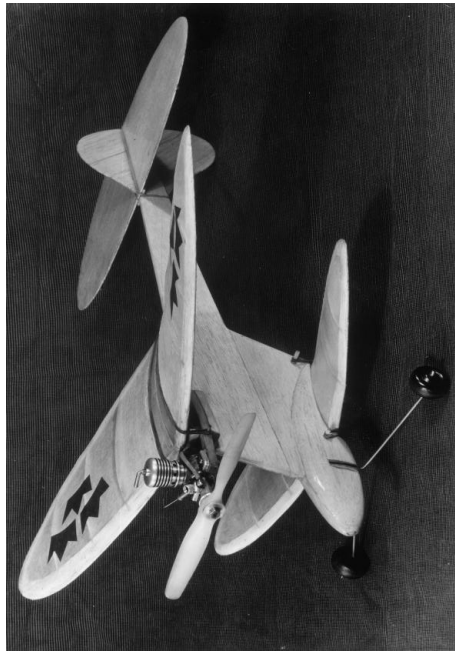


FULL-SIZE PLAN OF THE MONTH

MIMI

How small can a power model be? This pert little biplane by Ray Malmstrom, for the Frog 50 or E.D. .46, is only 16 inches span and length, simple to build, and easy to fly. Full details on the next four pages.



HERE is one of the smallest, most convenient to transport F/F power jobs yet designed, and moreover, a model that knows all about the business of getting upstairs in double quick time. Flying fun is a "built-in" feature of this little bundle of aeronautical mischief. So simple to construct that modellers with a little experience will get all the gen from the plan. Building hints that follow are really for the beginner, but read them just the same, then you'll see how easy MIMI is to build.

Here's the building list:

1/4 x 1/4 x 3/4 in. hardwood (engine bearers), 1 sheet 3 x 36 in. 1/4 in. balsa, 1 sheet 3 x 6 in. 1/4 in. balsa, 1 sheet 3 x 18 in. 1/4 in. balsa, 1 sheet 3 x 36 in. 1/16 in. balsa, 1 sheet lightweight Modelspan, 12 in. 16 S.W.G. wire, 6 in. 1/16 in. dowel (or matchstick pegs), small piece 1/16 in. ply, small piece 1/32 in. sheet balsa.

Trace the fuselage parts onto 1/4 sheet and cut out. If you have some 6 in. wide quarter stock, the fuselage can be cut in one piece. To the basic fuselage shape, add the two nacelle side pieces

and ply liners in the U/c slot. Cement in position the top wing rear mounting and the angled tail-plane platform. Add dowels and small rear peg. Before sanding the fuselage, add the engine mounting, drilled ready for your engine. Make sure it is level from side and front views. Add blocks A. Carefully sandpaper all over to the correct sections, checking that you have the necessary clearance in the nose for a 6 in. x 4 in. propeller. Cement the lower fin in place and the fuselage is complete except for dope and fuel proofing.

Now don't fade away at the prospect of having two wings to build, these are really easy to construct. Trace the L.E.'s onto 1/4 sheet and the T.E. of the top wing onto 3/16 in. sheet. Cut out, taking care that the notches for root ribs are at a slight angle. Add ribs, using the template for setting root ribs at the correct angle. When dry, raise the top wing tips by 1 1/4 in. and cement the centre ribs together. Sheet over the centre section with 1/32

sheet. Cover with lightweight Modelspan. The lower wing is built in the same way (with L.E. of 1/4 sheet and T.E. of 1/8 sheet), with the exception that 1/2 in. wide centre section is flat and there is 1 in. dihedral from root ribs to the tips, see sketch.

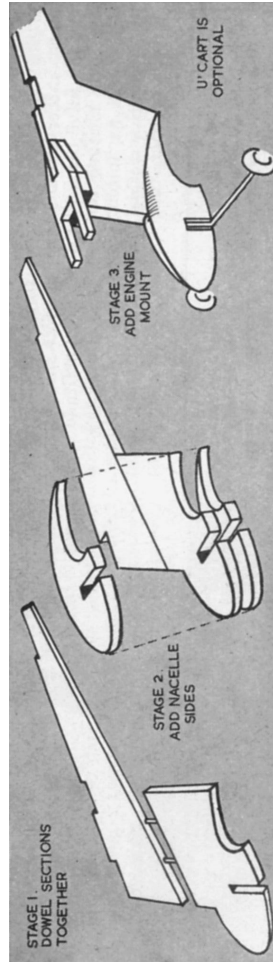
No model is really complete without an undercart, but relax, because if an undercart is an abomination to you, you need not have one. MIMI isn't a bit particular. It is certainly not indiscreet to say she makes excellent landings on her belly! If (being a stickler for decency!), you fit an undercarriage as shown on the plan, please see it is a *tight* fit into the U/c slot.

Cut the tail assembly from 1/16 sheet, and cement on the top portion of the fin, and the two small tip fins. Give the sheet parts of the model two coats of dope, sanding lightly between coats, and the wings one coat of thin dope. Finally go over the whole model with a coat of your favourite brand of fuel-proofer.

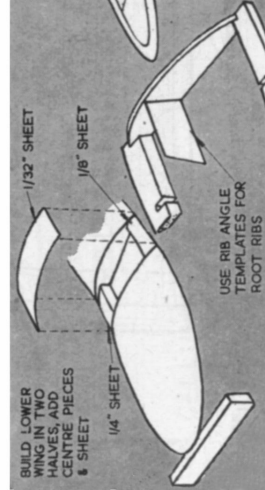
Check Mimi's balance, test glide over long grass, always launching with the nose pointed slightly downwards. Don't hurl the model, but launch smartly, as Mimi has a pretty fast glide. By means of packing (about 1/16-3/32) under the trailing edge of the tail, get the glide as shallow as possible, avoiding any tendency to stall, and see that the glide path is straight. A slight turn to the left is all right, but, and here quite seriously is a word of warning, avoid a turn to the right. Give the engine 1/32 packing for downthrust and throttle it down as much as possible, or fit the prop on back to front for the first test flights.

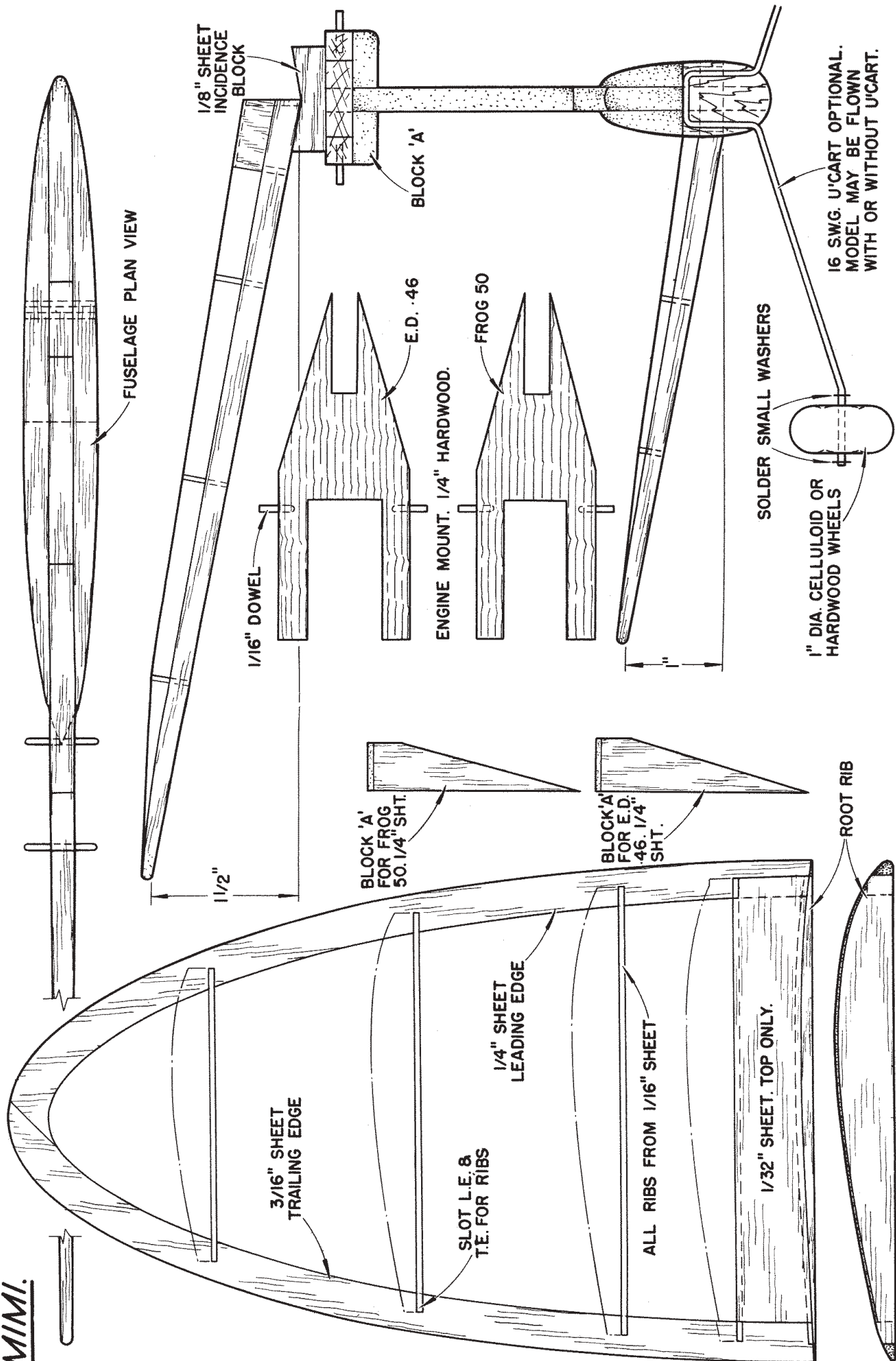
Good flying to you, and don't forget your name and address on your model—this diminutive job flies an awful long way on half a tank of juice, and I'm still looking for the original Mimi!!

FUSELAGE STAGES

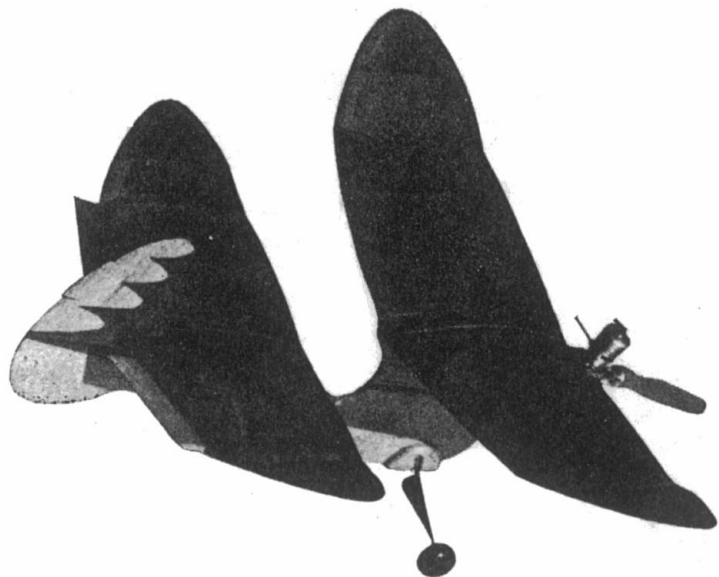


WING DETAIL





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MARTIAN

by Ray Malmström

**Strange but true,
this little tandem
wing job really flies. Any $\frac{1}{2}$ c.c.
motor will supply ample power.**

I CAN almost hear the aeromodelling wits murmuring, on seeing the *Martian*, "evidently a case of what you lose on the tailplane (non-existent!) you make up for on the wings" Well, frankly, that's about it, and when it comes to real flying, this tiny tandem-wing certainly has no need of a tailplane. Simple to build, easily trimmed, it has proved to be a very stable little job in the air. The following notes are for the less experienced. To the old hand, resting for a while from the nerve racking business of building contest jobs, the *Martian* should present no problems, and provide just about a couple of evenings' light entertainment, before this diminutive little job is ready for the wide open spaces.

Fuselage

Trace the shape on $\frac{1}{8}$ sheet. The lucky ones with some 6-in. wide stock tucked away can do it in one go. Others with only 3-in. wide sheet handy must make the fuselage in two parts and dowel and cement them firmly together. Add the engine mount, drilled for the engine of your choice, noting here the right thrust (viewing model from the rear). Add blocks A, wing platforms, fin, and the four dowels firmly cemented in, for the rubber bands. Add to this the undercart blocks and $\frac{1}{16}$ ply inserts, if you are going to use an undercart. The undercart legs are simply bent from 16 s.w.g. wire with bushed balsa or celluloid wheels retained by small washers soldered on. Round off all edges. Give two coats of clear dope and lay aside.

Wings

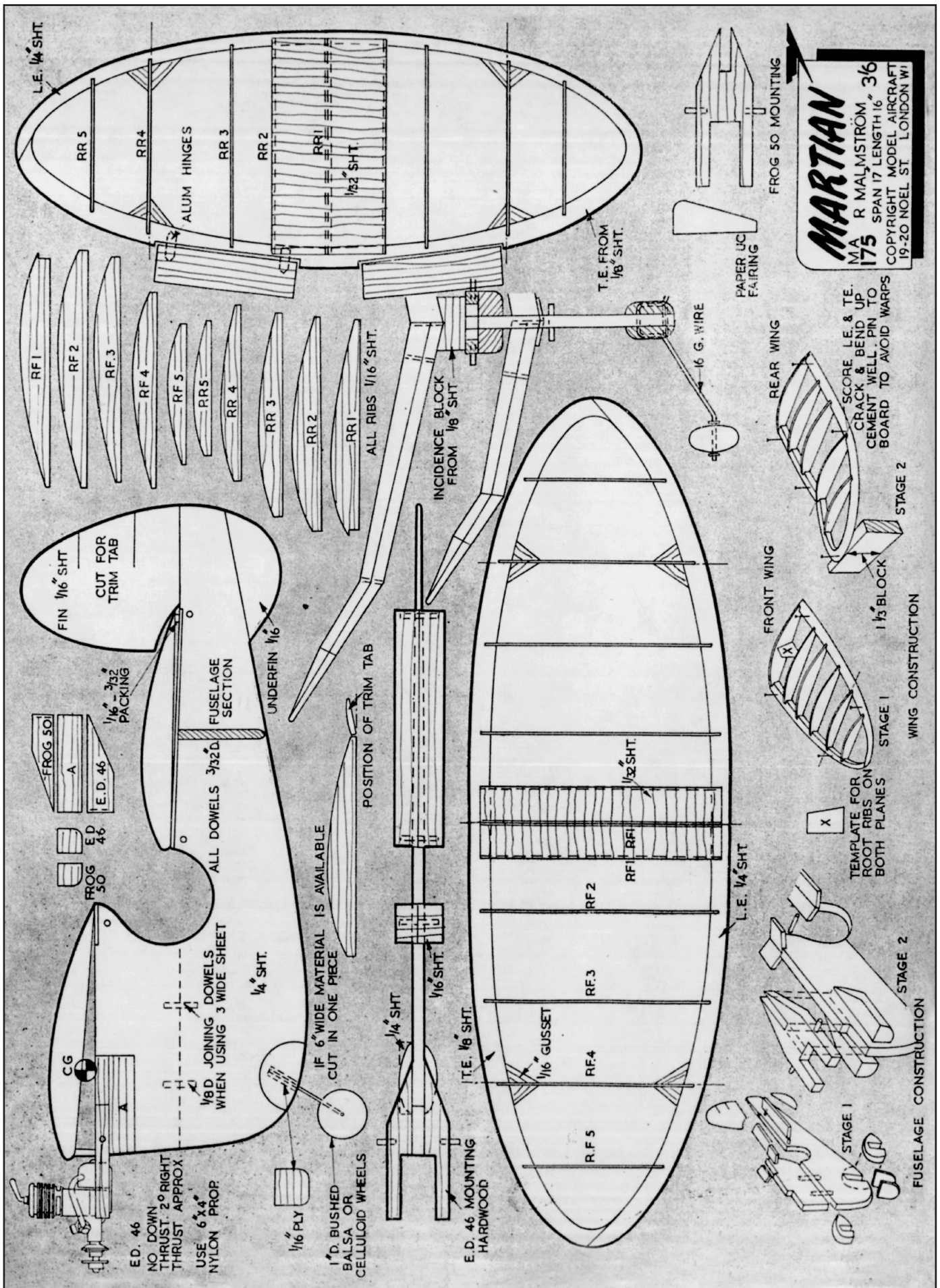
Front and rear wings are built in exactly the same way. Leading and trailing edges are cut from sheet. Pin these over plan and add ribs. Set root ribs by means of the template X, provided. A V-cut is made on the leading and trailing edges

at the points shown, and the outer panels raised by $1\frac{1}{2}$ -in. Cement generously at crack, and add gussets. Join right and left wing panels together, supporting at correct angles until dry. Sheet with $\frac{1}{8}$ the two centre sections. Cover, water shrink, and give one coat of clear dope. Please see that your wings are absolutely true, and free from warps. This is important. Add the trimming elevator tabs to trailing edges of the rear wing, with aluminium hinges. Cement incidence block (from $\frac{1}{8}$ sheet) to L.E. of front wing. Decorate model with either coloured tissue or trimstrip, and give one coat of fuel proofer. Bolt engine complete with 6 x 4 propeller in place, assemble wings and balance model at point indicated.

Flying

Choose a calm day and a field of long grass for your test flying. The model is usually flown without the u/c, and the settings that produced a very satisfactory flight performance with the original *Martian*, are detailed on the plan. Slight engine right thrust, with the trim tab on the fin offset to the right (model viewed from the rear) about $\frac{1}{8}$ in. The elevator tabs on the rear wing are bent up to the angle shown. The model is very sensitive to these elevator tabs, and they should be adjusted a little at a time. When the correct setting has been found, they should be locked by cementing. A $\frac{1}{16}$ - $\frac{3}{32}$ packing under the trailing edge of the rear wing was found to be necessary. Naturally the settings will alter from model to model but these from the original model can serve as a starting point. Get the glide as shallow and as straight as possible, avoiding any tendency to stall. Violent turning on the glide can be cured by raising the wing tip on the inside of the turn by packing at the centre section. Throttle the engine down, or fit the prop. on the wrong way round for your first power flight. The engine torque should give a wide climbing turn to the left. With this first flight successfully logged you can begin to open up. One other thing, avoid power turns to the right. With this type of model they usually build up into a spiral dive.

With a $\frac{1}{2}$ full tank (FD46 engine) the *Martian* climbs to a dot in the sky. So either limit your power run, or start chasing. You have been warned!



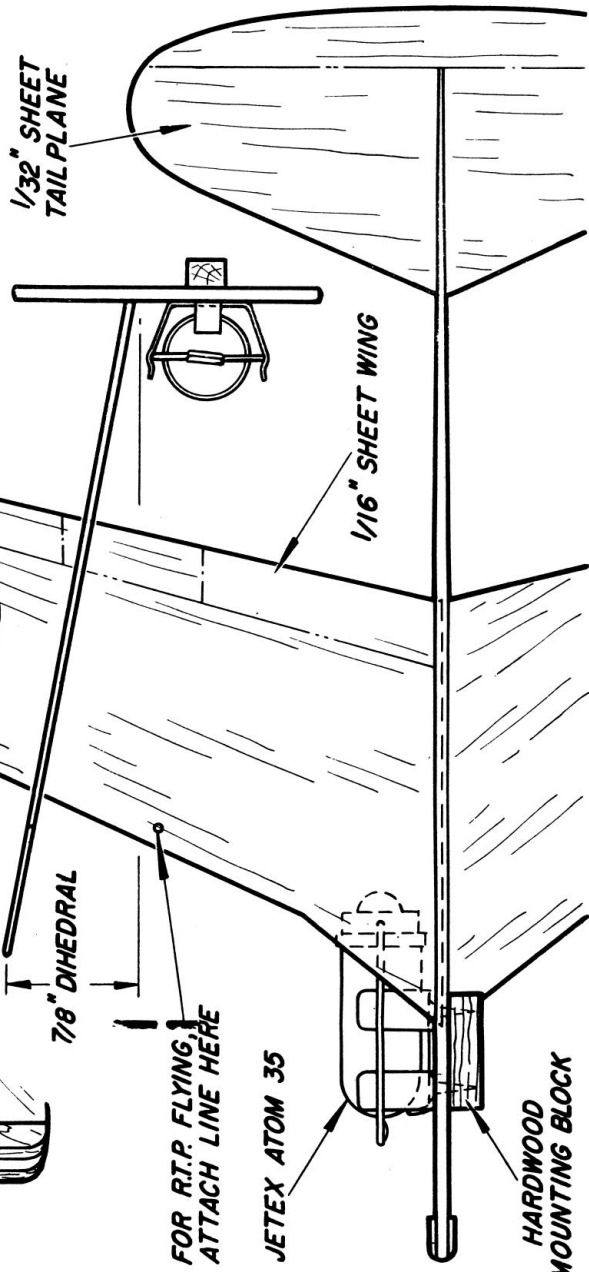
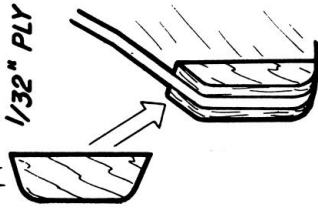
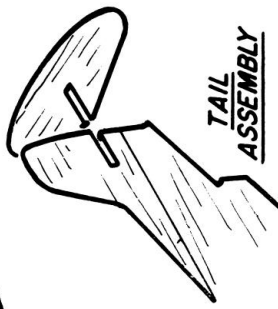
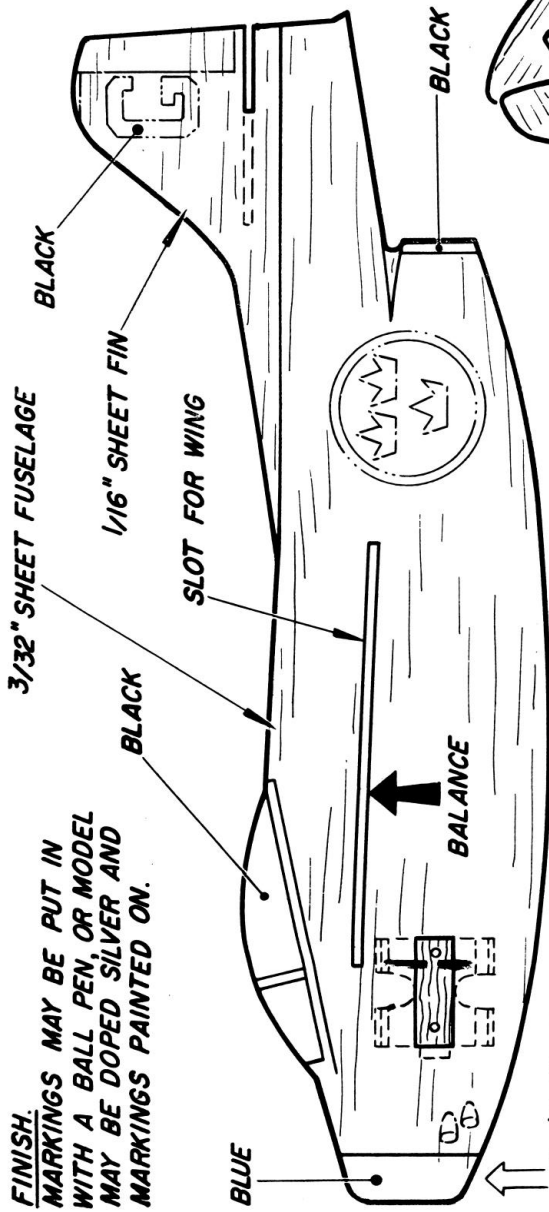
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SAAB J 29

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FINISH.

MARKINGS MAY BE PUT IN WITH A BALL PEN OR MODEL MAY BE DOPED SILVER AND MARKINGS PAINTED ON.



Round the pole or free flight, this chubby little profile scale model is a winner . . . by RAY MALMSTROM.

WATERBACH R.A.F. Station, the scene of the two most recent British Nationals, also happens to be within close distance of the Malmstrom abode and the place where Ray strives to indoctrinate younger Cambridge-shire with Art and like subjects at the Impington College. It so happens, too, that the large aerodrome is also an arrival point for visiting aircraft from overseas, and when a squadron of tubby swept-wing J.29's came in from Sweden last year, we fancy that Ray was rubbing his hands in glee. For as his name suggests, Ray is of Swedish extraction, and the sight of these remarkable fighters just called for balsa and razor blade.

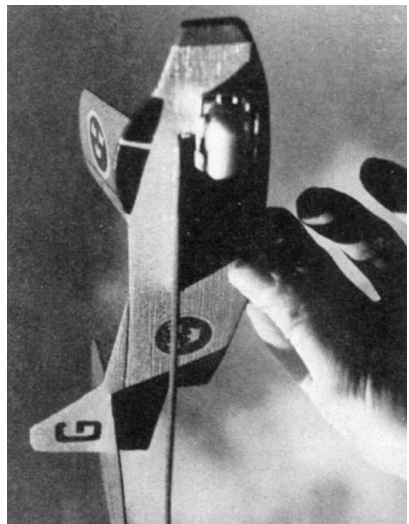
A newly-acquired Jetex Atom 35 was fitted to the nose for power, and within an hour or two of inception this profile scale job was airborne on its first of many a thrilling free-flight. Not satisfied with daylight activity alone, Ray tried it as a round-the-pole project in the living room, and smell and fumes notwithstanding in his jolly household, the J.29 showed a turn of speed that makes it closely resemble the full-size jet in establishing a world's closed-circuit speed record.

Some 1/32, 1/16 and 3/32 ply scrap and a small hardwood block are all that you will require, and construction begins with transferring the fuselage profile, less fin, on to the 3/32. Silver out the wing slot, and cement on the Jetex block, then add the ply reinforcing at the nose and fit the 1/16 fin.

The wing is cut in two separate halves, which are fitted to the fuselage slot and dihedralled at the same time. Be liberal with the cement at this stage and also see that the tail fixing is secure. A coat of Sanding Sealer, then silver dope and painted National markings complete the "29" and with an Atom 35 in the clip we are ready for a glide test.

Take it over long grass and check through a few straightforward hand launches. Plasticine added at nose or tail will find the best trim; but Ray's original fits perfectly without any additional ballast. A slight warp to lift the leading edge on the righthand (starboard) wing will induce a gentle left turn in the very fast glide, and violent banking to either direction can be cured with lifting the leading edge of the wing on the inside of the bank. Now try a power flight and launch into the natural turn as the Atom 35 begins to develop thrust. You'll be surprised at the performance, it's terrific!

Size of the hand gives a good impression of the finished proportions of this baby all-sheet scale job. Build it in a couple of hours, and you are assured of weeks of sippy flight performance with a Jetex Atom 35. Fit a "50" unit and you'll be set for some realistic aerobatics.



BAMBINETTA

FULL-SIZE PLANS OF A
DIMINUTIVE FREE-FLIGHT
JOB FOR THE BAMBI DIESEL

by Ray Malmström

WHEN I lovingly caressed my Bambi diesel for the first time I knew I had to wrap something very special around this minute bundle of power. At the risk of having my head referred to as being rather larger than normal size (!) I think Bambinetta is that "something." An all up weight of less than 2 oz. ensures that your Bambi won't have to tear its heart out hauling Bambinetta aloft, and there is no fear of bending that precious metal prop. on landing.

The fuselage is from medium hard $\frac{1}{8}$ sheet thinned to $\frac{3}{32}$ at the rear. Cover the cut-out portion with lightweight Modelspan. Cement in position the $\frac{1}{8}$ ply engine mount supports, and the rear wing mount. Add the pod sides, made from $\frac{1}{8}$ sheet, and round off all edges with fine sand-paper. Complete by adding wing pegs, and give two coats of clear dope after water-stretching the tissue. Fuel-proof the engine mount.

The wings need little explanation. Check for correct polyhedral angles and do be sure your wings are free from warps. Water-stretch and give one coat of clear dope. Fuelproof the three centre panels.



Add the tailplane mount to rear of fuselage. The fin is cut from sheet; note the small trim tab. Tailplane is perfectly conventional, and of simple construction. Give fin and tailplane one coat of thin, clear dope.

Flying

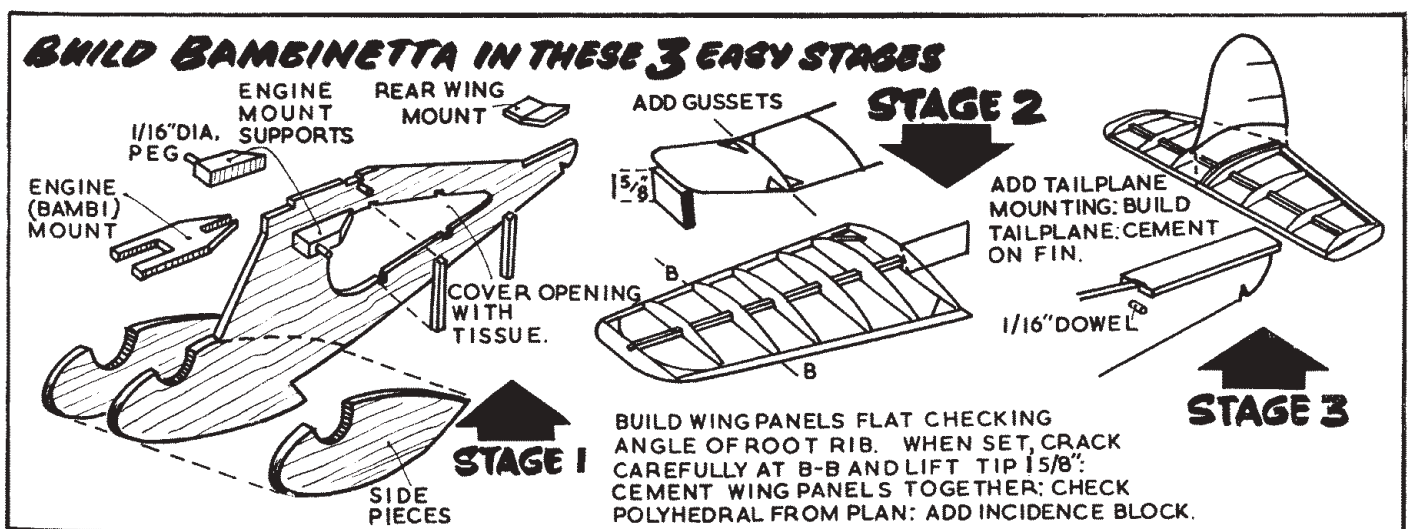
Make sure your balance is correct (see plan); original balanced without any weight adjustment, and has $\frac{1}{8}$ packing under leading edge of tailplane. Test glide over long grass. Obtain a reasonably flat glide, without any suspicion of a stall, or turn to the right. Then with your Bambi giving less than full revs, try your first power-on flight. A gentle climbing turn to the left should result. Avoid a sharp left turn by slightly offsetting the fin. Do make all adjustments gradually. On full

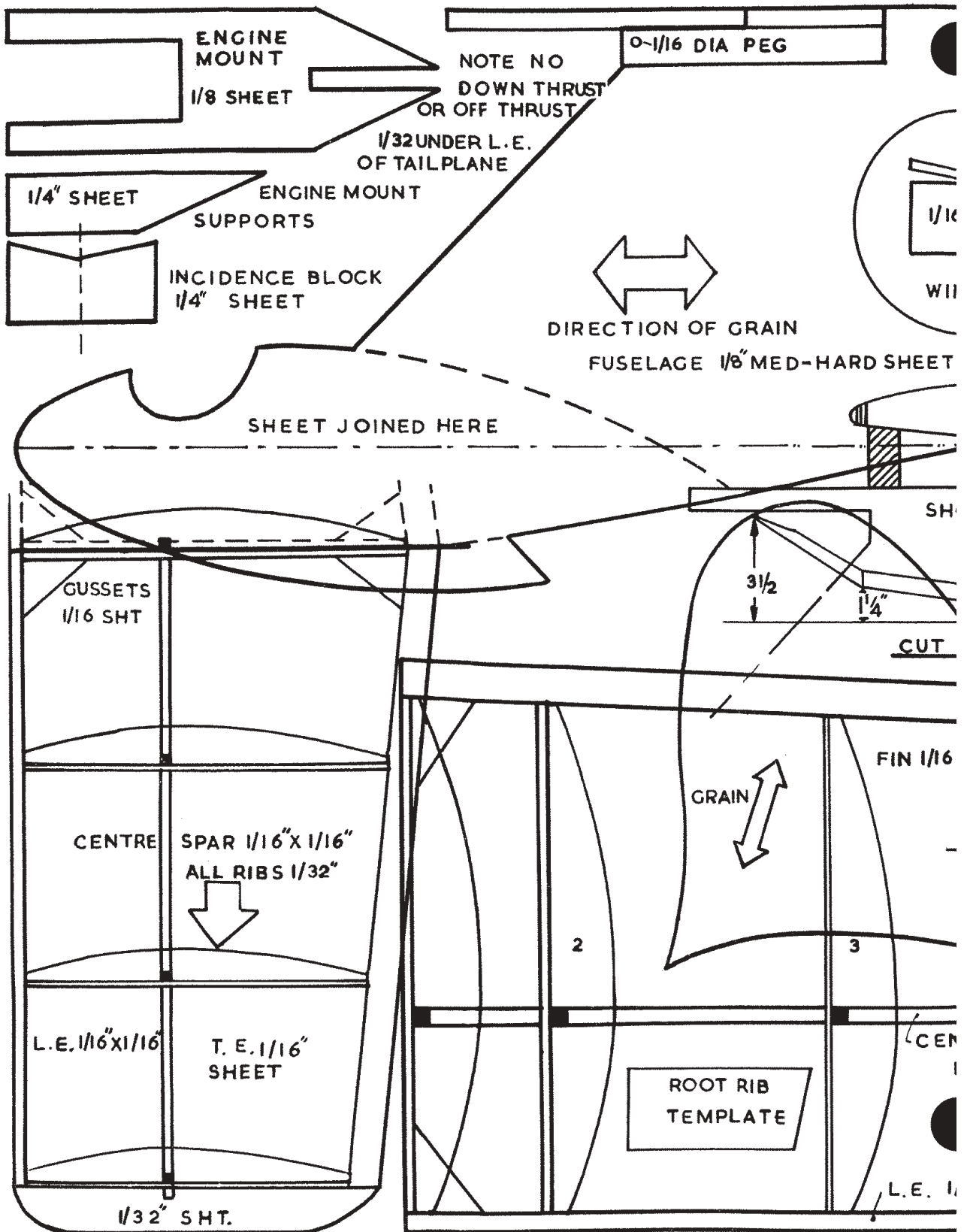
power, Bambinetta should fly into a left hand climbing circle. When the engine stops, the model should settle into a flat glide with a wide left-hand circuit. Avoid any tendency to turn to the right, which on this type of model can be very dangerous.

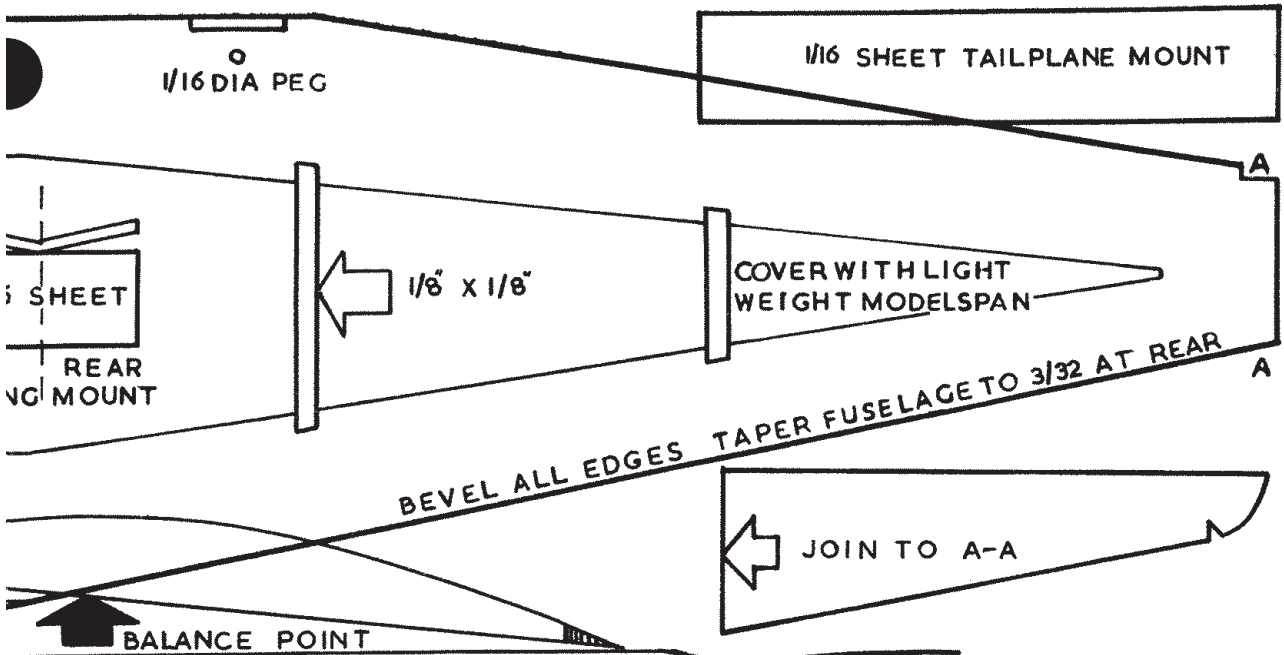
Less than 2 oz. is not much to battle against half a gale so please fly Bambinetta on calm days! It is my hope that Bambi owners will try this little job, as I feel sure they will get a great deal of fun flying it.

I should be delighted to hear from any aerobod who builds Bambinetta. Please write c/o MODEL AIRCRAFT.

FULL-SIZE DRAWINGS OVERLEAF







SHOWING POSITION OF INCIDENCE BLOCK

1/8" SHT. - 2 REQUIRED

BAMBINETTA

FULL SIZE PLAN

