

Natal Diecast Model Collectors

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Newsletter September 2013

Hi Folks,

The theme for our July 2013 meeting was "SEAR Models" - and many members brought along examples of many of the various models made by Geoff to display, and we had an interesting and fascinating evening.

A few weeks ago, a small group of NDMC members visited Mike McCaul to see his vast collection of model cars, model trains and Meccano. Mike certainly has an impressive and vast collection, and we spent an enjoyable few hours looking at his model collection, and reminiscing with him. Many thanks to both Mike and Beryl for their hospitality, and for making the day so memorable and pleasant.

It was great too that Ron Gersbank from Hout Bay could join us on this visit.

The proposed visit by NDMC members to Toyota has been put on hold until early / mid 2014, as Toyota have a few projects on site, and a new model on the production line, which is only to be launched in January 2014 to the public. So Toyota are not conducting Plant tours for the remainder of 2013, and they say that maybe a group tour can be arranged next year in March 2014.

A reminder that our Annual Rod Guérin Diorama competition is to be held on 25th November 2013. The rules for this competition are included with this newsletter.

At our September meeting, we must finalise the themes for this competition as already submitted below - and if there are any other suggested themes, include those for discussion too:

1. A working scene. 2. A day in the sun.

A two-part article by AUTOart starts in this newsletter. This article gives some of the merits, plus advantages and disadvantages of using different types of moulds to cast either resin or die-cast models.

See you at the next meeting,

Keep collecting,
Philip



*A part of Mike McCaul's Dinky Collection
Thanks to Terry Morgan for the photograph.*

Resin models by AUTOart, Part 1

Many collectors have been asking why AUTOart does not produce models made out of resin. As a matter of fact, AUTOart has done a few special projects in resin, but only models in large scales such as 1/8 and 1/5 which sell directly to car makers. Because the quantity requirement is so small and the scale is so large, it is not commercially viable to tool up to make the models in die-cast metal, simply because the mould investment would be too high.



Special project of scale 1/5 resin model produced by AUTOart. Only a few pieces have been produced.

Regardless of the materials used, a model car requires a mould in which to be cast. To cast a zinc metal die-cast model requires the use of a steel mould. However, a resin model is cast in a silicon rubber mould.

Tooling a full set of die-cast steel moulds for one model is expensive. The tooling investment for a 1/18-scale model car can be in the region of US\$100,000 to \$200,000, depending on the complexity of the model and the number of components. It requires, at minimum, several months of engineering work to produce a complete set of steel moulds.

Once the mould is made, the product is cast in a split-second by injecting the molten metal into the mould cavity with a high-pressure casting machine. Hence, large quantities of products can be manufactured continuously and precisely, and the life of a mould tooled in high-grade steel can be as much as one million "shots," or die-castings. It is therefore the most economical way to manufacture model cars in a large quantity, and all mass-market, toy-grade die-cast model cars are manufactured in such steel moulds in order to make the product as cheaply as possible.

The steel mould of a scale 1/18 car body. It weighs half a ton.



However, if the intended selling quantity is only a few thousand pieces, then a steel mould is also the most expensive way to manufacture the product because the investment in the tooling is amortized over a smaller quantity. Divided by only a few thousand pieces, tooling costs can get as high as US\$40 per model car.

Resin models are cast in a silicon-rubber mould, and a set of such moulds costs a fraction of that for steel moulds - in fact, only hundreds of dollars to maybe a few thousand dollars. When the development of the model is completed, it takes only a few days to produce the silicon-rubber moulds, versus months for the steel moulds.

Resin is thus the ideal material for manufacturing a small quantity of model cars, in any scale, especially ones that require the shortest possible lead time for launch into the market.



A large silicon rubber mould half for casting a large resin object. There are intricate lines and contour in the rubber mould which would not be found in steel mould due to the draft angle.

We often see that a resin model of a newly launched car is always the first to appear in the market. It can be so quick that within weeks after the real car is officially unveiled to the public, the resin model is already available in stores. In contrast, a die-cast model car in 1/18-scale requires at least nine months of development and mould making.

Lead time to market is one of the biggest advantages to resin models. Because a silicon-rubber mould is elastic, the mould design can be simpler, and draft angle is not a major concern. That means complicated shapes can be cast easily.

Also, producing a silicon-rubber mould is relatively simple and involves the mixing of the chemical compounds that form its material, and then pouring it into a small chamber containing the pattern. Within hours, the silicon is cured. In contrast, a steel mould is made of very hard material, and the cavities of the model's pattern are formed by careful and time-consuming hand grinding and trimming, with electrical discharging and manual polishing as final steps.

That's why it can take months to complete a set.



A small silicon rubber mould to cast a small resin object.

The upside is that steel tooling lasts for hundreds of thousands of “shots,” or molten-metal injections, whereas a silicon-rubber mould, in most cases, cannot survive more than a hundred injections. Hence, the smaller runs of resin models.



High detailed scale 1/18 resin model launched into the market within two or three months' time after the debut of the real car.

Resin has another advantage: it is much softer than zinc metal. Hence, the labour-intensive trimming and polishing of a resin model requires less time than one rendered in metal. Fine details are easier to cast in resin, and the model can be well presented with many intricate parts attached.



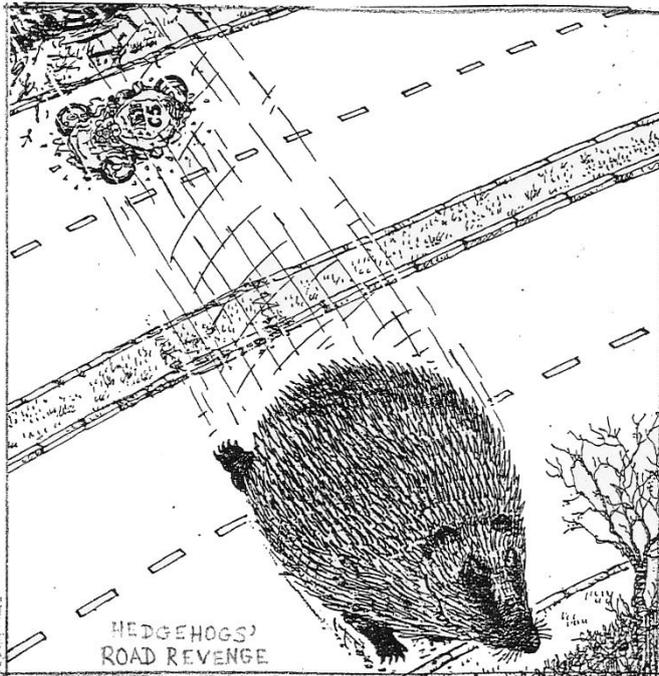
Fine detailed interior made of resin in scale 1/8

However, there are major shortcomings to resin models, mainly in the nature of the resin material itself. It is much weaker structurally than die-cast zinc-metal, and it may deform after some years as it ages. Working doors and bonnets cannot be made accurately, with a fine air gap around them, because a doorframe cast in resin is not rigid enough, especially in the area of A- and B-pillars.

Moreover, the fixing of the hinges is also very fragile, and they can easily break if not handled carefully. Therefore, to avoid such problems, most resin models are made without any working doors or bonnets. (To be continued in NDMC November 2013 Newsletter)

Visit the AUTOart website www.autoartmodels.com/en/

ROY JOUBERT'S
MOTORING JOKES



Upcoming events

Date	Event/Function	Venue	Comments
30 September 2013	NDMC Meeting	VCC – Kloof	Time: 17:30 for 18:00 'till we end. Cost: R20.00 for non-members Subs due: R100.00 / year. R60.00 Country Members Theme: "100 Years of Aston Martin"
25 November 2013	Rod Guérin Annual Diorama Competition		Held by NDMC

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That's all Folks