

BUD NOSEN MODELS, INC.
CHAMPION CITABRIA INSTRUCTIONS

FUSELAGE: Begin fuselage construction by building two identical sides using $1/4 \times 1/4$ balsa sticks over shaded areas on side view. Add cabin parts FA 1 to FA 5 and F 13. With both sides complete to this point, remove from side view and pin down over top view from F 2 to F 4 only. Install F 2, floor, floor gussets and dash. Add FC parts to inside of cabin--when working with cabin parts, refer to isometric drawing to aid in parts placement. Use Epoxy on all cabin parts. As soon as FC parts are in place, and epoxy starts to set up, install $3/8 \times 3/4 \times 12$ ply cabin rails, F8, and F 10. Add all $1/4 \times 1/4$ cross members. Do not install the outer FB parts until the fuselage is complete. Epoxy F 1 in place. Glue F 7s, FT and $1/4 \times 3 \times 18$ sides in place. The addition of a few extra braces across the fuselage in the cabin area will sturdy the model up while building. These may be removed when model is complete. When assembly is dry, remove from plan and add F2A to F 6. Bolt dural gear in place. Add bottom stringers, side dowels, bottom sheet, along with sheet over dash area and all remaining parts. If tank compartment is to be used as shown, cut a hole in F 1 on lines. Use a Sullivan RST 12 tank. Build up motor mount as shown. By cutting down length of MM1 and MM2 parts as needed, any size engine can be fitted.

Build up cowl as shown on plan. Build the left half first, then remove from plan, stand up on C 2 and build the right half directly on to the left half. Sheet cowl with $1/8 \times 3$. Add nose blocks and top $3/8 \times 2$ block. Cowl may be fastened to body by using sheet metal screws through C 2 and into F 1. Install screws through holes in front of cowl and through vent hole in bottom which must also be used for cooling and exhaust. Using above method cowl can be built in about two hours.

STAB, ELEVATORS, FIN AND RUDDER: Build up directly over plan using parts as shown. We do advise the use of dual or split pushrod on the elevator to avoid flexing. Support pushrods well for the same reason. On some of our later designs, we join the elevators with a $3/8 \times 6$ inch dowel inset into the leading edge of the elevators, which eliminates the split pushrod. We also now install the elevator horns on the top side of the elevator. Pushrod must still be well supported.

WING: The wing is constructed in three pieces. Aluminum tubing is used to fill all three together, along with 6-32 $\times$ 2 inch bolts that drop through tubing and screw into blind nuts under the $3/8 \times 3/4 \times 12$ cabin rail, locking all sections together and on to the body. The wing tubing also sets the dihedral angle. Tubing is a loose fit to allow for small differences in construction and cutting.

Build the right half wing panel first, directly over plan. Protect plan with wax paper. Build entire wing on a true flat surface. Pin down bottom spruce spars and add ribs as marked. The 20 W 7 ribs are to be marked by the builder. If ailerons are used, trim ribs according to plan. Save cut-offs for aileron construction and make up four more from scrap $1/8$. The four foot leading edges have some tendency to warp. This can easily be corrected by pinning down straight on a flat surface. Glue or epoxy leading edge spar into leading edge. Allow to dry thoroughly and remove straight edge. Glue in place. Add top spars, $1/16$ inch webbing, all top sheet and cap strips. W-8 high point must be flush with all other ribs at their high point. Bottom spars must be cut to angle up to W 8. Add other parts including tip blocks as shown. Repeat process for left half wing.

Build center section of wing over plan, using parts as shown. Install $1/2$ inch tube, and trim to length. Use $3/8$ sheet screws to lock tubing in place to center rib. Do not plank section until you trial fit the wing panels. At this time, plank bottom only. Note that the top or W 26 portion is flat, and must mate to FT on body. With both halves of wing fit into center section, center wing on body. Drill a $3/32$ pilot hole down through both tubes and through $3/8 \times 3/4$ rail. Drill holes in four places as shown on top view. Enlarge holes as needed and install 4 6-32 $\times$ 2 inch bolts using the bolts to pull blind nuts into place. Complete center section as shown and plank top side.

WING STRUTS: BUILD one right and one left strut as shown using 5/16 x 3/4 and 5/16 x 1/2 spruce as shown. Saw slots in spruce and epoxy aluminum parts in place after shaping. Drill holes through struts and aluminum and epoxy round toothpicks in place. Due to variations in building due to construction methods struts must be fit to your model. Do not use length as shown--MEASURE EXACT LENGTH AND ANGLE FOR YOUR MODEL. Adjust for length by moving the 6-32 nut location on wing. Cut slot in body to install strut to body bolt. Bolt must have access from bottom of body to back it out far enough to slip aluminum part in place. Bolt strut to wing with 10-24 X 3/4 inch bolts. Make sure that you have the W-17 wing part in place with epoxy. Use scrap gussets to make sure it will not pull loose when flying the model--it is under great pressure.

Fit all assemblys to the model, making sure to install the 3/16 X 1 foot dowels as stab and fin struts. Use any good grade of covering material. With Coverite being the most popular choice. Install radio gear behind F 2, or as needed to balance model. Install aileron servo from bottom side of wing center section, cutting out as needed. If wing is taken down into 3 sections, you will have to undo the aileron pushrod, at the aileron servo. The use of ailerons on this model has been left optional, as the model will fly just fine on rudder and elevator only. Any standard size servo will be OK on all surfaces of this model. Sixty size engines will fly the model quite well up to 12 lbs. gross takeoff weight. It will fly and groove much better with a larger mill.

FLYING: Due to the extreme size of this model, AILERON control has been quite slow, and until you feel the model out, fly on rudder only and forget the ailerons. After a few flights try using both rudder and aileron control for turns. You will find the model will handle much like the real aircraft in this respect. Set the ailerons for about 2.5" of travel with more up than down if possible--about 2 to 1. Elevator travel 1" to 1.5" with 3/8" down trim. Rudder throw is at max. The model is very easy to handle and flaps are not needed unless for scale points or effect.

MATERIALS AND USE LIST

- 2 1/16 x 3 x 48 sheet--use for wing webbing
- 2 1/2 x 1-1/8 x 48 grooved--use for leading edge of wing
- 8 3/32 x 2 x 48--use for leading and trailing edge wing sheet
- 1 1/8 x 4 x 36--use for bottom center of fuselage--lengthwise
- 3 3/32 x 3 x 36--center section wing planking, also between W 2 and W 3
- 3 1/8 x 3 x 36--use on body as shown
- 3 3/8 x 3/8 x 48--use for all tail surfaces--figure for no waste
- 8 1/4 x 1/4 x 48 spruce--USE FOR MAIN WING SPARS ONLY DO NOT CUT UP*****
- 2 1/4 x 1/4 x 48--balsa sticks to be used in leading edge of wing only
- 18 3/32 x 3/8 x 36--wing rib cap strips
- 21 1/4 x 1/4 x 36--balsa sticks--use for body as shown and sand for shims
- 4 1/4 x 3/8 x 36--use for tail surfaces
- 4 3/16 x 12 dowels--use for tailplane supports
- 4 1/4 dowels--two long and two 24" use for body sides
- 1 3/8 x 2 x 6--use for top cowl block
- 2 3/8 x 2 x 5--use for top of wheel pants
- 4 1/4 x 15/16 x 24--use for aileron caps
- 4 1/4 x 1/4 x 8 spruce--use in center section of wing
- 4 1/4 x 3 x 18--use for fuselage sides--trim to angle at rear
- 2 5/16 x 3/4 x 26 1/2--wing strut--front brace
- 2 5/16 x 1/2 x 26 1/2--wing strut--rear brace

Materials such as stick stock may vary in length and quantity--such as fewer 1/4 x 1/4 x 36 sticks but six inches longer.

If you have any questions on the construction of this model, we make a effort to have a qualified person available for phone calls during normal business hours.