

ROBERT BURNS, . . . President of Stewarton, Kilmarnock Model Aero Club . . . once renowned for indoor model research . . . now keen on Ayrshire Aeromodellers Association's new scale racing contests, similar to team racing.

# Speedwing

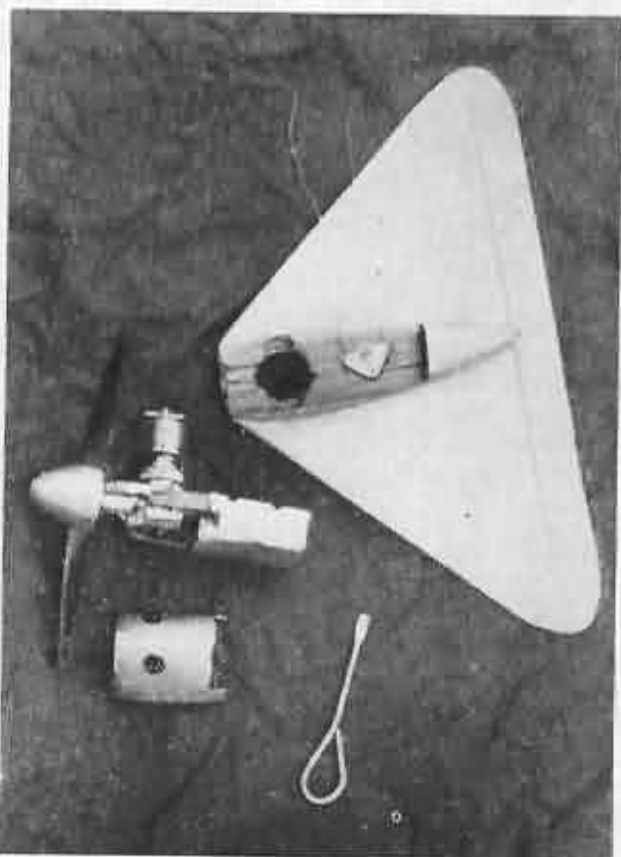
A DELTA TYPE FLYING  
WING SPORTS MODEL  
BY ROBERT BURNS

**I**F you feel fired with an impulse to make "something out of the ordinary", then try this little flying triangle that is easily built in two evenings. Speed Wing is the outcome of a decision to construct a Delta type wing to relieve the monotony of conventional design.

By virtue of its paper dart-like shape, it never fails to catch the fancy of the public during demonstrations at the Stewarton football matches. It is almost unbreakable too, so, if you are wanting to build something quickly for your 2 c.c. engine, something that will be hard to bust and will always give you good fun, then try this model.

**Construction.** Cement the three,  $\frac{1}{8}$  in. sheet parts of the wing, the top and bottom plywood stiffeners and the spruce rear edge together. Sand the wing to a symmetrical aerofoil section in two stages; first to taper, then to airfoil. Drill the control plate and horn to fit the wire pushrod closely and fix in place, noting the use of flexible stranded wire for the lead outs which are passed through tubes buried in the lower wing surface. Attach the elevator after cutting, as shown on the drawing, and twisting the outer portion upwards; this will cure any tendency for the model to roll inwards. Take care that the lower plywood plate fits the engine mounting lugs neatly, and cut away only just enough of the wing to clear the engine. Make up the lower engine mounting pod, complete with 22 s.w.g. aluminium cowling and the fuel tank. Attach the engine and assemble the pod to the wing by wood screws, then add the upper balsa fairing on the top surface of the wing. When dry, dismantle and fuelproof all parts likely to be in contact with fuel or exhaust. Add the plywood fin and cover the whole model with Modelspan before doping to the desired colour.

Because this model has no fuselage to hold for a hand launch, it must be launched "underarm" by gripping the fin and throwing with a "bowling" motion. Though unorthodox, the launch is soon perfected after practice.

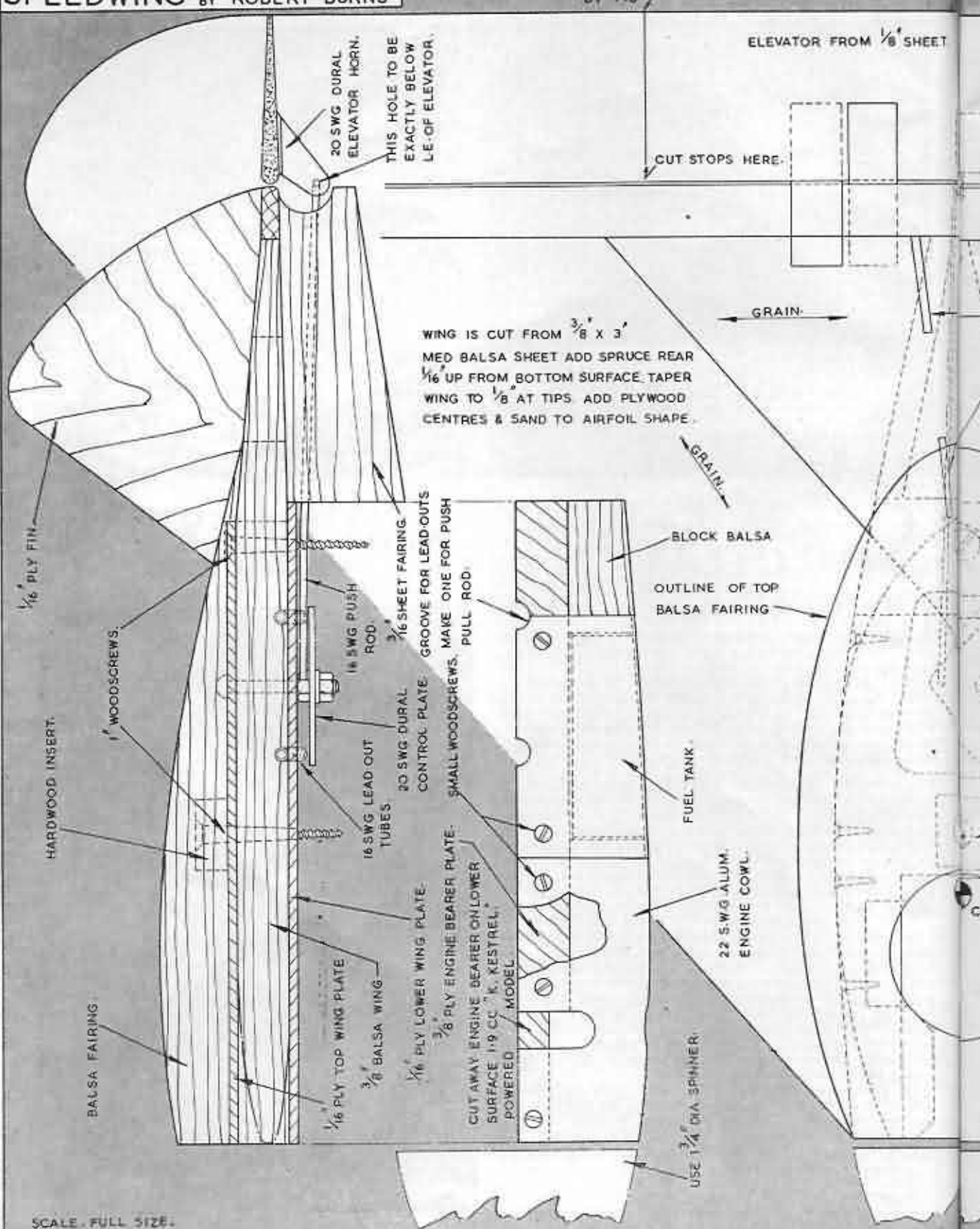


Photo, Right: shows simplicity in maintenance and assembly of the Speedwing. Screwdriver is the only tool required to dismantle. Note, in the upper photo, that the elevator is trimmed to make the wing roll upwards.

# SPEEDWING BY ROBERT BURNS

CUT HERE & RAISE ELEVATOR TE.  
BY  $\frac{1}{16}$ "

ELEVATOR FROM  $\frac{1}{8}$ " SHEET



20 SWG DURAL  
ELEVATOR HORN.  
THIS HOLE TO BE  
EXACTLY BELOW  
LE. OF ELEVATOR.

CUT STOPS HERE.

WING IS CUT FROM  $\frac{3}{8}$ " X 3"  
MED Balsa SHEET ADD SPRUCE REAR  
 $\frac{1}{16}$ " UP FROM BOTTOM SURFACE TAPER  
WING TO  $\frac{1}{8}$ " AT TIPS. ADD PLYWOOD  
CENTRES & SAND TO AIRFOIL SHAPE.

GRAIN →

GRAIN ↘

$\frac{1}{16}$ " PLY FIN

HARDWOOD INSERT.

1" WOODSCREWS.

Balsa FAIRING

16 SWG LEAD OUT  
TUBES

$\frac{1}{16}$ " PLY TOP WING PLATE

$\frac{3}{8}$ " Balsa WING

$\frac{1}{16}$ " PLY LOWER WING PLATE.

16 SWG LEAD OUT  
TUBES

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

$\frac{3}{16}$ " SHEET FAIRING

16 SWG PUSH  
ROD

SMALL WOODSCREWS. MAKE ONE FOR PUSH  
PULL ROD.

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

CUT AWAY ENGINE BEARER ON LOWER  
SURFACE 1-9 CC. K. XESTREL,  
POWERED MODEL

$\frac{3}{8}$ " PLY ENGINE BEARER PLATE.

16 SWG LEAD OUT  
TUBES

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

SMALL WOODSCREWS. MAKE ONE FOR PUSH  
PULL ROD.

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

SMALL WOODSCREWS. MAKE ONE FOR PUSH  
PULL ROD.

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

SMALL WOODSCREWS. MAKE ONE FOR PUSH  
PULL ROD.

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

SMALL WOODSCREWS. MAKE ONE FOR PUSH  
PULL ROD.

20 SWG DURAL  
CONTROL PLATE. GROOVE FOR LEAD OUTS.

16 SWG PUSH  
ROD

BLOCK Balsa

OUTLINE OF TOP  
Balsa FAIRING

FUEL TANK

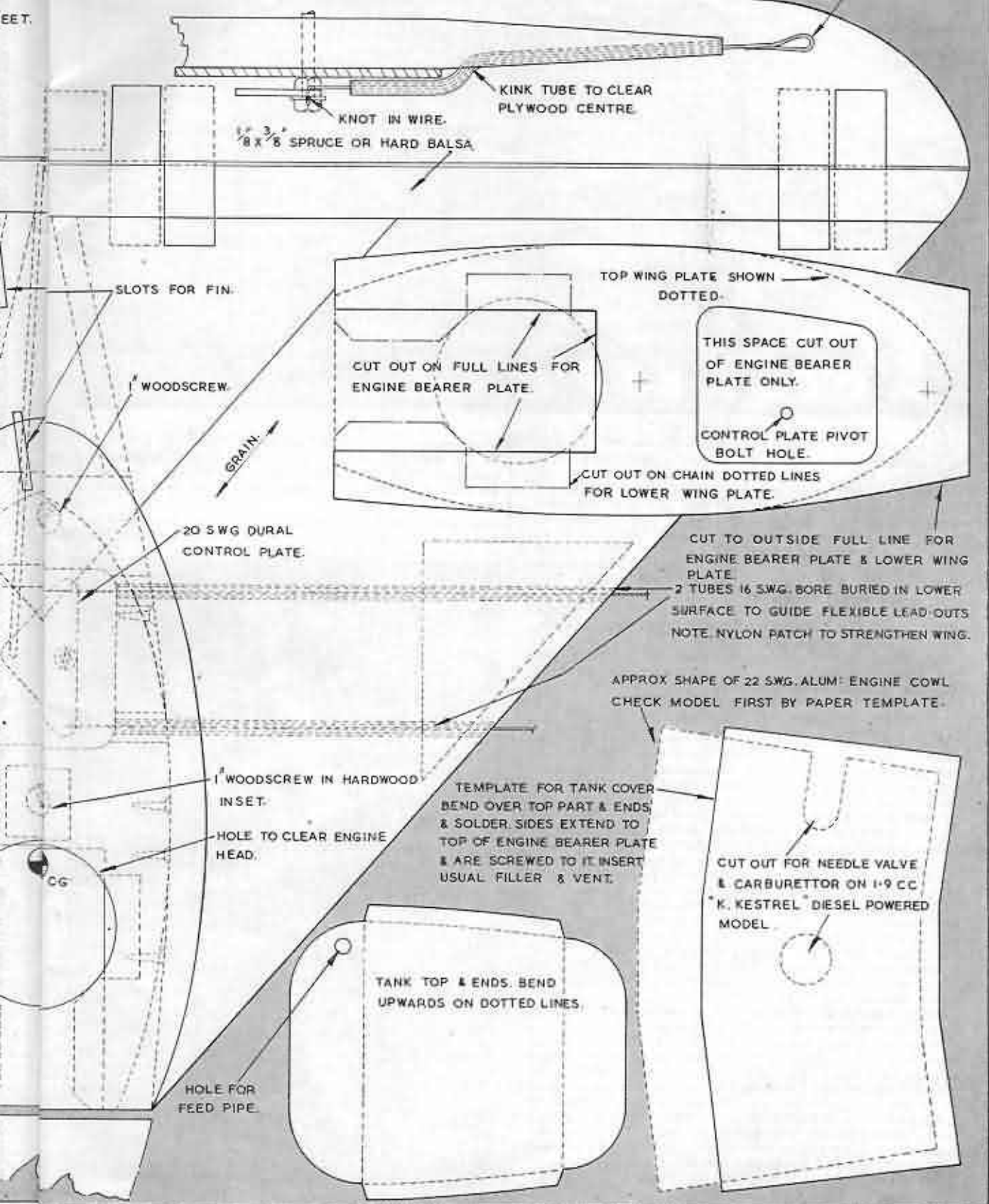
22 SWG ALUM.  
ENGINE COWL.

USE  $\frac{3}{4}$ " DIA SPINNER.

ELEVATOR MOVEMENT 30° UP & 30° DOWN.

BIND & SOLDER LOOP IN FLEXIBLE LEAD-OUT WIRES

EET.



SLOTS FOR FIN.

WOODSCREW.

GRAIN.

20 SWG DURAL CONTROL PLATE.

1/8" WOODSCREW IN HARDWOOD INSET.

HOLE TO CLEAR ENGINE HEAD.

CG

HOLE FOR FEED PIPE.

KINK TUBE TO CLEAR PLYWOOD CENTRE.

KNOT IN WIRE.

1/8" X 3/8" SPRUCE OR HARD BALSA.

CUT OUT ON FULL LINES FOR ENGINE BEARER PLATE.

TOP WING PLATE SHOWN DOTTED.

THIS SPACE CUT OUT OF ENGINE BEARER PLATE ONLY.

CONTROL PLATE PIVOT BOLT HOLE.

CUT OUT ON CHAIN DOTTED LINES FOR LOWER WING PLATE.

CUT TO OUTSIDE FULL LINE FOR ENGINE BEARER PLATE & LOWER WING PLATE.

2 TUBES 1/8" BORE BURIED IN LOWER SURFACE TO GUIDE FLEXIBLE LEAD-OUTS. NOTE: NYLON PATCH TO STRENGTHEN WING.

APPROX SHAPE OF 22 SWG. ALUM. ENGINE COWL. CHECK MODEL FIRST BY PAPER TEMPLATE.

TEMPLATE FOR TANK COVER. BEND OVER TOP PART & ENDS & SOLDER. SIDES EXTEND TO TOP OF ENGINE BEARER PLATE & ARE SCREWED TO IT. INSERT USUAL FILLER & VENT.

TANK TOP & ENDS. BEND UPWARDS ON DOTTED LINES.

CUT OUT FOR NEEDLE VALVE & CARBURETTOR ON 1-9 CC "K. KESTREL" DIESEL POWERED MODEL.