

Cox Queen Bee .074 R/C

Cox Queen Bee

Imported and distributed by Southern Model Supplies, Adelaide. South Australia.

Specifications

Capacity: 1.2 cc .074 cu. in.
Weight: 113 gram 4 oz.
Power: 0.1 BHP at 18.000 rpm

The new Cox Queen Bee is a delightful little engine. It behaves and performs very well, with a very tractable throttle that should make small R/C models much easier to fly at a range of speeds, instead of all full power or dead stick.

Main Features

Rear intake, reed valve, plain bearing 2 stroke. with separate glow plug and exhaust collector.

The crankcase is machined from aluminum bar stock and accepts the screw in cylinder.

The throttle housing is plastic and is attached to the crankcase with 4 socket head screws.

The throttle, also plastic, is separate, is attached by two screws, and can be rotated through 180° to put the needle valve on the opposite side of the engine.

The cylinder is hardened steel with integral finning, 2 diametrically opposed transfer ports. 2 exhaust ports, and a wide seat for the cylinder head with one copper head gasket in place.

The cylinder head is Cox style, with a 2 mm squish band and conical combustion chamber. The bottom edge of the glow plug sits flush with the edge of the head.

The exhaust collector is aluminum, held in place by the cylinder. The muffler is a thick-walled, 2 piece expansion chamber, attached to the exhaust collector by 2 screws.

The crankshaft is hardened steel with bearing surfaces at front and rear, running in bronze bushes.

The prop driver is a force fit on splines on the shaft, and has a spigot through which the prop

Engine Review

074 Queen Bee



One to one scale photo of the new Cox Queen Bee, a 1.2 cc reed valve engine with the power of the TO 049, exhaust muffler, and excellent throttle.

retaining screw passes. The propeller is held in standard Cox fashion, and there is a fiber washer between prop driver and crankcase, probably for mechanical starting.

Running the Queen Bee

An aluminum plate was cut and drilled for a mount, a considerable overhang being needed to accommodate the rear induction housing and throttle. A 6 x 3 propeller was fitted as instructed, and the prop hub had to be recessed to accept the spigot on the prop driver. With the throttle mounted as shown in the instruction leaflet provided with the engine, the fuel line was at an awkward angle, and the needle valve was underneath the muffler! The situation was greatly improved by reversing the throttle.

On the small prop the engine 'would only oscillate when starting by hand, but with a few extra rpm from an electric starter the engine started promptly and ran very well. After a short period of rich running it could be leaned out to give a steady speed. Throttle control was very good for a small engine, although a little uneven, probably due to the low nitro fuel and suction feed, but the Queen Bee would hold bottom rpm and pick up speed strongly when the throttle was opened.

There was strong vibration at about 7000 rpm which could be controlled with a stronger mount,

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but the engine pulled through the rough running going down to idle or up to full revs. On larger props hand-starting was easy, and the vibration around 7000 rpm was less severe. Throttle control seemed to be better on the smallest prop, and was quite impressive.

Removing the muffler gave a significant rpm increase, and removing the wire gauze from the throttle intake venturi could add a few more rpm, as it does with the TD series. A high nitro fuel is recommended but not necessary. The running behaviour can be adapted with a change of glow plug and/or a change in the head gasket.

The throttle arm can be altered by first removing an E clip. The piston con rod connection is the Cox ball and socket, and the socket peening tool for the .051 can be modified to suit the same operation for the Queen Bee. The muffler seemed to reduce the exhaust noise very little, but it directed the exhaust in the one direction fairly well. It makes up about 16% of the weight of the engine.

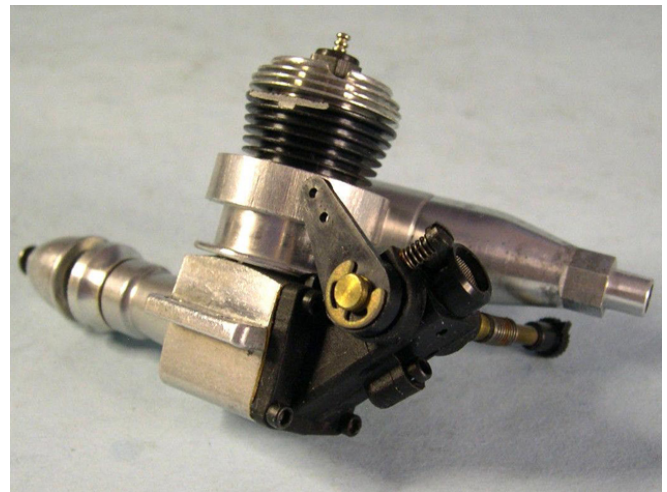
Cox engine users will be very pleased with this excellent addition to the range. Other modellers will be converted to become Cox users by this very user friendly power plant. It is the only small engine with such excellent throttle control and fuel economy.

Prop	Performance (rpm x 1000)		
	Muffler	No muffler	Idle
6 X 3 K & W	16.9	17.1	4.2
7 X 2.5 K A W	11.0		4.8
8 X 3 K & W	8.6		4.0

Look for the Cox Queen Bee in your local hobby shop, which should contact Southern Models for supplies. **M.B.**



The components of the new COX Queen Bee. Spanners are supplied. Note exhaust collector and 2 piece muffler end long beam on engine mount, left centre. Throttle is separate from back plate, which retains reed valve body. Did you ever see a simpler crankshaft?



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