Cobalt Point motors: Warranty, customer service & Advice

The "Cobalt turnout motor" warranty

This is clear and simple. It is also generous. However, in case you wondered, we didn't create a lifetime warranty based on anything other than real-world testing!

Each production batch, we randomly select some Cobalt turnout motors, fit them to a test rig. We then operate them continuously until they show signs of wear.

The test rig is a small diorama with a standard, commonly used Peco turnout in it.

The turnout is changed automatically every 15 seconds and the changes are counted using the Cobalt motors own on-board switches, so we are testing both the mechanism and the switching at the same time. The test voltage is usually provided by a 13.5v DC regulated power supply. For the original Cobalt we will occasionally use lower voltages, and for the New 2014 range we will move the standard test voltage up to 15v, with occasional high and low voltage life-tests at9, 12 and 18 volts.

The average life test exceeds 120,000 changes before any sign of wear.

This equates to more than 80 years of use for a turnout placed in the busiest place on a very active club or large group operated layout… so we think that given this sort of result, a "Lifetime warranty" is good!

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Who and what does the lifetime warranty apply to?

The "Cobalt Lifetime Warranty" applies to the original purchaser only. It is not transferable.

As with all warranty, it is up to YOU as a retailer to confirm that the unit was purchased from you by the claimant or that he is the original owner. Private E-bay purchases are specifically excluded.

We trust you, but if you do not know the customer, recall making the sale, cannot validate it, or, if it was purchased elsewhere, then you should require proof of purchase before offering any warranty support.

IF the customer cannot provide that information, of he/she is not the original purchaser you can:

- **Reject the warranty request but offer to send it for repair at his/her cost.**
- **Request that he deals directly with us (email warranty@DCCconcepts.com)**

IF this is a good customer, we leave your approach in your hands, but please DO be sure to read our "warranty or not" introduction before you do so. We are able to be helpful and supportive, but only if the product is complete, undamaged physically and totally complete including the fulcrum bar etc.

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Who is responsible for the term of the Warranty?

We accept that for any distributor or retailer, anything that carries long forward obligations is, sooner or later, going to cause problems, so we have carefully designed the warranty structure to prevent this.

- **For the first year after retail sale: The retailer and / or their associated distributor are responsible for the administering of the warranty and providing after-sales service to Cobalt turnout motor owners. Providing that the approach is fair to all and proper procedure is followed in managing the warranty, DCCconcepts will provide appropriate support or replacement product without cost.**
- **After the first year: DCCconcepts will accept all warranty responsibility, providing direct support to the owner of the product. Unless you prefer to maintain the extended warranty yourself (you can if you wish, but check in with us first please) .**
- **Contact after the first year: Please refer warranty claims or problems related to Cobalt turnout motors that are MORE than 1 year old to DCCconcepts. We will keep you informed if requested.**
- **Ask your customer to contact us via warranty@DCCconcepts.com**

Cobalt Warranty: Sometimes it is, but mostly, its not!

The "Cobalt turnout motor" warranty

The "Sad but true" thing about most Cobalt turnout motor failures is this:

(1) From the very beginning, between half and three quarters of all of all Cobalt warranty returns have actually worked just fine when we tested them. (We DO test everything returned by the way)

(2) MOST warranty returns come from very few customers: In other words, most have ZERO problems while a few customers have several. This immediately points to wrong power supply, poor wiring quality or failure to read manuals as the most likely cause of problems.

(3) MANY Digital product problems are caused by entry level DCC control system design, in particular from train-set brands. Often just changing the poor quality power supply of the DCC system will fix problems… but unless you know about things, how can you advise or help customers?

(SO, if users have address setting problems, ask us. We can usually give you some clear advice)

(1) This is also, unfortunately, a pointer to another problem. Lack of checking by the retailer, and lack of questioning of modeller techniques or "teaching" by retailers.

(2) Product knowledge IS a clear responsibility of retail, reading of manuals is a responsibility of the user BEFORE connection...and DCCconcepts make LOT of information available at http://www.dccconcepts.com/manuals-advice.

So please: Advise, teach and encourage customers to learn before they start!

What IS warranty and what is not?

- If the motor does not change when requested or does not work consistently/reliably, it is usually warranty. (there can be exceptions, so if you are not sure, ask warranty@dccconcepts.com)
- If any of the on-board switches does not work properly, it is warranty. We have parts available.
- If a digital motor will not accept a new address, it is warranty - *(read page 4 first though please)*
- If a digital motor will not work on DC via the pushbutton terminals, it is probably warranty.

Providing that:

- The Cobalt turnout motor was tested properly and you confirmed the problem is real "as claimed".
- The Cobalt turnout motor has not been used with an inappropriate power supply (for example, clicking is a fault - but it is mostly one caused by over-voltage). There is no point in replacing a motor that will be used on the same over-voltage power supply, is there?
- The Cobalt turnout motor is not physically damaged. The case is made using a strong engineering plastic and the gears are made from Acetal, a very strong "gear plastic". Physical damage is NOT easy to do and is always going to make it a non-warranty problem.
- The switch is not broken (Digital products). We see the comment "switch missing" on warranty returns and it is quite impossible. Every unit is tested live more than once and without the switch we simply could not test it. (What happens is that in the first generation Cobalt digital, the switch lever was very small… and careless modellers using a sharp screwdriver to change it simply cut it off, or less than gentle modellers broke it off. We DO use judgement when reviewing this claim, but ANY replacements on that basis are generosity, not warranty).

Summary:

Most returns we receive are actually NOT truly warranty.

We are prepared to be generous quite often but there are limits, so DO test items your customers claim are faulty and reconfirm the fault before replacing them. Carefully question your customers (Nicely of course) to learn about their problem so you can help them. Feed back the information and help us too.

We'll always do our best but, if we receive back motors that DO work, we don't expect to bear the cost!

Original Cobalt / Customer issues: What to do, how to do it!

Original Cobalt classic and Cobalt Digital: Common issues, their cause & the fix:

- **Original Cobalt & Cobalt Digital. Clicking:** Cobalt manuals have clearly stated a preferred voltage of 9v and a recommended voltage of 9~12v for more than 4 years. We have also stated that the power supply should be regulated, because that means the voltage is stable. (no big deal, as most wall plug supplies you will find in your bottom drawer are regulated). Unfortunately many old-design DC units like H&M and Gaugemaster deliver incorrect DC output voltages - they ALWAYS deliver more DC volts than they claim on their labels!)

  However most often, modellers clearly just do not read instructions - or perhaps they do not understand electricity. This is NOT helped by train-set controllers that, as above, have what are called "12v uncontrolled" outputs. These are all 16v+ & only 12v at their limit of power! Cobalt uses very little so receives over-voltage.

  Additionally, while the DCC standards stipulate 14.5v at the rails for HO and less for N, European and all "trainset brand" DCC systems commonly output over 17v at the rails, making the final voltage received by the original Cobalt digital excessive too.

  There WERE some truly warranty related "clickers though… Every now and again one was made without the plastic injection sprue properly removed from one gear post, leaving a small bump. This stopped the two bearing halves closing properly, allowing one gear to move a little and allowing the click. There were also a few with the screws not done up properly, with the same result. **The fix for both of these was the same:** (The fix works ONLY if the click had not been allowed to continue and damage gears) It was: Undo all screws several turns and bang the case hard onto a hard surface. Close up the two case halves firmly then re-tighten all 4 case screws. Often this fixes it permanently.

  If not please ASK us - we can replace any faulty gears or the whole unit, depending on circumstances.

  SO - if an original Cobalt clicked, it was often NOT warranty - However it WAS a hard thing to be judge-mental on… We perhaps should have realised how little modellers know about power. We have and will continue to be generous about this problem because of that, however it is an easy thing to fix.

  (a) Change power supply to a regulated 9 or 12v DC power supply for Analog use

  (b) Adjust DCC track volts to meet standards OR add a resistor into the power wire to each Cobalt. To drop a few volts, usually a 1/2 watt 100 to 300 ohm resistor will be OK. This works for DC or DCC users)

- **All Cobalt, switches not working properly:** There were some with imperfect switch wiper connection fixing, but this wasn't a long term fault. Mostly its wrong wiring or wrong wire stripping…. Or that its been unused for a very long time and needs a few operations to remove oxidisation from the wiper pads on the PCB (these are hardened by plating, but are also tinned during flow soldering, so they CAN oxidise with long non-use)

  Contact problem: If it has been owned for ages but not used, suspect that a simple run-in will do it. The first thing to do is operate (or tell them to operate) the motor ten or so times. You/they can also spray a contact cleaner into the slot. This will often restore life to all switches nicely.

  Wiper problem: The wipers are attached to the throw-arm so they move with the mechanism. We did have some where too much heat was used to fuse the phosphor bronze wipers to the throw arm, and these loosened over time. They are easily accessed by opening the case and removing the throw arm.

  If they are just loose, either replace the whole arem (We always have spares and we can supply the arm to you or them no charge) or re-fix it again with glue/Epoxy. There is NO wiring or soldering needed. It is dead easy to do…. However if you do not want to do this we will, so return it to us for no charge repair.

  Stripping problem: We recommend stripping wires 1 cm and twisting wires before inserting them into the convenient spring connectors. Many modellers do not do this and end up with the wires not making contact or only just doing so. This can lead to intermittent operation or switches not working. It is an easy thing to fix.

  Wiring problem: Some modeller have the "left/common/right" connection sequence fixed so firmly in their heads that they do not think when they wire Cobalt. The original Cobalt Classic has two switches, #1 is left/ right / common and #2 is common/left/right. Get this wrong and it nothing works well. **The fix is easy.**

  (a) Test the motor and explain how to strip the wires.

  (b) Use a meter to test the switch OR connect the terminals and actually test with an LED and battery etc. If its NOT after that, then its warranty, but most of the time the switch is actually fine and its just user error!

If you learn about our products, look after customers and test before you return, we'll always help!

Original Cobalt / Customer issues: What to do, how to do it!

- **Original Cobalt Classic - totally non responsive:** This is really rare - you can usually hear the motor if you apply power and hold it to your ear as it is a "stall motor" device that is always on.

  It is very unlikely to be a dead motor. It could possibly be a dry joint at the motor terminal or elsewhere though, as sometimes they can go through tests and then show up as a problem later (We now do a full vibration test on all new Cobalt production to prevent this)

  The fix: Undo all 4 case screws and open up the motor. Remove the PCB. Examine it and if you have a soldering Iron available, add some no-clean electronics flux and re-heat all large component joints. Re-test.

  Most of the time all will be well. If it is not, and the owner is the valid warranty holder, we'll either repair it, replace it or send you a new PCB free of charge depending on where you are and what is best for your customer.

- **Original Cobalt Digital - Will not accept address or non responsive: This has some very different causes and you will need to talk it through with the customer to narrow it down. We are sorry this is so long but there's lots that you need to understand if you sell and advise customers on digital products!**

  Following the WRONG instructions: This is common. Customer owns DCC system brand A and tries to use Brand A's instructions to set the address of Cobalt Digital or another Accessory. This will almost always cause a problem because "Brand A" only knows how its OWN accessory decoders are to be addressed.

  As a retailer you will of course know that you should only ever use the instructions provided by the maker of that decoder / accessory decoder to set it up. Explain that clearly and make sure your customer understands it.

  DCCconcepts accessory decoders all use "direct addressing as per the DCC standards with NO CV's to be set. They NEVER need to be attached to a program track, ever!

  Standard procedure is to wire to the track or DCC accessory power bus first, then turn it on and put the switch into learn mode. Once that is done, using the customers DCC systems standard procedure, act as if already changing a point at the address you wish it to be.

  Being in learn mode, the DCCconcepts product will hear that address and remember it. Return the motor to the run position and it will now operate or change with that address.

  Poor quality wiring: Sometimes modellers ignore the good advice given in manuals, on the forums or in instruction manuals and do not install proper wiring. Perhaps no proper power bus or inadequate wiring. YOU as a retailer should understand this and be able to help and advise.. (For lots of information that will help you and your customers, look here please. http://www.dccconcepts.com/resources/the-layout-wires-and-wiring??id=all

  The answer is to: demonstrate that its OK using your own system first:

  Then.. tell them how to fix their wiring. Please feel free to show them our manuals or even give them a copy of it (in unaltered form of course). This also gives you the chance to sell them the RIGHT wire to do the job properly.

  Overloaded DCC system: Sometimes modellers buy a starter set and they expect to just be able to add to it forever, and of course end up with problems. Basically poor wiring or inadequate system power results in too much voltage drop to operate accessories properly OR an overloaded system just cannot deliver the power needed to drive trains AND operate accessories too.

  The ONLY fix for this is either to upgrade the DCC system or add power by adding a booster. It is a good idea to establish a second power bus just for accessories. The best way to do this will depend a little on system brand, but we recommend that they buy a booster + power supply for booster + electronic overload unit & do as follows:

  (a) Create a second power bus for accessories.

  (b) Connect the booster output to the Accessory power bus

  (c) Connect the Overload protection unit to the track power bus and set it to 3/4 of the DCC systems total output ability.

  Doing it this way will make sure that any train short is managed fast by the breaker and a train short will not stop the accessories working properly. It also makes sure that accessory bus problems do not affect train running,

  BAD power supply: Some brands, particularly "Train-set" brands, put cheap and nasty power supplies with the systems they sell. Often, the DCC system itself has poor internal regulation and no filtering, so the result is a messy DC voltage inside the DCC system that adds lots of hash to the DCC signal, confusing information on the power or track bus. This will stop Accessory decoders working properly and addressing will be difficult.

  This is not of course anything to do with warranty but fortunately the answer for the customer is easy: Swap the power supply for a better quality (Laptop type) power supply!

Original Cobalt / Customer issues: What to do, how to do it!

- **Original Cobalt Digital - Will not accept address or non responsive:** (continued)

  Unfortunately RAILCOM can be a problem here, but it is a little brand dependent too. RAILCOM communicates by momentarily shorting the DCC signal at regular intervals to create a " quiet window" to send its signals in - sometimes the brands do not get the timing perfect and so that "shorting" interferes with other DCC operations!

  The solution? Just ask them to turn RAILCOM off, even if its only while they are setting addresses.

  As a guide, we did a lot of testing in relation to this. Lenz is generally OK on, but Hornby and ESU should always be off when setting addresses… and modellers should always leave it off if it is not being used!

  By the way, modellers may think they have it turned off. but please insist that they re-check, because it is almost always turned ON again any time a system reset or software update is done!

  ALSO - A low quality power supply on a DCC system can corrupt the DCC signal. This is more common with lower cost/trainset DCC brands like Hornby) because they have little or no on-board regulation or filtering, so they pass power supply noise through to the rails, corrupting communication. We've fixed MANY user problems just by getting them to change power supply (to a switchable Laptop supply or similar)

- **Original Cobalt Digital - Switch problems:** The switch is ALWAYS there and complete when they buy the cobalt digital, as we have always used it at least eight times in testing (we switch it twice when we test and set an address plus twice when we reset it to default at manufacture, then we repeat that test sequence again in final quality control checks before we pack them).

  We are often told "the switch is missing"… The truth is though that the modeller has snapped off the tiny switch lever, usually because they used a sharp tiny screwdriver to move it and simply cut it off! The switch is actually soldered flat to the PCB and occasionally they slip with the screwdriver and totally cut it off the board!

  This is NOT warranty of course, but the hard part of this is that they may not realise they have done it, so we tend to be generous. Please use your judgement to make a fair and balanced decision here.

  As long as you have followed policy and talked it through with your customer so the problem is not repeated, we can if needed send you fully tested PCBs that will take only 5 minutes to fit (It takes no time at all to open it up, remove the board, replace the board, reassemble and test)

  We have by the way changed to a different switch type for all New Cobalt production from November 2014. The new switch is very much larger and stronger so this issue is confined to original Cobalt Digitals, and a "Missing switch" on any of the New Cobalt models will NOT be accepted as a warranty issue!

  The Switch will not work: As with the accessory SPST switches, the set-run switch bears onto the PCB for contact. This contact surface is solder coated and it CAN oxidise. If modellers have trouble here a contact cleaner plus carefully working the switch 2 or 3 times can being it all back to life.

  If it will not, return the original Cobalt Digital to us and we will re-work or revive it - or, if it turns out to be anything else, we will totally replace the PCB and send you or your customer a motor working perfectly.

  This problem cannot exist with switches used in new Cobalt Omega, Cobalt iP Analog or Cobalt Digital motors.

- **Original Cobalt Digital - Sticking intermittently:**

  This one nearly drove us crazy for quite a while, because customers would say it was not working… They'd send it back to test and it would work perfectly. It didn't matter how often we repeated the tests, they would always work! It seemed to take forever, but eventually we DID get to the bottom of it, and unfortunately it is ALWAYS going to be a warranty issue.

  What caused it? When the case is moulded, we use a high quality engineering type plastic for durability.

  Engineering plastics have a known and predictable shrink rate which is factored into the tooling design.

  Because of this the injection tool and plastic must be used at a very specific temperature and after moulding, the case must drop into a temperature controlled bath to make sure that shrinkage is managed properly.

  For a small part ONE batch of 5000 cases (between 500 and 1000pcs), the plastics manufacturer failed to follow standards, and this caused a microscopic shrinkage error at one end of the case.

  This very slightly changed the relationship between the motor and the case, creating ONE position that had a tight spot, at one end of travel… just 0.005 difference overall and that was enough. It never affected QC tests at any stage and it never shows up in testing,

  Annoyingly, it happens ONLY when the motor has been installed and is powered up and static for a while.

What is a warranty and what is not. What to do, how to act.

- **Continued… Original Cobalt Digital - Sticking intermittently:**

  SO: How to fix it? Just refer the customer to us if an intermittent stall is the problem. We will not give them too hard a time over proof of warranty because it's a known issue and we know it's not their fault.

  We will talk it through and depending on where they are we will either replace them OR we will tell them how to fix them themselves, because we do have a 100% fix that involves a quick mod to the case that takes 2 minutes for those with the wish and the skill to do it,

  However, we also always offer either NEW cases or total replacements too… because we want Cobalt owners to end up happy, and this one IS our fault, 100%.

How to contact us for warranty questions or support.

- ***How to contact us?*** *Phoning is fine – we are at GMT + 8 hours and I usually attend the office 10~5 weekdays and 12~5 weekends. +61 8 9437 2470. Email : rejohnson@dccconcepts.com.*
- *If you email us please include their email address along with your summary of the problem. Also please include your phone number if you think it will help * OR * Ask your customer to email us and include your Email address and contact details as well as their own.*

  (We really DO need to keep YOU in the loop so that learning can happen ready for future questions)

What you MUST ALWAYS do - or must NOT do:

- **Be supportive but fair... To them AND to your own company - as well as to your distributor or us.**
- **If you cannot decide, then we are happy to do so - and we will always give you a detailed set of reasons when we do. We are always fair by the way.**
- **Always get the most complete picture of how and why the item failed.**

  Just knowing that will often give you the clues as to the real story – After all, there is NO point at all in replacing something that will just suffer the same fate because the same error has been made.
- **You must NOT just replace any item without checking. Asking how isn't checking,.. but of course it is very important. You should understand what you sell and be set up to be able to do basic checks)**
- **Don't simply accept returns where the item is damaged, modified or clearly outside warranty terms**
- **Do not accept returns where things are incomplete. That includes packaging, fittings, detail parts. Only ever replace what was returned… Some key parts are not easily replaced free of charge!**
- **A customer making a wrong choice and returning it doesn't make it eligible for a warranty return.**

  SO: If you sold the wrong thing, or they bought the wrong thing,.. Then there was some poor info or communication, but that's not a warranty or product problem, and YOUR internal policy needs to take care of it. Good sales training will of course stop such problems from happening.

  Make very sure that the return is complete with all accessories and packaging, because customer returns are not warranty issues and they will NOT be credited or replaced if you return it them to us, especially if it is, as usual, not in re-sellable condition because accessories are opened and the packaging is lost or damaged.

  We always have parts stock for ALL items and CAN supply if needed. If you need new packaging we will supply it to you, but we cannot accept returned goods as warranty items.

Please take time to read all of the trade area of the website: It covers most things you'll ever need!