

**BEAMISH**  
THE LIVING MUSEUM OF THE NORTH



## Regional Heritage Engineering Centre

### News Bulletin – No.2 Spring 2014

This bulletin is a little overdue, but the absence of a report in the 10 months since the last one does not indicate a lack of activity – on the contrary, the RHEC has reached a new intensity of activity, with an impressive throughput already passing through the facility.

With an introduction to the RHEC in the last bulletin, there is little need to repeat its history and construction here, so we will press straight on with the news on projects passing through the facility and also that the wider team are carrying out, looking at both work in hand and work planned for later in the year.

### Layout

This schematic plan shows the allocation of working bays in the RHEC looking from above:

Erecting Shop and Timber Shop

Bay 1	Bay 4	Bay 7	Timber Shop
Bay 2	Bay 5	Sawbench	
Bay 3	Bay 6	Porch	

Tramway Workshop –Road 1

Berth 1	Berth 2	Workshop and Store
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### Review of previous projects

Since the last bulletin, Bay 3 has been vacated by the Halls Distemper Men, who are now back in their position on the embankment side at Rowley Station. The B-Type bus was also outshopped from Bay 5 re-entering service though with a brief interruption whilst the steering box was overhauled by a contractor to correct faults identified and raised by its regular drivers.

Rambler, our DNAS steam roller vacated the workshop and moved to Hetton-le-Hole for attention by Vincent Allen. It's retube turned into rather more developed work, including welding up grooving in the firebox, building up the front tubeplate, re-tubing, a new smokebox, smokebox door ring and door, replacement chimney base casting and various other works. It is anticipated that it will return to the RHEC in June, for final finishing, re-varnishing and fitting of its newly rebuild canopy.

The Harry Vickers caravan came and went, departing with a fresh coat of paint, re-leaded windows and a suite of new electrics and brake control. It met its deadline for the Community Participation Team to tour with it, calling it Wanda. It is now in regular use at events both on and off site.

A lengthy and highly surgical restoration of several Anderson Shelters, creating one good example from the remains of others, was completed by Chris, enabling this to be

buried at Home Farm as part of the refurbishment of this area earlier in the year. Threats of another being required are currently being deftly sidestepped!

The annual and protracted visit of large chunks of the Gallopers and Swing Boats occupied much of the staff time over the winter with Shaun and Tony joining forces to rapidly re-deck all 12 deck pieces (which then required painting) – an attempt to save chasing rot around these panels. Work was also carried out on the 12 rounding boards, including removal of sodden hardboard cladding to reveal the original wood beneath in sound condition. The swing boats had the wooden top rail replaced with a fabricated steel replica, which was non-destructively tested before painting and reassembling onto the ride's legs – hopefully improving its durability and easing maintenance.

The high level of use the fairground rides receive mean that we sometimes have to find durable alternatives that are otherwise undetectable.

### **Current Projects**

- **Bay 1**            **Newcastle & Gosforth Horse Tram No.49 (nee L&W No.8)**

Work progresses on the consolidation of the body from L&W No.8 and construction of new components, particularly focussed on the platforms with new crown boards being laminated by the staff for the volunteer team to incorporate into the works. Brand new handbrake columns, handles, ratchets, pawls, chain and sundry other items have also been purchased, taking advantage of work being done by the Leeds Transport Historical Society for Ipswich Transport Museum (who are also restoring a horse tram). New brake beams, hangers and springs are in-hand, likewise the overhaul and repainting of the running gear (wheels, axles, axleboxes, springs etc.). A Jonathan Clay painting has been commissioned of 49, to give a colour impression of what the finished tram will look like once work is completed.

- **Bay 2**            **Barford & Perkins Motor Roller R025**

Excellent progress is being made on this project, with Chris Lee leading the volunteer team and the RHEC budget funding the contracted out works. The new canopy (a replica to be made to the original drawings) will be carried out by Chris Armstrong later in the year, as a staff contribution to the project.

The engine has been dismantled and various items sent out to contractors for refurbishment or renewal. Meanwhile, a myriad of jobs are worked through each Saturday with the roller now a rolling chassis with a large number of items readied for eventual re-fitting.

2015's Great North Steam Fair will have a strong construction and road maintenance theme, so it is hoped that R025 will form a central part of this, and current rate of progress certainly indicates that this will be possible! The project's restoration is being serialised in the Road Roller Association's journal 'Rolling' – copies of relevant articles can be found on the RHEC noticeboard.

- Bay 3            Miscellaneous Projects

This corner bay finds itself being used for numerous smaller jobs as well as storage. A suite of new telephone boxes for the tramway (these being pole mounted at strategic points around the system) have been made by the volunteers and have been painted by Terry Pinnegar, volunteering in between shifts on the tramway. He also contributed substantially to the painting of the deck panels for the Gallopers and lately has attended to numerous sign-posts from the Museum's road network.

Not in this bay, but of a similar nature is Ian Finlayson's reconstruction of an RAC telephone box, which is largely a replica of a well decomposed example that Beamish has had for many years. Numerous components have been incorporated and the box has now reached the stage of receiving its first coats of blue paint, whilst volunteer Peter grapples with the metal roof cladding. This, along with the previously restored AA box, will form a part of the 1950s road network that we will be developing in coming years as part of our Heritage Lottery Funded development plan.

- Bay 4            Brayshaw Living Van

This 1940s or 1950s showmans living van arrived at Beamish last year, transferred from the museum in Lincoln who no longer had any requirement for it and had kept it in storage for some years. We are not (at the time of writing) entirely sure of its origin, but after a brief time in store at Beamish, it was requested as a new staff mess room and fairground store as well as something to add to the fairground-scape. It proved not to be the quick job everyone hoped for and is receiving extensive work to the roof structure at Tony and Matt's hands, will be re-canvassed, fully repainted, have new mudguards and some mechanical attention as well as being insulated and fitted with a ring main of electrical wiring to suit its new role. We intend that its visit will be short, aiming to have it finished and delivered to the fairground in the early summer...

- Bay 5            Sunderland Tram 16 Tramcar Truck

This has become something of a saga! Peter (working as a contractor on this project), a member of the Beamish Tramway Group, Tom and Chris putting considerable effort in correcting (having investigated and identified the faults) numerous issues with this truck – hopefully to its ride and reduce tyre wear. It would appear the previous, contracted, restoration of the worst of two trucks (the best parts being under the National Tramway Museum's Leeds 180) was not all it might have been and so this work is being carried out now. It would be nice to have a tram that runs as well as it looks, the revarnished body complete with new adverts awaiting its truck in Bay 2 of the depot and attracting favourable comments from all have admired the remarkable transformation in its appearance.

- Bay 6            Vacant

This space is kept vacant for use by other projects and other short-term works, which recently include refurbishing doors for a 1950s room in Ravensworth Terrace. It will be

re-occupied by Rambler's canopy as this is reconstructed and in due course the roller itself whilst finishing works take place to this.

- Bay 7            Samson

Mid May saw a memorable and significant moment in Samson's meteoric progress. With an air supply connected, the engine unit was operated and found to run almost faultlessly on the first run! David Young was needless to say delighted that his careful design and construction had resulted in such success! We subbed out the machining of the flywheel and pinion gear on the first shaft and the foundry has the pattern for the raw second shaft gear at the moment. David had more or less single handedly manufactured all of the valve gear during March and April, uniting these with the crankshaft, cylinder block and slidebars that he had completed earlier.

We were offered the services of the workshop at Statfold Barn to turn driving wheel castings into machined and tired wheels fitted to axles, for which we are immensely grateful. The axleboxes await them, hopefully to arrive shortly. We can then wheel the frames and look to finishing the brake gear (and starting the painting – at last, this being my job!). The boiler design is progressing and it is hoped to order such items as the tubeplates etc. this summer.

- Timber Shop Sheffield Tram 264 – lower deck

Sheffield 264, a long term stored resident in the tram depot was finally dismantled and its overhaul started. It has not operated in passenger service since 2002, so is long overdue this work, which had originally waited on funding but is now something we can largely tackle in-house as a result of our new facilities. The truck remains in the tram depot and will replace Sunderland 16's in Bay 5. The top deck will be placed in Bay 4 in due course, whilst the lower deck occupies (and dominates) the Timber Shop. It was originally anticipated that a new underframe would be required, but this was (happily!) found not to be necessary by Tony Vollans, our RHEC Engineer, with the frame and panelling being sound and requiring only limited refurbishment. However, the iron framework which stresses the body and holds it in shape was loose and has both been overhauled and made taught again, as well as expanded to cover areas not previously reinforced. The body has also been stripped to bare wood, largely by Matt Bedard, our RHEC Apprentice, to improve the quality of the paint job that will be applied from the autumn onwards. We hope for a re-entry into service in the spring of 2015...

- Tramway Workshop: Berth 1, Berth 2 and Workshop
  - Sunderland 16 has occupied Berth 2 for several months, its body overhauled and revarnished with new adverts applied. It looks stunning and awaits its truck.
  - Blackpool 31 and Newcastle 114 were both passed through Berth 1 for re-varnishing during the winter, greatly enhancing both their appearance

and the durability of their paintwork. 196 and the Daimler bus will follow next winter. 114 also received a trolley mast overhaul.

- **Vehicle Workshop**
  - **Model Ts**

Both Model Ts are currently off the road, awaiting parts as well as the Ton Truck receiving attention to the engine block, which is feared to have a crack in it.
  - **Ford Thames**

A regular visitor to the workshop ramps, with its second clutch being fitted at the moment – a hard worked vehicle and used on a daily basis and thus suffering the higher mileage and handling by a variety of staff.
  - **Morris Commercial**

Generally based in the workshops for use as a run around by staff members. Operational but with constant attention!
  - **From July, the Town Garage will be used as a sub-workshop for the RHEC, with the intention being to carry out some of the maintenance before the visitors in this area. An additional staff member is joining the team to add to the technical staff in this area.**
  - **B-Type Bus**

As mentioned earlier, this bus was stopped for a number of weeks while the steering box and track rods were refurbished. Some paintwork has suffered from rust bubbling through the panelling – despite extensive efforts to eliminate it – it shows how you really can't stop rust, only slow its progress down.
  - **Austin Hearse – Brian Williams has been investigating it's re-commissioning and has briefly started the hearse as part of this.**

## **Pipeline work**

### **RHEC:**

- **Sheffield 264 top deck: Once the living van is completed it's space will be occupied by the top deck for 264, which requires a larger degree of work than was anticipated (the opposite of the bottom deck!). It will also be stripped and primed here before moving back over to the tram depot to be reunited with the lower deck and truck before final painting.**
- **Chris Armstrong, our RHEC Technician is currently working on overhauling the gallopers Savage organ engine, followed by a large amount of work on Sunderland 16's truck. After this he will tackle a number of steel railings in the Town, then R025's footplate and steering column. This also needs a replica canopy manufacturing. The water tower at Rowley will also occupy Chris later in the year as the outlet pipes and framework require fabricating.**

## Contract Work:

- **4085 'Dunrobin'**
  - **Boiler** – progress continues at Bridgnorth, with the new barrel riveted and ready to attach to the firebox, a new tubeplate is on order and progress on the copper inner firebox is also shortly to commence.
  - **Cylinder Block** – the design stage complete, the orders for patterns, casting and stress relieving have been placed. Patterns will be made from polystyrene, offering great cost savings over having wooden patterns made. We are waiting on prices for machining the block now.
  - **Mechanical Work** – little progress to report pending the fitting of the new cylinder block which is required as a datum for the frames as the rebuild progresses.
  - **Lamps** – an order for a set of replica royalised Highland Railway lamps has been placed with the Hetherington Lamp Company, who specialise in such work. These are a vital detail and crucial to the correct appearance of Dunrobin when it returns to operation.
- **Fowler DNAS Steam Roller 'Rambler'** – see earlier.
- **Steam Mule** – this has been retubed by Vincent Allen.
- **Ruston Portable** – some limited work on the flywheel has been carried out by Vincent Allen, whilst Trevor Wrench continues to progress the extensive boiler rebuild in Suffolk.

## Looking into the crystal ball

On the 27<sup>th</sup> May it was announced that Beamish would be a recipient of £10.75million of Heritage Lottery Funding, towards our major development plan. This will include a 1950s urban development, expansion of the Georgian landscape including a coaching inn, developments to existing area and, of relevance here, an expansion of the tram and bus depot to house, maintain and display an much expanded fleet including trolleybuses for a 1.5 mile route around the Museum. This will clearly have a major impact on our programming for the RHEC and T&I team and more will be revealed in due course as to how we will develop and implement all of this!

In terms of our maintenance programme, we would still like to overhaul our North Eastern Railway luggage composite carriage, complete the Duke of Sutherland coach restoration and look to Gateshead Tram 10's overhaul which will include re-tyring. We also have to fit in the reconstruction of the Fairground Lighthouse Slip, which remains in store and perhaps looking ahead beyond this, we have the remains of Gateshead Tram 52 to rebuild into a working tramcar – one of the more challenging projects the RHEC will attempt as the tram was largely gutted by fire in the 1990s.

## Staff and Volunteer Matters

- **Staff Changes**

A number of changes have taken place in the structure recently, with Bob Fielding moving from Transport Team Leader to Site Support Team Leader and H&S Coordinator. In turn, Jonathan Kindleysides has become the Keeper of Industry and we have a new Keeper of Transport, Matthew Ellis who comes to us from the National Railway Museum where he was Operations Coordinator.

- **Inductions**

All T&I staff and volunteers (including the Friends and Beamish Model Engineering Group) have attended a H&S induction run by an external specialist, as well as (where appropriate) a now annual team briefing.

- **Health & Safety Meetings**

We aim to hold a TISS H&S (transport Industry Site Support Health & Safety) meeting once a month, usually the first Wednesday of each. These provide a forum to raise issues and action them and have proved to be very useful in both communications as well as implementing change.

- **The Beamish Model Engineers**

The BMEG have indicated that they wish to become part of the Beamish 'family' and are currently working to upgrade their own facilities to meet the required standards for workshops etc. They have also suggested re-locating a shaper and boring machine to the RHEC Machine Shop, which will give them additional space as well as improved working space to use these machines.

- **Volunteering in the team**

If you are interested in joining the team, we have two intakes per annum, as new team members need to be inducted. Initial contact should be made to the Volunteer Coordinators – Sarah Jarman or Samantha Mason ([sarahjarman@beamish.org.uk](mailto:sarahjarman@beamish.org.uk) [samanthamason@beamish.org.uk](mailto:samanthamason@beamish.org.uk) )

As ever, you can keep up to date on the progress of the Transport & Industry/RHEC team on our blog at [www.beamishtransportonline.co.uk](http://www.beamishtransportonline.co.uk) where its re-vamped format enables easier locating of news articles and information. The gallery and trade catalogue sections in particular have been expanded lately.

Below (and front cover): Recent and forthcoming projects undertaken in or as part of the RHEC team activities and referred to in the text above.





## **Summary: Current & Imminent Projects for Transport & Industry Team**

Here is an overview of transport and industry projects and works in-hand or to commence during 2014.

### **Tramway and Buses**

- Purchase of two 1950s era double deck buses
- Purchase of additional buses for accessible and other projects
- Restoration of ex Crosville Leyland Cub as accessible bus
- Complete Sunderland tram 16's overhaul
- Progress Sheffield tram 264's overhaul and repaint
- Plan for Gateshead tram 10's overhaul and repaint
- Re-varnish Oporto 196 and Daimler bus (winter)
- Substation training for maintenance staff
- Completion of OLE works in depot (Road 4/5)
- Develop project plan for:
  - Tram depot extension and period façade
  - Bus workshop
  - Bus depot
  - New staff facilities
  - Trolleybus route
  - Town trolleybus 'terminus'
  - Additional trolleybuses and commissioning of NCT 501

### **Rowley Station**

- Re-decorate station buildings, good shed and office buildings (summer)
- Re-decorate signal box and refurbish east footbridge (winter)
- New noticeboards and goods yard entrance signage (NER style)
- Extend sidings and parking area at east end of railway
- Complete water tower and coaling stage
- Construct inspection pit adjacent to coaling stage
- Construct roadmenders depot adjacent to RMS/water tower:
  - Undercover accommodation
  - Horse drawn vehicle accommodation
  - Suitable fencing and 'set dressing'

### **Colliery**

- Re-paint four chaldron waggons (Set 1)
- Install turnouts for yard sidings (south)
- Complete Colliery Engine Shed and associated fencing
- Progress Samson's engine shed and servicing area
- Extend narrow gauge railway (north and east curve)
- Sinker's display and collections enhancements (new engagement plan)

- Token stamping for underground tours/sales
- Re-locate ex Blackpool derrick to sinkers display
- Create token making/stamping display/activity for visitors

## **RHEC**

- Set up Garage as sub-works for maintenance of historic vehicles in the public eye
- Overhaul and recommission Austin Hearse
- Restoration projects:
  - Brayshaw Living Van
  - Newcastle & Gosforth Horse Tram No.49
  - Barford & Perkins Motor Roller R025
  - Lighthouse Slip
  - Duke of Sutherland's saloon 58A
- Construction of 'Samson'
- Recommissioning works:
  - Fowler Steam Roller 'Rambler'
  - Steam Mule
  - Stephen Lewin No.18
  - Hunslet 'Edward Sholto'

## **'Outside' Works (on site)**

- Relocate kiosk from Entrance to Town as new ice cream outlet
- Extension of visitor car park
- Substantial redevelopment of overflow car park
- Production of historic railings for east end of Town street
- Repaint all buildings at Rowley Station
- Redecorate Home Farm toilets

## **Friends of Beamish Projects (in addition to those listed)**

- BT Telephone Kiosk
- Darlington Tram Shelter
- Single Garages, complete Mills & Fulford side car and RAC box
- Roadmenders Handcart
- Name and noticeboards for Rowley Station and Roadmenders Yard

## **Contract Work**

- Ongoing restoration of 4085 Dunrobin
- Ongoing restoration of Ruston portable steam engine

Paul Jarman

Head of Transport & Industry

May 2014