

“Eaaase-UP”

An “inching” modification for an electronic controller.

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Richard Pope’s excellent article for a more prototypical shunting technique on layouts, see MT 181, was a well deserved wake-up call for many. It gave me a lot of armchair thought activity when outwardly I appeared to be engrossed in the same TV programme that was entertaining the rest of the family. I gave myself a pat on the back to some of Richard’s comments, but other comments brought a drawn out “Ooooooops”. This article is to share with you one of the things I am doing correctly and the simple wiring modification that allows it to happen.

Many home layouts are of the Terminus / fiddle yard variety due to limitation of available space. Often the station building and entrance is close to the buffer stops.

If the layout is set in a pre-nationalisation era then passenger trains will roll in gently and stop with the loco close to the bufferstops. After a respectable wait the train will slowly set back until the first coach is clear of the loco release turnout clearing point. This is exactly where the modeller will install an uncoupling ramp or magnet. The couplings are all slack at this point, so the ramp does its job and the loco is able to continue with the task to run around its train. No problem at all and just as things should be.

Now let’s jump forward to the British Railways period just before DMUs took over branch line passenger workings. British Railway’s rules for passenger train working might not have changed from those of the Big 4 Railways, but supervision of such matters had definitely slackened and trade unions have become more powerful. When loco crews could bend the rules, they now did what was easiest for them. On arrival, trains would only come as far as the clearance point of the loco release turnout. BR passengers have to walk an extra hundred feet. Who cares, besides the loco crew is actually doing the passengers a favour. This little extra forced exercise is good for them.

The fireman gets down on the ballast between loco and first coach and uncouples the train brake pipe (and train heating pipe in winter). He then shouts to the driver “Eaaase-UP”. The driver moves the loco a few inches to compress the buffers and make it easier to remove the heavy screw coupling from the other vehicle’s draw hook, just as Richard explained.

On our models, this extremely short back up move (about 2mm) is needed for just about every variety of automatic coupling so that the uncoupling ramp or magnet can do its job. This short back-up move is also needed so that a hand held “sky-hook” can deal with a model three-link coupling.

Getting a small electric motor to move slowly and very briefly so that the armature shaft only makes about two revolutions is not easy. By the time you see the loco move and react by shutting off the controller, the whole train has set back much more than required with an unprototypical jolt.

All my controllers are of the electronic “Closed loop” variety using a design from the Roger Amos book “Model Railway Electronics”. (Try your library for a copy). They have a speed control knob and a separate switch to select direction.

A bit of logic and a gut feeling suggested that a brief pulse of power was required. A period of doodling on scrap paper eventually resulted in a very simple solution that does exactly what I needed.

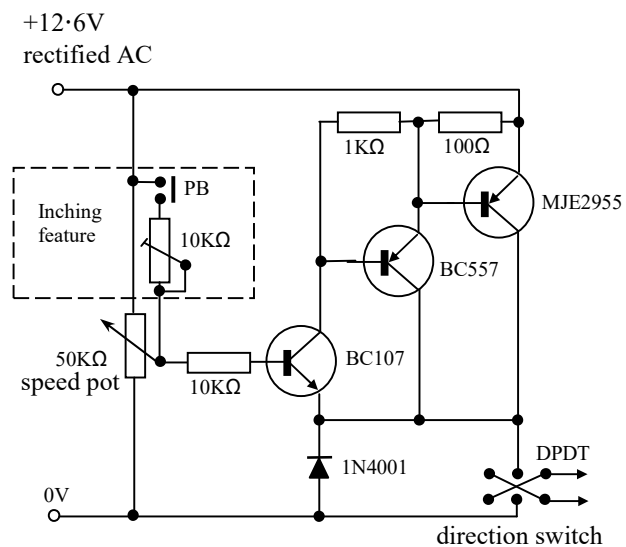
On this type of controller, the centre tag of the speed control potentiometer varies the feed to the first transistor. So I added a push button and a variable trim pot resistor between the +ve power supply and the centre tag of the speed control pot, as shown inside the dotted line of Fig. 1.

A trim pot is a small potentiometer that can be adjusted with a small screwdriver during controller testing and then forgotten about.

Now when I know that I will need this “Eaaaase UP” move I drive the train in normally to bring it to a stop with the loco coupling over the uncoupling ramp and then move the controller knob just about 30 degrees towards the off position. Do not rotate it all the way to “OFF”.

Flip the reversing switch and then give the push button a quick jab to create the very brief pulse. This will move the motor slowly for the length of time the push button is down.

Experiment a bit to achieve a working compromise between the suggested 30 degree control knob movement and the setting of the trim pot. Try all the locos that are likely to be assigned to this train service, because different locos might react in a slightly different manner to this treatment. If this happens, either revise the list of locos allowed to be allocated to this working or accept that you have created a bit more info to add to your memory game regarding the way each individual loco performs.



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Fig 1. Closed-loop controller based on Roger Amos design and modified to provide the required inching feature