



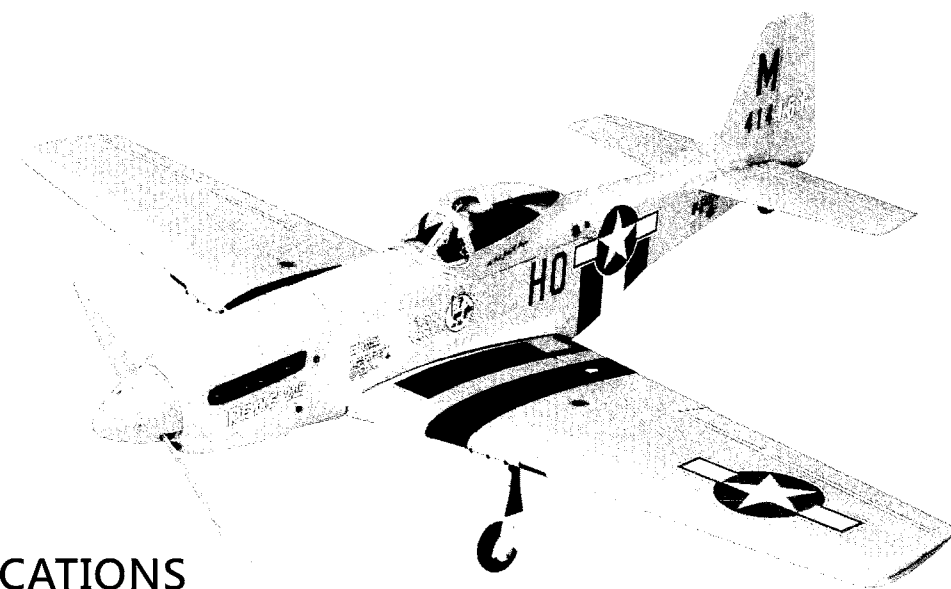
MTH HOBBY PRODUCTS INDUSTRIAL CO., LTD.  
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**No.8629K**

# MUSTANG

**P-51D GP/EP**



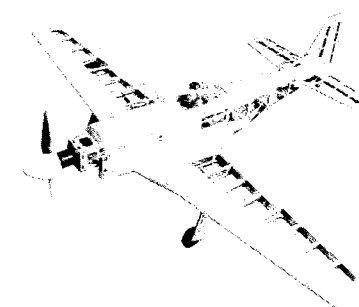
## SPECIFICATIONS

Wing Span: 1426mm  
Wing Area: 34.7 dm<sup>2</sup>  
Length: 1177mm  
Total Weight: 2600g (with 4S battery 2600mAh)  
Radio: 5 ~ 6(if use flap) channels  
Motor: 4250-840KV brushless  
Thrust: 3 KGS and up  
Battery: Li-Po 4-cell 2600mAh and up  
ESC: 70A  
Engine: 10cc 2-stroke(Gas)  
          .46 2-stroke  
          .60 4-stroke  
Propeller for EP: 12 x 8"  
Propeller for GP: 12 x 6" (Gas)  
Propeller for GP: 11 x 6"

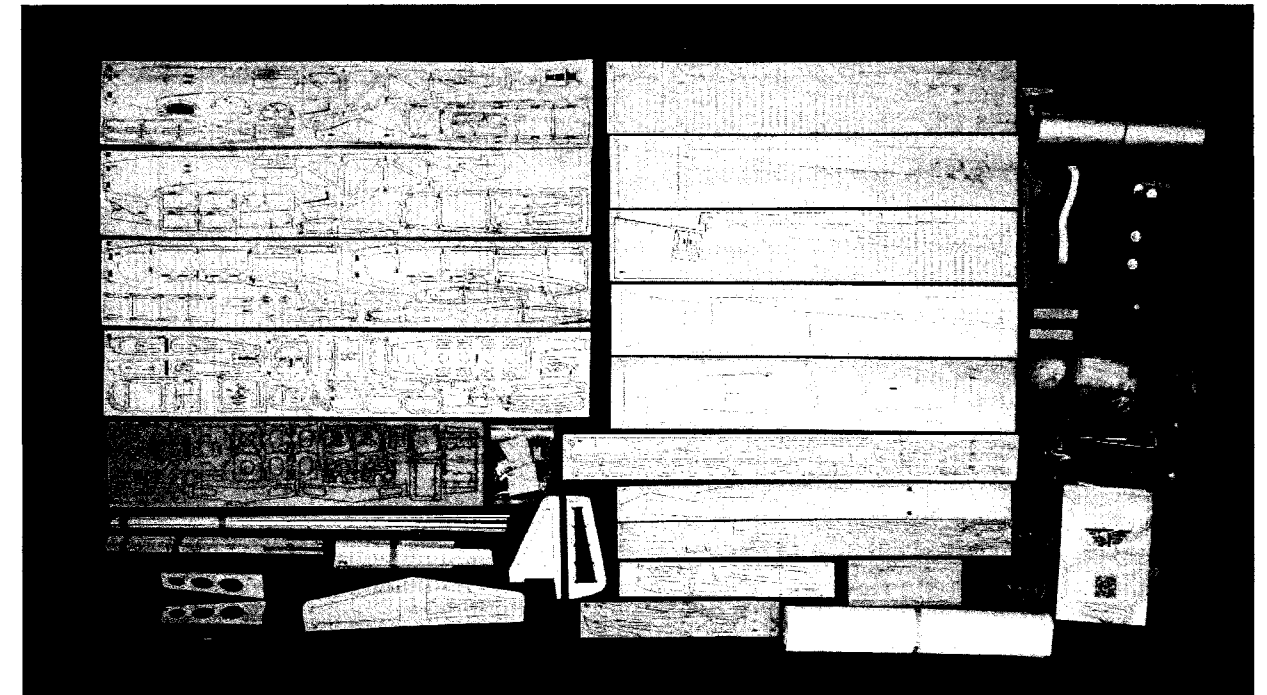
## Warning

An RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, following all instructions included with your radio.

Before beginning the assembly, remove each part from its bag for inspection. Closely inspect the fuselage, wing panels, rudder and stabilizer for damage. If you find any damaged or missing parts, contact the place of purchase.



INSTRUCTION MANUAL



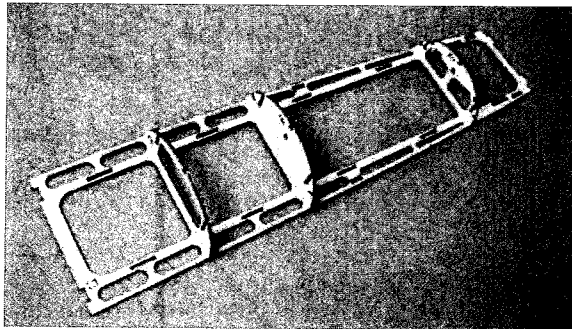
Contents of Kit / Parts Layout

**Recommended radio and equipment (Not included in kit):**

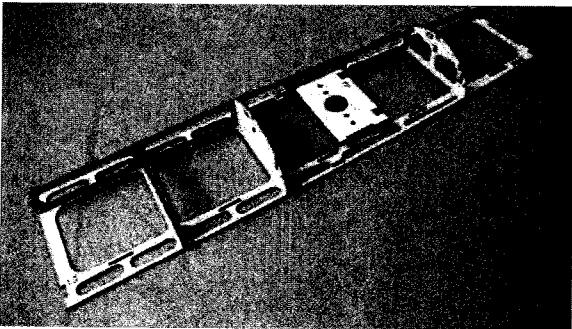
5-6 or up channel radio  
 Receiver  
 Servos (45g) x 2 pieces + Servos (25g) x 4pieces  
 70Amp or up Brushless ESC x 1 piece  
 11x6 – 12x8 propeller x 1 piece  
 Aluminum nut x 1 piece  
 Y-harness x 2 piece  
 600mm extension x 4 pieces

**Tools and suppliers needed (not included in kit):**

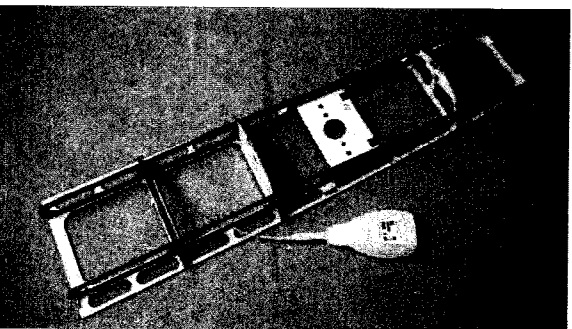
1200mm x 400mm x 10mm flat surface planking, Triangle ruler, Straight aluminum ruler  
 1000mm Clips, Heavy object around 1 KG, Tissue, Double-side adhesive tape, Vernier  
 scale, 10-12mm thickness planking, Sanding paper #150 & #200, Planer tool, 2mm hand  
 drill, Iron, Phillips screws driver #0 & #1, Curved scissors, Hobby knife, Instant glue,  
 UHU glue , Epoxy 5-10 minutes, Marker, white glue, Driller 1.5mm/2.6mm/4.2mm,  
 Transparent tape, Masking tape, Brush, Painting , Z-bender pliers, Side-cut pliers, 1.5mm  
 hex wrench, Solder iron, Pin, Rubber band, Sharp-nose pliers, Super glue, Cross wrench



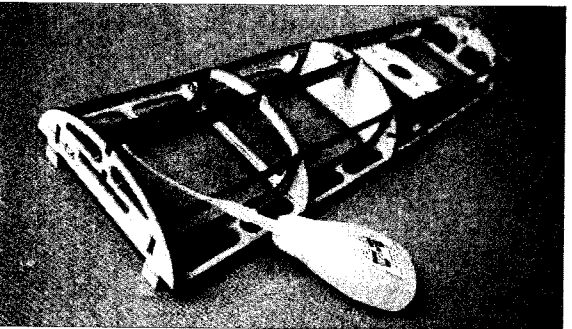
Attach C3, C4, C6 to C1 with instant glue.



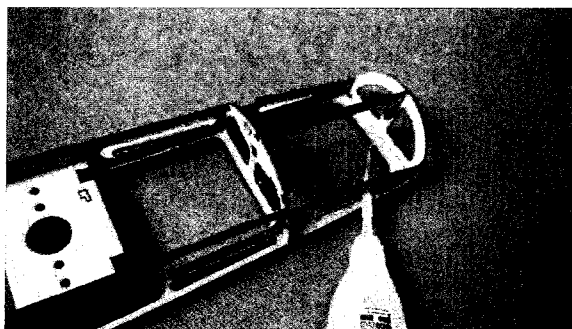
At first join C8 then join C5.



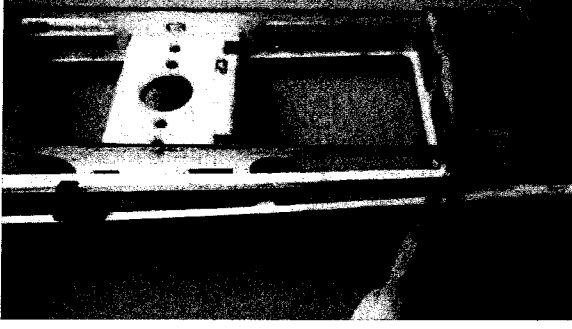
Use instant glue to attach all parts and finally join the second C8.



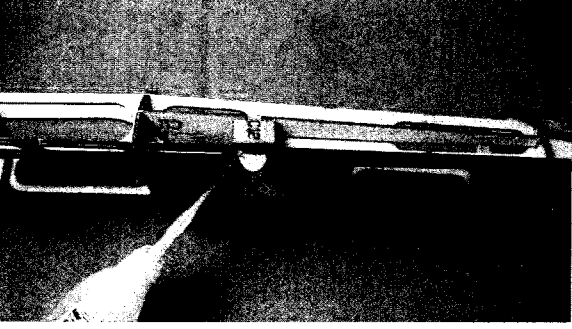
Attach C2 and C9 with instant glue.



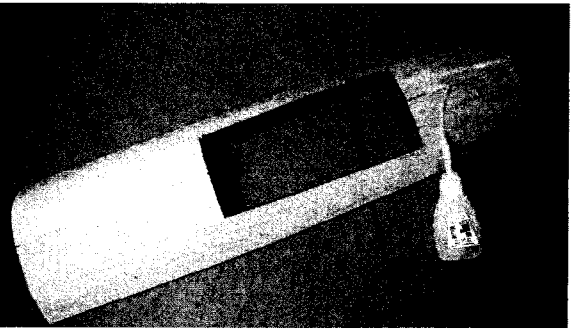
Attach C7, C10 and C15 with instant glue.



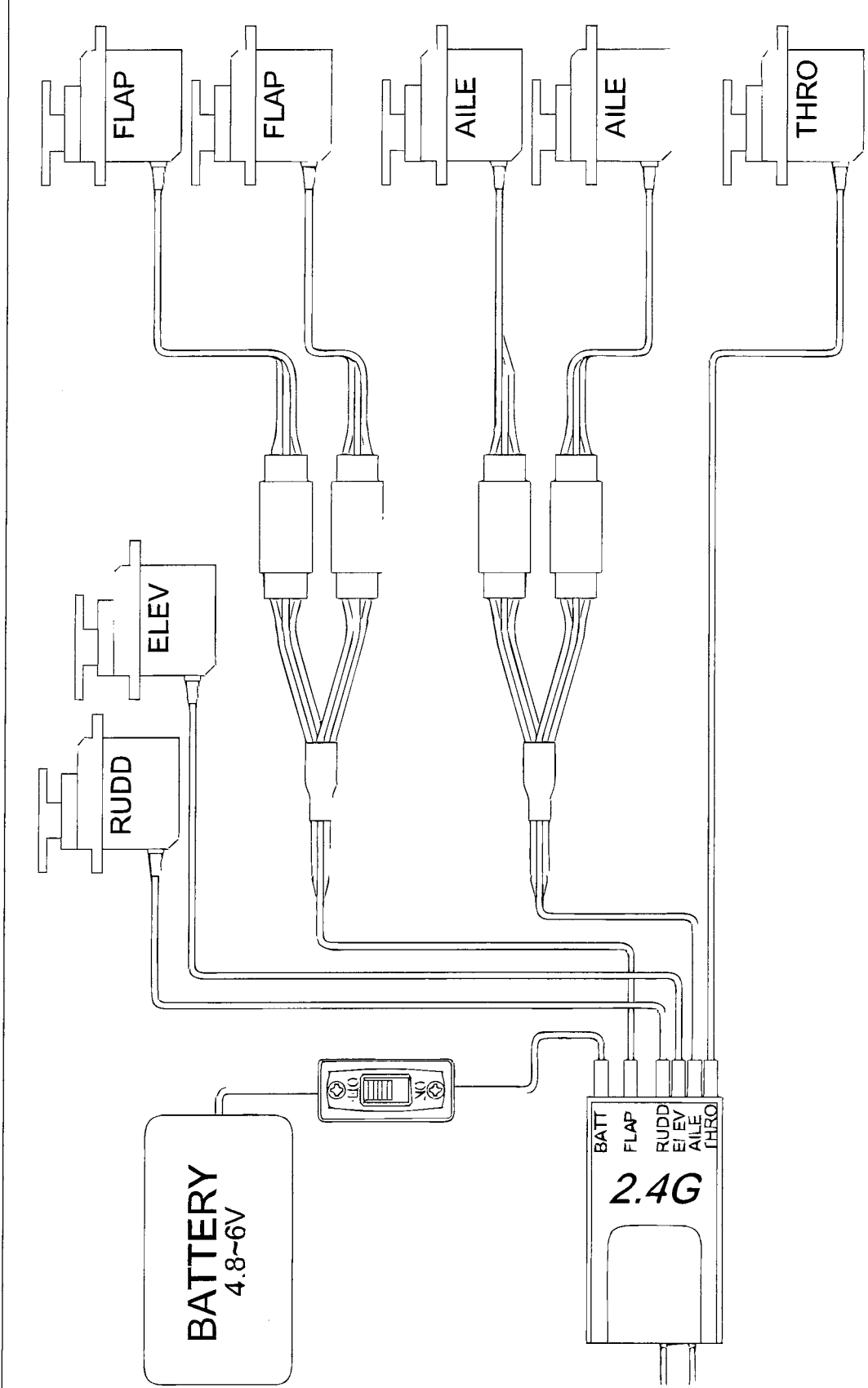
Attach C13 with instant glue.



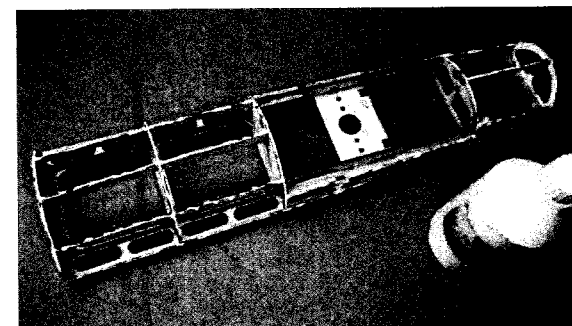
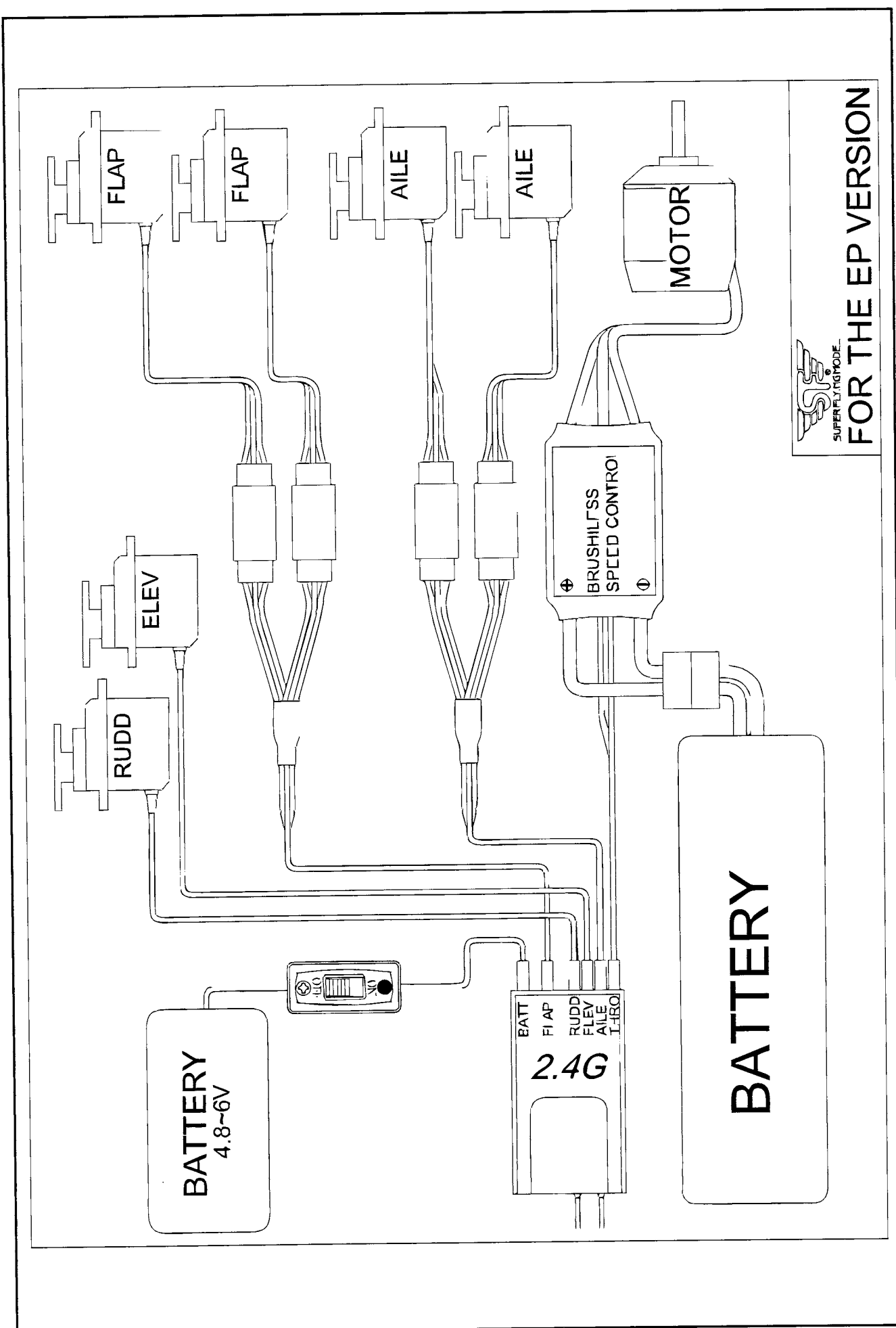
Attach C12 and C14 with instant glue.



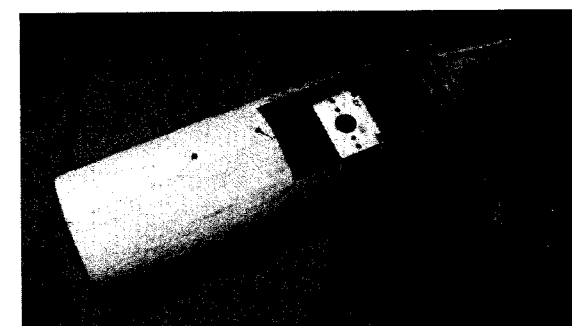
Use instant glue attach C15.



FOR THE GP VERSION



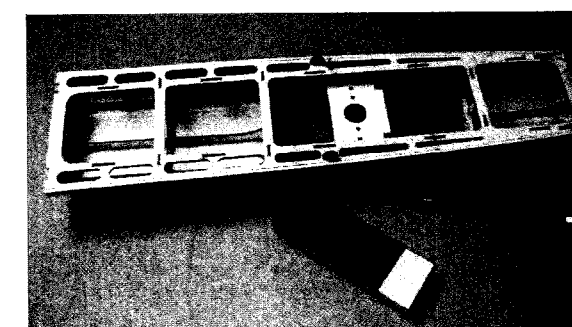
Use white glue to cover all edges.



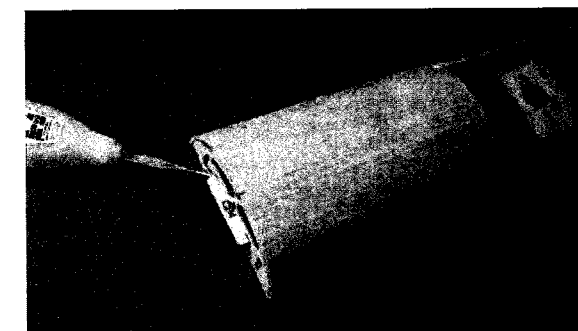
Cover with C15 and secure with pins.



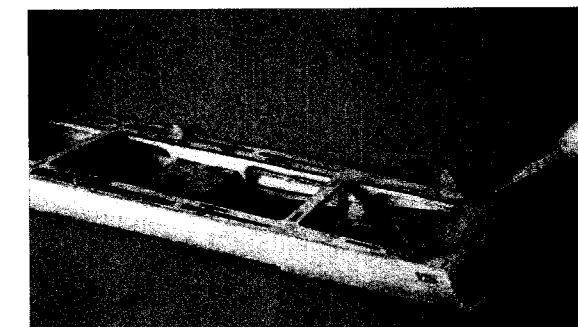
Secure with tape and pins and use weights until glue is dry.



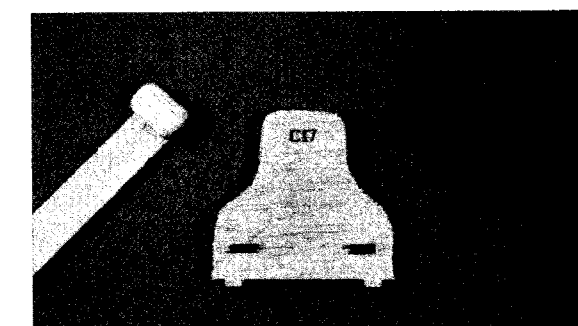
Sand it until smooth.



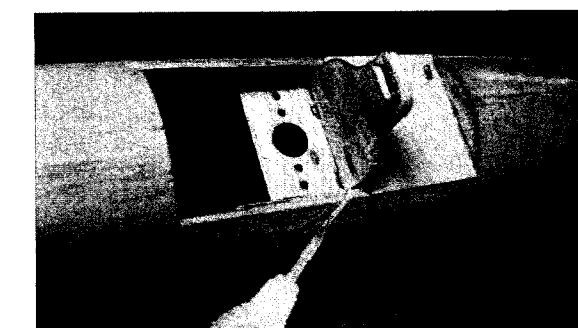
Sand it until smooth, then attach C24 with instant glue.



Attach C25 with instant glue. Note: Be careful of the direction.

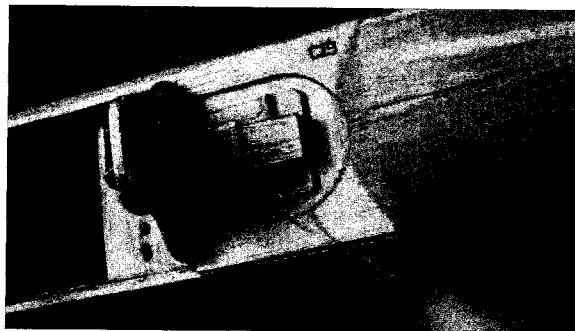


Sand C17 and C18 until smooth, and attach them with instant glue.

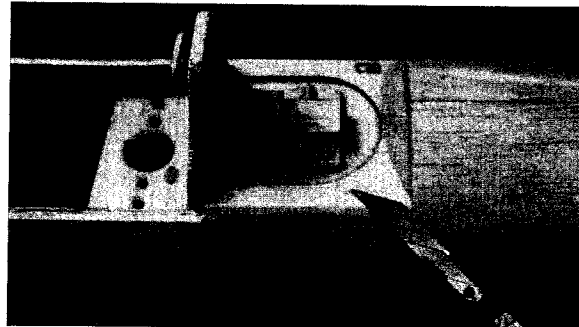


Attach C16, C17 and C18 with instant glue.

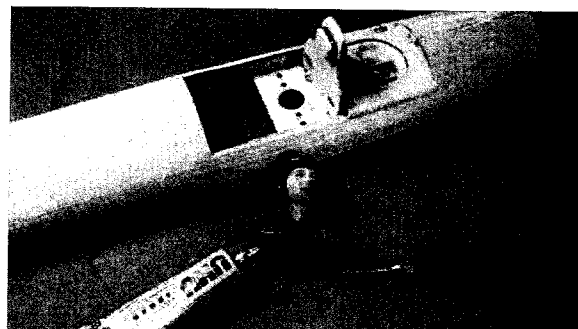




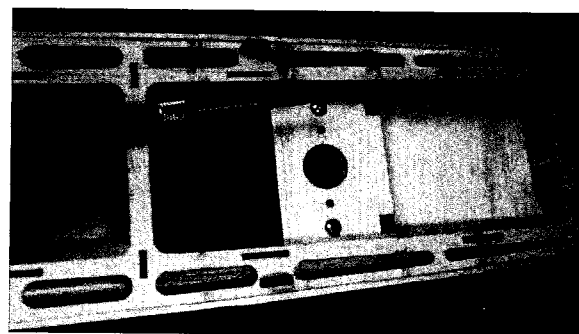
Check 1:1 map and attach C19 ~ C23 with instant glue.



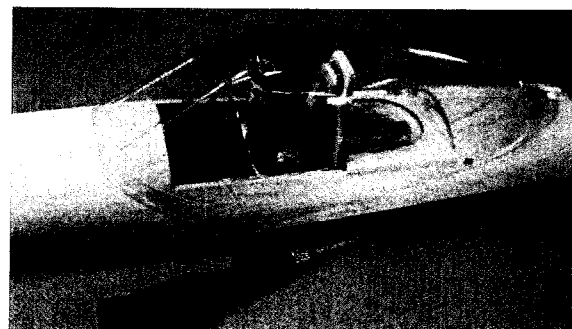
Sand it until smooth.



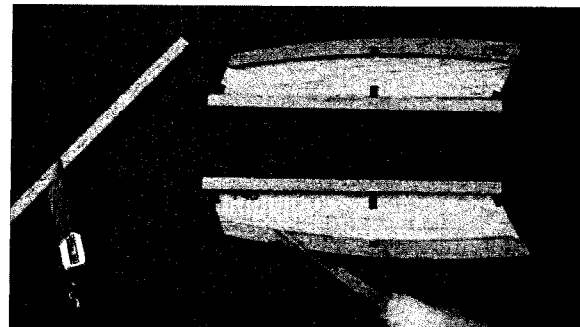
Attach pilot with rubber cement (UHU).



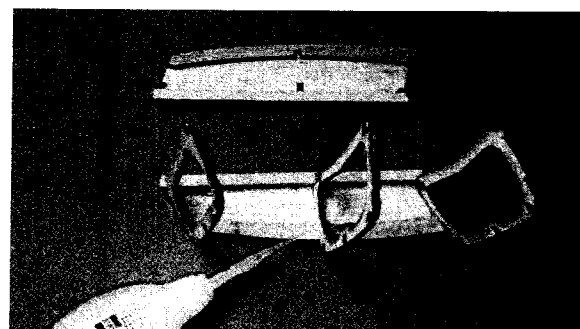
Secure with 3x10mm screws.



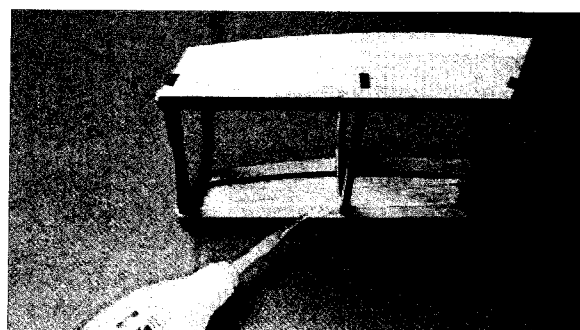
Secure cabin with 2.6x8mm screws.



Attach F47 to F46's lower edge and cut out 5x5mm balsa wood strips to attach to F46's upper edge with instant glue.



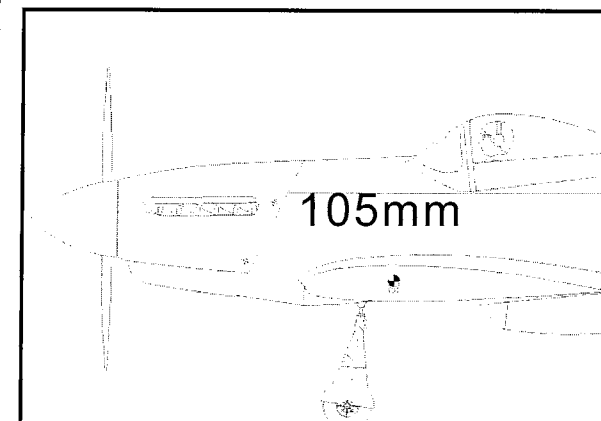
Check 1:1 map. Attach F50, F49, F48 to F46 set with instant glue.



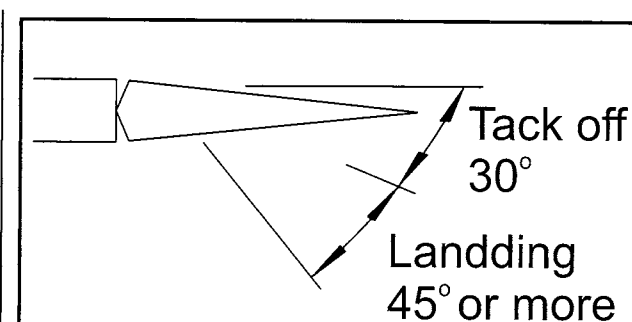
Attach F47 on the other side with instant glue.



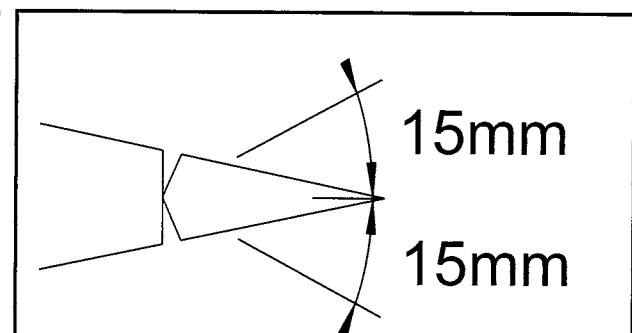
Apply your favorite stickers!



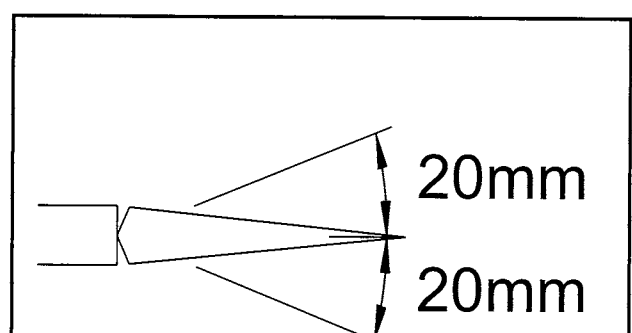
C.G. The recommended Center of Gravity location is 105mm back from the leading edge against the fuselage.



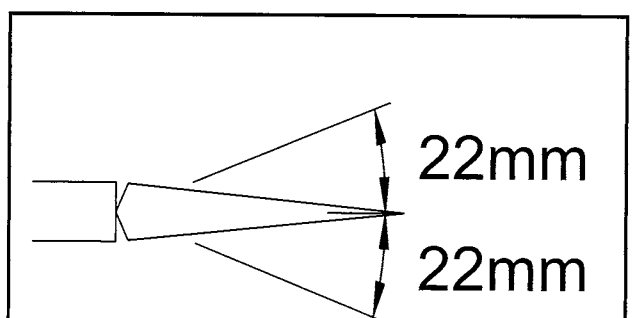
FLAP THROW



AILERONS THROW

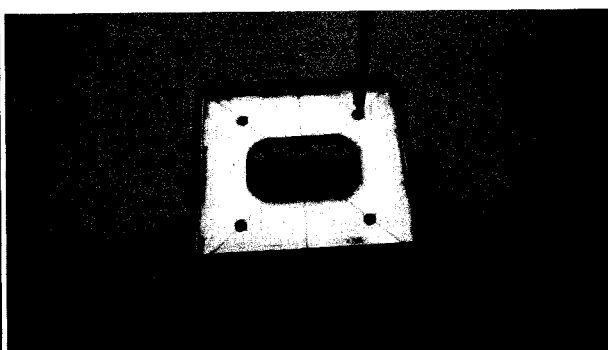


ELEVATOR THROW

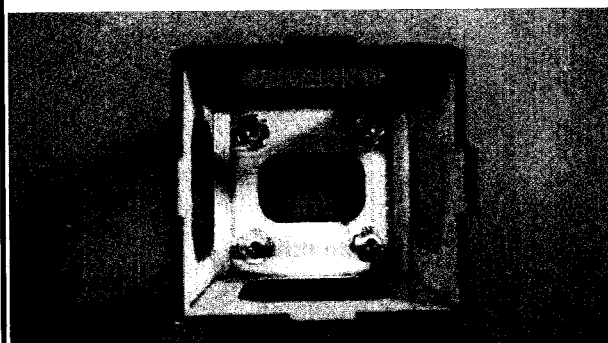


RUDDER THROW

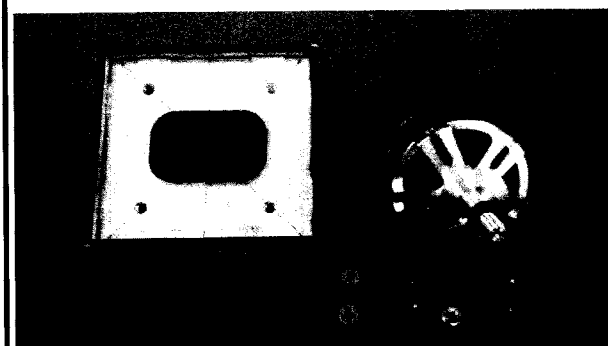
## EP ONLY



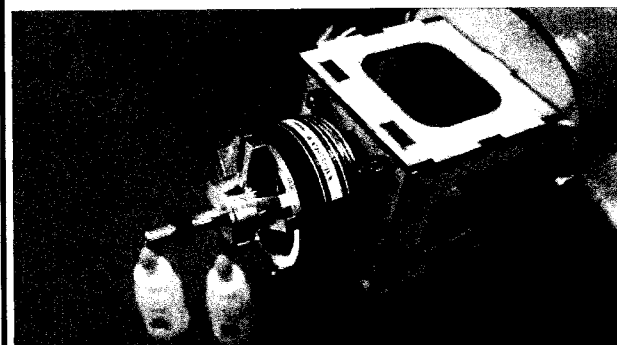
Try to fit the motor onto the motor mount. When satisfy the location, use marker to mark the position for the screws. Remove the motor and use hand driller to open holes on the marked positions.



Push claws nails into the opened holes.



Use m4x20 hex screw to secure the claws nails into the holes. Drop some instant glue around the claws nails, not the screws.



Use Epoxy to secure the motor mount on the fuselage and reinforcing blocks on two sides of motor mount.

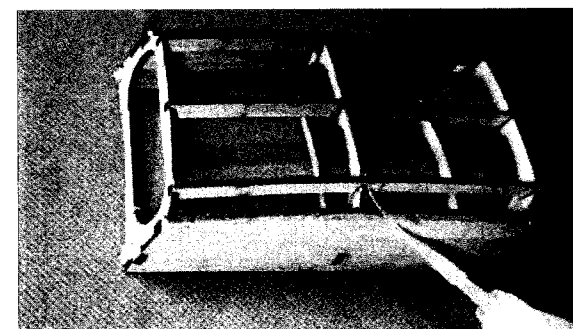


Assemble the spinner with propeller. Install the spinner to the motor. Please keep the distant between spinner and cowl around 2mm.

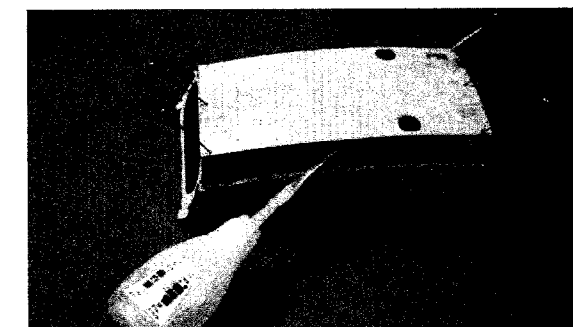
## GP ONLY



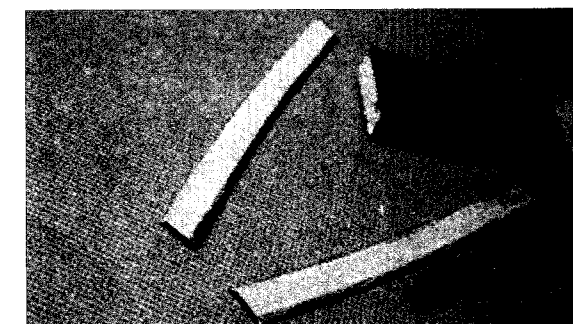
If use GP; please use scissors to trim the cowl for meeting the outline of the engine before securing the cowl to the fuselage.



Attach F52x2 and F51 with instant glue.



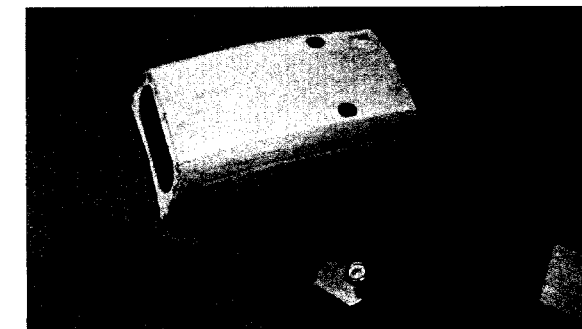
Attach F35 to F52 with instant glue and secure with pins.



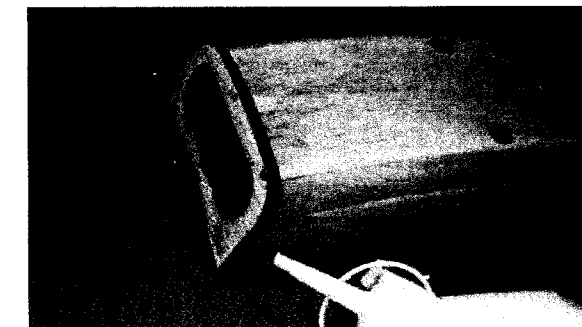
Cut and sand F54's upper edge and lower edge to 45 degrees.



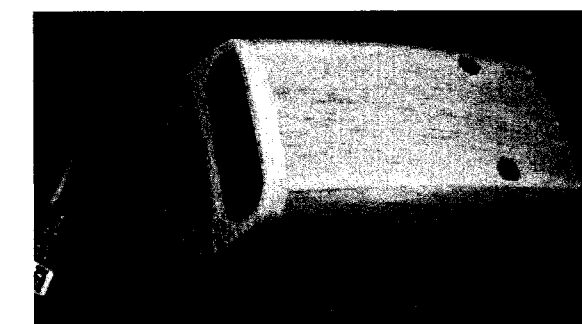
Attach F54 with instant glue.



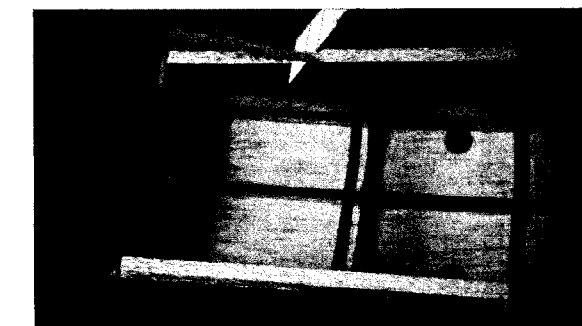
Sand it until smooth.



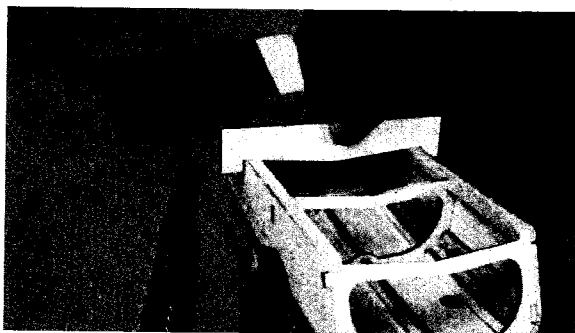
Attach F55 with instant glue and secure with pins.



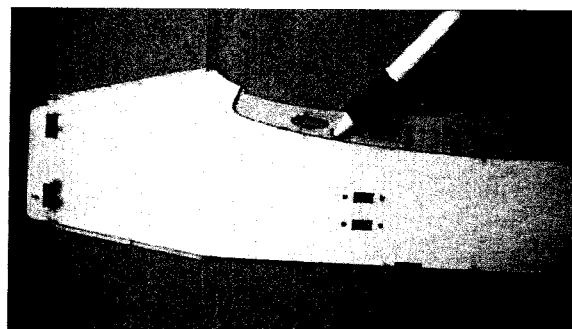
Sand it until smooth.



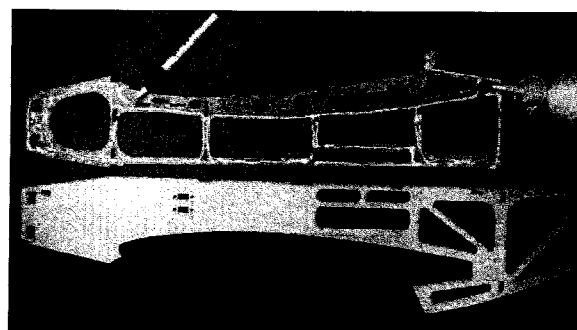
Sand and cut off extra pieces.



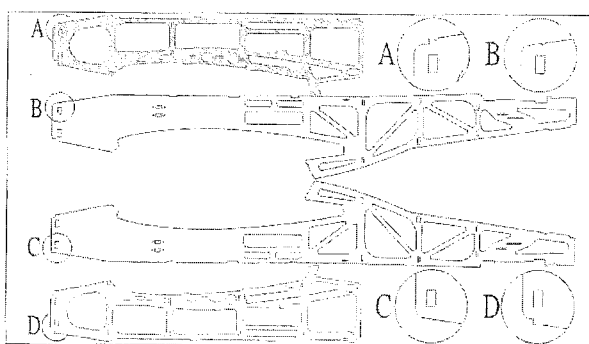
Use the gauge provided to check that enough has been trimmed to fit securely under the wings.



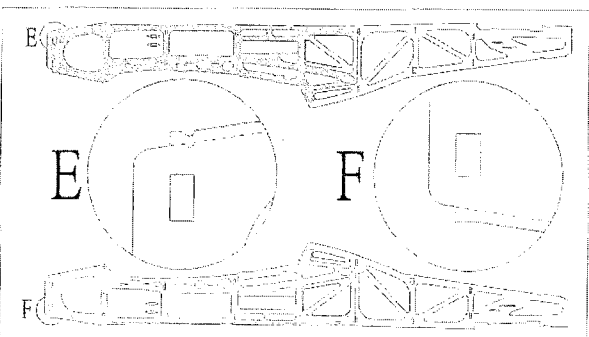
Refer to the drawing, Use a pen to mark WF1R and F2R.



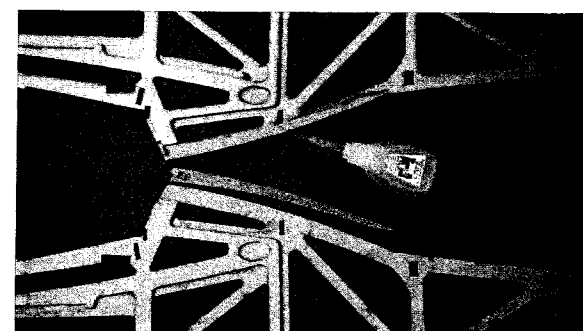
Apply white glue on F2R. Be sure not to apply the glue over the line you marked.



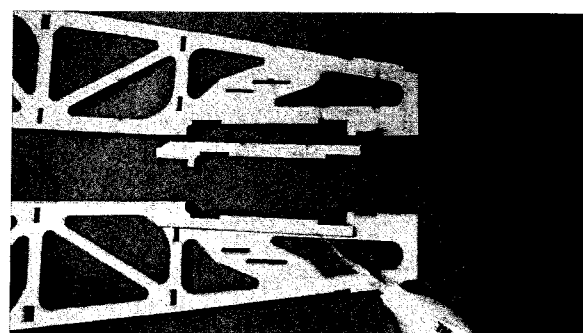
Prepare F2R, F1R, F1L, F2L. Note: marks A,B,C,D



Refer to the drawing, Assemble those parts before applying glue. Note: marks E and F.

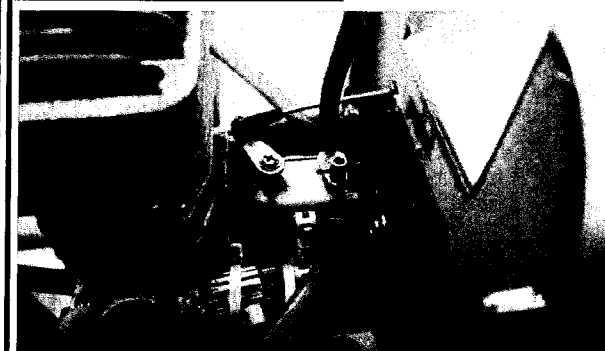


Attach F3 with instant glue.

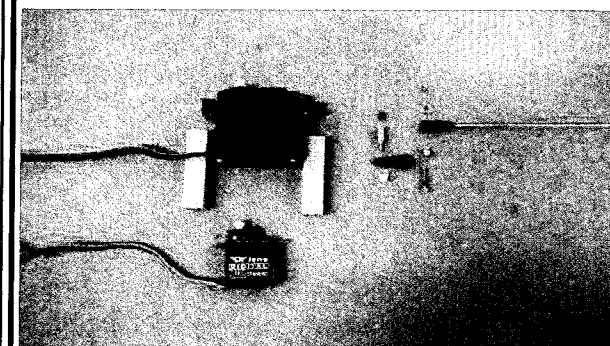


Attach F4 balsa wood with instant glue.

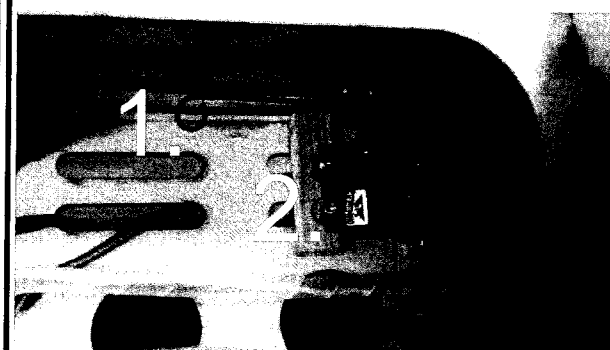
## GP ONLY



Connect the throttle rod with ball-end. Secure with M2x15mm screw and plastic nut. Connect the ball-end rod with throttle. Connect the rod for Choke with adjustable rod stand.



The servo for the throttle can be standard or mini servo.



Choke control :

- 1) Use 1.2mm rod pulling to the fuselage and use hand to open it.
- 2) Use another servo to operate.

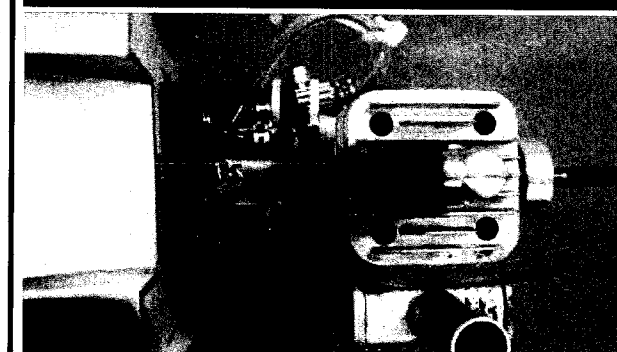
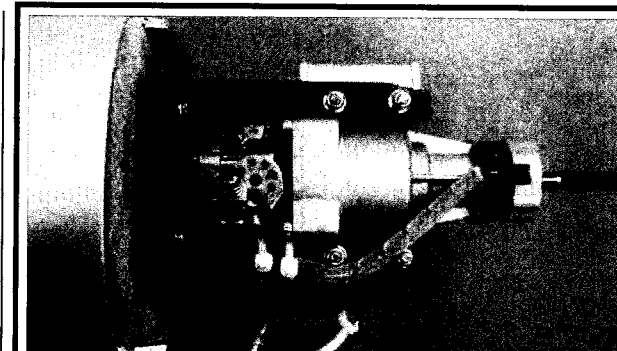
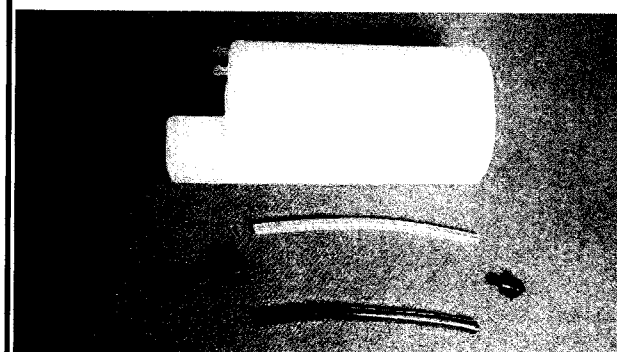
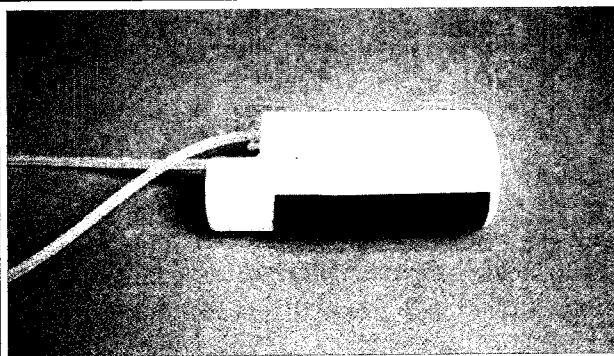


Diagram for assembling the tubing and linkage of the engine.

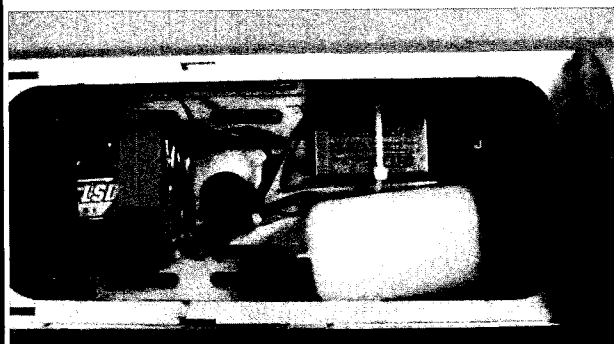


Please take the picture as a reference and assemble the fuel tank combination. If equip with **gas** engine, please select the **yellow** fueling tube.

## GP ONLY

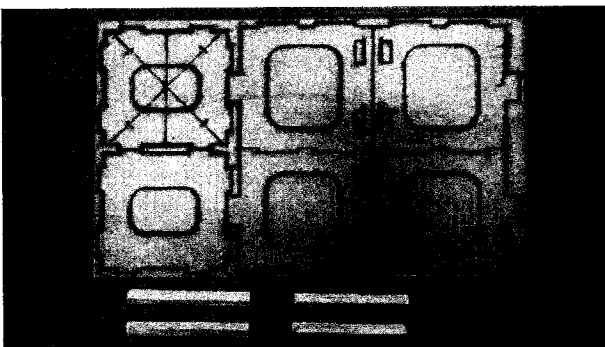


Connect the feed-line tubing and vent-line tubing to the fuel tank. Please purchase correct tubing for the engine. Apply a piece of adhesive Velco tape on the bottom of fuel tank and another Velco tape on the battery tray.

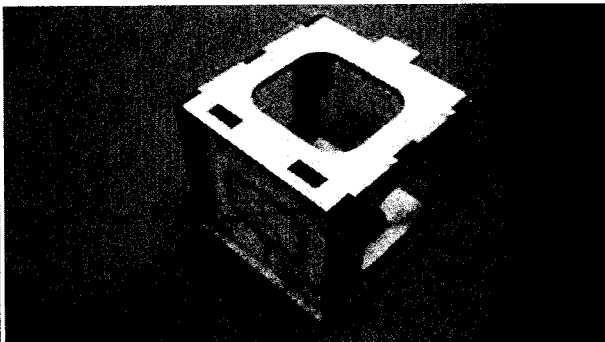


Use Velcro tape to secure the tank and receiver inside in fuselage.

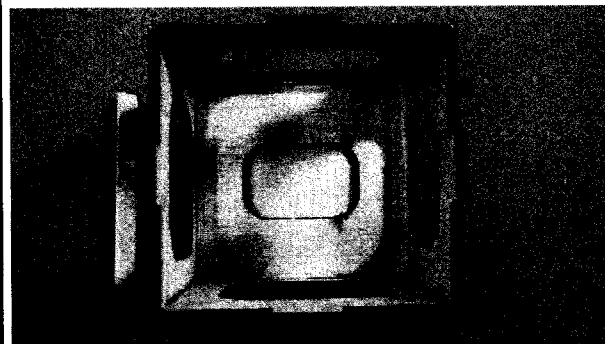
## EP ONLY



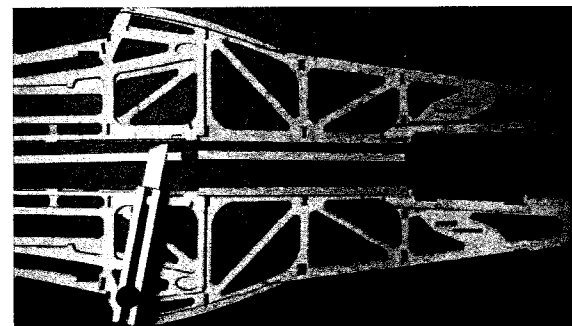
Take the laser cutting planking out of the hardware bag and place on the working table.



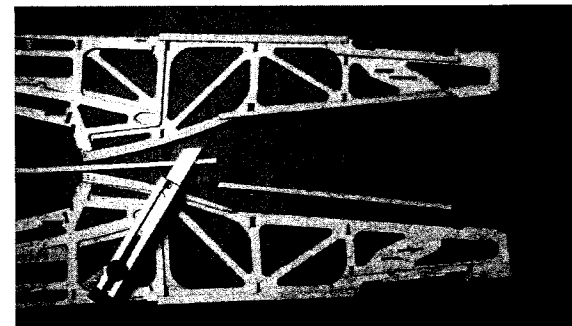
Remove every part out of planking and assemble the parts into motor mount. Use instant glue to secure the parts.



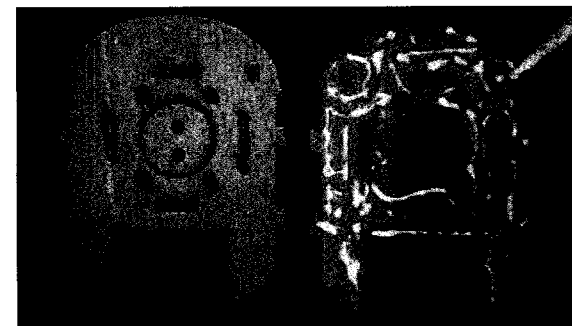
Use wood glue to secure the reinforcing block on the bottom of motor mount. Spread Epoxy on every corner for reinforcement.



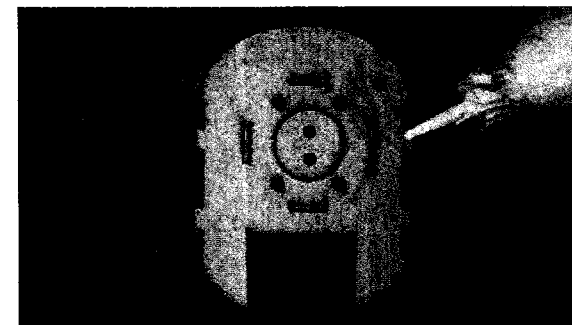
Cut 4x8x207mm balsawood strip and attach to F4 with instant glue.



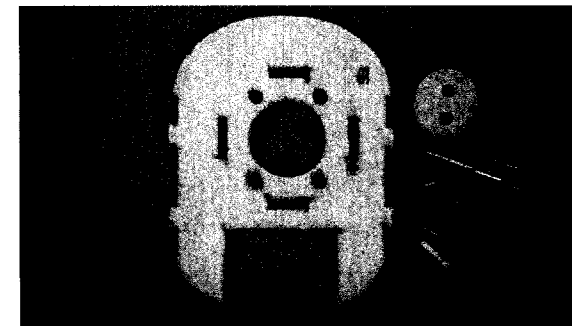
Cut 5x5x247mm balsawood strip and apply with instant glue.



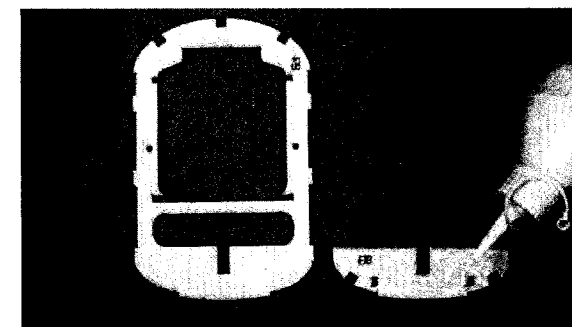
Prepare F6, F7. Attach F6 to F7. Make sure to line up the edges.



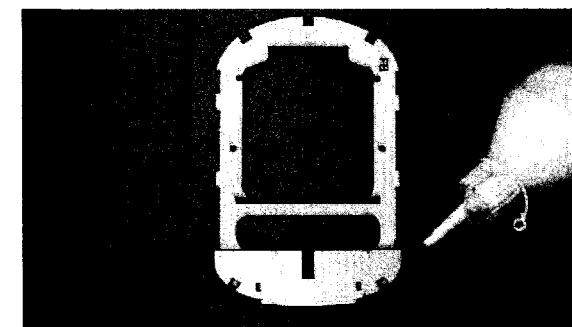
After you attach F6 and F7, It should look like this image.



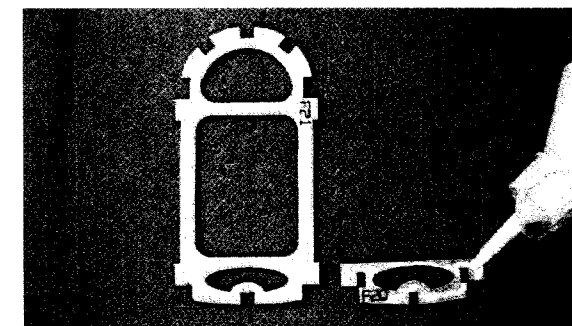
If you will use an electric motor, please remove these small pieces.



Apply white glue on F8.

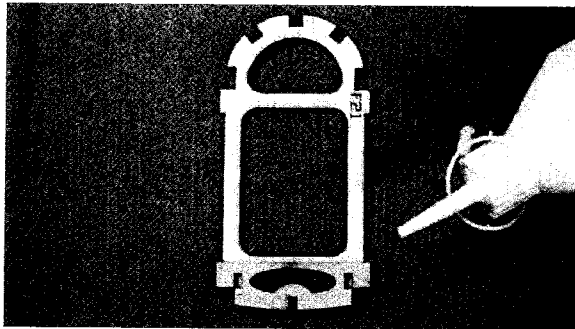


Attach F8 to F9. It should look like the image.



Apply white glue on F20.

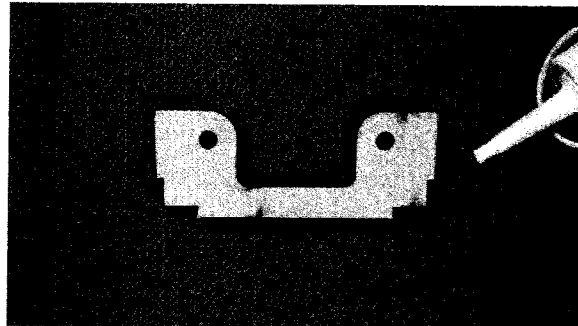




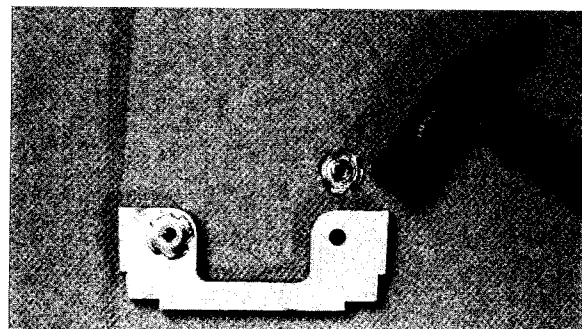
Attach F20 to F21. It should look like the image.



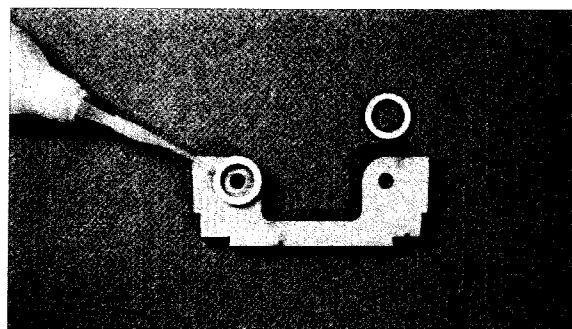
Apply white glue on F14 and put two F14 pieces together.



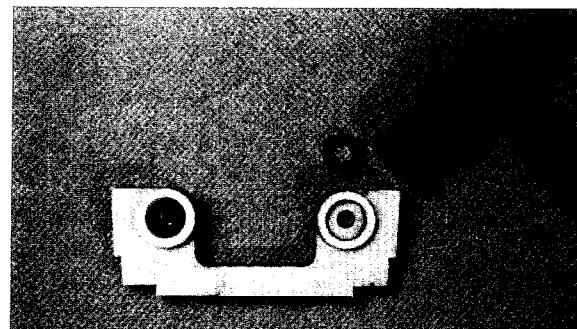
After putting two F14 pieces together, It should look like the image.



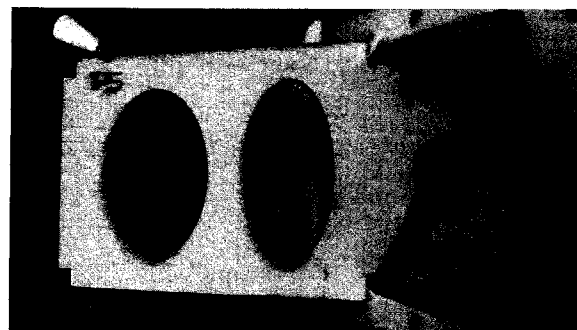
Take two clutch nails and use a hammer to place the clutch nails into these holes.



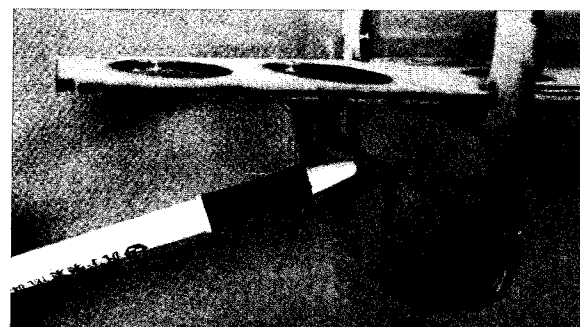
Place F15 and apply instant glue.



Take two washers and use a hammer to place the washers into the holes.

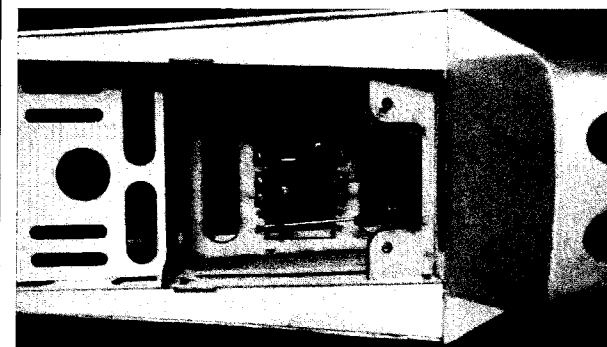


Place F15 into F9. Be sure it looks like the image.



F8 should be facing toward the nose of the plane.

- 1) Take transparent tube out the hardware bag. Cut the tube into two pieces from the center. Slide the tube from the rod opening on the fuselage, through the fuselage and to the rod opening of the tail.
- 2) Cut 2 pieces of 60mm transparent tube. Slide the one pieces of rudder rods and two piece of elevator rod into the tubes.
- 3) Slide one piece of 5mm silicone tube to the rod and thread the metal clip to the end of rod.
- 4) Pull the rod straight. Mark the locations for installing the control horn on rudder and elevator where the straight rods meet the rudder and elevator. Secure the control horns on the marked locations with screws.
- 5) Adjust the metal clips for connecting the control horn properly. Slide the silicone tube over the connecting place.
- 6) Keep the distance between the end of the transparent tube and the metal clip around 30mm and drop some instant glue to secure the transparent tube to the fuselage. Make sure the movement of the rods will be freely.



- 1) Use 2.0mm hand driller to open holes for the screws on the servo arm. Screw the adjustable rod stand and plastic nut to the servo arm. Make sure the rod stand can move freely.
- 2) When install the servo for elevator; please set its servo arm to the center of the fuselage.
- 3) Secure the servo to the servo tray with the screws coming with servo Insert the rod to the adjustable rod stand, set the servo to its neutral position and secure with M3x4 hex screws.

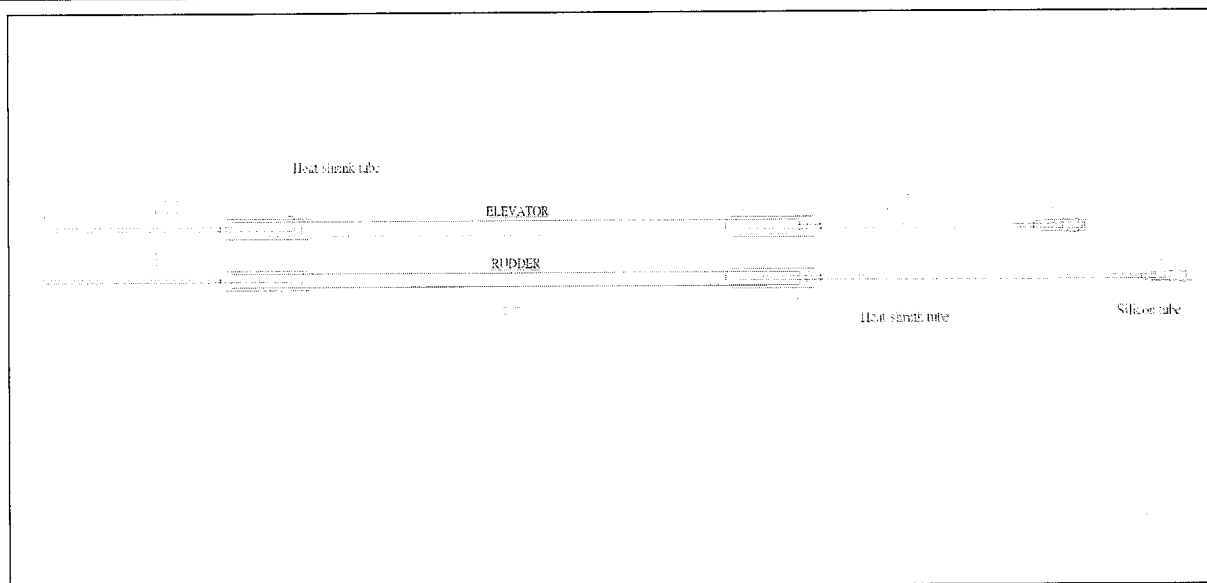


Following are the steps for assembling adjustable rod stand:

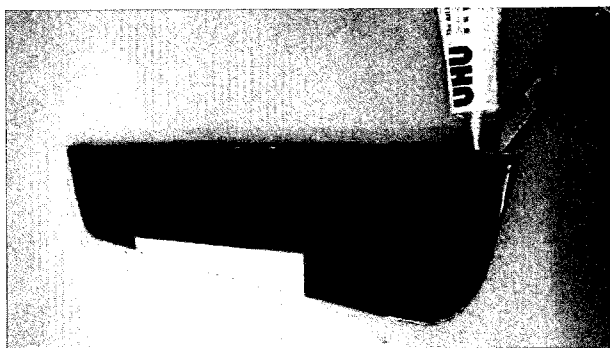
- 1) Drill 2mm hole on the servo arm.
- 2) Insert the metal clip to this hole and secure it in place with plastic nut.
- 3) Insert the rod to the stand and secure it in place with M3x4 hex screw.



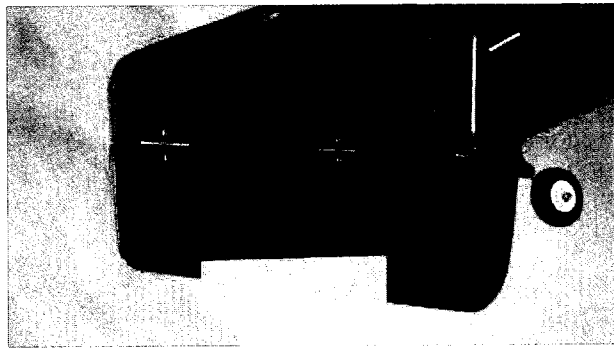
Push the claws nails to the holes inside the fuselage. It's better to use the engine screw M4x30 hex screw to secure the claws nails hard into the planking. Drop instant glue around the claws nail for securing it in place. Don't let the instant glue touch the screw.



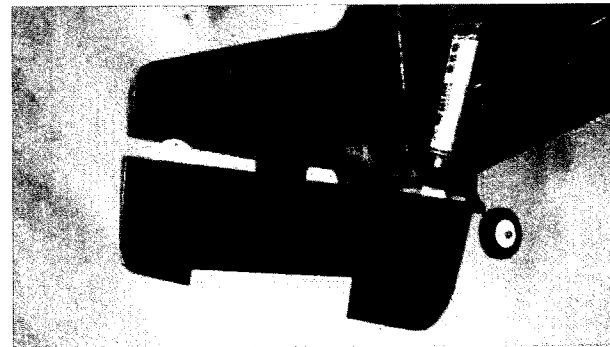
Please follow the following drawings to assemble the rods. Insert the 90-degree bend into the hole of the pushrod dowel and saturate the dowel with instant glue where the rod contacts the dowel. Allow to cure. Slide a piece of heat shrink tubing over the end of the pushrod dowel and use a heat gun to shrink it in place over rod/dowel connection.



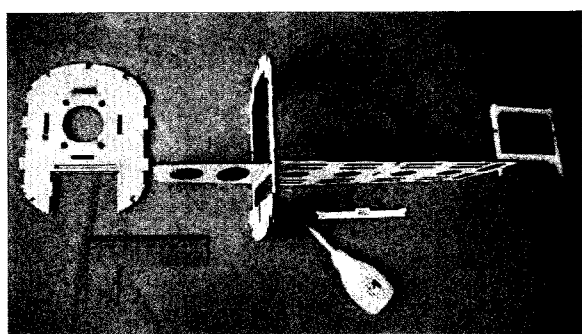
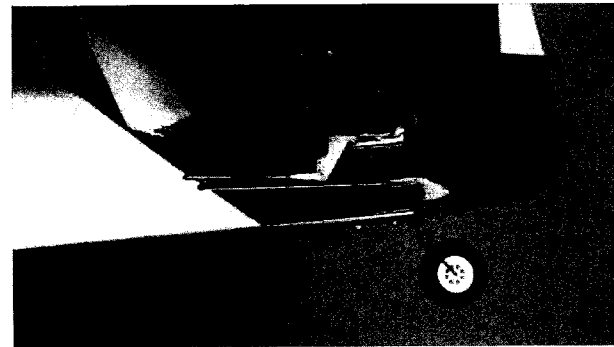
Try to find the slot on the rudder for installing the tail gear. Use sharp hobby knife to remove the covering out of the slot. Spread UHU glue or epoxy into the slot.



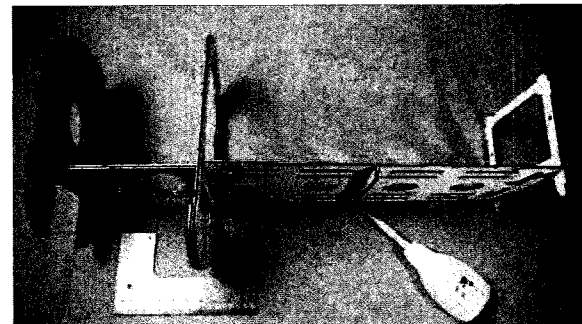
Secure the hinges in place with M2x15 tapping screws.



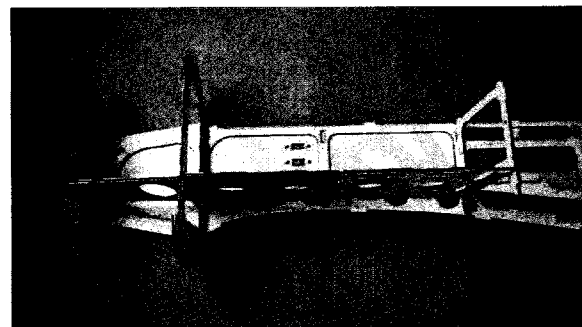
Spread Super glue on the one half of hinges and insert the hinges to the hinge slots on the rudder. Spread Super glue on the other half of hinges and insert the hinges to the slots on the vertical.



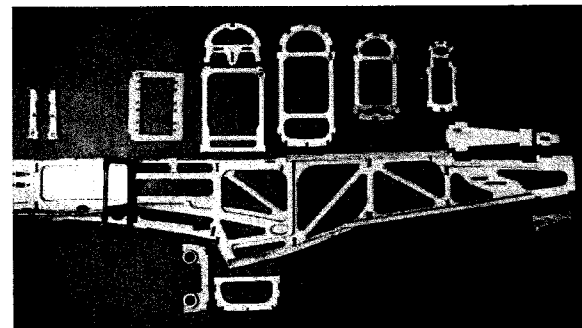
Prepare F7, F11, and F12. F7. The recess marking should be on the right hand side.



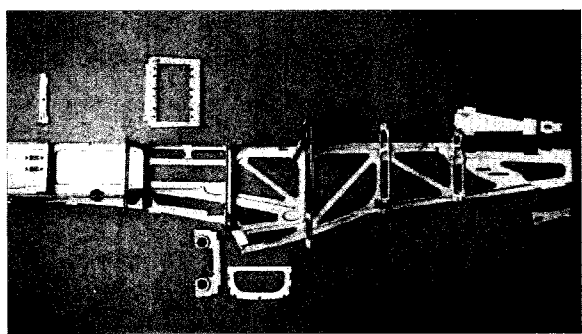
Join F7,F11,F12 to F5.



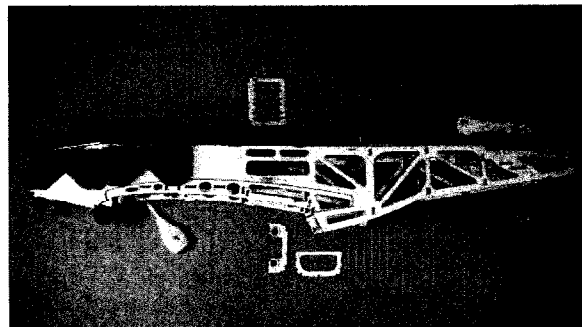
Join F5 set to F2R.



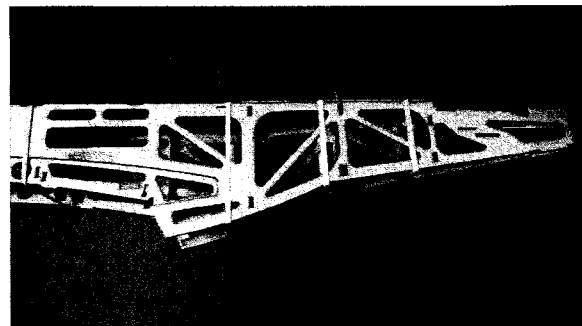
Prepare F10, F13, F18, F19, F16, F21, F22, F25, F26, F30, F17, F14.



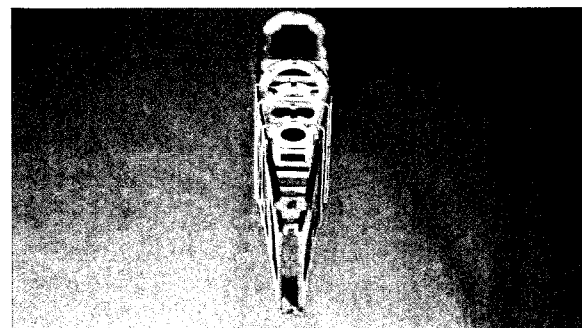
Check 1:1 map and join parts to F1R.



Join F1L and secure with weights, then use instant glue attach all parts.

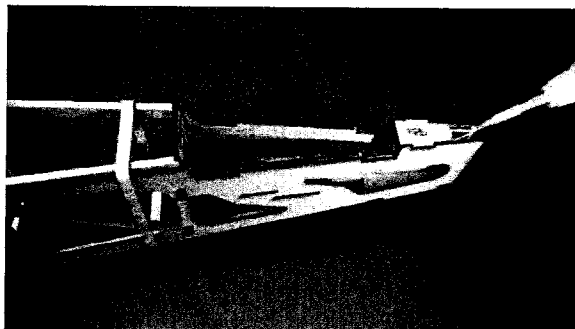


Secure with rubber bands.

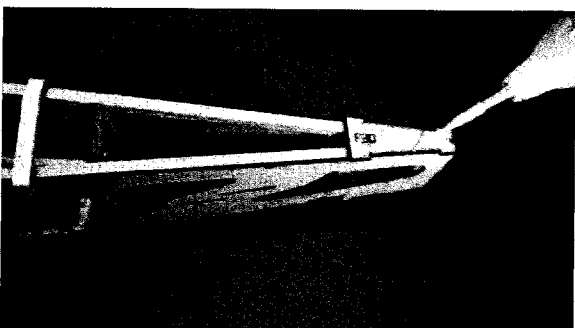


Rear view of the tail fuselage. Make sure it has bilateral symmetry.

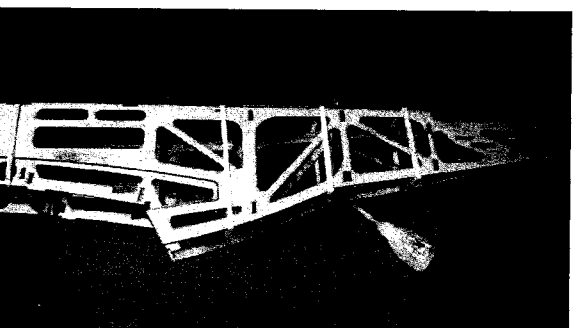




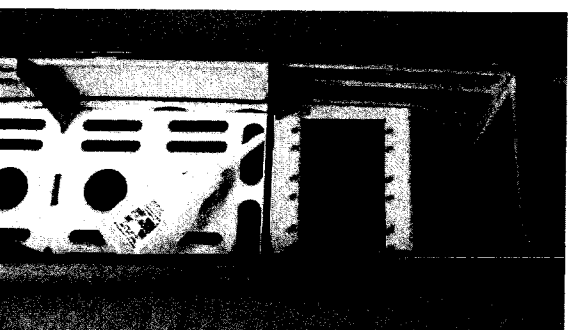
Attach F26 with instant glue.



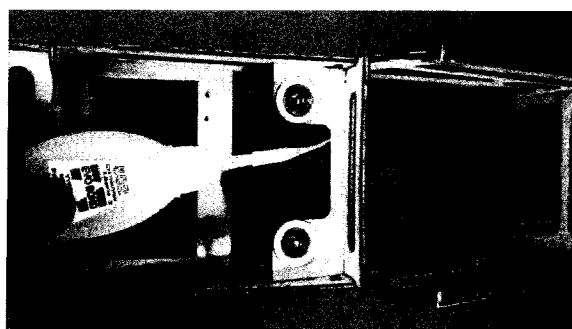
Attach F30 with instant glue.



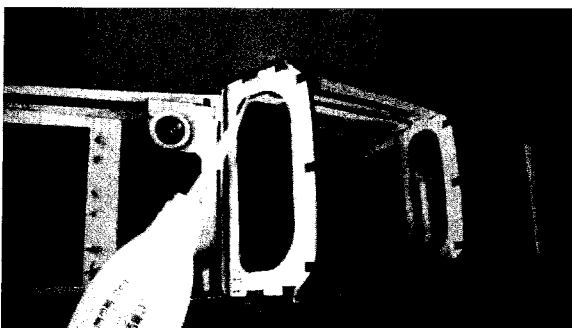
Check that every joint is attached with instant glue.



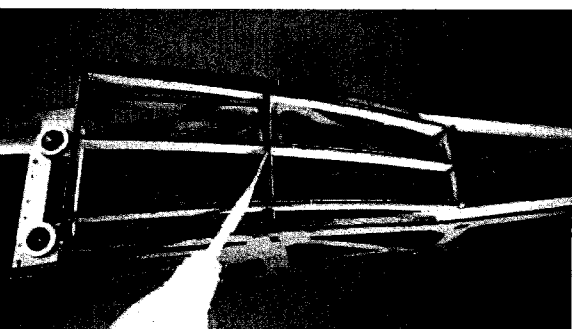
Check that all connecting edges are attached with instant glue.



Attach F14 with instant glue.



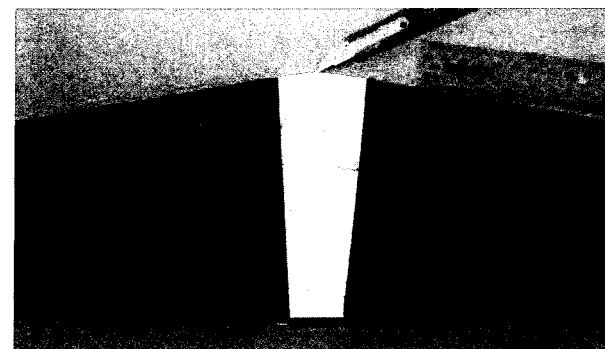
Attach F17 with instant glue.



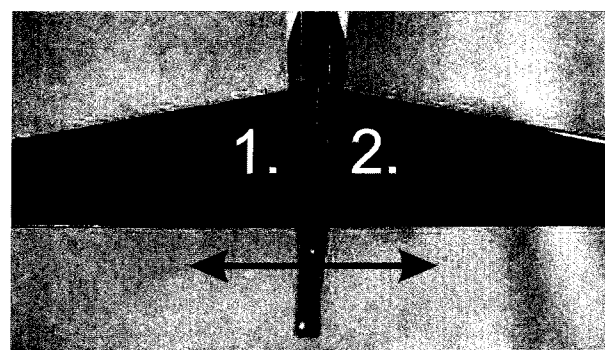
Attach F28 and two pieces F29 with instant glue.



Cut two pieces 73mm triangle strips and attach with epoxy.



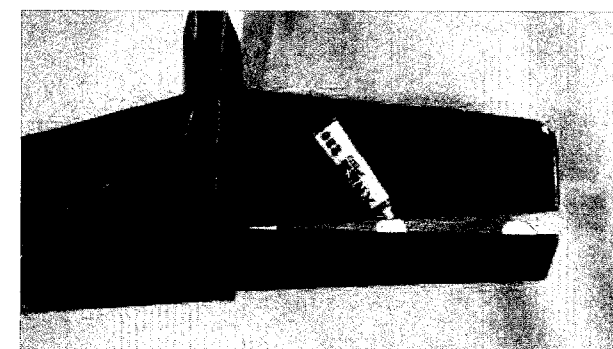
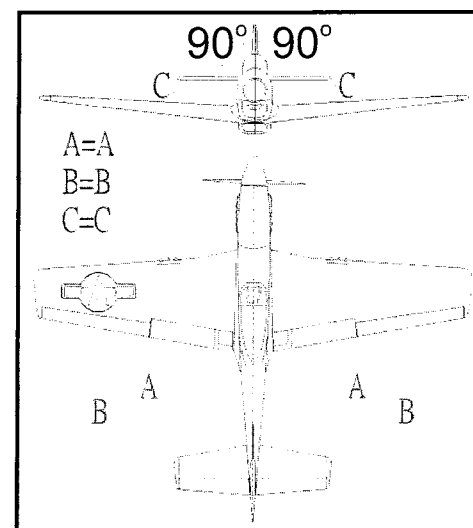
Remove the horizontal from the fuselage. Using a sharp hobby knife carefully cut away the covering inside the marking area. Do not cut into the balsa wood as this will affect the structural integrity of the horizontal.



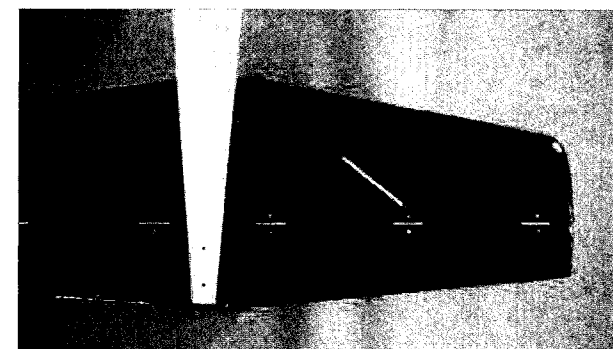
Two ways to glue the horizontal to the fuselage:

a. Fit the horizontal to the fuselage. Spread generous amount of epoxy on the area where the covering was removed on top and bottom. Move the horizontal from the left to the right several times, so the epoxy will move into the fuselage. Set the horizontal to the correct position, wipe off the extra epoxy and wait until the glue is dried enough.

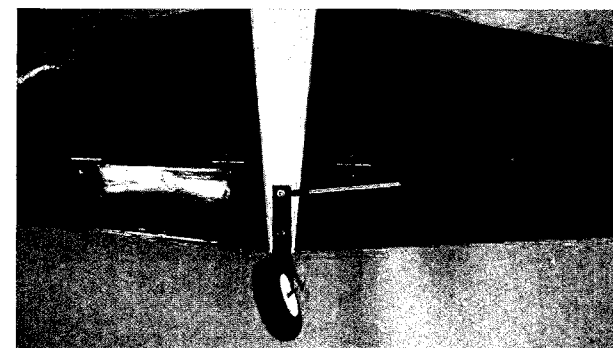
b. Fit the horizontal to the fuselage. Inject generous amount of instant glue to the conjunctions and wait the glue to dry.



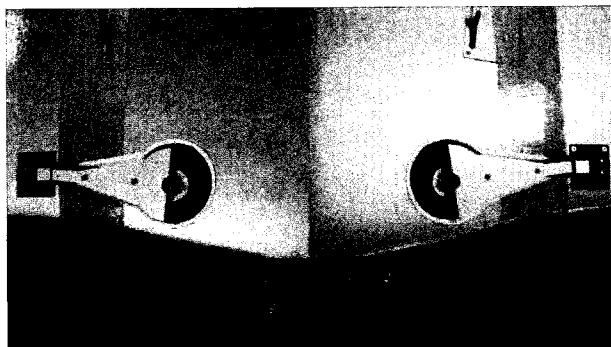
Use instant glue to secure the hinges inside the hinges slot of elevator. Also use Super glue to secure the half of hinges to the horizontal.



Use 2x15mm tapping screws to secure the hinges. Use side-cutter to remove extra length of screws.

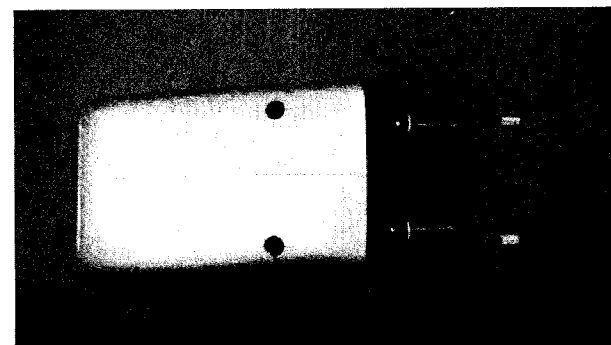


Secure the tail wheel to the tail gear. Use M3x10 tapping screws to secure the tail gear mount to the tail.

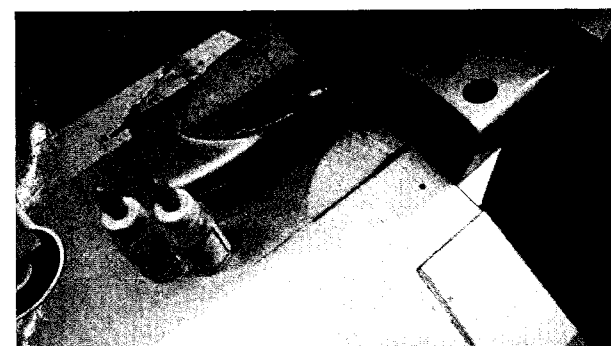


Assemble the gear covers to the gear mounts. Secure the axles to the main gear with M3x4 screws. Install the wheels and collars.

Turn on the power and set the gear up. Try to adjust the positions for wheels and gear covers. When satisfy the location, secure them in position with the screws. (It is normal that the screws will push the gear cover when the screws are tight.)



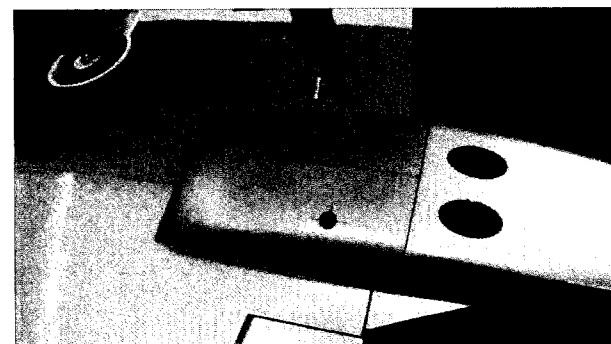
Place the venting M4x35 wing bolts (hex), washers and silicone tubes on the working table.



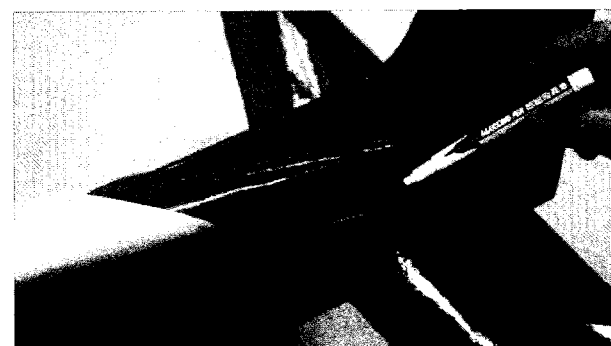
Spread some epoxy on the area where the covering was removed on previous step.



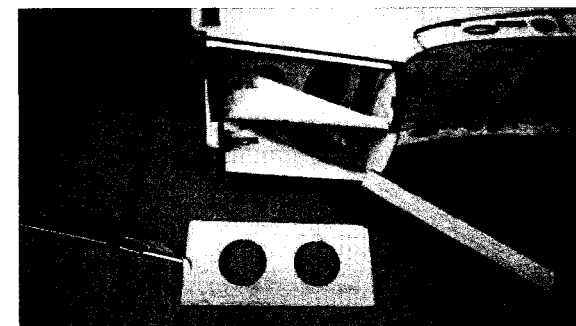
Insert the wing bolts and washers through the venting. Try to the fit the vent onto the main wing with the wing bolts into the bolt holes.



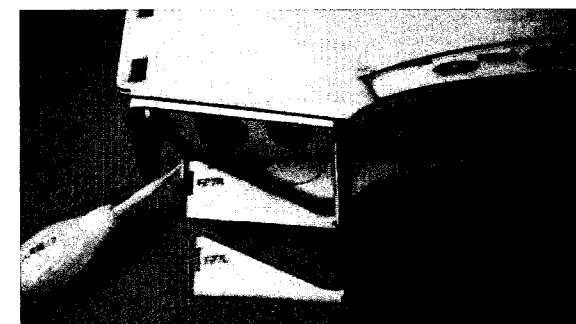
Secure the wing bolts for temporary until the epoxy is dried enough.



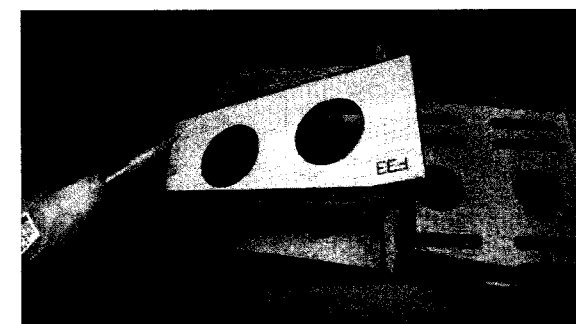
Remove the elevator out of the horizontal. Trial fit the horizontal in place on the fuselage. Please note the distance to the tip of the horizontal must be equal on both sides. Please refer to the last drawing. When you are satisfied with the alignment, use marker to carefully trace around the top and bottom of the horizontal where it meets the fuselage.



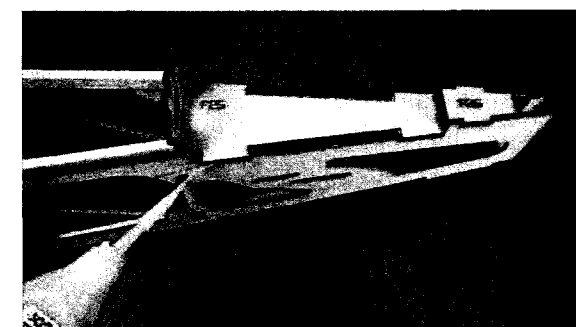
Cut off 45 degrees to F33's front edge and sand it until smooth.



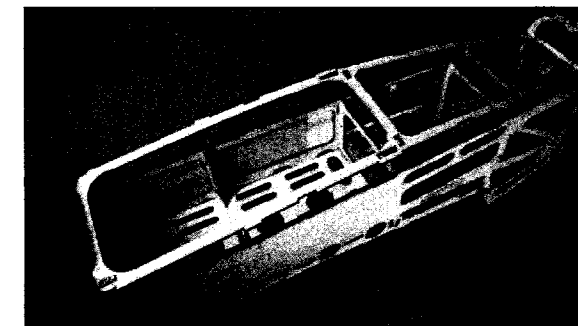
Attach F27R on the right side, then attach F27L on the left side.



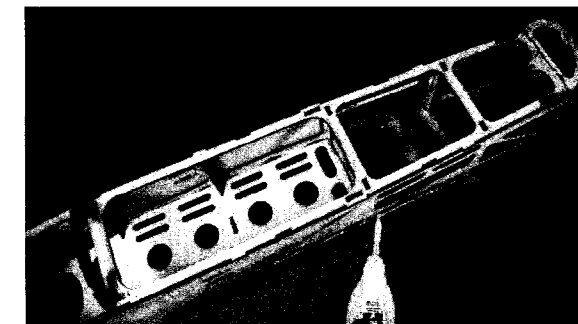
Attach F33 with instant glue.



Attach F25 with instant glue.



Join F23.



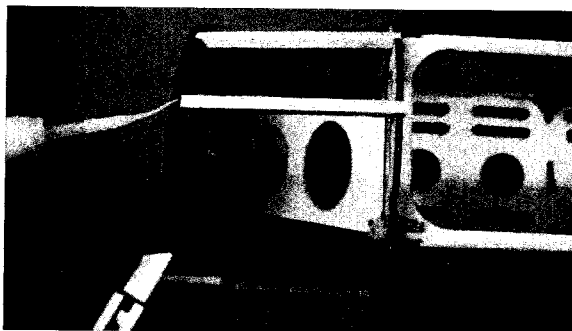
Insert every slot and attach with instant glue.



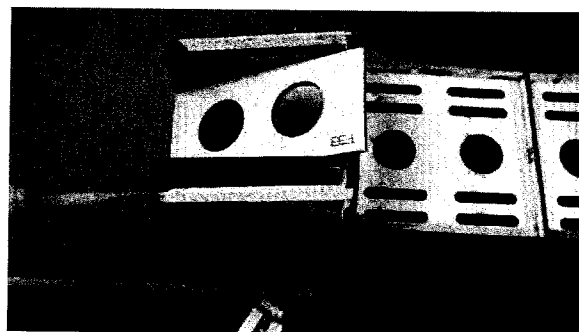
Attach F24 with instant glue.



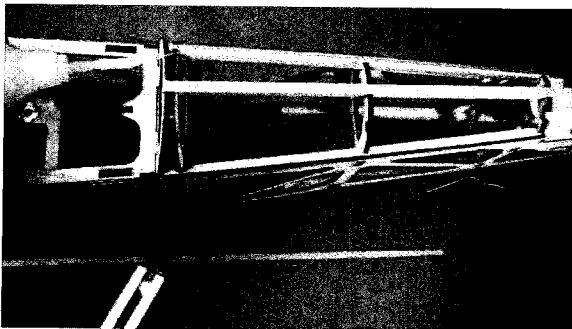
. Put in ring-pull and attach to F24 with instant glue. Note: This step is to be done AFTER the plane has been coated with film!!



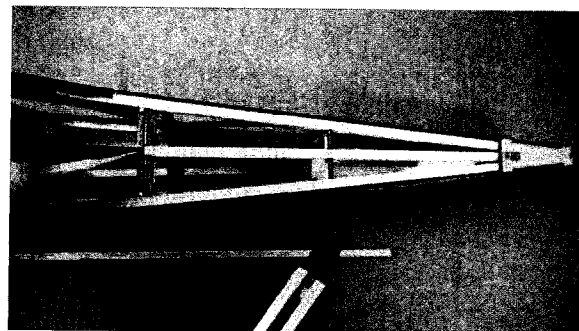
According to the distance between slots, cut 5x5 balsa wood strips and attach with instant glue.



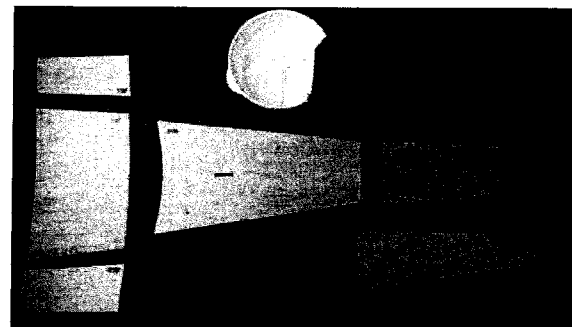
According to the distance between slots, cut 5x5 balsa wood strips and attach with instant glue.



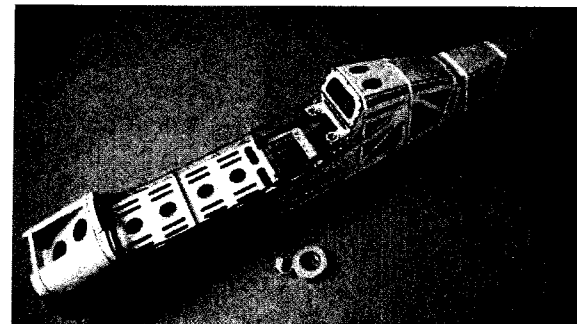
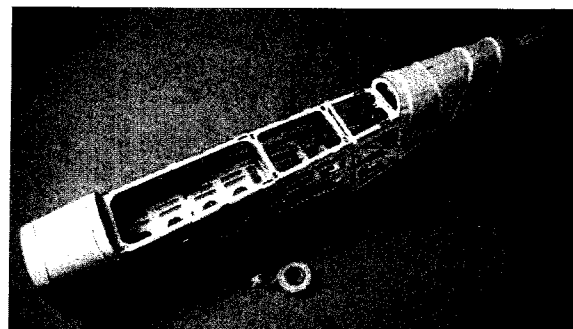
According to the distance between slots, cut 5x5 balsa wood strips and attach with instant glue.



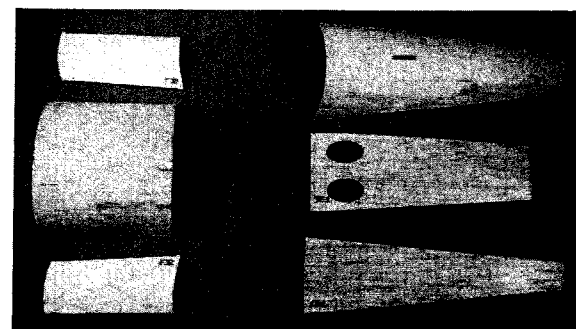
According to the distance between slots, cut 5x5 balsa wood strips and attach with instant glue.



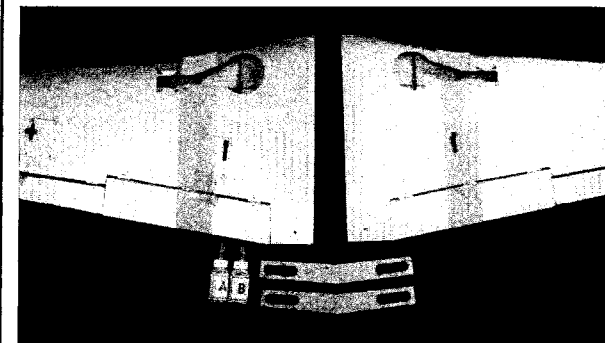
Prepare F32x2, F31, F34, F35, F37, and make them wet.



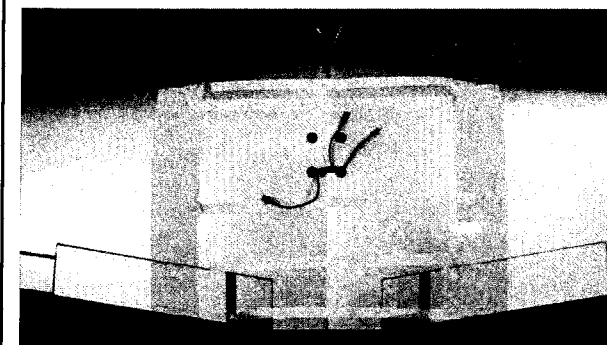
Cover fuselage and secure with rubber bands and tape..



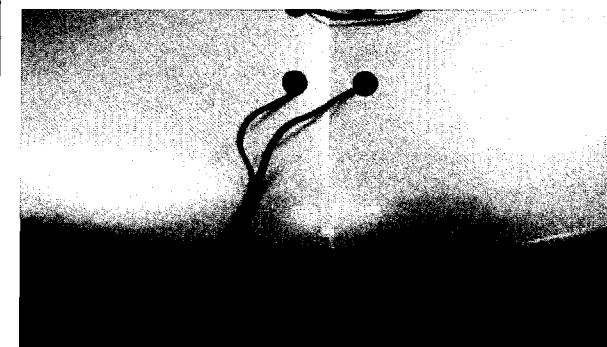
Allow wood to dry so that it will keep its shape.



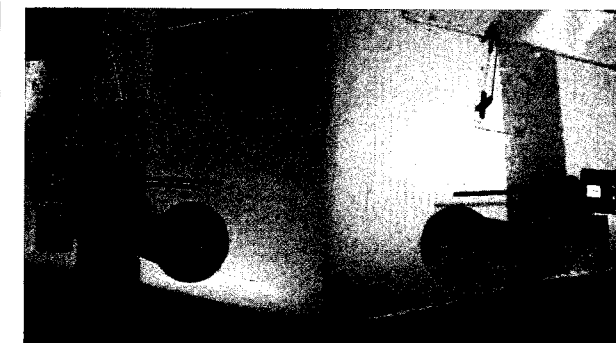
Spread generous amount of 30-min epoxy to the top and bottom of wing joiners, and wing root. Insert the wing joiners to the left and right main wing for securing both main wing together.



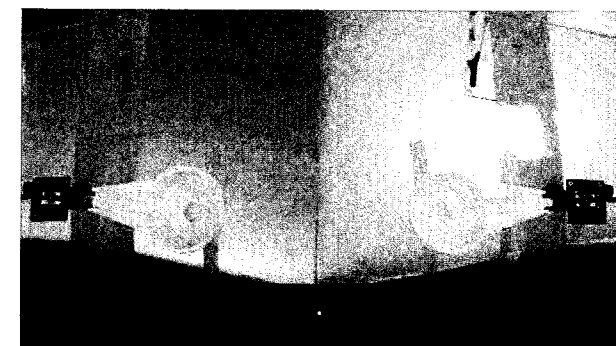
Use tapes and clip to hold the main wing set temporary until the glue is dried enough. Use tissue to wipe away the excess glue.



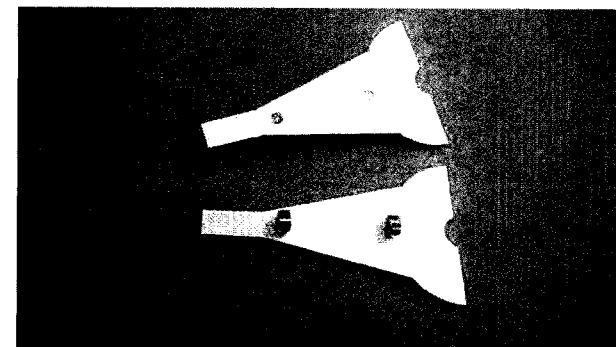
Pull the Y-harness from the retracts to the wire exit.



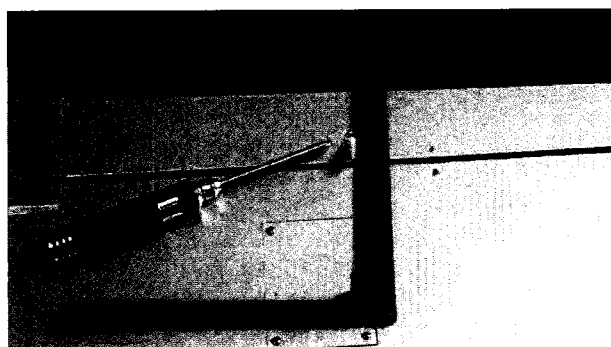
Place the main wing upside down. Try to find the Y-harness from the main gear mount. Plug the Y-harness and apply some transparent tape around the plug. Assemble the retracts on the main wing with M3x12 tapping screws.



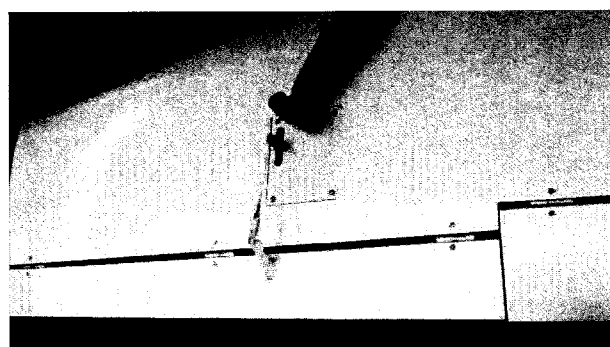
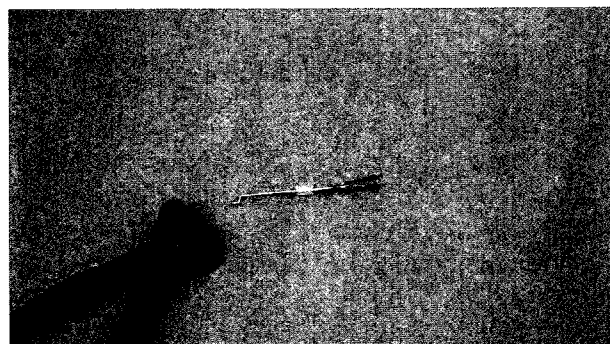
Turn on the power and set the gear down. Install the vacuum-formed mounts for wheels on the main wing and secure them in place with instant glue.



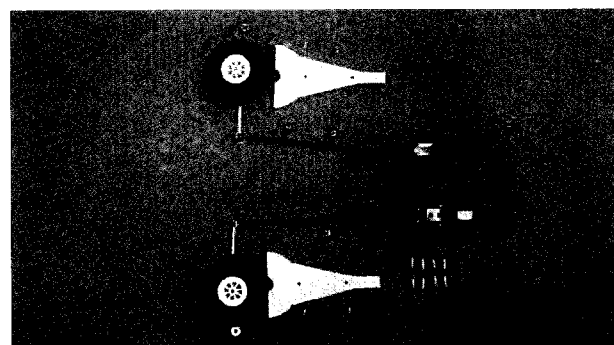
Use M3x6 flat-head screws to secure the collars on the wheel covers for temporary. Don't screw too tight.



Place the triangle rule along the servo arm to the trailing edge for setting the location for installing the control horn on the aileron. Use 1.5mm hand drill to drill holes for the control horn. Place the control horn in position and the strap on its back and secure with M2x25mm screws.

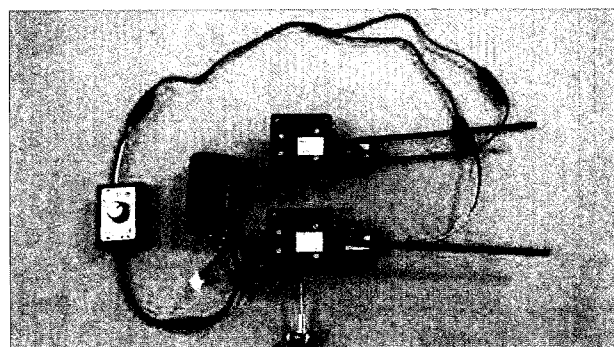


Thread the clip to the rod. Slide one piece of 5mm silicone tube to the connection of the control horn and clip. Use Z-bender to make a Z bend on the rod for connecting with servo arm.

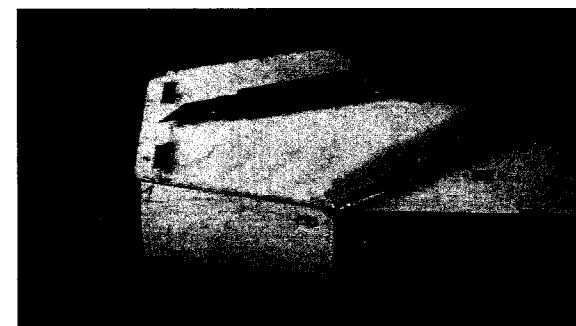


Place the accessories for the main gear on the working table:

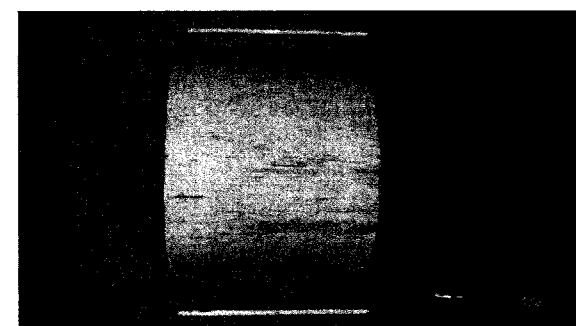
70mm round sponge wheels x 2 pieces  
4mm collar x 6 pieces  
axle x 2 pieces  
M3 x 4 flat-head hex screw x 4 pieces  
M3 x 8 flat-head hex screws x 2 pieces  
wheel paints x 2 pieces  
retracts x 2 pieces  
left main gear x 1 piece  
right main gear x 1 piece



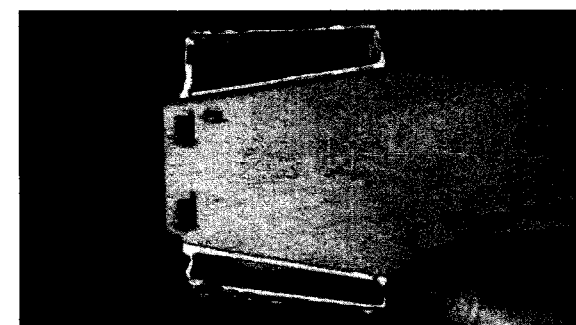
Caution: left main gear is different from right main gear. For identification, please set the gear up, secure the gear to retracts with M3x8 hex screws (the flat side of the gear must face the side screw holes of retract).



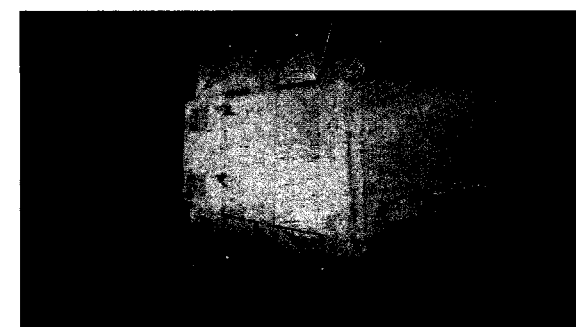
Attach F31 and F32 secure with pins, and cut off extra pieces.



Cut off extra pieces..



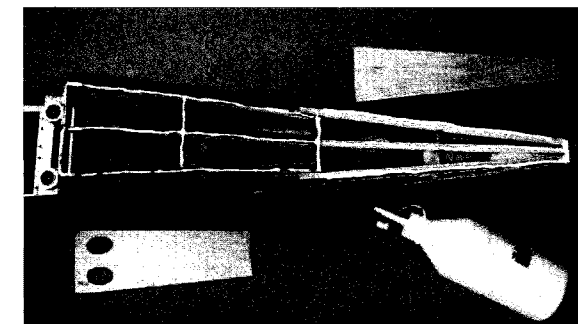
Use white glue as in above image.



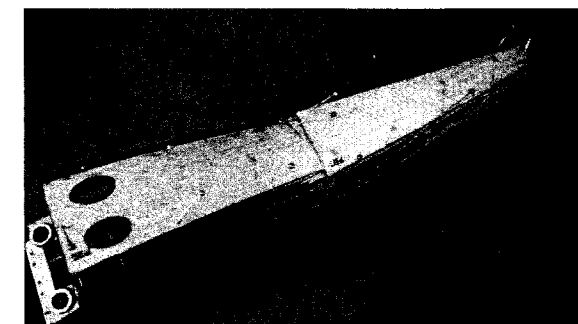
Attach F31 and F32 and secure with tape.



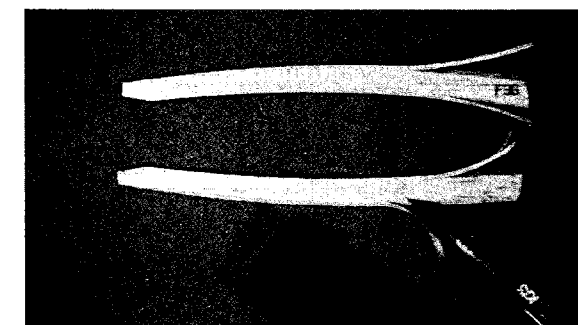
Sand it until smooth.



Use white glue as in above image.

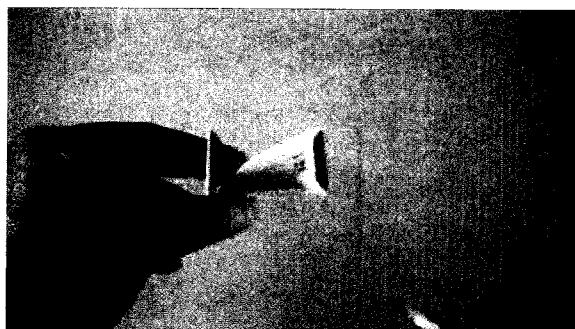


Secure with pins.

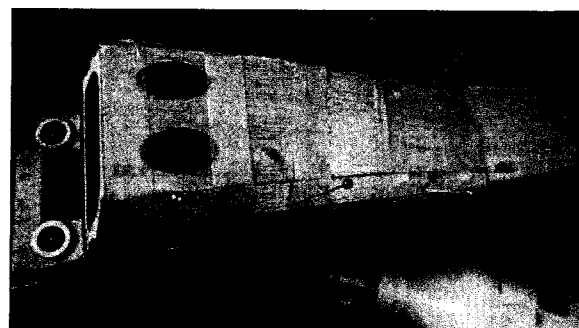


Cut off F36 upper edge and lower edge to make them 45 degrees, and sand it until smooth.

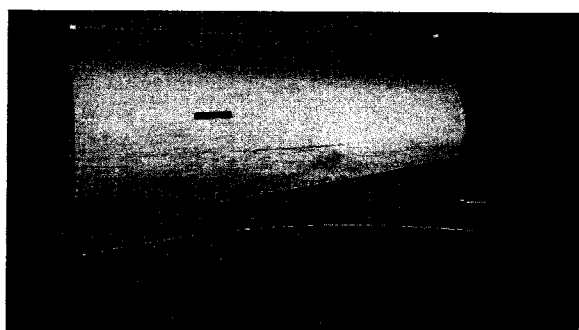




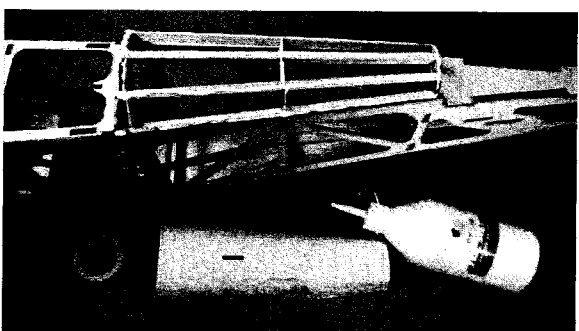
When finished, it should look like this picture.



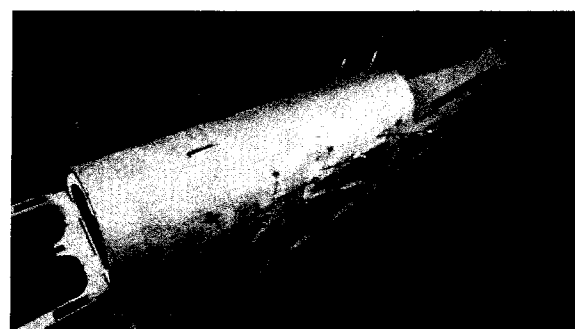
Attach F36 with white glue and secure with pins and tape.



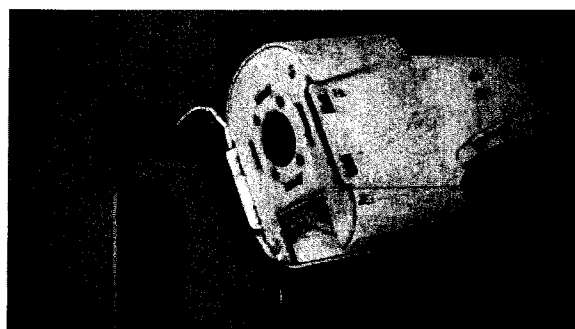
Cut off extra pieces.



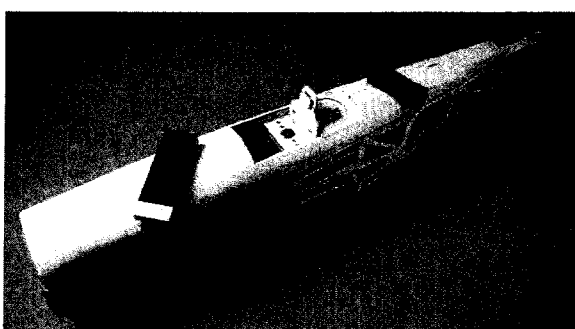
Use white glue as above.



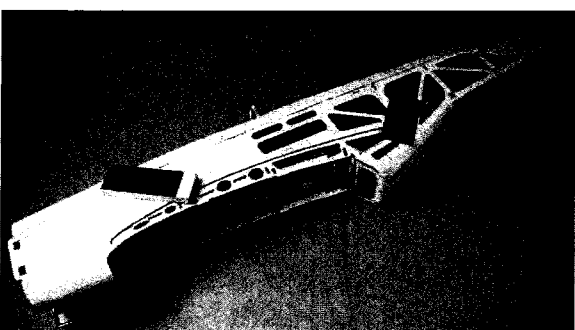
Secure with pins and tape.



Sand it until smooth like above picture.



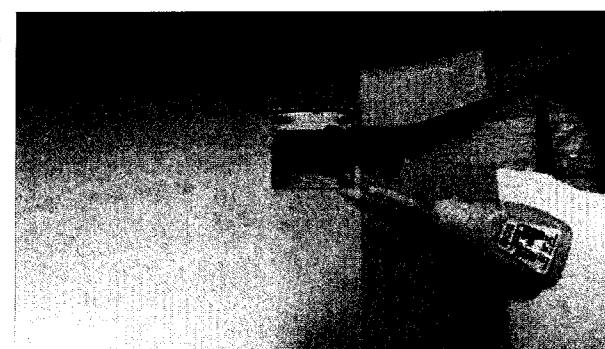
Sand it until smooth like above picture.



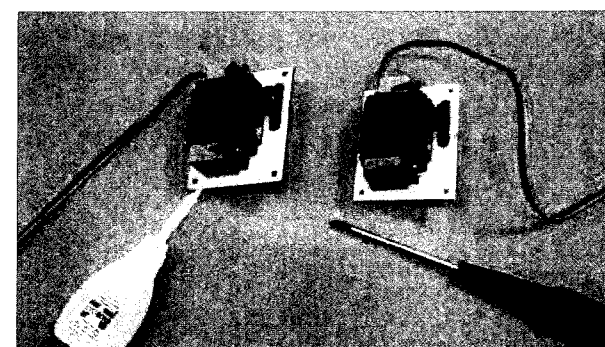
Sand it until smooth like above picture.



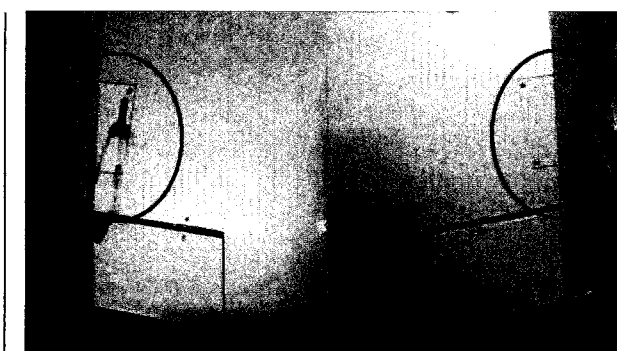
Drop some instant glue into the screw holes for the servo tray.



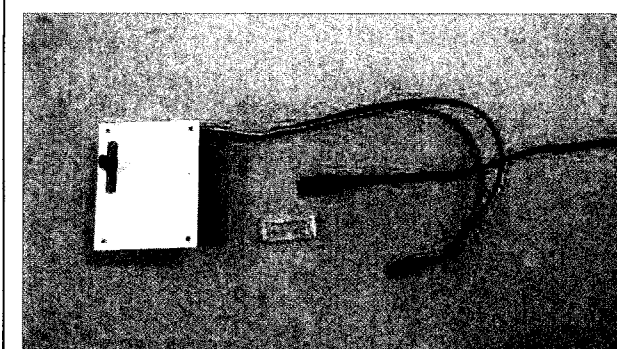
Drop some instant glue into the screws holes on the retracts mount.



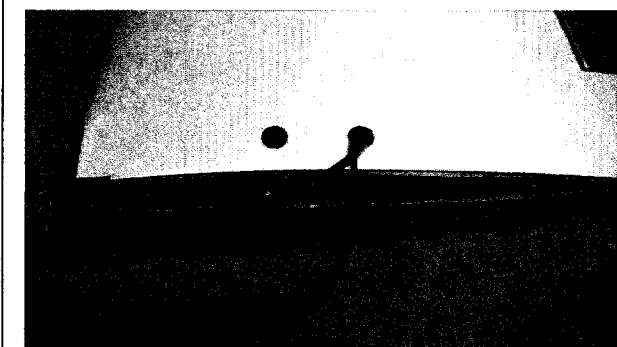
Try to place the servo on the servo planking. Use instant glue to secure the servo planking on the cover. Set the servo arm to the center exit. Secure the servo in place with screws coming with servo.



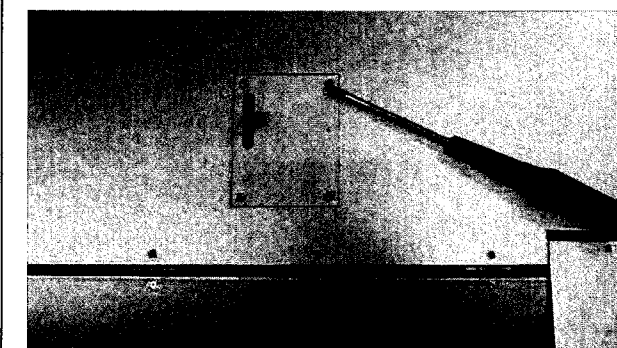
If use Y-harness on the flap, please install the left wing and right wing servos at the same side. If want to use mixer on the radio, the location of both servos must be on different side.



When connect the extension or Y-harness with the servo, please apply some tapes on the connections for avoiding losing off during flying.



Pull the servo line out of the exit hole.

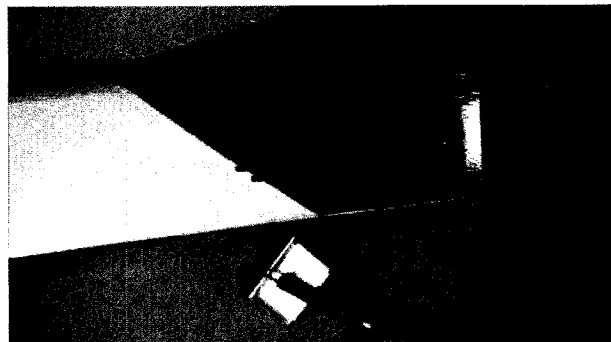


Secure the servo cover in place with M2.6x8 tapping screws.

## EP ONLY



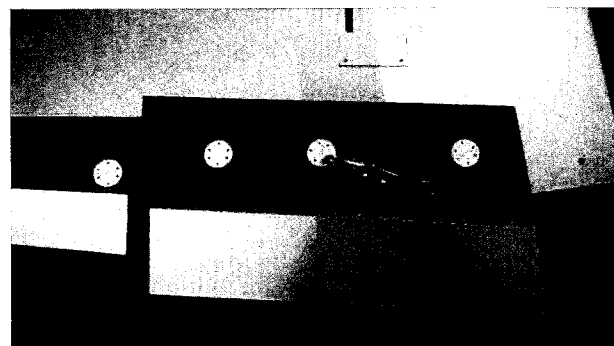
For the EP version:  
Place the fuselage upside down. Try to find the location of venting hole. Remove the covering out of the hole.



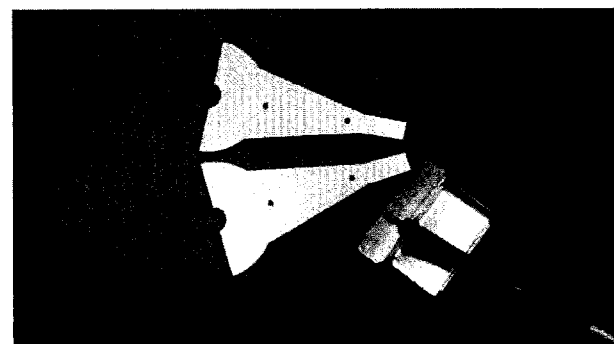
Try to find the rod holes for the horizontal and rudder. Remove the covering out of the holes.



Place the fuselage upside down. Try to find the screw holes for the tail gear mount. Remove the covering out of the screw holes.



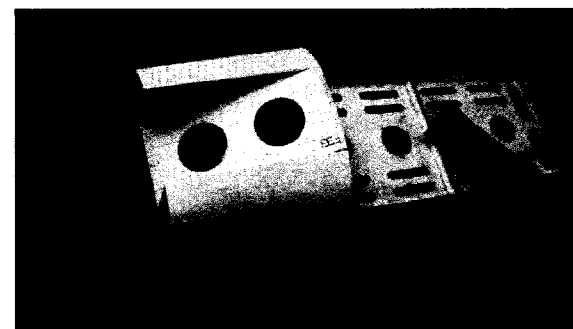
Spread some instant glue on the top and bottom one-half of each hinge. Insert the hinges into the main wing until the hinge line is even with the trailing edge of the main wing.



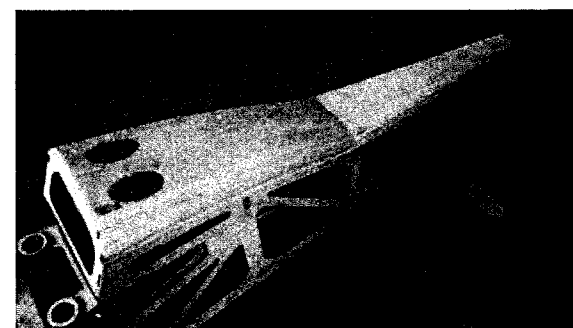
Place the gear cover on the working table. Find the screw holes on the cover. Remove the covering out of the screw holes.



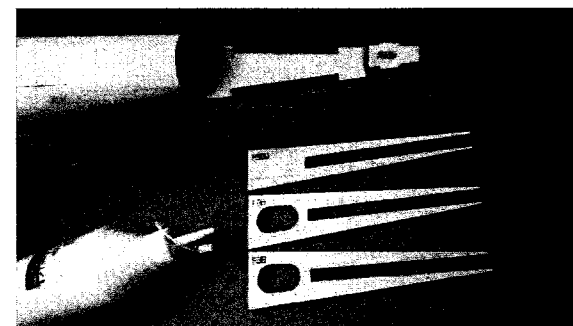
Spread some Super Glue to the remaining half of each hinge and place the aileron and flap onto the main wing. Secure the hinges with 2x15mm tapping screws. If the end of the screw is too long, use side-cutter to trim the end.



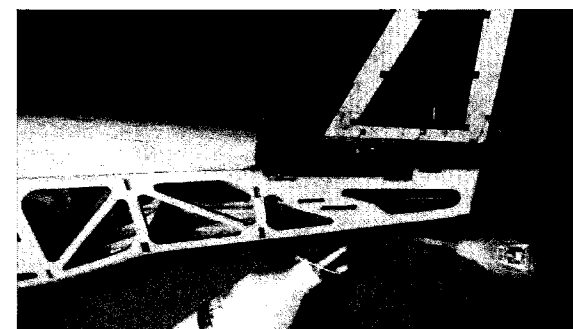
Sand it until smooth like above picture.



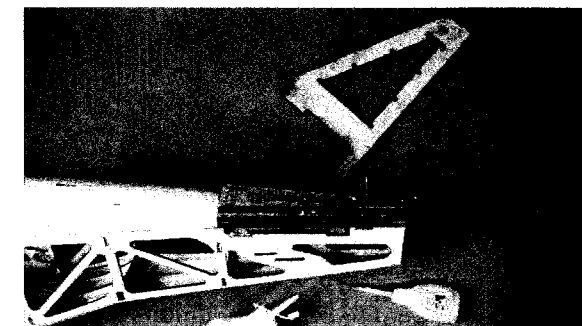
Sand it until smooth like above picture.



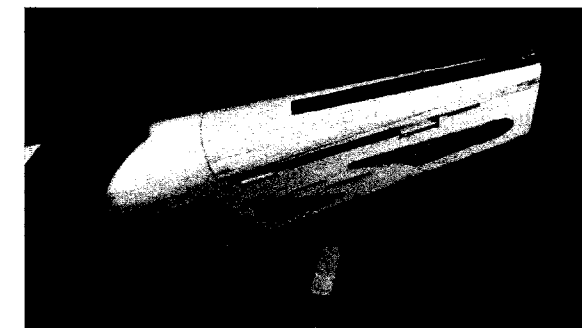
Attach F38U and two pieces F38 to fuselage with white glue and secure with pins.



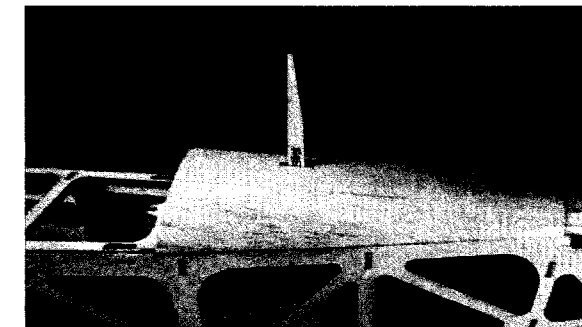
Join V2 help to align F38 set. Note: V2 will be at a 90 degree angle to the fuselage.



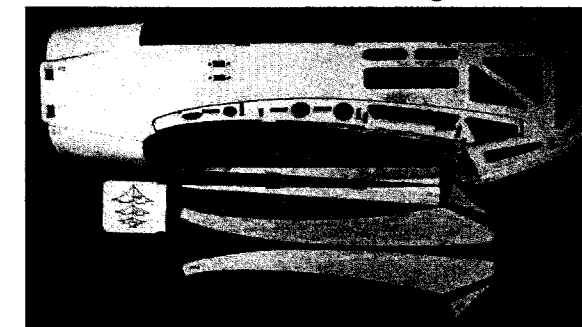
Take out V2.



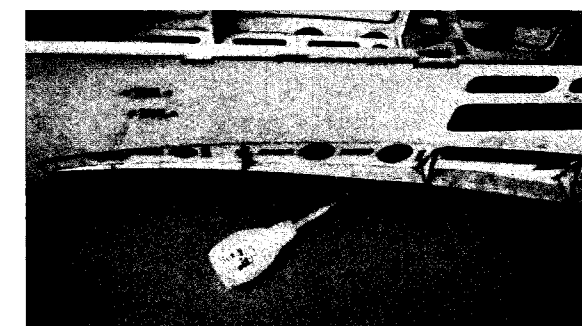
Sand it until smooth.



Join F45 to test slot. Don't use glue.

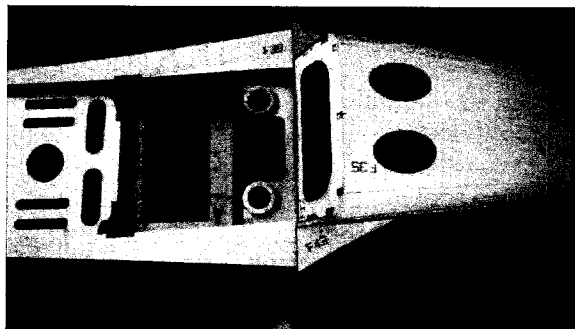


Prepare F40, F41, F42, F39, F44 F43.

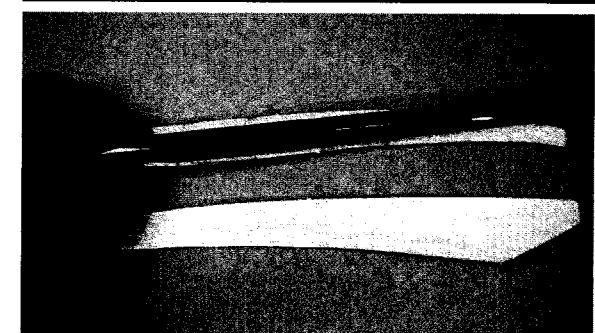
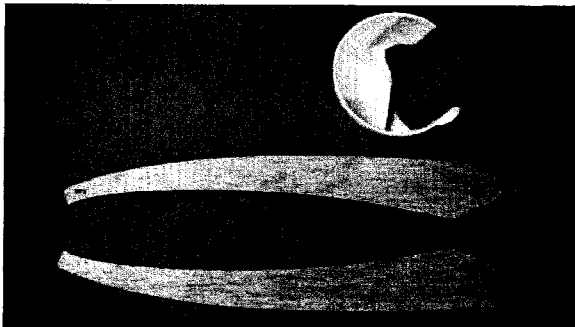


Attach F42, F41 and F40 with instant glue.

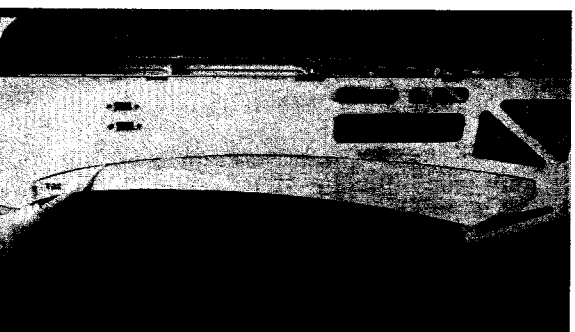




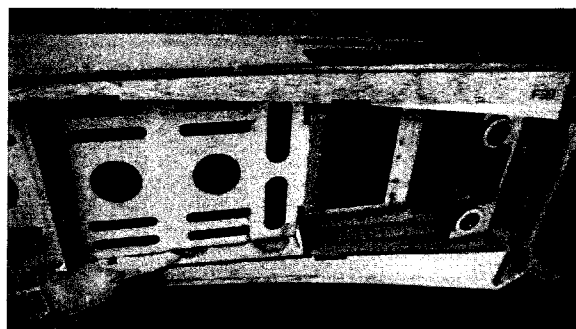
Attach F39 and F43 to fuselage with instant glue.



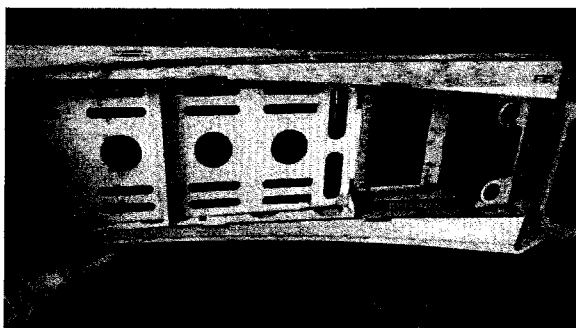
Make F44 wet.  
Use a pipe or rounded object to make F44 rounded. Secure F44 to rounded object until dry.



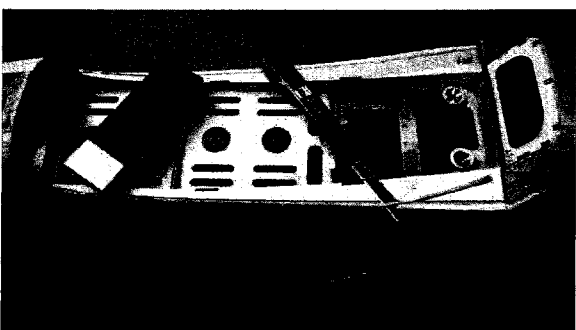
When F44 is dry, attach to fuselage with instant glue.



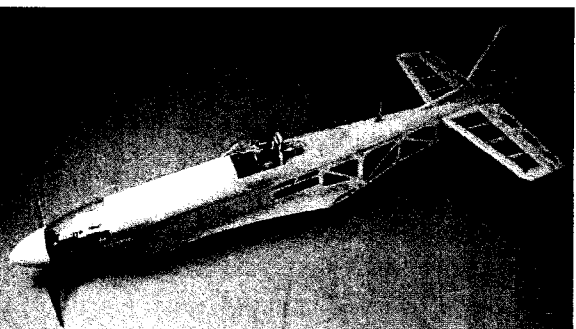
Use instant glue to attach F44 from the inside.



Attach F39 with instant glue.

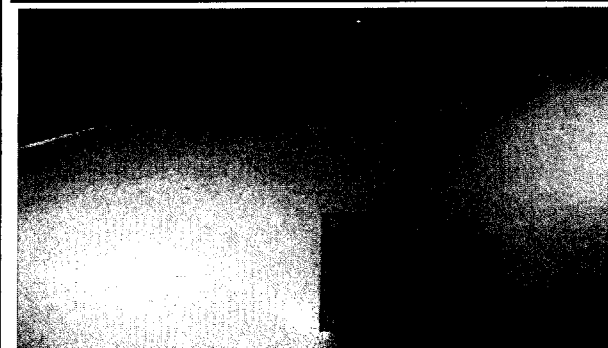


Cut off extra pieces and sand it until smooth.



FUSELAGE IS FINISHED!!

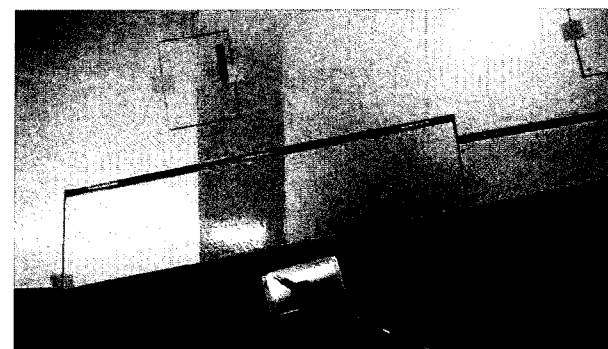
**Please use sharp hobby knife or soldering iron to remove the covering.**



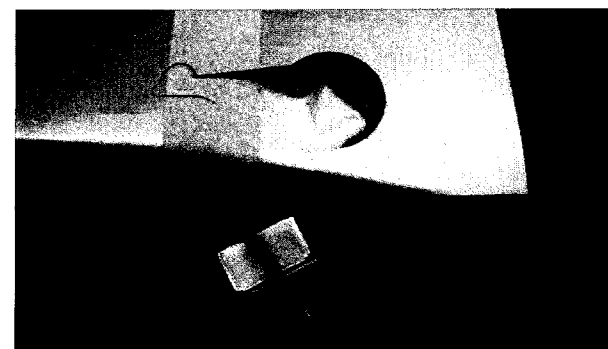
Remove the covering out of the servo tray.



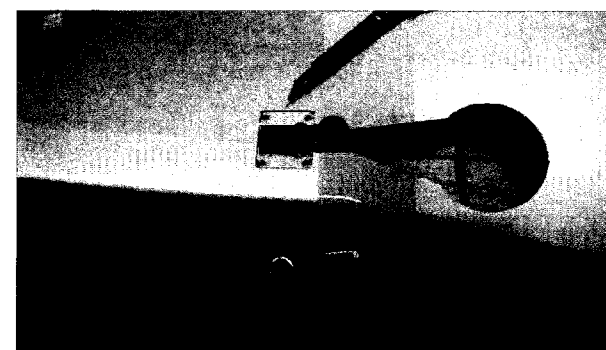
Remove the covering out of the slot on the aileron's servo cover.



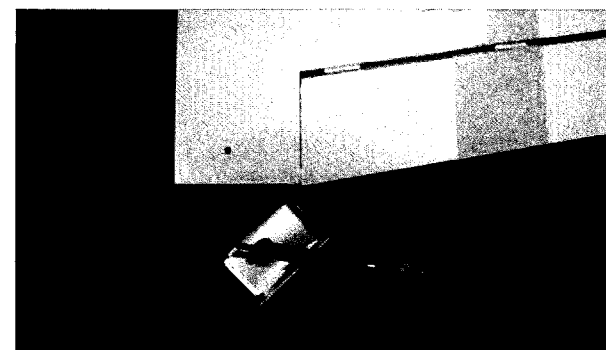
Remove the covering out of the servo tray on the flap.



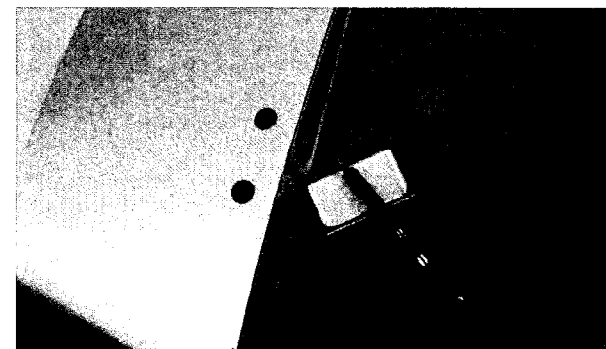
Remove the covering of out of the main gear mount.



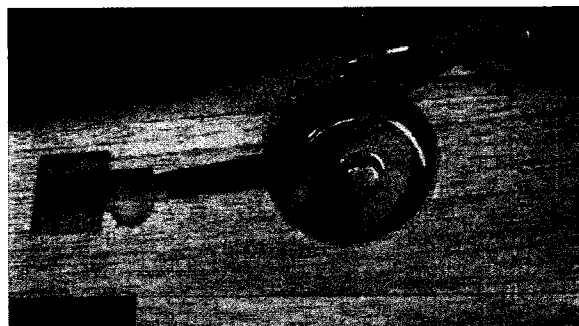
Remove the covering out of the retracts mount and trim the edges with ironer.



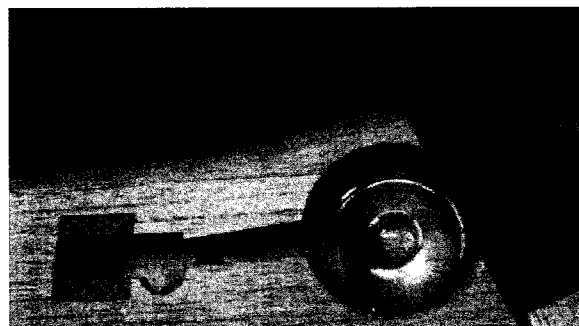
Remove the covering out of the wing fixing hole.



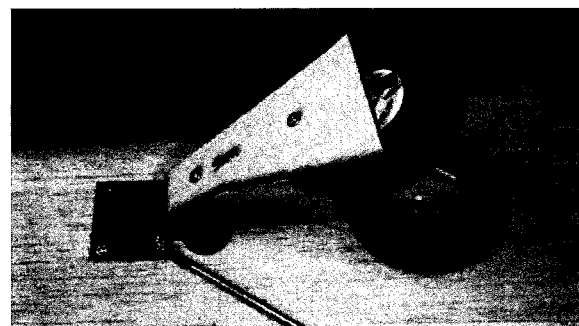
Try to find the exit hole for the servo line on the main wing. Remove the covering out of the hole.



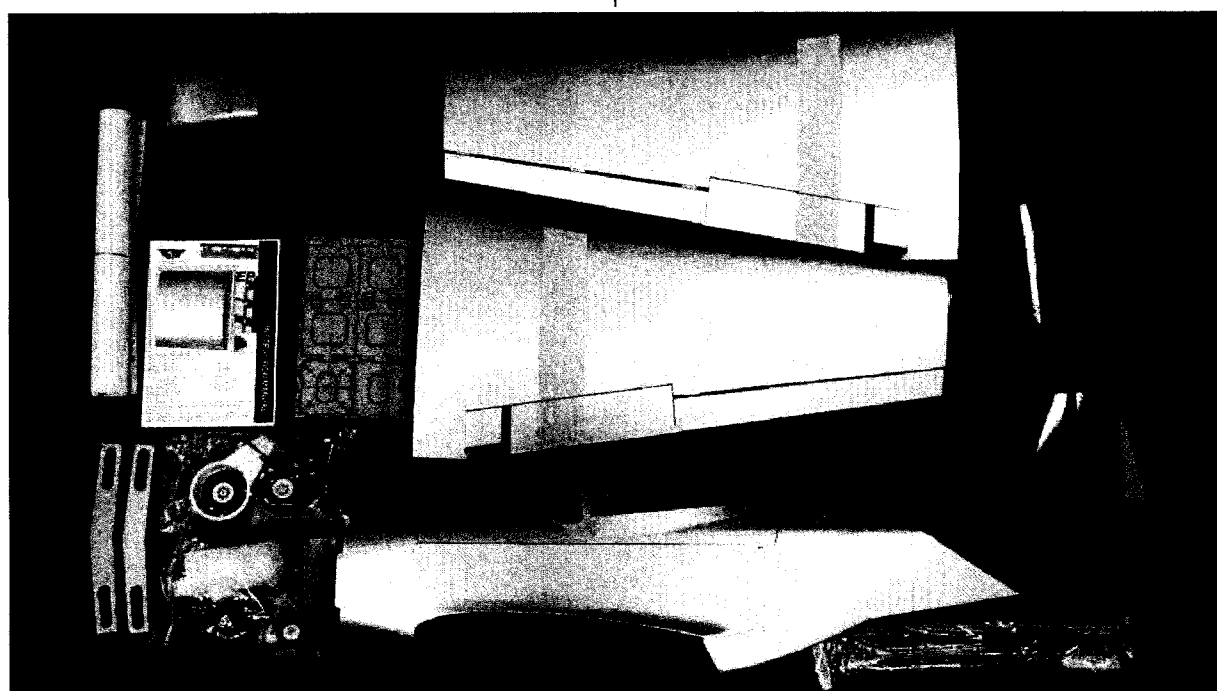
Cut off extra pieces.



Sand it until smooth.



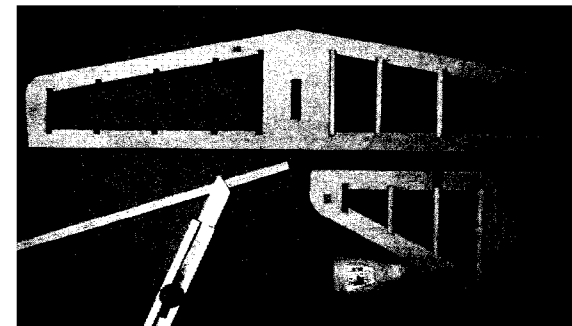
Set electric landing gear.



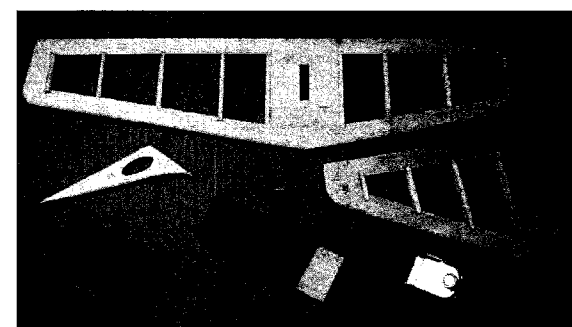
Contents of Kit / Parts Layout

#### Tools and suppliers needed (not included in kit):

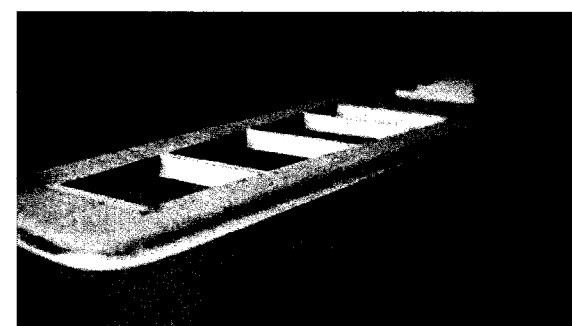
1.5/2.0/3.0mm hex wrench	Sealing Iron	30min Epoxy
1mm/2mm driller	Soldering Iron	Instant glue
Driller 2mm/3mm/4mm/5mm	Phillips PH0/PH1	Heat gun
Shrinking tube	Ruler	UHU glue
Z-bender	Marker and transparent tape	Super glue
Sharp Hobby Knife	Side-cut pliers	
Sharp-nose pliers	5min Epoxy	



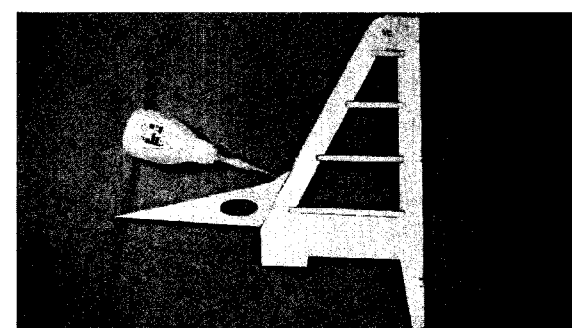
Prepare H1 and V2. According to H1 and V2's slots size cut out 4x8mm balsa wood strips and attach them with instant glue.



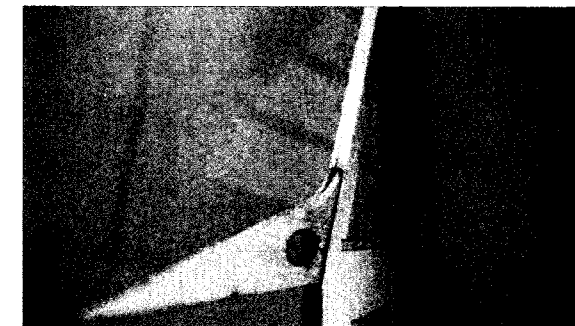
Cut and sand H1, V2 and V1 until smooth.



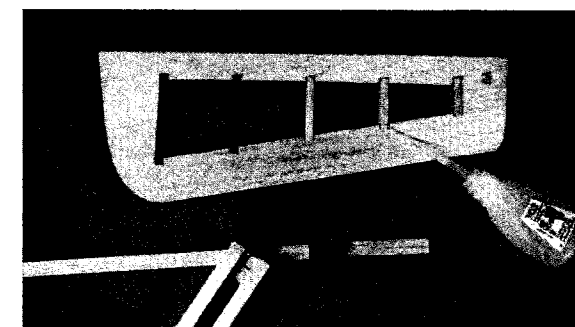
Trim the front edge to a rounded shape and sand.



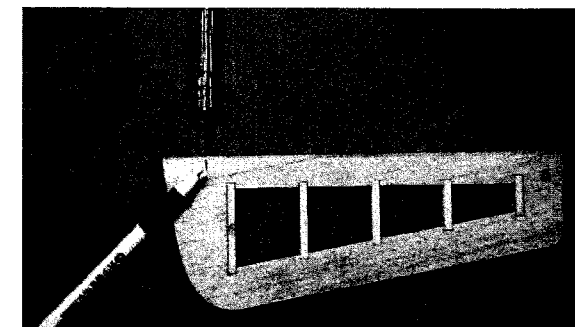
Attach V1 to V2 with instant glue.



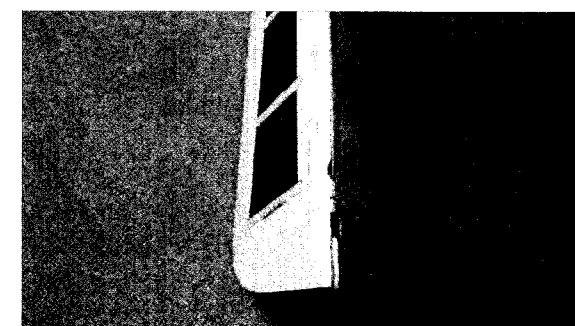
Trim the front edge to a rounded shape and sand.



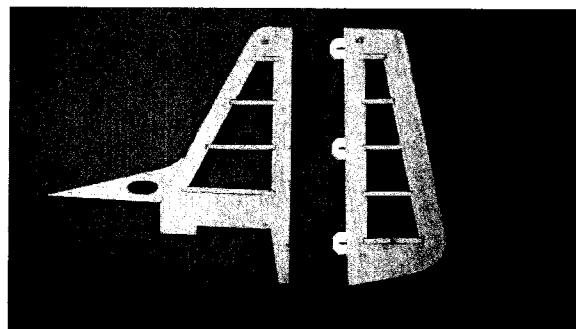
According to V3's slots size cut 4x8mm balsa wood strips and attach them with instant glue.



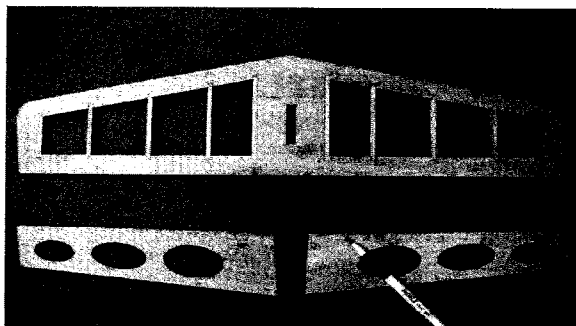
Check 1:1 map. Drill a 2mm hole, and this hole must be longer 25mm.



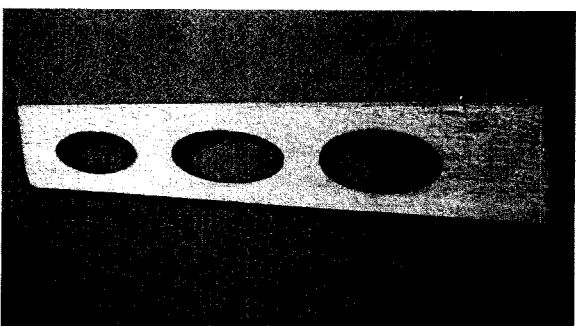
Make a slot under the hole large enough to fit the tail gear.



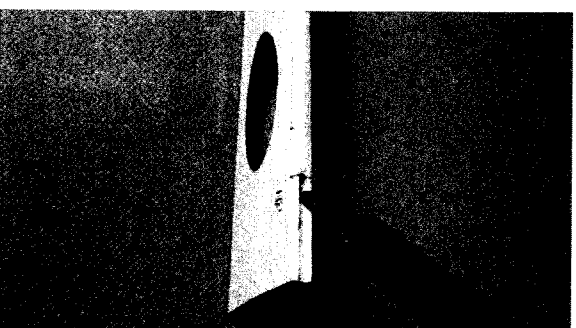
Cut the hinge holes and set the tail gear into the slot.



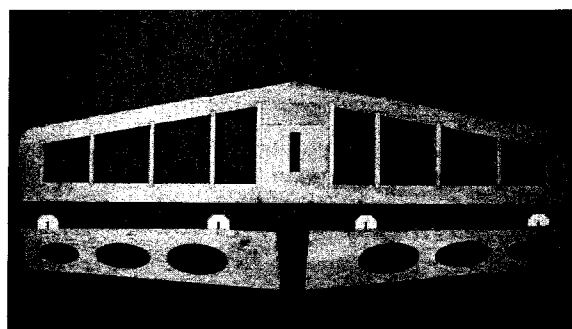
According to the "U" shaped part's size, find right place to make a mark on H2.



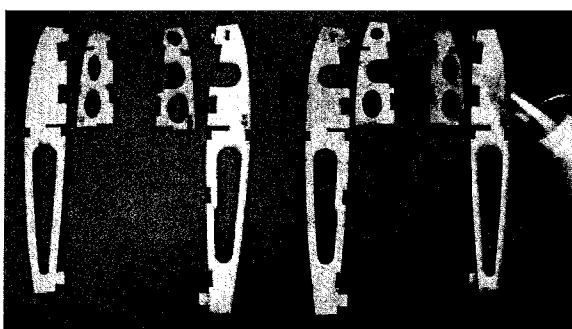
According to the mark, drill a 3mm hole.



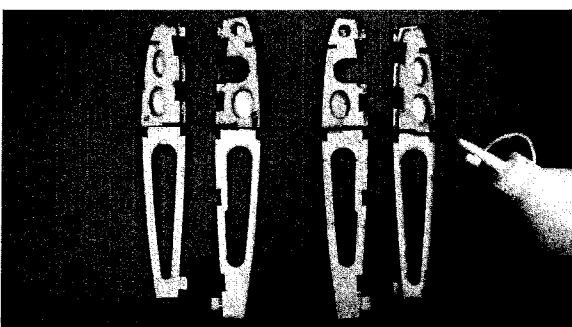
According to the hole, cut a slot for the parts to be put in.



Set the hinges and metal part into horizontal and elevator.

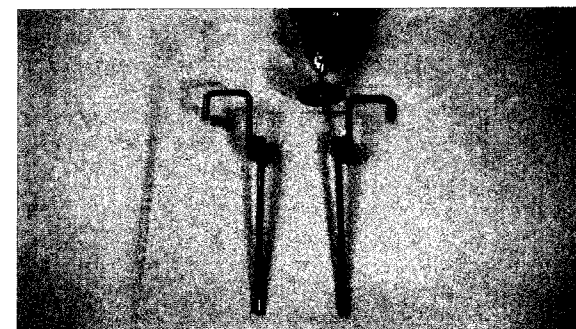


Prepare W12, W12A, W13, W13A.

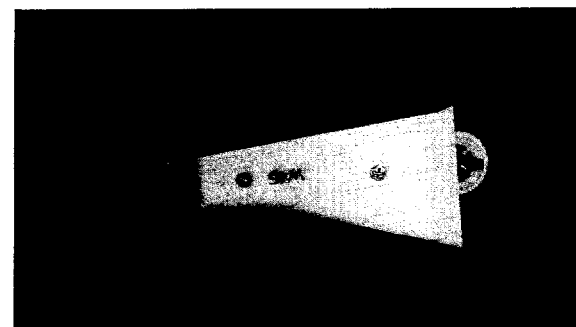
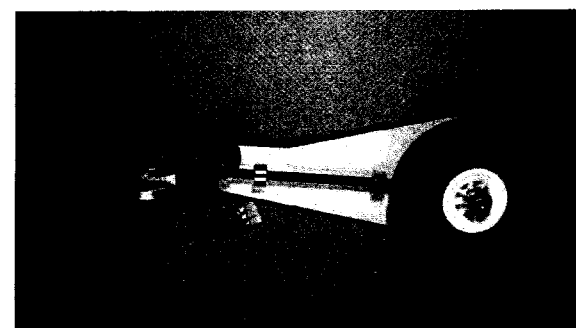
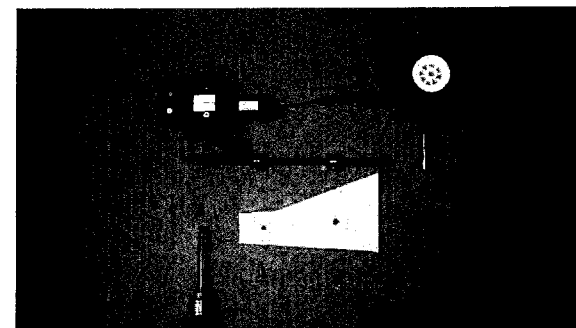


Take W12A to place on W12 and the gaps should be aligned. Use white glue to glue these two pieces. (W12A will be longer than W12 2mm) Please repeat the step again on W13 and W13A.

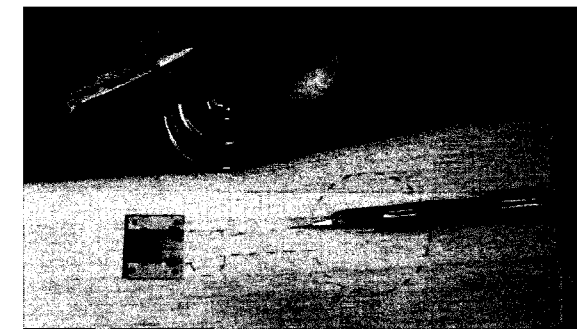
Note: Right wing and Left wing are mirrored.



Cut off extra parts from landing gear.



Set electric landing gear like in this picture.



According to the dotted line, cut off extra space.



When finished, it must look like this picture.

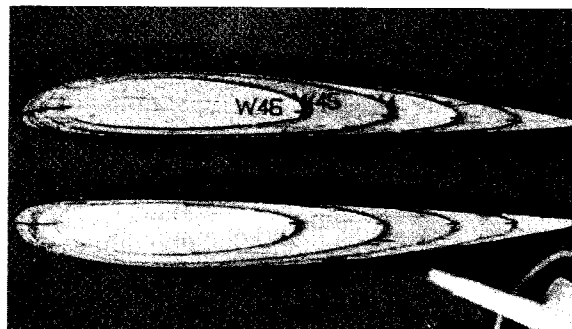


Cut off extra pieces from the ribs.

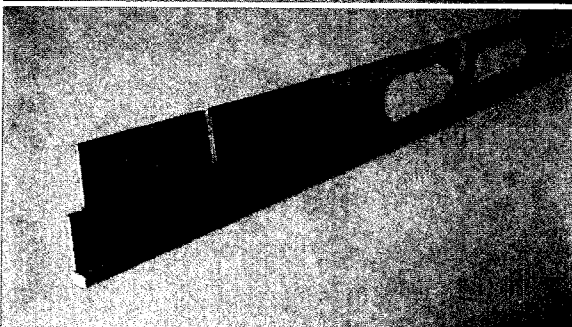
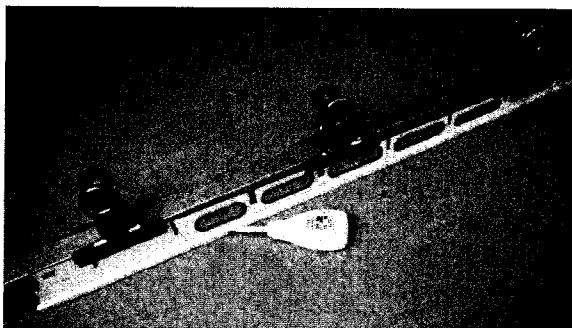


Attach plastic cover into the hole with instant glue.

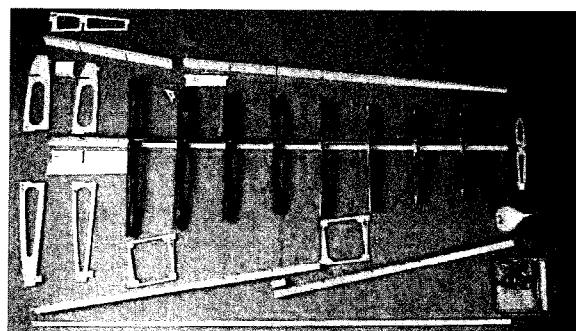




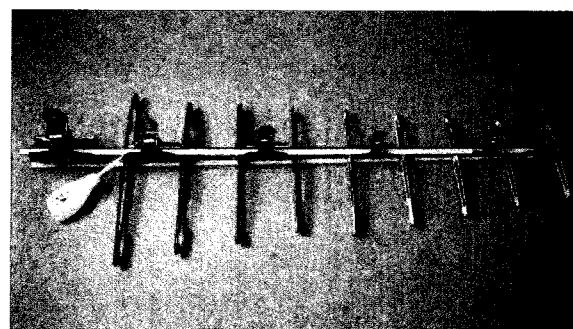
Use white glue to glue W40~W46. Line up the marks when you glue them. Note that right wing and left wing are mirrored.



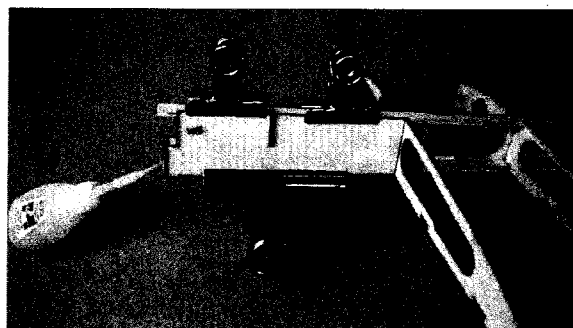
Place the 3.5mm wide W4 on the bottom of the W2. Use a triangular ruler when applying instant glue to secure W4 on W3. Check closely after gluing. The slot part must be upward. The angle between W3 and W4 is 90 degrees.



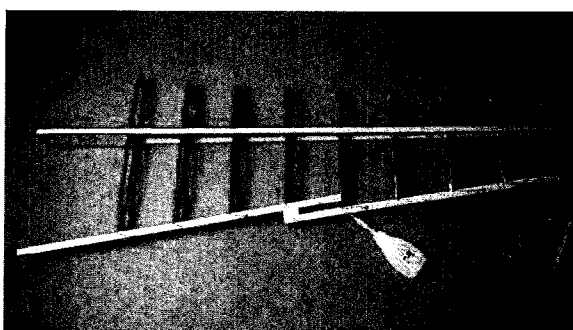
Prepare W1,W2&W6,W7&W9,W9A,W10,W10A&W21,W22&W8&W5 &W27 two pieces and pin.



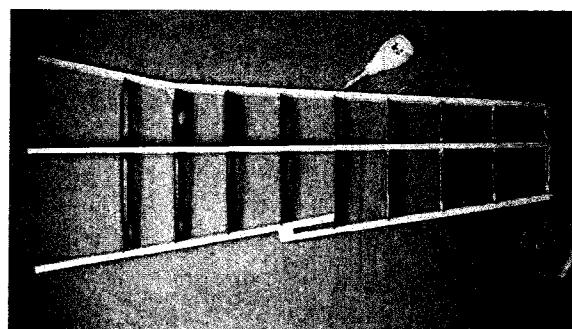
Place W4 and line up W3 then clip them. Use instant glue to glue them.



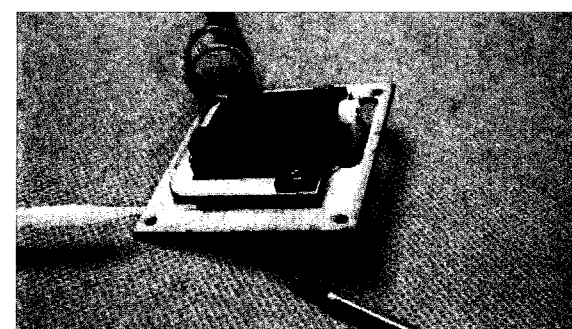
Line up W4 and W5, clip them and glue them with instant glue.



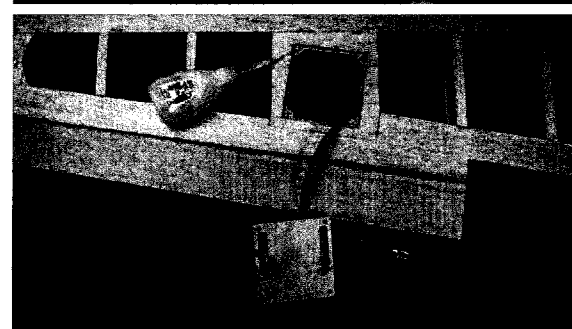
Place wing ribs into W6 and use pins to secure. At W14, use W8 to fill the gap between W6 and W 7. Place remaining wing ribs into W7. Secure with pins. Glue each joint with instant glue.



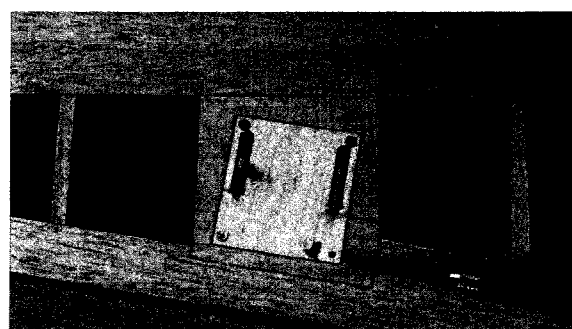
W1&W2 attach to ribs and secure with pins .W22 attach to W12 and glue each joint with instant glue.



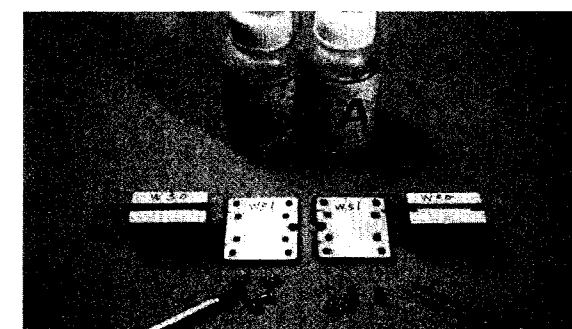
Check servo type to attach W35 to W36 with instant glue .



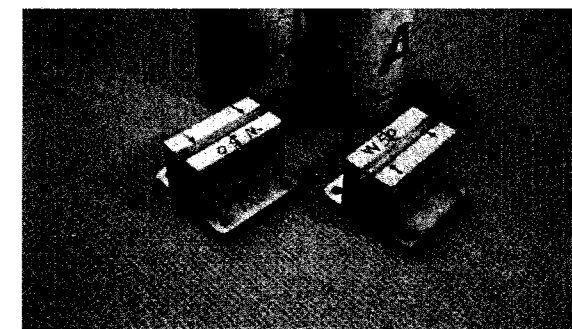
Check W35's holes to drill 2mm holes. Then use instant glue to make holes stronger.



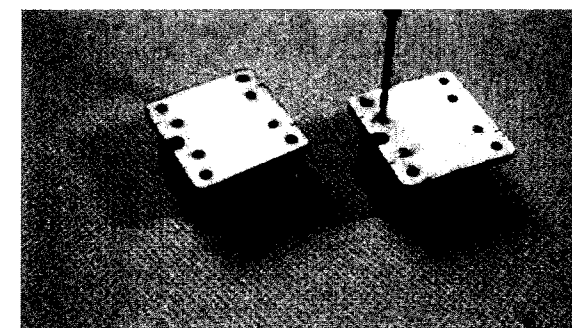
Drive 2.6x8 mm tapping screws to secure servo set.



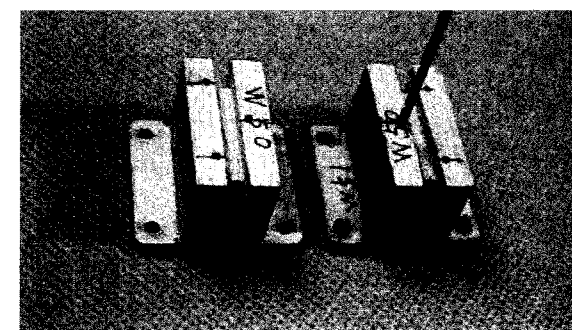
Prepare W50, W51 and 3x12mm flat head tapping screws.



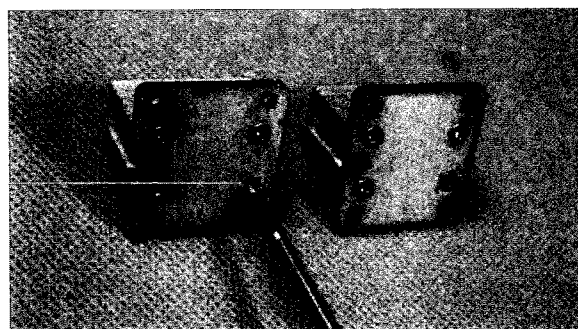
Attach W50 to W51 with epoxy.



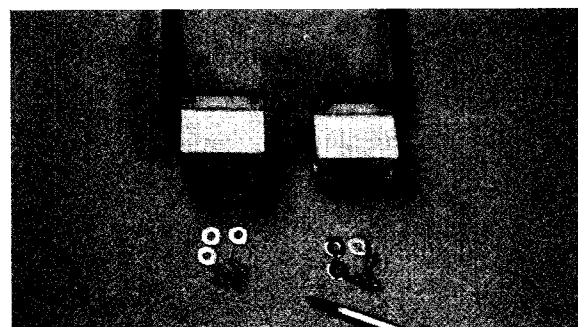
According to W51's holes drill 2.5mm holes. Note: Holes must be 10mm deep.



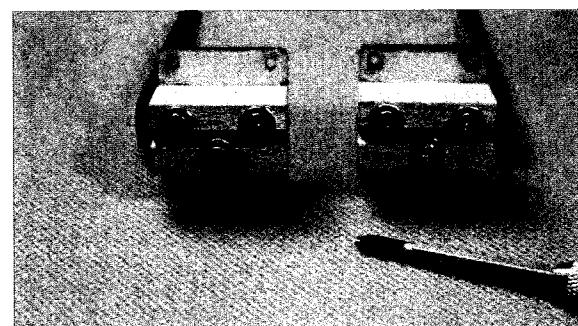
According to 1:1 map, drill 2mm holes. Note: Holes must be 6mm deep.



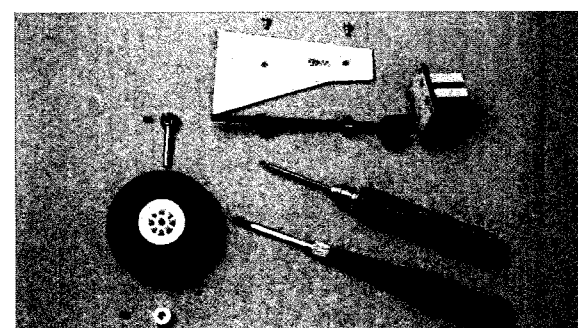
Drive 3x12mm screws.



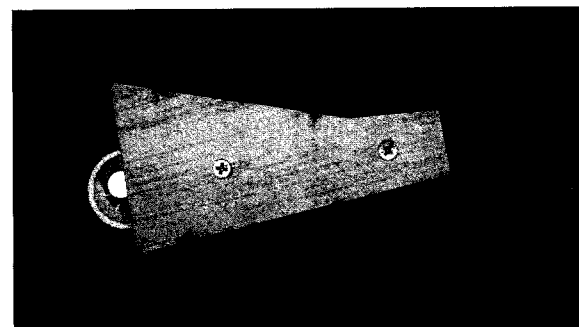
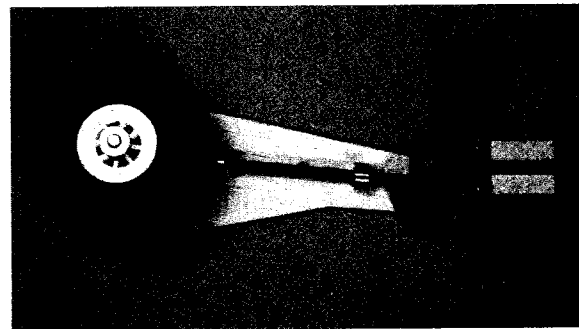
Put in landing gear and secure with 3mm washers and 2.6x8mm flat head tapping screws.



When finished it should look like this picture.



Prepare wheels, axle, 4mm gears, W46, M3x4 HEX screws, and M3x6 flat head phillips screws.



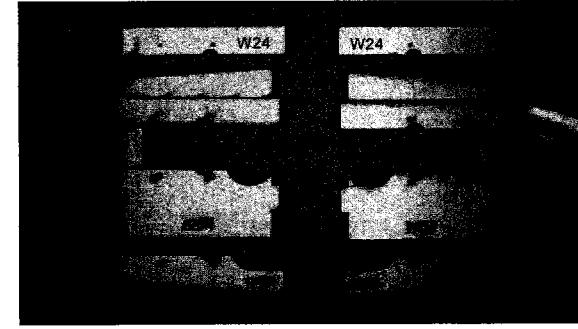
According 1:1 map build leading gear.



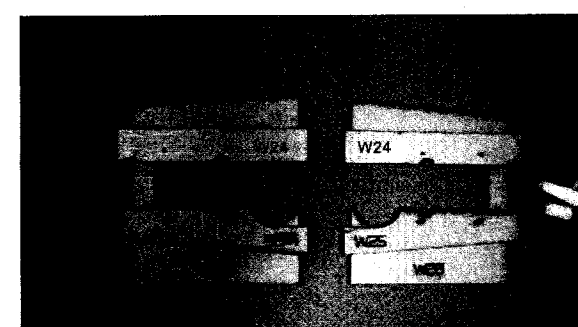
Use instant glue to make holes stronger.



Put in landing gear and secure with 3x12mm screws

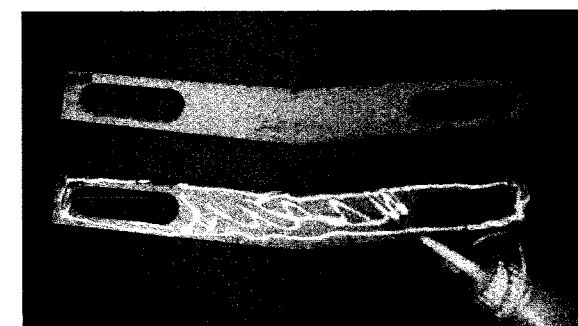


Prepare W23,W24,W25.

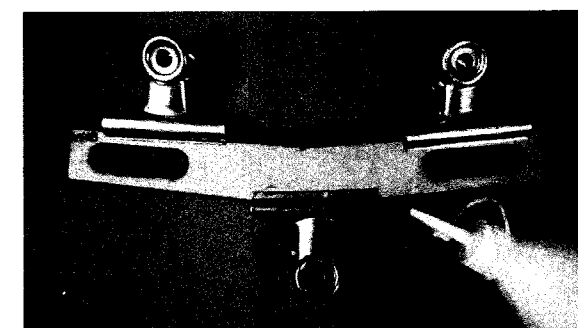


Take W24 to place on W25 and the small holes should be aligned. Use white glue to glue them.

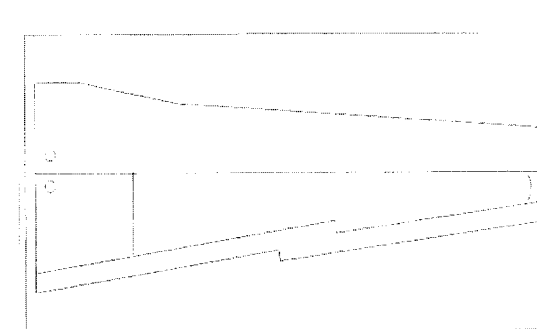
Note: Right wing and Left wing are mirrored.



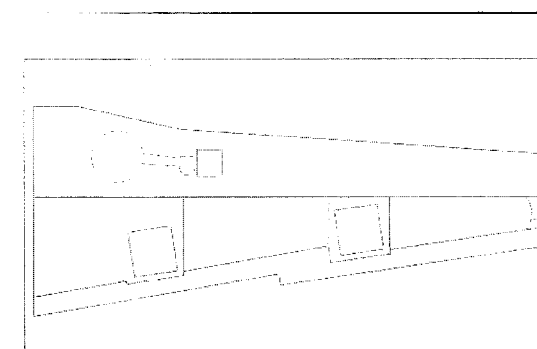
Use white glue to glue two pieces of W48 together.



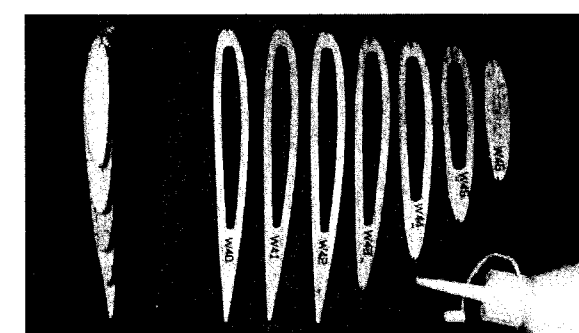
Line up two pieces W48 and clip them. Clean extra the white glue from the edges.



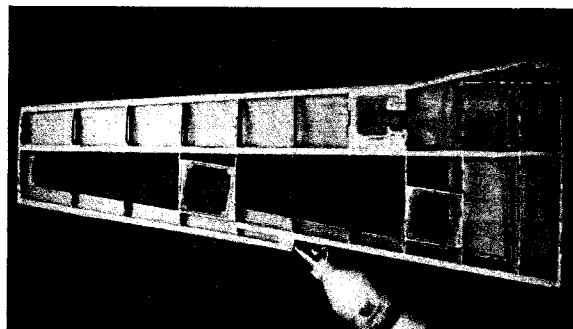
Prepare balsa wood W28,W29,W30,W28-1 and follow the picture above to glue them with instant glue.



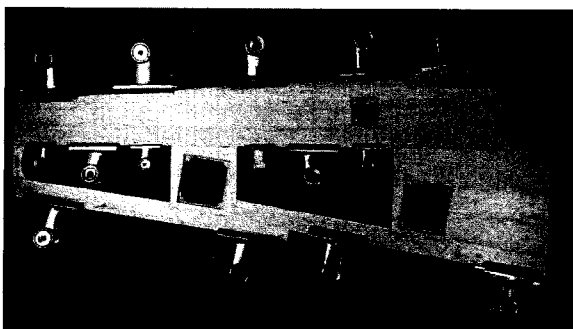
Prepare balsa wood W31,W32,W34,W28-1 and follow the picture above to glue them with instant glue.



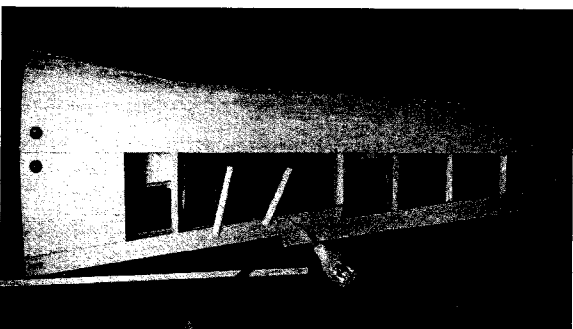
Prepare balsa wood W40~W46.



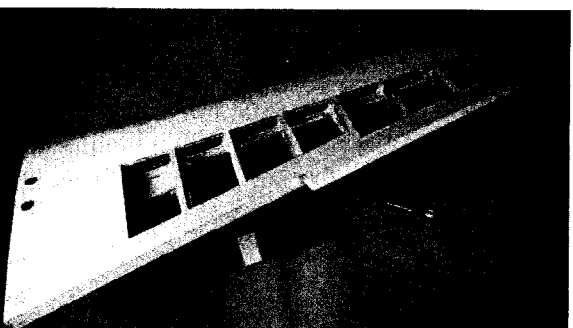
Use white glue on all ribs and the four outer edges and all upper surfaces. Note: Do this on the underside of the wings.



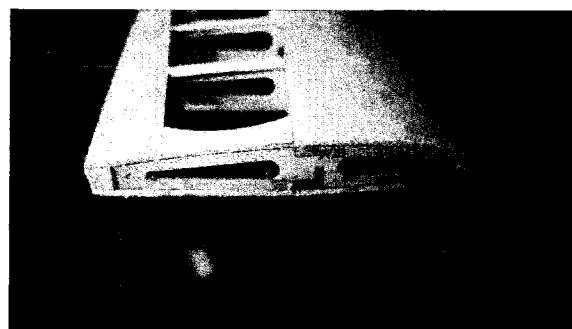
Secure with pins and clip to wait for white glue to dry.



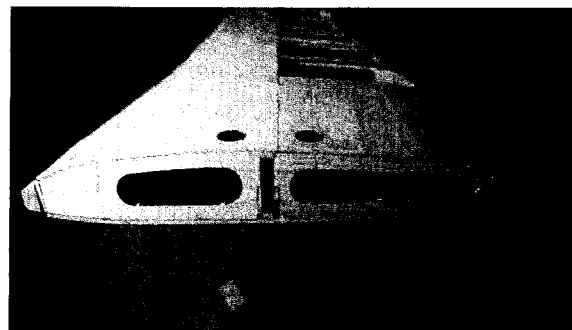
Take 2x8 mm wood stripes and check ribs to cut to the right length, and attach with instant glue.



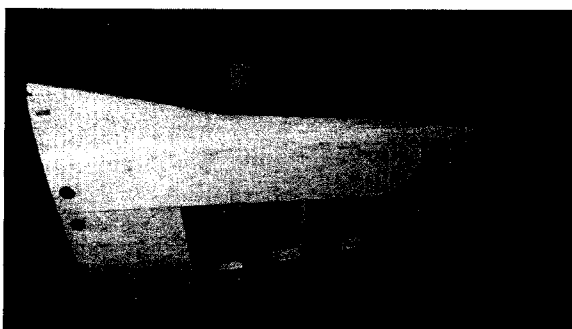
Cut out extra pieces and sand it until smooth on the edge.



Cut out extra pieces and sand it until smooth on the wing tip.



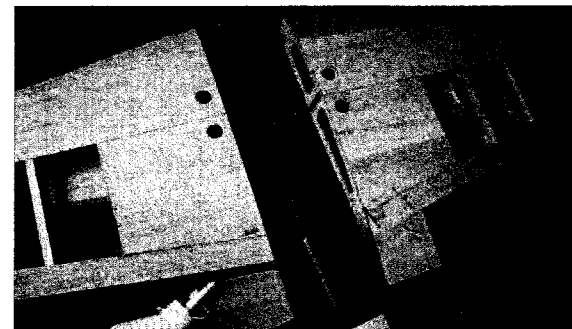
Cut out extra pieces and sand it until smooth on the wing root.



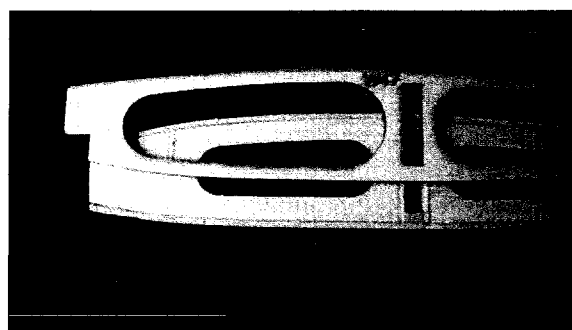
Trim the front edge of the wing root to a rounded shape and sand.



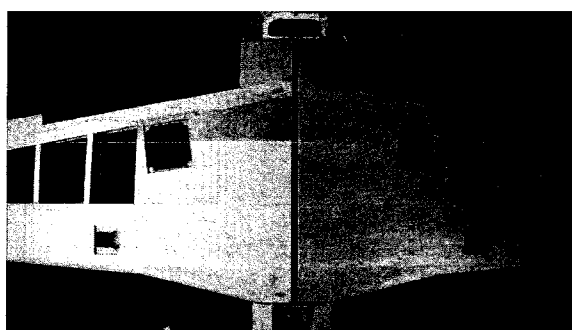
Check 1:1map, Cut off extra pieces and sand it until smooth.



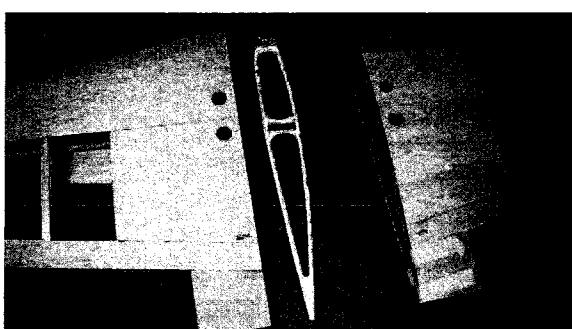
Attach W37 with white glue and secure with pins. When glue is dry, sand it until smooth. Attach W47 to the wing root. Be sure to align the wing joiner holes.



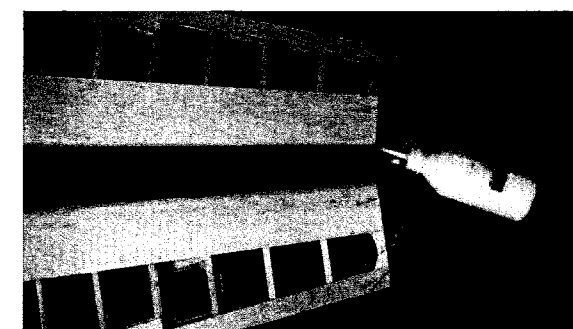
Attach W47 to the wing root. Be sure to align the wing joiner holes.



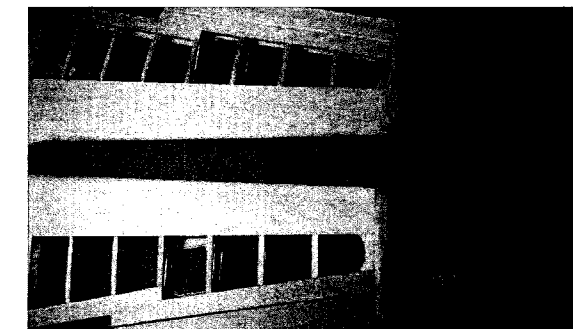
Cut off extra pieces and sand it until wing can fit into the fuselage.



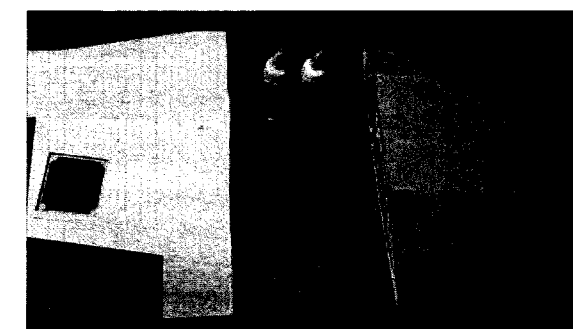
Attach W47 with white glue and secure with tape. When glue is dry, remove the tape.



Attach the wing tip with white glue and secure with pins.

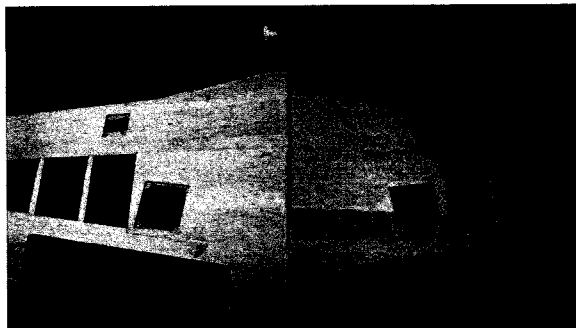


Sand it until smooth with aileron.

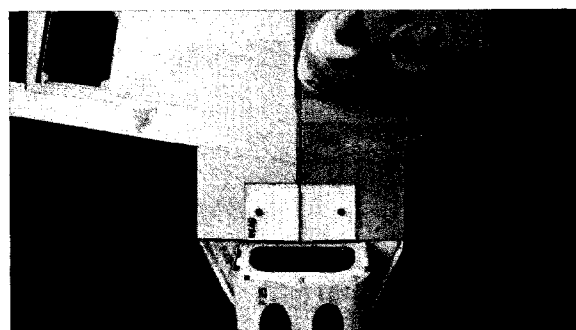


Attach wing joiner to the wings with epoxy.

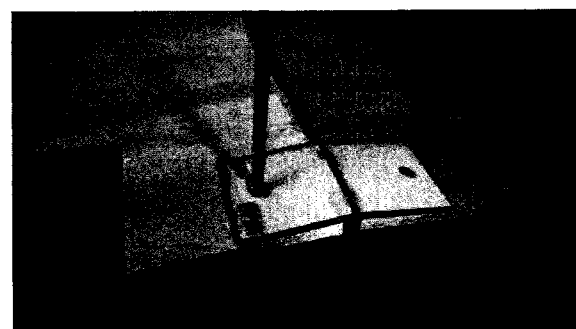




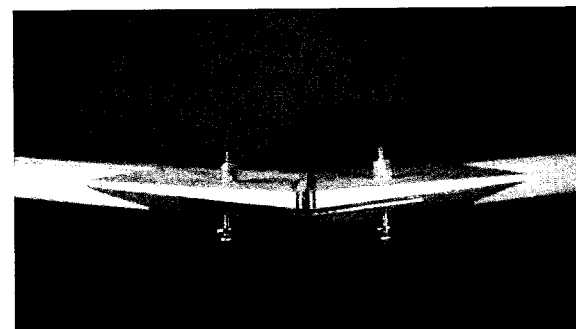
Right wing attach to left wing with epoxy and secure with tape.



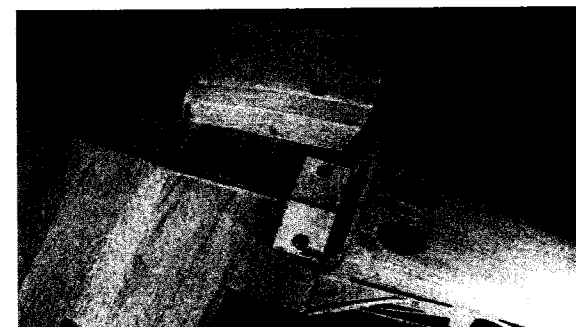
Take wings and join to fuselage. Then check for correct placement and attach W49 with epoxy.



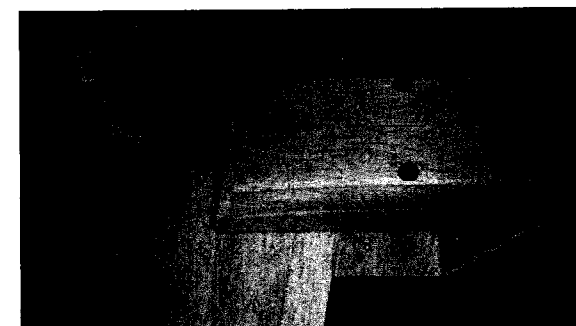
According to W48's holes, drill the holes.



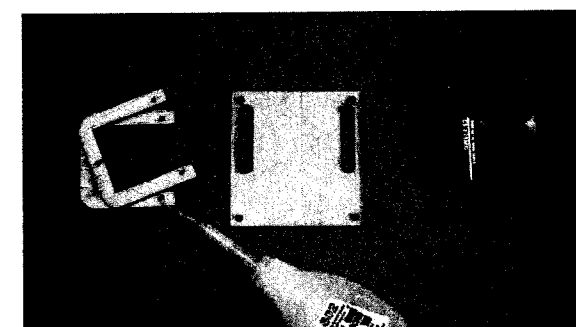
Insert the washer to the wing bolts M4x35 and insert the bolt into its hole on the main wing. Slide a piece of 5mm silicone tube to prevent loss.



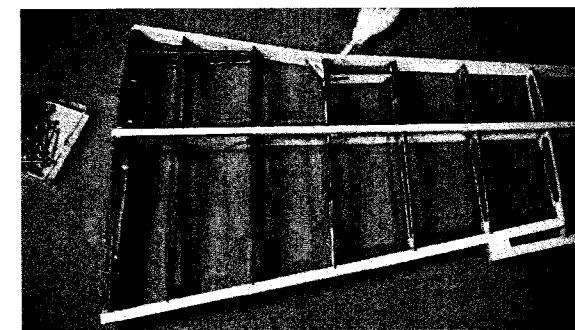
Secure wings to the fuselage with tapping screws, then sand it until everything is smooth.



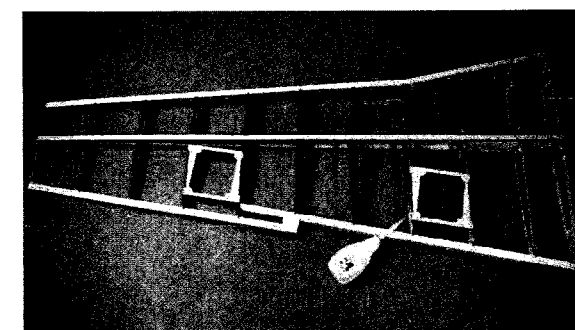
Note: This step is to be done AFTER the plane has been coated with film!! Attach the underbelly with epoxy to the under part of the wing. Secure with pins.



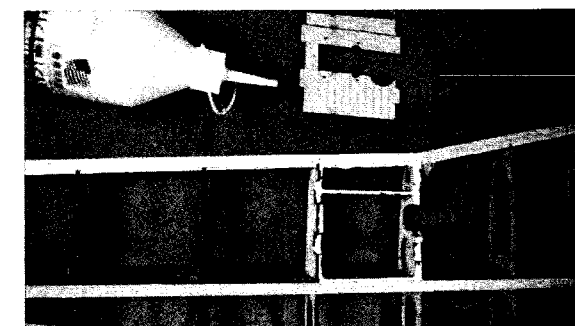
Prepare two pieces of w36, w35 and servo.



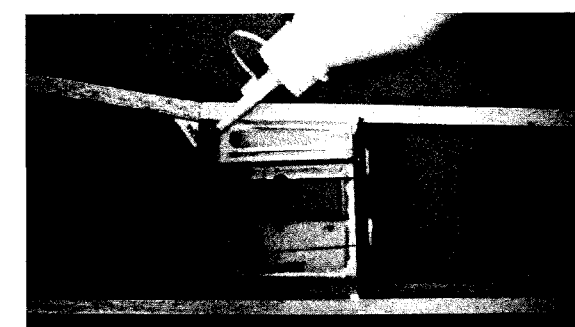
Join W9, W9A, W10, W10A, W20, W26 and secure with pins first, and glue each joint with instant glue.



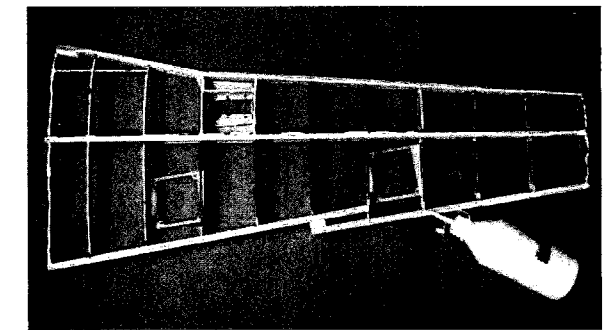
Attach W27 with instant glue.



W23 attach to W12 and W13 and glue with white glue.

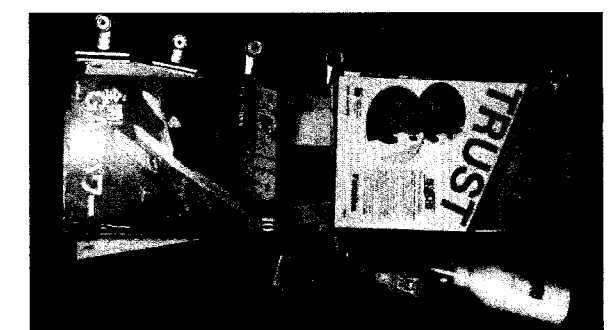


Use white glue on the inside make it stronger.

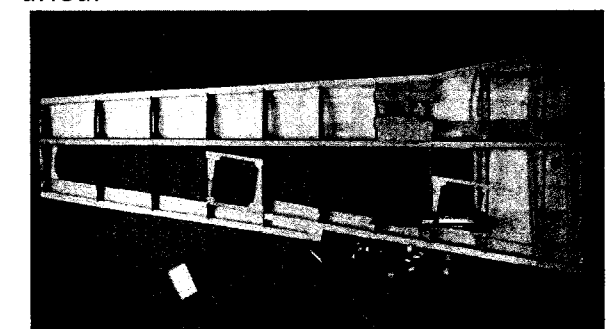


Apply white glue to all wing ribs and upper surfaces.

Note: This should be done on the upper side of the wing.



Cover with wing covering, W28 set. Clip to secure and immediately use weights to hold down the covering until the glue has dried.



Before covering under side, cut off extra pieces from ribs

Note: This step must be done after covering the top side. Those extra pieces can help the wing to be built straight more easily.