There were many fascinating subjects among the series of light aircraft designed for the Lympne Air Trials in the mid 1920's. The English Electric "Wren", De Havilland 53 "Humming Bird" and Supermarine "Sparrow" are among the better known types.

The Avro Avis was designed for the 1924 Trials and was flown by the celebrated pilot, the late Bert Hinkler. Because it was plagued with engine troubles as were many other planes in the competition the Avis met with moderate success. Its one real success was in the *Grosvenor Trophy* where it won £100 by completing eight laps of the 12½ mile course at an average speed of 65.87 m.p.h. The Avis was entered again in 1925 but was overshadowed by Avro's new design, destined to become famous as a club 'plane,—the "Avian". The last appearance made by the Avis was in 1927, this time flown by Sholto-Douglas, who was to become Marshal of the Royal Air Force. Finally, it was sold by Avro's and scrapped in 1931.

The model is to one twelfth scale for any of the small capacity engines. The Davies-Charlton Quickstart Dart is ideal and was used in the original, mounted with the cylinder to starboard and with a dummy "pot" on the port side to simulate the Bristol Cherub engine.

Start with the fuselage by cutting the two front panels from F 1 to F 5 positions along the upper edge. Lay over plan and bottom longerons and spacers from hard 1/16 in. sheet and add the top longerons. Make certain that you have a left and right side with the 1/16 sheet flush with the outer face of upper longeron in each case! Lift sides from plan as they are made and join first with F 2 and F 4, then pull together at the tail, joining with a scrap filler to obtain width as in plan view. Now add F 3, F 5, and all cross spacers through to F 10, topped with coaming formers F 5-F 10. Add side and top stringers. Pull in at nose to fit F 1 and bearers. Make the 20 s.w.g. cabane structures carefully, also the undercarriage and bind securely in place. Carve nose block cowl to suit engine and tank. Make sure the 1/16 in. ply strengtheners for the 16 s.w.g. wires that hold the lower wings, are cemented securely before adding the 1/16 in. sheet under the fuselage (grain across the fuselage). Plank the top of the fuselage with 1/16 in. sheet.

The top wings are made in one piece by assembly of the starboard side over plan complete with central section then building on the port half. Start with lower spar and trailing edge, add ribs then leading edge and top spars. The centre section is faired with soft block. The lower wings are similar in construction except for the strut fitting and the ply root ribs, see notes on the drawing.

The tailplane construction is straightforward. Use hard $\frac{1}{32}$ in. sheet for the ribs, and sand them before assembly. Cut the rudder from hard $\frac{1}{16}$ in. and reinforce the lower part with $\frac{3}{32}$ in. sheet on each side, and fit to the fuselage with 20 s.w.g. soft aluminium scrap which will hold any trim setting you may have to "bend" into the rudder.

$1\frac{1}{2}$ in. diameter Meccano tyres and turned aluminium hubs were used for wheels on the original model, but they could be made from laminations of $\frac{3}{32}$ in. sheet bushed with 16 s.w.g. tube, or a commercial substitute employed.

Before covering sand carefully and give the structure two or three coats of sanding sealer. Cover entire model with heavyweight tissue (Thinned P.V.A. glue, is an excellent adhesive for heavyweight tissue).

Dope, then paint or spray the entire model silver. The centre section struts and the interplane struts and the leading U/C struts are painted black, so is the racing number 10 on the rudder, and the name "Avis" on the nose.

In 1925 the Avis was registered G-EBKP. This was painted on the fuselage and the wing and the letter G appeared on the rudder and on both lower surfaces of the tailplane.

Assemble the Avis with bracing wires made from two loops of thin nylon held together with a rubber band. Fit one to the lower end of a strut, over the centre section and down to the other strut. The second one goes from the top of the strut, through the holes in the fuselage up to the other strut. Make sure the bracing is fairly tight or the lower wings may part company with the fuselage in flight! The top wing is secured with a rubber band looped over the centre section Cabane and the ends held with a hook made from a pin.

Add weight to the nose or tail until the model balances at midchord under the top wing. Then test glide, adding packing under the tail leading on trailing edge until a flat glide with no trace of a stall is achieved.

Run the engine on reduced power with a run of about fifteen seconds for the first flight. Adjust the turn with the rudder. If this is over critical, add a small acetate sheet trim tab to one of the lower wings (See "Strictly Simple", June 1967 issue). The original flies best in wide circles to the right and trimmed this way has been flown successfully in many a moderate breeze.