

Capricorn is an attractive model that is fun to build and fly. If built step by step from the plan this model will give you many hours of enjoyment.

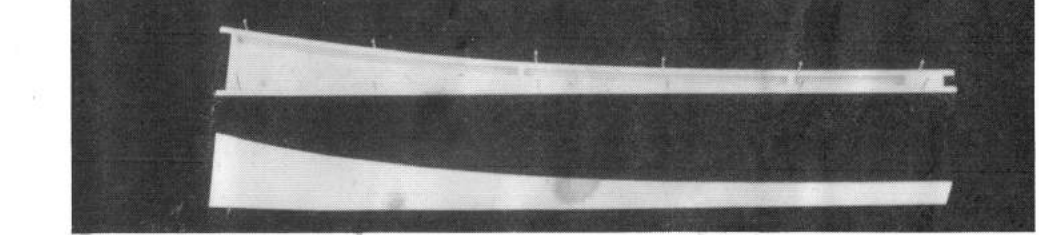
GENERAL BUILDING NOTES: Before you begin building it is important to look at the plan carefully, reading and understanding the instructions before starting assembly. A good flat building board will enable you to build quickly and squarely. As needed remove each piece from its balsawood sheet with the help of a sharp pointed hobby knife.

AEROFLYTE Kit No 236

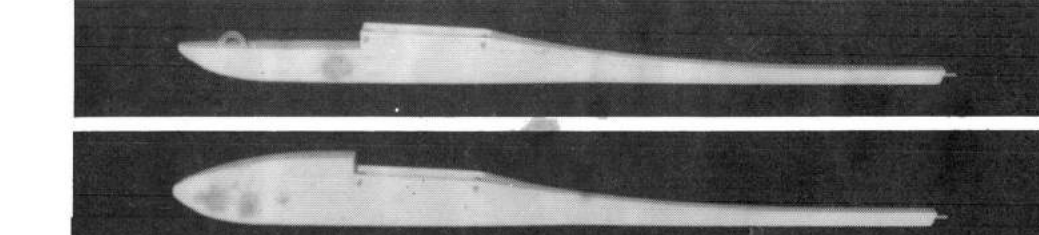
CAPRICORN

1000mm Wingspan Towline Sailplane

STAGE ONE: Tape the plan to a flat building board. Lay one front fuselage side **FS1** on the plan side view. Locate position of bottom block 1 and glue to the fuselage side. Formers **F2** and **F1** are then glued in place. (Note F1 is butted to the bottom block 1). When dry glue the remaining fuselage side to the assembly, leave till dry. Glue and butt the canopy floor 2 up to **F2** and on top of **F1** flush with the fuselage sides. Glue the partly shaped nose block 3 to the canopy floor and **F1**. (Note this block is later shaped to follow the canopy floor).



The rear fuselage section is built by placing one rear fuselage side **FS2** over the plan side view. Trim the two 3 x 10mm fuselage strips to approx size. Pin and glue both strips on edge to the **FS2**. (The top strip may need to be gently steamed to achieve the curve). It is important that the strips be kept at 90° to the fuselage side. The tail block 4 and the 3 x 10mm scrap fuselage braces are glued as shown. When dry, carefully line up and glue the outer **FS2** onto the assembly. Trim the top and bottom fuselage strips flush at both ends. Remove the rear assembly from the plan. Glue the fuselage wedges 5 in position, trimming flush with the fuselage when dry.



The front and rear fuselage assemblies are now glued together. Use masking tape to hold the front assembly tightly around the wedges. Place the fuselage over the top view to ensure correct alignment. Glue the wing supports 6 to the fuselage sides as shown, when dry drill two 3mm dia holes where pin marked on the fuselage sides and glue the wing dowels in place. Drill and glue the tailplane dowel in place.

To fit the three weight washers carefully carve out the inside of the canopy block 7 and nose block 3. Place the washers in position and glue the canopy block in place. When dry sand both blocks to the shapes shown in the top and side views. Finally bend and fit the tow hooks as shown and apply several coats of glue.

STAGE TWO: Cut the leading and trailing edges to the correct length and pin over the wing plan. Pin and glue the wing ribs 21 in position, cut the mainspar to length and glue in place. The two wing tips are cut to length and glued to the outside end of each wing. When dry sand the wing tips to finish flush with the outside rib, shape the leading edge to the section shown. The centre wing section is built by pinning the wing centre platform 8, the short lengths of leading and trailing edge over the top wing centre view. Then add the ply braces 9, 10, 11, the centre wing ribs 19 and the short length of mainspar. Use plenty of glue on this assembly making sure it is built accurately. When dry slide the wings onto the centre section, block up 64mm at each tip and cement all joining surfaces.

STAGE THREE: The tailplane and fin are built over the plan in similar fashion to the wing. Trim the leading edge, trailing edge and mainspar to the correct lengths. Pin the leading and trailing edge over the plan. Pin down all ribs 23, mainspar and glue all joints. NOTE: the 3mm gap is left between the centre ribs for the fin. Cut to length the tailplane tips and glue in place. When dry sand the tips to finish flush with the rib, and shape the leading edge to the shape shown. The fin is built by firstly gluing the two parts 13 together to form a 3mm part. When dry pin in position over the fuselage side view then cut to length the balsa strips and glue in position. When dry slightly round the leading and trailing edges. Fit the fin into the tailplane gap, and glue in place making sure that the fin is square to the tailplane.

WING COVERING: The most important thing to watch with tissueing is that as the tissue dries it does not twist the wing. Cut a piece of tissue roughly the size of the part to be covered, give the balsa frame a coat of dope then hold the tissue out tight and brush dope through the tissue onto the framework, pulling out any wrinkles as you go. Always tissue the bottom surface first. Trim off excess tissue and then cover the top side in the same manner, this time leaving about 10mm all around the edges to be doped and folded around the leading and trailing edges. Spray lightly with water and when dry apply one coat of dope all over. Cover the mainwing, tailplane and fin in this manner. Check your wings for twists, these are removed by twisting the area affected in the opposite direction of the twist while the dope is wet and allow to dry.

The wing block 14 can be shaped to fit the wing centre and the canopy outline and glued in place on the wing.

BALANCE AND TEST GLIDE—Rubber band the wing to the model using two rubber bands. The tailplane is held in position using one rubber band from the 3mm dowel over the tailplane, under the fuselage and back over the tailplane to the dowel. Balance your model at the point shown on the plan. Small amounts of plasticine may be added to the nose or tail if needed for final balancing.

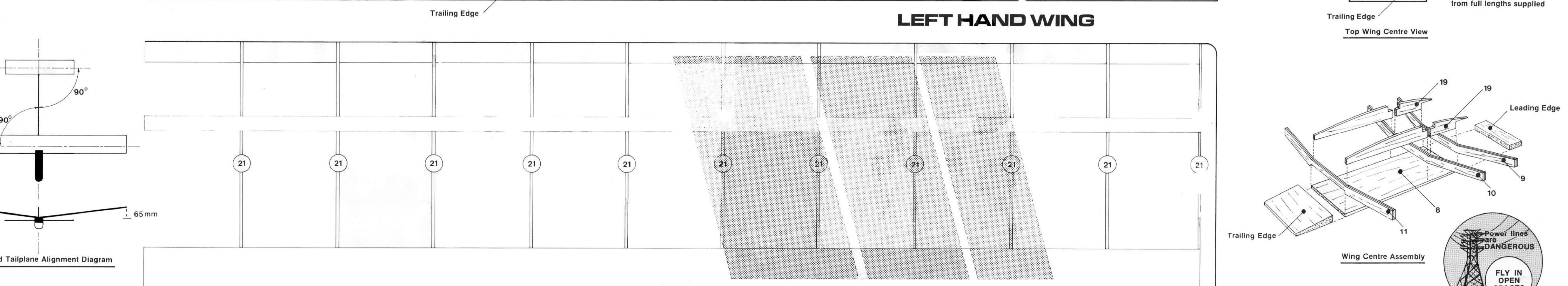
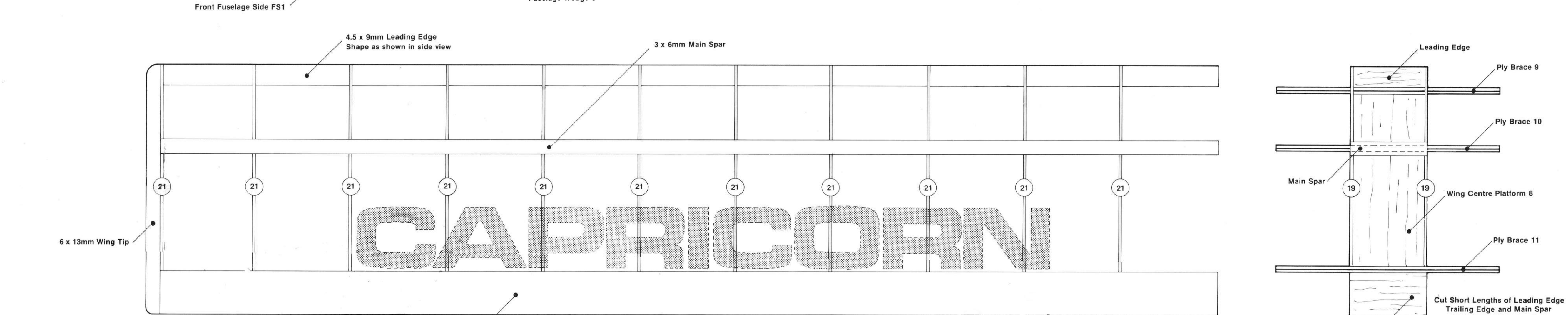
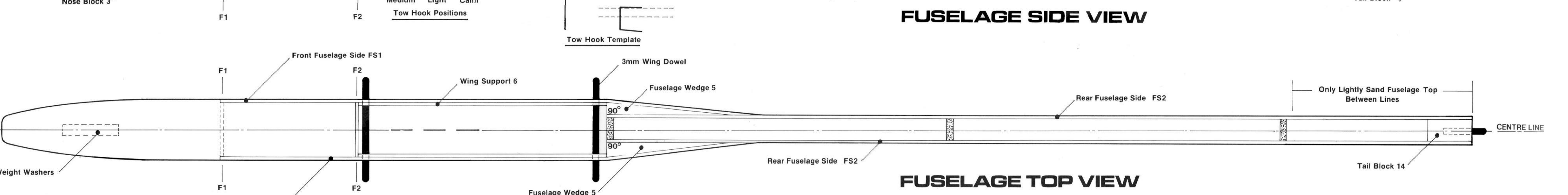
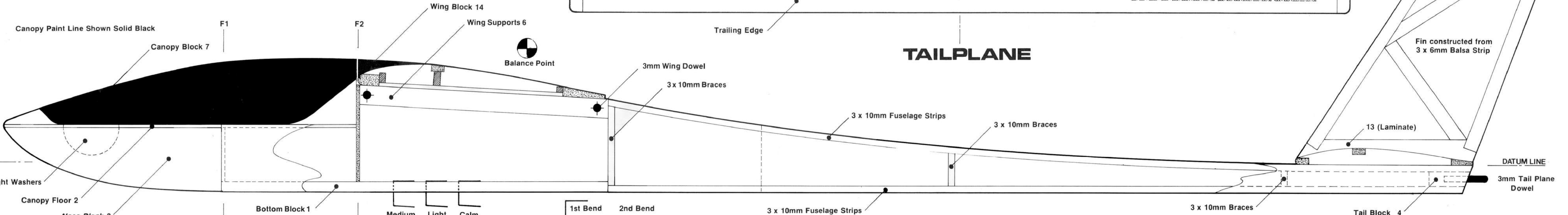
Never test glide your model in windy weather, wait for a still day. Hold your model slightly nose down, wings level and give it a firm push from nose height in to a light breeze. If the model stalls, pack up the leading edge of the tailplane with a scrap piece of 1.5mm balsa. If the model dives, pack up the trailing edge in the same way. Repeat the procedure and pack up further if necessary to obtain a smooth glide. To correct a turn, trim your model by bending down a little at a time the wing tip trailing edge closest to the centre of the turn. The model is correctly trimmed when a gentle glide slope is achieved.

FINISHING: Sand the fuselage all over. Apply one coat of dope to the model, when dry lightly sand and apply one final coat.

The water transfers can now be carefully applied. (refer plan views for positioning). Thoroughly clean the parts to which transfers are to be applied of dust, dirt and grease. Roughly cut out each transfer from its sheet. Place one transfer at a time in luke warm water and wet completely. Lay the transfer face up on newspaper until it slides freely on its backing sheet. Locate the position on the model and slide the transfer from its backing sheet to the model. Using a wet cloth work air bubbles from the centre to the sides. Once all air bubbles have been removed leave to dry for 24 hours. A light spray of varnish will permanently seal the transfers.

TOWLINE FLYING: Choose a fairly calm day and an open area free from trees and power lines. Ask a friend to hold the model slightly nose high, wings level at shoulder height with the tow line hooked up. Both begin running slowly into the breeze while watching the model. As it begins to lift your friend should release it. You continue till the model reaches the top of its climb. At this stage slow yourself down and release the model from its towline.

NOTE: The initial stage of the launch is where many models are damaged. If your model veers to one side during the tow, stop running and immediately release it. This is usually caused by running too fast or by a badly trimmed model. For best flying results trim your model for a slight turn after it leaves the towline. If trimmed correctly your Capricorn will give you many hours of pleasure.



TRANSFER POSITIONS SHOWN: [Diagram showing transfer positions]

