SLOTRACESHOP

QUALITY SLOT PRODUCTS TO THE WORLD

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********** JUNE 2020 NEWSLETTER **********

NEWS

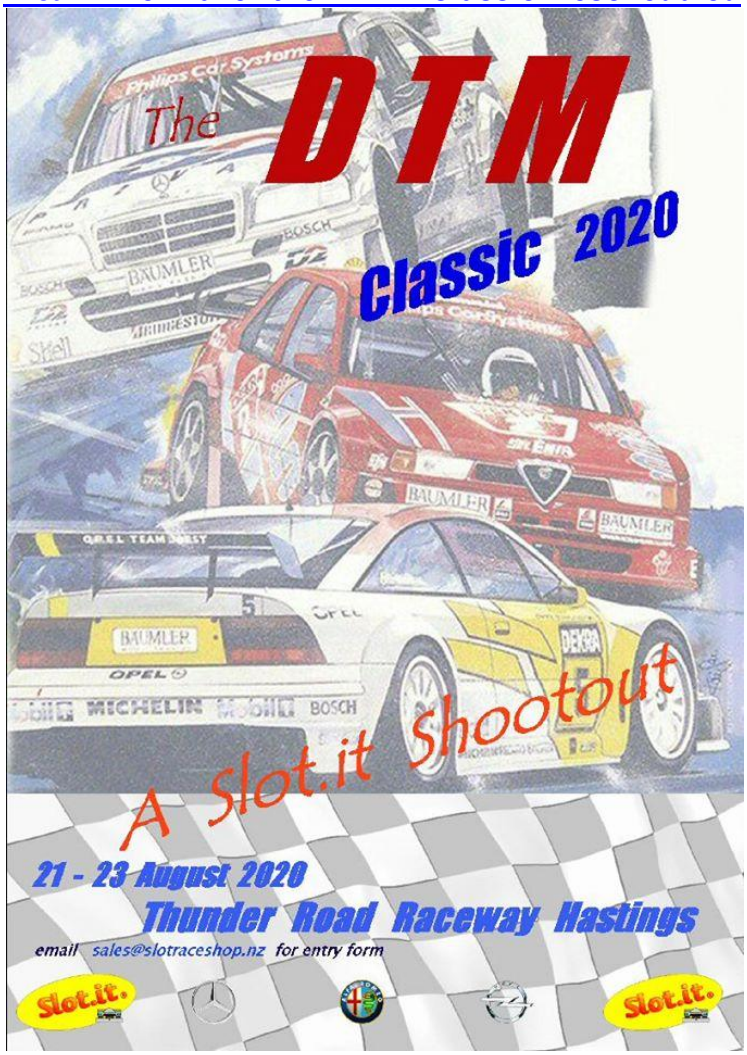
Well it has been great to see brisk activity in the New Zealand slot car scene, and greatly increased levels of activity on our Auslot slot forum through and past the lockdown period.

Free to join, free to use, no push advertising, and lots of friendly folk. Two things that have really made me happy, have firstly been seeing the new area on Auslot for 3D printing on Auslot, showcasing some of the very clever, innovative work that hobbyists are doing to enlarge and strengthen our hobby.

The other has been the number of new wood and Policar tracks under construction, with two 2 lane MDF home tracks for members of our club, for family fun and car testing, and other small tracks around NZ. A new 4 lane MDF track in the Hamilton area, and a smaller one under construction there.

EVENTS – YES YES YES EVENTS

First - we have the DTM Classic rescheduled



Then in October

PROGRAMME

FRIDAY 23RD

1-00pm ... 2-30pm ..... NSR Qualifying
2-30pm ... 6-30pm ..... NSR Round 1
Evening ..... To be advised

SATURDAY 24TH

9-00am .. 1-00pm ..... NSR Round 2
1-00pm ... 2-30pm ..... Thunderslot Qualifying
2-30pm ... 6-30pm ..... Thunderslot Round 1
Evening ..... To be advised

SUNDAY 25TH

9-00am .. 1-00pm ..... Thunderslot Round 2
1-00pm ... 5-00pm ..... Formula 86/89 Qualifying / Racing
Evening ..... To be advised

MONDAY 26th

9-00am .. 12 Noon ..... Free track time Swapmeet

Please note the above times are preliminary and are subject to comfirmation closer to the event

PROMOTED BY NELSON SLOT RACERS

printhouse · Andrew Hanley Signs · SLOT CARS NZ · STOKE MECHANICAL & TYRE SERVICES · HOUSTON MOTOR GROUP NELSON / MARLBOROUGH

Thinking there would be less to report on new products in June, I have dedicated tech space in the newsletter this month and next, to the home 3D printing sector. I stand in a bit of awe of these guys. I can almost tune a car; they create new things to solve problems and to make out hobby more fun.

We now have 3D printed bodies, replacement guides, guide repair sections, pods and other really useful stuff coming out of Europe AND being produced here in NZ.

However the great news is that Slot.it, Sideways and ScaleAuto factories are now all full speed ahead, and I have orders coming from Spain, France, Italy, USA, Canada and China that together would choke a mule.

New Cars

Coming this month from Sideways, two gorgeous Group 5 cars, and two fast GT3 cars from ScaleAuto.

Ford Capri "Sunoco" Group 5 – HC08

Chassis: Podded
Chassis can also take any Slot.it Pods
Motor: Slot.it Flat-6 20,500rpm 200 g/cm torque 10.25 watt, mounted a/winder with adaptors for 0.5mm and 1.0mm offset
Axle & Gears - 2.38mm (3/32nd)
Gearing: Crown 28t (GA1628-pl) - Pinion 11t brass (PS11)
Has adjustable height front axle - requires optional M2.0 Hex screws, not supplied with car
Hubs front: Plastic 16.5 x 8.2mm
Hubs rear: Alloy 16.5mm x 8.2mm
SSD Upgradable: Yes, use Slot.it SP15b

BMW 320 Sachs Sporting Group 5 – SW69

Chassis: Podded
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SSD Upgradable: Yes, use Slot.it SP15b

Audi R8 LMS GT3 #29 24h Nurburgring 2015 Team WRT

The Chassis R-2017 "Double In-Flex" is a new design with the possibility of mounting front semi-axles, supports motor setup AW, SW and Inline.

Double in-Flex chassis design
New RT3 Anglewinder "Hard" motor support red SC-6528
Tech-1 Long-Can 20,000 rpm motor SC-0011b
Nylon pinion 11 and crown 27t in plastic
Axle Stopper lightened in anodized blue
Calibrated axes of 2.32mm (3/32 ")
Adjustable front axle ride height
Aluminium rear wheels 17.5mm
Plastic front wheels 17.2mm
Rear rubber tyres 18.5x9.5mm
Front rubber tyres 18x9mm
Red sprung guide
New screws for the motor support and anchoring to the body
Rear neodymium magnet

AMG Mercedes GT3 24h Cup Edition SC-6218

The Chassis R-2017 "Double In-Flex" supports motor setup AW, SW and Inline. White medium chassis on car, hard spare chassis option supplied in box
Double in-Flex chassis design
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We also have some quality brass axle spacers from ScaleAuto, and are finally able to offer the DS Systems club quality resistor controllers again. These controllers are unique in having a flat plate sweep and button, similar to electronic controllers, rather than a wound resistor. This makes them more robust when the trigger is held in a fixed position for a period of time.

20 x 2mm wide Axle Spacers for 3/32 axles

20 x 1mm wide Axle Spacers for 3/32 axles

Q & A

Q. *I am presently setting up a Scalextric SRS Porsche car for my new track and I wanted to fit hi grip tyres.I have just purchased from you NSR 5207 19 X 10 tyres but need your recommendation please as to what rims you would use.The NSR is an air system tyre so I assume needs an air system rim?*

A. "air system" is really a just a marketing term for wheels which have holes in the centre of the rim to allow air to come in and out between the middle part of the rim, and the inside of the tyre, with the tyre itself expanding due to centrifugal force as rotation increases. This increases the outside diameter of the riding surface at the middle of the wheel, and enables higher top speeds.

– it effectively allows a slightly lower gearing to achieve the same top speed, with the car lowering again as it slows and the centrifugal forces reduce. So the lower actual gearing when at rest, can provide better acceleration and brakes, but with a higher actual top speed, than a simple higher profile tyre and gearing would achieve alone.

To work, it also requires a thin, soft rubber such as those ultra grips. The tyres themselves can equally be fitted to any wheel of suitable size. So when you mention that Scalextric Porsche, I need you to tell me what else you have changed in the back end (if anything); as press on Scalextric wheels go on a knurled axle which is somewhat less than the axle diameter of a standard alloy wheel of any brand.

So simply pulling off Scalextric wheels and adding an NSR or Slot.it wheel doesn't work, as they would be off-centre when you tightened up the grub screw. You could just put those tyres onto a plastic Scalextric wheel if they fit, and they would increase grip, but grip alone will not make for a great ride, if you have out of round wheel/tyres on a pretty basic plastic hub.

If you glue the tyres on with a suitable slow cure glue – (see my tech articles under links), you can then true the tyres, at the very least, by holding the car flat as possible over some very fine grit sandpaper glued to a block of wood. – Go very gently if you do that, or you can rip the tyres, or cook the motor.

- Depending upon what height of tyre profile you took off the car , the ride may be much lower, especially after truing, and cause a sidewinder car gear to drag on the track.
- Also, if you are racing rhe cars with the magnets still fitted – a lower car will have much more magnetic force, which increases load on both motor and controller.

So there are a few things you need to consider and think about.

IF you HAVE changed the rear bushes and axle, you simply need to choose a wheel of suitable size, that matches the axle diameter. Eg an NSR wheel with an NSR axle, or a Slot.it, Sideways or ScaleAuto wheel with axle from any of those brands of car (Those three brands all use 2.38mm axles.) I can recommend once I know a little more.

Tech Article – 3D Printing and resin casting [The small scale manufacturing]

An overview on 3D printing and products.

Many chassis and other parts are sold through Shapeways, which is the biggest printer of 3D parts, using the high tech SLS powder deposit system. SLS is where tiny particles of nylon are laid for each layer, and then a laser synthesizes the parts. These printers cost in the 10s of thousands of dollars. These makers include Amato, 3D National, and Olifer, as well as product from some of the major makers like Slot.it who provide a podded chassis for some toy store brands – Carrera and Scalextric in particular, but there are a good number of private makers of 3D printed chassis upgrades for a whole range of brands, o improve their performance.

Home 3D printers mainly use the FDM technology in which the printer extrudes a find thread, generally of PLA or ABS which is melted down to create each layer. The thickness is typically about 0.1mm. This limits the resolution for some model making.

There is also a 3D printing method using extraction from a bath of resin, but this is less common.

Chassis and other parts can be successfully printed out – at home using FDM. There are libraries of items you can download for free, for donation, or at a fixed price, such as Thingyverse

Or if you care to learn some 3D CAD skills, you can create or modify products for yourself and print them. The Hawkes Bay club already has two members who own one of the popular "Ender" printer range. Locally in the Hawkes Bay club we have "Munter" who has been quietly building up a worldwide reputation for resin casting and vac moulding both car bodies and their interiors and small parts.
"Bingo" who is creating chassis, guide repair units, and other clever things for 3D printing.

I have been chatting for ages with Joao of Olifer 3D chassis of Portugal which are sold through Shapeways, since having the privilege of meeting him and his very nice family as an international digital racing event 3 years ago in UK.
And have been following the work of the British duo John and Lee who are collectively known as JS Chassis design, their product sold only through Facebook, and I have recently ordered both 3D printed and resin cast products unique to them.

JS CHASSIS
John May has 3D printers, and Lee Thorndike casts in resin. They sell directly through their JS Chassis Facebook page, and have quite an extensive range. Needless to say, this makes the product cheaper.

Lee writes "Before JS chassis designs John and I used to club race together here in Essex, England. We have similar interests in scratch building cars, chassis etc. I eventually started Falcon raceway digital Scalextric club which you may have heard of in 2010 & had no time for the other club.

So we went our own ways for awhile both still dabbling. John in 3D printing and myself in resin casting, painting and decal printing.

We got back together to form JS Chassis designs a few years ago. As the group grew I took more of a back seat to focus on resin work and RTR one off cars Tin Top Resins.

Now as a part time caster I focus on Australian and American cars trying to make models that haven't been made before like my AU Falcon ute. Also now developing my own reinforced resin adjustable chassis which is proving to be quite a performer. All my bodies are slush cast and will need windows cut out of clear plastic and fixed in place with canopy glue. I prefer this method of making bodies and windows over vac forming and two part casting.

Amato is another brand of 3D printed chassis and useful accessories such as shaped body posts. Angelo Amato sells these products directly, so these also are cheaper than the products purchased through Shapeways.

Slot Cars & 3D Printing by Paul Bing

Printing is done in a variety of plastic, purchasable in New Zealand, the most common being PLA, but I have also printed ABS & PetG which is a food grade plastic. Generally the nozzle through which the plastic extrudes is 0.4mm but can go as low as 0.1mm. Print temperatures range from 180° up to 280° for the nozzle and bed temperatures are generally 50°-80°C.

I have found that whilst the manufacturer claims that toleranced prints are possible, this is not the case in reality, certainly Engineering tolerances are not achievable on the printer I have; I would say +/- 0.4mm is the range. I use a set of drills that that go up in 0.1mm increments to finish fit parts like the guide holder hole. Printing a chassis like the one in Figure 2 will take about 2-4 hours depending on the print settings chosen. The 3D drawing is converted by a "Slicer" into a file recognised by the printer. The slicer basically converts the drawing into 0.4mm layers and at the same time works out the path the print nozzle will take to achieve each layer.
The slicer software comes with the printer but can also be downloaded if a more complex program is required.

I have been in 3D Printing for 6 months now, getting into it solely for printing slot car parts; incidentally I am new to slot cars too.

As I have learned about slot cars and the tuning that goes with it I have wrecked a few parts. I also notice that tuning requires body modifications that irreversibly change the original chassis. When I bought the printer I had in mind that I would copy the chassis so that the original was always available & "as new". Any modifications that went wrong could be recovered by reprinting the chassis, a reasonably cost-effective solution in comparison to buying a new original chassis. In one case the car I have is no longer available so parts are unobtainable. As a side note there are a variety of websites that offer printable models for sale. I recently purchased the pattern for a Mustang GT500 Eleanor, Figure 4, but I need to say at this point that the print required a lot of "after Print" sanding to get rid of print lines.

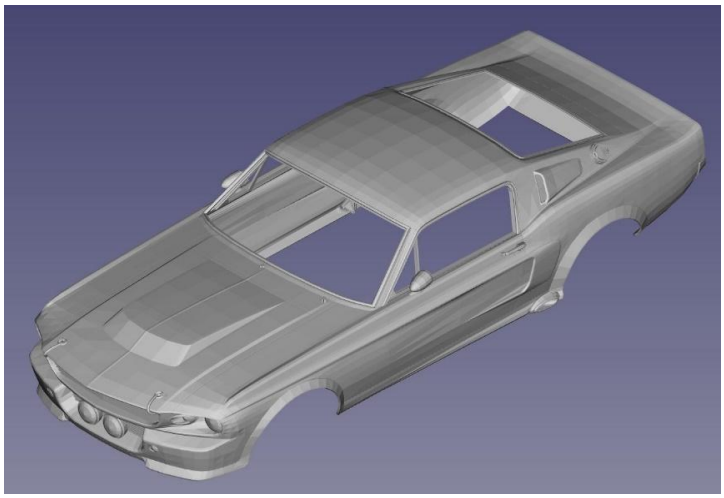

Figure 4 – Purchased GT500 Eleanor

As I ventured on this journey, I discovered that if I could 3D draw it, I could print it. As I drew the chassis it became obvious that the, most time effective, way would be to draw the components individually and build the chassis as an assembly of parts, as in Figure 1

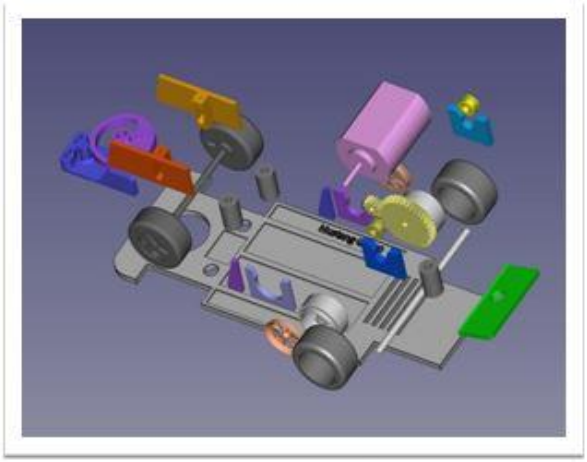

Figure 1 - Exploded View Of Slot Car

Some of the parts drawn are not printed but are included to assist with correct positioning of the parts to be printed. Figure 2 shows what goes to the printer. Of interest, the gears seen here are 3D printable that's the capability.

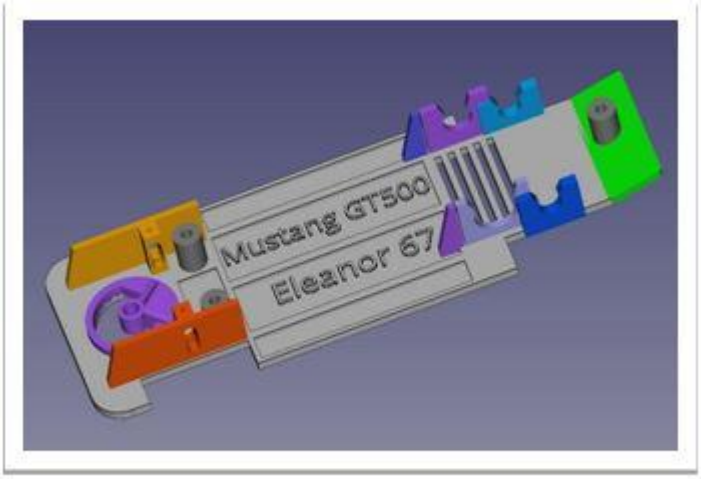

Figure 2 – Printable View Of Slot Car

The other advantage of drawing parts individually is that they can then be printed individually as repair parts where required.

More recently I have been including modifications to the chassis in the drawing phase prior to printing; by this I mean that when I position the rear axle mount (in drawing), I can set the height based on a standard measurement of machined tyres.

Whilst on axle mounts some people file out the clips to improve flexibility; drawing axle mounts means I can remove the clip or adjust its intensity by adjusting its size.

I am also venturing into spare parts, as seen in Figure 3.

I was approached and asked if it was possible, so we had a go, trialled it and it appears to be a success.

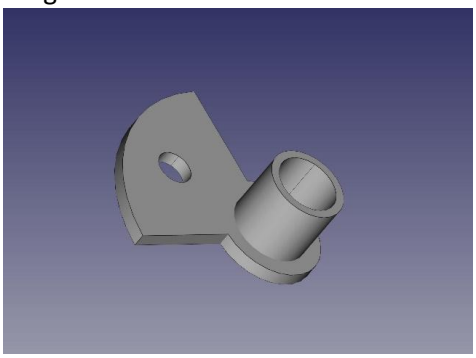

Figure 3 – "Scalev" To Slot-it Guide

The upside now is the person requesting it was then able to ask for it in thicker versions. The possibilities are endless & only limited by the imagination & drawing skills.

Got a broken part, have a part you'd like to apply an upgrade or design mod to; got a part you can't get any longer because it's obsolete, have you got a car that needs a chassis?

Do you need a part that is in the exploded view? Please feel free to contact me baldkopje@gmail.com or mobile [021 385611] & see how I can help.