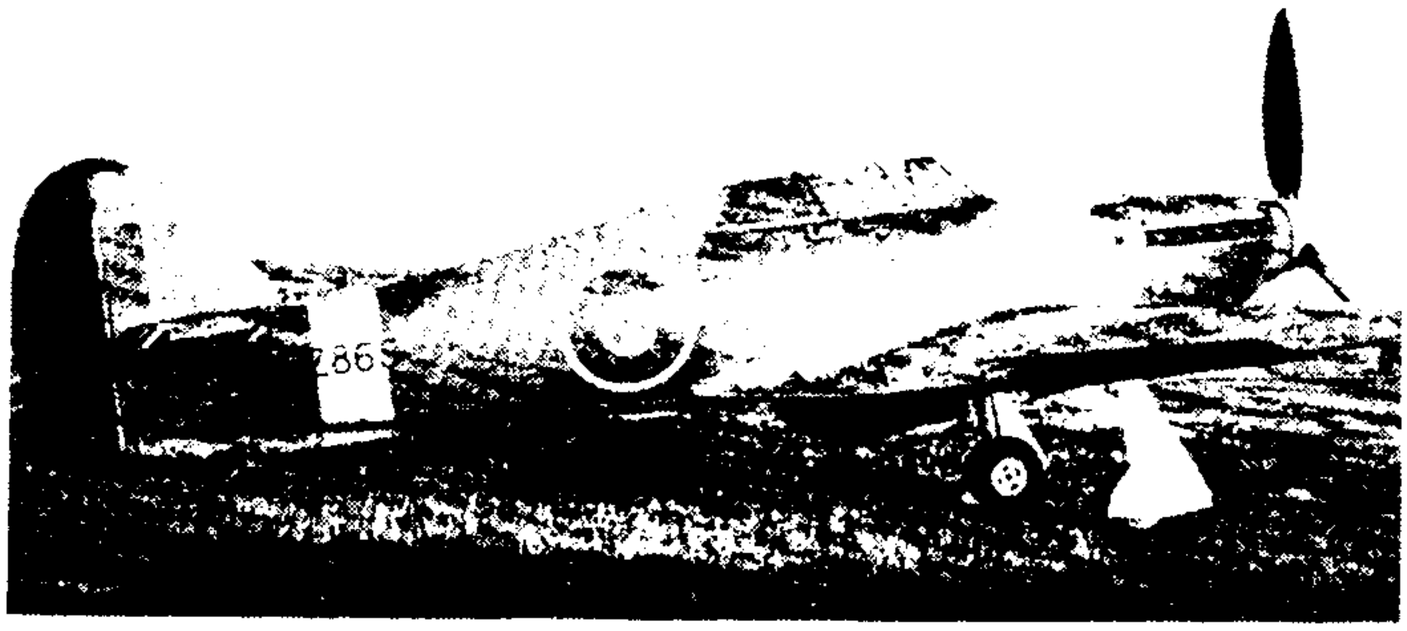
HAWKER HURRICANE



A detailed 40 in. span replica of the famous W.W.2. fighter, to suit .8-1.5 c.c. for F/F.

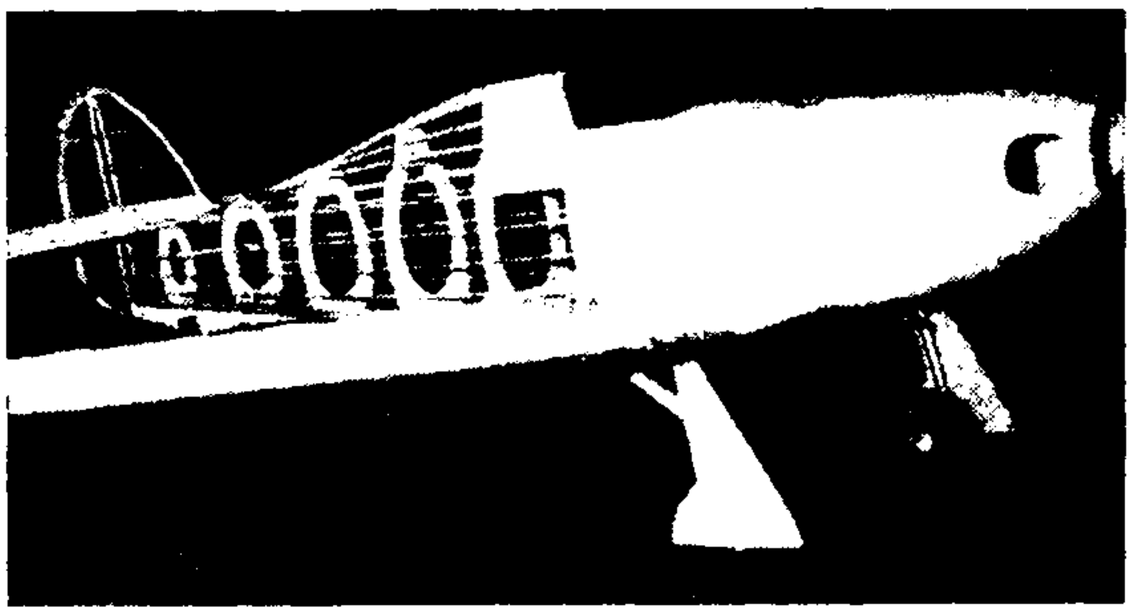
By Richard Meixell

EVEN AFTER 23 YEARS the Hawker Hurricane is well remembered as part of the team that saved England from invasion. The Hurricane and Spitfire fought to maintain air superiority over England in spite of 3 to 1 odds against them.

No better tribute can ever be paid to all the men and machines involved than Winston Churchill's words, *"Never in the field of human conflict was so much owed by so many to so few"*.

The Hawker Hurricane represents the mutation of the biplane into the modern low wing, high speed, multi-gun fighter. Its success must be judged in light of this radical break with tradition and the problems that could have been encountered in such a project. However, even the first test flights were completely successful and a stronger cockpit hood and an anti-spin ventral fin were among the few changes required.

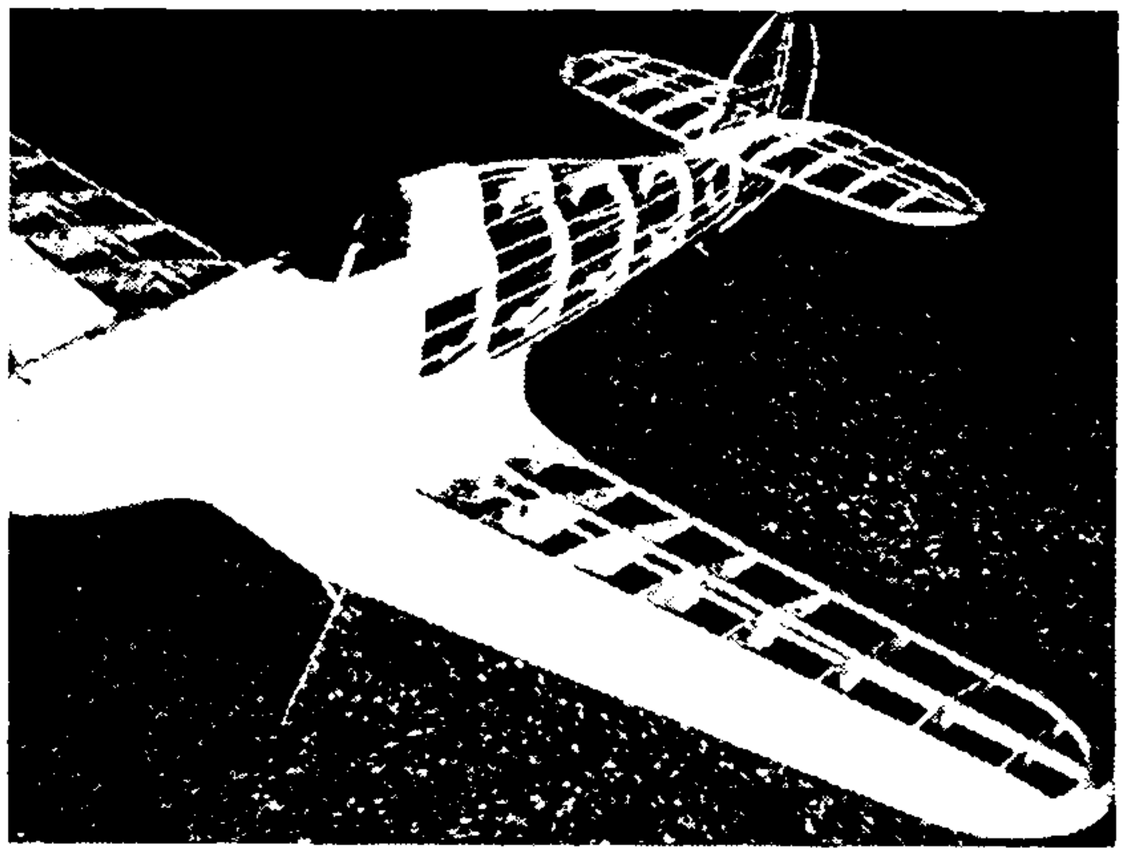
Shortly after initial test flights and before any official contract ; Hawkers tooled up for Hurricane production with their own money. This example of national responsibility by industry as well as Hawkers' foresight gave the country one of the two weapons that saved England.



The model shown is, "The last of the many", which is still flying and is representative of the 15,000 Hurricanes built. This was the last Hurricane and was a IIC with four 20 mm. canons.

This model is a compromise between a detailed and a sport plane. All outlines are accurate except for dihedral and tail area. A few details have been omitted in the interests of lightness and simplicity. Emphasis has been placed on ease of construction and automatic alignment so that a relatively inexperienced builder should be able to successfully complete the Hurricane. The wing loading is only a little higher than that of a Wakefield model. Completed weight should be about 10 oz.

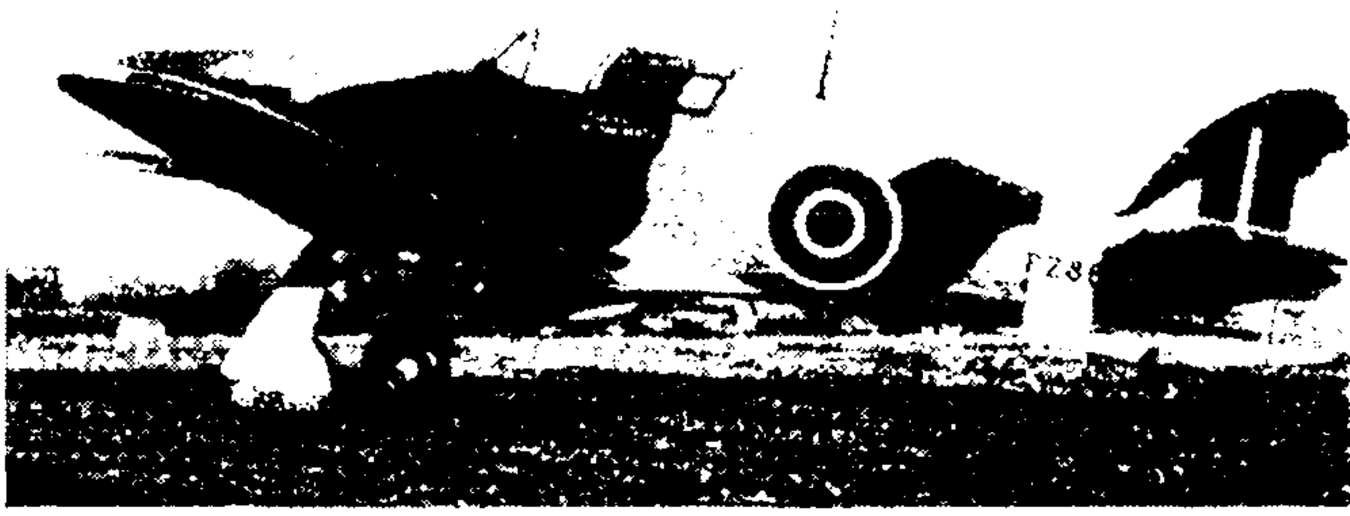
Wings are conventional structure. Knock off wings are not needed for this size and weight of model. The landing gear is more realistic and no more difficult to build than the music wire variety. The plywood gear fairing forms the anchor for the landing gear and gives a strong practical solution to a potential weak spot. The open wheel wells are very realistic. The fuselage is built on vertical half shells which assures correct wing and tail alignment as well as lighter and faster construction. The engine is side mounted to give a clean profile and no engine hatches are required. Beam mounted engines may be used. The split wing and tail spars are lighter, just as strong, and have more warp resistance than solid spars.



Heading picture shows the full-size "Last of the Many" Hawker Hurricane as now preserved without guns and radio mast. Note the six exhaust stacks on each side and civilian registration letters positioned under tailplane. Above and at left, completed structure illustrates the tough construction and sheeted sections. The cut out fuselage formers and detailed undercarriage legs can be clearly seen.

Construction of the model is quite straightforward but the sequences should be emphasised on some points.

On outer wing panels, block up forward lower spars $\frac{1}{32}$ in. to allow for L.E. sheeting. Slide rear spars through ribs before adding this sub-assembly to T.E. and lower front spar. No additional dihedral



Above, strikingly realistic, the model could almost be taken for the real thing if the cylinder head did not protrude through the cowling. At right, the low angled picture shows the registration letters and sliding canopy, but black and white photographs hardly do justice to the excellent finish. Below left, sliding canopy, radio mast and detailed cockpit help to make any model convincing. Below right, opened canopy and low angled picture extracts the true beauty of this fine model.

braces are needed if glue joints are solid. Build landing gear into wing before adding sheeting. The plywood fairing is used as a pattern for drilling bolt holes in tubing. Dope before bolting tubing in place. Squeeze ends of brace struts flat before drilling. Dope interior of centre section matt green before covering.

Each fuselage half shell has its own top and bottom keel and rudder half. Glue keels and rudder outlines in place for each shell. Align and glue bulkheads and rudder ribs. Add side keels and stringers shown on basic shell drawings. Do not add sheeting or additional stringers until shells are glued together to prevent warping. Align stringers carefully for straightness. This is important to the appearance of the finished model. En-

large notches if necessary. Stringers extend above bulkheads so that the bulkheads will not show on finished model. Note that not all stringers extend to tail post. Add nose sheeting. Check templates on model before cutting wood. Glue the plywood firewall in place. Cut nose block to length, carve inside to match bulkheads, and then glue in place. Carve outside to blend with bulkhead contour and cut away for engine access. Engine is mounted through spinner opening. Check nose fairing with spinner. Fuel proof inside of cowl. Glue ventral fin-tail wheel assembly in place and fuselage complete.

The cockpit has been detailed from photographs, although many smaller details have been omitted. Glue stick, pedals, and seat to wing and add all other details to fuselage before gluing on wing.

The Hurricane is assembled before covering. Temporarily cut out a portion of the fin L.E. for mounting the tailplane. Each wing and tail tip should be equi-distant from tip of nose, in line with each other, and at right angles to fin. Add wing and tail fillets.

Cover wing and tail with lightweight tissue. "Wet strengthened" paper will simplify the fuselage compound curves problem.

External details such as radiator, air scoop, cannons and aerial mast may be added now. Leave windshield and hood until after doping.

The colour scheme shown is the standard Fighter Command system after mid-1942. Give model four coats of clear dope and about four coats of colour until the finish looks smooth with no tissue grain showing, but stop before a high gloss builds up. Use fewer coats on tail to prevent warps. A good finish is one of the highlights of a scale model, and the weight penalty seems small.

The yellow L.E. stripe and white fuselage band may be made from solid colour transfer sheet but will have to be fitted to the curved contours. The "Last of the many" may be painted on transfer sheet doped to match the model before adding the sheet to the model. Make roundels from concentric rings of solid colour sheets. Use black tape for control surface and panel outlines.

Form windshield frame from soft wire such as paper clips. Use contact cement to glue on celluloid and paper frames. The excess smears may be removed after drying without leaving a trace. Dope frames before adding. Glue only on edges and dope will shrink even heavy paper tight. Hood may be glued either open or shut.

Eliminate any warps with a steam kettle. Trim with nose or tail weight and thrust offset. You will have to decide to fly with or without spinner all the time. Canadian built Hurricanes flew without spinners during the war. Adjust for as wide a circle as possible to combat spiral dive problems. If model drops one wing tip, add weight to opposite tip. A celluloid rudder trim tab may be needed.

This is a model you should be proud of. The Hurricane bow-legged, hump backed ruggedness together with its colourful finish makes it a worthwhile project and a reminder of that autumn 23 years ago. Moreover--it flies well too!