

N.E.L.P.G. NEWS



NO. 129

FEB. 1989

EDITORIAL

1989, it seems, is off to a good start, at least financially with the Group in a reasonably healthy position. This is due in no small part to sound financial husbandry over many years by our Treasurer and has clearly vindicated the decision to send the K1 to Scotland, with the welcome pecuniary benefits that have accrued as a result. However, the Group's buoyant finances are also in part due to the initial generosity of the Blue Peter members who whilst contributing handsomely to the A2 restoration project, have been generous too in their support of the Q7 appeal.

It is therefore most reassuring to see that so far over half the Blue Peter contributors who received 'free' membership for two years have elected to continue their membership of the Group. In doing so there have been further donations to the Q7 appeal. As a result there seems every prospect that the respective funds will be more than sufficient to cover the cost of outstanding works on the A2 and Q7.

However, whilst the Group is indebted to members for their continued donations, particularly when the funds are in such an enviable state, there is, as usual, no room for complacency. Neither locomotive is yet complete and it is conceivable that some unforeseen crisis might arise with attendant financial implications, and even when both locomotives are complete, there will be other restoration projects. In essence, therefore, there will always be a need for donations, however large or small. So, in saying thank you, please keep the money coming in!

There is, of course, a parallel with that other crucial resource - volunteers. We can never have too many and existing resources always need replenishing, particularly during 1989 with so many on going projects, demanding so much volunteer commitment. A skilled volunteer who, perhaps feels unable to support the Group financially, can make as valuable a contribution - sometimes invaluable! - by coming along to Grosmont or Wilton and giving the benefit of his - or her - experience.

So if you have a skill as a welder, turner, fitter or even just a willing pair of hands, your Group needs you!

P3 No 2392

In store in Deviation shed awaiting axlebox repairs.

It has been reported that the shearlegs required to undertake the repair work should be available after load testing sometime in May.

T2 No 2238

On display in Deviation shed.

At wilton, the work on the tender is a project normally undertaken by the E.T. scheme and as such has a low priority due to a shortage of scheme members, although numbers are now increasing. However, on Thursday 16th February an attendance of 20 NELPG members for the evening working party had the available work on the K1 and A2 well outnumbered and to find work for everyone attention had to be turned to the T2 tender. This led to a search through the stored parts and the overhaul and grinding in.of both the tender water valves; these are now ready for refitting.

K1 No 2005

At wilton the winter repairs are almost complete although it will be after Easter before the loco can return to the NYMR.

The engine steam brake cylinder was removed for overhaul on 22nd January and when inspected was found to be cracked in several places around the mounting holes, it was decided to scrap it and fit a new cylinder. However, a long delivery was quoted for a new casting as it would be necessary to have a pattern made. Examination of the engine cylinder on the A2 showed it to be an identical size, and so this cylinder was overhauled and fitted to the K1. The tender cylinder was also overhauled, fitted with new rings and the engine-tender flexible steam brake pipe replaced with a new type braided stainless steel flexible. The engine has also had the brake brake blocks replaced, brakes adjusted and brake gear greased.

Both injector clack boxes have been replaced by overhauled spares recently received from Hugh Phillips Engineering and the two boxes removed are now to be sent for overhaul as the valve seats require renewing.

Much time has been spent on refurbishing the boiler mud hole doors; these are removed at each washout and some have proved troublesome to refit. Each door has been built up with weld and hand filed to the correct profile in order to obtain a good jointing face (this simple

statement cannot convey the amount of effort that has been put into this one job).

The snifting valve was found to be worn and a new top housing and guide has had to be cast and machined, once again a new pattern has had to be made.

BR inspector Sam Foster carried out the cold boiler examination on 15th February and the results of his findings are detailed in a separate report in the issue of the NEWS.

As the V2 tender, which was purchased to obtain the wheelsets, still awaits transport from Thornaby, and with the agreement of the BR inspectors the tender was lifted back onto the original wheelsets on 8th March. The reason for this was that it will enable the remaining life to be run out of the old wheels on the NYMR this year. The new wheel sets will then be fitted next winter ready for mainline work in 1990. Thanks must go to Dave Bently, E.T. scheme mechanical supervisor, and his lads who did the bulk of the mechanical work on the tender.

The engine and tender have been almost completely repainted and varnished thanks to John Maynard, E.T. scheme painting supervisor, and his squad. The loco now looks superb with all the lining touched up plus little extras which are left for keen eyed members to spot. The steel smokebox builders plates have been replaced by new brass plates that can now be polished.

BR carried out the three yearly ultrasonic test on all engine and tender axles on 21st March, all were found to be satisfactory.

Q7 No 901

Reassembly of the loco is progressing well but another year passes without the loco being ready for Easter. However, it is confidently expected that the loco will be ready for a return to traffic before the commencement of the peak season timetable.

On the motion, all three connecting rod little end bushes were found to be worn and have had to be renewed. The machined hole in the RHS connecting rod into which the little end bush is pressed was found to be oval by 1/10th inch, the rod has had to be taken to Morpeth to be bored true. The middle big end bearing has been remetalled and machined and after trial fitting on the journal was reunited with the connecting rod and the rod put up and fitted to the crosshead. It was then possible to take the measurements to obtain the correct piston clearance by moving the loco back and fore with pinch bars. The RHS piston has had new rings fitted and was refitted into the cylinder on

separating the tyres currently being given much thought (see article).

07 No 901

Steady progress continues with the reassembly of the loco but more helping hands are required at Grosmont on Sundays if the loco is to enter traffic as planned.

The work at present is concentrated on the loco frames, in order to refit as many parts as possible before the boiler is replaced. The rear sandboxes have been cleaned out, the valves and linkages overhauled and with the manufacture of a new sandbox lid, the rear sanders are now complete. The seized front sand valves have been overhauled and await reassembly.

The engine steam brake cylinder was stripped and inspected and found to be in first class condition, thanks to the fitters at Darlington North Road works in 1962. In fact the only fault found on the brake was the lack of lagging inside the brake cylinder cladding; new lagging has been fitted.

All the axlebox oil boxes and associated lubrication pipework have been refitted and the oilboxes for the motion will be fitted shortly.

The eccentric straps for the three sets of valve gear have been machined, fitted to the driving axle and the eccentric rods reassembled, the space between the frames is rapidly becoming very crowded. The linkages for the cab controls for the ashpan damper, cylinder cocks and steam reverser are all now back in position on the frames. The operation of the steam reverser has been checked using a compressed air supply with the reverser reconnected to the valve gear.

The broken studs on the main steam pipe flanges on the smokebox saddle require drilling out and retapping; once this is done the valve chests can be cleaned out and the piston valves refitted.

A selection of one inch thick plate fixed to the rear drag box which forms the thrust face for the tender rubbing block was found to be cracked. This plate had another piece of one inch plate riveted to it in the past for extra strength. The centre section has been cut from the damaged plate and a two inch thick section of new steel plate is to be fitted in its place.

Good news on the boiler front as the hydraulic test for the insurance company inspector was passed on 20th December. Preparations are now in hand for the refitting of the boiler back onto the frames, at the end of February.

J72 No 69023

Other than a boiler washout no work has taken place on Joem due to a shortage of hands at Grosmont and the concentration of effort on the Q7.

A2 No 60532 "Blue Peter"

After the report in the last NEWS that the boiler is to be removed from the frames, a number of members have asked why this is being done when it is not necessary for any of the current boiler work. On boilers of this type all firebox stay heads are accessible for inspection with the boiler on the frames.

As part of the overhaul and for BR examination, it is necessary to remove the six driving axleboxes for examination. It was the original intention to use a specialist contractor, using synchronised jacks, to lift the frames high enough to release the axleboxes and then lower the frames onto the packing. However, doubts were expressed about jacking such a large weight (engine frames plus boiler) indoors. After a detailed investigation by the ICI Civil Engineer, which included taking core samples to check the thickness and strength of the workshop floor it was eventually decided, mainly on the grounds of safety requirements, that it would be simpler to move the loco outside and remove the boiler with a road crane. This will take place after the hydraulic test as after removal the boiler will have to remain outside No 5 Depot.

Once the boiler is off, the loco frames can be lifted to release the wheels, bogie and trailing truck using a road crane inside the workshop, as was done on the K1 overhaul.

Boiler - The 43 large flue tubes, delivered to Wilton on 21st November, were fitted into the boiler by Ian Storey and his team in just eight hours on 1st December, with the workshop over-head crane providing welcome assistance. All the small tubes fitted to date have now been expanded in the firebox and a start has been made on to smokebox end. The five broken side stays have had replacements machined, fitted and the ends riveted over.

All the old dome cover studs have been drilled out and retapped, the cover has been machined to remove pitting from the joint face and the joint surface on the dome itself has been lapped flat. Once the new studs are in place and a new copper joint fitted the cover can be replaced ready for the hydraulic test. Most of the other boiler blanking plates are already fitted.

The complete set of new castings for the firegrate have been

received and at what looked to be a very cheap price, until closer inspection of the invoice revealed that the units in the final total of 1366 were in fact Kg rather than £s! All the old firebars have been cleaned up and inspected and the bars in the best condition are to be kept for use as spares.

The fixing bolts on the smokebox saddle and boiler mountings have been removed, the boiler is free and ready for lifting.

Mechanical - The ET scheme sheetmetal worker Peter Stott has been busy fabricating cladding sheets, to a very high standard, and has also produced two new sets of splitters and cowls for the Kylchap exhaust.

The engine buffers, both injectors and the speedometer have been cleaned, overhauled, painted and put into store with the many other completed parts.

The cab is now painted internally in gloss and externally in green undercoat and a start has been made on refitting the gauge brackets, AWS equipment and lights. As this type of cab can be replaced as an almost complete unit as much as possible will be installed before the cab goes back on the frames.

Tender - The outside of the tank has been filled, rubbed down and painted in grey primer. Both of the overhauled buffers plus the rear drawhook are now back in position on the bufferbeam.

The platerwork in the coal space has been modified at some time in the past with extra plates added above the originals in order to increase the angle of the rear section and make the coal fall forward more easily. When examined the plates in this area were found to be badly corroded and it has been decided to return to the original profile. The modified platerwork has been removed and as a result less new plate will now be required for the repair and the tender will then carry slightly more coal. The top of the waterscoop dome was also badly corroded and this too has had new platerwork fitted.

The two vent pipes at the front of the coal space, designed to allow air to escape quickly when the tender was filling via the water scoop, have been removed, the holes blanked and the corroded platerwork in the area where the pipes were fitted, cut out and renewed.

Extra pipework has been fitted to the rear of the tank to provide a ground level filling point fitted with hydrant connectors. This addition will save the support crew from having to climb onto the top of the tank when taking water.

The axlebox repairs have been proceeding slowly due to the lack of a machinist to work on the bearing brasses. Progress is now being made on this priority job but other major work on the tender cannot take place until it becomes mobile again.

A4 No 2509 "Silver Link"

The A4 is no longer on public display and is currently stored in the former diesel depot at the NRM (see later article).

5MT No 44767 "George Stephenson"

The overhaul has commenced and rapid progress has been made on the task of stripping down the loco. The cab and boiler have been removed from the frames and all the old boiler tubes have been removed. The motion has been stripped down and the frames lifted to release the wheelsets. The loco is now a kit of parts.

A visit is awaited from the BR inspectors after which the driving wheels can be sent to a specialist company for the manufacture and fitting of the new tyres.

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A TENDER STORY

Maurice Burns

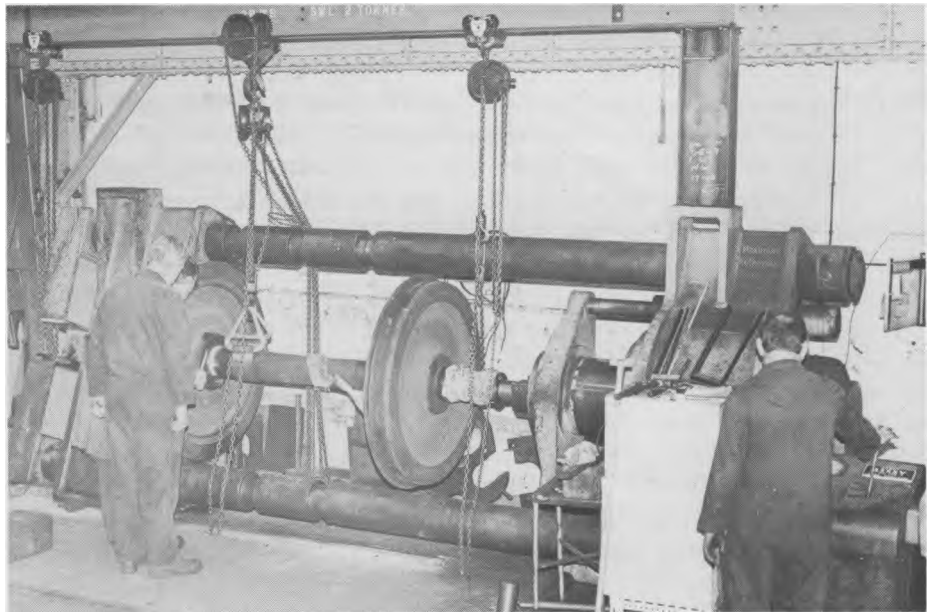
It has been known by those deeply involved in running 2005 on the main line that the tender tyres, previously turned to their minimum limit, would need renewing very shortly. The "engine" tyres, long standing members will recall, were renewed in 1981 at BSC Rotherham, whilst the tender tyres were swapped with wheelsets from a V2 tender at Gateshead as a stop gap measure. These latter wheelsets, which have good axles, are now the problem with thin tyres one and a half inches thick - the scrapping size.

Retyring of late has had a bad press, with some locos taking 2 years to be retyred due to manufacturing difficulties. Two lines of action were taken in October last year: one to obtain quotations from the only tyre supplier, at Manchester, and the other to carry out a detailed examination of two former steam loco tenders lying at Tees Yard. This examination revealed that one was a K1 tender (steam braked) but all tyres were scrap size. The other was a V2 tender (vacuum braked). This tender had tyres almost three inches thick - the new size. Negotiations were opened with the supplies dept at BR Derby and the tender was offered to NELPG for £1390. NELPG members prepared the V2 tender for wheel removal on Monday 12th December at Thornaby in order that they could be fitted into the K1 tender using the wheeldrop facility.

All was going so well until the precaution was taken of ultrasonically testing the V2 tender axles just hours before they were to be fitted. This, to our horror, showed that all six axle ends had 'suspect fractures', although the two sets of readings taken of each fracture did not give consistent results!



Richard and Dave Pearson take a close look at Blue Peter's new ashpan. This huge fabrication, made by the M.S.C. team, measures 50 square feet.



An hydraulic ram exerts a force of 200 tons to press the LH wheel boss off one of the V2 tender axles at York on 19 January.



2005 on the East Coast main line at Craigtintny whilst working one of the S.R.P.S. Santa Specials on 11 December.



The late Ken Hoole, stands in front of one of his favourite locomotives T2 0-8-0 No. 2238, prior to a footplate ride from Grosmont in 1981.

(All Maurice Burns)

With this bad news costs were confirmed for new tyres at £1850 per wheelset and following some 'pressure' a delivery date of 10th March was obtained, so all was not lost.

All along we were convinced the V2 axles were all right and a meeting was convened one lunchtime with BR NDT personnel. Here it was agreed that the only way to prove conclusively the V2 axles had no fractures was to press off one wheel. Phone contact with BREL York confirmed they had the capacity to press the wheel off. The centre V2 tender wheelset was then transported to York and on Thursday 19th January the wheel was pressed off using a hydraulic force of 200 tons. As the wheelboss moved, a highly polished axle, as clean as the day it was fitted at Darlington 25 years ago, appeared. It amazed everyone, including NDT inspectors! Ultrasonic axle tests and magnetic particle tests showed clearly there was no fracture. All the earlier readings had been caused by reflecting signals from the wheelboss and not the axle.

By pursuing this matter further with the full co-operation of Graham Werrett NDT engineer from BR Doncaster it was possible to save the Group £5000 which would otherwise have to be spent on new tyres - so perseverance pays!

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SILVER LINK MOVES ON

Maurice Burns

Members may recall that the loan of 2509 "Silver Link" to the National Railway Museum was originally planned to end in August. The popularity of 2509 during "Mallard's" celebration year has seen the period of display extended until early December 1988 when the engine was moved into the former diesel shed. A letter of thanks expressing the NRM's gratitude for the loan of the A4 has been received from the museum keeper Dr John Coiley.

The shortage of space, especially undercover, has resulted in a request that the A4 be moved, if at all possible, by the end of February 1989 from the National Railway Museum.

Your committee have been aware for some time that a more permanent home is required for "Silver Link" and has approached all major steam centres and operating railways to ask if they could supply undercover and pay for transport costs both ways, to eventually return the A4 to the North East. The NYMR is our natural first choice but lack of suitable undercover accommodation on the moors has ruled our own railway out of the contenders for the time being.

After much discussion on each railway centre and the railways who

were interested, the committee agreed that the Stephenson Museum Project at Newcastle would be the best home for "Silver Link". The benefits of this museum over the others were that they could offer the following package:- a) To pay transport costs to the Stephenson Museum Project. b) Provide undercover accommodation in a heated building. c)

were interested, the committee agreed that the Stephenson Museum Project at Newcastle would be the best home for "Silver Link". The benefits of this museum over the others were that they could offer the following package:- a) To pay transport costs to the Stephenson Museum Project. b) Provide undercover accommodation in a heated building. c) They were interested in a long term loan (all other railways were only interested in periods of several weeks to 6 months) d) They could meet all our insurance requirements. e) Agreed to our legal agreement. f) Agreed to pay, at the end of the loan period, movement costs of the A4 to the NYMR, or equivalent distance.

The loan period is for 3 years, renewable every year thereafter.

It is anticipated that the A4 will be prepared for movement at the NRM in late January, then towed to BREL York carriage works where the engine and tender will be split before movement by road to the Stephenson Museum Project in Newcastle sometime in February, weather permitting!!

For those members who have not heard of the Stephenson Museum Project its main museum and workshop is the former Newcastle Metro testing buildings built in 1977. They have many steam locomotives including the 1882 built Stephenson long boilered tank recently restored and are currently overhauling one of the Bagnell 0-6-0Ts from the west Somerset Railway. An operating line is currently under construction from the museum base southwards to an intersection with the Metro system two miles away, near Percy Main. The museum is not far from the north end of the Tyne Tunnel. NELPG and A4 60019 "Bittern" have a long association with Tyneside. The Group was indeed formed in Newcastle and "Bittern" was allocated to Gateshead for most of its working life so its future home is considered most appropriate.

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RAILTOUR REPORT

The K1 will not be going to Fort William this year but has been invited to participate during the 1990 season. The locomotives to be used in 1989 are 5305 and 44871.

2005 will, therefore, be based on the NYMR for the 1989 season which is doubly appropriate since it is the locomotive's fortieth birthday this year and the tenth anniversary - in June - of its inaugural run on the NYMR.

However, it is nevertheless confidently hoped to run a special with the K1 on the main line. A formal application has been made to British

Rail, via the Steam Locomotive Operators' Association, for a steam hauled tour on Saturday 15th July. Using stock operated by the Scottish Railway Preservation Society, the tour would pick up passengers at Newcastle, Durham, Darlington, Northallerton and York, then run to Scarborough, Hull and Selby behind 2005, thence diesel hauled back to Newcastle.

Besides 125 miles of K1 haulage, all on new ground, it is hoped that there could be about three hours in Scarborough, a photographic stop at Beverley and about an hour in Hull. There would be a limited number of first class seats - an innovation on an NELPG tour! - and a full refreshment service throughout, provided by the SRPS.

The tour is likely to be the first and last time the K1 goes to Scarborough or Hull, primarily because of the ever tightening restrictions on steam operations on the Eastern Region under the overhead wires.

A total of only 12 steam hauled trains will be allowed out of York, all northbound this year, and steam is no longer allowed into and out of Leeds, for example.

At the time of writing, other than the above proposal, six steam trains to Scarborough are planned this year, none of which are going to Hull as well. Furthermore, compared with currently notified prices, the Group's proposed fare of £29.50 second class (£39.50 first class) is the cheapest charter steam train fare in 1989!

Pending written confirmation from BR, booking forms for the tour - The Scarborough Flyer - are not yet available, but will hopefully be included in the April NEWS. In the meantime prospective passengers who wish to have prior notification are advised to send an S.A.E. to:- NELPG Railtours, 57 Millview Drive, Tynemouth, Tyne and Wear NE30 2QD.

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SECRETARY'S REPORT

"The restoration work has been progressing very much slower than we had expected for a variety of reasons. However, our Honorary Chief Mechanical Engineer has bravely forecast that unless there's any horrendous disasters, his team will have the Grand Old Lady in steam in July (1989)."

To which locomotive does this statement refer with its oh-so-familiar ring of delays in completion? The A2, Q7 or P3 perhaps? Actually it's none of these - in fact the extract has been 'lifted' from an 'update'

letter from the Friends of the National Railway Museum on the "Duchess Hamilton" restoration.

It goes to show that we in NELPG are not the only locomotive preservation group who are unable to keep to restoration programmes 'for a variety of reasons'. But like the "Friends" we too hope to have one of our Grand Old Ladies, namely the Q7, in steam this summer - the younger A2 rather later in 1989.

Now back to more 'present day' matters - the sales of NELPG sweaters have got off to a flying start. So eager were the members attending the December meeting to purchase one of these items that I am told that the scene resembled the first day of Harrod's sales! In truth the first batch of 30 was quickly sold out and the second order is steadily being taken up. So if you order one please be patient as we may have to put in repeated orders to the manufacturers.

The December meeting, being the usual Christmas extravaganza, raised £223 for the Q7 fund. This reflects the typical generosity of the NELPG members attending these meetings - many thanks to those who attended and gave so generously.

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OBITUARY

Mr Ken Hoole, who died recently, was a very well respected and renowned railway author and historian. He was particularly noted for his work on the LNER and its constituent companies, especially the North Eastern Railway. Latterly living in Scarborough, he had given welcome assistance and advice to the NELPG over many years.

He had once written an article on the Q7 locomotives and whilst this did appear in the NEWS a long, long time ago, in tribute to Ken Hoole and with the impending return to steam of 901, this article is to be reproduced in NELPG NEWS. The first part appears in this issue, with the remainder to be published in the April NEWS.

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BRITAIN'S MOST POWERFUL 0-8-0 - THE STORY OF THE Q7 (PART ONE)

Ken Hoole

The North Eastern Railway, as befits its status as a line on which mineral traffic played a very important part, is unique in having three of its later freight engines preserved. Two of these are P3 (LNER J27) 0-6-0 2392 and T2 (LNER Q6) 0-8-0 2238; the third is T3

(LNER Q7) 63460 (ex NER 901), a fine example of the ultimate development of NER freight motive power.

The 0-8-0 wheel arrangement was introduced to the NER by Wilson Worsdell in 1901 and first came the class T and T1 engines, which were identical except that the 40 class T engines had piston valves and the 5 class T1 engines had slide valves. They were lumped together as class Q5 by the LNER. In 1913 Vincent Raven built the first class T2 0-8-0, generally similar to the earlier engines but with a superheated boiler 5ft 6in diameter, 9 ins larger than previously. Class T2 to be built until 1921, eventually totalling 120 engines, but in the meantime Raven had designed a 0-8-0 with three cylinders 18.5in diameter x 26in stroke, having 4ft 7.25in diameter wheels, the standard NER dimension for mineral engines. The new design was known as class T3, one notable difference from the earlier engines being that the drive from all three cylinders was on the second axle, whereas on the earlier engines the drive from the two outside cylinders was on the third axle.

The drawings for the T3 engines were prepared at Darlington works whilst Vincent Raven was absent on war service at Woolwich Arsenal and the Admiralty, but although the requisition for the first five engines, dated 9th May 1918, was signed by A.C. Stamer, the Assistant Mechanical Engineer in charge during Raven's absence, the General Arrangement drawing (dated 29th April 1919) was signed by Sir Vincent Raven, who had been knighted in 1917.

Whilst North Road works was building the T3 engines an order for ten Q6 0-8-0s (Nos 2233-2242) was also in hand and the two types were built concurrently. The last T2 was turned out in August 1919 and the first T3 (901) appeared in the following month, although it was not actually added to stock until October 1919. A further ten T3 engines were built by LNER in 1924.

When the first five engines appeared in 1919 they were well covered in the technical press, but it is obvious from the coverage that the material and photographs had been supplied by Raven's office: the issue of "ENGINEERING" for 9th January 1920 contained a sectional drawing of the engines.

The three cylinders and valve chests were formed in one casting, with 8.75in piston valves. The wheel spacing was 7ft 0in + 5ft 9in + 5ft 9in. The boiler barrel was 16ft 8 1/8in long and 16ft 2 5/8in between tubeplates. Originally 102 2in tubes were fitted, with a 24-element Schmidt superheater, and by the system of calculation used by the NER the total heating surface was quoted as 2093 sq ft, with a grate area of 27 sq ft. The removal of stay tubes in the boiler, the

adoption of the LNER method of calculation, and the complete redesigning of the boiler meant that the heating surface varied over the years. The boiler and firebox (but not the smokebox) were the same as on the contemporary class S3 (LNER B16) 4-6-0 engines, of which the first example appeared two months after the first T3. The rear half of the firegrate was level at 4ft 3in above rail level, with the front half sloping downwards.

A Lockyer double-beat regulator was originally fitted, giving a very easy opening regulator, which was double-handled, with the arm on the driver's side horizontal, and that on the fireman's side at about 60 deg to the horizontal. Steam reversing gear was fitted, of the LNER standard two-handle pattern, with one control rod passing through the boiler handrail on the right (driver's) side, but this rod was later altered to a lower position. Ross 'pop' safety valves were fitted from the outset, originally with their bases hidden by a brass cover. The two whistles - organ pipes on the right and bell on the left - were on top of the firebox in front of the cab. Raven fog signalling apparatus was fitted, with the striking gear under the cab on the right hand side. The warning whistle connected with this Raven gear was mounted high on the spectacle plate on the right hand side. A pyrometer was fitted at first but this had a short life and then the only gauge in the cab was the boiler pressure gauge, mounted centrally above the firebox and just below the cab roof. A Detroit sight-feed lubricator in the cab of the 1924 engines supplied oil to the cylinders, but the 1919 engines retained their original mechanical lubricators.

The T3 engines appeared to be much more massive than the earlier T2 engines, probably because although the boiler was the same size, 5ft 6in, the T3 boiler was pitched at 8ft 11in compared with the 8ft 3in of the T2. Although the smokeboxes appeared to be shorter on the T3 engines this was because the front tubeplate was set 8.75in into the boiler: consequently the external visible length on the T3 smokebox was only 3ft 3 5/8in.

On the 1919 T3 engines the centre line of the chimney was 2ft 3/8in from the leading edge of the smokebox, but on the 1924 engines the fitting of a Gresley pattern snifting valve to the superheater header required the chimney to be placed about 8in further forward, and the chimneys of the earlier engines were altered to correspond when snifting valves were fitted. The adoption of snifting valves led to the removal of the steam circulating valve on the left hand side of the smokebox.

The size of the cab was misleading. Although the cab roof was 6ft

9in long, and the cab side sheets were 5ft wide, the front spectacle plate was inset under the roof by 9in, and thus the cab was only 4ft 3in deep. This meant that the two side windows had to be placed off centre in each side sheet. The back end of the firebox protruded 15in into the cab, and then there were the injector controls occupying further space, with the firebox door screen further down, so that there was not a lot of space left for the crew!

The standard NER self-trimming tenders carried 4,125 gallons of water and 5.5 tons of coal, and the weight of the engine and tender in working order was originally quoted as 115 tons 14 cwt. The engine axles carried 191 + 191 + 18T 2 cwt + 15T 10 cwt respectively. The boiler pressure was 180 lb sq in and at 85% the tractive effort was 36,963 lb, although the North Eastern gave a figure of 36,909 lb! wheel spacing of the engine was 7ft + 5ft 9in + 5ft 9in, and of the tender 6ft 4in + 6ft 4in, giving a total wheelbase of 44ft 3 7/8in.

All fifteen engines were built at Darlington: 901/2/3 October 1919; 904/5 November 1919; 624/5 March 1924; 626/8/9/30/2 April 1924; 631/3/4/ May 1924. Nos 901 - 905 were renumbered 3460-4, and 624/5/6/8-34 to 3465-74, all in 1946, under the LNER renumbering scheme. All the engines received the BR figure 6 prefix in 1948-51.

Comparative costs of NER 0-8-0 engines:-

Class T (1901) £3,364 Built by NER

Class T2 (1913) £2,971

Class T2 (1919) £6,026

CLASS T3 (1919) £7,609

Class T2 (1920) £8,000 Built by Armstrong, Whitworth

The T3 engines were expected to run 50,000 miles before requiring 'shopping'.

Commencing on 10th November 1919, when the engine was only a few weeks old, extensive tests were held between Blaydon and Carlisle, using 901 and the NER dynamometer car, with Driver George Ratcliffe of Blaydon shed at the regulator. On the first day the engine was noted hard at work between Blaydon and Stocksfield hauling the dynamometer car, class 0 0-4-4T 1868 and a goods brake van, and it is believed that the 0-4-41 was being used as a counter pressure engine on this occasion.

Over the next three days runs were made through to Carlisle, culminating on 14th November with a train weighing 1,400 tons, which 901 handled competently, making a clean start from rest on the 1 in 298 gradient immediately west of Haydon Bridge station. In the opposite direction a load of 784 tons was started successfully on the

four miles at 1 in 107 east of Wetherall.

The test was supervised by J Weatherburn, the dynamometer car inspector, who later sent Driver Ratcliffe a suitably inscribed print of the official photograph of 901 to mark the occasion.

(To be concluded in the next issue)

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MEMBERSHIP RENEWALS

Members are reminded that if they have not renewed this will be the last issue of NELPG NEWS they will receive; it is not, however, too late to renew!

Those who have renewed may find their membership card enclosed with this edition of the NEWS so don't throw away the envelope without checking.

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FORTHCOMING EVENTS

*Friday 10th March 1989 - DARLINGTON WORKS by Ray Goed. An illustrated talk on North Road Works at Darlington, closed in 1966.

*Friday 14th April 1989 - LOCOMOTIVES OF THE NATIONAL RAILWAY MUSEUM by Mike Rutherford of the NRM, York. An illustrated lecture with up to date news on 46229 and other locos in the National Collection.

*Friday 12th May 1989 - ANNUAL GENERAL MEETING

* Meetings held at 7.30pm in the upstairs room, The Ladle Hotel, Ladgate Lane, Middlesbrough.

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COVER PICTURES

Front: NELPG members' special, 1988 style, blasts through Goathland station behind 69023 and 5 on 30th October.

(John Hunt)

Back (top): 2509 Silver Link keeps 4498 Sir Nigel Gresley company at York on 2nd July; 2509 is now destined for a stay on Tyneside

(Maurice Burns)

Back (bottom): 2005 leaves a deserted platform 10 at Waverley station, once graced by A4s on the Elizabethan, with what may have been the last steam working out of Edinburgh prior to the onset of electrification, on 11th December.

(John Hunt)

