

Peter Madsen installs a DCC Sound decoder.

At Malkara I bought myself a very cheap (\$295) noisy C3528 from Austrains and in the process I was offered a black roundtop C3601 at I price I couldn't refuse (\$225). Maybe I could have refused, but I had been thinking of getting a roundtop 36 for quite some time, but they only ever had 3601 in their 'specials' box and he (John) claimed it was not DCC ready. The first 36 I bought way back at Hurstville in October '08 for \$295 (3649 out of his 'specials' box) was also said to be NOT DCC ready – but it was! The good news is that the roundtop I bought at Malkara is also wired for DCC!



So now I have a nice shiny plastic looking C36 and there is a list of things I want to do to it.

- 1) Put a decoder in it
- 2) Improve running reliability by putting pickups on the tender wheels
- 3) Improve its pulling power by adjusting the spring on the pony truck
- 4) Change its number – I'm not keen on class leaders
- 5) Fabricate and fit a fall plate (the bit that fits between the loco and tender floors to prevent a crewman falling to the tracks between the two vehicles)
- 6) Tarp up the interior of the cab by highlighting the gauges and controls, and putting a driver and fireman in there
- 7) Perhaps red/white marker lamps on the tender for running 'light engine' – front marker lamps are highly desirable but I can't think how I would go about this without having oversize and out of place wires or optic fibre (any suggestions?)
- 8) Replace cheap plastic rear coupler with genuine Kadee all metal coupler, Marcus' site recommends a #26, a long centre set coupler, to prevent buffer clash, but I might try a #158, a 'scale head whisker' type, and see how it goes. I can always use a non buffered wagon or carriage immediately behind the tender if there is a problem.
- 9) Replace plastic coal load with real coal
- 10) Weather it
- 11) Maybe, just maybe, put a coupler on the front so it can double head as the train engine

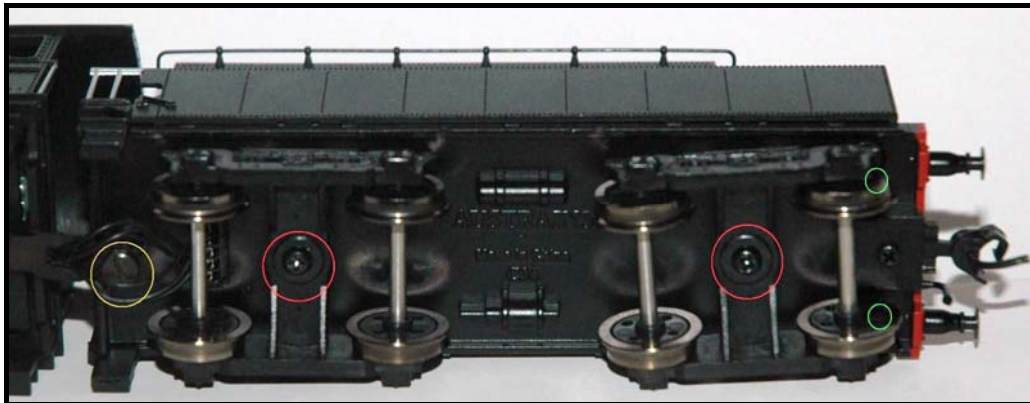
My plan, not that I ever do things to a plan, is to do the decoder installation first. Depending on a number of variables, mainly my impatience to see it running, I will try to do 2) and perhaps 7) while I have the tender apart.

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Step 1 – checking out what I need to do for the decoder install. First I pulled apart the tender and already I have lost something – a small clear washer from the screw that holds the bogies to the tender bolster. Typical! And I was being so careful, but it seems that they get an electrostatic charge and stick to screwdrivers, fingers and whatever else they come in contact with. Interrupt – there was a very important precursor to step 1. I checked to see if the loco ran well on DC. It did, and I was happy to proceed.

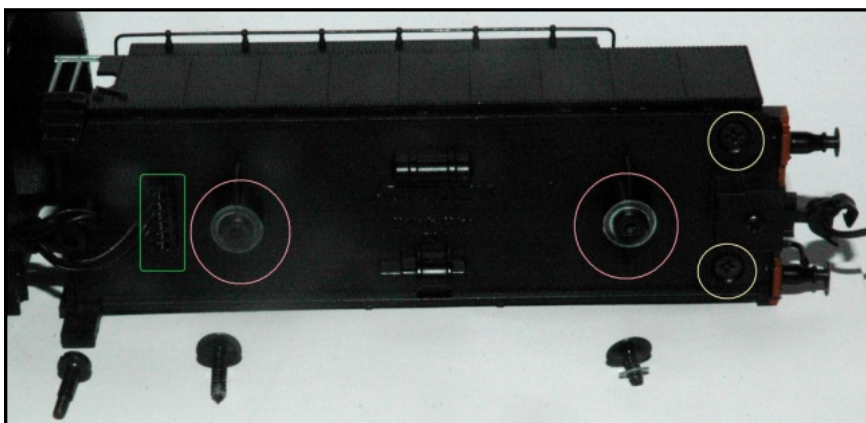
I also spent a good deal of time – much of it wasted – checking out Marcus Ammann’s web site for tips on decoder installs for Austrains 36s. The disappointment was due to the page being about installing in the non DCC ready version, but there were plenty of handy hints there to pick up on.



Now, I have installed decoders in two other Austrains 36s, my 3649 and Ward’s 3666 (which never seems to work if you believe him) with NCE decoders, but I intend to use a Soundtraxx Tsunami TSU-1000 D&RGW K class that I bought from MRC at Kaleen earlier this year. I bought it to put in my as yet incomplete DJH kit of a D50 standard goods engine. It did not fit in the 50’s tender!

To get into the 36’s tender one needs to remove the forward bogie, and preferably the rear bogie (the screws marked with the red circles – remember the clear plastic like washers, keep them in a safe place). The rear bogie needs to be removed to get easy access the other two retaining screws (hiding above the rear axle and marked with the green circles).

Warning – you may note that the tender is fixed to the locomotive by a screw (yellow circle) and, if your eyes are good enough, by six black wires. Two wires are for the headlamp, two for the motor and two for the track power pickups on the locomotive. I believe it is a good idea to remove this screw to allow you to rotate the tender freely (but cautiously – remember the wires!) without having to handle the locomotive, which can remain resting on its wheels or side while you are destroying the tender.



In the photo, I have circled the two retaining screws at the back of the tender in white. The shorter screw to the rear of the loco still has the small washer on it, the longer screw for the forward bogie is missing its washer. The rear bogie with the shorter screw is only attached to the tender floor; the forward bogie screw attaches to a moulding in the

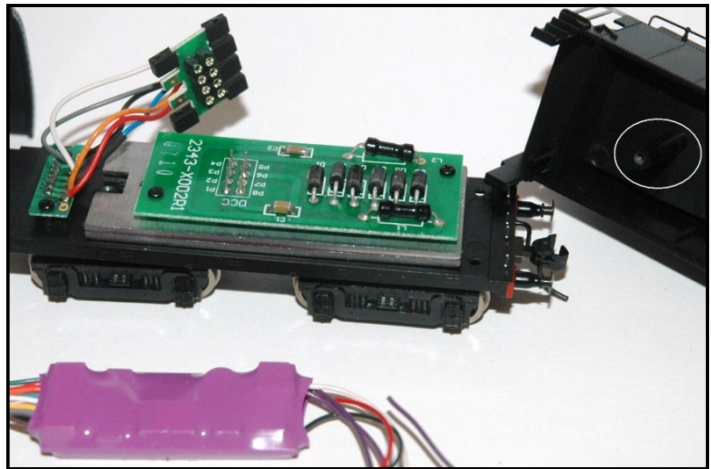
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tender body and holds the front of the tender together. Note the larger washers on the bolsters (in the pink circles). Put these away safely. *Alas – much further down in the process I discovered that you can separate the tender from the loco – there is in fact a plug and socket connection (green rectangle) – gently ease this out with jewellers screwdriver if your fingernails aren't long enough.*

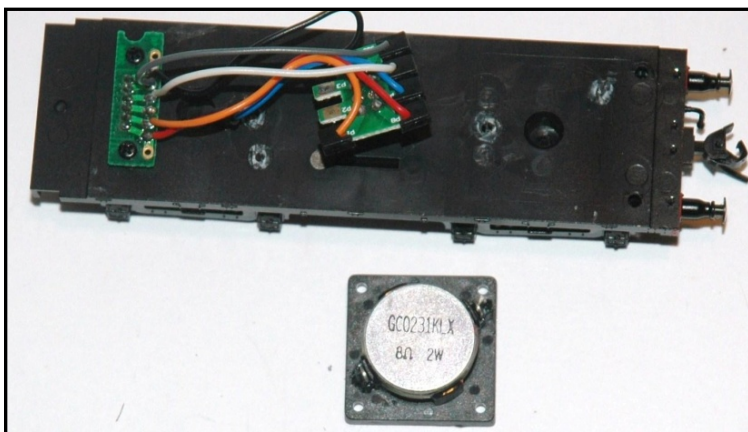
Now – here we are with the tender body off and I have thrown in the decoder to give an impression of relative size

It seems to me that things are the wrong way around. One has to remove the 'board' and keep the socket which has the wires attached. To fit the decoder in I need to keep it well forward to leave enough space for the speaker which I intend to mount at the rear of the tender facing down, as per Marcus' site. It will therefore be probable that I will need to remove the bit in the body that I have marked with the white oval as it prevents moving the decoder as far forward as possible.



Unlike his install, I am hoping to leave the tender 'slope sheet' untouched, which will probably mean complete removal of the steel weights as well as the PCB (the green thing with the diodes, inductance coils and capacitors). The plan is to weight the tender body instead. You can't see them but there are 'slots' at the sides of the slope sheet which goes to the top of the tender sides. I'm sure I can fix some lead sheeting here, and probably in the rear corners to spread the weight as well as keep enough space for the speaker (*where is that speaker?*).

Next question - There is an eight pin NMRA socket in the tender, but the decoder doesn't have an eight pin plug – just wires. Do I put an eight pin plug on the decoder, or do I hard wire it to the small PCB connector at the front of the tender floor (*don't forget the resistor in there for the headlamp – I blew the one in 3649!*)? *I'll leave that decision til later. Where is that speaker?*
FOUND IT!



I have removed the cylindrical bits that screws go into in the floor of the tender (the scarred spots), and the one that hangs down from under the slope sheet; it was easily done with a pair of Xuron type side cutters – track cutters. They came off clean and require little or no clean up. I'm hanging on to them in case I need one or more to secure the floor to the front of the tender body. I shortened the long bit I cut from the underside of the slope sheet and stuck it in the hole in the tender floor with

superglue so that the forward bogie can be attached.

The weight of the steel weights and the PCB measured 42g on my digital kitchen scales. Off to get the lead and weigh and fit it. I only managed 34g of lead plus the blue tack that I used to hold it in there. Feels fairly weighty though – and what's more the whole thing seems to hold together well

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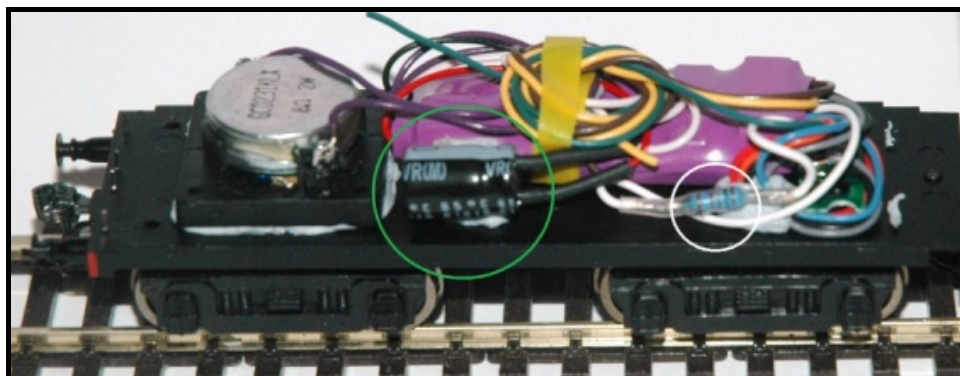
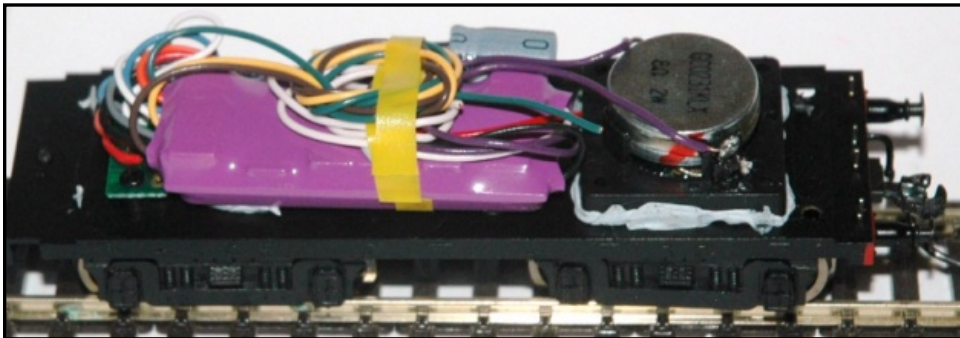
with just the two rear screws holding it. I can always slip a bit of lead under the load of coal that is going in the tender. I will review that later. *As it turned out, having the lead in the sides of the tender cramped things too much and I am stuck with loading a good bit of it on top of the slope sheet.*

Now – down to the real business. I need to drill holes in the floor below where the speaker is to fit – to ‘let the sound out’! I think I’ll go for a 3mm drill bit using a small hand held cordless drill. The battery was flat – I used pin vice instead and am happy with the result, shown right.



In my need for speed, I am not at this point going to build a speaker enclosure. I’ll just stick the speaker to the floor with some blue tack and wire the decoder up, put it all together and see if I ‘smoke’ the decoder.

Sorry, I got carried away and forgot to take progressive photos – wired it all up, didn’t forget the 1k resistor on the white (headlamp) lead, stuck everything in place with blue tack, and headed for the Power Cab. I deliberately left the unused wires on the decoder long, but have discovered that the coils of wires are holding the tender body up a tad – will have break my rules and snip these, and possibly employ a screw or two to hold the front of the body to the floor. The headlight works like it’s supposed to – it didn’t blow out!



You may also notice that I have changed the coupler. The ‘scale’ whisker type (#158) was not the best choice as the coupler box is short and the whiskers were not able to do their job well. I have used a ‘scale’ type (#58) without the whiskers. As Crestwood has deferred to the U Drive at the moment I cannot test the coupler length to see if there is any couple ‘clash’ on its more than adequate curves.

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So I have got numbers 1 and 8 of my list sort of done, and now I have to add another group of tasks – how to program the bloody thing! I don't like the whistle (yes I know there are eight of them there), the thing takes off like a rocket at speed step 1, the exhaust chuffs are not synchronised with the driving wheels and so on. CVs are all over the place (compared with those brands of decoders I am familiar with) and the two online manuals I have looked at are not all that helpful. After a quick scan I decided to read carefully through the whole thing, and went to sleep before the 20th page. It wasn't that much better this morning either, but I have found a few helpful sites on the internet. I can see a 'chuff cam kit' being purchased and installed and a 'user defined speed table' used – thankfully there is a JMRI!

I don't know if I really need a speaker box – I may already have one, the tender itself. Other than the holes I have drilled in the floor, which are sealed to the 'outside' of the speaker, the tender cavity where the speaker lives is pretty well sealed off from the outside. Having left the loco sitting on the powered 'test track', I was able to hear the loud and annoying steam let offs from another room. Time will tell. Now I have to find out how to reset it to factory defaults – there is always JMRI!

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