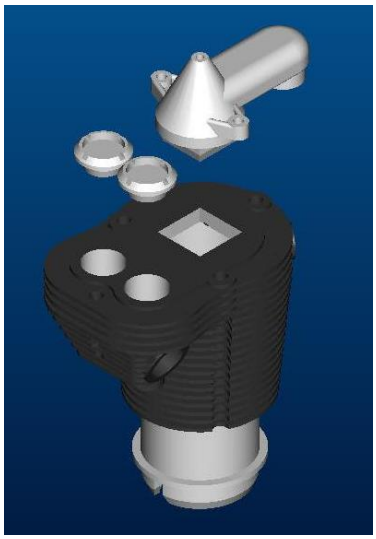
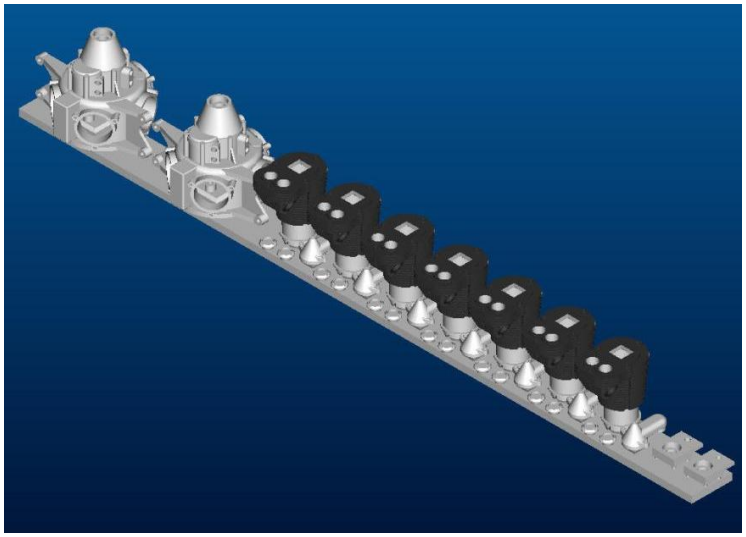
I tried some painting and it went ok, except for one problem. The cylinder being one piece, it was very difficult to accurately paint the valve covers and the intake manifold with a proper separation from the cylinder.

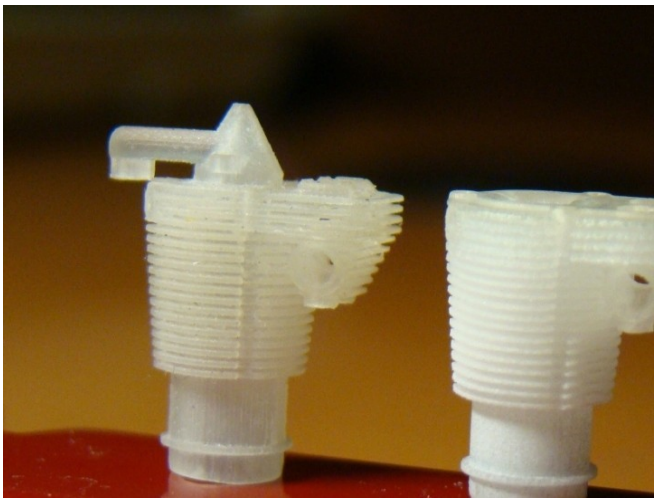
So, since I was to redo the parts because of the errors, I thought about redesigning the cylinder into an assembly itself. That way it would be easy to paint every part individually. It was starting to look like a plastic display model, and I thought I had given those up ever since I started cutting balsa, 35+ years ago…

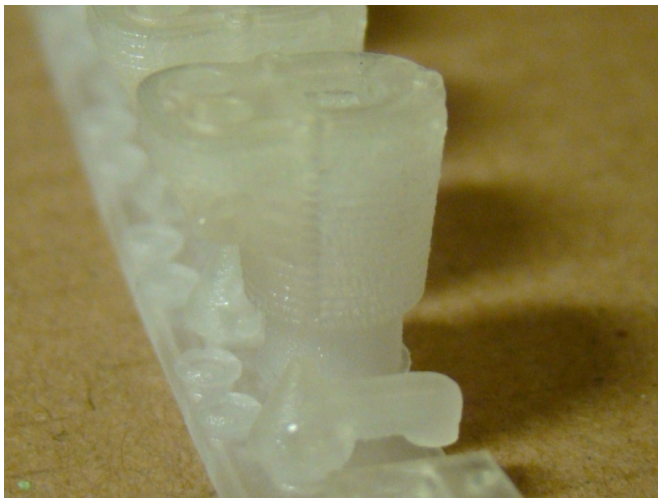
The lesson of the broken cylinder fins taught me that it is a good idea to add 1-2 extra parts, to keep as replacement spares. So, the new part looked like this



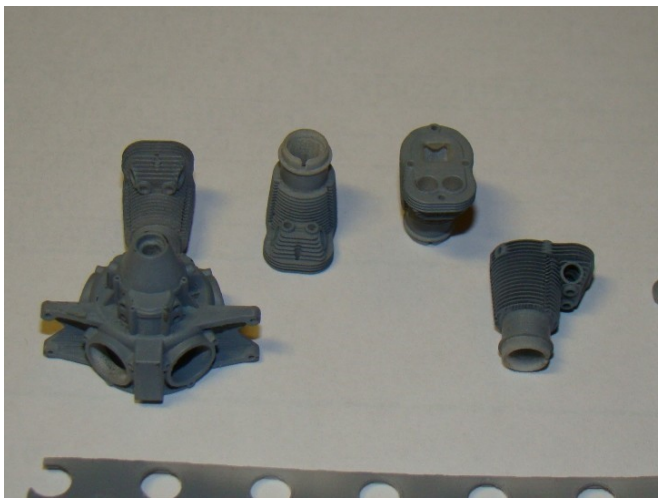


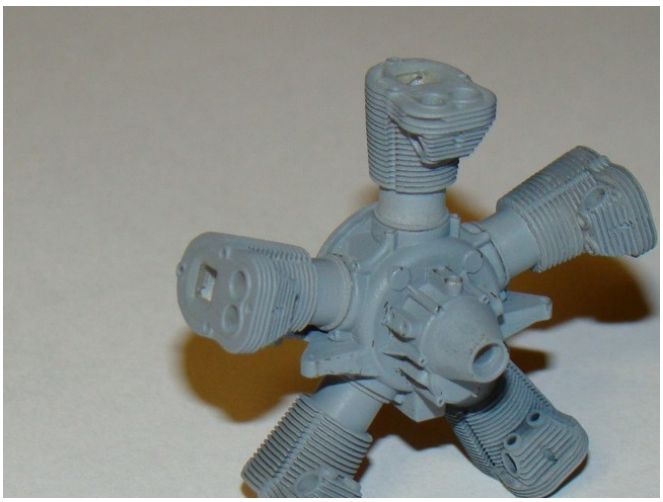
The new part came out ok, but not as good as the first. Still way better than I had ever imagined. It needed cleaning up, as it was even dirtier that the first. It also needed plenty of sanding between the fins, as there were some small defects. It looked ok in the end. The “dirt” was some type of wax residue, the support material during the 3D printing process, which seems difficult to completely remove at the printers.



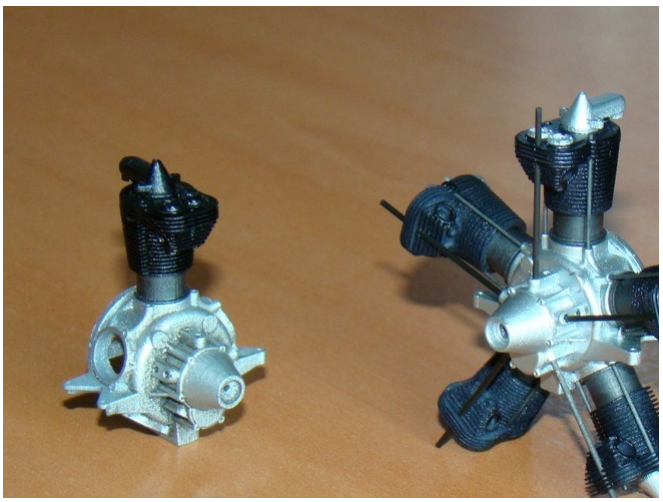


When done with cleaning and fine sanding, it was time for painting. The parts were first sprayed with primer, followed by light sanding to smooth any defects.





Next step was painting, airbrush for the main components, paintbrush for the smaller items



Having painted the parts, a rough assembly is in order. Next in line is adding all the various rods and pieces that will complete the engine. Pushrods bolts and similar rods were cut from carbon fiber, valve springs made of thin wire, painted and the whole engine was given various washes to make it look more realistic.

The end result shown here, resting on a Swiss army knife which also lends a size comparison.

And as a last picture, the whole model with the engine and the static display prop (photo by Gustav Enebog).

As I wrote in the beginning, not much has changed since 2011 as far as the general process goes.
The prices may be a bit different, the service is still available for those who do not wish to invent in equipment, like myself. The use of one-two times a year does not justify buying a printer. Especially if you need high quality prints which means a high-end high cost printer.

One difference is the far greater affordability of personal 3D printers. Depending on the intended size, these are usually good for bigger models; smaller size requires a very fine resolution, not easily available.

The cylinders shown have a thickness of 0,2mm and a spacing of 0,3mm.

Regardless of the size, for best results, the engine to be modeled should be modeled as single components and not as a complete assembled single part. This way the parts can be optimally oriented taking into account the building process as 3D prints are generally created slice by slice,

A radial engine modeled as a single piece will never be as good and as finely printed as individual parts, later glued together.

End…

This article was somewhat revolutionary 9 years ago, now 3D printing is no longer a novelty. Still, I think it has something to add…

The above closing I leave up to you…