

TRACTION

A CELEBRATION OF CLASSIC DIESELS & ELECTRICS

ISSUE 239
MAY-JUN 2017

YEOVIL TO HONITON THE TYPE 4 YEARS

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OF A CLASS 26
Inverness to Kyle

Photographing...
BOAT TRAIN
CLASS 73s

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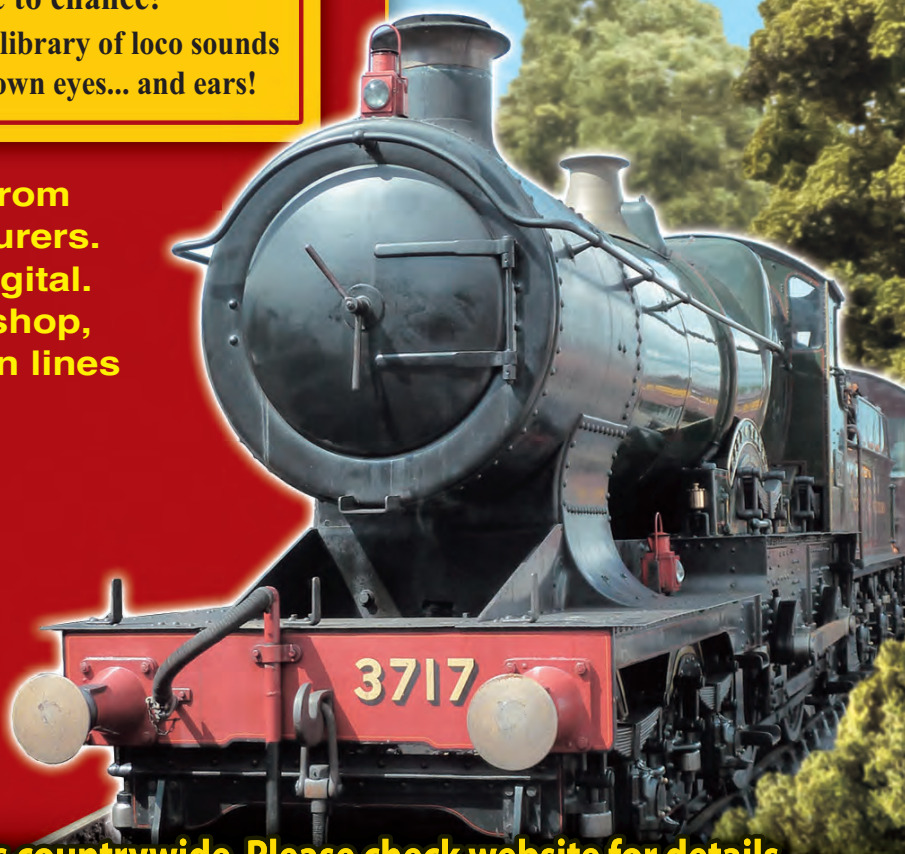
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Model Trade, Warners Trade Sales:
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Bob Dunn, Colin Boocock, David J. Hayes,
Gavin Morrison, Alex Fisher

Welcome to the May/June issue of **TRACTION**. I recently took the opportunity to travel on one of Arriva Trains Wales' locomotive hauled services between Chester and Holyhead. It's an experience that comes along all too rarely these days for the enthusiast. To hear a powerful diesel locomotive accelerate your train away from a station stop is a real treat. So, why not investigate the possibilities of locomotive haulage around Britain this summer?

Harking back to the days of locomotive haulage on the Waterloo to Exeter line, Jon Littlewood's article '**PERFORMANCE SURVEY: YEOVIL TO HONITON – THE TYPE 4 YEARS**' evokes the memories of those long gone days. Today's Class 159 DMUs may be more operationally efficient than a '47' or a '50' on Mark 2s but do rather lack the charisma!

Alex Fisher continues his series of articles about 'the first of the class' with '**D833, A LOCO HISTORY**'. The first of North British built 'Warships', *Panther*, is the subject of this article.

A type of locomotive that is currently returning to hauling passenger trains is, of course, the Class 73. However I doubt that Martin Axford, when he was '**PHOTOGRAPHING CLASS 73s ON THE CHANNEL ISLANDS BOAT TRAINS**', would have ever imagined that some of the '73s' would be hauling sleeping car trains in the Scottish Highlands thirty or so years later.

David J. Hayes returns with the second part of his article about the '**ALBION G.O.D.**' oil terminal in the West Midlands. This time he looks at traffic from the late 1970s until the 1990s.

The line to Kyle of Lochalsh has long fascinated readers but few have had the opportunity that Richard MacLennan had to travel in the cab of a Class 26, which he describes in '**FROM MORAY FIRTH TO ATLANTIC WILD**'.

'**LEEDS HOLBECK DEPOT**' has a long history, first as a steam shed, then rebuilt as a major diesel depot and now in use for track maintenance vehicles and DMU servicing. Gavin Morrison paid many visits to the depot in the diesel era and his selection of photographs shows its changing face over the years.

French railways have a long tradition of powerful electric locomotives, many of which fascinated Colin Boocock. In '**THE WEIRD AND NOT SO WONDERFUL**' he looks at a selection of these intriguing types that were to be found across The Channel.

Industrial locomotives don't often get much attention from enthusiasts but they were (and in some places still are) a vital part of railway operations. David Ratcliffe redresses the balance with his feature '**RUSTON & HORNSBY INDUSTRIALS**'.

Stephen

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If so get in touch with the editor as we'd love to feature your work in **TRACTION MODELLING**.

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TRACTION is published
6 issues a year
by Warners Group Publications plc

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ISSN: 1354-2680

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Performance Survey: Yeovil to Honiton - The Type 4 years

Looking back to the time of locomotive haulage on the Waterloo to Exeter line, Jon Littlewood evokes the memories of those long gone days.

The glory days of this line belong to the steam era: the opulent 'Devon Belle' (1947-1954), for example, ran from Waterloo to Exeter with no advertised stops and then continued to Ilfracombe. It was frequently loaded with 13 heavy Pullman cars plus a rear observation car grossing nearly 600 tons. A change of the streamlined 'Merchant Navy' pacifics took place at Wilton just west of Salisbury. The 'Atlantic Coast Express' ('ACE') ran between 1926 and 1964 and was another celebrated limited stop express that did battle with this hilly route and loaded up to 13/ 500 tons (13 coaches: weight 500 tons) at peak periods. For these trains Axminster was not a station to be stopped at; it was to be stormed in preparation for the hard climb to Honiton tunnel although, due to the length and gradient of this climb, momentum alone was nothing like enough.

My time was with the Class 50s and if I could choose to relive some classic Class 50 action, then I might well choose the Yeovil to Honiton line sometime between 1981 and 1991. The running west from Yeovil involved three successive climbs from a station stand, each quite different in character, whilst the descent through Chard Junction towards Axminster could often provide an enjoyable high speed interlude before the main event.

The line west of Salisbury was singled in 1967 with passing facilities retained at some of the stations, including Yeovil and Honiton. Between these two stations the 32 miles of single line was broken only by a passing loop at Chard. Yeovil Junction station enjoys a nice remote location with sidings and a large island platform which would see London and Exeter bound trains arrive and depart within minutes of each other on either side of the old up island platform. The station cafe would see a flurry of activity preceding the coincident arrival of these trains, but would then suffer a lull of nearly 2 hours (less at peak times). I can barely remember the cafe as it was in the 1980s, but

it was railway themed to some degree and was a pleasant place to kill a bit of time. In the days of steam, this station, which was one of three serving Yeovil, had its footbridge spanning the tracks to the other island platform and over the two through roads which saw express trains pass below at up to 85 mph.

Honiton Bank

With a Class 50, a vigorous start could be made from Yeovil for the 3 mile long climb past Sutton Bingham reservoir, where there used to be a small halt to serve the village, and thence up to an overbridge at Hardington where there was once a small milk siding. The restart from Crewkerne was memorable for its series of curves and the 1 in 80 gradient that takes the line to a summit half a mile beyond its short tunnel. Both these climbs would reveal a lot about the strength of a locomotive, but Honiton bank would have the last word on the matter. As David Clough said in his Railway World article of 1982, 'Honiton bank bears some comparison with the Tebay to Shap section in terms of the length and grade of the final section. It is in fact a bit longer but it is not exposed to the elements like Shap.'

Honiton bank has always been a classic climb for locomotive hauled trains. To be on board a train like the 'ACE' in the early 1960s, as it picked up speed through Axminster for the 7 mile climb to Honiton tunnel, must have been quite a thrill. Speeds of up to 100 mph in the dip after Axminster were recorded on those heavy trains which seems astonishing now. I have looked at many runs between Axminster and Honiton with rebuilt 'Merchant Navy' pacifics loaded from 11 to 13 carriages and it's impossible not to be impressed. The last westbound 'ACE' in 1964, with 35022 *Holland America Line*, took its 13/475 ton train through Yeovil at 78, Crewkerne 76, Axminster 81, Seaton Junction at 67 and into Honiton tunnel at almost 40 mph. A couple of days earlier 35029 was stopped at Axminster with 12/445

ABOVE: 10th July 1993: 47716 drops down from Honiton Tunnel as it approaches Seaton Junction with the 13:46 Exeter to Waterloo service. railphotoprints.co.uk - John Chalcraft

tons and then took its train into the tunnel at 37½ mph. A Class 47 or 50 diesel-electric could do no better than that!

Seaton Junction originally had its sidings and four tracks running between its main platforms. The two footbridges, which surprisingly remain intact, have always been a reminder of its scale, especially the western-most footbridge which spanned the Seaton branch line and platform.

For 25 years I have put off a thorough assessment of my collection of runs because of the notorious milepost irregularities on this line and a few concerns about the gradients. The milepost issues were not too difficult to resolve in the end and the combination of data from GPS analysis and dynamometer car test reports from 1955, provided the required certainty regarding gradients.

The Performance & Efficiency test of SR diesel electric 10203 was published in the form of BTC Test Bulletin No.16. This was, appropriately, part of the English Electric Class 40 design development with the 2000 HP version of the 16 cylinder SVT engine, later to run at 2700HP in the Class 50. The 1750HP version of this locomotive, 10202, was tested previously on this line and was reported in Test Bulletin No.9. The formulae from tests such as these are at the basis of the power calculations used for this article after adjustment for Mark 2 stock and better track quality.

The Class 50s spent eleven years on this line and were worked hard. The frequent stops and restarts and the jointed track made these workings fairly punishing and it should also be remembered that most of the diagrams involved a return trip over the Devon banks to stable and receive maintenance at Laira. Many informed people believe that the Waterloo to Exeter services literally shortened the life of the Class 50.



The Class 47 superseded the Class 50 until the end of locomotive haulage in summer 1993. We know that the Class 47 experiment showed no real benefits over the Class 50, other than on a cost per mile basis perhaps, but did they run well at the western end of the line? John Heaton has kindly provided data from most of the runs that he witnessed from the cab (more than 150 runs). They reflect my own experiences in as much as the average speed of his Class 50 sample entering Honiton tunnel is depressed somewhat by some fairly awful runs. However I have seen no Class 47 runs to equal the best of the Class 50, although it has to be said that there was a temporary speed restriction at the foot of the climb for most of 1992/93 when the Class 47 was in sole charge of services.

60mph at Honiton Tunnel

One of the objectives of this article was to look for a run that claimed a 60 mph entrance to Honiton tunnel with the standard load of 9 coaches. Such a run would have required at least 110% of rated output from a Class 47 or 50 and would certainly have occurred from time to time. To this end I simply scoured every source and have catalogued far more runs than I really needed. This has resulted in a sort of super-survey.

Most of my runs were in 1990/91 when the Class 50s were being run down, but it must be said that Laira depot did a good job with the survivors. Withdrawals enabled a supply of components that could be donated and although major item swappage never reached the levels lavished on the 'Deltics' in their last years, engines and main generators ('power units' when combined), traction motors and bogies were being moved around the fleet more than you might imagine.

ABOVE: 12th November 1988: 50042 Triumph heads the 09:10 Waterloo to Exeter past Seaton Junction on 12th November 1988. David Rostance

Table 1: Yeovil to Honiton									
M Ch	Date Train Locomotive Trailing load (tons)	Tue 30/07/1991 09:15 Waterloo-Ex 50033 'Glorious' 8 mk2b: 258 / 266		Sun 15/07/1990 14:55 Waterloo-Ex 50033 'Glorious' 9 mk2b: 289 / 297		Sat 21/04/1984 11:10 Waterloo-Ex 50034 'Furious' 9 mk2b: 289 / 310		Sat 24/02/2007 Waterloo-Okehampton D1015 'Champ' 10 mk1: 358 / 392	
		time m s	speed mph	time m s	speed mph	time m s	speed mph	time m s	speed mph
122 51.0	YEovil JUNCTION	0: 00	-	0: 00	-	0: 00	-	0: 00	-
123 00.0	Milepost	0: 56	38.1	1: 06	35.8	0: 59	36.5	1: 43	34.3
124 71.0	Sutton Bingham (site of halt)	3: 09	60.0	3: 20	60.5	3: 15	59.0	4: 16	51.8
126 13.0	Kit Hill overbridge	4: 22	64.0	4: 33	64.5	4: 29	63.0	5: 41	54.7
128 20.0	Milepost					6: 09	86.0	7: 31	80.0
129 20.0	Milepost (minor summit)					6: 51	86.0	8: 16	78.4
130 20.0	Milepost (start of 1 in 80)	7: 21	88.0			7: 31	91.0	9: 01	84.5
131 34.0	CREWKERNE	unrecorded	-	9: 38	-	9: 03	-	9: 53	75.5
132 03.3	Crewkerne LC	1: 28	38.4	1: 42	34.8	1: 30	36.4	10: 25	68.7
132 38.5	] Crewkerne Tunnel E	2: 06		2: 23		2: 10		10: 49	64.4
132 47.8	] Crewkerne Tunnel E (205 yds)	2: 16	43.5 av	2: 33	42.4 av	2: 20	42.0 av	10: 55	63.4 av
133 00.0	Milepost (summit approach)	2: 48	48.5	3: 05	46.5	2: 53	45.0	11: 19	60.4
134 03.4	Hewish LC	3: 55	68.0	4: 12	68.0	4: 01	66.0	12: 16	72.0
135 48.0	Wayford Farm underbridge		86.0			5: 14	85.0	13: 26	83.0
139 32.0	Chard Junction	7: 39	90.0	Looped		7: 54	81.0	Looped	
141 56.0	Axe LC	9: 11	90.0			9: 33	86.0	4: 00	66.7
143 20.0	River Axe milepost	10: 14	88.0			10: 40	77.0	5: 16	80.0
144 45.0	AXMINSTER	11: 48	-	unrecorded	-	12: 23	-	6: 13	83.5
145 00.0	Milepost	1: 02	44.0	1: 15	40.7	1: 03	42.0	6: 33	81.8
146 20.0	Milepost - bottom of dip	2: 20	68.7	2: 35	68.2	2: 23	67.0	7: 31	75.8
147 40.0	Milepost	3: 26	66.5	3: 41	66.3	3: 31	65.0	8: 33	68.7
147 64.5	Seaton Junction (first footbridge)	3: 43	68.0	3: 58	67.8	3: 48	66.3	8: 49	69.0
148 00.0	Milepost (start of 1 in 80)	3: 53	68.7	4: 08	68.6	3: 58	67.0	8: 59	69.2
149 17.0	Colhayne Farm overbridge	4: 59	64.5	5: 14	65.0	5: 06	63.5	10: 08	60.0
150 15.0	Black Sands underbridge	5: 55	61.8	6: 09	62.0	6: 03	60.0	11: 09	54.0
151 40.0	Honiton Incline (site of SB)	7: 14	59.0	7: 28	59.1	7: 24	58.0	12: 42	49.4
152 12.0	Coomewater Road overbridge	7: 54	58.1	8: 08	58.6	8: 05	57.7	13: 30	48.0
152 45.3	] Honiton Tunnel E	8: 20	57.8	8: 33	58.3	8: 31	57.3	14: 01	47.6
153 26.4	] Honiton Tunnel W (1345 yds)			9: 20	58.6 av	9: 18	57.6 av	14: 57	49.0 av
153 40.0	Milepost Summit			9: 30		9: 29	/ sigs		/ sigs
154 60.0	HONITON	unrecorded	-	11: 26	-	12: 01	-	unrecorded	-

= full power



Table 1 starts with a detailed run from the last summer of Class 50 haulage in 1991. 50033 had been a strong performer the year previous after receiving an overhauled power unit at Old Oak in January 1990, but that power unit gave little more than twelve month's service before main bearing issues were discovered leading to a power unit exchange at Laira in April 1991. As such, 50033 with its donor engine was merely average at the time of this run. It was a brisk run though with fast starts and some 90 mph running wherever possible (the line limit was and still is 85mph). The best of the load 9 efforts equalled it on the climbs though.

The Class 50 should be at its best when starting and accelerating these moderate loads and that was always my perception when travelling behind them; they just felt like a good tool for the job in skilled hands. However, Honiton bank would force them to decelerate under full power which is where they sometimes suffer a little relative to other Type 4s. In this case though, the deceleration forced upon them was gradual and it didn't afflict

them too seriously. A poor climb was usually the consequence of a weak engine and not a deficiency under deceleration as such. In fact some '50s' were stellar in this domain, perhaps more so when they could comfortably stay above the speed of the field divert that occurs at about 60 mph. 50033 may have managed to do so on this occasion as it approached the tunnel, but it did lose a little more speed over the final mile than usual, so perhaps not.

After topping Hardington summit from Yeovil, it was possible to quickly hit 90 mph before the usual breaking point around milepost 130½. 50033 almost did so, then stormed out of Crewkerne and was doing nearly 50 mph at Hewish summit. It then held close to 90 all the way down to Axminster with no apparent caution going through Chard level crossing and the neighbouring Dairy Crest site which eventually closed in 2015.

Acceleration from Axminster with the river Axe nearby was usually brisk down the 1 in 240 gradient, and again 50033 made a very quick start. The line then rises from where today's Axminster loop west junction exists for the seven mile grind to the west end of Honiton tunnel, with only a brief respite through Seaton Junction where the gradient eases for a third of a mile. In steam days, the four track layout would allow an express to overtake a stopping train at this station. During that era, there was a small signal box/cabin about a mile before the tunnel entrance away from any signs of civilisation. There was a catch/refuge siding built into the south side embankment where trains could reverse and dwell if necessary. Few pictures seem to exist of this idyllic spot, probably because of its remoteness.

Although it would often appear that speed had stabilised over the final mile up to Honiton tunnel, it very rarely did so and any power calculation on that basis would create an over estimate. As the gradient eased to 1 in 132 in the tunnel, speed would recover very slowly and the average speed through the 1345 yards of its bore would usually be only a fraction above the speed on entry to it - assuming full power was maintained.

The second and third runs tabulated were my best with load 9 featuring 50033 again with a new power unit and 50034. The run with D1015 on railtour duty features a full power blast through Crewkerne and up to the Hewish summit, plus a near 100% representation of its type on Honiton bank. It was a shame about

the easing to 75 mph past the new Axminster loop west junction at the foot of the bank. Now try to imagine rebuilt Merchant Navy 35028 'Clan Line' in 1961 with 12/425 tons gross, going through Yeovil at almost 90 mph, topping Hardington and Crewkerne summits at 73 and 65 mph respectively, 104 in the dip after Axminster, 90 at Seaton Junction and 58 into Honiton tunnel. Apparently, that actually happened!

Tables 2 & 3: Over one hundred load 9 runs were reviewed for this study, the problem then being how to filter out 60% of them

Table 2: Axminster to Honiton Tunnel										
Power output: MP148 to 152%, 4.515 miles, height gain 295 ft = 1 in 80.8 grade										
Load 9										
Date	Loco	Seaton J	MP148	Tunnel East	ETH	RHP	% of			
		FB1	max	portal	min		rated			
Theoretical best run		3: 37	69.5	8: 06	60.0		2320	111		
18/03/89	50003	3: 50	68.5	8: 27	58.0	✓	2305	110	F	
24/04/85	50050	3: 45	69.3	8: 16	59.3		2280	109		
09/01/86	50009	3: 47	69.0	8: 19	59.3		2275	109	I	
02/12/87	50048	3: 37	69.0	8: 14	58.0	✓	2270	109	I	
23/10/87	50028	3: 40	70.0	8: 17	58.0	✓	2255	108	F	
11/01/89	50003	3: 49	68.0	8: 29	57.7	✓	2235	107	P	
15/07/90	50033	3: 58	68.6	8: 33	58.3		2220	106	P	
10/06/89	50041	3: 53	68.0	8: 33	58.0	✓	2215	106	P	
07/05/88	50027	3: 56	68.3	8: 34	58.0		2205	106	F	
21/04/84	50034	3: 48	67.5	8: 31	57.3		2205	106		
25/05/89	50028	3: 47	68.0	8: 30	56.2		2190	105	P	
16/02/90	50002	3: 59	66.5	8: 46	56.5	✓	2180	105	P	
14/06/87	50002	4: 03	67.5	8: 46	57.0		2170	104	I	
17/01/90	50017	3: 47	68.5	8: 25	57.0		2155	103		
14/02/88	50050	4: 05	65.3	8: 55	54.8	✓	2145	103	F	
07/06/86	50050	3: 49	68.0	8: 31	57.0		2130	102		
03/04/84	50009	3: 46	68.0	8: 29	57.0		2130	102		
01/10/85	50036	3: 48	68.0	8: 31	56.0		2130	102		
06/05/87	50037	3: 49	67.5	8: 33	56.8		2130	102	I	
18/10/89	50043	3: 51	66.5	8: 39	55.5		2090	100	M	
29/04/86	50031	3: 51	66.5	8: 39	55.5		2090	100	I	
10/08/87	50044	3: 55	66.5	8: 44	55.5		2085	100	I	
11/06/88	50008	3: 55	66.5	8: 45	55.5		2075	100		
05/09/87	50046	3: 54	66.8	8: 45	54.6		2075	100	F	
05/10/88	47473	4: 05	66.5	8: 55	55.0		2060	99		
19/09/90	50028	4: 16	65.0	9: 12	54.2		2040	98		
14/08/87	50050	3: 56	66.0	8: 53	54.0		1990	95	F	
29/07/91	47710	4: 04	63.7	9: 11	51.8		1945	93		
16/06/90	50009	3: 56	64.5	9: 02	51.0		1905	91		
16/11/91	47708	4: 12	64.0	9: 22	51.5	✓	1895	91		
04/01/92	47705	4: 08	63.0	9: 27	50.0	✓	1835	88		
03/08/88	50043	4: 04	63.0	9: 24	50.0		1820	87	F	
29/01/88	50015	4: 03	62.5	9: 25	50.0	✓	1810	87		
06/08/86	50012	4: 07	63.0	9: 28	50.0		1805	87		
17/06/87	50026	4: 09	60.0	9: 44	48.0		1745	84	F	
12/05/87	50012	4: 06	58.0	9: 49	46.0		1705	82		
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13/03/65	D802	5: 19	57.0	11: 01	46.0		1690	108		
sum/79	33004	4: 26	56.0	10: 48	41.0		1490	120		
27/09/80	33027	4: 30	56.0	10: 46	42.0		1385	112		
18/07/87	33008	4: 34	54.0	11: 28	36.0		1215	98		

* Most of the best runs took place within 12 months of the following events:

- R Refurbishment (Doncaster)
- I Intermediate overhaul (Doncaster)
- F Exam (Laira)
- P Overhauled engine or power unit installed
- M Main generator replaced



10th May 1991: 47702 *Saint Cuthbert* is seen leaving Yeovil Junction with a Waterloo to Exeter service. The turntable is prominent in the foreground. Dave Higson



ABOVE: 12th November 1988: 50041 *Bulwark* heads the 12:20 Exeter to Waterloo past the abandoned and dilapidated station at Seaton Junction. *David Rostance*

Table 3: Axminster to Honiton Tunnel										
Load 10										
Date	Loco	Seaton J FB1	MP148 max	Tunnel East portal min	ETH	RHP	% Of rated	*		
7/05/80	50025	3: 52	68.5	8: 26	58.5	2490	119	R		
7/7/82	50021	4: 06	65.5	9: 03	54.5	2245	108	R		
28/09/80	50017	4: 06	64.0	9: 14	51.0	2190	105	R		
23/05/92	47701	4: 15	63.5	9: 24	52.0	2060	99			
24/02/07	D1015	8: 49	69.2	14: 01	47.6	1955	98			
24/11/87	50043	4: 17	59.0	9: 57	47.0	1905	91	F		
Load 8										
31/07/91	D400	3: 44	71.0	8: 07	61.8	2200	106	P		
20/06/87	50048	3: 37	70.5	8: 02	61.0	2200	106	I		
12/06/81	50046	3: 38	70.5	8: 03	61.0	2175	104			
05/01/89	50003	3: 54	70.0	8: 23	60.0	2170	104	F		
27/07/88	50003	3: 57	70.0	8: 25	60.0	2150	103	F		
21/05/90	50043	3: 49	69.5	8: 19	60.0	2150	103	M		
27/11/87	50033	3: 42	69.5	8: 13	59.5	2150	103			
05/07/87	47093	3: 58	69.2	8: 30	59.8	2140	103			
28/07/91	50030	4: 01	69.5	8: 30	60.0	2125	102	P		
30/09/88	50002	3: 41	69.0	8: 15	59.0	2085	100			
28/07/91	47716	3: 58	68.7	8: 35	59.0	2045	98			
30/07/91	50033	3: 42	68.7	8: 19	58.0	2030	97	P		
25/04/92	47702	3: 56	65.5	8: 47	56.5	2005	96			
18/01/92	50033	3: 53	67.5	8: 38	56.5	2000	96			
28/08/86	33045	4: 20	57.0	10: 15	45.0	1460	118			
26/03/83	33054	4: 15	57.0	10: 21	43.0	1320	106			
13/07/85	33020	4: 27	56.0	10: 43	41.0	1255	101			
02/10/82	33019	4: 35	55.0	11: 13	39.0	1200	97			
Load 7										
12/04/91	D400	3: 30	75.0	7: 34	68.4	2295	110	P		
23/05/89	50002	3: 36	73.7	7: 50	64.5	2165	104	P		
10/01/88	50019	3: 41	72.7	7: 56	64.4	2155	103	P		
23/01/91	50029	3: 43	72.5	7: 59	64.0	2150	103			
18/08/89	50049	3: 34	72.5	7: 51	64.0	2120	102			
26/01/86	50030	3: 42	71.5	8: 02	63.0	2110	101			
06/02/92	50030	3: 45	71.0	8: 07	62.5	2095	100			
31/03/86	50031	3: 36	71.5	7: 57	62.5	2085	100	I		
20/06/87	50048	3: 39	71.0	8: 02	62.5	2035	98	I		
28/07/91	47714	3: 55	69.4	8: 21	62.0	1985	97			
31/07/91	47710	3: 56	69.0	8: 25	60.9	1925	95			
06/06/89	8824	4: 05	64.5	9: 08	52.5	1715	99			
Load 6										
30/04/91	D400	3: 27	78.5	7: 19	71.5	2235	107	P		
08/06/90	50043	3: 43	75.0	7: 46	68.1	2110	101	M		
05/10/91	47703	3: 40	74.0	7: 46	67.5	2085	100			
02/07/91	50033	3: 35	74.5	7: 39	67.0	2065	99			
31/05/91	50027	3: 34	74.0	7: 49	64.5	1910	92			
09/11/91	47712	3: 42	70.0	8: 07	62.5	1865	89			
25/10/85	33010	4: 02	62.0	9: 21	50.0	1270	102			

for publication. The bulk of the runs rated between 90% and 100% entering the tunnel at around 51-54mph – entirely acceptable for schedule adherence, but I have decided to show the top 20, the average and the truly awful. The load 6, 7 and 8 tables didn't need the same filtering and I suspect the load 6 and 7 runs are filtered at source to some extent because many timers, myself included, saw such loads as a very poor substitute for a proper load 9 and tried to avoid them. Only the best runs with load 6 would have been written up I believe! Although all things being equal, the average speed from Seaton Junction to the tunnel would usually be the best way to rank these runs, some account has to be made for older stock types, differing passenger load and ETH, so rail horsepower (RHP) estimation, as shown, is a better representation. There are also occasions when a locomotive is not opened out fully from the start and is a little slower than normal through Seaton Junction. My run with 50050 and nine coaches on 14th February 1988 (with the ETH on) was such an example and RHP is the only measure by which to rank this properly.

Celebrity Class 50s

Looking at the table of performances, it's notable that 'celebrity' Class 50 members should feature heavily as some of the strongest performers in the later years: 50050 in 1985 and 1986 and its re-emergence as D400 in early April 1991, 50033 after some fettling at Old Oak in 1990 and 50007 after its F exam.



10th May 1991: 50031 is at Yeovil Junction ready to depart for Waterloo. *Dave Higson*

Other high achievers were 50002/3/9/28/43/48 and 50. I was not surprised to see under-achievers: 50012 and 50015. The run with 50025 with load 10 was detailed in the 'The Hoover' magazine from May 1983 and may be a genuine example of a near 120% effort. It's hard to credit or discredit this run with so little additional detail but I would be surprised if the recorder, a Mr J Medley, counted an extra coach that wasn't there.

Of interest to me was the fine run in May 1988 with 50027 which, following its F exam in December 1987, would become the casualty of a dispute between Laira and Crewe regarding the quality of the overhauled engines that Crewe had provided. 50027 had a number of engine fitments after its F exam and I managed to sample it in February and August 1988 before finding it in stellar form at the end of September 1989 (see TRACTION 212). Its load 9 run in the table must have been shortly before its second power unit failed after less than 4 month's duty. Most of the better performances come from locomotives that were within a year of major overhaul and I have tried to indicate this in the penultimate column of each table (see key at the bottom of Table 3). Some locomotives would also show a marked improvement after the midpoint of their overhaul cycle.

50050/D400

The surprise from this survey is the emergence of 50050/D400 as a leader in almost every load table. This must, at least to some extent, be a coincidence. For example, no one actually timed one of the very best runs in this

survey – that of D400 with load 7, released just one week after being prepared to a very high standard by Laira TMD in April 1991. The whole run was, however, caught on good quality video and can be seen on Youtube. I contacted the videographer and did some checks on his videos before concluding that all the frames were present and that the clock speed was reliable. Although these trains were popular with enthusiasts in the final years, it would seem that relatively few people actually timed them and, but for this video, D400's superb performance on that day would have been lost to us.

I am a little surprised that D400 was out-shopped by Laira in this state of tune, for Laira was not renowned for that sort of thing. The later batch of F exams by Laira did produce some powerful locomotives though and even the earlier ones came good eventually, but 10%+ above rating was very rare. In the absence of a static resistive load bank test, D400's final set-up would have been conducted during or after a test run over the Devon banks. Perhaps a little extra performance was bestowed upon it to match its good looks. Three weeks later it seems its power had dropped slightly. Its run on that occasion, with a load 6 on 30th April 1991, was a real flyer though and a clear road into Honiton enabled the stop to be made in 9 minutes 40 seconds – a very rare sub-10 minute time with a locomotive that would better all but the very best 6-car Class 159 runs of today. Its power output remained at that level until the end of July when I sampled it with load 8.

In early August 1991, D400 had a main

generator failure which resulted in a long layoff and the replacement of both engine and generator. It was not quite the same after that, although it was a good reliable performer into the early part of 1992.

Other Class 50s that I'd like to spotlight are '003, '028 and '048. 50003 was the last of a series of seventeen members to receive a scheduled overhaul in the form of an F exam at Laira following the transfer of this responsibility from Doncaster at the end of 1986. 50003 was well looked after by Laira staff and this shows in its multiple entries at the top of the tables attached. I believe it ran reliably with the same power unit until withdrawal three years later having clocked 6900 TOPS hours.

50028 was released from its F-exam in September 1987. Its power unit (engine and main generator) had been overhauled at Crewe and set up in the carcass of 50011 which became resident there after its withdrawal. The engine lasted eight months before failure and Laira had to wait nearly five months for a replacement power unit such was the shortage at the time. Ian Horner's load 9 run with it shortly after its F exam saw it reach Honiton tunnel in the quickest time on record, despite the likely operation of electric train heating (ETH). The start from Axminster must have been something to behold because even the best load 8 couldn't better it.

50048 was the last to be out-shopped from Doncaster following an intermediate overhaul in March 1987. I sampled it at the end of that month and it was strong but sounded a little tight I thought. By late summer it had bedded in, sounded better and was giving about 2200-2250 RHP. ETH operation was verified during its very strong load 9 run. Its power unit lasted until November 1989 at which point it got an overhauled replacement that returned it to the same sort of form and which stayed in place until its withdrawal in summer 1991. 9,300 TOPS hours at 2000 per year was a good final innings.

The Class 47s

The bulk of the Class 47 sample suffered a persistent speed restriction where the west end of the new Axminster loop now exists but, taking this into account, their efforts on the bank are still mediocre. It seems that many of the '47/7s' that were drafted in were not perfect examples of their sub-class. 47714 did get an F exam at Old Oak, I understand, and was strong as a result, but it rarely strayed from the Thames Valley services. By all accounts the others were well maintained in Scotland before



YOUTUBE FILMS OF CLASS 50S ON HONITON BANK

For an appreciation of a good Class 50 effort on Honiton bank, I can recommend Allan Tebb's YouTube video of 50030 and load 8 on a dull day in July 1991 with its superb audio; just search: 'English Electric Class 50 Axminster' or go to: <https://goo.gl/OIWB85>

For D400's superb run on 12th April 1991, search: '50050 1V11'. or go to <https://goo.gl/ght6v9>



their transfer, but the nature of their intensive high speed duties had perhaps taken its toll.

When looking at the original fully populated load 9 (Table 2), I was struck by the range of performances, from 2300 RHP or 110% to little more than 80% of rated capacity. A weak locomotive was always a disappointment but, at the other end of the scale, the very top performers could be critically described as maladjusted to a level that was unnecessary and which we now know resulted in accelerated wear (main engine bearings and camshafts), premature damage (main generators and traction motors) and considerable expense. The Class 50 main generator in particular was highly stressed and it is not surprising that the weaker members of the Class 50, including those in the departmental sector, were often the ones that avoided major failure for the longest. The Class 47 generator operated at lower voltage (though higher current) and fared better as regards flashover.

A 100% effort should have been the ultimate reward and I was never disappointed but, of course, I'd swap it for the rarity and general kudos of a 110% effort, not least because that sort of power hike was pleasantly noticeable and because the locomotive concerned could be running at a slightly higher engine speed or with very healthy compression, both of which enhanced the V16's already very compelling soundtrack at full power.

What I recall most fondly about my time on this line was how appealingly rural it was. I always managed to get a seat right behind the locomotive, or at least in the first half of the leading TSO and, even without the top lights pulled open, the acoustics were always great. You can get a sense of this rural thrash on our preserved railways but at much reduced speed and limited duration. In contrast, speeds approaching 100 mph could actually be achieved on this line: I got close a few times and the quality of the ride was not at all alarming despite the presence of rail joints in some locations - Seaton Junction being one of them. A frisky load 7 or 8 would often be my favourite, although the added brake force of a load 9 may

have been preferred by most drivers.

The pleasure of timing these trains was for me at its height on the top half of Honiton bank when speed was falling gradually and I found myself rooting for the locomotive in its quest against gravity; for every mile that passed it would have to lift its train through 66 ft vertically. The division of power referenced to the crankshaft of a near 100% effort, like that of my run with 50046, would be close to the figures shown in the table below.

50046 estimated power break down on Honiton bank	
HP	
2670	BHP at the engine crankshaft (approx 99% of rated) - less 8% loss to generator energy conversion
2455	Electrical output from main and auxiliary generators - less 150 IP (varies) consumed by auxiliaries, controls, field excitation etc
2305	Electrical input to traction motors - less 10% to motor energy conversion
2075	Mechanical power at the wheels (RHP) - less 165HP to overcome tractive resistance of locomotive
1910	Work done at the locomotive's drawbar (DBHP) - less 390 HP to overcome tractive resistance of trailing load
1520	Work done against the gradient and to limit speed loss.

The variance in passenger load could amount to 15-20 tons at its extreme which would equate to about 60 HP in this calculation. Tractive resistance can be thought of as the resistance to motion of a wheeled vehicle and includes aerodynamic drag and the frictional resistance of wheel bearings and wheel flange track contact. This was ascertained many times from dynamometer car test measurements.

I regret that I didn't sample any locomotive hauled diversions over this route, but I can relay details of two fine Class 47 hauled runs in late 1988 aboard the 08:50 Glasgow to Penzance train with load 12 air-conditioned coaches. Both started at Yeovil and ran non-stop through Axminster reaching about 85 mph in the dip beyond. Speed was in the high 70s at Seaton Junction and about 47 mph at the tunnel entrance. Back on their booked route these trains were able to go through Taunton at 85+ mph, but would be doing mid-50s at Whiteball tunnel.

The work of the stalwart Class 33 should be acknowledged briefly and even though they were underpowered for this work, a good one was still capable of keeping the Class 50 schedule with load 7. They too were rather variable and a weak one on load 9 could be a bit tragic. In this survey however, I seem to have stumbled on a few exceptionally strong examples judged by their power outputs (see 33004). The 'Warships' struck a better balance of self-weight and available power for this route. The run shown with D802, with heavier Mark 1 stock of course, suffered a slow start from Axminster due to dragging brakes. This problem must have been resolved for it appears that D802 was closer to the 2200 BHP of its later brethren than its nominal 2000BHP.

Acknowledgements

I acknowledge valuable contributions from John Heaton, Ian Horner, David Clough, Michael Oakley, the archives of the Performance Society and Bullied Pacifics by D.W.Winkworth.

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D833: a loco history

Alex Fisher traces the history of the first of the North British built 'Warships' which had a service life of just over eleven years.

After The Western Region (WR) had negotiated a licence with German Federal Railway's 'V200' design to the UK loading gauge, the British Transport Commission (BTC) accepted the WR's proposal to build three pilot-scheme Type 4 diesel-hydraulic 'Warship' class locomotives Nos. D800-D802 in January 1956. The first of the trio was built in February 1957 and even before its introduction, with the BTC wishing to eliminate steam as quickly as possible, Swindon received an order for further examples Nos. D803-D832 and D866-D870. In July 1958 an additional order was placed for 33 locomotives to be built by the North British Locomotive company (NBL) in Glasgow. These were numbered D833-65 in the fleet and equipped with the same MAN L12V18/21B engines of 1,100bhp and Voith transmissions as fitted in the earlier D6300 class.

All the locomotives had a B-B wheel arrangement, and although the Swindon Works and NBL examples were given the TOPS designations Class 42 and 43 respectively, none actually carried such numbers. Thus under works number 27962, D833 *Panther* was delivered in June 17th 1960 and was technically the first of what would have been the Class 43.

After being observed on trial in June between Glasgow and Dumfries, it entered traffic on Wednesday July 6th 1960 and was allocated to Laira depot in Plymouth at the same time as D834, but left Laira for Newton Abbot in July 1961 after only a year based in Plymouth. Electrification warning flashes were fitted in October 1961 while at its new home of Newton Abbot. At the time this depot wasn't too well equipped to service diesels, but in 1962 the site was completely rebuilt for them. A daily servicing and fuelling point was built beside the old steam shed and the traverser table accessed Factory was rebuilt. It had four roads with servicing pits and cab level platforms giving enough space to repair eight locomotives at the same time. Its last steam locomotive (No. 4566) was outshopped in July 1966. Newton Abbot was supposed to have been the WR's main diesel locomotive depot in the West Country, but instead the honour befell Laira in Plymouth. Newton Abbot did however become the main servicing depot for the Class 42s and 43s and, although not concurrently, all of the NBL built Class 43s were allocated there at some point between D833's arrival and D865 coming in June 1965.

On August 25th 1962, D833 was involved in a collision when it was hauling the fourteen-coach 10:05 Paddington to Kingswear

TOP: 'Warship' D833 *Panther* near Laira in 1960. Laira shed is in the background of this interesting view with the remains of the Lee Moor tramway that crossed the main line on the level in front of the signal box. RIC Collection

passenger train. It had suffered problems with its Voith LT 306 transmission and came to a stand on the steeply rising Down line between Torquay and Gas House Siding. D833 had stopped in section with its last coach around 114 yards past Torquay signal box's Down Advanced Starting signal. Regulations dictate that a failed train should be protected by detonators but before the train's guard was able to lay full protection, a steam locomotive hauling the thirteen-coach 07:45 Paddington to Paignton passenger train passed the signal at danger and ran into the rear of D833's train.

The steam engine, 4932 *Hatherton Hall*, at the head of the 07:45 service, was a replacement for a diesel that itself had failed at Taunton and despite the train weighing 427 tons unladen and around 20 tons over the locomotive's permitted load, it was taken forward by the driver from Newton Abbot in order to avoid further delay. The steam driver and fireman were readying their locomotive for the 1 in 56 rising gradient that lay ahead and this distraction, along with a nearby person momentarily obscuring his view of the signal ahead, are attributed to why he drove past that signal at danger. When he saw the train in front, the steam driver did at least manage to reduce his train's speed from 15-20mph to roughly 10mph at the moment of impact.



D833 Panther is seen at Reading West on September 12th 1964. David Christie



ABOVE: D833 is seen running along the sea front at Dawlish with train 1M37 in summer 1966. On peak summer Saturdays 1M37 was the 11:25 Newquay to Wolverhampton so it is possible that this is the working seen here. Note the yellow waist height destination boards that were used by the Western Region at this time instead of roof mounted ones. *Colourrail/ G Pratt*

The collision caused the rear coach of D833's train to rise up off its bogies and its rear end came to rest on the front of the steam engine, its vestibule touching but undamaged by the smoke box door. The rear coach was buffer locked with the one in front and 18 passengers in them were slightly injured. The 07:45's front two coaches were also forced up off their bogies and buffer-locked. The front end of the second coach also drove in under the rear of the first as the two coaches telescoped together by roughly 3 feet. Five passengers in the front three coaches received minor injuries but no staff were injured. Luckily a passing doctor witnessed the collision and administered first aid before emergency services arrived within 12 minutes of the collision. A total of 23 people were injured and seven were taken to hospital, but all were discharged that afternoon.

The following month in September 1962,

D833 gained a small yellow warning panel and in the mid 1960s the NBL 'Warships' were common performers on the Exeter to Waterloo services and, despite their non standard nature and ultimate early withdrawal, figures for 1965 show that the class were covering far greater annual mileages than their Type 4 rivals, the Class 45s, 46s, 47s and 52s. Despite this, the NBL build of locomotives were seen as less reliable than their Swindon-built counterparts. Their exhaust manifolds had been built of mild steel and were prone to fracture. The conversion from metric to imperial had also compounded other build quality issues and thus the operating departments of WR tended to put the Class 43s on freight turns rather than passenger services. May 1965 found D833 waiting to go into Swindon Works of overhaul.

The use of Class 45s, 46s and 47s on North East to South West services west of Bristol increased whilst Class 33s were introduced on

the Exeter to Waterloo services. Laird's Class 52s also took over many of the type's former passenger and freight workings. However, the low axle weight of the 'Warships' meant that they were more suited to branch line working on milk trains such as the daily service to Kensington in the days before Class 25s took over the diagrams.

D840 worked through Bescot on 15th August 1967 with a train of oil tankers, possibly deputising for a 'Hymek' Type 3 loco. It is possible it was being employed on crew training duties from Tyseley depot which had received D833 for that purpose at the beginning of August when D833 was loaned to Bescot depot. On September 6th 1967, D833 worked the 07:20 Birmingham to Paddington, replacing a failed Class 47; this was the first reported 'Warship' hauled train on the London to Birmingham service since 1965.

In March 1969 D833 was stored at Old Oak Common while still wearing its shabby green livery. It moved to Swindon Works in June and after an overhaul or at least some remedial work, it was reinstated back to traffic at Old Oak Common. D833 was seen at Crewe North stabling point on a summer Saturday in 1969 after working a Swansea to Manchester service.

Although all of the NBL 'Warships' originally wore BR green livery, D833 was repainted into BR blue by September 1969. Others to carry BR blue were D834-7/9/41-7/9-65. D833 was also one of the class to run without D prefixes to its cabside numbers, along with 834/5/9/31/36/51-8/61/2/5.

While based at Old Oak it was noted on a very snowy March 7th 1970 at Worcester Shrub Hill having presumably worked the 09:15 from London Paddington. It was then noted passing Adlestrop working the 1A50 14:15 Worcester to Paddington. It was reallocated to Newton



Abbot in October 1970. The 7th November found the locomotive at Cardiff Canton's open day. On Saturday April 3rd 1971, 833 was noted at Plymouth whilst in May it was seen at Dawlish on an eastbound freight train. As can be seen in one of the photographs in this article, 833 failed at Whiteball with a water pump problem whilst working the 08:30 Paignton to Weymouth special on the 18th July 1971.

On Saturday August 7th 1971 *Panther* was seen residing at a very full Old Oak Common depot. These flurries of activity were to be 833's last as it was stored again for a final time in September 1971. October 3rd 1971 saw D833's life come to an end when it was officially withdrawn. On October 23rd it was noted at St. Phillips Marsh, Bristol together with many of its classmates which were either stored or withdrawn. 1972 is remembered as the year of the nationwide strike by Britain's miners and in the February the Secretary for Trade and Industry, John Davies, told the House of Commons that the government was ordering a massive shutdown of Britain's industry. He added that, "Many, many people, perhaps millions, will be laid off."

D833 had languished in a deteriorating state for over a year by this point and against a backdrop of economic and social uncertainty, it was quietly broken up at Swindon in February 1972.



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Part Seven, Dorchester, St Petroc
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The following websites were used in the compilation of this article:

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<http://www.brdatabase.info>
http://www.railwaysarchive.co.uk/documents/MoT_Torquay1962.pdf
http://rmweb.co.uk/photos/Class_43_liveries_BRM_review.pdf



TOP LEFT: The first of the NBL 'Warships' has only a little over three months before withdrawal when seen at Exeter on the 5th June 1971 with 803 *Albion* for company. *Rail Online*

MIDDLE LEFT: On the 18th July 1971 833 disgraced itself whilst heading 1230, the 08:30 Paignton to Weymouth excursion, after suffering a water pump failure at Whiteball and is seen awaiting assistance at Taunton. 'Hymek' No. 7001 eventually turned up and assisted to Westbury where another 'Warship', D824, took over. *John Medley/ Railphotoprints.co.uk*

BOTTOM LEFT: The clocks show 12:20 and 833 has just arrived at Plymouth with the Saturdays only 1A24, the 10.25 Newquay to Paddington in 1970 or 1971. The train was due to arrive at 12:15 and leave at 12:30 after a locomotive change, probably to a Brush Type 4. *Railphotoprints.co.uk/ the late Alan H. Bryant ARPS*

Photographing Class 73s on the Channel Islands Boat Trains

Martin Axford was fascinated by the simple outline of these distinctive Southern Region electro-diesel locomotives and often went out specially to photograph them hauling the Channel Islands Boat Trains to Weymouth.

By the time I started taking train photographs in 1979 there were only two main line locomotive types left in service on BR's Southern Region, the Class 33 diesels and the unusual Class 73 electro-diesels. My interest in things 'Southern' had been sparked by the fact that both my parents were from Kent so I felt a certain family centred loyalty. Visits to my grandparents living in Maidstone sometimes resulted in visits to local stations so I could cross off a few EMU numbers but on one occasion, sitting on an old Southern Railway seat on Maidstone West station with granddad, a Class 73 quietly pulled-up on the centre road.

My 12 year-old eyes drank in the simple but elegant lines of a unique machine, I had never been so close to one before and I was impressed: it was so clean! At that time, in the early 1970s, trainspotting at Wootton Bassett Junction meant a procession of filthy 'Westerns' and Class 47s except for one occasion when a sparkling clean Class 33, 6543, cantered past light engine. I was the only witness to this and at that time it was rare to see one on WR metals so fellow local spotters didn't believe me.

That was probably a year or two after seeing the Class 73 at Maidstone West. A few years later in the mid 1970s the 'Westerns' were replaced by Class 50s and for a few years I lost interest but after starting work in the late '70s I bought a camera. My interest in photography developed to the point where I needed something more interesting than people to photograph so, having a model railway, it was only natural that I started to photograph trains. Around that time, despite the disappearance of the 'Westerns' and other unique WR hydraulic types, things started improving.

Former Eastern Region Class 31s took over the Portsmouth to Bristol service from the inadequate 3H DEMUs whilst a few years later Class 33s took over and became the mainstay of the line until 1989. The '33s' have always been my favourite BR type although the Class 73s ran them a close second. However they were much more difficult to photograph as they were more commonly seen working freight trains and, in pre-internet days, it was quite difficult to get information about freight workings.

This made the idea of photographing passenger trains more attractive because timings were all in the Great Britain Timetable (GBTT). Most passenger workings on the SR were worked by EMUs but there were a few jewels in the crown. The Waterloo to Exeter line was worked by Class 33s and later the Class 50s. Then there were the cross-country workings which brought an assortment of Class 47s and later on HSTs to the South Coast. I have already

14th August 1982: 73113 passing Clapham Jn with the 07:23 Weymouth Quay to Waterloo. Note that the third vehicle is an air conditioned Mark 2 first class coach.



17th July 1983: 73104 has just passed Clapham Junction with the 09:54 Waterloo to Weymouth Quay.



17th June 1984: 73125 is approaching Clapham Junction with the 09:54 Waterloo to Weymouth Quay.





ABOVE TOP: 29th May 1982: 73138 is just south of Micheldever with the 09:54 Waterloo - Weymouth Quay.

ABOVE MIDDLE: 18th June 1983: 73112 heads the 15:30 Weymouth Quay to Waterloo through the New Forest at Matley Heath. The first class coach in the centre of the train is one of the early Mark 2 non air-conditioned vehicles.

ABOVE BOTTOM: 17th June 1984: 73118 dashes through Weybridge with the 06:00 Weymouth Quay to Waterloo.

TOP RIGHT: 21st August 1982: 73141 leaving Basingstoke with the 06:00 Weymouth Quay to Waterloo.

RIGHT: 25th July 1985: 73123 *Gatwick Express* in InterCity livery is seen passing St Denys with the 09:40 Waterloo - Weymouth Quay.

mentioned class 31s and 33s on the Portsmouth to Bristol line.

Class 73s did have a handful of overnight newspaper or mail trains which always included one or two Mark1 passenger coaches. These ran from the SR's London termini to various places on the SR but the only daytime workings were the Channel Island Boat Trains connecting London Waterloo with the ferries to Guernsey and Jersey that docked at Weymouth. These trains were well known for running through the harbour side streets of Weymouth before arriving at the quayside, thus providing a unique spectacle for bucket & spaders and enthusiasts.

At first I was obsessed with getting decent photos of Class 33s. This sometimes meant going to Weymouth to photograph them on the quayside with the 'Boat Train' but references to '73s' working the train from Waterloo to Bournemouth in magazines got me interested in getting photos of them at places like Basingstoke, Micheldever and in the London area. I drove down to Basingstoke one day after work, specifically to photograph the up afternoon working (fuel was unbelievably cheap in those days!) and was disappointed. It had a Class 33 on the front and was one of the few times I was unhappy about photographing a '33'! Actually this proved to be the exception rather than the rule and for a few years through the 1980s I often drove to somewhere in Hampshire on a sunny spring or summer day for '73' Boat Train photos.

After the 'Orient Express' started running with Class 73 haulage from Victoria to Folkestone in 1982 it became a very regular habit of mine to travel to London to photograph it on a Sunday. Sometimes I would buy a special weekend only day return from Swindon to Paddington costing £14, travelling up on an HST and travelling back on the 14:00 Sundays only Paddington to Swansea which was always a rake of Mark 2s headed by a Class 47.

But more often than not I would drive to Basingstoke, leave the car there and use my Young Person's Railcard to travel to Waterloo on the up early morning 'Boat Train' behind a Class 73. This meant photos of the '73' arriving at Basingstoke, and more photos of another heading the return working, somewhere in south west London. That was, of course, before going across London to photograph the main event, usually 73142 *Broadlands* complete with the handsome square headboard, leaving Victoria with the 'Orient Express'. Perhaps these photos will form the basis of another article.

As the years passed it became easier to get good photos of '73s', firstly with the start of the 'Orient Express' and then, of course, with 'Gatwick Express'. In connection with this, check out the photo of 73113 passing Clapham Junction with the 07:23 Weymouth Quay to Waterloo on 14th August 1982. Air-conditioned coach transfers for use on 'Gat-Ex' had obviously already started by this time.

Later still, in the late 1980s, Class 73s were used to individually replace 4REP power cars as these were withdrawn. Before scrapping the REPs had their power equipment removed and rebuilt for use in the new Mark 3 based Class 442 EMUs for the Waterloo to Bournemouth and Weymouth line. This created lots of photo

opportunities with visits to many places used in my older 'Boat Train' photos, although somehow it wasn't the same. Often the REP replacement '73' was on the back of a train of TCs, pushing. (Ed: The 3TCs and 4TCs were the unpowered sets of Mark 1 coaches used on trains out of Waterloo in conjunction with the powered 4REP units or Class 33 and 73 locomotives.) The '73s' were often now in a newer livery, as many had been repainted in either 'Large Logo' or the new 'InterCity' liveries. They looked good but I always preferred the plain BR blue with yellow ends.

The accompanying photos were all taken during the 1980s of the Channel Islands Boat Train at various locations, I always felt that, despite the train's Great Western origins, Class 73 haulage gave it a unique 'Southern' character which I found very appealing. Sometimes I travelled to locations used by well known steam photographers and was surprised at how little many places had changed, often the only change would be the replacement of semaphore signals by colour lights. At a certain point in the mid 1980s I stopped going out regularly to photograph the train. This might be because at the time I thought it had been assimilated into the main 4REP service pattern using TCs. The 'Boat Train' continued as a loco-hauled train with its mixed Mark 1s and Mark 2s until at least 1985/86.

In late 1989, Class 33s stopped working the Portsmouth to Bristol line trains and Waterloo to Salisbury trains not long after that so, because of my obsession with them, my attention switched to photographing '33s' on freight workings in the London area and on the Channel Tunnel freight workings in Kent. Of course I still saw and photographed '73s' in my wanderings but my one-time deliberate habit of going out to photograph the 'Boat Train' had stopped. The unique sight of a blue and yellow '73' on a rake of blue and grey coaches traversing the South Western main line had gone, and something so very Southern had also gone.





ALBION G.O.D. Part 2

David J Hayes continues his article about operations at this West Midlands oil terminal with the emphasis on the period from the late 1970s onwards.

The mid-1970s onwards

Although Waterston refinery in South West Wales near Milford Haven, Pembrokeshire, was a regular and long-standing consistent supplier of oil/petroleum traffic to the Albion Gulf Oil Depot (G.O.D.), the terminal also received regular block tanker trains from Lindsey refinery, Immingham, during the 1970s and beyond. These travelled via the Princes End line to access the Stour Valley ('Stour') main line at Tipton and were booked for banking assistance from Wednesbury. This was usually provided by the Class 25 assisting/pilot engine (0T06) to be found stationed at Great Bridge as described in part one of this article.

Many of the Albion-bound workings using the Princes End line ran as inter-regional specials, with headcodes such as 6Z34, 6Z35, 6Z74 and 6Z79 appearing in the Wednesbury No. 1 Signal Box train register during the period covering September 1976 to January 1977. These appeared alongside the conventional headcodes of 6M34 and 6M41, the latter back then a weekly (MO) conditional working time table (WTT) train from Immingham (Lindsey). One working even ran as a 6X44 exceptional load (shown as 'EXLO' in the train register).

TABLE ONE: Albion G.O.D. Train Plan October 1976

Train	Service Details	Albion G.O.D.
6M50	19:05 MWFO (Class 47) COY ex-Cardiff	Arr. 00:42 TThSO
6M50	15:15 TThO (Class 47) COY ex-Waterston	Arr. 00:42 WFO
6V64	01:55 TWFO (Class 47) ETY COY to Cardiff (balance of 6M50)	Dep. 01:55 TWFO
6V64	01:55 ThSO (Class 47) ETY COY to Waterston (balance of 6M50)	Dep. 01:55 ThSO
6M41	05:00 MO (Class 47) COY ex-Immingham	Arr. 10:10 MO
6E54	17:13 MO (Class 47) ETY COY to Immingham (balance of 6M41)	Dep. 17:13 MO

ABBREVIATIONS: COY (Company train); ETY (Empties).

	Mon	Tue	Wed	Thu	Fri	Sat	Total
Number of Trains	2	2	2	2	2	2	12
Loaded	1	1	1	1	1	1	6
Empty	1	1	1	1	1	1	6

One of the more frequent specials at this time was 6Z44, which is believed to have originated from the Immingham area (possibly Lindsey). This train, together with 6M41, was a prime candidate for banking assistance from Wednesbury to Princes End by the Great Bridge Class 25 pilot/assisting engine.

Both 6M41 and 6Z44 appear to have been regular Class 47 duties, although 6Z44 also produced Classes 31 (in pairs), 45 and 46. An instruction in the WTT stated that 6M41, which was shown as having a loaded working time table tonnage (WTTT) of 1,260t, was to be assisted from Wednesbury to Princes End by nothing less powerful than a Class 25 locomotive.

Table One tabulates the booked Albion G.O.D. train plan as of October 1976, with arrivals at this time originating from Cardiff, Immingham and Waterston. Those from South Wales had a loaded WTTT of 1,100t and were routed via the North & West Welsh Marches line as were the return empties.



TABLE TWO: Sample of Albion G.O.D. trains via Princes End				
Date	Train	Loco	Wednesbury	Banking Engine
Mon 18/10/76	6M41	47038	10:12-10:14	25145
Thur 21/10/76	6Z44	47043	Pass 07:57	25327
Mon 8/11/76	6M41	47220	Pass 10:47	N/R
Thur 11/11/76	6Z44	47311	Pass 07:24	20044
Thur 18/11/76	6Z44	46049	15:33-16:00	Unknown
Mon 29/11/76	6M41	47222	Pass 09:52	N/R
Thur 2/12/76	6Z44	31201 + 31181	Pass 07:59	25280
Mon 20/12/76	6M41	47036	10:18-10:29	25143
Wed 22/12/76	6Z44	47247	12:07-12:43	08901
Thur 23/12/76	6Z44	45069	13:07-13:12	N/R
Thur 6/1/77	6Z44	47044	17:02-17:28	25273
Mon 10/1/77	6M41	47219	09:47-09:58	25273
NOTES: 6M41, the 05:00 MO (Class 47) COY Immingham to Albion G.O.D. (arr. 10:10 MO). N/R = not required				

Table Two is a sample of Albion G.O.D. workings travelling via Princes End as shown in the Wednesbury train register for October 1976 to January 1977, the entries of which also included locomotive details for the trains and associated banking engines where applicable. As will be seen a Class 20 (No. 20044) was used for one banking turn and even a Class 08 (No. 08901) was pressed into use on one occasion due the non-availability of a suitable main line locomotive!



TOP LEFT: Wednesday 15th April 1992: Seen taking the Walsall line from Bescot, 37521 and 37162 make a fine double act at 17:06 atop 6V32, the very late running 11:05 WFO empty COY from Albion G.O.D. to Waterston. These services had reverted to travelling via the North & West route again by summer 1992. The lines in the foreground lead to/ from the Bescot Curve connection to/from the Dudley line and were once used by these empty Albion to Waterston oil workings back in the late 1960s and early 1970s. *Andy Williams.*

LEFT: Tuesday 16th August 1988: Run-round complete, 31299 and 31201 now wait for a path on to the Stour Valley main line from Wolverhampton at 17:03 with their Albion-bound block tanker train. Such workings could also be held in the Up Loop at Watery Lane (between Tipton and Dudley Port), about a mile or so short of their final destination. *David J. Hayes.*

TABLE THREE: Albion G.O.D. Train Plan May 1978		
Train	Service Details	Albion G.O.D.
6E92	00:05 TThSO ETY COY to Immingham (balance of 6M67)	Dep. 00:05 TThSO
6M50	15:10 SSuX COY ex-Waterston	Arr. 00:42 MSuX
6V64	01:55 MSuX ETY COY to Waterston (balance of 6M50)	Dep. 01:55 MSuX
6M41	03:04 SSuX COY ex-Lindsey	Arr. 07:32 SSuX
6E91	14:05 SSuX ETY COY to Immingham (balance of 6M41)	Dep. 14:05 SSuX
6M67	14:00 MWFO COY ex-Lindsey	Arr. 19:18 MWFO

ABBREVIATIONS: COY (Company train); ETY (Empties).							
	Mon	Tue	Wed	Thu	Fri	Sat	Total
Number Of Trains	3	5	5	5	5	3	26
Loaded	2	2	3	2	3	1	13
Empty	1	3	2	3	2	2	13

The booked service frequency between Immingham and Albion, as per the WTT, did see a significant upturn by the late 1970s as indicated in Table Three for May 1978, with services from Lindsey outnumbering those from Waterston for a while. Such workings from Lindsey were later routed via the Pleck Junction to Darlaston Junction line and Wolverhampton High Level (run-round) following the closure of the Princes End line in April 1981. In fact, this re-routing had actually preceded the Princes End line's closure. For the last five or six months of its operation, the Princes End route could only be traversed in one direction, this being from Bloomfield Junction, on the Stour Valley, towards Wednesbury. The triangular junction with the 'Stour' had also been rationalized, the connection previously used by Albion-bound trains having, by this time, now been taken out of use (an article on the Princes End line appeared in TRACTION 213 & 214).



LEFT: Tuesday 16th August 1988: This picture is aimed towards the railway modeller as I think it shows to good effect both the wagon detail and barrel staining so common with oil tank wagons (note also the slight indentations on the tank barrel). 31201 and 31299 prepare to run-round their Albion-bound train (at 16:56) at Wolverhampton. The service is most likely an additional special originating from Immingham (Lindsey) and would have travelled via the Sutton Park line and the 'Pleck-Darlo' chord. Such a working in the past would have travelled via Wednesbury and the Princes End line (closed April 1981). David J. Hayes

Table Four details the Albion G.O.D. train plan as of March 1984. The terminal at this time was taking eleven loaded trains per week; eight from Waterston, all routed via the Welsh Marches line, and one each from Ripple Lane, Stanlow and Teesport. Those from Ripple Lane and Teesport travelled via Walsall and the Pleck Junction to Darlaston Junction line, thus requiring a run-round at Wolverhampton station in order to access the 'Stour'. It's perhaps worth mentioning that loaded trains from South Wales to Albion also travelled via this same inward routing for a while, having tackled the Lickey incline (no doubt with banking assistance) and travelled over the Sutton Park line.

As an example of how traffic patterns could change during the course of the same year, the Albion weekly train plan as of October 1984 saw the number of loaded trains serving the terminal increased to 14 as follows: ten from Waterston (6M50/6M27 Mon-Sat with two arriving most weekdays) and two each from Ripple Lane (6M77 WFO, believed to be ex-Purfleet) and Stanlow (6G43 MThO); the weekly Tuesday service from Teesport (6M75) had been suspended in the July.

Although Lindsey, Stanlow and Waterston were major players in the supply of oil/petroleum traffic to Albion G.O.D. (not forgetting Ellesmere Port mentioned in Part One), the Albion terminal was also supplied from several other locations over the years, some of which have already been mentioned, such as Cardiff and Teesport; others have included Herbrandston, Port Clarence and Purfleet (trains from the latter could also start from Ripple Lane Yard in East London). Some of these workings, however, were relatively short-term in nature, often lasting for just several months at a time rather than years.

It will have been noted that some Albion-bound trains started their journey to the West Midlands from Ripple Lane Yard, which was once an important staging point for block tanker train traffic originating from various refineries located in Essex (e.g. Coryton, Purfleet and Thames Haven). Other locations used for recessing Albion trains (loads and/or returning empties) were Llandeilo Junction and Margam Yard.

TABLE FOUR: Albion G.O.D. Train Plan March 1984

Train	Service Details	Albion G.O.D.
6M50	15:30 SSuX COY ex-Waterston	Arr. 00:55 MSuX
6V64	02:10 MSSuX ETY COY to Waterston (balance of 6M50)	Dep. 02:10 MSSuX
6V64	02:10 SO ETY COY to Margam or Llandeilo Jn. (bal' of 6M50)	Dep. 02:10 SO
6M27	02:45 TWThO COY ex-Waterston	Arr. 10:30 TWThO
6V34	12:20 TWThO ETY COY to Waaterston (balance of 6M27)	Dep. 12:20 TWThO
6M77	07:43 WO COY ex-Ripple Lane	Arr. 15:55 WO
0Z00	16:10 WO LD to Bescot LHS (arr. 16:48 WO); off 6M77	Dep. 16:10 WO
6M75	11:15 TO COY ex-Teesport	Arr. 19:34 TO
6G43	15:54 ThO COY ex-Stanlow	Arr. 19:34 ThO
0Z00	20:10 TO LD to Bescot LHS (arr. 20:36 TO); off 6M75	Dep. 20:10 TO
0Z00	20:10 ThO LD to Bescot LHS (arr. 20:36 ThO); off 6G43	Dep. 20:10 ThO
0E58	19:54 WO LD ex-Bescot LHS; for 7E58	Arr. 20:21 WO
7E58	21:05 WO ETY to Ripple Lane (balance of 6M77)	Dep. 21:05 WO
0E76	22:35 TO LD ex-Bescot LHS; for 7E76	Arr. 23:04 TO
0F68	22:35 ThO LD ex-Bescot LHS; for 7F68	Arr. 23:04 ThO
7E76	23:47 TO ETY COY to Teesport (balance of 6M75)	Dep. 23:47 TO
7F68	23:47 ThO ETY COY to Stanlow (balance of 6G43)	Dep. 23:47 ThO

ABBREVIATIONS: COY (Company train); ETY (Empties); LD (Light Diesel movement); LHS (Locomotive Holding Sidings)

	Mon	Tue	Wed	Thu	Fri	Sat	Total
Number of Trains	3	5	5	5	5	3	26
Loaded	2	2	3	2	3	1	13
Empty	1	3	2	3	2	2	13



Slip working and other operating practices

The usual method of working at Albion G.O.D., especially with the Waterston workings, was known as slip working, where the locomotive(s) off a loaded inbound would depart an hour or so later (after the train crew had taken their personal needs break) with the discharged empties from an earlier arrival. There were of course the exceptions to this. The motive power of trains from Lindsey, Port Clarence, Purfleet, Ripple Lane, Stanlow and Teesport, for instance, would most often retire to Bescot for servicing or stabling while the tank wagons were being discharged, prior to working the return empties from Albion several hours later. Back in the 1960s, the electric locomotives engaged on the Ellesmere Port workings would stable at Bescot or Wolverhampton High Level.

Sometimes arrangements were made for a raft of empties to be removed from one of the discharge sidings at Albion to free up space at the terminal for the next loaded arrival. Such an occurrence took place on Wednesday 20th September 1989 when Petroleum sub-sector Class 37 No. 37888 Petrolea was observed at around 17:30 removing a string of empty tank wagons and proceeded to work them to Bescot Yard as trip 6T39, which I believe was a spare diagram back then. The locomotive was being utilized during its 'layover' time, having worked into the West Midlands with a Ripple Lane to Four Ashes Trainload Petroleum sector service. Indeed, it was not unknown for a loaded

Albion-bound train to be 'looped' at Watery Lane for quite a lengthy period of time while space was made available at the terminal to accommodate the train!

Some of the information contained in the articles I compile is gleaned from reading interesting comments made on media forums by enthusiasts, modellers and even railway personnel themselves. For example, an interesting thread on the RMweb mentioned that the wagons making up the Waterston to Albion workings could sometimes be formed of a mixed consist of bogie tank wagons and two-axle four-wheelers, which was fine as both types when loaded could still travel at Class 6 timings (i.e. 60mph max). However, certain two-axle type tank wagons were limited to 45mph running when discharged, so a mixed empty consist including 60mph bogie tanks would have to be restricted to Class 7 running (45mph max). As can be seen in Table Three, there were several empty departures from Albion G.O.D. running as Class 7 services as of March 1984, namely those returning to Ripple Lane (7E58), Stanlow (7F68) and Teesport (7E76).

Albion G.O.D. was also connected by pipeline from the Waterston refinery. This was used for supplying some of the less viscous oil or petroleum products, presumably lighter oils and motor spirit etc. The heavier, thicker oil products, however, were usually transported by rail from Waterston as this was a more efficient means of supplying the terminal than using

ABOVE: Friday 24th August 1990: This pairing of 37215 and 37350 make for a fine sight speeding towards Stoke Works Junction (south of Bromsgrove) at the head of 6V32, the 11:05 WFO Albion G.O.D. to Waterston empties. Paul Dorney.

the pipeline, which would probably have to be flushed clean after each use to avoid product contamination.

The final years

By the 1990s, the workings to Albion G.O.D. were operating under the aegis of the Trainload Petroleum sector, one of the four Trainload Freight sub-divisions launched in October 1987 at an event staged at Ripple Lane (the others were Coal, Construction and Metals together with the Railfreight Distribution and little seen Railfreight General liveries). The weekly train plan for Albion by then was less intense than that seen in previous years/decades and, as of May 1990, consisted of just three loaded trains per week: one from Stanlow and two from Waterston (see Table Four). Trains from Waterston at this time were booked via Bromsgrove, the Sutton Park line, Pleck Junction to Darlaston Junction and Wolverhampton station (run-round). As per usual, all the empties returned via the Soho Loop and Bescot, those for Waterston retracing their inward route from Pleck Junction.

TABLE FIVE: Albion G.O.D. Train Plan May 1990

Train	Service Details	Albion G.O.D.
6M18	17:25 TThO COY ex-Waterston	Arr. 02:46 WFO
6V32	11:05 WFO ETY COY to Waterston (balance of 6M18)	Dep. 11:02 WFO
6G43	07:19 MO COY ex-Stanlow	Arr. 11:12 MO
7F68	15:57 MO ETY COY to Stanlow (balance of 6G43)	Dep. 15:57 MO

ABBREVIATIONS: COY (Company train); ETY (Empties).

	Mon	Tue	Wed	Thu	Fri	Total
Number of Trains	2	Nil	2	Nil	2	6
Loaded	1	Nil	1	Nil	1	3
Empty	1	Nil	1	Nil	1	3

Apart from some timing changes, the weekly service pattern shown in Table Five remained pretty much constant for about year or so. As of autumn 1991, Albion was being served by just two trains per week from Waterston, a far cry from the early 1970s when as many as 25 trainloads per week were booked to arrive at the terminal from this one refinery alone!

It is quite possible that additional specials ran to Albion as well during the early 1990s. What is believed to have been such a working was observed late morning during a visit I made to Tipton station (to photograph an empty steel train from Wolverhampton Steel Terminal if I recall correctly) on Friday 5th December 1990 when 47290 passed through at about 11:10 with a short consist of just five bogie tank wagons: possibly this was an extra from Stanlow.

During this period of the early 1990s, the oil workings between Waterston and Albion were beginning to appear again with a pair of Class 37s at the helm, rekindling memories of the late 1960s and early 1970s. The loaded and empty trains that were routed via the Sutton Park line later reverted to the Welsh Marches line. However, engineering works on the N&W axis during summer 1992 saw at least one Albion empties routed via the Dudley line when, on the afternoon of Friday 31st July, 37072 and 37280 were sent this way with 6V32, the 14:06 WFO from Albion G.O.D., again very reminiscent of the

late 1960s and early 1970s.

When the geographically spread pre-privatisation freight companies LoadHaul, Mainline Freight and Transrail appeared on the scene in 1994, the workings between Waterston and Albion came under the aegis of Transrail. By now service frequency had risen and, as of summer 1994, equated to five trains per week from Waterston, albeit still a long way short of the traffic volumes of the late 1960s and early 1970s. Haulage was now booked for a Class 60.

Unfortunately, Transrail's association with the Albion traffic was all too brief. Rail deliveries ceased in July 1994 and the terminal was demolished in 1999. The Waterston oil refinery itself (opened by Gulf in August 1968 and acquired by Chevron in 1984) closed in December 1997, just short of its thirtieth anniversary.

The Albion site today

After more than a decade of being a large expanse of unused wasteland, the former Albion G.O.D. site today is now home to a huge £17m recycling plant managed by EMR (European Metal Recycling): its construction began in February 2012. The new facility recycles metals, plastics etc. recovered from scrapped road vehicles and can process some 350,000 tonnes of waste per year.

The rail connection with the 'Stour' at Albion is still in situ but there appear to be no rail sidings

serving the new EMR facility, although they may well have been included in the initial planning application to satisfy the requirements of planning permission being granted (it's possible sidings may be installed at a later date as some construction work at the EMR site appeared to be still on-going as of September 2016).

However, despite EMR being a pro-rail organization, with a number of rail-served sites up and down the country, the installation of any such sidings at EMR's Albion location to comply with planning regulations wouldn't necessarily be any guarantee of rail traffic being generated, not immediately anyway if, indeed, ever at all (e.g. as per the huge distribution warehouse railheads at Prologis Park, Coventry, and Marks & Spencer, Castle Donington).

And finally...

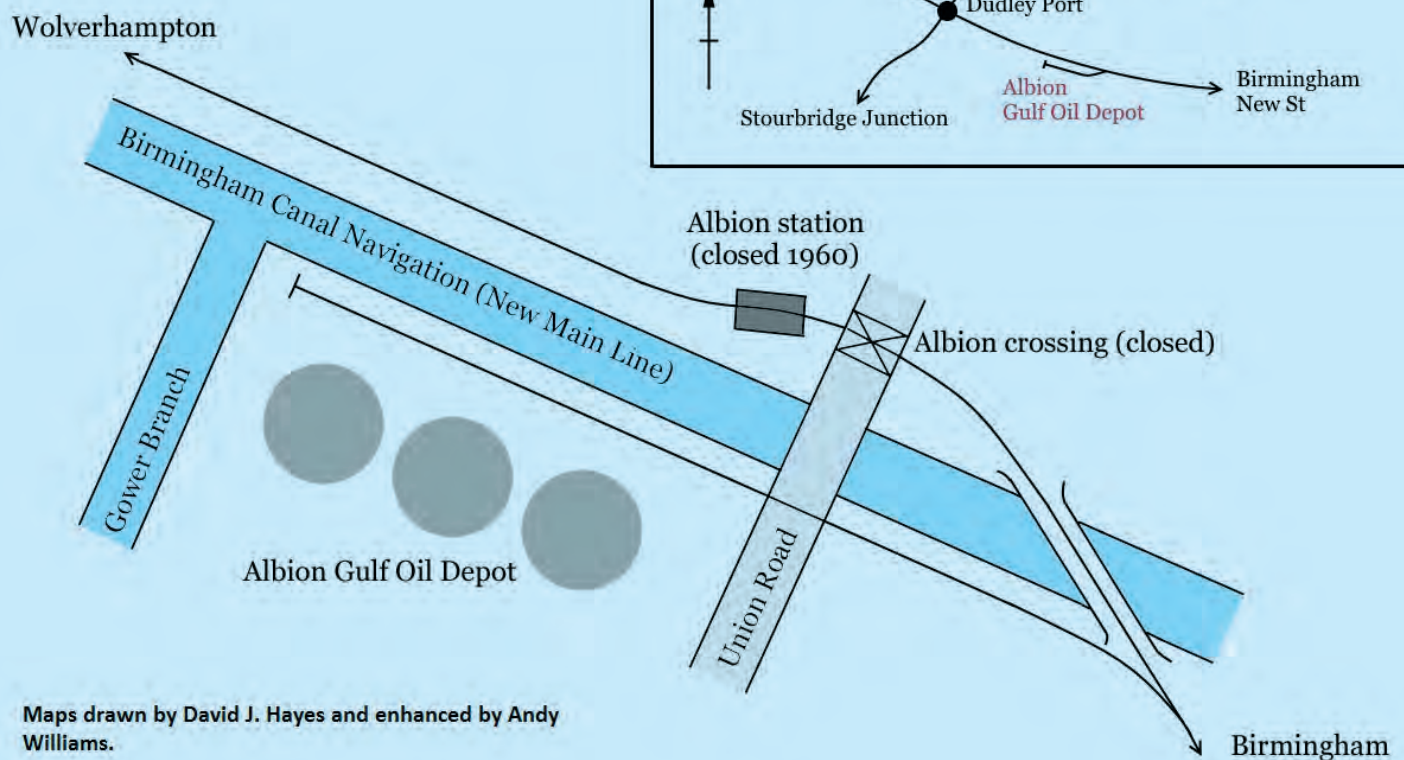
The variety of motive power visiting the Albion G.O.D. during its thirty-one years of railway activity is known to have included Classes 31, 37, 45, 46, 47 and 60, not forgetting steam and electric locomotives back in the 1960s. It is quite possible that Classes 25, 40 and 56 may have also made visits to the terminal as well at various times. Even a Class 50 is said to have worked to Albion on at least one occasion during the 1980s with a train from Waterston after the booked Class 47 failed at Hereford! More 'info', please, anyone?

The oil and petroleum traffic from Waterston to Albion G.O.D., especially during the 1970s, was probably producing the heaviest trains working into the Black Country at that time and were one of the more notable freights to be seen operating in the area.

The demise of the Albion traffic in 1994 was yet another sad realisation of the ever shrinking number of freight terminals and rail-served industrial locations remaining active in the Black Country region during the 1990s, and a sobering reminder of what rail-borne business has been lost over the years. However, thanks to the time portal that is TRACTION, and the superb Black Country Blues model railway layout (see TRACTION 234 and 235), we can at least still enjoy a good visual appreciation of what rail freight operations were once like in this once



Main map and insert - circa 1970 (not to scale)



Maps drawn by David J. Hayes and enhanced by Andy Williams.

heavily industrialised area, especially during the heady 1970s era.

Acknowledgements: Once again, I would like to take this opportunity to thank Andy Williams for his valuable assistance with this article (Andy's Bescot Plus website is well worth a visit) together with David Wilson, Ned Williams and Paul Dorney for their generosity in providing additional photographic material to illustrate it. Cheers Gents.

LEFT: Wednesday 5th December 1990: Hauling what is believed to be an additional special to Albion G.O.D., 47290 approaches Tipton station at 11:09 with an unusually short formation of just five bogie tank wagons, possibly an extra from Stanlow. *David J. Hayes.*

MIDDLE: Friday 31st July 1992: Diverted due to engineering work on the Welsh Marches line at Onibury involving a bridge replacement, 37072 and 37280 growl their way past the Severn Valley Railway headquarters at Kidderminster with 6V32, the 14:06 WFO empty COY train from Albion G.O.D. to Waterston. The service, formed of 11 bogie tank wagons, had travelled via Dudley, rekindling memories of when these services were booked this way back in the late 1960s and early 1970s. *Paul Dorney.*

BELOW: Wednesday 20th September 1989: Petroleum sector liveried 37888 Petrolea approaches Sandwell & Dudley station at 17:39 with the 6T39 Albion G.O.D. to Bescot empty tanks trip diagram as described in the article. Note the Ripple Lane Depot flaming torch emblem. Sandwell & Dudley opened in May 1984 on the site of Oldbury station (formerly Oldbury & Bromford Lane). *David J. Hayes.*



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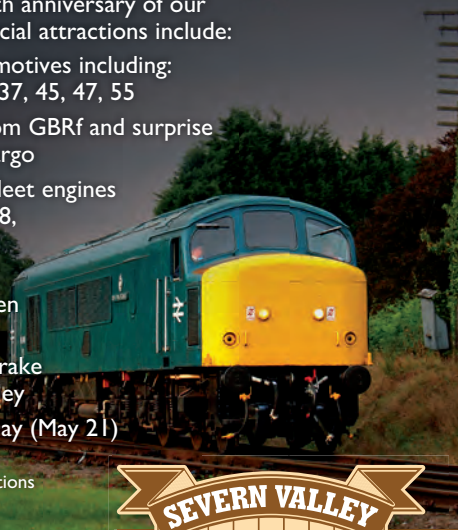
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Lodbourne Yard

David Aldridge has built this extensive O Gauge layout in Cyprus to remind him of when he lived in the UK. The layout is used to showcase his extensive collection of diesel locomotives. DCC control and sound is a major theme for this layout.

A bit of history

Up to 1958 Lodbourne Green Station was a shared branch terminus for what was and still is just a largish village acting as a railhead. It was actually built by the LSWR during the First World War to facilitate troop movements to the western end of Salisbury Plain. There was also lucrative milk and farm traffic to be had.

In the early 1920s the Great Western Railway extended their branch line again for milk and other farm traffic by bridging what is known as Lodbourne Marsh through which the small Lod Bourne runs. Their purpose in doing this was to build a large goods shed for local collection and distribution - an opportunity the then Southern Railway overlooked.

Both railway companies enjoyed a fair amount of military passenger traffic but the GWR also conveyed a lot of vehicle traffic to a barracks further back up their line, which made that branch more profitable.

Before Dr. Beeching came on the scene, the SR had ceased all passenger traffic, whilst the GWR still operated four trains a day with a B set and various 0-6-0 tanks. Inevitably, in 1958 their passenger services, which were losing British Railways money, got the axe.

Both branches still had traffic carrying milk

tanks and farm implements so the lines were never taken up. This business eventually dwindled away. The former GWR goods shed was taken over by the district civil engineer for a time up to the 1980s because Lodbourne Junction, as it became known, gave easy access to the Western Region and the Southern Region line from Salisbury to Exeter.

By the late 1980s British Rail were looking for a site for a diesel refuelling facility and an overflow locomotive servicing works. The advent of privatisation raised the priority of this project and by the early 1990s the old station platforms had gone, the district civil engineer was turfed out of the goods shed which was demolished and remodelled as a refuelling depot.

The old station trackwork was replaced by the new repair facility and the access and adjacent lines re-laid. By the time all this was done Transrail had come into being as one of the three new freight companies but, of course, the dust had hardly settled before Ed Burkhardt had acquired almost everything in sight freight-wise for the English, Welsh & Scottish Railway (EWS)!

So this is the background to Lodbourne Yard in O Scale: the layout did, in fact, start its previous life some 30 years ago as the

passenger version described above.

The depot

The two road traction maintenance depot (TMD) building has one road devoted to a wheel lathe and a servicing area for brake, axle and bogie work. This is used on a three shift system by EWS locomotives and Rail Express Systems (RES) postal vehicles.

The other road has a full length lighted pit and carries out whatever gets thrown at it. It was originally intended that it should specialise in electrical issues and traction motor repairs, but EWS changed all that. The depot staff can carry out A and some B exams but have sometimes to turn to anything. Now in the late 1990s that will change because the advent of Class 66s will eliminate a lot of the emergency type work on thirty and forty year old diesel locomotives.

At the side of the depot is an old Enparts 12

TOP: InterCity liveried power car 43025 Exeter is at Lodbourne for the fitting of new wheel tyres.

BOTTOM: 47572 and 47759, both in RES red and black livery, are at the refuelling point.







TOP LEFT: 37671 *Tre Pol and Pen* is berthed on the refuelling point.

BOTTOM LEFT: 56100, in Loadhaul livery, is a long way from its normal home in the North East as it undergoes an exam.

ABOVE: A Class 31 is ready to take out a weekend engineering train.

BELOW: A view over the marsh.

ton van and an old tank wagon used for waste oil.

The refuelling area

As with the depot anything including contracted refuelling of DMUs can turn up at this facility. There are two refuelling roads and a separate road for TTA and TTB tanks which are tripped in usually three times a week off a Fawley to Plymouth service. Most locomotives

for refuelling come in across the Marsh on the ex-WR line with the occasional visitor in from the Southern line. Most repair jobs from the works get fuelled and watered as needed before release and departure.

Other workings

Network Rail stable odd bits of stock on one of the centre roads plus three locomotives – usually two Class 33s and a Class 31. These are woken up on Friday nights and usually return in the early hours of Monday mornings after working weekend engineering trains. They are refuelled during the week as needed. Network Rail contractors vehicles are often a common site in the refueller parking area

On Friday afternoons a rake of three VGAs from Fitzgerald Lighting in Bodmin spend the weekend waiting to be attached to an Enterprise service to a customer in Scotland.

Occasionally surplus postal vehicles are stored at the back of the depot, but usually

they arrive in dribs and drabs for wheelflat damage to be dealt with on the wheel lathe and the replacement of brake blocks.

The layout infrastructure

The trackwork is a mixture of handmade and Peco track all using the same code of rail. All the turnouts are hand built and are operated exclusively by Tortoise motors with stronger wire than supplied, as handmade point work needs a bit more grunt.

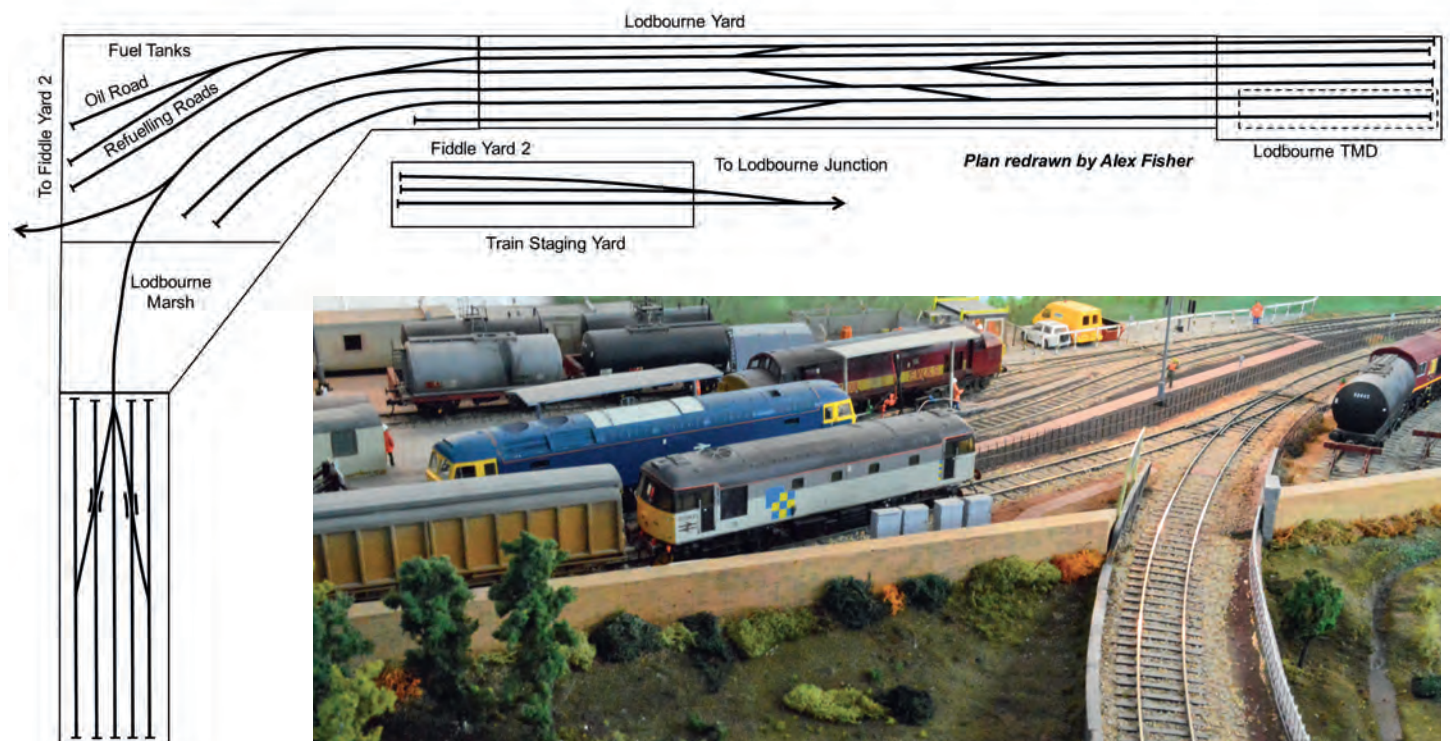
The layout is totally DCC using Digitrax kit throughout. I started in DCC as long ago as 1992 when Marklin and Motorola brought out sound decoders for Marklin Gauge 1 engines. German V200s with two motors starting up one after the other was really a “Wow” in those days.

The points are operated by point decoders linked through the Digitrax Loconet system to a DCS 200 controller. Hand held throttles communicate with a UR92 infra-red/radio receiver so I can operate the layout from almost anywhere.

I am sure that by now most modellers have an understanding of how DCC works in contrast to DC and there is an increasing number who, like our group here in Cyprus, are totally DCC. Suffice it to say that all the locomotives and DMUs are fitted with decoders and increasingly these are becoming sound decoders. DCC is expensive to set up and probably prohibitively so if you have a large DC set-up. But DCC lends itself to new layout startups where one can invest as the wallet allows.

If you are seriously modelling, however loosely, a prototype or prototypical operation, lights are a must and working signals can be engineered as you build.

I wish more serious modellers had a deeper understanding of how the real railway works before they get too far down the line with a new layout. Modelling should cover the infrastructure and operation as well as just





the engines. Former railway personnel have an advantage in this respect, but it might be worth obtaining a railway rule book and some working timetables for your chosen subject.

The Models

The models illustrated here are largely built from kits because, in the final two decades of the 20th Century, that is more or less all we had in O scale. These kits are still available today but increasingly new manufacturers have started to provide some very good ready to run versions of these every day diesel locomotives running on BR from the late 1950s onwards.

Already in the smaller scales in the UK, US and on the Continent there is little need to build a kit because almost everything you need is, or has been, available in ready to run form. Thus the craft of kit building is slowly dying and in O scale one can see that at some time in the future the need to spend 100 to 200 hundred hours building a fully operational, painted kit will largely disappear.

Running the Railway

On this layout the plan is to have as many of the fiddle yard roads as practical filled with engines ready to visit the scenic area on a rotation basis. There can be constant entertainment with locos arriving and leaving the refuelling area on a timetabled basis. Most movements are, of necessity, slow and scale speeds of 10-15 mph are usually the order of the day, together with movement of the fuel tankers. A second operator can take care of the works visits and the other train movements described earlier.

All locomotives for the refueller and TMD are fitted with scale screw link couplers as they are not required to move anything. Those assigned to other duties are fitted with O scale Kadee couplers which enable realistic shunting moves.

Both the works and refueller areas are equipped with high mast yard lights which together with loco lights enable a very effective after dark operating session. It is fascinatingly realistic to hear the sound of locomotives and horns 'off stage' as they enter and depart the night time scene.

The layout is still very much under development and as yet I have not set up routes within the Digitrax DCS200 and point decoders. When I have done this I hope night time operation will be even more enjoyable. Layouts continue to be developed and added



to with new features. We often see a new scene here and there which can add yet more character to the layout. Lodbourne Yard is definitely in this category.

Railway modelling in Cyprus

In Cyprus we railway modellers are a rare breed. Railway modelling is largely unheard of here partly because there are no railways. The British Government closed down the Cyprus Government Railway around 1954. There are no model shops in Cyprus unless you fly model aircraft.

The Southern Cyprus Model Railway Society, based in the Central and Western parts of the island, is very short of members but welcomes

modellers visiting on holiday. We have four other active model railway layouts in OO and HO American besides this one and all are DCC operated. If you want to use your holiday to learn something of DCC we will be pleased to see you.

Our next diesel based project will be an N scale venture using Kato Unitrack which has built in point motors which is a big plus in that scale!

SOUTHERN CYPRUS MODEL RAILWAY SOCIETY - CONTACTS

Modellers holidaying or moving to Cyprus can contact the Southern Cyprus MRS as follows:

Jim Phillips (Chairman) Limassol area
00357 99763187

Terry Vincent, Pissouri area 00357
96346854

David Aldridge (Secretary) Paphos area
00357 96516263

Email: david@aldridge.net

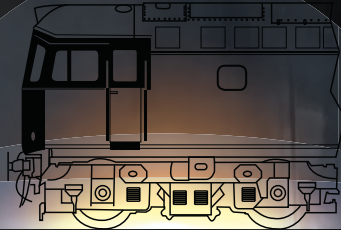
TOP: Two 'Dutch liveried' weekend workers, 33002 and 31154, are seen stabled during the week.

MIDDLE: An overhead view of the refuelling point.



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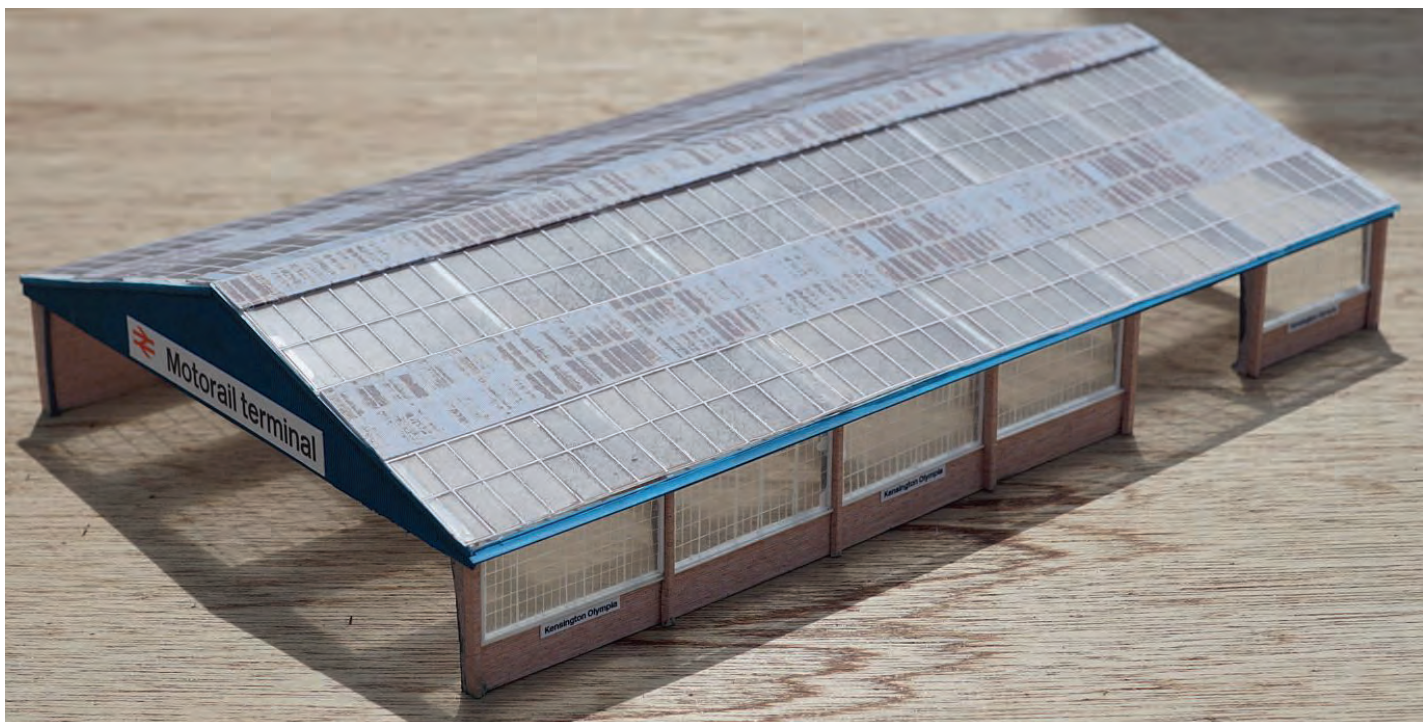
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Kensington Olympia - The carflat earth society

Part 3

by Andy Gibbs

Andy Gibbs describes how he constructed another of the key buildings for his N Gauge Kensington Olympia layout.

When building a layout that is based on a real location you do end up making a rod for your own back. Distinctive buildings can't really be substituted with 'stand ins' and Kensington Olympia is no exception. One of the most distinctive buildings was the Motorail terminal shed itself. The building is still there and is largely intact with the track areas filled in and is now used as a carpark; it's still called Olympia Motorail parking. It was built as a covered holding area for cars prior to them being loaded on to the trains. Four sidings, to hold the carflats, extended from the end of the building. There were concrete ramps at each bufferstop to get the cars on to the

wagons. When the double deck cartics were used a temporary ramp built from scaffolding was built to access the top deck.

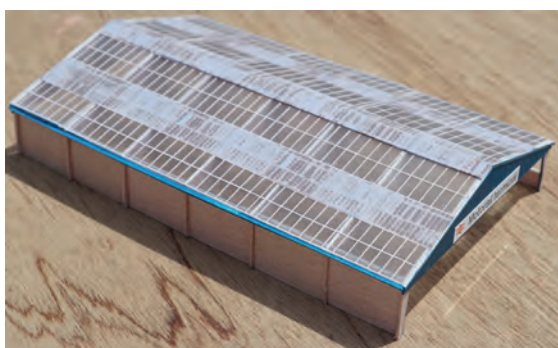
The building consists of 11 concrete uprights with roof trusses. These are mainly filled in by bays of brickwork, full height on the western side, and part glazed on the eastern side. Four bays are currently open and have no brickwork. Originally this was three all at the northern end of the building. This was to allow cars to gain access to the platform for loading. For the model I reduced the number of bays to 6 with 7 trusses and just one open bay.

Construction is largely plasticard with 60 thou used for the trusses. These are then

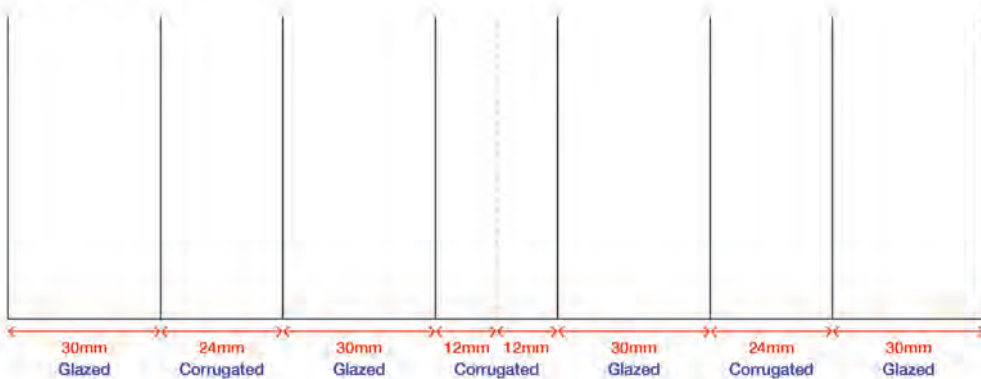
covered in a concrete render finish produced by Scalescenes and downloaded and printed onto an A4 label before being mounted on the truss. The two outside trusses are covered in a corrugated plasticard which will later be painted. Each bay of brickwork is again a Scalescenes download printed on to a label and stuck on to plasticard. The brickwork is

BELOW LEFT: The wall facing away from the railway is of solid brick with no openings.

BELOW RIGHT: The building has been shortened and has five wall panels with one open for vehicles to access the interior.



Roof dimensions



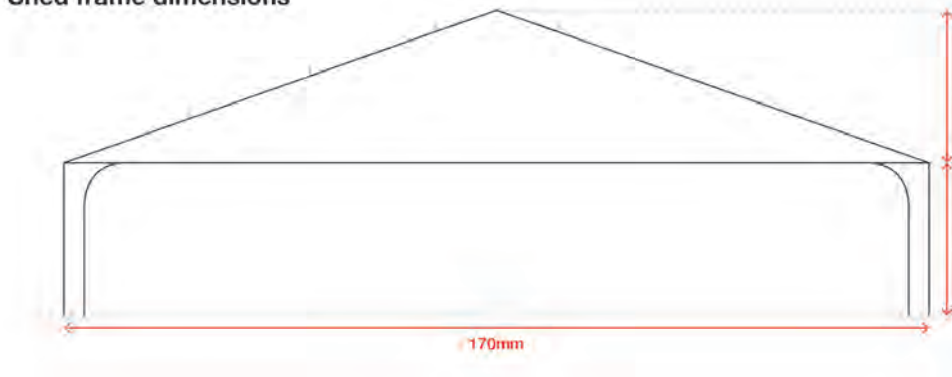
Parts needed

Shed frames:
x 6

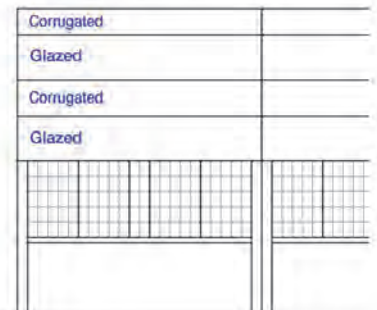
Side panels:
Brick x 4
Open x 1

Window panes:
2 x 3mm
(5-5-2-5-5)

Shed frame dimensions



Side view dimensions



Not to Scale

Plan re-drawn by www.stimula.co.uk



ABOVE LEFT: A small office and vehicle reception building occupy the end of the covered structure. The buildings are all placed on a substructure of 10mm foamboard to raise them to road level. The grid work is 5mm foam board. All of this will be topped with some 1.5mm greyboard (card) on to which platform surfaces, roads, buildings etc will be mounted. The platform faces will be made separately and mounted on to the edge of the foamboard.

ABOVE RIGHT: An overall view shows the main structures of Kensington Olympia station and Motorail Terminal. The construction of these buildings was described in TRACTION 237. A Motorail services stands in the main platform with an interesting selection of typical 1970s era vehicles loaded on the carflats.

then sprayed with Dullcote to seal it.

The glazing for the eastern side is clear plasticard. This is laid over a window grid drawn out on graph paper. The window grid is scored on the plasticard and then flooded with white acrylic paint and the surplus wiped clear. This leaves the window frames picked out in white. A plasticard strip frame is then mounted around the windows and the whole lot glues to the top of the brickwork.

The most complicated bit of the construction was the roof itself. The glazing here was produced using the Word for Windows grid method. You need to produce a table in Word,

with each cell the size of the window opening you require. This is then printed this on an A4 label with the cell shaded grey or brown. The label is stuck over clear plasticard, the cell is then cut out and removed with a sharp knife leaving the cell frame as the window frame. Having the cell shaded a colour leaves a dirty edge to the frame. The glazing is then glued on to the trusses.

The rest of the roof is corrugated iron. This is another Scalescenes download printed on to an A4 label and then stuck on to plasticard.

The little office buildings are produced using a similar method. The exhaust for the generator room was produced with plastic tube. Signage

was printed off on to photo paper and sprayed with varnish to seal it. The BR font is a free download available from RMWeb. Finally the two end trusses were painted blue. I've still to add drainpipes and some internal signage and fittings such as fire extinguishers.

THE MOTORAIL TERMINAL TODAY

A photograph of the building as it is today can be found by using this shortened URL typed into your browser:
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- H4-WW-004** Diamond frame bogies MODA95560 in MOD 1970s olive
- H4-WW-005** Diamond frame bogies MODA95534 in MOD 1970s olive
- H4-WW-006** Diamond frame bogies M360333 in BR grey
- H4-WW-007** Diamond frame bogies M360329 in BR Gulf red
- H4-WW-008** Diamond frame bogies in BR black with S&T branding and steel/rail carriers
- H4-WW-009** Diamond frame bogies in BR Olive green 'ELECTRIFICATION' and steel/rail carriers
- H4-WW-010** Diamond frame bogies in BR brown with steel/rail carriers - weathered
- H4-WW-011** Diamond frame bogies DM748343 in BR grey with bolster deck conversion
- H4-WW-012** Diamond frame bogies DM748316 in BR black with bolster deck conversion
- H4-WW-013** Diamond frame bogies ADRW96501 in BR engineers yellow
- H4-WW-014** Gloucester GPS bogies MODA95511 in MOD 1970s olive
- H4-WW-015** Gloucester GPS bogies MODA95512 in MOD 1970s olive - weathered
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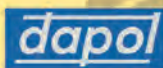


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From Moray Firth to Atlantic Wild

Richard MacLennan travels in the cab of a Class 26 from Inverness to Kyle of Lochalsh.



We were about to climb into the warm and welcoming cab of a Class 26 locomotive at the business end of the 06:55 passenger and mail train from Inverness to the Kyle of Lochalsh. It was February 1981 and a hard penetrating frost had the Highland Capital in its icy grasp.

The steady tick-over beat of the idling locomotive provided an almost hypnotic lullaby as the sound reverberated off the surrounding buildings. The first warm fingers of heat were forcing their way through the three-coach train and the hiss of escaping steam from the numerous nooks and crannies added to the unmistakable feel of a different way of doing things.

A quick look was taken at the front of the locomotive and we noted the pin prick dots of light from the marker discs over each buffer; the car type main headlights were not fitted to this particular class member and, even if they were, they would be switched off until passing under the Longman Road Bridge a few seconds after departure. This was to avoid dazzling the driver of the resident Class 08 who was busy collecting the seating coaches and sleeping cars from the internal Scottish overnight service from Glasgow and Edinburgh in platform 6 and tripping them the short distance to the carriage servicing sheds.

We climbed aboard and were immediately struck by the warmth of the cab as this type of locomotive had some of the best cab heaters

on British Rail. The wall of heat greeting us was certainly a testament to the view that no better machine had ever existed in respect of performance and creature comforts for the routes north and west of Inverness.

As we were in number 2 cab this placed the small but efficient Stones vapour steam heating generator directly behind us. We could hear the hum of the water pump and the intermittent roar of the burner and its associated smells as steam pressure built up to the maximum of 40 psi throughout the whole length of the short train.

Ten minutes before departure the guard arrived with information on the train itself: there are three vehicles weighing 105 tons and there are passengers aboard for the request stops at Loch Luichart and Duncraig. Any others will be advised to the crew either by hand signal from the guards van or from passengers themselves who may wish to join at any of the remaining halts. Finally, and all importantly, a small bundle of newspapers was given to us. These were for the signal men at Grave, Achnasheen, Strathcarron and Kyle, with the remainder for the footplate mess room at Kyle. Stations before Dingwall would be taken care of by the crew of the 06:15 to Wick.

At around 06:53 the Rose Street signaller arrived with the single line token for the short mile and a half section to Clachnaharry and, with the starting signal already cleared, lift off

was imminent. At exactly 06:55 the tip from the guard was given and the power handle of the little engine nudged gently open to get the train underway. As we straightened out past the site of the harbour branch, the large brass handle was fully opened and the timeless Sulzer rasp echoed out over the empty streets and frost covered roof tops. Speed got no higher than 40mph as, after passing 'Clach Park', the home of Clachnacudden Football Club, the brakes came on for the 8mph restriction over the canal bridge ahead.

The Davis and Metcalfe brake valve on a Class 26 was very noisy and filled our ears with a loud wooshing sound making speech impossible as the vacuum in the train pipe was destroyed and the train speed reduced. The bridge over the Caledonian Canal was built by the Highland Railway Company in 1862 and passing over it made a sound that would make you think that, despite the train only travelling at 8mph, it was about to collapse underneath you.

First token exchange

The first token exchange was made successfully and we now had permission to proceed to Lentrane and the next crossing point. As soon as the locomotive had passed the Clachnaharry Inn, the power came on hard for the 1:150 climb to Bunchrew. Running alongside the deserted A9 road we discussed why an old fishing boat had been moored at the mouth



of the canal. Apparently it had been there for most of the year and unbeknown to us would remain at anchor for the next 18 months before mysteriously disappearing, destination unknown. The tide was high and the first fingers of daylight were spreading onto the sea and Black Isle, as numerous sea birds swooped and wheeled in search of breakfast.

Bunchrew automatic open level crossing carried a 25mph speed limit, so again the brakes went on as we observed the crossing lights operating and the white proving light illuminate to allow the driver authority to proceed. As it was after 07:00 the driver was allowed to give a long blast on the horn as an additional warning to road users of the imminent arrival of 200 tons of moving metal. There were rule book restrictions on horn use between 23:00 and 07:00. Another burst of power had us moving along at 60mph before a further slowing to 10mph for the exchange of tokens with the signalman at Lentrane.

Following a cold blast as the cab window slid open, the heavy leather pouch really slammed against the outside door before being hauled aboard for the run to the first stop at Muir of Ord. The Sulzer snarl was again unleashed into the morning air as we scampered along one of the faster sections with 70mph being attained either side of the bridge over the River Beaulie. We passed the site of the former station which was closed in 1960 but reopened in 2002 as

LEFT: 5345 is seen entering Achnasheen on the morning train from Kyle of Lochalsh on March 10th 1973. The steam heating boiler in the locomotive is obviously working well. Some snow patches linger on the slopes of the 550m high Carn Beag. *Gavin Morrison*

TOP LEFT: The view from the cab as the train passes the 35 and a quarter milepost which is just beyond Luib Summit at the head of Glen Carron. Just out of sight is the old Glen Carron Lodge platform. *Richard MacLennan*

TOP RIGHT: Seen from the train 26035 accelerates over Achterneed level crossing, west of Dingwall, in August 1984. *Richard MacLennan*

ABOVE LEFT: 26034 approaches Garve station on the 17:10 Kyle of Lochalsh to Inverness on 19th July 1983. On the left of the picture, 26032 is waiting for the road with the 17:55 Inverness to Kyle. After 25 years working from Inverness depot 26034 was transferred away in 1985 to Haymarket, and then, 18 months later, to Eastfield. It was withdrawn from Eastfield with collision damage in September 1989. 26032 was withdrawn in February 1995 and was scrapped by MC Processors in Glasgow in February 1995. *Lewis Bevan*

ABOVE RIGHT: 26044 near Stromeferry with the 11.10 from Kyle of Lochalsh on 20 July 1983. 26044, an Inverness loco since February 1961, was withdrawn in January 1984 after running into a snowdrift near Blair Atholl (which caused an electrical fire) while on snowplough duty. *Lewis Bevan*

Britain's most expensive platform metre per metre .

Muir of Ord

After running uphill and past the golf course and the malting siding we glided to a halt in the reopened station at the Muir of Ord a little after 20 minutes since leaving Inverness. No passengers boarded or alighted but some mail bags and newspapers were off loaded

to make the stop worthwhile. The aroma of baking pies and bread from the nearby Forbes bakery awoke our taste buds and reminded everyone that breakfast in Kyle was still several hours away. After another exchange of tokens at the signal box adjacent to the former junction for the Fortrose branch, it was downhill at 70mph through dense woodland before once again meeting the A9 near Conon Mains Farm. Another river crossing and the



former station site at Conon Bridge followed, although we had to slow to 40 mph for the speed restricted bridge over the salmon rich Conon River.

With 19 miles covered and some brisk station work completed at Dingwall (or Inverpeffer as it was originally known) we were now about to enter the Kyle line proper as we branched away from the Far North line just after leaving the station at Dingwall North. With another token on board, this time for the 12 mile run to Garve, the 'Road to the Isles' was ours. It was amazing to think that less than 10 years earlier the route had still been under the threat of closure and only through vigorous campaigning was the line kept open with final confirmation of the line's future coming on August 19th 1974. We trundled over a couple of open level crossings at Dingwall, keeping the speed down to 20mph, before running at 40mph along the valley floor to Fodderty with the hills of the Cats Back and Knockfarrel towering above us. We slowed for the 20 mph bridge over the A834 along with the River Peffrey as we passed the site of the former

junction for the short Strathpeffer branch that closed in 1951.

We were now on the testing climb to the Raven's Rock and for the first time since leaving Inverness, as we climbed away from the valley floor, it felt as if our small engine was fighting a losing battle with gravity as the 1:50 climb to the 460 foot summit bit hard. With the hills of the Heights of Fodderty and Achterneed closing in on the right, the reverberating sound of a hard working engine became all consuming, as the Type 2 did all that was asked of it.

The crossing at the site of Achterneed station had a severe speed restriction due to road users having restricted view of approaching trains. On such a fierce gradient no brake application was needed and by an early closing of the power handle, speed reduced nicely to the line's limit of 10mph. Another good tooting and parping on the locomotives horn was undertaken before another frenzied burst of power took us into the thick woodlands and the uninhabited ravine ever nearer the line's summit a few miles ahead.

Raven's Rock

The Raven's Rock is a huge slab of granite which at some point in the 1800s had a single track rail line blasted through the middle of it, no doubt mostly by hand by our Victorian forefathers. The rock is visible from many miles in every direction but due to its lack of road access is rarely visited by man. The next six miles are all downhill and we were advised to look out for wild cats and red deer, both of which could be found in the dense forests surrounding the area.

We rocked and rolled downhill at 45mph passing the remote cottage at Rogie before joining up with the A835 road along the shores of Loch Garve and onwards towards the village of the same name. Despite its size, Garve was always busy as it served as a railhead for large areas of the West Coast out towards Ullapool and several of the islands, including Lewis and Harris, which were reached by steamer from Ullapool.

The train sat patiently for many minutes as several bags of mail, parcels and newspapers were off loaded into mail vans and the post



bus for onward transit into even more remote communities. After what seemed like an age, and with the Garve to Achnasheen token safely on board, we were away again. The 1:50 climb began right at the end of the platform and went on relentlessly for over two miles to the 429 foot summit of Corriemuille. The Munro, Ben Wyvis sat proudly off to the right, its 3250 foot summit lost in the morning mist and the smaller Cnoc nah Lolaire likewise to our left. With the sliding window open the Sulzer snarl bounced off the trees and rocks either side of us, as the reliable engine dug in for the climb. The cab was filled with fresh clean mountain air with a hint of moss and pine from the numerous forestry plantations in the area; just what we needed after such an early start to help revitalise and reinvigorate the sleepyheads up front.

We crested Corriemuille at 30 mph before plunging down the other side as we twisted this way and that through dense patches of silver birch and towards the first encounter with Loch Luichart. When the valley was flooded as part of one of the 1960s hydro-electric

schemes, the whole railway had to be moved to a new alignment, including the building of a new railway station. Water is fed by gravity from Loch Glascarnoch 826 feet up in the hills to drive the giant turbines and help generate around 30 Mw of hydroelectricity. The old alignment is under about 15 feet of water but puts in an occasional appearance in times such as the summer drought of 1976. Today we had a passenger to drop off and a couple to collect at the small out of the way hamlet of Lochluichart, before powering out of the station and rumbling over the iron bridge at the west end of the loch.

Another short punchy climb followed with the little engine snarling its way ever westwards and across the peat moors in the shadow of Sgurr Mor and across the next water course at Loch a' Chuillin and through a further hamlet, this time at Achnanalt. After passing through the station at 20mph, with no custom whatsoever, we galloped across the flat lands towards Achnasheen. With the River Bran and A832 all fighting for space in the pass, we were never far from river or road as we bucked and

TOP LEFT: 26024 Inverness with the evening train for Kyle of Lochalsh on 31st May 1978.
www.railphotoprints.co.uk - John Chalcraft

TOP RIGHT: The driver's control desk of a Class 26. Richard MacLennan

ABOVE RIGHT: 26040 skirts Loch Carron near Strome ferry with a short engineers' train on 20 July 1983. The train has just passed through the rockfall shelter which was built to protect the road and railway from frequent blockages. Lewis Bevan

swayed at 50mph, racing the few cars out and about at this time of day.

Achnasheen rush hour

On the approach to Achnasheen, we could see the first train of the day heading east waiting patiently for our arrival, its Class 26 idling. The steam from the train heating shrouded the red post van from Kinlochewe as it awaited the arrival of the mails and sundries from our train. With precision braking the brake van on our



train was brought to a halt opposite the post van. No doubt contrary to all rules and regulations, the mail was thrown out of the off side of the train and into the waiting arms of the postie who was standing track side at the end of the platform ramp.

The number of the Class 26 was missed as train crews exchanged waves and a few out of season tourists or rail enthusiasts pointed their expensive cameras at the little locomotive. The single line token was ready and waiting for our departure to Strathcarron, but the eastbound train would have to depart second. Its token for the section to Garve had to be put back through the machine by the hard working signaller, whose rush hour would be over by 08:30.

With its fuel and boiler water tank now emptying, the little locomotive took on a gentle rock as it waited to be unleashed on the climb to the line's summit at the Luib. This is the watershed of the River Bran and River Carron, both of which rise in the vicinity of Loch Scaven, with the Bran flowing east and ultimately to the North Sea and the Carron west to the Atlantic. As we attacked the climb with a noisy gusto, we could see that the snow line of the mountains

would almost be at rail level before the 646 foot summit was reached. This was exactly what we had come to see, steam heat, snow and some of the most stunning scenery this world has to offer any rail traveller.

Downhill to the sea

The summit was taken at a rather nippy 40 mph before the downhill plunge of the line through Glen Carron to the sea. We switched left, right, left again, up a short hump before passing another deserted request stop at Achnashellach. This former private station built for Viscount Hill is more popular in summer months with hill walkers using it as the entry or exit point for the Torridon hills to the north. (Ed. I've used it many times for this purpose, much to the bemusement of the other passengers!)

The distant signal for the level crossing gates at Balmacara on the shores of Loch Dughail was at caution, making us crawl up to the gates only to find they were closed to road users and the crossing keeper sheepishly exhibiting a green hand signal. After giving said keeper some abuse on the high tone of the Type 2's horn we were off again and hit the highest speed since

leaving Dingwall with the train briefly touching 55 mph on the long straight before Strathcarron and the final call of any significant importance before Kyle.

Another pile of mail bags appeared on the platform as the mails for the Applecross peninsula came off here, as did some boxes of food and such like for the local village shop. With no more passing loops ahead, we took possession of the token for Kyle and one of the most iconic rail journeys in the world along the shores of Loch Carron. With the line speed from Strathcarron west no more than 35 mph, and much of it at 25 mph, the few passengers were certainly getting their money's worth. We headed past Attadale, through the rockfall shelter by the loch and then onwards to Stromeferry (no ferry at Stromeferry these days) to the next stop at the small station serving the girls' boarding school at Duncraig.

After departing the tiny platform at the base of the rock with the castle on top we climbed round Plockton harbour and into the station of this small village. During the brief stop the steam heating boiler was switched off as this would allow any residual steam to be purged out of the system before the locomotive was uncoupled from the train at its destination. The little engine departed Plockton with its customary racket and no doubt rattled a few windows in the row of bungalows just beyond the end of the platform as, once again, we headed into open countryside and into one of the most expensive pieces of railway ever built in the UK at £20,000 per mile or almost £3,000,000 at today's prices.

The line was literally blasted out of solid rock as thousands of tons of dynamite was brought in to open up the road to Kyle. In fact the final ten miles took almost four years to complete. The first through train from Inverness to Kyle ran on November 2nd 1897 and was driven by John MacPherson of Inverness shed. The lineside from here on was thick with rhododendron





bushes. We rounded Durnish Bay and in doing so got our first glimpse of the inner sound with the islands of Skye, Scalpay, Longay, Pabay and Raasay beyond; their mountain peaks hidden in the clouds.

We picked up a couple of locals at Durnish, no doubt heading to Kyle for the weekly shop. A final burst of power took us past Erbusaig and Badicaul and on to the final destination of Kyle of Lochalsh. After surrendering the single line token and, of course, the last newspaper to the signal man we came to a majestic halt in platform 1 with the engine proudly staring out over the sea to Skye. A job well done, on time, the mails delivered, communities served and a way of life maintained that at the time looked as if it would go on for ever.

OPPOSITE TOP LEFT: 26032 skirts Loch Carron with the 11:10 from Kyle to Inverness on 19th July 1983. *Lewis Bevan*

OPPOSITE BOTTOM LEFT: 26032 at Kyle of Lochalsh station after arrival with the 17.55 from Inverness on 18th July 1983. *Lewis Bevan*

THIS PAGE TOP RIGHT: 26035 stands at Kyle of Lochalsh with the 11:10 to Inverness on 18th July 1983. Before the opening of the Skye Bridge in 1995, the ferry crossing between Kyle of Lochalsh and Kyleakin formed the main access to the island of Skye (which can be seen in the background of this picture). 26035 survives in preservation, at the Caledonian Railway at Brechin. *Lewis Bevan*

THIS PAGE BOTTOM RIGHT: Although the Kyle line was still worked by Class 26s in July 1983 Class 37 locos had already taken over some workings on the Far North line and would soon start to appear on trains to Kyle of Lochalsh. Here is 37261 at Inverness on 19th July 1983 with the 17:40 to Wick and Thurso. *Lewis Bevan*



Leeds Holbeck depot

Leeds Holbeck has a long history and in earlier years was a magnet for railway enthusiasts. Gavin Morrison paid many visits to the depot in the diesel era and his selection of photographs shows its changing face over the years.

Holbeck locomotive shed in Leeds was opened by the Midland Railway in 1868. In 1875 the MR coded the shed No.28. Under the LMS it became 20A whilst in British Railways' days the North Eastern Region allocated it the shed code 55A.

The first diesel shunters allocated to Holbeck arrived in 1958 followed by main line locomotives in 1960. Until the end of steam in October 1967 Holbeck had a mixed steam and diesel allocation.

As BR planned to allocate a large number of diesel locomotives to Holbeck it was decided to rebuild some of the existing buildings. The Nos. 1 and 2 machine shops were rebuilt with concrete and glazed roofs. Three tracks were built on raised steel structures with pits for the staff to work underneath locomotives. Concrete walkways were built on either side of the tracks to give access to the cabs. A travelling crane was installed within the building and a wheel lathe. Various other buildings were built to allow

ancillary maintenance tasks to take place. The usual fuelling facilities were provided in a covered gallery supplied from three storage tanks. The work was completed by the end of 1962.

Shortly after the end of steam in 1967 Holbeck's allocation was eighty-two locomotives made up of seventeen Class 03 and 08 shunters, nine Class 24s, twenty-four Class 25s, twenty Class 45s, ten Class 46s and two Class 47s.

Class 03 - allocated to Holbeck between 1964 and 1972

Class 04 - allocated to Holbeck between 1958 and 1967

Class 05 - allocated to Holbeck for short period in 1960

Class 08 - allocated to Holbeck between 1963 and 1990

Class 24 - allocated to Holbeck between 1967 and 1971

Class 25 - allocated to Holbeck between 1963 and 1974

Class 31 - allocated to Holbeck between 1971 and 1980

Class 45 - allocated to Holbeck between 1960 and 1978

Class 46 - allocated to Holbeck between 1967 and 1973

Class 47 - allocated to Holbeck between 1964 and 1977

The final mainline diesel locomotive to be allocated to Holbeck was 31234 which left in January 1980. However, since losing its locomotive allocation, Holbeck has continued in railway use as a base for track maintenance vehicles and the stabling and light servicing of DMUs used in the West Yorkshire area.

RECOMMENDED READING

<http://www.derbysulzers.com/holbeck.html>





1: A brand new Clayton Type 1 No. D8502 is seen on its delivery run to Scotland on the 5th October 1962. The building in the background is the steam shed roundhouse.

2: A stranger on the depot at Holbeck is Metrovick No. D5705 which was en-route to Derby Works on September 21st 1963. Note the 12E (Barrow-in-Furness) shed code on the buffer beam.

3: A study in front ends. 'Peaks' D30 and D55 in the yard. Note the M on D55 which indicates it is allocated to the Midlands Lines pool. In the background an English Electric Type 3 displays the headcode 1M41. This was for the previous evening's 21:50 York to Aberystwyth mail train which was worked by an Eastern Region locomotive as far as Leeds at this time. The date is March 10th 1967

4: Shortly before the end of steam at Holbeck 'Deltic' No. D9005 is seen visiting the depot on August 15th 1967. Leeds Central station had closed in May and all trains to King's Cross now used Leeds City station so 'Deltics' became a common sight between workings. The old steam coaling plant dominates the background, whilst the diesel fuelling point can be seen behind the locomotive with the fuel tanks on the right.

5: Permanent Way machines and special liveried 3132T *Phillips Imperial* dominate the scene. Note the small crest under the nameplate which carries the wording 'Phillips Petroleum 66'. Also in view are 31229 and 47284. In the background is the viaduct that originally used to carry the former LNWR Leeds to Manchester line. The date is 13th September 1987.

6: 140001, the prototype for the Class 141s and ultimately the 'Pacer' classes, was dumped on the depot for a long time before eventually passing into preservation at the Keith and Dufftown Railway. It is seen at Holbeck on August 7th 1990.

7: Inter-City liveried 47625 is parked outside the maintenance depot on the 20th September 1990. This is the building which was rebuilt in 1962 from the former machine shops.



8: For a time Class 25 No. D7672 *Tamworth Castle* was based at Holbeck supposedly for the benefit of apprentices. It was actually maintained and fully restored by members of the staff in their spare time. It eventually worked specials on the main line and then passed into preservation. It is seen in the depot at night on March 29th 1991.

9: Network SouthEast liveried 47572 *County of Norfolk* is seen in the snow outside the servicing building and with the now demolished Kays mail order building in the background.

10: Seven different liveries can be seen in this photograph taken on April 28th 1991. In the far background there are two Class 08s in BR blue. Beyond the washing plant is a Class 47/0 No. 47150 in Rfd livery and two Class 31/1s (Nos. 31184 and 31215) in large logo grey. Over to the left is a Class 31/5 No. 31547 in departmental livery, a Class 47/4 No. 47582 in Network SouthEast colours and a Class 37/4 No. 37422 in Metals Sector livery. In the foreground D7672 *Tamworth Castle* is in BR two-tone green colours.





The weird and not so wonderful

Colin Boocock remembers some of the weird-looking electric locomotives that roamed French rails before the modern age.

Weird and not so wonderful' may seem a disrespectful title for an article about old French electric locomotives, but I have never been a fan of French styling of engineering products, at least not until the handsome BB-9200 and BB-16000 classes emerged, when I had to change my mind. The electric locomotives that French railways operated before and during the second world war included some which cannot be said to be visually attractive in any sense. In this author's opinion, surprisingly, some

of the locomotive classes on which there was no attempt at styling actually emerge as the more attractive visually!

This article covers the older electric locomotives that the author saw in France in the early 1960s and later. It is not completely comprehensive, but the range illustrated is typical of what was on view. Of the direct current (dc) locomotives described here, the pre-war locomotive types were replaced on SNCF in the 1950s and 1960s by the

monomoteur classes that can still be seen in France today. The French dc lines were and are all pressed at 1,500Volts and current is delivered through overhead wires. This article also covers the odd-looking ac electric locomotives that populated the first 25kV ac main line electrification, namely that between Valenciennes and Thionville.

Paris-Orléans giants

The PO railway had electrified its main lines



All photographs by Colin Boocock

ABOVE LEFT: Thirteen locomotives of the same class were supplied to SNCF for the PO line from 1938 to 1943, but with streamlined ends, presumably for visual rather than aerodynamic effect. No. 2D2-5544 was awaiting its next duty on shed at Paris Ivry on 31st August 1963. You either like it, or you don't!

ABOVE: The Chemin de Fer du Midi (Southern Railway) received 24 2-Do-2 express passenger electrics from 1932, some with CEF electric traction equipment and others with traction from AEG. No. 2D2-5008, a plain-looking machine capable of delivering 3,900 bhp, was hiding just inside Ivry depot in Paris in summer 1963.



to the south-west early. Thus it needed dc electric locomotives to work heavy passenger trains at speeds up to 140km/h and freight trains of varying weights and lengths. The railway settled on two basic types, a heavy 2-Do-2 design for express passenger work and small Bo-Bos for freight. The 2 Do-2s had four powered axles, each with its own large traction motor fitted in the locomotive frame and driving the wheels through either an Alstom or a Büchli flexible drive. Because of the weight of these monstrous machines (120 to 140 tonnes) each locomotive had a four-wheeled carrying bogie at each end, leaving only 72 to 80 tonnes weight available for adhesion. The heavy locomotive mass was partly due to the need for electrical equipment that could produce relatively high power, about 4,200 to 4,800 brake horse power (bhp) being the achievement. Apart from some 1926 prototypes, the locomotives that I saw at Ivry depot in Paris during a visit in 1963 had been supplied to PO and SNCF from 1932 to 1942, variously by Alstom and Fives-Lille, the latter using electric traction equipment from CEM.

MAIN IMAGE: The ultimate development of the French 2-Do-2 express passenger locomotive design was SNCF's Class 2D2-9101, built from 1950 for the electrification of the PLM main line. No. 2D2-9109 had been relegated to freight duty by 25th June 1983 and was photographed passing Melun in the southern Paris suburbs with a southbound fast mixed freight.

FAR LEFT BOTTOM: A standard 1930s express electric locomotive from the P.O. railway before the stylists got at it, SNCF No. 2D2-5504 was one of 35 2-Do-2s built in 1933-1935 for service on the Paris-Orléans main line. At 4,230 bhp they were powerful for their day, had a top speed of 130km/h, later modified to 140km/h, and they weighed in at 137 tonnes. Together with two prototypes built as early as 1926, and semi-streamlined batches built 1938 to 1943 for SNCF (see next picture), the class eventually totalled 50 locomotives. These were quite handsome, in my eyes.

TOP RIGHT: The 2D2-5301 series were presumably intended for mixed traffic duties because of their lower top speed of 100km/h. Delivered to SNCF by Alstom in 1942 they were a development of the PO express passenger type. However, unlike the other 2-Do-2 types which had four body-mounted traction motors, the 2D2-53XX series had just two large motors, each one driving two axles. The four 'portholes' in the equipment room sides had also been used on the État series of locomotives and pre-date the use of this feature on the SNCF 2D2-9101 series. No. 2D2-5302 was at Ivry on 31st August 1963.

BOTTOM RIGHT: Emerging in 1937, the 22 examples of the État Railway 2-Do-2s were basically similar to the PO classes, capable of exerting 4,230 bhp and with a top speed of 140km/h. They lasted on main line passenger work until the 1960s. No. 2D2-5403 was ready to haul the morning express to Quimper in Brittany at Paris Montparnasse station on 1st September 1963.

A total of 75 of these locomotives had been built for service in France. By the time of my visit they were uniformly painted in SNCF dark green livery with no decoration.

More from the État

The État railway, later to become the Région Ouest of SNCF, had a fleet of 23 similar machines dating from 1937. These were also 2-Do-2s, numbered by the État from 501 to 523 and swiftly renumbered by SNCF as 2D2-5401 to 5422 (I have no idea what happened to the one whose number dropped from the list.) They were built by Fives-Lille with CEM electrical equipment and weighed in at 130 tonnes. With 4,230 bhp one-hour rated output, their maximum running speed was 140km/h. These were more handsome locomotives than any of the PO ones (apart perhaps from the earliest, unstreamlined 5501 series). In all other respects they were a manufacturer's standard solution to the French need for heavy express passenger electric locomotives, and were identical in concept to the PO locomotives.

The État Class 2D2-5401 locomotives worked very heavy express trains from Paris Montparnasse to Le Mans. I remember counting loads of 18 to 20 carriages on trains on this route during a visit to Brittany in 1963. These prodigious loads of around 800 tonnes were taken forward to Rennes and beyond to

Quimper and Brest by 241P and 141P steam locomotives. It is all quite different now.

SNCF's derivative

When the SNCF began to advance electrification of the PLM main line south from Paris Gare de Lyon, it chose a similar design of electric locomotive for its premier express train haulage. The 2D2-9101 class was a more neatly styled version but used the same basic layout with four large traction motors attached to the locomotive frame. Introduced in 1950, 35 locomotives were built and they lasted into the 1980s, though latterly on fast freight workings. They were rated at 5,550 bhp on a one-hour basis and at 144 tonnes were the heaviest of the French 2-Do-2 breed. They were supplied by Fives-Lille/CEM and had Büchli flexible drives from the motors to the wheels. These were the locomotives to be seen on SNCF advertising material for the famous Paris-Nice 'Mistral' train. They were painted in SNCF's new lighter green, almost turquoise colour, and had stainless 'go faster' flashes.

The 2D2-9101 class were displaced from the leading passenger work quite quickly by the more modern Co-Co CC7101 class. I was lucky to see one of the 2 Do 2s still working on a PLM main line freight in the Paris outer suburbs in 1983.





Freight power

It was not the intention that the early 2-Do-2s would spend their lives on freight because that duty was intended to be the preserve of a range of small four-axle, bogie electric locomotives. There were several designs of these Bo-Bos or Bo+Bos, most of which were introduced in the 1920s and 1930s. With typical French railway conservatism, all of them appeared as plain box-shaped machines with two bogies (of various designs) but each with four traction motors. The motors were nose-suspended, that is each traction motor was hinged on one side to a bogie frame cross-member and on the other supported along a sleeve bearing around the axle it was driving. Thus the un-sprung mass was greater than with the flexible drives we have discussed before, but this was of less import on slow speed locomotives. None of the Bo-Bo designs built for the PO or the État had a road speed higher than 105km/h and most were set just for 90km/h. The Midi (Southern Railway) and the SNCF after nationalisation in 1938 chose to use coupled bogies with the drawgear and buffers on the bogies. This is why I use the classification Bo+Bo for these locomotives.

The Bo-Bos were able to output between 1,800 and 2,420 bhp and weighed between 72 and 80 tonnes (the same adhesion weight as their bigger passenger counterparts described earlier). For much of their duties they were coupled in multiple pairs and could be seen on main line freights in this formation, or singly on lighter goods, parcels trains or pick-up workings. Surprisingly even these plain-looking machines lasted into the 1960s. The photographs show some of their visual characteristics.

The Chemin de Fer du Midi (Southern Railway) also had a fleet of old Bo+Bos for

TOP: Bo-Bo No. BB-154 leads a classmate stabled at the depot at Ivry-sur-Seine in southern Paris in summer 1963. The class dated from 1924 and was built for the Paris-Orléans Railway for mixed traffic work, mainly freight due to their low maximum speed of 90km/h. These locomotives individually could exert 1,900 bhp.

MIDDLE: Built by Alstom as late as 1946 to 1948, this SNCF series was a Bo+Bo with the buffer beams fixed to the bogie frames as on early Midi Railway locomotives. The bogie frames were coupled together, which must have done nothing to improve the ride for the locomotive crew! This arrangement was so that traction forces would not pass through the body underframe. Seen standing at Ivry depot, when in use No. BB-332 could manage 1,800 bhp with a 70km/h top speed, not very ambitious for its time.

BOTTOM: From 1949 the SNCF received 171 Bo+Bos of Class BB-8101 which were much more powerful, capable of 3,190 bhp with a top speed of 105km/h. No. BB-8225 was seen passing Melun with an northbound tank car train on 25th June 1983.

RIGHT: A centre-cab design of Bo-Bo for shunting stands at Paris Ivry depot on 31st August 1963. No. BB-1285 was a former PO example.



freight totalling around 275 locomotives. In addition to these were 90 very similar locomotives, also with double-cab bodies, that were limited to 50 or 60km/h and were useful only for shunting and short distance transfer work.

There were sundry other classes of electric locomotive for shunting. One type that was a PO design was a centre-cab Bo-Bo that surely drew its ancestry from locomotives built for heavy industry. More outstanding was the crocodile group of Class CC-1101, another PO centre-cab design for heavy freight yard work. These were C C locomotives with their wheelsets coupled by outside coupling rods and fly-cranks. Dating from 1938, to me these were shrinking violets: I never got close enough to photograph one.

More for SNCF

The old freight Bo-Bos and Bo+Bos were obviously a useful group of designs and SNCF developed the type further. The Class BB-8101 emerged in 1949 and eventually 171 examples were built. These were 92 tonnes machines with a more useful 3,190 bhp output and a maximum speed of 105km/h. Some of these locomotives were still in use until withdrawn finally in 2003.

It is interesting to note that the older of the two basic pre-war electric locomotive concepts, the freight Bo-Bo, Bo+Bo, which had evolved into such a useful locomotive as the BB8101 class, would later be developed further by SNCF into a standard group of modern B-B mixed-traffic classes in the late 1950s, whereas the heavy passenger locomotives with their unwieldy 2-Do-2 layout would eventually bite

the dust in the face of the lighter and much more efficient competition in the form of monomoteur C-C and B-B machines.

The ac revolution

In the early 1950s SNCF embarked on its pioneering change to the use of 25kV alternating current (ac) traction. The route chosen for the probationary section was the heavily-trafficked corridor between the coal mines of the Saar area, Strasbourg and the Alsace-Lorraine steelworks, much later extending to the English Channel coast at Dunkerque and to Switzerland at Basle. A fleet of Bo-Bo and Co-Co electric locomotives was designed and built that embodied several different concepts for comparative working. The Bo-Bos were intended as mixed traffic



locomotives with a top speed of 120km/h and the Co-Cos were for heavy freight haulage at a maximum speed of 60km/h.

For reasons which have never been clear to me, all these classes were built in a centre-cab configuration, making them appear already old-fashioned however useful such an arrangement may have been in the freight network on which they worked. This feature made them look odd, and has endeared them to railway enthusiasts and modellers ever since!

These classes were variously equipped with either ac traction motors or with dc motors using current that had been rectified by various methods. Rectification was by mercury-arc rectifiers, or by large rotary converters, or later by what were then primitive solid state devices. The two main class groups however had a common external appearance, apart from the obviously longer length of the big Co-Cos.

Eventually two main classes remained after the less successful experiments had been concluded, both surviving classes having dc traction motors receiving rectified current. The Bo-Bos of Class 12000 were the last to survive in France, together with a handful of Class 14000 Co-Cos. All have now been withdrawn, the last at the end of the 1990s.

Do not be deceived! The 83tonne Bo-Bos were of 3,600 bhp having to tackle heavy express passenger trains as well as mixed freight. Yet the larger 125tonne Co-Cos were only of 2,490 bhp. This was quite enough to move their heavy loads because they had six large traction motors and their top speed, and therefore required power output, was not so high. The Class CC-14000 locomotives worked limestone, iron ore and coal trains composed mainly of hopper wagons, and also handled some of the steel output to stocking points and the ports.

When built, the centre-cab Bo-Bos were liveried in SNCF's light green/turquoise colour with grey valances and the Co-Cos were dark green. As the Bo-Bos drifted to freight-only diagrams they, too, ended up in dark green livery.

Interestingly, in 1958-1959 the Class BB-12000 type was copied for sale to Luxembourg Railways (CFL). CFL's Class 3600 Bo-Bos were the last of this group of designs to be withdrawn, finishing their days in 2006 on morning and evening commuter trains at Luxembourg City.



TOP LEFT: Of the 25kV ac centre-cab Bo-Bos built for SNCF's Valenciennes-Thionville electrification, the BB-13000 class were tried with single-phase ac traction motors using transformed current distributed through slip-rings. No. BB-13024 was photographed leaving Longuyon with a local passenger train on 29th August 1963.

TOP RIGHT: The length of the 25kV ac Co-Co locomotives belied their power. At only 2,490 bhp they were nonetheless heavy haulage machines with high tractive effort. No. CC-14195 was photographed on 29th August 1963 passing through Longuyon with a heavy northbound train of loaded iron ore hopper wagons of diverse shapes and sizes.

MIDDLE: This side view of CC-14154 at Longuyon illustrates the apparently long length of these freight machines. Their appearance is deceptive in part, because of the low height of the long end noses that cover the equipment compartments. The author sees little advantage in this layout; a twin-cab locomotive with a full size body would have more room for equipment, and give the driver a better view ahead.

BOTTOM: Luxembourg Railways (CFL) took delivery in 1958-1959 of a batch of twenty 25kV ac Bo-Bos similar to the SNCF BB-12000 series. Bo-Bo No. 3610 was still very active when photographed arriving at Bettembourg with the 16:45 train from Athus to Luxembourg City on 1st April 2004. These were the last of all the old locomotives in this article to remain in service, the end not coming until 2006.

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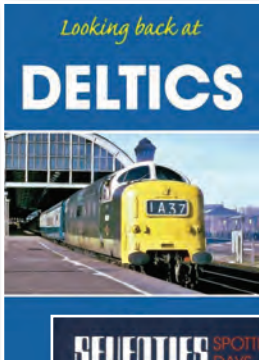
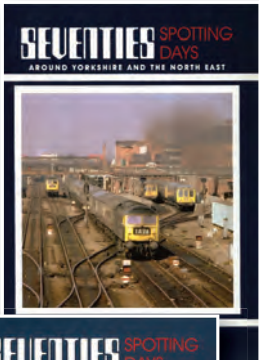
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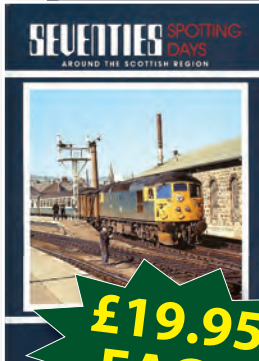
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Ruston & Hornsby Industrials

Industrial locomotives don't often get a great deal of attention from enthusiasts but, especially in the past, they were a vital part of railway operations. David Ratcliffe attempts to redress the balance with this feature about the Ruston & Hornsby shunting locomotives.



Formed in 1918, with the amalgamation of Ruston Proctor & Co. of Lincoln and Richard Hornsby & Sons of Grantham, the engineering firm of Ruston & Hornsby went into locomotive production in the 1930s. Locomotive building

then continued at Boultham Works in Lincoln for over thirty years but, following English Electric's takeover of the company in 1966, production of the Ruston & Hornsby designs was curtailed and finally ended in 1969.



1: One of Ruston & Hornsby's most successful designs was the 7½ ton, 48bhp chain-driven four-wheel diesel mechanical Class 48DS introduced in 1937. At only 13ft 7in long, with a 5ft 2in wheelbase, these diminutive locomotives were powered by a Ruston four-cylinder 4VRHL engine and proved popular at locations where only light occasional shunting duties were required. Some 204 locomotives were eventually built with customers including British Acheson Electrodes, City of Salford Gasworks, H.J. Heinz, Laporte Titanium, and the Wigan Wagon Co. However, by the 1990s, only a handful remained in industrial use including Charles, works No. RH417889, pictured here at Washwood Heath in October 1995. Built in 1958 for the Yorkshire Brick Co. it had subsequently been acquired by Trackwork Ltd. of Doncaster who were busy relaying a part of Washwood Heath marshalling yard.

2: The demand for a more powerful locomotive saw Ruston & Hornsby develop its 88bhp Class 88DS 4wDM design of which 254 were built between 1938 and 1967. Fitted with a four-cylinder Ruston 4VPHL engine they were 20ft 6in long with a 5ft 9in wheelbase and had 3ft diameter wheels compared to the 2ft 6in wheels fitted to the Class 48DS. Initially weighing 17 tons, later increased to 20 tons, 88DS owners included the Associated Ethyl Co., Dowlow Line & Stone, and the Rossendale Solid Fuel Co. Several were purchased by both the Admiralty and the Air Ministry while the last of the class went to Tarmac Roadstone at Hayes & Harlington. Built in 1956 for Marblaegis Ltd's Rushcliffe plaster works at East Leake, Notts, works No. RH398616 was sold to Trackwork Ltd. of Doncaster in 1994.

Photographed at Washwood Heath in April 1995 by 2015 it had been preserved at the Epping Ongar Railway in Essex.

3: Introduced in 1946 the 165DS Class was Ruston's first diesel-mechanical type with coupled-wheels driven from a jackshaft and was available as either a 28 ton 0-4-0DM or 30 ton 0-6-0DM. Both variants had 3ft 2in diameter wheels and 124 were built, the majority as 0-4-0DMs, and owners included British Titan Products, Imperial Chemical Industries, Mobil Oil, and Tunnel Cement. British Titan Products (later known as Tioxide UK Ltd.) purchased three 165DS locomotives between 1951 and 1957 to handle the shunting at their Pyewipe chemical works on the outskirts of Grimsby. Some 22ft 1in in length, with a 5ft 9in wheelbase, and powered by a 165bhp Ruston VPH engine Tioxide's No.6, works No. RH414303/built 1957, awaits its next turn of duty at Grimsby in March 1991. Withdrawn by Tioxide in 1998, No.6 was later moved to the Lincolnshire Wolds Rly. at Ludborough.

4: Introduced in 1950, Class 165DE was similar to Class 165DS but with diesel-electric transmission. In all 164 were built with owners including the Associated Portland Cement Co., Rowntree-Mackintosh, and the South of Scotland Electricity Board. Developed in collaboration with British Thomson-Houston Ltd. of Rugby, who supplied the electrical equipment, five were sold to British Railways as their PWM650 departmental class. The type also proved very popular with Scottish iron and steel producers such as Clyde Alloy Steel, Fulwood Foundry, and the Lanarkshire Steel Co., while no fewer than 38 could be found

working for Colvilles Ltd. at their various works in Cambuslang, Motherwell and Tollcross. Previously based at the Clyde Iron Works in Tollcross number C.I.W.4, works No. RH423659/ built 1958, was one of several industrials found parked out of use at British Steel's Hardendale Quarry, Shap, in May 1992.

5: In 1959 Ruston & Hornsby introduced a new 287bhp 0-6-0DH diesel hydraulic design powered by a Ruston-Paxman Type 6RPH engine. Some 47 of these Class LSSH locomotives were built with 18 being sold to the army for shunting duties at stores and ordnance depots across the country. Weighing 42 tons they had 3ft 6in wheels and a wheelbase of 8ft 8in. Army No. 430 (previously Army 8224), works No. RH466621/built 1961, had originally been based at Donnington Central Ordnance Depot, but after subsequent spells at Shoeburyness Proof & Experimental Establishment, Moreton-on-Lugg COD, and Dean Hill Royal Naval Armament Depot, it was recorded at Bicester Base Ordnance Depot in April 1995.

Ruston&Hornsby 6

Another new design was the 192bhp 0-4-0DE LPSE diesel-electric class weighing 24 tons. The revised body styling featured a raked bonnet and larger cab windows for improved visibility but only a handful were built before production of the Ruston & Hornsby range ended. Locomotive No. P.V.142, works No. RH544997/ built 1969, is pictured at the Rutland Rly. Museum, Cottesmore, in August 1996 having previously worked at the Hays Chemical (formerly BP Chemicals) Elworth Works, near Sandbach.

THORNABY DEPOT



As an ex maintenance supervisor (I finally ending up as a production engineer) retiring in September 2007 after spending my whole 45 year working life at Thornaby. I looked forward to reading about the depot in *TRACTION 237*. Can I point out a few things in regard to Thornaby's brief history.

Thornaby was chosen during 1965 to do complete engine changes on all the North Eastern Region allocated Clayton Type 1s (the new engines had cast iron blocks instead of aluminium alloy).

A minor point in terminology is that the article says that the 'Thornaby tool van gangs were summoned to assist in' the re-railing of the 08 snowplough. The tool van gangs never assisted anyone at anytime; they did the job. I was the supervisor in charge of the tool vans at that time and wrote the report. I attach a photograph of the snowplough before we started re-railing it.

There is no mention in the article of the molten metal trains that ran from Redcar steel works to Consett for several months from August 1969 which utilised double headed Type 3s.

The Class 20s were brought to Thornaby to work trains from the quarry at Redmire and potash trains in pairs and all gained the distinctive red stripe footplates and several

were named after the owners, potash mine and Redmire quarry. It wasn't easy fitting the long plates as they were too big for the cab sides and had to be fastened to the footplate edge at the front away from the fuel tanks built into the footplates..

When Darlington diesel depot closed in the mid 1980s, Thornaby's roads 11 to 14 were fitted out with raised gantries and all the facilities to service DMUs. These roads were then used to service Class 101 DMUs at night and repair wagons during the day for several years. Later we also looked after Class 142s and 143s. Whilst these were all Gosforth units, we ended up doing some exam work, major repairs and engine changes in the main shed. Luckily several Darlington staff had transferred to Thornaby so we didn't have a



The Thornaby tool van gang prepare to rerail snowplough ADB966509 (originally D3069) in early 1976 on the Esk Valley Line between Middlesbrough and Battersby.

skill shortage for this! I'm not sure when that arrangement stopped and Gosforth or Heaton took over.

The depots maintenance facilities were not severely curtailed at all in 1992, in fact up to September 2007 it was as fully capable as it ever had been. Whilst Thornaby could then be considered an outstation of Toton it maintained Class 60 and Class 66 locos up to E exam level and still continued to do wheelset or traction motor changes along with heavy repairs to engines, generators and body work up to the end of 2007. Heavy work and exams was also undertaken on Class 37s, 47s and 56s which Toton deigned to send to us.

D6700 (then 37350) was given a full body makeover and repaint to as near as possible original condition in mid-1998 utilising parts from scrap '37s' to again be D6700 prior to going to York Museum for naming NRM NATIONAL RAILWAY MUSEUM on 11th September 1998.

Thornaby was the only depot except for Toton to be used to convert all the Class 66 locos to drop buckeye couplers and due to the expertise gained, also fitted the special couplers used on the Lickey banker '66s'.

After a decision was taken in the late 1990s to scrap the underfloor wheel lathe, this was quickly reversed due to Toton's inability to deal with all the work within the company. The wheel lathe was then given an overhaul to allow it to cover work accruing in the northern part of the country. This lathe had been installed in the early 1980s.

Using the wheel drops, Thornaby was chosen to re-wheel all the Class 59s and also re-wheel the Class 66s sent to France. Wheeldrops were a lot quicker than lifting the body off the bogies. It wasn't unknown for a wheelset or motor on a Class 66 to be changed by two men in less than two hours.

Bob Willis, Teesside

I read the article about Thornaby (51L) depot with interest as I visited there on 7th May 1967 as part of a week long trek to visit as many of the remaining steam depots as we could manage. I attach a photo of D6776 outside Thornaby depot. The locomotives recorded on depot at 6.30am were :

D238/42
D2306/7/16/31
D3137/8/9/41/4/6/7/8/50/1
D5151/6/7/66/3/4/7/8/71
D6755/6/9/60/3/4/6/9/70/1/2/3/6/7/8
D6873/96 (All above 51L).
D24 (55A - Leeds Holbeck)
D8310/1/2 (50A - York)

Chris Weavers by email

NORTH BRITISH TYPE 2s

The picture of D6107 on page 15 of TRACTION 237 is of interest because the type only operated in the King's Cross area for about a year. However, it was taken in the summer of 1959 - not 1958 as stated in the caption.

The NBL Type 2 diesel electrics were delivered new to Hornsey in the early months of 1959 (D6107 itself during week ending 28th March) and remained until they were despatched north with alacrity from the end of February 1960, when the King's Cross area's main batch of new Brush Type 2s began arriving at the rate of two a week.

Their departure was greeted with great relief by railwaymen and passengers alike! To answer the author's query, they were intended for the Scottish Region but the first ten were diverted to help launch the suburban dieselisation - as were the first 20 BRCW Type 2s (later Class 26), also destined for Scotland. The latter followed the NBL diesels north from mid-April 1960 onwards.

It is actually Hadley Wood North Tunnel which the train is exiting, just before passing through Hadley Wood station. The train is an outer suburban stopping service from Cambridge, or perhaps Baldock or Royston. Only two of the five visible coaches are Gresley designs, as the first and fifth are BR Mark 1s and the fourth is a Thompson LNER compartment first. What is unusual is that, at this end of the standard outer suburban six-coach set, a BR Mark 1 BG van is substituting for the rostered brake second.

Incidentally, the text of the article repeats an error made all the way through an article in TRACTION 233. One of the references to Hornsey depot is mis-spelt as 'Hornsea' - which used to be the end of a branch line north of Hull!

David Percival, Knebworth, Herts

I enjoyed Nevill Fickling's article on the N.B. Type 2s in TRACTION 237. My first visit to Scotland was on a two day coach trip with the Worcester Loco Society on 7th/8th January 1967. We did all sheds from Carlisle up to Dundee and Perth, although we didn't visit St Rollox Works. We only saw 14 of them; some would have been in works but where were all the rest? For the record this is what we saw:

Eastfield, 6101, 6103, 6104, 6115, 6117, 6124, 6131, 6135, 6137
Grangemouth, 6110, 6126
Stirling, 6119
Perth 6136
Dundee, 6112.

My next visit to Scotland was on a 7 day Railrover starting on Sunday 23rd July 1967. On this trip we saw 53 out of 58. The ones we didn't see were 6100, 6110, 6112, 6117 and 6124. Of these I had seen the last four

on my previous visit, so I now only needed 6100 to clear the class. I had obtained permits for all sheds plus Inverurie Works but couldn't visit St Rollox Works as it was Glasgow holiday weeks and the works was closed. I have since found out that 6100 was in St Rollox Works at the time.

The location of the 53 seen that week were as follows:

- Queen St Station, 6102, 6111, 6115
- Eastfield, 6101, 6103, 6105, 6107, 6116, 6119, 6121, 6122, 6130, 6133, 6135, 6136
- Kipps (old steam shed), 6118, 6120, 6125, 6127, (all stored)
- Fort William 6106
- Perth 6123, 6141, 6147, 6148, 6157 (the last five stored)
- Ferryhill 6150
- Kittybrewster, 6134, 6140, 6152, (6134/52 stored)
- Inverurie Works, 6104, 6108, 6109, 6113, 6114, 6126, 6129, 6131, 6132, 6137, 6146, 6155
- Keith (old steam shed) 6128, 6138, 6139, 6149, 6153, 6156, (all stored)
- Elgin, (old steam shed) 6142, 6143, 6144, 6151, 6154, (all stored).

I had another Scottish Rover in August 1968 and saw 6100 on Eastfield on 18th, so finally clearing the class. Just a correction to Neville's list of rebuilt locos, 6134 was not rebuilt but 6132 was.

My next Scottish Rover was in August 1972 and on 17th August we visited St Rollox Works where all 20 remaining 61xxs were noted dumped around the works, but this throws up a question. According to two different publications: 'Allocation History of Diesel and Electric Locos' by Roger Harris and 'Diesel and Electrics for Scrap' by Ashley Butlin, both show 6108 as cut up by McWilliam of Shettleston in June 1971 and 6106, 6112, 6116, 6129 and 6131 as cut up in Glasgow Works between May and July 1972.

I have checked with a friend who was with me on that trip, who still has his spotting books, and he confirms that he also has all 20 locos logged so those six locos were not cut up before 17th August 1972 as they were still dumped in Glasgow Works on that date.

Steve Horner, Droitwich

The feature about the NBL Type 2s was an interesting reprise. I particularly liked the photo on the Buchan branch, which must be quite rare.

This was, though, only half the story because there were two classes of NBL Type 2. The original order from BR was for six diesel-hydraulic versions for the Western Region. The decision to order the diesel-electric version was specifically to enable a comparison between the two transmission types in otherwise identical locomotives.

No one seems to comment about the diesel hydraulic variants. BR's plan to compare the two was never pursued, perhaps because the diesel hydraulic examples fared better and this did not suit the views of BR's CM&EE on hydraulic drive.

On the WR, the NBL Type 2s were popular with crews, in Cornwall at least. Withdrawal came as suitable traffic disappeared and Class 25s became spare on other regions.

A blanket criticism of the NBL Type 2s only considers half of the story. The question is why those in Scotland were problematic, whilst those on the WR were not so bad.

At least Paxman got useful service experience with its Ventura engine and this no doubt helped in developing its Valenta unit.

David Clough by email

SOUTH WALES FREIGHT

Gavin Morrison's picture of the Freightliner passing Newport's Alexandra Dock Junction Yard might be the Pengam to Coatbridge service, which was booked via the Welsh Marches line and diagrammed for electric haulage from Crewe. The Seawheel portion at the front of the train could well be conveying South Wales produced steel coil for export. Such business was known to be exported through Ipswich Docks where the Seawheel sets were reloaded with a backload of imported steel coils destined for the Round Oak terminal in the Black Country (see TPO in TRACTION 235).

The picture of the two Class 37/9s making for Ebbw Vale have a number of high-capacity ferry vans in tow, which I believe are IWB types. These may well be empty and are for loading with tinplate traffic, possibly for export via the Channel Tunnel. Such wagons, however, were also used for a domestic movement of tinplate from South Wales to the Metal Box Company at Worcester and were usually detached from a Round Oak-bound steel service (see image in TRACTION 222, page 21).

As readers are no doubt well aware, tinplate traffic from South Wales plants - of which there used to be three: Ebbw Vale (closed 2002), Trostre (still open) and Velindre (closed 1989) - was once conveyed in wagonload consignments using the Speedlink network to various Metal Box locations during the 1980s. Destinations back then included Aintree, Carlisle, Sutton-in-Ashfield, Westhoughton, Wisbech and Worcester.

D.J.Hayes Wednesbury

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PLYMOUTH TO PENZANCE

Author: Roger Geach

Price: £20.00

ISBN: 9780995566507

Publisher: www.ypdbooks.com

The West of England main line has traditionally offered rich pickings for the modern traction enthusiast, being associated with diesel hydraulic power since the Western Region introduced the North British D600 locomotives in 1958.

Growing up in the South West, Roger Geach has been photographing trains in the region from 1967 onwards and many of the images found in his self-published hardback volume were taken by him over the following decade, with a few more recent examples included for good measure. Roger found some great lineside locations from which to photograph the trains back in those days, some of which would prove difficult to repeat today as a result of the spread of luxuriant lineside vegetation and forestation.

The photographic journey begins at Plymouth and works its way west to Penzance, pausing at all the main stations plus some interesting, less well known viewpoints along the way. In addition to his own photographs, Roger has included contributions from the likes of Doug Nicholls and Bernard Mills, while Neil Phillips adds some personal insight about Truro.

From the diesel hydraulic era through the diesel electric dominated years post 1977 right up to the current day, the variety of locomotives, HST sets, diesel multiple units, railcars (plus a few preserved steam-hauled railtours) to be found here is quite revealing. The broader range of traffic to be found in Cornwall just a few years ago is also very noticeable. DB

THE ZTR RECORDINGS

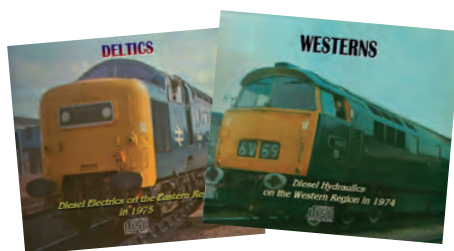
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In 1972, Nigel Fletcher and Rob Woodward of hit-making pop band Lieutenant Pigeon



persuaded Decca Records that they should bring out LP records featuring diesel locomotives to augment the Argo catalogue of steam recordings.

Eventually the company agreed to let them bring out an album of what they termed 'blue boxes' and the result was 'Westerns', ZTR 141, that featured Class 52s recorded at locations including Hemerdon Bank, Leamington Spa, Reading, Taunton and Teignmouth. The recordings neatly encapsulated the glorious sound of the 'Westerns' at a time when diesel hydraulic power was on the decline on the Western Region. At first it didn't look like being much of a seller, but that was to change when Lieutenant Pigeon gave the LP a plug while appearing on the Bay City Rollers' Shang-a-Lang TV programme – and sales took off!

The next obvious choice of traction for the second album was 'Deltics', ZTR 145, that came out in 1975 and featured Class 55s – plus Classes 31, 37, 40, 45 and 47 – at places including Berwick, Burton Coggles, Finsbury Park, Grantham, Peterborough, and York.

The third and final LP to appear was 'Diesels in the Highlands', ZTR 147, released in 1976 and recorded on the Highland Main Line featuring Classes 25, 26, 40, 47 and a Class 120 DMU.

In recent years, original copies of the records have exchanged hands for big money, especially 'Westerns'. While Argo Records are no more, Nigel and Rob recently digitally remastered all the tracks from the original three albums and have produced a limited edition three CD set that is available via the Lieutenant Pigeon website. DB

RAILS THROUGH NORTH KERRY - LIMERICK TO TRALEE AND BRANCHES

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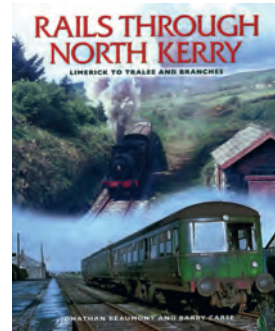
Author: Jonathan Beaumont and Barry Carse

Publisher: Colourpoint

For many years the railways of the Republic of Ireland fascinated enthusiasts, because of the blend of ancient infrastructure and modern motive power. This book illustrates that contradiction. Many of the lines in south west Ireland lost their passenger services by the 1960s but continued to see freight traffic, in

many cases with quite significant volumes. The lines covered in this book are the North Kerry line between Limerick and Tralee and the branches off it to Fenit, Castleisland, Foynes, Castlemungret and Charleville.

This 143 page soft back book contains a wealth of colour photographs (with a handful of B&W images) taken from the 1960s through to the 1980s. Almost all types of CIE DMUs and diesel locomotives are shown with all the images also showing the landscape and railway infrastructure. A small number of the final steam workings are also included. The captions are extensive and contain a wealth of detailed information about how the railway worked at this time. The quality of photographs is excellent with each image being reproduced at just under a half page in size. The book also contains a few track plans and timetable extracts. Highly recommended. SRa



RAILS ACROSS EUROPE : EASTERN AND SOUTHERN EUROPE

Price: £25.00

ISBN 9781473844322

Author: David Cable

Publisher: Pen and Sword Transport

RAILS ACROSS EUROPE : NORTHERN AND WESTERN EUROPE

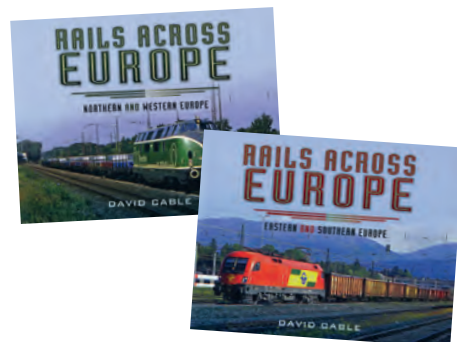
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ISBN 9781473844285

Author: David Cable

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Both of these hard back books follow a similar format with about 240 full page colour photos of locomotives and multiple units covering a wide range of locations and dates within each country (including the UK and Ireland) mainly taken from the 1980s onwards. The photos generally show the full train within its surroundings, with relatively few being just loco portraits. Captions are brief but informative although some photos are undated. MW



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