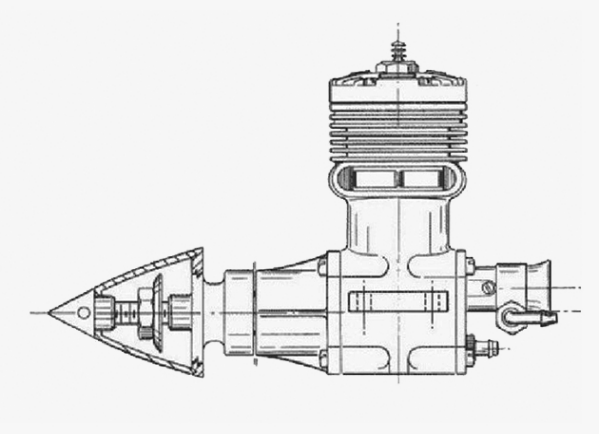
K&B's "Series 61" Are Hottest Torpedoes Yet!



The dream engines you've been hearing about! That's the way the K&B Mig. Corp. of Los Angeles Calif., extols the virtues of their all new Torpedo "Series 61" power plants. We can't argue.

Their 15/100 cubic inch displacement mill is one of the sweetest running, easiest starting and most powerful 15's we have had the opportunity to evaluate.

We imagine much credit should go to Hill Wisniewski for the design and development of the series His years of "hop-up" experience and his many wins in the speed circle* have been used to the fullest in the ''Series 61" jobs.

There is very little that could be done to make these engines run any faster.
Internally, where it really counts, our test motor was exceptionally clean . . . although we did detect feather edges at the bridges of the intake and exhaust ports. This could cause serious trouble if even the smallest piece should break off and drop inside. Careful removal will insure the long life inherent in the desing.

K&B's 15 R utilizes the disc rotary valve induction system. This disc valve located within the crankcase, by virtue of its large diameter, can be ported to admit a greater volume of fuel than is possible with o crankshaft rotary valve. Added to this are features directly descended from the best racing engines which when added together get more fuel to the combustion chamber than any other engine of comparable displacement. Result is an extremely high power output. Addition of twin ball bearings and a Nylon rotary disc add further to the power potential by reducing internal friction to an absolute minimum.

The crankcase is cast of aluminum alloy as are the front and rear covers. Front cover houses the twin ball bearings. Rear cover incorporates the rotary disc calve and a hole drilled for fuel tank pressurization. Although this hole is scaled by a machine screw, a bras* fitting (supplied) replaces it. Since the 15 R was designed to run with a pressurized fuel system it is recommended that such be used. During our test it was found that without a pressurized tank, the engine is extremely sensitive to fuel levels. Do not change the diameter of the pre-drilled crankcase hole . . . any alteration will prove detrimental to performance.

The crankshaft counterbalance is novel: completely round outwardly, it is fully counterbalanced. An aluminum ring conceals the lightened portion. Prop drive washer-spinner back plate combination is an aluminum die casting secured to the crankshaft by an Allen head setscrew. (An Allen wrench is supplied.) The prop shaft, a separate piece, threads into the drive washer and tightens against the front face of the crankshaft. The spinner as supplied is intended for use with small high-pitch racing type props. For use with larger diameter props some altering will be required.

The connecting rod is forged aluminum. Two oil holes at the lower end in sure proper lubrication: top end utilizes a steel wrist pin fitted with aluminum pads. The straight baffled ''Electrolized" piston is relieved just below the wrist pin. Two 1/4" dia. ports in this relieved portion face the fuel bypass. They allow fuel, otherwise trapped in the hollow of the piston, to escape into the bypass via two matching ports in the mechanize cylinder liner. This liner a hand push- fit into the main crankcase casting, is not keyed. Six machine screws hold the head and liner. As alt mating surfaces are machined, the one gasket necessary is for the glow plug.

Another feature that adds greatly to the overall performance is the needle valve assembly. The 15 R incorporates a collector ring and six small fuel holes around the venturi throat. Venturi is adjustable in that you can rotate it to position the needle valve more

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conveniently. Tension on the needle valve is adjustable, or it may be lacked to prevent "floating."

Except for removal of the cylinder liner the engine is easily disassembled for cleaning purposes. However, care must be exercised when reassembling not to reverse the exhaust port! The manufacturer advises against this for the simple reason that your engine will not run with the exhaust relocated.

Running tests were a delight. We had expected some hard starting as usual associated with most racing engines. Instead we found the 15 R to be an exceptionally fast. Even when fitted with a 5 ½ dia. prop, priming directly into the exhaust gave one-flip starts almost every time.

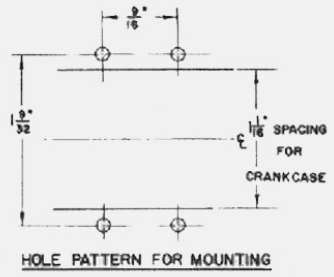
Break in lime is quite brief since only the piston need be "scaled." After 30 minutes running rich our test engine was ready to be revved up. Incidentally this 15R was more or less of a two speed engine . . , fast and faster? Rich running with the needle valve opened to maximum limit only resulted in a drop of about 4.000 rpm.

Best recorded speed with Supersonic 100 fuel and an 8/4 prop was 18,000 rpm. With a 5 1/2" dia. 10" pitch racing prop this engine reached 17,000 rpm. Speeds of over 20.000 rpm should be easily reached with racing blends of fuel and/or lower pitch props.

Although designated "R" for racing. WP see no reason why this engine could not be used for most any modeling need In the nose of a good FAI free flight it should make a hard to heat combination. At control line circles it would naturally be at its best in speed events. Yet its ability to run steady at lower speed with larger props makes it adaptable to any type plane calling (or an engine of this class. For those of you who intend operating this engine all out for extended periods of time, K&B will install special bearings designed for speeds in excess of 20,000 rpm. Cost of installation. $12.

The introduction of the 15 R and the 29 R is certain to be tailed by many flyers seeking more power in these particular displacement classes especially by serious minded speed merchants with no hop-up experience. Now they can compete on an even basis, at least engine wise, with the best "'file Doctors."

Specifications: Bore, .600 inch: Stroke, .537 inch; Weight 4.9 oz.



HOLE PATTERN FOR MOUNTING