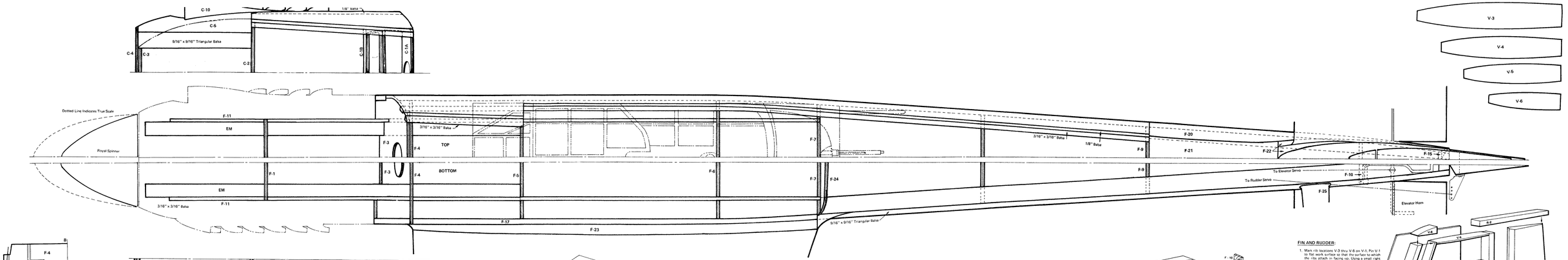
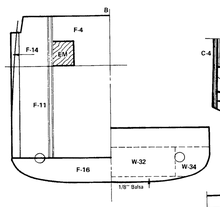
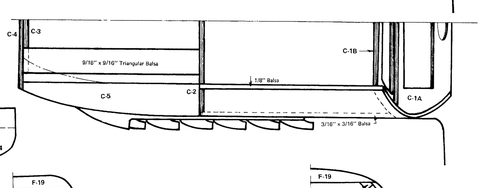
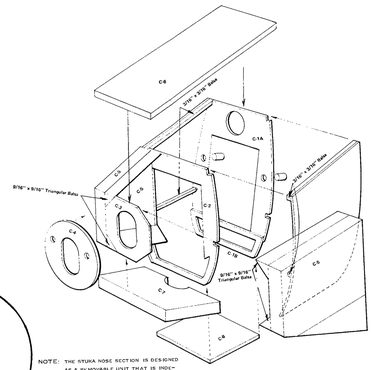
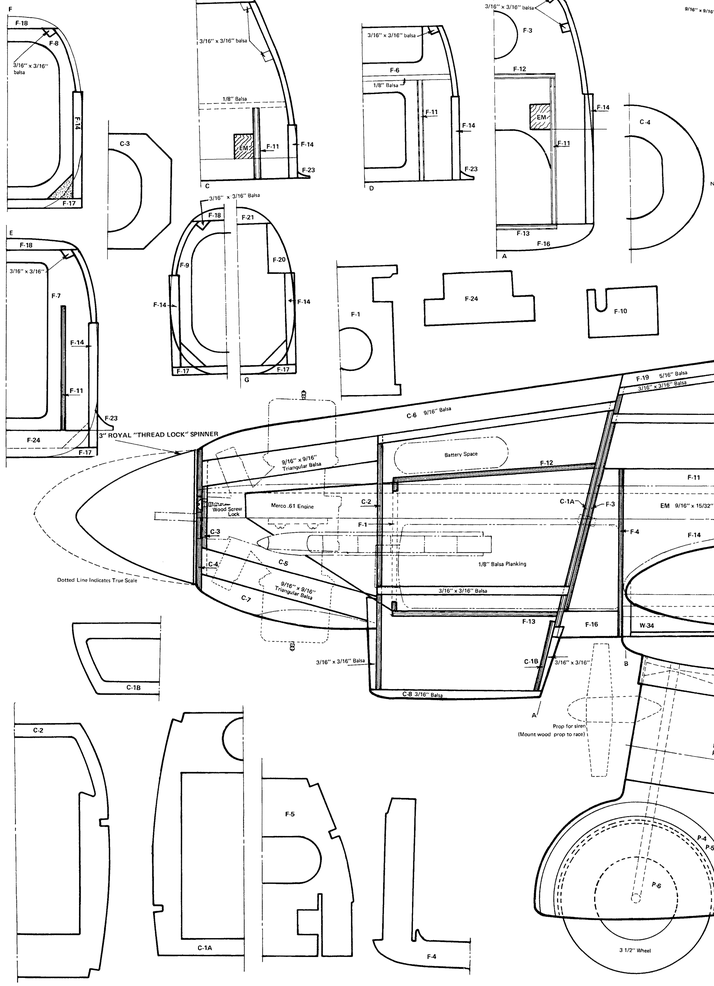
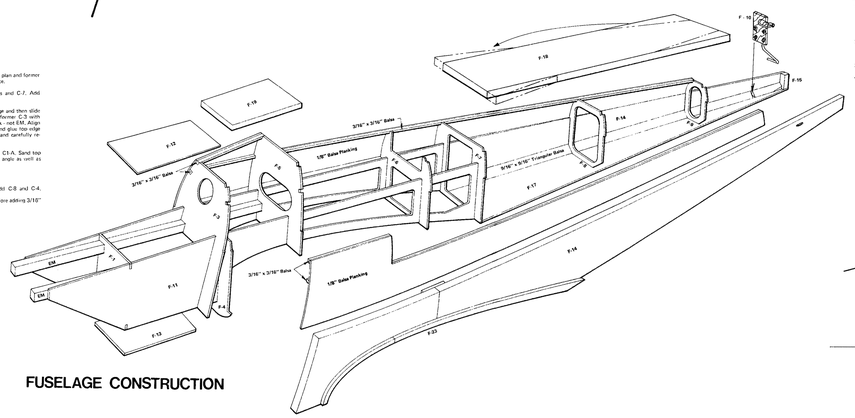


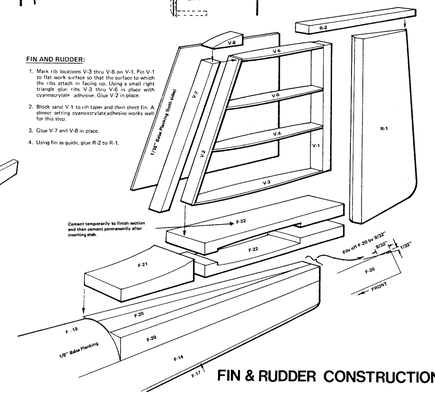


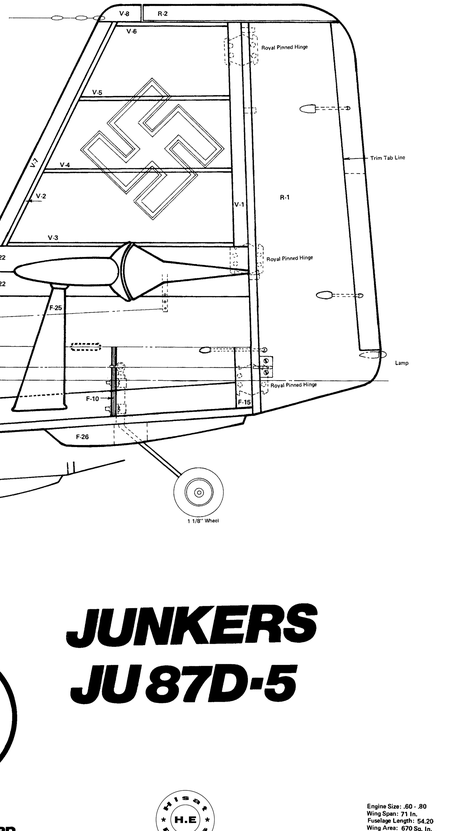


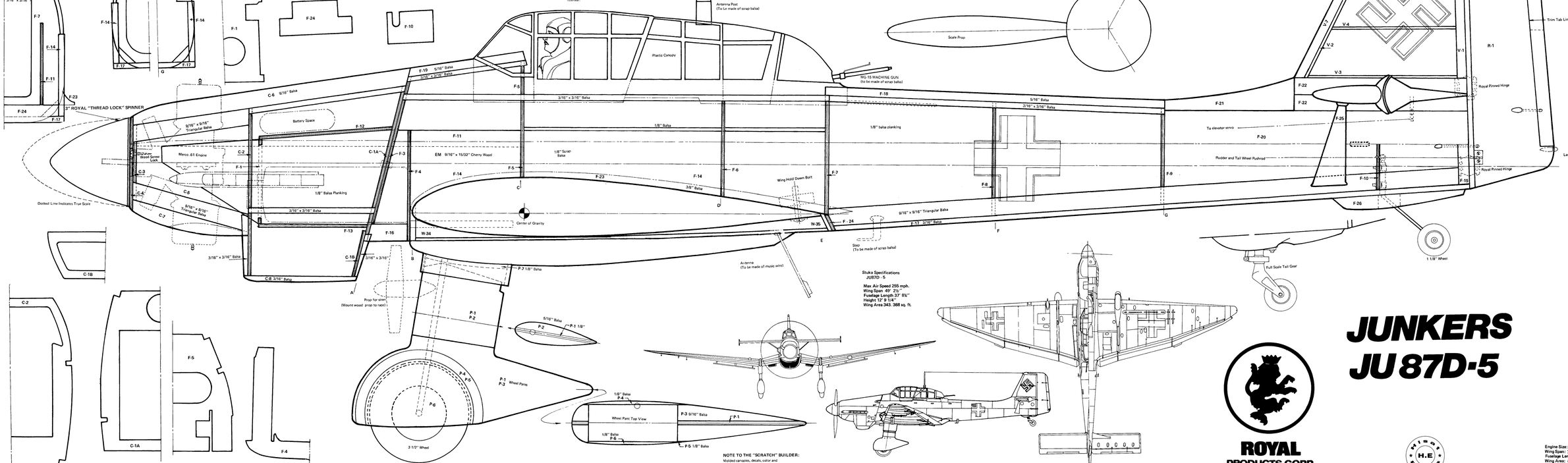












FUSELAGE CONSTRUCTION

Cowl Assembly

1. Glue C-5 side pieces to C-6 using plan and former C-3 for location. Glue C-7 in place.
2. Glue C-2 on back face of C-5s and C-7. Add triangle stock from front to C-2.
3. Slide C-1A onto nose of fuselage and then slide cowl assembly in place. Align former C-3 with EMs and glue to cowl framework - not EM. Align C-1A using plan for reference and glue top edge of C-1A to C-6. Allow to dry and carefully remove cowl assembly.
4. Add stringers between C-2 and C-1A. Sand top stringers to closely match C-6 angle as well as side contour.
5. Glue C-1-B onto lower C-1-A.
6. Sheet cowl sides and then add C-8 and C-4.
7. Rough shape cowl assembly before adding 3/16" balsa scoop fairings.

NOTE: THE STUKA NOSE SECTION IS DESIGNED AS A REMOVABLE UNIT THAT IS INDEPENDENT OF THE MAIN FUSELAGE STRUCTURE.

Note:
For greater clarity and the removal of minor imperfections, the Stuka canopy may be waxed with an automotive type paint wax. Put several applications, both inside and out, allowing 24 hours drying time between polishings. Be sure to clean area (remove wax) on surface of canopy that is to be glued to the fuselage.

Stuka Specifications
JU87D - 5

Max Air Speed 255 mph.
Wing Span 49' 2⅛"
Fuselage Length 37' 8⅛"
Height 12' 9 1/4"
Wing Area 343. 388 sq. ft.

NOTE TO THE "SCRATCH" BUILDER:
Molded canopies, decals, color and scale information, spun aluminum cowls (where applicable) are all

FIN AND RUDDER:

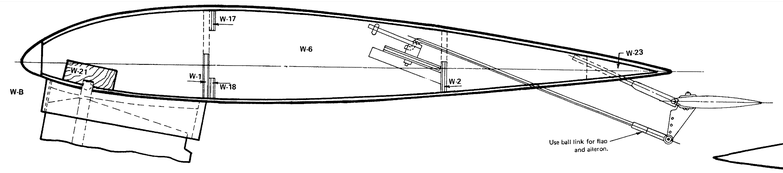
1. Mark rib locations V-3 thru V-6 on V-1. Pin V-1 to flat work surface so that the surface to which the ribs attach in facing up. Using a small right triangle glue ribs V-3 thru V-6 in place with cyanoacrylate adhesive. Glue V-2 in place.
2. Block sand V-1 to rib taper and then sheet fin, a power setting cyanoacrylate adhesive works well for this step.
3. Glue V-7 and V-8 in place.
4. Using fin as guide, glue R-2 to R-1.

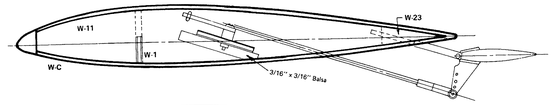
FIN & RUDDER CONSTRUCTION

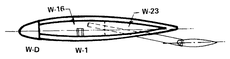
JUNKERS JU 87D-5

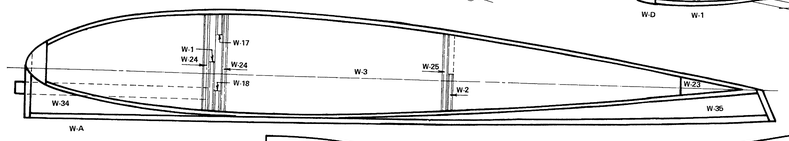
ROYAL PRODUCTS CORP.

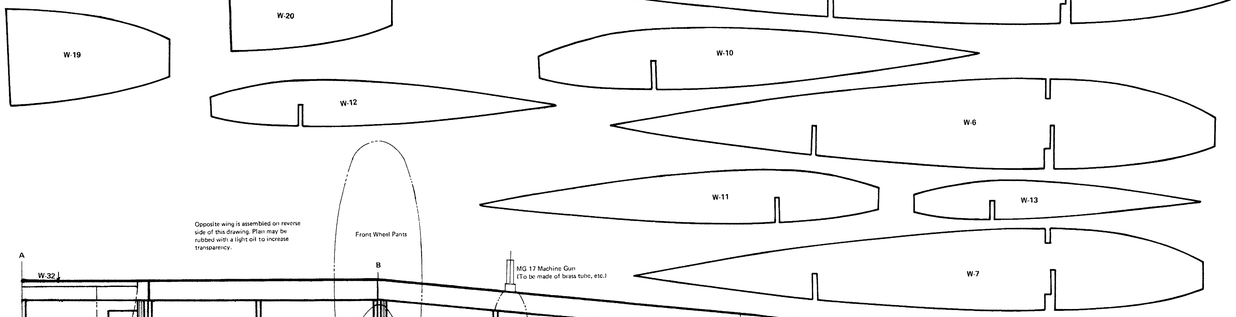
Engine Size: .60 - .80
Wing Span: 71 in.
Fuselage Length: 54.20
Wing Area: 670 Sq. In.
Scale Ratio: 1 7/16" = 1'

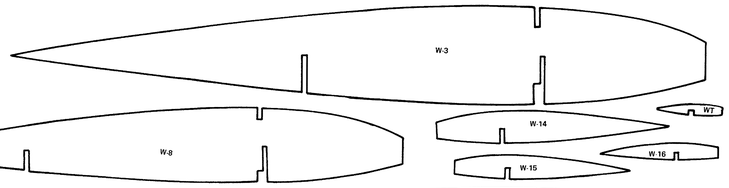




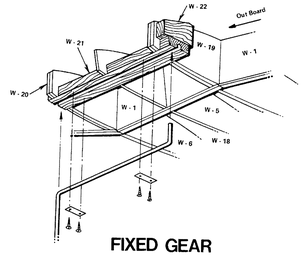




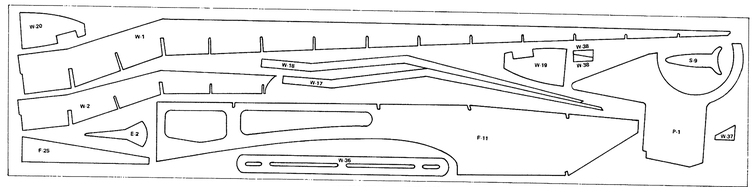




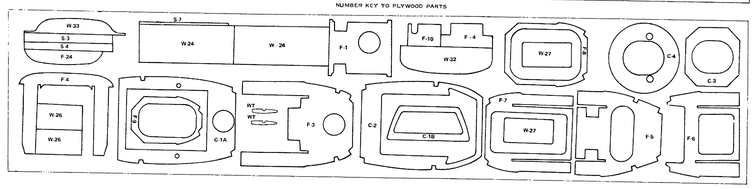
NOTE TO THE MODELER:
All formers and ribs are shown actual size to make "scratch" building easily accomplished from these plans, and so facilitate any repairs that may be necessary.

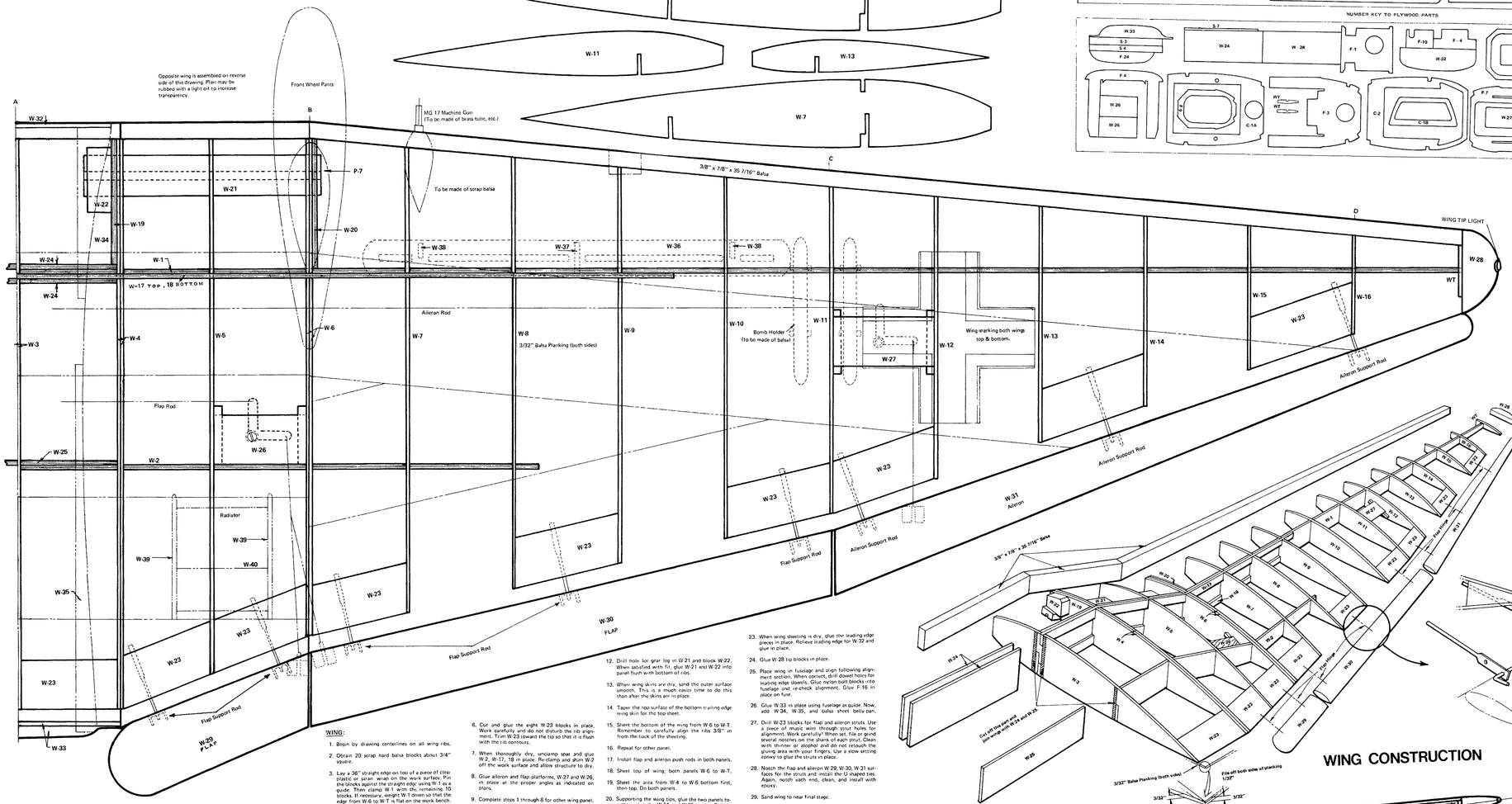


FIXED GEAR

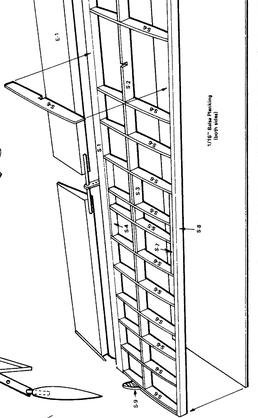


NUMBER KEY TO PLYWOOD PARTS

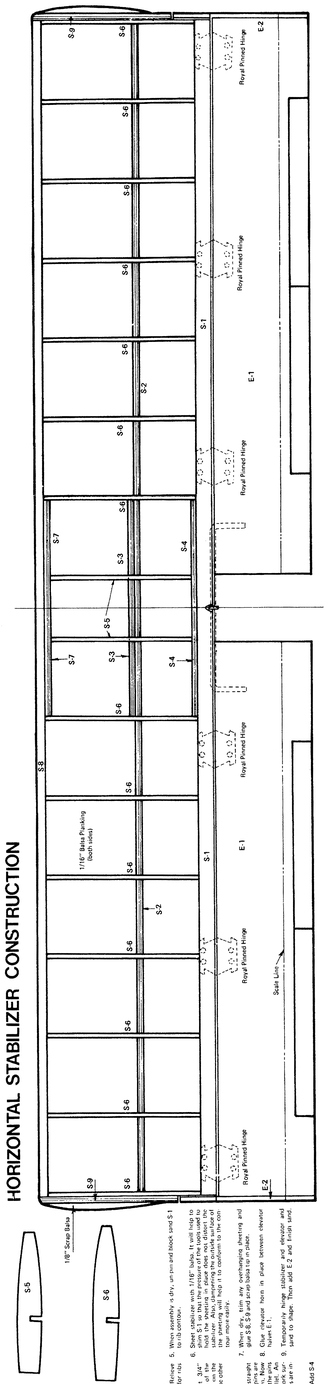




WING CONSTRUCTION

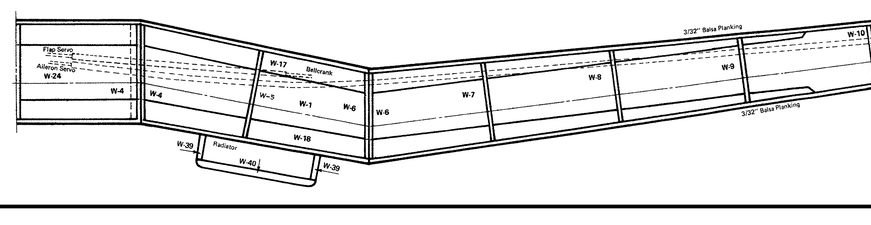


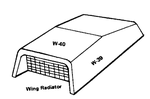
HORIZONTAL STABILIZER CONSTRUCTION

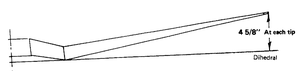


STABILIZER AND ELEVATOR

1. Draw centerlines on all stabilizer ribs. Retrace the outline of the S-1 fuselage former S-1 using page S-2 as a guide.
2. Obtain some scrap balsa blocks about 3/4" square. Sand or sand them to the angles of the blocks (about 4 degrees) so that the ribs will be perpendicular to the spar when the ribs and S blocks sit flat S-2 is held straight.
3. Begin gluing the S-6 ribs in place. Stick a straight pin in each end of each rib parallel with the centerline and sight down the ends of the ribs to be sure the ribs are parallel to each other and the work surface.
4. Glue S-3 to rear and glue S-5s in place. Add S-4 and S-7. When dry, add S-2 in front.
5. When assembly is dry, un-pin and block sand S-1 to shape.
6. Sheet stabilizer with 1/16" balsa. It will help to shim S-1 so that the contours of the ribs used for sheeting will be approximately the same as the stabilizer. Also, blanketing the outside surface of the stabilizer with a damp towel for a few minutes will make bending the sheeting easier.
7. When dry, trim any overhanging sheeting and sand to shape. Add leading edge.
8. Glue elevator horn in place between elevator ribs E-1.
9. Temporarily hinge stabilizer and elevator and sand to shape. Then add 1/4" x 1/4" trailing edge.







WING:

1. Begin by drawing centerlines on all wing ribs.
2. Obtain 20 scrap hard balsa blocks about 3/4" square.
3. Lay a 36" straight edge on top of a piece of clear plastic or saran wrap on the work surface. Pin the blocks against the straight edge using W-1 as a guide. Then clamp W-1 with the remaining 10 blocks. If necessary, weight W-1 down so that the edge from W-6 to W-T is flat on the work bench.
4. Glue the ribs W-7 thru W-16 and weight in place. Stick a pin in each end of each rib parallel with the centerline and sight down the ends of the ribs to be sure the ribs are parallel to each other and the work surface.
5. Glue double ribs W-4 and W-6 in place. Add W-5.
6. Cut and glue the eight W-23 blocks in place. Work carefully and do not disturb the rib alignment. Trim W-23 toward the tip so that it is flush with the rib contours.
7. When thoroughly dry, unclamp spar and glue W-2, W-17, 18 in place. Re-clamp and shim W-2 off the work surface and allow structure to dry.
8. Glue aileron and flap platforms, W-27 and W-26, in place at the proper angles as indicated on plans.
9. Complete steps 1 through 8 for other wing panel.
10. Check the plans and make up the wing skins from 3/32" balsa. It is permissible to allow an overhang at the leading edge but the trailing edge must overhang the ribs a uniform 3/8".
11. Glue W-19s and W-20s in place on ribs W-4 and W-6. Relieve W-4 and W-6 for gear block.
12. Drill hole for gear leg in W-21 and block W-22. When satisfied with fit, glue W-21 and W-22 into panel flush with bottom of ribs.
13. When wing skins are dry, sand the outer surface smooth. This is a much easier time to do this than after the skins are in place.
14. Taper the top surface of the bottom trailing edge wing skin for the top sheet.
15. Sheet the bottom of the wing from W-6 to W-T. Remember to carefully align the ribs 3/8" in from the back of the sheeting.
16. Repeat for other panel.
17. Install flap and aileron push rods in both panels.
18. Sheet top of wing, both panels W-6 to W-T.
19. Sheet the area from W-4 to W-6 bottom first, then top. On both panels.
20. Supporting the wing tips, glue the two panels together using the W-24 and W-25 braces. Relieve the W-3 ribs for W-24/W-25 and glue in place.
21. Sheet the bottom of the centersection. When dry, back-drill through gear leg hole to locate slot.
22. Sheet top of wing.
23. When wing sheeting is dry, glue the leading edge pieces in place. Relieve leading edge for W-32 and glue in place.
24. Glue W-28 tip blocks in place.
25. Place wing in fuselage and align following alignment section. When correct, drill dowel holes for leading edge dowels. Glue nylon bolt blocks into fuselage and re-check alignment. Glue F-16 in place on fuse.
26. Glue W-33 in place using fuselage as guide. Now, add W-34, W-35, and balsa sheet belly pan.
27. Drill W-23 blocks for flap and aileron struts. Use a piece of music wire through strut holes for alignment. Work carefully! When set, file or grind several notches on the shank of each strut. Clean with thinner or alcohol and de-not retouch the gluing area with your fingers. Use a slow setting epoxy to glue the struts in place.
28. Notch the flap and aileron W-29, W-30, W-31 surfaces for the struts and install the U-shaped ties. Again, notch each end, clean, and install with epoxy.
29. Sand wing to near final stage.
30. Construct radiators, bomb racks, etc., and glue in place. Use parts W-38, W-40, W-36, W-37, W-38.
31. Assemble wheel pants using parts P-1, P-2, P-3, P-4, P-5, P-6 and P-7.
32. Sand to final shape and install on model.

JUNKERS JU 87D-5

ROYAL

Hisao Hirose H.E