

OWNER'S MANUAL

#11900 Fox 19 Bushing C.L.
#21900 Fox 19 Bushing R.C.
#12500 Fox 25 Bushing C.L.
#22500 Fox 25 Bushing R.C.

WARNING

Improper operation of this motor could result in bodily harm. Read this instruction manual and heed its warnings. We want this motor to be a source of pleasure.

MESSAGE FROM DUKE FOX

We are very proud of our Fox 19 and Fox 25 motors and we want yours to give you the best possible service. Please read this Owner's Manual in its entirety and follow our instructions to the best of your ability. If you have and questions not covered here, please feel free to call us at 501-646-1656.

NOTE

Although the Fox 19 and Fox 25 appear similar, only the carburetor, prop. nut and prop washer, and the rear cover are interchangeable.

SUITABLE MODELS

These motors are intended to power model airplanes calling for motors of this size and requiring from .25 to .40 H.P.

WARNING

There is always the possibility 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.

WARNING

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

INSTALLATION

Your Fox motor should be mounted in the most rigid and secure manner possible. If the airplane design calls for a firewall type mount, we recommend the #50203 Fox one piece metal mount as it is very rigid. If your airplane is designed for a hardwood beam type mount, be sure they are well braced between the two beams. A plywood firewall alone without cross bracing and gussets just does not do the job right. A flimsy motor mount could result not only in structural damage due to vibration, but can damage the engine due to foaming of the fuel.

RECOMMENDED FUEL, PLUGS AND PROPELLERS

The Fox 19 and 25 run best on our Missile Mist fuel. Lower priced fuel in many cases does work satisfactorily, but for the highest power output, steadiest run, and easiest starting, we recommend Missile Mist fuel. We recommend an 8-5 wood propeller for our Fox 19 and a 9-4 wood propeller for our Fox 25. Many people have an urge to put a larger propeller on because they are going to put it in a smaller airplane. This theory just does not work that way. We recommend you use only wood propellers. Plastic or fiberglass propellers will hurt you a lot worse if you should get your hand in the propeller while running.

WARNING

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.

FUEL TO USE

We recommend Missile Mist for best performance, or Duke's fuel for economy. Never use a fuel with only synthetic oil. It will appear to work okay, but your motor will wear out in only a few hours.

WARNING

Model airplane fuel is both flammable and poisonous. Swallowing could cause blindness or death. Vapors ignite readily and serious burns or death could result. Use the same safety precautions you would use with a can of gasoline or a bottle of poison.

TO START YOUR MOTOR

1. Mount your motor securely on a mount that does not put a strain on the lugs. #4-40 screws are the size to use. The fuel supply should be positioned so the fuel level is no more than 1/2" above or below the fuel nipple. The fuel line should not be higher than the fuel level at any point. Use Fox medium silicone fuel line (.080 ID).
2. Close the throttle - adjust the idle stop screw (the one on the top), so you can see a hairline opening in the intake when the throttle is pushed closed.
3. Holding the throttle shut, screw the low speed needle (the one on the exhaust side) in until it is snug, then back out 2 turns.
4. Screw the high speed needle in until it is snug, then back out 4 turns.
5. Set the throttle at 1/3 open position, connect the glow plug wire and crank counter clock wise with a quick, snappy, flipping motion. If it does not start in a few flips, try choking it a turn or two. It should start and run at these settings.

BREAK IN

These motors have a closely fitted bronze main bearing, and an iron piston that requires running in to operate at maximum efficiency. Running in should be done with the mixture set richer than normal. Usually after a half hour running the motor will hold a maximum power setting without sagging or quitting. It is useless to try to fine tune your carburetor until the motor has been run enough to be freed up.

WHEN THINGS DON'T GO SO WELL:

MOTOR WON'T START

- Bad plug - replace.
- Fuel tank empty.
- Fuel line collapsed, leaky or off.

MOTOR WON'T KEEP RUNNING WITH GLOW PLUG HEATER OFF

- Bad plug.
- Too rich a setting.
- Water in your fuel.

MOTOR GOES LEAN AND QUILTS AFTER A COUPLE OF MINUTES FLYING

- Hole in flopper tube in tank.

GLOW PLUG BURNS OUT EVERY FLIGHT

- Over voltage on battery - (plug should glow orange, not white).
- Element crumpled. Caused by cranking, case flooded, or too close on squish band, cured by installing head gasket.

WARNING

A model airplane motor can get hot enough to cause a serious burn. Do not touch the motor right after it has been running.

GLOW PLUGS TO USE

Your Fox 19 and Fox 25 should be fitted with Fox Long Thread Glow Plugs. For a good idle on throttle type motors, the idle bar type plug seems better. However, these motors work surprisingly well on the cheaper standard variety.

IN CASE OF CRASH, DO NOT TURN THE PROP OVER YET

1st - Remove from the rest of model.

2nd - Wash under hot water faucet.

3rd - Remove plug and rear cover and wash in stoddard solvent.

4th - Now check and see if it turns over freely. If so, it is probably not hurt.

OTHERWISE, CONTINUE TO DISASSEMBLE

TO CONTINUE DISASSEMBLY

Remove the head screws, lift off the head, and lift out the cylinder liner. If the cylinder requires urging DO NOT USE PLIERS. Instead, turn piston to bottom and put a glow plug washer on the piston, slide the washer over the edge so it extends 1/32" into the port. Now turn the crankshaft and the piston will push the cylinder up. Remove the crankcase screws and remove the rear cover. Slide off the connecting rod and the crank can now be removed.

REASSEMBLY

Reassembly is straightforward, but watch these two trouble spots:

1. Be sure the by-pass port (the lower one) is positioned so it lines up with the by-pass.
2. Be sure the piston is installed with the baffle on the side opposite from the exhaust.

FACTORY SERVICE

We want your Fox engine to perform well for you. Technical advice can be gotten by phoning Area Code 501-646-1656. If your motor has become worn or crashed and you desire our factory repair service, mail directly to us. We will disassemble your motor, replace all necessary parts, test run, and return the motor to you all charges collect. It has not proven practical 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.

Part Name	Fox 19CL Bushing #11900	Fox 19RC Bushing #21900	Fox 25CL Bushing #12500	Fox 25RC Bushing #22500
Crankcase	11901 11.50	11901 11.50	12501 11.50	12501 11.50
Cylinder Head	11902 5.75	11902 5.75	12502 5.75	12502 5.75
Cylinder Liner (We recommend these be ordered in pairs) Piston	11903 6.00 11904 6.00	11903 6.00 11904 6.00	12503 6.00 12504 6.00	12503 6.00 12504 6.00
Wrist Pin	11906 1.00	11906 1.00	12506 1.00	12506 1.00
Connecting Rod (3/16 Crankpin)	11907 6.00	11907 6.00	11907 6.00	11907 6.00
Crankshaft (3/16 Crankpin)	11908 10.50	11908 10.50	12508 10.50	12508 10.50
Crankshaft - Clockwise Rotation	11928 12.50	11928 12.50	12528 12.50	12528 12.50
Thrust Washer - Steel	11909 2.00	11909 2.00	11909 2.00	11909 2.00
Rear Cover (Identical except for markings)	11911 5.00	11911 5.00	12511 5.00	12511 5.00
Prop Nut - 1/4-28 (Pkg of 2)	13512 1.00	13512 1.00	13512 1.00	13512 1.00
Prop Washer	11913 1.00	11913 1.00	11913 1.00	11913 1.00
Screw & Gasket Set	12514 1.00	12514 1.00	12514 1.00	12514 1.00

FOR R.C. CARB - NEW SERIES
R.C. Carburetor, complete (New Series)	-	21950 19.95	-	21950 19.95
Throttle Casting	-	21960 8.00	-	21960 8.00
Rotating Barrel	-	21961 8.00	-	21961 8.00
Idle Stop Screw & Spring	-	26062 1.50	-	26062 1.50
Low & Intermediate Mixture Needle	-	21963 1.50	-	21963 1.50
High Speed Mixture Needle	-	21964 1.50	-	21964 1.50
Servo Arm	-	24066 1.50	-	24066 1.50
Friction Clip	-	24067 1.00	-	24067 1.00
#10-32 Knurled Nut	-	21670 1.00	-	21670 1.00
Jet Assembly with Fuel Nipple	-	21971 14.00	-	21971 14.00
Cam Screw	-	24072 2.00	-	24072 2.00

FOR CONTROL LINE
Casting with Needle Valve Assembly, Gasket & Screws	12530 6.50	-	12530 6.50	-
Intake Casting Only	12531 4.50	-	12531 4.50	-
Needle Valve Assembly	11510 2.75	-	11510 2.75	-
Needle Only	11516 1.25	-	11516 1.25	-
Needle Valve Body (With Clip & Nut)	11532 1.75	-	11532 1.75	-