AUTOCAR

No. 2 October 2008

The Newsletter of the

1903 North Eastern Railway Petrol Electric Autocar Trust

The North Eastern Railway 1903
Petrol Electric Autocar Trust

Registered Charity No: 1105829
Company Registration No: 05171008
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Newsletter Editor Vacant

Letters

We welcome your comments, contributions and suggestions. Please post to the secretary.

Front Cover Photo

Autocar 3170 on the approaches to Scarborough station
Photo courtesy of the Ken Hoole Study Centre.

Heritage Lottery Fund update

We have submitted a bid following pre-application advice, the bid will be provisionally considered at an HLF meeting taking place on the 3rd of December 2008. If successful, this will give us a green light to prepare methods, estimates, educational aims and use/maintenance plans for the final bid for money which should be made no later than June 2010. HLF offers a mentor to help us through this process but both stages are competitive and should comply with HLF criteria. To date HLF courses, advice and meetings have been very useful and we have clearly understood what they are looking for. Let's hope our application reflects this!

Meet the Autocar

This news has been posted to members as the newsletter may not be printed in time. We are holding a 'Meet the Autocar' session at Bolton Abbey station, at 11.30am on Saturday the 8th of November. This will give you a chance to see the Autocar, have a look inside it (if you can climb a ladder) and talk to the trustees.
Could you phone or e-mail Stephen Middleton on 01423 561965 or middletonmarketing@btconnect.com to confirm your attendance.

Photo Stephen Middleton

Wendy Anderson inspects 3170 newly loaded onto its accommodation underframe at Priors Lane , ready for movement to Bolton Abbey, September 2003.

Removal and a new home

By Stephen Middleton

For £1000 this unique railway pioneer was secure. No not really, it had just become my responsibility. I had to clear it from the site and make sure no one destroyed it in the meantime. It was safely hidden by many years' growth of brambles and trees and was almost invisible from the road a field's length away. However it was clear that youngsters had broken in and used candles, probably to view the pornography that adorned the walls. There was some scorching from the candles. Revealing the body increased the risk of fire and vandalism so we had to clear the growth and very soon after bring transport and cranes on site. The only

Photo courtesy of Stephen Middleton

The Autocar body at Keldholme with the verandah removed ready for lifting .

problem was that if it rained there was no way such heavy vehicles could reach the autocar body by the dirt track, let alone work in what was recently a ploughed field with a thin strip left by the body.

My good friend, Mike Wiffen is a self employed agricultural contractor and his knowledge, labour, truck, chain saw and heavy tools proved invaluable. At the end of a very hot day we cut and removed all bush and tree growth and moved it some way from the body for a bonfire. Then we had easy access from within. We stripped out all the rubbish and furniture inside and added that to the pyre. Then we removed the verandah and

corrugated iron roof that had given such good protection and added that wood to the fire. By that time it towered above us, and the landowner who had agreed to burn or otherwise dispose of the debris, must have had a shock.

Closer inspection verified the rumour that the body had been cut in two but it was well done in a sensible place, allowing easy re-joining when we are ready. The body was mounted on ex NER underframe timbers and headstocks so it was dry and rot free. When we drove back that afternoon, hot and tired, we call in at a pub and drank two pints of water each before a 'real' drink and food.

Within a week and hours of prayers for the rain to keep away two S A Bell lorries from Malton and a large crane arrived at the site. The ground was still rock hard and despite the rough track up to the body all vehicles made it safely. Diagonal timber bracing was put on the open ends of the halves to reduce twisting and the crane lowered each half on to the waiting flatbeds. After those sleepless nights worrying about the move it all went well and by early afternoon both arrived at Embsay and Bolton Abbey steam railway's Prior's Lane loading siding. A Gresley carriage underframe of the right length was in the siding and a local crane heaved the parts on to it. We roped both halves together and for the first time in over 70 years the Autocar moved on rails again. A diesel shunter took it to Bolton Abbey station where it was shunted into a siding.

Looking back that was probably the easy part. While it is hard to see great progress on this artefact, we have set up a charitable trust and applied for funding. No mean feat! Many appropriate components have been identified and we really feel that the route forward is becoming clearer. With your help we know that this is a viable and important project.

Next issue: The underframe Question.

The power unit – a dilemma

By Marcus Woodcock

In issue one; Stephen Middleton outlined current plans for a new diesel generator set to be fitted to the autocar, this article attempts to explain the reasons behind this decision.

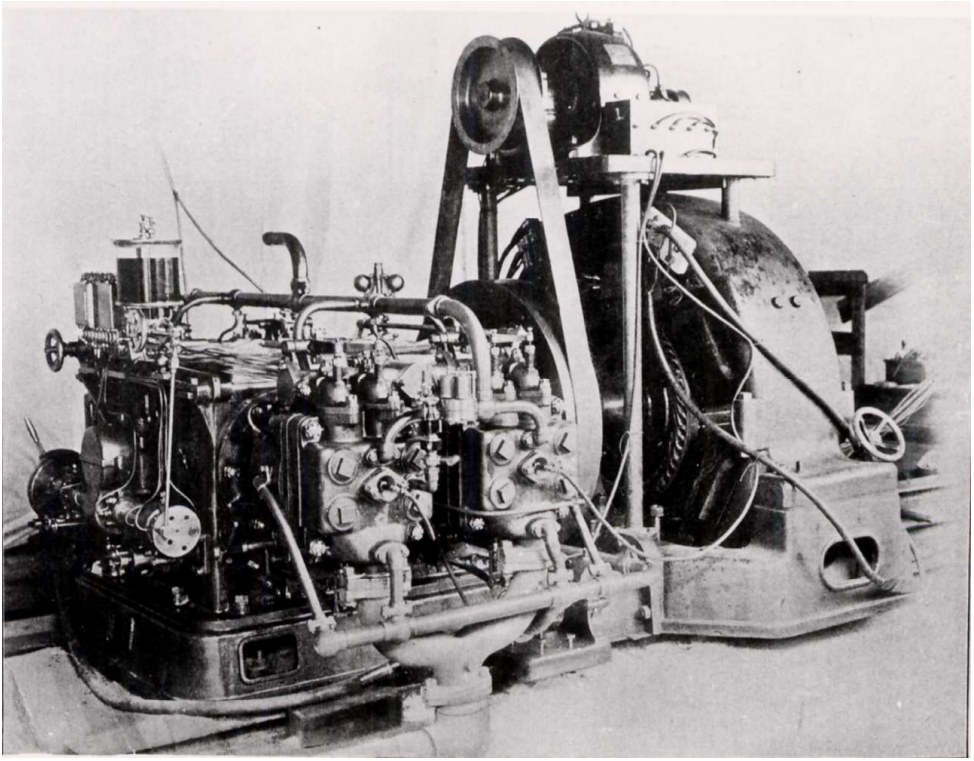
History

When first completed in May 1903 the cars were fitted with Napier petrol engines, which proved to be unsatisfactory and were replaced with 80HP 4cyl horizontal petrol engines made by Wolseley, these had a normal running speed of 420 RPM increased to 480 RPM for starting the train. The engines were coupled directly to 55 Kilowatt generators which drove two 55HP traction motors mounted on the bogie, giving a maximum speed of 30MPH. The engine change and "extensive" teething problems delayed the cars from entering service until August 1904.

In 1923 No 3170 was fitted with a six cylinder 225HP petrol engine rumoured to come from a first world war tank and a new generator from JH Holmes of Newcastle, we have little other technical information on these items but photographs show that 3170 was now capable of hauling a clerestory coach as a trailer and was probably now a more reliable performer. Thus during its working life 3170 had three engines, each an improvement on its predecessor and all petrol powered (remember at this period the diesel engine was in its infancy and unreliable when compared with petrol engines).

Our Requirements

It is the trusts intention that when restored the Autocar will be a useful working vehicle not just a stuffed and mounted historical exhibit, it is intended that the vehicle will visit interested preserved railways providing both an educational and passenger carrying role. With these aims in mind it is important that the Autocar is mechanically reliable, easy to maintain away from its home base and has a reasonable passenger carrying capacity. Our technical advisors tell us that an engine of 225HP powering the autocar with a trailer car will give a fairly pedestrian performance, so we have taken this as our minimum engine size.



The 1904 4 cylinder horizontal 80HP engine and 55KW generator supplied by The Wolseley Tool and Motor Car Company of Adderley Park, Birmingham. The engine is shown on test in the Wolseley shops, which accounts for the irregular piping and cables shown. Photo first published in the Engineering Magazine, Jan 1st 1904.

Photo courtesy of the Ken Hoole Study Centre.

The options;

1. New Build Original

It is doubtful that we could locate a suitable old petrol engine and new build would be prohibitively expensive, plus which one would you build? The original was useless, the Wolseley better but still underpowered, and we have no information on the ex MOD engine. Advice from both consultants and the HMRI suggest that petrol as a fuel source is a non starter, few if any preserved railways have petrol storage facilities; petrol is difficult to handle safely and also expensive.

2. Vintage Diesel Replacement
Originally our first choice for an engine was a 1920-30 period diesel generator set, but despite contacting many museums and collections no suitable unit could be found, we tried looking for newer engines up to the 1950s period (although these look too new) and found a few likely candidates, namely McLaren and Rolls Royce units but these were all around 165HP which is too small, we require at least 225HP.

3. New Modern Engine
We have sought advice from several sources, one of these is RMS Locotec of Wakefield who specialise in rebuilding diesel shunters, we were shown a BR class 08 350HP diesel shunter re-engined with a 400HP Caterpillar unit, the new engine generator unit was miniscule in size compared to the old unit, but more powerful.
It was also pointed out that the new unit was quieter, produced a fraction of the exhaust emissions and used a lot less fuel. It was thought that we may even be able to fit this size engine inside a replica of the original.

Our conclusion
Whatever engine we opt to fit will be historically wrong; therefore we propose the "easy" option! A modern diesel giving more power and thus more operational flexibility than needed, cheap to run and maintain, quiet and environmentally friendly. A vintage diesel would look more in keeping with our vehicle but we would be building in problems, the noise and vibration alone would probably rule this option out with only a glass screen between passengers and engine.

This is the option the trustees have decided on for the moment, but we are flexible and will take advice, we also have to be prepared to be "guided" by the lottery people if they are prepared to fund our scheme. With time and a larger membership we may find other solutions. The trustees would welcome your opinions so please write in to the secretary at the address on the inside front page

Letters

Dear Stephen,

Thank you very much for the No1 copy of 'Autocar' and the invitation to join the Trust. I am flattered at being approached which makes it all the more difficult to introduce a slight note of dissent.

In the public launch it looks as if an intrinsic ingredient of the scheme is trailer coach No.3453. Whilst the restoration of this vehicle is laudable I think it unwise to integrate it with the 3170 project. I believe it would be better if its regeneration was an entirely separate endeavour, aimed, perhaps primarily, at reconverting it to the driver/trailer condition in which it might have been attached to a BTP and in which it would then be available to accompany a G5 if one ever gets built. This would not preclude its adventitious appearance coupled to 3170 but I would advise against this extending to a technical, operational or financial linkage.

My own feeling is that the restoration of 3170 should proceed on the basis of it being a single unit. I am doubtful if it ever ran in service in any other way. In the photograph at Poppleton Junction it displays a 'light engine' headcode and the position of the driver's hand on the tramcar controller means that this was in a "power-off" position. I suspect that the set was stationery for a snapshot when returning to York Works from a trial run in which the attached vehicle had just been coupled to provide a test load. There appears to be another figure in the driver's cab; possibly one of the test staff. If there is any evidence of the autocar ever having run with a passenger trailer in a revenue earning condition I will withdraw gracefully!

From a technical point of view I do not think the traction motors/ transmission would be up to hauling a trailer for anything more than slowly along a short and reasonably level distance. To provide both the power unit and trailer with control arrangements avoiding the need for terminal run rounds is quite complex and certainly costly, an expense which it would be very difficult to justify. From modest experience with tramcar propulsion installations I would not under-estimate the outlay involved even in restoring 3170 to a solo operating condition and I would not like to prejudice the success of the enterprise by extending it with an

over ambitious development. If you have any qualified contrary opinion from the railway engineering company whom you approached I should be glad to review it.

Yours sincerely,

A J Wickens
Newcastle upon Tyne.

Stephen Middleton's reply;

Dear Tony,

Thank you for your letter and I welcome your views. The challenge we have is of course, restoring 3170. I have found the greater challenge with my completed coaches is to ensure profitable use to generate income for maintenance and give sufficient access to the public. One of our partners in the HLF bid is the E&BASR and this railway wants it to carry sufficient passengers to run an off peak service. It will, in effect, replace a two car DMU. As a single unit it cannot comfortably accommodate a single holiday bus load of passengers so it will be difficult for it to run a profitable, viable service on any but the shortest lines without a trailer coach.

As a trust we shared your concerns about the work involved and indeed considered splitting the work. However funding bodies advised us to go for a 'two car project' as it is easier to show working and interpretational viability. Should we succeed in stage 1 HLF we will be given mentor assistance to ensure that pricing/engineering etc are correct. Please rest assured that 3170 will take priority and not suffer from any works required to the trailer coach. (Having restored seven coaches, many in worse condition than 3453, it does not frighten me too much!)

Technically we have taken advice from Peter Bridden while at RMS Locotec who recommended modern, small power plants (220HP) and a small removable control console so driving can be at either end of 3170 or 3453. RMS, in common with other companies, has taken out large inefficient engines from diesels and replaced them with equally powerful but smaller, more economic, 'greener' units plus given the option of even

remote control from removable consoles. I hope 3170 will benefit from this technology.

Our acquisition and use of 3453, I hope will not bar it from running with a G5 should that project succeed. What a wonderful sight that will be!

Yours sincerely,

Stephen Middleton.

Please send your letters to;
The secretary, M Woodcock, 14 School Lane, Bempton, Bridlington,
E York's, YO15 1JA

3170 ready for lifting from its long time resting place at Keldholme in September 2003.
Photo M Woodcock

Above; From the archive, An autocar interior looking towards the engine compartment. Note the upholstered tram style reversible seats, curtains and double sliding doors into the vestibule with engine compartment beyond.
Below; A view from the same direction at Keldholme in September 2003.