

OWNERS MANUAL FOR THE FOX 78RC

September 1, 1973

Bore 1.00
Stroke 1.00
Weight 19 ounces
H.P. 1.6

WARNING

The Fox 78RC has several unconventional features that require different handling from motors that you may have been accustomed to using. Read this instruction manual completely before attempting to operate or disassemble.

SUITABLE MODELS

The Fox 78RC has been developed specifically for multi-channel radio control model airplanes.

PROPELLERS TO USE

We have found the following propellers work best.

Large scale models in the 9 foot cub category - 14-4 or 14-5 if you can find one.

Models in the Sterling Fokker D-7 to Big John category - 12-6 propeller.

Fixed gear pattern models in the Ugly Stick to Mach 1 category - 11-8.

Pattern ships with retracts - 11-9.

Any propeller that you use should be made of very hard wood such as maple or birch, not gum wood. The propeller nut will mash gum wood before it can be tightened enough.

FUEL

The Fox 78RC performs best on Fox Missile Mist fuel.

GLOW PLUGS

The Fox 78RC should be equipped with a Fox Long RC Plug. Experience has shown that a more reliable idle is obtained if the plug is positioned so that the idle bar is parallel to the wings of the model.

BREAK IN

All Fox 78RCs have been test run at full power before shipping. Prolonged bench running is unnecessary, however, we do recommend that you make your first few flights on the rich side.

CARBURETOR ADJUSTMENTS

The Fox carburetor is of unique design and it is important that you understand its operation. Basically, the carburetor has two rotary valves, both on the same rotating members. Large notches line up with the air passage and meter the air flow. On the bypass side there is a smaller notch contoured which gives matching fuel flow as the barrel is rotated. The contour is such that the mixture will be lean at idle and very rich at full throttle position. Additional fuel is provided at idle through another passage which can be adjusted by the small thumb screw on the exhaust side. To bring in the high speed adjustments a fuel limiting needle is positioned on the by-pass side. Both needles screw in to lean and out to richen. For normal tank installations and flight conditions, we recommend that the low speed mixture adjustments be made for maximum RPM and then slowly back the needle out until the motor speed slows down 500 RPM. The high speed is the same way, screw the high speed in until maximum RPM is obtained then back the high speed needle out until the motor slows down 500 RPM. We recommend you use rubber or neoprene fuel line with I.D. .080 or larger. Vinyl type fuel line tends to harden and leak, and the silicone (white semi-transparent) type fuel line tends to slip off badly. The Fox 78RC carburetor is made from the same castings and parts as our Fox Eagle carburetor, however, the orifice sizes are different, and the body casting and barrel are different.

PERIODIC INSPECTIONS

We recommend that you make the following inspections every fifty flights or so:

- 1 - Tighten all screws as tight as practical, including the rear cover screws.
- 2 - Replace the glow plug with a new one.
- 3 - If you have been using a muffler, we recommend you remove the muffler and run a tank of fuel through it at wide open throttle.

DISASSEMBLY PROCEDURE

The carburetor, cylinder head and rear cover are removed first in the obvious manner. To remove the piston and crankshaft assembly, the cylinder must first be lifted out, then the snap ring and wrist pin must be removed from the access hole in the rear. Special tools are normally used for this. After the piston and wrist pin are removed, the piston can be lifted out and the rod removed. The thrust washer wedges on a taper lock. The thrust washer must be worked forward and the taper lock freed before the crankshaft will slide back through the bearing.

REASSEMBLY PROCEDURE

Reassembly is best accomplished by starting the piston into the cylinder up to the point where the wrist pin hole is just exposed. The sleeve can then be used to lower the piston into position for maneuvering the wrist pin in. When the wrist pin is in place over the connecting rod, the snap ring must then be put in. This is almost impossible unless you have the proper snap ring pliers, available at almost any Waldes Koh-I-Noor or Industrial snap ring distributor.

FACTORY SERVICE

We want your Fox 78RC to perform well for you. Technical advice can be obtained directly from Duke Fox by phoning Area Code 501-646-1656. If your motor has become worn or crashed, and you desire our factory repair service, mail it directly to us. We will disassemble the motor, replace all necessary parts, test run the motor and return it to you charges collect. It has proven impractical to make any sort of estimates. We will assure you however, that our charges will never be more than 60 percent of the list price of a new motor.

Parts List

Crankcase	27801	15.00
Cylinder Head	27802	10.00
Cylinder Liner	27803	10.00
Piston	27804	8.00
Connecting Rod	27807	8.00
Wrist Pin	27806	1.00
Piston Ring (2)	27818	1.25 ea
Crankshaft	27808	15.00
Thrust Washer	27809	2.50
Thrust Washer Wedge Lock	26005	1.00
Rear Cover	27811	4.00
Prop Nut	26012	.25
Prop Washer	26013	.5
Screw & Gasket Set	27814	1.00
Carburetor Assembly	27850	14.00
Throttle Casting	27860	7.00
Throttle Barrel	27861	6.00
Idle Stop Screw & Spring	26062	.25
Low Speed Mixture Control	26063	.75
High Speed Mixture Control	26064	.75
Idle Stop Arm	26065	2.00
Servo Arm	26066	.50
Friction Spring, H.S. Needle	26068	.50
Spacer	26069	.25
1/4-32 Nuts	26070	.25
Exhaust Valve	27875	3.00
Exhaust Valve Snap Ring	27876	.25
Exhaust Valve Wire	27877	.25
Bearing - Rear Main	27842	3.50
Bearing - Front Main	26043	2.50