

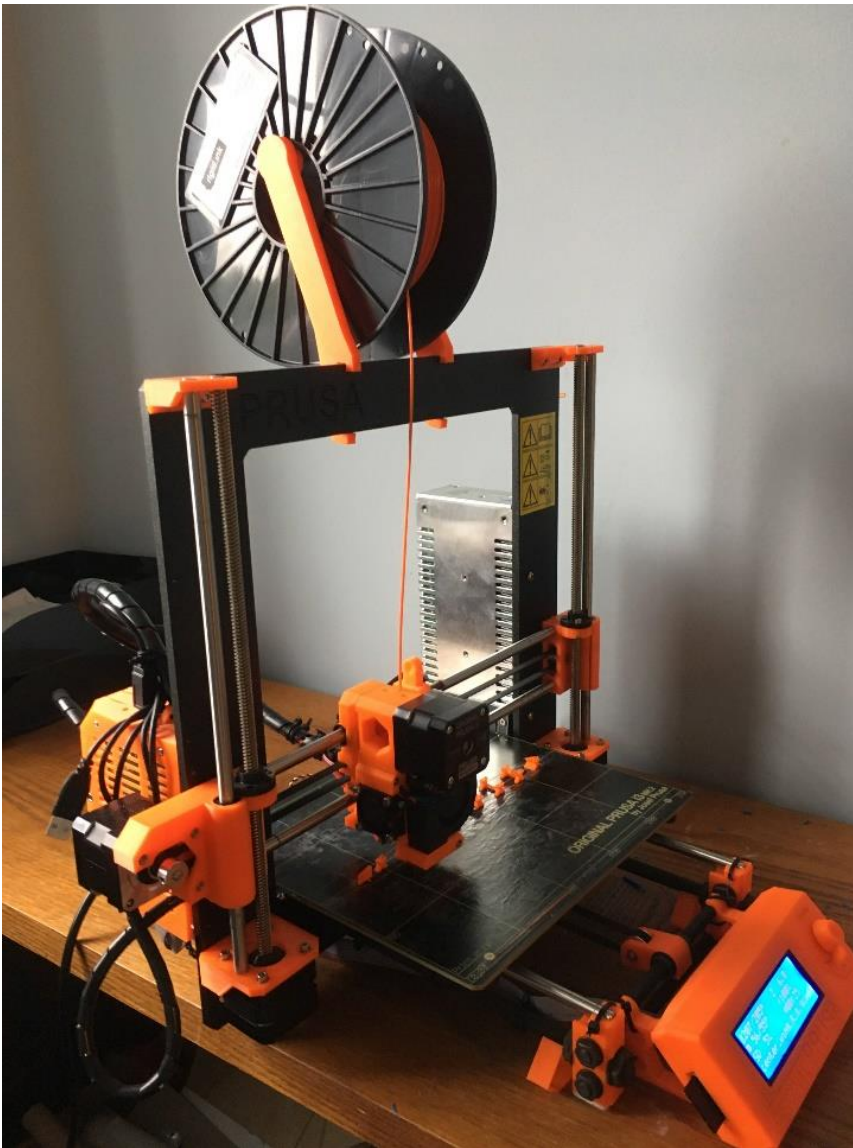
3D Print your model – By Stuart Jessup

Having acquired a 3D printer earlier this year for another project, my thoughts turned to using it to print model aircraft. It turns out that the Czechs are the pioneers in this area with two designers offering a number of model designs to download. I choose a glider design from 3dprintedrcplanes.com, the Kraga Kodo.

The 3d printer was purchased last year in kit form for about £600 from a well-respected Czech manufacturer, but it is now possible to buy an entry-level printer kit for £100.

Having got the printer built and running on the previous project, printing was fairly straightforward. It is not a fast process - total printing time was about 60 hours, but as a slow builder it would probably have taken this many hours of my own time to build a similar model conventionally.

The printer just chunters happily along on its own while the parts appear, almost miraculously, from nothing.

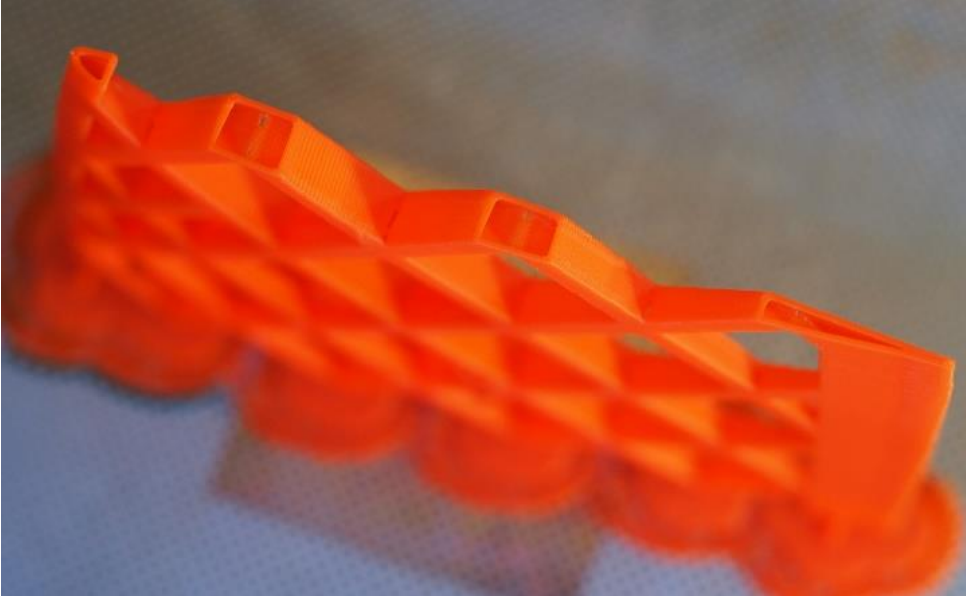


The 3D Printer – a Prusa Mk2S

The wing and fuselage are printed in sections of about 3-4 inches high in PLA plastic and cyanoed together. The plastic starts as a 1.75mm diameter filament on a reel, before being melted and squeezed into place by the printer.

About £20 worth of filament was used to print the glider. PLA is also biodegradable, so if the model ever ends up in a sad black bin bag, at least it can go on the compost heap!

Alternatively, just print new copies of the damaged parts and glue them back in place.

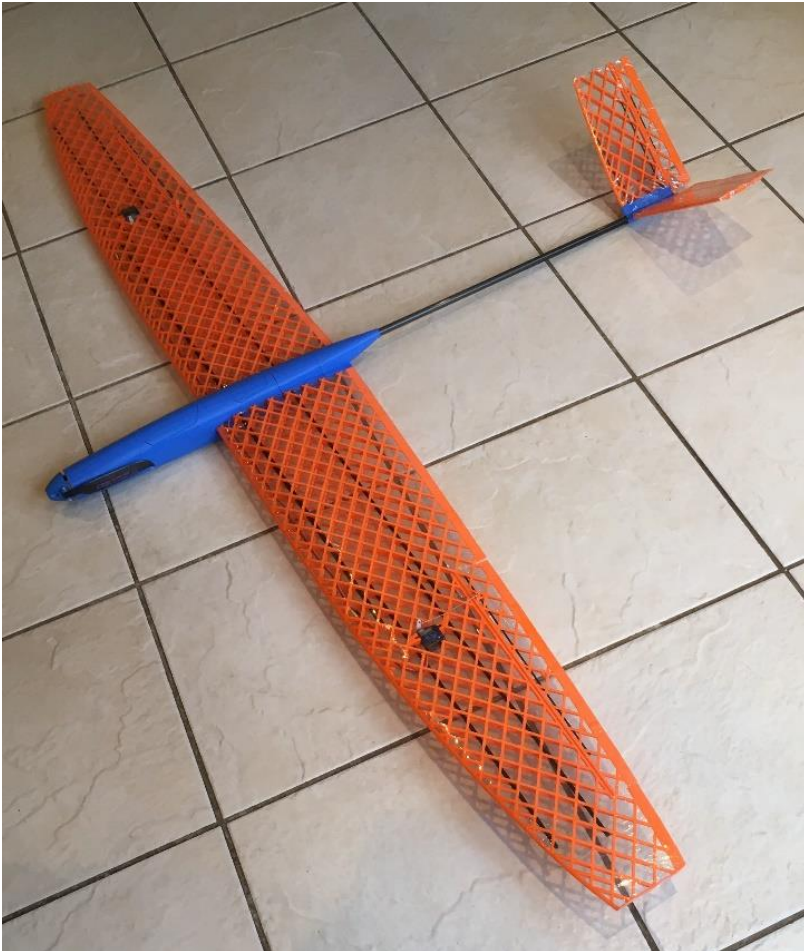


Wing section after printing



Fuselage section after printing

PLA has a lower melting point than most plastics which makes it easy to print. It still has good strength, although carbon rods are used to reinforce the structure in this design. The pretty geodetic wing structure is covered in clear Solarfilm and the model kitted out with a standard radio and electric power system, with a folding prop.



The finished Kodo electric glider

Yet to have its maiden flight, I'm not expecting stellar performance from the Kraga Kodo as the wing loading is inevitably higher than for a conventional structure. However, for someone with dubious dexterity and limited free time, it is a great way of creating a good-looking model and hopefully it will take to the air soon. In the meantime, parts for my next model, an aerobatic sports plane are being printed - the Kraga Maripi. Maybe I'll design my own one day.....

If any club member would like a part 3D printed, I just need the design as an STL file which most 3D CAD systems can export. Things like scale spinners or undercarriage spats lend themselves well to 3D printing, although the slightly ridged surface does need sanding/filling to produce a smooth finish.

Kraga Kodo www.3dprintedrcplanes.com/kodo

Kraga Maripi www.3dprintedrcplanes.com/maripi

3DLabprint's range of scale models www.3dlabprint.com

Prusa printers www.shop.prusa3d.com/en/17-3d-printers

£100 3d printer kit www.imakr.com/en/235-startt-affordable-3d-printer