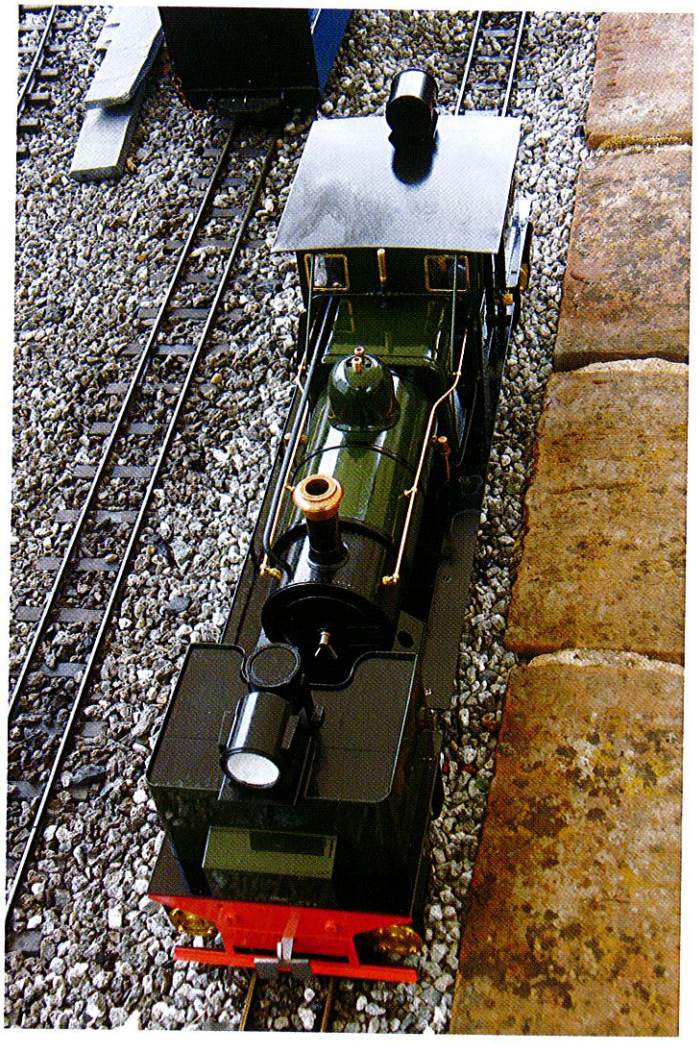
Roundhouse Darjeeling 'D' Class



A review by JOHN HARWOOD

Roundhouse's 2015 locomotive release has certainly caused a stir being an impressive model of the Darjeeling & Himalayan Railway's 'D' class Garratt. In this comprehensive review, JOHN HARWOOD tests the loco out on Dave Billmore's Isle of Axholme Light Railway.

Photos by Dave Billmore.

We all have things that we regret in life, and the one thing that sticks in my mind when it comes to my life-long interest in railways is that we were not rich enough to own a car when the former LNER Garratt was returned to Mexborough shed in 1952 to resume work on the Worsborough incline near Wath as part of the old Woodhead route. Yes, living near Doncaster, we could have caught several buses and taken most of the day to get there and back, but as my Dad did not possess my all-consuming fanaticism, he could not be persuaded to take me. Life moves on, and it is only after my first sighting of a Garratt on the newly emerging Welsh Highland Railway some years ago that this passion for Garratts was re-kindled. At the time I was a relative newcomer to the delights of 16mm live-steam narrow gauge, having spent all my modelling life messing about with four mm electric snail rail, and so it was against this background that I started to dream that one day some enterprising manufacturer would produce one for me to run in the garden.

Yes, there have been Garratt models available in the time that I have been involved in this great hobby, and whilst they have all been fine, for various reasons they have not ticked all the boxes on my wish list, and so my dream has remained unfulfilled. That is until now!

A surprise

When Roundhouse announced at the Peterborough Show that they were doing a Darjeeling 'D' Class, after the shock had subsided, in preparation for writing this article, I thought about popping down to my local community-run library to look through a Thesaurus to try to find a new word for 'surprise' but as it's only open a few hours a week I decided not to. Whatever word you can think of I think it's fair to say that none of us saw it coming and so I will stick with surprise for the time being. Okay, so it does not fit in with my Welsh Highland/Ffestiniog passion, but what the heck. It's a Garratt, and finished in crimson lake it will take very little imagination on my part to see it as a WHR loco when hauling a rake of the appropriate carriages. If this attitude offends people I sincerely apologise, but if you give vent to your imagination just a little bit you can see where I am coming from.

The prototype

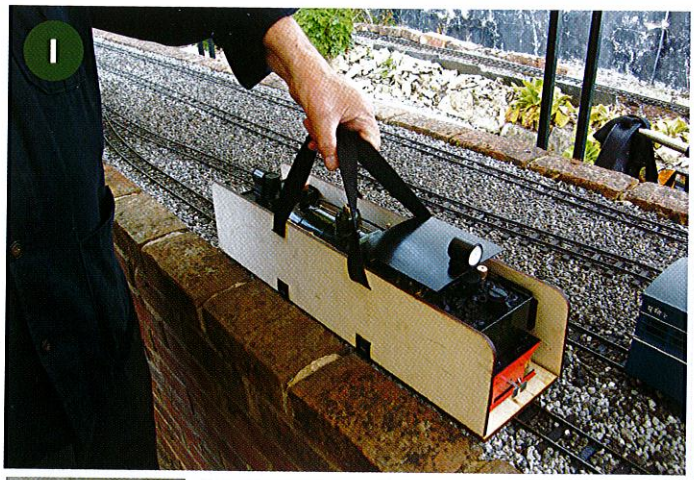
Why the directors of the Darjeeling Himalayan Railway decided, in 1910, that a Garratt locomotive was the ideal design to add to their stock is not known, especially as the 'B' Class had proved itself eminently capable of hauling loads up what was a difficult railway to operate, but as it was intended that the Garratt would be equal in performance to two 'B' class locos on the mountain section, one has to wonder whether it was down to operating costs or some other reason that it has not been possible to establish.

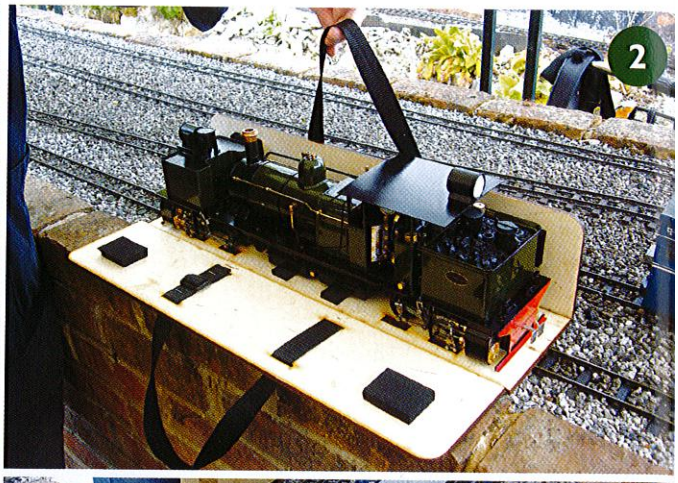
Whatever the reason, the order was placed and the completed loco was first steamed on 21st December 1910 at Gorton works on a specially constructed track that was designed to test its ability to cope with the super elevation and the 50ft radius curves expected on the climb up to Darjeeling.

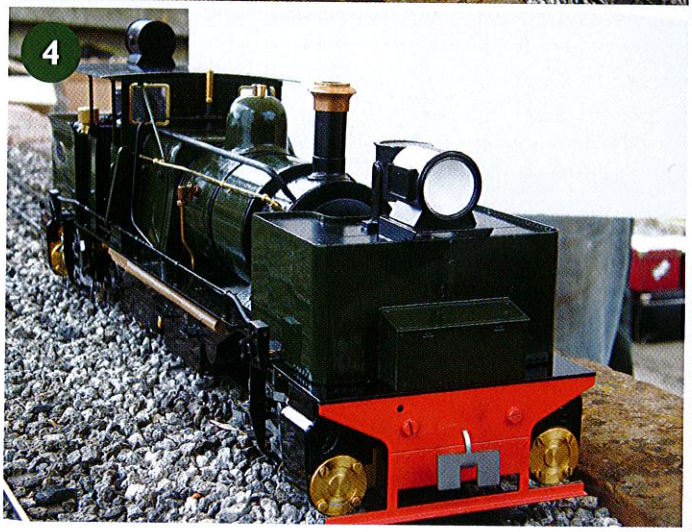
Delivered to India in 1911 the loco was put into service on 30th June, having been assigned by the DHR as the Class 'D' and given the running number 31. Unfortunately the engine was not a great success and fell far short of expectations. Originally tested on a line that climbed at 1 in 23 with a radius of 59ft its haulage capacity was only 60% more than a single 'B' class and in consuming 106lb of coal per mile when compared to 40lb by the 'B' Class, it is not difficult to understand the lack of popularity with the operating department and crews alike. This situation was further exacerbated by the loco being unable to maintain steam pressure and also it being prone to slipping when climbing due to water movement, both in the front tank and the boiler towards the rear which affected weight distribution between the bogies, leading to a derailment in 1913.

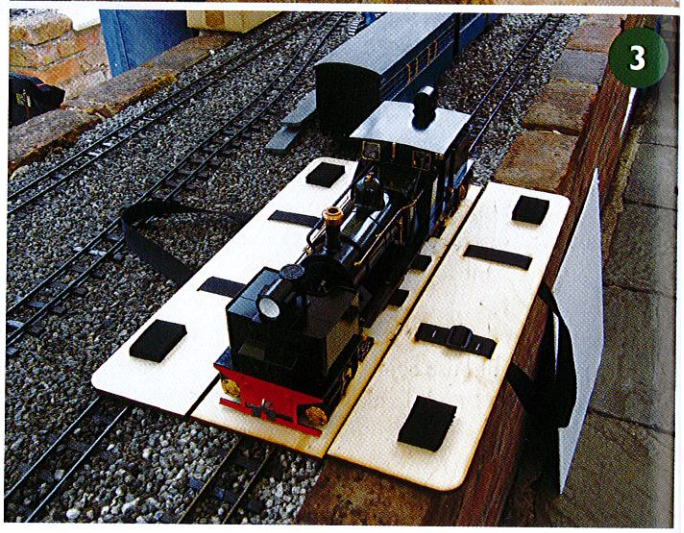
Experiments were carried out to resolve a myriad of problems and it finally found favour on the Teesta Valley branch where these modifications and design lent itself more to the line profile. With a gradient of 1 in 50 and the tightest curve being 100ft radius it was able to haul loads of up to 200tons, although not totally without cost as frequently a coal wagon was attached to supplement its still voracious appetite for coal. During these modifications the opportunity was taken to open up the cab and extend the cab roof over the front of the rear bunker to improve the operating conditions for the crew, and it was only after all this that the loco started to earn its keep. It is thought to have carried the name 'Highland Chief' for a short time in 1920, but bearing in mind its failure to live up to what this name suggests one has to wonder whether this name was fact or fiction. Eventually the closure of the Teesta Valley line in 1950 unfortunately left the Garratt redundant and it was withdrawn from service and scrapped on 30th November 1954. ▶

Photos: This page and facing page: *The Roundhouse 'Darj' is certainly a very impressive looking loco as shown in these pictures of the prototype loco from various angles.*









The model – first impressions

When collecting the loco on the afternoon of the factory open day the first thing that struck me was the size of the package sitting on the counter in the showroom. This was followed immediately by even further surprise when I came to pick the box up. Had I taken some time to do a search on the internet or more simply just had a look at the leaflets placed strategically around the factory beforehand, none of this would have been a shock. To put it in perspective the loco has a length of 532mm over buffers, a width of 116mm and a height of 170mm. In real money this equates to a length of approximately 21" with a width of 6¼" and a height of 6⅝". Add to this a weight of 5.2kg or 11½ lbs and you will see that you are getting a heck of a lot of loco for your money. Had I known all this beforehand I would have saved myself any immediate embarrassment with my reaction in front of Roger and the gang and any further ribbing that I know I will get when/if I visit the factory in the future.

Wooden cradle

Further embarrassment was saved when Roger opened the box to reveal a couple of straps poking out of the bubble wrap which was removed to reveal that they were attached to a laser-cut wooden cradle that made lifting the loco so much easier than it would have been had I just had to rely on my cocktail sausage-like fingers. This cradle will be subject to minor modification before production starts but every loco will come with one, which will not only benefit the owner when it comes to handling, but will also assist the factory when it comes to safe packaging for despatch. Placing the cradle on the track makes it easy, with just a little practice, to roll the loco onto the track without any lifting and reversing this process after a running session makes it easy to pack up. Prior to knowing about the lifting cradle I must admit to feeling some concern about handling the loco with its length and weight but this has now gone away.

The model – second impressions

Now I don't know about you, but when thinking about a Garratt I imagine something quite large as seen operating on the Welsh Highland. However, when I saw Itchy driving the loco round the test track on open day I saw a loco that looked quite delicate and lacking in bulk. It didn't even look that long and when you compare it to the Leek & Manifold loco that Roundhouse did a couple of years ago you might be able to see where I am coming from. After all the L & M, whilst being a bit shorter, is only 0.2kg lighter which is a bit of a surprise.

This, and a lack of familiarity with the DHR, prompted me to a do a little more research than usual, but once again it is easy to see that Roundhouse have produced a model which even allowing for the use of standard valve gear components to keep the production costs down, have come up with something that should satisfy even the most critical in the looks department and still provide a very useful piece of kit that will stand up to whatever you demand of it in the garden. Whilst it is nice to display a loco on the sideboard with the permission of SWMBO I very much prefer to use the six foot rule and I am sure that in

Photos on this page:
***1, 2, 3** – The locomotive is supplied with its own laser-cut wooden carrying case which makes transportation and set up on track much easier.*
***4** – Front three-quarter view of the loco.*

the accompanying photos taken by Dave Billmore on his Isle of Axholme Light Railway you will see what I mean.

The model – another observation

Apart from all the detail you can see in the photos there is another thing that will be added to enhance the ownership experience. The head lamp casting on the front tank, whilst looking good on the pre-production prototype, will be modified slightly so that if the owner wishes he/she will be able to make it work. Not something within my capability at this stage, and not something that affected my decision when it came to placing an order, but no doubt this will be the subject of an article in the modelling press in the near future, so I shall wait and see. Making the light on the cab roof work would seem to be an altogether different matter but if the casting is modified in a similar way to that of the front then who knows? Okay, I suppose Roundhouse could have done it but this would have impacted on the assembly time and therefore reflected in an increased purchase price.

Besides, they have to leave something for the modifiers out there to do, there being little else of note that I was able to establish within the time that the model was in my possession.

The model – the technical stuff

At this stage you have two options; order one and skip the rest of what follows or carry on reading and order one later, but don't leave it too long because they are selling very well and you might have to wait sometime to get your hands on one.

From the bottom up we have an outside framed 0-4-0+0-4-0 chassis with four double acting slide valve cylinders operated by simplified Walschaerts valve gear. Sitting on top of this is boiler that is bigger than usual but does not appear so because, whilst there is lagging round the boiler, the gap between it and the boiler wrapper is virtually non-existent. Add to this the use of the new 'FG2' type burner that has two burners and two flue tubes, enabling steam to be raised in four or five minutes, and you will see that Roundhouse has gone to a lot of trouble to try to emulate the performance of the prototype. To say that Roundhouse has more than succeeded is an understatement, but more of that later.

There is a water gauge and water top-up system as one would expect, the importance of which I cannot over-emphasise, as whilst the loco will run for some twenty minutes on a full boiler, the size of the gas tank is such that running times in excess of forty minutes are easily achieved. You can ▶

Photos on this page:

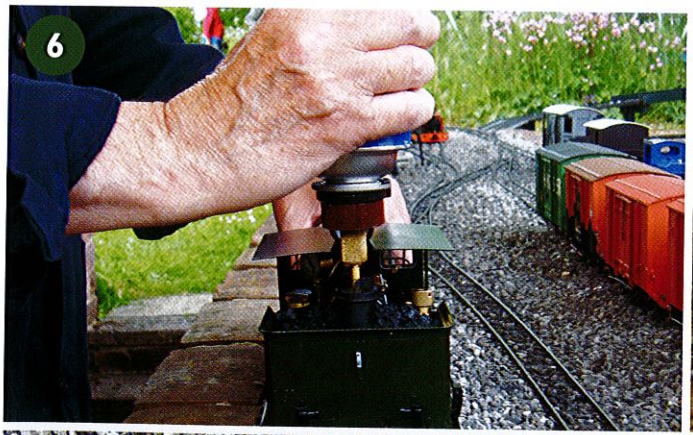
***5** – Birds eye view of the cab and rear tender. Just about room for a driver in the cab and note the large gas tank in the rear bunker.*

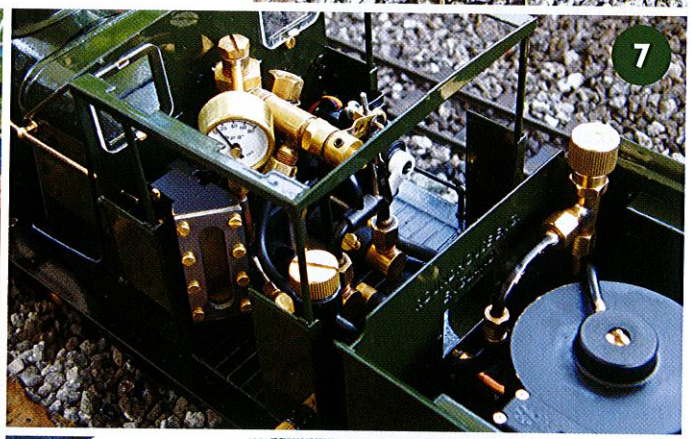
***6** – Filling the gas tank.*

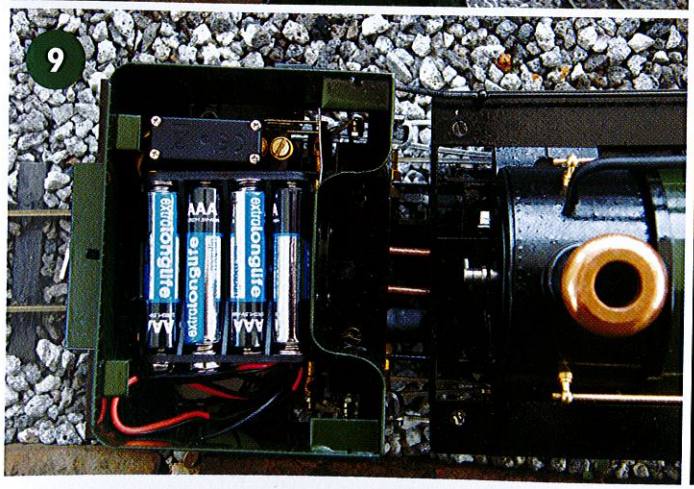
***7** – Three quarter view of the neatly laid out cab.*

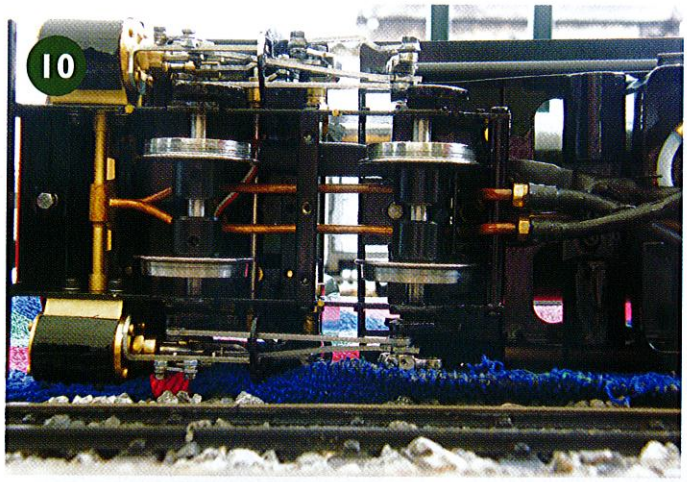
***8** – Topping-up the loco with water.*

***9** – The battery compartment is in the front tank.*









Photos on this and facing page:
10, 11, 12 *– View of the workings below decks showing the pipework arrangements to front and rear bogies and the use of flexible connections.*
13, 14, 15, 16 *– The loco at work on Dave Billmore's Isle of Axholme Light Railway.*

therefore understand the need to keep an eye on the gauge and top up the boiler frequently to prevent it from running dry as in effect you will use in excess of two boilers worth of water on each run. On the pre-production model as tested, it was necessary to slide back and remove the cab roof to access the top-up valve which is situated at an angle on the right hand side of the boiler. This was a bit of a pain, bearing in mind the frequency of top-up, and being aware of this, each loco will be supplied with a top-up bottle with a shaped brass tube that should make it easier to top up with the roof in-situ which was always Roundhouse's intention. You could say that if the valve had been set horizontally access would have been easier but this would have necessitated changes in production, and pressing the top-up tube sideways against the valve could result in the loco being pushed over, hence the design to put downward pressure on the valve. If you choose to remove the cab roof for any reason I would urge caution when replacing it. The cab spectacle plates are glazed and you have to be careful where you put your other hand when sliding the roof forward. The natural reaction would be to put it on the cab front but there is not a lot to hold onto without risking pushing in the windows. The boiler is not an option for obvious reasons so the only other option is to put your hand on the front tank which is what I did without any problem.

Standard controls

Controls fitted as standard are steam regulator, safety valve, pressure gauge, displacement lubricator, gas regulator and reversing gear. The pressure gauge is readily visible and the displacement lubricator is fitted in the rear left-hand corner of the cab, making it easy to get at without removing the cab roof. The gas regulator is situated in the off-side front corner of the rear bunker and is readily accessible. Removing the coal load reveals a really large gas tank that might be even bigger on the production model which will result in an even longer running time and reinforcing the need to keep an eye on the water level. Watch this space! Filling the gas tank can be achieved via a small hole in the coal load or with the coal load removed; the choice is yours. On all other Roundhouse locos the gas tank is located in close proximity to the boiler, meaning that as the boiler heats up the gas tank gets warmer, enabling the gas to be turned down for longer running. With the tank being located in the bunker it would not get warm, and so appreciating the need for this the exhaust steam from the bogie under the bunker is taken up to the bottom of the gas tank to warm it up a little before being passed down the off-side flue tube and out through the chimney. Without this being pointed out you would not be aware, but this attention to detail is what makes this loco so special.

When it comes to choosing between manual and 2.4Ghz radio control you don't get the option as radio control is fitted as standard. Thinking about this it soon becomes apparent why; how else would you be able to set up two sets of valve gear, one in forward direction and one in reverse, and drive the thing manually? I for one wouldn't have a clue, and no longer being capable of a ten second 100 metre dash I wouldn't have it any other way. The micro servos controlling the valve gear are programmed independently and controlled from the right-hand stick on the transmitter as normal, so it is a simple matter to put it in gear and ease forward the left-hand stick to derive much pleasure from what is a very enjoyable engine to drive. The four x AAA batteries controlling this pleasure are located in the front tank and are therefore easily accessible.

Insulated wheels are fitted as standard and an exhaust enhancer is also fitted, but with all the flexible pipework linking the power bogies and so forth, this is not very loud so if there is one very minor downside to the loco this has to be it. When it comes to colour the choice from the Roundhouse range is all yours. Whether you agree with the shade of green chosen by Roundhouse is a matter for debate and very subjective as usual, but as the prototype was scrapped in 1954, if you were lucky enough to see it in action on the real railway, you will need a long

memory and be getting on a bit to be able to say with even a hint of certainty.

The best bit – in the garden.

Just before we move into the garden, for those who saw the loco being run on the factory test track on Roundhouse's open day, at one stage the weight added progressively to the wagons behind the loco came to 19kg - 42lb in real money – and whilst its progress was slow, this is double what is normally expected from a Roundhouse loco. Okay, the test track has a very slight gradient on one bit but to get anywhere close to this weight in the garden I suggest that you take up modelling in 5" gauge or lower your expectations slightly. As can be seen in the photos of the loco being run on Dave Billmore's IoALR the load behind it was 14 x 4 wheel vans and 3 x bogie carriages, being 40 axles in total and it was only restricted to this number because David Cooper and Steve Blackmore hadn't brought any more stock with them for me to hang behind the beast.

Preparation follows the usual oiling around with all the moving bits being accessible with the loco sitting on the track. This is followed by adding gas and steam oil, with the water being added by removing the dome and filling up via the safety valve aperture, not forgetting to remove the usual 30ml from a full boiler. With the new burner, steam is raised in about five minutes and it's just a matter of opening the regulator with the loco in reverse to remove any condensate before coupling up the train and away you go. With all the flexible pipe work between the power bogies you would expect a fair amount of condensate but I don't remember that being the case, it seeming like no time at all that we were ready to roll. As usual I got carried away with the pleasure of driving the thing and forgot to check the running time, but I was told that this was in excess of forty minutes each time. Whilst in my possession I reluctantly let several guys within our group have a play and without exception they were blown away with the driving pleasure of this beast. Okay, it's not particularly fast but I don't think you would expect it to be, its haulage capacity and its smooth performance being enough to satisfy even the most demanding. And on that note it's good night from me; I am counting the sleeps until I get my hands on mine! ■

The cost of the loco is £3550.00 inc VAT

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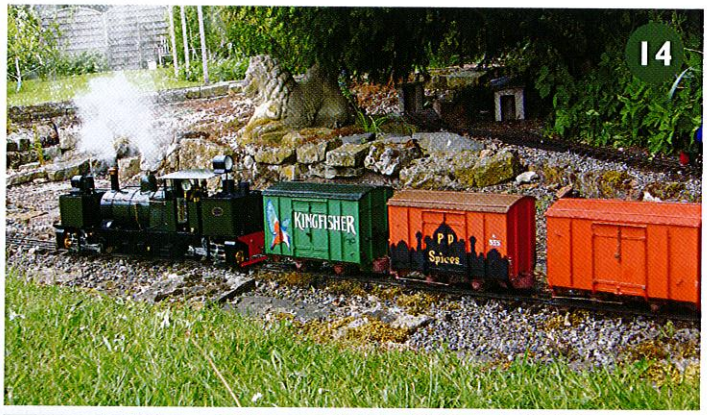

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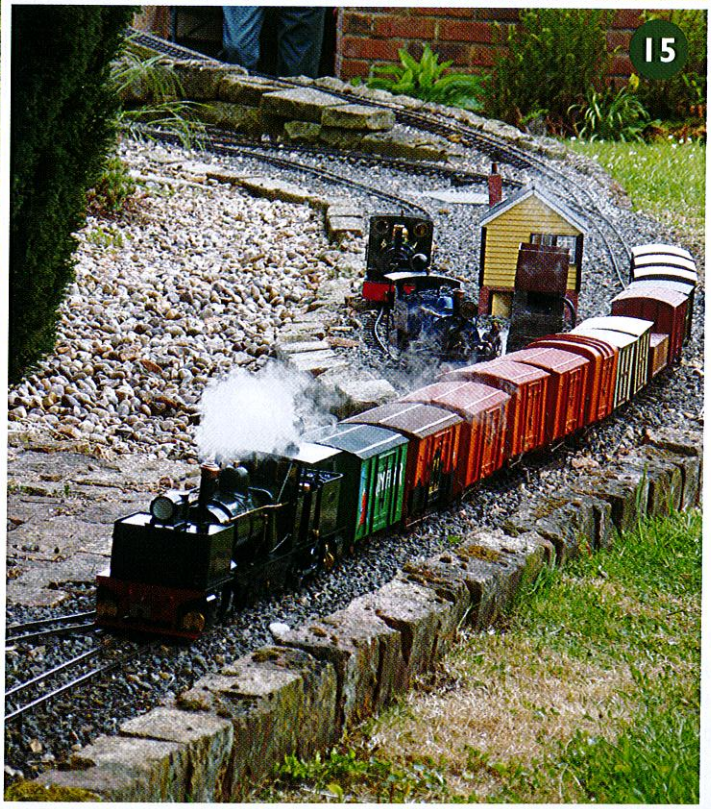
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