

I will lay no claims to being the first to convert the Fox in this particular way but I have tried to bring together the (in my opinion) the better ways to convert the Fox to RC to ensure durability and good performance.

- Targets were easy adaptation
- Low drag
- Low price
- Simplicity
- Resistance to knocks

The motor on top approach was used to prevent the problem with shaft damage that is prevalent with motor in front conversions and also to help with the C of G placement, it provides a low drag approach with the ability to convert to a glider just by pulling the prop off.

Parts required

MPX Fox kit

0.8mm Pultruded Carbon Fibre rod

2mm Pultruded Carbon Fibre rod

0.6mm heat shrink tubing

12mm diameter 3800KV/RPM brushless motor

Suitable speed controller

3 X 8mm thick servo's 3.5 gram

Small 2.4Ghz Rx

350 – 400 Ma 2 cell Lipo

1mm internal diameter plastic tube (inner from Graupner snake)

GWS 3 X 2" prop

Clear plastic weatherproof tape (Diamond Tape)

Sharp scalpel blades and handle

Fuselage. Start the conversion by first sanding off all the little moulding marks use 240 grit on a small sanding block, do this as much as your patience allows you to, then cut off the canopy as follows, run a sharp (new) scalpel blade around the seam between fuz and canopy keeping the

blade square to the seam with a few passes the canopy should lift off, remove the large ball bearing found inside, marking by hand the fuz cockpit as shown in the drawings and then using a scalpel blade cut a vertical cut deep enough but not too deep as to exit through the fuz side and cut your hand, remove the foam in the cut area using long nose pliers to pluck pieces out, tidy up the cut-out as to the drawing the best you can (a Dremel is useful) , use the same methods to remove foam from the canopy allowing enough room for the Lipo battery. **Photo 5889**

Ele Servo. Take one servo and remove both mounting lugs, zero the servo and fit the arm, cut the arm to 1mm long, mark the position of the elevator servo and again cut the foam squarely to create a pocket for the servo to fit into such that when the servo arm is fitted it is about 1mm below the fuze side level cut the opening so the servo slides in easily not stretching the foam. Cut through from below the wing seat to create a groove for the servo cable to run through. **Photo 5935**

Tail and Elevator. Cut the tail plane slot modification as shown in the drawing to allow the elevator to move up and down and then mark on the fuz side the line to cut the elevator push rod tube, along this line make two cuts far enough apart to allow the tube to be held in place when pushed into the resulting channel that is cut out, make the two cuts about 5mm deep and then cut twice more at an angle (as shown in picture) the two cut strips should then lift out, the ele push rod tube should then be allowed a light press fit so it is flush with the fuz side. **Photo 5921**

Wing Spar. Using the wing layout drawing mark using a very fine felt pen the cut lines for the ailerons and the spar, cut the spar slot using a steel ruler for the vertical cuts to just narrower than the carbon wing spar, remove the piece of foam and check that the spar pushes in, remove it for fitting later. **Photo 5892**

Aileron cutting. Using the wing layout drawing accurately mark out the aileron ends and cut lines, lay the wing on a flat cutting board and hold down with tape, using a steel ruler held from tip to tip and a **NEW scalpel blade** make the first cut from the tip aileron end top the root end with the blade held at about 20 degree angle (see drawing) cut only to the aileron ends (not the wing tips) plus a couple of mm extra, keeping the blade firmly at the angle make two light cuts to go all the way through, then without moving the ruler immediately hold the blade vertical and make two more, this will result in a small wedge of foam being cut away (see photo) then remove the ruler and make the tip and root cuts to separate the ailerons, then trim 0.5mm from the root of each aileron to allow clearance. **Photo 5918 and drawing Fox Model Wing**

Servo cut outs. Place the servos on the wing as shown in the drawing mark around them using a fine pen and with a sharp blade cut the outline to about 6mm deep, remove the foam from the cut out using pliers to pluck out the foam in small pieces, when down to 6mm cut the next 2mm to a total depth to fit the servo flush with the wing surface, if done with care you will not break

through to the wing top surface, so with care you should end up with servos a light push fit and flush with the wing under surface but not showing on the top. **Photo 5891**

Fit Ailerons and Elevators. Hold the wing down top surface upwards place the ailerons at about 0.2mm space between the wing and aileron and hold in place with small pieces of tape, as shown in the photo cut two pieces of Diamond Tape and tape the ailerons into place leaving a small gap at each end, rub down and then remove the wing from the board, both ailerons should now be free to move correctly, they only need to move about 5mm down and up absolute maximum. Fit the Elevator in the same way. **Photo 5970**

Push rods. Zero all servos so that the arms are exactly at 90 degrees to the servo body, measure from the servo arm hole centre to the aileron hinge line and write the measurement down do this for both ailerons in case they are different.

Take a length of the 0.8mm carbon rod and 20mm from one end roll it under a knife blade to make a groove all away around it, make another groove at the written down distance, cut the rod at 20mm from the second groove, **drawing Fox Fuz**

Cut two pieces of heat shrink tube 15mm long, place a drop in medium cyano on the first groove, slide the heat shrink over it until central and immediately shrink it with a heat gun, while hot break the rod at the groove and hold bent at 90 degrees until cold (it will stay in place) do the same for the other end. **Photo 5927**

Make 2 push rods the same and then cut one end of each to XX mm long and the other end to XX mm long.

Aileron horns. Take a thin piece of balsa (1/32" 0.5mm) and cut three horns to the size shown in drawing, cut slits into the ailerons and elevators, (make sure they do not go all way through) sharpen the edge of the horn and push into the slits, **do not glue at this stage (drawing Fox Bits)**

Connecting the linkages. First ensure that all servos are correctly centred then using medium Cyano apply a small blob to hold the short end of the push rod to the inner face of the horn when the glue is set (use accelerator) use some thing thread to whip the horn in place (see photo)

Push the servo into place (fully in) set the horn to the angle shown in the drawing push the end of the carbon rod into wing touching the horn and apply enough Cyano to bond the rod and heat shrink to the horn, use a drop of thin Cyano to hold the horn into the slot. Allow the glue to set firmly before checking the linkages. **Photo 5933**

Motor Mount. Cut the motor mount from a piece of 1.5mm (1/16") balsa not too heavier piece glue some off cuts of balsa to the top to help support the motor as show in the photos.

Lightly glue the motor into place and then secure with a strip of adhesive tape nothing more is needed run the motor leads down the front edge of the motor mount with the three wires "in line"

(to reduce drag) hold into place with some tape, the mount can now be covered with some plastic trim film for appearances. **Photo 55942, 5943**

Final assembly. To assemble the aircraft you need to cut across the top of the fuz at the point shown on the plan this will allow the top to be bent up enough to allow the wing to be slipped into place. when it is in place and the wires have been routed correctly secure the wing with a few drops of cyano, fit the tail plane next and glue the same way. Align the motor centre line to give down thrust as shown on the drawing and secure with a drop of cyano (a small drop will allow it to be adjusted if need be) **Photo 5938, 5939**

Finishing off. With the model assembled connect the speed controller and receiver, the controller (ESC) is best fitted tight up under the fuz top above the wing (see drawing) receiver is below the ESC, place the battery and check the centre of gravity keep it close the point shown.

Control movements. Ailerons 4mm to 5mm up and down, Elevator 5mm up and down do not be tempted to use more movement as roll rate is very high indeed.

Fit the prop and test the set up on 2 cells the motor / prop combination chosen give a good turn of speed without excessive noise levels, it will climb indefinitely at 50 degrees.

Problem solving, if you have any questions contact me at cadmacfox@yahoo.co.uk