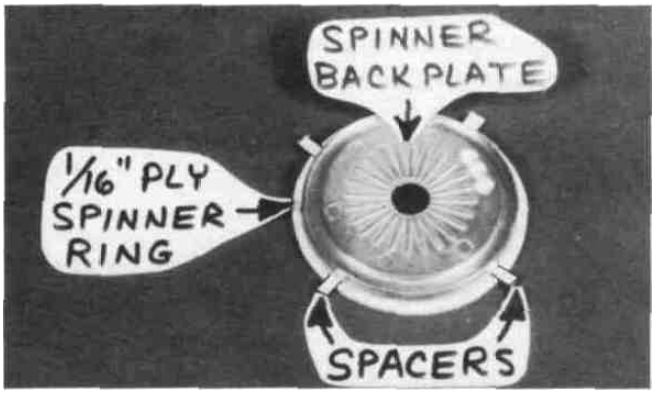
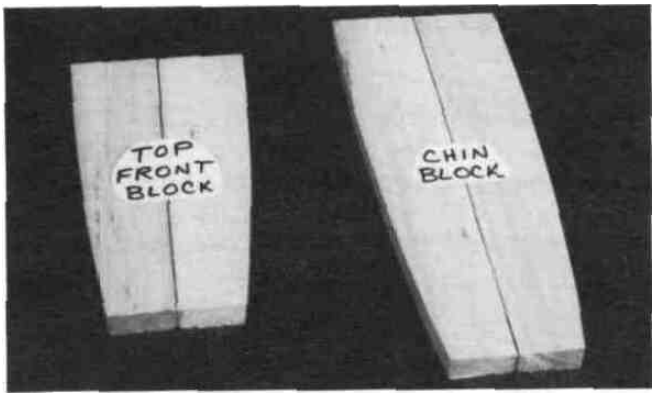


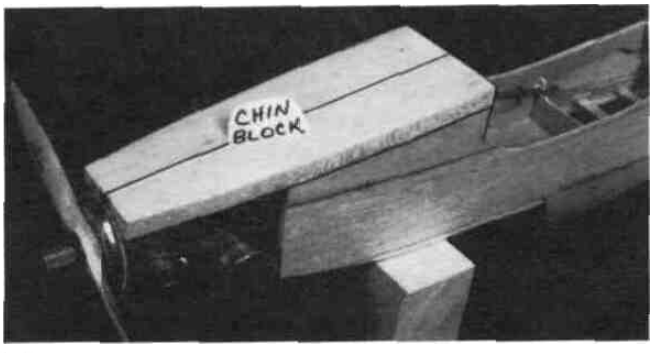
backplate to allow for engine movement. (A space **of** approximately 1/8" is probably sufficient).

☐ 6. Now center your2-3/4" **diameter spinner backplate** over the spinner ring, and tack glue it to the 1/32" ply spacers.

☐ 7. Slide the spinner ring / spinner backplate assembly onto the driveshaft and temporarily hold in place with the prop and prop nut



☐ 8. Glue together the two halves of the 5/8" balsa **chin block** and the 1/2" balsa **top front block.** Sand the glue joints smooth with your T-bar. **Fuelproof one side of the chin block.**



☐ 9. With the fuselage upside down, lay the **chin block** in place on the fuse bottom (fuclproofed side toward inside of fuse). Note how the front of the chin block meets the spinner ring. By trial and error, sand a little at a time off the front of the chin block until it mates at the proper angle with the back of the spinner ring.

☐ 10. Glue the chin block to the bottom of the fuse and the spinner ring. You may want to use 5-minute epoxy for this step to allow some time for careful positioning.

☐ 11. Cut off and sand the aft end of the chin block flush with the aft edge of F-2A.

NOTE: If you are building a taildragger, disregard steps 12 and 13.

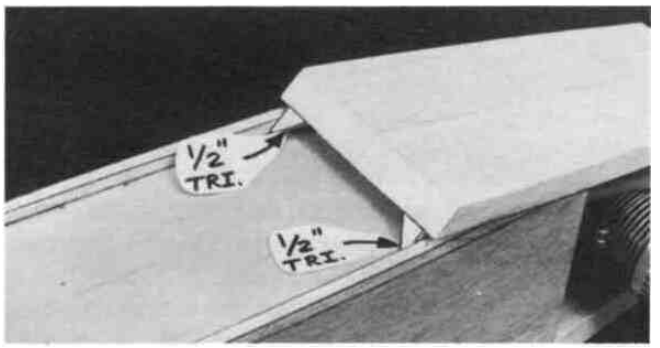
☐ 12. Turn the fuselage right side up and use a long 5/32" drill bit (or a sharpened piece of 5/32" O.D. brass tube) to drill a hole in the chin block for the nosegear wire. Insert the drill through the holes in the engine mount and drill down through the chin block.

☐ 13. Temporarily install the nose gear, steering arm and nosegear pushrod wire. Notice that the pushrod wire will bind against the chin block in a right turn. Carve out a **clearance** slot for the nosegear pushrod in the chin block. Now remove the nosegear parts.

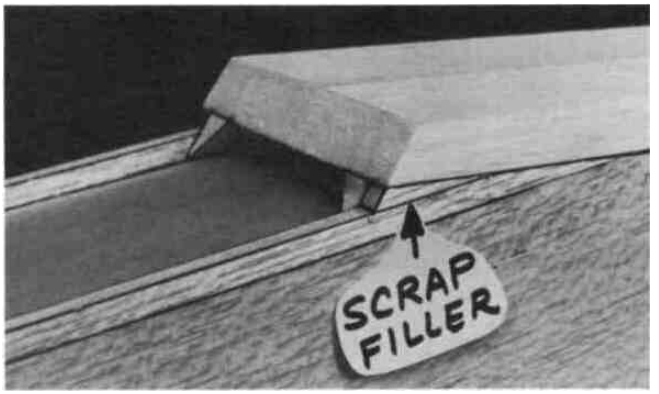
☐ 14. Lay the **top front block** in place on top of the fuselage. Using the same procedure as you used for the chin block, sand off the front of the top front block to mate with the spinner ring. Depending on your engine, you may also have to carve a groove for the needle valve. In addition, check if your engine mount touches the top front block, and provide

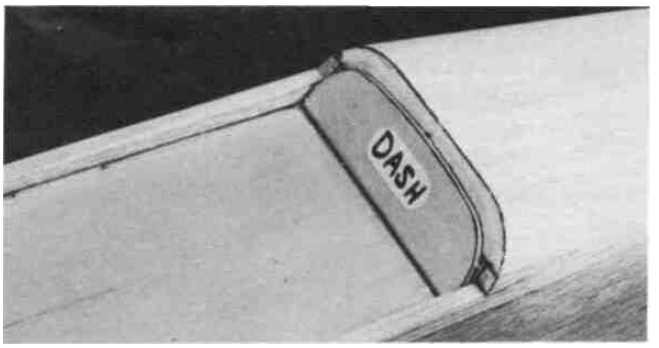
clearance as necessary. Glue the lop front block to the fuse **and** the **spinner ring.**

☐ 15. Cut off the aft end of the top front block at the location and angle shown on the plan (measure forward from F-3A).



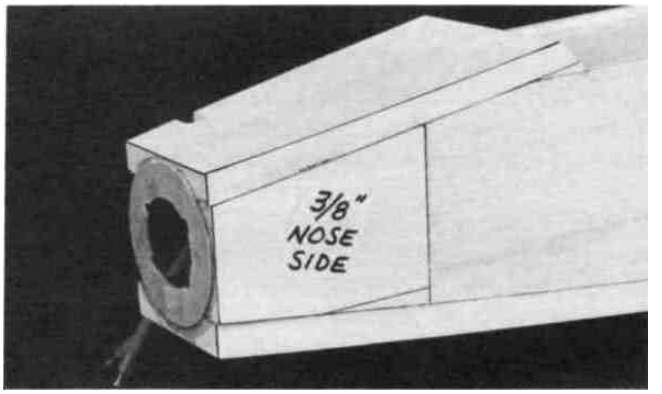
☐ 16. Cut two 1" lengths from the 1/2" x 11-1/2" balsa triangle and shape them to fit under the top front block, just **in** front of the dash. Also cut two scraps of 1/4" balsa to fill the gap between the top front block and the cockpit sides (see the DASH detail drawing on the fuse plan). Glue in place.





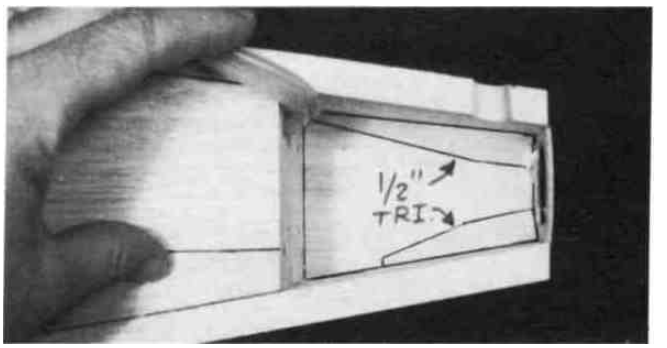
☐ 17. Sand the sides of the die-cut 3/32" balsa **dash** to fit between the cockpit sides, and sand the bottom edge to an angle so it rests flat on the cockpit floor. Glue the dash **in** place.

☐ 18. Remove the prop nut and propeller. Pop the spinner backplate loose with a screwdriver and remove the spacers. You may remove the engine and mount in preparation for the next step. Mark the outline of the engine mount on F-1 with a pencil. **HINT:** After removing the engine, enlarge the hole in the spinner ring as necessary until you can easily access the engine mount screws with a long screwdriver.



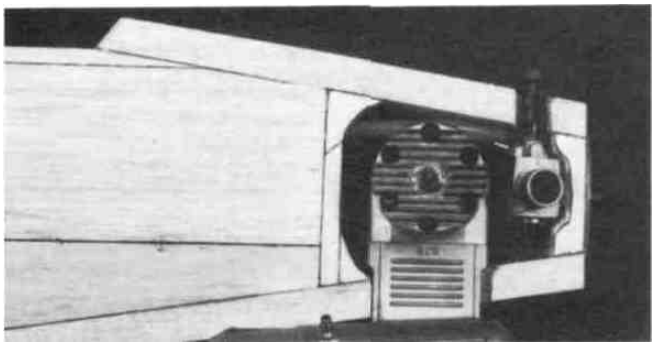
☐ 19. A 3/8" x 3" x 9-7/8" balsa sheet is provided for the **nose sides.** From this sheet, cut pieces to fit on the left side of the fuselage between the chin block, top front block, F-1 and the spinner ring. To do this more easily you may remove the engine and mount, then lay the fuse on its left side on top of the 3/8" balsa sheet and mark the outline of the opening on the sheet. (When installing this block, make sure you stay clear of the engine mount).

☐ 20. If necessary, carve out an area of the nose side needed for nosegear steering arm and pushrod clearance, then glue the left nose side in place.



☐ 21. From the 1/2" balsa triangle stock provided, cut lengths to fit in the upper left and lower left comers of the nose, between F-1 and the spinner ring. Sand these balsa triangles to a **taper,** with the wide part at the front, and glue in place.

☐ 22. Temporarily re-install the engine and mount; then, from the remaining 3/8" balsa sheet and 1/2" balsa triangle, cut pieces to partially fill in the **right side** around the engine.



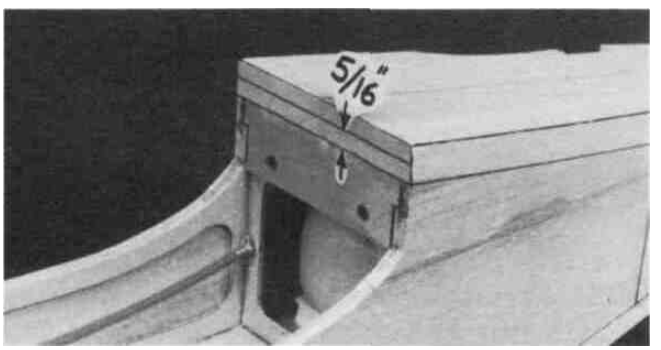
Also, trim the balsa as necessary to clear your muffler. SUGGESTION: The temptation is to close up this area too much! We recommend that you leave large enough openings that you may easily remove the engine and mount, and so you will have convenient access to the throttle linkage.

☐ 23. Now, with the engine and mount removed, **fuelproof** the inside of the entire engine compartment **with** polyester resin or epoxy thinned with alcohol.

FINAL ASSEMBLY

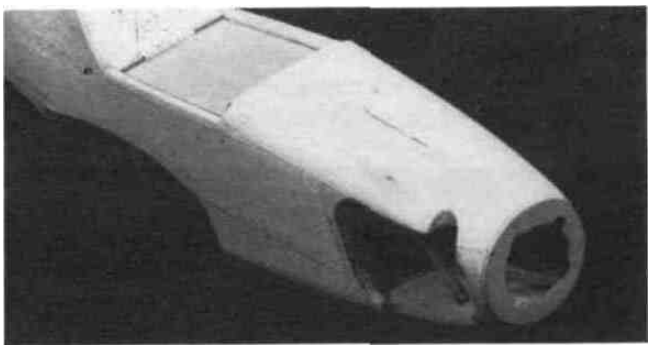
SAND THE FUSELAGE

NOTE: Some heavy sanding is required to properly shape the nose area. This task can be made much easier if you use a razor plane and a sanding block with #50-grit sandpaper for rough shaping. The very coarse sandpaper is used to achieve the basic shapes, then use progressively finer grades of sandpaper for a smooth finish.



☐ 1. Turn the fuse upside down and draw a line on the aft end of the chin block 5/16" below the bottom edge of F-2A. Now study the fuse plan side view and note the final shape and curvature of the chin block. Use your razor plane and a sanding block with coarse sandpaper to sand the fuse bottom to the approximate shape as shown on the plan.

☐ 2. In the same manner, sand the top front block to the approximate shape shown on the fuse plan side view.



☐ 3. Now sand the chin block, the top front block comers and the nose side pieces to blend smoothly with the spinner ring. Refer to the cross-section drawings of F-l andF-2onthe plan to get an idea of the desired amount of rounding in the comers. The top front block should be sanded with reference to the **dash** (see the DASH detail drawing on the plan).

☐ 4. After the rough sanding has been completed, temporarily re-mount your engine and slide on the spinner backplate. You'll probably have to sand the edges of the spinner ring down for a good match with the spinner backplate.

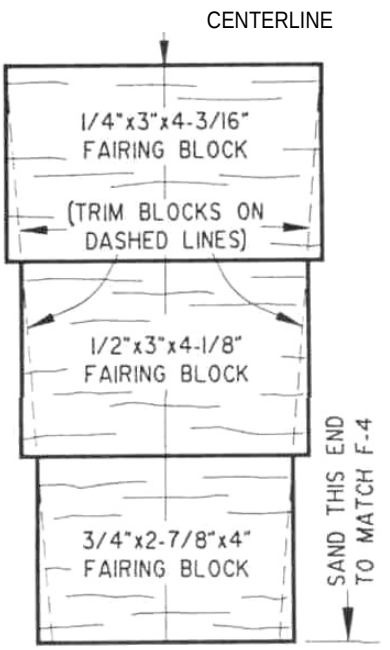
☐ 5. Sand the bottom rear comers of the fuselage **to a** slight radius as shown on the cross-sections of F-4, F-5 and F-6.

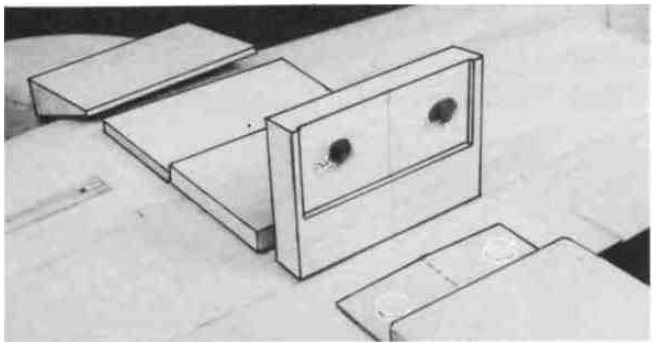
INSTALL WING FAIRINGS

You'll need the following parts: 3/4" x 2-7/8" x 4" balsa block, 1/2" x 3" x4-l/8" balsablock. 1/4" x 3" x4-3/16" balsa block, and the 1" x 2-7/8" x 4-1/4" tapered balsa wedge.

☐ 1. Mount the wing to the fuselage with the nylon bolts.

☐ 2. Draw **center-lines** on all the blocks, then arrange them as shown in the sketch. Draw straight lines along the edges of the blocks as shown, and trim the blocks.





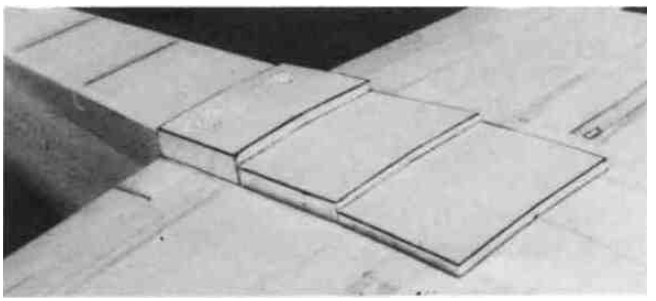
☐ 3. Sand the aft edge of the 3/4" x 2-7/8" x 4" balsa **rear fairing block** to an angle to match F-4, then position it on top of the nylon bolts, centered between the fuse sides. Push down on this block to make imprints of the nylon bolt heads in the fairing block.

☐ 4. Make holes in the fairing block large enough to clear the heads of the nylon bolts.

☐ 5. Again hold the fairing block in position, pushing down to imprint the location of the 1/16" ply wing hold-down plate on the fairing block. Carve the fairing block to clear the wing hold-down plate

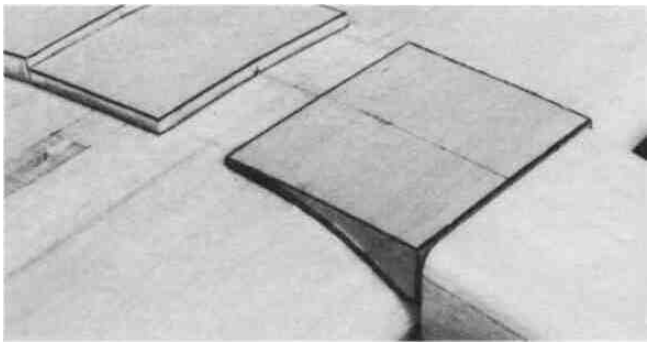
☐ 6. Make a 1/2" deep saw cut down the center of the rear fairing block (cut from the side facing the wing), which will permit the block to bend to the shape of the wing.

☐ 7. Hold the rear fairing block in place, leaving a slight (1/32") gap between the back of the block and the front of F-4, and apply a couple drops of thin CA to tack it in place. Remove the wing bolls and remove the wing from the fuse, then glue the block securely in place.



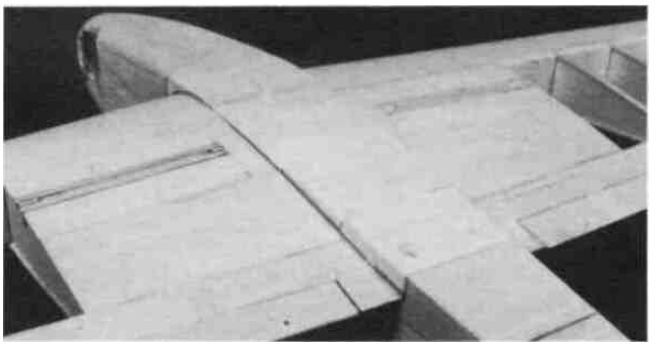
☐ 8. Glue the two remaining rear fairing blocks to the bottom of the wing in a similar manner. You'll have to make saw cuts in the center of the 1/2" block and the 1/4" block to permit bending at the centerline.

☐ 9. Carve and sand the 1" x 2-7/8" x 4-1/4" tapered balsa



front fairing wedge to fit the top of the wing. Round the comers of the block to match the fuselage. **NOTE:** It is difficult (and not necessary) to carve this block to mate exactly with the wing; therefore, you should just "rough it out", then later you can fill any gaps with balsa filler.

☐ 10. With the wing in place on the fuse, hold the front fairing in place (allow 1/32" gap between the fairing front and the rear ofF-2A) and tack glue it to the wing. **CAUTION: Use extreme care to avoid gluing the wing to the fuselage!**



☐ 11. Remove the wing and securely glue the front fairing block to the wing. Fill all gaps with balsa filler. After the filler has dried, replace the wing on the fuse and sand all the fairing blocks to smoothly blend the wing to the fuselage.

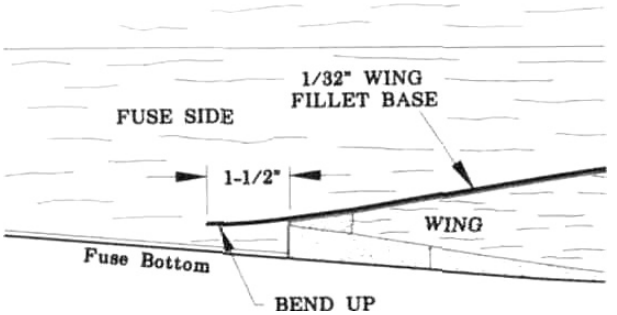
INSTALL WING FILLETS (OPTIONAL)

NOTE: The wing fillets are a nice addition to the US60. They make it more pleasing to the eye and they do help to reduce drag. The US60 flies just fine without them, however, so the choice is yours whether or not to install them.

☐ 1. Tape an 8" x 15" piece of waxed paper onto the top surface of the wing at the center, then attach the wing to the fuse with the wing bolts.

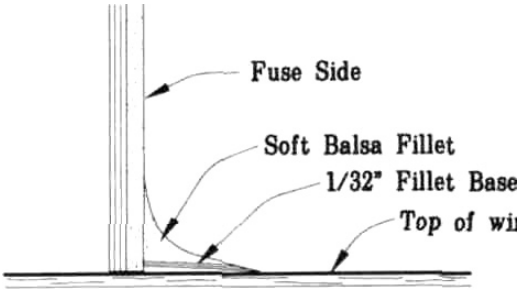
☐ 2, Lay the die-cut 1/32" ply wing fillet bases on the wing and glue them to the fuselage sides. **NOTE:** For this procedure, we recommend that you use **thick** CA glue Spar-

ingly, and "kick" the glue with accelerator spray immediately after applying, to avoid accidentally gluing the wing to the fuse with "stray "glue. **NOTE:** Bend the aft 1-1/2" of the fillet base to horizontal (see sketch).



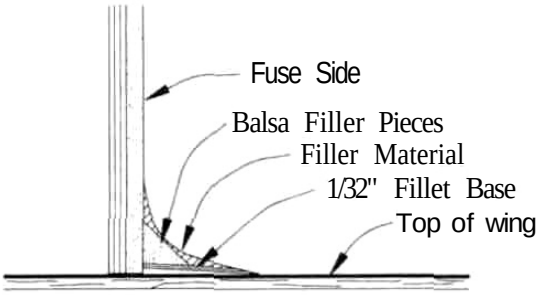
☐ 3. You may build the fillet on top of the fillet base in one of the following ways:

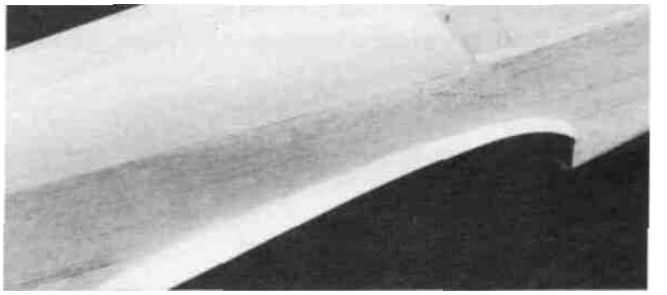
Method 1: Glue pieces of soft balsa onto the fillet bases, then sand to the fillet shape.



Method 2: Apply a good quality, lightweight model filler, shape it with a wet teaspoon, and allow it to dry **thoroughly** before sanding.

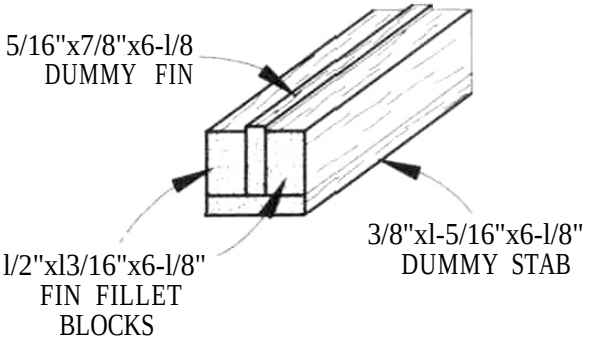
Method 3: A combination of the above, where you first glue pieces of balsa to partially fill the fillet area, then add filler to form the fillet shape.





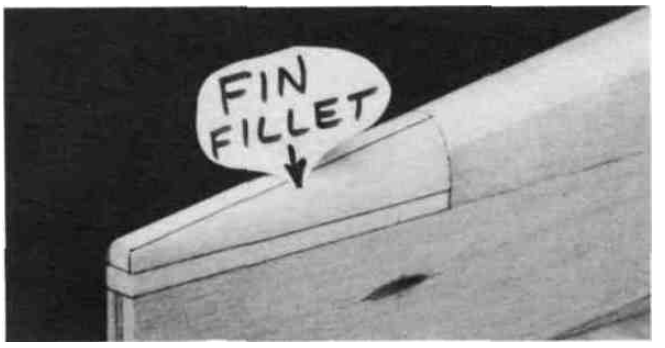
SHAPE THE FIN FILLETS

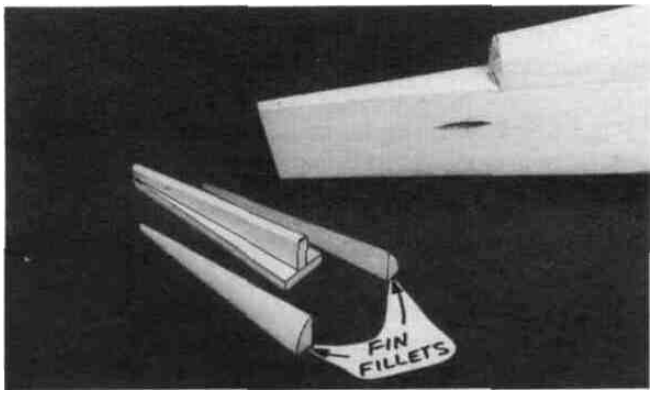
☐ 1. Using only one or two small drops of glue on each piece, tack glue the following balsa parts together (see sketch):



☐ 2. Tack glue the above assembly to the stab saddle with **the** "dummy fin" centered on the fuselage centerline.

☐ 3. Carve and sand the above assembly to blend smoothly with the fuse sides and the turtle deck. (The photo for this step is at the top of the next page).

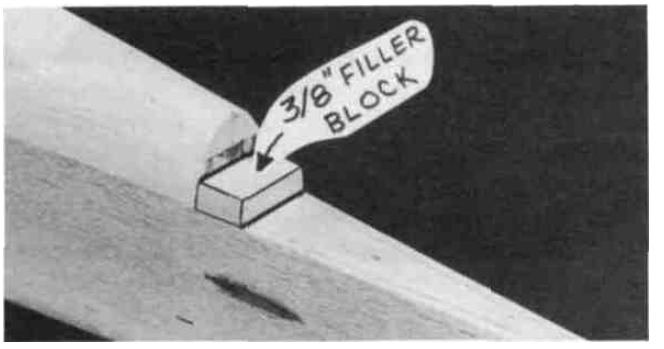




☐ 4, Break the assembly off the stab saddle and cut the parts apart Save the shaped fin fillets for later.

MOUNT STABILIZER AND FIN

☐ 1. Make sure the stab base is securely glued to the fuse sides, then lightly sand the **stab saddle area** smooth with a T-bar or sanding block.



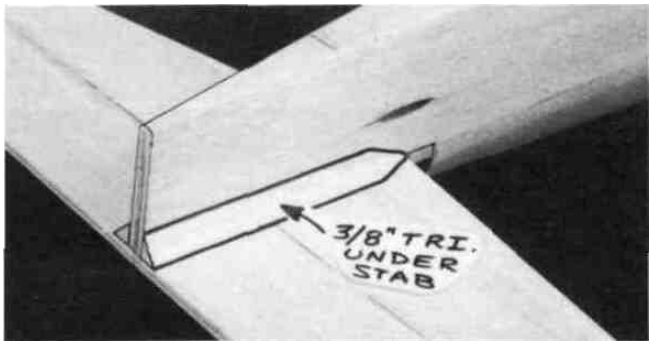
☐ 2. Find the 3/8" x 11/16" x 1-3/8" balsa **stab filler block** and glue it to the stab saddle and the back ofF-6A. Sand off the ends flush with the fuse sides.

☐ 3. Accurately measure the trailing edge of the stabi-**lizer** and mark the center point

☐ 4. Temporarily mount the wing in the saddle (for reference), and block up the tips until the wing is level.

☐ 5. Lay the **stab** in position on the stab saddle with the center point lined up with the tail end of the fuselage. If the stab protrudes beyond the end of the fuselage, sand a little off the front of the stab until it fits. Carefully check the stab alignment by measuring down from the tips to a flat surface, and from the stab tips to the wing tips (or to a point on the center of the fuse near the nose). Sand the stab saddle (a little at a time!) until the stab rests in proper alignment. With the stab in alignment, make a mark on the front of the stab and a corresponding mark on the back ofF-6A, which will be used for rapid alignment when gluing.

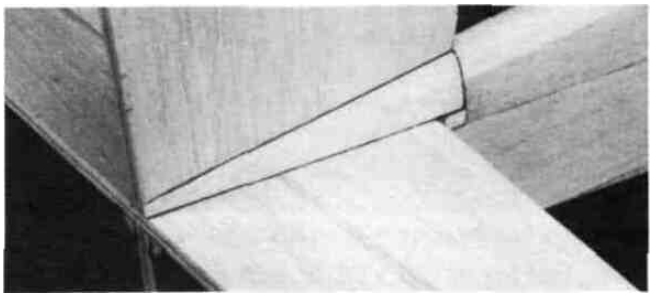
☐ 6. Mix up a batch of 5-minute or 30-minute epoxy and apply it to the stab saddle. Press the stab into position and **hold or pin in proper alignment until the glue has firmly set.** Wipe off any excess epoxy before it sets up.



☐ 7. From the 3/8" balsa triangle supplied, cut and securely glue fillets **under the stab,** at the stab/fuse joint

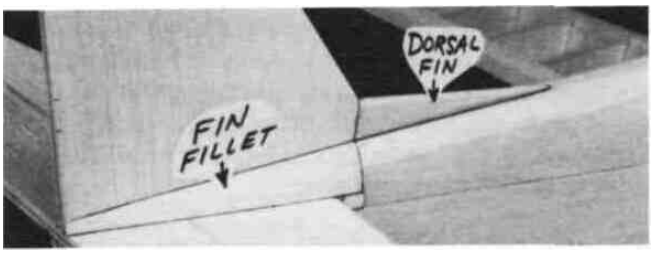
☐ 8. Trial fit the **fin** on the stab. The fin trailing edge must line up with the aft end of the fuselage. If the fin protrudes too far aft, sand a small amount off the **front** of the fin.

☐ 9. Carefully align the fin on the stab. **The fin must be positioned perpendicular to the stab and must line up with the fuselage centerline EXACTLY! Securely glue the fin in place.**



☐ 10. Now securely glue the **fin fillets** (you previously shaped these) in place on both sides of the fin.

☐ 11. Temporarily attach the elevators and rudder to check their fit and operation. Note that you must cut a **notch** in the rudder leading edge to clear the 1/8" wire elevator joiner.



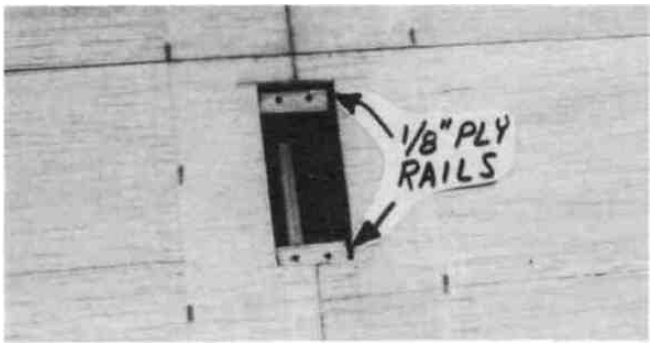
☐ 12. Finally, glue the 5/16" balsa **dorsal fin** in place on the turtle deck. The dorsal fin, like the fin, must also line up with the fuselage centerline. Sand the dorsal fin to a rounded shape, and blend it to the fin with balsa filler.

INSTALL SERVOS, HORNS AND PUSHRODS

☐ 1. Study the plans to determine the location of the **aileron servo cutout.** Mark the location on the top of the wing and cut an opening in the fiberglass and sheeting slightly larger than your servo. **CAUTION: Do not cut into the wing spars or shear webs!**

☐ 2. Remove a sufficient portion of the W-l ribs to fit your servo, leaving "shelves" on which to glue the 1/8" ply rails. (See the plan to determine the depth). **NOTE: A** Dremel Moto Tool with a 1/8" router bit is excellent for this, but it may also be done with an Xacto knife and a long-nose pliers.

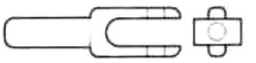
☐ 3. Make two **servo rails** from the 1/8" ply die-cutting



scrap, and glue them in place. (See the side view of the aileron servo installation on the plan).

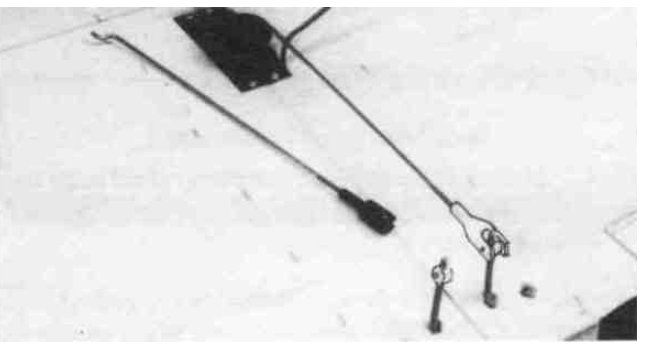
☐ 4. Mount the **aileron servo** using the screws provided with your radio.

☐ 5. Screw the nylon **aileron clevises** approximately 2/3 of the way onto the threaded end of the two 12" steel wire pushrods.



Nylon Aileron Clevis & Conn.

☐ 6. Screw the nylon **aileron clevis connectors** onto the aileron torque rods.

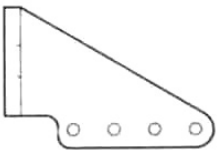


☐ 7. Attach the clevises to the clevis connectors, then, with the ailerons in the neutral position, mark the pushrod wires where they cross the holes in the servo arm. Remove the pushrods and make a **"Z-bend"** in the rods at that point, using a "Z-bend pliers" or a standard pliers.

☐ 8. Remove the servo wheel from the servo and work the Z-bends into the wheel **(NOTE:** You may have to enlarge the servo wheel holes with a 5/64" diameter drill bit). Replace the servo wheel and check the operation of the ailerons. (See page 35 for the recommended amount of aileron movement).

REMEMBER: Plan your servo installation carefully, as your setup may differ from the plans and photos, depending on which engine you use, and whether you are building a trike **or** taildragger.

☐ 9. Re-mount the elevator, rudder and throttle **servos** in the fuselage.



Nylon Control Horn

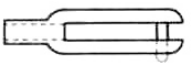
☐ 10. Hold the **nylon control horns** on the elevator and rudder in the positions shown on the plan and mark the mounting hole locations. Drill 3/32" holes at these locations.

☐ **11. Harden the balsa** in the area of the control horns (on both sides of the control surfaces) by poking several holes with a pin, then applying thin CA glue. Sand smooth.

☐ 12. Mount the homs with 2-56 screws and the nylon **nutplates** which were attached to the horns.

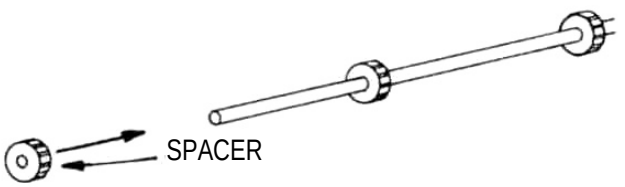
2-56 x 5/8 Machine Screw

☐ 13. Screw a nylon clevis onto the threaded end of each long steel wire pushrod. **NOTE: Screw them on all the way until the threads are protruding inside the clevis.**



Nylon Clevis

☐ 14. Cut the short length of 1/8" diameter plastic tube into several pieces, approximately 1/4" long. Slide at least six of these pieces onto each of the long pushrod wires and space them approximately 2-1/2" apart (do not glue yet). **NOTE:** If these tubes do not slide on easily, cut them to a shorter length.



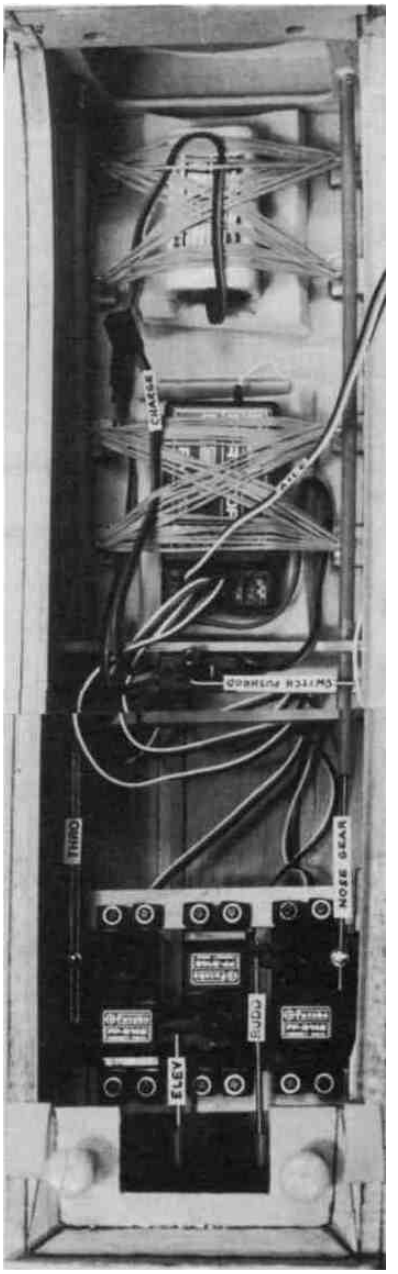
NOTE: While installing the pushrods, position the above plastic tube spacers so they always stay inside the pushrod guide tubes. If the tubes are not a tight friction fit on the pushrod wires, apply a drop of thin CA to secure them.

☐ 15. Insert the **pushrod wires** into the pushrod guide tubes (previously installed) and attach the clevises to the elevator and rudder homs.

☐ 16. While holding the rudder and elevators in the **neutral** position, mark where the pushrod wires cross the holes in the servo wheels where each pushrod will be attached.

☐ 17. Remove the elevator and rudder pushrods and make "Z-bends" at the marks you just made. Cut off the excess pushrod wire.

☐ 18. Unscrew the nylon clevises, reinsert the pushrods, and replace the clevises. Remove the servo wheels and work the Z-bends into the holes (drill out the holes in the servo wheels to 5/64" if necessary). Finally, place the servo wheels back onto the servos and check the operation of the elevator and rudder.



We recommend the following

CONTROL SURFACE THROWS:

NOTE: Throws are measured at the **widest part** of the elevator and rudder.

ELEVATOR:	(High Rate)... .5/8" up	5/8" down
	(Low Rate) ... .3/8" up	3/8" down
RUDDER:	(High Rate)... .1-1/2" right	1-1/2" left
	(Low Rate) ... .7/8" right	7/8" left
AILERONS:	(High Rate)... .5/16" up	5/16" down
	(Low Rate) ... .3/16" up	3/16" down

NOTE: If your radio does not have "dual rates", then set up the control surfaces to move at the **high rate** throws.

☐ 19. Securely anchor the pushrod guide tubes to F-4 using cross-braces cut from scrap 1/8" balsa.

☐ 20. Attach the throttle pushrod (and nose gear steering pushrod) to the throttle and rudder servo arms. **NOTE:** We recommend using DuBro "E-Z connectors" (or similar) for these hookups, for ease of installation and adjustment.

☐ 21. If you are using retracts, install your retract servo at this time.

☐ 22. Hook up your radio system and test the operation of all controls.

FINISHING

ADDITIONAL FUELPROOFING

If you have not already done so, make sure the entire engine compartment is completely fuelproof. Also fuelproof any wood that will not be covered and which may be exposed to glow fuel residue, such as the landing gear block slots and the wing saddle. Use epoxy thinned with alcohol, polyester finishing resin or fuelproof paint.

SEAL OFF COCKPIT

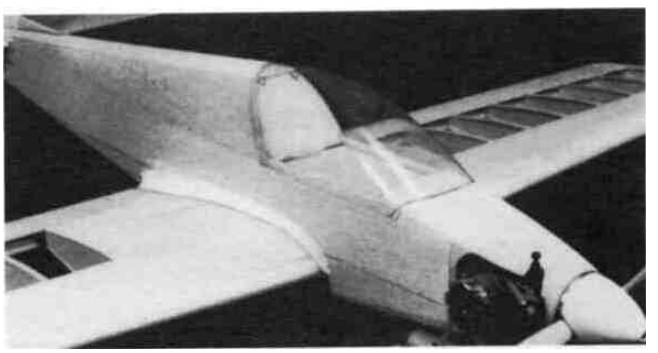
If you leave any openings through the fuse top into the cockpit area, there is the possibility of getting dust on the inside of the canopy, which is almost impossible to remove. Therefore, you should seal all openings to the inside of the cockpit, and paint all exposed balsa to prevent loose wood particles.

PREPARE THE CANOPY

NOTICE: The clear canopy in this kit may have a thin blue protective film on both sides. **Peel off this blue film before attempting to tint or glue the canopy.**

NOTE: Some modelers prefer to tint their canopies for a more subtle and realistic effect. You may tint your canopy by immersing it in a concentrated mixture of Rit Liquid Dye and hot tap water. The colors blue. black, brown and dark green work well. Remove the canopy after 5 minutes and rinse it off to check the amount of tint. The hotter the water and the longer you leave it in the dye solution the darker it will tint. **CAUTION:** Do not heat the dye water above tap water temperature, as this could deform the canopy.

☐ 1. Using a scissors, carefully cut the **canopy** just below **the trim line.**



☐ **2. Trial fit** the canopy onto the fuse, pressing into place. Trim as necessary for a good fit. **NOTE:** The trim line on the canopy is approximate. Your canopy trim will vary, depending on how you sanded the fuselage. It may be necessary to do some additional sanding of the fuse near the front of the canopy, if the canopy does not fit properly.

☐ 3. Sand the edges of the canopy with 320 grit sandpaper. It is important that the canopy does not have any cracks along the edges, as the engine vibration could cause them **to spread.**

NOTE: Do not glue the canopy in place until after you have covered your model.

BALANCE THE AIRPLANE LATERALLY

SPECIAL NOTE: Do not confuse this procedure with "checking the C.G." or "balancing the airplane fore and aft". That very important step will be covered later in the manual.

Now that you have the basic airframe nearly completed, this is a good time to balance the airplane **laterally** (side-to-side). Here is how to do it:

☐ 1. Temporarily attach the wing and engine (with muffler) to the fuselage.

☐ 2. With the wing level, lift the model by the engine propeller shaft and the bottom of the rudder (this may require two people). Do this several times.

☐ 3. If one wing always drops when you lift, it means that side is heavy. Balance the airplane by gluing weight to the other wing tip. **NOTE: An airplane that has been laterally balanced will track better in loops and other maneuvers.**

FINAL SANDING

Check over the entire structure carefully, inspecting for any poorly glued joints, gaps and "dings". Apply additional glue and/or balsa filler as necessary, then sand the entire fuselage and wing smooth using progressively finer grades **of** sandpaper.

COVERING

Because it is assumed that you have had some previous model building experience, we won't go into detail in regard to the covering procedure. Follow the instructions included with your covering material.

NOTE: When covering the fin and stab, begin by applying 1/2" wide strips of covering in the comers between the fin and the fairing block, between the stab and the fairing block, and (on the bottom of the stab) between the stab and the fuse sides. Next cover the fairing blocks with pre-cut pieces of covering. Finally, cover the stab and fin with pre-cut pieces that have a straight edge to overlap (1/8"+ overlap) the strips you previously applied. **DO NOT, under any circumstances, attempt to cut the covering material after it has been applied to the fin and stab, except around the leading and trailing edges and the tip.** Modelers who do this often cut through the covering and pan-way into the balsa stab. This can weaken the stab to the point where it may fail in flight!

Recommended Covering Sequence:

1. Strips as described in above **note**
2. Rudder left side
3. Rudder right side
4. Bottom of elevators
5. Top of elevators
6. Stab bottom
7. Stab top
8. Fuse bottom
9. Wing fillets*
10. Fuse sides
11. Fuse top
12. Fin left side
13. Fin right side
14. Ends of ailerons
15. Bottom of ailerons
16. Top of ailerons
17. Aileron openings in wing
18. Wing fairings (on bottom of wing)
19. Bottom of left wing panel
20. Bottom of right wing panel
21. Top of left wing panel (overlap covering 1/4" **at** wing LE)
22. Top of right wing panel (overlap covering 1/2" at the center and 1/4" at the LE)

***When covering concave surfaces, follow the iron with a damp cloth, pressing the covering down.**

GLUE THE HINGES

☐ 1. Lay the rudder, elevators and ailerons on the plans and mark on the leading edge of each part the locations of the hinges, torque rods (and tailgear if you have built a tail-dragger). Now use a sharp Xacto knife to cut slits in the covering at the hinge locations. Trial fit the hinges to make sure you have "found" the slots which you previously cut. In the same manner, slit the covering at the hinge locations in the wing, stab and fin TE. Also cut the covering away from the torque rod and tailgear slots.

IMPORTANT - Use coarse sandpaper to roughen both sides of the hinges for a good glue bond.

NOTE: When gluing in the nylon tailgear bearing and the hinges, do not just smear glue on the hinge and push it into the slot, as most of the glue will be wiped off as it is being pushed in. You must also work some glue into the slot. A good way of doing this is to scoop up some epoxy with a plastic soda straw, then pinch the end of the straw, insert it into the hinge slot, and squeeze the straw to force glue into the slot. Apply epoxy to the hinge, then insert the hinge into the slot. We recommend 30 minute epoxy for this process. After pushing in the hinge, **wipe away all excess glue with a tissue dampened with rubbing alcohol.**

☐ 2. Glue the hinges (and tailgear bearing) into the slots in the wing, stab and fin TE using the above process and **allow the glue to harden before proceeding.**

☐ 3. Put epoxy into the slots in the elevators and on the corresponding hinges, then push the elevators onto the hinges and wipe away **all** excess epoxy with a tissue (for best results dampen the tissue with rubbing alcohol).

☐ 4. Using coarse sandpaper, roughen the part of the aileron torque rods that will be glued into the ailerons, then clean off the sanded portion of the rods with alcohol or a degreasing solvent. Roughen and clean the tailgear wire in the same manner. Using a toothpick, apply a small amount of Vaseline where the torque rods and tailgear wire enter the nylon bearing tubes (to prevent glue from getting inside and locking them up).

☐ 5. Put epoxy into the rudder hinge slots (and the tailgear hole), push the rudder into place and **wipe off all excess epoxy.**

☐ 6. Put epoxy into the aileron hinge slots and the torque rod holes, push the ailerons into place and wipe off all excess **epoxy.**

INSTALL PILOT

Assemble and paint your pilot figure, and glue it to the cockpit floor. **NOTE:** To avoid the possibility of the pilot coming loose inside the canopy, we recommend that you drill up through the cockpit floor and pilot base, and use two #6 or #8 sheet metal screws (not included) to lock the pilot in place.

GLUE CANOPY IN PLACE

☐ 1. Lightly sand the inside of the canopy around the edge (sand a strip approximately 1/8" wide). **NOTE:** To avoid sanding more than you want, it is helpful to first apply strips of masking tape on the inside of the canopy, 1/8" in from the edges.

☐ 2. Poke **pinholes** (1/8" apart) through the covering material in the area where the canopy will be glued to the fuselage.

☐ 3. Hold the canopy in place on the fuselage and very carefully apply medium viscosity CA glue around the edges. To control the amount of CA, it is very helpful to use the small diameter teflon applicator tubing which is supplied with most **CA** glues, or use a "Z-End" applicator tip.

☐ 4. To hide the canopy glue joint, you can use 1/4" wide Striping tape as a border around the canopy.

WING SEATING

☐ 1. Apply 1/4" or 3/8" wide foam **wing seating tape** to the wing saddle area to seal the wing/fuse joints.*

☐ 2. Also apply a couple pieces of the foam tape to the 1/4" ply wing hold-down plate, which helps to distribute the load when the nylon bolts are tightened.

***NOTE:** An alternate method of sealing the wing/fuse joint is to use "silicone bathtub sealer". This is an excellent method, used by many experts because it results in a permanent and nearly perfect wing saddle joint. Briefly, the technique is as follows: 1. Cover the top of the wing center section with waxed paper or plastic kitchen wrap. Pull out all wrinkles and tape it to the wing. 2. Squeeze out a bead of silicone sealer onto the wing saddle area of the fuselage. 3. Lay the wing in the saddle and push down gently. The excess silicone sealer will squeeze out. 4. Allow to dry without disturbing for at least 24 hours. 5. Remove the tape, then remove the wing from the saddle (leaving the waxed paper or plastic wrap in place). 6. Gently pull the waxed paper or plastic wrap away from the sealer. 7. Using a new single-edge razor blade, trim the sealer flush with the wing fillets, and along the inside of the fuselage.

RE-INSTALL ENGINE & RADIO

Re-install the engine, propeller, battery, receiver, servos, control horns, pushrods, main LG, nose gear and **wheels.** Attach the wing to the fuselage.

BALANCE YOUR MODEL

NOTE: This section is VERY important and must not be omitted! A model that is not properly balanced will be unstable and possibly unflyable.

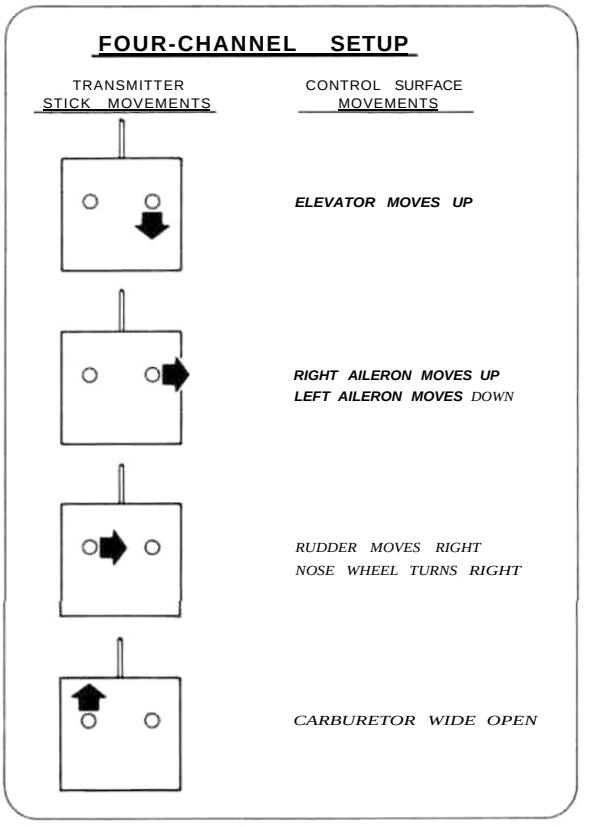
☐ 1. Accurately mark the balance point on the bottom of the wing on both sides of the fairing. The balance point is shown on the plan (CG), and is located approximately 4-3/8 inches back from the leading edge. This is the balance point at which your model should balance for your first flights. Later, you may wish to experiment by shifting the balance up to 3/8" **forward or back** to change the flying characteristics. Moving the balance **forward** may improve the smoothness and arrow-like tracking, but it may then require more speed for takeoff and make it more difficult to slow down for landing. Moving the balance **aft** makes the model more agile with a lighter and snappier "feel" and often improves knife-edge capabilities. In any case, **do not balance your model outside the recommended range.**

☐ 2. With the wing attached to the fuselage, all parts of the model installed (ready to fly), and an **empty** fuel tank, block up the tail as necessary to level the fuselage. (If you have built a tricycle gear, the fuse should already be sitting level).

☐ 3. Lift the model at the CG marks. If the tail drops when you lift, the model is "tail heavy" and you must add weight to the nose to balance. If the nose drops, it is "nose heavy" and you must add weight to the tail to balance. **NOTE:** Nose weight may be easily installed by using a Prather "Spinner Weight" (available in assorted weights, up to 2 ounces), or by gluing strips of lead into the engine compartment under the engine. Tail weight may be added by using Prather "slick-on" lead weights, and, later, if the balance proves to be OK you can open the fuse bottom and glue these in permanently. NOTE: Try shifting the location of the radio components to balance the airplane, before actually adding weight

FINAL HOOKUPS AND CHECKS

☐ 1. Make sure the control surfaces move in the proper direction as illustrated in the sketch at the top of the next column.



☐ 2. Adjust your pushrod hookups as necessary to provide the proper control surface movements as listed on Page **35.**

***NOTE:** These control surface "throws" are approximate and provide a good starting point for the first flights with your Ultra Sport 60. You may wish to change the throws slightly to provide the smoothness or quickness that you prefer.

☐ 3. Check for wing twist as follows:

NOTE: Even if you have built your wing on a perfectly flat surface and used utmost care, it is possible that your wing may have a twist due to uneven shrinking of the covering material. **You must check for this condition and correct it before the first flight.**

If you do not own a **wing incidence meter,** we recommend that you purchase one from your local hobby dealer or borrow one from another modeler. With the wing mounted to the fuselage, use the incidence meter to check the angle of your wing at the root and at the tips. If the incidence meter reveals a wing twist of more than 1/4 degree, you must grasp the wing at the tip and twist it slightly, while reheating the covering material. Keep checking, twisting and reheating until the wing twist is removed. **NOTE:** If you have corrected a wing twist by this method, you should periodically re-check to make sure the correction has held.

PRE-FLIGHT

CHARGE THE BATTERIES

Follow the battery charging procedures in your radio instruction manual. You should always charge your transmitter and receiver batteries the night before you go flying, and at other times as recommended by the radio manufacturer.

FIND A SAFE PLACE TO FLY

The best place to fly your R/C model is an AMA (Academy of Model Aeronautics) chartered club field. Ask your hobby shop dealer if there is such a club in your area and join. Club fields are set up for R/C flying which makes your outing safer and more enjoyable. The AMA can also tell you the name of a club in your area. We recommend that you join AMA and a local club so you can have a safe place to fly and also have insurance to cover you in case of a flying accident. (The AMA address is listed on the front cover of this instruction book).

If a club and its flying site are not available, you need to find a large, grassy area at least 6 miles away from any other R/C radio operation like R/C boats and R/C cars and away from houses, buildings and streets. A schoolyard may look inviting but it is too close to people, power lines and possible radio interference.

GROUND CHECK THE MODEL

If you are not thoroughly familiar with the operation of R/C models, ask an experienced modeler to check to sec that you have the radio installed correctly and that all the control surfaces do what they are supposed to. The engine operation must also be checked and the engine "broken in" on the ground by running the engine for at least two tanks of fuel. **Follow the engine manufacturer's recommendations for break-in.** Check to make sure all screws remain tight, that the hinges are secure and that the prop is on tight

RANGE CHECK YOUR RADIO

Wherever you do fly, you need to check the operation of the radio before every time you fly. This means with the transmitter antenna collapsed and the receiver and transmitter on, you should be able to walk at least 100 feet away from the model and still have control. Have someone help you. Have them stand by your model and, while you work the controls, tell you what the various control surfaces are doing.

Repeat this test **with the engine running** at various speeds with an assistant holding the model. If the control surfaces are not acting correctly at all times, **do not fly!** Find and correct the problem first.

ENGINE SAFETY PRECAUTIONS

NOTE: Failure to follow these safety precautions may result in severe injury to yourself and others.

Keep all engine fuel in a safe place, away from high heat, sparks or flames, as fuel is very flammable. Do not smoke near the engine or fuel; remember that the engine exhaust gives off a great deal of deadly carbon monoxide. Therefore **do not run the engine in a closed room or garage.**

Get help from an experienced pilot when learning to operate engines.

Use safety glasses when starting or running engines.

Do not run the engine in an area of loose gravel or sand; as the propeller may throw such material in your face or eyes.

Keep your face and body as well as all spectators away from the plane of rotation of the propeller as you start and run the engine.

Keep items such as these away from the prop: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects (pencils, screw drivers) that may fall out of shirt or jacket pockets into the prop.

Use a "chicken stick" device or electric starter; follow instructions supplied with the starter or stick. Make certain the glow plug clip or connector is secure so that it will not pop off or otherwise get into the running propeller.

Make all engine adjustments from **behind** the rotating propeller.

The engine gets hot! Do not touch it during or after operation. Make sure fuel lines are in good condition so fuel is not leaked onto a hot engine causing a fire.

To stop the engine, cut off the fuel supply by closing off the fuel line or follow the engine manufacturer's recommendations. Do not use hands, fingers or any body part to try to stop the engine. Do not throw anything into the prop of a running engine.

AMA SAFETY CODE

Read and abide by the following Academy of Model Aeronautics Official Safety Code:

GENERAL

1. I will not fly my model aircraft in competition or in the presence of spectators until it has been proven to be airworthy **by** having been previously successfully flight tested.

2. I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right of way to, and avoid flying in the proximity of full scale aircraft. Where necessary an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full scale aircraft

3. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.

RADIO CONTROL

1. I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.

2. I will not fly my model aircraft in the presence of spectators until I become a qualified flyer, unless assisted by an experienced helper.

3. I will perform my initial turn after takeoff away from the pit, spectator and parking areas, and I will not thereafter perform maneuvers, flights of any sort or landing approaches over a pit, spectator or parking area.

FLYING

The ULTRA SPORT 60 is a great Hying sport airplane that flies smoothly and predictably, yet is highly maneuverable. It does not have the self-recovery characteristics of a primary trainer, therefore you must either have mastered the basics of R/C flying or seek the assistance of a competent R/C pilot to help you with your first flights.

TAKEOFF: If you have dual rates on your transmitter, set the switches to "high rate" for takeoff, especially when taking off in a crosswind. Although the ULTRA SPORT 60 has great low speed characteristics, you should always build up as much speed as your runway will permit before lifting off, as this will give you a safety margin in case of a "flame-out". If you have built a tricycle gear configuration and the ground handling seems too quick and "squirrely," this can be easily fixed by reducing the amount of nose gear steering throw.

FLYING: We recommend that you take it easy with your ULTRA SPORT 60 for the first several nights and gradually ''get acquainted" with this fantastic ship as your engine gets fully broken-in. Add and practice one maneuver at a time, learning how she behaves in each one. For ultra-smooth flying and normal maneuvers, we recommend using the **low rate" settings as listed on page 35. "High rate" elevator and rudder may be required for crisp snap rolls and spins. "Low rate" rudder is best for knife edge. If you notice any "sluggishness" in the way your ULTRA SPORT 60 handles, it is probably a result of not enough speed, in which case you should install a propeller with increased pitch. Do not exceed the recommended "high rate" throws for the rudder, as this will only result in pitch-down when full rudder is applied. Speed is the key to good knife-edge performance.

CAUTION (THIS APPLIES TO ALL R/C AIRPLANES): If, while flying, you notice any unusual sounds, such as a low-pitched "buzz", this may be an indication of control surface "flutter". Because flutter can quickly destroy components of your airplane, any time you detect flutter you must **immediately** cut the throttle and land the airplane! Check all servo grommets for deterioration (this will indicate which surface fluttered), and make sure all pushrod linkages are slop-free. If it fluttered once, it will probably flutter again under similar circumstances unless you can eliminate the slop or flexing in the linkages. Here are some things which can result in flutter: Excessive hinge gap; Not mounting control horns solidly; Sloppy fit of clevis pin in horn; Elasticity present in flexible plastic pushrods; Side-play of pushrod in guide tube caused by tight bends; Sloppy fit of Z-bend in servo arm; Insufficient glue used when gluing in the elevator joiner wire or aileron torque rod; Excessive flexing of aileron, caused by using too soft balsa aileron; Excessive "play" or "backlash" in servo gears; and Insecure servo mounting.

LANDING: When it's time to land, make your approach low and shallow, as this ship wants to just keep on flying (especially if built light). If you find that it lands a little fast, you might try dialing in a few clicks of up elevator when you cut

the throttle on the downwind leg of the landing approach. This will automatically help to bleed off some of the speed. If your ULTRA SPORT 60 is built straight and true, you'll find that you can really flare it out for slow, nose-high, full-stall landings without fear of tip stalling.

Have a ball! But always stay in control and fly in a safe manner.

GOOD LUCK AND GREAT FLYING!

FLIGHT TRIMMING

... A model is not a static object. Unlike a car, which can only hunt left or right on the road (technically, a car does yaw in corners, and pitches when the brakes are applied), a plane moves through that fluid we call air in all directions simultaneously. The plane may look like it's going forward, but it could also be yawing slightly, slipping a little and simultaneously climbing or diving a bit! The controls interact. Yaw can be a rudder problem, a lateral balance problem or an aileron rigging problem. We must make many flights, with minor changes between each, to isolate and finally correct the problem.

The chart accompanying this article is intended to serve as a handy field reference when trimming your model. Laminate it in plastic and keep it in your flight box. You just might have need to consult it at the next contest! The chart is somewhat self-explanatory, but we will briefly run through the primary points.

First, we are assuming that the model has been C.G. balanced according to the manufacturer's directions. There's nothing sacred about that spot - frankly, it only reflects the balance point where a prototype model handled the way the guy who designed it thought it should. If your model's wing has a degree more or less of incidence, then the whole balance formula is incorrect for you. But, it's a good ballpark place to start

The second assumption is that the model has been balanced laterally. Wrap a strong string or monofilament around the prop shaft behind the spinner, then tie the other end to the tail wheel or to a screw driven into the bottom of the aft fuse. Make the string into a bridle harness and suspend the entire model inverted (yes, with the wing on!). If the right wing always drops, sink some screws or lead into the left wing tip, etc. You may be surprised to find out how much lead is needed.

At this point the model is statically trimmed. It's only a starting point, so don't be surprised if you wind up changing it all. One other critical feature is that the ailerons must have their hinge gap sealed. If shoving some Scotch tape or Monokote into the hinge gap to prevent the air from slipping from the top of the wing to the bottom, and vice-versa, bothers you, then don't do it.

To achieve the maximum lateral trim on the model, the hinge gap on the ailerons should be sealed. The easiest way to do this is to disconnect the aileron linkages, and fold the ailerons as far over the top of the wing as possible (assuming they are top or center hinged). Apply a strip of clear tape along the joint line. When the aileron is returned to neutral, the tape will be invisible, and the gap will be effectively sealed. Depending on how big the ailerons are, and how large a gaping gap you normally leave when you install hinges, you could experience a 20 percent increase in aileron control response just by this simple measure.

. . . Your first flights should be to ascertain control centering and control feel. Does the elevator always come back to neutral after a 180-degree turn or Split-S? Do the ailerons tend to hunt a little after a rolling maneuver? Put the plane through its paces. Control centering is either a mechanical thing (binding servos, stiff linkages, etc.), an electronic thing (bad servo resolution or dead-band in the radio system), or C.G. (aft Center of Gravity will make the plane wander a bit). The last possibility will be obvious, but don't continue the testing until you have isolated the problem and corrected it.

... let's get down to the task of trimming the model. Use the tachometer every time you start the engine, to insure consistent results. These trim flights must be done in calm weather. Any wind will only make the model weathervane. Each "maneuver" on the list assumes that you will enter it dead straight-and-level. The wings must be perfectly flat, or else the maneuver will not be correct and you'll get a wrong interpretation. That's where yourobserver comes in. Instruct him to be especially watchful of the wings as you enter the maneuvers.

Do all maneuvers at full throttle. The only deviation from this is if the plane will be routinely flown through maneuvers at a different power setting...

Let's commence with the "engine thrust angle" on the chart. Note that the observations you make can also be caused by the C.G., so be prepared to change both to see which gives the desired result. Set up a straight-and-level pass. The model should be almost hands-off. Without touching any other control on the transmitter, suddenly chop the throttle. Did the nose drop? When you add power again, did the nose pitch up a bit? If so, you need some downthrust, or nose weight. When the thrust is correct, the model should continue along the same flight path for at least a dozen plane lengths before gravity starts to naturally bring it down.

Do each maneuver several times, to make sure that you are getting a proper diagnosis. Often, a gust, an accidental nudge on the controls, or just a poor maneuver entry can mislead you. The thrust adjustments are a real pain to make. On most models, it means taking the engine out, adding shims, then reassembling the whole thing. Don't take shortcuts. Don't try to proceed with the other trim adjustments until you have the thrust line and/or C.G. correct. They are the basis upon which all other trim setting are made.

Also, while you have landed, take the time to crank the clevises until the transmitter trims are at neutral. Don't leave the airplane so that the transmitter has some odd-ball combination of trim settings. One bump of the transmitter and you have lost everything. The trim must be repealable, and the only sure way to do this is to always start with the transmitter control trims at the middle.

The next maneuver is somewhat more tricky than it looks. To verify the C.G., we roll the model up to a 45-degree bank, then take our hands off the controls. The model should go a reasonable distance with the fuse at an even keel. If the nose pitches down, remove some nose weight, and the opposite if the nose pilches up. The trick is to use only the ailerons to get the model up at a 45-degree bank. We almost automatically start feeding in elevator, but that's a no-no. Do the bank in both directions, just to make sure that you arc getting an accurate reading of the longitudinal balance.

We now want to test the correct alignment of both sides of the elevator (even if they aren't split, like a Pattern ship's, they can still be warped or twisted). Yaw and lateral balance will also come into play here, so be patient and eliminate the variables, one-by-one. The maneuver is a simple loop, but it must be entered with the wings perfectly level. Position the maneuver so that your assistant can observe it end-on. Always loop into the wind. Do several loops, and see if the same symptom persists. Note if the model loses heading on the front or back side of the loop. If you lose it on the way up, it's probably an aileron problem, while a loss of heading on the way back down is most likely a rudder situation.

After you get the inside loops going correctly, do the same maneuver to the outside, entering from an inverted position .. . Before you make too many dramatic changes, glance at the remainder of the chart and note the myriad combination of things we can do just with the ailerons. Each change you make will affect all other variables!

Note that the Yaw test is the same looping sequences. Here, however, we are altering rudder and ailerons, instead of the elevator halves. We must repeat that many airplanes just will not achieve adequate lateral trim without sealing the hinge gaps shut. The larger you make the loops (to a point), the more discemable the errors will be.

The Lateral Balance test has us pulling those loops very tightly. Actually, we prefer the Hammerhead as a better test for a heavy wing. Pull straight up into a vertical and watch which wing drops. A true vertical is hard to do, so make sure that your assistant is observing from another vantage point. Note that the engine torque will affect the vertical fall off, as will rudder errors. Even though we balance the wing statically before leaving for the field, we are now trimming it dynamically.

The Aileron Coupling (or rigging) is also tested by doing Hammerheads. This time, however, we want to observe the side view of the model. Does the plane want to tuck under a bit? If so, then try trimming the ailerons down a small bit, **so** that they will act as flaps. If the model tends to want to go over into a loop, then rig both ailerons up a few turns on the clevises. Note that drooping the ailerons will tend to cancel any washout you have in the wing. On some models, the lack of washout can lead to some nasty characteristics at low speeds.

The effects noted with the Aileron Coupling tests can also be caused by an improperly set wing incidence. The better test for this is knife-edge flight... If the model tends to pull upward, i.e., it swings toward a nose up direction, then reduce the wing incidence. If the model tries to go off heading toward the bottom side of the plane, then increase incidence.

Again, we reiterate that all of these controls are interactive. When you change the wing incidence, it will influence the way the elevator trim is at a given C.G. Re-trimming the wing will also change the rigging on the ailerons, in effect, and they may have to be readjusted accordingly.

The whole process isn't hard. As a matter of fact it's rather fun - but very time consuming. It's amazing what you will learn about why a plane flies the way it does, and you'll be a better pilot for it. One thing we almost guarantee, is that your planes will be more reliable and predictable when they are properly trimmed out. They will fly more efficiently, and be less prone to doing radical and surprising things. Your contest scores should improve, too.

We wish to acknowledge the Orlando, Florida, club newsletter, from which the basics of the chart presented here were gleaned.

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FLIGHT TRIMMING CHART

TRIM FEATURE	MANEUVERS	OBSERVATIONS	CORRECTIONS
CONTROL CENTERING	Fly general circles and random maneuvers.	Try for hands off straight and level flight.	Readjust linkages so that Tx trims are centered.
CONTROL THROWS	Random maneuvers.	A. Too sensitive, jerky controls. B. Not sufficient control.	If A, change linkages to reduce throws. If B, increase throws.
ENGINE THRUST ANGLE[1]	From straight flight, chop throttle quickly.	A. Aircraft continues level path for short distance. B. Plane pitches nose up. C. Plane pitches nose down.	If A, thm is okay. If B, decrease downthrust. If C, increase downthrust.
CENTER OF GRAVITY LONGITUDINAL BALANCE	From level flight roll to 45-degree bank and neutralize controls.	A. Continues in bank for moderate distance. B. Nose pitches up. C. Nose drops.	If A, trim is good. If B, add nose weight. If C, remove nose weight.
SPLIT ELEVATORS (Also Yaw and C.G.)	Into wind, pull open loops, using only elevator. Repeat tests doing outside loops to inverted entry.	A. Wings are level throughout. B. Plane tends toward outside when right side up, and to inside when inverted. C. Plane goes in on regular loops, and out on inverted. D. Plane goes out on both types of loops. E. Plane goes in on both types of loops.	If A, trim is fine. If B, add weight to right wing, or add right rudder. If C, add weight to left wing, or add left rudder. If D, raise right half of elevator (or lower left). If E, raise left half of elevator (or lower right).
YAW[2]	Into wind, do open loops, using only elevator. Repeat tests doing outside loops from inverted entry.	A. Wings are level throughout. B. Yaws to right in both inside and outside loops. C. Yaws to left in both inside and outside loops. D. Yaws right on insides, and left on outside loops. E. Yaws left on insides, and right on outside loops.	If A, trim is correct. If B, add left rudder trim. If C, add right rudder trim. If D, add left aileron trim. If E, add right aileron trim.
LATERAL BALANCE	Into wind, do tight inside loops, or make straight up climbs into Hammerheads. Do same from inverted entry.	A. Wings are level and plane falls to either side randomly in Hammerhead. B. Falls off to left in both inside and outside loops. Worsens as loops lighten. C. Falls off to right in both loops. Worsens as loops tighten. D. Falls off in opposite directions on inside and outside loops.	If A, trim is correct. If B, add weight to right wing tip. If C. add weight to left wing tip. If D, change aileron trim.[3]
AILERON RIGGING	With wings level, pull to vertical climb and neutralize controls.	A. Climb continues along same path. B. Nose tends to go to inside loop. C. Nose tends to go to outside loop.	If A, trim is correct. If B, raise both ailerons very slightly. If C, lower both ailerons very slightly.
WING INCIDENCE	Knife edge flight.	A. Models tends to veer in nose up direction. B. Model veers in nose down direction.	If A, reduce wing incidence. If B, increase wing incidence.

1. Engine thrust angle and C.G. interact. Check both.
2. Yaw and lateral balance produce similar symptoms. Note that fin may be crooked. Right and left references are from the plane's vantage point.
3. Ailerons cannot always be trimmed without sealing the hinge gap.

NOTES

Date Purchased: Where Purchased:

Date Assembly Started: Date Assembly Finished:

Finished Ready To Fly Weight: 8 Digit Code on Box End:

General Notes:

ULTRA SPORT 60 PARTS LIST (Cont.)

PART#	QTY.	DESCRIPTION
SUB-PACK STAB PARTS (US60A07)		
US60S01	1	Balsa 3/8 Shaped Stab Front
US60S02	1	Balsa 3/8 x 3 x 22-9/16 Stab Rear
US60S03	2	Balsa 3/8 Shaped Elevator
SUB-PACK SMALL PIECES (US60A08)		
DOWEL034	2	Hardwood Dowel 1/4 Dia. x 4-9/16
HRDWD005	2	Small Hardwood L.G. Gusset
US60F05	1	Ply 1/4 F-l (Firewall)
US60F27	2	Ply 3/16 x 1/2 x 3-5/8 Servo Rail
US60F28	1	Ply 1/4 Shaped Wing Mounting Plate
US60F33	1	Basswood 1/8 x 1/8 x 3-5/8 Spacer
US60W27	2	Bass 7/16 x 5/8 x 6-1/4 Grooved LG Block
US40W28	2	Maple 7/16 x 5/8 x 7/8 Short LG Block
US40W35	6	Ply 1/16 DC Rib Doublers for LG
US60W40	4	Ply 1/4 x 13/16 x 2-11/16 Retract Rail
US60F02	1	Ply 1/16 DC Spinner Ring
SIJB.PACK SHORT STICKS (US60A09)		
US60F34	1	Balsa Triangle 1/2 x 11-1/2 (Nose Comers)
US60S04	1	Balsa 1/8 x 3/8 x 11-7/8 Elev & Rudd Ends
US60W39	4	Balsa 3/32 x 1 x 13 LE Sheet Front
US60S05	1	Balsa 3/8 x 5/8 x 11 Stab Tips
US60R08	1	Balsa 5/16 x 5/8 x 5-3/4 Fin Tip
US60F21	2	Balsa 1/4 x 1/4 x 10 Cockpit Side
US60F36	1	Balsa 1/4 Shaped Fuse Cross-Brace (at F-4) 1/4 x 1/2 x 3
US60F37	1	Balsa 1/4 Shaped Fuse Cross-Brace (at F-5) 1/4 x 1/2 x 2-9/32

PART#	OTY.	DESCRIPTION
SUB-PACK FIN/RUDDER PARTS (US60A10)		
US60R02	1	Balsa 5/16 Shaped Fin Front
US60R03	1	Balsa 5/16 Shaped Fin Rear
US60R04	1	Balsa 5/16 Shaped Rudder Front
US60R05	1	Balsa 5/16 Shaped Rudder Rear
SUB-PACK HARDWARE (US60M01)		
GLTP011	1	Fiberglass Tape 4" x 28-1/2"
NUTS003	4	6-32 Blind Nut
NYLON02	2	Nylon Control Horn
NYLON09	2	Nylon Hinges (12 per tree)
NYLON16	1	Nylon Steering Arm
NYLON17	4	Nylon Clevis
NYLON20	2	Nylon Aileron Clevis Connector
NYLON21	2	Nylon Aileron Clevis
NYLON36	1	Nylon LG Strap (4 per tree)
PLTB004	1	Plastic Inner Pushrod Tube 6-1/2"
SCRW002	4	2-56 x 5/8" Machine Screw
SCRW005	1	6-32 x 1/8" Socket Set Screw
SCRW020	1	6-32 x 1/4" Machine Screw
SCRW024	8	#2 x 3/8" Sheet Metal Screw
SCRW033	4	6-32 x 3/4" Machine Screw
SCRW042	4	#6X1" Sheet Metal Screw
WHCL005	2	5/32" Wheel Collar (For nose gear & steering arm)
WBNT002	1	Aileron Torque Rod Set (Lt & Rt)
WBNT128	1	3/32" Tail Gear Wire & Bearing
WBNT149	1	5/32" Wire Nose Gear
WBNT150	2	5/32" Wire Main Gear
WBNT145	1	1/8" Wire Elevator Joiner

2-VIEW DRAWING

USE THIS FOR PLANNING YOUR TRIM SCHEME.