FOX MANUFACTURING COMPANY
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120 TWIN CYLINDER

INTRODUCTION
Since this is one of the very first twins we have produced, we would like very much to hear what success and problems you may experience. A parts sheet will be available at a later date.

FOX TWIN

The Fox 2 cylinder 20cc motor was designed to power large radio controlled model airplanes. We leave it up to the judgment of the purchaser as to its suitability to the particular purpose he has in mind.

Specifications:

Bore: .906
Stroke: .937
Type 2 cylinder opposed, 2 cycle, schneurle ported glow engine
Weight 2 1/2 lbs.
H.P.: 3 approximately at 14,000 RPM

FUEL

The Fox Twin is designed to operate on prepared model airplane fuel having castor oil based lubricant. For best performance we recommend either Duke's Fuel or Missile Mist fuel. The Fox Twin also runs quite well on an economy mixture of fuel composed of four parts methanol and one part castor oil.

PROPELLERS

In selecting your propeller remember that the Fox Twin is a high speed machine designed to run in the 11,000 to 14,000 RPM range. You would use an 8" propeller on a 15, a 9" propeller on a 29, an 11" propeller on a 60, so doubling the displacement again would suggest a 13" propeller, which is about right for most models. In practice, an 11-8 is about as small as practical and a 16-4 is about as large as practical. Leave the huge propellers for motors that are incapable of revving up.

CARBURETOR ADJUSTMENT

The carburetor adjustments take some time and must be done systematically to get any sort of satisfactory results. To get the user the best possible start, we have adjusted these carburetors at the time of the factory run-in. If the needles have not been tampered with, you should be able to remove the engine from its box, mount the engine, connect the fuel line, install a propeller, and start it and run it without any further adjustment. We do not recommend that you attempt to fine tune the adjustments until the motor has run for approximately 30 minutes. At this time, if you so desire, proceed as follows:

Start the motor and set the throttle about 1/3 of the way open. Leave both glow plug heaters on. Then, very slowly, a few degrees at a time, screw the low speed mixture needle in to obtain the highest RPM. Then back out a quarter turn. Then follow the same procedure on the other carburetor. Next, open the throttle wide open and proceed to adjust one high speed needle until you find the point of maximum RPM, then back the needle out very slowly until you detect a slightly perceptible power loss. Then repeat this operation on the other carburetor. Since there is some interrelation of the carburetor, this whole procedure should be repeated if major adjustments were made. Once this has been done, it should not have to be repeated more than twice a year. Once as cold weather comes on, and once as hot weather comes on.

FUEL SUPPLY

The Fox Twin burns about two ounces of fuel a minute. This is quite a bit of fuel and a pretty decent fuel flow is required. We recommend you use no fuel line smaller than .100 ID, which is the inside diameter of the large Fox fuel lines. Popular polyethylene tanks on the market today are normally equipped with a piece of tubing to go inside for pick up. This is too small in diameter and should be replaced with a piece of large Fox surgical tubing. The surgical tubing will deteriorate slowly in fuel, and should be replaced every two or three months. We also recommend the 1/8" tubing in the top of standard fuel bottles be replaced with 5.32" OD fuel tubing.

BREAK IN PROCEDURE

There is no need to baby this engine or have a prolonged break in. If you have an airplane to fly, then fly it, but bear in mind that until the rings seat, there is sufficient friction in the engine so that if it misfires on low speed, it will probably quit. For this reason, we do recommend you not get your bird out of landing range. As the rings become seated this tendency disappears.

MOUNTING

The Fox Twin is designed to be firewall mounted on a good, rigid, well supported firewall.

DISASSEMBLY

The Fox Twin can be disassembled with no problem, except that the front connecting rod and crank center section can only be removed at the factory. When reassembling, be careful that the ring is over the positioning pin, and push the cylinder straight on to avoid the ring catching in the ports.

WARNINGS

Always keep clear of the propeller. It is possible for a propeller to cut a finger off, or for a piece to come off and put an eye out.

Model airplane fuel is both flammable and extremely poisonous. Use the same safety precautions that you would with a can of gasoline or a bottle of poison.

Never fly a control line model within 200 feet of power lines. Death by electrocution is possible if your model comes near power lines. Direct contact is not necessary.

A model airplane motor can get hot enough to cause a serious burn. Do not touch the motor right after it has been running.
There is always the possibility that you may lose control of your model. Do not fly in any location where your model might strike people or do property damage should this occur.

PARTS FOR FOX TWIN

	Part No.	Price
Crankcase, Front	TW001	20.00
Crankcase, Center		12.00
Crankcase Rear		20.00
Cylinder Head		10.00
Head Button		6.00
Cylinder Casting		20.00
Cylinder Liner		20.00
Piston		14.00
Wrist Pin	26106	2.00
Wrist Pin Keepers/td>	26040	.75
Piston Ring	TW018	2.50
Connecting Rod	TW007	18.00
Crankshaft Front Section Crankshaft Center Section	- - - - - - - - - -	54.00
Crankshaft Rear Section		22.00
Crankshaft Stud	TW018	2.50
Thrust Washer	TW009	6.00
Thrust Washer Wedgelock	TW005	3.00
Prop Nut	26012	.75
Prop Washer	TW013	1.50
Head Screws (Pkg of 8)		1.50
Cylinder Screws (Pkg of 4)		1.00
Case Screws		1.00 ea
Cylinder Gasket		.75
Case Gasket		.75
Carburetor Gasket		.75
Ball Bearing - Front	13742	10.00
Ball Bearing - Center		16.00
Ball Bearing - Rear	26042	10.00
Carburetor Complete	26050	16.00
Throttle Casting	26060	7.00
Throttle Barrel	26061	7.00
Idle Stop Screw & Spring	26062	.75
Low Speed Mixture Control	26063	1.25
High Speed Mixture Control	26064	1.25
Idle Stop Arm	26065	2.50
Servo Arm	26066	1.00
Needle Clip	26068	.75
Spacer	26069	.75
1/4-32 Nut (Pair)	26070	.75
Throttle Connecting Arm		4.00
Motor Mount		16.00