

■ THE DIESEL YEARS AT NEWTON ABBOT DEPOT

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SEPT/OCT 2017

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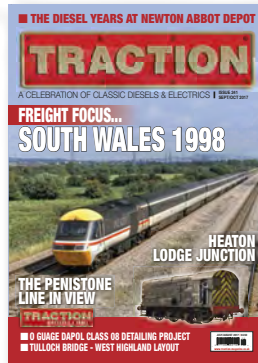
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56069 passes Cardiff Pengam Freightliner depot with an empty steel train on 27th August 1998.
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TRACTION

Publisher: Steve Cole
E: stevec@warnersgroup.co.uk
Editor: Stephen Rabone
E: steverabone@hotmail.com

ADVERTISING AND PRODUCTION

Group Advertising Manager:
Bev Machin T: 01778 392055
E: bevm@warnersgroup.co.uk
Sales Executive:
Allison Mould: T: 01778 395002
E: allison.mould@warnersgroup.co.uk
Ad Production:
Pat Price T: 01778 391115
E: patp@warnersgroup.co.uk
Design: Ruth Jamieson
Ad Design: Amie Carter
Printed by: Warners Midlands plc

MARKETING

Marketing Manager: Cary Dadge
T: 01778 392440
E: carlyd@warnersgroup.co.uk

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E: subsaccecetteam@warnersgroup.co.uk
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STEPHEN RABONE Editor

E-mail: steverabone@hotmail.com

Editorial postal address:

120 Churchill Road,
Middlesbrough TS6 9NS

Regular Contributors:

Bob Dunn, Colin Boocock, David J. Hayes,
Gavin Morrison, Alex Fisher

I'm sure that most railway enthusiasts would love to be able to go back in time to experience a day watching past railway operations. For me, without a shadow of doubt, that would be Carlisle at night in the 1970s and 1980s, when the railway was full of mail, newspaper, parcels and sleeping car trains as well as freight traffic. David Hayes decided that he'd probably like to return to South Wales as it was in the late 1990s. His superb images accompany the article about what he saw and photographed.

In TRACTION 238 Colin Boocock recalled his time in Western Region management and referred to his unhappiness about the closure of Newton Abbot Diesel Depot. Alex Fisher follows up this theme with his in depth look at the rise and fall of one of the West Country's major depots.

Continuing our look at the West Country, a fifteen year old Steve Randall continues his bike tour along the route of the former Great Western Main Line in search of Class 50s and former GWR signalboxes. He didn't quite make it to Newton Abbot, turning back for home near Dawlish, but nevertheless clearly had an amazing time.

Simon George is building an incredible O Gauge layout based on Heaton Lodge Junction in the 1980s. In the first of what we hope will be a series of articles about the layout, the scene is set with a look at the actual junction both before and after rationalisation.

Colin Boocock takes us into the world of maintenance of rolling stock and explains how new management techniques allowed British Rail to dramatically improve both the productivity of workshops and the reliability of motive power.

The humble electric multiple unit doesn't often get much attention from enthusiasts, but Nick Ross has fond memories of the Class 304s (or, as they were originally called, the AM4s) and their time spent working local services in the North West and West Midlands.

Gavin Morrison takes us on a trip along the Penistone Line in his latest feature. The line between Huddersfield and Penistone is probably one of the least known railways in the North of England but, with its numerous tunnels and spectacular viaducts, deserves to be better appreciated.

In TRACTION MODELLING Andrew Butler describes how his multi-location layout can be changed to represent a station on the West Highland Line. In its BR diesel format, Tulloch Bridge manages to convey much of the atmosphere of the line.

Detailing of locomotives is a popular subject among many readers, so Jeff Nicholls has returned to show how he personalised his Dapol Class 08 shunter.

The next issue of TRACTION, issue 242, will be on sale on October 6th.

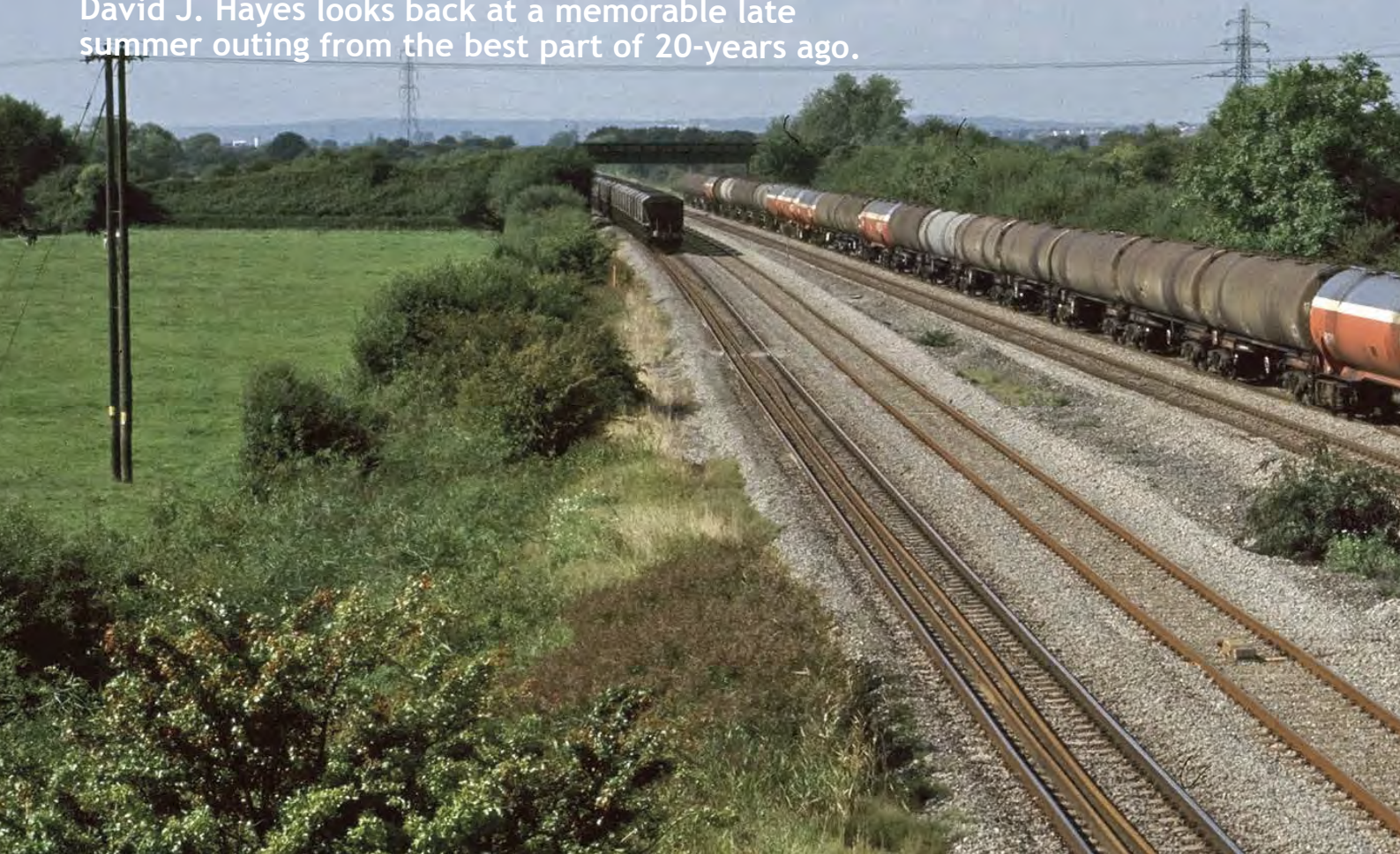
Stephen

CALLING ALL RAILWAY MODELLERS

Have you got a model railway with diesel or electric motive power that could feature in TRACTION MODELLING? Have you a modelling project, such as a layout under construction or scenic detail, that might interest other readers? Have you built a kit or modified a ready-to-run model which you'd like to tell others about? Have you a layout design that you think would make an interesting and achievable project for another modeller? If so get in touch with the editor as we'd love to feature your work in TRACTION MODELLING

SOUTH WALES - AUGUST '98 REVISITED

David J. Hayes looks back at a memorable late summer outing from the best part of 20-years ago.



Regular readers of the 'time portal' that is **TRACTION** will probably be familiar with my articles covering the West Midlands freight scene in my native Black Country region. I did, however, occasionally manage to 'escape' from this industrialized area and visit other parts of the railway network from time to time.

One such outing saw me venturing off to South Wales early one morning on Thursday 27th August 1998 to photograph the freight action on the busy South Wales Main Line (SWML) between Cardiff and Newport. My first port of call, however, was a visit to Ebbw Vale at 08:15 to check if 6B83, the 08:45 empty steel departure to Margam, was there, which it was. This was duly photographed at Cwm at 08:49 being hauled by Class 56 No. 56069 'Wolverhampton Steel Terminal', the train consist being formed of a long raft of empty BCA/BLA type coil carrying wagons for re-loading at Port Talbot Steelworks.

The '56', which was seen and photographed a couple more times during the course of the day, was still quite clean following its naming ceremony at the Black Country steel





LEFT: Still in the Marshfield area, a Regional Railways liveried Class 143 unit (No. 143609) scurries along the SWML at 12:10 with a service for Taffs Well.

terminal the previous month, where attending dignitaries included the then Chief Executive of English Welsh & Scottish Railways (EWS), Mr. Ed Burkhardt .

After securing the shot at Cwm, I then attempted to 'race' 6B83 down the valley to Newport, where I planned to bag another shot of the train at Park Junction (just before it joined the SWML) and then spend the rest of the day photographing trains on the SWML between Cardiff and Newport. Unfortunately, my second attempt at 6B83 wasn't so successful but I was more than compensated for this by having a very productive day photographing the SWML action, the majority of it caught in splendid sunny conditions. The accompanying table tabulates all the trains captured on film that day, the majority of which were freights.

For those who might be interested, the camera equipment used was a Minolta X300

ABOVE: Having visited Ebbw Vale earlier that morning I made my way to the SWML at Marshfield to capture the action. It turned out to be a slow start as more than 2 hours passed before I fired off my second shot of the day! Trainload Coal sector branded 60060 'James Watt' powers along the Up Fast through Marshfield at 11:10 with 6B13, the 05:40 Robeston to Westerleigh Murco oil train, as an empty Class 56-hauled MGR recedes into the distance whilst en-route to Port Talbot (Grange Sidings) to be re-loaded with imported coking coal for Llanwern Steelworks.

SLR (Single Lens Reflex) fitted with a Minolta 50mm (F1.7-F22) standard lens and loaded with Fujichrome 100ASA slide film (except for the shot of 6B83 taken at Cwm, which was captured on Agfa 100ASA slide film). I also used a Tokina 70-210mm (F4-F32) zoom lens for a number of shots throughout the day.

South Wales Main Line

Although perhaps not quite as busy for freight back then in the late 1990s as in previous decades, this stretch of the SWML, as of August 1998, was still traversed by plenty of freight traffic as well as by passenger services



ABOVE: Another view taken at Marshfield sees a Class 43 Inter-City 125 (IC125) making a fine sight speeding south-westwards towards Cardiff at 12:27.



operated by various train operating companies. A large part of the freight side of operations resembled a huge industrial conveyor belt in some ways, in that it provided a production line for the South Wales steel industry. There were regular movements of imported coking coal and iron-ore between Port Talbot and Llanwern, finished steel output from Port Talbot and Llanwern, and inter-works movements of semi-finished steel, such as strip coil to Ebbw Vale for galvanizing or manufacturing into tinplate, which was also shipped out by rail.

Also adding to the rich variety of SWML freight action still to be seen back then was the well-known flow of acetic acid between Hull and Baglan Bay (known as the 'vinegar' tanks) and automotive components generated by the Ford plants at Bridgend and Swansea. There was traction gas oil from Fawley to South Wales fuelling points, Freightliners to and from Cardiff Pengam, oil from Cardiff Docks and from Robeston in Pembrokeshire. Other metal flows were strip coil from Port Talbot to the West Midlands, scrap metal to Allied Steel & Wire (ASW) in the Cardiff Docks area, finished steel (e.g. wire/rod-in-coil and reinforcing bar/rod) from ASW and a new short-term localized flow of furnace slag between Llanwern Steelworks and Cardiff Docks. There was also, of course,

LEFT: 60004 powers steel empties towards the Welsh capital past Marshfield at 12:46. The service is probably bound for Margam Yard. The photograph was taken with a Tokina 70-210 zoom lens fitted to my trusty Minolta X300



TRAIN	LOCATION AND PHOTOGRAPH DETAILS	NOTE	TIME
Cwm			
6B83	56069 Ebbw Vale to Margam (empty steel)	2.	08:49
Marshfield Area			
6B13	60060 Robeston to Westerleigh (loaded oil)		11:10
6Z52	37906 Cardiff Docks to Llanwern (empty slag)	1.	11:27
----	IC125 eastbound and overtaking 56036 hauling a loaded Merry-go-round (MGR)	1.	11:31
7B50	56036 Port Talbot to Llanwern (loaded MGR)	2.	11:31
6B40	59004 Llanwern to Port Talbot (empty iron ore)	2.	11:51
----	Class 143 (No. 143609) westbound service (destined for Taffs Well)		12:10
7B52	60017 Port Talbot to Llanwern (loaded iron ore)	1.	12:14
6M86	60036 Margam to Dee Marsh (loaded steel coil)		12:19
----	IC125 westbound		12:27
----	60004 westbound empty steel consist		12:46
----	37694 westbound loaded ballast train	1.	12:55
6B82	56069 Margam to Ebbw Vale (mixed six wagon consist)		12:58
Newport Ebbw Junction and Newport Alexandra Dock Junction Yard			
----	IC125 westbound		14:12
----	37403 arriving from the west hauling 66001 to Newport Docks	1.	14:16
6B52	60017 Llanwern to Port Talbot (empty iron ore)		14:51
----	56041 westbound empty steel consist		14:54
6B51	56036 Llanwern to Port Talbot (empty MGR)		15:19
----	37114 'top & tailed' with 37023 (eastbound weed-killer train)		15:19
5S09	47764 Bristol to Cardiff empty TPO (for 1S09 Cardiff to Shieldmuir Royal Mail Terminal)	2.	Not recorded
Cardiff Pengam			
	Pengam Freightliner Terminal (47358+47287 and two other Class 47s in view)	1.	17:01
6B93	56069 Ebbw Vale to Margam via Llanwern (empty steel)		17:19
6V94	37798 Fawley to Cardiff and Margam (loaded gas oil)	2.	17:25
6B60	59004 Llanwern to Port Talbot (empty iron ore)	1.	17:32
6B84	37902 Margam to Ebbw Vale (loaded steel coil)		17:33
4S81	47358+47287 (shunting the 4S81 Freightliner prior to departure to Coatbridge)	2.	17:52-18:09
----	37897 loaded scrap metal for Cardiff Tidal Yard (for Allied Steel & Wire)	1.	18:16
7B67	60017 Port Talbot to Llanwern (loaded iron ore)	2.	18:27
Notes: 1 = image appears in TRACTION 166 (August 2008); 2 = image appears in TRACTION Annual (2009/10).			

ABOVE: I had seen 60017 'Shotton Works Centenary Year 1996' earlier that day at 12:14 in the Marshfield area with a loaded iron ore service. Here it passes Ebbw Junction at 14:51 with what is believed to be 6B52, the corresponding 14:56 Llanwern to Port Talbot iron ore empties. The '60' was later caught again on film passing Pengam with yet another load of imported iron ore for Llanwern Steelworks. In the background Newport Alexandra Dock Junction Yard contains a variety of wagons and traffics, including ballast and logs, and international IHA, IMA and IWA type wagons, which are possibly laden with metals traffic for export via the Channel Tunnel.

the successful post-Speedlink wagonload operation known as Enterprise, which was launched by Transrail in September 1994 and further expanded upon from 1996 by EWS.

Newport Alexandra Dock Junction Yard
Wagonload freight in the UK during the late 1990s was at its zenith, with new Enterprise flows (domestic and international) often being reported back then in the railway press. South Wales Enterprise operations were focussed on Newport's Alexandra Dock Junction Yard (ADJY), from where local out and back Enterprise feeder trips served Avonmouth, Barry, Cardiff, Margam and Swansea, and trunk Enterprise trains arrived from and departed to such locations as Bescot, Mossend, St. Blazey and Wembley. These trunk services also called at such locations as Burngullov, Carlisle, Exeter, Pontrilas, Tavistock Junction and Warrington.

Back then the Wembley-bound Enterprise International train conveyed significant tonnages of South Wales metals business (aluminium, steel and tinplate) for export via the Channel Tunnel. The return service from Wembley conveyed a movement of imported silicate sand from France to Barry Docks for Dow Corning. Amazingly, this latter traffic flow was still running at the time of writing and is believed to be the only 'true' conventional wagonload traffic using the Channel Tunnel today, as most 'Chunnel' freight is, again at the time of writing, either intermodal-based or conveyed in trainload consignments (e.g. aluminium, clay slurry, mineral water and steel) using mainly conventional wagons in most cases.

Newport ADJY was also used at this time by certain trainload workings and engineers' trains, the latter including railway ballast from Machen quarry and infrastructure services to or from Bescot, Exeter and Swindon. Other trains and traffics being staged in the yard included imported coal to Rugby (for New Bilton cement works) and flyash from Longannet power station to Westbury cement works (conveyed



ABOVE: Sporting 'Dutch' livery with Transrail brandings, 56036 (also seen earlier at Marshfield) passes Newport's Ebbw Junction and ADJY at 15:19 with what is believed to be 6B51, the 14:25 Llanwern to Port Talbot (Grange Sidings) empty MGR, formed of a uniform rake of canopied HFA type hopper wagons. To the left of the picture is the site of Ebbw Junction Depot, once the 'home' of the prototype Brush Type 4 No.1200 Falcon.



LEFT: 37114 'City Of Worcester' (leading) and 37023 'Stratford TMD Quality Approved' enter the scene from the Cardiff direction 'top & tailing' the Agr-Evo weed-killing train towards Newport at 15:19. The '37s' were wearing EWS and Mainline Freight liveries respectively, the latter looking a little faded.

by Enterprise between Mossend and Newport ADJY). There was also the famous Anglo-Scottish Burngullow to Irvine 'Silver Bullets' clay slurry service, which covered some 550-miles and thus, back then, held the title for the longest-distance domestic freight-haul on the network. This particular service was replaced in 2008 by a movement of Brazilian clay slurry railed from Antwerp via the Channel Tunnel.

Motive power

Main line motive power on the day of my visit to the SWML in August 1998 was quite varied with Classes 37, 47, 56, 59 and 60 (all wearing a variety of liveries) being observed on freight duties, and various multiple units and Inter-City 125s on passenger work.

In the late 1990s, the General Motors Class 66 invasion from 'across the pond' had only just begun and the only member observed during my South Wales visit was that of 66001. This was being towed by 37403 'Ben Cruachan' to Newport Docks (presumably from Cardiff Canton) from where it was scheduled to form a 0238 convoy movement at 09:00 on the Friday morning to Toton with 37403 and newly arrived sister '66s' Nos. 66003, 66004 and 66005 in readiness for the hugely successful EWS open weekend held at the major East Midlands depot on the Saturday 29th and Sunday 30th August, which attracted nearly 30,000 visitors. Mr. Burkhardt also attended that event, too, as did I!

Possible freight train identification on the day was aided by the excellent Freightmaster publication. In those days there was no Real Time Trains website, whilst Freightmaster and its accompanying forum is now also available on the Internet as well as in published format. A fully detailed account of the day's events appeared in the 2009/10 TRACTION Annual. The article, titled 'A Grand Day Out', was also pre-showcased by a photo feature in TRACTION 166 (August 2008) titled 'South Wales Variety', which provided a taster for the article (that feature also included a couple of images from a previous South Wales visit I made back in April 1989).

The accompanying pictures seen here are yet another reminder of that memorable August 1998 day out, now remarkably the best part of 20-years ago! I do hope you like 'em.

ACKNOWLEDGEMENT:

A sincere thank you to my good friend Andy Williams for the scanning of images used with this article (Andy's 'Bescot Plus' website is well worth a visit).

RIGHT: At 17:52 Freightliner-branded 47358 and sister 47287, the latter wearing Railfreight Distribution livery, begin to shunt what will later form 4581, the 18:20 Freightliner departure from Cardiff Pengam to Coatbridge. The Brush Type 4s will work the train via the Welsh Marches line to Crewe, where they will handover to a pair of Class 86 electrics. Opened in June 1967, Pengam Freightliner Terminal (FLT) closed in February 2001, being replaced by a new, larger intermodal facility located a little further towards Newport at Wentloog (much of the Pengam FLT site has now been re-developed).



ABOVE: Making for a pleasing 'going away' composition at 17:33, Class 37/9 No. 37902, still sporting its Metals division decals from the Trainload Freight sub-sector era, heads a short three wagon consist of BLA types laden with eight steel coils from Port Talbot forming what is thought to be 6B84, the 16:35 Margam to Ebbw Vale inter-works service. The Ebbw Vale plant closed in July 2002 and South Wales tinplate production is now centred on Trostre, west of Swansea.





Newton Abbot diesel depot

Alex Fisher continues his series of articles about Britain's diesel depots with an in depth look at Newton Abbot depot, which was a key part of the Western Region's plans to eradicate steam in the West of England.

While many diesel depots of the London Midland Region were merely a make do and mend affair left over from the steam era, Newton Abbot, on the other hand, was a shining example of the Western Region's drive to eradicate steam and forge a new diesel era of clean and modern depots. Sadly for Newton Abbot, however, Laira later usurped its place as the premier depot of the West Country. Between 1958 and 1981 though, it still managed to see 183 different locomotives allocated to it and continued to have allocated Class 08s until its closure in October 1981.

Up to 1876, the South Devon Locomotive Superintendent at Newton Abbot had the

responsibility of running three groups of railways as one, the South Devon, the Cornwall Joint and the West Cornwall. The Great Western took over these companies along with 85 locomotives, which the Great Western renumbered from 2096 to 2180. With the end of broad gauge in 1892 there was a review of the workshop facilities and, in 1893, the old South Devon railway workshop was converted into a locomotive running shed by replacing the traversing table at one end. The erecting shop was extended to give an increased number of pits, which lead to a central traverser running along the length of the building as opposed to across the end. A 35 ton capacity crane was installed for lifting the ends of

locomotives to facilitate wheel changing at the shed. The shed received the code NA. A broad gauge survivor lingered at the shed in the form of 'Tiny', a small engine which was used to power the machine shop equipment and fans in the blacksmith forges. A non-standard wooden trussed coaling stage with the coaling ramp level to the yard was added and the approach road along which locomotives were coaled was around 14 feet lower than the yard level.

The post-grouping years

With the grouping in 1923, Newton Abbot continued as part of the Great Western and a single 65 feet standard over-girder pattern turntable was installed in 1926. During World



War Two there were at least 65 air raids on Newton Abbot with around 50 high explosive bombs and roughly 8000 incendiary devices falling across the town. Nearly 90 people were severely injured and 22 people sadly died. One of the most severe raids came on the evening of Tuesday August 20th 1940 during the height of the Battle of Britain. Three Luftwaffe aircraft dropped six bombs on the station and adjacent engine shed. Sixty people sustained serious injuries whilst considerable damage was also inflicted upon the station as well as 15 locomotives, 52 passenger carriages and 22 goods wagons.

Over the following twenty years the depot had a large allocation of 4-6-0 'Castles', along with 'Granges', 'Halls' and 'Manors' which were regularly exchanged with other class members across the BR Western Region. From January 31st 1950, the depot became 83A with sub depots at Ashburton (until to 1958), Kingsbridge (until 1961) and Tiverton Junction (between 1963 and 1964). Exemplifying Newton Abbot's position as the premier shed of the West, every other depot west of Exeter then came under Newton Abbot in alphabetical order: 83B Taunton, 83C Exeter, 83D Plymouth Laira, 83E St Blazey, 83F Truro, 83G Penzance, 83H Plymouth Friary.

With nationalisation came rationalisation and, on June 9th 1958, the inland passenger route known as the 'Teign Valley Railway', between Exeter and Newton Abbot, was closed. The GWR had used the single line as a useful alternative route away from the exposed coastal sea wall at Dawlish. There was still another route west at that time along

LEFT: 50027 is seen departing Newton Abbot with the 12:12 Paddington to Paignton on 4th August 1976. The diesel depot can be seen in the background. Richard Clayton

BELOW: 47035 stands outside the west end of the new servicing shed on March 5th 1978 whilst a Class 31 is inside. Railphotoprints.co.uk - John Chalcraft





Stabled in the open beside the new servicing shed on March 5th 1978 are 50024, TDB 968008 (D5054), 46026 and 45026. The wall of the old steam shed building survives on the left but the roof was removed sometime in the mid 1970s. Railphotoprints.co.uk - John Chalcraft

the former Southern Railway's North Devon route between Exeter and Plymouth, via Okehampton.

The diesels arrive

The first diesels allocated to Newton Abbot were a batch of brand new English Electric 350 hp shunters (the later Class 08s). They were numbered D3519-25 and arrived between May and June 1958 for use in the yards between Newton Abbot and Taunton. Two of the smaller 204hp diesel mechanical shunters (the later Class 03s) D2129 and 2130 came to Newton Abbot in January 1960.

The last heavy repair on a steam engine was on No.4566 in July 1960, although minor repairs to steam motive power continued for a short time after this.

In January 1961, the first mainline diesels had arrived in the form of six 'Warships' numbered D825-30. D830 'Majestic', or 'Magic Stick' as many on the Western Region referred to it as, had been selected to receive the British built 12YJXL engines coupled to Mekydro K104U transmissions in the Swindon built locomotive. Its first two years were virtually trouble free and it achieved around 75,000 miles running in each year. A Paxman representative would accompany the locomotive from Newton Abbot to monitor its performance. As the operating department was keen to keep the D830 on the West of England routes, i.e. between Paddington and Kingswear or Penzance, the 'Torbay Express' was a regular Newton Abbot diagram for that particular 'Warship'. Newton Abbot looked after all D830's routine maintenance but, as its engine lift couldn't be done by standard depot equipment, this was carried out at Swindon.

Eight North British Locomotive Company Type 2s numbered D6326-33 and six 'Warships' numbered D833-8 also came before the end of 1961.

The new diesel depot

A two road maintenance shed was opened in 1961; each road accommodated two large locomotives or three smaller ones with servicing supplies kept in the central aisle. Early 1962 saw the rapid transferring away of the remaining steam engines as Newton Abbot continued its rebuilding as a diesel depot. In 1962, the factory was reformed so that the longitudinal traverser was removed and a new one was added at the end and outside of the building to give access to four roads with servicing pits and cab level platforms, which then ran along the length of the shed. Each road held two locomotives, thus allowing simultaneous repairs to eight engines. A new daily servicing and fuelling point was also built outside the old steam shed. Interestingly a bogie cleaning pit was installed where high pressure steam was used to clean the bogies of all grease, dirt and oil in order to prevent bogie fires and to give the maintenance staff a better working environment. Dates of the depot's closure to steam vary but all suggest either 1962 or 1963. The former six road steam shed was then used to stable diesel locomotives and a new 'Britannia' locomotive washing plant was also installed at the depot.

The depot's work

At this time, the depot's premier work was the supplying of traction for the locomotive hauled passenger trains. Two of the depot's top link diagrams were the 10:50 Kingswear

to Paddington, the 'Torbay Express' and the 09:25 Kingswear to Bradford the 'Devonian'. This was worked by a 'Warship' as far as Bristol Temple Meads. The 'Devonian' was also used as a running in turn for locomotives coming off the factory after repair. Along with other local passenger work to Exeter and Kingswear there was also a varied amount of milk and china clay work which took Newton Abbot's locomotives to Chard, Tiverton, Hemyock, Seaton Junction and Meeth.

A single Beyer Peacock 'Hymek', D7002, was reallocated from Bristol Bath Road to Newton Abbot in September 1962 and although it returned to Bristol in April 1963, 16 other examples were also allocated to Newton Abbot at various times. The final trio, D7068-70, were re-allocated to Cardiff Canton in September 1966. Their duties included freight workings to Rogerstone.

In March 1963 brand new 'Western' D1057 was allocated to Newton Abbot and in March 1964 D1030/1/2/3 and D1068 all came from Old Oak Common to the depot whilst D1071 moved from Laira. D1039 arrived in May 1964 along with D1044-48 and D1050 in September 1964. Three of the 14 moved away before June 1964, while the other 11 lasted until June 1965 when they were all transferred away to Laira depot.

Apart from the first ten North British Locomotive Company Type 2s D6300-09 and D6324/51/53-57, which weren't allocated to Newton Abbot, all of the rest were. D6330/3/4/8/9 were still there in May 1971 when they were transferred away to Laira. Ultimately it was the 'Warships' that really made Newton Abbot their home and 22 of the Swindon built locomotives alongside 29 North



On 10th June 1978, 45036 is standing on the new traverser that was built at the east end of the depot. In 1962 the factory was rebuilt so that the old longitudinal traverser was removed and a new one was added at the end of the building to give access to four roads with servicing pits and cab level platforms. Railphotoprints.co.uk - John Chalcraft

British 'Warships' were still allocated to Newton Abbot in January 1971. Newton Abbot was the main servicing depot for the 'Warships' and many were allocated there instead of Laira.

Until the end of the 1960s, the depot had a healthy work load and even received Bristol Bath Road 'Peaks' (the later Class 46s) for engine repairs. To avoid locomotive changes at Bristol, Newton Abbot and Laira crews started learning this class from the winter 1969 timetable and this meant that the 'Peaks' could stay with their trains to Paignton and Plymouth and by the December the type were also able to continue right through to Penzance.

However, the depot's fortunes were changing as BR sought to eradicate the diesel hydraulics. Indicative of the rundown was when D830 was put into store in February 1969. It was officially withdrawn from service on March 26th 1960 having achieved 17,290 hours and 447,000 miles service nearly all of which was clocked up while allocated to Newton Abbot. The locomotive languished on the depot until June 1969 when it was towed to Laira for parts recovery before being scrapped at Swindon Works by November 10th 1971. With its nameplates removed, D828 also spent the spring of 1971 dumped at the London end of the depot after its withdrawal in the March. The end of the depot's mainline allocation was nigh and when North British 'Warship' 857 worked a ballast train on the Heathfield branch on

Sunday October 3 1971, it returned to Hackney Yard and then Newton Abbot depot where it was simply switched off along with all the other remaining members of the class.

This left only the Swindon built 'Warships' allocated to the depot when Newton Abbot relinquished its capability as a heavy maintenance facility from December 31 1971. The final allocation was D803/5/6, D810/1/3/4//6, D820/1/4/5/7/9 and D832. Come January 1972 those that weren't withdrawn were re-allocated away to Laira depot. This left the depot with just a contingent of 14 English Electric 350hp shunters: D3509/25, D3808/13/89, D4014/15/17/22, D4129/58/60/67/85. Newton Abbot's place as the premier diesel depot in the West had been a short lived high.

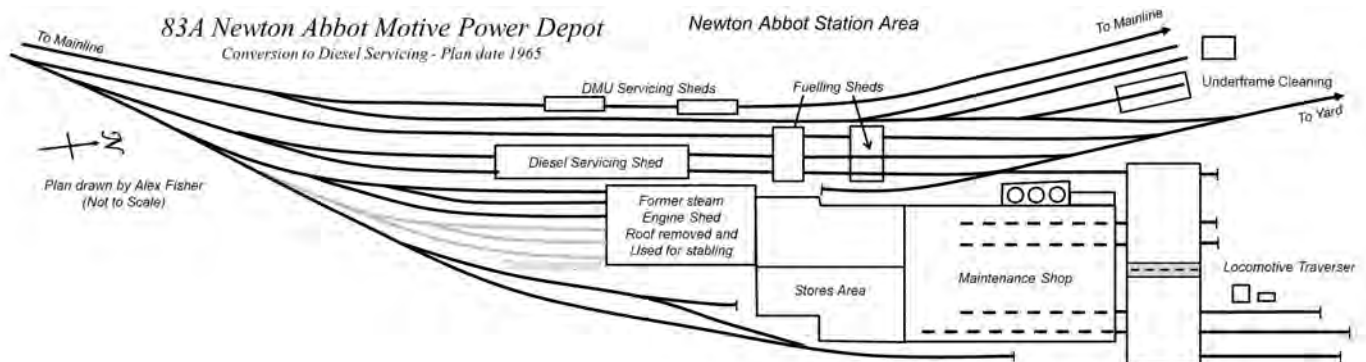
Ten years of stabling

Locomotives still stabled at the depot and repairs to coaches were also undertaken in a temporary structure known as the 'elephant house'. The Kingswear branch was cut back at Paignton in October 1972 and this reduced further the locomotive requirement in the Newton Abbot area. The first BR diesel to be preserved was D821 and after its sale in 1972 it ran light under its own power from Newton Abbot depot to the Great Western Society's depot at Didcot. In May 6 1973 the depot became NA under the TOPS coding system,

the same code it had received back in 1893.

With Torquay and Paignton seeing a proliferation of summer dated locomotive hauled passenger trains for a wide range of destinations, Newton Abbot was regularly visited by Class 45s, 46s and 47s. Newton Abbot was often the location for locomotive changes such as, in 1974, on the 4V03 21:20 Curzon Street to Plymouth parcels and a locomotive off the afternoon 16:30 Paddington to Paignton service.

A regular departmental locomotive on shed in the late 1970s was the former Class 24 number ADB968008. It had been extricated from the scrap line at Crewe Basford Hall, along with 24142, in late August 1976. It arrived at Exeter as part of a milk train on August 31st and was destined for Laira where it was converted into a train heating unit. The conversion involved plating over the boiler exhausts, fitting ETH connections and external controls to the sole bar on the driver's side of the cab. 24054 became ADB968008 whilst 24142 became ADB968009. The former moved from Penzance to Plymouth in 1977 and the latter from Plymouth to Worcester. ADB968008 came to Newton Abbot by March 1978 where it remained until the depot closed and in August 1982 it moved to Stratford. It later went to Cambridge before that depot ceased using carriage heating units and after a time at March depot it was preserved by the East Lancashire



Railway.

In 1977 rumours of closure were rife although the then chief personnel officer of BR wrote to a local MP candidate to say, "Nothing untoward was taking place at Newton Abbot." However he mentioned the expansion taking place at the nearby Laira depot – a portent of Newton Abbot's imminent demise. The main depot buildings at Newton Abbot came in handy for the storage of withdrawn 'Westerns' and, on March 2nd 1977, D1010/3/41/8 were all moved from Laira and were parked inside the roofless former steam depot for safe storage pending preservation bids.

In August 1979 the depot had Class 08s based at Meldon Quarry and Exeter Riverside Yard while another acted as trip pilot and an air braked example was used as Exeter St David's station pilot. Newton Abbot station also had its own pilot engines; an air braked example for passenger services and another for freight. The latter locomotive worked Newton Abbot New Yard and tripped to Heathfield and Hackney Sidings.

In 1980 over a dozen locomotive hauled departures originated from Newton Abbot starting with 2B00, the Saturdays only 05:13 to Paignton, along with various departures to Paddington and Exeter which required fuelling and watering. The most interesting work was perhaps the servicing of the Motorail stock and Class 47s off the 1554 20:04 Newton Abbot to Stirling (running on Tuesdays, Thursdays and Saturdays) and the 1V54 21:58 from Stirling to Newton Abbot (running on Sundays, Wednesdays and Fridays)

At nearby Exeter a new depot building was built in 1979 for the maintenance of DMUs and this, no doubt, hastened the demise of Newton Abbot depot. In 1981, the year the depot closed, the Class 08 shunter duties covered were: the Meldon Quarry pilot, a dual braked locomotive on the station pilot and carriage sidings at Newton Abbot station along with another which tripped between Newton Abbot New Yard, Heathfield and Hackney Sidings. At Exeter, a dual braked example covered the station pilot whilst another worked Riverside Yard and Exmouth Junction sidings. A third acted as a local trip engine with a fourth engine as a spare. Of note is that Newton Abbot had recently taken over the Taunton area shunting from Bristol Bath Road and one shunted the concrete depot whilst a second acted as station and yard pilot.

Closure

In January 1981 the impending closure of the locomotive servicing and coach cleaning depot was confirmed. The train crew depot was to close on June 1st followed by the servicing and cleaning depot from Monday October 5th 1981. The £5M cost of the new depot building at Laira had risen to £8M in four years and part of the cost was justified by the closure of Newton Abbot depot which BR calculated would save them £100,000 per annum. Forty-five footplate staff, thirty workshop staff, thirty carriage cleaners, eleven shunters and some clerical staff were made redundant upon closure, although some found further employment with the transferred work. The station pilot duties at Exeter St Davids and



With the converted factory building in the background, 'Warship' No. 834 and NBL Type 2 No. 6338 are seen in the storage sidings at the east end of the depot on the 3rd August 1971. The traverser was located just to left of the doors at the end of the building. David Wharton



Swindon built Warship No. 813 'Diadem' stands outside the east end of the new servicing shed on 17th October 1971. The old steam shed building is on the left. Railphotoprints.co.uk/John Medley

Riverside Yard trip workings were taken over by Laira depot whilst the Taunton area shunt, which by February 1983 required only one locomotive, had reverted to Bristol Bath Road. Locomotive hauled passenger and postal trains still plied their way through Newton Abbot with the locomotives serviced at the increased facilities at Exeter St Davids, along with the excellent facilities at Laira.

Post closure

The Newton Abbot area changed substantially in the mid 1980s when the track was rationalised and the semaphore signals were removed to allow Exeter power signal box to take over the area with track circuit block colour light signalling. The Class 50s ceased operation at the start of the 1990s. A few locomotive hauled Cross Country trains continued until Virgin introduced 'Voyagers' on the North East to South West route. Postal services, now run by EWS, had their Class 47s replaced by Class

67s. The diesel depot, however, lingered on in a dilapidated state and, although the factory was stripped and sold for industrial use, the former steam depot still stood in the mid 1990s.

In 1998 there were even attempts to revitalise the site as a working railway heritage centre. The site was owned by Teignbridge District Council and the original fuel points still survived, as did the daily servicing shed. The scheme received warm support into the 2000s but nothing came of it in the end. At the time a Class 47 was often based near Newton Abbot as a stand by locomotive to assist HSTs on one power car over the Devon banks and to rescue any other failures. Today Newton Abbot is just an intermediate station between Exeter and Plymouth with little to show that it was once the Western Region Region's premier depot. Only the work of the Newton Abbot Town and GWR Museum keeps the memory of its railway history alive.



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West of England *bike* tour: Part 2

A 15 year old Steve Randall continues his quest to photograph Class 50s and Western Region semaphore signals and signal boxes as he heads westwards.

Wednesday 1st August 1979 – Whiteball to Starcross

It took me some time to get organised next morning with four Class 50 workings interrupting my efforts -

50039 'Implacable' - 05:07 Penzance-London Paddington, the 'Golden Hind'
50043 'Eagle' - 08:01 Paignton-London Paddington (?)
50021 'Rodney' - 06:24 Penzance-London Paddington
50005 'Collingwood' - unidentified working

When I did eventually get going there followed an easy and meandering ride following the line before arriving at Tiverton Junction station. This delightful station, in the shadow of the M5, closed on 12th May 1986 to be replaced by the rather soulless Tiverton

Parkway some three miles further back up the line towards Taunton. The station oozed Great Western character and style with a lovely signal box situated on the up platform. To a modeller, I should imagine this would have been a great opportunity to identify and recreate the finer points of a classic GWR junction. A number of Class 47s and 'Peaks' passed whilst I waited patiently for a '50'. I was eventually rewarded with 50008 'Thunderer' roaring through the centre road with the 08:34 Penzance to London Paddington. A visit to the site of the station today reveals that the platforms are still extant in the undergrowth but there are no remnants of any structures. Rather bizarrely, during my last visit in 2006, there was still a corporate BR station sign in the corner of a car sales lot pointing in vain towards the old site.

There then followed a rapid succession of signal boxes towards Exeter. The first of these was Hele and Bradninch which was at a busy

In the early morning summer sun, 50021 'Rodney' ascends Whiteball from the west with the 06:24 Penzance to London Paddington. This picture is taken from a field close to where I camped just behind the signal box. This was a very remote and quiet spot with just the sounds from the 'box for company.
 1st August 1979.

level crossing in the Culm Valley. There were three Class 50s observed in quick succession -

50022 'Ansoni' - unidentified working
50046 'Ajax' - 09:50 Penzance-London Paddington
50015 'Valiant' - 11:30 London Paddington-Penzance
'Cornish Riviera'

A short ride beyond Hele found me in the delightful and sleepy village of Stoke Canon. The tiny signal box was kept busy on this summer afternoon. There were three '50' workings observed here. Heading ever closer to Exeter, a short break was taken at Cowley Bridge Junction. This classic location is little different today even from as far back as steam days. The only real differences today are the absence of the signal box and semaphores. Even the classic black and white 'New Inn' (now



Tiverton Junction station was situated some five miles from the town of Tiverton. It was actually located in the village of Willand, a quiet place until the arrival of the M5 motorway no doubt! 50008 'Thunderer' takes the centre road through the station with the 08:43 Penzance to London Paddington. Behind the engine, the large signal box is seen on the up platform. The station was not particularly well placed and after steady rationalisation over the years, it was eventually closed in 1986. The new Tiverton Parkway was opened some three miles north but, ironically, is now even further from the town of Tiverton! 1st August 1979.

Stoke Canon Crossing signal box was a small affair built very early in 1876 by the Bristol and Exeter Railway to a design by Saxby and Farmer. It was unusual in having a row of toplight windows. It is seen here still bearing its GWR cast nameplate. Note the ground signal in the foreground guarding the crossovers. 1st August 1979





ABOVE: I arrived at Exeter St. David's just in time to see 50011 on the 15:01 Penzance to London Paddington leaving the station. This '50' was the penultimate to be named and, in July 1987, was the first to be withdrawn. It is seen at the northern end of St. David's Station from the level crossing just in front of Exeter Middle signal box. The level crossing was extremely busy, straddling all the lines in the throat of the station and was controlled by the signal box, but a further member of the railway staff controlled the separate pedestrian crossing. He had a small hut at the foot of the main 'box and could always be seen in his hi-vis waist coat about the crossing area. 1st August 1979

the Cowley Bridge Inn), that features in the background of so many photographs, is still there serving pints to thirsty railway enthusiasts! As I was only 15, I had no time for liquid refreshment of this type so I made do with 50040 'Leviathan' heading the 12:23 Penzance to London Paddington instead!

After taking a distant shot of the very difficult to access Exeter Riverside signal box, I headed on to St. David's station. As time was now pressing, and because I had already visited St. David's a number of times before, I only made a brief stop. There was just time to see, yet to be named, 50011 take the 15:01 Penzance to London Paddington out of the station. One thing I had to do was to find and then get a picture of Exeter City Basin signal box. This was very tricky to locate and even more so to access. I admit that this did require a trespass after climbing a fence from a Post Office depot car park. Even then, I could only get a picture from the back as I was not brave or foolhardy enough to cross the running lines! The signal box was not an attractive affair and was built by BR in 1962.

A ride through the St. Thomas district of Exeter ensued; this was not very pleasant during the rush hour but I was determined to carry on towards Exminster and look for somewhere to set up camp. I took a brief stop at Exminster to photograph the impressive and delightfully located classic GWR all timber signal box. After closure, it languished on

BELOW: To get this picture of Exeter City Basin signal box I must admit to a bit of trespassing! Opened in 1962, it was the intermediate 'box between Exeter West and Exminster and was often switched out, something I gambled on when I took this picture! The lines in the foreground were the sidings into Marsh Barton. Prior to them being truncated they formed the inland route to Newton Abbott via Chudleigh and Heathfield. As part of Network Rail's strategy for South Devon, and given the constant battles with the sea wall, this route has been mooted for possible re-opening in some form. Note Exeter's wonderful cathedral on the skyline. 1st August 1979





Memories of long and hot summer holidays!
50043 'Eagle' passes Dawlish on the 12:23
Paddington to Penzance working. 2nd August
1979

until 2006 being used by the RSPB as a not very successful hide. It was then dismantled and now resides at the Gloucestershire and Warwickshire Railway for future possible use at Broadway.

I rode on a little further, finally stopping in the village of Starcross. I set up my tent next to the line on a small piece of land just north of the station. What a lovely spot, with the sounds of sea-birds, the Exe estuary as backdrop, and with the constant passage of Class 45s, 46s, 47s and 50s. I ate a smashing bag of chips; what could be better?

Thursday 2nd August 1979 – Starcross to Rewe

I had worked out that this would have to be my 'turn for home day'. In other words, this would be the day when I would need to turn my bike round at some point and start the journey back if I was to get back by the agreed day. I was determined to get to the sea wall prior to this, so an early start was made away from Starcross. A stop was made at the famous Cockwood Harbour and then at Dawlish Warren in time to see 50042 'Triumph' on the 08:30 London Paddington to Penzance. After moving a short distance further I then spent the bulk of the day enjoying the delights of the sea wall getting as far as the western side of Parson's Tunnel to Sprey Point. During this time there was a procession of workings headed by '50s'. In the space of about two hours nine members of the class were seen -



Not actually a trespass shot but, in hindsight, not an ideal location unless I had eyes in the back of my head! Taken from a public footpath crossing near Powderham, 50047 'Swiftsure' speeds westward with the 13:30 London Paddington to Penzance. I wonder if the family out for their walk appreciated the scene as much as I did? 2nd August 1979

50042 'Triumph' - 08:30 London Paddington-Penzance
 50048 'Dauntless' - unidentified down working
 50012 'Benbow' - 09:50 Penzance-London Paddington
 50045 'Achilles' - 10:30 London Paddington-Plymouth
 50039 'Implacable' - 10:56 Penzance-London Paddington
 50013 'Agincourt' - 11:30 London Paddington-Penzance
 'Cornish Riviera'
 50011 unnamed - 13:48 Plymouth-London Paddington
 50043 'Eagle' - 12:23 London Paddington-Penzance
 50002 'Superb' - 12:30 London Paddington-Paignton

However, all good things had to come to an end and it was with a heavy heart that I turned my Claude Butler bike east and started to retrace my steps. I followed a very similar return route but decided that, as a treat, I would stay at an 'official' camp site that I had spotted on my journey down at Rewe just up from Stoke Canon. This enabled the use of the facilities to improve the personal hygiene situation! As I was settling down for my evening meal in the entrance of my tent, the sound of a '50' caught my attention in the valley below. It was heading up on a long rake of parcel vans at about 20:30. I never actually identified the locomotive or the working, so any help would be appreciated so I can fill in the blanks! I had a cracking night's sleep and afforded myself a bit of a lie in next morning.



Friday 3rd August 1979 – Rewe to Cogload Junction

My aim for the last full day was to get back to Cogload Junction again. This was because I had the offer of another possible signal box visit following a conversation with the signalman on my previous visit on Monday. Again, I stopped at Tiverton Junction and Whiteball for breaks. During a half hour stop at the latter, no fewer than four Class 50s passed! A Class 31 was also observed labouring up the bank with what I believe to be the Fridays only 10:32 Newquay to Manchester. Can anybody confirm details of this?

I wanted a reasonably early arrival at Cogload so I could spend a bit of time in the

*50023 'Howe' – 10:30 London Paddington-Paignton.
50038 'Formidable' – unidentified working.
50009 'Conqueror' – unidentified up working.
50039 'Implacable' – unidentified working.*

signal box during the afternoon as promised. So I rode a pretty direct route, only pausing at Silk Mills again to observe 50022 'Anson' passing working, what I believed to be, the Fridays only 11:25 Newquay to London Paddington. On arrival at Cogload, I set up camp and joined the signalman, 'Smithy',

who was doing the 2 to 10 turn. He was very accommodating and taught me how the 'box worked. I was educated in the art of pulling the levers and the operation of the bells. When 'Smithy's' shift ended I was prepared to retire to my tent. But, he introduced me to the relief signalman, who was doing the night-shift, and was also happy to have me in the 'box. So I decided to stay a bit longer and, in fact, ended up staying all night!

Saturday 4th August 1979 – Cogload Junction to home

The list of workings that passed in the twelve hours from 18:00 to 06:00 was extraordinary. Many of the locomotives couldn't be identified because of the darkness but I remember vividly the shaking and vibration as up Bristol trains passed by, these being nearest to the 'box. This was especially the case with '50s', the resonance from their English Electric engines was something to savour. Even though done on a pretty basic Ferguson radio/cassette recorder, my recordings taken in the 'box still give a good feeling of what it was like right down to the creaking floor as the signalman moved around.

The signalman and I spent the night drinking lots of tea (that I was responsible for) and eating biscuits. The night passed relatively quickly, even in the early hours there were parcel trains, newspaper workings as well

as sleepers and a number of PW workings. I managed most aspects of the signalling. However, whether it was over-confidence or pure tiredness, by first light I nearly caused a major foul up.

Cogload had a train describer for up Bristol workings. It was used to tell the Bristol Power Box that Cogload had a train ready for them as it was the fringe 'box on this route. I misheard, or misunderstood the bells from Taunton East for an up express via Westbury. Seeing the signalman replying to Taunton East in order to accept the train into section I promptly informed Bristol, via the describer, that there was a train for them to accept into their area. They promptly did this and the colour light up the line from the 'box turned from red to green. When the signalman realised what I had done, he leaped to the 'phone attached to the train describer and told Bristol Control of 'his' error. With the crisis averted he admitted that they were puzzled at how the mistake had been made. We thought it was best that this was my last operation of the 'box!

After bidding a fond farewell to the signalmen and the 'box it was now time for me to pack my kit up and head for home. Having effectively lost a night's sleep I was absolutely exhausted! The ride home back to Bath was undertaken in a state of half sleep. But I was able to reflect on an excellent week's spotting as the tired legs turned relentlessly on and on!



I calculated that

- I saw 60% of the Class 50 fleet.
- 50029 'Renown' was the one I observed most often, seeing it seven times.
- I noted a total of nineteen mechanical boxes from Castle Cary to Dawlish
- From Castle Cary to Sprey Point (my return point) was 72 route miles.
- I covered a total of 270 miles on my bike.
- I had only one puncture and no mechanical issues!

Final thoughts.....

The sheer number of workings observed was extraordinary with virtually all of them locomotive hauled with the dreaded scourge of the HST making limited inroads at this time. The steam age mechanical signalling was still fully in action. It had a further six years or so of use before it was wiped away under the West of England MAS programme. The freedom afforded me was enlightening. I had no issues with access to stations with no barriers. All railway staff I came into contact with were friendly and accommodating. In fact, I remember those I spoke to were interested in my trip even though some expressed fears that I was a little mad! And, as for the access afforded me in Cogload 'Box: well, that would be something that would never happen today!

Close to 40 years on, would I let my 15 year old go off on his bike for a week on his own, camping rough, following a railway line and with no mobile phone? Probably not, but he would have no interest in doing so anyway unless there was an Xbox at every camp site rather than a signal box!

ABOVE: Having emerged from Whiteball Tunnel and passed the signal box, 50023 'Howe' accelerates on the descent towards Exeter. It was heading the 10:30 London Paddington to Plymouth working. 3rd August 1979

BELOW: I never managed to get an outside picture of Cogload Signal Box, despite my extended stay. So here is one taken some five years later, on 29th September 1984. The photo was taken from the 07:00 Oxford to Paignton working with 50009 'Conqueror' at the head. 47345 passes leading the 06:35 Plymouth to Old Oak Common empty newspaper van working. Incidentally, the Paignton working had been halted at Cogload by the signalman because it had been reported that there was a door open on leaving Bridgewater. The driver can just be seen getting down from the cab to talk to the signalman; remember, this was way before mobile phones and in-cab communication!



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TRACTION MODELLING

Andrew Butler found it difficult to limit his modelling interests just to one area or era so he built a layout that could be a layout capable of being transformed by changing the buildings and rolling stock; here we see it in its 1980s West Highland Line guise.

Tulloch Bridge

A family holiday in the 1960s introduced Andrew to the unique nature of Scotland's railways, whilst visits in the 1980s confirmed his enthusiasm for the West Highland Line in particular. Numerous trips during the 1980s and 1990s followed, travelling to and from Fort William on the sleeper train behind Class 37s. Thus the West Highland Line was an obvious candidate for one of the identities of the layout.

Research

The scenic section of the layout was limited to 3.8m (12' 6") by 0.45m (1' 6") because of the available space and the need to transport the layout in a car and trailer. Many stations on the West Highland Line are island platforms but the twin platform stations at Spean Bridge and Tulloch were the possible choices. However, Spean Bridge is surrounded by several buildings which would be difficult to



37410 runs into Tulloch Bridge with the sleeper from London.



accommodate within a baseboard just 0.45m wide. Tulloch was ideal, being rather isolated, and has a goods yard with just two sidings. After choosing Tulloch as being the closest match for the layout, Andrew considered using the actual name for the model but wanted to avoid too many connections with exact locations. Immediately to the east of Tulloch station there is a large bridge conveying the line over a deep gorge and the River Spean so Tulloch Bridge seemed an appropriate name for this layout.

The buildings

A heavily modified combination of Bachmann Scenecraft 'Market Hampton' buildings is used for the main station buildings. These were chosen because Andrew intended to utilise the same buildings for another version of the layout and it would be useful to have the same 'footprint' for each.

The buildings were cut through at first floor level to make them into a single storey structure, while the roof sections for each of the two halves were scratchbuilt to the unique West Highland roof profile and grafted on to the Scenecraft base. The Market Hampton chimneys were utilised on the new roof.

On Platform 2, the small shelter is a modified Peco kit decorated in faded blue and white and rail grey colours on the basis that the 'corporate' ScotRail livery had not yet reached this remote part of the network.

The signal box is a heavily modified Wills kit with a more substantial stone plinth and a completely new roof with the unique West Highland Line profile.

All other civil engineering structures remain the same as on the basic Florinstone layout (see British Railway Modelling August 2014).

The signals are of different types; the tubular post signal is a Ratio product and the lattice post signal (utilised from Florinstone) was built from Model Signal Engineering components. Again, both are operated by 'wire in the tube' mechanisms.

Operation

In the period chosen, West Highland Line trains were rarely longer than six or seven coaches with the sleeper car train to and from London being the longest. In addition to the sleeper, a number of passenger trains are run on Glasgow services utilising Mark 1 and Mark 2 coaches.

Some freight trains could have as few as two or three vehicles. The six storage loops can hold these shorter trains with ease and some were even capable of holding two or three trains. A variety of traffic can be seen on the layout including fuel oil, timber, aluminium ingots and paper products, creating plenty of interest for freight operations.

With DCC and sound firmly in place on the layout, the sound files engineered by Tony Molyneux came into their own on Tulloch Bridge. Tony has outstanding Class 20, 25, 26, 27 and 37 sound files which are well suited to the sense of theatre created by the enclosed 'off scene' baseboards. (Ed. These sound files are available from Digitrains see advert on Page 2.)

A solitary passenger awaits the first westbound train of the day, probably the sleeper, to Fort William.



Locomotives and stock

Motive power is mostly in corporate BR blue or large logo liveries. However, one or two Sector livery Class 37s appear to show the changes taking place in the 1980s and 1990s. Charter trains also make an appearance with maroon Mark 1s and the occasional 'Deltic'. The sleeper is the most important service of the day and is sometimes run with a Class 37/0 and an ETHEL (a Class 25 modified to provide electric train supply) heading a mixture of Mark 1 and Mark 2 seated coaches and Mark 3 sleepers.

Freight trains are generally in the hands of all the same classes, as they were in real life. Freight stock comprises OCA open wagons, VDA vans, Cargowaggon bogie ferry vehicles, TTA fuel tanks and bogie china clay slurry tanks.

Apart from appearing as Tulloch Bridge the layout can also be run in the following guises:

Troutbeck Bridge (LMR) - Cockermouth, Keswick & Penrith: 1950s-60s
 Florinstone (S&DJR) - Templecombe and Bournemouth: 1950s-60s
 Ashwater Road (SR) - North Cornwall Line: 1950s-60s
 Tresillian (WR) - Cornish Branch Line: 1950s-60s

A Class 25 rolls into the station with a freight from Mossend to Fort William and Corpach.



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D3038 - variations on a Dapol theme

Jeff Nicholls reviewed the Dapol Class 08 in TRACTION 238 and eagerly awaited the arrival of his own model for which he had plans

Since the review was written, the Dapol Class 08 has sold, literally, by the thousands and must be the best-selling O Gauge model ever produced. Fortunately, I pre-ordered mine and received it just in time for Christmas 2016. I bought a BR green version with yellow chevrons to accompany my late BR steam era locomotives, and had already done my research to decide which number to give it. As an aside, so successful has the model been that Dapol have just announced a re-run of production in 2017, with alternative versions, e.g. no bonnet door hinges, announced for 2018.

D3038 was built at Derby in 1953, initially numbered 13038, and was allocated new in November of that year to Oxley depot, Wolverhampton, where it was based until the depot's closure in March 1967. I remember seeing it 'on shed' during my frequent 'bunkings', and hard at work in various yards around its home area.

Internet research

Searching the Internet for photographs of the prototype, I was struck by several ways in which it differed from my model. For a start, it lacked the bonnet door handles of my pristine example. The late BR totem had migrated down to the toolbox sides and, fascinatingly, it had acquired a yellow 'Route Availability' circle below the number. (Good old Western Region, always different!) It also lacked the small boxes on the cab sides adjacent to the front windows, which housed the motors for window wipers. Finally, by the 1960s when I knew the real locos, they had almost all had their bonnet

ladders removed. For the sake of a couple of hours of work I could personalise my '08'. And I struggle with clean locomotives so a bit of weathering wouldn't come amiss either.

Body modifications

The bonnet ladders are very easily removed by inserting a flat-bladed screwdriver behind them and twisting; likewise the bonnet door handles. The wiper motor boxes were trickier and had to be removed by a combination of knife, files and wet-and-dry paper, after first protecting all of the surrounding rivet detail with masking tape. BR totems were gently scraped off with the tip of a small screwdriver, any minor damage to paintwork is hidden by weathering. The holes which remained after removing the handles were plugged with plastic rod which

was glued in from behind - after the simple job of removing the bonnet roof. The rod was then cut off flush with the doors. A spot of green paint on each piece helped to disguise the 'filler and, again, weathering hid the multitude of sins.

Whilst the bonnet roof was off I added a couple of sheets of lead to give added traction. I took the precaution of wrapping the lead in insulating tape so that no problems could arise if the circuit board was touched.

Cabside numerals came from Fox Transfers, likewise the yellow route availability circles and BR totems. I added worksplates from Guilplates to each cabside. It is possible to access the cab interior, rather than go to the trouble of stripping the body down, I glued a 'Heroes of the Footplate' standing figure in the doorway. Interestingly, photographs I have seen of D3038 as late as the early 1970s show it without 'Overhead Live Wire' plates so I left them off.

Finishing touches were to replace the hopelessly inadequate vacuum pipes with some that I made myself from brass rod and springs, and to make up and fit windscreen wipers to the rear cab windows. These can be bought from various suppliers but I made mine out of scrap nickel-silver etch. I decided not to attempt to scratchbuild and fit guard irons as they could easily be damaged or knocked off.

Weathering

Weathering on the body was done mostly with Railmatch 'Weather Black' from an aerosol, sprayed on in short quick passes. A mix of 'Oily Steel' and 'Weather Black' was brushed into appropriate areas, especially on the underframes. As a matter of course I also painted the buffer stems in silver and toned down the 'Brilliant White' handrails.

Whilst on the subject of handrails, those on the model are extremely delicate - I broke one of those on one of the front footsteps and replaced it with a brass knob and nickel-silver wire. It's only a question of time before more go the same way, especially the long horizontal ones above the bonnet doors.

For minimal expenditure and a few hours work, I now have a personalised '08' which will stand out from the crowd. And a few requests from fellow modellers to do the same to their '08s'.



International N Gauge Show



Over the weekend of Saturday 9th September and Sunday 10th September 2017 the International N Gauge Show will take place at the Warwickshire Exhibition Centre, Fosse Way, near Leamington Spa. This show is dedicated to N Gauge and features a range of more than 30 modern image, steam, continental and American layouts along with numerous society displays and demonstrations. Over 40 specialist model suppliers are expected to be present.

2017 is the 50th anniversary of the founding of the N Gauge Society, so the society will be presenting a layout along with their society stand to celebrate this milestone in the history of British railway modelling..

There is free parking at the Warwickshire Exhibition Centre for over 2,000 vehicles whilst a shuttle bus will operate on Saturday 9th September 2017 from Leamington Spa railway station. Opening times are:

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 Nunbrook & Loxley - BR Blue
 Titheridge Junction - BR Blue Western Region
 Welton Down - 1980s and 1990s BR Southern Region 3rd rail
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Heaton Lodge Junction - Part One

Simon George is building one of the largest O Gauge model railways ever attempted, based on Heaton Lodge Junction. In the first of a series of articles about the layout he talks about the background to his project and how childhood memories influenced his decision

Even up to the late 1960s the three mile section of quadruple track between Thornhill and Heaton Lodge, in what was then the West Riding of Yorkshire, saw upwards of 150 movements a day in each direction. The Manchester and Leeds, later to become the Lancashire & Yorkshire Railway (L&Y), had got there first in 1840, opening their route west through the Calder Valley via Mirfield. Despite a temporary agreement allowing the London and North Western Railway (LNWR) to use that section, that company opened their own Leeds to Huddersfield via the Standedge Tunnel route just a few years later, all four lines running side by side until Heaton Lodge Junction where the Huddersfield route then curved sharply south. To complicate matters, as many readers will know, the LNWR also opened the 'New Line' in 1900, giving an additional direct route to Leeds via Heckmondwike, Cleckheaton and Gomersal. Later known as the Spen Valley line,

it left the Huddersfield route a few hundred yards south of Heaton Lodge Junction before burrowing under the L&Y's Calder Valley line, rising up a steep 1:80 gradient alongside it before veering north towards Leeds.

Signalling

Up until 1970 the junction itself sported an impressive array of multiple semaphores controlled by two ex L&Y and LNWR signal boxes a couple of hundred yards apart. BR realised that, with train working improvements following the full introduction of diesel traction, a reduction of the four track sections of the lines (totalling 11 miles) was possible if the necessary signalling improvements were carried out. The sections involved were from Heaton Lodge to Hillhouse on the Huddersfield route and to Brighouse on the Calder Valley line.

The project, part of the national signalling programme, extended the area of control of Healey Mills power signal box - about 8 miles

east, through Mirfield to the existing peripheral power boxes at Huddersfield and Elland. In addition, the 1932 colour light speed signalling system, installed originally along part of the route by the LMS, would be scrapped. Over the 25 miles of resignalled line, 31 new colour light signals, including two large BR designed gantries, were supplied and installed by ML Engineering Ltd, together with 13 sets of electric points and 70 track circuits. Twelve signal boxes would also close, including the aforementioned two at Heaton Lodge Junction itself.

By 1970 cathode ray indicators normally 2" by 1" in size were being introduced into newly built power signal boxes nationally, each being capable of displaying the four character head code of the corresponding train. An Elliot 503 computer, of the same type as the one that had recently been installed successfully at Leeds City (following the closure of Leeds



Looking east from the veranda of Heaton Lodge Junction's former L&Y signal box, EE Type 4 D390 heads west on an unidentified working. The headcode is clearly incorrect and unusually the locomotive is carrying steam locomotive oil lamps set in the express train position. Unfortunately the signalman has already returned the signals to danger so it's not possible to say whether the train was heading for the Huddersfield or Calder Valley line. On the left the 'New Line' curves north to Leeds. The date is Sunday 17th May 1964. Peter Thorpe from the David Hey's Collection

Central) was programmed to meet the new Healey Mills power box requirements.

Under the auspices of A.W. McMurdo, BR's Chief Civil Engineer, and H.O. Baldwin, Eastern Region's Chief Signal & Telecommunications Engineer, the project started in 1969.

As well as a new relay building housing the interlocking being constructed near a set of 3 ex-LNWR cottages on the south side, BR's Crofton permanent way depot was tasked to fabricate a new double junction allowing 50mph running. What became known as Heaton Lodge North Junction created a new 100yd stretch of flat bottom line laid over existing BR owned land, linking the Calder Valley route to the first few hundred yards of the now closed Spen Valley line. This now enabled passenger services on the busy Trans-Pennine route via Huddersfield to avoid conflict with the slower freight traffic westwards over the Calder Valley line, which had not been the case with the original 30mph flat junction. The remodelled junction was opened over an April weekend the following year.

Into the 1980s

Fast forward to the early 1980s and Heaton Lodge was still very busy with a large amount of freight consisting of coal to and from the Lancashire coal fields feeding Yorkshire power stations, as well as petroleum products from Manchester, Preston and Stanlow to Immingham and Leeds. Locomotive classes which traversed the line were varied and included Classes 25, 31, 37, 40, 47 and 56. The Class 45s were always associated with the Trans Pennine working until the early 1980s, as were the 'Deltics' for a short time. Personally I've only one photographic record of Class 20s traversing the line which is interesting since nearby Tinsley had many. Only after the miners' strike of 1984 and the consequent reduction in coal traffic did the route see a noticeable reduction in train movements, which, in 1986, sadly resulted in the down fast being lifted between Heaton Lodge and Thornhill.

In addition, two years later the dive-under

On Sunday 17th May 1964 Brush Type 2 diesels D5805 and D5813, both allocated to Wath depot (41C) head west at Heaton Lodge junction onto the Calder Valley Line with train 1X22 heading for Blackpool, probably from the Sheffield area. The photograph was taken from the veranda of Heaton Lodge Junction's former L&Y signal box. The Huddersfield lines curves away to the left whilst the former LNWR 'New Line' to Leeds can be seen emerging from the dive-under. After the closure of this line and track alterations in the 1970s a new connection was put in here to Heaton Lodge North Junction. Peter Thorpe from the David Hey's Collection





ABOVE: 56029 heads east and is about to pass under Woodend Bridge with a Fiddlers Ferry to Healey Mills empty Merry-go-round working on July 14th 1983. Terry Campbell

BELOW: 47475 of Bescot depot is about to enter the dive-under tunnel on February 16th 1985 with a Newcastle to Liverpool express. Terry Campbell



line was singled meaning that trains heading to Huddersfield and Manchester curved left instead of dropping down the steep gradient and passing under the Calder Valley line. Eastbound trains from the Huddersfield line continued to use the dive-under line. Unfortunately, a huge increase in foliage in the last thirty years means that the junction is now barely recognisable, with many of the former favourite haunts of spotters being nigh on impossible to reach today.

My visits to Heaton Lodge

My own interest in Heaton Lodge began in the early 1980s when still in short trousers. During the long summer and winter school holidays I'd trot to Dewsbury station around 10:00 a.m. and catch what was often a smoky Class 110 to Mirfield. After walking along Woodend Lane, a route traversed for many years by the staff of nearby Mirfield shed on their way to work, I'd perch on the stone capping of the bridge of the same name. Alternatively the embankment just east of Wood Lane was always a great vantage spot although, with hindsight, I'd often sit too near the track.

It was only the bitter cold, being bitten by ants or my mum's protestations (when she called me at a pre-arranged time at a call box on nearby Leeds road) that sent me packing. During the dozens of occasions I'd visited the location the many lineside photographers were often noticed, but little was I to appreciate their records of Heaton Lodge until some thirty five years later.

The idea for a layout is born

I'd harboured a passion for many years to recreate the location as a model where I spent so much time as a youngster but, to be candid, doing it justice would be some feat given the actual 1.3 miles distance that I felt had to be included. Beginning at the aforementioned Woodend Bridge, in the east, everything in-between up to a couple of hundred yards east of the old Cooper Bridge station was within the envelope including the two large bridges over the Calder.

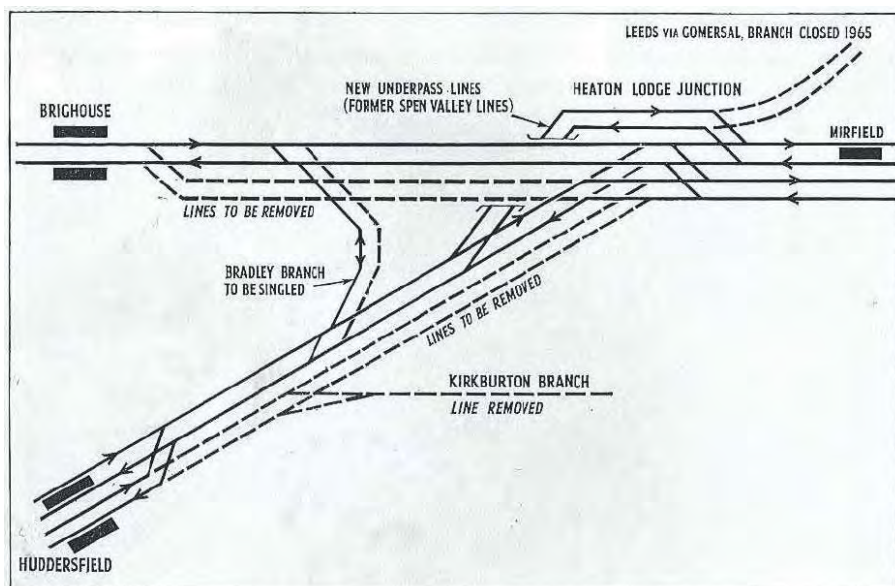
In 'OO' this would translate into a layout around 85ft long. Not being one to do things by halves, I decided to do the whole thing in

'O' gauge which would result in a model 160ft long. Even this didn't include the covered curves at each end that would bring the lines into a large 12 road fiddle yard of the same length. This added another 10ft or so at each end.

There were a few additional decisions that had to be made. Since my overriding memory of the location was the bitter cold, the model would be set sometime in the winter of 1982/3. Although my memory served me pretty well in 2012 I'd started researching the location. Railway photographers still active at the location in the 1980s, such as Neil Harvey, Terry Campbell, Bill Jamieson and many others

kindly let me reproduce over 400 photographs of the area. This in turn enabled the creation of a detailed map with specific details and features to be modelled being pinpointed. In addition the exact contours of the immediate landscape were able to be reproduced.

Downloading one particular 1983 photograph of a passing Class 56 on a westbound Merry-go-round train by Bill Jamieson gave me a shock when I recognised myself as a 14 year old standing on a fence with the two brothers I'd dragged along for the evening.



ABOVE: 40194 heads east at Heaton Lodge with a train of bogie oil wagons on 30th August 1978. The line to the dive-under can be seen dropping away from the junction. Ian Harrison

Simon will be writing more about his amazing layout in future issues of TRACTION MODELLING.



LEFT: One of TRACTION's regular contributors was at Heaton Lodge Junction in July 1983 and took a photograph of 56017 heading west with an empty MGR working. Amazingly, included in the photo was the author (on the left) and his two brothers. Many years Simon discovered the image on the Internet at: <https://www.railscot.co.uk/img/40/740>. This is a cropped section of the original image. Bill Jamieson.

BELOW: Having just climbed up the gradient from the dive-under line, 31319 is seen heading east at Heaton Lodge with an ICI Folly Lane to Seal Sands working on 17th July 1986. Note the distinctive signal gantry with a train signalled onto the Calder Valley Line. Neil Harvey





This scene of organised chaos shows the lift shop in the old carriage works. Carriages were jacked up to enable bogies to be moved away for repair or overhaul. This was just one of the 44 stages which made the former progressive layout so cumbersome and time-consuming.

Better ways of working - two techniques that 'made a difference'

In a lifetime's work, one can experience occasional so-called 'lightbulb moments' in which a person suddenly sees great potential in something that is seemingly quite logical. Colin Boocock outlines two techniques that have made a real difference to the way we overhaul and maintain trains.

"This is so obvious, why hasn't anyone thought of it before?" Most people will have had this reaction at least once in their career. In my long career on the railways, which began in 1954 and finally ended in 2009, 13 years after I retired from full-time work, I went on quite a lot of courses to learn about different aspects of railways and of managing them. One was a diesel course, which was necessary for me because my technical training had centred on steam locomotives. One was an early management course in which we were confronted with several gimmicky (in my mind) exercises to expand our ability to solve problems. A middle-management course at Watford and a more senior one at Woking

stretched us and in some ways hardened us for future roles that we were expected to undertake.

But in none of these courses did we discover anything remotely as logical or as mind-bending as the impacts that were to be made by two new techniques that British Railways adopted after learning about them from external consultants or academia. Both were straightforward ideas, and both were entirely logical. I regard these two techniques as being pivotal in development of modern management thinking in project management and in train overhauls and maintenance. They are the only new techniques that I came across that I believe actually made a big

difference everywhere they were applied, and that was over my 55-years-long career! It is quite possible that readers may not have heard of either of these techniques because they have become embedded in the way we do things now, but at their inception they were revolutionary. Both have boring names: network analysis (otherwise known as critical path analysis or CPA) and reliability centred maintenance (RCM).

In this article, I describe the techniques briefly, and then go on to show how they improved the way we do things on the railway.

Network analysis

Back in 1965 I was appointed as inspection



In this view of the Eastleigh Works erecting shop in 1966, four BRCW Type 3s are under overhaul or repair. At that time, the overhaul of these useful locomotives occupied about three weeks in this shop. Network analysis enabled this time to be reduced to six or seven days.

assistant covering the two main works at Eastleigh, the locomotive works and the nearby carriage works. My role was to take the existing processes of initial examination and finished work examining and adapt them for the time when the two works would be combined on one site. This would be achieved as part of the 1962 Workshops Plan. The Plan was slimming down the numbers of main works around the country to cope with the change from steam to more modern forms of traction, and investing

heavily in those works that were to remain. The reduction in the number of main works was also necessary due to the reduction in size of the BR network following the work of Lord Beeching.

About a year after that, I was moved into the new post of repairs engineer for the future combined works. This role would have responsibility for progressing the overhauls of locomotives and carriages that were to be the future reason for Eastleigh Works's continued existence. Just in time for me to

take on this work, BR Workshops headquarters were pushing for all main works to adopt a new management technique called network analysis. I had never heard of it, not even under its other name, critical path analysis. But I was told that I was to implement this new idea on locomotive overhauls, so I and many of my colleagues needed to learn about it, fast. Our works manager borrowed George Munro from BR HQ, a member of the team who knew more about this technique than anyone else on the railway, and charged him with teaching us about it.

We all assembled in a classroom above the apprentice training school at Eastleigh, and George started by showing us how the technique could embrace even simple tasks such as making a cup of coffee. The principle was to list all activities involved in a task, note how long each one normally took, and identify which had to be completed before another activity could start, ignoring (at first) any restraints such as the number of people available to do the activities. He then drew a vector diagram on the board, showing initially which activities could start straight away, and which needed some activities to be completed before they could start. Then George added up the times of the activities in each set that were linked together, and showed that one path through the diagram from the beginning to the end was longer than all the others. He described this as the 'critical path'. The impact of the critical path was that it governed the minimum time in which the overall task could be completed.

In a real life situation, such as a locomotive overhaul in which there could be a few hundred

Type 3 Bo-Bo No D6563 sits in Eastleigh Works erecting shop under overhaul in 1966. On this locomotive, the progress chart based on the network analysis resource schedule is taped on the bodyside but just hidden by the long wooden ladder that reaches to the cantrail for access to the roof.





A feature of the system introduced at Eastleigh was the use of progress charts that would be displayed on the locomotive under overhaul, in this case D6553. These charts ensured everyone knew what needed to be done and when. A manager could glance at the chart and see how the overhaul was progressing against the plan.

activities in the diagram, the activities lying along the critical path would be analysed in depth to see if the critical path time could be shortened in any way, hence the technique's alternative name, critical path analysis or CPA.

Stan Bowerman, a colleague from the carriage works, and I had to lead the two key parts of the project of applying network analysis to real life engineering situations at Eastleigh. In my case I had to end up with a network analysis diagram covering the intermediate overhaul of a Class 33 Bo-Bo diesel electric, to see if we could shorten the overhaul time, which usually occupied three double-shifted weeks in the erecting shop. Stan Bowerman was charged with rearranging the carriage overhaul activities on the future progressive repair layout so that they would fit into a 22-stage layout while maintaining the same level of output as the current layout in the old carriage works, which needed 44 stages for a major overhaul such as a C.1.

We then had to prepare manning charts that would show how best to arrange the work on a locomotive or carriage so that the overhauls could be achieved in times as close as possible to the critical path times. All this work took several weeks, but at the end of it we had the desired results. Up until then, the erecting shop time for a Class 33 was one week for stripping out all the components that needed overhaul, one week for fitting the then new

automatic warning system (AWS), and a third week for reassembling the locomotive with fully overhauled components, painting it, and shunting it outside for testing.

My assistant and I had proved that the overhaul downtime in the erecting shop could be reduced to just 13 shifts, or six-and-a-half days, if twelve men could be employed in a logical sequence around the locomotive body during the process. Planning for all the work required the modifications for AWS to be dovetailed with the other work so that all the work activities took place in parallel. The very first locomotive we tried this on took 12 shifts in total, which satisfied everybody that the technique was valid. By using network analysis to plan locomotive overhauls, we could reduce the number of locomotives on works at any one time by two, meaning that the Southern Region would have two more locomotives available for traffic. And all this benefit to the railway would be at no extra cost!

Stan Bowerman's efforts had set out the activities for the new carriage overhaul layout clearly, but a lot of people remained utterly unconvinced that we could get the same output of overhauled carriages from a 22-stage layout when 44 stages had been the norm before. Lancelot Sanders, now the works manager for the combined works, took the unusual step of inviting George Munro back, this time to explain network analysis to the

supervisors who would have to implement the new arrangements, and also to the works committee, the staff representatives who had been so adamant in their denial that the new carriage overhaul layout could possibly work with only 22 stages.

This critical meeting was George's coup de grace. He went right through the 'making a cup of coffee' process on the blackboard, getting the staff representatives to shout out each activity and put numbers to the time needed for each, and showed them how the network diagram evolved and how it was then analysed. Then Stan and I explained how we had developed the network diagrams for locomotives and carriages and how the manning plans were developed from them. At the end of the meeting everyone left, carrying with them the view that it might work, and that it was worth a try.

Well under a year later, the new carriage layout was in full swing with a slightly increased output. At the time when the works had been combined early in 1967, there had been well over 300 carriages and parcels vans on site. Using the new layout, we had reduced that total to 110, meaning that the Southern Region had an extra 200 or so EMU, DEMU and locomotive-hauled carriages and vans in service.

Point made!

Reliability centred maintenance

In 1985 I was at a conference in London that was extolling the virtues of modern management methods. I have by now completely forgotten nearly all the papers presented at that conference, but one remains firmly in my mind. An independent consultant whose name I cannot recall (it might have been Mowbray, but please don't quote me!) described a logical way of looking at the maintenance of engineering equipment that broke through what was at that time the normal ways of thinking. I could see huge potential in what the consultant was proposing if it could be applied to the maintenance of locomotives and other equipment at depots across British Rail, which I believed it could. At that time, I was working in a team that the BR Board's director of mechanical & electrical engineering (DM&EE) had set up to find ways of reducing the cost of train maintenance. This new technique could be a useful add-on to the work we were doing.

With some difficulty, I was able to find a date for a meeting when the consultant was available to tell my senior colleagues about this technique. It was at 5pm on a Friday at Paddington, and I wondered whether many of the engineers and officers I had invited would turn up. Thankfully, among the eight or so attendees was David Blake, who was director M&EE projects, and David Russell who was the DM&EE's engineer responsible for locomotives.

The consultant explained in simple terms what reliability centred maintenance (RCM) was and what it could do. He took as a crude example: three fixed pumps at a mine that were thought to be critical for the facility's operation. All three pumps were identical. Conventional wisdom among engineers would have all three listed on a maintenance schedule to receive the same maintenance at similar



Type 3 D6558 stands at the test house in Eastleigh Works yard. The author often wished he had been able to extend the network analysis of Type 3s to the process for running-in and testing. This however was in the hands of Southern Region engineers over whom the Works had no jurisdiction.

intervals. However, he showed that this did not consider the widely different usage of the pumps, nor the effect of a pump failure on the operation of the mine. One pump was in use continuously to pump water out of the mine, one acted as an immediate standby for the first pump in case it stopped for any reason, and the third pump was only required as a standby when one or other of the first two pumps was under repair or maintenance. Quite clearly the maintenance regime for the first pump would need to be regular and thorough, probably on a time-in-use basis. The second pump could equally be on a time-in-use basis, but its intervals between maintenance would be vastly longer than for the first pump, but equally thorough. The third pump, very rarely used, would probably survive with occasional checks that it worked!

He went on to explain something we already knew, that different equipment or components deteriorated in service from different causes and at different rates. For example, diesel engines tended to wear in accordance with either the hours run or the number of repeated duty cycles. Wheel treads wore as a result of mileage run, which on a train would not necessarily have any relationship with the engine hours or duty cycles. External paintwork, and body corrosion deteriorated in accordance with time, or weather exposure, or proximity to corroding substances (such as sea water). So why did people decide to maintain equipment once a year, or once a month, when different parts wore out at different rates? We were already beginning to challenge this principle, separating out the maintenance

intervals and criteria for engines, bogies and vehicles as part of our project. But the next issue the consultant raised was a piece of new thinking for us, though perfectly obvious when we look back with hindsight today.

The consultant emphasised strongly that the failure of different components would not necessarily cause equipment being taken out of service. The key to RCM was knowing what was service critical and what was not. Failure of a locomotive diesel engine would stop a train. Failure of an engine or a compressor on a diesel multiple unit might not stop the train if other engines or compressors on the train could maintain traction or pressure. Failure of an apparently minor component such as a brake hose could stop a train. Failure of a sliding door need not. All seemed perfectly logical, but it began to emerge that we had not in the past always been asking the right questions. For example, our policy of stretching out maintenance intervals to save money might be counter-productive if it affected failure-critical components, but it could be the right thing to do for other parts of a train.

We also discussed the potential for built-in redundancy, where fitting a parallel component or system to cover for problems with a failure-critical item could be costed and compared with the financial risk of not doing this. Duplicate systems are more costly, but the cost of a train failure is high, so there is a balance to be determined.

The consultant introduced us to a system that took into account the failure potential of critical components, giving their maintenance

In the new carriage layout at Eastleigh, set up in 1967 when the activities had been rearranged after a network analysis exercise, a Hastings line DEMU trailer coach is lifted off its bogies at stage 3, and is to be placed on high, wheeled stands. Overhaul of underframe, bogies and body were then able to proceed at the same time in parallel while the vehicle progressed to stage 10, where it would be reunited with its fully-overhauled bogies. The stillages filled with bogie components on the right of the picture were supplied by the stores to follow the layout's carriage repair sequence; this enabled staff to guarantee they had all the parts they would need before beginning a bogie overhaul. This avoided any delays caused by chasing up missing spares, which had been a persistent problem in the former carriage works.





ABOVE: The pilot introduction of maintenance based on RCM was on the then relatively new Class 58 Co-Co diesel electrics which at that time were experiencing several unreliability issues. No 58036 arrives at Toton yard with a coal train on 17th September 1991.

regime priority. He showed us a ready-made array of questions leading to other questions that, when applied to any engineering component or item, could lead to quite different and unexpected answers when it came to deciding on when, and indeed whether, something should be maintained. It became clear that the principles of RCM could be applied, for example, to modern diesel locomotives. David Russell could see potential in this, and wanted to start with the Class 56 Co-Co freight locomotives (DM&EE quickly switched BR's first application of RCM to the 58s). This action was agreed, and by half past six the meeting was over, and a new era in BR traction maintenance was about to begin.

In the decades that have followed this short meeting at 5pm on a Friday in 1985, we have witnessed modern trains getting more and more complicated technically as more systems are designed into them to meet modern conditions. Under BR's old maintenance methods, these trains might have become horrendously unreliable, containing as they do so much that could technically go wrong. But with RCM in place, and the questioning thinking that goes with it, plus new developments such as automatic on-board monitoring of component wear or condition, and carefully judged redundancy, we actually have more reliable trains than ever before, at least since the demise of steam traction.

I guess most people involved in the current

train maintenance regime have probably never heard of RCM as such. But rest assured that the present-day maintenance arrangements of several train operators have evolved from that way of thinking. And our railways are all the better for it.

When I was traction & rolling stock engineer of the London Midland Region from 1985 to 1988, train unreliability was the main issue at railway performance meetings. Nowadays it's infrastructure failures that make the headlines. Maybe our civil and signal engineers need to be asking an array of questions!?

BELOW: With its systems for body tilt, distributed power, remote component monitoring and electronic communications, the Class 390 'Pendolino' is one of the more complicated train designs on our railways today. The fleet's reliability record, however, is excellent, due largely to the use of RCM-type maintenance methods. This one flies through Tamworth Low Level in 2004 on an Up service to London Euston.





The Class 304/AM4 units remembered

Nick Ross looks back at one of BR's successful electric multiple units that formed the backbone of local services on the West Coast Main Line for many years.

These four-car units were all built at British Rail Wolverton Works with the first examples entering service from Longsight depot in Manchester in April 1960. Originally known as AM4s they became Class 304 under the TOPS renumbering scheme in 1974. The sets in the first batch were numbered 001-015 (later 304001-015). A second batch, numbered 016-035 (later 304016-035), followed in 1961 with modified wider saloon coach windows bringing the fleet up to 45 examples.

They roamed the West Coast Main Line (WCML) for much of the next 35 years on a variety of duties. With a capacity of 234 or 244 seats and a maximum speed of 75mph, they bounced along nicely on their Gresley bogies

and were soon an established part of the WCML railway scene.

Initially they were confined to the Manchester area with test runs on the Styal line but as electrified network expanded they could be found working semi fast services between Manchester and Coventry, as well as local services between Manchester, Stoke and Stafford, Crewe and Rugby and between Crewe and Liverpool. They also worked local services in the West Midlands area.

Some of the class were loaned to the Eastern Region and worked a variety of stopping services out of Liverpool St between 1961 and 1963. Completion of main line electrification to Euston in November 1965 saw the AM4s

becoming regular visitors to Euston, something that was to last another ten years on a regular basis. Completion of the WCML electrification to Preston by July 1973 allowed the AM4s to work some Crewe to Preston services.

Sample 1960s and 1970s specific workings

018	08:52 Liverpool St - Bishops Stortford (with 019) 08.11.61
025	14:55 Liverpool - Crewe 26.10.62
022	11:40 Alderley Edge - Manchester Piccadilly 04.11.69
304009	19:34 Euston-Bletchley - 27.05.75

LEFT: By now running as a three car unit and looking much smarter in two tone green, 304023 is seen on Manchester Piccadilly's through platforms with an Alderley Edge service on June 25th 1990. Nick Ross

From 1981 the 304 units were progressively reduced to 3 car units by withdrawal of the trailer composite coach. The motor coaches of 304001-015 were also converted from compartment to saloon seating, reducing capacity that bit more. They were also repainted in BR blue and grey livery. As 3 car formations there was a considerable improvement in performance as the 4 x 207 hp AEL traction motors per unit were not derated, giving an excellent power to weight ratio.

Into the 1980s and 1990s

Into the 'eighties and 'nineties the Class 304s kept up their now well established roles of working mainly stopping services in the North West and West Midlands as well as a few services as far south as Northampton. They had become much rarer south of Northampton by the 1980s.

Conversion of the former 1500v DC Altrincham to Manchester Oxford Road line to 25kv AC in December 1984 allowed the AM4s to start intensive operations out of Altrincham; this was to last until December 1991 when Metrolink tramway conversion works began.

In the West Midlands electrification of the West Midlands 'Cross City' line from Redditch to Lichfield Trent Valley in 1993 again saw the '304s' increase their operational network even further. However the use of them on the 'Cross City' line was initially intended as a short term stop gap but the delayed full introduction of the new Class 323 units saw them survive on West Midlands until their final days in April 1996.

Some more unusual turns

A maintenance dispute in April 1975 restricted Class 310 availability and it was a case of Class 304s to the rescue! On April 2nd 304030, 304031 and 304041 were all in action on local turns into Euston. Likewise on April 9th 304012, 304014, 304018 and 304024 all visited the London terminus.

Fourteen years later 304030 almost made a repeat visit to Euston whilst working in multiple with 310051 on a Liverpool to Wembley Cup Final football excursion on May 20th 1989.

304028 made a very rare visit as far south as Bletchley when it worked a 19:36 Birmingham

to Bletchley additional on May 4th 1990. We had hoped that Control would let the unit through to Euston as services were disrupted that evening, but alas it was 'all change at Bletchley' and the unit returned north as empty stock.

304028 also managed to reach Carlisle late on the night of January 25th 1990 after working a 21:23 Crewe to Carlisle relief after severe disruption further south because of high winds. At Penrith some local train passengers on joining were obviously more used to Mark 3 stock, as they claimed 304028's untouched 1960's interior was 'prehistoric'! At Carlisle



Seen in the original green lined livery but after the addition of yellow warning panels, AM4 unit No. 015 is approaching Crewe with a Liverpool service in 1965. railphotoprints.co.uk - Reg Baron



Unit No. 007 lays over at Crewe between trips to Manchester Piccadilly on the 3rd June 1967. The unit is in the all over Rail Blue livery, which did little for the appearance of these trains. railphotoprints.co.uk - Chris Davies



Class 304s remained dominant on local workings at Stafford on May 6th 1995. 304009 was working the 09:50 to Wolverhampton whilst behind is 304004 on the 09:40 to Stoke. Nick Ross

Performance

At a certain speed the deeply sprung seats and vintage suspension combined to give synchronised bouncing of the entire train.

On the run in Table 1 with unit 304002 speeds at or above 75mph produced this effect as the Nuneaton to Rugby Trent Valley fast line section allowed the units to run at high speed. In Table 2 the run with unit 304045 was typical of a train stopping at all stations with little time to exceed 45 mph due to the frequent stops on the Walsall to Birmingham line.

Table 3 shows a typical semi fast commuter run with the class now in its final years of service.

Table 1:
304002 13:51 Crewe-Rugby June 1994

station/ milepost	schedule	actual	speed
Nuneaton	15:07	15:08.23	-----
mp 97			36
mp 95			63
mp 93			75
mp 91			82
mp 89			77
mp 87			69
mp 85			73
mp 83			46
Rugby	15:22	15:22.47	-----

Table 2:
304045 18:05 Walsall - Stoke April 13th 1991

station	scheduled dep	actual arr	actual dep	start to stop speed
Walsall	18:05		18:13.24	-----
Bescot	18:09	18:16.44	18:16.55	29
Tame Bridge	18:12	18:18.42	18:18.54	47
Hamsted	18:15	18:22.16	18:22.26	44
Perry Barr	18:18	18:24.52	18:25.07	38
Witton	18:20	18:26.47	18:26.59	31
Aston	18:22	18:28.37	18:28.47	24
Duddeston			18:30.11 pass	45
Birmingham New St	18:28 arr	18:34.11		34

Table 3:
304004 06:15 Northampton - Birmingham February 5th 1994

station	scheduled dep	actual arr	actual dep	start to stop speed
Northampton	0615		0615.07	----
Long Buckby	0625	0627.05	0627.14	48
Rugby	0636a/0637d	0637.03	0637.46	56
Coventry	0649a/0650d	0650.12	0650.46	55
Birmingham Int'l	0700a/0701d	0700.42	0701.15	65
Birmingham New St	0713a	0712.06		46

Sample 1980s and 1990s specific workings

304001	09:15 Stafford - Walsall	28.08.87
304002	14:30 Crewe - Altrincham	25.06.90
304009	17:13 Stoke - Rugby (via Trent Valley)	28.12.91
304019	15:25 Manchester Piccadilly - Hadfield	21:01:95
304033	13:54 Redditch - Lichfield TV	16:07:93

304028 worked back as a relief to Birmingham in the early hours of January 26th 1990.

Maintenance

Whilst Longsight depot in Manchester and Crewe Electric Depot did most of the maintenance work on the Class 304s over the years they did revisit their Wolverton works birthplace for heavy overhauls. Other depots that did their bit on occasions to keep the '304s' running were Ilford depot on the Eastern and Bletchley, Reddish, Soho and Willesden on the London Midland Region. On the whole the Class 304s did their local work in the North West and West Midlands day in, day out with absolute reliability.

Accidents:

The class suffered from many minor derailments both on the mainline and on depot but the events of February 28th 1967 perhaps should be remembered. Class 24 No. 5002 was performing an unauthorised run round at Stechford, in the West Midlands when the locomotive was in a high speed collision with unit 026 working the 13:15 Manchester to Coventry. The severe collision resulted in 9 fatalities (including the AM4's driver) and 16 more seriously injured. 026 was withdrawn as a result of this nasty collision.

The decline

Although popular with enthusiasts the Class



304 units with their largely as-built interiors, blue and grey livery and slam doors, were not really the modern image that British Rail's Regional Railways sector wanted to portray. However, protracted delays with the full introduction of the new sliding door Class 323 units and the slow cascade of Class 305 and 308 units as their eventual replacements, saw the '304s' survive well into the mid 1990s.

By 1996 they were largely restricted to peak hour West Midlands area turns and the expected final farewell came on Sunday March 31st 1996 with 304002 and 304033 specially turned out for several 'Cross City' line turns. A good number of enthusiasts turned out for a farewell ride that spring day.

However, the class was to survive a few days into April 1996 with 304002 working the very last reported turn, the 07:17 Northampton to Birmingham New Street, on April 11th 1996. Afterwards it ran ECS to Bletchley and then Rugby for storage. Unit 304021 was purchased for preservation in 1998 but was extensively vandalised whilst in storage at Crewe and was scrapped in 2000.

On November 12th 1994, No. 304004 is in one of the south end bay platforms at Crewe and will later work the 11:48 Crewe to Rugby, which will include a storm down the Trent Valley. Nick Ross

Working in multiple

Pairs of AM4s or Class 304s working in multiple were fairly common but on occasions they worked in multiple with other types of unit. Some sample workings listed below.

15:57 Chingford - Liverpool St 12.05.63

016 + 402 (an AM5 unit)

This was one of several 304s loaned to the Great Eastern at the time.

Manchester Piccadilly - Crewe (Works open day special) 04.07.87

304013 + 303057

Th Class 303 was a former Glasgow 'Blue Train' unit

05:55 Birmingham-Manchester - 25.08.90

304030 + 310103

This was believed booked AM4/AM10 combination at this time.

06:03 Crewe - Deansgate 10.03.93

304040 + 305518



A trip along the Penistone line

Gavin Morrison turns his camera on trains running on a little known, but extremely scenic, line in West Yorkshire. It's an area of high moorland, deep valleys and attractive villages made popular by the long running TV sitcom series the "Last of the Summer Wine".

The Huddersfield to Penistone line was opened by the Lancashire and Yorkshire Railway on the 1st July 1850. Leaving Huddersfield station, the Penistone line branches away from the former London and North Western Railway main line to Manchester at Springwood Junction.

The thirteen mile long line probably has more tunnels and superb viaducts than any other line of this length in Britain. The line passes through no less than six tunnels totalling 3,427 yards in length. These are Springwood Tunnel, Robin Hood Tunnel, Honley Tunnel, Thurstonland Tunnel, Cumberworth Tunnel and Wellhouse Tunnel.

There are also four large viaducts along the line. Paddock Viaduct is crossed shortly after leaving Huddersfield and is a 15 arch

viaduct with four wrought iron lattice spans in the centre. It is followed by the even more impressive Lockwood Viaduct which has 32 arches with skewed spans over roads at either end. It stands 122 feet above the River Holme. At Denby Dale a substantial timber trestle viaduct was built originally but, even before the line opened, it was severely damaged in a gale when half of the supports were blown down and, in 1884, it was replaced by a 21 arch stone structure over a 100 feet high. The final viaduct is to be found immediately north of Penistone station and is 367 yards in length with 29 arches and stands 98 feet above the River Don. This also partially collapsed in 1916 but was rebuilt.

At Penistone the line from Huddersfield met the former Great Central Railway Woodhead

This view of Paddock Viaduct finds Class 45/1 No. 45134 heading a special from St. Pancras to York via Penistone and Harrogate on the 20th December 1986. Included in the twelve coach train are two catering vehicles and no fewer than seven Pullman Mark 1 coaches. Forty-four of these vehicles were built in 1960 and 1961 by Metro-Cammell to modernise East Coast Main Line Pullman services.

line between Manchester and Sheffield. The line was originally double track throughout but today is largely single track. After the closure of the Woodhead line to passenger traffic the Huddersfield to Penistone trains were extended to run to Sheffield, at first using the direct line to Sheffield but, after complete closure of the Woodhead line, were diverted to operate via Barnsley.

There were several branch lines off the Huddersfield to Penistone line, although the only one to survive into the diesel era was the branch from Shepley to Clayton West with passenger services surviving until January 1983. Clayton West now forms the eastern terminus of the narrow gauge Kirkstall Light Railway.



ABOVE: A Class 110 'Calder Valley' unit is seen leaving Huddersfield on the 16:18 departure to Sheffield. The leading vehicle No. E51824 was a Driving Motor Brake Composite (DMBC) and was paired with No. E51846 a Driving Motor Composite Lavatory (DMCL). In 1982 these former three-car units were reduced to two cars with the removal of the centre Trailer Second Lavatory (TSL) vehicle. This was done to reduce maintenance costs and to allow the higher performance needed for accelerated services on the Calder Valley line. Their power to weight ratio of 11.2 hp per ton gave these sets the best performance of any of the first generation DMUs, but at the expense of a significantly reduced capacity. At the same time the first class sections were declassified, although the original seats remained in place. Note that the unit carries the 'Metro Train' branding of the West Yorkshire Passenger Transport Executive.

BELOW: The Penistone line diverges from the main Leeds to Manchester route at Springwood Junction at the end of Huddersfield tunnel and, almost immediately, crosses the Colne Valley on Paddock Viaduct. Class 40 No. 40001 is seen crossing the viaduct on a returning Blackpool to Penistone special on June 26th 1983. The viaduct consists of 15 stone arches divided into two sets of 6 and 9 arches separated by four lattice girder sections.





LEFT: Class 37/0 No. 37010 is crossing Lockwood Viaduct on a weed killing train on May 23rd 1983. This is the most substantial structure on the line, being 476 yards long with 34 arches. Unfortunately, today the trees have grown so much that it is not possible to get a clear view of it.

BELOW: The three and a half mile branch to Clayton West left the line to Penistone at Clayton West Junction, near Shelley. A Class 101 DMU is seen arriving at the terminus with a service from Huddersfield on 14th November 1982 shortly before services were withdrawn. Note the Lancashire & Yorkshire Railway signal box with its 'Clayton West Signal Cabin' nameplate. In the background can be seen Emley Moor television transmitting mast. A previous mast close to the present location collapsed in 1969 due to the build up of ice and high winds. It was replaced with the present structure which is the tallest free-standing structure in the United Kingdom at a height of 1,084 feet (330m) and is topped by an antennae 184 feet (56 m) high.



RIGHT: On February 8th 1967 a very dirty Healey Mills allocated English Electric Type 4 No. D392 is shunting the colliery yard at Skelmanthorpe, an intermediate station on the Clayton branch. A derelict National Coal Board saddle tank locomotive can be seen dumped on the yard headshunt. The branch was steeply graded at around 1 in 70 from Clayton West to Clayton West Junction.



BELOW: Another impressive viaduct on the line is at Denby Dale. It was originally built out of timber but was replaced in 1884 by this stone structure. Class 47/0 No. 47101 is crossing the viaduct with a returning special from Blackpool for the Penistone Working Men's Club.



RIGHT: E51818 is the leading vehicle of a four car train made up of a pair of two-car Class 110 DMUs and is seen leaving Penistone for Sheffield. These powerful DMUs were ideal for the steep gradients of the Penistone line. Note that the tracks to Woodhead Tunnel on the left are still in place although the wires are gone. The Penistone branch was threatened with closure for a long time, but is now working virtually to capacity during the day with the infrastructure that is left and passenger numbers have risen substantially in recent years. Today the line is single track except for the passing loop at Penistone and the 2 mile long double track section between Stocksmoor Junction and Clayton West Junction. Just visible in the background, and to the right of the train, is the 29 arch Penistone viaduct which carries the railway over the River Don. The photograph was taken from the elevated signal box on October 15th 1983.



SPRINGS BRANCH DEPOT



Inside Wigan Springs Branch on the 20th November 1983 are, from left to right, 40196, 25235, 40195, 40033 and 08423. Jeff Nicholls

The article on Springs Branch was especially interesting to me as I have been a frequent visitor over the years, up to as recently as last week when I went to photograph the weekly trip from Arpley Yard. It was cancelled....

The attached photo was taken one Sunday evening when I asked the foreman nicely if I could go round the depot to take some photographs. Not only did he let me but he lent me his tripod! Having cycled there, it was very useful. I also have fond memories of the Stanlow oil trains in and around Warrington, which were also covered in TRACTION 240.

Jeff Nicholls by email

ENGINEER IN SCOTLAND

Colin Boocock's article as an engineer managing the Scottish railway in the 1980s was an insightful and most interesting read - you really can't beat first hand experiences from those that were there at the time. Generally there's little coverage of DMU depots and wagon works, so his article was a welcome read and I look forward to hearing more about his time on the railway.

Alex Fisher by email

MAIL, NEWS AND PARCELS TRAINS

When reading the article by '64B' in TRACTION 240, the mention of a Class 25/31 double header on the 20:05 Grimsby to Peterborough had me reaching for my haulage books as I remembered having a run on this train with the same power. Sure enough it was with the same locos, the date being Tuesday 16th July 1974. I travelled on it from Newark to Grantham, so as '64B' was getting off, I was getting on! I had my first

seven day East Midland Rover ticket from 26th May 1974 and spent all the week bashing up and down the ECML (as well as a few other things), day and night, as Rovers didn't have any time limits on them back then.

I then managed two days on the ECML on 16th/17th July 1974, so was lucky to drop onto this train. I scored both locos for haulage, then scored 55012 from Grantham to Doncaster on the 20:20 Kings Cross to Edinburgh. This turned out to be my last 'score' even though I was out all night and didn't return to Birmingham until the 16:36 Leeds to Cardiff with 47502, the next day. Every other occasion that I covered the 20:05 Grimsby it was always a Class 31.

Could I ask '64B' if he could possibly fill in a gap in my records? On Monday 26th May 1975 I had 37022 from Retford to Newark, departing at 21:00, but my train info only states that it was a return ADEX. I would like to know where it came from and where was it going to? It stopped at Newark where I got out for the 20:05 Grimsby to Peterborough, which was hauled by 31196.

Steve Horner, Droitwich Spa

ALBION GULF OIL DEPOT

I would like to thank Rory Wilson for contacting me and bringing to my attention that an accident report, regarding the collision involving the departing Class 47-hauled empty oil train and a Wolverhampton-bound AM4/2 Electric Multiple Unit at Albion

in May 1970, as described in the article, can be found on the internet. I would like to mention that it was only the 8th and 9th tank wagons that were derailed in the incident and not the 7th tank wagon as well, which appears to have suffered just minor sideswipe impact damage.

David Hayes, Wednesbury

COVER PHOTO TRACTION 240

What a superb photograph was on TRACTION 240's cover. The view of 55019, taken by Steve Randall, really captures the night time railway atmosphere of the early 1980s. You can almost hear the noise of the Deltic's engines throbbing away and my hands and feet have gone cold looking at the snow on the ground. Notice the brazier on the platform stopping the water supply for steam heating boilers from freezing. Atmospheric indeed!

Mike Mitchell by email.

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ABC RAIL GUIDE 2017

Author: Colin Marsden

Price: £22.50

ISBN: 9780711038561

Publisher: Crécy Publishing Ltd



As usual this annual guide brings together much of the information about the present day motive power and passenger rolling stock of the British Isles that the enthusiast will need. The vast majority of the 334 pages is taken up with a complete listing of all locomotives, multiple units and coaching stock for each of the passenger

and freight train operating companies, together with a map of each train operating company's routes. These listings are arranged clearly with numbers, depot allocation and livery details together with an excellent selection of recent photographs with informative captions. Multiple unit set formations will allow the enthusiast to check individual vehicle numbers easily.

As readers will know, large quantities of new rolling stock are on order. Where the details are known these are listed - for instance the GWR and Virgin Trains East Coast IEP stock numbers are included - or referred to as in the case of TransPennine Express. The many new EMUs for, among others, ScotRail, Crossrail and Govia Thameslink are also included.

However, recent changes to some of the franchises means some of the information is inevitably out of date. The maps for TransPennine Express and Northern, for instance, do not reflect the exchange of the routes served by the two companies.

For freight locomotives the details of the operational pools are included as well as the livery carried. Similar details are included for the infrastructure companies with listings of their specialised track machinery and wagons. A further section covers rolling stock hire companies (including the former BR locomotives now operating elsewhere in mainland Europe), private train operators, preserved motive power, light railway and tram operators. Former BR locomotives in industrial use and exported motive power form another section. There is a complete listing of locomotives, multiple units, trams and hauled passenger coaches for the Isle of Man, Northern Ireland and the Republic of Ireland. The book is rounded off with a section of data tables and a complete listing of locomotives, multiple unit sets and carriages and the company they work for - this is a most useful feature for finding individual vehicles within the main sections of the book. SRa

LONDON'S RAILWAYS 1967 - 1977 - A SNAP SHOT IN TIME

Author: Jim Blake

Price: £25.00

ISBN: 9781473833845

Pen and Sword Transport



At 174 pages long, this A4 hardback book attempts to give a flavour of London's railways over the decade between 1967 and 1977, thus covering the final year of steam

traction on the main line railway in the capital and the early years of Rail Blue. But the photos don't just show British Rail as there is an equal emphasis given to London Transport's railway operations. All photos are black and white and, on the whole, have reproduced quite well, although it has to be said that many appear rather 'flat' and some lack definition.

The book is divided into 24 sections with detailed and dated captions. These include 'Waterloo Sunset', covering the last days of steam at Waterloo and 'First Generation Diesels' with a good selection of views of BR diesels at locations spread across the capital. There are many images taken on the Underground, although all are taken above ground due to the difficulty of taking photographs in underground stations. These range from the old 'Q' stock through to the then highly modern 1973 silver liveried tube trains.

As a record of London's railways in the days before the incredible growth of rail traffic in recent years, this book will please many readers. SRa

CLASS 47 AND 57 LOCOMOTIVES

Price: £14.99

ISBN 9781445657370

Author: Andrew

Walker,

John Walker

and Vaughan

Hellam

Publisher:

Amberley

Publishing

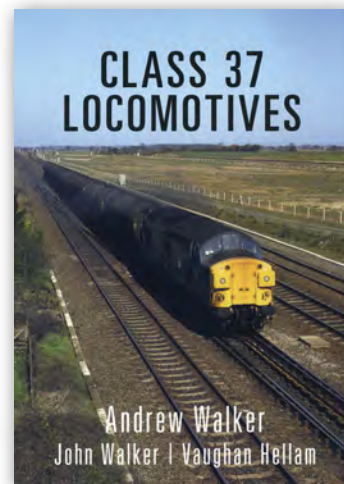
This is similar in size to many of Amberley Publishing's card back books using



a 23 cm by 16cm format. There are about 160 photographs of the Class 47s and 57s with all being taken over the last ten years on a digital camera. Most, but not all, captions quote the date and give background information about the working and individual locomotive.

The first 48 pages are taken up with the Class 47 images whilst the Class 57s are allocated 35 pages, with most pages having two photos on them. The majority of the photos show locomotives working trains and in their surroundings. Reproduction is good with photos being bright and well lit. The wide variety of liveries that the two types have worn in recent years is well represented, as is the range of trains that the locomotives have worked. MW

CLASS 37 LOCOMOTIVES



Price: £14.99

ISBN 9781445657370

Andrew Walker, John Walker and Vaughan Hellam

Publisher: Amberley Publishing

This is another of Amberley Publishing's card back books using a 23 cm by 16cm format. In its 96 pages there are about 180 images, almost all being in colour with all being taken from the 1980s onwards; there are no pre-TOPS renumbering scheme photos. The vast majority of the images show Class 37s at work in the north of England, with just a smattering taken elsewhere in the country. The wide variety of liveries that the class wore are well represented, with the images being a good mixture of 'train in the landscape' and 'locomotive portrait' types. Captions are brief with location, train working details and date, together with comments about the locomotive's life. The vast majority of photographs have reproduced well. Modellers will find the photographs useful for detailing and weathering purposes, whilst the many Class 37 fans will, no doubt, enjoy this collection of images. MW

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