding stinks but it's well worth the effort. Pick up your fuse and think about how much heavier it used to be. Also take a look at how stiff and strong your fuse is. Was the Balsa dust up your nose worth it, Yes, I think so! I know it was more work than building a box type trainer or stand-way-off scale bird but the results are definitely worth the extra effort!

29. Your next task is a little less gruesome, cut out the portion of the plans containing the side windows. Do not cut out just the windows, but the entire cabin area from the plans. By aligning the front and rear cabin uprights with the portion of the plan you can trace the location of the windows. Repeat for the other side. Save this template, you will need these to cut your windows from the clear window material later.

30. Assemble the landing gear structure by epoxying torsion block #58 to grooved gear mount #59 at its center. Then form the gear mount assy. to the fuse at the location shown on the plans.

31. Once you are absolutely positive you've got it right, trial fit it again with the 1/8" ply. #62's in place. When you all have this positively right trial fit it just one more time. If you are still satisfied you can epoxy the gear mount assy. to the fuse sides and #3. Be sure to epoxy the #62's in place while you still have the flexibility to move the gear mount assy. **Use lots of epoxy, it's cheap compared to the time, money and heartache it will take to fix a torn out landing gear assy.**

32. Add both the #16 fuse to wing fairings to #3 and the fuse sides

33. Well I suppose the fuselage instructions are done for now. You can set your fuse aside for the time being. Keep in mind to put it some where it isn't likely to get dings and dents in it. There's no sense in sanding any more than you have to.

### **Tail Plane**

1. The actual assembly of the tail planes is relatively straight forward. Locate the 1/2" tail plane parts #20-#29 and 5/32" dia. #75 and lay them out on your set of plans.

2. Some of your parts may have to be sanded with a sanding block or T-bar at the junction lines due to temp. and humidity changes.

3. If your patient enough, I recommend gluing these parts with plain old wood glue. This will make it much more easier to form the airfoil shape later on in the building sequence. But, that's just if your patient enough, after all, its only been what, ten minutes since you received the kit at the door. Glue #21 and #22 together, don't glue #20 on at this time, glue #23, #24 and #25 together, glue #26 and #27 together and glue the 2 assemblies of #28 and #29.

4. Sand the airfoil into the tail plane sheets something similar to the plans, except the fin assembly #21 and #22, don't put the airfoil shape in this assembly at this time. The airfoil shape really isn't important, but try to keep it looking close to scale, and as symmetrical as possible. Please don't leave 1/2" slabs of balsa with slightly rounded, or square corners on your airplane. Take the time to put the airfoil in, it's well worth it, and it really doesn't take long if you do the intial rough in with 100 grit or similiar. Besides, if I see your airplane at a fly-in or scale meet some day I might become emotionally compelled to stomp on it if I see square slabs on the tail!

5. Set up both of the #28-#29 elevator assy's in position behind the #26-#27 stab assy. Mark where #75 will be installed into the elevators. Drill 5/32" holes in both stabs, and groove out the leading edge where the #75 will be inserted in the elevators.

6. Pull that fuse out again. Cut appropriate lengths of #82 to accommodate gluing into the fuse aft of #8X to #10 flush with the top of the side sheets.

7. Cut two more portions of #82 to fit entirely from #8X to #10 on their sides. Glue these pieces with epoxy to the side sheet and the previous #82's. They should be glued in on their sides and also be flush with the outside of the side sheets.

8. Sand in the contour of the stab to the previously installed #82's. Keep the stab perpendicular with the fuse sides and straight with the center line of the aircraft. Another thought is to keep the incidence at zero back there.

9. Glue the stab down with epoxy after you have all the angles correct.

10. Cut and trim the bottom of the vertical fin assembly (#21 and #22) so it matches the contour of the stab to provide for a gapless joint. When satisfied with the fit, **tack glue** the fin to the stab. Fit the #20 fin fairing to the turtledeck and the leading edge of the fin assembly, when satisfied with the fit, glue the fairing #20 to the fin assembly only-not to the turtledeck. Remove the fin assembly (#20,#21 and #22) and put in the airfoil.

11. Position the fin back in the fuse, remember to keep the fin at a right angle to the stab and straight on the fuse, then permanently glue the fin assembly to the stab and turtledeck.

12. Use the remaining portion of #82 to make a fairing block to go between the stab and fin. Epoxy this block in place to help support the fin.

13. Hinge and install control horns of your favorite style and method.

## Wing

The wing is not very hard to build, and shouldn't throw anyone who has built a sheeted wing any curves. The wing construction of the L-19 is broke up into four sections. While building don't forget to allow for the 1\16" sheeting all around.

1. Lay out one of the sections on the plans using the #38, #40, and #42 ribs, the main spars #51 and the inboard rear spar #52. Glue in place.

2. Put ribs #43-#50 in place and tack glue to the top main spar only.

3. Turn the wing over so that the top main spar lies flat on the bench through it's entire length. The leading and trailing edges will be raised in the air. With a razor saw, cut the lower main spar outside of rib #42 about halfway through. This permits the top of the wing section to remain flat when the lower spar is glued in place. Make sure the wing does lay flat.

4. Crack this spar so it lays down to the ribs in the outer panel. Crack further if necessary. Glue the cracked joint and the remaining outboard ribs to the lower main spar.

5. **With** a razor saw, cut the **rear** main spar #52 off just outside of rib #42. Then trial fit the **#83 outboard rear spar** to the wing panel. While its sitting in it's respective notches, sand with a T-bar or long sanding block the taper in this spar so that it lies flush with all the rib notches **in the outboard panel**. When a satisfactory fit is achieve, glue in place.

6. Turn the wing over and add the #54 leading edge stock and the #57 outer panel trailing edge stock.

7. Cut the #74 Inner panel trailing edge to length and shape. Next form it as shown in the scale flap detail shown on the plans. Do your best to make this very accurate to keep the flaps operating correctly and smoothly.

8. Add the scrap 1\8" ply reinforcements in the wing. Also add the 1\4" ply #70 in the wing. Now is the time to decide how you plan to mount the struts so you can install any blind nuts before the wing is sheeted.

9. When the wing is positively true, securely glue any remaining joints.
10. Add the balsa # 56 wing tip.
11. Repeat this process for the opposite wing panel.
12. The center section will be constructed now, **but do not build it from the main spars inward.**
- ✓13. Lay the two wing halves over the plan and raise the panels 1 9\16" at the tips. Saw the main spars halfway through at the point at which the dihedral brace angles up on the outward ends. Crack the main spars so that they follow these outward angles and the center section will be flat. When you have this absolutely correct, glue the two dihedral braces #30 in place with **epoxy!!!**
14. Add the all the riblets #37 to the front of #30.
15. Add the #55 ply. wing front slab.
- ✓16. Next add both of the #39's at the correct angle and alignment so that a nice tight fit takes place when the wing is mounted on the fuse.
17. Add the Bass wing hold #32 to the center section and form it to the contour of the ribs #38.
18. Add and form the trailing edge stock behind #32 from the extra aileron stock.
- ✓19. Construct the flaps as pictured on the plans. Remember to add 1\16" shims under the flap riblets #41 to allow for the wing sheeting.
- ✓20. Form the leading edge of the flaps #73 so that it will operate smoothly up against the trailing edge #74.
21. Cut out the flap hinges as shown on the plans out of 1\16" ply #86. Glue the hinge print over the #86 1\16" ply and proceed to cut. When the time comes, position these hinges in the wing trailing edge evenly spaced as in the documentation pack.
22. Cut the slots in the flap mount blocks and flaps. Trial fit the flap assemblies when you have everything like you want it. When satisfied glue the hinges in place.
23. Mount the four #33 1\8" ply bellcrank mounts in the wing at their prospective positions and angles.
- ✓24. Locate the aileron stock #53 and cut it to proper length. You need to form this stock to the desired width and height.
25. The entire wing is sheeted with 1\16" balsa sheeting. Begin the sheeting process by sheeting **only** the bottom of the wing. Begin by gluing the 4" sheet of 1\16" x 36" to a 3"x 36" sheet. Then glue another 3" sheet to the back of the previous 3" sheet. This large 12"x 36" skin can now be used to sheet the wing starting at the leading edge, and moving your way back to the trailing edge. Sheet the other side of the wing bottom the same way. Do not sheet the top of the wing yet. Finally trim all the excess off at the trailing edge and sanding it smooth.
26. Add your favorite style of pushrods in the wings including the bellcranks.
27. At this point cut out the aileron pushrod outlet hole and be sure to route the pushrods from the bellcranks through the sheeting and out to the ailerons and flaps.
28. Make one last final check to be sure you have everything in there you need.
29. When you decide that you are absolutely positive everything is correct go ahead and sheet the top of the wing using the same process as the bottom. Remember that the center section is flat. Doesn't that look pretty?
30. Set the wing over the fuse. Position it so that it sets straight by measuring from the tips to a fixed point on the tail.
31. When your sure the wing is setting on the fuse straight and centered, tack it down with a few small drops of C.A.
32. Drill a 3\16" dia hole for the nylon wing mounting bolts #67. Drill these holes through #32 and on past #63 in the fuse. Do so at a right angle to the top wing sheeting.

33. Drill a hole through #3 into the leading edge of the wing for the wing hold down dowel #60.

34. Remove the wing from the fuse, ream the holes through #32 at the rear of the wing slightly so the wing bolts will pass through freely.

35. Thread the wing hold down blocks in the fuse with a 1/4 x 20 tap to accommodate the wing hold down bolts.

36. Epoxy the wing hold down dowel #60 into the wing. Be sure this dowel goes back into the dihedral braces and you get plenty of epoxy on it back there.

37. Sand the entire wing over once and fix any problems that might have arisen.

### **Finishing**

1. Fill any dings, dorks, or dimples in the model.

2. Sand the entire aircraft with fine paper until it has a very smooth finish to it.

3. Referring to the documentation package, cut to length and glue all the plastic corrugation simulators in place with 1/2" spacing on all surfaces starting and ending at the locations on the pictures in the documentation pack. These corrugations were open on the trailing edges on the real bird so there is no need to taper or fill the trailing edges, however the leading edges should be tapered flush. Your model will fly fine without the plastic ribs if you chose not to install them, but you should notice enhanced controls and quicker response to controls with the corrugation in place. It is very time consuming but it does add a nice touch to the model.

4. Cut the upper and lower cowl halves and trial fit them together. When you are satisfied with the way they fit together, cut 1/2" strips of plastic from the excess left over from the cowl flashing and glue it inside on the cowl seams, CA glues work well here. Rough up the cowl with some sand paper, then fill the separation line with some filler and sand smooth before painting. Cut the 3 air flow holes in the front of the cowl to resemble the real bird. You can add 1/4 balsa blocks inside cowl to give the cutouts a "deeper look if you desire".

5. Position and cut the # 16 strut material to length. Cut 4-1" lengths of the brass strut mounting stock #77, bend, form and mount to the #16 struts as shown in the plans. Be sure to slot and pin the strut material with tooth picks or small diameter screws to prevent it from being pulled from the strut material while under flight loads. Lastly sand and finish your strut set.

6. You can cover or paint your aircraft, but we recommend painting as it looks extremely better and more realistic than the finish one would achieve with covering. We recommend Hobby-Poxy paints for all Jack Stafford Models, we have used it many times with great results.

### **Final Assembly**

1. Using the templates on the plans, cut out all the windows for the aircraft from the clear plastic sheet #76.

2. Attach these windows to the aircraft using your favorite method. We recommend using RC-56 for this.

3. Drill a 3/16" hole in the side of the fuse where the landing gear will exit it.

4. With the gear pointing upside down, insert it into the fuse side, flip it back right side up, and then insert it into the landing gear blocks.

5. Secure the 1/4" ply landing gear block cap #71 over the grooved gear mount with ten wood screws.

6. Install your radio equipment into the aircraft using your favorite methods. Keep in mind where the C.G. is located on the plans while performing this step. The recommended control throws to start with are: Elevator  $3\frac{1}{4}$ " up and down, Ailerons  $1\frac{1}{2}$ " up and down, Rudder control throw is recommended as all you can get out of it due to the long tail moment not permitting the airplane to turn very sharply on the ground.

7. Take your L-19 where there's lots of people and go impress them!!!!!!!!!!!!!!

## **HAPPY LANDINGS!!!!!!**

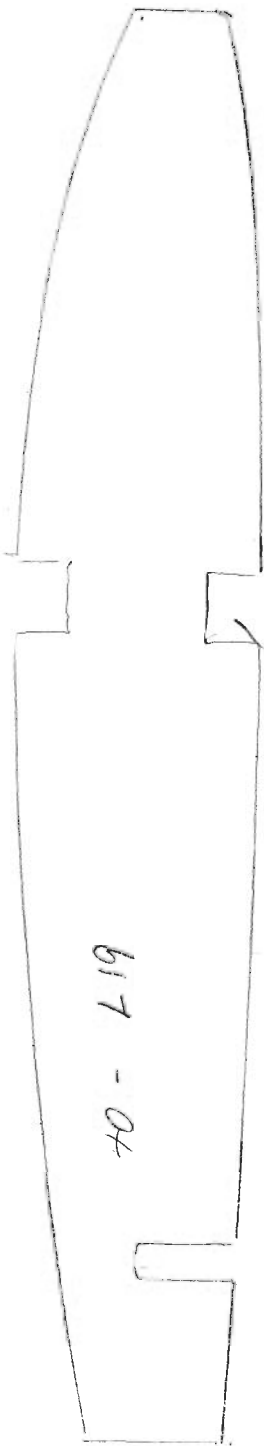
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We thank you again for your patronage of our product and we wish you many days of good flying with it, if you have any comments or suggestions about our product, please, forward them to us. Also, we always like to have pictures of your finished birds for our scrap books.

# CESSNA 0-1E/L-19 BIRD DOG

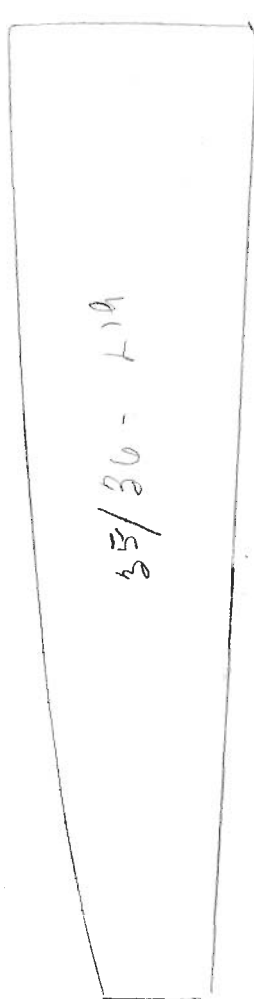
01	1	1\4" PLY. CUT FIREWALL	48	2	1\16" RIBS
1X	1	3\16" BULKHEAD	49	2	1\16" RIBS
02	1	3\16 BULKHEAD	50	2	1\16" RIBS
03-05	1ea.	1\4" BULKHEADS	51	4	1\4" X 3\8" SPRUCE SPARS
06-09	1ea.	3\16" BULKHEADS	52	1	3\16" X 1\2" SPRUCE SPARS
8X	1	3\16" BULKHEAD	53	2	1\2" X 2" T.E. AIL. STOCK
10	1	3\8" BULKHEAD	54	2	1\2" X 3\4" L.E. STOCK
11	2	1\8" FRONT TURTLE DECK	55	1	1\8" PLY. WING FRONT SLAB
12	2	1\4" TOP AFT TURTLE DECK	56	2	1" Balsa WING TIPS
13	2	1\4" AFT TURTLE DECK CORNERS	57	2	1\4" X 1\2" OUTER PANEL T.E.
14	2	3\16" LOWER FUSE SIDES	58	1	1\2"X3\4"X2" L.G. TORSION BLOCK
15	2	3\16" UPPER FUSE SIDES	59	1	GROOVED GEAR MOUNT
16	2	3\16" FUSE TO WING FAIRING	60	1	1\4"DIA. DOWEL
17	2	3\16" FRONT LOWER CORNERS	61	1	FORMED STRUT MATERIAL
18	1	3\16" BOTTOM SHEET	62	2	1\8" PLY. GEAR REINFORCEMENT
19	2	3\16" LOWER REAR CORNERS	63	2	3\8"X3\4" WING HOLD DWN. BLOCKS
20	1	1\4" FIN FAIRING	64	2	3\16" PRE-BENT LANDING GEAR
21	1	3\8" FRONT FIN HALF	65	3	1\4" sq. LONGERONS
22	1	3\8" REAR FIN HALF	66	4	BELLCRANK ASSY.
23	1	3\8" RUDDER FRONT	67	2	1\4"X2" NYLON BOLTS
24	1	3\8" RUDDER REAR	68	1	FORMED COWLING
25	1	3\8" RUDDER TIP	69	1	ROLLED CAD-DRAWN PLANS
26	1	3\8" FRONT STAB HALF	70	2	1\4" STRUT MOUNTS
27	1	3\8" REAR STAB HALF	71	1	1\4" PLY. L.G. RETAINING CAP
28	2	3\8" ELEVATORS	72	1	1\8" PLY. FIREWALL FLOOR
29	2	3\8" ELEVATOR TIPS	73	1	5\8"sq. FLAP L.E.
30	2	1\8" PLY. DIHEDRAL BRACE	74	1	1" TRI. INNER PANEL T.E.
31	1	1\8" PLY. REAR DIHEDRAL BRACE	75	1	5\32" DIA. ELEVATOR JOINER
32	1	3\4"sq. BASS WING MOUNT	76	1	CLEAR PLASTIC SHEET
33	4	1\8" PLY BELLCRANK MOUNTS	77	1	BRASS STRUT LINKAGE STOCK
34	2	1\4" X 1" FLAP T.E.	78	16	HINGES
35	1	1\8" CENTER RIB	79	4	CONTROL HORNS
36	2	1\16" RIBS	80	18	2x1\2" SCREWS
37	6	1\8" PLY. RIBLETS	81	4	1\16" X4" WING SHEETING
38	2	1\8" RIBS	82	1	1\4" X 1\2" X 36 ELEVATOR SADDLE
39	2	1\8" PLY. RIBLETS	83	2	3\16" X 1\2" X 24" OUTER PANEL SPAR
40	10	1\16" RIBS	85	8	1\16" X 3" WING SHEETING
41	14	1\8" FLAP RIBLET	86	1	5" x 2 1\2" 1\16" PLY HINGE MAT.
42	2	1\8" RIBS			
43	2	1\16" RIBS			
44	2	1\16" RIBS			
45	2	1\16 RIBS			
46	2	1\16" RIBS			
47	2	1\16" RIBS			



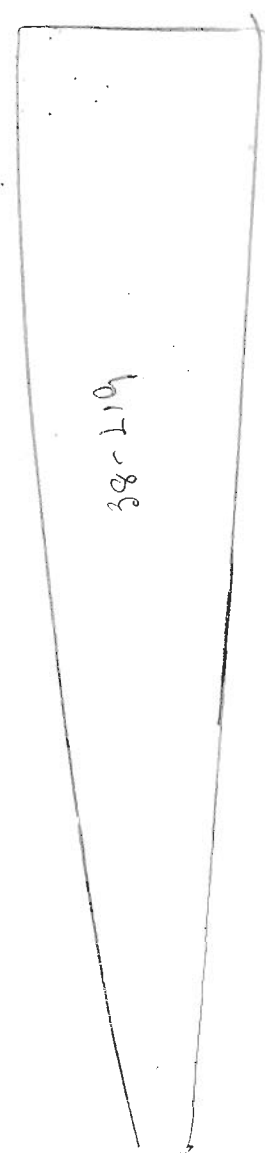
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