

Top Link

Issue 3
Spring 2002



*Top
brass*

*New link to
RAF Leeming*

Chief Mechanical Engineer appointed



Journal of the A1 Steam Locomotive Trust

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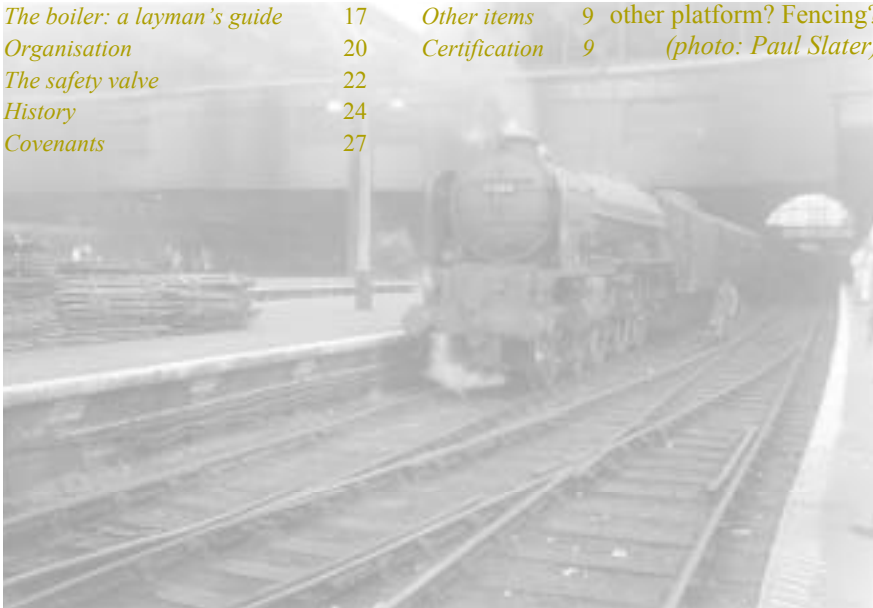
Issue 3: SPRING 2002

Editor: Gerard M-F Hill

JOURNAL OF THE AI STEAM LOCOMOTIVE TRUST

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Cover (top): Renewing links, on 16 March Group Captain Andy Walton presented this brass nameplate bearing the crest of RAF Leeming to Mark Allatt, for the trust, plus a dramatic view of a Tornado in flight over Canada, to hang in the works, and was given a print of an A1 at Stockton by John Wigston, who was also present. (photo: CCO Leeming)

Cover (bottom): Bachmann model review on p. 10 (photo: Model Rail)

EDITORIAL



Such a lot is happening in the trust, with news coming in right up to press date, that I was constantly thinking “How can I say this in fewer (or shorter) words?” That explains why the prose is sometimes rather terse, and why there was no space in this issue for ‘Know your drain cocks’ or ‘The drawing office’ – but they will return shortly.

The big news is that the trust has appointed a Chief Mechanical Engineer. It had become obvious that David Elliott’s workload was too great and that the board needed a chartered mechanical engineer, and who better for the job than the president of their professional body? You can read about him on page 7.

Another matter raised at the convention was the boiler, and the article on page 17 looks at the background to decisions and progress on that. The board are busy behind the scenes and for the moment we have to be patient.

Meanwhile, there is plenty to do and we need more hands to do it. The back cover shows what can be achieved by just one person on chunks of metal over 10ft long. The chairman’s column sketches some of the opportunities, and his article on pp. 20–21 gives details of some new (voluntary) posts: perhaps you may be the person to fill the gap?

We have renewed our links with the Royal Air Force: RAF Leeming is the nearest base to Darlington and it flies Tornados. The short ceremony to mark this new association was also an opportunity to say ‘Thank you’ to our much-admired president, Mrs Dorothy Mather.

The magazine *Model Rail* generously allowed us to reprint free of charge their review of the Bachmann model A1 (Have you got yours yet?) – something of a challenge for me when it came to layout, as our pages are half the size of theirs! By the way, there will be some news for rivet-counters in *Top Link* 4.

Many people liked ‘The big picture’ in the last issue – the painting kindly lent by Andrew Dow – and this time the centrespread is from Gavin Morrison, who has agreed to let us use in this feature other unpublished photographs from his collection in the future. There will be colour again too.

My thanks to all those who have sent photographs or letters: all are appreciated and none will be wasted. Photographs will be returned where requested. ‘History’ this time features two pictures that travelled all the way from Lincoln to New Zealand and back again to be with you. Every picture tells a story, but it’s great to get the story behind the picture. I try to bring you both.

Gerard M-F Hill

NEWS

Spring Day Out

This is at the Mid-Hants Railway, now home of several Pacifics, on 18 May. Departing Alton at 11 45, our train will be steam-hauled across the Hampshire downland, with glimpses of water-meadows, woodlands, and members of the board and management. For £17.50 you get morning coffee on the train, buffet lunch at 12 30 in the goods shed, now a visitor and conference centre, and unlimited train travel that day.

Internet

Please note that as soon as you receive this magazine, the user name and password for entry to the Covenantors' Area on the Web will be changed to:

User name: PATRON

Password: PACIFIC

As usual, all letters should be capitals.

CME appointed

The board has now appointed a chief mechanical engineer: details on p. 7.

RAF Leeming

The A1 Steam Locomotive Trust has 'adopted' RAF Leeming, the nearest Tornado base to Darlington. When the project to build a new Peppercorn A1 was launched in 1990 at the time of the Gulf War, it was decided to name 60163 after the Tornado fighters and bombers that were the backbone of the RAF's part in that campaign. The trust

developed a relationship with the Tri-national Tornado Training Establishment (TTTE) at RAF Cottesmore in Leicestershire and the nameplates for 60163 *Tornado* carried the crests of both establishments. The TTTE has now closed and Cottesmore operates Harriers, but Tornado GR3s fly from Leeming, 16 miles due south of Darlington works. RAF Leeming have replaced the TTTE badge with their own on one of the nameplates that *Tornado* will carry on completion.

RAF Leeming and The A1 Steam Locomotive Trust intend to publicise their relationship. Group Captain Andy Walton, the station commander, visited Darlington Locomotive Works on 16 March 2002, and the trust will present its project to the Leeming branch of the Royal Aeronautical Society.

The air force will seek to use opportunities provided by the trust for the training of its personnel and hopes to provide a guard of honour and fly-past for 60163's naming ceremony.

Tornado will be available to help charity work by RAF Leeming, which has had tremendous success in raising money: about £100,000 in the last two years for the RAF Benevolent Fund and other local and national charities.

Mark Allatt said "The trust is delighted to have a close relationship with its local RAF station, RAF Leeming, and looks forward to a fruit-

PEOPLE IN THE NEWS

ful partnership over coming years.” Group Captain Andy Walton added “Our relationship with The A1 Steam Locomotive Trust is part of building partnerships with our local community: we look forward to helping promote this exciting project.”

Below: Gp Capt. Walton and his wife with the A1 print that will hang in RAF Leeming officers’ mess and Mrs Dorothy Mather and Mark Allatt with the framed Tornado portrait.

(photo: CCO Leeming)

Mrs Dorothy Mather

Also on 16 March 2002 at Darlington Locomotive Works, Mark Allatt formally presented Mrs Dorothy Mather with a model of the A1, designed by her husband, Arthur H. Peppercorn. This model of *Tornado*, in a wooden presentation box, was no. 1 in the numbered, limited edition specially made for us by Bachmann. The gift was a way of showing our appreciation of her importance to the trust.

For news of the boiler, turn to page 17



PEOPLE IN THE NEWS

A NEW CME FOR THE AI

Tony Roche, FEng, FIMechE, the current President of the Institution of Mechanical Engineers, has joined the board of trustees as chief mechanical engineer. In this voluntary role, he will provide strategic direction and overview on all engineering activities. A career railwayman, he has a wealth of experience in senior management.

He knows about express passenger motive power too: in the 1970s he led the team responsible for construction of power cars for the extremely successful High Speed Train (the Intercity 125), introducing new production techniques and control processes.

He became works manager at Wolverton in 1981 and, ten years later, chief executive of British Rail Maintenance Ltd, responsible for major overhauls of rolling stock, and later prepared the company for privatisation. He was appointed director of mechanical and electrical engineering for British Rail and directed a major reorganisation of these activities and their management structure.

He served as deputy managing director of Network SouthEast in 1992 and then took a leading role in creating the rolling-stock leasing companies. He later became managing director of Eversholt Train Leasing. In 1994 Tony was appointed to the BR Board, to be responsible for engineering, safety and support services. He led the sale of over twenty subsidiary support companies, valued at more than £200m.

Tony is now a partner in First Class Partnerships Ltd, a specialist company providing support to senior policy- and decision-makers in the railway industry. Welcoming him, Mark Allatt, chairman of the board, said: "As a railwayman with an outstanding

record of innovation and delivery, Tony will provide much needed strategic engineering direction to the project." Tony Roche added: "I am delighted to be joining this exciting project to build a new steam locomotive in a new century. Quality in engineering and safety are watchwords of this project and I look forward to getting *Tornado* into steam as quickly as funding will allow."



FRAME NEWS

Frames

Over four days the Severn Valley Railway optical alignment team measured precisely the positions of hornblock faces *vis-à-vis* cylinders and fixed the locations of the coupled axles. These were represented by three 2"-dia. bars set in the hornblocks on adjustable supports. To fix the middle-axle centre in relation to the outside cylinders, a 4ft-long distance bar with T-shaped end was bolted to the front of the cylinder, protruding through the back. Using a very long internal micrometer, the centre of the dummy axle was set to the dimension on the motion arrangement drawing. A light beam down the other outside cylinder centreline set the middle axle's height.

A mirror was then fixed to the end of the dummy axle and the position of the axle adjusted so the light beam was precisely reflected back up its path. This ensured the axle was perpendicular to the centreline of the cylinders.

The light beam was used with a graduated scale on a magnetic base to check one frameplate was straight. An inside micrometer then measured to the other plate from the same points. Swapping sides gave a further check.

From the accurately-located middle axle, the leading and trailing axles were set to the nominal length of the coupling rods. Then hornface positions

were measured from the dummy axles. As the raw data were all referenced from one cylinder, any error there would affect all other measurements, so the final stage was to look at the (small) errors that occurred in positioning cylinders and hornblocks. Final positions of the axles were optimized, keeping as close to the theoretical as possible, whilst ensuring corrections were evenly spread across the frames.

The adjustments were made by the hornblock liners being machined either to final fit or, if not thick enough, to a size where a standard-thickness shim will bring the face to the correct place.

There is a small difference in fore-and-aft position of the cylinder front faces. To allow for this, in the past the connecting rods would have been stretched or upset (shortened) in the smith's forge. This is now frowned on, as it affects carefully controlled heat-treatment. Instead, the small-end bush holes will be bored slightly off centre.

The final measurement, from front of middle cylinder to centre of crank axle, confirmed 'growth' in the middle cylinder. The required correction of 0.218" will be made in machining of the inside connecting-rod. Ian Howitt is now on final fit of the driving-axle cannonboxes. The last few thousandths of an inch are being ground off the manganese-steel liner faces.

COMPONENT & CERTIFICATION NEWS

Superheater header

Ultrasonic non-destructive testing has shown one of the chamber walls of this casting, by Charles W. Taylor of South Shields, is too thin to be acceptable. Discussions to resolve this continue.

Motion

The outside expansion-link brackets have been permanently attached to the frames with driven bolts. Barry Wetherell has single-handedly continued fettling of coupling and connecting rods, having almost finished a full set.

Wheelsets

Coupled-cannonbox adjustment rings are ground to their final thickness, so we can finally fit cannonboxes once axles are in the hornblocks. Machining of Cartazzi components continues.

Cab

North View Engineering, asked to lower the cab 1" and correct distortion in the sides, felt rectification might be unsatisfactory, as did a second opinion. As laser profiling machines with low heat input are now accurate to less than 0.15mm, we ordered new cab sides at £155 each with rivet holes to final size.

At the works, the inverted cab is now supported by a wooden cradle, to keep the roof profile correct. The front window plates have been removed, and frame angles recovered and trued up.

The roof will be lowered once the sides are reassembled. Volunteers have kept down the cost.

New sides, front-window panels and side-window beads were laser-cut. The quadrant-section corners were machined on the beads by Ufone, using CNC milling. The sides are at Taylor's of Leeds to have the slight crease line put in, using a press brake. To set cab angles accurately, templates have been made. We intend to recover costs from those responsible for faulty work.

Certification

We met Heritage Engineering (VAB) in Derby in mid-February to review progress. Many components were 'signed off' and there was detailed discussion of issues raised in last year's audit. Corrective action agreed on individual components is now being taken.

Frazer-Nash NDT visited Darlington to carry out visual, magnetic -particle and ultrasonic examination of fabricated components such as buffer-beam gussets, frame stays and horn-block liners. This confirmed integrity of weld on all items except the brake-cylinder stay: weld penetration was incomplete on two 4" sections, to be ground out and re-welded next time a suitably-coded welder is at the works.

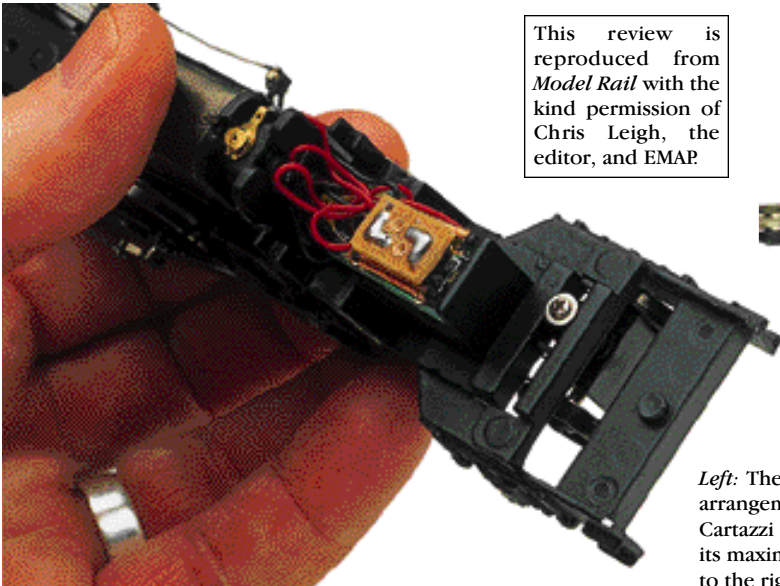
To check torque wrench settings, we have contacted the manufacturers of the different self-locking nuts used.

THE BACHMANN MODEL

IF IT'S A KIT WE BUILD IT - IF IT ISN'T, WE TAKE IT APART!

Bachmann 'A1' rolls in

Reviewer: CHRIS LEIGH



This review is reproduced from *Model Rail* with the kind permission of Chris Leigh, the editor, and EMAP.



Left: The DCC socket arrangement and the Cartazzi axle shown at its maximum movement to the right.

THE BACHMANN MODEL

Back in 1999 a *Model Rail* reader survey revealed that the most-wanted ready-to-run '00' steam locomotive was the LNER A1 4-6-2. That must have been good news for Bachmann because it confirmed their own findings and endorsed their earlier decision to produce an A1. It is good to be able to report that the Bachmann '00' model is about to reach the shops. We have been privileged to examine a pre-production sample of 60147 *North Eastern* in BR lined green with the early emblem. Other versions will be offered in BR blue and in BR green with the later emblem. A special limited edition is being produced for the members of The A1 Steam Locomotive Trust.

First impressions

The A1 is a big locomotive with a large tender and the first impression on opening the box is that this is a large model, at a foot long over the rear coupling. Thoughts, in the order that they came: fabricated chimney is horrible but realistic; printed nameplates on smoke deflectors a bit disappointing; good-looking front end complete with LNER round-pattern headlamps in 'express passenger' position;

but don't try to straighten them. They are glued in and break off all too easily. The A1 is a design where front footsteps can be fitted without fouling the bogie on sharp model curves, so these are provided, together with sprung blackened metal buffers and a dummy front coupling hook.

The early-style fabricated double chimney is represented on this model but the more elegant chimney will also be offered on other versions. The dome is the tapered 'streamlined' type. Separate blackened metal safety valves are fitted and the cab sides capture well the distinctive LNER shape. Inside, the cab has full backhead details, controls, bucket seats and even the cabside doors. Spectacle plate and forward side windows are flush-glazed.

Dimensionally, the model checks out accurately against the Roche drawing, though the tender coupling has more than one spacing. A closer coupling hole is provided for use on scale curves.

Tender

Modelled on the flush-sided Thompson



delicate valve gear and a very impressive glazed cab.

Locomotive body

The body, from running plate upwards, is assembled from plastic mouldings. 'Daylight' is visible below the smokebox rear, and the running plate carries sandbox filler and lubricator detail. The smoke deflectors are very thin flexible plastic, with wire handrails in very small metal knobs. It is worth commenting on the fine handrail wire and very small metal knobs used throughout the model, all being chemically blackened.

The imposing A1 front-end with its slightly 'angry-looking' expression has been well caught. There are separate details including the smokebox door handles and front lamp irons complete with their tiny replica electric lamps. On our sample not all of these had been fitted perfectly straight –

version of the Gresley eight-wheeled design, in usual Bachmann fashion it has removable moulded 'coal' revealing a fully modelled coal space with a couple of shovelfuls of coal in the bottom. A metal ballast weight is fitted in the moulded chassis.

The chassis moulding carries water pick-up scoop detail but the usual Bachmann brake blocks in line with the wheels are absent, although the main pull rods are moulded. All four pairs of metal disc wheelsets are mounted in the rigid axleboxes (there's no artificial bogie arrangement) with sufficient sideplay to allow negotiation of model curves. As usual with larger Bachmann locomotives, first radius curves cannot be negotiated by this model, however. The tender back is fitted with replica electric lamps, separate wire handrails, vacuum pipe, sprung metal buffers and a pivoted Bachmann coupling.

THE BACHMANN MODEL



Finish

The review sample was finished to Bachmann's usual high standard, in satin BR brunswick green with orange and black lining. The running plate edge is green with an orange line and the orange/black/orange boiler bands and cabside lining are neat and fine. Cabside numbers are printed in cream and the smokebox numberplate and 52A shedcode are clearly printed in white. The brass cabside builder's plate is represented by a coloured oval but carries no lettering.

Chassis

The chassis-and-frame unit is a metal casting, spray finished in matt black. Motion bracket and cylinder block are separate mouldings screwed in place. The can motor is mounted high in the rear boiler area and drives the centre coupled axle through a brass worm and a column of nylon gears. The forward boiler section contains a ballast weight. An NMRA standard eight-pin decoder socket in the firebox area is supplied wired for normal DC operation. There appears to

be enough space for a decoder above or alongside the plug.

The ends of the chassis casting are areas of innovation. The front has correctly shaped frames above the bogie wheels. The bogie itself is a plastic moulding fitted with blackened, spoked metal wheels. It has both lateral and pivoting movement within a slotted mounting between the cylinders.

The real novelty is at the rear, where the casting includes the outside frame and representations of the Cartazzi axleboxes. This is a rigid casting, not the usual pivoted bogie. The axle (with spoked metal wheels) runs in an inside frame which moves on a sprung arrangement sliding laterally in a slot. This gives an approximation of the Cartazzi arrangement while allowing the model to negotiate sharper-than-scale curves. The chassis casting has either a conventional axlebox on the Cartazzi axle or a roller bearing 'box depending on which is correct for the prototype. (contd on p.24)

Above: The tender coupling has two positions; this is the wider setting.





CHAIRMAN'S COLUMN



Last year the board promised to take a fresh look at the organisational structure of the trust, in particular to appoint a chartered mechanical engineer to the board. I'm delighted to announce that Tony Roche (see p. 7), current president of the Institution of Mechanical Engineers, has joined the board of the trust. Tony is extremely well known and respected in the railway-engineering world, especially for his work on the High Speed Train. As Chief Mechanical Engineer he will address the findings of last year's Engineering Link audit, strengthening our engineering function. I hope to report progress in the next issue of *Top Link*.

In this issue you can read (pp. 20–21) the changes we have made – and propose making – to our administration and marketing. You will see there are still several gaps that need filling and this is the central theme for this column.

Like most of the current board, I first became actively involved with the trust by stepping forward and volunteering my time and skills, in my case marketing and public relations. As time went on I began to take a more active role, joining the management team, then the board, taking over as chairman in 2000.

Although the trustees recognise that many covenantors wish to remain arm-chair supporters of the trust, we need many more people to step forward as volunteers and fulfil roles that we have identified within the management team or to help with our marketing activities. The article on pages 20–21 details the roles where we need people, the nature of the job and the skills required. I hope that as a result of this article I will be able to report in the next edition of *Top Link* that all of the roles have been filled with suitably qualified people.

I would like to thank all the volunteers who gave up part of their weekend to publicise the trust at the Alexandra Palace model railway exhibition. In coming months we will promote the trust's covenant scheme at other exhibitions and on steam specials. Details will be posted on the website; if you live locally you may hear from Alan Dodgson, asking if you can help. I hope many will.

I'd like to take this opportunity of thanking you all for your continued support; I look forward to seeing as many of you as possible at our Spring Day Out.

*Mark Allatt
Chairman*

The big picture (previous page)

The up White Rose is hauled by 60141 *Abbotsford* on 7 June 1962 through Wortley South Jc: on the left is the Bradford line. At the top of the 1 in 50 climb from Holbeck, it crosses the ex-LNW line onto a short down-gradient.

(photo: Gavin Morrison)

THE BOILER

A layman's guide, written by a layman

The trust has recently started work on the boiler. That is, we have started the process of searching for a manufacturer while ensuring we understand current procedures and requirements for getting a new boiler accepted by all the relevant authorities. This is not as easy as one may think, and this article explains some of the many considerations that have to be brought to bear upon the whole matter.

Where do we start? Well, the A1 had a Diagram 118 boiler, which could be worked at the same maximum pressure, 250 lb per sq. in., as that of an A4, but with a larger grate, of 50 sq. ft. The same type of boiler was fitted to the Peppercorn A2.

What do we mean when we refer to the boiler? The conventional locomotive boiler consists of two main parts: one is the barrel, which runs from the back of (but does not include) the smokebox; the other is the large, irregularly-shaped space whose many parts are collectively called the firebox.

In the case of the A1 the basic firebox has a forward extension shaped like the barrel; this is the combustion chamber, created to ensure more complete combustion of the fuel. The inner firebox intrudes into the void of the outer firebox, and between the inner and the outer is a water space where most of the heat transfer between fuel and water takes place. Both the inner and outer fireboxes sit on the foundation ring, and they are connected by hundreds of stays, to keep them in shape despite the deforming stresses of heat and pressure.

Boilers to Diagram 118 were conventionally built, with riveted construction, a banjo dome, and a copper firebox. Our first option could be to try to replicate this design exactly, but in today's industry the chances of getting an acceptable boiler with riveted construction are fairly remote. Some heritage steam specialists have expressed an interest, but none has built one of this size. All industrial companies that we have approached have said that they would wish to weld it together.

If we accept welded construction, we also have to accept that we are moving away from the original design – but we also have to do this if we use modern-specification steels. We can no longer get the original material anyway, and we would not want to use it even if we could. Modern steels are far superior to those of fifty years ago, and are subjected to far more stringent quality controls. The result: better material by far.

The use of modern materials and the use of welding require some

A LAYMAN'S GUIDE TO

elements of the boiler to be redesigned. This does not mean that it will change its shape or look any different except on very close examination, but it does mean that all the joins between plates of material will have to be redesigned for the particular types of weld used, and in turn the welds will need to be designed to accommodate the stresses in the boiler at all phases of the operating cycle.

When cold, the boiler rests as a dead weight on the frames. When hot and under pressure, it is more like a fully inflated tyre: it is more rigid, and has an added strength of its own. It then has a slightly different relationship with the frames. The boiler is bolted firmly at the front end to the smokebox, which is in turn bolted securely to the smokebox saddle. At the rear end, under the back of the firebox, it rests on sliding bearing surfaces on the frames. Thus, as the boiler expands with heating up, it grows a little in length.

Welded and riveted structures behave rather differently from each other. Rivets allow a little movement of the plates relative to each other because, although they hold the structure tightly, it is not completely rigid. Welded structures tend to be watertight all the time and very rigid, because the welds allow no flexibility except within the material itself.

Because of this characteristic, the welded locomotive boiler makes extensive use of flexible stays. Stays are the long rods, sometimes screwed into place, sometimes welded, that hold the inner firebox to the outer firebox, and take up all of the stresses of heat and pressure that are not carried by the plates themselves. With a riveted boiler, they allow a little flexibility, but when a boiler is welded some flexibility has to be built in deliberately.

The 'flexible stay' is a misnomer, for it is not itself any more flexible than a rigid stay, but it is *mounted* flexibly at the outer end, to allow a little relative lateral movement between the inner and outer fireboxes. Knowing how and where to design this flexibility into a boiler requires great skill. It is probably a bit of a black art, if the truth were known.

Now we run into bureaucracy. Who, today, has experience of design work on railway locomotive boilers in this country? Or, more correctly, who in this country has sufficient design experience *and understanding of locomotive boilers* to meet modern certification requirements in both design and manufacture? Rather few.

This is a sad reflection on our industry, but frankly there has not been much call for standard-gauge boiler design these forty years past. We have trawled comprehensively through British industrial boiler manufacturers, and

THE BOILER

have not yet found anyone willing to do both design and manufacture in today's regulatory environment. Many of them were reluctant to get involved; others were not too interested in making only one boiler.

If we found someone to do design alone, that might help, but it is a fact that we are far better advised, with a component as vital as the boiler – which is critical for safety and performance – to go to one firm for both design and manufacture.

The bureaucracy comes in because the European Union (EU) recently put in place a new Pressure Equipment Directive, which lays down approval, inspection, test and certification regimes for pressure equipment of the size and pressure that we desire. If we buy outside the EU, we still have to choose a manufacturer that will meet the various requirements of Railway Safety Ltd (RSL), and they will take a very strong line.

Here we have to remind ourselves that we are building a *new* locomotive and, even though aspects of the design that remain unchanged from BR days will be more easily accepted by RSL, a new design of boiler will be subjected to very careful scrutiny. Railway Safety Ltd will simply not allow risk to be imported on to the railway.

This is about where we are with the boiler so far. We know in broad terms what we want. We have trawled through British industry to look for potential suppliers, and elsewhere in the EU we have had a look at one supplier who, we believe, should be able to satisfy Railway Safety Ltd's requirements. Whether they can or not is currently under investigation.

We are also looking at other shops that are capable of building the boiler, but these may be outside the EU and we would have to look at aligning their procedures and standards with those specified by RSL. Some boiler manufacturers may be too far away for effective liaison during design and construction. We have a lot of work to do to ensure that RSL are informed at each step of the way so that, when we do proceed, they will be ready to deal with the approvals procedure as it unfolds.

Andrew Dow

Diagram 118 boiler

Weight: 28 tons 10 cwt empty Safety valves: two Ross pop, set at 250 lb/sq. in.
Length between tubeplates: 16' 11⁵/₈" Max. diameter: 6' 5" Length overall: 29' 0"
Grate area: 50 sq. ft Heating surface: 2,461 sq. ft Superheating surface: 680 sq. ft

ORGANISATION



The board has realised for some time that the trust is under-resourced in human terms – as Engineering Link’s report showed – and has been reviewing structure to identify gaps and draw up job descriptions, keeping faith with our founding principles: the trust is run using best business practices by people experienced in each area; it is focused on a single aim, expressed in the mission statement, by which all proposed actions are judged: “To build and operate a Peppercorn class A1 Pacific steam locomotive for main-line and preserved railway use.”

Changes at board level

Chief Mechanical Engineer

As reported in *Top Link*’s news pages, Tony Roche has joined the board as chief mechanical engineer with responsibility for: management of all engineering matters, including testing; direction of locomotive construction; quality control, inspection and calibration; document control; engineering resource management; liaison with VAB; budget management for erection, certification and test.

Company Secretary

The last edition of *Top Link* reported the appointment of the company secretary, David Burgess. Although not a director, he attends board meetings of the trust and its subsidiaries (The Locomotive Construction Company and Tornado Steam Traction) and is responsible for: secretarial functions of companies and management; preparation (with chairman) and circulation of board agenda and papers; attendance at each company’s board meetings, preparing and circulating written minutes; managing each company’s statutory books; liaison with Companies House; acting as each company’s chief legal officer, controlling budgets for legal matters; acting as company representative with officials; advising on administration; safekeeping of company documents, including statutory books, insurance policies, deeds and signed originals of contracts; advising on security of documents and sensitive data.

Administration Director

To strengthen the board, we are seeking two suitably qualified and experienced people. Probably also a director of The LCC, the administration director will be responsible for: liaison with Darlington Borough Council; all work carried out in Darlington Locomotive Works and dealings with contractors; the budget to run the works; identifying tasks for, finding and managing volunteers; and identifying IT strategy and resourcing. This person must live in or near Darlington.

ORGANISATION

Marketing Director

Probably also a director of TST, this person will be responsible for: maintaining a positive profile for the A1; dealing with the press; placing stories; dealing with all enquirers; communication with covenantors through *Top Link* and at events. Since becoming chairman, I have found it ever harder to manage both roles and we shall split them as soon as a suitable candidate can be found.

Changes at management level

We have made a number of changes in administration and marketing recently and Tony Roche will be doing the same in engineering once he is up to speed.

Marketing

As Events Co-ordinator, key volunteer Alan Dodgson will now concentrate on the Annual Convention and Spring Day Out; attending exhibitions; other *ad hoc* events; on-train marketing; and special projects, including major works visits.

Administration

The Works Manager/Volunteer Co-ordinator is Mike Wood, who will oversee day-to-day management of DLW, including maintenance and development schedule; volunteer management and co-ordination with director of engineering; and management of open days. We're delighted that Mike recently agreed to take on this role: he has already made a considerable impact in the works.

The new Covenant Administrator is Joyce Best, who will process enquiries, open and sort mail, deal with covenants, run the awards scheme, organise leaflet printing and oversee fulfilment. To help concentrate administration in Darlington, Joyce has agreed to take on this vital back-office role.

Our Database & IT Manager, Gordon Best, a key volunteer for many years, will now concentrate on managing and updating the database (addresses, financial details, labels, tax reclaims, filing, IT, template design and update, specifications and system audit, data protection and security) and Helpdesk.

Ad hoc volunteers

The trust continually needs volunteers. For marketing, contact Alan Dodgson to man a stand at events; do on-train marketing; or process models. Contact Mike Wood if you can help as a Saturday guide at the works; for further details, see our website: www.a1steam.com. Part two of this article will look at changes on the engineering side and how people can help actual construction.

Mark Allatt

THE SAFETY VALVE

The Editor welcomes letters from covenantors, especially if they are succinct and polite, but reserves the right to edit for length and content.

I hope the writer of the first letter won't mind it being printed here.

Poynton, Cheshire

Dear Chairman,

Having just received the latest copy of *Top Link* containing all the information about the 2001 Convention as well as progress, I am moved to double my giving. This has been OK'd by the wife (!) and is in part a reflection on the amazing amount of work done by your team in 'spare time', as well as the amount of money lost dealing with all the 'problems' of last year.

Robert Fickling

Piersay, Verruyes, France

Dear Gerard,

I enjoy *Top Link*: I edited a newsletter for English residents here, so I know the difficulties of putting out such a publication and collating sufficient interesting material. I sent details of an accident to 60123 at Lincoln: does the final picture in the last issue mean they'll now see the light of day? Here's hoping one day I'll see my 46th A1 (there were five I never saw as they hid themselves in deepest Scotland).

Gerry Riley

Ed: Oddly, Stephen Williams sent photos of the same accident: see page 25.

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London

Dear Mr Hill,

It is clear that as the new Editor you have had a significant impact and I congratulate you. I was particularly taken with the photograph on the Contents page: I fully approve of your decision to publish it. It made me hunt high and low for my last photograph of an A1, *Silurian* at York. Unfortunately I was unable to lay my hands on it!

Nigel Dyckhoff

Ed: Nigel has now dug further down to reach Silurian levels, as will appear.

Selby, Yorkshire

Dear Editor,

I have just received my copy of *Top Link* issue 2 and find the new format is 'most agreeable', with the addition of colour being an improvement.

Graham Badger

Hest Bank, Lancaster

Dear Editor,

I like the new format and the increased volume of news. In 1991, I spent some time in Meiningen works with my son. We saw a machine that welded flue-ends to perfection every time in less than the time its operator took to smoke half a cigarette; an O1¹⁰ firebox welded up and re-stayed; and not least a man in a trilby welding up a boiler in half a day, whilst another man taught apprentices to hand-beat a copper throatplate from scratch (it took 3

THE SAFETY VALVE

hrs). Their quality of work for my Class 80 was top-notch and spoke for itself. We are currently considering ordering from Meiningen a new boiler (about the same size as that for an LMS 2-6-4T) for the Class 80. If I can help in any way, please ask.

Peter Beet

Ed: Many thanks for this useful offer.

Cradley, Herefordshire

Dear Gerard,

Folk like me, very keen but clueless, are often in the dark about the motion. When you get near the steam-chest there's an awful lot of machinery flying about and I'm pretty fogged about most of it. Do you think you could find space for a wee diagram? For a mental age of about 10, I think.

John Gilbert

Ed: 11, surely? Your splendid modesty disarms me completely. I'm right out of diagrams but I'll see what I can do.

Chiddingfold, Surrey

Dear Mr Hill,

As a relative newcomer, I was surprised and pleased to receive the journal and even more impressed when I read it. *Top Link* looks to be very professionally produced, the Drawing Office feature is particularly interesting and the news and information helpful to those of us remote from Darlington. In all, it does the trust great credit.

P. G. Costello

Edgware, Middlesex

Dear Sir,

Recently it occurred to me that, had Arthur Peppercorn not become the last CME of the LNER, our mission statement would have been "To build and operate a Thompson class A1 Pacific locomotive for main-line and preserved railway use", a successor to 60113 *Great Northern* ... or would it? Now there's a thought to stimulate discussion down at the local!

Brian Collins

Ed: Well that might have been our mission, but I rather doubt it! Not only did Arthur Peppercorn in the end design the last LNER Pacific – and it clearly brought him many friends – but most people approved of the Peppercorn A1 because they saw it as (what the designer aimed to make it) just what Gresley would have done in the tough conditions of the late 1940s, whereas the Thompson A1, they felt, was not.



Filling up at a diesel pump? Is this what the future holds? The next issue will put you in the picture.

HISTORY

AI AT PRESTON

My caption to that slightly skewed picture printed under the List of contents in *Top Link 2* has brought a response from the photographer. David Tolson writes:

Regarding your description of the photo, please note that the train was entering the station from the south, not restarting! From my late father's diary I note that we caught the 1.37 pm train from our local station, Cherry Tree, to Preston, returning on the 4.42 pm.

The train was indeed entering Preston station, but the clouds of steam from the cylinder drain-cocks show that the A1 had just been restarted, presumably after a signal stop. The finger of suspicion points at one of the arms on that fine signal gantry visible above the loco, at the southern end of the platforms.

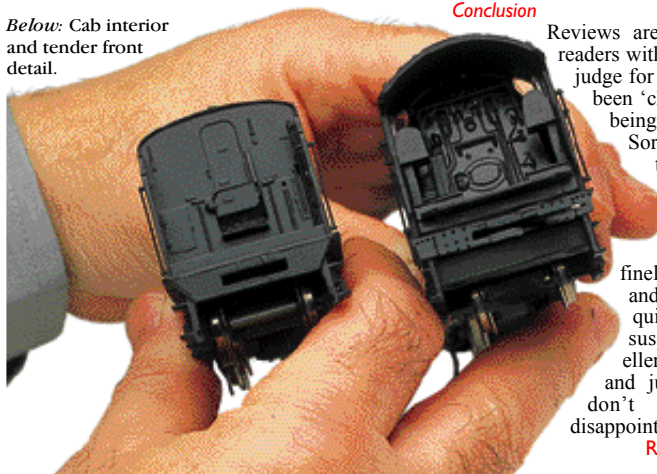
(contd from p.13) Phosphor-bronze wiper pick-ups bear on the backs of all six coupled wheels. The coupled wheels are blackened metal, as is the fine Walschaerts valve gear. Plastic brake blocks are fitted in line with the wheel treads and a separate moulded brake-rigging unit is included.

Performance

The chassis on our sample had been damaged so the tests were carried out with a 'borrowed' chassis from another pre-production sample. With these pre-production models, we don't know how much running they've done but it's fair to assume that they have at least been run in, so we are probably not seeing a straight-out-of-the-box performance. Slow-speed running was good right from the start, and the model proved smooth and quiet throughout the speed range.

We loaded it gradually to a maximum of 14 coaches, at which point there did not seem to be a lot of point in going further and the weight of stock around the sharp curves was causing lighter coaches to derail. The locomotive would clearly be happy enough with a scale-length train on a suitably 'scale' main line. Incidentally, our test train is a mix of Lima, Hornby and Bachmann stock: we don't have 14 of any one make!

Below: Cab interior and tender front detail.



Conclusion

Reviews are really about providing readers with information so they can judge for themselves. I've recently been 'charged' by one critic with being too kind to new models.

Sorry, but I happen to think this is another really great offering from a ready-to-run producer. It leaves me with no doubt that it's an A1, it is finely detailed, well finished and runs smoothly. That's quite enough for me, and I suspect, most other modellers. Study the photographs and judge for yourself but I don't think you'll be disappointed. (CJL)

Reprinted from *Model Rail*,
January 2002

HISTORY

DERAILMENT AT LINCOLN, 1949

Stephen Williams of Browns Bay, Auckland, New Zealand, e-mailed this item:

My grandparents lived in Coulson Road, Lincoln, in the late 1940s. Just beyond their back garden ran the Lincoln avoiding line, known to us as ‘the High Line’ because it ran on an embankment, roughly east–west across the south side of the city from Pyewipe Jc. to Greetwell West Jc. Part of the GN & GE Jt line, it enabled goods trains to avoid the notorious bottleneck at High Street crossing near Lincoln Central.

I spent many hours at the High Line trainspotting from the late 1950s to the mid-1960s, when it saw a procession of goods trains running between South Yorkshire and March. Normally the locomotives were mixed-traffic or freight types, such as B1s, K1s, K3s, O1s/O4s or 9Fs. The only Pacifics I recall seeing were Britannias, a regular sight.

My father recently gave me two photographs of a mishap to an A1 on the High Line: one shows it on the embankment near Coulson Rd, the other shows the damaged tender after being righted by the Peterborough crane



The Peterborough MPD breakdown crane starting to right A1 60123, derailed on the Lincoln avoiding line, October 1949.

(photograph: Stephen Williams)

HISTORY

The locomotive was unnamed and only '601' can be read on the front numberplate. It had a double chimney of the earlier, unlippped variety and the tender at least is in a light livery, presumably apple green.

A recent 'Railway bygones' pictorial supplement to the *Lincolnshire Echo* filled in some details: 'In October 1949, a fast goods train – diverted away from its usual route – ran into the back of a slow-moving goods on the high-level avoiding line near Coulson Road, Lincoln, and careered down the embankment. Five railwaymen had lucky escapes, but the guard on the slow-moving goods was treated in hospital after his brake van was shattered by the impact and burst into flames.' Photographs in the article clearly identify the A1 as 60123, later named *H. A. Ivatt*. I was one year old at the time and have no personal recollection of the accident!"

I don't know the gradient at this point, but this sounds like a typical 'permissive block' accident. Was it late in October? Yeadon's Register notes 60123 on 7 November entering Doncaster Works – whence it had first emerged only on 10 February that year – for a casual light repair lasting four weeks. Just how light?



The tender of 60123, back on its wheels. The origin of the pictures is unknown to Stephen Williams' father. *(photo: Stephen Williams)*

COVENANTS

To become a covenantor, or to start an extra covenant, a heritage covenant or a dedicated covenant, contact Alan Dodgson at enquiries@A1steam.com or ring 01325 460163, giving your name and contact details (phone/e-mail/address).

Remember you can buy gift vouchers as a present for family or friends, in a lump sum or instalments. If they are not a covenantor, they will become one by receiving your gift voucher, as long as you make 36 or more monthly payments.

Items over £1,000 can be sponsored by an individual or a group of people. Components other than those listed are also available as dedicated covenants.

PS52M	cylinder cover, right – machining	£600/1 x £10 pm
PS53M	cylinder cover, centre – machining	£600/1 x £10 pm
PS61M	Cartazzi axlebox pattern	£2,400/4 x £10 pm
PS350–1	eccentric crank bolt/nut/locking pin – L, R	£60 each
PS356–7	crank pin nut/locking pin – Ltrailing, R trlg	£120 each
PS378–81	coupling rod oilbox cover – Mid/L/R, L/R trlg	£150 each
PS394–8C	piston valve spindle crosshead guide (5)	£60 each
PS394–8M	piston valve spindle crosshd guide – machining	£60 each
PS399–410	machining of coupled hornblock liners (12)	£150 each
PS410	machining of inside motion plate	£600/1 x £10 pm
PS433–4	coupled cannonbox set castings (2)	£2,100/4 x £7 pm
PS441–2	Cartazzi axlebox casting – L, R	£800 each
PS443–4	Cartazzi axlebox machining – L, R	£1,600/1 x £26 pm
PS445	Cartazzi axlebox cover pattern	£500/1 x £9 pm
PS446–7	Cartazzi axlebox cover casting – L, R	£150 each
PS448–9	Cartazzi axlebox cover machining – L, R	£450/1 x £7.50 pm
PS450–1	Cartazzi axlebox backplate & machining – L, R	£950/1 x £16 pm
PS452–3	cab spectacle glass frame patterns – L, R	£600/1 x £10 pm
PS454–5	cab spectacle glass frame bronze castings – L, R	£300/1 x £5 pm
PS456–7	cab spec glass frame castings, machining – L, R	£600/1 x £10 pm
PS458–9	cab spectacle safety glass – L, R	£450/1 x £7.50 pm
PS460–1	cab side windows (complete) – L, R	£600/1 x £10 pm
PS462	cab side screen frame pattern – L, R	£300/1 x £5 pm
PS463–4	cab side screen frame casting – L, R	£150 each
PS465–6	cab side screen frame machining, hinges – L, R	£450/1 x £7.50 pm
PS467–8	cab side screen safety glazing – L, R	£300/1 x £5 pm

