Part 1 of 2 Parts

BY BEN STRASSER, JOE BRIDI, AND DON DEWEY

RCM TRAINER JR.

Another reliable, good flying 60 becomes a reliable, good flying 40. An aerodynamic design that makes for slow, stable flying when you want it but, will loop, roll, spin, fly inverted, or .... The 40 size offers more economical flying, more convenient storage, and easier transportation to and from the flying field.

What goes into the design is only part of the story. What you make out of it is the other part. To get a good flying ship the parts must be cut and assembled correctly, accurately, and with care. Begin with a flat building board. When you glue a part in place, make sure it is properly aligned — and stays that way while the glue dries. Use pins, spring loaded clothespins, clamps, masking tape, elastic bands, spring loaded paper clamps, weights, blocks, or whatever you have handy that will do the job. When you use other than epoxy glues, double-double glue all of the joints. Put glue on both surfaces to be joined, wait a few minutes for the glue to soak in, apply a bit more glue, as necessary, and join the surfaces. When you use epoxy apply it to both surfaces before you join them.

When it comes to adhesives we recommend you use aliphatic resin glue, specially formulated for use in modeling work. In using this or any other glue, spread it thin. Except in some special cases, building glue up around the glue joint doesn't help at all. As a matter of fact, a blob of glue around a joint may actually keep the glue from drying properly and give you a weaker glue joint! Use a glue stick or rag to remove excess glue. It helps keep the plane a bit lighter, too!

The sequence we'll follow begins by putting the stabilizer together and installing the pine insert into the elevator and rudder. Then you'll work on the fuselage, which is built upside down on your building board. First the top block or fuselage top is built, then the sides and bottom are installed. Finally, the cabin front and read blocks and sides are glued in place and the rudder and elevator are hinged. Note that the nosegear is mounted on the engine mount — in holes drilled for that purpose.

With the fuselage completed, the wing halves are built, ideally on a wing jig to insure warp-free construction. The wing halves are joined, the center section is sheeted, and the center is glassed. Finally, the ailerons are finished and installed and you're ready for the final alignment. Finish it, install your radio equipment, check out the operation of the surfaces and have fun. Now that was easy, wasn't it? (See picture #1)

Time to get to work.

[ ] Your first job is to read through the entire construction procedure. That way you'll know where you're going before you get there. As you glance through it you'll notice that we put a box in front of each step. Check 'em off as you go. The check marks also make it easier for you to find your place as you read about the next step, do the work, read, do the work, and so on.

THE RUDDER, FIN, AND DORSAL FIN

[ ] Cut out the 1/4" sheet balsa RUDDER and PINE INSERT. (See picture #2)

[ ] Double glue and install the pine insert into the notch in the rudder. Do not glue the fin to the dorsal fin yet. They will be glued together later as they are glued in place on the fuselage.

THE STABILIZER AND ELEVATOR

The stabilizer (or more properly called the horizontal stabilizer) is the piece that sticks out of the tail of the fuselage sometimes incorrectly referred to as the elevator. The stab is permanently fixed to the plane and doesn't move up and down. The elevator is the part that moves up and down to make the plane climb and dive. (See picture #3) [ ] Cut out the 1/4" balsa sheet ELEVATOR and the PINE INSERT. [ ] Put glue on both the notched area in the elevator and the pine insert. [ ] After the glue has had some time to sink into the wood, push the pine insert into the notch. [ ] Wipe off the excess glue and set it aside to dry. (It's a lot easier to wipe off the excess glue now than after it dries!) When you hinge the elevator later, remember that the pine insert is on the hinge line side.

[ ] Cut out the FRONT AND REAR 1/4" balsa sheet STABILIZER SECTIONS. [ ] Lay them on your building board to find which edge of the rear stabilizer sections best mates to the front section. [ ] Push the front and rear stab sections tightly together and put a piece of masking tape over the length of the joint. [ ] With some waxed paper or plastic kitchen wrap larger than the size of the stab on your building board, turn the stab over, fold the masking tape hinged joint open and apply glue to both edges to be glued. [ ] After you've given the glue some time to penetrate into the wood and have added additional glue, as necessary, fold the glue joint closed. [ ] Pin the stab down on your building board and remove the excess glue.

The horizontal stabilizer is finished, ready to glue to the top block at the right time.

THE FUSELAGE

[ ] Cut out the 3/16" sheet balsa top block, the 1/4" plywood bulkhead #1, the 3/16" sheet balsa bulkhead #2 and #3, and the 1/2" sheet balsa hatch.

[ ] Draw a centerline down the center of the fuselage top block, the bottom of the stabilizer and the top hatch, and vertically down the back of bulkheads #1, #2, and #3. [ ] Pin the fuselage top block down on your building board. (See picture #4) [ ] Add the 1/4" x 3/8" BALSA STRINGERS. The stringers should not go all of the way to the back of the top block. Line them up with the front end of the top block as you install them. Double glue and pin them in place. Wipe off any excess glue.

[ ] Locate the stabilizer by butting it up against the stringers. The stabilizer should extend beyond the end of the top block as shown. (See picture #5) Double glue the top block and stabilizer. Be sure to glue the leading edge of the stabilizer to the end of the stringers as well. For correct alignment the centerline down the center of the stabilizer should line up with the centerline of the top block. Put a couple of pins into the stabilizer/top block to hold it in place. Then double check the alignment before the glue sets up. Tie a long piece of string or thread to a T pin or straight pin. Stick the pin into the front of the fuselage top block right on the centerline. Use the string to make sure the distance is the same to both rear corners of the stabilizer. Adjust the alignment accordingly and leave it to dry.

[ ] Finish up the top block by adding the 3/16" x 1/4" x 3" CROSS BRACING between the two stringers at the front end of the top block. [ ] Cut the other 3/16" x 1/4" x 2" top block CROSS BRACING. Lay it across the top block inside the stringers near the front cross brace and slowly slide it down toward the rear of the top block. Mark the location where the cross bracing fits snugly between the stringers. That's where it should be located. Double glue it and pin it down to dry.

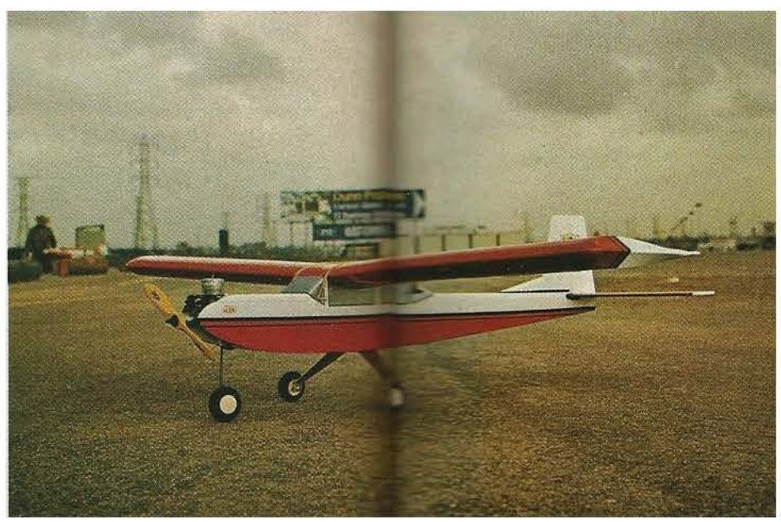
[ ] Finally, glue BULKHEAD #3 on to the top of the front cross brace, even with the front end of the top block and centered between the sides. (See picture #6) The centerline on the back of the bulkhead should line up with the centerline on the top block.

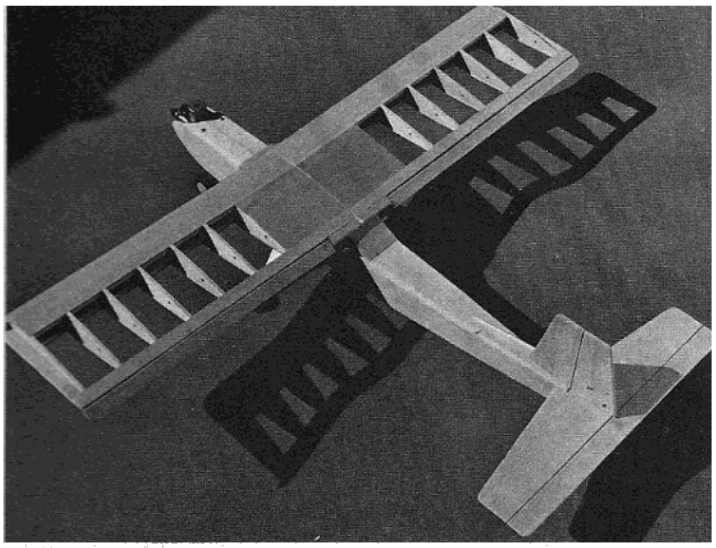
Use a square to assure the bulkhead will be at 90° to the top block and pin it in place.

BUILDING THE FUSELAGE SIDES

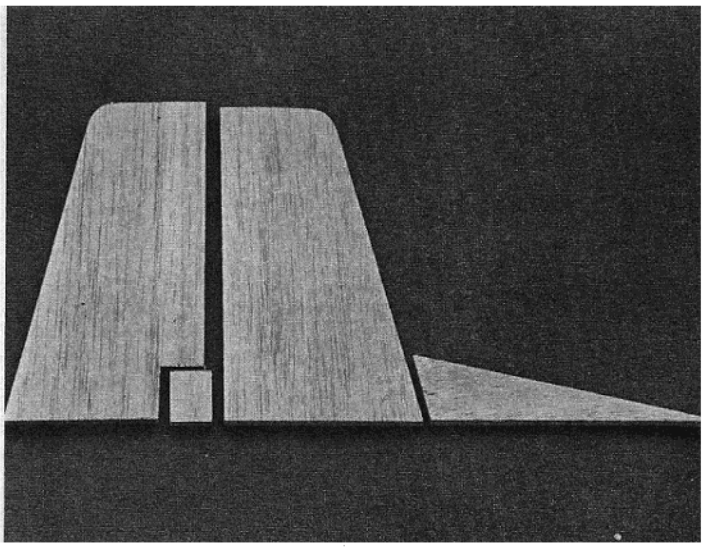
Now to prepare the 1/8" sheet balsa fuselage sides (See picture #7).

[ ] Cut them out as shown on the plans. Lay one side on top of the other to assure they are the same. If the sides are not exactly the same, remember that the crucial part is the straight side that serves to properly align the wing and elevator. Use a straight-edge

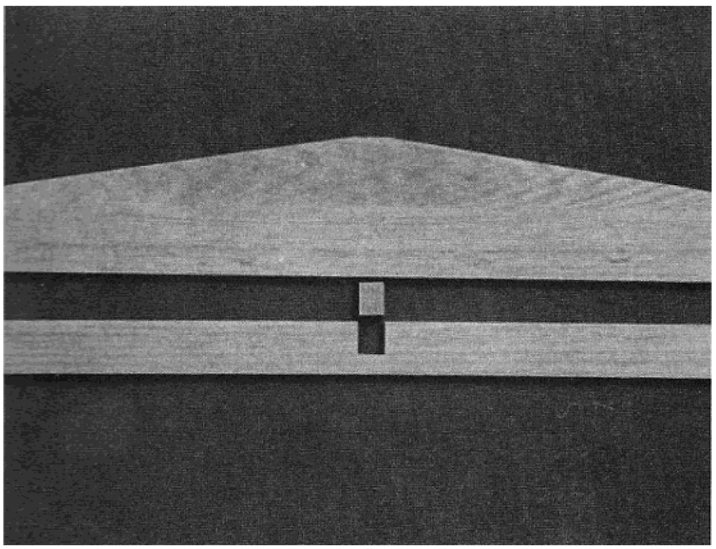




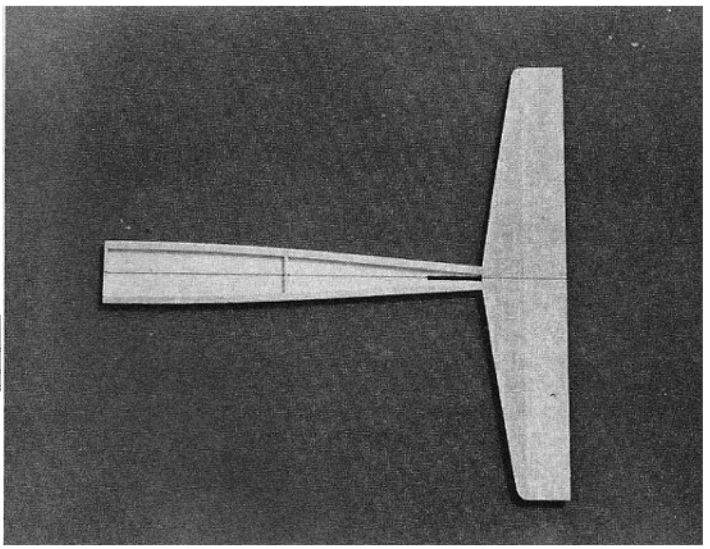
(1) The completed airframe, ready for finishing.



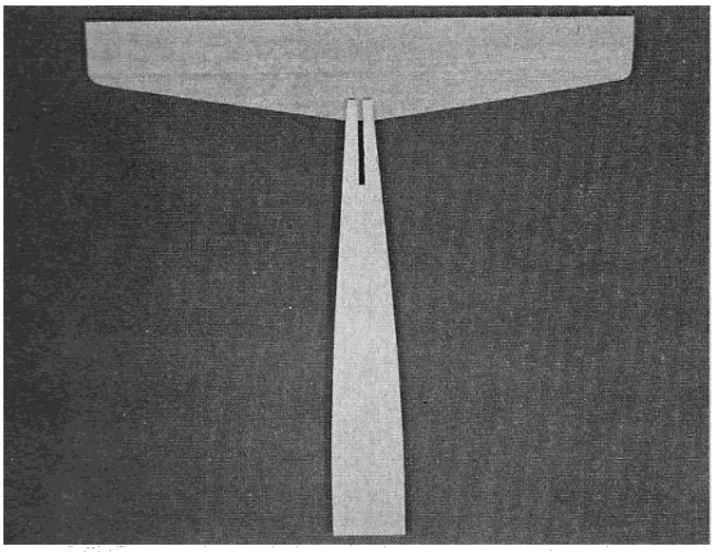
(2) The rudder, fin, and dorsal fin.



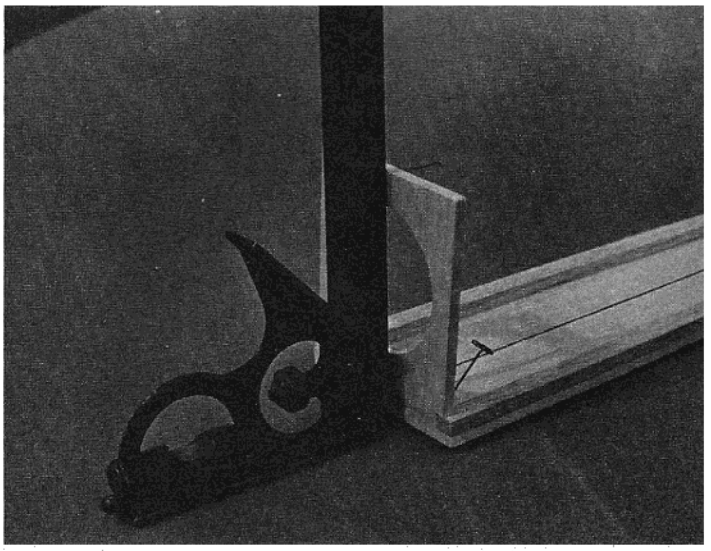
(3) The horizontal stabilizer and elevator parts.



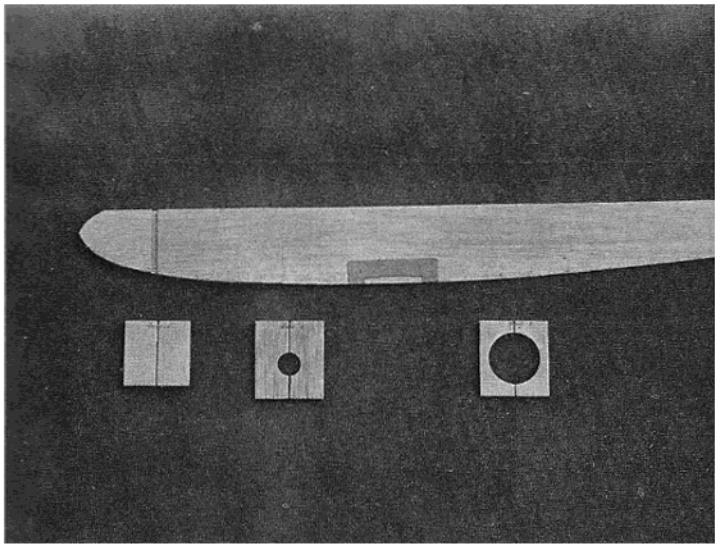
(4) The assembled top block ready for installation of bulkhead No. 3.



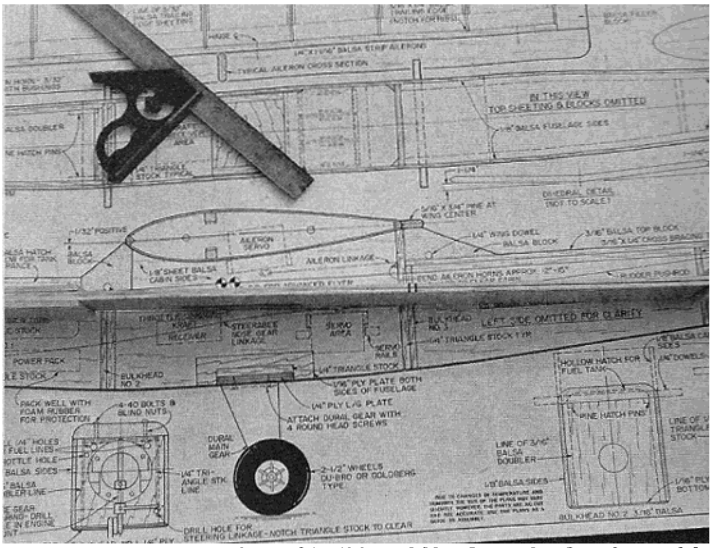
(5) Top view of top block showing stabilizer overlap.



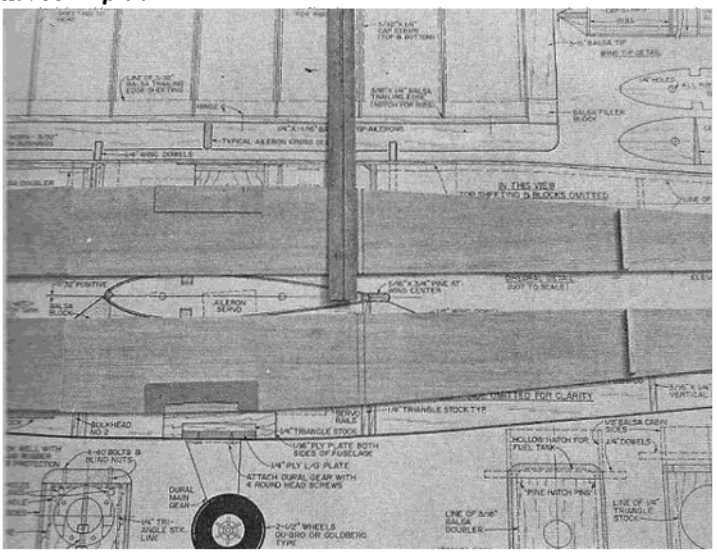
(6) Installing bulkhead No. 3 on to the top block.



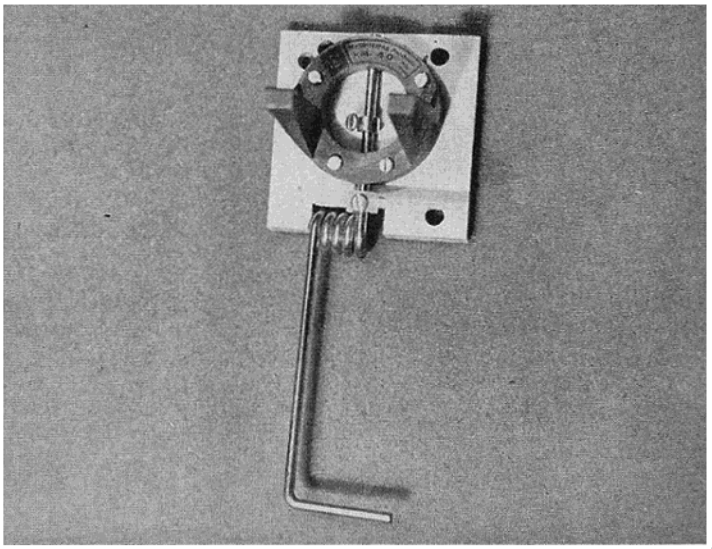
(7) The fuselage side with the engine compartment doubler, fuel tank compartment doubler, main gear brace plate, and vertical brace in place.



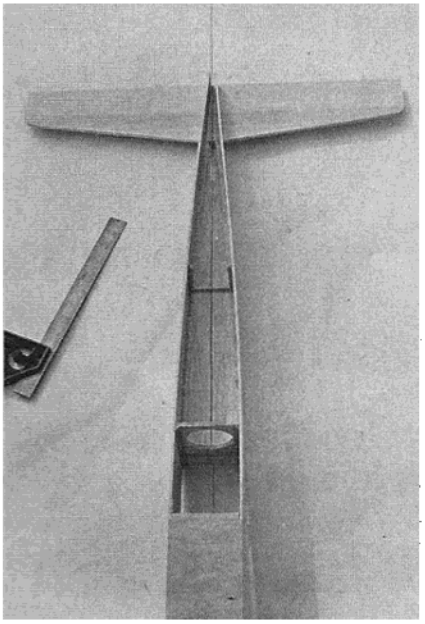
(8) Marking the location of bulkhead No. 3 on the fuselage side.



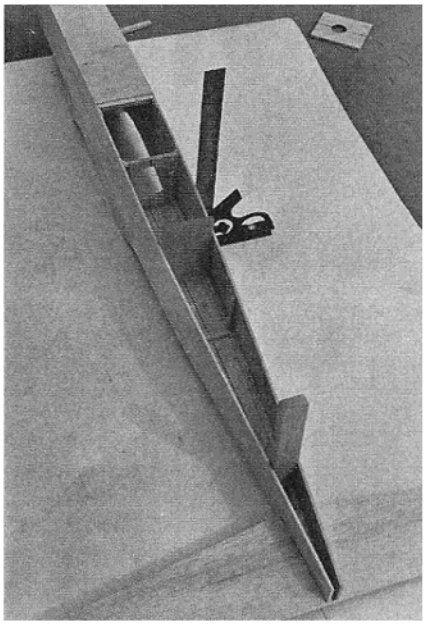
(9) Another view of bulkhead locations.



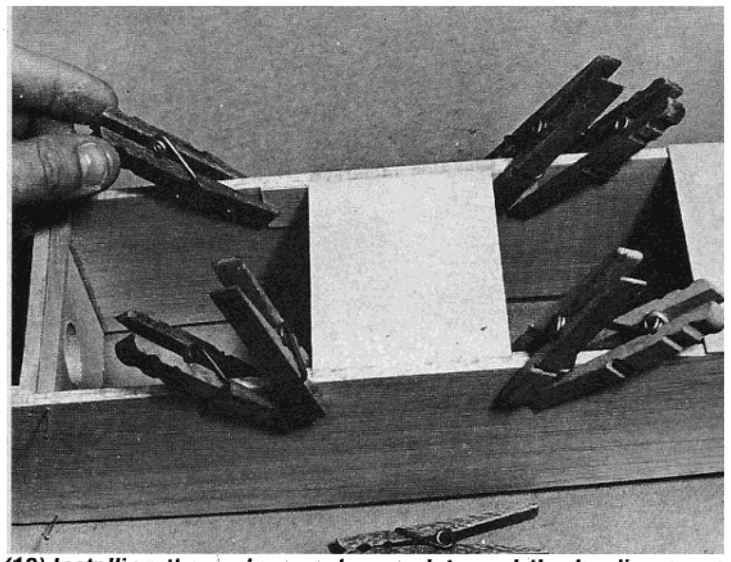
(10) The completed bulkhead No. 1 with the engine mount and nosegear.



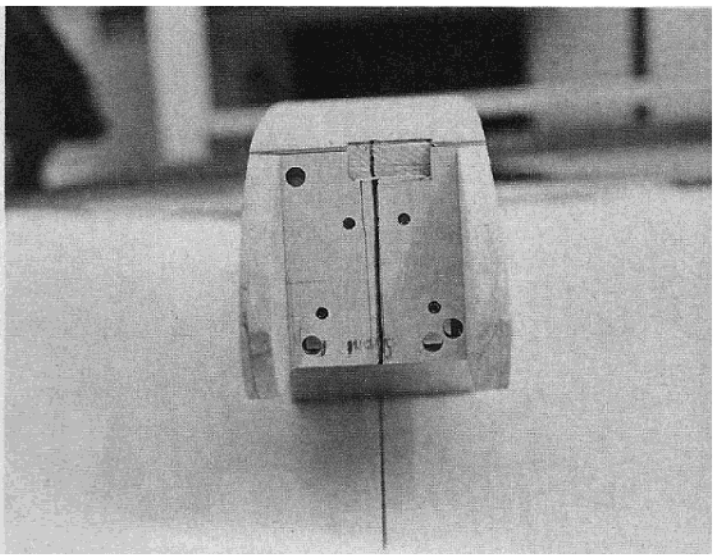
(11) FAR LEFT: The fuselage sides, top block, and stabilizer assembly.



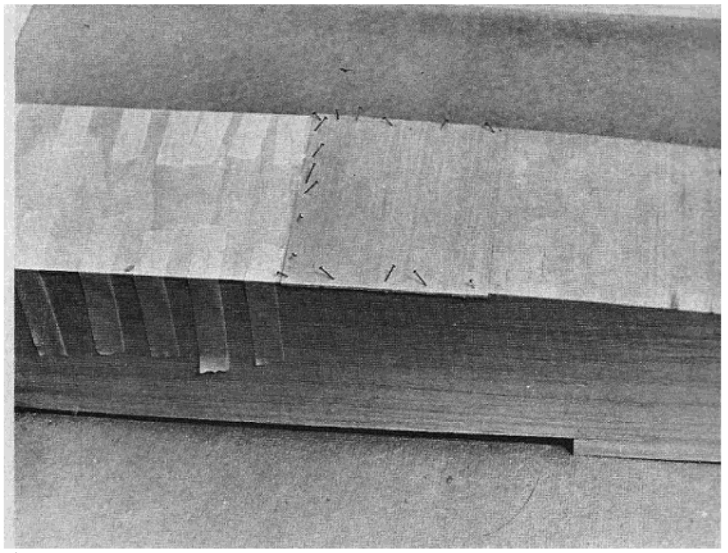
(12) LEFT: Aligning the fuselage sides with the top block.



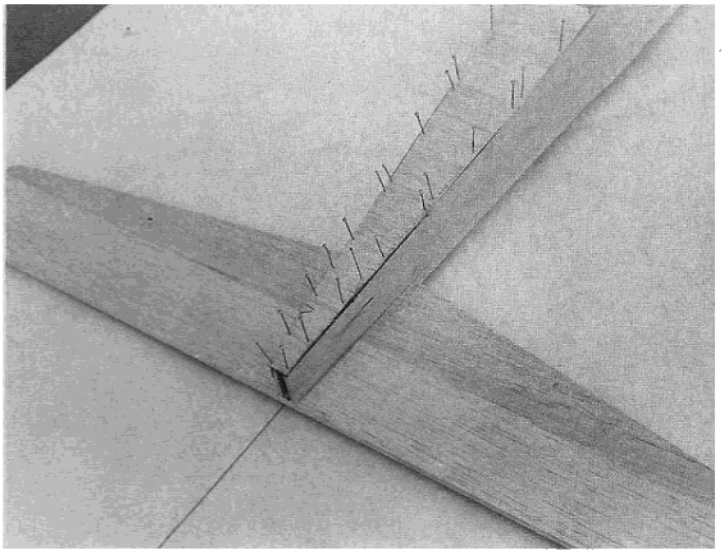
(13) Installing the main gear brace plate and the landing gear plate.



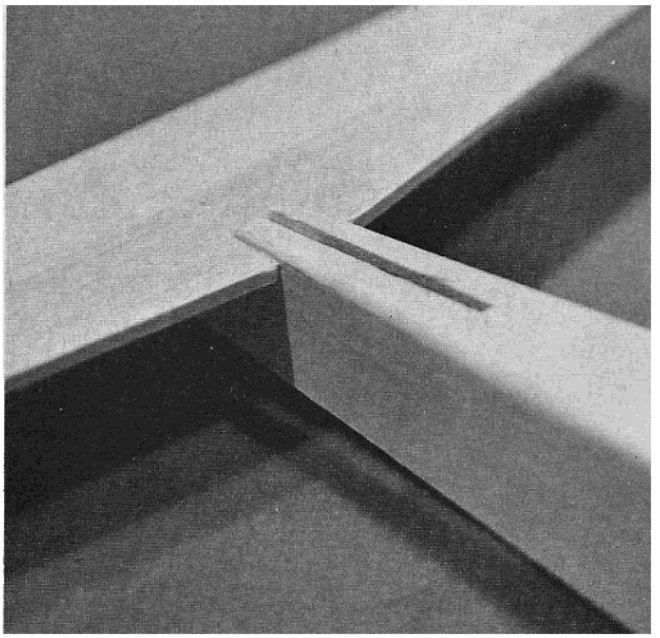
(14) Sheeting the fuselage bottom. Note the notch cut in the fuel tank compartment bottom at bulkhead No. 1.

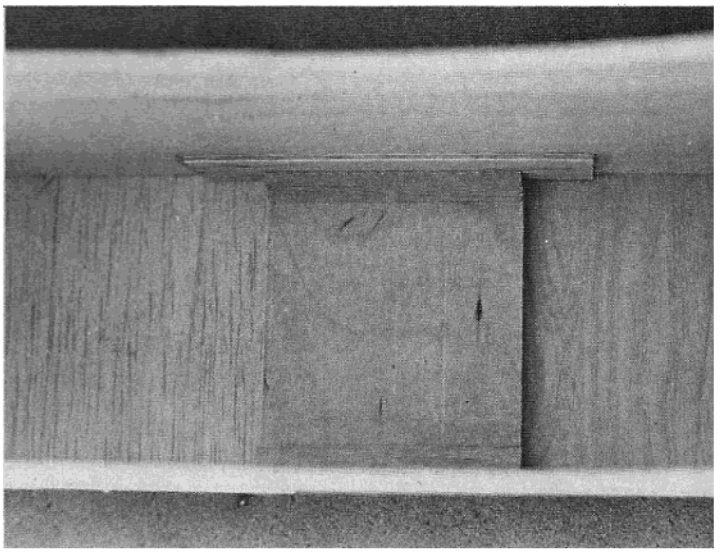


(15) Installing the plywood fuel tank compartment bottom sheeting and balsa fuselage bottom sheeting.



(16) Fuselage bottom sheeting pinned in place to dry.





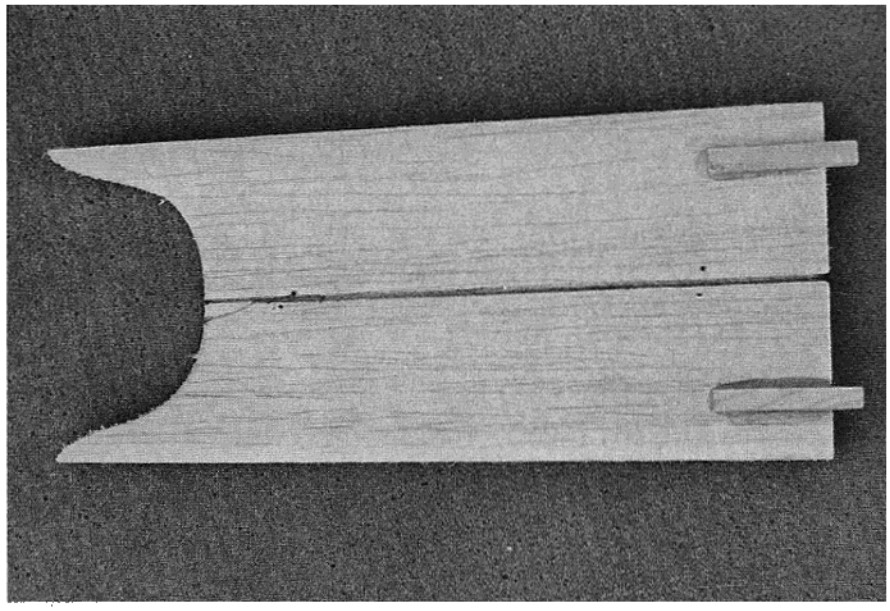
(17) LEFT: The rear of the top block sanded to shape before the fin is installed. (18) ABOVE: Installing the triangular stock.

to determine which side is straight and match the other side to it.

Some measuring and marking to do. [ ] Using the top block, measure the distance from the back of the stabilizer to the middle cross brace and to bulkhead #3 already installed. [ ] Using both 1/8" sheet balsa FUSELAGE SIDES, working along the straight edge, measure and mark the distance from the tail end to the location of the middle cross brace — which is called a vertical brace on the fuselage sides — and bulkhead #3. [ ] Use a carpenter's square along the straight edge of the fuselage sides to draw guidelines for installing the vertical braces and for locating bulkhead #3. (See pictures #8 and #9)

[ ] Pin down both fuselage sides on your building board with the straight edges toward each other — at least 2" apart. That will assure you build a right and left fuselage side. The spacing between them will give you room to remove excess glue that will squeeze out from under the doublers when you install them. [ ] Cut out both 3/16" FUEL TANK COMPARTMENT DOUBLERS you'll need. Cut it out carefully because it is used to locate the bulkheads. Lay the doubler on the front of the fuselage sides and move them back and forth until you find the location at which they fit properly. Don't glue them yet until you check out the location further. Just pin them in place. Use a carpenter's square to make certain you have them oriented so the bulkheads will be at 90° to the fuselage straight edge. [ ] Measure the distance from the tail of the fuselage to the rear of the fuel tank compartment doubler on both of the fuselage sides and make sure they are the same. [ ] When it all looks OK and you have marked the fuselage side for the proper location of the doublers, remove the doublers, double glue them and pin them in place. It will take only a thin coat of the aliphatic resin glue on both pieces to do a good job. [ ] Remove all of the excess glue that squeezes out when you pin the doublers down in place — including the front and back, bottom and top. Any unwanted beads of glue can keep the bulkheads from seating properly later on.

[ ] Cut out the 3/16" sheet balsa ENGINE COMPARTMENT DOUBLER and double glue it and the area of the fuselage side in front of the fuel tank compartment doubler on both fuselage sides. Using bulkhead #1 as a spacer-guide, put the side of bulkhead #1 that will be fitted to the fuselage side in place in front of the fuel tank compartment doubler. Put the engine compartment doubler in place so it fits tightly up against bulkhead #1 and pin it in place.



(19) The completed hatch ready for hollowing out.

[ ] Remove bulkhead #1 and wipe off any glue you may have gotten on it. [ ] Remove all excess glue from around the engine compartment doubler — especially from the fuselage side where bulkhead #1 will be installed.

[ ] You already have marked the location of the 3/16" x 1/4" x 2-3/8" fuselage side VERTICAL BRACES on each fuselage side. Double glue them and pin them in place. Be sure they are aligned even with the fuselage straight side. [ ] Finally, mark the location of the plywood main gear brace plates by measuring 3-2/16" from the rear of the fuel tank compartment doubler. Make the mark on the fuselage straight edge on both fuselage sides. Do not glue the main gear brace plywood plate in at this time, however, It will be easier to glue in place later when a clamp or wooden clothespins can be used to hold it in place while it's drying.

The fuselage sides are now ready to assemble into a unit.

PREPARING BULKHEADS #1 and #2

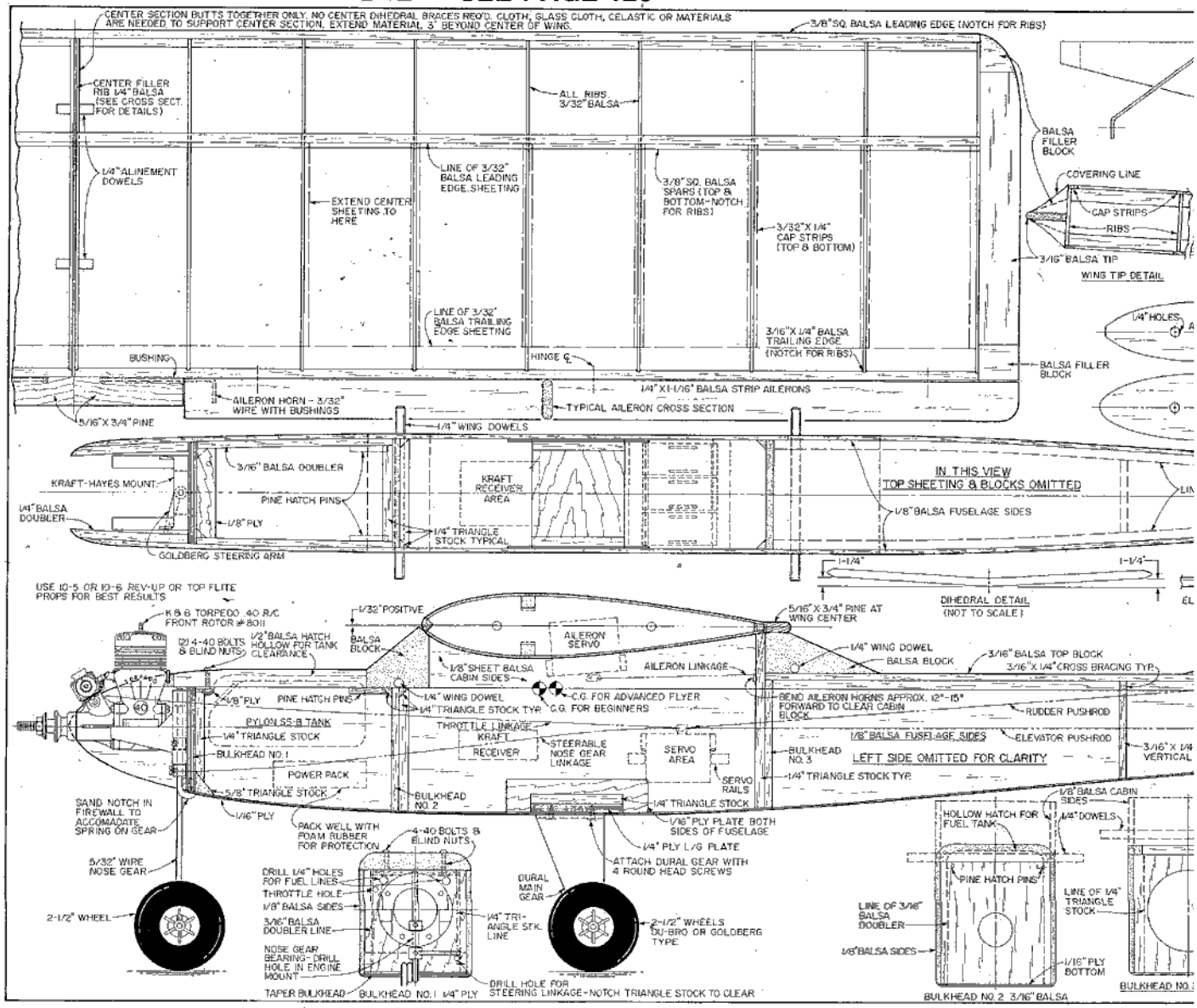
While the glue is drying on the fuselage sides and the top block, assemble the 1/4" plywood BULKHEAD #1 (the firewall) as pictured. (See picture #10) [ ] Mark the top front side. (You should already have a centerline drawn vertically down the back of this bulkhead.) [ ] Drill two holes in the engine mount for the nosegear strut as pictured. [ ] Install the KRAFT-HAYES ENGINE MOUNT. [ ] While holding your engine in place on the engine mount, mark the location of the throttle linkage hole you want to drill into the bulkhead. Put the engine away for now. [ ] Using your fuel tank as a guide, mark the location of the fuel tank vent and feed lines on the bulkhead. [ ] Install the STEERING ARM onto the top of the NOSEGEAR. Check the plans to make certain you know which is the front and rear of the nosegear. Looking at the nosegear from the front, the steering arm screw should face away from the bulkhead and the arm should be on the right side. Turn the steering arm over, as necessary, to get it that way. [ ] Slide the nosegear up into the holes drilled for it in the engine mount. Mark the area of the bulkhead to be filed or cut away to make room for the spring.

[ ] Remove the engine mount from the bulkhead. [ ] Drill all of the holes you marked. [ ] Cut the nosegear spring notch into the bottom of the bulkhead as marked.

[ ] Once the notch is cut into the bulkhead, use a couple of screws to mount the engine mount in place again. Install the nosegear with steering arm mounted in place on it. [ ] Mark and drill the hole for the nosegear steering arm linkage. Remember, looking at the front of the bulkhead, the steering arm should be on the right side. And, the hole for the nosegear linkage should be above or below the steering arm and even with the inside hole. (The steering arm will later be cut off at the outside hole so it will fit inside of the fuselage.) In this way the nosegear steering linkage can be bent up or down into the hole in the steering arm.

[ ] Drill the holes for the throttle and nosegear linkage from 3/16" balsa sheet for BULKHEAD #2. Both bulkheads are then ready for installation.

FULL SIZE PLANS AVAILABLE — SEE PAGE 126



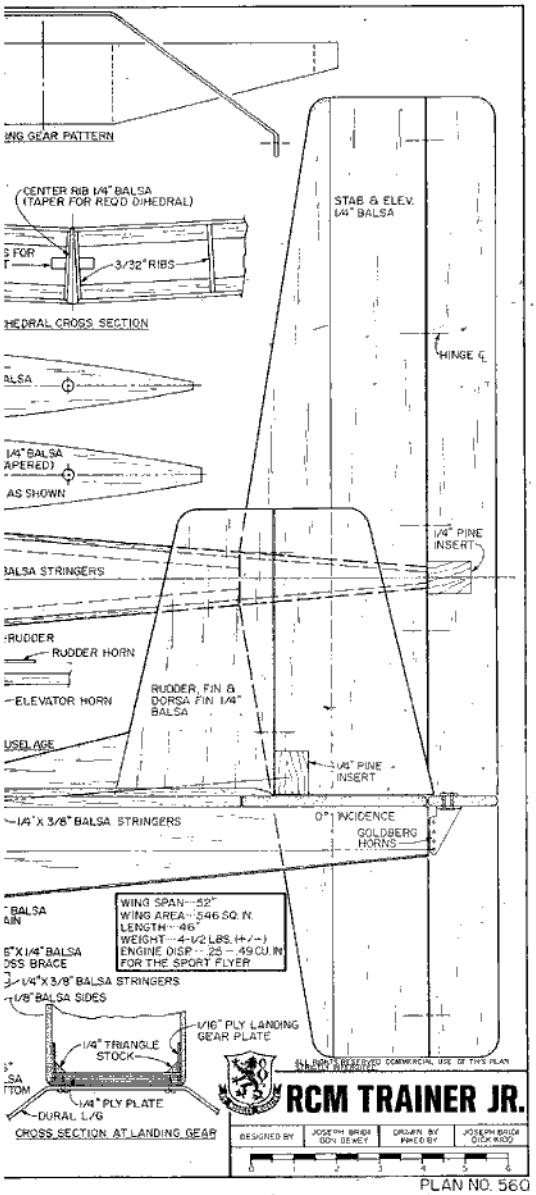
ASSEMBLING THE FUSELAGE SIDE AND TOP BLOCK

It is extremely important that the fuselage be built straight if you are to have a good flying plane. To insure a straight fuselage, follow the next building sequence carefully. (See picture #11)

[ ] Remove your plans from the building board and turn them upside down — so you have the unprinted side up. Use a soft pencil or brush pen to draw a straight line across the plans that is longer than the length of the fuselage. Tack some waxed paper or plastic kitchen wrap over the plans to protect them. [ ] Pin the top block down on one straight line so it lines up with it. It should be pinned down on the right side of the straight line.

[ ] Lay both fuselage sides on top of each other with the insides together — so the outsides are on the outside! Carefully align them and put a couple of pins through the nose and middle sections to keep them in that position. [ ] Because the elevator pushrod exits through a space left between the rear of the fuselage sides, the sides must not be glued together at the rear. Put a piece of 3/8" scrap balsa between the fuselage sides at the tail. Be sure this piece is shorter than the width of the fuselage sides so it won't get glued in place by mistake. Spread the fuselage sides at the tail and insert the 3/8" scrap spacer. Pin the spacer in place and either clamp the tail section together or put some masking tape or an elastic band around it so it won't come apart when you install the bulkheads #1 and #2. [ ] Remove the pins you used to hold the front of the fuselage sides together while you inserted the spacer in the tail. Spread the two sides apart and double glue and install BULKHEAD #2 so it butts up against the rear of the fuel tank compartment doubler. If you use 5-minute epoxy to give bulkheads #1 and #2 in place you won't have to wait a few hours before you continue. [ ] Wrap masking tape around the fuselage to hold the bulkhead firmly in place, but don't use any pins yet. Wipe off any excess glue. [ ] Double glue Bulkhead #1 and install it in the slot between the engine compartment doubler and the fuel tank compartment doubler. Either clamp the fuselage sides to the bulkhead or use masking tape to hold the fuselage sides firmly to the bulkhead to insure a good, solid glue joint. [ ] Put the fuselage sides/bulkheads assembly onto your building board with the straight edge side (top of the fuselage) down. Check and realign the fuselage sides as necessary so both sides rest flat on the building board and are 90° to it. Add pins into bulkhead #2 as necessary. Let this assembly dry. [ ] Remove the masking tape.

[ ] Put glue on the fuselage sides from bulkhead #3 to the rear. Also, put glue on the inside of the fuselage sides where it mates with bulkhead #3. Put glue onto the sides of bulkhead #3, down the top of the balsa stringers on the top block, and, down



the stabilizer. [ ] Put the fuselage sides/bulkheads assembly in place onto the top block. (See picture #12) Make certain the sides are aligned with the sides of the top block. Pin the sides in place as necessary. Use balsa scraps as spacers inside the fuselage to hold the sides apart as necessary. Also make sure the rear of the fuselage is centered on the elevator centerline. Get out your square and check to make sure the sides are 90° to the building board. Block, pin, or tape the fuselage sides in place, as necessary. Wipe off excess glue both inside and outside the fuselage sides.

[ ] Slide the hatch under the front of the fuselage in its approximate location. Align it with the straight line you drew on the back of the plans earlier. As a result the hatch should be in line with the top block. Put a piece of kitchen wrap or waxed paper over the hatch so it won't get glued to the fuselage sides by mistake, and pin it down in place. [ ] Align the centerline on the back of bulkhead #1 with the centerline on the bottom of the hatch and align the fuselage sides with the sides of the top hatch. [ ] Pin the fuselage sides to the top hatch to keep them in place as you install the bottom sheeting and landing gear plate.

[ ] Cut out the two 1/16" MAIN GEAR BRACE PLYWOOD PLATES. These are then glued to the inside of the fuselage and support the 1/4" plywood landing gear plate. (See picture #13) [ ] Double glue and install the two main gear brace plywood plates at the mark you made on the fuselage sides earlier. Use wooden spring loaded clothespins or clamps to hold the brace plates in place. Before the glue sets up [ ] cut out and install the 1/4" x 2-9/16" x 3-1/16" PLYWOOD LANDING GEAR PLATE between the fuselage sides so it rests in the slot provided in the brace plates. Neither the main gear brace plywood plates or the plywood landing gear plate should extend above the fuselage sides.

[ ] Lay the 1/16" PLYWOOD SHEET FUEL TANK COMPARTMENT BOTTOM on the fuselage so it runs from the front of bulkhead #1 to within 1/4" of the rear of the 1/4" plywood landing gear plate. (The balsa sheeting for the remainder fuselage bottom must overlap the landing gear plate by 1/4") Cut the plywood sheet to the proper length and cut out the notch for the nosegear strut spring. (See picture #14) [ ] Double glue it in place. Use masking tape to hold it while the glue sets up. Wipe off excess glue. (See picture #15) [ ] Sheet the remainder of the fuselage bottom with the 1/16" BALSA SHEETING, applying pieces of balsa so the grain runs from side to side for added strength. The first piece of balsa sheeting should overlap the 1/4" plywood landing gear plate and should butt up against the 1/16" plywood sheet fuel tank compartment bottom. After you get the first piece of balsa sheet in place, remove the pins from the top block and continue sheeting the remainder of the bottom of the fuselage. Pin the balsa in place as you work. (See picture #16) Wipe off excess glue. To make the job easier you may want to rough cut the balsa sheeting to size, then sand it to size after the glue has dried.

At this point the fuselage sides, bulkheads, top block, stabilizer, and bottom sheeting should all be glued in place.

Now you're going to install the front and rear cabin blocks and the 1/8" balsa sheet cabin sides (wing saddles). [ ] Install the CABIN REAR BLOCK so it butts up to the front end of the fuselage top block. [ ] Cut out and install the CABIN SIDES so they fit squarely up to the cabin rear block. Wipe off the excess glue – both inside and outside of the fuselage. [ ] Install the CABIN FRONT BLOCK so it mates squarely with the front end of the cabin sides.

[ ] Sand the back of the top block to shape before the fin is installed. It's easier that way. (See picture #17) [ ] Add the 1/4" sheet balsa FIN. Check it out with a square. The fin should be at 90° to the surface of the stabilizer. [ ] Add the 1/4" sheet balsa DORSAL FIN.

[ ] Add the 5/8" TRIANGLE BALSA STOCK at the bottom rear of bulkhead #1. [ ] Add the 1/4" TRIANGLE BALSA STOCK from the top to the bottom of the fuselage sides behind bulkhead #1, behind bulkhead #2, and in front of bulkhead #3. [ ] Add the 1/4" TRIANGLE BALSA STOCK along the corners of the 1/4" plywood landing gear plate and the 1/16" plywood landing gear plate brace. (See picture #18)

[ ] Cut out and install the 1/8" x 2-3/8" x 1/2" PLYWOOD FRONT HATCH HOLD DOWN PLATE behind bulkhead #1 as shown on the plans. [ ] Place the hatch over the fuel tank compartment and mark the location of the PINE HATCH PINS. They should be located just inside the fuselage sides on the hatch so the back of the hatch won't move from side to side. (See picture #19) Glue them in place and wipe off the excess glue. [ ] Hollow out the underside of the hatch as shown on the plans so the fuel tank will be properly located.

[ ] Using the 1/8" plywood front hatch hold-down plate as a guide, make a light pencil mark at the center of the plate on the side of the fuselage. You'll use this mark to locate the screw holes for the hatch hold-down screws. [ ] Lay the hatch in place. Using the hold-down plate center marks you made on the side of the fuselage as a reference, draw a light line across the HATCH to indicate the centerline of the hatch hold-down plate below. Mark the location of the 2 hatch hold-down screw holes approximately 3/4" in from each fuselage side. [ ] With the hatch in place, stick a pin through the hatch to mark the screw holes on the hatch hold-down plate below. [ ] Remove the hatch and check to make sure the pin marks are properly located on the hatch hold-down plate. If all is OK, [ ] drill the holes for the 4-40 HATCH HOLD-DOWN SCREWS through the hatch. [ ] Drill the holes for the BLIND NUTS through the hatch hold-down plate. [ ] Install the blind nuts so they come up from the bottom of the hatch hold-down

plate. They can be secured in place by putting a bit of epoxy under the shoulder of each one. Put a large washer on the hatch hold-down screws and with the hatch removed, put the screws directly into the hatch hold-down plate blind nuts and tighten the screws down. That should pull the blind nuts tightly into place. Then remove the screws.

When the hatch is completed it is held in place with the two 4-40 screws – with washers under the screw head. Tighten the screws down until the washer is snug, but not too tight. One too many turns and you'll dent the wood. If you're worried about the screws loosening due to vibration, take the hatch off and squeeze some of the silicone rubber into the screw hole. "Screw" the 4-40 screws into the silicone rubber filled screw holes in the hatch and set the hatch aside overnight. (But don't put the hatch in place or else it may get permanently fixed there.) Unscrew the screws the next day and you'll have a dampened screw hole that will resist vibration loosened screws. You can use this same approach with your engine mount screws into bulkhead #1 as well.

Another thing you might do to prevent "denting" the hatch because you've tightened the screws too tight is to build a piece of scrap plywood into the hatch at the location of the screw holes.

FINISHING UP THE FUSELAGE

[ ] Drill the hole for the rudder pushrod exit in the fuselage top block. The hole should be on the right side of the fuselage about even with the front of the fin. Hold the drill at 90° to the top block to start the hole. Then slowly move the handle of the drill toward the rear of the fuselage while you are drilling. Move to the point at which the handle of the drill almost touches the rear of the top block/elevator. Drilling the pushrod exit hole at such an angle helps keep the pushrod as straight from the servo as possible. [ ] Sand the rudder and elevator to shape as shown on the plans. [ ] Mark the location of the hinges on both the stabilizer and elevator and the fin and the rudder. Four hinges should be used on the elevator and three hinges on the rudder. [ ] Drill the hinge holes or cut out the hinge slots – depending on the type of hinge you are using. Some fellows prefer to install the hinged surfaces at this point and finish the plane with the surfaces hinged. Some prefer to finish the plane first, then install the hinged surfaces.

[ ] When you're ready to install the hinges, first use a paper punch to make a hole in the middle of each hinge tongue. The hole will allow the epoxy to flow through the hinge and "pin" it in place. [ ] To prevent the possibility of getting epoxy glue into the hinge pin and gluing it in place, melt some Vaseline and paint it onto the hinge pin area before you apply epoxy and install the hinge. Or, a resin mold release may be used.

[ ] Use an old X-Acto knife blade to get plenty of epoxy glue into the hinge slot. [ ] Also apply some epoxy to both sides of the hinge tongue to be installed. [ ] Insert the hinge into the hinge slot, wiping off any epoxy glue that squeezes out.

[ ] Cut the nosegear steering arm off at the outside hole so it will fit inside the nose of the plane. [ ] Add the NyRod for the throttle and nosegear steering linkage. Note that when the nose wheel is straight, the steering arm should be pushed forward at about a 20° angle to the firewall. Otherwise, it will jam when given a left turn control. If the steering arm slips on the nosegear strut, file a flat spot on the nosegear where the steering arm set screw makes contact with it.

[ ] Cut out the front part of the hatch, as necessary, to fit your engine. [ ] Coat the inside of the engine compartment, the #1 and front of #2 bulkheads, the inside of the fuel tank compartment, the bottom of the hatch, and the fuel tank vent and feed lines through bulkhead #1 with resin to seal them so fuel or oil won't penetrate into the wood and soften it.

[ ] Drill four holes to mount the dural main landing gear in the 1/4" plywood main landing gear plate and in the dural landing gear.

[ ] When the whole plane has been finished you may want to make a hatch seal to prevent oil residue from seeping into the fuel tank compartment. Use one of the silicone seals available. You only want the silicone seal to stick to the bottom side of the hatch – not to both the hatch and the fuselage, otherwise you won't be able to get the hatch off. With the hatch removed, put a piece of plastic kitchen wrap over the top of the front of the fuselage and up the front of the cabin front block. Make two holes into the plastic wrap for the hatch pins. (Be sure the bottom of the hatch is sealed with resin first.) Get out your silicone seal and put a 1/4" bead down both sides, across the front at the location of bulkhead #1, and, across the back where the hatch mates with the front cabin block. Put the hatch down in place, screw it down, and wipe away the excess silicone seal. Take the hatch off the next day and you have an effective hatch seal. The same technique may be used to make a wing seat seal. The silicone seal should be applied to the wing seat.

[ ] You may install the 1/4" WING ELASTIC DOWELS into the holes provided in the front and rear cabin blocks now, or when you've finished the plane. Some prefer to wait until they've finished the plane so they don't have to try to sand around them. [ ] Install the rudder and elevator horns onto the pine insert built into those surfaces. When properly installed, the clevis holes in the horns should line up with the surface hinge line.

(continued next month)

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