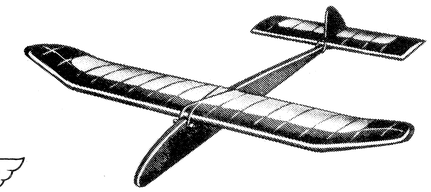
CIRRUS KIT NO 127

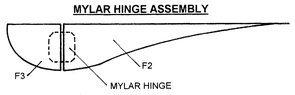
CIRRUS

HIGH PERFORMANCE

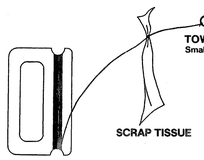
43 INCH SPAN TOWLINE SAILPLANE



MYLAR HINGE ASSEMBLY

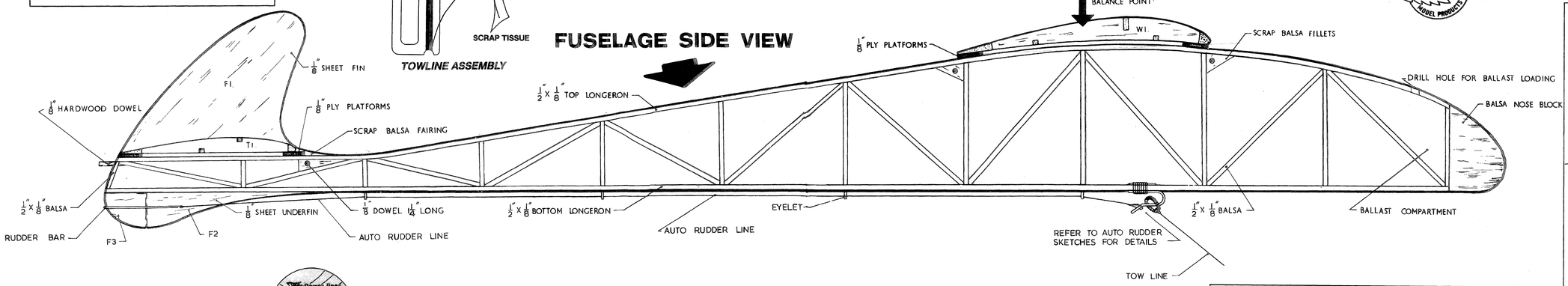


The rudder F3 is attached to the tail skid F2 using a mylar hinge. From the thin mylar sheet supplied cut out a hinge to the size shown dotted line above. Cut a thin slot in the front edge of F3, and rear edge of F2, then using a little glue, push the hinge into both F3 and F2 and leave to dry. (Leave a small gap between F3 and F2 to allow F3 to Pivot approximately 20 degrees)



TOWLINE ASSEMBLY

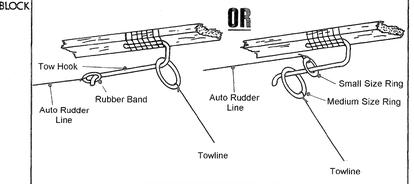
FUSELAGE SIDE VIEW



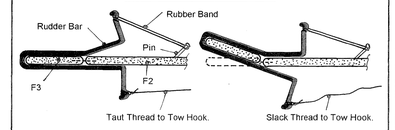
CIRRUS AUTO RUDDER

The Cirrus Auto Rudder allows your model to tow up straight, when the model reaches the top of its climb the towline is released and the rudder automatically angles to one side, putting your model into slow continuous turn. This slow turn will help your model land near to the launching site. This may avoid possible loss of your model in ideal conditions.

TOW HOOK SET UP



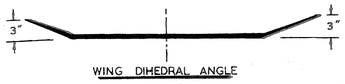
AUTO RUDDER ACTION



Taut Thread to Tow Hook
Rudder Straight
Model Flys Straight.

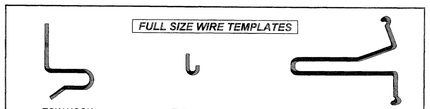
Slack Thread to Tow Hook
Rudder at Angle
Model Flys in Circles.

Note: Rubber Bands and Tow Hook Rings are Not Supplied.

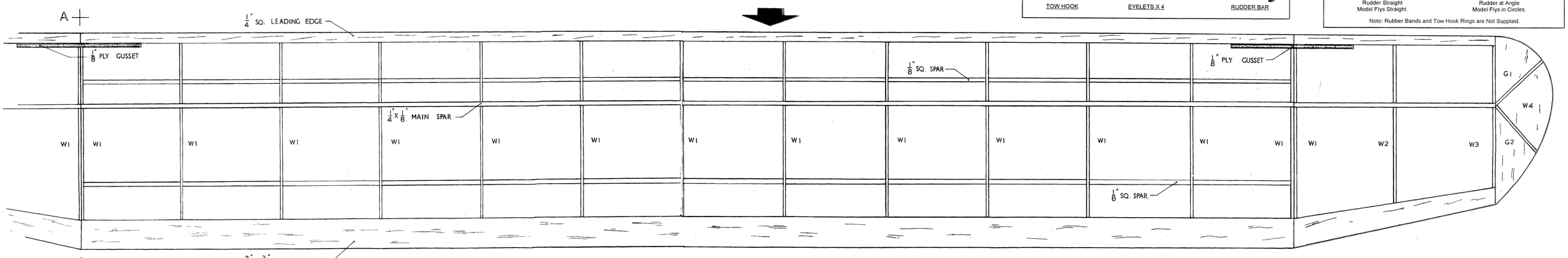


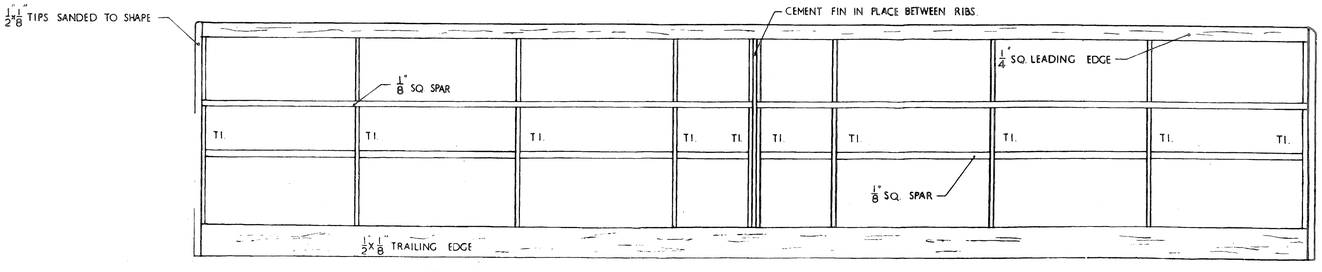
NOTE – SHAPE LEADING EDGES OF WING & TAILPLANE AS SHOWN ON FUSELAGE ASSEMBLY.

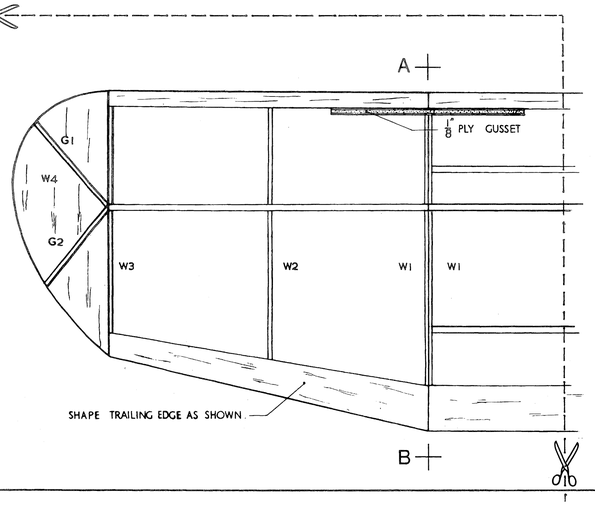
FULL SIZE WIRE TEMPLATES



WING ASSEMBLY







TAILPLANE ASSEMBLY

BUILDING INSTRUCTIONS

Cirrus is a great looking model that is fun to fly and if built step by step from the plan 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. When building remember the magic word is 'lightness'! The model must be built 'straight'. Wings, tailplane, and rudder should be flat, without twists. Viewed from the top, one wing tip should be no further forward than the other. As seen from the rear, the tailplane should not be tilted in relation to the wing.

FUSELAGE Pin the top and bottom longerons on edge over the plan then fit all the vertical and cross braces. When dry remove from the plan and add the noseblock, balsa fillets, wing dowels, ply platforms, underfin F2 and the tow hook.

WING Cut along the dotted lines on the left hand wing tip plan. Line up the location marks 'A' and 'B' on the main wing plan - use clear tape to hold the left hand wing tip plan to the main wing plan. The wing is built in three sections directly over the plan then joined together. Firstly build the flat centre section by pinning down the leading edge and then placing the ribs W1 into place, fitting them onto the two bottom 1/8" x 1/8" spars as you go. As the wing is undercambered these spars will be raised slightly off the plan and may have to be packed with scrap balsa to keep them in place. Finally pin the trailing edge into position and cement all joints. When dry trim off all spars and remove from the plan. Now build the two wing tip sections, fitting the wing tips W4 and gussets G1 and G2 but do not cement the end rib W1 into place. Join the wing tip sections to the main centre section, trimming the spars to an angle and cementing the ply braces into position as shown in diagram 1. Now fit the end W1 ribs.

TAILPLANE This is built directly over the plan making sure that a 1/8" gap is left between the centre ribs for the fin which is fitted after the tailplane is completed and tissue covered. The tailplane tips are cut from 1/8" x 1/2" balsa and sanded to shape after fitting.

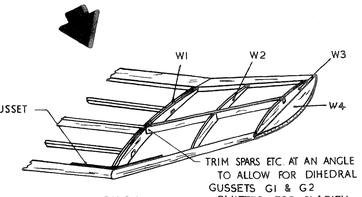
FINISHING AND ASSEMBLY Lightly sand the wing, fin and tailplane and fuselage all over. Cover the wing in the following order, bottom centre then bottom right tip, bottom left tip then top centre, top right tip then top left tip.
Cut a piece of tissue roughly the size of the part to be covered, give the balsa frame a coat of dope then hold the tissue out tight and brush dope through the tissue onto the frame work, 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 leave to dry. Coat the centre wing top and bottom with dope followed by one more coat of dope. Lay down scrap strips of balsa on the building board and pin the centre wing over the strips and leave to dry (to help reduce warps). Repeat process for right and left hand tips, fuselage, fin and tailplane then cut away the top 1/8" x 1/8" tailplane spar and cement the fin into place. (Make sure it is 90 to the tailplane.)
Check your wings, fin and tailplane for twists. These are removed by twisting the area affected in the opposite direction. Apply more dope and allow to dry.

TEST GLIDE Attach the wing and tailplane to the fuselage with rubber bands and add ballast until the model balances at the point shown.
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 shoulder height into a light breeze. To cure a stall, trim your model by adding weight to the nose. To cure a dive, trim your model by removing weight from the nose or adding a small amount to the tail.
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.

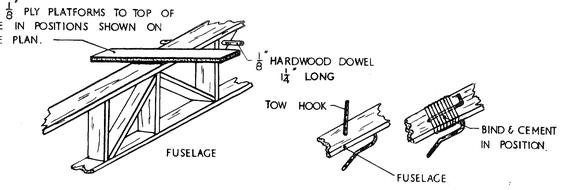
TOWLINE FLYING Choose a fairly calm day and an open area free from trees, power lines, main roads, etc. Ask a friend to help you launch the model. Determine the wind direction. It is most important to launch your model directly into the wind. (A light streamer is useful in determining wind direction.) Ask a friend to hold the model slightly nose high, wing level at shoulder height. Connect the ring of the towline to the tow hook. Unwind the towline, walking directly into the wind. Both begin running slowly into the breeze while watching the model. As it begins to lift, your friend should release it. You continue running until the model reaches the top of its climb. At this stage slow yourself down and release the model from its towline. In light winds running will be necessary, in stronger winds a slow walk is all that may be needed.

NOTE: The initial stages 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.

WING CONSTRUCTION DETAIL



DIAG.1



DIAG. 2

DIAG. 3