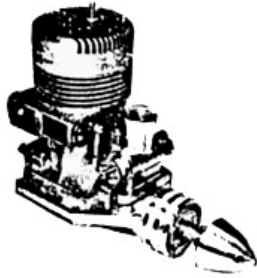


**OWNER'S MANUAL
FOR
FOX 60R/C & FOX 74R/C**



60R/C 74R/C
Bore: .97 1.000
Stroke: .937 .937
Weight: 19 oz 19 oz
HP: 1.0 1.1

WARNING - The Fox 60R/C and Fox 74R/C have several unconventional features that require different handling from other motors you have probably been accustomed to using. Read this instruction manual completely before attempting to operate or disassemble.

SUITABLE MODELS - The Fox 60R/C and Fox 74R/C have been developed specifically for multi-channel radio model airplanes. Stunt models weighing from 6 lbs. to 9 lbs. is the normal range. Heavier models can be flown with some sacrifice in performance.

INSTALLATION - The Fox 60R/C and Fox 74R/C are designed for normal beam mounting. The mount dimensions are shown on the drawing on the inside of this folder. 6-32 screws are recommended. You may wish to install your engine radially against the firewall. The casting has purposely been made rugged enough for the possibility. Due to the unusual fuel injection carburation used on the Fox 60R/C and Fox 74R/C the fuel tank mounting is not as critical as with many other make motors. For practical purposes however, the fuel bottle should be mounted not further than 6" aft of the rear cover and not more than an inch above or below the thrust line.

BREAK-IN - Your Fox 60R/C or Fox 74R/C has been carefully made and tested at the factory. About the only practical purpose served by a break-in period is to familiarize you with the controls and adjustments.

PROPELLER TO USE - An 11-8 pitch propeller is recommended for faster, clean models, while 12-7 or 12-6 and 13-5 propellers seem to work better on the slower flying models. We recommend that you use only wood propellers as most nylon propellers seem unable to withstand the power of these engines for long, and they shed blades with rather disastrous results.

FUEL - A Fox 60R/C and Fox 74R/C will run on a wide variety of glow fuel. We have found a mixture of 1 gallon of Duke's Fuel plus 1 gallon of commercial methanol to be excellent. We have spent considerable effort to design this motor so that it will run on a low castor oil content fuel. This reduces the cost of the fuel, reduces the slobber on the side of the airplane, and reduces the carbon inside the engine. Test engines have been run satisfactorily on mixes as thin as 96% alcohol and 4% castor oil. However, the cylinder wear rate seems to go up rather rapidly with mixes containing less than 10% castor oil. If the maximum power output is desired, higher nitro fuel such as Missile Mist or Blast can be used either straight or thinned with methanol. You should bear in mind that both Missile Mist and Blast contain nitroethane to which only epoxy finishes seem totally resistant.

CARBURETOR ADJUSTMENTS - In the technical sense, the Fox 60R/C and the Fox 74R/C engines are low pressure fuel injection engines. The air is metered by a rotating throttle barrel, and the fuel is metered by a progressive three-jet rotary valve system. The idle jet feeds at all times. At the 25% throttle position the intermediate jet starts feeding additional fuel into the manifold. At 75% throttle position the high speed jet starts feeding additional fuel into the manifold. Each jet has independently adjustable flow valves. An even mixture adjustment throughout the throttle range is accomplished by the shape of the air valve which admits a quantity of air to match the fuel flow at that throttle position. The bypass side horizontal screw is the high speed mixture needle. The bypass side vertical screw is the idle mixture needle. The exhaust side horizontal screw is the intermediate mixture needle, which also accepts the fuel line. The exhaust side vertical screw is the idle stop screw. We recommend this adjustment procedure. Set the idle stop screw so the engine runs at 3,000 RPM. Screw the idle mixture screw in leaning the mixture until the engine threatens to stop. Richen the mixture slightly and readjust the idle speed for 2,500 RPM. Next open the throttle until the arm is in the 50% open position. Screw in the intermediate jet adjustment until the engine again threatens to quit and back the intermediate jet out slightly. For the high speed adjustment, open the throttle wide and adjust the high speed needle for maximum power. Then back it out until the engine slows approximately 400 RPM. If the tank is mounted further back than customary it may be necessary to back the high speed jet out a bit further to avoid the engine going over-lean in a climb attitude. The throttle then should be moved back and forth through the carburetor range to check for any lean spots or rich spots. The secret of a reliable idling engine during touch and goes and taxiing is to keep the intermediate and

low speed adjustments as lean as practical. On the other hand the high speed jet should be run on the rich side to avoid over-heating and over-leaning as the tank becomes emptied.

GLOW PLUGS - The Fox 60R/C and Fox 74R/C are equipped with two glow plugs. The one on the exhaust side is a Fox R/C Long plug and is positioned for the best idle. The one on the bypass side is a Fox Heavy Duty Short Plug and is positioned for maximum power. **WARNING** - If you use a non-recommended plug on the by pass side it might hit the piston baffle and cause all sorts of trouble.

50 FLIGHT INSPECTION - It is a good practice to examine your engine closely every fifty flights or so. Remove the engine from the plane. Thoroughly clean the exterior using a brush and Stoddard solvent. Check all of the visible screws of tightness. Replace both glow plugs unless they have been recently replaced. Check carefully for excessive wear on any of the throttle or exhaust components. If substantial wear is apparent, get your order in for replacement parts before a crisis occurs. When a cylinder loses compression for the first time, usually a new set of rings will get you back in working order. The second time both the rings and cylinder liner should be replaced.

DISASSEMBLY PROCEDURE - A thrust washer is fitted rather tightly on the crankshaft and is held with a woodruff key. The thrust washer can be removed by pulling it forward or toward the spinner nut. However, in some cases a bit of effort will be required. Removal of the head screws frees the cylinder head and the cylinder liner can be lifted out. Four rear cover screws will remove the rear cover. You will observe that the con rod is held onto the crank pin by a knurled headed screw. This screw has left-hand threads and can be removed by screwing clockwise with a pair of pliers. You should not attempt to remove the piston and rod assembly without removing the needle cage assembly. When you pick out the needle cage assembly, needles will fly every way so do this operation over a shoe box or similar container. The rod and piston assembly can then be removed from the top. The rod can be removed from the piston by removing either snap ring and withdrawing the wrist pin. The upper needle cage assembly is identical to the lower one, however you will not have the needle flying problem if you keep the assembly in the rod. When you re-assemble it a bit of vaseline or grease is very helpful in holding the needles into the cage until you can get the assembly together. The carburetor assembly can be removed from the crankcase by removing the screw in the front end of the exhaust valve to free the linkage, and then removing the two screws from the bottom side of the crankcase.

We want your Fox 60R/C or Fox 74R/C to perform flawlessly for you. Technical advice can be obtained directly from Duke Fox by phoning Area 501 646-1656. It is our desire that dealers who stock Fox parts be patronized, however any order placed directly with us will be promptly shipped.

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