

Cessna EPP

This construction manual shall be used as a guide for the assembling of the Cessna EPP. In addition to the wings, the fuselage and the T-tail you need the following things:

- control horns(1mm thick plastic or CFRP plate)
- 0.8mm bowden cable
- 3M 90 spray adhesive
- 3M 50mm strapping tape
- 5min Epoxy or hot glue
- coloured Monta tape
- 2mm wire for the landing gear

RC-Components: 10-20g radio gears; engine "Speed 400" category

The spray adhesive and the strapping tape are both available on our website (www.epp-modelle.de) if go to accessories.

Main wing:

Remove the foam cores from their beds. Use the sandpaper or a scrap piece of foam to clean off any melted foam debris.

Now apply epoxy or hot glue to bond the foam cores together. Use the bottom foam beds to align the cores. The wing should have a V-shape.

(Ailerons are not necessary to control the model, but if you want to use the model as a 3-axis trainer you can cut ailerons in the wing and add radio gears for the ailerons. Make cuts about 6mm deep into the wing to run the cables of the radio gears to joint of the two wingcores)

In case you installed ailerons remove them in order to spray a light cote of 3M 90 spray adhesive on the wing. Now you should wait about 5min to allow the adhesive to evaporate, before you start taping the model. In the meantime you can put the RC radio gears back in place. Apply the 50mm strapping tape as shown in the figure standing down. It is important that you tape the wing equally on the top and bottom side in order to avoid twisting of the wing. The taping is necessary to make the wing and fuselage bending proof and torsion proof.

Fuselage:

Trace the RC components on the fuselage foam core using a pen or marker. The positions for the components are as shown in the drawing. Pay attention to the position of the centre of gravity (55mm from the wing leading edge backwards). Use a sharp knife to do the cut-outs. The cut outs should be a bit smaller, as the RC components won't be glued but pinched into the core.

Use silicon or a small piece of plywood to install the engine in the designated cut-out. The motor should have a downthrust of 5° and 2° lateral thrust to the right, which has to be adjusted according to the power of the used engine.

To manufacture the landing gear, bend a 2mm wire as shown in the drawing and install light wheels.

In order to reinforce the fuselage spray a light cote adhesive on it. Let the adhesive evaporate and then tape the fuselage as shown in the drawing.

T-Tail:

Use a sharp knife to detach the rudder from the vertical tail. Proceed in the same way with the elevator (Drawing). Now bevel a 45 degree chamfer at the hinge edge of the elevator. For the rudder you need to bevel from both sides evenly to obtain an angle of 90° at the hinge edge. The two elevator half's are connected with a small piece of plywood. Tentatively assemble the horizontal and vertical tail and cut some material from the vertical tail, so that the elevator is able to move at least 30° up- and downwards. Now round-off all edges on the T tail and connect the elevator and ruder to the tail (Use the strapping tape as hinge). Now use toothpicks and hot glue to attach vertical tail perpendicular on the horizontal tail. Push the toothpicks through the horizontal tail and approximately 30mm into the vertical tail. Then cut the remaining toothpick off.

Final Assembling:

Bond the T-tail, aligned to the fuselage and at designated step, to the fuselage. Manufacture control horns using a small piece of plywood or plastic and attach them to the rudder and elevator. Tape the bowden cable to the fuselage and connect the radio gears with the control horns. After adjusting the elevator and rudder, bond the wing aligned and at the designated position to the fuselage. Pay attention that the wing is parallel to the horizontal tail. You can either use hot glue or 5min epoxy for the bonding.

Check the position of the centre of gravity again (55mm from the wing leading edge backwards). Use plump to adjust the CG.

For the first flight set all controls to neutral position.

Important: Pay attention to the centre of gravity while you install the RC components

