

Lidl Glider 50mm EDF Kit Fitting Instructions **(Fixed Intake Ring)**

Important:

This EDF kit is designed to use the FMS 50mm, 11 blade, 3S, 5,400 kV 358W 620g thrust EDF unit ONLY. These EDFs are available from 4-max.co.uk (other suppliers are available). It is NOT guaranteed that any other EDF Unit will fit or function correctly with this kit.

Installing your EDF kit requires the following additional items:

1. Medium CA Glue & Kicker
2. Hot Glue gun
3. M5 x 40mm Nylon bolt and nut - 2 off

Finding the CG of your Lidl Glider

Before commencing the EDF installation, assemble your Lidl glider according to the manufacturer's instructions and locate the glider's CG.

If this is not possible (e.g. you are using a previously "modified" Lidl glider) a CG of around 55 from the L.E. on the underside of the wing has been found to work well.

Fitting the EDF Unit

Installing the EDF Unit in the Pod:

Check your FMS EDF unit fits snugly in the EDF Pod. This Pod is designed for the FMS 50mm 11 blade unit ONLY as described above.

Using 400 grade abrasive, **lightly** roughen the outside of the EDF casing just behind the intake ring area to help the adhesion of the hot glue. Do the same on the inside front of the EDF Pod.

Trim out any unwanted plastic from the pod cable exit and place the three power cables through the slot in the rear of the Pod but do not slide the fan in fully yet.

Run a generous bead of hot glue around the outside circumference of the EDF Unit about 10mm behind the intake ring. Quickly push the unit into the Pod up to the intake ring, at the same time ensuring the power cables push out through the rear slot. Don't push the EDF too hard. Including the intake ring, you should have about 5mm of the unit sticking out of the front of the tube. Quickly wipe away any excess hot glue on the outside of the Pod. Remember, hot glue is HOT! Allow the hot glue a couple of minutes to set.

Mounting the EDF Pod on the Bracket

The idea here is to mount the EDF Pod at its own CG, centrally on the Mounting Bracket Saddle. You may be able to estimate the CG of the Pod by holding it lightly between your fingers and trying to balance it horizontally. However, using a distance of 19mm from the front of the pod to the front of the Mounting Bracket works well (see illustration 1). Mark a line on the Pod at this point. Lightly abrade the area of the saddle where it will contact the EDF Pod to remove any small ridges or bumps and to provide a good key for the CA glue. Ensure the Pod is rotated slightly, so the power wires exit to one side (left or right) of the fuselage (see illustration 2) and test fit. Then apply a reasonable amount of CA glue to the Mounting Bracket Saddle and attach the Pod. Pay attention to the slot rotation and your alignment line. Apply Kicker to complete the join.

If you have worked out your own CG for the Pod, align this with the centre of the saddle and attach as above.

Thrust Angle:

There may be a need to adjust the thrust angle of the EDF pod depending on the overall design of your particular Lidl Glider. Adjusting the thrust angle is necessary to achieve a balance between horizontal thrust and directed air flow over the elevator to provide sufficient pitch control authority.

Using the plates, three Thrust Angles are possible, zero degrees (no spacers), 5 degrees and 10 degrees. The spacers are used in matched pairs in a sandwich fashion to tilt the Bracket and Pod backwards but maintain the mounting bolt perpendicular to the chord of the wing at the Gliders CG (see illustration 3).

It is suggested to start with a 10 degree thrust angle.

Mounting the Bracket and Pod on the wing:

Using the Mounting Bracket as a template place it centrally over the fuselage with the centres of the mounting holes at the glider's CG. Mark the two hole centres for drilling either side of the wing. Using a 5mm drill bit, make 2 holes **exactly perpendicular** to the chord of the wing all the way through the wing.

Select your desired thrust angle plates and bolt the Mounting Bracket to the wing. Use the plain plates on the underside as washers. Be careful not to over tighten the Bracket. The finished installation should look like illustration 4.

Overall CofG

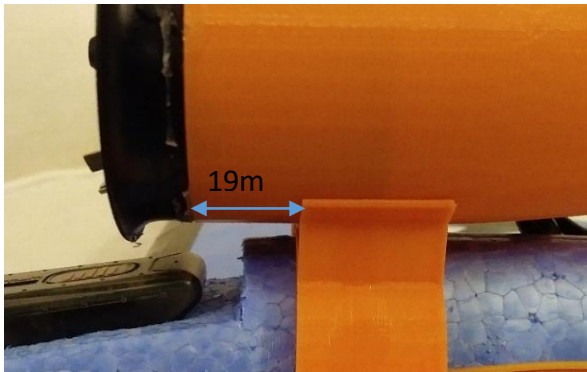
The prototype achieved a perfectly acceptable CG with a 2200mAh 3S battery, Spektrum AR410 Rx and CenturyUK 40A ESC. See Illustration 4 for mounting locations. CG adjustment can be achieved by moving the rear mounted ESC backwards and forwards slightly.

Your Finished EDF Lidl Glider

Your finished EDF Lidl Glider may, or may not, look something like illustration 5. Enjoy!

Illustrations:

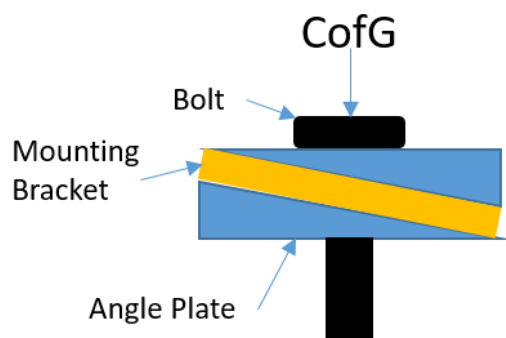
1.Pod CofG



2.Power Wires Exit



3.Thrust Angle Spacers



4.Mounted Pod



5.Completed Glider

