

# AUTOCAR

1903 North Eastern Railway Electric Autocar Trust

Newsletter No.32 — Summer 2017



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# The North Eastern Railway 1903 Electric Autocar Trust

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- Front Cover:** *The Guinness World Record certificate.*  
(Stephen Middleton)

## June 2017

Welcome to the 32nd issue of our newsletter. There's official recognition of the autocar's historical significance and good progress made at Embsay.

It's a very short contents list this time, but with a lengthy (11 page) progress report I hope you'll not be disappointed. Many thanks to Alan Chandler for his photos of the restoration work.

### Contents

Chairman's notes .....	4
Progress report .....	6



### New members

A warm welcome to Mr. N Mapstone of Sutton Coldfield, Mr. P R J Hardyman of Gargrave and Mr. & Mrs. Abell of Rotherham.

#### Newsletter Back Issues available:

Numbers 7, 9, 11. £1.50 each

Numbers 14, 16, 17, 18, 19, 20, 21, 22, 24, 30, 31. £2.50 each. Postage at cost.

Available from the editor. Embsay station bookshop also has *some* newsletters.

# Chairman's notes

*Stephen Middleton*

The autocar is 'officially amazing'!

Yes, we know that but, a most prestigious organisation has recognised the importance of the autocar and this adds to the credibility of our achievement. Following discussions with a specialist from the Guinness World Record organisation, we have been given a certificate stating that our artefact is the first internal combustion electric railcar. It is good to see that we are now 'officially amazing'.

At Embsay, work continues, each step allowing another to take place. The fuel fillers are in, allowing the floor to be refitted, allowing the linoleum to go down, allowing the seats to go in...

Engine room floor to be fitted, allowing the end to be repaired and finished, allowing the roof to be fitted, allowing the roof vents to be installed and so it goes on, a chain of events, all demanding in manpower and finance but with our goal well in view.

The installation of an extractor system, kindly done by Embsay's diesel and plant department, allows us to run the engine for static brake tests indoors. The lino is in fact from Marmoleum, who kindly provided sufficient lino of a similar colour to the original free of charge. The surprise came upon delivery, when the lone lorry driver explained that he needed help because the roll weighed 146 kg! Now we need four strong men to lift the roll in to the autocar! The skills centre is now painted and awaits fitting out and information boards.

There's a lot happening, and it's made possible by your generous support. As always, I am humbled and grateful for donations that come in and they allow our loyal restoration team to continue without interruption.

**Opposite:** *Fitting the glazing, one of the jobs which makes a big difference in the autocar's appearance.* (Alan Chandler)



# Progress Report

*Steve Hoather*

*Photos by Alan Chandler*

In my last report (written in January) I described how we had to remove the partition in order to replace the broken floor bearer beneath it, and that our next major job was to design and fit the steel floor around the engine housing. The partition was finished in March, together with replacement of the door sills at the external luggage area doors (these were rotten, as well as having been cut in two in 1931 as shown in the photo below). Alan and I designed the sizes of the steel floor plates so that these could be ordered, but it soon became apparent that the critical path issue was actually the bodyside fuel fillers, since not having these prevented the last of the bodyside external panelling being fitted, nor could we refit the floorboards, let alone lay the lino.

One of our concerns in designing the underframe was the likelihood of theft of 'valuable' items such as copper and diesel fuel, since several heritage railways



have suffered from this. We wanted to make it less obvious to the casual observer that this was a powered vehicle (and hence have fuel tanks), so the tanks are mounted high up in the underframe, where they are less visible. At an early stage we had talked to several of the railways who might be interested in operating the autocar as to whether they preferred a diesel loco type filler with a screwed connection or a DMU type, which is like a lorry or car but slightly bigger. The result was to go for a DMU type. As this depends on a gravity feed, our original intention was to have the filler point inside the luggage compartment adjacent to the engine, with the pipe to the tank going under the partition and into the top of the tank, which is about one quarter along the length of the saloon. However, it proved impossible to fit this pipe in the space available under the saloon partition because of the number of air pipes and electrical conduits in this area (all of which also have to go under the floor bearers), so we decided to fit a concealed filler each side of the vehicle in the bodyside, and run the 2" pipe to the tank top down to floor level and then under the floorboards to a tee piece screwed into the top of the tank.



Alan, Dave Moore and I spent a lot of time on the detailed design, and Geoff and Alan searched for a suitable local supplier who could make the recessed steel boxes to be inset into the bodyside. The pictures show the end result much better than I can describe in words. Picture 2 (previous page) shows the alterations to the body framework that Alan made to accommodate the steel inserts, which are shown after painting but before fitting in Picture 3. Picture 4 opposite top shows the final assembly before refitting the floorboards (notice the red circular fuel gauge towards the bottom left of the picture) and picture 5 opposite below is an ‘ant’s view’ showing how tight the clearance is. Picture 6 (page 10) shows Alan refitting the floorboards.

To enable access in the future to the pipework around the gauge if any problems arise, we are going to fit a small section of removable floor in this area which will include a viewing window to see the gauge.

The next step in the saloon area is to fit the Marmoleum (lino) to the floor, but before doing this the joints had to be levelled by belt sanding and a lot of worn



Picture 3



Picture 4



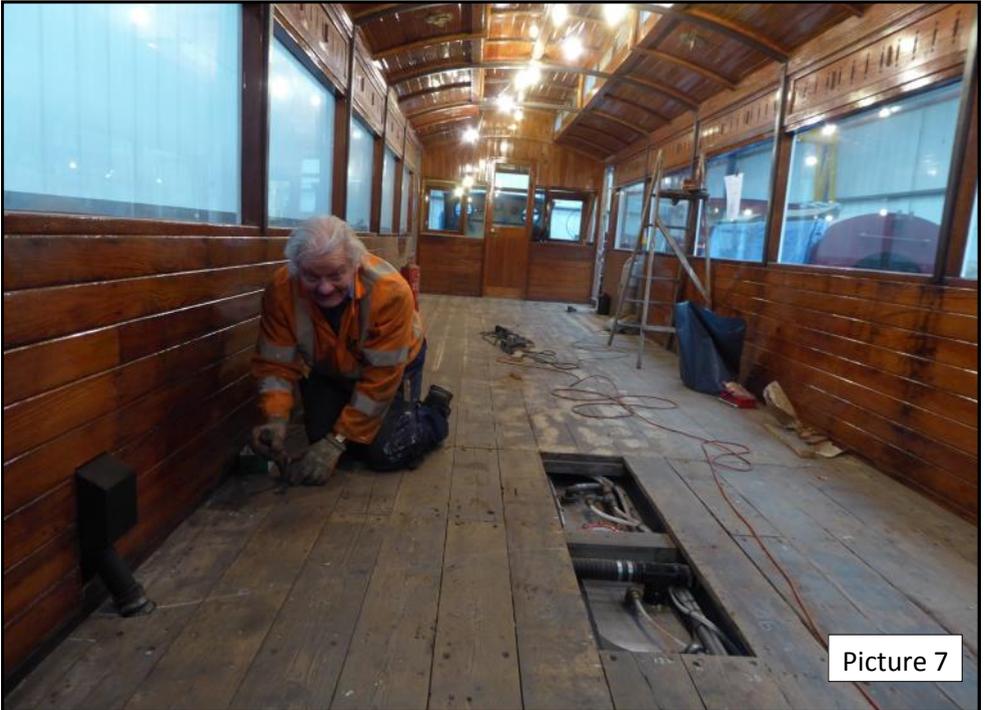
Picture 5



Picture 6

patches filled and then sanded to give a level surface, particularly in the centre walkway which will get heavier use and therefore wear more quickly if the base is uneven. Alan and Dave spent a long time on this, and it needs patience as the filler takes several days to dry (during which time anyone who accidentally treads on it is not very popular!). Picture 7 opposite top shows Dave preparing the floor for the lino.

Now the fuel fillers are fitted the last of the external tongue & groove panelling on the sides has been fitted — see picture 8 opposite bottom — leaving only the engine end which needs major work to rebuild the framing first — see picture 10 (page 13). Geoff has made a start on this. All the doors and droplights have been panelled and hung by Colin, who has also refitted the door droplights and made them work so both sides and one end are now virtually ready for painting. This might sound like ‘jumping the gun’ a bit when the roof above the engine has not yet been fitted, but the painting and lettering has to be done in warm weather and we have a volunteer for this who will be ready to start at the end of July.



Picture 7



Picture 8



The external view of a fuel filler.

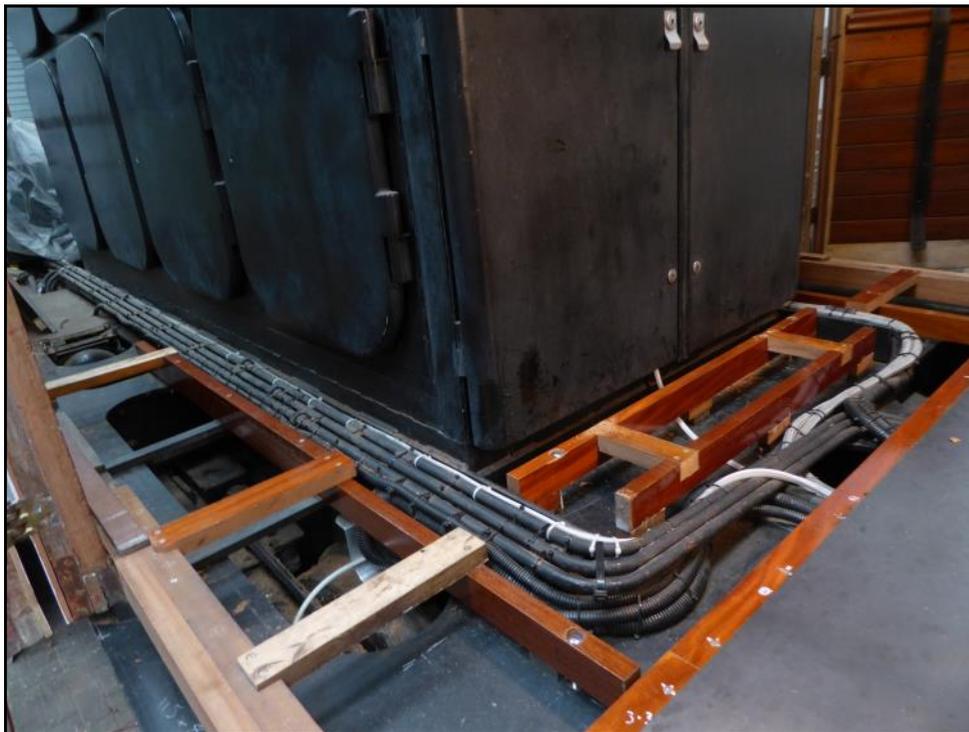


Picture 10

Alan and I have now started work on the engine room floor. This needs an extensive network of wooden supports to span the various cables and conduits

underneath. By chance, Alan has recently had new bannisters fitted to his stairs at home, and the old ones were of good quality hardwood (Sapele) which he has been able to cut down to the sizes we need. The floor is of 4mm steel, which was delivered cut to size some time ago, (although the area around the cab desk will need cutting to profile using a template). The undersides of these sheets have already been painted, and the top surface will be painted with anti-slip paint at a later stage.

In parallel with all this work on the power car, we have made a start on making the trailer compatible. This involves fitting air brakes to add to the existing



vacuum, and a cab desk in the guard's van which in turn needs a 36 way cable from the opposite end. Fitting the air pipes and electrical conduit means lifting the body off its bogies on the jacks, so we are concentrating on this aspect first. The brake force calculations were done some time ago by Steve Parkes, and Dave Moore and I spent some time bouncing ideas back and forth by e-mail how to achieve this, but detailed design could not begin until Dave, myself and

Don Carter, our structural engineer, could get together ‘on the job’. This was quite a problem as it coincided with a period when Dave was busy in his day job and had to work overtime several weekends, and I was away a lot as it was the skiing season. We finally succeeded at the end of March, and had a very useful day which was curtailed only when the daylight ran out, but Don had taken all the measurements he needs – it was a long day for the Loughborough team!

Don and Dave are now concentrating on designing and making those items which have to be fitted whilst the vehicle is lifted – these are the air pipework, through control jumper and two reservoirs with their mounting brackets. The actual brake cylinders will be mounted on a common baseplate in the centre of the coach which can be fitted later. Although the brake linkage on the bogies was overhauled two years ago, the brakes have not been set up and operated since then, so we are not going to start actually making the new parts for mounting the cylinders themselves until we are satisfied that the existing parts are adjusted and working correctly. Our aim on the trailer is to make as much as possible at Loughborough as kits of parts to minimise the work needed at Embsay.

The second cab desk is well on its way in Dave Moore’s garage. The air pipework is complete and everything now needs wiring up, but he has not been able to progress it recently while he concentrates on the items for the trailer car.

*Just as we closed for press, news came in that Steve and Alan finished the floor support frame for the main entrance area and one side of the engine, then loose fitted the steel plates to check that they fit (they do). The steel now has to be drilled for fixing screws and then painted with non-slip paint, but at least the pipework is now protected. Two photos of this are on the rear cover.*

### **‘Situations Vacant’:**

Practical, skilled people to work on restoring the autocar at Embsay.

A fundraiser, both to solicit donations and to generate finance through sales.

A researcher, to seek out historical information about the autocars.

If you can help with any of these roles, do please contact us.

