

3D Printing and Classic Cars

By Martin Naude

In the process of restoring my 1969 Triumph Spitfire, I came across a part that I couldn't seem to find anywhere: the heater blower fan. Being fairly computer savvy, I decided to try a new approach that is gaining traction in the classic car community: 3D Printing.

3D printing is the process whereby a computer model of a part is printed using an additive process. A print head heats some plastic material and prints it layer by layer to form a fully featured reproduction part.

3D Printing used to be a fairly expensive exercise but an explosion in hobbyist 3D Printers has put them in reach of us mere mortals (an entry range hobby printer is about R15,000 with a 700g spool of material costing R500).



To start the process, I took the original part that was broken and took measurements using a calliper and then knocked it together in a 3d modelling programme.

There's several really good free options for hobbyists including Autodesk's 123d design (<http://www.123dapp.com>) that allow for simple 3D modelling.



Once I'd created the model, I e-mailed it through to a company in Midrand that used their 3D printer and then posted it back to me. The part in total cost me R400. There's been quite a few new companies in South Africa that provide this service and the cost is coming down.

All that was left for me to do was check the part and fit it into the heater unit. It fit perfectly and was ready to use.



As 3D printing becomes more accessible, and as some parts on classic cars become more difficult to source, this blend of the old and new will provide a method to create problematic parts. The introduction of handheld 3D scanners to scan existing parts and a growing collection of 3D parts continues to simplify the process.

Printing of metallic parts is starting to become more affordable and should provide for a larger set of applications especially to classic motoring.

For my next project, I'm looking at another aspect of computer aided manufacturing for my Spitfire. I need a new dashboard and I've reconstructed it using a CAD programme.



Utilising a computer controlled lathe, the dashboard will be cut from a block wood according to exacting specifications. All that will be left to do is give it a sand and a coat of varnish.

If you'd like more information on 3D printing or other computer aided manufacturing techniques, please don't hesitate to contact me: martin@entelect.co.za