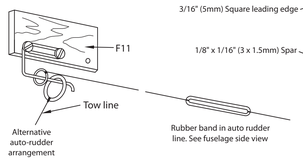
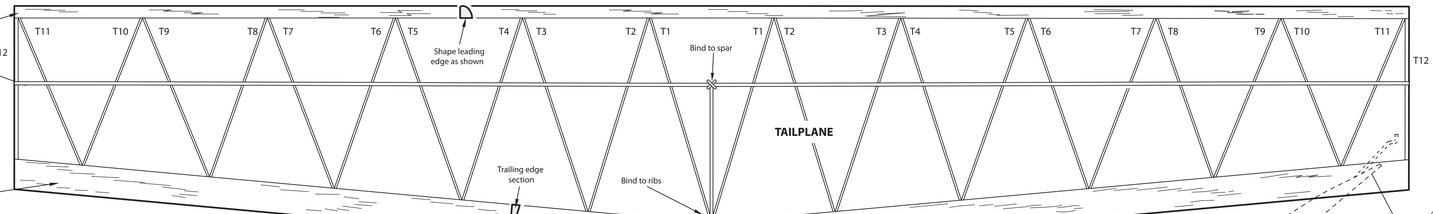
KEIL KRAFT

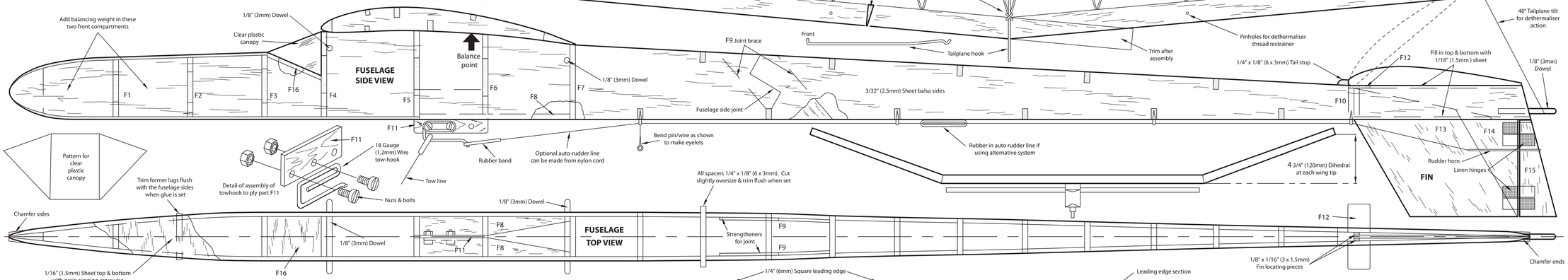
Caprice

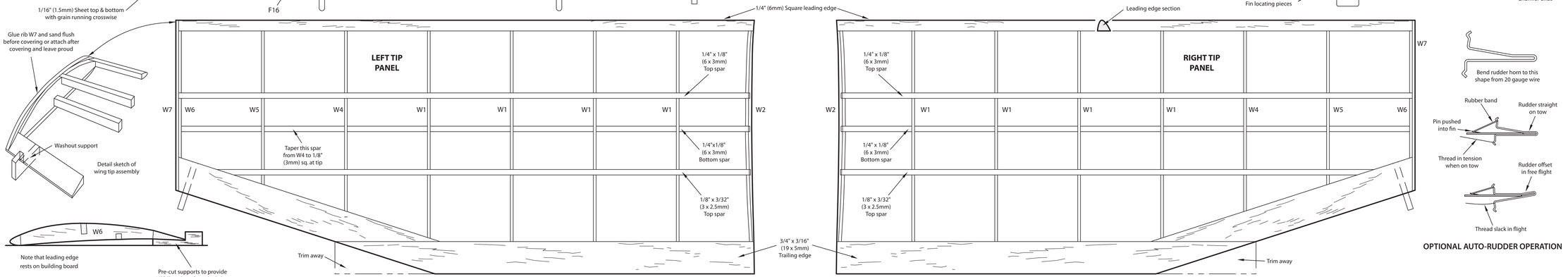
Part No: A-KK1010

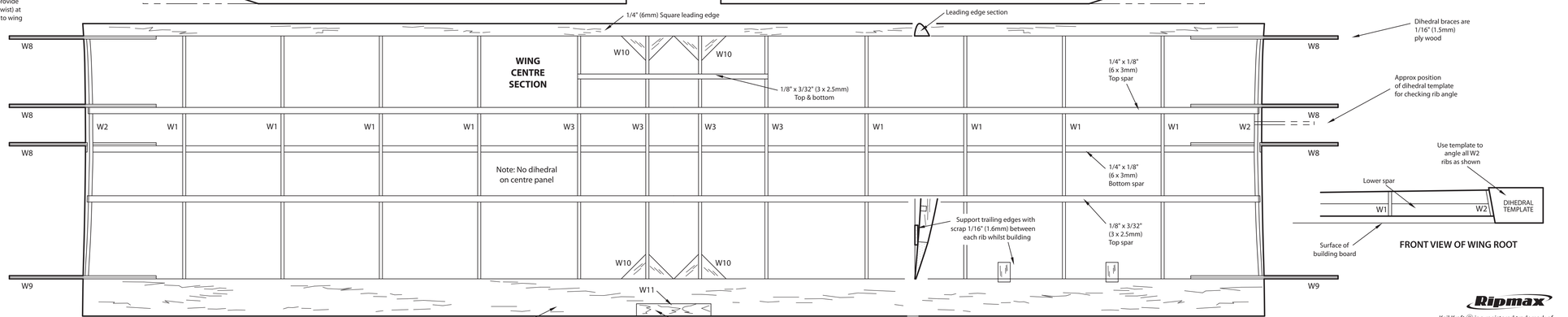
1,295mm (51") Wingspan Towline Glider
Designed by Neville Willis

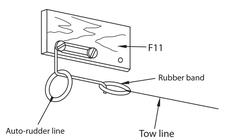












TOWING & AUTO-RUDDER ACTION

When towing the rubber band at the front end of the auto-rudder line is looped over the bent end of the towhook. This pulls the rudder straight. When releasing from the towline the towline ring forces the rubber band off the towhook and the rudder is pulled to the right.

Only Suitable for Ages 14+

To complete the model as illustrated you will need to purchase further items such as tools and materials. Skill & patience required.
Choking Hazard – Contains small, keep out of reach of children.

General Tips

During the build we suggest covering the plan in a clear plastic film to protect the plan as you build. You will need various hand tools, glues and other materials to complete this kit. These instructions are a brief overview of the major steps involved in building your Caprice kit. Please read them through first then and study the plan diagrams/notes to guide you through the build process in more detail.

FUSELAGE

Join the fuselage side pieces to make two complete fuselage sides, and when the glue has set, add the F9 splice braces, taking care that they will both be inside the fuselage when it is assembled. Glue the F5 and F6 former parts together as shown on the plan and allow to set. Using formers F4, F5, F6 and F7, join the two fuselage sides, taking care that they are accurately aligned. Next join the rear ends of the fuselage, holding them together with a bulldog clip or spring type clothes peg until the glue has set. Join the nose of the fuselage, using a piece of ¾" x 3/16" T.E. section as shown on the plan, once again clipping the sides together until set. Formers F1, F2 and F3 should be added at this stage. It should be emphasised that the nose formers must be well glued and the whole operation performed swiftly to allow for differing hardnesses of the balsa sides. It may be necessary to juggle slightly with the sides and formers to obtain a truly symmetrical nose entry.

Now add formers F9 and F10 and the ¼" x 1/8" spacers from the trailing edge position rearwards. Cut these slightly over size and trim to an exact fit when perfectly dry. Bend the 18 gauge tow hook to the shape shown on the plan and bolt to the front two holes in F11, which is then glued into formers F5 and F6. Add the two F8's and the wing retaining dowels.

Drill the fuselage rear and fit the tailplane securing dowel. Now add F16 and sheet the top of the nose and the bottom of the fuselage from F2 to F5. Glue the fin F13 in place, making sure that this is vertical and true. Insert scrap 1/16" sheet between the fin and the bottom of the fuselage sides. When this assembly has set, the rudder F14 can be hinged in place as shown on plan. Bend the rubber horn to shape and attach to the rudder.

If you choose to fit a dethermaliser then fit this now. Sandpaper the whole fuselage with fine sandpaper. and trim the clear plastic canopy to shape ready to fit after covering.

WING

Start by building the wing centre section. Cut all spars to length and pin the leading edge in place on the plan. Position the trailing edge and pin in place, packing up the front edge 3/32" (See plan). Glue the ribs in place, remembering that the end ribs (W2) must be set at an angle, use the dihedral template on the plan to ensure accuracy. The dihedral braces W9 and the W8 braces at the leading edge position should be added at this point. Now add the top spars, fitting braces W8 to the front edge of the front spar. When set, remove the structure from the plan and add the bottom spar and the remaining two W8 braces. Add the short spar across ribs W3 and the W10 gussets.

The two tip panels are built in a similar manner. The trailing edge should be assembled first, packed up as shown to give the necessary washout to the tips. The tip fins (W7) are not added until after covering. Remove the tip assembly from the plan when set, add the bottom spar and trim the trailing edge to shape at the joint. The tips can now be added to the centre section. Trim the spar ends to shape then liberally glue all joints and mate up with the centre section. The dihedral under each tip should be 4 3/4" (120mm). Carve and sand the leading edge to the shape shown and lightly sand the entire structure. Cut a small piece of 1/64" ply for the trailing edge as shown on the plan. If you attach this after covering then this will help to prevent the wing bands from damaging the trailing edge balsa.

TAILPLANE

Although of Warren girder construction, this is very easy and quick to build. Cut the trailing edge to shape and pin to the plan, gluing the joint well. Pin the leading edge in place and add all ribs, working from the centre outwards. When dry, the spar can be added. Remove from plan, shape leading edge and lightly sandpaper the whole assembly. Bend the tailplane hook and bind well to the spar and trailing edge, rubbing glue into the thread for added strength.

COVERING

Covering with tissue is simple if you follow the instructions carefully. Do not attempt to cover the wing with one piece of tissue, use at least six pieces, three for the top and three for the bottom. When covering the wing, take care that the tissue is stuck to the underside of all the ribs to give the required under-cambered section. Using tissue paste will help to position the tissue before applying dope; alternatively you can secure the tissue with a small amount of neat dope around the edges of the structure. Attach the tissue to the trailing edge first and carefully pull over to leading edge. Pull it taut but do not stretch it excessively or the tissue will tear. Smooth tissue down on to all pasted edges and trim surplus away with a knife. When all parts are covered and paste/dope dry, either spray the surface lightly with water or hold in the steam of a kettle. On drying the tissue will tighten and most if not all of the wrinkles disappear. To strengthen the tissue the surface needs to be carefully coated with special modelling dope, obtainable from your local model shop. Full instructions on how to use will be found on the tin, note that the dope will need to be reduced with thinners to avoid over shrinking and warping/damage. Cover the tailplanes and fuselage in a similar way taking care to keep the tissue tight and finish with thinned dope. When the wing has been covered, glue the W7 tip fins into position.

FINAL RIGGING AND TRIMMING

Assemble the model, holding the wings on with rubber bands hooked over the front wing dowel, passed across the top of the wing and hooked on to the rear dowel at the opposite side of the fuselage. To mount the tailplane, pass a rubber band on to the tailplane hook, bring forward across the tail, round the fuselage and back across the tail to the hook. This will put the tail up into the dethermalised position and the thread strainers should be fitted so that the tailplane is at an angle of 40° to the fuselage. Pull the tail down into the flying position and hold by means of a band between the tailplane hook and the rear dowel.

Carefully check the model and see that there are no warps. The success of the model depends upon it being free from warps and rigged squarely. Remove any warps that may have occurred by holding near a gentle source of heat and carefully twisting the warps out. DO NOT FORGET THAT MODEL AEROPLANES ARE HIGHLY INFLAMMABLE.

Add F12 and the 1/8" x 1/4" tailplane stop, making sure that the wing and tailplane are perfectly aligned. Make eyelets from pins, insert in the fuselage where shown and connect up the auto rudder. Two systems are shown on the plan, either of which will prove satisfactory. Check that the auto rudder is working correctly. With the model assembled, add weight to the nose of the model until the model balances at the point shown on the plan.

TEST FLYING

Hand launch the Caprice aiming for a 100 foot (30m) diameter circle to the right. Lock the auto rudder in the straight position and trim the tailplane until a slight stall is apparent. The turning circle should just negate this stall. The tow hook position given on the plan should prove satisfactory and give a straight tow. However, if the model weaves from side to side, remove the hook and re-bolt into the two rear bolts in F11. No further remedy should be necessary. If there is a violent tendency to turn in one direction when on tow, this will either be caused by a warp, or the fin will be found to be out of line.

With a model of this type, it is important that it should be moving fast when it leaves the tow line. When properly trimmed, this results in a slight stall with the model flicking off to the right at the top of the stall. Use strong nylon cord for your tow line (fishing line), a 100 feet (30m) length being suitable for general flying. For contest work, the line length should be 164 feet (50m). From a line of this length, the Caprice should regularly turn in flights of about two minutes without thermal assistance.

Ripmax