

## Zackcombat

This construction Manual shall be used as a guide for the assembling of the Zackcombat. In addition to the wings and winglets you need the following things:

- 3mm balsawood (elevons)
- 2 control horns
- 3M 90 spray adhesive
- 3M 50mm strapping tape
- 5min Epoxy or hot glue
- coloured Monta tape

The spray adhesive and the strapping tape are both available on our website if go to accessories.

1. Remove the foam cores from their beds. Use 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. Trace your radio gear, battery and receiver on the top side foam core with a pen or marker. The positions for the RC components are as shown in the drawing. Pay attention to the position of the centre of gravity (190mm +/-5mm from the nose backwards). Use a sharp knife to do the cut-outs (The cut outs should be a bit smaller than the RC components as they won't be glued but pinched into the core). Make a cut about 6mm deep into the foam to run the antenna from the receiver to the end of the wing. Proceed the same way to run servo and battery wires to the receiver.
2. Remove the RC components in order to spray a light coat of 3M 90 spray adhesive on the wing. Before you start taping the wing, you should wait about 5min to allow the adhesive to evaporate. In the meantime you can start putting the RC Components 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 bending proof and torsion proof.
3. Take the 3mm balsa wood and cut it as shown in the figure. The elevon should be 520mm long, 55mm deep at the winglet side and 35 mm deep at the inner side. If you manufacture the elevons like this you have enough space at the trailing edge to grip and throw the wing. Before you attach them you will first need to bevel a 45-degree angle at the hinge edge of each elevon. Now you simply tape (strapping tape) the elevon to the trailing edge by leaving enough room so it doesn't bind. You should apply one stripe at the top and one at the bottom of the elevon.
4. The wing is now ready to be covered with Monta tape. After this you can install the control horns on the elevons. Now connect the control horns with the servo horns by using control rods (2mm wire). The attachment can be done by using Z bends. Adjust the elevon movement to an approximate deflection of 10mm for the elevator and 15mm for the aileron. The elevons have to be directed slightly to the top in order to make the wing fly straight.

5. Check the position of the centre of gravity again (190mm +/-5mm from the nose). Use plump to adjust the CG.

