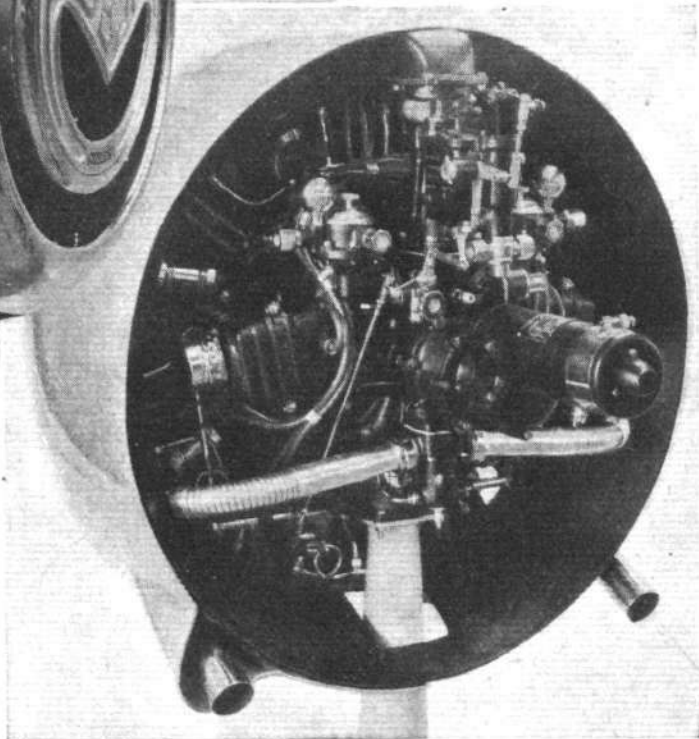


The new high-rated Pobjoy Niagara V has retained the smart appearance of its fore-runners. Cowling and baffles are regarded as an integral part of the engine.



### BRITISH SALMSON

THE British form of a very small nine-cylinder radial, which is popular on the Continent for light aircraft, the Salmson A.D.9.R. follows modern constructional practices. There are two valves per cylinder head, and these have double coil springs and stellite stem tips. The valve gear is totally enclosed.

(British Salmson Aero Engines, Ltd., Raynes Park, London, S.W.20.)

### CHILTON

THE manufacturing rights of the modified 10 h.p. Ford engine have been acquired by Chilton Aircraft. The particular point claimed for this little unit is reliability—which, in the case of ultra-light machines with a single engine and a comparatively small speed range, is, if possible, even more important than in larger aircraft.

Modifications for aero work include a special crankshaft with a large ball race to take airscrew thrust, the use of

light alloy for the cylinder head and other castings, and a dual ignition system.

The engine has a four-cylinder water-cooled block with side valves and a detachable head. The crankshaft is a steel forging carried in three bearings.

As the header tank is incorporated in the cylinder head, the radiator can be more easily placed conveniently. Petrol can be fed by gravity or mechanical pump.

The engine is rated well within its capacity and is said to be very free from vibrations. This fact should simplify installation problems.

(Chilton Aircraft, Hungerford, Berks.)

### CIRRUS

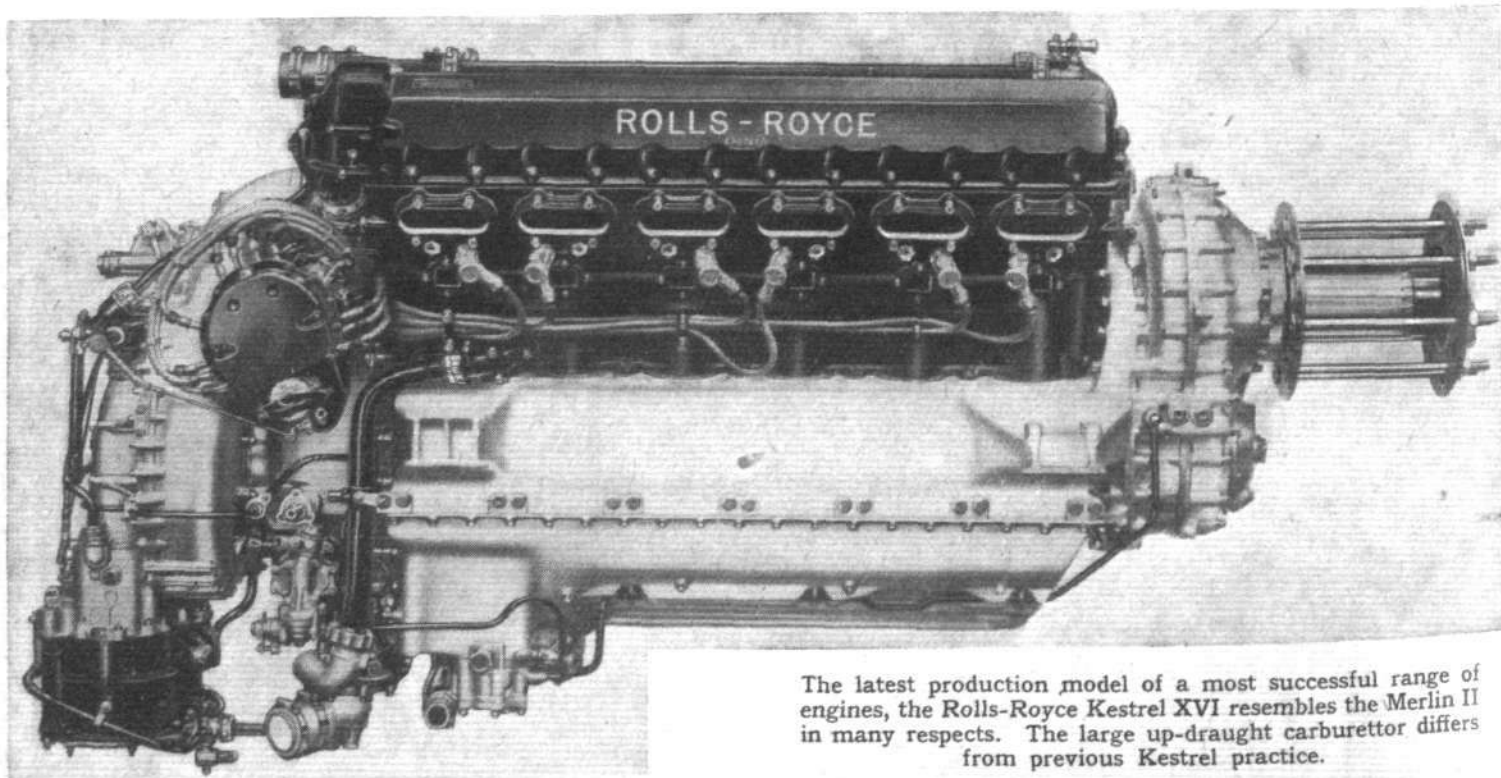
CIRRUS engines are built by a division of Blackburn Aircraft, Ltd. The Major 150 and Minor engines are the two models produced, and there was a considerable increase in the number of

privately owned machines powered with Cirrus engines to be seen at flying meetings during the past season.

A feature in which these engines differ from comparable makes is the method of holding down the cylinders and heads. The usual long holding-down studs, which the firm found to cause cylinder-head distortion, are dispensed with, and the cylinders are machined all over from steel forgings and located in the crankcase by spigots and secured by four short bolts. A copper joint washer makes a gas-tight joint between head and barrel, these being spigotted and secured together by eight studs in the head. One-half of the casing enclosing the valve gear is cast with the cylinder heads.

Floating gudgeon pins hold the alloy pistons, and the connecting-rods have white-metal bearings in steel shells. Five plain bearings carry the crankshaft, which has the ball thrust bearing at the front end.

A cup end is made for the valve rockers, a ball fitting into the cup and a flat on the ball making contact with the valve stem. Adjustment of clearance is by movement



The latest production model of a most successful range of engines, the Rolls-Royce Kestrel XVI resembles the Merlin II in many respects. The large up-draught carburettor differs from previous Kestrel practice.