



Fitting Slot.it 3D chassis for Hornby models with Slot.it parts

If you have purchased a 3D printed chassis for Hornby models, or if you're planning to do so, here's what you need to know in order to get the best out of it.

These chassis have been designed with SLS (Selective Laser Sintering) in mind, with full support from Hornby Hobbies, from their original 3D files.

What is SLS? Quoting from 3dprinting.com *“This technology uses a high power laser to fuse small particles of plastic, metal, ceramic or glass powders into a mass that has the desired three dimensional shape. The laser selectively fuses the powdered material by scanning the cross-sections (or layers) generated by the 3D modeling program on the surface of a powder bed. After each cross-section is scanned, the powder bed is lowered by one layer thickness. Then a new layer of material is applied on top and the process is repeated until the object is completed.*

All untouched powder remains as it is and becomes a support structure for the object. Therefore there is no need for any support structure which is an advantage over FDM and SLA. All unused powder can be used for the next printing. SLS was developed and patented by Dr. Carl Deckard at the University of Texas in the mid- 1980s, under sponsorship of DARPA.”

Shapeways' SLS 3D process dimensional tolerance guarantees the part to be within +/-0.15mm of the CAD model. This is due to the way the machines operate, and it's been taken into account when designing the parts with this technology in mind, as much as possible. In practice, customers may occasionally have to use some sandpaper and file to match parts perfectly. In most cases, from experience, this is not necessary and Shapeways 3D printed products match our standard Slot.it parts or Hornby bodies very well.

We started from the 3D CAD design from Hornby changing them in order to fit our motor mount and pickup, so that they are equivalent to any other plastic chassis designed to fit under the Hornby PCR models (Performance Chassis Ready). As it is normal, due to the specific requirements of Selective Laser Sintering, some familiar features of Slot.it-designed Performance Chassis were adjusted, and the Slot.it and Hornby logos slightly changed, to make them printable.

Based on the feedback from previous products, all GT chassis are now available with either the 'standard' guide or with the LMP type guide. In most cases the 'standard' pickup holder will withstand shock and abuse; LMP type guide holder may be however more robust.

Chassis for rally cars are designed so that a future Slot.it spring guide can be used. They are also compatible with the Slot.it 4WD clutched bearing system.

Any of the Slot.it motor pods may be used with these chassis; however, due to the diameter of the wheels in the original Scalextric products, we recommend using 1.0mm offset units, and front and rear 17.3mm wheels for GT cars, whereas 0.0 offset and 15.8mm wheels are more appropriate for rally models.

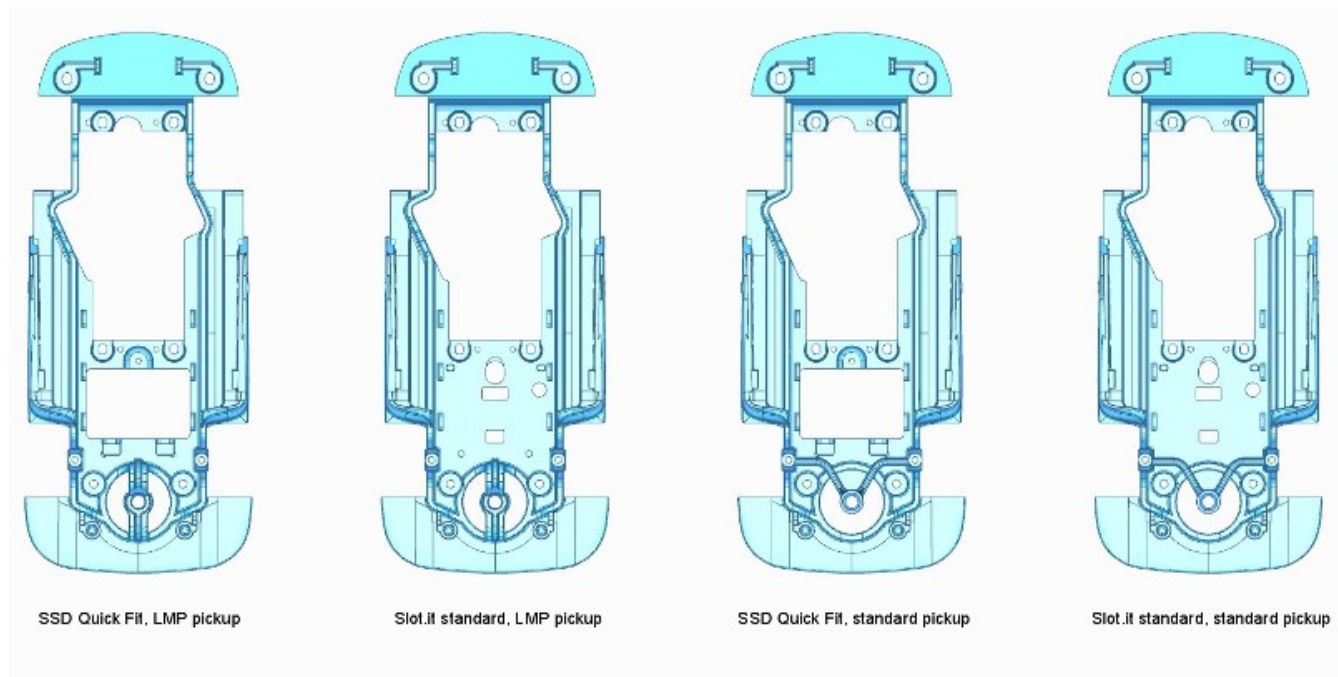
Whenever possible, a specific version of chassis, ready for Scalextric 'Quick Fit' SSD chip, is made available (with either LMP or standard guide holder). The 'standard version is made for analog, oXigen chips or Slot.it's own SSD SP15. To recap, choose between

- STD version: analog, oXigen or SSD with Slot.it SP15chip
- SSD version: prepared for Hornby Quick Fit SSD chips. If you plan to use the chip intermittently, the corresponding SSD hatch lid can also be ordered..

The only available plastic type is polyamidresin (nylon) but there are many different variations to choose from:

- Unpolished: white (cheapest), black.
- Polished: white, royal blue, violet purple, hot pink, coral red, orange, green, yellow, all at the same price.

The main difference here is between polished and unpolished: polishing is a mechanical process (we understand it's a fine, light sanding) that removes some of the graininess from the unpolished part, slightly rounding off edges in the meanwhile. They feel more 'refined' when held. Actually, in most cases, polished or not, no further work is necessary. However, as we explained earlier, some minor adjustment may be needed.




Here's a list of available Slot.it parts and codes for Hornby models:.

S04-ST1	3DP Chassis Scalextric Audi Sport S1 Quattro
S04-SA1	3DP Cockpit Scalextric Audi Sport S1 Quattro
S04-XA1	Lexan Cockpit Scalextric Audi Sport S1 Quattro
S04-SI1	Audi Quattro Speedline type wheel inserts, 4WD
S05-ST1	3DP Chassis Scalextric Lancia Delta S4 with spoiler
S05-ST2	3DP Chassis Scalextric Lancia Delta S4 w/out spoiler
S05-SA1	3DP Cockpit Lancia Delta S4
S05-SA2	3DP Roll Cage Lancia Delta S4
S05-XA1	Lexan Cockpit Lancia Delta S4
S05-SI1	Delta OZ type wheel inserts, 4WD
S06-ST1	3DP Chassis Scalextric Bentley Continental GT3 STD LMP pickup
S06-ST2	3DP Chassis Scalextric Bentley Continental GT3 STD STD pickup
S06-ST3	3DP Chassis Scalextric Bentley Continental GT3 SSD LMP pickup
S06-ST4	3DP Chassis Scalextric Bentley Continental GT3 SSD STD pickup
S06-SA1	3DP Cockpit Scalextric Bentley Continental GT3
S06-XA1	Lexan Cockpit Scalextric Bentley Continental GT3
S07-ST1	3DP Chassis Scalextric Aston Martin Vantage GT3 LMP pickup
S07-ST2	3DP Chassis Scalextric Aston Martin Vantage GT3 STD pickup
S07-SA1	3DP Cockpit Scalextric Aston Martin Vantage GT3
S07-XA1	Lexan Cockpit Scalextric Aston Martin Vantage GT3
S99-S01	SSD hatch lid

Note: the cockpit in ALL the above Scalextric cars must either be changed to the Shapeways part, or to the Slot.it Lexan spare, or removed in order to fit Slot.it 3D printed chassis and Slot.it parts inside the model. Specific rim inserts are available for 4WD wheels.

Ordering

To order your chassis, visit the [Scalextric section of the Slot.it Shapeways shop](#). You will be directed to Slot.it Shapeways shop, where you can find all the 3D parts that we've currently made available for Scalextric models.

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S05-SI1 4WD Wheel Inserts L...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S06-ST2 Scalextric Bentley ...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S06-ST1 Scalextric Bentley ...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S07-ST2 Scalextric Aston Ma...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S07-ST1 Scalextric Aston Ma...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



Image is for descriptive purposes only. Scalextric body and Slot.it parts are NOT included
S05-ST1 Scalextric Delta S4 ...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S05-SA1 Scalextric Lancia D...
Not For Sale by 3DSlotitFab
in White Strong & Flexible



S06-ST4 Scalextric Bentley ...
Not For Sale by 3DSlotitFab
in White Strong & Flexible

To place the order register with Shapeways, select what you need and pay with Credit Card, Paypal, or possibly other means. It's really very simple. All logistics are handled directly by Shapeways and your order is delivered to your door. Depending on finishing and quantity, delivery time can range from 7 to 15 days.

Assembling - what's needed

Slot.it inline and anglewinder motor pods work easily with any Slot.it wheel. If you plan to use a sidewinder pod, instead, care must be taken because the motor shaft may rub against the rear wheels, in which case the motor shaft may have to be cut.

GT Cars

What's used in modern Slot.it GT and LMP car will work:

Part	Part n.	Description
Motor pod	CH30	Hard plastic white AW pod, offset 1.0
Bushings	CH56b	2x spherical oilites (<i>already included in pod CH30</i>)
Stopper	PA25/PA57	Standard or race Stopper. We suggest PA57
AW Spur Gear	GA26...GA30	Any of our AW gear will do. We suggest GA28-pl
Pinion	PS10/11/12/13	Any of our 6.5mm pinions. We suggest PS11
Spacers	PA47	Use 0.35/0.40mm spacer between gear and oilite
Shaft	PA01-54	2x 54mm steel shaft
Magnet (optional)	CN06/CN07	Standard or race NdFeB magnet
Front wheels	PA18-pl	17.3mm front wheel. May also be Mg or Al
Rear Wheels	PA38-Als/Wh1230-Mg	17.3*8 short hub wheel
Front tyres	PT15	Skinny front tyres, or use the same as rear
Rear Tyres	PT25/PT27/1207F22	Compound according to track.
Grub screws	PA40/PA37	3 and 6mm grub screws for front axle adjustment
Pickup	CH88/CH84 CH85/CH07/CH66	LMP Type pickup or STD Type pickup
Braid	SP19/SP29	Braid, 1m or LMP special pre-cut and drilled
Motor	MN08/09/13/14	We suggest either a Boxer or a Flat motor

Parts in light gray can be replaced by one single KK16 'PCR conversion kit'.

This is only one example of the many possible ways Shapeways and PCR cars can be assembled.

Rally Cars

These 3D printed chassis are designed to be compatible with Slot.it 4WD system.

In gray: for 4WD system this part must be replaced with equivalent part from 4WD table

Part (2WD)	Part n.	Description
Motor pod	CH13b / CH48	Black pod, offset 0.0, short or long can
Bushings	CH56b	2x spherical oilites (<i>already included in pod</i>)
Inline crown	GI23Bz...GI30Bz or Al	Any of our Inline gear will do.
Pinion	PI08/09/10	Any of our 5.5mm pinions. We suggest PI09
Shaft	PA01-51	2x51mm steel shaft
Magnet (optional)	CN06/CN07	Standard or race NdFeB magnet
Front tyres	PT15, PT17, PT19	Depending on setup and preference
Rear tyres	PT27, PT1171, PT1207, 1152C1, 1228C1...	Compound according to track..
Front wheels	Pa17, PA24, Wh1183	Any 15.8*8 mm Slot.it wheel
Rear Wheels	WH1050-Al or Pa17 (any), PA24-Alf PA24-Alh, Wh1183-Mg	Any 15.8*8 mm Slot.it wheel. [*]
Grub screws	PA40/PA37	3 and 6mm grub screws for front axle adjustment
Pickup	CH85/CH07/CH66	STD Type pickup. Spring unit under dev.
Braid	SP18/SP19	Braid, 1m
Motor	Any Slot.it inline	V12 / Flat-6 / Boxer according to pod

Parts for 2WD setup

Part (4WD)	Part n.	Description
Rear Wheels[*]	WH1050-Al or Wh1183-Mg , PA24-Alf	15.8*8, 2.5mm long hub wheel. 15.8*8, 1.5mm long hub wheel with side cuts.
Front and rear tyres	PT27 or PT1171 PT1207	Compound according to track.. Any tyre coming from mould 1171 or 1207 will do
Pulleys	CH99/CH100/CH101 or CH107 , S99-S03/16 , S99-S03/17 , S99-S03/18	16/17/18 tooth pulley for 2.5mm long hubs 16/17/18 tooth pulley for 1.5mm long hub wheel with side cuts
Belt	CH102 , CH108	Z85 (Audi), Z94 (Delta)
Front wheels [**]	PA72-pl	15.8mm front 4WD wheels - see also PA72as
Hubs[**]	CH95	Bearing hubs - see also PA72as
Clutch bearings [**]	CH96	Unidirectional bearings - see also PA72as
Retaining rings [**]	CH97	Snap rings - see also PA72as
Flanges and spacers	CH98	Flanges and plastic bushings

Specific parts for 4WD car setup

[*] For 4WD, the rear pulley must be chosen depending on the type of wheel used at the rear:

CH99, CH100, CH101 are compatible with 2.5mm hub wheels, such as WH1050-Al.

CH107, or shapeways printed parts S99-S03/16, S99-S03/17, S99-S03/18 are compatible with 1.5mm hub wheels with side cuts, such as Wh1183-Mg, Pa24-Alf, PA24-Alh

[**] Pa72-Pl, CH95, CH96, CH97 may be also bought pre-assembled as one single code [PA72as](#)