

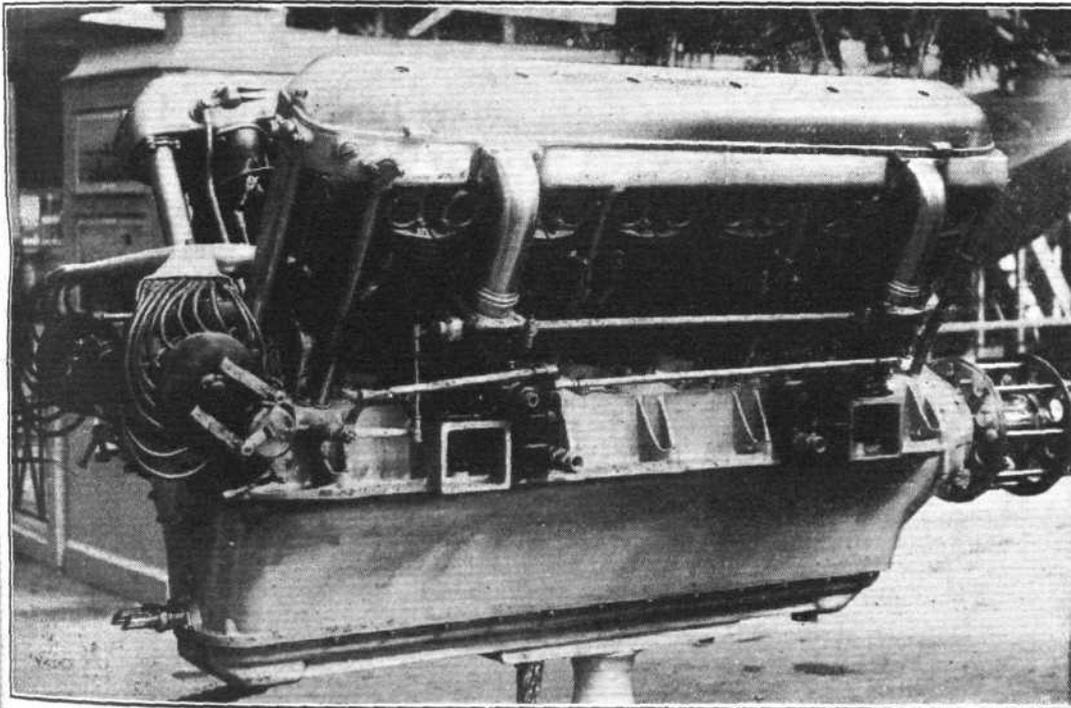
on the fore-and-aft axis) and their seats and ports being carried by separate detachable units, the inlet being at the rear. These valve-carrying units are of cast aluminium; into each is screwed a steel clamp-fitting which secures one end of the overhung rocker spindle, each spindle being a cantilever; the inlet-valve units communicate with the induction chamber formed in the rear portion of the crankcase. The push rods are located at the sides of the cylinders, one behind the other, the rods being operated by seven short fore-and-aft camshafts, each being fitted with a pinion which meshes with a common large-diameter driving gear, the latter being driven by the crankshaft at a low speed through an epicyclic gear. The rear ends of the separate camshafts are employed as auxiliary drives for the H.T. distributors, the two oil pumps, gun-gear, tachometer, and dynamotor. The supercharger is of the moderate-speed rotor type, in which the duralumin rotor is in the form of a thin disc carrying vanes which are tangential to a circle of comparatively small diameter. Dual ignition is provided by two battery and coil systems, the distributors having automatic advance. The two sparking plugs are located at opposite sides of the cylinder head. The altitude control of the single carburettor is also automatic in operation. Electric starting is provided for. Roller bearings are provided

throughout, including those of the master-rod big end and the auxiliary connecting rods and the rockers. Owing to the absence of plain bearings, a comparatively low oil-pressure system is employed.

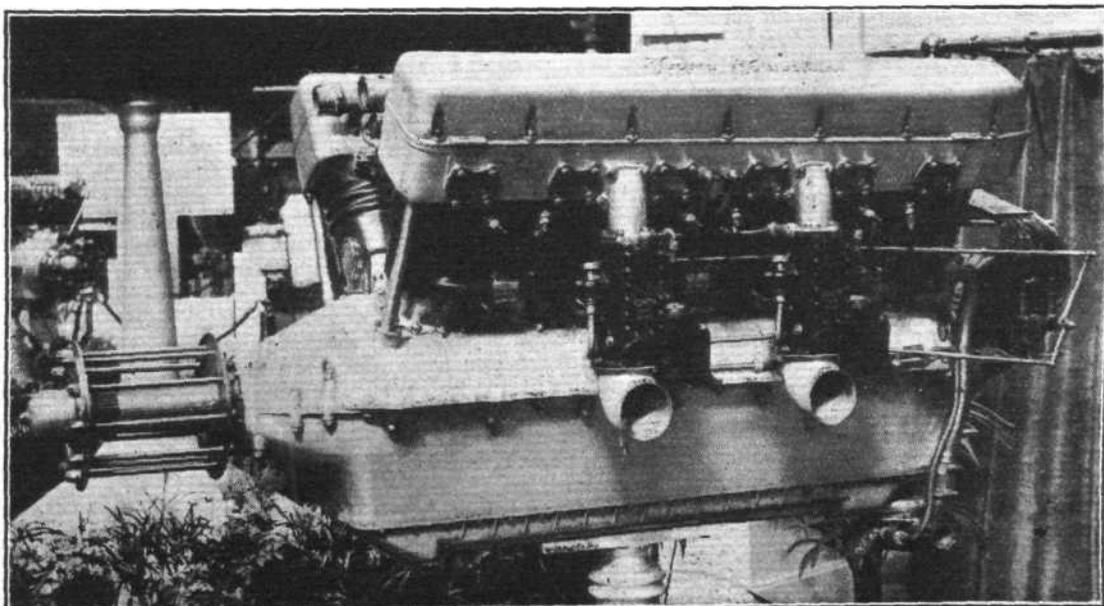
Isotta-Fraschini

Of the three engines shown by this firm, two are water-cooled, one being a 12-cylinder 60° V-type, and the other an 18-cylinder broad-arrow type, whilst the third engine is an air-cooled 12-cylinder of the 60° V-type. The two water-cooled engines, the Asso 500 and the Asso R.I.1000, are similar in general design, excepting that the larger has three banks of six cylinders, and is provided with a spur reduction gear. The two smaller engines are direct driven.

In both water-cooled engines the cylinders are of the separate unit type, the closed-ended forged steel barrels being provided with welded-on steel jackets; they are, however, secured by studs to a common monobloc head basting of Electron, in which the valve ports and head cooling water passages are cast integral. Two inlet and two exhaust valves are fitted in each head, each pair of valves being operated by one cam and one rocker, the latter being of T-shape having the extremities fitted with adjustable contact screws. Two camshafts are fitted in each head, one



The Isotta Fraschini "Asso Caccia" is an air-cooled 12-cylinder, V-type engine with a normal output of 420 b.h.p.



The Isotta Fraschini "Asso 500," 60° V-type engine develops 518 b.h.p. at 1,850 r.p.m.