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Mustang

Manual Version 1.1 – October 2009

Scale: 1/12
Wingspan: 31.1 Inches
Area: 169 Square Inches
Power: 2408 Brushless



Original Design by David Collins

Construction Manual: Mustang

List of Materials Needed:

1/16" x 4" X 18" Balsa sheet (4) – Wing sheeting
1/4" X 1/2" X 24" Balsa stick (1) – Wing leading edge
1/4" X 24" Balsa triangle stock (1) – Fuselage
1/16" X 24" Music wire (2) – Ailerons, Elevator pushrod
1/16" ID X 6" Aluminum tube (1) – Ailerons
1/4" X 1/8" X 24" Balsa strip (3) – Fuselage
1/8" X 4" X 8" Balsa sheet (1) – Fuselage
1/8" X 6" Hardwood dowel (1) – Wing, Elevator joiner
Fiberglass Tape – Wing joint reinforcement
Self-tapping Screws – Cowl mounting
1/4" Square Hardwood – Cowl mounting



Mustang Ready for Paint!

- Glue the lower wing sheets W1-W3 together and sand both sides smooth. Pin them to a flat surface and glue the 1/4 x 1/2" leading edge.

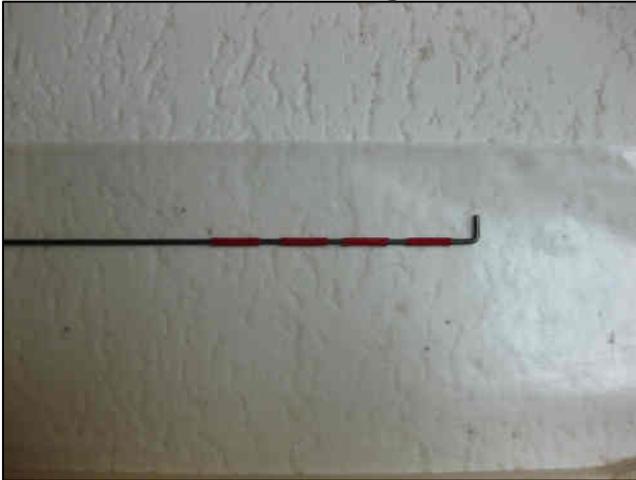


- Glue the ribs W5-W11 and the spar W4 to the lower skin using a square as shown.



Construction Manual: Mustang

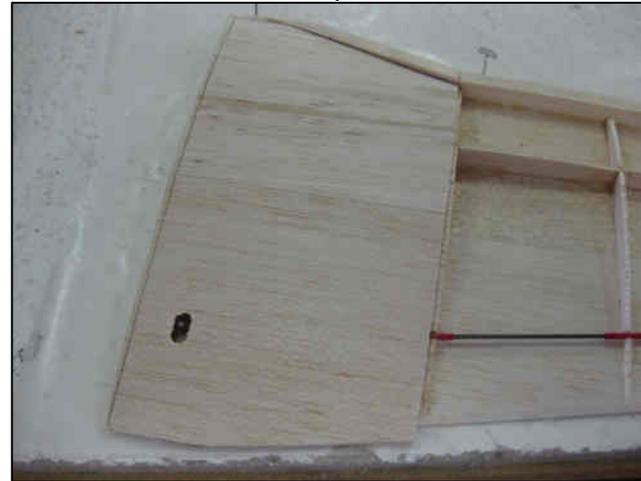
- ❑ Cut an 11-1/4" length of 1/16" music wire. Bend one end 1/4". Slip 4 lengths of plastic or aluminum tubing onto the wire. Bend the other end 1-1/4" perpendicular to the other. Make a left and a right side.



- ❑ Glue 1/4 x 1/8" strip on each side of the aileron slot. Glue the aileron torque rods into the ribs. Glue a short piece of tubing into the aileron as shown.



- ❑ Sheet the inner panel as shown. A paper punch makes neat holes for the torque rods.



- ❑ Sheet the outer panels. Glue the wingtip block in place, and sand to shape



Construction Manual: Mustang

- ❑ Cut the ailerons free from the bottom.



- ❑ Bevel the ailerons and notch for the wire.



- ❑ Cap the aileron with 1/8" balsa using a scrap of wire as a guide as shown.



- ❑ Hinge the ailerons using 1/8" strips of CA hinge.

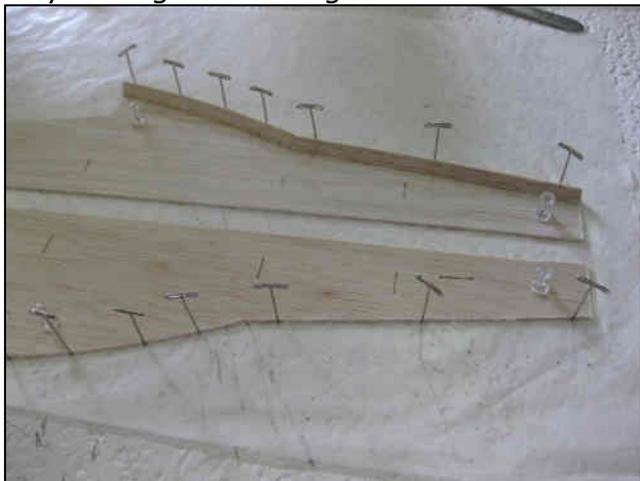


Construction Manual: Mustang

- ❑ Join the wing panels with about 1-1/2" total dihedral, and reinforce the joint with fiberglass tape soaked in thin CA. Notch the leading edge and glue a length of 1/8" dowel into the slots in the W5 ribs.



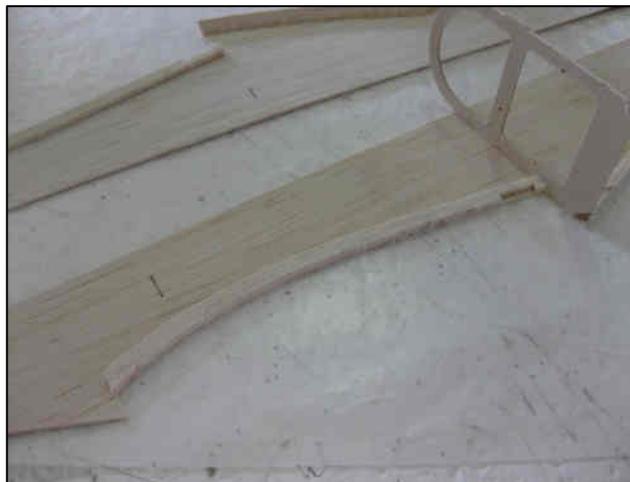
- ❑ Glue 1/4" triangle to the bottom edge of the fuselage as shown making a right and left side. Notches cut half way through the triangle will make it bend smoother.



- ❑ Bevel the triangle stock 2" at the tail.



- ❑ Glue the wing doublers F8 in place using F5 to locate them.



Construction Manual: Mustang

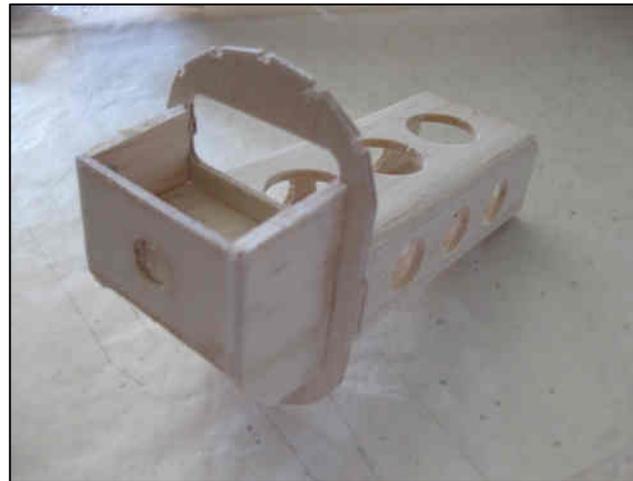
- ❑ Glue F3 and F5 in place using a square.



- ❑ Glue the second fuselage side in place.



- ❑ Assemble the battery box / motor mount parts together and glue F2 as shown. Glue scrap 1/4" triangle in the firewall corners.

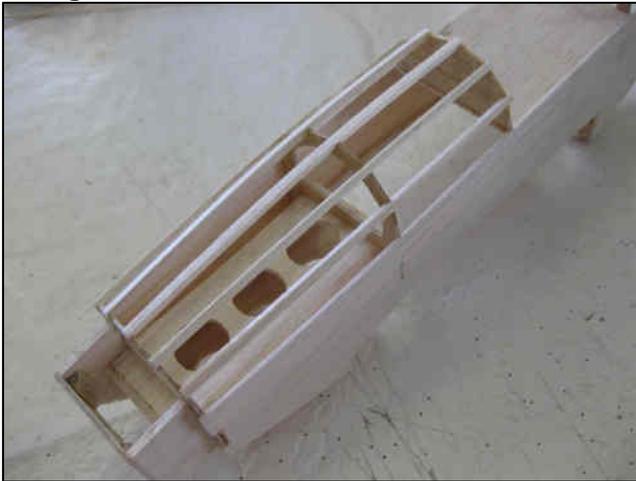


- ❑ Glue the battery box assembly into the fuselage.

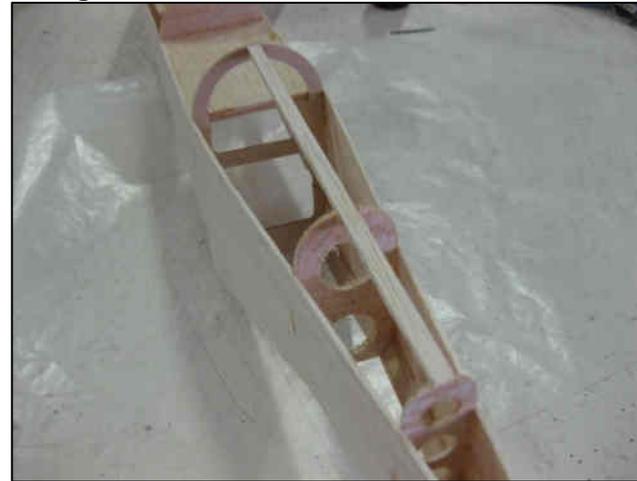


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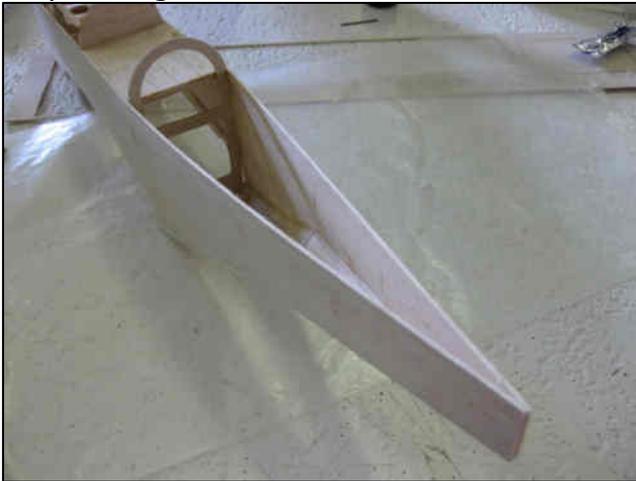
- ❑ Glue F12 and F4 in place then glue the 1/8 x 1/4" stringers to the formers.



- ❑ Glue F6 and F7 in place followed by the 1/8 x 1/4" stringer.



- ❑ Pull the rear fuselage together and glue, Make sure it stays straight!



- ❑ Laminate 2 F11s and glue them in place.

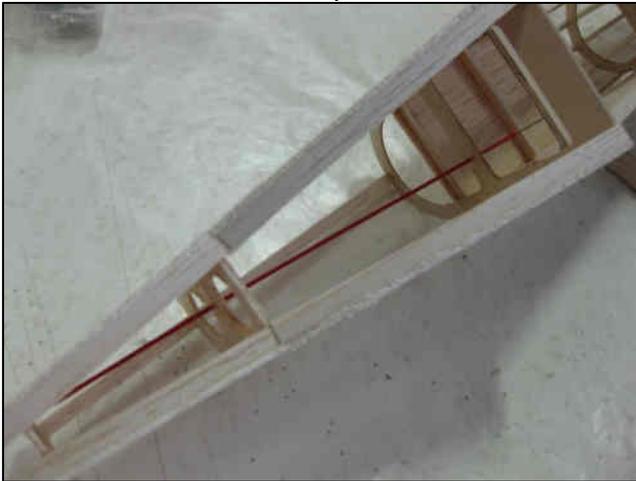


Construction Manual: Mustang

- ❑ Glue F9 in place. Mount the wing, then drill and tap F11 for a 4-40 bolt. Then glue F10 in place between F9 and F2.



- ❑ Install the elevator pushrod.



- ❑ Sheet the bottom of the fuselage with 1/16" balsa and round the corners off.



- ❑ Sheet the rear top of the fuselage with 1/16" balsa.

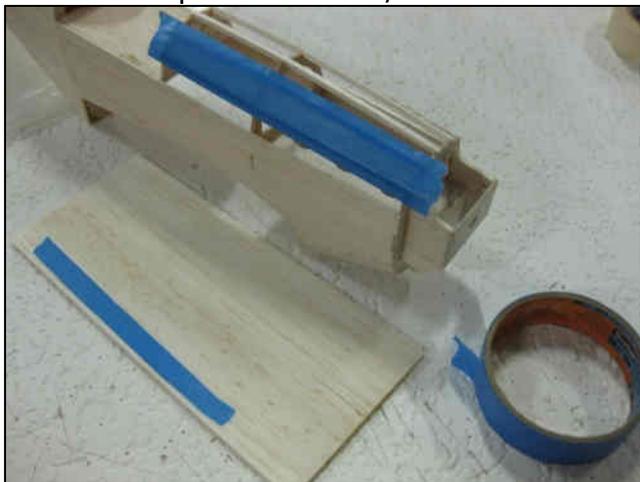


Construction Manual: Mustang

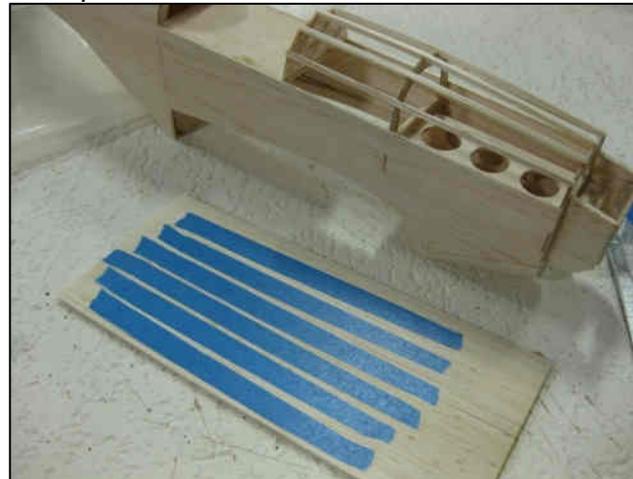
- ❑ Sheet the bottom nose section with 1/16" balsa.



- ❑ Working one section at a time apply blue tape to one section of the stringers. Cut the tape to the inside and stick it to a piece of soft 1/8" sheet.



- ❑ Do all the sections then cut them out using the tape as a pattern.



- ❑ Glue the balsa fill pieces from the underside and sand everything nice and smooth.



Construction Manual: Mustang

- ❑ Make a scrap plywood plate to keep the bolt from digging into the wing. Bolt the wing to the fuselage.



- ❑ Glue the under wing fairings in place to the wing only!



- ❑ Sheet the fairings with 1/16" balsa and sand to shape. Then glue the scoop sides in place.



- ❑ Sheet the scoop with 1/16" balsa and sand it all smooth. Make a hole to get to the wing bolt as well.



Construction Manual: Mustang

- ❑ Laminate and temporarily glue the tail blocks in place. Shape the tail blocks, then remove them. Then glue the horizontal stab in place. Hinge the elevators to the stab. Then glue the fin and rudder in place.



- ❑ Sheet the cockpit sides with 1/8" balsa, using the canopy as a guide as shown.



- ❑ Mount the motor and cowl using small screws and scrap hardwood blocks.



- ❑ Glue the wing fillets in place and shape them as shown.



- ❑ Apply covering and finish as desired!

Construction Manual: Mustang

