

How to install a DCC decoder in a Murphy Model 121 class loco

This is the easiest Murphy Model loco yet to install a decoder in because it has an opening access panel and a built in speaker for folks who might want sound, so its easy peasy compared to the earlier 141/181 models.

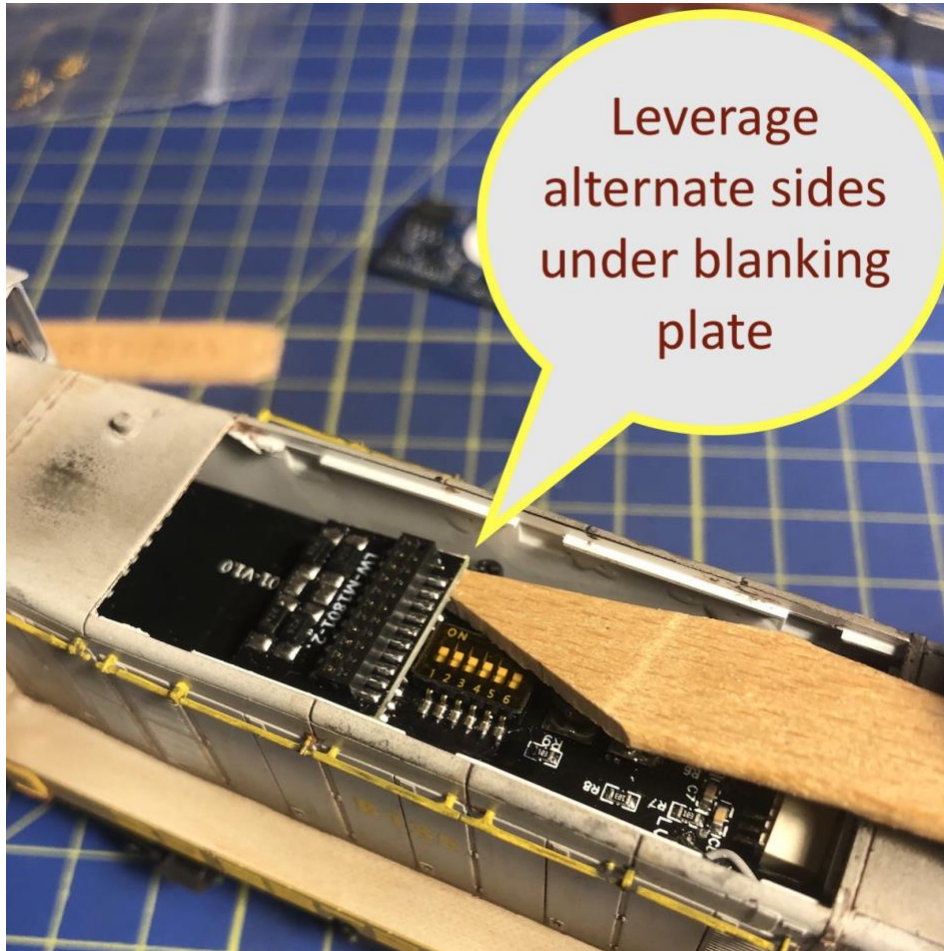
1. Remove the bonnet decoder access cover. It easily pops off (see photo).
2. Remove the 21pin DC blanking plate - I used a wooden ice cream stick alternating between each side using it to leverage the blanking plate $\frac{1}{2}$ mm up at a time each side so as not to risk bending the pins. Once up enough it will come off using fingers.
3. Install the 21pin decoder correctly orientated (see photos below).
4. Replace the access cover (friction fits)

ESU LokSound V5 decoders programmed by WheelTappersDCCsound have scale like prototypical driving characteristics, acceleration, coasting, braking, and the matching sound patterns.

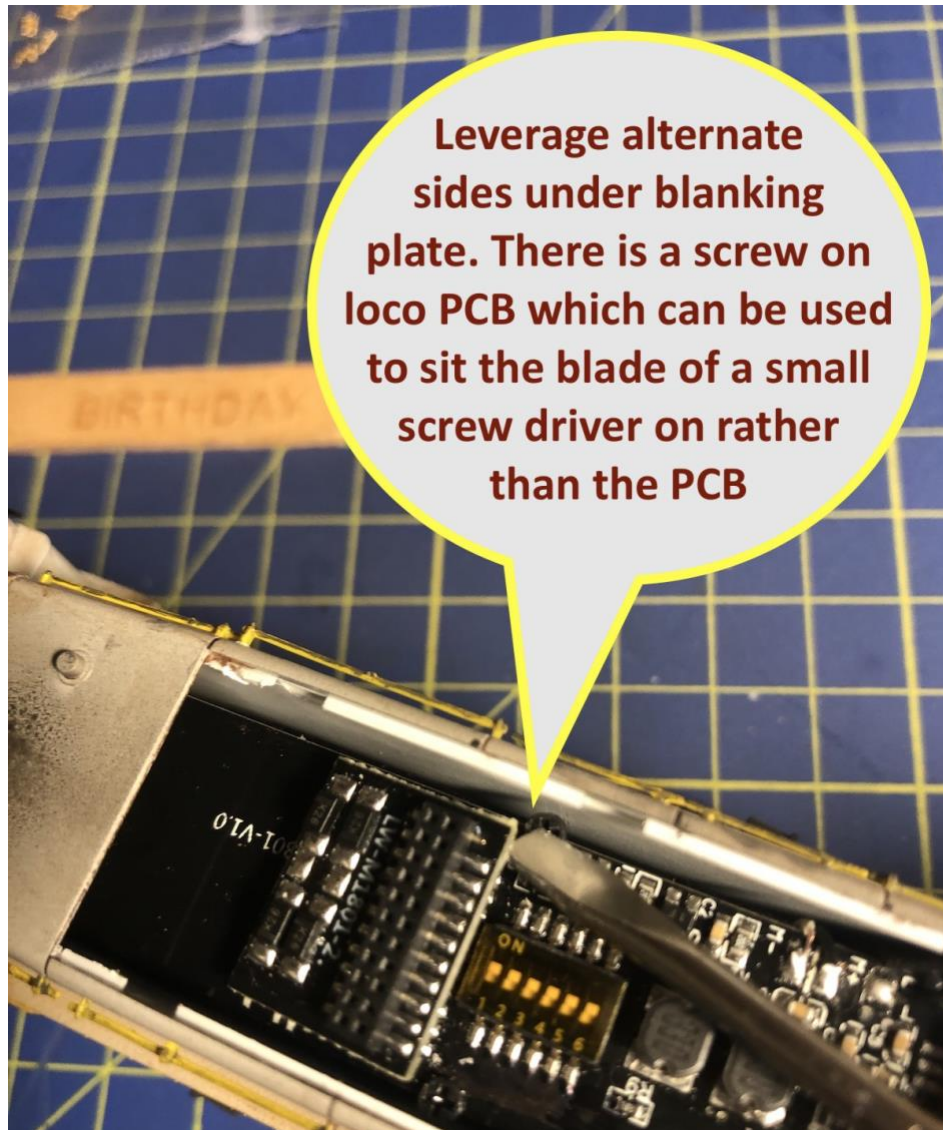
1. The first thing is to pop off the access cover on top of the bonnet. If awkward a wooden cocktail sausage stick will do. The top cover comes off really easily.



2. Remove the existing 21pin DC blank plate from the decoder connector on the locos PCB. Try a wooden stick (ie ice cream stick cut to shape). Gently lever alternate sides up 1/2mm at a time until the plate pulls free.

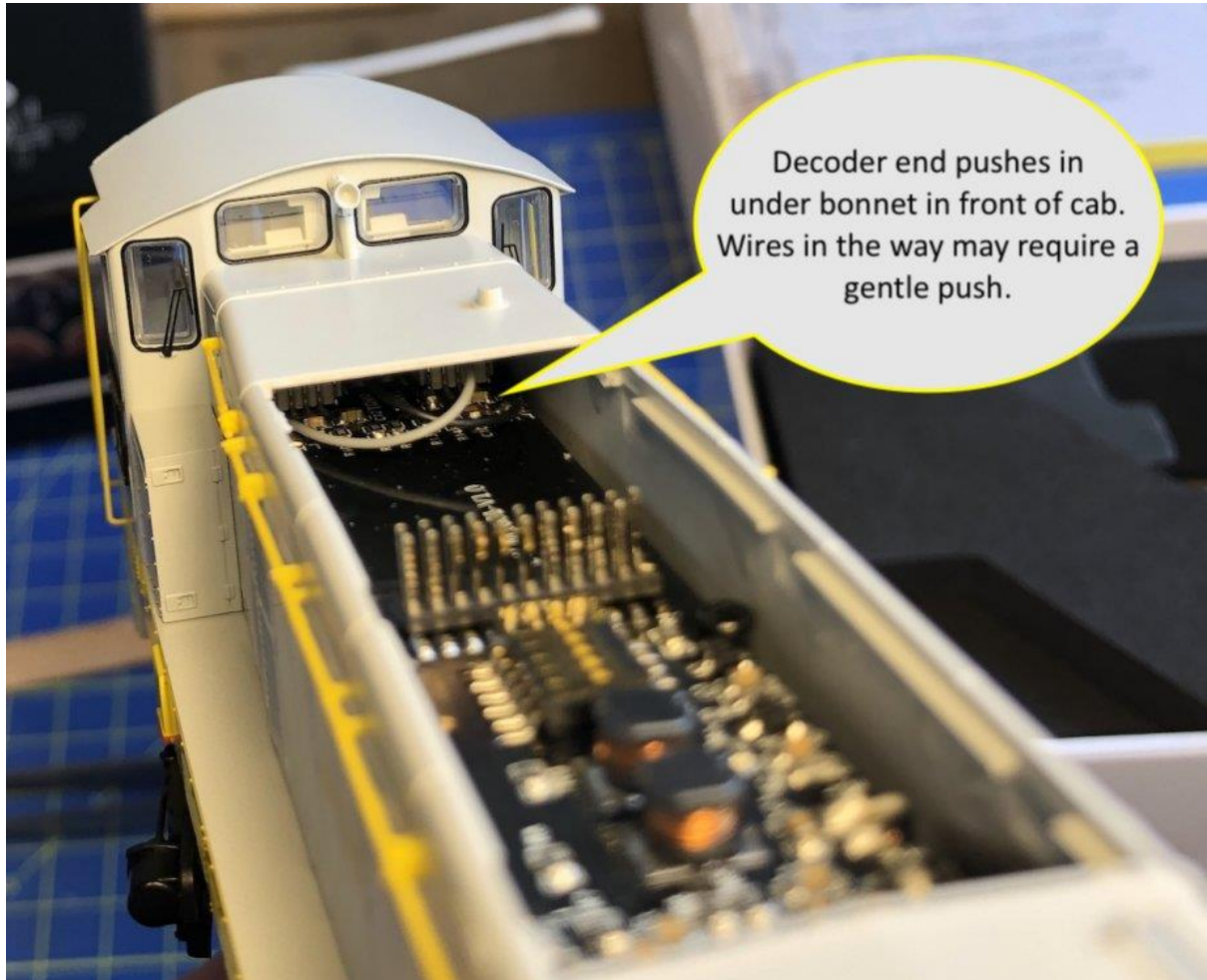


If the wooden stick is not strong enough to get it to move use a 4-5mm wide small screwdriver blade. There is a screw head conveniently placed on the PCB under the corners of the blanking plate and you can rest one edge of the screwdriver on that rather than the surface of the PCB (ie to avoid accidental damage to the PCB). Use the screwdriver twisting it gently on alternate sides to leverage the plate up 1/2mm at a time each side of the 21pin connector. If done gently and gradually force is not needed.

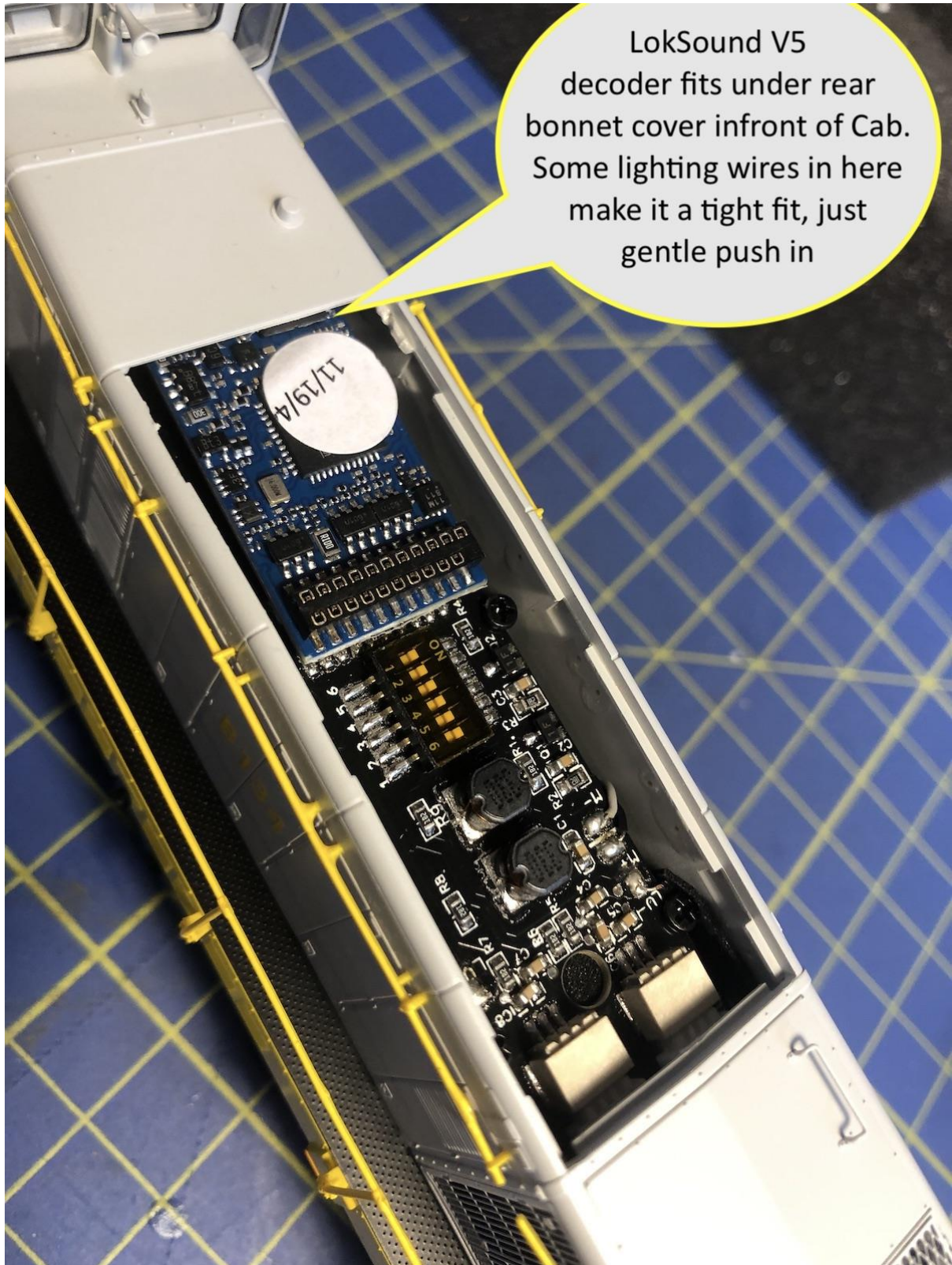


3. The decoder should not cover the dip switches, see photo below, it goes towards the cab end fitting under the panel in front of the cab windows. There are wires in there so it won't fit initially until you nurse it into place easing it gently past the wires

Lighting wires make it slightly awkward to slide the decoder under the body panel but with care it is easy to fit.



Note the 21pin strip of pins has one missing on the loco PCB and the decoder is missing one hole, this is so that you align the decoder correctly. Be very careful to get this blank hole and missing pin aligned ok, it is very easy to bend pins if one hasn't go this right and force the decoder down. I find the locos pins will fit the decoder loosely giving you a clue its lined up ok before gentle finger pressure to push the decoder down allowing the pins up into the decoder holes.



Note: Remember a decoders default address out of the box is 3 so when trying for the first time before you give the decoder its permanent address (eg 134 which is a LONG address btw). Note some DCC controllers treat the number 121 as a long address (eg: Roco Z21), whereas others like NCE treat 121 as a short address. Bare in mind most 121 model variants have long DCC addresses due to the loco numbers being higher than 127.