

Dear Ann,

As per your request, I have consolidated my notes in regard to the modifications to your Beaver kit for glow power.

I have built 2 kits for glow power. Both were powered with an O.S. .30 Wankle engine. I would recommend a 2 stroke engine between .30 to .35 cu in. If a 4 stroke of about .48 cu in was used, the plane would most likely be nose heavy and require weight in the tail to balance properly. One plane had full 4 channel control with the addition of ailerons, while the other was rudder, elevator and throttle only. Both models used a steerable tail wheel that was connected directly to the rudder. Both planes turned out to be outstanding fliers with no additional weight needed to balance the planes. My planes came out to about 4 lbs.

The modifications are quite minor and are only needed in 4 areas: firewall, fuselage sheeting, landing gear mount and wing sheeting.

Start by cutting out a new firewall of 1/8 or 3/16" thick to the proper diameter. Mark the holes for your motor mount and drill out the holes for the correct diameter for blind nuts. (3/16, 5/32 example). Epoxy the blind nuts to the back of the firewall. Glue the new firewall over the standard firewall formers. Complete the cowl, sheet with 1/16" balsa. Add a 1/8" diameter ring about 1 inch wide to the back side(firewall side) of the cowl. Drill 2-1/4" diameter holes 180 degrees apart into the new ring and glue in two short 1/4" dowels to locate the cowl onto the firewall. Mark and drill the 2 -1/4" diameter holes in to the firewall to ensure cowl alignment.

Using 1/16" balsa, sheet the sides of the fuselage back to a line even with the wing's trailing edge. Sheet the top of the fuselage between the firewall and instrument panel.

Turn the fuselage over and mark the landing gear position. Glue a piece of 1/8" ply approx 1.5" in height behind the vertical 1/4" square balsa that runs vertical to the front of the door post. Epoxy a pre slotted maple hardwood landing gear support piece against

the plywood plate. This is now your mount for the 3/16" diameter landing gear. Form the gear per print, drill 2-3/16" diameter holes near the center of the block to prevent the gear from rotating, then secure in place with 2 straps per leg. Sheet the bottom of the fuselage between the firewall and the gear mount.

Glue a 1/8" ply plate between the back of the firewall and the top of the gear ply support plate for a fuel tank mount. I secured my tank in place with silicon. First locate your engine on it's mount and locate and drill holes for the fuel lines. Run your fuel line thru the firewall, then secure the fuel tank. All that's left is to install the 3 servos of your choice in the center of the cockpit area and run the control wires to the rudder, elevator, and throttle.

The wing requires 2 modifications. Add 1/16" sheeting with the grain running vertical between all ribs up to the inside aileron rib shown on the plan. Add 1/16" by 3" wide sheeting to the entire top of the wing from the leading edge back. Sheet only the top of the wing. You can add cap strips to the top of the wing ribs if desired. Sheet the entire top of the center section. The wing is now strong enough to do loops and spins WITHOUT the struts. I now this first hand- I have never had an in-flight structural failure with any of my Beavers.

I mounted all my wings with # 64 rubber bands. To do this, extend the top window frame's 1/4" sq balsa piece out about 1 to 1 1/2 inch as shown on the plan when first building the 2 sides.. Add a piece of triangle that was cut from 1/4" sheet stock just behind the rear cabin window's vertical strip. Drill a 1/4" hole in the 1/4" thick balsa behind the rear cabin window (the new piece) on each side. Install a 1/4" diameter dowel thru the cabin about 2 inches wider than the cabin. Center the dowel. Glue in place. You now have the supports for the rubber bands.

Ailerons can be installed. by 3 methods. After making new ailerons and adding a front aileron mounting strip out of 1/8" balsa, the ailerons can be activated by a servo in each wing, one servo in the center section with rods and bell cranks in each wing or one continuous flex cable with a centrally located servo. My

experience has shown that the Beaver's flat bottom wing does not respond all that well to ailerons. It flies just fine on rudder only.

Add fuel proofing to the firewall and sheeting, then cover with Monocoat or a covering of your choice. The tail section did not require any additional modifications or sheeting beyond adding hinges for the rudder and elevator. To connect the elevator halves, I used a 1/8" diameter music wire formed in a flat U.

Hope this helps. If you need any sketches, just give me a call. I will be sending construction pictures of the Hawker Hurricane soon.

Your friend in the frozen tundra,

Gene Turk
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