

Rebuilding an MGBGTV8 – Damask 0450 (Part 21 of a series of reports)



Nearly there now . . .

All the rusty parts have been cut out and the bare body shell has been mounted on a spit, specially constructed on an old trailer chassis.

Some new metal has been added, but only enough to preserve the shape of the bodyshell. The next stage is to trailer the shell to a local engineer who has sand blasting equipment. The spit will allow the bodyshell to be rotated, so that every crevice can be reached.

Upon its return, the bare metal will have to be protected within 24 hours, otherwise it will quickly develop a coat of rust. All the box sections will receive a liberal dose of 2-pack primer internally, and a coat of weld-through primer will be used on the outside.

After that, all the body panels will be welded into position. This should be quite a quick process, because we have already done a trial fit with temporary fasteners (as used in the aircraft industry).

On reading Barrie's latest report and looking at the photo alongside, you may think the project seems to have gone back several months – you may think that some of the body panels we have seen going on the car over the last 6 reports or so, look as though they have been removed to facilitate the sand blasting. Barrie mentions a "trial fit with temporary fasteners" which sounds a very good idea.

Barrie responded to this query saying "Yes, all the panels that have previously been fitted were either welded into place for structural rigidity (for example the nearside rear chassis member and the boot floor), or they were trial fitted by drilling holes and using aircraft quality temporary fasteners. These are like re-usable spring-loaded pop-rivets. I will do a separate article on them as an addition to these reports."

The two terms Barrie uses for the paint - "two-pack" and "weld-through" primer - might need some explanation for some of our readers who are not be so familiar with them. Also some members may have heard that you need to be very careful with two-pack paint.

Barrie responded saying "in a previous article I highlighted the use of a brown two-pack primer. Yes, it is nasty stuff and you must not breathe the fumes. They contain Iso-cyanates, a close relative of Cyanide so I use a carbon canister air mask with removable activated filter elements, and I don't stay in the area after using the stuff. A positive pressure full-face mask would be even better."

On the following page we have a note describing the differences between cellulose and two-pack automotive paints, a health safety caution with two-pack paints and a link to a useful tutorial on spray painting.

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What is the difference between cellulose and two-pack paint?

The following explanation is based on a very useful information sheet available on the Austin Seven Friends' website

The original automotive paint used on MGBs at the Abingdon plant was of course cellulose (or Nitro Cellulose Lacquer). Cellulose is the oldest type of automotive paint finish; Henry Ford used it on the original Model T, and it's still much used by non-professional sprayers. It works or dries by solvent evaporation, as the coloured paint is thinned down by large quantities of cellulose thinner which evaporates when the paint is sprayed onto the metal surface.

Two-Pack is a completely different process. The paint consists of different resin, made of acrylic and melamine - the proper title is Two Pack Acrylic Enamel. When you mix your paint, you add a second resin, or hardener, called Poly-isocyanate Resin. At this stage a chemical reaction takes place between the two resins which makes them harden. Heat can increase the speed of the reaction and a modern paint sprayshop may use an oven to decrease the drying time to as little as 40 minutes.

So what are the advantages and disadvantages with the two types of paint? The biggest problem with cellulose is in the thinners - with up to 50% of the sprayed volume evaporating, you actually need to apply a lot of coats to get a decent final build-up of paint. But because Two-Pack only contains a tiny amount of thinners, what you spray is what you get when the paint has finally cured, leading to far less wastage. When Two-Pack has cured it is also much harder than cellulose and tends to resist petrol, acid rain, sunlight and minor abrasion and small stone impacts much better than cellulose. Also cellulose oxidises and goes dull over a long period, or even develops a milky haze.

But a note of caution: Two-Pack is strictly a 'professional-only' product. The hardener contains isocyanate, which is extremely toxic if breathed in, and expensive spray-booths and air-fed breathing apparatus must be used. Cellulose of course doesn't require this; a simple filter mask will do. As far as classic car work is concerned, Two-Pack is a godsend. Because the primer also contains little

thinners, several coats can be used to build up a heavy layer, which can eliminate the need for primer-fillers and spray putty when your body panels are not 100% flat.

Health caution

The Renault 4 website has some wise advice with a "safety" notice which is well worth noting:

Safety

Two-Pack paint is not for general DIY use - it can cause debilitating occupational asthma. You are strongly advised to use an air fed mask with appropriate air supply which can be had for under £500. Even then many are not convinced it's a good idea for DIYers.

<http://www.renault4.co.uk/gordini-primer.htm>

<http://www.hse.gov.uk/asthma/>

Spray painting tutorial

The Renault 4 website has a useful spray painting tutorial at:

<http://www.mig-welding.co.uk/spray-painting.htm>