

We have put together a little guide to help new users overcome any problems they encounter. We have been using Scalextric Digital (SSD) extensively since 2004, so this is really just a list of issues we ever encountered and how we resolved them. Please note that this guide was originally written for the first digital cars and the original 6-car powerbase. Many of the issues covered here have since been resolved in manufacturing, but there are still old sets in circulation and new tips regarding later releases have been added as we go along. Information relating more to the new C7042 powerbase is at the end. Many of the general solutions are applicable to analogue tracks as well.

Troubleshooting SSD

Many problems you will encounter will be as a result of accident damage. There are sophisticated electronics on board these cars, so if you repeatedly crash your car, it will stop working. Just like a real car! Fortunately most can be easily repaired by yourself. Unlike a real car! To get the best out of your SSD set you need to be prepared to “get your hands dirty” and carry out some repairs and maintain your cars. Try to look after them like real cars, not as toys. Children coming to Scalextric from video racing games should be reminded there is no magic car repair or reset button to “make everything better” at the end of the race.

No cars will go at all.

Check power to powerbase (powerbase lights up). Check throttles are fully plugged in. Disconnect powerbase from rest of circuit (but still plugged in to the mains), place a car on the powerbase, press throttle and see if car moves (you do not need to have a complete track circuit to try this). Try with different cars, car IDs and throttles. If no car will move across the lone powerbase, on any ID, any throttle, on either lane, and the powerbase is on, the powerbase must be faulty – sometimes there can be a bad batch. Similarly, if a powerbase plugged in and separate from rest of track seems to be getting overly hot or only one of the lanes works, can indicate a powerbase fault. Ask about returns / repairs.

Adding 2nd / 3rd etc. car to track affects car speed or performance.

You should not see any noticeable difference when running multiple cars. If you do, it indicates that somewhere in your layout there is a drain on the power or somehow insufficient power is getting around. Check all track connections and inspect all lane-changers. Make sure no screws underneath or conductive carpet are an issue. Try a small oval without any lane-changers. If you still see the problem, suspect an issue inside one of the cars, try some other cars.

Car or cars stop running / one controller controlling two cars / car not being counted or timed / car does not respond to throttle / car seems to have changed ID.

Usually after an impact, a chip may receive a rogue digital signal that causes it to reset its ID. Simply re-program the car (see instruction manual) to the correct ID and drive more carefully. If this is not the answer, check throttles are properly plugged in. Check the braids are on the car and touching the track. If a car has had a crash, a wire may be loose inside. Unscrew the car body and check for broken wires. Around the guide blade, around or within the black “ferrite choke” collar is a common break point (see image). A drop of solder on the broken joint will solve the problem. Regular digital racers may need to keep a soldering iron and solder on standby for such situations.



***Note about “Ferrite Man”**

All digital cars should have a ferrite choke and capacitor as shown in the picture above, directly behind the guide plate (sometimes encased in a rubber sleeve). Some of the Digital Plug Ready cars do not have one due to an early production problem, you should be able to get this resolved via Hornby or your retailer. The purpose of these components is to prevent radio interference and also to soak up any power spikes

that can corrupt or re-program the chip settings. Power spikes can occur when there is any break in electrical continuity, e.g. crossing a lanechanger, braids lose contact with rails over a bump, etc.



Car shoots off at top speed when placed on track and cannot be controlled.

Try it with a different controller, and/or try reprogramming it to another ID. If it is not accepting reprogramming commands, the chip has probably been damaged in an impact and will need replacing. If it's a Digital Plug Car, there is a possible issue with stray braids cross-contacting both rails on the exit of a lanechanger. Make sure your braids are tidy. You can also try a spot of enamel paint on the lanechanger exit to help with insulation, where the black plastic diamonds are, cover the next 5 to 10mm or so of rail with black enamel paint (i.e. extending the non-conductive area beyond the length of a stray braid).

“HC Err” message on one or more cars (original C7030 6 car Powerbase only)

This normally occurs when, for a race, you have told the powerbase a Car ID Used="Y" but there is no controller plugged in to that socket. Could also indicate some other issue related to the hand controller, maybe it has failed, or something to do with the plug or powerbase socket, e.g. plug bent or not in properly. Check the “Car ID Used” settings, and/or try other car/controller/socket combinations.

Car stutters or stops.

This can also be due to a broken wire within the ferrite choke that occasionally makes good contact on some parts of the track. If the car was not factory-chipped (i.e. chip installed by you or us), perhaps a soldered wire join has come loose. Can also be due to the guide plate being loose on the guide blade assembly. Take the guide blade assembly apart, check the braids, the metal guide plates they make contact with, and follow the wires up towards the circuit board. Solder any broken joints. Sometimes the metal feet in the guide blade are not soundly connected to the wires, check they don't pull off easily, if they do, reattach and crimp them securely. Also sometimes the wires on top of the motor are loose, again reattach and solder. If a wire has come off the circuit board, this is trickier. It is possible to solder the wires back on to the circuit board but you may need a magnifying glass and a steady hand. Otherwise you need to order a new part.

Track overloads / gives short circuit indication (“SAFE” shows on C7042 powerbase).

Usually just due to a stray braid from a car at a lanechanger, as this is where there is the most likelihood of the opposite rails being bridged. Check braids on all cars are not frayed or scrunched up – each braid must only contact one rail and trail backwards. After a spin, braids can get disarranged. If you are trying “drift” (360 degree spin) cars on a digital track this can happen often. Also, wires could be touching inside a car after a bad crash. Check that there is nothing shorting the rails, e.g. something metallic in the slot, like a clip or screw, or under the track – also some carpets and other surfaces conduct electricity. Break the track into two parts at the powerbase, see if cars will run on the first half without an overload (you do not need a complete track circuit to try this). If they do, then the problem is on the other half; connect the other half of the track to the powerbase. Find the problem track piece by reducing the track length in sections in this way. Remember to plug in an extra power unit to run more than 3-4 cars on the 6 car powerbase.

Cars generally run slowly / one lane or part of track has no power / problems with power flow.

Could be a rogue piece of track, with a connector that is broken or not making good contact. Perhaps you have some “Classic” track in the circuit that does not have such a good connection. Often a tiny bit of tin foil inserted in a loose join can help. Also maybe something is draining the power, e.g. a screw head from a baseboard, or conductive carpet, contacting the underside of the track. Try a smaller circuit to begin with. Indeed you don't need a circuit, just build track on from the powerbase. Extend the track a little till you start to experience problems, then swap pieces of track out with others. For permanent circuits, try running a power tap across from one side of the circuit to the other. Conductive (silver) grease on the joints may help. Check all power leads are connected OK.

Overload problems running 6 cars with original C7030 6 car powerbase.

Some of the heavier cars need more power to drive them. Going up hill also uses more power, as does crossing a lanechanger, so if you have heavy cars and lots of lanechangers, and maybe if you have some gradients, you may experience overload problems. Start with a smaller circuit, and a reduced number of lanechangers, with lighter or fewer cars, and reducing gradients to see if that helps. More advanced solutions to this issue require separate wiring of the lane-changers and using a third-party power supply.

Lane changer, pit lane game, lapcounter or powerbase not responding or recording cars.

If an in-track lane-change or pit lane detector sensor doesn't respond to any car, there is probably something covering the sensor in the track, e.g. fluff. Also any in-track sensor can be susceptible to bright light (sunlight or halogen lamps) shining directly on it, this can cause lap/timing miscounts or activation or wiggling of lane-change flippers even when no car is near, so check this by shading the problem track component.

A sensor placed directly after a sharp bend might mean the car's LED does not pass directly over the little hole cut in the rails. If only one car is failing to set or reset it, check the LED "dome" in the base of the car is not loose and that it can see out. Also check that the car ID has not changed and that you are indeed controlling the car you think you are. Power the circuit down for a few minutes while you put the kettle on and see if the equipment resets itself on power-up. For lane change issues it could also be a problem with the lane-change button on the throttle, try using another. Note – lanechangers are **not** supposed to reset once a car has crossed. The next car will set the lanechanger according to the wishes of its driver as it approaches.

For pit lane game issues also remember that the system is only able to count **one** good or bad pass **per car per red or green period**. You cannot light up or extinguish any more lights till the current red or green period has ended.

Smoke! (Very rare)

Coming from the track – usually caused by a short circuit – check the track join for stray metal contact across the rails. Smoke coming from the powerbase – power off for a few minutes and take all cars off the track. Power on and check that the system comes up OK. You can also try a factory reset (see instructions that came with the powerbase). Put cars on one by one and watch out for a repeat performance, if it happens again, a component on the powerbase may be suffering. Ask about repair or replacement. Smoke coming from a car – the digital chip is probably about to expire. Sometimes as a result of repeated impacts, components on the circuit board can be damaged and caused to burn out. Chips are not indestructible! You should budget for the occasional replacement of digital chips from time to time.

Lap counting problems.

Firstly, don't race digitally anticlockwise as it won't count the cars correctly. Otherwise, if a car is not counting laps, either it does not have the ID you think it does, or, something about the car's guide blade or maybe the placement of the lapcounter/powerbase is causing miscounts. The guide blade should be black. Blue ones don't work so well against the infra-red sensors. Try locating the counter on a slower part of the track and make sure it is level or slightly sloping upwards (in the direction of travel) so that the blade is firmly in the slot. If individual cars still fail to regularly count laps, try either a deeper guide blade, or, deform the bottom of the existing blade by squeezing it with a mole grip so that the plastic bulges downwards by a millimetre or so – that may be all you need to successfully break the timing beam every time.

Poor car performance.

Do check inside the car that the gears or braids are not fouled up with fluff and such like. And usually over time the track will get dirty – not particularly visible to the naked eye but if you use some alcohol on a rag,

or some track cleaner such as “Plebys” (available from us and also on Ebay), you will find a surprising amount of muck comes off. Dirty rails seriously affect performance. Always go round the track and give it a good clean before getting down to some serious racing. Also clean the braids on the cars, these also get mucky. Small amounts of silver grease (available from Maplins or RS Components) on the track joints will improve conductivity too. Finally, inspect the inside of your cars to make sure they are clean and free of fluff, etc. Look after them and they will serve you well.

New car taken out of display case has loose rear axle

We occasionally hear reports of cars that have got loose rear axles from new (the wheel has gone up inside the hub). The cars are put in cases and the cases bubble-wrapped in China so you are usually the first person to take the car out of its wrapping and remove it from its case since manufacture. Either the axle has not been properly fitted or it has popped out in transit. However it’s an easy fix, simply remove the screws in the car underside to release the body, then you can press down on the loose axle fixing to click it back into the underpan socket – then replace the body. If it turns out that the axle does not click and hold fast in the underpan (i.e. the fixing is broken) then there would be a manufacturing fault and you should return it for refund or replacement.

Car guide blade bottoming out in the slot

Old Classic track has a shallower slot than modern Sport track, and some other brands of car also have deeper guide blades (such as Carrera or Slot-It). If you can hear your guide blade dragging along the bottom of the slot you will need to get out a file and shave a millimetre or so off the bottom of the blade. If your blade is constantly hitting the bottom of the slot it could also damage in-track sensors for lanechangers and so on, so worth fixing. Also, you may have installed a C8420 rally (sprung, longer shaft) guide blade in a car that requires a C8329 ordinary blade.

Digital Plug Car’s plug looks strange / doesn’t fit

When installing a digital module in a plug car, as you remove the plug from the blank module, on some cars, the female receptor comes with it. If you have a plug that has two fat silver prongs on the end, those should have stayed behind in the blank module (see photos on the DPR section of the web site). Simply tease that section off and drop it back in the blank module, to reveal the real plug underneath, which will then go in to the socket on the digital chip module.

Digital Plug Car doesn’t run on analogue track

If you have a DPR car but are running it without the digital module fitted, make sure that the plug is fitted in to the rear of the blank plug module, as this completes the connection between the braids and the motor. Also do all usual checks that wires are not disconnected inside the car and the metal feet are contacting the back of the braids.

C7042 powerbase specifics

This powerbase is upgradeable “in the field” – so as and when new tweaks or bug fixes are required, you can update your powerbase using the instructions here: <http://ssdc.jackaments.com/firmware.shtml> - make you are on the latest “build” of the firmware. Other issues you may encounter:

- Display tower shows “SAFE” – safety protection has kicked in. Press ENTER to clear. If the message reappears, there is a track problem (loose braid, screw or other track fault) – check all rails are not being bridged before trying again. Could also be a fault on a particular car, so remove all cars and replace one by one.
- Analogue mode doesn’t work – if you have corner lane-changers, power taps, or single crossovers in the layout, you will need to do some modifications to the circuit before using analogue mode – see http://www.slotcarcentre.co.uk/acatalog/Scalextric_Digital_track.html#cutcorners for details.
- Lap timing / car miscounting – early releases of the C7042 were subject to miscounting problems when strong light of certain types/frequencies shines on the powerbase in-track sensors.

Specifically, if changing lanes and coming through on a different lane next time around causes a missed count/time, this ambient lighting issue (bizarrely) is probably why. (See <http://www.scalextric.com/customer-care/top-tips-and-advice/scalextric-digital/the-c7042-advanced-6car-digital-and-analogue-powerbase-with-pacer-cars-power-control-and-pc-connectivity/> for more information). You can check this by making a quick cardboard tunnel out of an old shoe box or cereal packet, to completely shield the four powerbase sensors from light. If the tunnel solution solved the counting problem, you can send your powerbase back to Hornby Customer Care (below) for the latest firmware upgrade to be applied (or do it yourself as per the link above) to properly resolve the problem. If this is not the issue, make sure your powerbase is level (i.e. cars are not “rally jumping” in the slot as they pass through) and try placing it in a slower section of track.

Improving car handling and performance

You can improve the handling of most cars using slot car hobbyist techniques and products, beyond the scope of these instructions. It's all part of the hobby. Google “slot car tuning” and similar phrases to find tips to help you. If you are starting to enjoy the hobby and want to find out more about tuning cars, and finding other people to race with, you should consider joining the NSCC (www.nsc.co.uk).

Hornby support line – In the event that you feel need some advice from the manufacturers, the Scalextric Customer Care number is 01843 233525, or you can email customercare@hornby.com.

Important note – Although we are Hornby dealers and Hornby equipment users, you may find that some of the guidance we suggest differs from what they might offer you. Generally, we give you more detail, from the “enthusiast's” point of view, not the official spiel.

Finally, A General Rule Of Thumb... Drive Carefully - Think Logically.

Digital racing works best as a non-contact sport! You will find a successful, smart overtaking move is much more satisfying than a pile-up, or punting the car ahead of you off the track. Think ahead, and get in the correct lane to avoid the traffic. Try and look after your cars. If you should however find a car is not doing what it should, logically go through all the components that could be causing the problem. Don't automatically assume it's a problem with the car. It could also be the track, the power supply, or the controller. Did you just have a crash? See if any of the other solutions listed above offer a clue. And always try a process of elimination by swapping cars, track and controllers around to narrow down the likely cause.