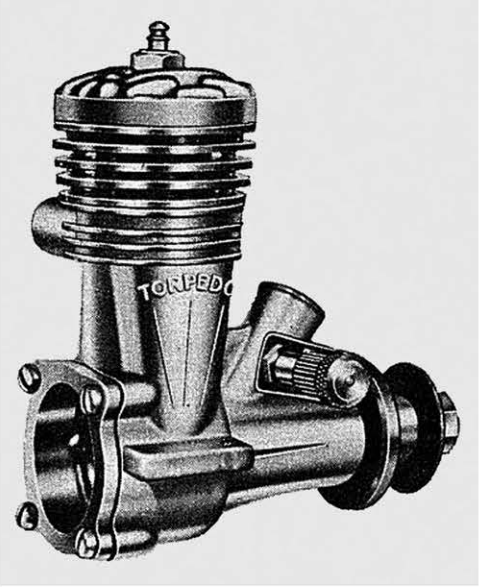
# Logging The Motor Mart




**K & B Allyn Torpedo .09**

● This new engine is a big performer. Using the same design layout as the large .15 and .19 engines, K & B Allyn has produced an engine that, for its .09 displacement, is as powerful as the .15 and .19 engines which have made many Speed and Free-flight records.

In appearance, the Torpedo .09 looks like a small edition of the Torpedo .19. Maximum power output is obtained close to the 15,000 r.p.m. figure. 7" diameter medium-pitch, 8" diameter very low pitch, and high-pitch 6" diameter props will give close to maximum power in flight. Weight is 2⅝ ounces, bore .521" and stroke .465".

The many details that make a great engine are to be found in this .09. The piston is relieved very slightly on its lower half to reduce friction. With a film of oil, the lower half takes the piston side loads and the upper half does the job of sealing.

The upper edge of the piston is chamfered. In contrast to this, a sharp-cornered piston is almost certain to have its corner broken due to deterioration after many hours of running, or through dirt in the fuel rubbing the piston corner as it passes one of the cylinder ports.

The cylinder, which in this case is a liner with a slip-fit in the die-cast crankcase, is slightly enlarged in bore near its bottom. The advantage here is that the increased bore reduces friction yet provides an adequate seal for crankcase compression. The connecting rod has a small hole on its lower end so that some of the oil in the fuel will get through and reduce friction.

The gaskets used are soft and heat-resistant. A perfect seal is assured with these gaskets, even on slightly uneven surfaces and/or with uneven bolt tightening. It is a good idea, however, to use a new gasket after each disassembly since they cost only 5c apiece.

The crankcase has a alumin. bearing with a very smooth inside surface. The crankshaft is balanced—a weight has been left on one side to help counterbalance the force of the cylinder explosion and produce a smooth running engine, with less wear on all moving parts.

Two lugs are provided for beam mounting. The rear crankcase cover is held on by four 3-48 machine screws. The cylinder head is held on by four 4-40 machine screws, two of which pass through the cylinder fins into the crankcase.

The needle-valve assembly has been simplified to a pressed-through body and a split nut on the needle to retain fuel adjustments. The finger-clearance from prop to fuel-adjustment needle is a neat ¾". Fuel line I. D. should be 3/32" or slightly less.

Prop drive is by the very straightforward and efficient taper arrangement. Prop hole diameters should be 3/16". Props should be balanced for best engine performance, due to the high r.p.m.'s attained by this engine.

The exhaust stack keeps the hot exhaust away from needle-adjusting fingers, and allows the exhaust oil to be dumped clear of the engine compartment.

The K & B Allyn is a very well made, rugged engine. Its power is such that it probably can do a good job flying R/C models now powered by larger engines.

Starting is by the same easy procedure followed for the larger K & B Allyn engines. Little or no exhaust prime is required for starting. Hot and flooded starts are easily accomplished.

A Parts List with prices is included with the engine. Step-by-step instructions are given which cover all aspects of engine care and operation.

In summary, the K & B Allyn Torpedo .09 is a very high performance engine that can be used for Racing, for U-control, for contest Free-flight, and for R/C. It is top-notch in construction, performance, and ease of operation.

After a break-in of one hour, the following speeds were obtained using Supersonic 1000 glow fuel:

9" dia./3" pitch Plasticote—9,400 rpm
8" dia./3½" pitch Top Flite—11,900 rpm
7" dia./6" pitch Top Flite—10,300 rpm
7" dia./4" pitch Power Prop—14,600 rpm
6" dia./6" pitch Plasticote—14,600 rpm

Price of the K & B Allyn Torpedo .09 glow engine, complete with glow plug, is $8.95.