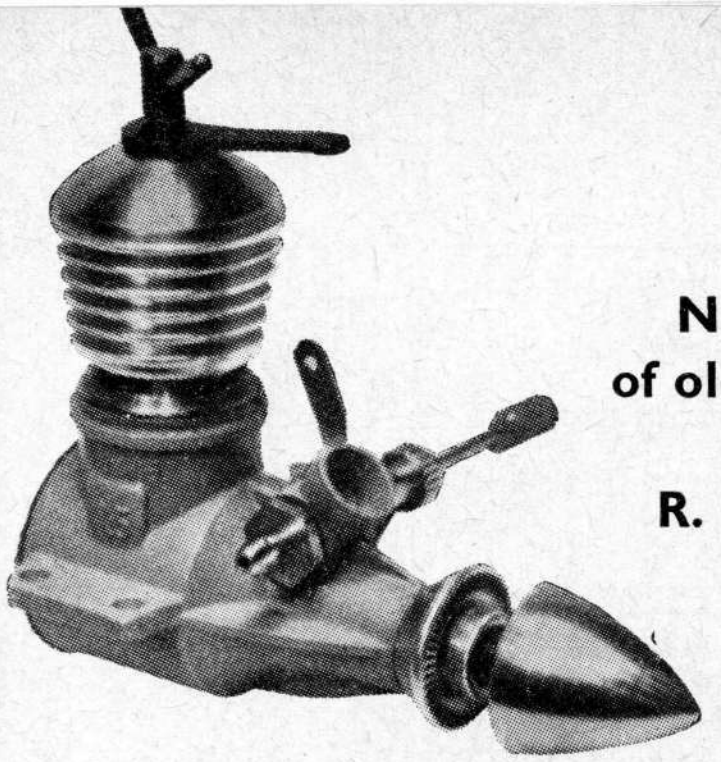
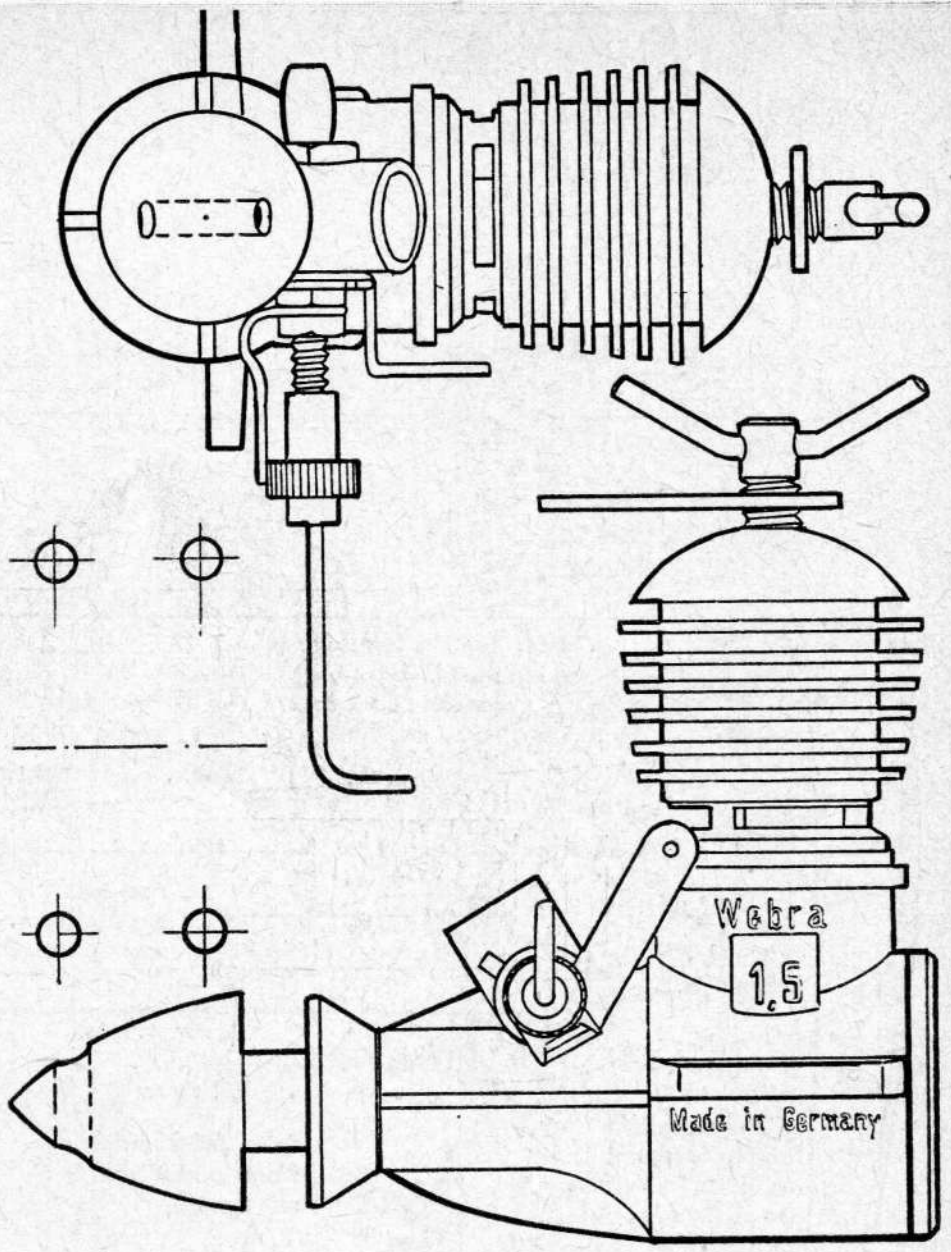


New versions of old favourites tested by R. H. Warring

& RECORD R/C



THE PRESENT WEBRA Record II R/C, represents a complete re-design of the original 1954 model which featured beam or radial mounting (one of the first European engines to follow this fashion) and a bore of .5 in. against a stroke of .45 in. The current 1.5 'Record' is for beam mounting only and of comparatively long stroke. The cast intake tube is designed to accommodate a barrel throttle and it was this version which was available for test.

The crankcase unit is a clean and lightweight pressure die casting into which screws the cylinder and back cover. The plain bearing length is comparatively thin walled but well braced both by the curved taper section and full length external webs. An unusual point is the formation of a thrust pad consisting of three separate segments against which the crankshaft web bears—the space between these thrust segments presumably being to ensure oil flow to the shaft as well as reducing the actual rubbing area.

The crankcase is of hardened steel .315 in. diameter with a plain web and front taper to accommodate the prop. driver. The front of the shaft is stepped down to a .191 in. diameter threaded length. Intake port in the shaft is extremely small and angled backwards. Finish is generally excellent, produced by grinding all over after hardening.

The cylinder is of comparatively lightweight construction for a diesel, but of fairly conventional form. It screws into the crankcase, seating on a flange. Exhaust ports are cut through the walls above this flange. Six shallow transfer passages are machined on the inside of the lower cylinder walls terminating at the level of the flange and well below the bottom of the exhaust ports.

Piston is of cast iron with a conical top and fairly substantial length. Connecting rod is a dural forging. Gudgeon pin of silver steel is of small diameter and press fitted. Like the cylinder, this assembly is also of lightweight construction. The contra piston is of cast iron and the cylinder assembly is completed by a turned dural jacket screwing onto the upper cylinder. This carries the compression screw, which is fitted with a locking arm.

The barrel throttle is of conventional type,rotating independent of the spraybar (i.e. the spraybar does not rotate with the barrel). This is achieved at the expense of a rather loose assembly, relying on a Bellevieu washer to provide contact pressure for a gas seal on the suction side. We found, in fact, that this unit was prone to air leaks, interfering with suction, unless tightened up until the throttle is quite stiff. Throttle response is quite good, but basically 'two speed', i.e. 'fast' or 'slow'.

Like its smaller stablemate, the 'Record' appears to prefer a fuel with a high ether content for easy starting. Otherwise, however, it is a reasonable enough engine to handle, with a power performance putting it in the 'sports' category. Its chief attraction in this respect is that it is a compact and light 1.5 c.c. engine, which could be particularly useful for radio control work. The ounce saving over a more rugged 1.5 c.c. diesel could account for a secondary actuator to operate the throttle. As a radio control power unit, however, it does suffer from a fairly high vibration level, although this can be offset to a considerable degree by finding the 'optimum' position in which to lock the propeller.

WEBRA 1.5 c.c. RECORD
Specification

Displacement: 1.47 c.c. (.09 cu. in.)
Bore: .472 in.
Stroke: .512 in.
Weight: 3¼ ounces
Max power: .134 B.H.P. at 13,000 r.p.m.
Max. torque: 11 ounce inches at 9,000 r.p.m.
Power rating: .09 B.H.P. per c.c.
Power/weight ratio: .041 B.H.P. per ounce
Material specification:
Crankcase: light alloy pressure die casting
Cylinder: hardened steel
Cylinder jacket: dural
Piston: cast iron
Contra piston: cast iron
Crankshaft: hardened steel
Connecting rod: dural forging
Spraybar assembly: nickel plated brass
Crankcase end cover: turned dural
Main bearing: plain
British Agents:
Model Aircraft (Bournemouth) Ltd.
Price:
£4 4s. 1d. (Including Purchase Tax).
£3 14s. 5d. (without throttle).