

B1 NEWS

Newsletter of the Thompson B1 Locomotive Trust

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AUGUST 2016

61264 returns to service again!



After nearly eighteen months out of action, 61264 finally returned to traffic and is seen on one of its initial running-in services in the company of Black 5 no. 44806, entering Pickering Station on 30th July 2016. Photo courtesy of Chris Lindley.

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Chairman's update

Mike Cobley

The long-awaited good news that the wheel repairs have been completed now means that we can start getting our financial plan back on course. The final bill from Rileys amounted to nearly £82,000, plus the costs of VAB and insurance inspections. However the biggest cost was the financial loss of any income throughout 2015 and none yet so far this year. Our prudent financial control in previous years allowed us to repay the smaller loans one year early at the end of 2014, leaving only the larger loans from some of the Directors outstanding, due for repayment during 2016. There are still many shareholders contributing by bank standing orders, many for over 30 years, so if you feel that you could purchase shares in the loco, please do now as we need the money!

As discussed at last year's AGM it has long been felt that a £10 share was too cheap compared with 1973 prices. Several options were considered, including increasing share prices to £100, but the administration outweighed the benefits. With our new membership form and the new website, shares will still be available in multiples of £10, but a minimum of 10 shares must be bought, or £10 per month by standing order/direct debit. Free Trust membership will still be available for existing share purchase schemes under the old £5 per month rule, but for new shareholders £10 per month will be the minimum. There are a number of shareholders, some do date back to 1973, with a single £10 share. Under Company Law it is not permissible to disenfranchise these shareholders, but the costs incurred of producing the annual reports and postage over the last 40+ years have wiped out that original value several times over. It would be nice to lump all those shares into a holding account managed by the Trustees for the future years. If you have a shareholding less than £100, would you consider this a fair action? You could also bring your purchase up to £100. All share purchase gratefully welcomed.

As detailed later in this edition, we are planning a B1 Members' Day at the NYMR on Saturday 24th September, in conjunction with the LNER Coach Association.

Finally, a huge vote of thanks to Steve Andrews, Mark O'Brien, Paul Kaufman and Dave Fowler and their small band of volunteers at Grosmont for their unending support over the last 18 difficult months, as well as the MPD staff from Grosmont shed who rallied round to get the loco back and running quickly once the wheels were returned.

Engineering report

Steve Andrews

Once the wheelsets had been returned from Rileys in late June it was all go to put the loco back together again.

I arrived at Grosmont at 9am on June 27th and made a start on cleaning the axles on the leading driving wheelset.

The axleboxes arrived from the machine shop on a pallet, where the lifting frame I had made was fitted. The JCB lifted the first axlebox onto the journal and was then lifted off to scrape off the high spots. Keith Parry inspected the box to his satisfaction, and then the second axlebox was started on.

The underkeeps were assembled, Dave and Paul giving them a final clean in our container and then I pressed in the end float felt blocks and wired them in. BR1 brake blocks were hung from the axle boxes to keep them upright. The wheelset was pushed on to the wheel drop trolley and pushed into the lift.

Whilst all this was going on, Dougie and Duncan unbolted the underkeeps and cleaned the horn guide faces. The wheelset was then lifted up into 61264's frame and, after using pinch bars and crowbars, we finally got the axle boxes to enter the horn guides. At this point the lift will continue to raise the wheelset so that the wheelset lift locking bars can be pulled into place and the lift lowered slightly back to normal rail level.

I then assisted Doug and Duncan to fit a horn stay and showed them how to line up the 8 fitted bolts so that the split pins can be easily fitted and removed; All mating faces must be clean and greased along with the fitted bolts.

Later that week we scraped in the next two axleboxes, and as they were being lifted into the frames the final two axleboxes were in the process of being machined. We then scraped in these last two boxes and in the lift all the remaining horn stays were fitted.

The next week the bogie was dropped out whilst the front of the loco was supported by jacks. The front end of the bogie was lifted by the JCB and a wheelset rolled out and the same process repeated at the other end. The first wheelset was cleaned and lifted onto the pick-up to be taken to the wheel lathe for turning at Riley's (Heywood).

The pick-up left Tuesday afternoon and came back Friday evening but not without breaking down on the way back. The AA lorry towing the pick-up back also broke down. Meanwhile the bogie was pressure washed and the other wheelset cleaned.

The next week the axleboxes were cleaned and very little wear was found on them. Later in the week, Dougie, Duncan and our team put the axleboxes on along with a hanging brake block to keep them upright. We reassembled the bogie and then while back on the wheeldrop we fitted the horn stays, the bogie retaining nut, guard irons, AWS receiver etc.

On the Friday I jacked the wheels to move the crank pins into line and re-machined the trailing coupling rod bushes to fit the new trailing wheel crank pins. With a lot of help we then got the coupling rods into position.



*Steve Andrews along with Dougie and Duncan reassembling the bogie on 13th July.
Photo courtesy of Adrian Dennis / Grosmont MPD.*



*With the bogie back in place 61264 returns to being a 4-6-0 once again and waits to be
shunted into the running shed to complete the remaining works.
Photo courtesy of Mark O'Brien.*

On week four, Shaun and our team lined up the coupling rods and got one side on. We then pinch barred the loco forward a quarter of a wheel turn so the crank pins were at the bottom. This was made a lot easier by using the builder's trestles we purchased some years ago.

Our scrap big end bearings were then put on along with the return crank eccentric rod assembly, and the four crank pin nuts tightened up. 61264 was then towed to the running shed where the connecting rods had been cleaned up. The return crank eccentric rods were taken off and the scrap big ends put away. The connecting rod was lifted onto the trestles and fitted on. The loco was pinch barred as there was only one position where you can put the crosshead small end pin in. This is then repeated for the other side not forgetting to fit all the bearing felts. The return crank eccentric rods were then fitted. The first item to cotter up was the speedometer drive peg which fits into the LHS trailing crank pin which also needed adjustment. To fit the other three taper pins took the rest of the day.

On the tender the RH middle spring needed to come off so that the worn out frame rubbing plate could be replaced. One of the adjusting nuts needed heating up twice to unscrew it. The rubbing plate was ground off and a new one welded on. The spring hangers and nuts had the threads chased out in the lathe and the whole lot reassembled. It was a good job all this was put right then as it would have been impossible to correctly weigh the tender a week later.

New bogie underkeep retaining pins were fitted, the holes needing reaming out to $13/16$ diameter. The pins are retained by split pins and not by hand made flat cotters as if these were mislaid they would be difficult to replace. The large taper pins in the return cranks are locked in place by a split pin allowing their re-use.

The gauge frames were reassembled and the regulator handle put back on. The boiler was filled with water, lit up and steam tested on the Sunday. Keith and Adrian then prepared the loco and piston valves for timing. The loco was shunted back and forth and the piston valve adjusted and cross head buttons machined thinner. One valve was then ringed and then lifted into the valve bore by our new strong arm lift. The next day the other side was fitted and 61264 was then lit up for the insurance steam test.

The steam test was passed and the new safety valves worked well. Then it was back into the shed and onto the weigh gear where two broken springs were found. We had a spare 15 leaf spring but not a 16 leaf one. Paul Middleton arranged to borrow a spring from 61306 and drove across to Carnforth to collect it. It didn't take long to replace them on the wheeldrop. It was then back into the running shed to finish off the weighing and get the ride height right. The tender was then weighed.

61264 was then lit up and when enough pressure had been raised it was run out into the yard. As there was no problem running up and down the yard it was decided to do a test run to Goathland and back. Paul had been oiling around and filling the underkeeps and had just one wick trimming to fit into the speedometer drive. We watched 61264 go by and the valve timing was perfect. We then cleared up the tools, arch formers, put everything away and went home.

To do all this in five weeks is intense. Only three of our members helped and we relied on the shed staff and shed volunteers without whose help the loco would not be running this year so a big thank you to them.



Keith Pardey (L) and Steve Andrews (R) take measurements of the left hand valve head so that the valve timing can be adjusted. Photo courtesy of Adrian Dennis.



Smoke from the first fire in 18 months appears from the chimney on 23rd July 2016. Photo courtesy of Mark O'Brien.

There are still outstanding jobs to do: the reverser clutch handle needs to be bent over so as not to trap fingers when working the reverser handle. We also need a new pair of piston valve cotters as they now go in too far and a steam feed to a sander was cross threaded so that will need replacing. The tender wheelsets, currently at Barrow Hill, need to come to Grosmont. The workshop container needs an epic tidy up and a space needs to be cleared next to our container in the back field. Also the weeds and small trees need clearing from around our castings, stored on pallets, and the spare leaf springs.

You can come to Grosmont to clean 61264. You will need boots and overalls - all the other stuff is there - you just need to do it!



Months of hard work by the TBLT and NYMR engineering teams is seen coming to fruition as 61264 in the company of 76079 storm past Grosmont MPD. 61264 started running in on 29th July 2016 and then double-headed with the Standard 4 and Black 5 44806 for a couple of days, before on 31st July officially re-entering traffic hauling its first solo revenue earning trip from Grosmont. By 11th August 2016 it had run 738 miles.

Photo courtesy of Adrian Dennis / Grosmont MPD.

Nuts, bolts and pins

Steve Robb

Part of keeping any loco on the road involves a lot of work being carried out replacing and renewing parts. Many of these are major operations. However, there is often a need to replace smaller parts such as specialised bolts pins and nuts which just cannot be bought off the peg. In the heyday of steam this would have been all part of the routine work of the major locomotive works. Nowadays these have to be produced as 'one off' items manufactured from scratch by our own team. Steve Robb has given us an insight into what is involved in manufacturing such items.

The first items to be manufactured were two spare pins for the eccentric rod which will eventually be used to replace the existing case hardened pins when they wear out.

The process began by sawing two pieces of steel to the required length and then facing off the sawn ends to ensure they were completely square. Centre holes were then drilled to each end so that they can be mounted into a machine for further operations.

The pins are initially roughed out on a lathe to remove the majority of the material. The pins were then mounted between centres and the larger diameter of the pin, under the head, finished turned to 0.02", sufficient material being left to cylinder grind the pin later in the process. The small diameter of the pin was finish turned to size and then screw cut using the existing nut as a gauge to ensure it fits.

The two flats were then milled onto the heads of the pins. Initially the heads were painted with engineers marking blue and a centre line scribed across the head of the pin to give a datum line to ensure both flats were in line and square. The first flat was milled on the pin, levelled and then rotated so that the second flat could then be milled on the pin.

The pins were then mounted between centres on a cylindrical grinder. This grinding wheel passes along the length of the pin, moving small amounts of material (about 0.0005" per pass). The green coloured liquid is a coolant to prevent heat build-up, thus reducing the likelihood of distortion. It also washes away abrasive and fine metal particles. The whole process produces an excellent surface finish accurate to within 3 tenths of a thousandth of an inch.

The nuts for the pins were machined on a milling machine from round bar using a dividing head to rotate the blanks through 60 degrees and produce the six flats of the hexagon. The blanks were then left to settle and then transferred to a lathe so that the parallel sections for the castellations could be machined and the hexagons chamfered 60 degrees to break any sharp corners. The flange on the back of the nut was also reduced in thickness and a hole for the middle bored out and a 45-degree chamfer machined at each end. Finally, the nuts were thread cut to match the thread on the end of the pin.

The final stage of manufacturing the new joint pins involved milling out the slot for the split leg cotter. This retains the castellated nut on the end of the pins when it is tightened. After setting up the dividing head the length of the slot was then chain drilled to remove as much material as possible from the slot which is 2.5 inches deep. The holes were drilled halfway through and the pin rotated through 180 degrees and the same process repeated. This ensures that the correct amount of material is removed and that the two ends of the slot are vertical; indicated by the drilled holes lining up with each other. The slots were then milled out halfway and the pins rotated and the process repeated until the slot broke through.



The flats in the process of being milled on to the heads of the pins.



The pins mounted in a cylindrical grinder which by removing only small amounts of material with each pass ensures a perfectly even surface finish.



Some of the newly manufactured joint pins for the loco side rods.



Test fitting one of the new joint pins into the fork of the coupling rod.

The ends of the pin were then turned down to remove material to the full depth of the thread leaving a flat surface for the retaining cotters.

The process of fitting the joint pins to the coupling rods involves firstly setting the pins up in the milling machine and cutting a slot for a key which locates and holds the pin in position whilst the castellated nuts are tightened to lock the pins in place. The head of the pin and the pin itself are then cylindrically ground to give a driving fit so that it can be tapped in with a copper drift (as shown in the picture of the pin in position in the fork of the rod).

The pin is then coated in engineers marking blue, a substance similar to Vaseline mixed with a blue dye. This shows where there are high spots on bearings and other assemblies. In this case, high spots are indicated on the bronze bush in the eye of the corresponding coupling rod. These are then hand scraped using a half round bearing scraper and the bush given a final polish to achieve a final clearance of 0.004-inch. Although very slow using this method, it does ensure that only a small amount of material can be removed making it difficult to end up with an oversized bush. With all this complete, the joint pin can then be finally fitted ensuring that another part of the loco is good for many miles to come.

All photos accompanying this article are courtesy of Steve Robb.

The new TBLT website

Dave Horton

Our new website 'went live' on the 15th April and I hope those who have already had the chance to visit at www.thompsonb1.org will agree that employing the professional services of Primary Image Ltd, experienced rail industry website designers, has been well worth the £640 price tag! For those that haven't seen it, or prefer to opt out of the computer age, please enjoy the 'screenshots' on the following pages.

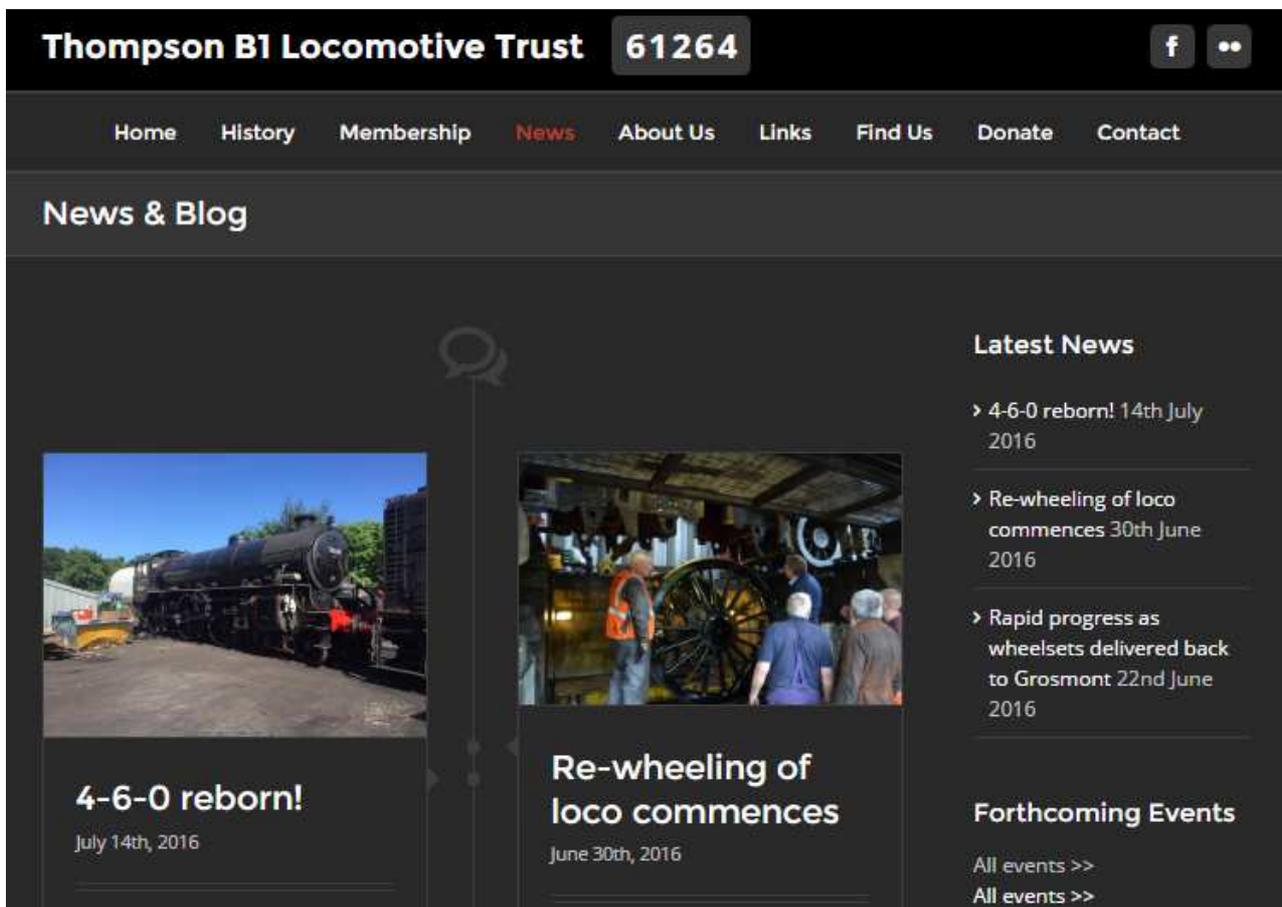
Features of the new website include, for the first time, an ability to join or renew your membership online or to donate, and 'a blog' from which regular news articles can be generated and linked straight to our ever popular Facebook page. The website is also run on software which makes it automatically 'mobile friendly', meaning that it re-sizes and re-formats itself to remain readable and functional on smart phones, tablets and various other devices as well as the usual PCs and laptops.

Preserved from 'website Mark 1' are the History pages, 'About us', 'Find Us', 'Contact' and a page where newsletter back issues can be downloaded. However, to maintain exclusivity for TBLT members, our newsletters are only published on the website 2-3 months after members receive them. For us the website is now much easier to maintain and the product support from Primary Image is second to none. If there are technical issues there is usually a response and a solution within 24 hours. This isn't always the case with cheaper 'DIY' website builders.

It almost goes without saying that having a good website these days is a crucial communication tool and 'shop front' for groups like ours - they need to be relevant, user friendly and regularly refreshed. We hope you will agree that the new website ticks all those boxes in abundance.

Finally, if you haven't given us your e-mail address (or it has changed in the last year), please let me know (dave_horton@btinternet.com) so that we can alert you to every new blog post and newsletter - thereby receiving up-to-the-minute information on the loco.

And just some of the things you can find on our new website.....



still be very much appreciated - please

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Postcode *

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Gender * Male Female
 Prefer not to say

Date of Birth

More info:

I wish to receive details of how to buy shares in the locomotive

I am renewing an existing membership

I am renewing an existing membership

Financial update

Alan Camp

The good news is that we have now completed repairs to the locomotive at a total of £83,600. We would not have been able to do this had we not had loans generously offered to us at a crucial time in the process to keep the repairs rolling.

However, a very big thank you to all who have so generously donated almost £6500 as a result of our wheel appeal but please don't stop. We will be very happy to continue to receive anything that you can spare. I would also like to extend enormous thanks to all those Trust members who have given their time and for the help that the North Yorkshire Moors Railway have extended to us to help complete the repairs

We still have a long way to go and we are hopeful that as we now get into a period of revenue earning rather than spending, we will then be able to start paying back the loans we have arranged and, in the fullness of time, build up a good reserve. Keeping old locomotives running is an expensive undertaking and money in the bank will help offset future maintenance and repairs as and when they occur.

The Big Wheel Appeal

Alf Bousie

As Alan has mentioned in his report, the 'Big Wheel Appeal' is still open for donations and we are very grateful to all those who have already contributed. As was expected, further costs were incurred after the original appeal flyer went out and we have a lot of ground to make up to recoup our lost income and any further donations will be very welcome. Just in case you have mislaid your flyer or haven't quite got round to sending it in yet, another slightly updated version, now that 61264 is operational again, is enclosed with this newsletter!

Railwayana donation

Mike Cobley

Over the years we have asked for unwanted items for resale and there has been a steady supply of magazines and books, model railway equipment and a few unusual railwayana pieces.

Towards the end of 2015, when our finances were really stretched, the Trust was offered a collection of railwayana by one of our long term members, Mike Shorten, who was in the process of downsizing and moving to Minehead. The collection included some small cast iron signs, handlamps, carriage prints and some enamel advertising signs and a few choice items.

The items were auctioned by Great Central Railwayana Auctions at their sales at Bloxham and Stoneleigh resulting in a grand total of £4000, less commission, but with the items donated under Gift Aid, the Trust was able to recover the tax. The highlight of the sale was a GWR whisky miniature bottle from GWR Refreshment Rooms, priced at 4/6d and that fetched a staggering £600!

Many thanks Mike for the timely donation and best wishes in your new home in Minehead. Please think of the Trust if you too are moving and have items that could be put into a suitable auction.

And back in solo operation.....



*Making light work of its three coach train 61264 passes Darnholm Bridge on 6th August.
Photo courtesy of Dave Wellington.*

150 Club
Stephen Harris

Would you like a prize of up to £200?

Then why not join the 150 club and add your name to the winners listed below.

For as little as £2 per month you can have a chance of winning £200 once a year, £100 five times a year or £50 eight times a year plus many smaller prizes.

Even if you're not lucky you will still be helping to support 61264.

150 Club Prizewinners up to July 2016

2016	Special	£50.00	£30.00	£20.00	£10.00
January		66 R Goldthorpe*	79 Mrs Whitfield	29 D Wellington	176 A Bousie
February		156 Mrs R King	85 P Kaufman	45 G Mead	83 C Steward
March	£100 103 P Morrell	-----	76 M Shorten	65 N Snuggs	70 C Baines
April		154 R Morris*	63 R Goldthorpe*	104 P Morrell	194 J Whitfield
May		157 C Ellis	134 A Camp	8 R Barnes	40 C Godliman
June	£100 105 C Godliman	-----	132 P Bates	93 P Kaufman	95 J Whitfield
July		118 G Brothers*	19 K Parkes	135 A Camp	30 D Wellington*

*denotes prize donated to TBLT

If you would like to subscribe or increase your subscription, please contact Stephen Harris to request an application form at:

7 Church Lea
 Tavistock
 Devon
 PL19 9PS

Tel: 01822 618395

e-mail stephenharris@hotmail.com

TBLT Members' Day Special - Saturday 24th September 2016

Dave Horton / Alf Bousie

In all respects this will be a 'special' train this year. After months out of action and not quite knowing when 61264 would run again it's great to be able to celebrate our loco's return to service this way. It will be a chance to say a big thank you to all our members and supporters who have worked tirelessly giving their time as well as physical and financial support over this difficult period.

If this wasn't enough the LNER Coach Association are also celebrating on the same day the completion of the restoration of one of their Thompson corridor third coaches (1623) after 15 years of work. To commemorate this achievement, it was felt appropriate to have a Thompson loco hauling a Thompson coach so this will now form part of the train.

Travel will be **FREE** and as in previous years the NYMR have kindly allowed us the freedom of the line. The timings for the train are as follows:

Grosmont dep. 12.30
Pickering arr. 13.40

Pickering dep. 14.00
Grosmont arr. 15.05

We have been advised that the initial 11.00 NYMR service from Pickering has a group booking for three bus loads of passengers, so members using this train to reach Grosmont should be aware that it may be crowded.

The NYMR have reserved two coaches for our Members' Special so seats will be allocated on a 'first come first served' basis. In addition a BUFFET will be available on the train courtesy of the LNERCA (cost £10 per head).

Please use the form below if you wish to attend, or write in giving all your details, should you not wish to cut off the slip. Alternatively, you can use the booking form on our new website at **www.thompsonb1.org/members-day-2016**

Please return all requests by no later than 10th September 2016.

TBLT Members' Special, Saturday 24th September 2016

Return this slip to 8 Leighton Way, Belper, Derbyshire, DE56 1SX

Name of party leader _____

Address to send invitations _____

Telephone number(s) _____ E-mail: _____

Number of people in your group _____

Number of people for buffet (£10 per head – please bring cash on day) _____