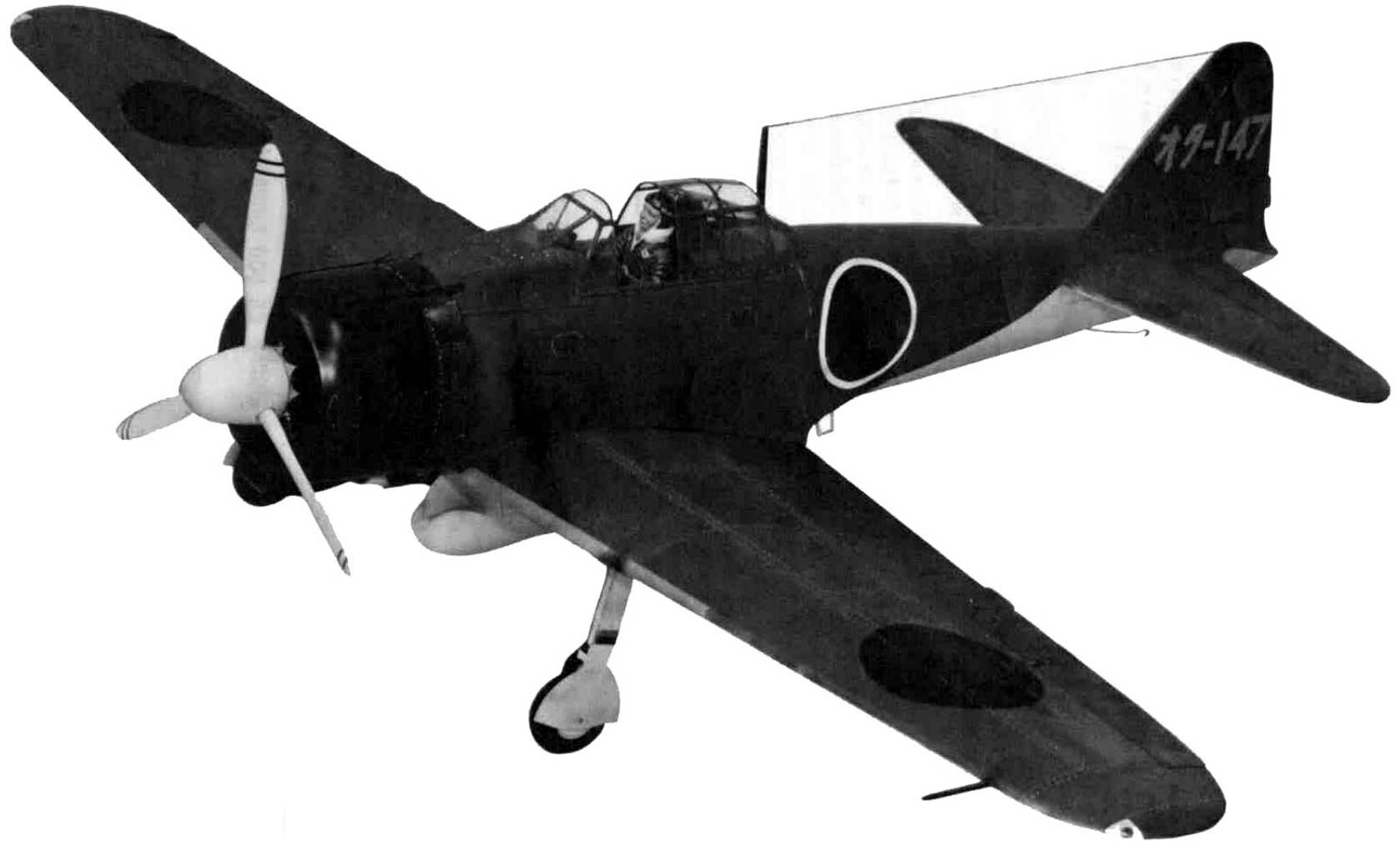


BUILDING THE A6M2 ZERO



Product Support
(Do Not Remove From Department)



TOP FLITE MODELS, INC



CONGRATULATIONS'

You now own the most accurate R/C Stand-Off Scale kit ever produced

We at Top Flite hope that you will find this model the most pleasant to build, inspiring to look at and exciting to fly that you have ever constructed

It is honest to point out, however, that while this model is no more difficult - in fact is simpler than most comparable kits to make, R/C scale models generally are not for the newcomer to this hobby. Previous modeling experience and careful attention to craftsmanship are necessary. Even the "old hand" will do well to study and follow the instructions and guidance given in this booklet.

It is our aim to have you say "This is the finest model I have ever built".

TOP FLITE MODELS. INC

CONSTRUCTION OF THE A6M2 ZERO

BEFORE YOU START, READ THIS

The assembly sequence of your Top Rite ZERO has been carefully developed to help assure the correct alignment of your model. Utilize the check-off blocks as you build this will allow assembly of your model in minimum time.

Before beginning an assembly step, read the instructions to familiarize yourself with the parts to be used. Find the parts mentioned and double check them for proper identification and size with the plans. Do not separate parts from the die cut sheets until you need them. There are machined parts in the kit which are not identified such as the leading edges, wing tips, etc. These parts can be easily identified by checking the parts against the plan.

We are sometimes asked which glues are best for model construction. The answer to this depends upon the particular job. This is our normal recommendation. For all hardwood to hardwood or hardwood-to-balsa joints, use white wood glue. "Titebond" is especially good, as it dries faster than other white glues and is very strong. For balsa-to-balsa joints, regular balsa-wood cements are ample for the job, although white glue can be used here too. Whichever type you use, remember that excess glue is no substitute for a well fitting joint. Use a minimum of glue at all times, and wipe off excess glue that squeezes out of joints before it sets hard, when set it is difficult to remove, but if not removed it could spoil the covering job.

IMPORTANT NOTE TO BUILDER

Every model built from a kit is different, reflecting the level of skill as well as the favored building techniques of the modeler. Ultimately thus, each model is essentially the individual creation of that builder.

Changes and variations take place in building so that while Top Flite supplies most essential building materials, the end product is the creation of the builder.

Therefore, Top Flite assumes no responsibility for the performance of the model, nor does Top Flite assume any responsibility of any nature whatsoever for the loss of, or property damage resulting from the operation of this model when it is completed.

USE COMMON SENSE

When you have completed this model, you will have invested considerable time, money and skill. Protect this investment by,

1. Re-checking all critical building points (center of gravity, hinging of control surfaces, strength of stress areas, etc.).
2. Correctly installing the radio gear.
3. Test and re-test the radio, all moving surfaces, landing gear (if retracts), condition of batteries, etc., BEFORE EACH FLIGHT!
4. OBSERVE ACADEMY OF MODEL AERONAUTICS SAFETY CODE, particularly those rules governing RADIO CONTROLLED FLIGHT. DO NOT FLY WITHOUT BEING FULLY INSURED.

WARNING!!

A radio controlled model is not a "TOY". Care and caution must be taken in properly building the model as well as in the installation and use of the radio controlled device. It is important to follow all directions as to construction of this kit as well as installation and use of the engine, propellers and radio gear. The advice and assistance of a well experienced builder and pilot is highly recommended. Don't take chances. Improper building, operation or flying of model could result in serious bodily injury to others, yourself, or property damage.

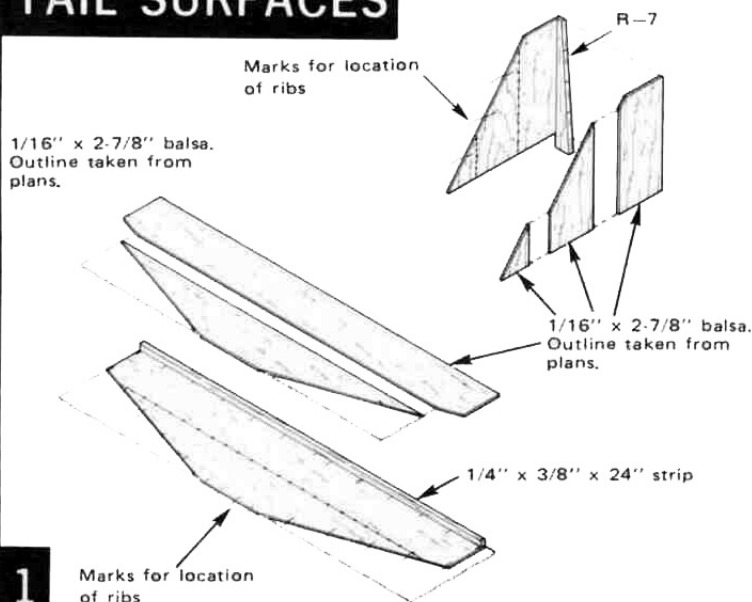
CONSTRUCTION SEQUENCE

Follow each step in order and put check marks in the blocks as you complete each phase described.

PLANS

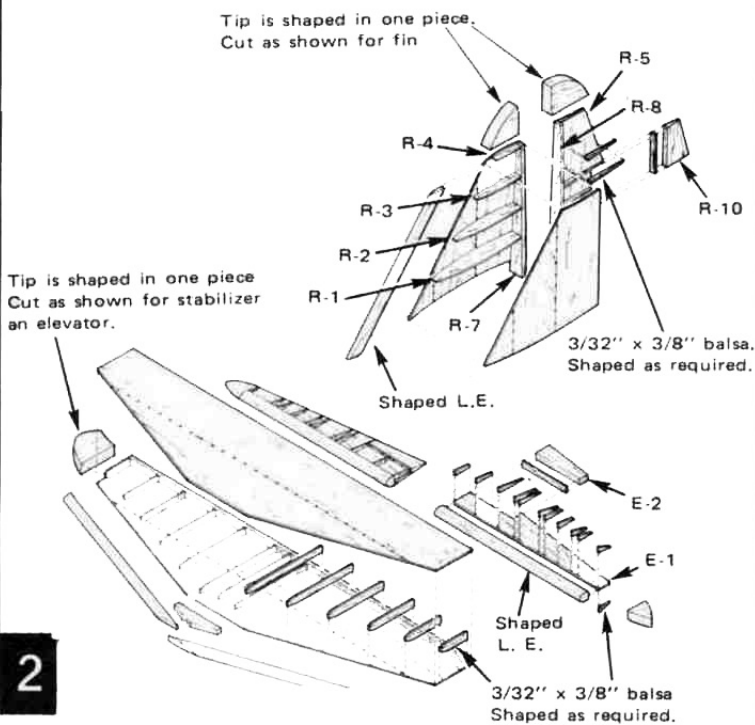
- ☐ The fuselage plans come in two sheets. The smaller must be cut along the dotted line and glued (or taped) to the larger plan at the dotted lines. Before you do any building of this kit, we suggest you spend a few hours reading and studying this book and the plans.
- ☐ When you are ready, tape or tack the fuselage plans on a flat work surface. Cover the working area of the plan with MonoKote backing or waxed paper.

TAIL SURFACES



1

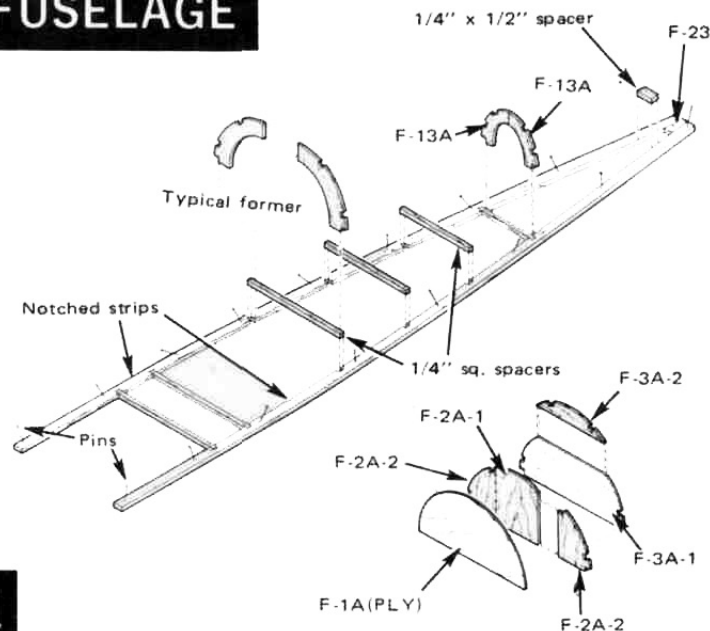
- ☐ Trace pattern of Fin sheeting (3 pieces on each side) from plans onto 1/16" x 2-7/8" balsa. Cut out and glue together as shown above. Make two.
- ☐ Do same thing with Stabilizer. Make two.
- ☐ Pin Fin sheeting over plan. Glue R-7 in place. Mark location of ribs with soft pencil.
- ☐ Pin Stabilizer sheeting over plan. Glue 1/4" x 3/8" x 24" in place. Mark location of ribs with soft pencil.



2

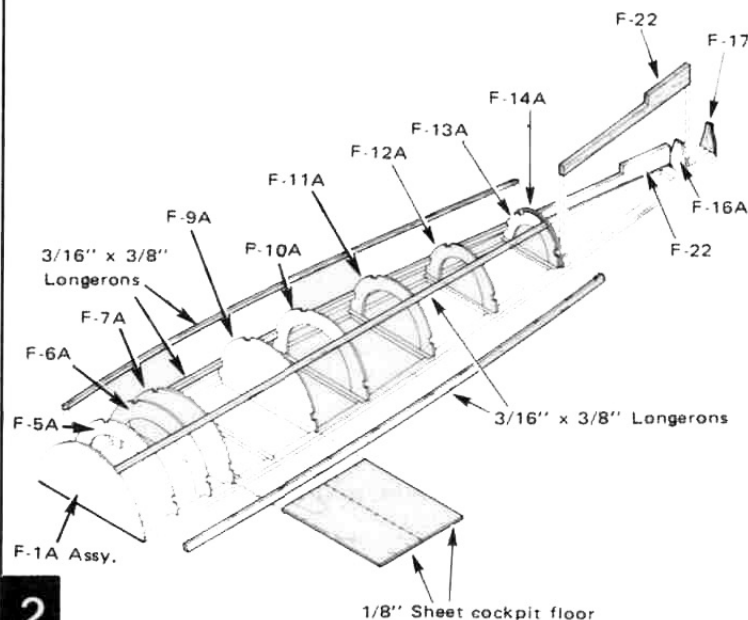
- ☐ Glue R-1, R-2, R-3 & R-4 ribs in place. Apply glue only up to 1/4" from front of rib.
- ☐ Glue top sheeting in place. Again apply glue only up to 1/4" from front of rib.
- ☐ Glue shaped leading edge to ribs only. When dry, glue planking to leading edge on both sides. Be sure that the planking forms to the shape of the leading edge.
- ☐ Construct rudder as shown in illustration above and the plans.
- ☐ Make stabilizer and elevators using same procedures as is described above.

FUSELAGE



1

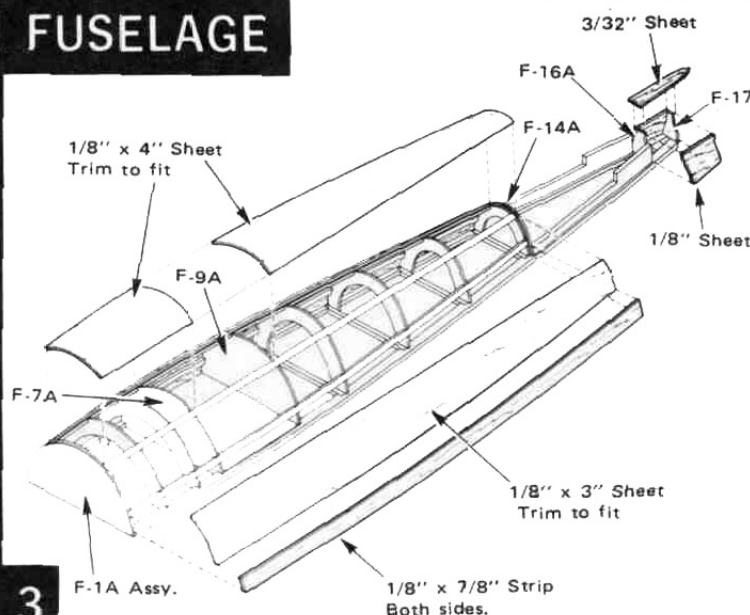
- ☐ Glue F-2A-2's to F-2A-1 and F-3A-2 to F-3A-1. Epoxy F-1A(PLY), F-2A ASSEMBLY and F-3A ASSEMBLY all together.
- ☐ Glue former halves F-5A thru F-16A together, using plans to measure correct width.
- ☐ Pin notched strips (sometimes referred to as "crutch strips") down over plans, locate from inner line as the outer edge of the strip will be trimmed off later on.
- ☐ Measure, cut and glue 1/4" SQUARE spacers in place. Glue 1/4" x 1/2" SPACER and F-23 in place at rear.
- ☐ Glue formers F-5A thru F-14A in place. Be sure formers are perpendicular to notched strips.



2

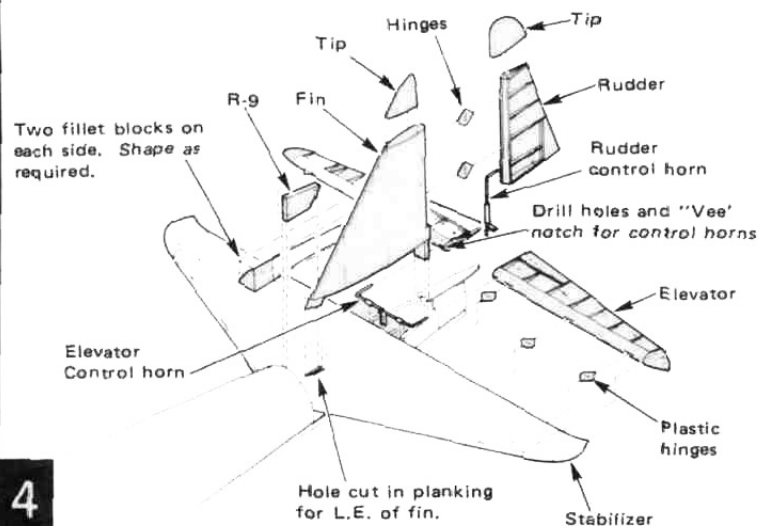
- ☐ Glue two F-22's in place so they are 1/16" from outer edge of notched strip. Glue F-16A to F-22's and notched strip. Glue F-17 in place.
- ☐ Glue two pieces of 1/8" SHEET together and cut to fit for cockpit floor.
- ☐ Glue four 3/16" x 3/8" LONGERONS into notches in formers.

FUSELAGE



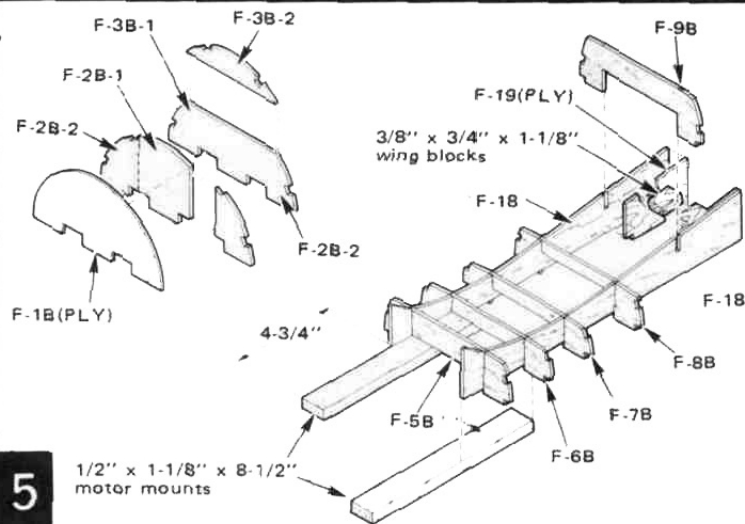
3

- ☐ Trim and glue a 1/8" x 7/8" x 30" STRIP to each side of fuselage between the notched strip and first longeron.
- ☐ Fit and glue a 1/8" x 2-7/8"(or 3") x 30" SHEET between next two longerons, on each side. Wood can be formed to compound shape by wetting outside only. Hold in place with pins, tape and/or rubber bands while glue is drying.
- ☐ Finish top with 1/8" x 3-3/4" (or 4") x 24" SHEET. Leave opening at cockpit area. (F-7A to F-9A).
- ☐ All seams should be in the approximate center of each longeron. All sheeting is done on a "Fit and try" basis.



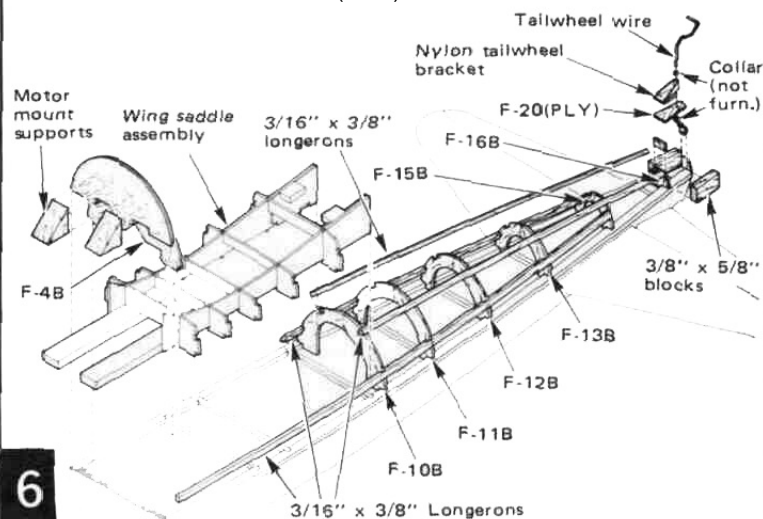
4

- ☐ Cut notch in rear center of stabilizer for clearance for elev. control horn movement (see plan).
- ☐ Epoxy elevator control horn to stabilizer at **BRASS TUBING ONLY!**
- ☐ Epoxy stabilizer to fuselage. Check alignment in all directions.
- ☐ Cut hole in stab planking for fin leading edge and epoxy fin place. Check alignment in all directions.
- ☐ Drill holes for control horns in rudder and both elevators. and then "Vee" notch. Make openings for plastic hinges. Attach rudder control horn to rudder with epoxy. Attach rudder to fin and epoxy brass tubing (only) to rear of fin. Attach elevators to stabilizer.
- ☐ Glue R-9 in place. Fit 5/8" x 1-3/8" FILLET BLOCKS to each side of rudder. Shape as required.



5

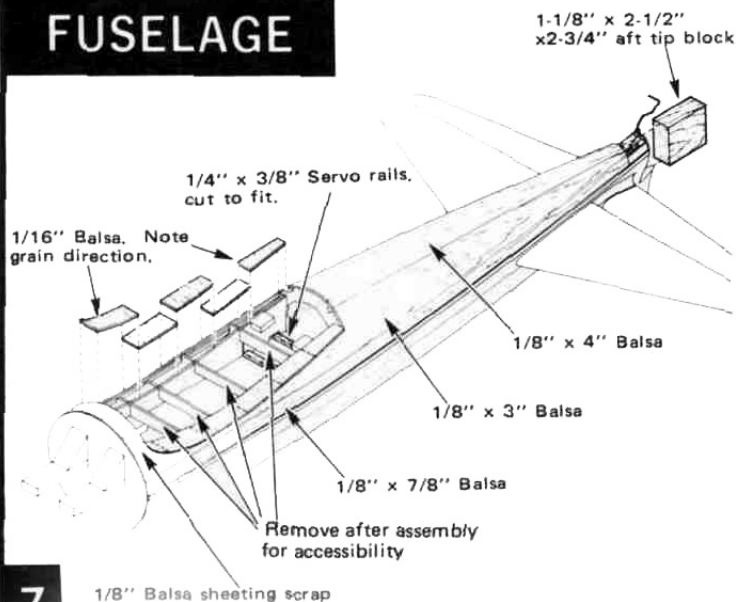
- ☐ Laminate F-1B(PLY), F-2B and F-3B firewall as described for F-1A assembly. Set aside to dry.
- ☐ Epoxy F-19(PLY) doublers to insides of F-18 pieces.
- ☐ Glue formers F-5B, F-6B, F-7B, F-8B and P-9B into the slots in the two F-18 pieces.
- ☐ Epoxy 1/2" x 1-1/8" MOTOR MOUNTS to the insides of F-18's and F-5B and F-6B as shown. Motor mounts are to extend out 4-3/8" from ends of F-18's.
- ☐ Cut 3/8" x 1-1/8" x 1-1/2" long maple block in half to make two pieces 3/8" x 3/4" x 1-1/8". Epoxy these pieces into the cut-outs in the F-19(PLY)'s.



6

- ☐ Fuselage can be removed from plans.
- ☐ Carefully position wing saddle assembly in position on inverted fuselage half and glue.
- ☐ Epoxy former F-4B to front of wing saddle, to notched strips and to motor mounts. Epoxy F-1B Firewall assembly over motor mounts and to F-1A assembly. Make sure firewalls are flush and true in both planes. Epoxy motor mount support blocks in place.
- ☐ Make and glue all remaining formers (F-10B thru F-16B) in position on notched strips. Glue 3/16" x 3/8" LONGERONS in place[F-1B assembly to F-4B and F-10B to F-15B(or F-16B)].
- ☐ Bend TAIL WHEEL WIRE as shown on plans. Over the straight end, assemble a collar, the nylon tailwheel bracket, F-20(PLY)(after drilling hole) and another collar.
- ☐ Make two supports for F-20(PLY) from scrap 1/8" balsa and glue into position. Cut the 3/8" x 5/8" x 3-1/2" long balsa block into two pieces to fit in between F-16B and F-17. Glue the pieces in place and rough to shape only.

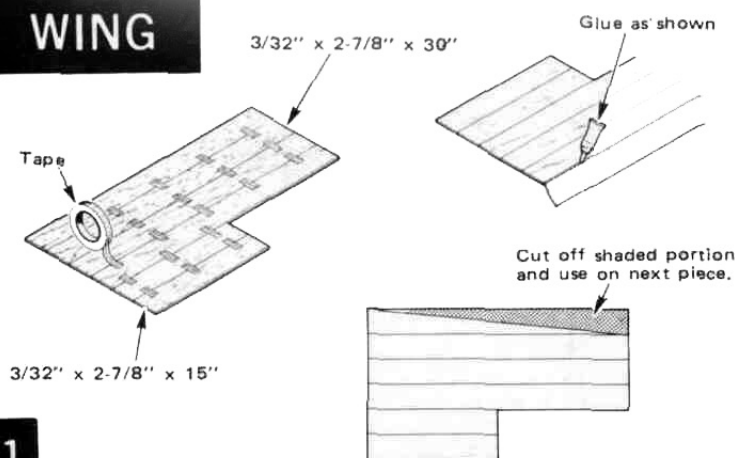
FUSELAGE



7

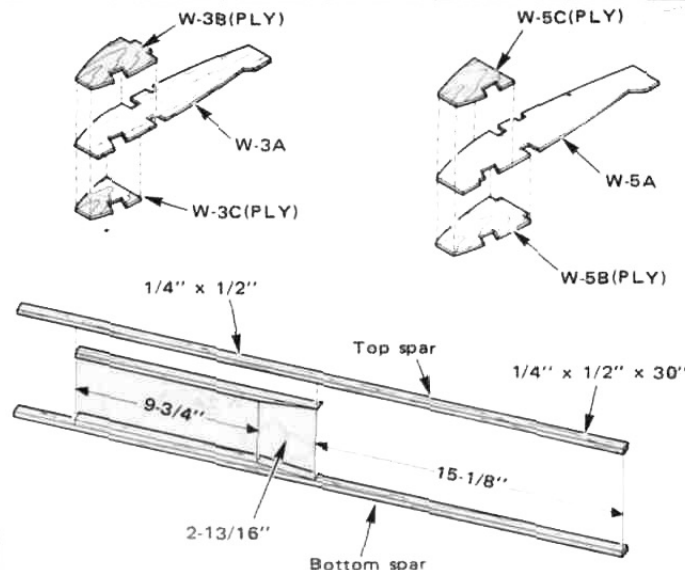
- ☐ Install elevator and rudder servos. Make and rudder pushrods. Check all control surfaces for free and proper operation. Safety all clevises now as they are hard to get at once the fuselage is entirely sheeted.
- ☐ Glue $1/8" \times 7/8" \times 42"$ BALSA to each side as shown.
- ☐ Fit, form and glue $1/8" \times 2-7/8"$ (or 3") $\times 42"$ SHEET next to $7/8"$ wide pieces.
- ☐ Fit, form and glue $1/8" \times 3-3/4"$ (or 4") $\times 24"$ SHEET in last opening.
- ☐ When shells are dry, trim carefully around wing opening. Plank (cross grain) openings from over formers F-4B thru F-10B with $1/16"$ balsa sheet.
- ☐ Glue $1-1/8" \times 2-1/2" \times 2-3/4"$ TAIL BLOCK in position. Carve and sand to shape. Sand entire fuselage, cutting down raised edges of notched strip until flush with sheeting
- ☐ For access to interior of fuselage, cut out formers F-5B, F-6B, F-7B, F-8B and F-9B from between F-18 pieces.

WING



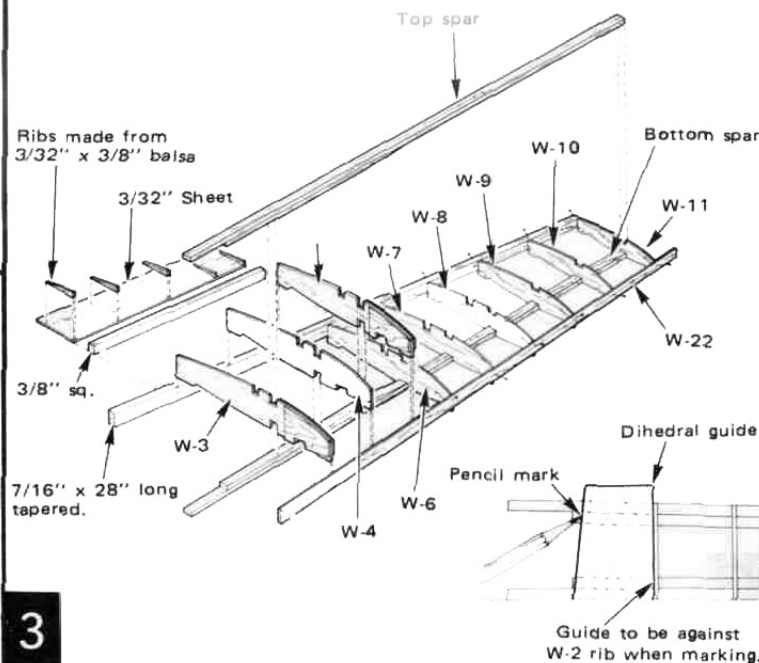
1

- ☐ Tape 4 pieces of $3/32" \times 2-7/8" \times 30"$ Balsa and two pieces of $3/32" \times 2-7/8" \times 15"$ BALSA together as shown above. Make two sets.
- ☐ Turn them over, open up slightly, and apply glue to joints. Lay on flat surface, with weights, until dry.
- ☐ Cut a triangular piece, as shown shaded above, off of each piece and SAVE.
- ☐ Make two more sets, using the triangle, three $3/32" \times 2-7/8" \times 30"$ and two $3/32" \times 2-7/8" \times 15"$ for each set.



2

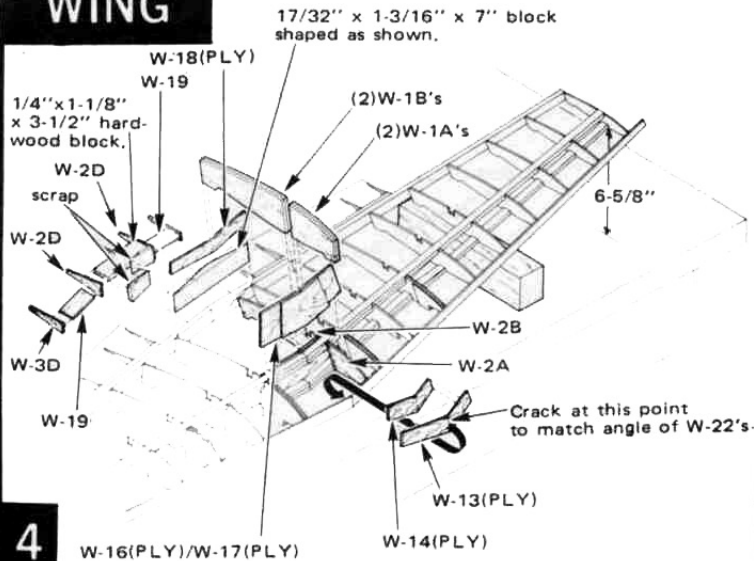
- ☐ Glue W-3B(PLY) and W-3C(PLY) to W-3 RIBS. Make one left hand and one right hand.
- ☐ Glue W-5B(PLY) and W-5C(PLY) to W-5 RIBS. Make one left hand and one right hand.
- ☐ Cut four pieces of $1/4" \times 1/2"$ BALSA strips to $12-9/16"$ long. Taper one end of each piece as shown.
- ☐ Glue these strips to $1/4" \times 1/2" \times 30"$ SPARS, $15-1/8"$ from one end of each strip as shown. Leave excess length on spar to aid in pinning down. Make four sets.



3

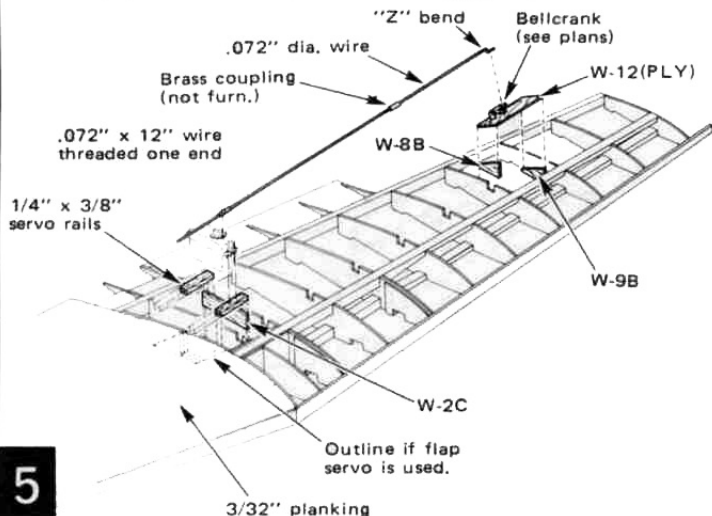
- ☐ Cover wing plan with MonoKote backing. Pin one assembled over outline on plan.
- ☐ Glue ribs W-3 thru W-11 to spar, pinning thru feet of ribs, checking to be sure ribs are perpendicular.
- ☐ Glue W-22 to front of each rib and pin.
- ☐ Glue $7/16"$ THICK $\times 28"$ LONG TAPERED piece to back of ribs and pin.
- ☐ Glue upper spar in position in rib notches.
- ☐ When wing is dry, take **DIHEDRAL GUIDE** as shown above, mark lines and cut off spars, W-22 and trailing edge. Unpin from plan.
- ☐ Build opposite wing panel in exactly same manner.

WING



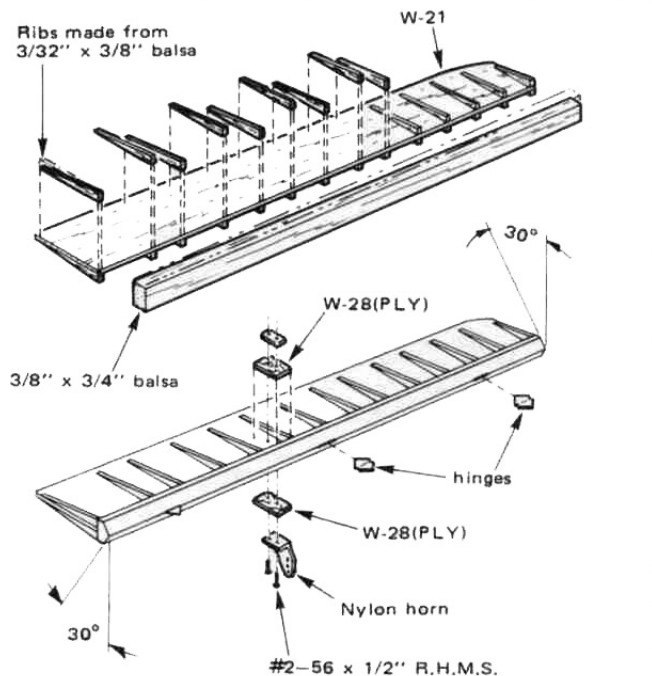
4

- ☐ Leave last wing panel built pinned to work table. Join wing halves together using W-16(PLY) JOINERS and slow drying epoxy. Block up opposite wing panel for correct dihedral. Epoxy W-17(PLY)'s to W-16(PLY)'s.
- ☐ Crack W-13(PLY) and W-14(PLY) in center to conform to angle of leading edge. Epoxy in place as shown.
- ☐ Shape 17/32" x 1-3/16" x 7" BALSA BLOCK to conform to shape of trailing edge. Epoxy in place. Epoxy W-18(PLY) to this block.
- ☐ Glue two W-1A's and two W-1B's together. Epoxy them in place in wing as shown.
- ☐ Assemble HARDWOOD BLOCK, W-2D's, W-19's and W-3D's as shown above. Filler wedges are made from scrap balsa.



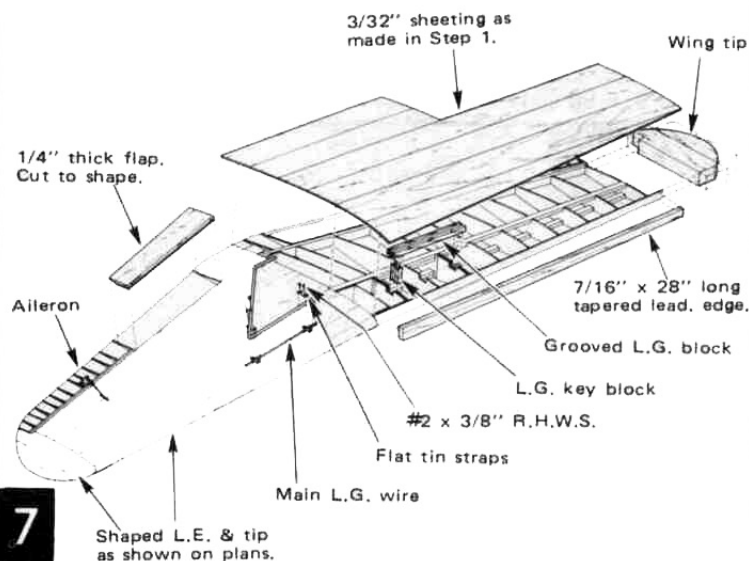
5

- ☐ Glue W-2C in place on W-2B rib. Cut out one W-1B to same length as W-2C as shown above (both W-1A's if flap servo is to be used).
- ☐ Epoxy 1/4" x 3/8" SERVO RAILS in place using servo as guide for spacing. Install servo(s).
- ☐ Make CONTROL WIRES as shown above (ball link connectors are recommended at servo end).
- ☐ Glue W-8B in place on W-8 rib. Glue W-9B in place.
- ☐ Mount BELLCRANK ASSEMBLY(see plans) to W-12(PLY) and epoxy this assembly on W-8B and W-9B.
- ☐ Plank top of wing panel that is still pinned down.
- ☐ Remove wing from bench and pin down opposite wing panel. Repeat planking procedure on this panel. Unpin and remove all rib feet.



6

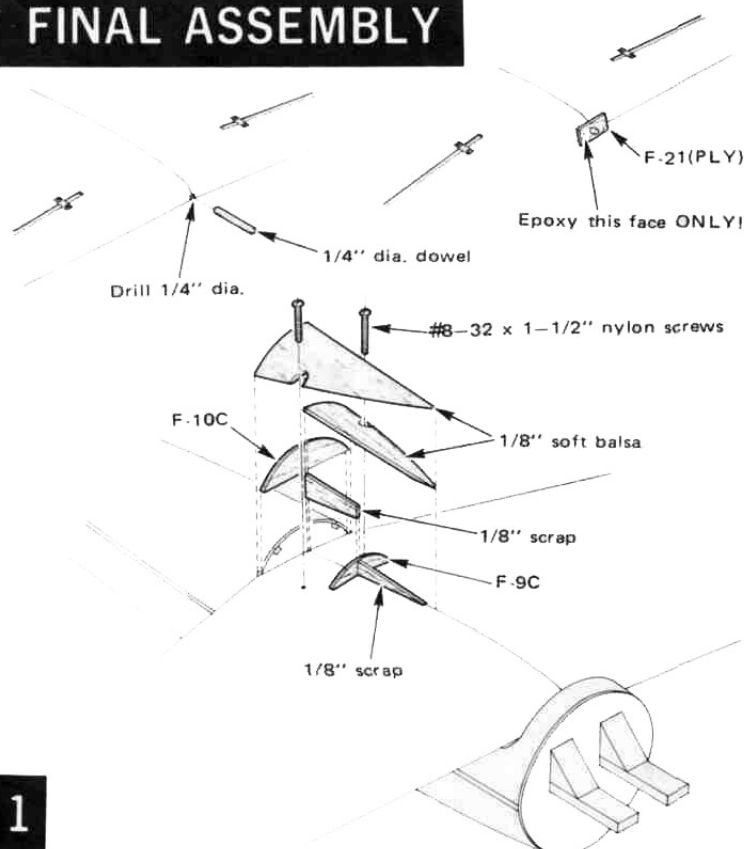
- ☐ Glue W-21 to center of 3/4" face of 3/8" x 3/4" STRIP.
- ☐ Mark location of each rib from the plans. Cut 3/32" x 3/8" BALSA to length for each rib, and glue them in place top and bottom. When dry, taper ribs with sandpaper block or razor plane. Make two ailerons.
- ☐ Bevel front of leading edge as shown. Install three NYLON HINGES. See plans for instructions.
- ☐ Glue W-28(PLY)'s in place top and bottom. Location of W-28(PLY)'s determine L.H. or R.H. aileron. Make one each.
- ☐ Install NYLON HORNS with #2-56 x 1/2" R.H.M.S.



7

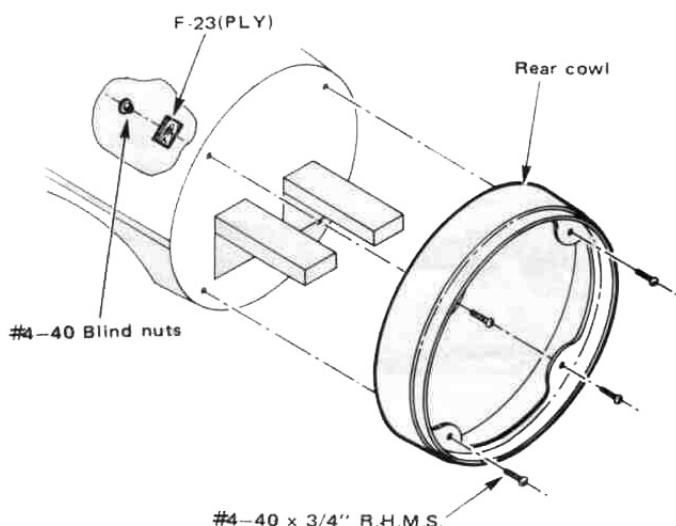
- ☐ Epoxy L.G. KEY BLOCKS to W-3 ribs. Epoxy GROOVED L.G. BLOCK in rib notches. Locate from plans. Drill 7/32" dia. hole to line up with groove in key block
- ☐ Locate and cut openings for control wires and main L.G. wires, in wing planking. Plank both bottom wing panels.
- ☐ Glue WING TIP blocks together and saw to outline. Glue wing tips to wings, and shape.
- ☐ Shape leading edges per plan. Sand wing all over.
- ☐ Hinge ailerons permanently to wing. If flaps are to be operating, hinge them permanently, otherwise cement them in place. Connect controls to ailerons (and flaps).

FINAL ASSEMBLY



1

- ☐ Drill 1/4" dia x 1 3/4" deep hole in leading edge in center of wing. Install 1/4" DIA x 2" LONG DOWEL with epoxy. Dowels should stick out at least 1/4". Sand slight radius on end of dowel.
- ☐ Epoxy face of F—21 (PLY) and slip over dowel with epoxy away from wing. Do not get epoxy on dowel. Put the wing with F—21 (PLY) in place on the fuselage and align carefully. Temporarily fasten it down. This will correctly locate the F-2KPLY) on the fuselage.
- ☐ When the epoxy has set and while the wing is still fastened down, drill two 1/8" DIA holes thru wing and thru fuselage blocks. See plans for location dimensions.
- ☐ Glue **F-10C** to wing only(not to fuselage). Glue **F-9C** on wing. See plan for location. Make two cross pieces from scrap 1/8" stock. Sheet over this area with 1/8" soft sheeting.
- ☐ Remove wing. Tap fuselage holes with #8-32 self tapping screw furnished. Drill wing holes out to 11/64" DIA for screw clearance. Cut notches in planking for screw head clearance.



2

- ☐ Temporarily center the REAR COWL on fuselage so that the mounting holes are at 45° to the vertical and horizontal center lines of the fuselage. Mark location of holes with soft pencil.
- ☐ Remove cowl and drill 1/8" DIA. holes thru at marks.
- ☐ Drill a 3/16" dia hole in the center of each F 23(PLY) piece. Press a #4—40 blind nut firmly in each one.
- ☐ Fasten the rear cowl in place with four #4-40 x 3/4" R. H. M. S. Use the F 21 (PLY) with blind nut inside the fuselage.

3

- ☐ With wing bolted in place, form and fit wing fillets W-23, W-24 and W-27. All fillets on each side of the wing must be done at the same time for proper fitting. W 23's are fixed to the wing while W 24 and W 27 are fixed to the fuselage. Smooth joints with Dap.

4

- ☐ Drill holes in firewall at proper locations for throttle and mixture controls and fuel line. Install engine— 60 to 90 recommended. Attach fuel line. Install throttle and fuel mixture control cables. Check for free movement.
- ☐ Install the radio equipment (receiver, battery, servos, etc.) as per the manufacturers instructions.
- ☐ Make cut outs in FRONT COWL for exhaust, glow plug, etc. Cement to rear cowl and sand lightly with 400 grit paper prior to painting.
- ☐ Attach W-26(PLY) L.G. DOORS to main landing gear wire as shown on plans. Install main wheels and tail wheel.
- ☐ Cover the model (except cowl) with colored MonoKote, or or cover the model with CHROME MONOKOTE, paint as per color desired and then scribe panel outlines.
- ☐ Paint cockpit with flat black. Install pilot (not furnished). Trim and install vacuum formed gun ports and canopy. See plans for adhesives to use. Apply markings furnished.
- ☐ Check radio carefully, including range check per manufacturers instructions. Check Center of Gravity. Do not deviate from position shown on plans. If you are not a proficient R/C pilot, get the help of one. See warning on page 1. Save your plane—avoid grief.

FLAP INFORMATION

This plane is designed to have operating flaps if desired. The flaps will have to be hinged and control horn added, instead of fastened solid as shown on plans. Provisions have been made in the wing for the additional servo. The decision to have operating flaps must be made before the wing construction is started.

LANDING GEAR RETRACTS

Again the decision to use landing gear retracts must be made before construction begins. Construction provisions have been built into the model for retracts. There is room in the center of the wing, forward of the main spars, for a servo (mechanical retracts) or a servo and valve (pneumatic retracts). The air supply tank (pneum system) is located in the fuselage. Be sure the tank(s) and air lines DO NOT INTERFERE with the pushrod operation. The model can be balanced with the wheels up or down as the fore and aft CG remains the same.



Top Flite's Air Force

Stand-off Sport Scale Fighters for the R/C Pilot



Kit RC-16
P-51B MUSTANG
Specs: span 60"
area 600 sq. in.



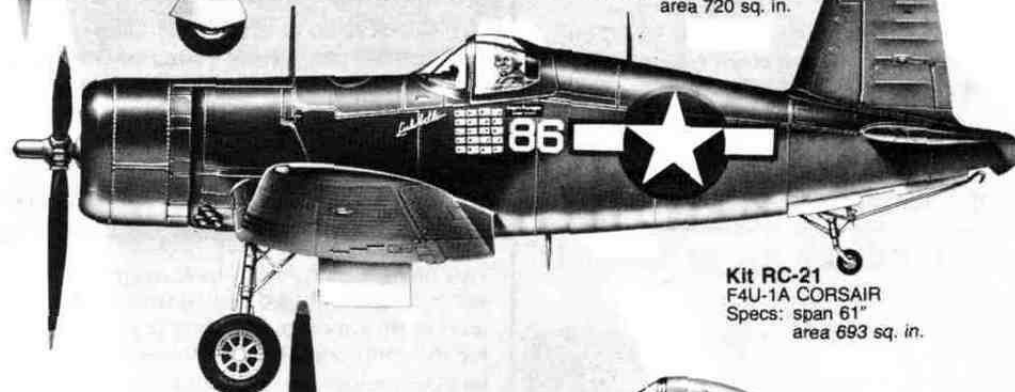
Kit RC-17
P-40 WARHAWK
Specs: span 60"
area 600 sq. in.



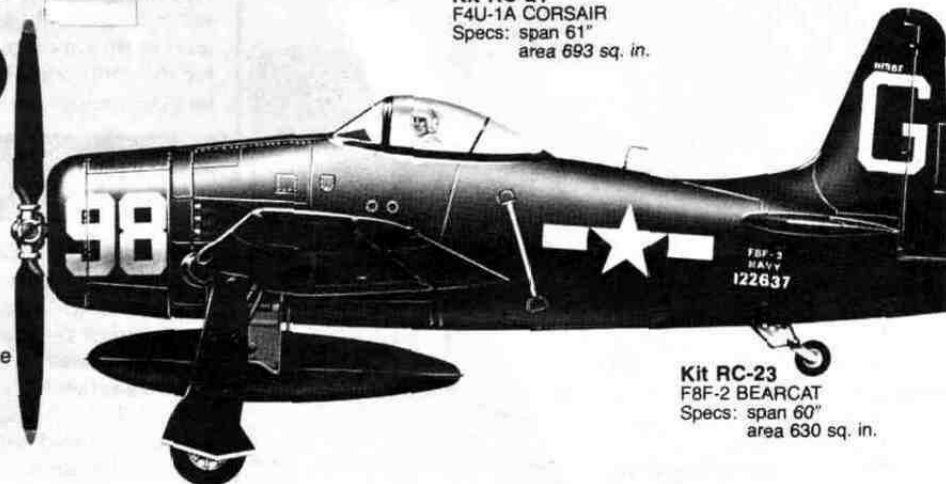
Kit RC-18
P-39 AIRACOBRA
Specs: span 60"
area 600 sq. in.



Kit RC-19
P-47D THUNDERBOLT
Specs: span 60"
area 720 sq. in.



Kit RC-21
F4U-1A CORSAIR
Specs: span 61"
area 693 sq. in.



Kit RC-23
F8F-2 BEARCAT
Specs: span 60"
area 630 sq. in.

Top Flite offers you six of the world's most legendary fighters in the stand-off sport scale that's gaining popularity with builders all over the world. And no wonder! Thanks to Top Flite, these fighters have winning scale appearance, plus subtle modifications that give you the utmost in flying qualities as well.

Like every fine Top Flite model, these stand-off sport scale R/C fighters are designed with the builder in mind, and feature standard, uncomplicated structural design. All are designed for .60 engines and 4 to 7 channel equipment. The kits feature balsa for strength, lightness and durability; precision die-cut parts, each clearly marked with easy-to-read identification numbers; full-color matte fuelproof markings; and full-size plans plus clearly illustrated, proven building instructions.

Join the Top Flite R/C stand-off Air Force...it's the only way to fly!



TOP FLITE MODELS, INC.
1901 North Narragansett Avenue
Chicago, Illinois 60639

For a 16-page catalog plus a free MONOKOTE™ sample and prop chart, send request plus 50 cents to Top Flite