

Hi folks.

I've been mulling over the problem with Peco G-45 pointwork and LGB skates shorting out and causing damage to MTS fitted locos. A mate of mine has installed a couple of these Peco points on his line and of course I'm a little concerned that my DCC fitted locos might suffer when they visit. Also my mates and I are considering building a portable layout and we'd like to use the Peco track for this as we think it'll look better on a raised track bed.

Having used live frog pointwork in N scale for many years, I thought I might as well have a go at converting one of these Peco points to have a live frog, and thus remove the problem of shorting skates. I reasoned I might also be able to reduce the "dead spot" at the frog, for the benefit of small locos.

So, two issues to resolve:

- 1) rebuild the frog with metal rail, with the minimum of alteration.
- 2) Provide a means of switching the frog polarity when the point is thrown.

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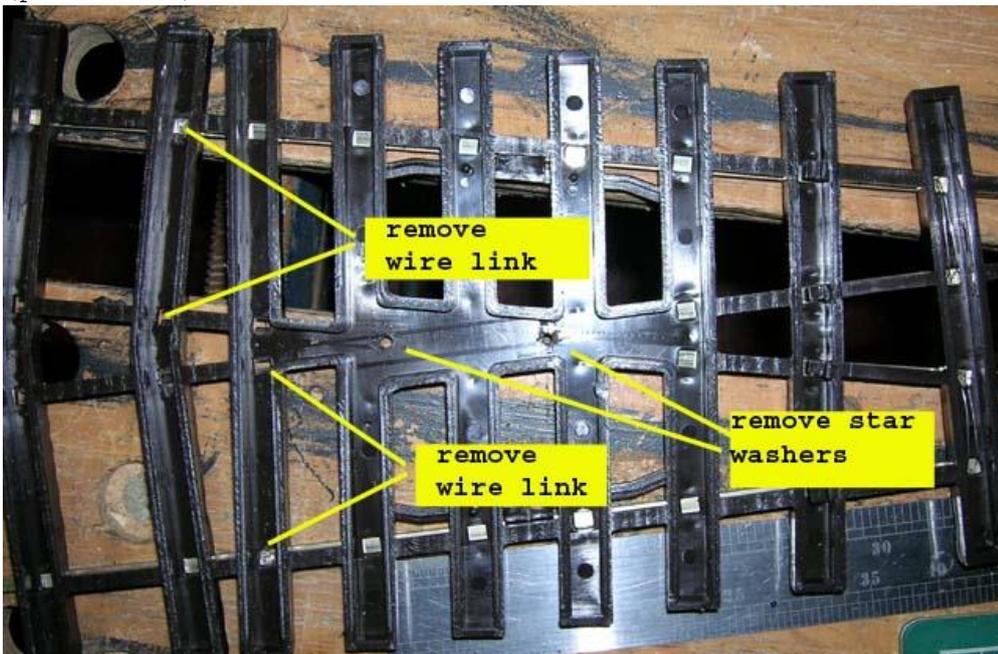
Task 1) rebuild the frog:

To rebuild the frog with metal, might as use the existing frog rails as they're already ground to the correct angle where they enter the plastic frog unit. First turn the point upside down and remove wire links bridging the rails underneath beyond the frog. I used a Dremel type tool to grind off and clean up the underside of the rail where the wire links were spot-welded. This will allow the frog rails to slide out from the chairs.

Remove the star washers holding the plastic frog unit in place.

(in the photo I've already done these operations)

(photo 516a)



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Slide out the two frog rails. Remove the plastic frog unit.

Carefully cut out and remove the entire "tip" section of the frog.

(photo 515a)



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514a

The tip of the frog rail from the "straight" side of the point will be the tip of the new frog. Grind about 15-20mm off the foot of the rail next to where it's already ground to an angle. This is to allow the other frog rail to butt up properly.

(photo 514a)



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Refit the modified plastic frog unit. Now that it only has one securing spigot and star-washer remaining, it might be worthwhile securing this with epoxy, but make sure you only glue the outside and don't foul where the frog-rails will be sliding back into place.

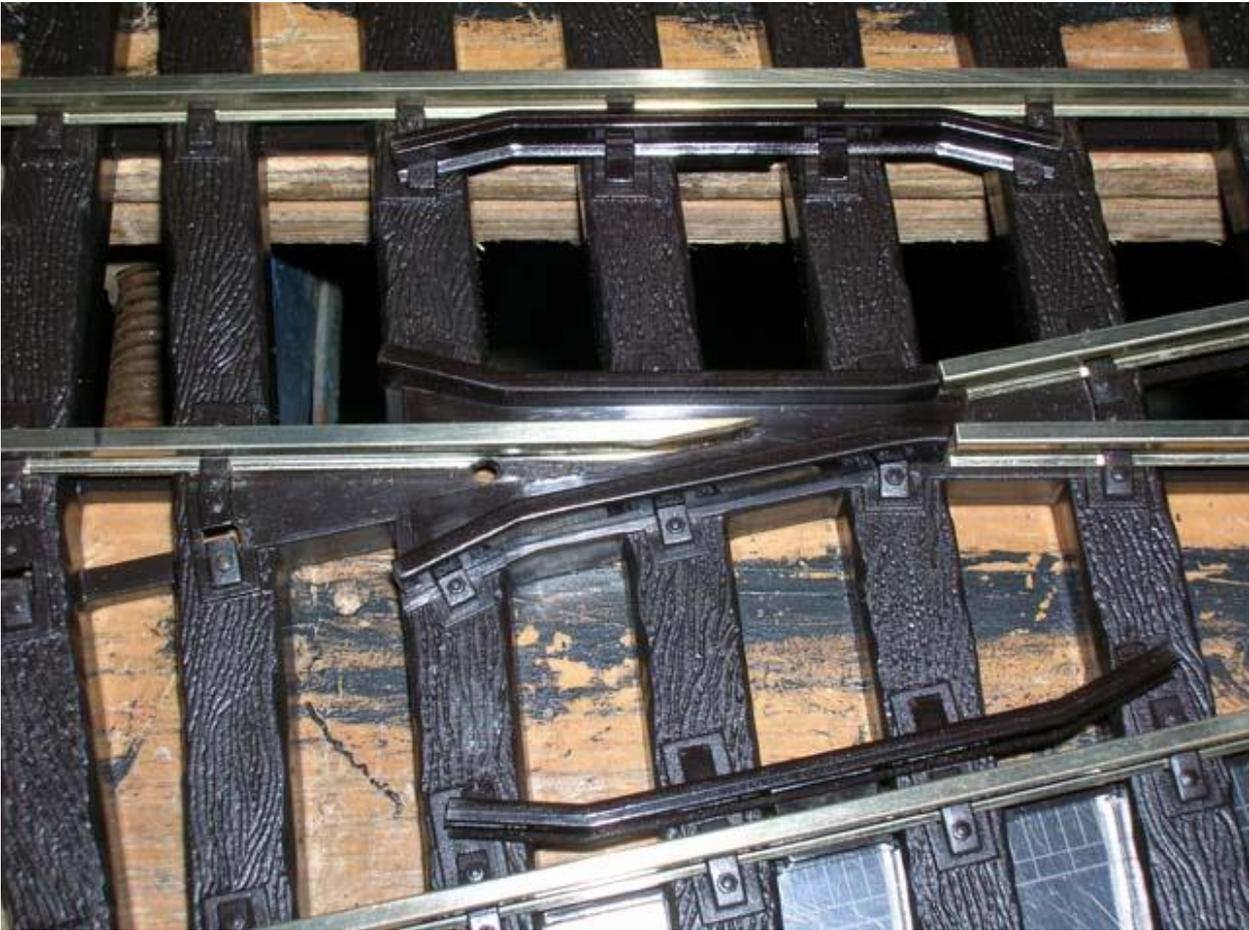
(photo 517a)



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Refit the "straight" frog rail by sliding back into place, right up into the plastic frog unit.

(photo 519a)



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Refit the "curve" frog rail also by sliding back into place until it butts up nicely and continues the angle ground into the "straight" frog rail.

Both these rails will need to be cut to isolate the new frog from the rest of the trackwork. You can see I've pencil-marked where the rails will be cut. The frog rails were then both removed and cut to length, then refitted.

(photo 521a)



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Cut and fit two new short lengths of rail (about 65mm) to make up the lost length of rail so all rails ends are even at the end of the point. Leave a suitable isolating gap.

(photo 523a)



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turn the point upside down again. Using a reasonably powerful soldering iron bond the two frog rails together to a single wire which will be fed to the frog polarity switch (see later).

If you want the trackwork beyond the point to be permanently live (ie. the way the point was originally manufactured) then replace the wire links that were removed at the beginning. Even if you don't want to replace the links, it's worth placing a blob of solder on the underside of the short bits of rail that were fitted last (and where the links would go) as this will help prevent these new bits of rail sliding and possibly shorting the isolation gaps for the new frog.

That's the frog conversion completed! Notice that this new frog has indeed reduced the "dead spot" on the point by about a centimetre I reckon.

(photo 532a)



Task 2) fit a microswitch to change the frog polarity.

Now, there are probably many different ways a switch could be fitted, and of course some point motors come with an auxiliary changeover switch for just such a purpose (or one can be fitted).

In my case I wanted something that would work with the existing manually operated tie-bar. I had some old single pole changeover microswitches in my spares box. The main casing of these are about 2mm x 10mm x 6mm. By removing some of the plastic sleeper next to the tiebar the microswitch could be fitted next to the tiebar using hot-glue. A screw fitted to the underside of the tiebar actuates the lever on the microswitch. The two changeover poles of the microswitch are wired to the underside of the running rails, the common is connected to the wire coming from the frog.

Obviously the way I've done the switching is not particularly weather proof, but for indoor use then I think it's "Job Done!" No doubt other folks can organise more suitable outdoor switching where needed.

Nick

Photo 528a

