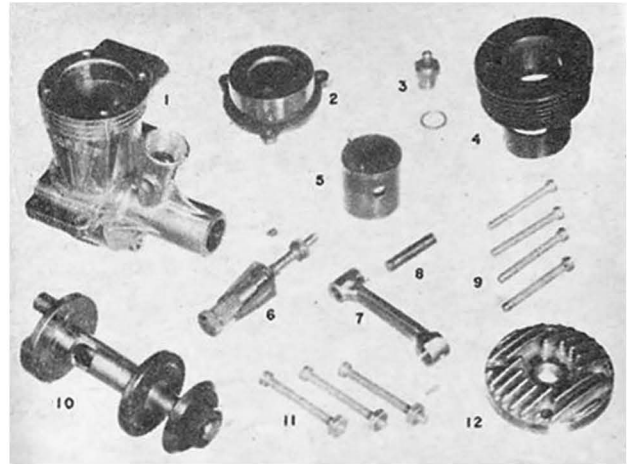
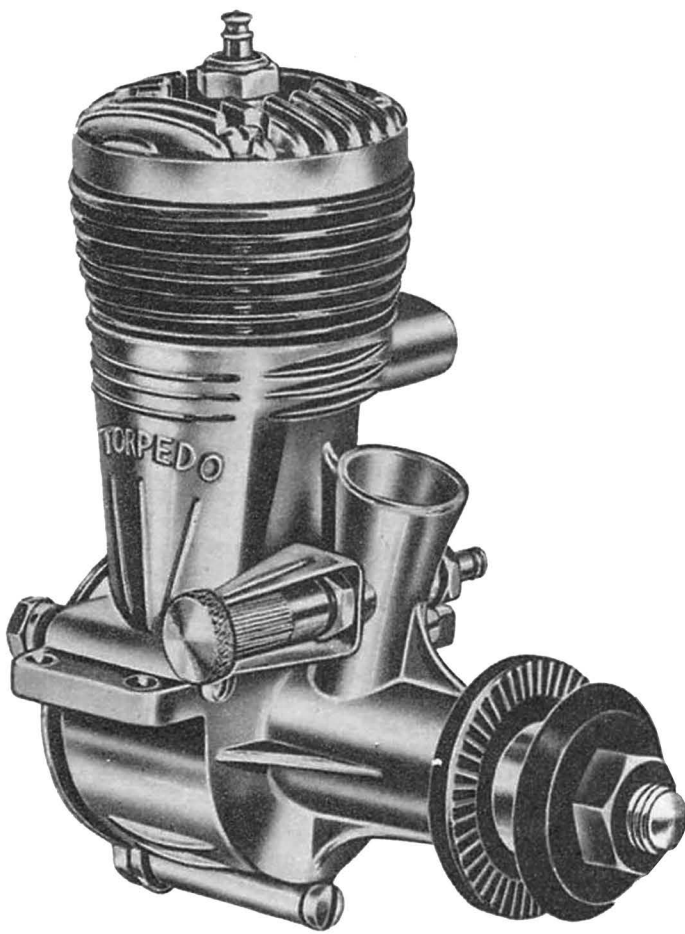


## Motor of the Month



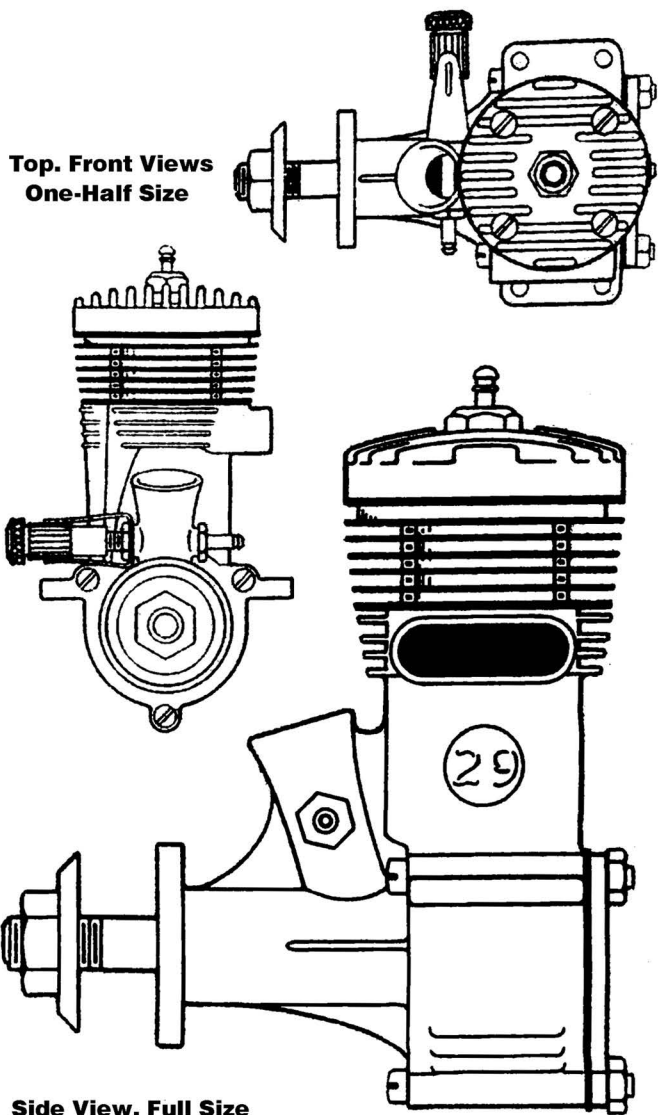
## K & B .29 and .32 TORPEDO

**Practically everything new but name, yet parts interchangeable with previous models**

■ There is nothing new about the name (.29 and .32 K&B Torpedo) but there has been a radical change in the engine, giving it brand-new performance and appearance. The manufacturer states: "By redesigning the old .29 and .32 we picked up about twenty percent more output and added a new look. The change-over was accomplished without obsoleting the thousands of Torps that are now in use. All parts remain interchangeable and that is a very important point." The new .29 and .32 looks very much like the K&B .19 and they have many similar construction features.

The increase in power was produced by changing many details on the engine. A revision in the cylinder head gives a smooth flow of gases but still maintains the high compression ratio. A large tapered bypass similar to many of the new racing engines was incorporated; and the weight of the piston and connecting rod was reduced to give higher speed and less vibration. Also a new aluminum alloy was adopted for the connecting rod to resist cracking under the strain of high-powered fuels. The needle valve was changed to give finer adjustment. Appearance was greatly improved by using smooth aluminum die-casting with carefully placed ribs and braces.

The new K&B .29 has outstanding pulling power in the 10,000 to 12,000 rpm speed range. It also has a strong fuel suction that helps deliver constant power output under changing fuel pressure. This combination makes the engine exceptionally suited for stunt, as was the former Torp. It is a good all-around



engine for free flight, control line sport, and contest work.

Our test was started with a break-in run on the 10/6 Torpedo propeller supplied with the engine. Starting was very easy and the engine reached 10,000 rpm but it would overheat and stop very suddenly unless the needle valve was left rich, so the break-in was continued. Four hours' running time eliminated this tight condition and brought the engine to its full power. At this point the rpm checks were made for the propellers listed.

The engine started easily at all times whether it was hot from a previous run or stone cold. After running at 16,000 rpm the compression seal was good and starting not affected. This is a rare good quality among model engines. Running was very smooth at all speeds up to 15,000 rpm. Since the engine does not have a ball-bearing shaft, high-speed running above 15,000 rpm was not prolonged. Best results for any application except racing can be obtained at 13,000 rpm or less without causing unnecessary engine wear.

### Engine Data

*Performance.* Weight: 6.84 oz. Propellers—10/6 Torpedo: 10,600 rpm; 9/6 wide blade: 12,200 rpm; 8/8 wide blade: 13,000 rpm; 7/9 narrow blade: 15,000 rpm; 8/6 wide blade: 16,000 rpm. Fuel: good performance on hot or cold blends. Fuel level test: 10" at 10,600 rpm.

*Design Data.* Displacement: .299 cu. in. Class: B. Stroke: .724 in. Bore: .725 in. Stroke bore ratio: 1. Compression ratio head: 8.9. Compression ratio base: 1.47. Port area—Intake: .049 sq. in. Bypass: .056 sq. in. Exhaust: .112 sq. in. Ignition: Torpedo Glow Plug.

*Construction Features.* Bearings—crankshaft: bronze bushing; crankpin: aluminum; wrist pin: aluminum. Cast-iron piston with excess weight cut away.

### Parts Illustrated

1. Base: die-cast aluminum with bronze bearing, 1.58 oz. 2. Back cover plate: die-cast aluminum, 1 7/32" dia., .25 oz. 3. Glow plug: 1/4-32 thread, .10 oz. Washer: copper. 4. Cylinder: steel, .725" I.D. x 1 5/16" long, 1.72 oz. 5. Piston: cast iron, .725" dia. x .739" long, .28 oz. 6. Needle valve assembly: brass and steel, 1/16" needle, .25 oz. 7. Connecting rod: aluminum alloy, 1 3/8" long, .09 oz. 8. Wrist pin: steel with aluminum pads, .155" dia., .04 oz. 9. Cylinder head bolts: steel, 4-40 thread, .14 oz. 10. Crankshaft: steel, .375" shaft, .217" crankpin, 1.18 oz. Drive washer: steel, 1" dia., .30 oz. Front washer: steel, 1/8" dia., .18 oz. Propeller nut: steel, 1/4-28 thread, .09 oz. 11. Back cover bolts: steel, 4-40 thread, .17 oz. 12. Cylinder head: die-cast aluminum, 1 3/8" dia., .47 oz.

Total weight: 6.84 oz.