

# SLOT RACE SHOP

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APRIL 2020

NEWSLETTER

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## NEWS -

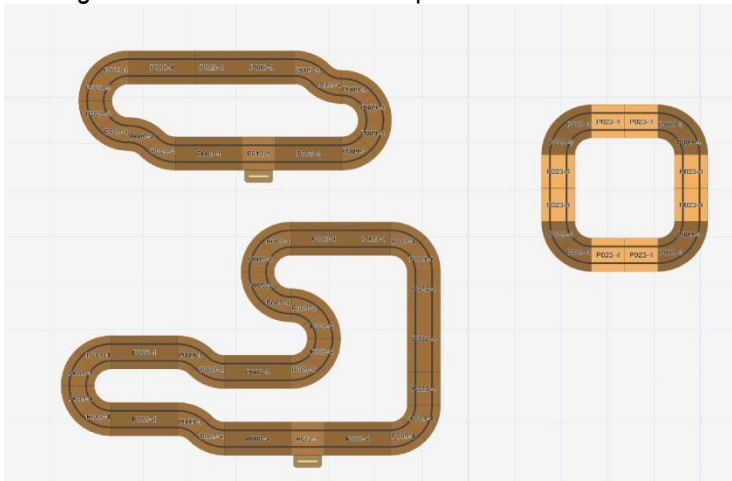
Omitted from the March newsletter due to space. Slot.it now have one additional pinion diameter – 7mm. These Ergal pinions come in 12, 13 and 14 tooth variants. Ergal is an aluminium alloy, and Slot.it make these to very precise manufacturing tolerances including the tooth angles. They tend to be quieter than brass pinions. The same Ergal compound is the base material for their “alloy” Spur gears.



I have been experimenting with using these pinions for rebuilds of Scalextric Muscle and Australian Touring cars, mated with an 18mm Slot.it sidewinder spur gear – which allows for lowering the car a little. - The standard Scalextric spur is 19mm. I loosen the axle bush mount, and glue bushes in, setting gear mesh as I position the bushes.



Mac users may be aware of the [Railmodeller](#) software for MAC & IOS, which also has modules for most slot car track types. Jan from Munich, Germany who owns this software has been working on Policar track files. The update is now available.



What I only learned by asking him about the “*Isle of the Kakapo*” charity he supports from the software income – is that he lived and worked in the software field in Christchurch for three years until the earthquake, then had no work-place, so returned to Munich. But he is still mad keen on NZ. Along with the new Sideways Nissan Group 5 Skyline and BMW M6 GT3 models, I have also landed all spare chassis

variants, standard medium (black), hard (red) and soft/flexi (blue) for the new Sideways cars and lexan interiors, for those who may want to experiment.

They come under Body & Chassis parts” for each car model



Plus more Sideways motors and tyres.

## Covid-19 – Interruption to product deliveries

I have been loathe to dispatch orders, due to risk of the package becoming contaminated with virus in transit. However, the matter is pretty much decided for us now.

**Fastways** are shut down.

**NZ Post Site policy during level 4** ([click to open link](#))

**CourierPost** policy is the same as NZ Post.

Only essential goods will be picked up and delivered. So for now, all you can really do is load your carts.

We have also been hit by a sharp drop in exchange rates the last month. Unfortunately this has force a rise in car prices, especially for Sideways models. Sorry, all I can do is pass on the minimum.



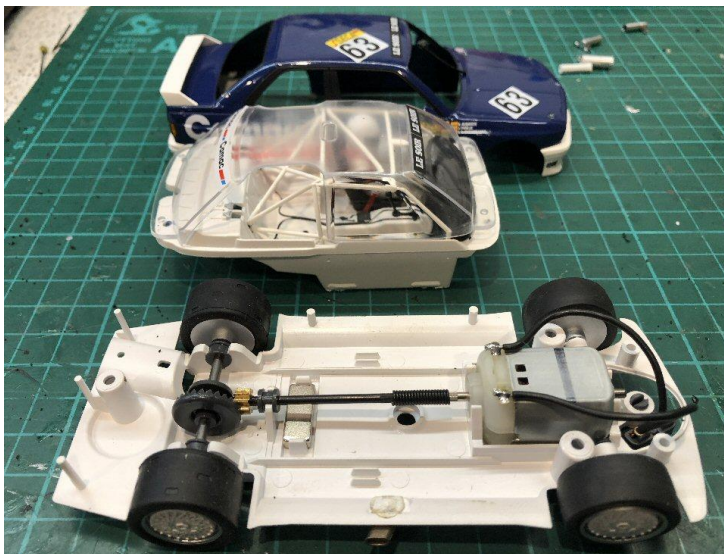
## Tech Article - FLY BMW 320 into a DTM Racer

With Slot.it having released the Mercedes 190 DTM Classic recently, the biggest hole in the range of models represented by the brand, is the BMW 320 – and possibly the Ford Sierra. Our club rules are more broad than my DTM Classic event rules, to enable creative scope for those in club who like building cars; rather than just tuning a standard model.

I looked at Scalextric, Ninco and FLY models. The Scalextric BMW and Sierra were just too narrow, no Ninco Sierra available in Europe at a decent price. So a Fly BMW it would be. I didn't have any models with actual DTM liveries, but I did have a Fly BMW 320 Duo-kit, which consists of one complete car, and a spare body and windscreen glass.



Standard mechanical setup front motor, and deep tray interior in the blue car as pictured above at middle.



So I went about looking for a lightweight pancake interior and a donor chassis from Slot.it by preference. I needed a small amount of guide lead – the wheels on a BMW are near to the front of the car.

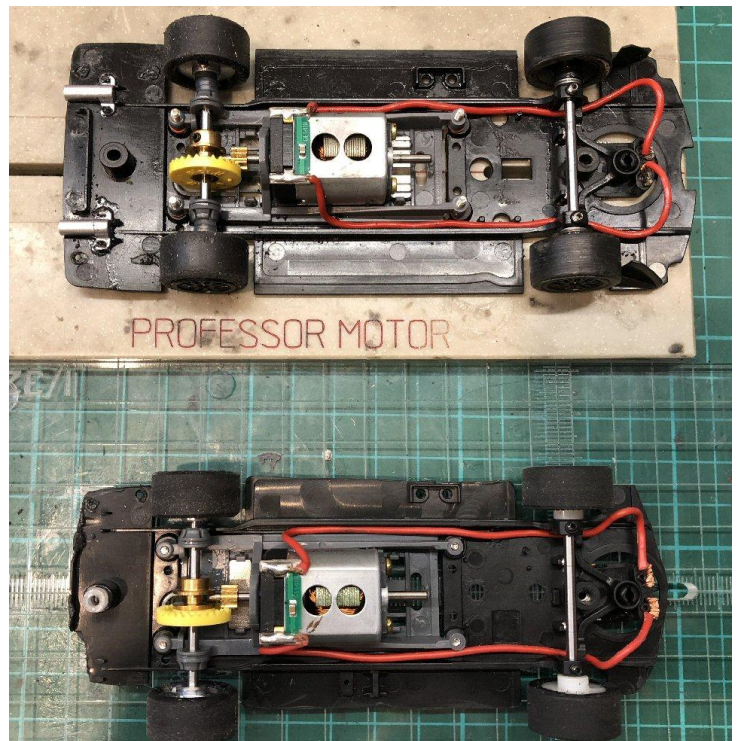
The body is actually 1mm narrower than the CA35 Alfa, 2mm narrower than the other Alfas. But it sits nearly 3mm lower, just 3.5mm higher than the Opel body height, so the handling should be fairly decent with a bit of low ballast.



The interior is a lexan one from another model by Slot.it cut to fit, with a half driver figure from somewhere in the war chest – possibly MRRC. Now I can use a regular inline podded chassis.

The Slot.it Alfa models had the correct wheel base, but too much guide lead. The Mercedes had a suitable short guide lead, but was too long in the wheelbase. Surprisingly, the Opel porridge was “just right”. Only a bare 1mm too long in the wheelbase – do-able, and had the short guide lead I needed. It also by chance had a single rear guide post which lined up perfectly. So I only have to replace the twin front mounts with a single centre mount.

So I took a complete Opel Calibra, and set the body aside. This was the cheapest way to get a complete rolling chassis. The chassis needed quite a bit of trimming, as the BMW body is 1mm narrower than an Alfa CA35 and about 4mm narrower than the Opel – and a bit shorter overall.



Standard chassis top, and after trimming donor chassis at bottom. Test fit. Looks okay, but the whole front is sitting 1.5mm clear of

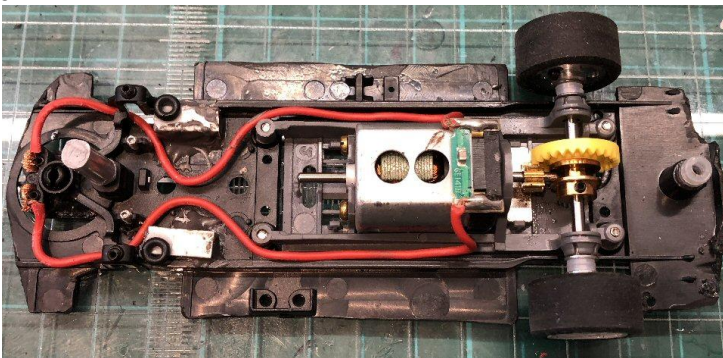


track. We can get this lower, yes we can, I want full guide depth.



I will true down the front tyres another 0.5mm from the radius. I will lose the tyre decals, but I am a racer not a concours kind of guy. Then go to work on making a guide post.

I wanted to use the twin front mounts but they were a cm too short AND the point where the screws would have to go through the chassis was right in line with the vertical rails of the chassis which give it stiffness.

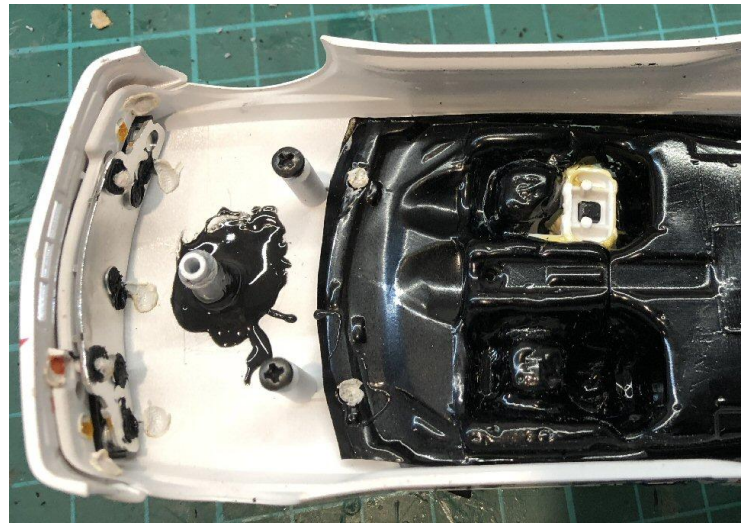


Plan B was mounting two rectangular plastic blocks against the chassis rails, and glue a soft rubber spacer onto the top of each, aligned to the body posts. I then screwed a body screw into each post, until the body sat at about the right height, with the screw heads sitting on the rubber spacers.



Having achieved this approximate ride height, I made a body post by using some soft plastic tube with an inside diameter a bit under 2mm, and epoxyed it inside some aluminium tube for strength and greater surface area for later fixing. I made the inner plastic shaft a bit longer than the aluminium tube, so I could trim the plastic to fine adjust the post length. You can see the silver aluminium shaft in the picture above, just about touching the inside of the bonnet.

I ultimately trimmed about a mm off the plastic before I was satisfied it was the right length.



I then screwed it up tight through the chassis, roughed up the inside of the body shell for the epoxy, laid a generous amount on the body, some onto the post, and just left the car sitting upside down, so epoxy could slide down the body post and meld with that on the chassis.

When the epoxy was cured, I loosened the body screw a typical one turn, adjusted the body screws on the inside of the body, so I had just about half a mm of rock either direction, and fine adjusted axle ride height, and track width front and rear. I also put a generous profile onto the outside edge of the front tyres, so I could maximise that lowering of the body.

I have fitted soft braid, put spacers between wheels and chassis posts, set the gear mesh so the contrate doesn't rub on the motor shaft, lubed everything, and all those little blueprinting jobs you do.



Rolling car, sitting on track with a Slot.it Alfa 155. As you can see I have clearly achieved a ride height several mm lower than the Alfa. This lower COG helps the handling, and even though track is still 1mm narrower than the narrowest of the Slot.it models, - the CA35 Castrol and Jagermeister liveries, it actually runs very well without having added any additional weight. But I will play around with this over the next few days for optimal lap times and predictability when pushed to the limit.

Happy to have created a runner that should be similar in lap times to the out of the box Slot.it models; which I can run at club.



## New Cars

Mercedes 190e Classic DTM "Karcher" CA44B Slot.it



Chassis: Podded  
Motor: Slot.it V12/4 (MX15) 21,000rpm 150g\*cm 7.9 watts @12V mounted as Inline  
Axle & Gears - 2.38mm (3/32nd)  
Gearing: Crown 28t - Pinion 9t brass  
Has adjustable height front axle - this requires optional M2.0 Hex screws not supplied with car  
Hubs: 15.8mm x 8.3mm - plastic front, alloy rear  
Tyres front and rear: Product code PT1228C1  
M2 allen key under box for rear hubs and for optional screw for front axle adjustment  
SSD Upgradable: Yes, use Slot.it SP15b

## NSR Formula 86/89

The first two liveried cars are about to land.



Chassis: Podded  
Motor: NSR King 21,000 RPM @12vdc mounted as inline  
Axle & Gears - 2.37mm  
Gearing: Crown 27t - Pinion 10t brass  
WIDTH: 67mm  
HEIGHT: 24mm  
LENGTH: 130mm  
WHEELBASE: 90mm



## Scalextric

I scored a few of the Ltd Edition set of Moffat Racing Team Falcons



Scalextric Touring Car Legends Ford XB Falcon Limited Edition of 2500. These two Scalextric cars represent the 1-2 finish at Oran Park in March 1977 for the Moffat Ford Dealers team in their XB Falcons.

## Q & A

**Q.** How do I know what Sideways tyres are for what, and how they compare with Slot.it ones. What tyres come standard on the Lamborghini Huracan?

**A.** Hi there, below is a chart which gives the A-shore hardness (or not) of all the Sideways tyres. The size for the Lamborghini Huracan are the bottom 3 lines. It comes from the factory with the 22 shore "medium" one. They are Pro-speed formula, ideally suited for the majority of club tracks "on the continent" – which are Ninco – or now also Policar. They also suit some wood tracks quite well. I have them on one Sideways Group 5.

The lower the number, the softer the tyre. In general we are looking for tyres with a 22 – 28 shore rating on textured tracks, and even lower on smooth plastic and wood. I use the Sideways Hi-Grip 18 shore "Soft" tyres on some cars, along with Slot.it N22 and N18 tyres. The N22 and N18 mean they use the N formula and are Shore 22 or shore 18 respectively. These suit wood tracks perfectly.

For some cars with specific size rims, needing a high profile tyre, or where I want an extra wide tyre, I use NSR Ultra-grips which are the softest around. They are about 16 shore. These are all good brands of tyres for non-magnet racing.

TYRE	SIDEWAYS TYRE CHART - Courtesy of SlotRaceShop New Zealand <a href="http://www.slotraceshop.nz">www.slotraceshop.nz</a>			SHORE RATING
	Hi-Grip line is specifically made for flat surfaces track like Carrera or Scalextric (& wood tracks)			
	Pro-speed line is a little lower grip, and is made for tracks with textured surface like Ninco			
PS1S/F1	Soft	F1	PRO SPEED Tyres	18
PS1M/F1	Medium	F1	PRO SPEED Tyres	22
PS1H/F1	Hard	F1	PRO SPEED Tyres	28
PS1S	Soft	19 x 10	PRO SPEED Tyres	18
PS1M	Medium	19 x 10	PRO SPEED Tyres	22
PS1H	Hard	19 x 10	PRO SPEED Tyres	28
PS1S-EVO	Soft	18 x 10	PRO SPEED Tyres	18
PS1M-EVO	Medium	18 x 10	PRO SPEED Tyres	22
PS1H-EVO	Hard	18 x 10	PRO SPEED Tyres	28
PS1M-LP	Medium	18,5 x 10,5	PRO SPEED Tyres low profile Group 5, Group C	22
PS1H-LP	Hard	18,5 x 10,5	PRO SPEED Tyres low profile Group 5, Group C	28
PS1Sw	Soft	20 X 11	PRO SPEED Tyres	18
PS1Mw	Medium	20 X 11	PRO SPEED Tyres	22
PS1Mw-EVO	Medium	20 X 11	PRO SPEED Tyres	22
PS1Hw	Hard	20 X 11	PRO SPEED Tyres	28
PS1M-TR	Medium	Truck Fly	PRO SPEED Tyres	22
HG1M-TR	Medium	Truck Fly	HI GRIP Tyres	22
PS1F-TR	Hard	Truck fly front	Hard PRO SPEED Tyres	55
HG1S	Soft	19 X 10	HI GRIP Tyres	18
HG1M	Medium	19 X 10	HI GRIP Tyres	22
HG1H	Hard	19 X 10	HI GRIP Tyres	28
HG1S-EVO	Soft	18x10	HI GRIP Tyres	18
HG1M-EVO	Medium	18x10	HI GRIP Tyres	22
HG1H-EVO	Hard	18 x 10	HI GRIP Tyres	28
HG1M-LP	Medium	18,5 x 10,5	HI GRIP Tyres low profile Group 5, Group C	22
HG1H-LP	Hard	18,5 x 10,5	HI GRIP Tyres low profile Group 5, Group C	28
HG1Sw	Soft	20 X 11	HI GRIP Tyres	18
HG1Mw	Medium	20 X 11	HI GRIP Tyres	22
PS1Sw-NG	Soft	20 X 11	PRO SPEED TIRES 2019 Evolution	18
PS1Mw-NG	Medium	20 X 11	PRO SPEED TIRES 2019 Evolution - Stock Lb H GT3 Tyre	22
PS1Hw-NG	Hard	20 X 11	PRO SPEED TIRES 2019 Evolution	28

**Q.** I've searched and found various charts for gear ratios, but I'm more concerned with just basic gear diameters. Slot.it has 5.5mm, 6mm, 6.5mm pinions, with corresponding different diameter axle gears, etc. If I'm buying a chassis from somewhere and they don't come with gears, do I have to wait for it to show up and measure it to figure out what size gears to buy? Or is there a basic guideline of which combinations will generally work? Do different chassis types from different manufacturers use wildly different motor to axle spacing?

**A.** Hi - you didn't mention motor orientation. With inline motor and a crown gear, the most common is 5.5mm pinions, and the way the pinions mesh with the crown gears, means that the crown diameter is immaterial to the mesh, all that matters is that both gears share a common mesh (roughly), and that the motor shaft allows the pinion to reach the teeth of the crown for a good mesh.

As an aside - Slot.it also make 6.75mm and 7mm pinions. Where it gets more complicated is angle-winder and sidewinder combinations. With several manufacturers providing such a wide range of pinion and spur gear diameters, mostly around 48 pitch (imperial measurements) or 0.5 modulus (metric system), and different makers having a different distance between the motor shaft point and the rear axle, you need to determine more variables.

As an example of variable motor to axle distances.

- A Scaleauto 1 piece chassis sidewinder will use a 6.5mm pinion with a 17.5mm spur gear = 24mm combined "tip to tip" distance
- An NSR sidewinder pod uses a 6.75/6.8mm pinion with a 17.5mm spur = 24.25mm combined "tip to tip" distance
- A Slot.it pod uses 6.5mm pinion with 18mm spur = 24.5mm combined "tip to tip" distance
- A Scalextric or Fly 1 piece chassis has a 6.5mm pinion with a 19mm spur gear = 25.5mm combined "tip to tip" distance

So the first thing you need to determine is "what came standard in gear sizes" on this chassis, and what brands give me options to match it

If it is a 3D printed chassis for some toy shop brand car, which takes a pod, it will be designed to either take the NSR or Slot.it pods, which determines what gears you will likely use. If it is a 3D printed one piece chassis you need to be asking the maker what gears it is designed for use with - if they don't state it.

I have successfully combined some brands. I have used 7.5mm pinions from NSR and Sloting Plus, with Slot.it 18mm spurs on both Fly and Scalextric cars, so that I could use an 18mm spur with different tooth numbers, or simply to allow use of smaller diameter wheels.

**Q.** Could you please advise which tyres might make an improvement to the following slot cars:- Sideways Porsche, Sideways Ford Mustang, NSR Audi R8, and NSR Porsche 908 Spyder, and Slot.it Opel DTM saloon?

**A.** Well first up the **NSR Porsche 908 and Audi R8 GT3.**

All NSR cars come fitted with Supergrip formula tyres of the appropriate size.

They are a pretty good tyre anyway of 22 A-shore which is a nice soft formula for racing on wood.

If we are starting with a less optimal tyre, I would personally choose an Ultragrip formula of the same size, as it is even softer. But given what is on them to start, with a bit of NSR tyre oil to soften; glued and trued well, the Supergrips should be fine.

- Assuming the tracks you run on allow people to treat tyres - check with the club for rules about that.

But if you do decide to change

- The Audi R8 probably NSR5217 Ultragrip will be the best fit.

- The Porsche 908 Spyder uses the "classics" tyre so the NSR5219 ultragrip for 16mm hubs will fit

It really needs truing down to remove the tread for good grip.

Whatever you are using, they really, really need to be glued to the hubs and trued. - Be aware that NSR tyres are really sensitive about what glue you use.

Cheap, quick reacting superglues split them every time.

There are two articles about gluing tyres under Links/Technical articles from newsletters of my site.

For the **Slot.it Opel**, which has "C" formula tyre for plastic tracks - use either the PT1171N22 tyre which is 22 A-shore - the same softness level as an NSR Supergrip, or the PT1207N18 which is 18 shore - almost as soft as an NSR Ultragrip.

PERSONALLY I suggest the 1171N22 has sufficient grip for those cars with higher body stance than a sports or LMP car, and they are what we use for the DTM Classic national event which I am hosting in June. They give about as much grip as we can use, when glued and trued, and the usual setup with loose pod and body screws etc.

For the **Sideways Porsche and Mustang**, which both have a 17.3 x 8mm wheel, which come with a harder "C" formula tyre like the Opel, which is optimized for European plastic tracks, you could use any of these

Slot.it PT1172N22 - Slot.it tyre for those larger hubs A-shore 22 Sideways "Hi Grip" HG1SW - which is A-shore 18 NSR 5215 Ultragrip which are A-shore 16

The softer you go, the more grip potential, but the harder to true properly and get the best out of them.