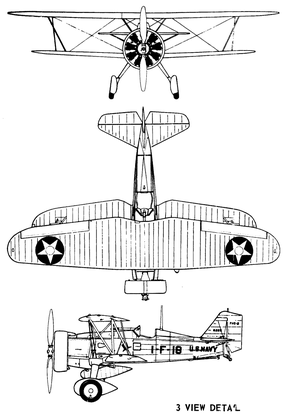
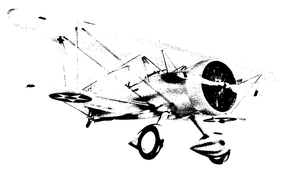
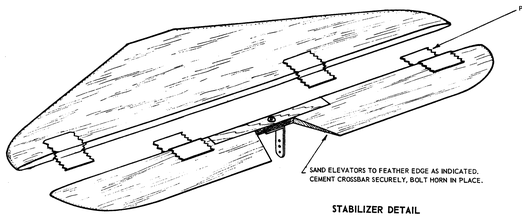


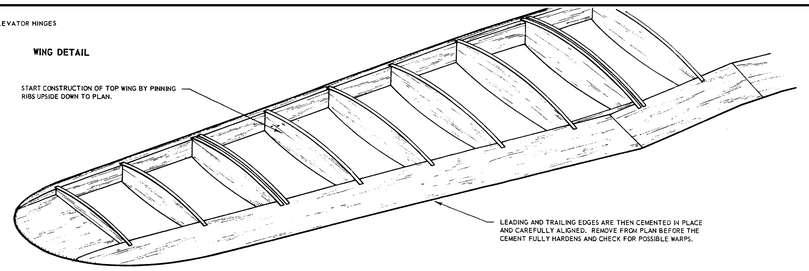
3 VIEW DETAIL





STABILIZER DETAIL

WING DETAIL



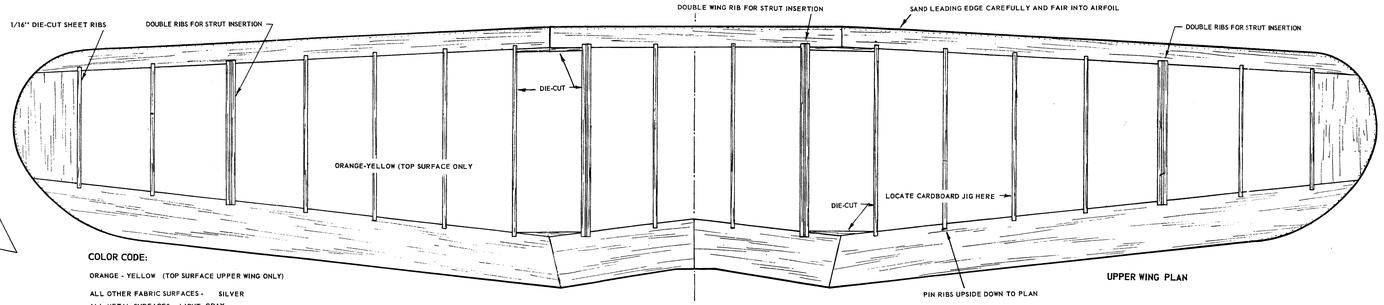
CENTER FUSELAGE KEEL AUTOMATICALLY ALIGNS LOWER WING AND STAB AT CORRECT ANGLE. ALIGN UPPER WING WITH WING JIGS DESCRIBED HERE.

WING JIG

PASTE THIS TEMPLATE ON THIN CARDBOARD AND CUT TWO TO THIS OUTLINE.

LOCATE JIGS AT RIBS INDICATED ON WING PLANS.

TRIM JIGS TO DOTTED LINE TO CHECK ALIGNMENT AFTER WINGS ARE COVERED.



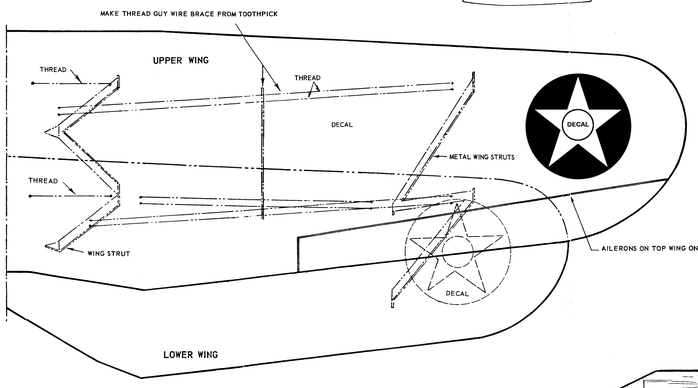
UPPER WING PLAN

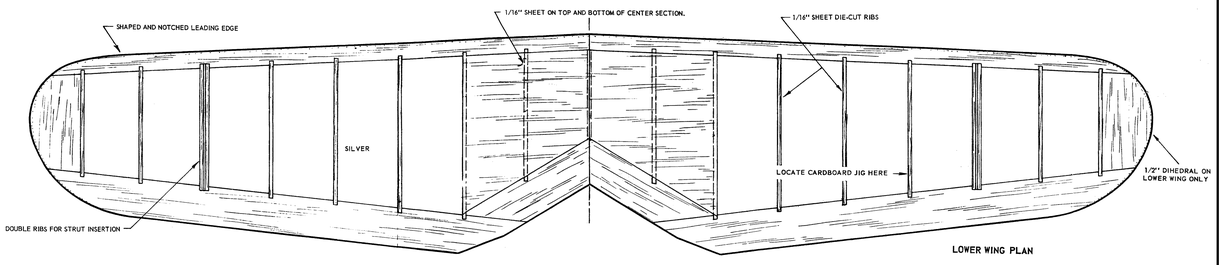
COLOR CODE:

ORANGE - YELLOW (TOP SURFACE UPPER WING ONLY)

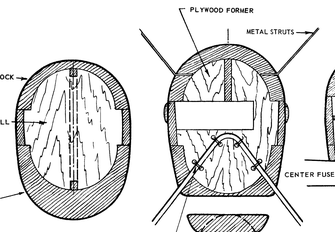
ALL OTHER FABRIC SURFACES - SILVER

ALL METAL SURFACES - LIGHT GRAY

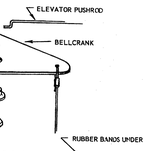




LOWER WING PLAN

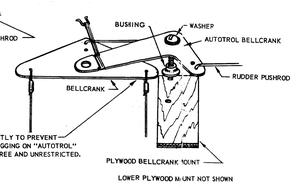


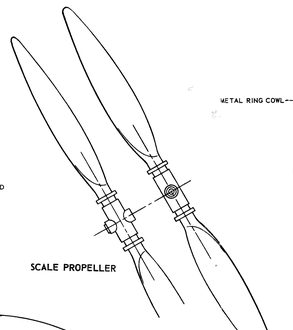
FUSELAGE CROSS-SECTIONS



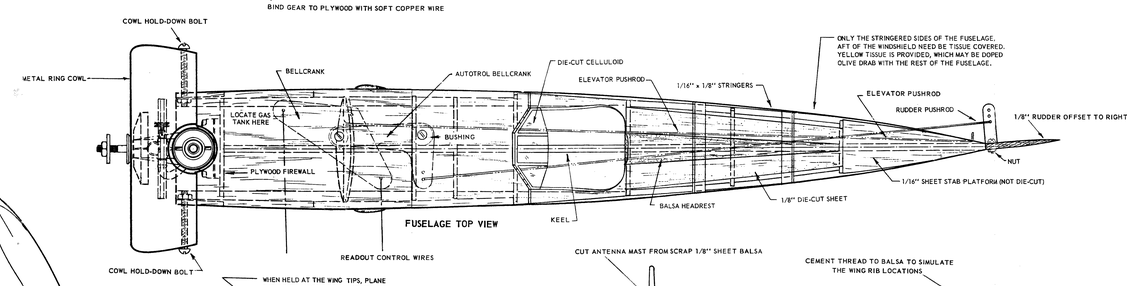
CONTROL SYSTEM

THE "AUTOTROL" AUTOMATIC RUDDER SYSTEM PROVIDES CORRECTIVE RUDDER MOVEMENT WHENEVER THE PULL ON THE CONTROLINES IS LESS THAN IT SHOULD BE FOR SAFE CONTROL. THIS IS ACCOMPLISHED AUTOMATICALLY BE PIVOTING THE REGULAR BELLCRANK ON THE "AUTOTROL." BELLCRANK, WHICH IN TURN IS PIVOT-MOUNTED TO THE PLYWOOD MOUNT. RUBBER BAND TENSION ON THE "AUTOTROL." BELLCRANK TENDS TO PULL BOTH BELLCRANKS TO THE EXTREME RIGHT SIDE OF THE PLANE. THIS ACTUATES THE RUDDER PUSHROD, AND INCREASES RUDDER OFFSET WHILE THE PLANE IS AT REST. AS THE PLANE TAKES -OFF AND GAINS SPEED, CENTRIFUGAL FORCE INCREASES PULLING BOTH BELLCRANKS TOWARD THE LEFT SIDE OF THE PLANE, THEREBY REDUCING UNNECESSARY RUDDER MOVEMENT.

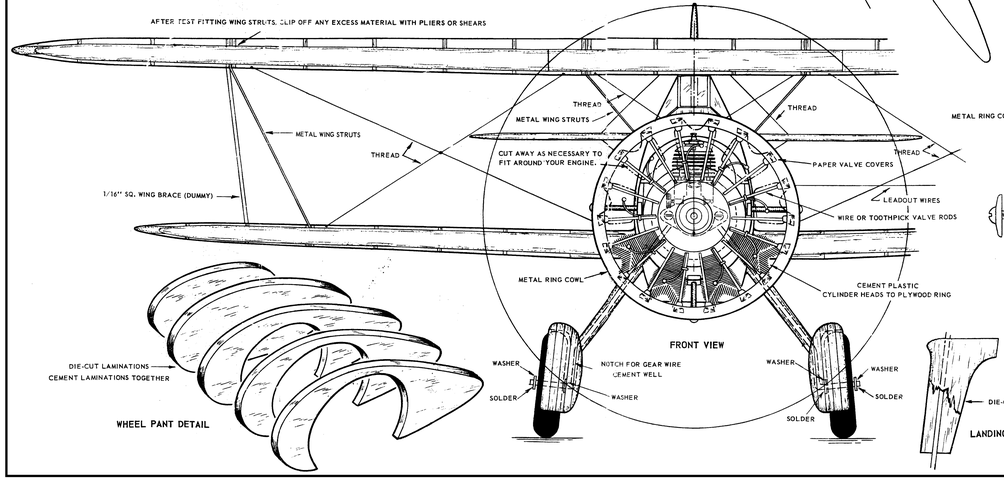




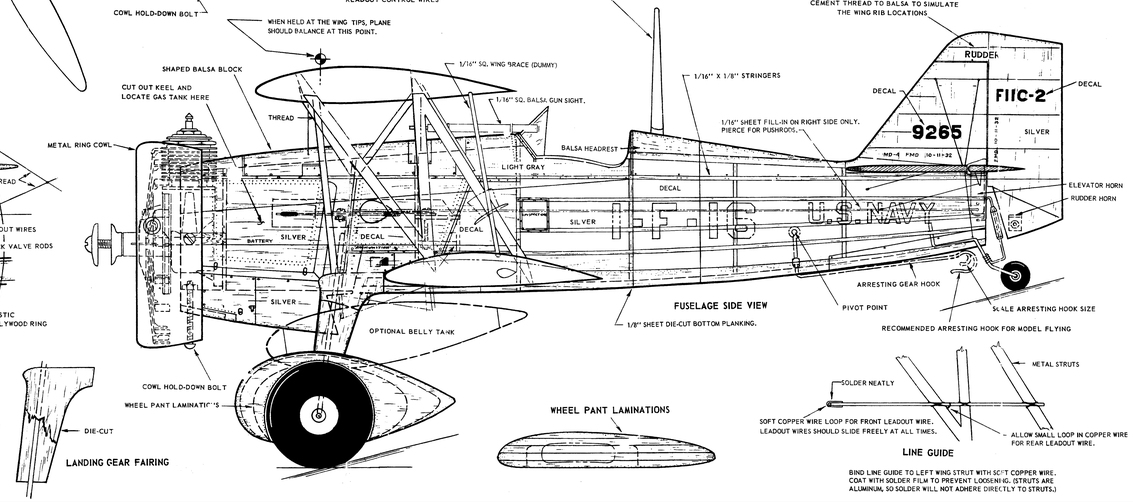
SCALE PROPELLER



FUSELAGE TOP VIEW



WHEEL PANT DETAIL



FUSELAGE SIDE VIEW

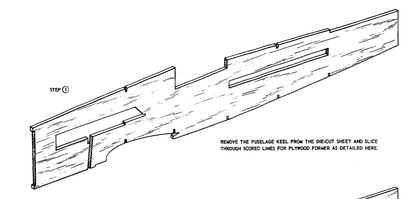
WHEEL PANT LAMINATIONS

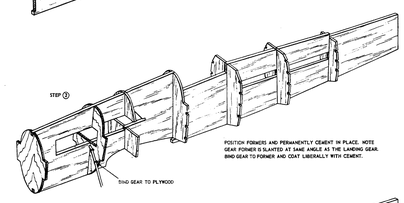
LANDING GEAR FAIRING

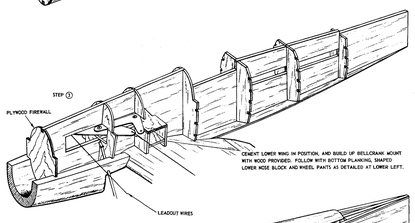
LINE GUIDE

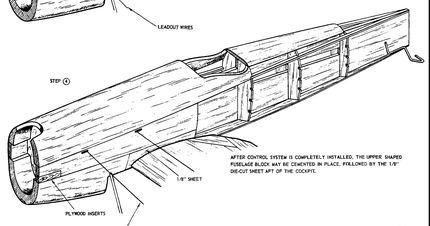
BIND LINE GUIDE TO LEFT WING STRUT WITH SOFT COPPER WIRE. COAT WITH SOLDER FILM TO PREVENT LOOSENING. (STRUTS ARE ALUMINUM, SO SOLDER WILL NOT ADHERE DIRECTLY TO STRUTS.)

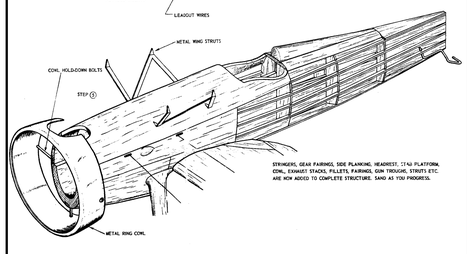
FUSELAGE CONSTRUCTION DETAILS











BUILDING AND FLYING INSTRUCTIONS:

The "Goshawk" is another event historical model and was the Navy's counterpart of the famous Army Hawk. It was flown from the decks of the famous "Lexington" and "Saratoga" Carriers. Many of the young "Goshawk" pilots were destined to become the Navy's Air Leaders in World War II.

Begin construction with the top wing. The detail at the top right corner of the plan shows the general construction. As the upper camber or top surface of this wing has no dihedral, construct the wing inverted, and in one piece. Pin two or three ribs in place, and then attach the leading and trailing edges. The remaining ribs may then be installed more conveniently. Note double ribs are used at wing strut attachment points. A 1/32" air space should be left between these ribs. After gussets and wing tips are added, the wing may be removed from the plan and checked for warps before the cement sets too firmly.

The lower wing should be assembled in halves, and joined after the 1/16" sheet covering is added to the center section. No gussets are required. Otherwise the construction is very similar to the upper wing.

The stabilizer and elevators are die-cut, as well as the plywood crossbar. The crossbar is formed of two pieces of plywood, cemented together, and sanded to match the thickness of the 1/8" sheet stab. Attach the elevators and control horn, and mark off hinge positions. The exploded stab detail at the top of the plan shows how the hinges are cemented in place. Sand the elevators to a thin trailing edge as illustrated.

The rudder may be constructed in like manner. Study the rudder plan for the proper hinge line. You will note that the small portion of the fin above the hinge line is attached to the rudder. If you choose to use the "Autotrol" rudder system, install the hinges in the same manner as on the stabilizer.

The fuselage construction is detailed in the sketches above. The notches in the keel will help you position the formers. Soft copper wire has been provided for binding the landing gear to the plywood. An ample coat of cement should also be used to prevent loosening.

When installing the bellcrank mount, locate it as shown for the "Autotrol" system. If the "Autotrol" is not used, move the mount forward under the regular bellcrank. In any case, all controls must be free from any binding action. Approximate pullon the leadout control wires to test action and rubber tension on the "Autotrol" rudder. Make sure bellcranks are not snagging each other.

Shaped balsa blocks, side sheeting (die-cut) top and bottom planking, stringers etc. are now added. Note the fuselage keel is used to retain tailwheel wire. Groove and pierce as required. Remember, the gear fairings cannot be installed until the pants are assembled. Instructions for this are on the plan. The cockpit should be shaped as visible in the side view. The fuselage keel may be cut away slightly to allow room for the decal instrument panel

The engine to be used should be mounted at this time. Test fit the ring cowl next, trimming it as it is necessary. Note cowl is bolted in place with three one inch bolts which secure to the nuts cemented to the plywood cowl mount inserts. (See Fuselage Construction Details)

Once the Cowl has been mounted, remove it temporarily, and turn your attention to the dummy engine. Cement the plastic cylinder heads to the plywood ring provided, deleting those cylinders which will interfere with the model engine. This will vary according to the engine used. Two other balsa rings are included. These are cemented together, with the forward one beveled as indicated. Cement this double ring in place to form the dummy engine crankcase. Fabricate the rocker arms and other small details of the engine from toothpicks and small lengths of thin wire or pins. Valve covers can best be made from stiff paper.

We recommend that the dummy engine be mounted with wire bracing to the model engine, rather than to the ring cowl or the fuselage. Brace it well to nullify vibration, and allow sufficient air space between engine and dummy engine for proper cooling.

The model should be covered before final assembly. The stringered section of the fuselage and both wings are all that need be covered. Spray with water to shrink covering, and apply fuel-proof clear dope. The metal areas of real "Goshawk" (forward of cockpit) were light grey. Fabric areas were silver.

The model should be test flown in calm weather on fairly short lines. We recommend 35' to 45' feet, depending on the engine. Run engine at full power only. Take off down wind, and hold arm fairly stiff at elbow. By moving your arm up and down, you will prevent any tendency to overcontrol with too much wrist action. Once you get the feel of the ship, you may fly it as you wish. Good luck.

CURTISS "GOSHAWK"

3/4" SCALE

F11-C2 *Controliner*

DESIGNED AND DRAWN BY: DON McGOVERN - PAUL DELGATTO

KIT ENGINEERED BY: BILL EFFINGER

FULL SIZE PLANS

FOR .09 TO .15 ENGINES

23-3/4" WINGSPAN

BERKELEY MODELS INC.,
WEST HEMPSTEAD, NEW YORK, U.S.A.