COBALT - MIX, MATCH, SWITCH

Dave Lowery demonstrates how you can have the best of modern slow-acting point operation with the 'feel' of a traditional mechanical lever frame, using DCCconcepts' 'Cobalt' system.

In terms of modelling, we should embrace new technology, but some aspects of railway modelling are best enjoyed if they have a traditional authentic 'feel' to them. Occasionally, something rings a little bell from the past, and a new product enables you to add something special to the operation of your layout.

Many years ago, the best way to operate points was mechanically with a small representation of a signalbox lever frame. With that, of course, went bell cranks, pulleys, wheels and push-rods. It was all very fiddly to assemble and, to be honest, not very reliable. So I left my point rodding as a cosmetic feature only and moved on. But it is strange how these modelling memories, if not completely fulfilled, linger at the backs of our minds just waiting to pop out as and when the situation presents itself.

Who would have thought that just such a situation would occur when considering the most up-to-date modern DCC point control? It's true - the sophisticated DCCconcepts Cobalt point motor can be operated with the same company's very elegant and traditional, mechanical signalbox lever. So, this month's exercise is fitting Cobalt DCC point switch machines to the *Model Rail* project layout and as it turns out, their operation using point levers which are also manufactured by DCCconcepts.

While I mentioned earlier the attraction of mechanical point operation, the DCCconcepts lever is, in fact, a switch that will operate a unique feature on the Cobalt DCC point machine. However, it operates and looks every inch like a mechanical point lever.

The point motors are DCC wired. Simply connect two wires to the rails or your bus cable and the point machine is live. My preferred way of allotting an operating number is to wire them up initially to the programming track. Flick the programming switch on the motor to accept the designated number and, using your DCC controller, go through the point operating procedure. Once complete, the programming switch on the motor can be returned to normal and the point can be operated several times on the bench in front of you before installation. It can then be transferred to the required point.

To simplify installation, I always fit the necessary wires to the point machine in

MODEL
Xxxxxxxxxx
• **Price:** Xxxxxxx

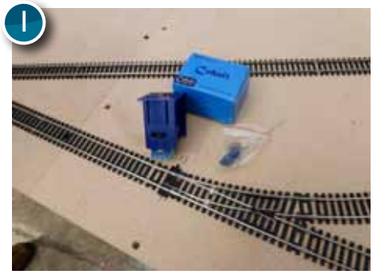
AVAILABILITY
Xxxxxxxxxx
• **E-mail:** *sales@dccconcepts.com*
• **Web:** *www.dccconcepts.com*

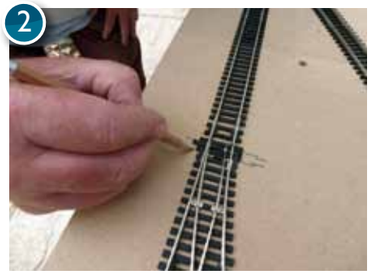
DIFFICULTY

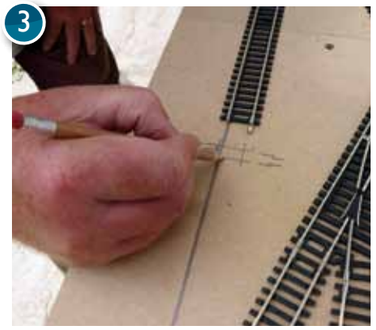
TOOLS NEEDED
• Xxxxxx
• Xxxxxx

Photography: DAVE LOWERY/JACQUES PORTAL

COBALT POINT MOTORS AND SWITCHES: HOW TO INSTALL THEM







Step 1 The Cobalt switch machine alongside the standard Setrack point that it will be operating.

Step 2 The track is temporarily positioned on the baseboard and the exact location of the tie-bar is marked in pencil on the board.

Step 3 The position of the slot for the point actuating rod is carefully marked. The slot should be large enough to allow free movement but not so large that there will be an obvious hole in the baseboard.

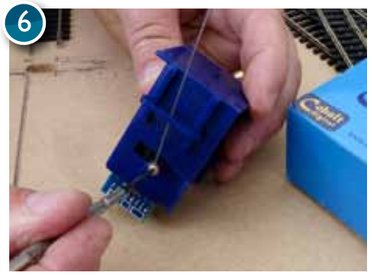
Step 4 Start with a smaller drill – about ⅛in diameter and keep centred between your marked lines. Drill about three holes, equally spaced.

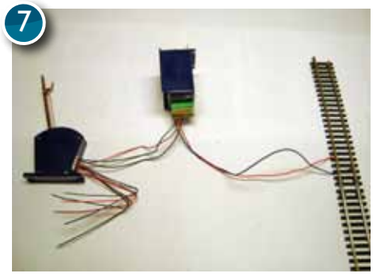
Step 5 The series of small holes can then be opened out with a larger drill to form a slot. Be sure to neaten the opening and remove any splinters of wood which might impair movement.

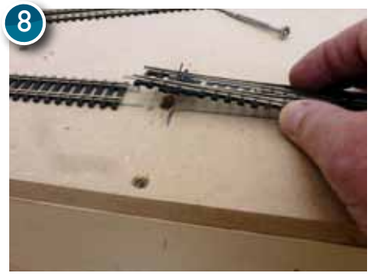
Step 6 The operating rod can now be attached to the switch machine and the screw tightened.

Step 7 It is always good to test drive a new system on the bench first – to familiarise yourself with how it works.

Step 8 The operating rod is located into the hole in the tie-bar of the point as the track laying takes place, the motor itself being mounted as in step 11.







Expert Tip
Dave likes to mount Cobalt point motors with UHU glue. However, each motor comes with a foam mounting pad and screws to ensure accurate alignment.

WHY SLOW ACTION?

When we move away from operating train set points with their little toggle-lever, we are faced with choices. Do we go for remote mechanical operation or electric point motors? Mechanical operation, while very authentic for steam era layouts, has its limitations, particularly on portable layouts where mechanical linkages cannot be easily taken across baseboard joints. In those circumstances electric operation is the easiest alternative.

Traditionally, the electric point motor used on model railways has been a solenoid. A momentary burst of current from a passing contact switch energises a coil which magnetically attracts the central pole of the solenoid and it snaps over in that direction. Move the switch again and the second coil is energised momentarily, snapping the pole back in the opposite direction. Connect the pole to the point blades and when the switch is operated the blades will snap across in one direction or the other.

With solenoid point motors the point blade movement is quick and unrealistic. Solenoids need a good burst of current to operate them and this is usually provided by wiring a capacitor discharge unit (CDU) into the circuit. This gives such a powerful burst that it's not unusual to see baseboards wobble and scenery react as if it has suffered a miniature earthquake! But at least the solenoids work reliably. That is, until the hefty blast from the CDU causes the point blades to come adrift, or soldered track joints to break.

The answer to these problems has, for the past quarter century at least, lain in the slow-acting point motor. This works like the remote point motors on the real railway, an electric motor slowly turning a worm-drive which moves the point blades and, at the end of its travel, holds them firmly against the stock rail.

DCCconcepts' Cobalt point motor brings the latest technology to the slow-acting point motor.

the back and then wire these into the layout with suitable connectors. There are jobs on the layout that are a real nuisance and wiring *in situ* is one of them. To make it as easy as you can, do as much work as possible on the bench, before transferring to the layout.

These point machines have some really nice touches that make them very practical and user friendly. Being DCC pre-wired certainly helps, with just two wires to the track and only one wire that needs to be connected to the point frog for electrical continuity, as the switching for the frog polarity is carried out internally. There is a separate switch that could be used for, say, signals or diagram lights. There are also two other small terminals which can be used with a simple push-button switch, ideally located at the side or front of the layout, to operate the point locally while still being switched on the main control.

Now, connect these terminals to the Cobalt-S switch lever and you have the best of both worlds. To conclude the point motor positives, we have its small size and the casing has several locating brackets to mount it in different locations as needed. The connections are also straightforward, with a push button that accepts the wire and locks when released. Easy and simple.

COBALT-S SWITCH LEVER

Even if you don't need one of these levers, it's tempting to buy one anyway. They are so tactile and realistic in both 'feel' and operation. In fact, you would really need at least four to make it worthwhile, as they look better in groups.

The Cobalt-S Switch lever is really just a glorified switch that has a number of pre-wired combinations. It is very workable with the small catch-handle to release and then allow you to move the lever across. For our purpose it will be used instead of the push-button switch on the point switch machine. For this operation the top three wires are needed. Green and red are joined together while the black is common. They are connected to the point motor and as the lever is moved across the point will operate, and again when the lever is returned. It's as simple as that.

These levers can be enhanced by painting them in suitable colours, then the accessories supplied with the kit can be added. Cast metal lever frame tops need to be glued in place as do the etch brass number plates. Finally, another nice touch is a spacer that enables the levers to be installed further apart for those of us with larger hands!

So there you have it, electro-mechanical point operation or DCC with a big switch if you prefer. MR

Step 9 The Cobalt point switch machine has two wires from the switch and two wires to the track.

Step 10 The switch comes with a pre-wired plug and multiple wires. The top three wires are used for the point operation.

Step 11 The motor is mounted under the baseboard. I use UHU glue to secure the motor in place. It allows fine adjustment to get the position exactly right.

Step 12 When the glue is dry the motor can be secured in place with screws.

Step 13 The centre spring on the points needs to be removed for smooth point operation.

Step 14 Cut a suitable slot in the baseboard to accommodate the lever frame and put in a sub-base so it sits at the right height.