

This is a reproduction of the Ace R/C "Dick's Dream" kit and there are some omissions for it is now intended as a scratch build. Begin by reading the instructions over once and at the same time familiarizing yourself with the pieces. Then start with the first step and continue in order, taking your time and being careful not to leave any step out.

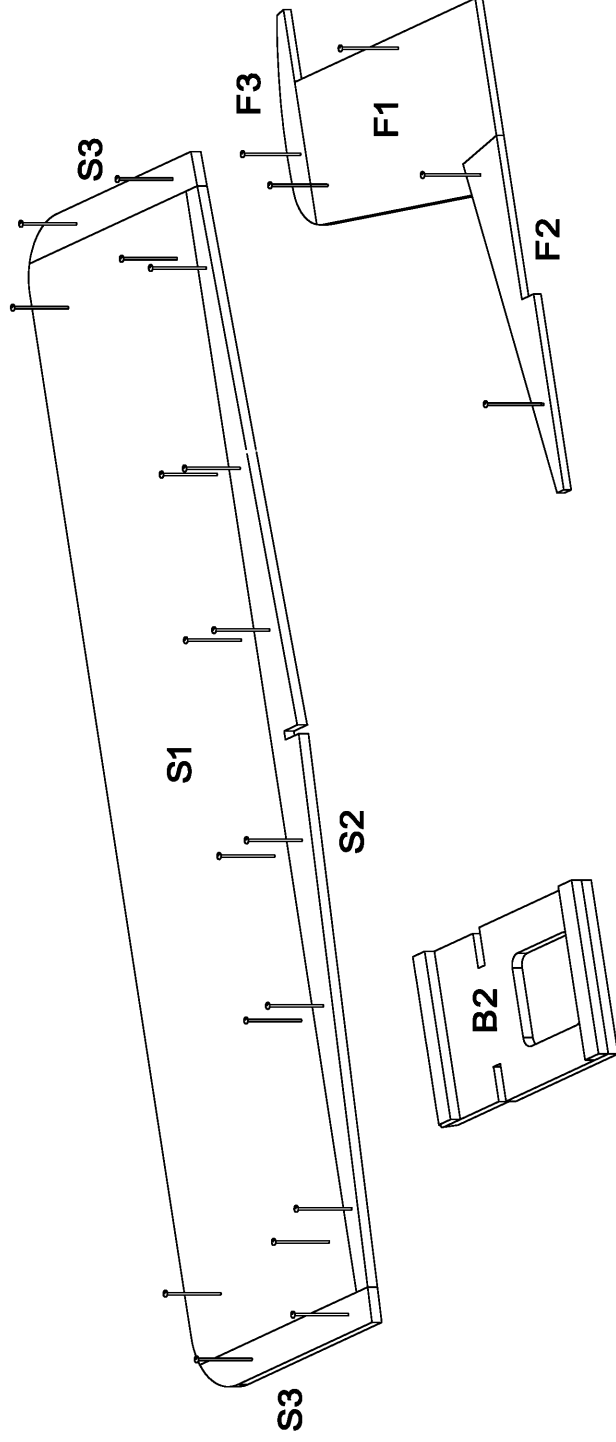
You have three options on the engine to use. A Cox Pee Wee .020 will give you a slow-flying, docile airplane, ideal for the beginner. A Cox T.D. .020 with tank will provide a faster, more responsive, acrobatic airplane, ideal for one with some experience. If you want long flights, you have to use a Cox T.D. .020 without tank and install a 1/2 - 3/4 oz. tank in the airplane; recommended for only those who have experience with building and flying R/C models.

The recommended radio to use in the "Dick's Dream" was the Ace R/C's R/O Baby Twin Pulse System. (10G15T) The R/O Baby (10G15) is adequate for sport flying--but the Baby Twin will give you more versatility if you plan to use the radio in any other airplanes. The weight of the R/C airborne unit must not exceed 3 oz. Unless otherwise specified, use a good quality model airplane cement for wood in construction. At places where strength is necessary, use epoxy cement of white glue (Titebond, etc). Epoxy is recommended but use sparingly and don't get any glue where you don't want it. Contact cement is handy when gluing the fuselage doublers into place, but not necessary. If you can find or build a foam wing, NEVER use model airplane cement on the foam wing panels because the cement attacks to foam and melts it.

The following tools and material will be needed. TOOLS: X-Acto knife or razor blade, sandpaper, flat board, pins, drill (1/32, 1/16, 3/32, 3/16"), pliers. MATERIAL: Saran wrap or wax paper, glue (Epoxy, contact cement and model airplane cement), model airplane dope.

2

A. On a flat board covered with Saran Wrap or Waxed Paper assemble the Stabilizer (S1, S2 & two S3's), Fin (F1, F2 & F3); also brace the fuselage bulkhead B2 with two pieces of 1/8" x 1/4" balsa. Use model airplane cement and pins to keep the pieces together and flat while the cement dries. Allow them to dry completely before removing them from the board.

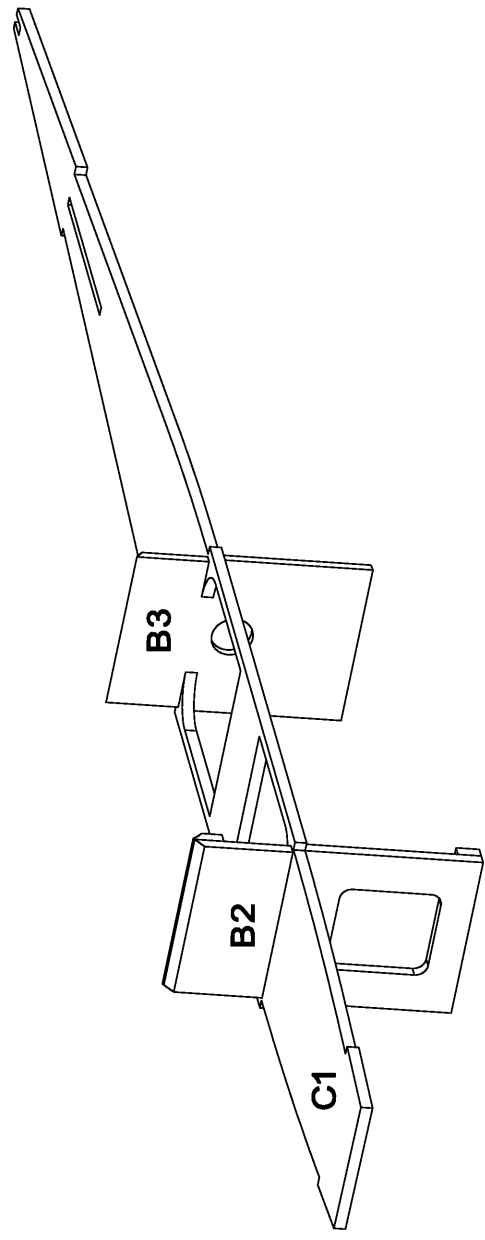


B. Using 1/16" music wire, bend the main landing gear exactly as shown on the full size drawing. Be careful not to over-bend or make an incorrect bend. Determine the proper position for the main landing gear on the plywood main landing gear mounting plate. Drill 1/32" holes on either side of the wire in several places, as shown in the drawing. Using 2 or 3 loops of heavy thread, secure the main landing gear on the mounting plate; glue thoroughly with white glue or epoxy. Fasten the nose gear onto the nose gear mounting plate in the same manner. Make sure the two landing gears are securely glued to their mounting plates.

C. Depending on the engine you are going to use, mark and drill 3/32" holes in the firewall (F1), using the firewall drilling template as a guide. Mount the engine on the firewall with 2-56 x 1/2" bolts and blind nuts. Glue nuts to back of firewall.

3

A. Glue fuselage formers B2 and B3 on the crutch (C1) in the position shown. When properly assembled, the front of the crutch will angle slightly to the right when viewed from above; this is because when the firewall (B1) is glued into place it has to slant down and to the right. Also make sure the formers are at right angles (90°) to the crutch.



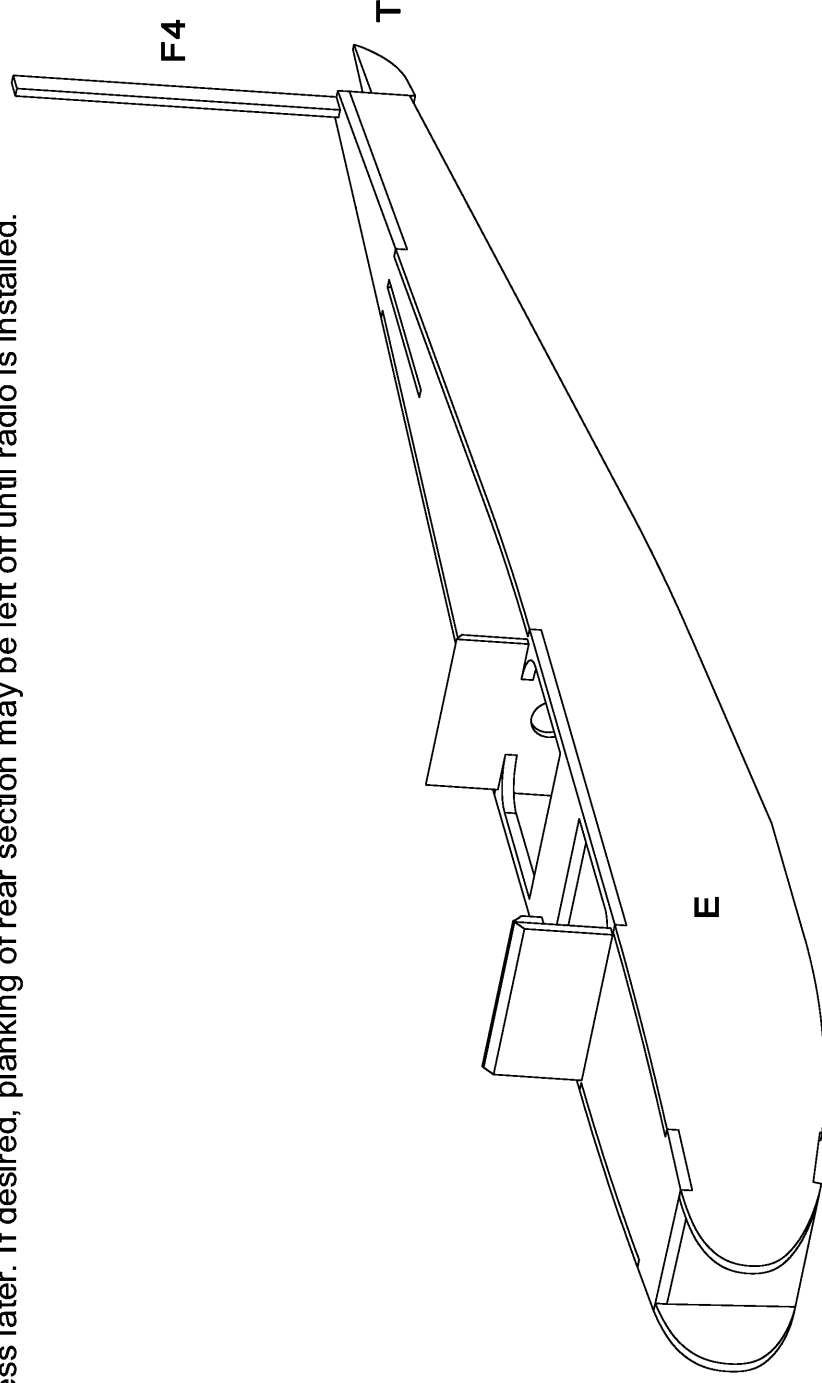
4

A. Glue one fuselage side (E) to formers B2 and B3 and to the crutch (C1) between B2 and B3; pin in position. Repeat for the other fuselage side. Let dry.

B. Epoxy or white glue the fuselage sides to the crutch from B2 forward and install the firewall with epoxy or white glue so it is flush with the crutch on top and is butted against the doublers (D1 & D2) along the sides. Hold the sides together with rubber bands and pins. Make sure the nuts on the firewall are to the rear. Add the nose doublers D3 and D4 if you are using a T.D. .020 with tank, (on Pee Wee D5 & D6 aren't used). Add D3, D4, D5, D6 if you are using a T.D. .020 without tank and install the tank at this time. Let dry thoroughly.

C. Glue the fuselage sides to the crutch from B3 rearward and install the rudder post (F4) and tail piece (T). Hold together with

- rubber bands and pins. Make sure the rudder post remains perfectly vertical as the glue dries.
- D. Glue fuselage doublers D1 and D2 to the fuselage sides from B2 forward using contact or model cement. Let dry thoroughly.
- E. Install the two belly doublers (D7) between F2 and F3 flush with the bottom of the fuselage and glue in the rear fuselage braces 4 1/8" to the rear of B3.
- F. White glue or epoxy the nose and main landing gear mounting plates in their proper position on the fuselage bottom as shown on the partial side view.
- G. Finish planking the bottom of the fuselage with 1/16" cross grain balsa. Cut the pieces to an approximate width, glue, then trim and sand off the excess later. If desired, planking of rear section may be left off until radio is installed.



- A. Glue the wing saddles (W5) on the top of the fuselage and to bulkheads B2 and B3. Score the wing saddles on the outside where they meet B3 and bend to match the fuselage taper. Also glue the windshield and the rear deck onto the wing saddles. Let dry thoroughly.

B. The wing saddles are notched for the dowels used for the wing hold downs. Make sure you use plenty of glue so that you will have glue joints not only at the saddles, but also other points of contact of the dowels with formers and windshield and rear deck. These are stress points and liberal-but not excessive--glue is recommended.

C. Glue the stabilizer onto the fuselage top with the rear of the stabilizer flush with the back of the fuselage, making sure the middle of the stabilizer corresponds exactly with the middle of the fuselage top. Glue the fin onto the stabilizer, rudder post, and fuselage top, insuring that it stays at right angles to the stabilizer.

Wing

Each rib is drawn with a tab to prop up the leading edge so that when the trailing edge is glued in place, the TE is flat on the table. The total wing span is 34". The root chord is 5-1/2" and the tip chord is 4.23" if building a foam wing. The Dihedral is 1-5/8" measured at the end of the trailing edge. Sand the dihedral angle into each assembled wing panel using 1/4" balsa shims under the leading and trailing edge to stabilize the panel. Rib W1 is extra thick to allow for this removal. Glue the two wing panels together using one tip shimmed up 4.23". When dry, reinforce center section with 1" light weight glass cloth. This reinforcement replaces the need for dihedral braces.

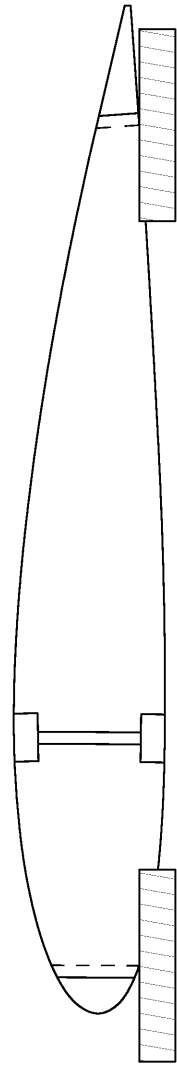
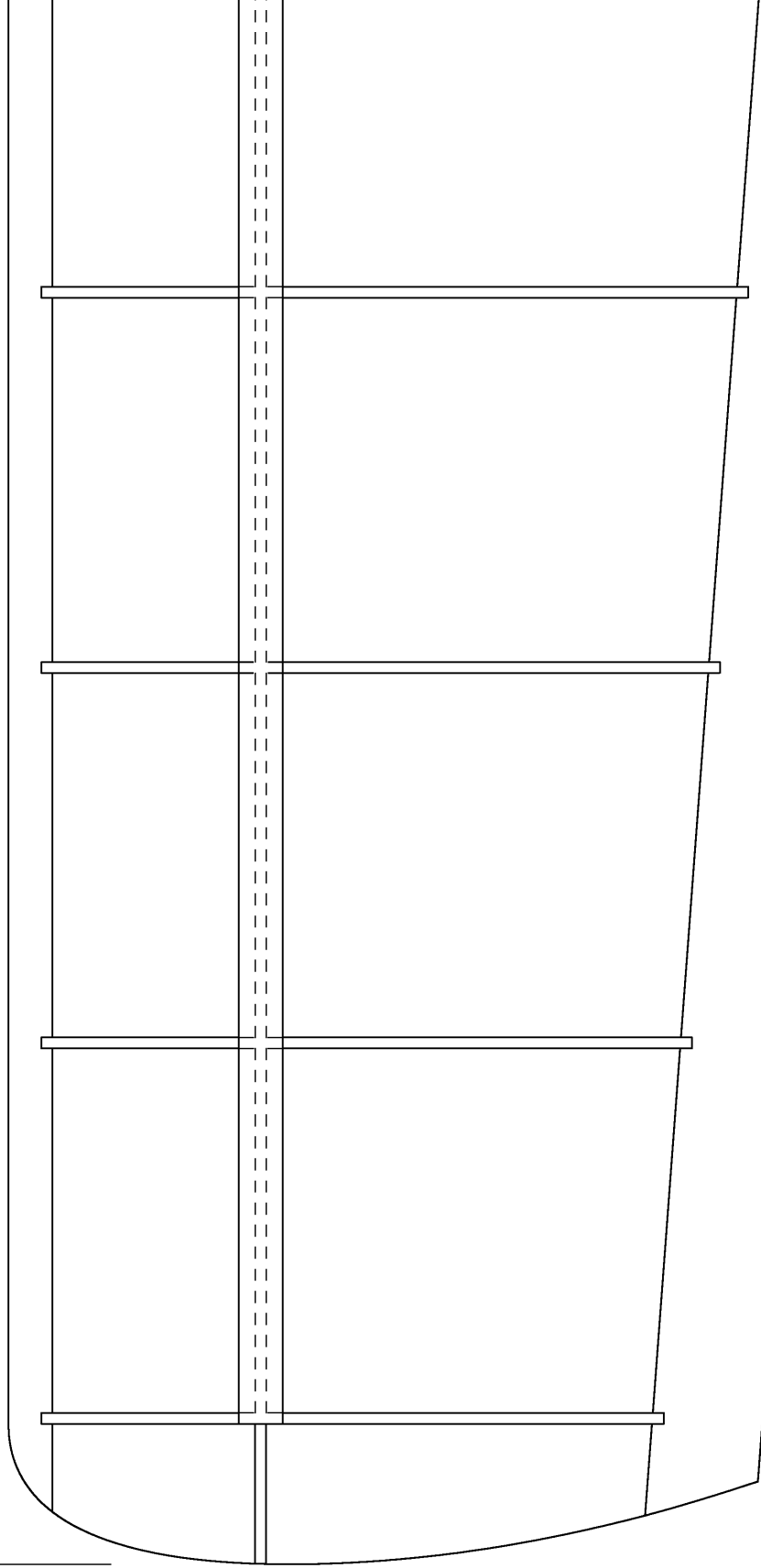
FINISHING

From now on, take your time and be very careful. This step can produce an airplane that you can be proud of rather than one you're ashamed to take out to the flying field. Always use the same brand of model airplane dope for clear, color and thinner. **DON'T MIX BRANDS!**

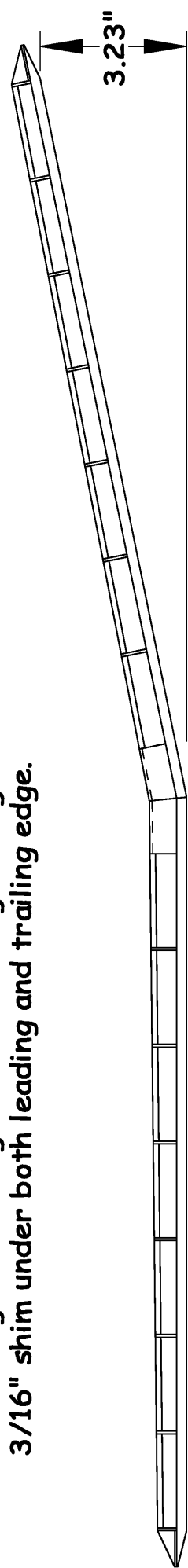
First of all, trim all excess balsa and plywood with a sharp X-Acto knife or single-edged razor blade. Sand the rough edges with fine sandpaper (120 grit) and smooth the entire airplane with extra fine sandpaper (220 - 320 grit).

Apply two coats of sanding sealer or filler-coat, with a good quality camel's hair brush, sanding with 320 grit sandpaper between coats. Put on two - three coats of clear dope over this, again sanding. Apply color dope but don't use over two coats or the finish will weigh too much. Always let each coat dry thoroughly before painting the next.

Tip: 1/16" balsa
2 Req'd



Level wing for sanding in dihedral angle using
3/16" shim under both leading and trailing edge.



34.00"

balsa

from 1/4" x 1/2"

Leading Edge: Carve

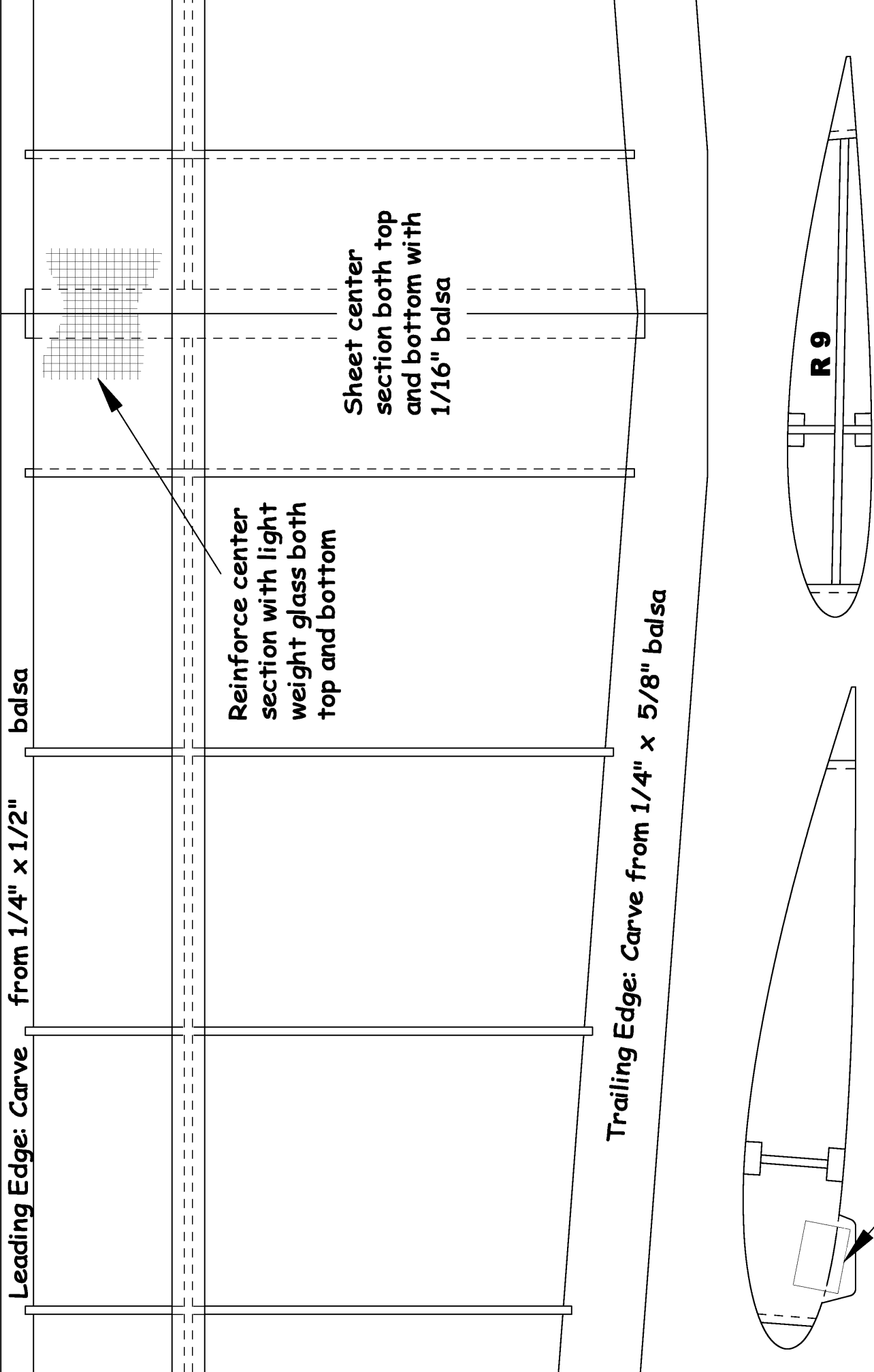
Reinforce center
section with light
weight glass both
top and bottom

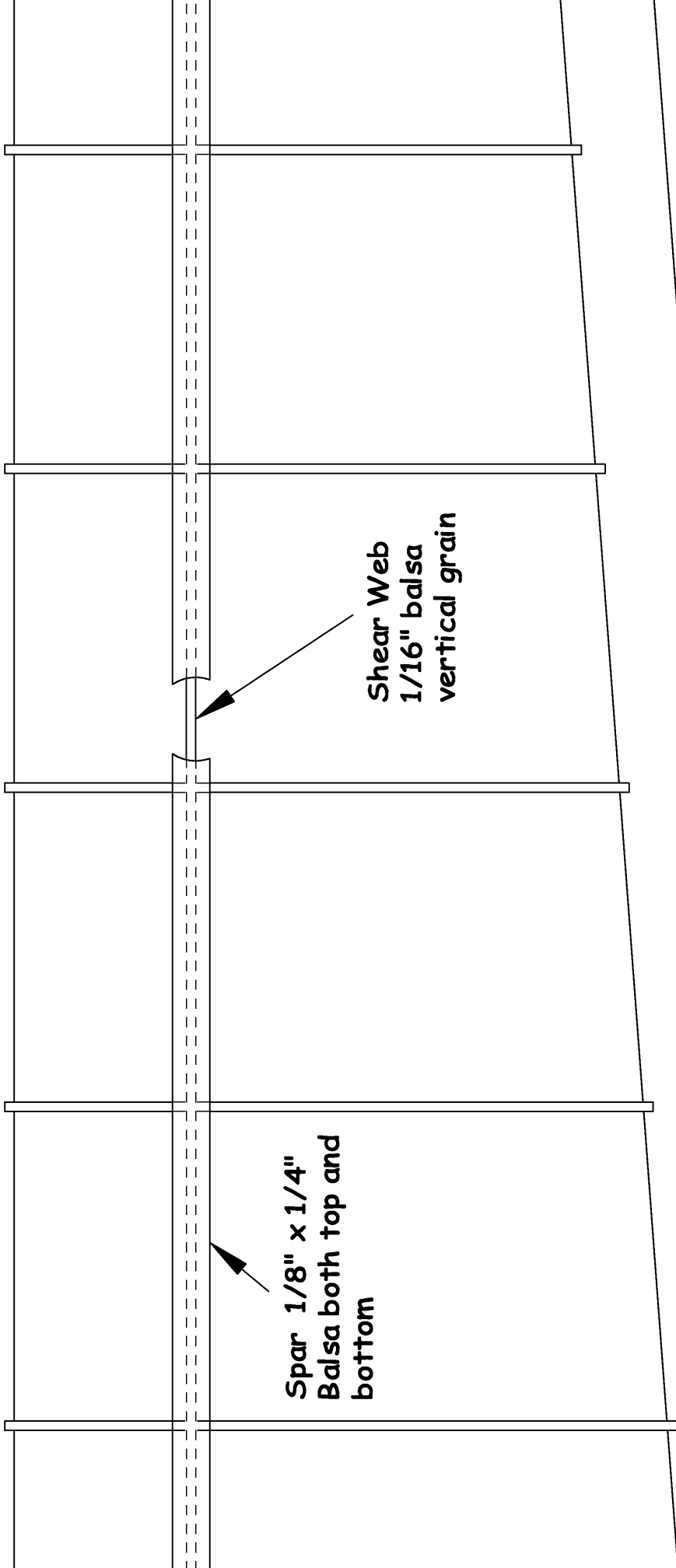
Sheet center
section both top
and bottom with
1/16" balsa

Trailing Edge: Carve from 1/4" x 5/8" balsa

Scotch Tape on both
sides when building

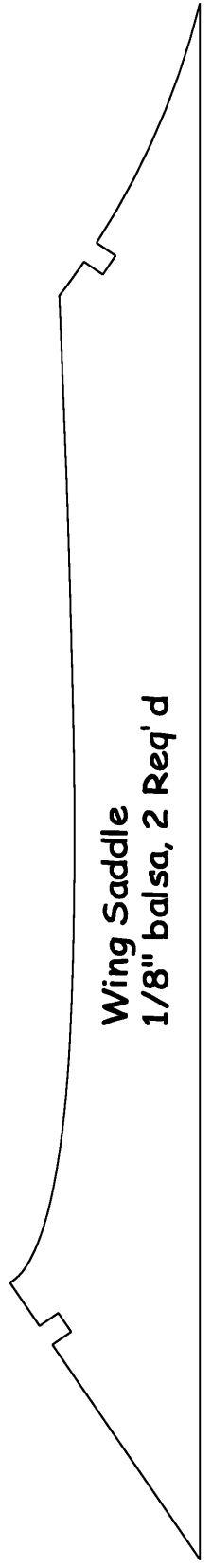
R 9



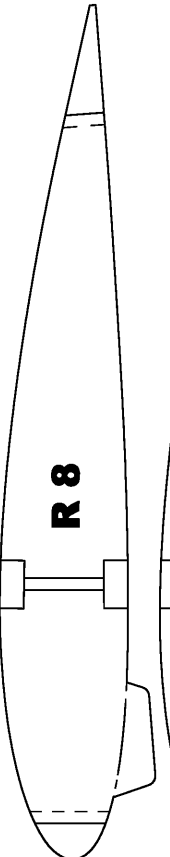
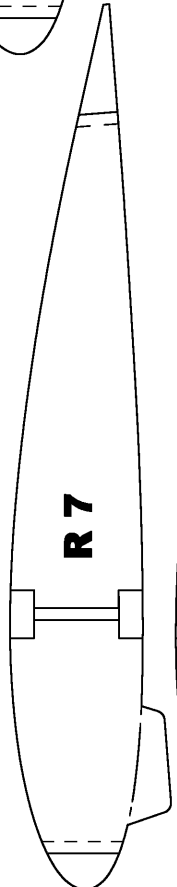
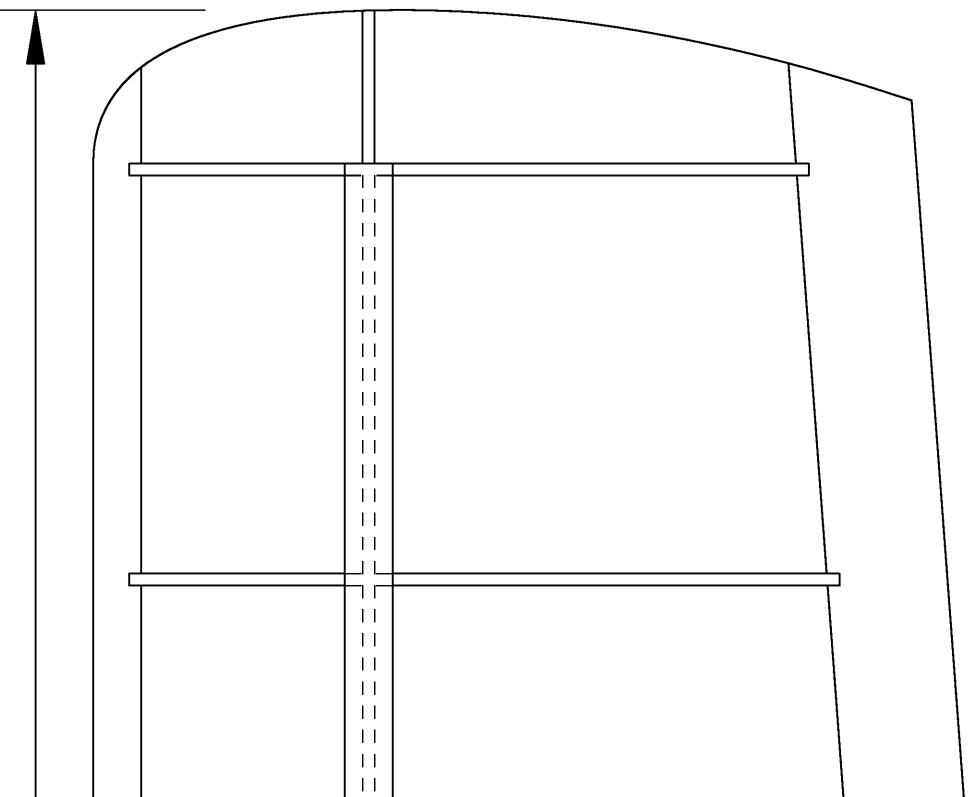
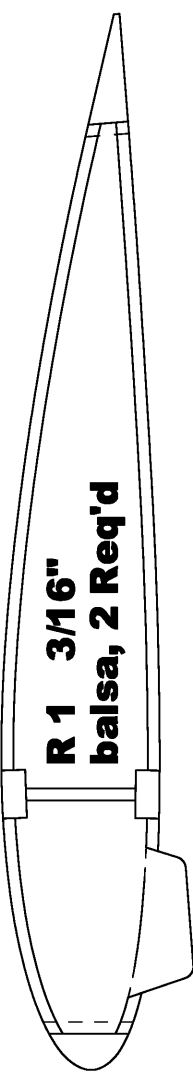
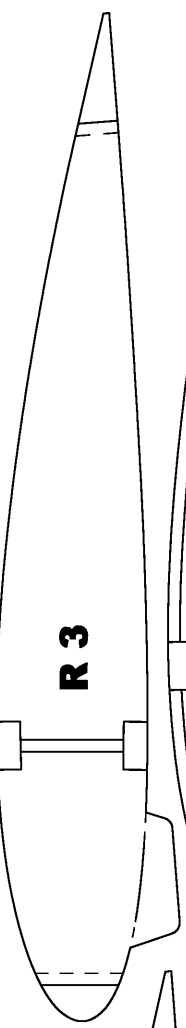
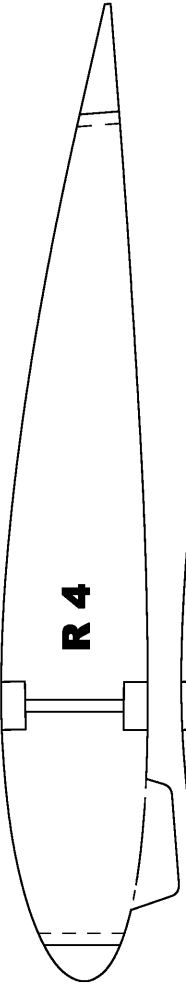
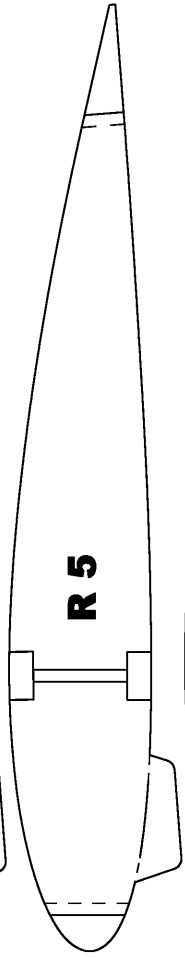
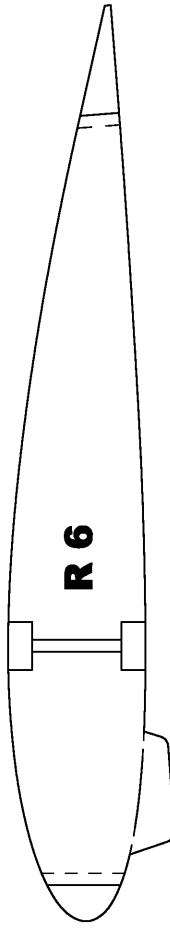
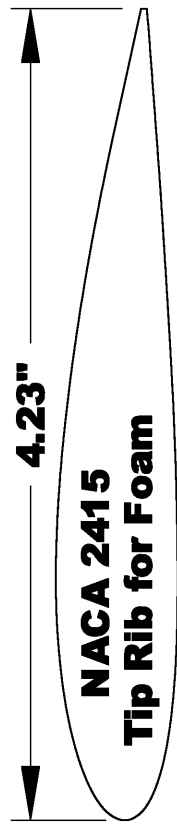
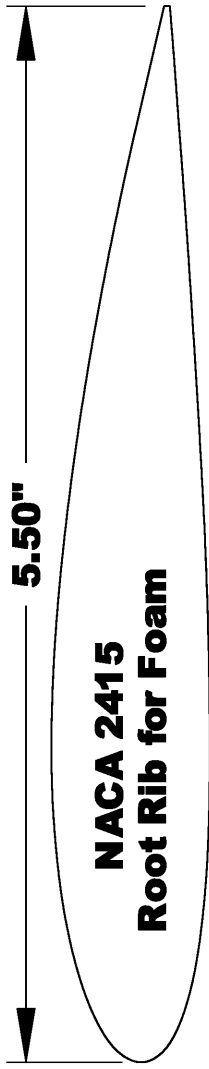


Spar 1/8" x 1/4"
Balsa both top and
bottom

Shear Web
1/16" balsa
vertical grain

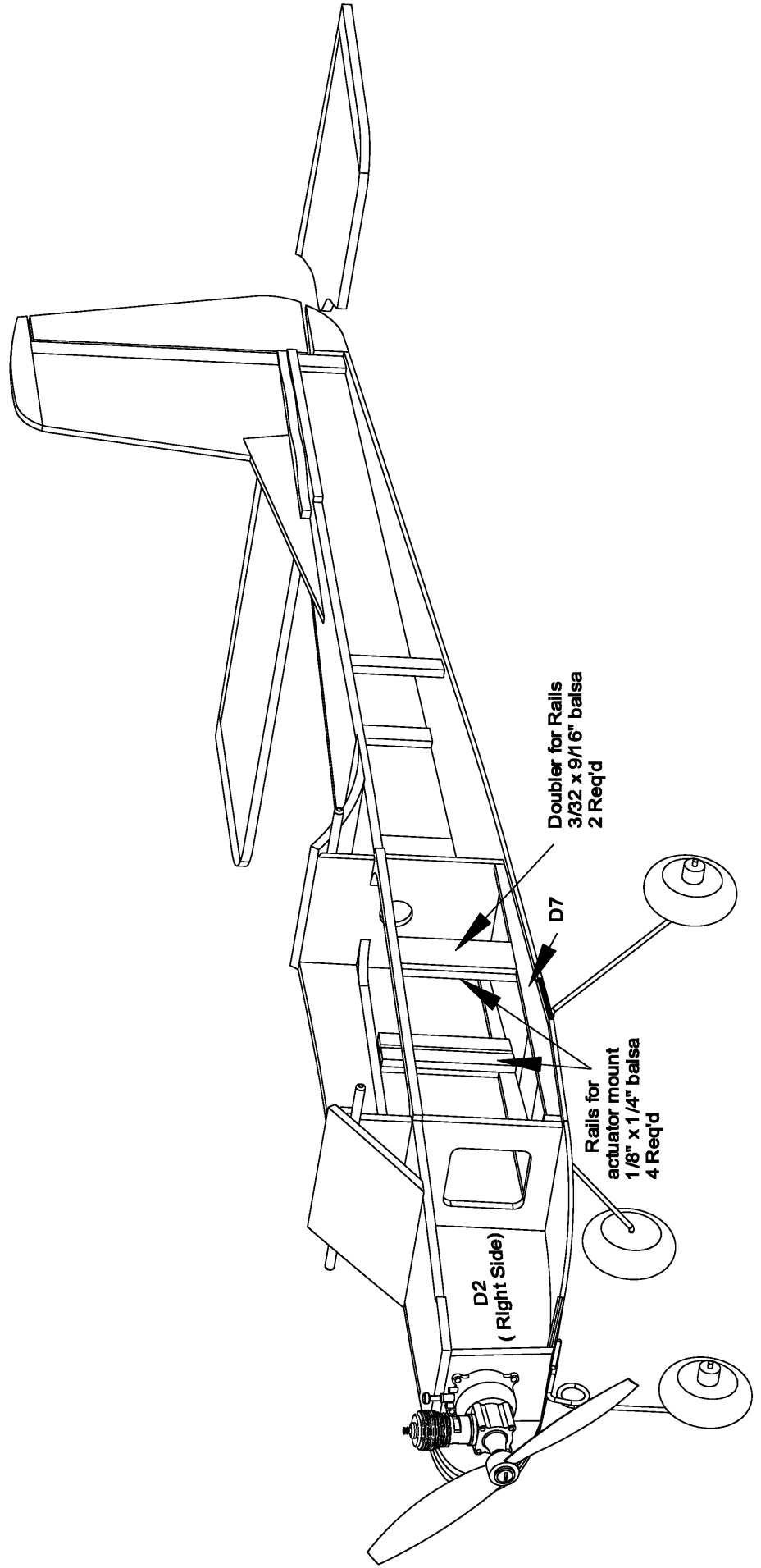


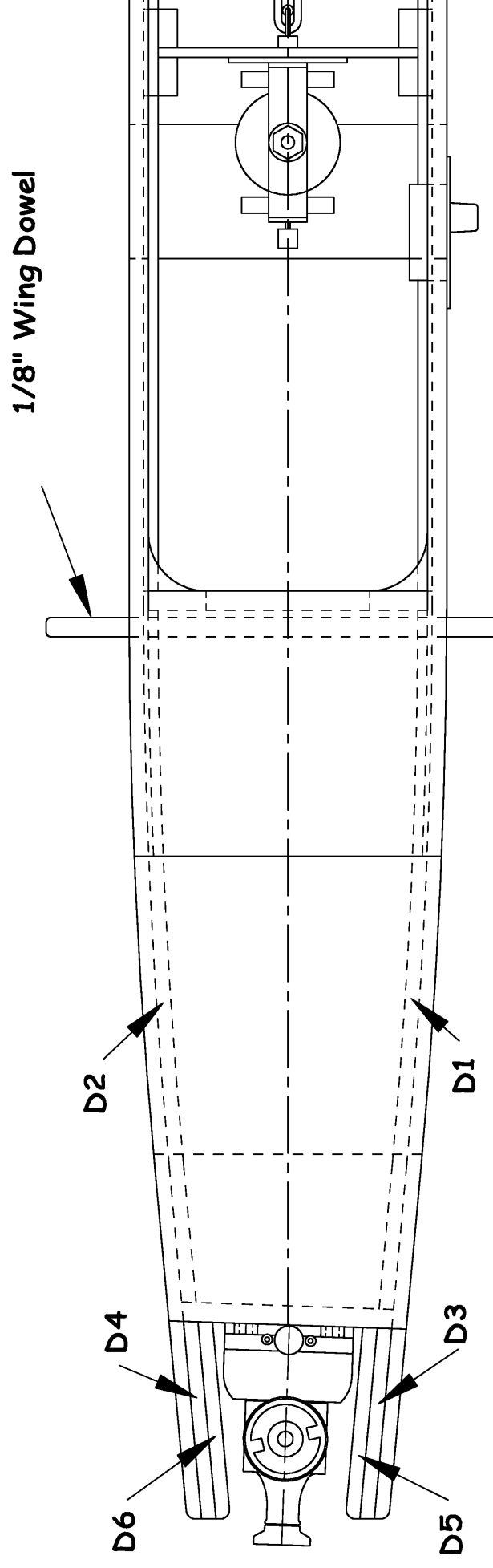
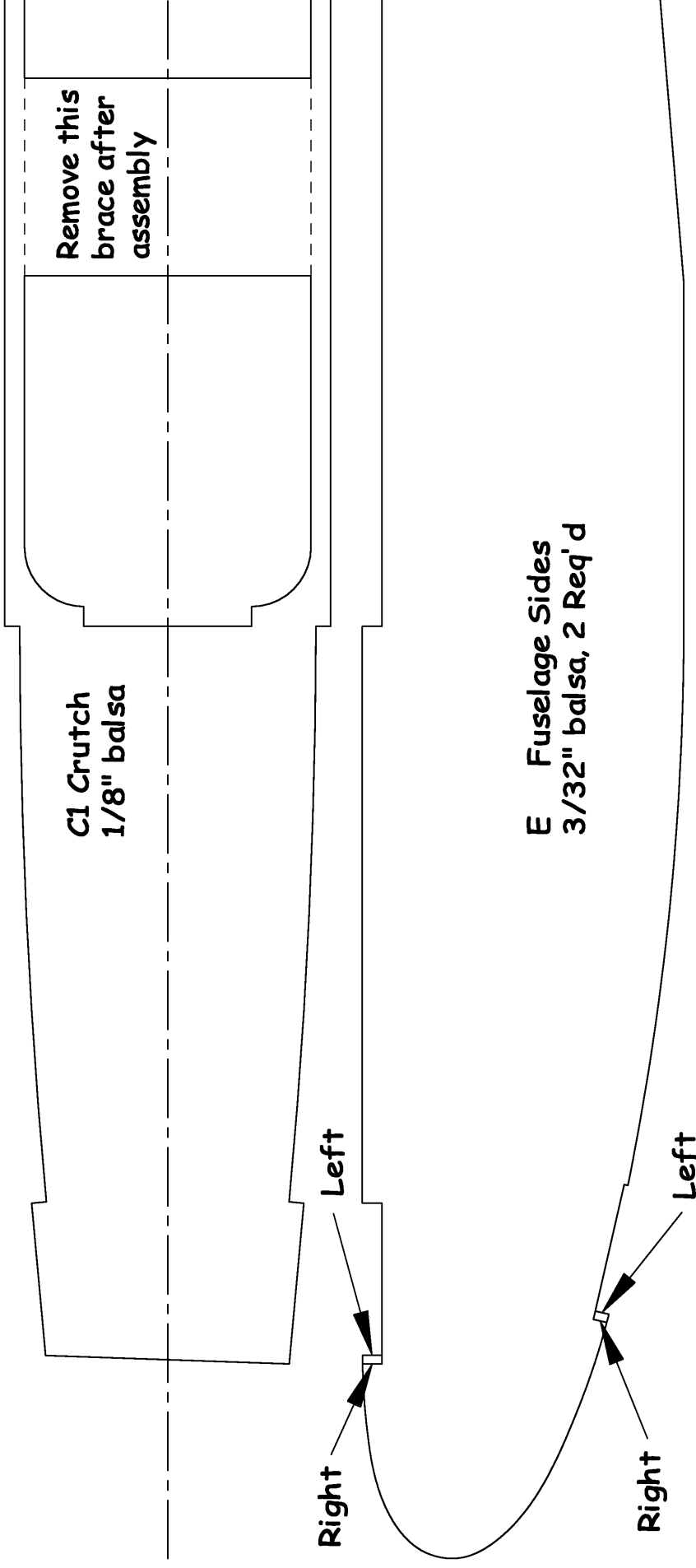
Wing Saddle
1/8" balsa, 2 Req'd

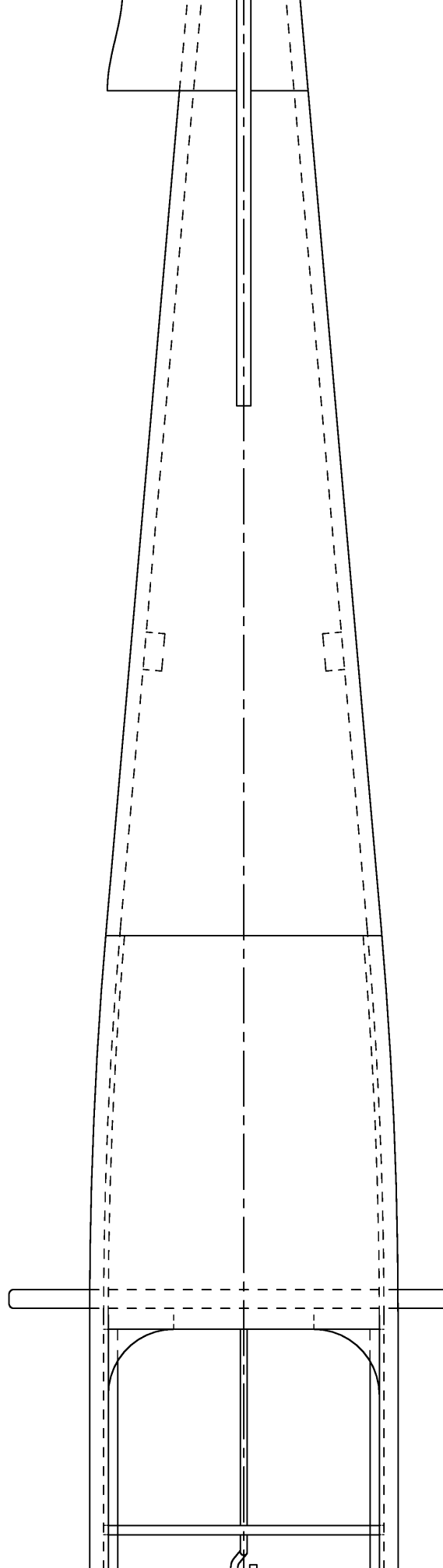
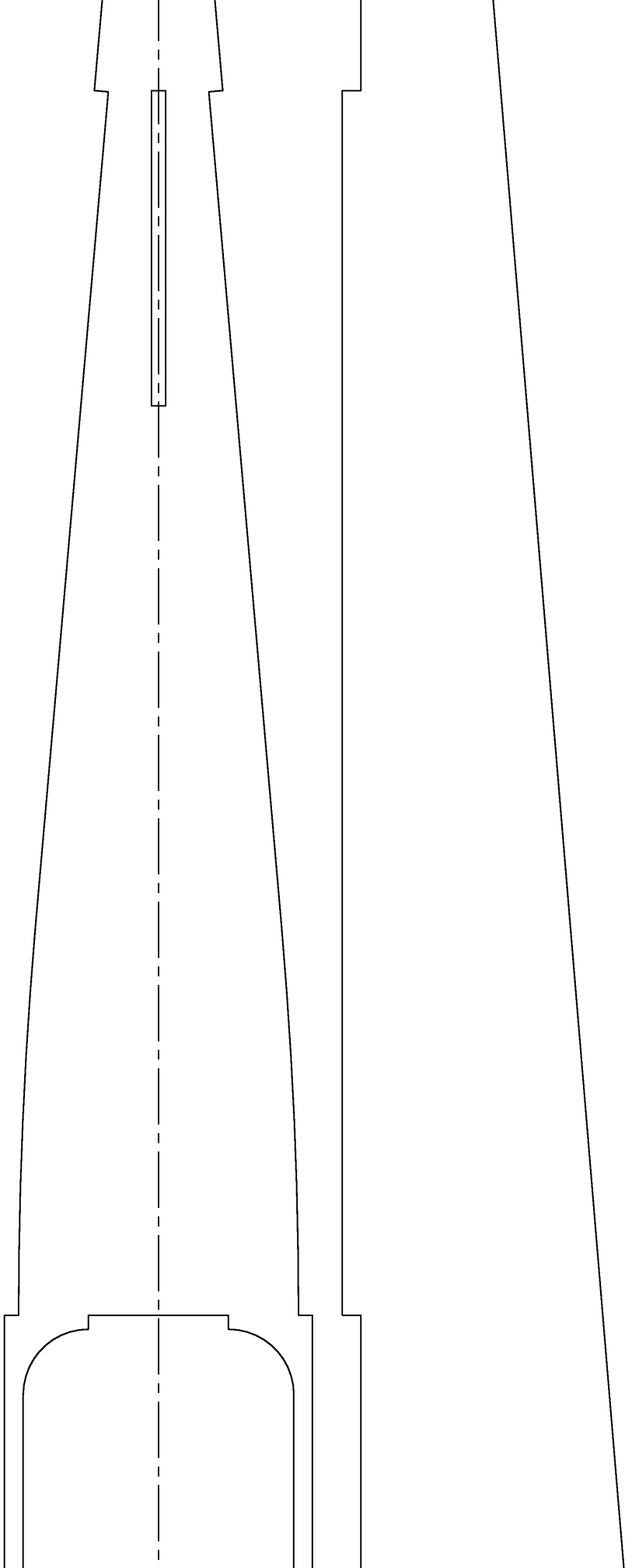


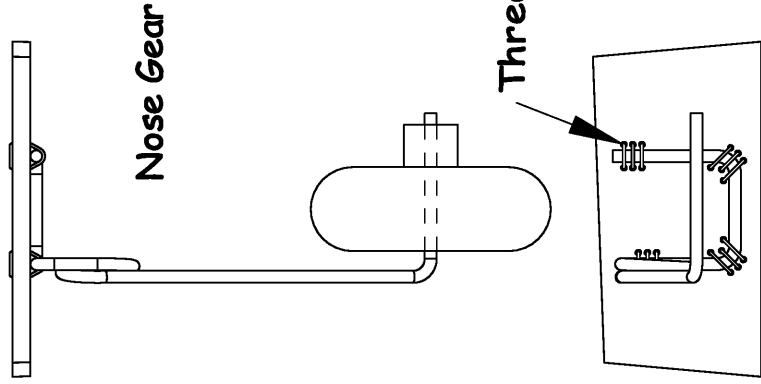


D7 Doubler, 3/32" balsa, 2 Req'd

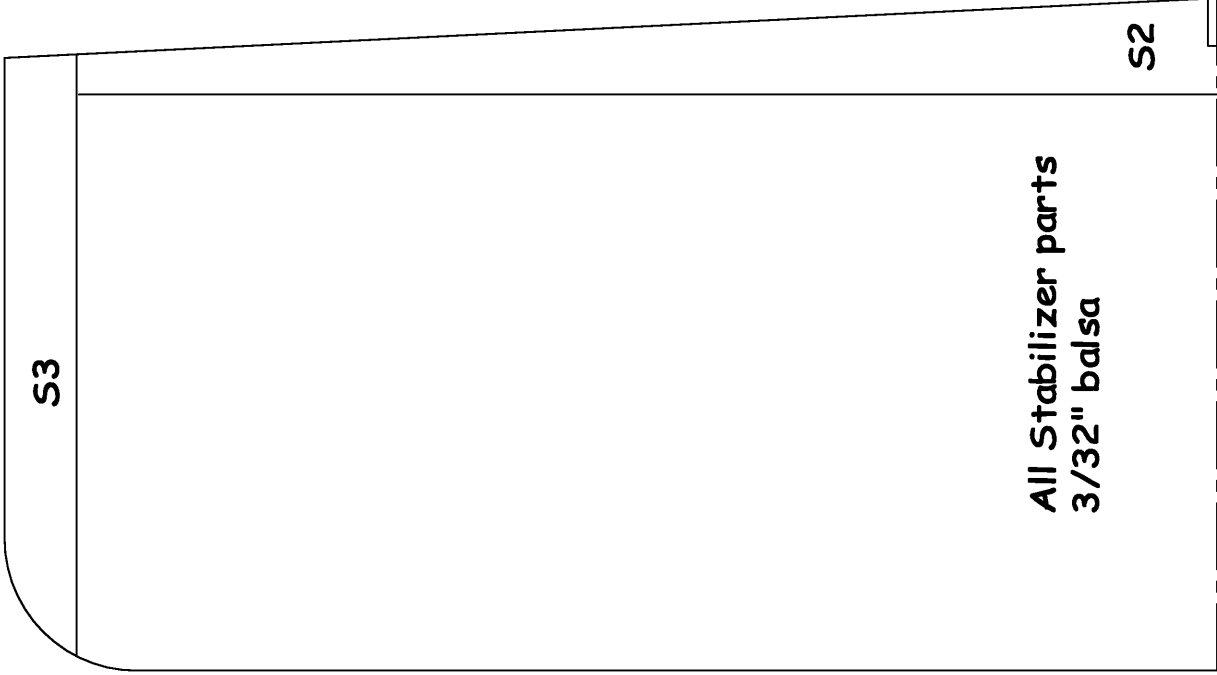




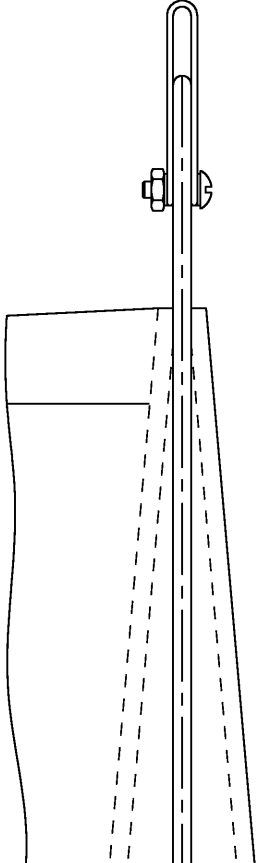
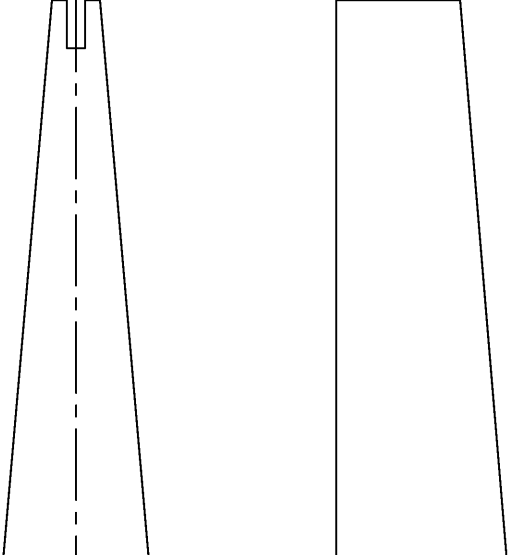




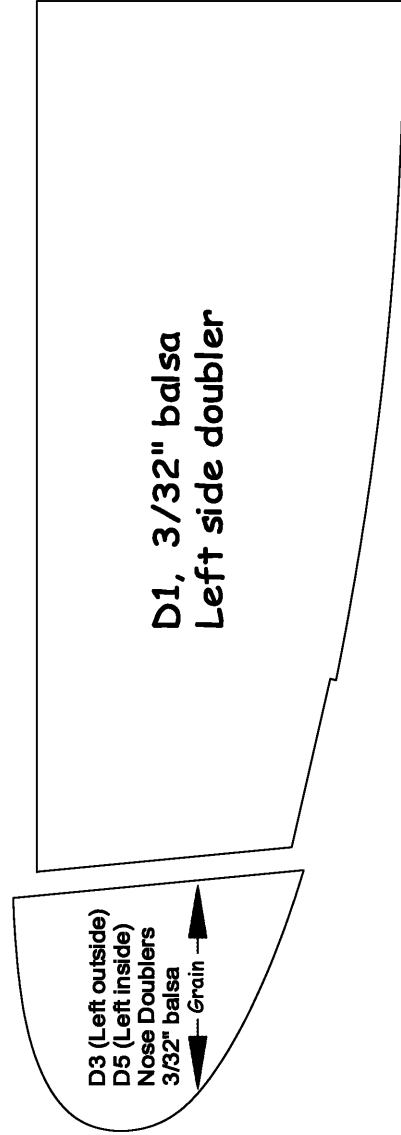
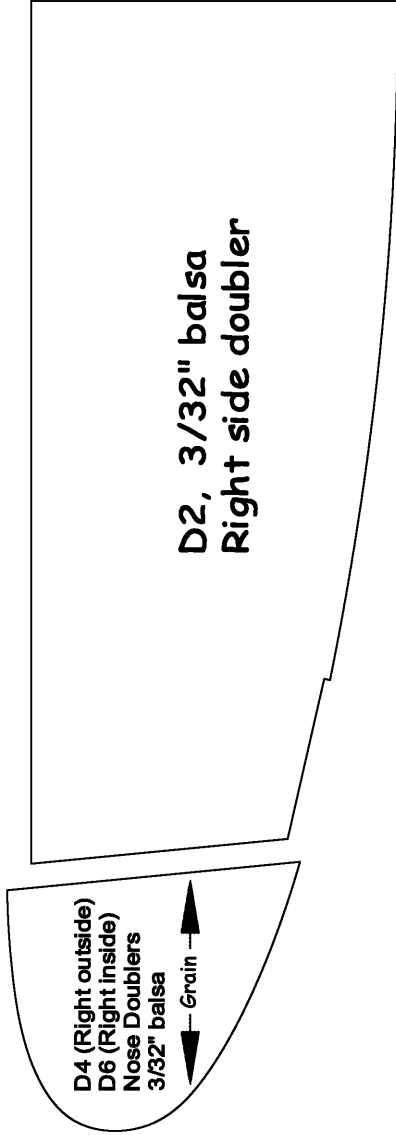
1/8" Plywood

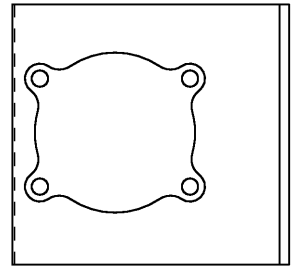


All Stabilizer parts
3/32" balsa

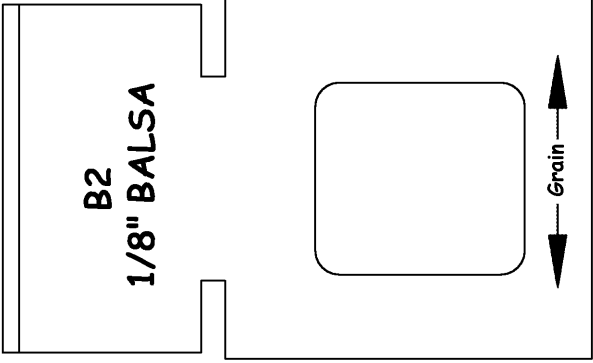


F3

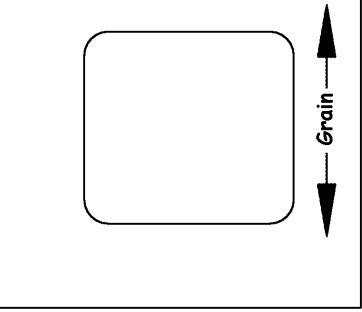




B1
1/8" Ply



B2
1/8" Balsa



Grain →

**.020 Pee Wee
Shown**

**1/8" Balsa
Cross Grain**

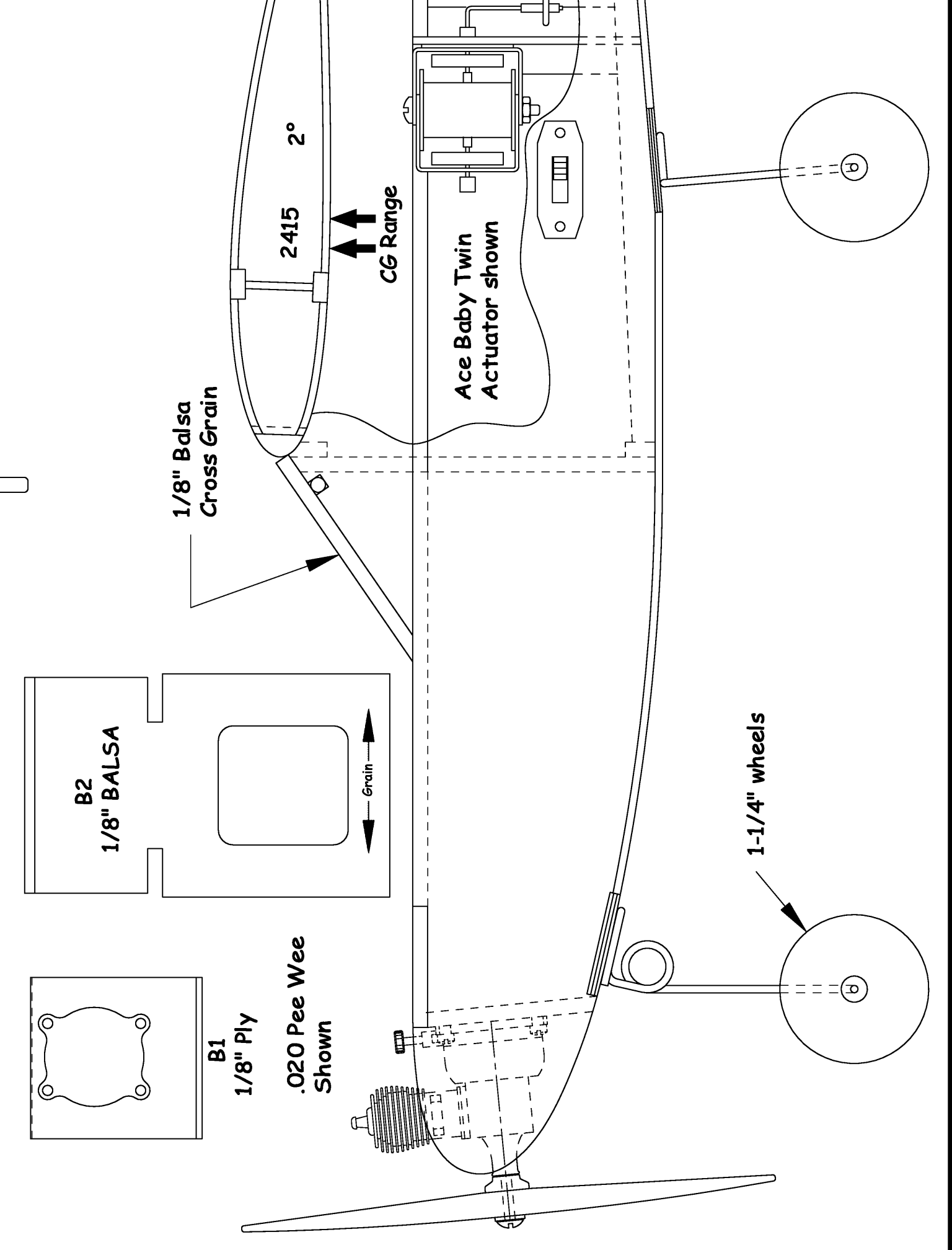
2415

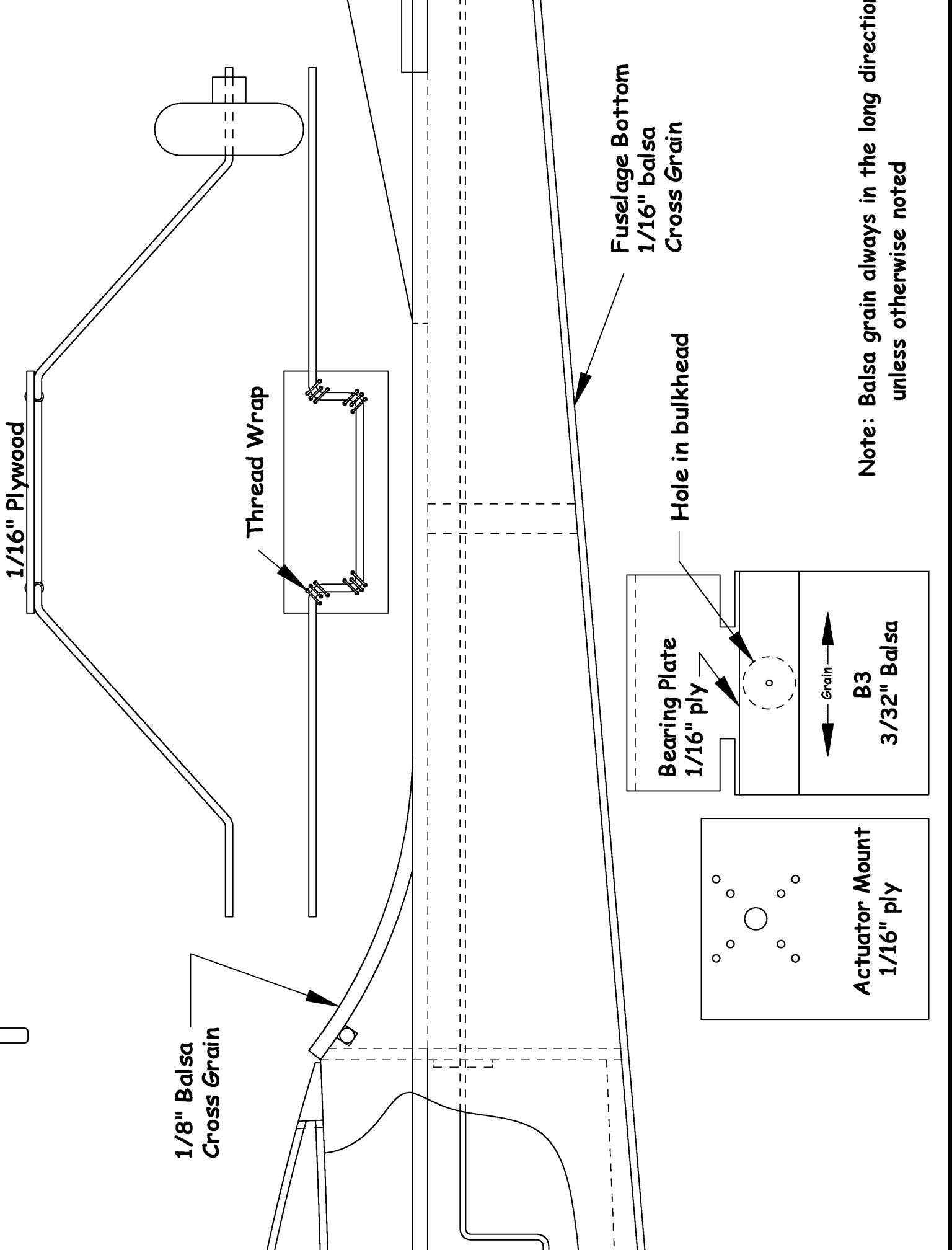
2°

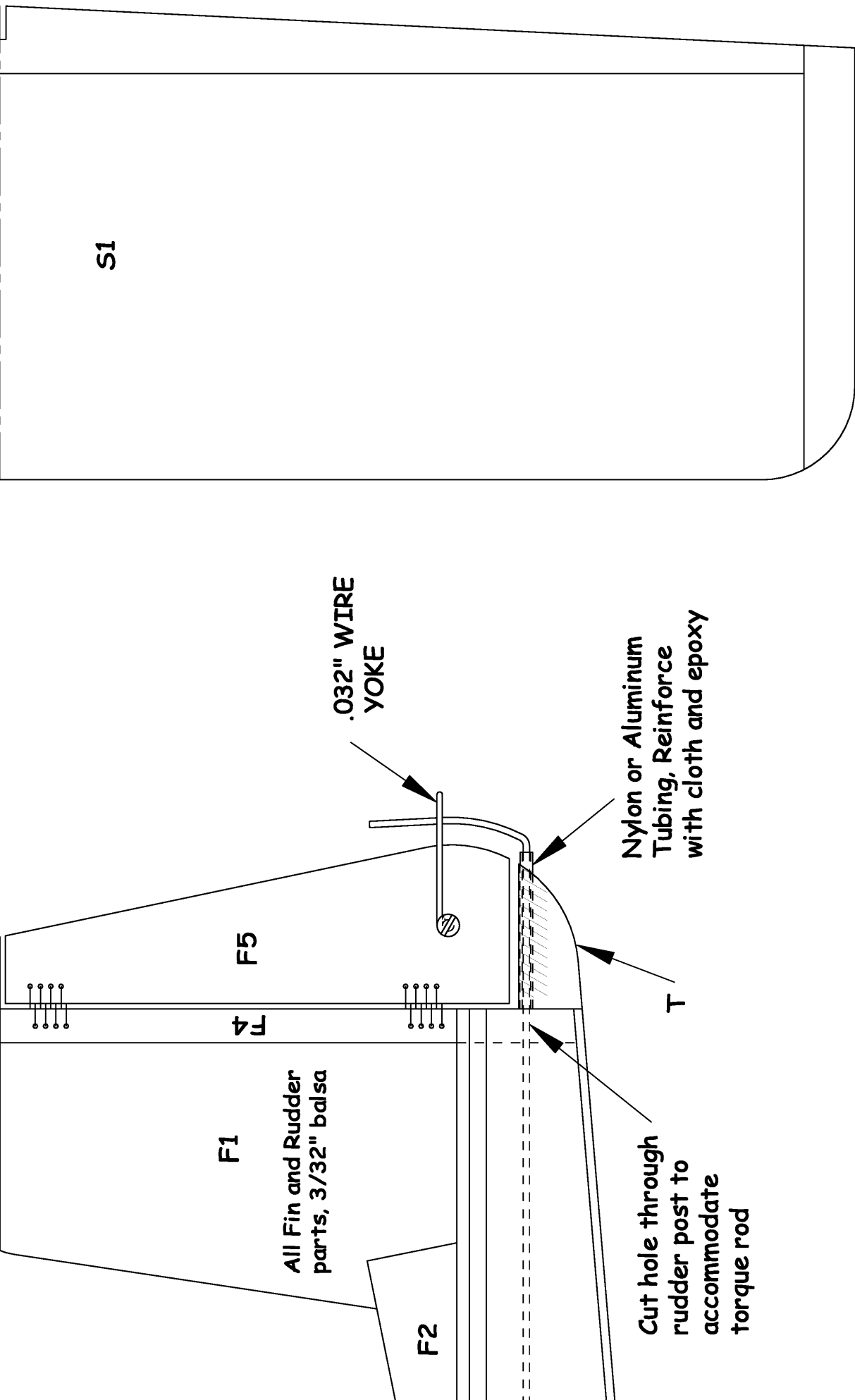
CG Range

**Ace Baby Twin
Actuator shown**

1-1/4" wheels







DICK'S DREAM

Designed by: Owen Kampen
 Was Kitted by: ACE R/c
 Cad by: Gene Rock