AUTOCAR

No. 4 Summer 2009

The Newsletter of the

1903 North Eastern Railway

Electric Autocar Trust

The North Eastern Railway 1903 Electric Autocar Trust

Registered Charity No: 1105829
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www.electricautocar.co.uk

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Contributions We welcome your comments, contributions, letters and suggestions. Please send all correspondence to the secretary, address as above.

Front Cover ; Puffing Billy at Beamish Museum.
Beamish museum have kindly donated a day on the footplate of Puffing Billy, a replica of the worlds oldest surviving steam locomotive, as one of our donators incentives.
Photo: Beamish museum

The fundraising issue.

Well, after the elation of the positive response from HLF, the realisation of what we have to do to release such funding has dawned. As such we have an action plan to raise funds required before the HLF decision to enable contractors to quote accurately and prepare preliminary drawings for approvals etc. In addition of course we need to find funds to 'balance' the HLF contribution. We are grateful to the Ken Hoole Trust whose trustees have indicated that a request for a grant will be considered sympathetically. This looks like it will meet the bill for remedial woodwork on the autocar body, joining the two halves together and rebuilding the damaged and altered ends. Trustees are looking at around six other funding donors.

HOWEVER – We have to be seen to 'dig deep and show commitment.' Our energetic and enthusiastic press officer, Simon Gott has sent an appeal press release to newspapers, magazines and other publications and we reproduce it overleaf.. Some will say that raising money is difficult in these tough times and indeed most of us find it difficult to meet the bills and make donations. Yet even a little but often makes a big difference. Also we now have a shop.

The Autocar Shop.
We feel that we can raise significant funds by trading from a shop. Please look at what we have and buy, or donate anything interesting to sell. We want to sell primarily items of railway interest such as models, toys, memorabilia, magazines and books. We are also selling children's clothes and books and redundant chairs from the Stately Trains carriages. Also a big thank you to Stephen Walker of the Embsay and Bolton Abbey Steam Railway who is allowing us to sell surplus 'Thomas and Santa' toys 50/50.
Where is this shop? In the body of the Prince of Wales GER saloon built in 1877 in Bolton Abbey car park. We need volunteers to man the shop over weekends but initially trustee Qiuying Ren will sell from it. We hope too that it will be a fertile recruiting ground for new members.

NER Autocar – Urgent Appeal
Copy of press release issued by Simon Gott.

As previously reported, there are plans to restore No. 3170, the surviving NER petrol electric autocar. This was the first non-steam powered railcar in the world and the 'great grand-father' of today's passenger trains. The Trust responsible for this project has made significant progress at the planning stage and is now launching a formal appeal for funds. Their aim is to raise £25,000 in the next six months.

Whilst the Trust has passed phase 1 for a grant from the Heritage Lottery Fund to cover much of the cost of restoration, they still need to raise balance funding and finance initial expenses. The first of these is the engineering drawings the Trust intends commissioning. These will provide a detailed assessment of the technical aspects of the restoration and establish that the project is practical. The assessment will also provide a full breakdown of costs for the mechanical and electrical elements of the restoration, firm quotes for the necessary materials and work, a timescale and critical path. Together with Railway Inspectorate approval, these will all be required before active restoration of the autocar and its trailer autocoach can begin.

The urgency is due to the timescale of the project, as the Trust has until December 2010 to submit detailed plans to HLF and raise the balance of funds. Whilst HLF has been supportive of the project, failure to raise matching funds for any grant they may award would result in the application being rejected automatically.

The Trust would welcome any donations readers can offer, either from cheques or postal orders or by setting up a standing order or Direct Debit

Press Cuttings Request

Simon Gott

As some of you know, I am the Publicity Officer for the Trust. I distribute press releases, write articles and generally try to keep our activities publicised and the restoration project in the news. This is important, as apart from the obvious advantages of gaining new members and donations from supporters, the Heritage Lottery Fund requires us to keep our activities publicised as one of the conditions of us receiving any money from them.

I would like to ask you for your help. Sometimes, when I send material out, the recipient acknowledges its receipt or asks for further details, or sends us a copy of the article upon publication. Sometimes though, I never hear any more and I do not know whether they are not interested, very busy or the material got lost somewhere. For obvious economic reasons, I do not subscribe to all the magazines and papers I have on my list (29 and counting…). One way in which you could help us is by taking a cutting or a scan of any news item you see in print about the autocar and sending it to Stephen or myself. We can then target press releases more effectively and have a thicker press coverage file to show HLF when they enquire about publicity. Thank you.

(My e-mail address is: simoninwharfedale@btinternet.com)

Notice of Annual General Meeting

The Fifth Annual General Meeting of the NER 1903 Petrol Electric Auto-car Trust will be held at 1pm in the LNWR Directors saloon at Embsay station on Saturday the 24th October 2009.

If the underframe repairs are complete the saloon will be attached to the 1pm departure for Bolton Abbey.

All members are cordially invited to attend

The "new" autocar shop suitably housed in the body of the Prince of Wales GER Saloon in Bolton Abbey station car park, open for business most weekends. Volunteers are needed to help run the shop, if you can spare a few hours please contact Stephen Middleton.

Photo: Simon Gott

Send us Your Money!

You will have read elsewhere in this issue that the trust is now starting to fundraise in earnest and we have launched a national appeal for funds. We have set ourselves a target of £25,000 which is the cost of a professional assessment of the project, design work and drawings. Quite a sum but we have to show the HLF that we are committed and mean business, £25K will go a long way towards our match funding. A lot of our members have already made donations to the trust, for which we are grateful but please see if you can dig a little deeper into your pockets and help us get our appeal off to a good start. In order to ease the pain a little, your committee has come up with an incentive scheme of goodies which should help you detach the cheques from their stubs! All your donations will be logged and as you reach the various targets your rewards will be triggered, there is no time limit on how long it takes you to earn each reward. Ideally we would like monthly standing orders starting from as little as £20 per month, but we realise in these hard times that may not be possible so one off donations are just as welcome, but remember the more you donate the faster you gain your rewards! Please send your cheque or request for a standing order mandate form to, Ben Duncan, Orana, Bells Folly, Potters Bank, Durham, DH1 3RR

Donors Benefits

Contributions of £20 or more

Bronze certificate acknowledging the donor's gift.

£50 or more

Silver certificate

Free membership of the Trust for a year, with its associated benefits including regular newsletters and invitation to 'meet the autocar' days, during which you will have the chance to view progress on the restoration of No. 3170.

£150 or more

Gold certificate

Free membership of the Trust for a year

Ticket for two on a Stately Trains strawberry special at the Embsay and Bolton Abbey Steam Railway. Running on selected summer Saturday evenings you will be served strawberries and cream during a steam-hauled journey in award winning Victorian carriages

(please see www.embsayboltonabbeyrailway.org.uk/vintaget.html for further information).

Donors Benefits

£300 or more

Gold certificate

Free membership of the Trust for a year

Ticket for two on a Stately Trains strawberry special

Invitation to be one of the first to ride behind the completed autocar* during a special donators' day.

£500 or more

Gold certificate

Life membership of the Trust

Ticket for two on a Stately Trains strawberry special

Invitation to be one of the first to ride behind the completed autocar*

Behind the scenes guided tour of Beamish Museum for two people and free access to the Museum for the day; **or** a guided tour of Stately Trains restored Victorian carriages by the owner Stephen Middleton.

£1,000 or more

Gold certificate

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Ticket for two on a Stately Trains strawberry special

Invitation to be one of the first to ride behind the completed autocar*

Behind the scenes guided tour of Beamish Museum for two people and free access to the Museum for the day; **or** a guided tour of Stately Trains restored Victorian carriages by the owner Stephen Middleton.

Exclusive use for you and up to five other people of one of Stately Trains' Vintage Directors' saloons, which will be attached to a normal service train at the Embsay and Bolton Abbey Steam Railway. During the day two return journeys of the line will be completed, during which you will be served champagne and a light buffet.

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A days experience on a replica of the oldest surviving railway locomotive in the world! Help prepare Beamish's stunning replica of Puffing Billy, the original dating from 1813, for a days work on the Beamish waggonway. Clean the tubes, light the fire and raise steam pressure before driving and firing the engine under tuition from Beamish's skilled staff. You can even wear authentic 1820s costume, which we will provide. At the end of the day you will dispose of the engine and return it to the shed, completing a unique 19th century shift in the 21st century! (Preparation and disposal activities and period costume are optional! Two guests will also get free access to the museum to witness your experience).

In addition your name (or a name of your choice, if a gift) will be recorded on a plaque to be placed in the autocar, in recognition of your contribution.

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* **Please note** that it is the intention of the trust to restore No. 3170 to operate as an autocar under it's own power. However, should funds not be sufficient or other circumstances occur which prevent this, it is our intention to restore the vehicle as a non-powered coach.

Intending donors may pay a lump sum by cheque or postal order to 'NER 1903 Electric Autocar Trust', sent to: Orana, Bells Folly, Potters Bank, Durham DH1 3RR. We would also welcome regular monthly donations by direct debit. When the sum total of your contributions reaches the thresholds below, the corresponding benefits will be triggered. (Only one benefit of each type will be issued.)

Bogies and Brakes

by Marcus Woodcock.

When the two Autocars entered traffic in 1904 they were supported on modified NER fox pattern bogies, a light bogie with Mansell wheels at the passenger compartment (rear) end and a heavyweight bogie with spoked wheels under the front engine compartment.

The writer and historian Ken Hoole published an article in *The Railway Magazine* November 1972 in which he stated that "Westinghouse brakes were fitted, with a 1-h.p. motor driving a small air compressor" this gives the impression that the cars were fitted with NER style air brakes, however *The Tramway and Railway World* of May the 12th 1904 gives a different description;

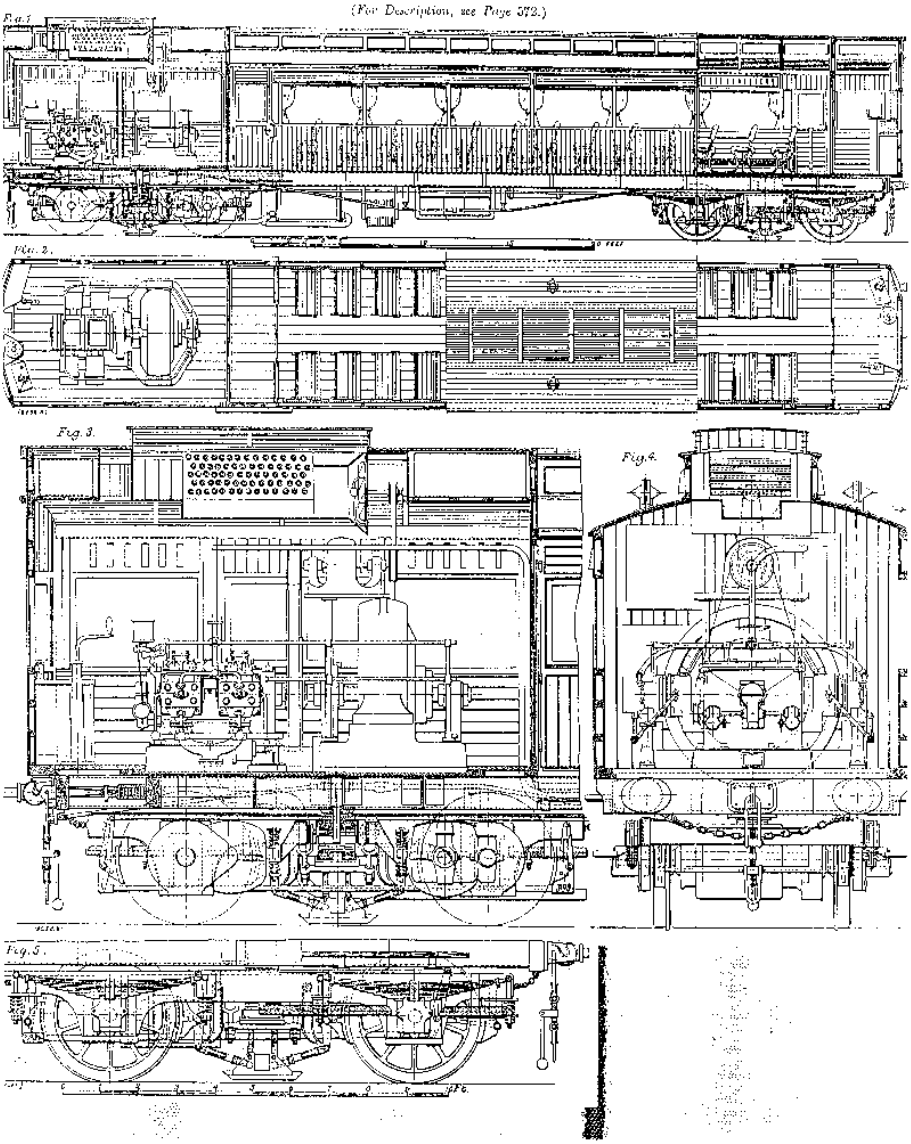
"The electric brake equipment consists of the Westinghouse electro-magnetic brake. The shoes are suspended between the wheels of each truck and immediately above the track rail. It is so constructed that the magnetic circuit is completed through the track rail, so that when the coils are energised the magnet is attracted to the rail, thus causing friction between the magnet and the rail and retarding the motion of the car. This retarding action brings pressure to bear upon the brake shoe applied to the wheel, which further retards the motion of the car, and this friction of the magnet on the track and the brake shoes on the wheels is sufficient to bring the car to a stop in an extremely short distance.
The brake coils are energised by the current from the motors operating as generators, and this action further absorbs energy in starting the car and adds to the braking power. This feature also renders the brake perfectly reliable, as it does not depend upon the generator plant."

Electro-magnetic track brakes were in use on tramcars and they can clearly be seen between the bogie wheels in photographs of the Autocars. A drawing accompanying the article shows the magnets suspended from a linkage which caused the conventional brake shoes to be applied to the wheels.

ELECTRIC RAIL-AUTOCAR FOR THE NORTH-EASTERN RAILWAY.

MR. WILSON WORSDELL, CHIEF MECHANICAL ENGINEER.

(For Description, see Page 572.)



This drawing published in the *Engineering* magazine April 1904 clearly shows the Electro-magnetic track brakes suspended between the wheels of the bogies..

The author continues “An air compressor is located on the rear bogie and supplies air for blowing an alarm whistle. The compressor is driven by a one H.P. electric motor, and is started and stopped by means of pressure controlling switches and cut-outs, thus automatically maintaining a constant pressure in the reservoir for the whistle.” This seems a lot of equipment for operating a whistle.

When 3170 was rebuilt in 1922/3 the track brakes were removed and air brakes fitted, I assume these were supplied from the compressor on the rear bogie.

Power was provided by two Westinghouse No 56 55HP standard railway motors with 18/64 ratio single reduction gears nose suspended on the heavyweight bogie. The motors were series wound of a type usually fitted to high speed tram cars, and gave a maximum speed of 36MPH. The rear bogie housed a one HP motor driving an air compressor which supplied the brakes? and alarm whistle.

The trust has found suitable bogies, the underframe we have secured at the North Norfolk Railway has two of the correct pattern light bogies which gives us one spare which is useful because the owner of the heavyweight we found is prepared to exchange it for a light type!

We have been offered surplus ex Glasgow underground traction motors (which were in poor condition and underpowered) which were declined, and a set of four motors which may be of use from the LMS MTU coach at the NRM which is due to be scrapped because it is full of asbestos, (This vehicle may be moved to Embsay for dismantling and provide spares for a variety of projects). However it is more likely that two new motors will be used which should be more energy efficient and compatible with the new control equipment.

September 2003, the Autocar loaded onto two wagons about to leave for Bolton Abbey. The body was cut in two to aid movement to Keldholme in the 1930s, this also proved useful again in 2003! Note how dry the field is, a great concern had been the possibility of rain the week prior to the move which would have prevented access for the heavy vehicles.

Photo: Marcus Woodcock.

A warm welcome to the following new members;

Mr K Collins, Driffield, Mr R Lingham, Grindale,
Mr B Howe, Darlington, Mr J Gott, Burley in Wharfedale, Mr M Middleton, Darlington, Mr D Thomas, Coleshill, Mr & Mrs T Culbert, Blackburn, Mr A Clarke, Hunmanby, Mr C Thirsk, Welwyn Garden City, Mr G Moffat, Sheffield, Mr M Grocock, Bridgnorth, Mr D Cullingworth, Nawton, Mr J Lazenby, Stockton on Tees, Mr S Gott, Burley in Wharfedale.

Membership now stands at 46

A Model of the Autocar – Simon Gott

Keighley Model Railway Club hold several open days throughout the year as well as their annual exhibition in March. The open days are held at their clubrooms in a converted mill near the Worth Valley Railway. The club has a variety of layouts in different scales and gauges, though it is probably best known for its NER models. Following a tip-off from a friend about a model of the autocar, I went along to last May's Open Day. I found the autocar standing in a bay platform on 'Ravensbeck', one of their O gauge (1:43 scale) NER layouts and took advantage of a quiet moment to talk to its builder. This is Robin Taylor, a long-standing member of the club and with interests in railways, modelling and vintage cars. He scratchbuilt his model of No. 3170 over 20 years ago, using brass for the

Photo: Simon Gott

chassis and plasticard for the body. He wanted something different for his layouts and had built several other models of railcars.
We discussed his model and 3170's restoration, which he has been following. He kindly agreed to pose his model for me on "Runswick Bay", another of the club's layouts, a model based on the North Yorkshire coast line north from Whitby. The layout itself is circular, depicting a viaduct, station and mine. It is unknown whether either autocar ran on this line, though it is certainly possible. In later years, the LNER used the steeply graded line between Scarborough and Whitby to test their Sentinel railcars.
As well as the autocar, there was an autocoach with a tank engine in the bay platform. When I saw it I realised I should have done some more research as to which type of autocoach 3170 will be partnered with. I've since heard that it is a similar type, so I've included a photo of it too.
I would like to thank Robin Taylor in particular and the Keighley MRC in general for their assistance in taking these pictures.

Photo; Simon Gott

Robin Taylors model of autocar 3170 crossing the viaduct on Keighley Model Railway Clubs gauge “O” layout *Runswick Bay.* We do not know if the autocar ever ran on the Scarborough to Whitby line but it would have certainly made a fine sight on Sandsend viaduct!

Photo: Simon Gott