

THE A.D.C. "NIMBUS" ENGINE

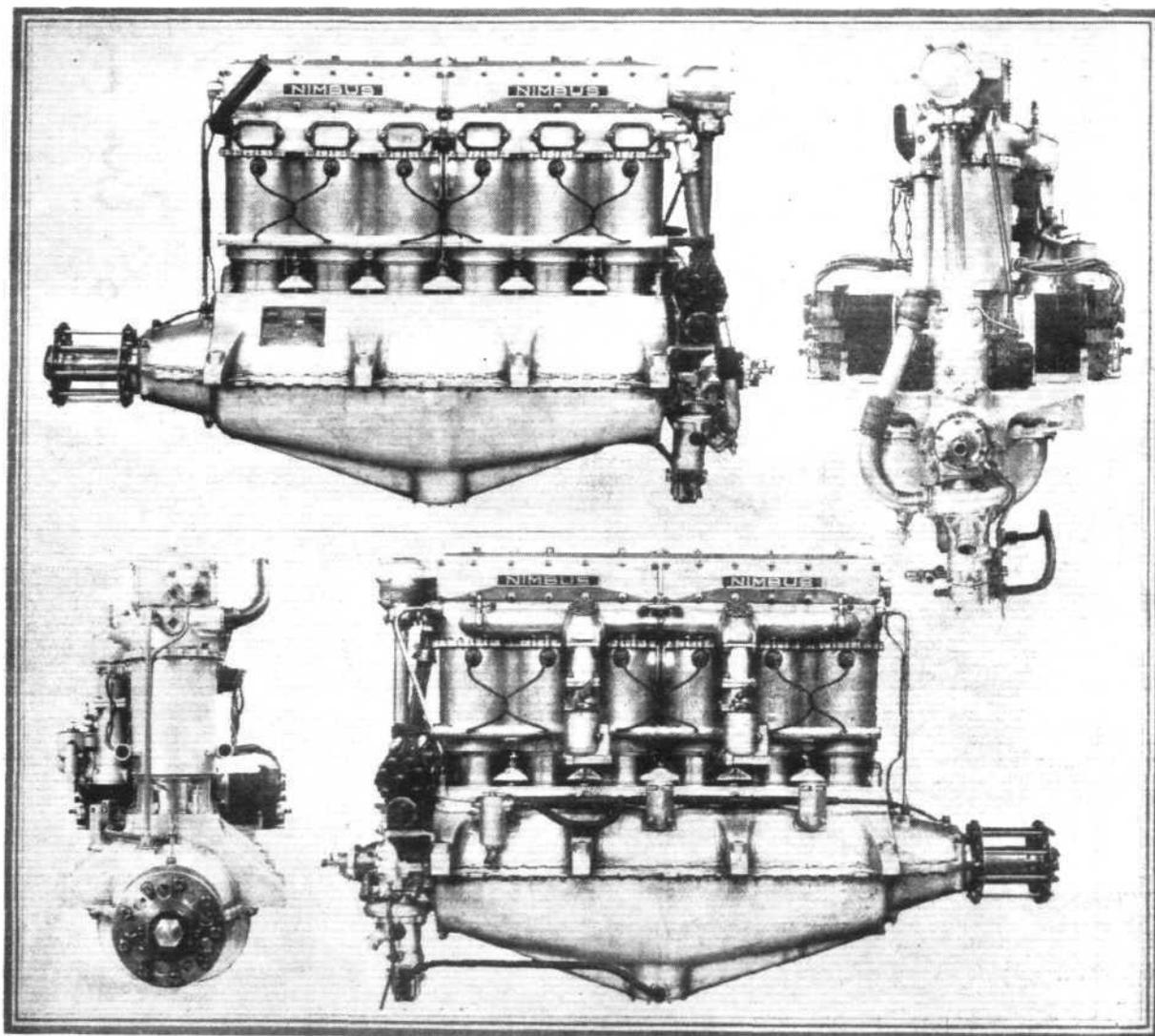
DESIGNED TO FIT STANDARD "PUMA" BEARERS

335 b.h.p. at 1,600 r.p.m.

ALTHOUGH developed from, and employing a certain number of parts of, the Siddeley "Puma" engine, the new A.D.C. "Nimbus" aero engine is in reality to all intents and purposes a different engine. That the "family likeness" remains is not surprising when it is realised that Major Halford, who had a good deal to do with the original design of the B.H.P. engine from which later the "Puma" was evolved, is responsible for the "Nimbus," as produced by A.D.C. Aircraft, Ltd., at their Waddon factories. From the fact that this firm holds large stocks of "Pumas" and spare parts, it was

"Puma," the cylinder bore having been increased from 145 mm. to 152 mm. The stroke remains the same, *i.e.*, 190 mm., but the compression ratio has been raised to 5.4 : 1. The B.M.E.P. is high, *i.e.*, around 132 lb.

Constructionally, the "Nimbus" differs very considerably from the "Puma" although it is designed to fit the same engine bearers. The steel cylinder liners are screwed into the bottom of the water-jacket blocks, a neat locking arrangement being provided for making a watertight joint. A split locking ring of phosphor bronze is threaded to correspond



THE A.D.C. "NIMBUS" AERO ENGINE: Four general views. Note the clean appearance and small frontal area. The projecting magnetos in the gear-end view are exaggerated by perspective, and do not in fact add a great deal to the width. In any case the fuselage has to be a certain width aft of the engine to give cockpit space, and but little advantage would be gained by altering the mounting of the magnetos.

very natural that Major Halford should take this engine as his starting point, so to speak, and should, while producing an engine of very much larger power, make use of such of the original parts as lent themselves to incorporation in the new design. In this manner a great deal of time and money was obviously saved, and the performance of the "Nimbus" seems to indicate that the method has been amply justified, as will be realised when we point out that in spite of an increase in maximum permissible power from 255 b.h.p. at 1,500 r.p.m. to 335 b.h.p. at 1,600 r.p.m., the weight of the engine "dry" is 655 lbs., which is claimed to be approximately 30 lb. lighter than the weight of the original "Puma."

The "Nimbus" is of slightly larger capacity than the

with the threads on the cylinder liner, a steel strap tightened by a tangential bolt forcing the threads home, and a rubber ring, on being compressed, making a tight joint between cylinder and jacket. The split ring and its locking strap are shown in a sketch.

At the top the cylinder liners are secured to the cylinder head castings, which are in the form of aluminium alloy blocks, by the valve seatings, which are of special design and splined on the inside for the special tool used for screwing them home. The water jackets are in the form of two aluminium castings, each block enclosing three cylinders. At the top the water jacket blocks are secured to the cylinder head blocks by a number of bolts, the faces of jackets and