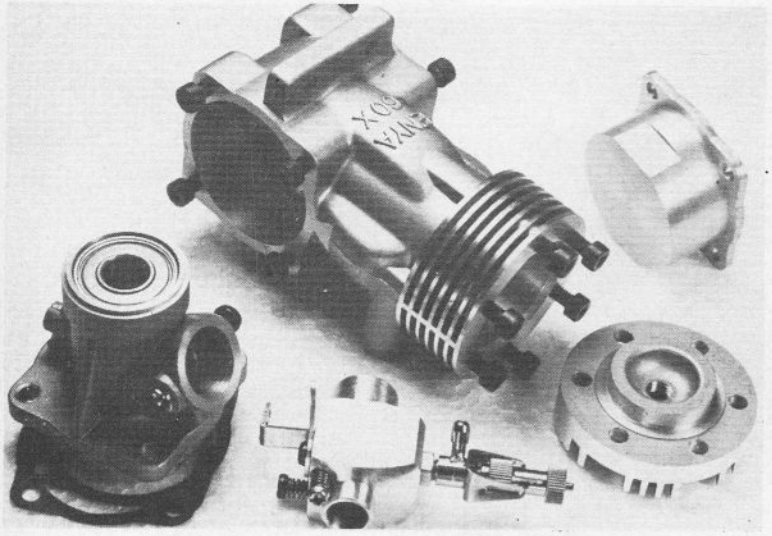


Enya 60 was with the 60-IIIB-G8 which indicated 1.32 bhp at 14,500 rpm, less silencer.

The 60XF is larger externally and, with silencer, almost 3 oz heavier than the crossflow 60-IIIB but fully makes up for this with its extra performance. Checked weights of our test samples were: 486 grammes (17.1 oz), plus 99 g. for the silencer, making a total of 585 g. or 20.6 oz. The engine has the usual metric 60 bore and stroke of 24 × 22 mm, giving a swept volume of 9.953 cc or 0.6073 cu.in.

HB 61-PDP

Compared with the standard Bernhardt HB 61 that has been in production for some years, the more recently introduced HB 61-PDP model is heavier and looks rather different. In fact, very few parts are not interchangeable and, since the same part numbers have been allocated to some of the new components, it seems highly probable that future production standard engines may be practically indistinguishable, externally, from the PDP version.

The outwardly visible differences are in the cylinder-head and main casting only. The head is now machine-finished from a pressure die-casting and has tapered cooling fins, instead of being entirely machined from bar stock with parallel section fins as on the original HB 61 models. Its outside diameter has been increased from 43.0 mm to 45 5 mm to match the larger fin diameter of the new main casting, but its internal dimensions and combustion chamber shape are unchanged, as are bolt hole spacings, and it can be used as a replacement for the older type head.

The new main casting, easily identified by its larger diameter cooling fins which, unlike the older design, extend well down the casing to include five fins below the exhaust duct, now resembles the design used for the HB 40 and HB 50 engines. It has slightly more metal around the sides of the transfer passage at the top to allow for the milling of the channels which conduct part of the incoming charge to the PDP (Perry Directional Porting) slits. These are sited to direct a flow of gas across the piston crown in front of the baffle to aid scavenging. The main ports, consisting of four transfer and five exhaust ports all approximately 5.5 mm high × 5.0 mm wide, are unchanged, as is the port timing.

The piston, piston-ring, conrod and gudgeon-pin are all interchangeable with those of the standard 61 although the piston is considerably heavier (11.6 grammes compared with the old piston's weight of 8.7 grammes) due to a much thicker skirt. The Dykes type ring is retained, as is the fully floating 6 mm gudgeon-pin. The conrod is bronze bushed with oil slits at both ends.

The crankshaft (15 mm o.d. with 11 mm gas passage) and heavily counterbalanced with a crescent counterweight as well as a cutaway crank web, is the same; as are the bearings, bearing housing and prop drive assembly. A standard Perry carburettor is still the stock fitting although this now has the 8 mm i.d. choke in place of the 7 mm used with earlier engines.

When we tested the HB 40-PDP recently, the power output was improved approximately 10 percent compared with the standard HB 40. It is not unreasonable to suppose that the 61-PDP will be at least 10 per cent better than the standard HB 61. We hope to check this in due course.

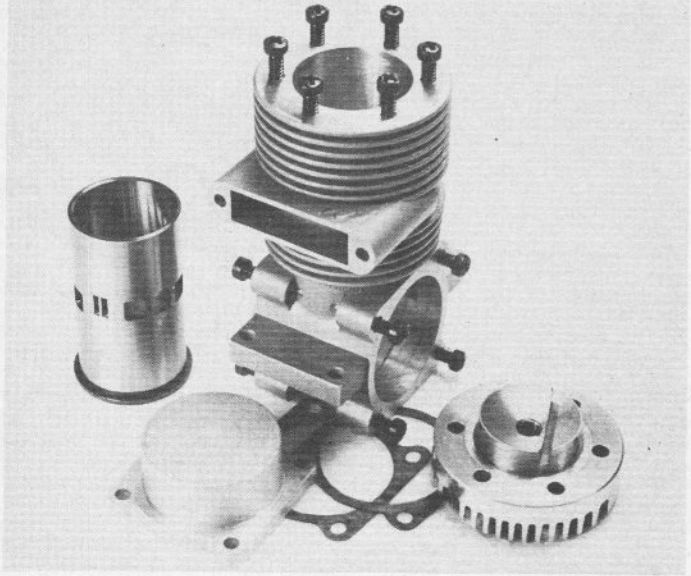
The checked weight of the HB 61-PDP examined for this article was 445 grammes (15.7 oz). This was increased to 560 grammes (19.75 oz) with the recommended silencer.

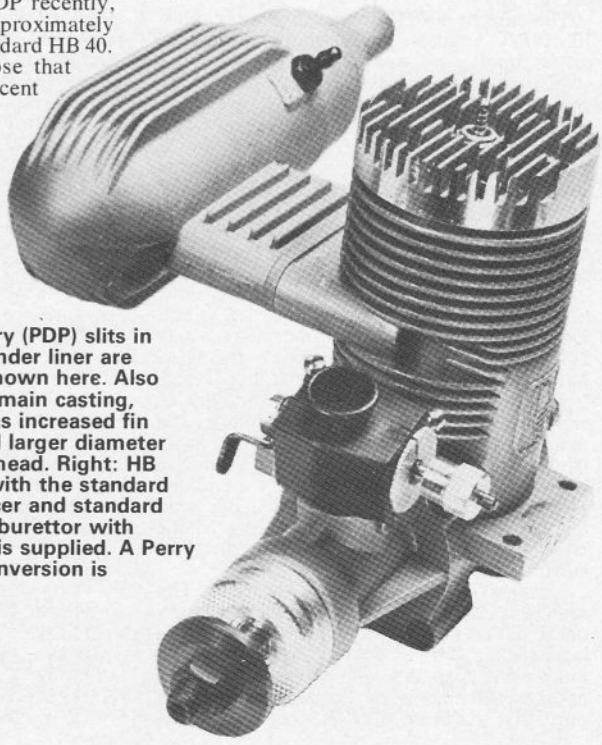
A very complete line of accessory items is available for use with the HB 61 engines including a Perry pump and pressure carb system, several alternative types of silencers, a heat-sink type cylinder head and a radial mounting backplate.

Reeves-HP Twin

Scale expert and R/C kit manufacturer Mick Reeves has sent along some photos of his 20 cc flat twin, derived from a pair of HP 61F engines and built about three years ago by Bernie Foster. The engine used mainly standard and modified HP components, the only new parts being a pair of offset conrods, a radial mount and the central crank-joiner (not shown in the parts photo). Mick writes:

"The two standard crank webs were cut down in thickness to give longer crankpins. These were joined to give opposite throws, simultaneous firing but the pressed-in fit proved not secure enough to take the load – the assembly would move out of line when the rear cylinder fired. Locking pins in the joints did not cure the problem and so the project came to a halt."





Left: Perry (PDP) slits in HB's cylinder liner are clearly shown here. Also new are main casting, which has increased fin area, and larger diameter cylinder-head. Right: HB 61-PDP with the standard HB silencer and standard Perry carburettor with which it is supplied. A Perry pump conversion is available.