

## THE BUILDING OF MY GRANDSON'S SCALE E-TYPE



Measuring Car



MDF Bulkhead Sections



Polystyrene sanded to shape

a roof beam was moved along at 50mm increments from the centre of the car outwards and the car moved forward 50mm at a time and I was able to plot the shape of the E-Type.

With the help of a 1/10 scale drawing I was able to use the measurements to mark out a series of bulkheads on MDF boards, which were spread out and glued rather like an old fashioned egg box. The spaces between the bulkheads were filled with polystyrene, and sanded down to the shape of a Series 1 E-Type OTS (Yes, I am old fashioned, and unable to do a 3D scan on a computer!)

Fibreglass was applied over this in three sections to make a mould which could be removed and used again. I learnt a lot about moulds, one of them being to use a high pressure water cleaner to help separate the model from the mould.

The other problem I had was to make the louvres on the bonnet. My first attempt was to make a set of rollers to cut out and bend a thin sheet of aluminium, that was unsuccessful. The next attempt was to roll the roller on some body filler as it was going off, but I ended up with a male model, instead of a female one, so they had to be recast and inserted into the female mould of the bonnet in the right place.

The wheels were the next problem, trying to find 220mm wheels, where there was a limited selection to suit the motors I had collected on the verge.

This where the project changed! A shopping gopher had the right sized wheels, a decent back axle with differential with a  $\frac{3}{4}$  horse power motor, (which would give

realistic wheel spin) two batteries, control box and charger.

So a second hand gopher was obtained and stripped, the rear axle shortened by 60mm, a square tube chassis made, the basic steering fitted and the steering column lowered.

It was with some difficulty that I had to find room for 2 x 12 volt batteries, a control box, replace the hand controls with a foot control and sort out a forward and reverse switch, putting in an emergency remote stop switch, which put the brakes on automatically from a distance (very necessary safety measure with a 2½ year old at the wheel!)

Once the chassis and running gear were sorted out I had fun thinking of what to use for the chrome strip down the wing, eventually using a model railway line, as it had a rounded edge and a T section which could be buried in the glass fibre and not be pulled out.

The windscreen frame was made out of 10mm aluminium tube squashed onto a perspex screen which had been shaped by heating it in Frances's oven. Also a strip of unequal angled aluminium was shaped for the side support of the windscreen and the whole assembly was held down by a bicycle spoke. I surprised myself by having the correct dia/nut in my workshop to make the correct thread for the shortened spoke to fit the nipple.

The gopher wheels are not very good looking as they have a rather small centre with a solid oversized rubber tyre. So this was rectified by cutting an aluminium disc of the correct diameter (5 inches) to represent a 15 inch E-Type wheel rim, then scanning a photograph of my E-Type wheel rim and sticking it onto the aluminium disc creating the desired effect, despite the fact the same size wheel weight is on all wheels!

Using the same photo idea for the bonnet motive and

It all started last year at Goodwood, where there was a stand of half scale classic cars for sale with either petrol or electric motor. They looked amazing except for the price of £9995 British pounds and upwards. In reality the price was too much for a toy for a young child, even though the money was equal to the workmanship involved to make them.

I decided I could make a smaller scale model and one-third was chosen (in hindsight 2.5: 1 would have been a better size, as grandchildren grow very quickly!). I had a collection of a few 12 volt motors collected from cheap battery operated cars which had been chucked out for the annual rubbish collection on the verge.

By using my E-Type as a model, a digital laser measurer mounted on



Glass fibre mould on polystyrene buck



Full female mould



Using High Pressure Hose to free model from mould

for the scale. By using a glass bottle I was able to make a glass fibre tube to act as the headlight scoop which was bonded into the body after making a hole in the wing. It was stressful trying to estimate the correct size and position of this scoop to fit the hole. It was relatively easy to cut an aluminium washer to represent the glass headlight surround and warm a piece of celluloid to act as the headlight glass.

The bumpers were originally made of 3mm aluminium with balsa wood stuck to them and shaped to the correct profile. The later models were made from resin cast in a mould from the original bumpers.

The front side lights were made from 3mm aluminium, a collection of amber and clear lenses found at intersections around our neighbourhood were cut and moulded to shape.

The pattern for the rear lights was made by shaping and bending cardboard, CAD (cardboard assisted design!) and using this to shape the aluminium surround. Then the red and amber lenses

the horn button in the centre of the steering wheel further enhanced the car's appearance.

The original steering wheel I made was drawn onto a 3mm sheet of aluminium being cut out and filed by hand; 10 ml plywood circles were screwed to each side of the aluminium cut out, being shaped, sanded and varnished to good effect.

Lessons learnt after two years of grandchildren driving the first E-Type is that the aluminium in the centre of the steering wheel had to be changed to laser cut stainless steel versions, as the first versions started to bend and crack through the thin sections of the spokes and drilled holes.

Another bit of luck was finding 65mm bicycle LED headlights with chrome surrounds, just perfect



*Removing Rear Section from Body*

*Completed Body*



were shaped and fitted to the surround, little LED globes being inserted to each sidelight, with a very pleasing result in the evening.

The car was ready for our 50th Jaguar Car Club Anniversary Event. However, little did I know two more grandchildren were on their

way, and what you make for one you must make for the other two!

Red and yellow ones were made in time for their second birthdays and for display at our Club's Houghton Picnic Day in November.

Despite their young age they are already turning the ignition switch, using the accelerator

and steering wheel, but with limited concentration with their direction and stopping distances!

All of these projects have been made worthwhile when I see the happiness my grandchildren experience when driving their cars.

**Joe Hossell**



*Basic Chassis with Steering & Motor in place*



*Two Grandchildren and five E-Types in a row*

