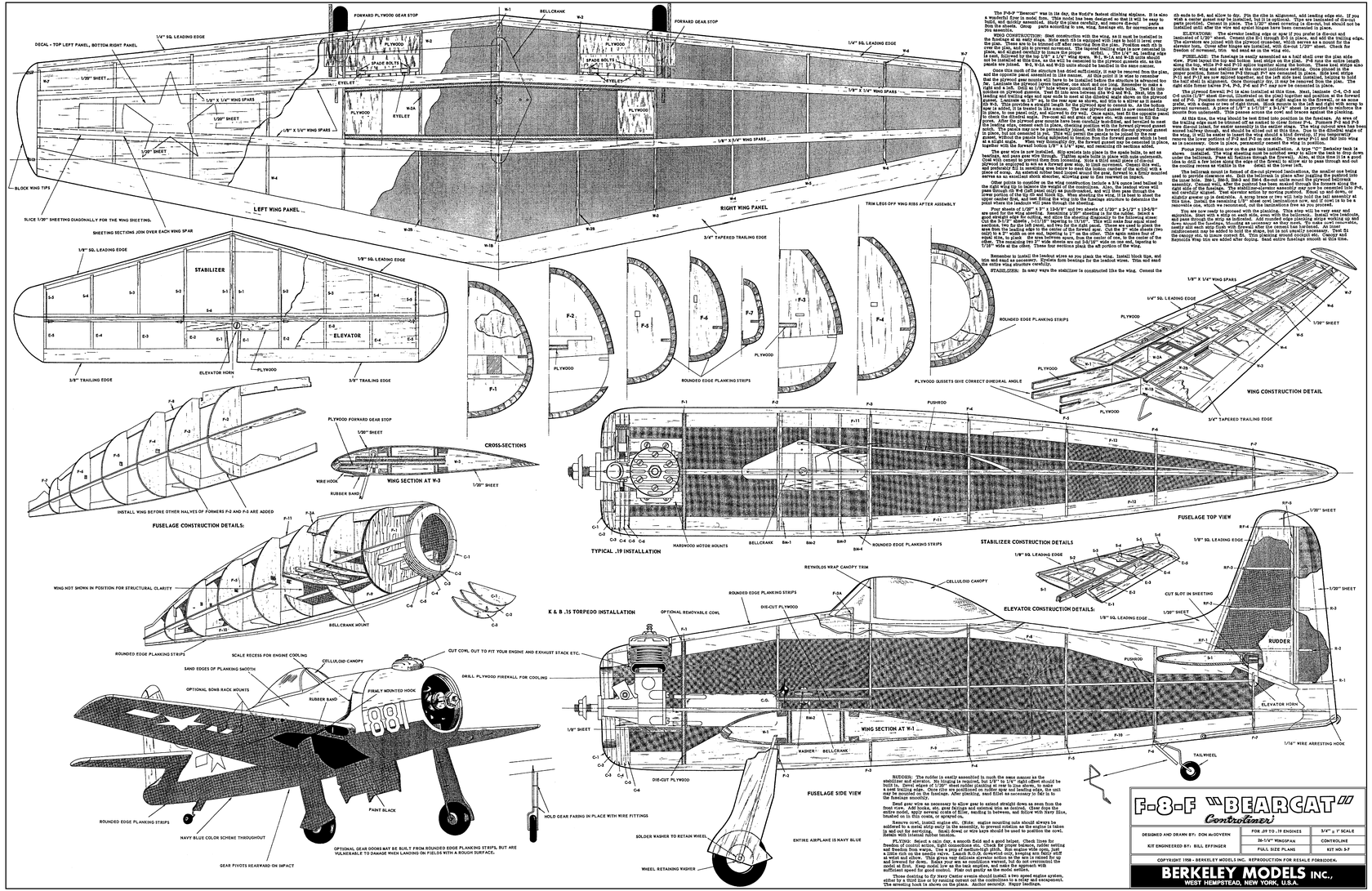


The F-8-F "Bearcat" was in its day, the World's fastest climbing airplane. It is also a wonderful flier in model form. This model has been designed so that it will be easy to build, and quickly assembled. Study the plans carefully, and check the parts against the parts list. Group parts according to use, wing, fuselage etc. for convenience in assembly.

WING CONSTRUCTION: Start construction with the wing, as it must be installed in the fuselage at an early stage. Note each rib is equipped with tape to hold it level over the plan. These are to be trimmed off after removing from the plan. Position each rib in its place on the plan, and check for proper alignment. Pin down the leading edge to new centerline plan, and aligned carefully to insure the proper dihedral angle. Cement the leading edge in each, followed by the top 1/8" x 1/4" wing spars, W-1, W-1A and W-1B. Spars should not be installed at this time, as this will be cemented to the plywood gussets etc. on the panel, see below. W-2, W-2A and W-2B units should be installed in the same manner.

Install the plywood gussets, and the plywood webs, carefully, if only removed from the plan, and the opposite panel assembled in the same manner. Note that the plywood webs are cut so that the plywood gear mounts will have to be installed before the structure is cemented too far. Laminate the plywood joiner inserts, one short and one long. Remember to make a right and a left. Drill at 1/8" hole where much marked for the spade bolts. Then fit into place, and cement in place. Install the plywood gear mounts, W-3 and W-3A. Install the leading and trailing edge and case sheets to each of the panels made down on the plywood pattern. Laminate to 1/8" sq. in the rear spar as shown, and trim to a sliver as it meets the trailing edge. Install the 1/8" sq. leading edge, and the 1/8" x 1/4" wing spars. Install the tips in place, to be trimmed to fit later. The new plywood gusset is now cemented firmly in place, to one panel only, and allowed to dry well. Once again, test fit the opposite panel in place, and check for proper alignment. Trim off spars as need, and cement to fit the joiner. After the plywood gear mounts have been cemented in place, install the sheet balsa in the leading edge, cement each in place, checking position with the forward plywood gusset in place, but not cemented in yet. This will permit the panels to be joined to the rear plywood web, and the forward plywood gusset. Install the 1/8" x 3/4" wing spars, and the 1/8" x 1/4" block at a slight angle. When very thoroughly dry, the forward gusset may be cemented in place together with the forward bottom 1/8" x 1/4" spar, and remaining rib sections added.

The gear wire is now installed. Rig assists into place in the spade bolts, to set up centerline, and not pass gear wire through. Tighten spade bolts in place with nuts underneath. Install the plywood gear mounts, and cement in place. Note that the plywood is cut so the plywood is employed to act as a forward gear stop, to limit movement. Cement this well, and preferably fill in remaining area below to meet the bottom camber of the airfoil with a block of balsa. The gear wire is now bent to form the axle, and the wheel pants mounted serves as an excellent shock absorber, allowing gear to flex rearward on impact.

Other points to consider on the wing construction include a 3/4 ounce lead ballast in the right wing tip to balance the weight of the controlines. Also, the tailpipe wires will pass through rib W-4 (left panel only) as mentioned, and will then pass through the upper center fuel, and the lower center fuel tanks, and through the rear of the fuselage. Use upper center fuel, and use fuselage the wing into the fuselage structure to determine the point where the tailpipe will pass through the sheeting.

Four sheets of 1/32" 1-3 x 1-3/8" and two sheets of 1/32" x 3-1/2" x 12-5/8" are used for the wing sheeting. Laminate 1/32" sheeting in the center, and to a 3-1/2" width on each side, using the balance of the sheeting to finish the outboard panel. Cut the 3-1/2" sheets, 12-7/8" starting in 12-1/2". This will make four equal sized sections, two for the left panel, and two for the right panel. These are used to plank the wing, and are cemented in place, and trimmed to fit. Note that the 1/32" sheet is cut to a 3" width on one end, tapering to 1" on the other. This again makes four of equal size, to plank the area between spars, from the center of one, to the center of the other. Use the balance of the 1/32" sheet to plank the area from the spar tapering to 1/16" wide at the other. These four sections plank the aft portion of the wing.

Remember to install the leadout wires as you plank the wing. Install block tips, and trim and sand as necessary. Install firm bearings for the leadout wires. Trim and sand the entire wing smoothly carefully.

STABILIZER: In many ways the stabilizer is constructed like the wing. Cement the rib ends to S-6, and allow to dry. Pin the ribs in alignment, add leading edge etc. If you wish a center section, add the 1/8" x 1/4" spar, but it is optional. Trim and sand the edges of the outer panels, and install the tips. The tailpipe wires will pass through rib S-2. Should not be installed until after the wire and spade hinges have been cemented in place.

ELEVATOR: The elevator leading edge or spar if you prefer is fit-sized and laminated of 1/32" sheet. Cement this S-1 through S-3 in place, and add the trailing edge. The elevators are joined with the plywood cross-bar, which serves as a mount for the elevator horn. Cement this in place, and add the 1/32" x 1/32" sheet. Check for freedom of movement, trim and sand as on the wing etc.

FUSELAGE: The fuselage is easily assembled as a half shell over the plan side view. First layout the top and bottom keel strips on the plan. Pin down the entire length along the top, as per F-8 and F-12 spline together along the bottom. These keel strips also serve as the top and bottom of the fuselage. Cement together, and allow to dry well. Install former F-1 (hard balsa) F-2 (plywood) set aside for later. Side keel strips P-11 and P-12 are now spliced together, and the left side keel installed, helping to hold the former in place. Cement in place, and add the right side keel, helping to hold the right side former halves P-4, P-5, P-6 and P-7 may now be cemented in place. The plywood firewall P-1 is also installed at this time. Next, laminate C-4, C-5 and C-6 units (1/8" sheet balsa), illustrated on the plan together and position at the forward and of P-6. Position motor mounts next, either at right angles to the firewall, or as some prefer, at a slight angle to the right to offset the effect of the motor torque, and to compensate for power sidewash. A piece of 1/8" x 1-1/2" x 3-1/2" balsa is provided to reinforce the mounts from underneath. This passes across the cowl and braces against the planking.

At this time, the wing should be test fitted into position in the fuselage. An area of the trailing edge must be trimmed off or sanded to clear former P-4. Former P-3 and P-4 are cemented in place, and the former halves P-5 and P-6 are added. Note that former P-5 has a second halfway through, and should be sliced out at this time. Due to the dihedral angle of the wing, it will be easier to insert the wing should a kind developed. If you temporarily install the former halves P-5 and P-6 with a pin, it will be easier to fit the wing into place. Cement in place, permanently cement the wing in position.

Focus your attention now on the gas tank installation. A type "C" Berkeley tank is shown. Installed. The wing sheeting must be notched away to allow the tank to drop down under the ballcrank. Place all fairlines through the firewall. Also, at this time it is a good idea to install the tailpipe, and the wire hook. The tailpipe wire can be through and out the cooling recess as visible in the detail at the lower left.

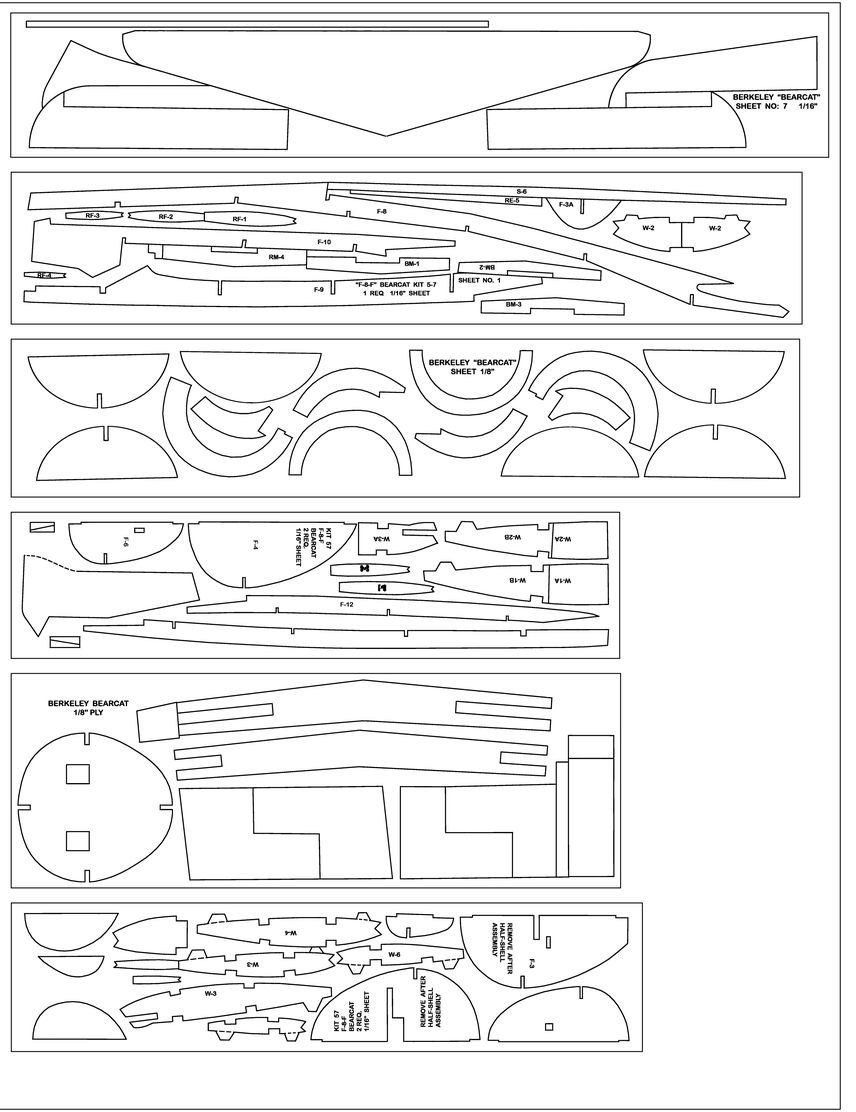
The ballcrank mount is formed of die-cut plywood laminations, the smaller one being used to provide clearance etc. Install the ballcrank in place after pushing the pushrod into the inner hole. B8-1, B8-2, B8-3 and B8-4 die-cut units mount the plywood ballcrank mounts. Install the 1/8" x 1/4" x 1-1/2" hardwood motor mounts, and install the right side of the fuselage. The stabilizer-elevator assembly may now be cemented into P-6, and carefully aligned. Test elevator action by moving pushrod. Install up and down, or circular arrangement. Install the rear fuselage, and the tailpipe. Install the tailpipe in the tail fin, and cement the remaining 1/32" sheet, laminated centerline now, and it size is to be a removable one, which we recommend, as the laminations free as you proceed.

You are now ready to proceed with the planking. This step will be very easy and enjoyable. Start with a strip on each side, even with the ballcrank. Install wire leadouts in place, and cement in place. Install the remainder of the planking, working from the center down around the fuselage, to conclude at centerline on deck area. To make a well concealed, neatly all each strip flush with firewall after the cement has hardened. An inner fuselage formed of 1/32" sheet balsa, P-8, P-9 and P-10 units are cemented in place to the planking, to brace curved fit. This planking around cockpit etc. Canopy and Reynolds Wrap trim are added after doping. Sand entire fuselage smooth at this time.

RUDDER: The rudder is easily assembled in much the same manner as the stabilizer and elevator. No binding is required, but 1/8" to 1/4" right cabem should be built in. Bevel edges of 1/32" steel rudder planking at rear to due above, to make a tight fit. Install the 1/8" x 1/4" hardwood spar, and the rudder horn, which may not may be mounted on the fuselage. After planking, sand finish as necessary to fair in to the fuselage smoothly.

Bend gear wire as necessary to allow gear to extend straight down as seen from the front view. Add hooks, etc. gear fairings and external trim as desired. Clear dope the entire model, and sand lightly with 400 grit, sanding in between, and follow with fiber fine, brushed on in thin coats, or sprayed on.

Remove cowl, install engine etc. (Note: engine mounting nuts should always be soldered to a metal strip early in the assembly, to prevent rotation as the engine is taken to and out for servicing. Small dowel or wire keys should be used to position the cowl. Cowl is fitted with rubber bands.

FLYING: Select a calm day, a smooth field and a good helper. Check lines for freedom of control action, light connections etc. Check for proper balance, rudder setting and freedom from warps. Use a pop of medium-high pitch. Run engine with care, just a little rich on the needle valve. Hold the model firmly, and with the helper holding the wing tips, run up the engine to full speed. Release and follow model for up and forward for down. Make your ups as conditions warrant, but do not overcontrol the model at first. Keep model low as the tank empties, and make the approach with engine off, and glide in for a low pass, and a wheel landing.

Those desiring to fly Team Center events should install a two speed engine system, either by a third line or by remote control out the controlines to a relay and escapement. The arresting hook is shown on the plans. Anchor securely. Happy landings.