



Photo 148

- 148. Using 1/8" balsa, sheet the triangular section of fuselage between bulkheads B4 and B5. Make sure to sheet only to the bottom half of the 1/8" balsa stringer to leave enough wood to glue the upper sheeting. Also make sure to only sheet the front half of B5. Repeat for the other side. (Photo 148)



Photo 149

- 149. Using 1/8" balsa, sheet the section of fuselage between bulkheads B5 and B7. Make sure to sheet only to the bottom half of the 1/8" balsa stringer to leave enough wood to glue the upper sheeting. Using 1/8" balsa, sheet the section of fuselage between bulkheads B7 and B8. To help the balsa conform to the curve in B8 and B9, wet the inside of the balsa. Repeat for the other side. (Photo 149)



Photo 150

- 150. Using 1/8" balsa, sheet the section of fuselage between bulkheads B8 and B9. Make sure to sheet only to the bottom half of the 1/8" balsa stringer to leave enough wood to glue the upper sheeting. To help the balsa conform to the curve in B8 and B9, wet the inside of the balsa. Repeat for the other side.. (Photo 150)



Photo 151

- 151. Using 1/8" balsa, sheet the side of the tailcone between bulkheads B9-1 and B10. Sheet all of B10 to make a smooth opening for the elevator hatch. Repeat for the other side. (Photo 151)



Photo 152

- 152. Using 1/8" balsa, sheet the side of the tailcone between bulkheads B10 and B12. Sheet all of B12 to make a smooth joint for the tailcone block. Repeat for the other side. (Photo 152)



Photo 153

- 153. Using 1/8" balsa, sheet the top of the tailcone between bulkheads B10 and B12. Make sure to only sheet the back half of B10. Sheet all of B12 to make a smooth joint for the tailcone block. Sheet only up to the rudder keels leaving the rudder slot open. To help the balsa conform to the compound curve, wet the outside of the balsa. Repeat for the other side (Photo 153)



Photo 154

- 154. Using 1/8" balsa, sheet the top of the tailcone between bulkheads B9-1 and B10. Sheet only up to the rudder keels leaving the rudder slot open. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 154)



Photo 155

- 155. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B8 and B9. Make sure to only sheet the back half of B8. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 155)

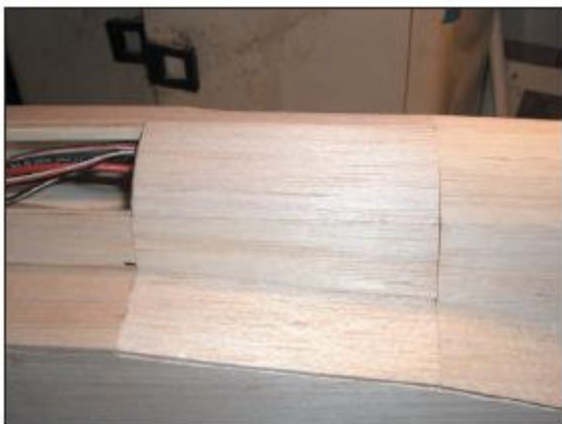


Photo 156

- 156. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B7 and B8. Make sure to only sheet the back half of B7. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 156)





Photo 157

- 157. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B6 and B7. Make sure to only sheet the back half of B6. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 157)



Photo 158

- 158. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B5 and B6. Make sure to only sheet the back half of B5. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 158)



Photo 159

- 159. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B4 and B5. Make sure to only sheet the back half of B4. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 159)

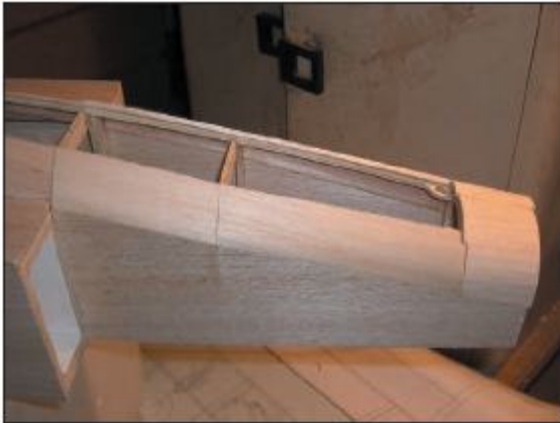


Photo 160

- □ 160. Using 1/8" balsa, sheet the top of the fuselage between bulkheads B3 and B4 and between bulkheads B2 and B3 and between bulkheads B1 and B2. To help the balsa conform to the curve, wet the outside of the balsa. Once the glue has dried, use a razor plane, hobby knife and sanding block to remove the excess sheeting from above the top of CH1. Make sure the sheeting is flush with the back face of B2. Repeat for the other side. (Photo 160)



Photo 161

- 161. Cut from its sheet one B1-1. Bevel B1-1 so it fits snugly inside the fiberglass nose cone. Position and glue it to the front of B1. (Photo 161)



Photo 162

- 162. Place the fiberglass nose cone in position over B1-1 and tape it into place. (Photo 162)



Photo 163

- 163. Cut from its sheet one K6 (1/4" balsa). Use a razor plane and sanding block to taper K6 from the front to the back. NOTE: The narrow end of K6 is the front. (Photo 163)



Photo 164

- 164. Turn the fuselage over so it's upside-down. Position and glue K6 so it is centered and flush against the back of B1-1. Once the glue is dry, use a pencil to trace the outline of the nose cone onto the front of the bottom corner blocks, fuselage sheeting and K6 (Photo 164)



Photo 165

- 165. Remove the nose cone and set it aside for now. (Photo 165)



Photo 166

- 166. Use a razor plane and sanding block to round K6 to match the outline of B1-1. (Photo 166)



Photo 167

- □ 167. Cut from their sheets two B9-2 (1/8" lite ply). Bevel these so they fit inside the fiberglass engine nozzles. Position and glue B9-2 to the back of B9. Repeat for the other side. (Photo 167)



Photo 168

- 168. Place the fiberglass engine nozzles in position over B9-2 and tape it into place. Use a pencil to trace the outline of the engine nozzles onto the back of the top and bottom corner blocks and fuselage sheeting. (Photo 168)





Photo 169

- ☐ 169. Remove the engine nozzles and set them aside for now (Photo 169)



Photo 170

- ☐ 170. Turn the fuselage on its side and slip one wing into place so it is flush with the side fuselage sheeting. Use a pencil to trace the shape of the bottom of the front and back half of the root rib outline onto the side fuselage sheeting. (Photo 170)



Photo 171

- ☐ 171. Remove the wing. Flip the fuselage over onto the other side and repeat steps 170 and 171 for the other side. (Photo 171)





Photo 172

- 172. Remove the wing. Flip the fuselage over onto the other side and repeat steps 170 and 171 for the other side. (Photo 172)



Photo 173

- 173. Use a razor plane to bevel the bottom corner blocks and fuselage sheeting of the nose section. Use the razor plane to make a tapered bevel on the bottom of the front half of the engine nacelles between bulkheads B4 and B6. Make sure that the bevel does not touch the lines you drew in Step 164 or the lines you drew in Step 171. Repeat for the other side. (Photo 173)



Photo 174

- 174. Use a razor plane to make a tapered bevel in the bottom corner blocks and fuselage sheeting of the back half of the fuselage between bulkheads B7 and B9. Make sure that the bevel does not touch the lines you drew in Step 169 or the lines you drew in Step 171. Repeat for the other side. (Photo 174)



Photo 175

- 175. Use a razor plane to bevel the top half of the engine nacelle. Repeat for the other side. (Photo 175)



Photo 176

- 176. Use a razor plane to round the bevel you made in the bottom of the nose section and the front half of the bottom of the engine nacelles. Make sure the rounding does not touch the lines you drew in Step 164 or the lines you drew in Step 171. Repeat for the other side. (Photo 176)



Photo 177

- 177. Use a razor plane to round the bevel you made in the bottom of the back half of the engine nacelles. Make sure the rounding does not touch the lines you drew in Step 169 or the lines you drew in Step 171. (Photo 177)



Photo 178

- 178. Use a razor plane to round the bevel you made in the top half of the engine nacelles. (Photo 178)



Photo 179

- 179. Use a sanding block to finish the rounding on the bottom of the nose section and on the top and bottom of the engine nacelles. Cut from its sheet one CH2 (1/8" balsa). Insert and glue three 1/4" round magnets into the holes in CH2. Make sure that the bottoms of the magnets flush with the bottom of CH2. Place CH2 onto CH1 and use a razor plane and sanding block to bevel the edge of CH2 so it matches the profile of the fuselage. (Photo 179)



Photo 180

- 180. Cut from its sheet one CH3 (1/8" balsa). Bevel the back of CH3 to match the inside of the canopy along the molded cut line. Position and glue CH3 to the top of CH2. (Photo 180)



Photo 181

- 181. Once the glue has dried, remove CH2 from the fuselage and cover CH1 with a piece of clear sandwich wrap. Place CH2 onto the top of CH1. (Photo 181)



Photo 182

- 182. Cut from its sheet one CH4 and one CH5 (1/8" lite ply) Position CH4 and CH5 so they are centered on CH2 and glue them into place. Measure and cut a piece of 1/8" balsa stick and slip it into the slots in CH4 and CH5 and glue it into place. (Photo 182)



Photo 183

- □ 183. Use 1/8" balsa to sheet the cockpit hatch between CH4 and CH5. To help the balsa conform to the curve, wet the outside of the balsa. Repeat for the other side. (Photo 183)





Photo 184

- 184. Cut out the clear plastic canopy using the molded cut line. Using a sanding block or emory board, final sand CH3 to match the profile of the canopy. Trim the canopy so it sits flush with CH2 and CH3. When satisfied, set the canopy aside for now. (Photo 184)



Photo 185

- □ 185. Cut from their sheets two I3, two I4 and two I5. Position I3 so the bottom face is flush with the inside top wall of the inlet duct. When satisfied, tack glue I3 to the fuselage. Position I4 so the top face is flush with the inside bottom wall of the inlet duct. When satisfied, tack glue I4 to the fuselage. Repeat for the other side. (Photo 185)

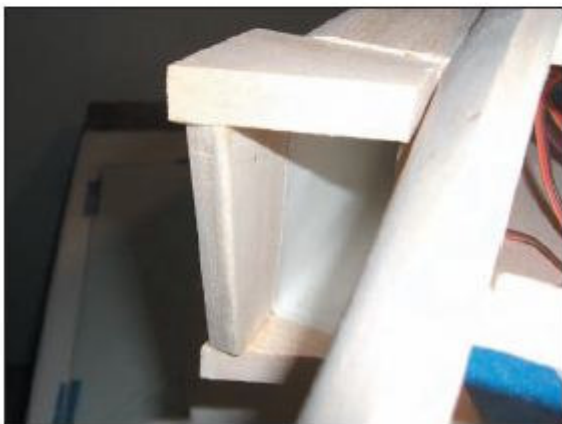


Photo 186

- □ 186. Position I5 so the inside face is flush with the inside side wall of the inlet duct. When satisfied, tack glue I5 to the fuselage and permanently glue it to I3 and I4. Repeat for the other side. (Photo 186)



Photo 187

- 187. Use low-tack masking tape cover the sides of the fuselage nose section to protect it while you shape the inlet lips. Repeat for the other side. (Photo 187)



Photo 188

- 188. Use a sanding block to sand and angle into I3, I4 and I5 so the leading edge is flush with each other. Repeat for the other side. (Photo 188).



Photo 189

- 189. Using a razor plane and sanding block round the outside of I3, I4 and I5 so they match the profile of the fuselage. Repeat for the other side. (Photo 189)



Photo 190

- □ 190. Measure an inlet filler block from 1/4" balsa triangle stock. Measure a similar filler block for the top inside corner of the inlet lip. Repeat for the other side. (Photo 190)

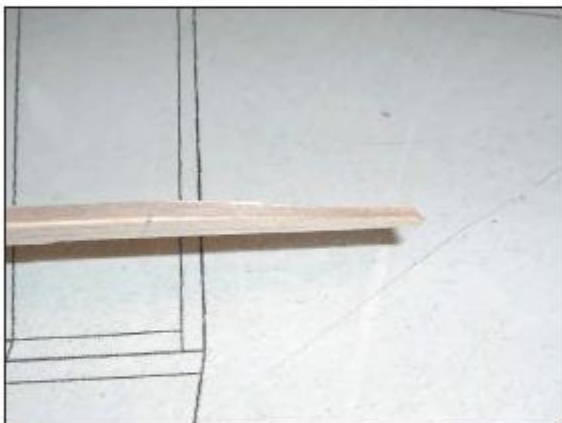


Photo 191

- □ 191. Use a razor plane to bevel the triangle stock. Make sure that the small end of the bevel is flush with the inside corner of the inlet wall. When satisfied with the fit, cut the corner filler block free. Repeat for the other side. (Photo 191)



Photo 192

- □ 192. Position and glue the corner filler blocks to the inside corners of the inlet lips. Repeat for the other side. (Photo 192)

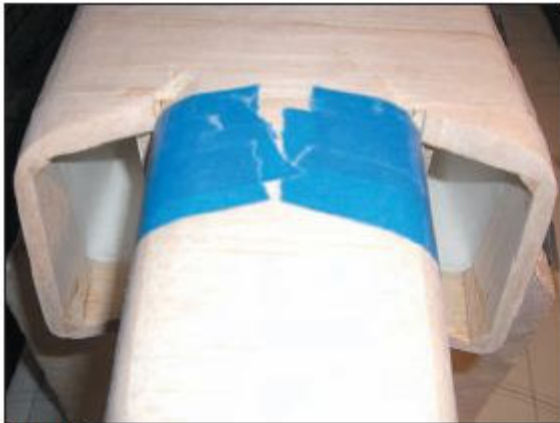


Photo 193

- 193. Using a sanding block or emory board to sand the front of the filler blocks flush with the front edge of the inlet lips. (Photo 193)



Photo 194

- 194. You are now ready to begin shaping the inlet lip. The most efficient shape for the inner wall of the inlet lip is a 2:1 ellipse. When you're done, you want the inside of the inlet lip to look airfoil-shaped. Use a pencil to draw the leading edge centerline onto the front edge of the inlet lips. Repeat for the other side. (Photo 194)



Photo 195

- 195. Use a hobby knife to bevel the inside of the inlet lips. Make sure the bevel does not touch the centerline you drew in Step 193. Repeat for the other side. (Photo 195)





Photo 196

- 196. Use a razor plane and hobby knife to bevel the outside of the inlet lip. Make sure the bevel does not touch the line you drew in Step 193. Repeat for the other side. (Photo 196)



Photo 197

- 197. Use an hobby knife to round the inside and outside bevels in the inlet lips. Repeat for the other side. (Photo 197)

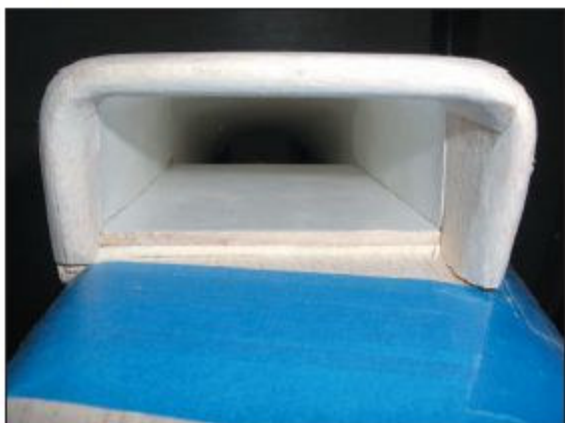


Photo 198

- 198. Use an emory board and sandpaper to smooth the inside and outside of the inlet lips. When satisfied, remove the masking tape.. Repeat for the other side. (Photo 198)



Photo 199

- 199. Cut from its sheet two I7 inlet ramps (1/4" balsa). Use a razor plane and sanding block to bevel the inside face of I7 so it tapers from 1/4" thick at the back to 1/8" thick at the front. Make sure that the back is flush with the inside wall of the inlet duct. Do not glue the inlet ramps to the model until after it is finished. Repeat for the other side. (Photo 199)



Photo 200

- 200. Place a piece of clear sandwich wrap over the elevator mount. Use spray glue to temporarily stick the clear sandwich wrap to the back face of B10 and to the front face of B11. (Photo 200)



Photo 201

- 201. Cut from its sheets one EH1 and one EH2 (1/8" lite ply) and two K7 (1/8" balsa). EH1 and EH2 are both longer than what will be needed. Cut these to match your airfoil. Position EH1 so it is flush with the back and bottom of B10. Position EH2 so it is flush with the front and bottom of B11. Use spray glue to temporarily stick EH1 and EH2 to the clear sandwich wrap. Position K7 so it fits between B10 and B11. When satisfied, glue K7 to EH1 and EH2. Repeat for the other side. (Photo 201)

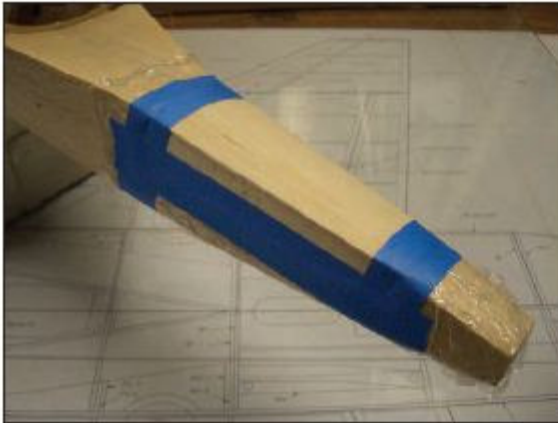


Photo 202

- 202. Using 1/8" balsa, sheet the bottom of the elevator hatch and the tailcone between B11 and B12. To help the balsa conform to the curve, wet the outside of the balsa. Use low-tack masking tape to prevent the wet balsa from distorting the elevator hatch while it dries. (Photo 202)



Photo 203

- 203. Lay a small piece of clear sandwich wrap over bottom and back of B9 where the magnets are located. Place two more 1/4" round magnets to these, trapping the clear sandwich wrap between them. (Photo 203)



Photo 204

- 204. Cut from its sheet one TH2 (1/8" lite ply). Position TH2 so that the magnets slip into the holes in TH2 and glue the magnets into TH2. (Photo 204)



Photo 205

- 205. Measure and mark a line 1-1/2" back from the back face of B9. Cut a slot in the bottom tailcone sheeting that is 1" long by 1/8" wide. (Photo 205)



Photo 206

- 206. Remove the masking tape from the elevator hatch. Use a sanding block or emory board to round the corners of the elevator hatch and tail cone slightly. Do not round the corners of the tailcone in front of the elevator hatch. Use a razor saw or hobby knife to cut the bottom sheeting between EH2 and B11 to free the elevator hatch from the fuselage. (Photo 206)



Photo 207

- 207. Remove the elevator hatch from the fuselage. Lay a piece of clear sandwich wrap over the stab mount and replace the elevator hatch. (Photo 207)





Photo 208

- 208. Cut from its sheet one TH1 (1/8" balsa). Make sure the clear sandwich wrap is folded toward the front of the model. Slip the front of TH1 into the slot in TH2 and into the slot you cut into the bottom of the tailcone. Make sure that TH1 is centered over the elevator hatch and square with the fuselage and aligned with the center line. When satisfied, glue TH1 to TH2 and to the elevator hatch. (Photo 208)



Photo 209

- 209. Remove the elevator hatch from the fuselage. Use a sanding block to sand the bottom of TH1 and TH2 so they are flush with each other. Cut from its sheet one TH3 (1/4" balsa). Position TH3 on the bottom of TH1 and TH2. Make sure that it overhangs the front of TH2 by 1/8". When satisfied, glue TH3 to TH1 and TH2. (Photo 209)



Photo 210

- 210. Use a sanding block or emery board to sand the front of TH3 so it is flush with the front face of TH2. (Photo 210)



Photo 211

- ☐ 211. Use a pencil to mark a line along the bottom fuselage sheeting on the front edge of TH3. (Photo 211)



Photo 212

- ☐ 212. Remove the elevator hatch from the fuselage. Use a sanding block to sand the bottom of TH3 so it is flush with the line you drew in Step 210. Round the bottom of TH3 so it fair smoothly between this line and the bottom edge of TH1. (Photo 212)



Photo 213

- ☐ 213. Cut from their sheet four TC (1/4" balsa). Glue these together to make a 1" thick tailcone block. Position and glue this to the back face of B12. (Photo 213)



Photo 214

- 214. Use a razor plane to cut a rounded taper into the sides of the tailcone block. Repeat for the other side. (Photo 214)



Photo 215

- 215. Use a razor plane and sanding block to round the corners of the tailcone block to match the shape of the tailcone. Repeat for the other side. (Photo 215)

### Final Assembly



Photo 216

- 216. While it is not necessary, you may find it easier to finish the inside of the inlet lips while they are off the model. If you decide to do this, gently break the tack glue joints used to secure the inlet lip. Once the inside is finished, carefully replace the inlet lip and glue it securely to the fuselage. Repeat for the other side. (Photo 216)

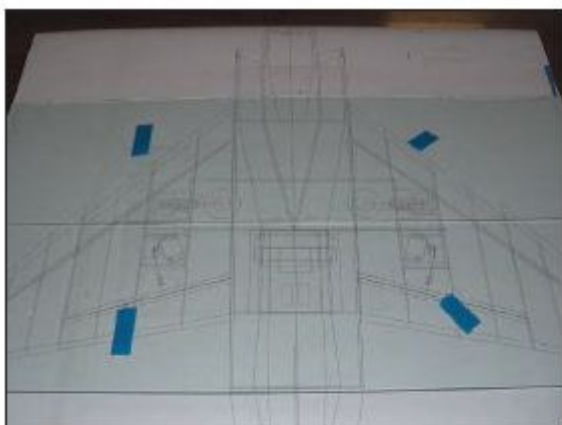


Photo 217

- 217. Use low-tack masking tape to secure a piece of clear sandwich wrap to the building board over the wing to fuselage joints. (Photo 217)



Photo 218

- 218. Position the fuselage over the plans and place some weight on it like the sand baggies shown. Remove the ailerons from the wing panels. Insert a wing panel into the spar slots. Repeat for the other side. (Photo 218)



Photo 219

- 219. Slip a piece of scrap balsa block under the joint between the inner and outer wing panels. Repeat for the other side. (Photo 219)





Photo 220

- 220. Measure and cut a small piece of scrap 1/8" balsa stick. Place it against the leading edge of the wing panel and make a mark that is even with the leading edge of the wing. Compare this measurement against the other wing panel. If one wing's leading edge is higher than the other, remove the high wing and use a hobby knife or sanding block to remove a little bit of the bottom of the front stub spar. Insert the wing panel back into the fuselage and measure again. Repeat as necessary until the leading edges of both wing panels are even with each other. (Photo 220)



Photo 221

- 221. Use the 1/8" measuring stick you cut in Step 219. Place it against the trailing edge of the wing panel and make a mark that is even with the top of the wing sheeting. Compare this measurement against the other wing panel. If one wing's trailing edge is higher than the other, remove the high wing and use a hobby knife or sanding block to remove a little bit of the bottom of the rear stub spar. Insert the wing panel back into the fuselage and measure again. Repeat as necessary until the trailing edges of both wing panels are even with each other. Once both root ribs are even, use the measuring stick to make sure that the top sheeting of the trailing edge sheeting at the joint between the inner and outer panels is at the same height as the root rib. When satisfied, remove the wing panel and apply a thin coat of 30-minute epoxy to the stub spars and to the inside of the spar pockets and insert the wing into the spar pockets. Repeat for the other side. Use the 1/8" balsa measuring stick to make sure the wings are still even with each other at the root rib and inner/outer wing joints. (Photo 221)



Photo 222

- □ 222. Once the glue is dry, fit the ailerons to the wing making sure that it does not rub against the fuselage or outer wing panel. If you're using retracts, cut out the wheel well from the wing. Fit the main landing gear into the wing and cut the wheel well opening in K5. Repeat for the other side. (Photo 222)



Photo 223

- 223. If you're using retracts, cut the nose gear wheel well opening into the bottom of the nose section. Install the nose gear retract and make sure that it operates freely. (Photo 223)



Photo 224

- 224. Remove the elevator hatch from the fuselage. Place the horizontal stabilizer on the stab mount. Use a 36" long balsa stick or hardwood dowel to make sure the tips of the horizontal stabilizer is square to the wing. Verify that the horizontal stabilizer is level to the wing. When satisfied, glue the horizontal stabilizer to the stab mount using 30-minute epoxy. When the glue has dried, cut the balsa away from the elevator hatch so it sits flush with the bottom sheeting of the tailcone. (Photo 224)



Photo 225

- 225. If it is not already, install the rudder onto the vertical stab. Make sure the torque rod is inserted in the hole in the rudder. Lay the vertical stab on the building board and position F5 so the top of F5 is aligned with the bottom of the rudder. When satisfied, carefully glue F5 to the back of the vertical stab. Slip the vertical stab into the rudder slot in the top of the tailcone. If you're planning to streamline the vertical fin/rudder, use a pencil to mark a line to show the top of the fuselage on the rudder. Repeat for the other side. (Photo 225)





Photo 226

- 226. If you're going to streamline the tail feathers, then remove the vertical stab from the fuselage. Use a razor plane and sanding block to shape the vertical stab and rudder. If it is not already, slip the rudder hinges into the rudder and vertical fin. Then, slip the entire vertical fin into the fuselage. Measure the distance between the top of the fin and the tips of the horizontal tail to make sure the fin is square. Sight down the length of the fuselage to make sure the fin is in line with the fuselage center line. Make any adjustments. When satisfied, glue the vertical fin to the fuselage at the top slot and to the elevator mount. (Photo 226)



Photo 227

- □ 227. Cut from their sheet, two elevator horns (1/16" birch ply). Using the top view on the plans measure and mark the location and angle of the elevator horns onto the elevator. Use a hobby knife to cut a 1/16" slot into the elevator. Remember that the slots should be angled inward slightly and not perpendicular to the surface of the elevator. Insert the elevator horn into the elevator and glue it into place. Repeat for the other side. (Photo 227)



Photo 228

- 228. Install, but do not glue the elevator into the horizontal stabilizer. Mount the elevator and rudder servos into the SM3 servo mount. Install, but do not glue the elevator into the horizontal stabilizer. Install but do not glue the rudder into the vertical stabilizer. Make a "Y" pushrod for the elevator. Connect the elevator pushrod to the elevator servo and elevators. Make a regular straight pushrod for the rudder. Connect the rudder pushrod to the rudder servo and rudder torque rod. (Photo 228)



Photo 229

- 229. Position and align the elevator hatch over the tailcone. Use a pencil and mark the location where the elevator pushrods contact the sides of the elevator hatch. Use a hobby knife and sandpaper to make an notch for each pushrod in the sides of the elevator hatch. Make sure the notches are large enough that the pushrods do not touch the hatch. (Photo 229)



Photo 230

- 230. Remove the elevator from the horizontal stabilizer. Cut from their sheets two E5 and two E6 elevator stiffeners (1/4" balsa). Glue E5 to to the tip of the elevator and E6 to the root. Use a razor plane and sanding block or emory board to shape E5 and E6 so they are flush with the top and bottom of the elevator. Use a sanding block or emory board to round E5. Repeat for the other side. (Photo 230)



Photo 231

- 231. Use a hobby knife and sandpaper or emory board to fit the E6 to the tailcone. When satisfied, glue the elevator hinges to secure the elevator to the horizontal stabilizer. Repeat for the other side. (Photo 231)

**This concludes the basic construction of the model.**



## Finishing

Use a high speed rotary tool and sandpaper to cut out the oval opening in the fiberglass engine nozzle. Use the clear plastic sheet and the template on the plans to make the tailpipe. Make sure the front of the tailpipe fits over the back of the fan unit and that the back of the tailpipe fits into the oval exit in the fiberglass engine nozzle. Once satisfied, install the fan unit into the fuselage. Insert the tailpipe into the fuselage through the opening in B9 and slip it over the back of the fan unit and tape it to the fan unit using low-tack masking tape. Sighting from behind the fuselage, verify the alignment of the tailpipe to make sure it's parallel to the centerline of the fuselage. Once satisfied, slip the engine nozzles over the tailpipe and into place onto B9/B9-2. Make sure it doesn't distort the tailpipe and alter it's alignment. If it does, then carefully sand the leading edge of the engine nozzle until the opening is centered and doesn't distort the tailpipe.

Fit the nose cone to B1/B1-1 and temporarily tape into place using low-tack masking tape. Sighting from the front and rear, verify that the nose cone is aligned with the centerline of the fuselage. If the nose cone is canted off to one side or the other, carefully sand the trailing edge of the nose cone until it is aligned with the fuselage centerline. Once satisfied with the fit, scuff the inside of the nose cone and engine nozzles and use epoxy to glue the fiberglass nose cone to B1/B1-1 and the engine nozzle to B9/B9-2.

Sand the entire model smooth. The F-4 Phantom II can be finished using a number of different methods. Since the entire model is sheeted, the model can be covered with a plastic film or it can be painted. If painted, then the balsa grain would first have to be filled using either a light sanding filler and/or a lightweight fiberglass job.

The canopy is molded from Vivak, (PETG) so use any compatible glue to attach the canopy to the hatch.

## Control Throws

The throws below describe the movement of the control surface itself.

### Aileron

Measured at the root trailing edge of the controls.

High rate: 3/8" (Up and down)

Low rate: 1/4" (Up and down)

### Elevator

Measured at the root trailing edge of the controls.

High rate: 5/8" (Up and down)

Low rate: 1/2" (Up and down)

### Rudder

Measured at the root trailing edge of the control.

High rate: 5/8" (Up and down)

Low rate: 1/2" (Up and down)

## Balancing and Flying the Model

### *The model must be balanced before attempting flight.*

Failure to properly balance the model will most likely result in the destruction of the model. The model should be balanced upside-down on a balancing stand. It should be balanced at the range shown on the plans, or 13-3/32" to 12-5/8" forward of B9. If the model doesn't balance at this point, try moving the internal components such as the receiver battery until it does balance at the point indicated. We recommend securing the receiver battery pack to the elevator and rudder servo plate in the fuselage compartment and using a servo extension to the power the receiver in the cockpit area.

Do not get impatient to fly the model. Instead, take your time to make sure everything is perfect before flying. You should work your way up to the first flight by taking the model out to the flying field and performing a good radio range check with the motors off, then again while running at full power. Follow this up with doing some ground taxi tests to verify that the model tracks straight and that it accelerates briskly. Make sure the nose wheel steering isn't too sensitive.

Once you're satisfied with the model, put a fresh charge on the receiver pack and the flight packs and pump up the retracts. Set the control throws to low rates for the initial test flights. Line the model up at the runway threshold and roll on the throttle.

The model will require a take-off run of about 150-200 feet. Do not try to horse the model off the runway. This will only result in a stall and crash. As the model accelerates, apply gentle back pressure and the model should rotate and rise off the runway. The landing gear can be raised at any point after this or may be left down for the first flight. Once airborne, concentrate on flying the model to a safe altitude where it can be trimmed for level flight.

The F-4 is a straight-forward design that is both stable and responsive. Like most jets, raising the nose will increase the amount of drag it produces and really slow the model down. Because it is a very clean design, lowering the nose will allow the model to pick up quite a bit of speed. Be aware of this characteristic when landing the model.

When you're ready to land, fly the model to pattern altitude. You can lower the landing gear at any time. Most pilots like to perform a gear pass immediately after lowering the landing gear to visually verify that all three are down and locked. When the model is on downwind and abeam of the touchdown zone, reduce power to 1/2 - 3/4 throttle. The model should begin to descend. Do not let the model dive as this will only increase the amount of airspeed you'll have to bleed off before landing. Hold the model into a level flight attitude throughout the landing pattern with the elevator and control the rate of descent with throttle. When the model is 45 degrees from the touchdown zone, turn onto base leg, then onto final. At about 3 feet off the runway, reduce power to idle. The model should begin to slow to landing speed. Because the model is relatively lightly loaded, it is capable of remarkably slow flight. Raise the nose to landing attitude to flare and touch down. Allow the model to slow to taxi speed before trying to turn off the runway.

Perform a thorough post-flight check to make sure that no problems have cropped up during the first flight. Once you're satisfied that everything is in order, you may fly the model again. Take your time to get to know the model's handling characteristics. It is a very forgiving and stable model and should present you with no surprises.

Congratulations! You're now a Phantom driver!

## Materials Required for Construction

Below is a list of materials which are required for construction, but not included in the kit.

- 1/8" music wire or equivalent for landing gear struts
- 2 - 2-1/4" wheels for the main landing gear
- 2 - 1-1/4" wheel for the nose landing gear
- 1/8" wheel collars or equivalent wheel retainers
- 16 - 2-56 T-nuts to mount the fan units and retracts
- 15 - CVA hinges or equivalent.

Various wood screws to mount the servos, fan hatches and removable battery tray.

- 1 - 90mm fan unit
- 1 - Brushless motors capable of producing 800-1200W of power
- 1 - Brushless speed controllers capable of producing 800-1200W of power
- 1 - 5 to 6 cell or equivalent motor battery pack capable of withstanding 40-50 amps of power draw
- 5 - 2-56 pushrods
- 2 - Dubro 1/16" ball joints
- 1 - Dubro E/Z Adjust Strip Aileron Horn Set (For 4-40 thread)
- 4 to 6 channel radio system.

## Contact Information:

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