

# Oxford's 'N7'

The chunky lines of the Great Eastern 'N7' 0-6-2Ts are hard to resist. **MIKE WILD** completes his GER collection by installing sound in Oxford Rail's new BR black model of Stratford allocated 69612.

**T**HE GREAT EASTERN Railway's steam locomotives have been a popular choice for ready-to-run locomotives

over the last few years, and especially with Hornby. It has produced the 'J15' 0-6-0, the 'B12' 4-6-0 and the 'D16' 4-4-0, all of which were rarely found outside of their native territory. The one that was missing though was Hill's powerful suburban passenger tank – the 'N7' 0-6-2T.

Oxford Rail put that right in early 2019 with the arrival of the first version of its 'OO' gauge model replicating locomotive 1002 in original Great Eastern grey (HM141). We had to wait a little while for the BR liveried model, but happily this version with a round topped boiler as 69612 touched down in October.

The first of the 'N7's, originally classified 'L77' by the GER, entered traffic in 1915 with further locomotives being built through the 1920s until a total of 134 had been built by 1928. They were designed for rapid acceleration of suburban trains on routes which had stations short distances apart. This included the heavily laden commuter trains from London Liverpool Street while others were allocated to the Great Northern services running from London King's Cross. In both cases they would be seen hauling Gresley non-corridor stock including the 'Quad-Art' articulated sets.

With its small 4ft 10in driving wheels, the 'N7' was quick off

the mark and we were keen to replicate that in model form with digital sound. Our choice of decoder is a Zimo MX648R coupled to a 15mm x 11mm cube speaker to bring the audio to life.

The sound file selected is Digitrains ZS022AP which is a file suitable for inside cylinder LNER locomotives with air pumps – a distinctive feature of the 'N7's'. This also features ActiveDrive which means that it has working brakes which can be dabbed on and off using F2 on a DCC handset. There is also the option to switch between heavy train and light engine modes which changes the intensity of the exhaust as well as the locomotive's response to throttle inputs.

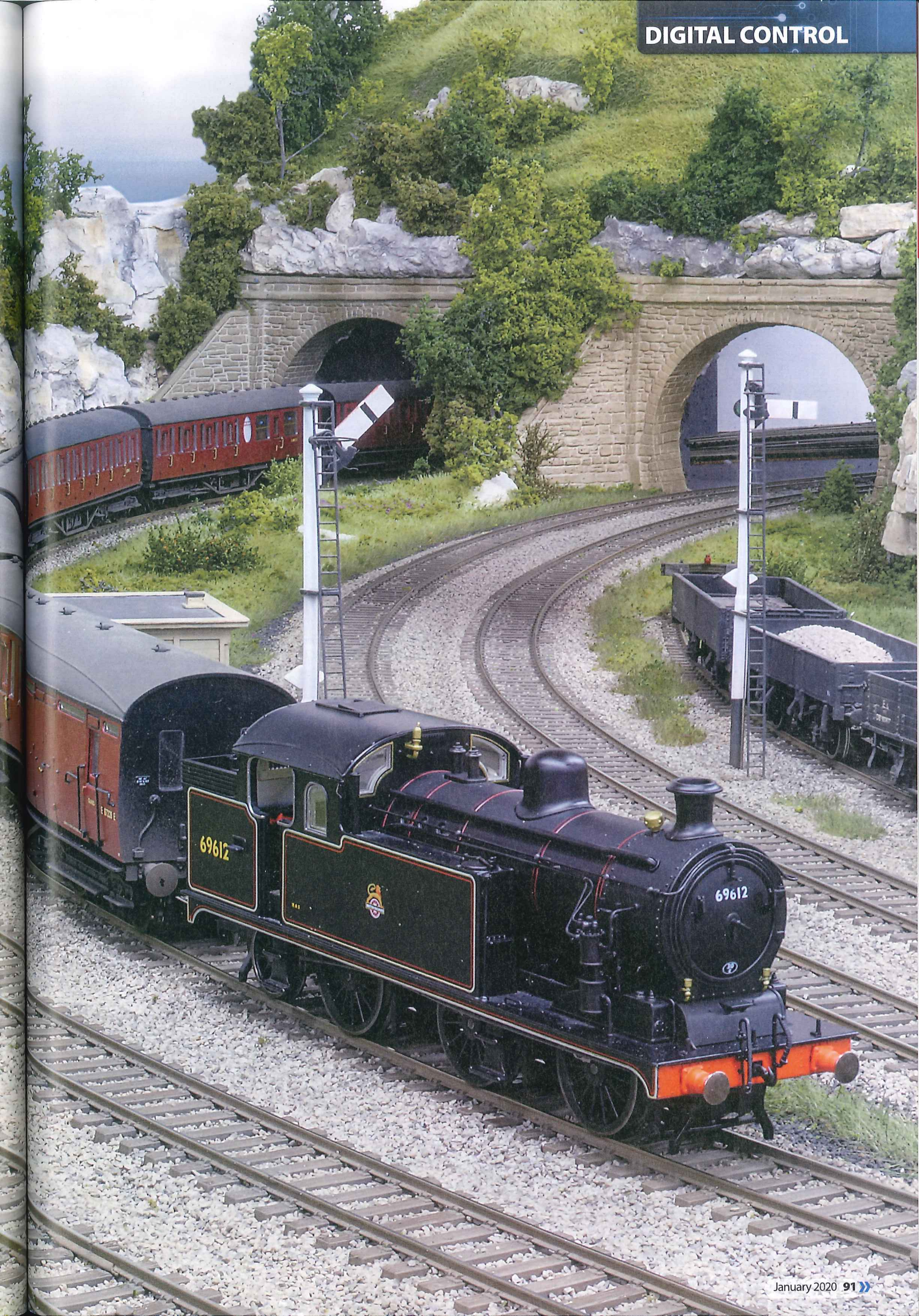
As with all of the ActiveDrive sound files from Digitrains, it is a pleasure to drive once fitted into the locomotive and serves to bring this former Stratford locomotive to life. There was one complication with this project, finding space for the speaker, but happily we found a solution which doesn't require any modifications to the locomotive, just extra dismantling.

Oxford Rail is offering a sound fitted version of each of its 'N7's, but if you are looking for a custom version with superb driving characteristics then this project is just what you have been waiting for. The Zimo sound profile from Digitrains adds great character and is an enthralling chip to operate.

The step by step guide explains the method we used to install the Zimo decoder and speaker into 69612. [Click here](#)

Newly equipped with a Zimo MX648R decoder and a modified 15mm x 11mm 'cube' speaker, 69612 heads a rake of Gresley non-corridor stock out of the tunnels on Topley Dale.







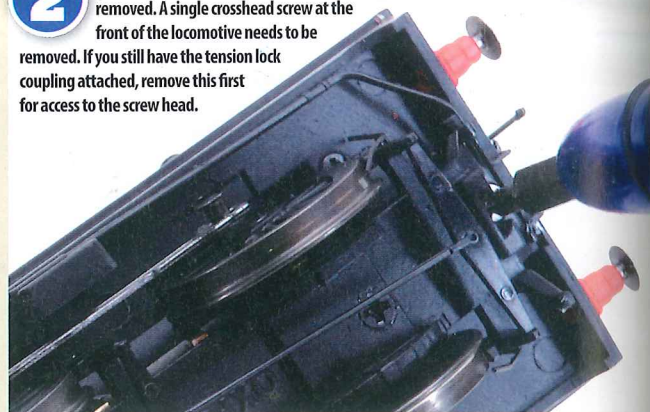
**1**



Oxford Rail's 'N7' 0-6-2T isn't blessed with a huge amount of internal space, but there is room for a decoder in the bunker. Finding space for a speaker was a greater challenge and even this small 15mm x 11mm cube speaker needed reducing in height to fit.

**2**

To start the process, the body needs to be removed. A single crosshead screw at the front of the locomotive needs to be removed. If you still have the tension lock coupling attached, remove this first for access to the screw head.



**3**



At the rear of the locomotive, two further crosshead screws hold the chassis in place between the rear driving wheels and pony truck. Remove them and keep them safe for reassembly.

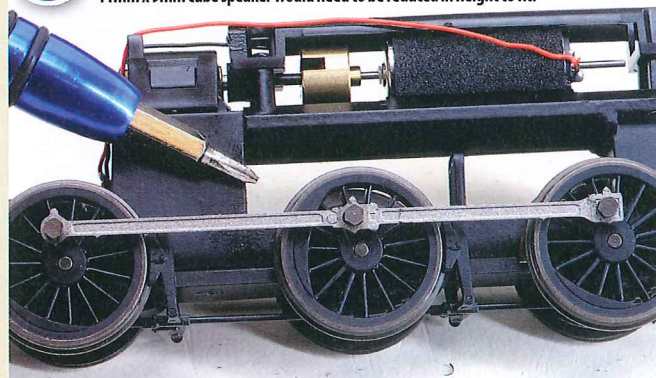
**4**



With the body off it soon became clear that space for a speaker really was at a premium. We considered the smokebox, cab and bunker as options but none were really feasible.

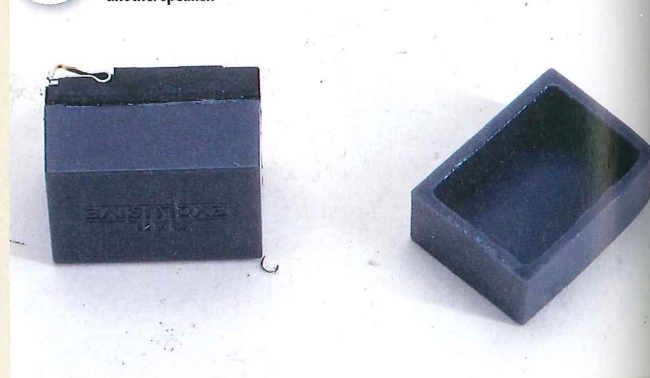
**5**

However, we did realise that the space above the centre driving axle below the casting for the boiler barrel could be used to house a speaker, but even the small 15mm x 11mm x 9mm cube speaker would need to be reduced in height to fit.



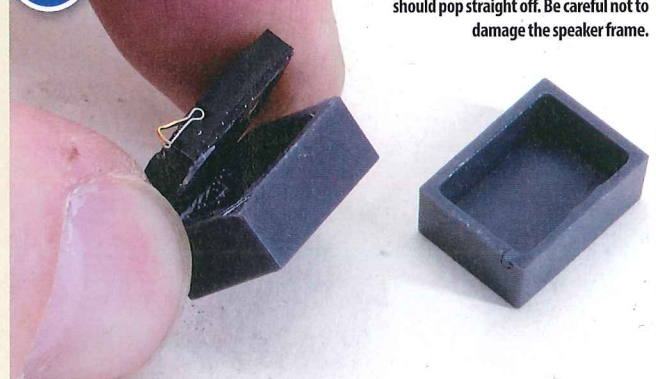
**6**

The rear plastic baffle of these speakers can be separated from the diaphragm so that it can be modified. On the right is a spare baffle which we had separated from another speaker.

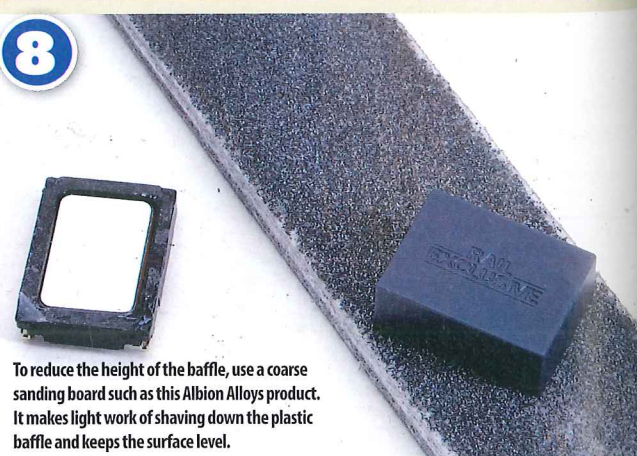


**7**

To separate the speaker from the baffle, insert a craft knife at one corner and it should pop straight off. Be careful not to damage the speaker frame.



**8**



To reduce the height of the baffle, use a coarse sanding board such as this Albion Alloys product. It makes light work of shaving down the plastic baffle and keeps the surface level.



The 'N7' 0-6-2Ts were designed to haul the suburban trains which required rapid acceleration. In April 1959 69671 approaches Enfield Town with a service from Liverpool Street. Dave Cobbe Collection/Railphotoprints.uk.



## TOOLS

- » Crosshead modeller's screwdriver
- » Soldering iron
- » Insulation tape
- » Black Tack

### FUNCTION KEYS

#### KEY OPERATION

<b>F0</b>	Lights on /off (if fitted)
<b>F1</b>	Sound on/off
<b>F2</b>	Brakes
<b>F3</b>	Whistle
<b>F4</b>	Long whistle
<b>F5</b>	Heavy/light train
<b>F6</b>	Coal shovelling
<b>F7</b>	Live steam injector
<b>F8</b>	Blower
<b>F9</b>	Wheel flange squeal
<b>F10</b>	Safety valves
<b>F11</b>	Hand brake
<b>F12</b>	Water filling
<b>F13</b>	Coupling
<b>F14</b>	Buffering
<b>F15</b>	Cylinder drain cocks
<b>F16</b>	Air pump (also random sound)
<b>F17</b>	'Toot toot' whistle
<b>F18</b>	Guard's whistle
<b>F19</b>	Fade all sounds
<b>F20</b>	Shunt mode
<b>F27</b>	Volume down
<b>F28</b>	Volume up

### WHAT WE USED

PRODUCT	SUPPLIER	CAT NO.
Zimo MX648R 8-pin sound decoder	<a href="http://www.digitrains.co.uk">www.digitrains.co.uk</a>	MX648R
Rail Exclusive 15mm x 11mm cube speaker	<a href="http://www.digitrains.co.uk">www.digitrains.co.uk</a>	LS15x11x9
LNER inside cylinder steam engine with air pump	<a href="http://www.digitrains.co.uk">www.digitrains.co.uk</a>	ZS022AP

- 9** Getting the speaker into place requires the wheels of the 'N7' to be removed. First, the five screws holding the keeper plate onto the die-cast chassis need to be taken out.



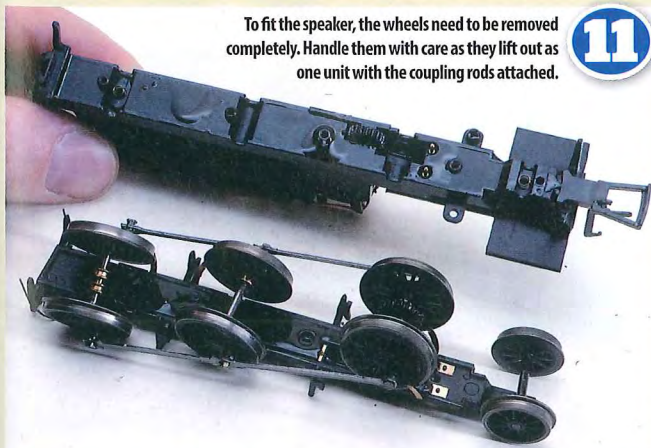
**10**



With the keeper plate off it reveals the brass bearings and chassis design. Note the position of the bearings for reassembly and be aware that the rear trailing axle will drop out at this stage.

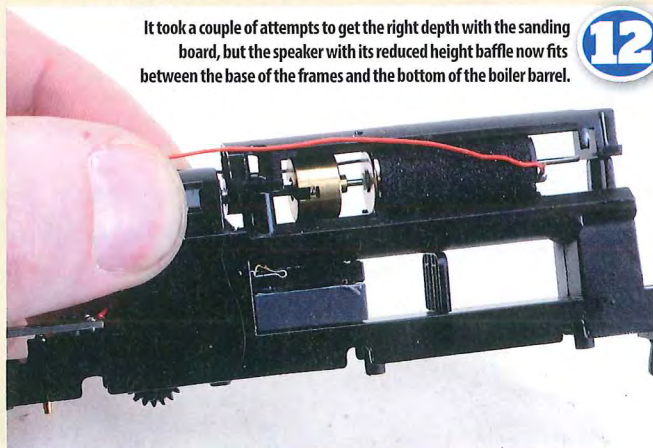
- To fit the speaker, the wheels need to be removed completely. Handle them with care as they lift out as one unit with the coupling rods attached.

**11**



- It took a couple of attempts to get the right depth with the sanding board, but the speaker with its reduced height baffle now fits between the base of the frames and the bottom of the boiler barrel.

**12**





## STEP BY STEP INSTALLING SOUND IN AN OXFORD RAIL 'N7' 0-6-2T

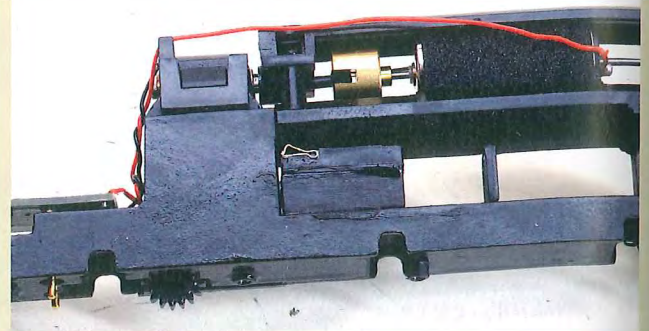
Intermediate  
Beginner **SKILL LEVEL** Advanced

13



We fixed the speaker in place on the chassis with Deluxe Materials Rocket Rapid superglue.

14



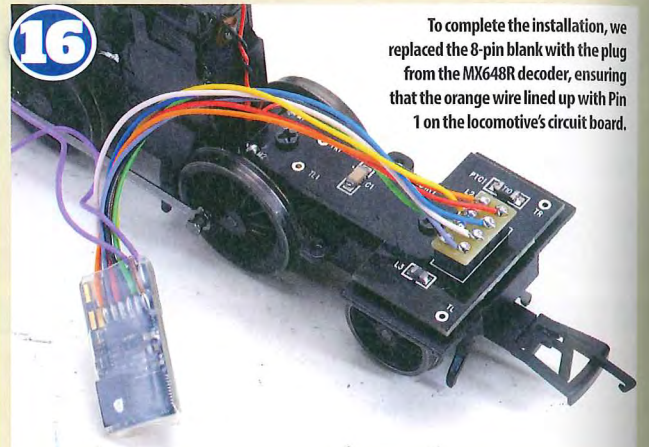
To further disguise its appearance, just in case it could be seen from certain angles, we painted the baffle matt black with acrylic paint.

15



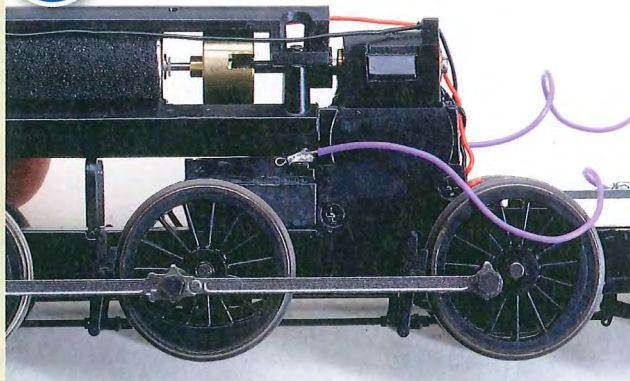
To prove that the speaker couldn't be seen, we temporarily refitted the chassis into the body. The speaker is neatly tucked away behind the side tanks.

16



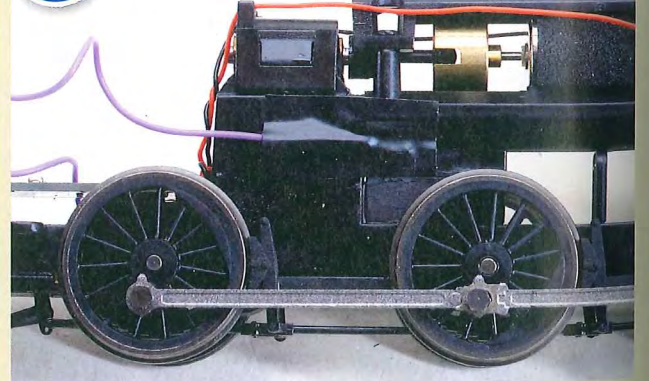
To complete the installation, we replaced the 8-pin blank with the plug from the MX648R decoder, ensuring that the orange wire lined up with Pin 1 on the locomotive's circuit board.

17

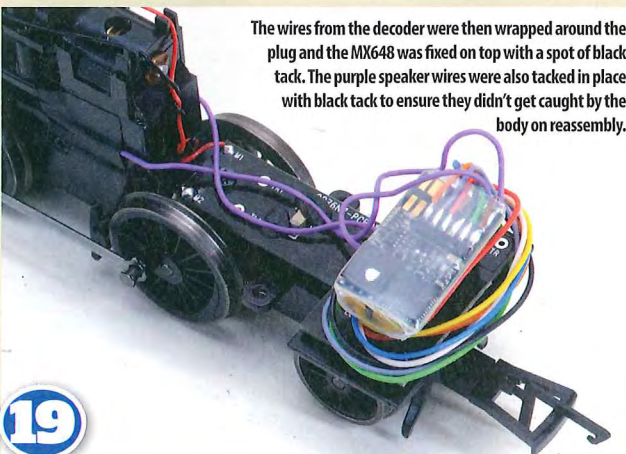


The purple speaker wires were shortened by 20mm and the ends were stripped of 4mm of insulation so they could be soldered to each side of the speaker.

18



To protect the speaker connections following completion of the installation we added black insulation tape over each soldered joint.



The wires from the decoder were then wrapped around the plug and the MX648 was fixed on top with a spot of black tack. The purple speaker wires were also tacked in place with black tack to ensure they didn't get caught by the body on reassembly.

19

20



With care and adjustment of the decoder harness, the 'N7' was reassembled ready for testing on the Hornby Magazine test track. From the outside the decoder and speaker installation are completely invisible.