

Fox 35 R/C

Logging the Motor Mart

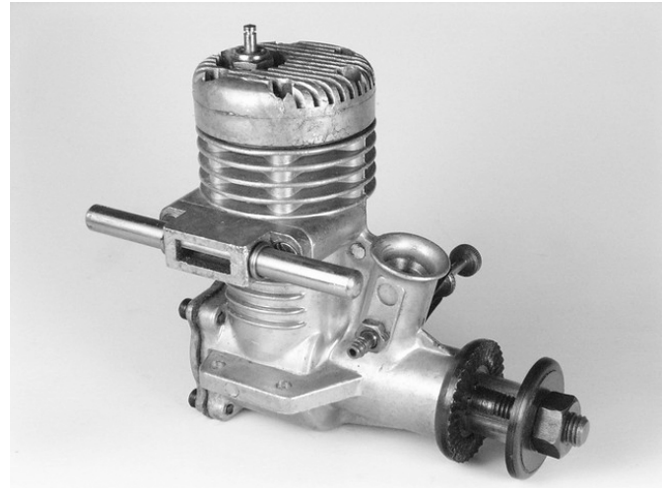
Fox 35 R/C

- The small hole through the rear of the Fox 35 crankcase is not a peephole, an extra exhaust, nor is it an error by the man who drills the holes for Mr. Fox, like all other features of this excellent engine it has a job to perform. The 3/16" diameter hole is used during engine assembly and disassembly to enable the upper con rod pin and in turn the piston to be removed. The cylinder must be first pulled, a slip fit makes this as easy as pushing a fuel can pump.

Heading the list of virtues is the smooth and positive working exhaust control. This attachment depends upon restriction of the exhaust gases to reduce engine pressure during combustion and thereby reduce engine speed and power. A .210" diameter drill rod, with machined flats in the exhaust region, rotates in an aluminum extension bolted onto the exhaust. This rod extends about 3/4" each side of the exhaust. The forward section can be used to mount an air intake restrictor. The rear section can be used for attachment to a servo motor or escapement.

Speed reduction obtained during tests was about two to one, that is, 10,000 r.p.m. prop speed can be reduced to 5,000 r.p.m. speed and with roughly 1/4 the power output it seems likely that intake restriction in combination with exhaust restriction would further reduce this power. For best high speed output the exhaust control should be perfectly centered with minimum restriction. For the low speed operation either the rotation of the rod has to be limited or the restriction part of the rod has to have a groove filed so that full deflection leaves some escape route for the exhaust full strangulation the Fox 35 R/C will not take.

A restrictor tube in the air intake is standard equipment.



The needle has a guided end as in Fox 35 Combat engines. This assures smooth engine speed changes not obtained with even slightly bent needles. The main bearing has an oil groove to assure proper lubrication. The cylinder head seals directly on the cylinder liner so very good heat transfer is obtained between these parts.

The piston of the Fox 35 is offset from the crankshaft so that the force of combustion does not bear on the crankshaft rod at the top of its travel, the side load between piston and cylinder is very much reduced. This feature produces less load and wear on all moving parts and contributes to the long running life associated with Fox engines.

The Fox 35 R/C has taken a slight penalty in power over the standard Fox 35 due to the air intake and exhaust restrictions. Maximum power in flight can be obtained with 10" diameter medium-pitch, or 11" and 12" low-pitch props. Starting hot, cold or flooded is quite easy. Hot starts can often be made without any priming and without having other than a full fuel line. A small intake prime at most works well with hot starts. Placing a small file mark on the needle knob will help establish the needle turn settings. This setting can then be used each time providing the same fuel is used, so that at least one variable in the art of engine starting can be eliminated.

Using Fox Super fuel the following r.p.m.'s were obtained after a one hour break in period:

12" diam./4" pitch Tornado 9,600 r.p.m.

Fox 35 R/C

11" diam./4" pitch Top Flite	10.900 r.p.m.
10" diam./7" pitch Y-O	9.800 r.p.m.
10" diam./5" pitch Tornado	11.300 r.p.m.
10" diam./2" pitch Tornado	13.200 r.p.m.
9" diam./4" pitch Tornado	12.500 r.p.m.

SPECIFICATION

Bore: .800"

Stroke: .700"

Displacement: .352"

Bore to stroke ratio: 1:1.14

Bore weight: 7.1 oz.

Max. torque: 55 in. oz. at 7.000 r.p.m.

Max. horsepower: .56 H.P. at 12.800 r.p.m.

Power rating: 1.59 H.P per cu. in

Power to weight ratio: 1.26 H.P. per lb.

Cylinder head: die cast aluminum, offset long-reach glow plug, no gasket

Piston: Meehanite, flat top, 1/8" high baffle.

Piston pin: hardened steel tube, brass and pads.

Connecting rod: aluminum alloy

Crankshaft: steel alloy hardened, balanced, square intake port.

Crankcase: aluminum alloy die cast, Includes cylinder housing, right hand exhaust, venturi air intake, bronze bearing, beam mounting lugs.

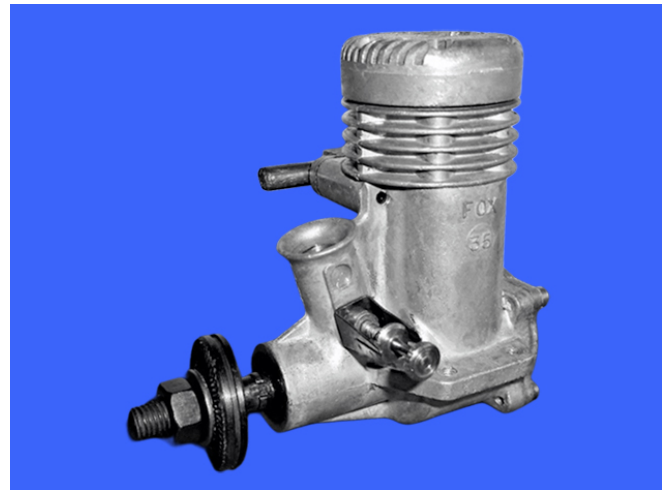
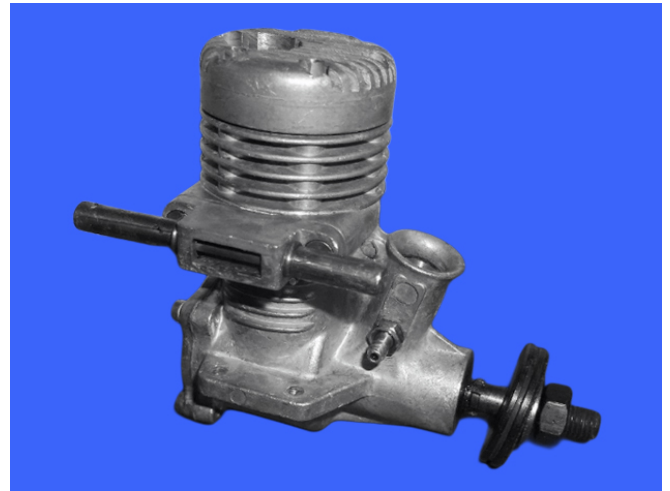
Spray bar: brass, double hole, pressure ring for fuel-line sealing, slip fit through venturi with nut tightening, no gaskets.

Prop mounting: 1/4" diameter, 1/4" - 28 thread.

Manufacturer: Fox Manufacturing Co. Inc.
Fort Smith, Arkansas

Price complete with glow plug and exhaust speed control it \$24.95

especially when Fred Dunn's low-wing, aileron-equipped Astro Hog won the first four places in the 1958 Nationals.



More: https://flyinghlsat.com/search.php?search_keywords=Fox-Engines

Extra Info.

The 1958 Fox .35 RC Special had an exhaust valve throttle. Early throttles were two-speed setups using two separate needle-valve assemblies; one was set to run rich and the other to run lean. Either could be turned on or off. Other systems choked off the exhaust, such as the Fox 1958 RC specials or the aftermarket Roto-Valve. Late in 1958, Veco marketed its HI/LO engines in .19 and .35 displacements which coupled an exhaust valve with a simple rotary choke carburetor. Multichannel RC airplanes, using reed relayless RC systems, became popular,