Preserved steam on the main line

The first 50 years

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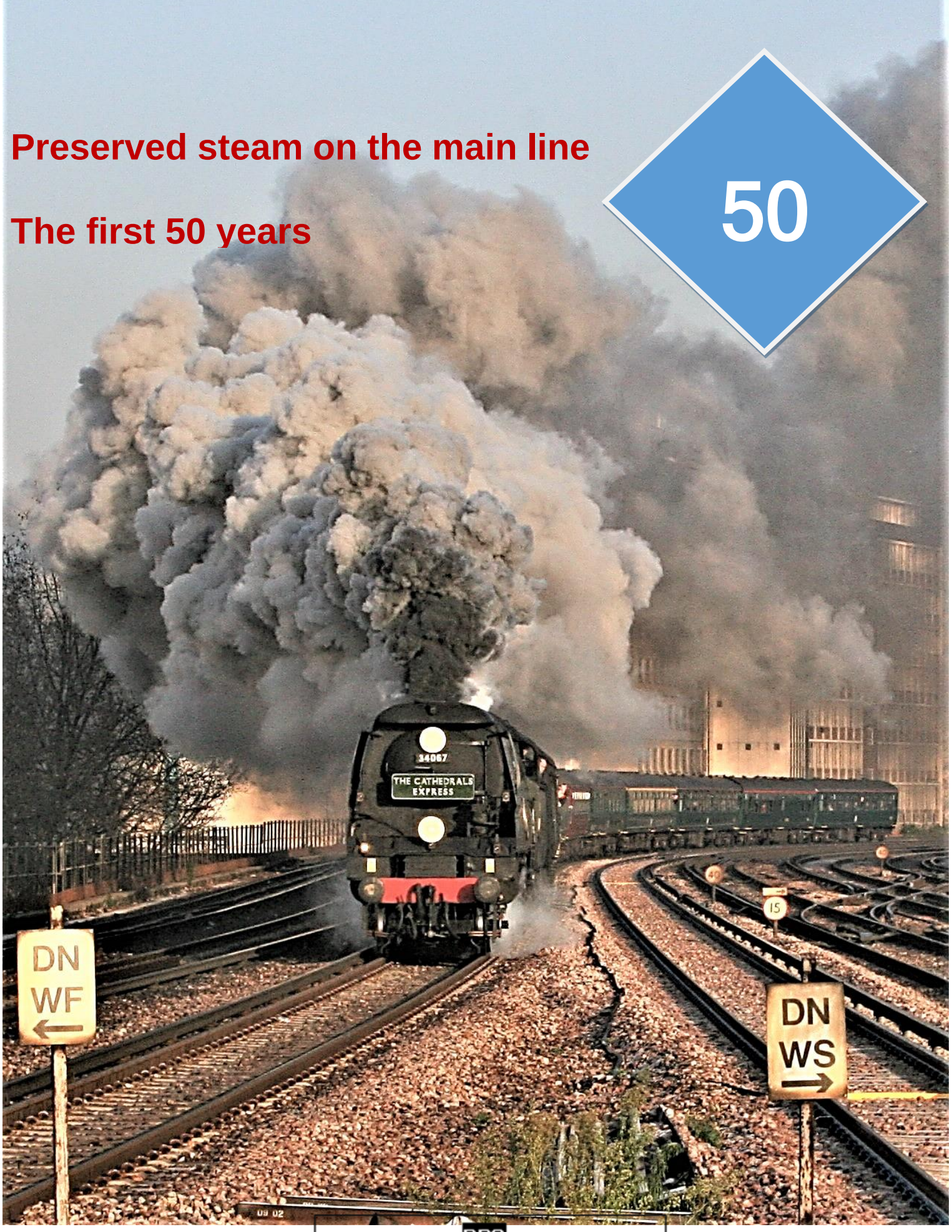

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STEAM ON THE MAIN LINE–FIFTY (MOSTLY) GLORIOUS YEARS: INTRODUCTION

Frank Price

After the running of the 'Fifteen guinea special' on 11 August 1968, the fires were dropped for what many thought would be the last time on main line steam. The British Railways Board had a strongly anti-steam policy, regarding it as old-fashioned and counter to their modernisation agenda and the new corporate image they were seeking to promote, notably the Inter City policy and the corporate blue livery – which even extended to painting the locomotives on the narrow-gauge Vale of Rheidol Railway, the one surviving steam operation on BR. The only exception for standard gauge steam was Flying Scotsman, whose owner Alan Pegler had a pre-existing contract to run a number of specials each year. Apart from this, steam enthusiasts had to content themselves with industrial steam, preserved lines and ventures to the continent where a number of countries, notably West Germany, still operated steam hauled express passenger trains in some numbers in the late 1960s and early 1970s.

So, for three years there was virtually no steam on the main line and preserved locomotives such as Bahamas and King George V had to make do with trundling up and down a few hundred yards of track in preservation centres. Campaigns from a number of quarters for a limited reinstatement of steam met with firm resistance from BR management and it seemed likely that once Flying Scotsman's contract expired in 1971 that really would be the end of steam traction. However, there was quiet activity behind the scenes by individuals and organisations such as the Association of Railway Preservation Societies, seeking to persuade the powers that be to have a change of heart. By the summer of 1971 the BRB had a new and more enlightened chairman, Richard Marsh, who recognised the emotional appeal of steam and the positive publicity that could result from the operation of steam locomotives on the national network. So, it was agreed that a series of proving runs should be operated to test the market and overcome practical difficulties such as the provision of coal and water on a railway from which steam age infrastructure had largely disappeared. The first of these runs took place on 2nd October 1971, when 6000 'King George V' hauled the Bulmer's Pullman train from its then base at Hereford to Tyseley. The run was a great success and paved the way for the gradual return of steam to the main line, firstly on secondary lines and later more widely across the network, from Wick to Penzance and Fishguard Harbour to Norwich. Steam operation was

assisted by the formation in 1975 of the Steam Locomotive Operators Association – SLOA – to coordinate tours and ensure cooperation between locomotive owners, operators, and the British Railways Board. Later on, open access – one of the benefits of privatisation - allowed more routes to be opened up to steam.

There are too many highlights over the past five decades for them all to be listed: here are a few.

150th anniversaries of the Stockton and Darlington Railway (1975) and the Liverpool and Manchester Railway (1980) with cavalcades and associated workings.
Steam on the Settle to Carlisle line. 1978.
Steam out of Paddington. 1979.
The return of a Duchess to the main line. 1980.
Regular timetabled trains on the scenic Fort William - Mallaig line.
Steam on the third rail, with a Bulleid pacific out of Waterloo. 1992.
An A4 departing Kings Cross. 1994.
Time trials over Shap. 1995.
A Jubilee on the Lickey incline. 2006.
A new build A1 on the ECML. 2009.
90 mph behind an A4 down Stoke bank. 2013.
A Castle running non-stop from Bristol to Paddington (2010) and from Plymouth to Bristol (2014) the latter in record time.
A Merchant Navy on the 'Bournemouth Belle'. 2017.

Of course, it has not all been plain sailing: there have been some high-profile failures (Blue Peter going into an uncontrollable slip and severely damaging its motion, Tornado dropping its motion on its first 90mph run – both on the ECML - to name a couple). There was also a SPAD at Wootton Bassett involving Tangmere which potentially had very serious consequences. Particularly in the early years, late running tended to be the norm rather than the exception and line-siders had to endure long waits before a special would finally appear. Running of steam is not without its problems: the difficulty of finding paths for running veteran locomotives capable of a maximum of 75mph on a 125mph railway, the need to provide supplies of coal and water, late running affecting service trains, the provision of suitable crews, summer fire risk, diesel substitutions and assistance. The list goes on. But all that being said it is still remarkable that regular steam running is possible on a modern railway with some been some notable performances, many of which have been recorded in the columns of Milepost.

The articles and reminiscences from members in this Supplement seek to capture some of the many achievements of the past 50 years. It is not intended to be a comprehensive record of steam on the mainline, rather a selection of interesting and memorable events and some examples (mostly good, but some indifferent) of locomotive performance. In compiling this selection, we have been very grateful for these contributions from Society members; we are sorry that for reasons of space we have not been able to include everything sent in, but it is the intention to include some of the rest in future issues of Milepost. We should also remember those who have made it all possible: the locomotive owners and crews who have entered into the spirit of 'playing with trains' on an increasingly busy and congested railway, the support crews who work long hours before and after trips to prepare and dispose of the locomotives, Network Rail and the Train Operating Companies for their support and the financial backers, large and small, who help to keep steam alive.

And finally, for a bit of historical context, 1971 was the year of:
The introduction of decimal currency
The ending of free school milk by the Education Secretary, a certain Margaret Thatcher
Parliament voting for Britain to join the European Economic Community, the forerunner of the European Union

Geoffrey Boycott received the first ball in a one-day international cricket match
In popular culture, Michael Caine starred in Get Carter
The Who released arguably their best album, Who's Next
The Old Grey Whistle Test first aired on BBC TV

Preserved Steam on the Main Line, post 1971.

Bevan Price

My own main line steam "revival" did not occur until May 1973, when Wirral Railway Circle ran a tour originating from Crewe. After a Class 47 run to Oxford, David Shepherd's BR Standard Class 9F 2-10-0, no. 92203 took over for a run to Worcester and Hereford. Afflicted by checks and mediocre running – not worth including the log here, it took 121m 03s to Worcester Shrub Hill.

The continuation from Worcester to Hereford was a bit better and is included as Log No.1.
The 9F was replaced at Hereford by King Class no. 6000 to continue to Newport (Log no. 2). By 1983, the North and West ("Welsh Marches") line was one of the routes then permitted to be used by steam hauled tours. On 19 February 1983, I travelled on a SLOA tour hauled by the unusual combination of a BR Standard 4MT 2-6-4T (80079) and an Ivatt 4MT 2-6-0 (43106) between Shrewsbury and Hereford, with gave a quite creditable performance (Log No. 3). The continuation to Newport was worked by a GWR Hall Class 4-6-0 (Log No. 4), which was best described as "all right, but nothing special". However, a week later the RPS Archives show that Brian Basterfield was fortunate to be on an extraordinary run from Hereford to Newport by 80079 + 43106, which took a very liberal attitude towards the then 60 mph limit for steam locos. Passing Llanvihangel summit at a very creditable 43mph, the pair sped through Abergavenny at 76mph. The Hereford to Newport time of 54m. 09s was over five minutes faster than any recorded time (pre- or post- preservation) by steam over this section. His return run from Newport to Hereford also exceeded 70mph at two locations. The pair also hold the preservation-era record time between Abergavenny and Hereford. Contemporary reports indicate that 43106 subsequently "retired hurt" to its base on the Severn Valley Railway.

Worcester Shrub Hill to Hereford						
Log No.	1					
Date	19 May 1973					
	WRC Railtour					
Loco	92203					
Details	BR Standard					
	9F 2-10-0					
Load	13/450/485					
Recorder	B. Price, ?/14					
Miles	m	c	Location	m	s	mph
0.00	120	42	WORCESTER S.H.	0	00	10L
0.64	121	13	WORCESTER F.St.	3	15	34
1.29	121	65	HENWICK	4	20	41
2.06	122	47	Bromyard Road	5	25	42
2.85	123	30	RUSHWICK HALT	6	20	44

Miles	m	c	Location	m	s	mph
4.10	124	50	BRANSFORD ROAD	7	57	49
5.75	126	22	NEWLAND HALT	10	30	38
7.44	127	77	MALVERN LINK	13	17	36/40
8.58	129	08	GREAT MALVERN	14	55	37
9.63	130	12	MALVERN WELLS	16	38	33
11.39	131	73	COLWALL	21	02	19*/40
14.66	135	15	Ledbury Tunnel (E)			20*
15.59	136	09	LEDBURY	29	10	30
20.29	140	65	ASHPERTON	34	37	43/49
21.75	142	22	STOKE EDITH	37	49	44
24.98	145	40	WITHINGTON	42	12	46
27.63	148	12	Shelwick Jn	46	42	25*
27.63	49	27				
29.35	51	05	HEREFORD	51	32	16L

My own best run between Newport and Hereford was by the preserved King Arthur Class 4-6-0, no. 30777, shown as Log no. 5. For a loco rated at Class 5P, the performance was quite good, but the time from Newport to Abergavenny was three minutes slower than Mr. Basterfield recorded with a "King" in 1983.

None of my own preservation era runs north from Hereford to Shrewsbury are worth including here. Several were afflicted by poor quality coal, whilst a run by Princess Royal class no. 46201

was hindered by concern about clearance under some overbridges, and very low speed limits were applied at those locations.

Hereford to Newport										
Log No.				2			4			
Date				19 May 1973			19 Feb. 1983			
				WRC Railtour			SLOA Railtour			
Loco				6000			4930			
Details				GWR 'King Class			GWR Hall Class			
				8P 4-6-0			5MT 4-6-0			
Load				13/459/495			11/417/450			
Recorder				B. Price, ?/14			B. Price, ?/12			
Miles	m	c	Location	m	s	mph	m	s	mph	
0.00	51	08	HEREFORD	0	00		0	00		
1.10	52	16	Rotherwas Jcn			-/41			-/35	
3.35	2	20	Red Hill Jcn	6	40	33	7	30	25/20	
6.56	5	37	Tram Inn	12	10	45	14	20	38	
8.96	7	69	St. Devereux	15	00	52	17	17	52/63	
12.41	11	25	Pontrilas	18	54	54	21	21	27*/41	
17.48	16	30	Pandy	24	44	41	28	30	37	
19.85	18	60	Llanvihangel	28	55	25/55	33	09	30	
22.85	21	60	Abergavenny Jn.	32	40	49*	36	38	60	
23.85	22	60	ABERGAVENNY (MON. RD.)	33	45	44	38	00	55/63	
26.60	25	40	Penpergwm	36	53	57	40	53	50	
29.20	28	08	Nantyderry	39	58	40	44	39	33	
31.76	30	53	Little Mill Jcn	43	12	55	48	17	49/52	
33.35	32	20	PONTYPOOL ROAD	46	00	15*	50	32	25*/46/25	
36.05	34	76	Lower Pontnewydd	50	25	56	54	40	41	
37.35	36	20	Llantarnam Jcn	51	52	55	56	12	55	
39.10	38	00	Ponthir	53	40	48*	57	57	49	
40.60	39	40	Caerleon	55	35	33*	59	43	38	
42.91	41	65	Maindee W. Jcn	60	35	15*				
43.35	158	50	NEWPORT	62	41		65	02		

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Shrewsbury to Hereford							Miles	m	c	Location	m	s	mph
Log No.				3			11.66	11	57	All Stretton	18	40	38
Date				19 Feb. 1983			12.70	12	60	CHURCH STRETTON	20	15	44
				SLOA Railtour			15.33	15	30	Marsh Brook	23	14	55
Loco 1				80079			16.70	16	60	Marsh Farm Jcn	24	27	60
Details				BR Standard			19.86	19	73	CRAVEN ARMS	29	57	
				4MT 2-6-4T							0	00	-/tsr25
Loco 2				43106			22.81	22	69	Onibury	5	25	35
Details				LMSR Ivatt			25.21	25	21	Bromfield	8	22	50
				4MT 2-6-0			27.45	27	40	LUDLOW	10	47	51
Load				11/417/450			32.10	32	12	Woofferton Jcn	15	30	60
Recorder				B. Price, ?/13			35.19	35	19	Berrington	19	00	55
Miles	m	c	Location	m	s	mph	38.41	38	37	LEOMINSTER	22	35	57
0.00	0	04	SHREWSBURY	0	00		40.79	40	67	Ford Bridge	25	00	60/57
0.76	0	65	Sutton Bridge Jcn	2	10	32	43.44	43	39	Dinmore	27	42	60
4.30	4	28	Condover	8	02	38	46.78	46	66	Moreton-on-Lugg	30	46	66
6.40	6	36	Dorrington	10	50	48	49.28	49	26	Shelwick Jcn	33	27	46
9.28	9	26	Leebotwood	14	45	35	51.05	51	08	HEREFORD	36	31	

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The next item is somewhat of a novelty. In connection with the celebrations for the 150th anniversaries of the Stockton & Darlington Railway in 1975, and the Liverpool & Manchester Railway in 1980, a number of historic locomotives preserved by the National Railway Museum (NRM) were restored to working order. One of these was “Hardwicke”, LNWR No. 790, a

Precedent Class 2-4-0 built in 1892 – although nominally described as a "renewal" of an 1873 locomotive, it seems unlikely that it contained much, if anything, from the earlier loco. In 1976, British Rail ran a few short public trips between Carnforth and Grange Over Sands, using "Hardwicke" and 4 Mark 1 coaches. Given its age, the loco was treated gently, and speeds did

Newport to Hereford							Carnforth-Grange over Sands						
Log No.				5							6		
Date				9 April 1983							23 May 1976		
				SLOA Railtour							B.R. Special		
Loco				30777							LNWR 790		
Details				SR King Arthur							"Hardwicke"		
				5P 4-6-0							2=4=0		
Load				11/413/448							4/135/143		
Recorder				B. Price, ?/12							B. Price, ?/5		
Miles	m	c	Location	m	s	mph	Miles	m	c	Location	m	s	mph
0.00	158	50	NEWPORT	0	00		0.00	0	31	CARNFORTH	0	00	
0.44	41	65	Maindee WJ				3.34	3	58	SILVERDALE	6	45	40/44
2.75	39	40	Caerleon	7	18	33	5.86	6	20	ARNSIDE	10	10	41
4.25	38	00	Ponthir	9	24	40	9.14	9	42	GRANGE OVER SANDS	16	01	
6.00	36	20	Llantarnam J	12	05	38							
7.30	34	76	Lower Pontnewydd	14	31	34							
10.00	32	20	PONTYPOOL ROAD	19	59	30/sig25							
11.59	30	53	Little Mill Jcn	22	48	41							
14.15	28	08	Nantyderry	26	08	50							
16.75	25	40	Penpergwm	29	08	46*							
19.50	22	60	ABERGAVENNY	34	06								
				0	00								
20.50	21	60	Abergavenny J	4	31	21/24							
23.50	18	60	Llanvihangel	11	46	30							
25.88	16	30	Pandy	14	58	50							
30.94	11	25	Pontrilas	21	46	19*							
34.39	7	69	St. Devereux	26	52	52							
36.79	5	37	Tram Inn	29	19	57							
40.00	2	20	Red Hill J	32	56	57							
42.25	52	16	Rotherwas J										
43.35	51	08	HEREFORD	38	06								

not exceed the mid-forties (Log no. 6). The return to Carnforth (not shown) involved tender-first running with speeds not exceeding the mid-thirties.

One of the other historic locos restored was the preserved Midland Compound 4-4-0, withdrawn as BR No. 41000, but running in Midland livery as no. 1000. The loco was designed by Deeley, but is preserved in the condition as rebuilt by Fowler, and is fairly similar to the many "Compounds" built later by the LMSR. In my two runs with this loco (featured later), it was paired with larger locos with some heavy loads.

Carnforth and Hellifield.

For several years, it was the practice to operate tours with the steam-hauled section originating at Carnforth, running to Hellifield, where the train reversed and changed locos before proceeding over the S&C to Carlisle. Some other tours continued south of Hellifield, to Leeds or beyond. Whilst most published logs cover the Settle & Carlisle section, there has been less coverage of the Carnforth to Hellifield section. Whilst this has never been classed as a "high speed" main line, it creates problems for heavily loaded steam trains.

Immediately after departing from the Barrow line platform at Carnforth, there is a sharp curve, soon followed by a bridge above the West Coast Main Line. Then there is five-mile climb to a summit east of Borwick. Gradients change frequently, but there are sections as steep at 1 in

94/100. The line then falls for about two miles through Arkholme, much at 1 in 102/104, before rising for over one mile, much at 1 in 105, followed by 1 in 245 through Melling Tunnel. The line then eases through Wennington Junction (where it used to meet the closed line from Lancaster Green Ayre)

Carnforth to Hellifield													
Log. No.				7			8			9			
Date				19 June 1976			.27 March 1982			5 Feb. 1988			
				LCGB Railtour			SLOA Railtour			SLOA Railtour			
Loco 1				LNWR 790			53809			62005			
Details				Precedent Class			S&DJR Fowler			LNER Class K1			
				2-4-0			7F 2-8-0			5MT 2-6-0			
Loco 2				92220						45407			
Details				BR Standard						LMSR Stanier Black 5			
				9F 2-10-0						5MT 4-6-0			
Load				13/438/480			10/360/390			14/525/570			
Recorder				B. Price, ?/15			B. Price, ?/11			B. Price. ?/16			
Miles	m	c	Location	m	s	mph	m	s	mph	m	s	mph	
0.00	0	31	CARNFORTH	0	00		0	00		0	00		
0.39	0	38	Carnforth Station J			psr10			psr10			psr10	
0.39	0	10	c.o.m.						-/35			-/41	
3.55	3	13	BORWICK	9	29	25	8	58	24	7	34	36	
4.86	4	38		12	38	30	11	50	27/25	9	30	39	
7.38	6	79	ARKHOLME	16	29	46/tsr5	16	07	44	12	35	49	
8.45	8	05	MELLING	19	43	23	17	30	49	13	55	49	
10.01	9	50	WENNINGTON	23	25	32	21	08		18	12		
10.01	249	38					0	00		0	00		
12.11	247	30	Low Bentham	27	45	30	6	55	25	5	30	33	
13.21	246	22	BENTHAM	29	50	33/tsr10	9	34	.27/35/22	7	11	35/40	
17.46	242	02	CLAPHAM (Yorks)	39	28	30/41/35	19	35	25/38/25	13	33	27*	
23.15	236	27	GIGGLESWICK	48	25	49	29	45	39	20	42	51	
24.96	234	42	Settle Jn	50	50	32	33	08	psr25	23	37	psr 19	
26.96	232	42	LONG PRESTON	54	56		36	51	33			ss 8.5m	
				0	00								
28.21	231	22	HELLIFIELD	4	30		39	45		40	17		

After Wennington, there is an almost continuous climb of 12 miles to a summit east of Clapham (Yorkshire) – formerly the junction for the branch to Ingleton & Low Gill. Gradients are again rather variable, but with some approximately mile-long sections at 1 in 179/100/126/150. After the summit, the line falls for about three miles, much at 1 in 100, through Giggleswick to Settle Junction, where it joins the Settle & Carlisle Line.

The current overall line speed maximum is 60 mph. There are lower speed limits of 10 mph (curve leaving Carnforth); 40 mph (Melling Tunnel); 45 mph (Wennington area); 35 mph (curve through Clapham station); 30 mph (Giggleswick) and 15 mph (Settle Junction). In the 1977 Sectional Appendix, 40 mph was permitted through Settle Junction, and there was no local limit through Melling Tunnel.

I have only included eastbound runs over this section (Log. nos. 7-9). Westbound, after passing the summit before Clapham, performance relates mainly how well trains were restrained to avoid exceeding line speed limits. Log no.7 features the strange combination of “Hardwicke” and “Evening Star”, the elderly LNWR 2-4-0 no. 790, with the last steam loco built by BR, Class 9F 2-10-0 no. 92220. With so many changes of gradient, I have made no effort to estimate power outputs, but I imagine that “Evening Star” was doing most of the work. Log. no. 8 features a Somerset & Dorset Joint Railway (SDJR) Class 7F 2-8-0. Designed and built by the Midland Railway (MR), but only normally used on the SDJR, this gave a quite competent performance. Indeed, these locos might have been ideal locos for much MR freight, but policy

of uncooperative civil engineers ensured that the wasteful practice of using pairs of small 0-6-0s persisted until Stanier built his Class 8F 2-8-0s.

Finally, over this section, we have the unusual combination of a LNER Class K1 2-6-0 with a LMSR Stanier Black 5 4-6-0. With added support coach, the train was a massive 14 coach formation, and I would regard log no. 9 as a quite good performance.

From Hellifield to Leeds is mostly downhill, so I have only included log no. 7 to show the unique combination of "Hardwicke" and "Evening Star". In contrast to the caution shown earlier by "Hardwicke" between Carnforth & Grange Over Sands, the pair galloped merrily downhill, reaching the mid to high sixties at two separate locations.

Hellifield to Leeds							Miles	m	c	Location	m	s	mph
Log. No.				7			13.01	218	21	CONONLEY	19	31	59
Date				19 June 1976			14.63	216	52	KILDWICK	21	09	62
				LCGB Railtour			16.21	215	05	STEETON	22	35	66/68
Loco 1				LNWR 790			19.20	212	06	KEIGHLEY	25	25	55*
Details				Precedent Class			22.43	208	68	BINGLEY	28	35	63/65
				2-4-0			24.65	206	50	SALTAIRE	30	45	30
Loco 2				92220			25.01	206	21	Shipley, Bingley J	32	39	Sig stop
Details				BR Standard			25.01	206	21	Shipley, Bingley J	33	40	
				9F 2-10-0			28.51	202	61	APPERLEY	39	01	49
Load				13/438/480			29.28	202	00	Apperley Jn	40	10	tsr 41
Recorder				B. Price, ?/15			30.35	200	74	CALVERLEY	41	23	59
Miles	m	c	Location	m	s	mph	31.49	199	63	NEWLAY	42	39	57
0.00	231	22	HELLIFIELD	0	00	/52	33.05	198	18	KIRKSTALL	44	23	51
3.44	227	67	BELL BUSK	6	11	30/tsr15	34.53	196	60	ARMLEY (CANAL ROAD)	46	29	33*
6.30	224	78	GARGRAVE	10	53	50/54	35.58	195	56	Whitehall J	48	35	15*
9.98	221	24	SKIPTON	15	30	34*	35.58	185	25				
							36.14	185	70	LEEDS	52	03	

Leeds, Hellifield and Carlisle.

Returning north from Leeds to Hellifield, and onwards to Carlisle, the line starts with many miles of adverse gradients. Whilst there are frequent changes of gradient, and a few short level sections, gradients typically vary between 1 in 210 and 1 in 330 as far as Keighley. There follows almost two miles downhill, followed by several miles of gentle gradients almost to Skipton. Then, there are approximately eight miles climb to a summit before Hellifield, much at 1 in 130/162/150, followed by five miles downhill to Settle Junction, much at 1 in 215/184. Here, the hard work really starts – 15 miles uphill to Blea Moor Summit, mostly at 1 in 100, with a few brief respites, and other short sections, some as steep as 1 in 84 (according to the charts in the Midland Railway's Distance Diagrams) Next comes about seven miles with gentler grades and a downhill trend near Garsdale, followed by a two mile climb at 1 in 166/328 to Ais Gill Summit. Onwards to Carlisle is easier; 15 miles downhill to just north of Ormside, about two miles uphill to near Appleby (at 1 in 183). North of Appleby, the overall trend is downhill, but the line undulates, with mini-summits near Langwathby, and on either side of Armathwaite. Gradients are very variable, the steepest gradients being about two miles at 1 in 121 near Appleby, and seven miles at 1 in 129/134 from Cotehill to Petteril Bridge Junction (on the approaches to Carlisle).

Log Nos. 10-12 feature the Leeds to Hellifield section. Log 10 was with another unusual combination – the preserved Midland Compound piloting a LNER class V2 2-6-2 ("Green Arrow"). Whilst I will leave the detailed calculations to those more expert than me, I estimate an edhp of just over 1,200 edhp near Calverley. Log 11 was with V2 "Green Arrow" alone. Unfortunately, it eased before reaching Apperley, so no simple power comparison is possible

with the previous run. Log 12 was with another unusual combination; both rated as class 5MT 4-6-0s: these were a LMSR Stanier Black 5 piloting a LNER Thompson Class B1, with a 13-coach load. I estimate roughly 1,200 edhp nearly Calverley, which is a lot less than might be expected from this combination of locos.

Leeds to Hellifield													
Log. No.				10			11			12		
Date				3 May 1980			16 June 1974			19 June 1976		
				SLOA Railtour			LCGB Railtour			LCGB Railtour		
Loco 1				41000			60800			45407		
Details				MR 1000 Compound			LNER Cl. V2			LMSR Stanier Black 5		
				4P 4-4-0			7MT 2-6-2			5MT 4-6-0		
Loco 2				60800						61306		
Details				LNER Cl. V2						LNER Cl. B1		
				7MT 2-6-2						5MT 4-6-0		
Load				11/390/420/665			10/331/360/505			13/438/475/720		
Recorder				B. Price, ?/13			B. Price, ?/11			B. Price, ?/15		
Miles	m	c	Location	m	s	mph	m	s	mph	m	s	mph
0.00	185	70	LEEDS	0	00		0	00		0	00	
0.56	185	25	Whitehall J	2	59	22	3	37	16	3	10	15
0.56	195	56	c.o.m.									
1.61	196	60	ARMLEY (CANAL ROAD)	5	14	33	6	55	27	6	00	27
3.09	198	18	KIRKSTALL	7	13	51	9	03	49	8	17	45
4.65	199	63	NEWLAY	9	17	45	10	50	56	10	22	40
5.79	200	74	CALVERLEY	10	47	45	12	09	55	12	03	40
6.86	202	00	Apperley J	12	09	46						
7.14	202	61	APPERLEY	13	10	46	14	17	51	14	53	37
11.13	206	21	Shipley, Bingley J	18	10	26*	19	48	16*	20	20	20*
11.49	206	50	SALTAIRE	19	34	35	21	15	40	21	40	36
13.71	208	68	BINGLEY	22	32	45	24	03	56	24	45	47
14.46	209	48	CROSSFLATTS			58 Max						
16.94	212	06	KEIGHLEY	26	04	44/50	27	40	53	29	12	40
19.93	215	05	STEETON	29	30	42*	30	41	65	32	45	57
21.51	216	69	KILDWICK	31	46	52	32	12	63	34	38	57
23.13	218	21	CONONLEY	33	17	56	33	40	70	36	04	58
26.16	221	24	SKIPTON	37	02	33*/49	36	45	41*	39	28	33*
29.84	224	78	GARGRAVE	41	50	46	41	13	52/49	44	01	49
32.70	227	67	BELL BUSK	45	48	tsr 35	44	35	52	48	03	tsr 25 sigs 15
36.14	231	22	HELLIFIELD	51	29		49	25		55	44	
£:- Log No. : Time is at Kildwick LC at 216m 52c												

None of Logs 10-12 continued onto the Settle & Carlisle line, so I offer Log Nos. 13-16. Log 13 was a combination that might have been common in LMSR days – a Midland Compound 4-4-0 piloting a Stanier Jubilee 4-6-0, but I doubt that it was common to have a 14-coach load. This pair were running only as far as Appleby. I estimate an output of just over 1,600 edhp between Settle and Horton In Ribblesdale, not bad for a pair of vintage locomotives – although a single Jubilee in good condition could possibly have matched that performance in times past.

Log 14 features an equally odd combination – a Southern Railway Maunsell “King Arthur” N15 class 4-6-0, piloting a Stanier Black 5. with 11 coaches. I estimate an output of just over 1,250 edhp between Settle and Horton In Ribblesdale – a lot less than might be expected.

Logs 15 & 16 featured sections starting at Blackburn, but I have omitted the details between there and Hellifield. 45407 (Log 15) was badly checked before Hellifield, and because it was late running, it decided to omit the water stop at Garsdale – thus becoming the rarity of running between Blackburn and Carlisle with no passenger (or water) stops. If my calculation is correct, the power output between Settle & Horton In Ribblesdale is just under 1,200 edhp.

Hellifield to Carlisle																			
Log. No.				13			14			15			16		
Date				5 Feb. 1983 SLOA Railtour			27 March 1982 SLOA Railtour			21 Oct. 2000 Railtour			7 Sept. 2002 Railtour		
Loco 1 Details				41000 MR 1000 Compound 4P 4-4-0			30777 SR King Arthur 5P 4-6-0			45407 LMSR Stanier Black 5 5MT 4-6-0			46201 LMSR Princess Royal 8P 4-6-2		
Loco 2 Details				45690 LMSR Jubilee 6P 4-6-0			45407 LMSR Stanier Black 5 5MT 4-6-0								
Load				14/525/565/795			11/395/425/680			11/399/435/559			12/415/450/610		
Recorder				B. Price, ?/16			B. Price, ?/13			B. Price, 8/12			B. Price, 13/13		
Miles	m	c	Location	m	s	mph	m	s	mph	m	s	mph	m	s	mph
			BLACKBURN							0	00		0	00	
0.00	231	22	HELLIFIELD	0	00		0	00		71	52	15	49	27	23
1.25	232	42	LONG PRESTON	3	17	41	3	15	40	74	23	49	51	13	54/58
3.25	234	42	Settle Jn	5	40	55	5	54	52	76	34	61	65	43	28
5.21	236	39	SETTLE	8	09	40	8	41	38	78	49	46	69	08	39
9.23	240	40	Helwith Bridge	15	33	31	17	30	25/27	85	52	27/36	74	38	47/49
11.26	242	43	HORTON IN RIBB'	19	08	30	21	05	33	89	31	34	77	13	46
13.53	244	64	Selside	23	40	26/30	25	49	tsr 24	93	41	31	80	16	42
15.98	247	20	RIBBLEHEAD	28	45	27	32	26	25/tsr20	98	53	27/22*	84	05	27/17*
17.21	248	39	Blea Moor Box	31	13	27/50	35	44	24	102	04	22/44	87	25	26/50
22.13	253	32	DENT	38	30	42	44	52		110	28	tsr27	94	36	tsr 29
							0	00							
25.40	256	54	GARSDALE	42	21	55	7	26		115	06	54	100	30	
							0	00					0	00	
28.48	259	60	Ais Gill	45	45	49/63	7	54	33	118	37	50/60	5	40	50/62
32.09	263	29	Mallerstang	49	20	56/63	12	41	55	122	25	56/59	9	21	60/56/61
35.31	266	47	KIRKBY STEPHEN W	52	30	55/63	16	08	56/57	126	08	tsr 30	12	38	56/59/tsr28
38.50	269	62	CROSBY GARRETT	55	35	55/53	19	27	55	130	20	54	17	47	42
40.64	271	73	Griseburn	57	50	55	21	48	52/tsr45	132	33	58/61	20	21	55
43.56	274	67	ORMSIDE	60	45	56/sigs	24	57	55	135	43	51/tsr27/sigs18	23	20	64/59
46.00	277	22	APPLEBY WEST	65	57		29	35		140	35	32/55	25	43	61/62
							0	00							
48.93	280	16	LONG MARTON				5	22	50/tsr30	144	26	37/tsr28/46	28	35	48/tsr28
52.05	283	26	NEWBIGGIN				11	06	41	149	48	tsr 39	33	35	57/62
53.41	284	55	CULGAITH				12	40	57	151	39	54/57	34	58	60
57.00	288	22	LANGWATHBY				16	30	52	155	36	48	38	37	59
58.43	289	56	LITTLE SALKELD				18	08	55	157	40	tsr 30	39	59	62/63
59.53	290	64	Long Meg Sidings				19	20	55	159	25	48	42	55	58/61
61.33	292	48	LAZONBY				21	29	52/33*	161	38	51/48/56			
66.84	298	09	ARMATHWAITE				29	20	41	167	52	50*/56	48	26	56/58
68.41	299	55	Low House Crossing				31	29	38	169	40	49*	50	05	54/53
69.81	301	07	Cotehill				33	50	tsr 25/20	171	30	55	51	42	63
71.69	302	77	Howe & Co's. Sidings				38	00	41	173	19	58	53	27	56
72.88	304	12	CUMWHINTON				39	30	46	174	32	56	54	44	56
74.11	305	31	SCOTBY (M.R.)				41	07	52	175	52	50	56	01	59
75.88	307	12	Petteril Bridge J				45	00	22	179	02	20	58	41	22
76.78			CARLISLE				48	07		182	12		61	40	

Finally in this direction, is probably my best northbound climb on the Settle & Carlisle line, with a LMSR “Princess Royal” 4-6-2 (Log 16), and I estimate a power output of just under 2,100 edhp between Settle & Horton In Ribblesdale.

Carlisle - Hellifield																	
Log. No.				17			18			19			20		
Date				13 Jan. 1981			8 March 1980			2 May 1983			31 March 1984		
				SLOA Railtour			SLOA Railtour			SLOA Railtour			SLOA Railtour		
Loco				30850			45305			34092			60009		
Details				SR Cl. Lord Nelson			LMSR Stanier Black 5			SR Cl. WC/BB			LNER Class A4		
				7P 4-6-0			5MT 4-6-0			7P 4-6-2			8P 4-6-2		
Load				13/467/507/642			10/335/365/489			11/411/446/620			13/457/497/660		
Recorder				B. Price, ?/14			B. Price, ?/11			B. Price, ?/12			B. Price, ?/14		
Miles	m	c	Location	m	s	mph	m	s	mph	m	s	mph	m	s	mph
0.00			CARLISLE	0	00		0	00		0	00		0	00	
0.90	307	12	Petteril Bridge J	4	06	25	4	05	25	4	30	22	4	05	25
2.66	305	31	SCOTBY (M.R.)	8	02	31	8	04	30	9	25	25/30	8	10	30
3.90	304	12	CUMWHINTON	10	20	33	10	43	30	12	12	27	10	40	32
5.09	302	77	Howe & Co's. Sidings	12	12	37/40	12	54	33	14	13	33	12	28	40
6.96	301	07	Cotehill	14	55	34	16	20	32	17	11	36/33	15	05	41
8.36	299	55	Low House Crossing	17	15	34/44	18	49	32	19	32	42	16	59	46
9.94	298	09	ARMATHWAITE	19	06	50	20	42	49	21	21	51	18	40	55
15.45	292	48	LAZONBY	25	10	60	26	32	63	27	07	61	24	12	63/61
17.25	290	64	Long Meg Sidings	27	00	58	28	12	66	28	59	58	25	55	64
18.35	289	56	LITTLE SALKELD	28	08	60	29	14	64	30	07	59	27	01	60
19.78	288	22	LANGWATHBY	29	44	51	30	37	57/62	31	43	50	28	34	53
23.36	284	55	CULGAITH	33	37	57	35	23	tsr 25	35	27	59	32	38	53
24.73	283	26	NEWBIGGIN	35	10	52/tsr27	37	53	35/tsr25	36	55	55/tsr 22	34	10	52/tsr20
27.85	280	16	LONG MARTON	40	39	35	43	19	40	41	41	33	38	50	40/sigs
													ss 42:45 - 42:59		
30.78	277	22	APPLEBY WEST	47	25		48	55		47	45		45	17	
				0	00		0	00		0	00		0	00	
33.21	274	67	ORMSIDE	4	53	46	5	12	44	4	44	51	4	28	52
36.14	271	73	Griseburn	9	29	30	10	15	30	8	46	35	8	14	41
38.28	269	62	CROSBY GARRETT	13	25	33/tsr16	13	53	37/43	11	59	44/45	11	05	47/52
41.46	266	47	KIRKBY STEPHEN W	23	47		18	32	36	16	33	33	15	02	42
				0	00										
44.69	263	29	Mallerstang	8	14	33/35	24	07	32/38	22	53	28/35	19	55	38
48.30	259	60	Ais Gill	15	09	27	30	09	33	28	52	33	24	55	41
51.38	256	54	GARSDALE	21	26		34	54		34	33		30	04	
				0	09		0	00		0	00		0	00	
54.65	253	32	DENT	6	51	41/52	6	17	45/57	6	44	44/55	6	00	50/60
59.56	248	39	Blea Moor Box	12	48	41	11	27	48	12	20	tsr 30	11	19	49
60.80	247	20	RIBBLEHEAD	15	43		13	44		15	04		13	26	33*
				0	00		0	00		0	00	-/tsr20			
63.25	244	64	Selside	4	35	53/52	3	45		5	59	27/57	18	20	tsr 20
65.51	242	43	HORTON IN RIBB'	7	13	54	5	54		8	39	55/57	21	29	52
67.55	240	40	Helwith Bridge			50*				11	19	tsr 30	23	38	58
71.56	236	39	SETTLE	14	55	44*	12	15	55*	18	10		27	32	62
										0	00				
												ss 5:25 - 9:33			sigs 15/20
73.53	234	42	Settle Jn	17	38	49	14	30	49*	11	37	sigs15	32	10	20
														ss 35:45 - 36:20	
75.53	232	42	LONG PRESTON	20	12	sigs 35	17	08	41	17	54	sigs15/25	40	20	sigs 20
76.78	231	22	HELLIFIELD	25	22		20	12		21	57		45	07	

Next, we return south from Carlisle to Hellifield. The logs feature a Southern Railway Maunsell LN “Lord Nelson” class 4-6-0 (Log 17), a LMSR Stanier Black 5 4-6-0 (Log 18), an un-rebuilt Bulleid SR Light Pacific (Log 19) and a Gresley LNER Class A4 4-6-2 (Log 20).

Estimated average power outputs between Scotby and Cotehill are, respectively, about 1,200, 850, 1,275 and 1,475 edhp. Between Crosby Garrett and Mallerstang (excluding the Lord

Nelson, which was checked), the estimated average power outputs were about 925 (Black 5),1075 (Light Pacific), and 1,525 (A4) edhp.

The “Lord Nelson” suffered steaming problems on the approach to Kirkby Stephen, probably due to poor quality coal, and made an unscheduled stop there for several minutes. Although none of the southbound performances were outstanding, it has to be remembered that it was over ten years since steam had operated regularly over the Settle & Carlisle route, so there was inevitably some crew unfamiliarity with the route, and in addition, it was becoming harder to ensure consistent supplies of good quality coal.

Scarborough to Hull

My final offering features a Stanier Black 5 4-6-0 running along the Yorkshire coast line from Scarborough to Hull. The line branches off the Scarborough to York line at Seamer Junction, and falls for over a mile at 1 in 255/328. For the next five miles to Filey is mostly uphill, but with some mostly short downhill stretches. Initially climbing at 1 in 412, then downhill, much at 1 in 322, then one mile uphill at 1 in 200 just before Filey. Then the hard work starts. Just south of Filey, with only brief downhill respites, there starts an eight-mile climb, much at 1 in 106/112, but with an easier mile at 1 in 344 through Speeton. Then - relief for the loco – five miles downhill, mostly at 1 in 92. South of Bridlington is a complete contrast – not exactly level, but mostly with fairly gentle gradients all the way to Hull. The most difficult adverse gradients for southbound trains are about 2.5 miles at 1 in 725 through Nafferton, and about one mile at 1 in 505 approaching Beverley.

Scarborough to Hull							Miles	m	c	Location	m	s	mph
Log. No.				21			16.36	37	34	SPEETON	34	47	33/55
Date				2 April 1983			19.25	34	43	BEMPTON	38	48	41
				SLOA Railtour			20.40	33	31	FLAMBOROUGH	40	07	57
Loco				45000			22.89	30	72	BRIDLINGTON	44	45	
Details				LMSR Stanier Black 5			22.89	30	72		0	00	
				5MT 4-6-0			25.14	28	52	CARNABY	4	36	46
Load				10/378/408			28.23	25	45	BURTON AGNES	8	40	49
Recorder				B. Price			29.99	23	64	LOWTHORPE	10	42	55/38*
Miles	m	c	Location	m	s	mph	32.21	21	46	NAFFERTON	13	54	40
0.00	42	06	SCARBOROUGH	0	00	/40	34.31	19	38	DRIFFIELD	17	01	33*
2.90	39	14	SEAMER	7	00	15*	37.51	16	22	H. CRANSWICK	20	56	57
3.25	38	66	Seamer J				40.86	12	74	LOCKINGTON	24	08	65
3.25	50	43	Seamer J				42.59	11	16	ARRAM	26	01	47*
5.58	48	17	CAYTON	12	27	30	45.54	8	20	BEVERLEY	29	40	49
7.28	46	41	GRISTHORPE	15	30	38/30	49.83	3	77	COTTINGHAM	34	21	57
9.41	44	30	FILEY	19	55	38	52.89	0	72	West Parade NJ	38	10	30
10.91	42	70	Royal Oak NJ	22	22	15*	53.29	0	40	West Parade J	38	55	27*
12.15	41	51	HUNMANBY	26	58	sigs13/41/30	53.79	0	00	HULL	41	18	

Log No. 21 shows a competent performance by No. 45000. A signal soon after Filey was unhelpful, but speed reached 41 mph on the short downhill stretch after Hunmanby, before falling to a minimum of 30mph on the steepest section at 1 in 112. There was then a slight increase to 33 mph on the easier 1 in 342 to Speeton. Over the summit, it was largely a matter of remaining within the speed limits downhill to Bridlington. Little comment is required for the continuation to Hull.

There are numerous other tours that I could have included, but few examples of outstanding locomotive performance. In the summer of 1980, there were a series of Sunday round trips between Liverpool Lime Street and Manchester Victoria via Chat Moss. I participated in two such trips, but in both cases, the running can best be described as leisurely, and I have not included the logs here.

The First Decade

David Maidment

We were so grateful. After three virtually steam-less years the resurrection of our hopes came in October 1971 when Sir Peter Prior of Bulmer's Cider persuaded his political friends and Peter Parker to allow 6000 *King George V* to go on an experimental tour with his Pullman coaches. We breathed a sigh of relief when it passed off without any undue problem and the way was clear for a few carefully staged rail-tours with steam power.

I joined my first tour since the demise of steam on BR just a year later in October 1972. The special left Paddington at 8.35am, called at the Didcot GW centre and reversed at Newport, now with 6000 in charge of 9 coaches, just 330 tons gross. In that first decade the restored steam locomotives were restricted to 60 mph, said to be a condition of the insurance cover, so the main interest, apart from just seeing, feeling and smelling a steam engine at work once more, was in the performance uphill. After a careful exit of the station and round the curve over the River Usk, 6000 was opened out and attained 41mph on the 1 in 120 to Ponthir before a severe speed restriction at Llantarnam Junction. 41mph was again reached on the long 1 in 95 past Panteg before stopping at Pontypool Road. We left there five minutes late, took it easily until Penpergwm and the charged through Abergavenny falling to 36 mph on the 1 in 82, the accelerating to 42mph on the 1 in 95 to Llanvihangel. This was more than enough to recoup the lost time and without exceeding 62 mph, we were three minutes early into Hereford where we exchanged 6000 for the double chimney Jubilee, resplendent in LMS maroon, 5596 *Bahamas.* 5596 took it very easily to a Ludlow stop, but had marshalled its resources for the next stage, storming through Marshbrook at 50 mph, falling slightly to 46mph at the top of the 1 in 112 to Church Stretton. Easy running down to Shrewsbury saw the steam section of the run end 7½ minutes early.

In April 1974, the 1925 locomotive exchange between the GWR's 4079 and a Gresley pacific was re-enacted though on different territory. The scene was the North & West again, a line which had been spared Lance Ibbotson's craze for singling in the late 1960s. 4079 *Pendennis Castle* undertook the northbound run from Newport with ten coaches, 395 tons gross. It fell to 23mph on the 1 in 95 to Panteg and had fallen to 22mph at Abergavenny Junction before the driver really opened it up accelerating to slightly to 24mph on the steepest part of the gradient before Llavihangel. The section from Hereford to Shrewsbury was taken more energetically with nearly 60mph at Craven Arms falling to 37mph at Church Stretton summit with a time of around 66 minutes from Hereford looking likely before coming to a succession of long halts because of a minor derailment at Sutton Bridge Junction. 4472 *Flying Scotsman* was the return engine and the load increased to 465 tons with the weight of the pacific's second tender. The start was inauspicious. We ground to a halt at Sutton Bridge Junction for seven minutes to deal with dragging brakes and then staggered up to Church Stretton with just 19mph on the 1 in 90 to Dorrington, 25mph when the gradient eased at Leebotwood and 18mph on the final 1 in 100 to Church Stretton. It was suggested that 4472 was short of steam on this section but by Craven Arms the fireman had pulled things around and 4472 was blowing off steam. Running was very ordinary after that, a momentary 61mph at Onibury falling to 47mph at Dinmore, non-stop at 20mph through Hereford station and after 62mph at Pontrilas we fell to 24mph on the 1 in 100 to Llanvihangel. . We eventually crawled into Newport having taken 162 minutes for the 94 miles. The GW appeared to have 'won' again.

Three years after its first outing in preservation in October 1974 I joined 6000 again on the North & West, this time in the southbound direction. The train had started at Euston electrically hauled, with diesel power on to Shrewsbury, where 6000 backed on. We left 20 minutes late and were immediately stopped by signals before Sutton Bridge Junction, but then accelerated the 410-ton train to 56mph at Condover before falling to 38mph at the summit of the long 1 in

100 before Church Stretton. After that it was limited to 60mph with the main excitement being the rapid and noisy acceleration from three p-way 10mph slacks at Church Stretton, Ludlow and Berrington. Unfortunately, we were out of our path and Hereford was not ready for us so we were held for over six minutes at Barrs Court Junction, arriving over half an hour late. Here we reversed, with maroon Jubilee 5690 *Leander* taking over. 6000's support coach and a Bullmer's Pullman coach were removed and we proceeded with 9 coaches, 335 tons gross. 5690 struggled on the gradients west of Worcester falling to 27mph though making a lot of noise, dropping ten minutes to a Great Malvern stop. Things improved a bit after that, falling from 54 to 27mph climbing to Chipping Campden Tunnel and after a water stop at Moreton-in-Marsh speed rose to an illegal steady 72mph from Handborough to near Wolvercote Junction where a signal stop lost the time we had regained, concluding the steam section at Oxford, 25 minutes late.

A forgotten engine now is Maunsell's S15, 30841 (named *Greene King* for a while) which appeared briefly in April 1976 with a special from Liverpool Street to Loughborough and the Great Central Railway, which it took over from 37.266 at Manningtree and worked to March where a pair of Brush Class 31 diesels took over. The S15 was surprisingly sprightly, cantering across the Fens at 65 mph between Bury St Edmunds and Chippenham Junction and reaching 68 mph before a temporary speed restriction at Soham. 30841 was later sacrificed to allow the return of one of its sisters. In June I joined the odd pairing of 'Little & Large', 9F 92229 *Evening Star* piloted by the L&NWR 2-4-0 790 *Hardwicke* with a load of 480 tons gross for a run from Carnforth to Leeds. There were many enforced slowings and a water stop and photo run-past at Long Preston and Hellifield and the pair actually raced up to 73 mph in the descent through Keighley. We returned back to Carnforth with another pair – this time of equals – with the LMS's 5407 and the LNER's 1306. After the Hellifield stop, the pair roared up to Giggleswick at 42 mph and touched a maximum of 63 at Bentham, arriving at destination nearly 12 minutes early.

6201 *Princess Elizabeth* joined 6000 on the North & West between Hereford and Chester in April 1977, 6201 northbound and 6000 returning, but an increasing number of speed restrictions imposed on both engines following reballasting, bridge and gauge problems prevented any exciting running, most pleasure coming from the purposeful exhausts accelerating away from the slacks. I went north in March 1978 and spent a very pleasant two days with John Cameron's 60009 *Union of South Africa* with 11 coaches, 420 tons gross, from Edinburgh to Aberdeen via the direct route to Dundee on the Saturday and returning via Dundee and Perth on the Sunday. My notebook had these remarks: 'Plenty of energy from No.9, lively running, early most of the time. Good uphill running, blowing off. Problems at Leuchars Junction and Dundee with oil supply.' (After the water stop at Leuchars, 60009 was brought to a stand at Dundee for the driver to oil the motion.) The top speed was 70 mph after Laurencekirk. The return journey was equally fine, with good uphill work (Gleneagles Bank was topped at 38 mph), but nothing over 67 mph downhill until a final fling at 70 mph just before Bathgate Junction and Haymarket. I remember the lovely repeated chimes of No.9's whistle as we eased through Princes Street Gardens at the end of a successful weekend.

1978 was a busy year for me, as in November I had a run on the York–Harrogate circular tour with the NRM's 4771 *Green Arrow* followed up in the murky evening with an early run with the LMS lined black 6115 *Scots Guardsman,* before its retirement for many years before reappearing in 2009 as 46115 in BR green. I regret to say 6115 did not distinguish itself on this occasion, struggling badly on the climb out of Sheffield on the Hope Valley line, falling to 16mph at Totley Tunnel and stopping at Grindleford for a 'blow up' and for the fireman to pull more coal forward in the tender. After a brief burst to 60 mph, the doldrums set in again, with speed around 25–30mph through the Hope Valley to Chinley and we finally pulled up and released 6115 at Guide Bridge. I did not note how delayed we were but it was pretty late in the evening with everyone worrying about onward connections.

In 1980, I missed the famous nostalgic run of the Midland Compound with a Jubilee on the Settle & Carlisle, but did get the pairing of 1000 and 4771 on a Leeds – Carnforth run, returning with 4498 which then worked through to Manchester Victoria. 4498 was having problems with the fire clinkering between Hellifield and Blackburn, but while water was taken at the latter, the fire was thoroughly cleaned and the A4 stormed up to Sough Tunnel at 34 mph with its 420-ton load turning a 34-minute late departure into just 20 minutes at destination.

My final two steam rail-tours of the first decade were with two Southern engines on the Settle and Carlisle. 30850 *Lord Nelson* had 13 coaches for 510 tons gross on 31 January 1981 and I really wondered how it would fare as my experience with these engines on my commuter runs from Woking to Waterloo between 1957 and 1961 was pretty woeful. It performed reasonably to Appleby dropping a couple of minutes with a p-way slack to 25 mph at Long Marton. We set off from Appleby into the gloom and pouring rain with 48mph at Ormside, 33mph before Crosby Garrett, and had just started accelerating over Smardale Viaduct when my worst fears were borne out. The brakes started dragging on, speed fell to 10 mph, recovered to 22mph and fell to 10mph again and we ground to a stand at Kirkby Stephen, black smoke pouring over the dark countryside. After a six-minute stop and furious stoking, *Lord Nelson* was opened right up in a way I never experienced on the Southern and with red hot coal exploding onto the sodden turf, we gradually got up to 38mph at Mallerstang, falling to 28mph at Ais Gill. Despite all this, we were actually ¾ minute early at Garsdale! The Stephenson link Black 5, 44767, took over for the run from Hellifield to Carnforth with 37mph with this load on the climb to Giggleswick (my notebook says 'all out'!). 44767 had been specially authorised for this load as 850 was being tested with 13- coaches on the S&C.

Lastly 30777 *Sir Lamiel* was given a turn in May 1982. It had 10 coaches for 395 tons gross and ran from Carlisle to Appleby in 48 minutes including three severe p-way slacks and a signal check, arriving six minutes early. After a slow taking of water, we left 13 minutes late, touched 53mph at Ormside, and sustained the upper 30s most of the way up the bank, accelerating to 46mph on the easement past Crosby Garrett, 34mph at Birkett Tunnel, 37mph at Mallerstang and 32mph at Ais Gill, having gained over six minutes on schedule during the climb. 777 was always said to be a good 'un – I had 53 runs behind it on my Woking commuter trips, most on the 5.9pm Waterloo with a ten-coach load. It never let me down.

MAYFLOWER OVER WHITEBALL

By John Heaton FCILT

No. 61306 Mayflower is a mongrel mix of a B.R. loco in a LNER apple green livery carrying a name to which it is scarcely entitled. The original Mayflower was Immingham No. 61379 that proved elusive to anyone based in West Yorkshire. I eventually caught up with it at York. No. 61306 was a common-or-garden Low Moor loco for three years in the mid-1960s, having spent all the sixties at '56' group sheds. Some scrappy notes in my 1961 'Combined' show No. 61306 at Huddersfield Hillhouse shed on 22nd December – probably 1961, but 11-year-olds assume they will always remember the year.

When I heard the loco was working a steam special from Oxford to Kingswear in 2015 I decided to try for a 'spot seat' from Taunton to Exeter to see what the loco would do over Whiteball with a 10-coach load (339tons tare, perhaps 360 gross). The accompanying table shows that the train initially made a good start but started to lose impetus. On reaching the 1-in-80 stretch matters became serious and it seemed to me that stalling was inevitable. Fortunately, the crew was able to stage a remarkable recovery to reach 23mph at the summit and run down to Exeter at speeds in the low 60s. I think the loco was allowed 75mph but this was not the occasion for heroics.

I recall making calculations about where the nearest loco could be found if we did actually stall, concluding that the delay was likely to be catastrophic. As it was, there was considerable disruption to following trains. If I had still been responsible for operations over Whiteball I would have been making noises about the folly of sending out low-powered locos on heavy loads midweek on arterial main lines without catering for contingencies. On the other hand, in retirement, I would not have bothered travelling if a Class 47 had been hitched to the rear.

There is a tendency to glorify the exploits of preserved main line steam but there are two sides to most stories.

Taunton d. to Whiteball Summit p.									Miles	m	c	Timing Point	WTT	m	s	mph	*avg*
Loco				B1 4-6-0 No. 61306					5.10	168	20	*MP*		9	31.35	37½	*38.7*
Trailing Load				10/339/360					5.35	168	40	*MP*		9	55.78	36½	*36.8*
Train				08.24 Oxford to Kingswear					5.60	168	60	*MP*		10	20.67	36	*36.2*
Date				April 1st, 2015					5.85	169	00	*MP 169*		10	46.28	35	*35.1*
Recorder				J. Heaton 3rd coach					6.10	169	20	*MP*		11	12.20	35	*34.7*
Miles	m	c	Timing Point	WTT	m	s	mph	*avg*	6.35	169	40	*MP*		11	37.56	35½	*35.5*
0.00	163	12	TAUNTON d.	0	0	0.00			6.60	169	60	*MP*		12	3.00	35½	*35.4*
1.60	164	60	*N'ton F'warren J*	5	4	6.28	37	*23.4*	6.85	170	00	*MP 170*		12	29.70	33	*33.7*
1.85	165	00	*MP 165*		4	30.30	38	*37.5*	7.10	170	20	*Wellington*		12	55.28	36	*35.2*
2.10	165	20	*MP*		4	53.70	39	*38.5*	7.35	170	40	*MP****		13	19.60	36	*37.0*
2.35	165	40	*MP*		5	16.72	39	*39.1*	7.60	170	60	*MP*		13	44.85	35	*35.6*
2.60	165	60	*MP*		5	40.00	38½	*38.5*	7.85	171	00	*MP 171*		14	12.10	31	*33.0*
2.85	166	00	*MP 166*		6	3.38	38½	*38.7*	8.10	171	20	*MP*		14	42.60	26	*29.5*
2.91	166	05	*Victory*		6	9.20	39	*38.7*	8.35	171	40	*MP*		15	18.50	23	*25.1*
3.10	166	20	*MP*		6	26.60	39	*38.8*	8.60	171	60	*MP*		15	59.10	20	*22.2*
3.35	166	40	*MP*		6	49.67	39	*39.0*	8.85	172	00	*Beam Bridge*		16	47.38	14½	*18.6*
3.60	166	60	*MP*		7	12.92	39	*38.7*	9.10	172	20	*MP*		17	50.85	11½	*14.2*
3.85	167	00	*MP 167*		7	36.32	38	*38.5*	9.35	172	40	*MP*		19	11.45	5½/3	*11.2*
4.10	167	20	*MP*		7	59.50	39	*38.8*	9.60	172	60	*MP*		22	7.20	5	*5.1*
4.35	167	40	*MP*		8	22.85	39	*38.5*	9.85	173	00	*MP 173*		24	4.67	10½	*7.7*
4.50	167	52	*Bradford*		8	36.55	39	*39.4*	10.01	173	13	*Whiteball TEP*		24	53.45	12½	*12.0*
4.60	167	60	*MP*		8	45.50	39½	*40.2*	10.63	173	63	*Whiteball TWP*		26	58.17	20	*17.9*
4.85	168	00	*MP 168*		9	8.10	40	*39.8*	10.85	174	00	*Whiteball Summit*	17	27	33.12	23½	*22.4*
Speeds rounded to ½mph. *** Known short quarter																	

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STEAM ON WELLINGTON BANK

Bill Long

In Milepost 33¾ I described some runs on the steam-hauled *Torbay Express*, concentrating on the climb from Exeter to Whiteball during the return journey. There are two sides to every summit, and the time has now come to look at some runs in the other direction that face the shorter but rather steeper climb from Taunton, prompted by the work of Nigel Wilson who has collected and collated data from more than 150 trains timed during the past 25 years or so. The gradients on Wellington Bank will probably be familiar due to the attention paid to *City of Truro* descending it in 1904, and there is no need for a reminder except to mention that it is important to make the most of the easy start from Taunton before the main ascent starts with a mile at 1-in-369 before Victory crossing. The maximum speed on the climb is generally attained on the brief easing past Wellington itself that includes some level track, though according to one's position in the formation, gps sometimes finds the maximum nearer post 170½ than 170¼.

The *Torbay Express* was inaugurated as a regular operation in 2003, and it is disappointing to report that it was not intended to run during 2020, though the pandemic would have made this difficult in any case. A second regular operation, named the *Royal Duchy* and running through to Par in Cornwall was introduced in 2012, and many of the following runs were recorded on

this service which is restricted to a nine-coach load in deference to the South Devon banks. On some occasions in recent summers both trains have run on the same day leaving one with the difficult decision as to which to travel on.

Full details in the following tables have mainly been restricted to the uphill section, partly for brevity but also because interest in the descent is limited in any case as some of the trains went into the down loop at the former Tiverton Junction, while others had clearance slacks at Tiverton Parkway. Runs have been tabulated in the order of increasing loads, and it is no surprise to find that this roughly correlates with increasing time to the summit. Average speed through Whiteball tunnel has been calculated for all runs.

			Run 1				Run 2			
Date			Sunday 8/9/2013				Sunday 9/6/2013			
Train from			0848 Bristol TM				0848 Bristol TM			
To			Par				Par			
Loco; load tons			70013; 9/301/325				60009; 9/306/330			
			Oliver Cromwell				Union of South Africa			
Weather			Overcast				Fine			
Recorder; position, gps			W.E. Long; 3/10 yes				W.E. Long; 8/10 yes			
Miles	M C		Sch	m	s	mph	Sch	m	s	mph
0.00	163 12	TAUNTON	0	0	00	P2 (1L)	0	0	00	P2 (RT)
1.29	164 35	Silk Mill LC		3	03	45½		3	41	46½
1.60	164 60	Norton Fitzwarren Jn.	4	3	25	51	4	4	04	49
2.10	165 20	Norton Fitzwarren		3	59	55½		4	40	52½
2.91	166 05	Victory LC		4	50	60½		5	33	57
4.50	167 52	Bradford LC		6	22	64		7	12	61
5.85	169 00	Poole Siding		7	37	64½		8	30	62½
7.10	170 20	Wellington		8	47	66½		9	40	68
7.85	171 00	MP 171 Westford		9	28	64½		10	20	66½
8.85	172 00	MP 172		10	27	59½		11	17	61½
10.01	173 13	Whiteball Tunnel in		11	40	54½		12	29	56½
10.64	173 63	Whiteball Tunnel out		12	21	55 ave		13	08	56 ave
10.85	174 00	Whiteball Summit	15	12	35	57	15	13	22	59
30.75	193 72	EXETER St DAVIDS	41	31	10	P6 (9E)	41	33	28	P6 (8E)

First comes a particularly sprightly effort from the Standard pacific Oliver Cromwell that is believed to be the fastest to the summit starting from Taunton, with a noisy acceleration to 66½ mph near Wellington followed by an average of 55mph on the 1-in-127 through the tunnel; indeed, the train was going so well that it managed a slight gain on the final 1-in-203 afterwards.

The second run was hauled by the popular A4 pacific *Union of South Africa* and was rather slower at the start and on the lower part of the bank. Once warmed up, however, the remainder of the climb was attacked to some purpose, managing 68 mph at Wellington and holding on to average 56mph through the tunnel, the best that has been reported for a train starting from Taunton. The recorder's position towards the rear of the formation means that gps speed at post 174 reflects the fact that the locomotive and front of the train are already going downhill at this point and speed here was probably little faster than run 1.

The first two runs had unusually light formations mainly comprising Mark II vehicles, and for comparison the next two tables show trains with the more usual Mark I stock. The *Royal Duchy* normally calls just briefly at Taunton to pick up, but on the occasion of run 3 was given over 20 minutes to allow a couple of services to overtake, and the slow time out to Silk Mill with cylinder cocks open suggests the boiler had been overfilled during the wait. However, once clear the crew pressed the Bulleid light pacific to a remarkable climb to achieve a marginally better maximum at Wellington than run 2, though this is scarcely outside the limits of the method,

and carried on well to enter the tunnel at 55 mph. Again, the recorder's position in the train gives a slightly optimistic reading for the gps speed at post 174

			Run 3	Run 4
Date			Sunday 14/9/2014	Saturday 29/1/2005
Train from			0955 Bristol TM	0700 Paddington
To			Par	Plymouth
Loco; load tons			34067; 9/322/345	6024; 9/323/350
			Tangmere	King Edward I
Weather			Cloudy	Fine
Recorder; position, gps			W.E. Long; 8/10 yes	W.E. Long; 3/10 no
Miles	M C		Sch m s mph	Sch m s mph
0.00	163 12	TAUNTON	0 0 00 P2 (4L)	0 0 00 P3 (4L)
1.29	164 35	Silk Mill LC	5 32 37½	2 58 44
1.60	164 60	Norton Fitzwarren Jn.	4 5 59 43½	3 20 52
2.10	165 20	Norton Fitzwarren	6 39 45½	3 53 57
2.91	166 05	Victory LC	7 37 54	4 42 61
4.50	167 52	Bradford LC	9 16 62½	6 15 63
5.85	169 00	Poole Siding	10 32 64½	7 32 63
7.10	170 20	Wellington	11 40 68½	8 42 65
7.85	171 00	MP 171 Westford	12 20 66	9 24 63
8.85	172 00	MP 172	13 16 61	10 24 56
10.01	173 13	Whiteball Tunnel in	14 28 55	11 44 49
10.64	173 63	Whiteball Tunnel out	15 10 54 ave	12 32 47 ave
10.85	174 00	Whiteball Summit	17 15 24 54½	12 49 46
12.85	176 00	MP 176	17 12 77	14 47 73
14.17	177 26	TIVERTON PARKWAY	21 18 13 76	20½ 15 53 60* sigs
15.99	179 11	Tiverton Loops	23 19 40 74	23 20 00 (1L)
30.75	193 72	EXETER St DAVIDS	44 34 13 P6 (6E)	

Doubtless assisted by the greater tractive effort and adhesion of the 4-6-0, the native King in run 4 made a rather quicker start than run 1, and good work kept it in the lead as far as Wellington though not quite equalling the speed there. However, the final miles at 1-in-90/ 86/ 80 to the tunnel had a rather more severe effect and the time at the summit leaves this run in third position overall.

			Run 5	Run 6
Date			Saturday 21/10/2000	Sunday 28/8/2016
Train from			0715 Finsbury Park	0848 Bristol TM
To			Plymouth	Par
Loco; load tons			35028; 9/328/350	46233; 9/332/355
			Clan Line	Duchess of Sutherland
Weather			Dull	Damp/drizzle
Recorder; pos, gps			W.E. Long; 3/10 no	W.E. Long; 9/10 yes
Miles	M C		m s mph	Sch m s mph
0.00	163 12	TAUNTON	0 00 P3 (unsched)	0 0 00 P2 (RT)
1.29	164 35	Silk Mill LC	2 58 43	3 55 42
1.60	164 60	Norton Fitzwarren Jn.	3 22 48	4 4 19 47
1.60	165 20	Norton Fitzwarren	3 57 54	4 56 52
2.91	166 05	Victory LC	4 49 58	5 50 56
4.50	167 52	Bradford LC	6 24 62	7 28 62½
5.85	169 00	Poole Siding	7 40 64	8 44 65
7.10	170 20	Wellington	8 50 65	9 51 70
7.85	171 00	MP 171 Westford	9 32 63	10 30 68½
8.85	172 00	MP 172	10 32 57	11 25 61
10.01	173 13	Whiteball Tunnel in	11 49 52	12 40 50½
10.64	173 63	Whiteball Tunnel out	12 32 52 ave	13 26 49 ave
10.85	174 00	Whiteball Summit	12 47 52/66	14 13 43 47½
12.85	176 00	MP 176	14 45 63*	15 39 74½
14.17	177 26	TIVERTON PARKWAY	16 03 56* sigs	22 16 57 37½* sigs
15.99	179 11	Tiverton Loops	20 17 (17L)	26 22 23 (4E)

Run 5 had been delayed changing locomotives in Bristol and after some subsequent checks due to running out of course was held on the through line at Taunton to be overtaken, restarting sixteen minutes after it should have passed through. This train was off the mark just as quickly as run 4 and it will be noted that both set out from the main line at Taunton which is perhaps an advantage as the crossover from the platform loop seems to be an inhibiting factor at the start of other runs. Run 5 was then rather slower working in to speed on the lower part of the bank than run 4 before reaching the same maximum at Wellington, and speed then held up so well on the remainder of the climb that the Bulleid pacific pulled just ahead of 6024 at the summit, making this the second fastest to Whiteball from the Taunton start. Incidentally I have no intermediate schedule details for this train, while figures for other runs should be treated with some caution as there is a tendency for half minutes and allowances (if any) not to be recognised in the information provided by the organisers. And then one has to put up with fitting around the vagaries of the regular local services that have reputations as poor timekeepers…

Rail conditions for run 6 were hardly conducive to pressing the Duchess to a rapid start, but once on the move a strong climb saw 70 mph on the easing at Wellington, the best I have seen starting from Taunton. Rather typically 6233 was not really opened out on the upper part of the bank and the minimum at Whiteball is a bit disappointing compared with what had gone before. It should be mentioned that this run took water at Tiverton, contrary to normal practice with the *Royal Duchy,* whereas the other runs with this train (1, 2, and 3) took it at Exeter as usual. Runs 4 and 5 also took water at Tiverton and the four below at Taunton allowing the fire to cool down somewhat during the half hour or so at the stop.

The stalwart A4 “Number Nine” appears again with run 7 below that is thought to be the best with ten coaches. Despite the additional vehicle, this train got to Silk Mill more quickly than the same locomotive managed in run 2, and the ascent was then taken with considerable vigour to achieve 69 mph at Wellington. I had hopes of a record speed at the summit until the locomotive slipped in the cutting approaching the tunnel, but nonetheless this run is fourth fastest overall while the time from Silk Mill to the summit is better than that of any of the nine coach trains.

			Run 7		Run 8		
Date			Saturday 21/8/2005		Sunday 25/7/2010		
Train from			0925 Bristol TM		0915 Bristol TM		
To			Kingswear		Kingswear		
Loco; load tons			60009; 10/367/395		71000; 11/395/420		
			Union of South Africa		Duke of Gloucester		
Weather			Fine		Fine		
Recorder; position, gps			W.E. Long; 5/11 no		W.E. Long; 11/12 yes		
Miles	M C		m s	mph	Sch	m s	mph
0.00	163 12	TAUNTON	0 00	P2 (1E)	0	0 00	P2 (11L)
1.29	164 35	Silk Mill LC	3 28	45		3 46	47
1.60	164 60	Norton Fitzwarren J	3 50	50	3	4 08	51
2.10	165 20	Norton Fitzwarren	4 23	56		4 41	57
2.91	166 05	Victory LC	5 13	61		5 31	61
4.50	167 52	Bradford LC	6 45	64		7 02	65
4.85	168 00	MP 168	7 04	65		7 21	65½
5.85	169 00	Poole Siding	7 59	65		8 16	65
7.10	170 20	Wellington	9 07	69		9 23	68
7.85	171 00	MP 171 Westford	9 47	66		10 03	66
8.85	172 00	MP 172	10 44	61		11 01	60½
10.01	173 13	Whiteball Tunnel in	11 57	54 slip		12 15	54
10.64	173 63	Whiteball Tunnel out	12 40	52 ave		12 57	53 ave
10.85	174 00	Whiteball Summit	12 55	51	14	13 12	53½
30.75	193 72	EXETER St DAVIDS	34 02	P6 (5E)	36	31 31	P4 (7L)

The solitary BR Class 8 Pacific *Duke of Gloucester* has built a reputation for sparkling performance in preservation and this is certainly borne out by run 8 that gave a time from Silk Mill to the summit faster even than that of run 7 despite the greater load, albeit by the narrowest of margins. After a relatively slow start, a strong acceleration gave a maximum at Wellington only slightly lower than run 7 and rapid progress continued to put this run in sixth position overall from Taunton to the summit.

			Run 9			Run 10		
Date			Saturday 14/4/2001			Sunday 18/8/2019		
Train from			0635 Cardiff			0910 Bristol TM		
To			Kingswear			Kingswear		
Loco; load tons			6024; 12/439/475			60009; 12/444/480		
			King Edward I			Union of South Africa		
Weather			Drizzle			Fine		
Recorder; position, gps			W.E. Long; 3/13 no			N. Wilson; 9/13 yes		
Miles	M C		Sch	m s	mph	Sch	m s	mph
0.00	163 12	TAUNTON	0	0 00	P2 (RT)	0	0 00	P2 (RT)
1.29	164 35	Silk Mill LC		3 51	42		3 49	44½
1.60	164 60	Norton Fitzwarren J		4 15	46	3½	4 13	48
2.10	165 20	Norton Fitzwarren		4 51	52		4 49	51½
2.91	166 05	Victory LC		5 45	56		5 43	56
4.85	168 00	MP 168		7 49	58		7 48	58
5.85	169 00	Poole Siding		8 51	57		8 51	56½
7.10	170 20	Wellington		10 09	59		10 09	60
7.85	171 00	MP 171 Westford		10 55	56		10 55	56
8.85	172 00	MP 172		12 03	50		12 03	49
10.01	173 13	Whiteball Tunnel in		13 33	45		13 34	43
10.64	173 63	Whiteball Tunnel out		14 23	45 ave		14 27	43 ave
10.85	174 00	Whiteball Summit		14 40	46	15½	14 44	47
12.85	176 00	MP 176		16 36	74		16 45	71
14.17	177 26	TIVERTON PARKWAY	21	17 50	36* sigs	18½	17 51	69½/64
				23 43	(unsched)			
15.99	179 11	Tiverton Loops		24 43				20
16.85	180 00	MP 180		3 11	39		20 16	70
17.85	181 00	MP 181		4 23	59		21 07	72½
19.85	183 00	MP 183		6 12	70		22 49	67½
21.35	184 40	MP 184½		7 27	75		24 11	66
22.36	185 41	Hele LC		8 15	78/77		25 04	68½/65
23.85	187 00	MP 187		9 24	79		26 25	68
25.85	189 00	MP 189		10 57	75		28 11	65½
27.05	190 16	Stoke Canon LC		11 56	73		29 16	67½
29.50	192 52	Cowley Bridge Jn.	35	14 14	50/22*	34	31 49	40* sigs
30.75	193 72	EXETER St DAVIDS	37	16 44	35 sigs	35½	34 34	25*
31.67	194 66	EXETER St THOMAS		18 08	46		36 18	41
35.59	198 59	Exminster		21 49	74/76		40 26	65
39.30	202 36	STARCROSS		24 46	75		43 54	62½
			52	28 14	(1L)			
41.34	204 39	DAWLISH WARREN	0	42 30	(1E)	47½	45 52	61
42.95	206 08	DAWLISH		4 21	47		47 30	60½/58
44.57	207 42	Parsons Tunnel out		6 51	23*tsr		48 53	59
45.72	208 70	TEIGNMOUTH		10 04	38	54	50 17	59½
48.60	211 60	MP 211¾		13 27	57		53 12	59
50.35	213 40	MP 213½		15 22	49		55 25	*20/12* XL
50.91	214 05	NEWTON ABBOT	15	16 10	30*	60	57 47	20 loop
51.35	214 40	MP 214½		17 24	*19 XL tsr		58 51	30/43½
53.35	216 40	Kingskerswell		21 07	42		61 56	40½/27
54.85	218 00	MP 218		23 27	38		64 22	28
56.00	219 12	TORRE		25 18	*26/34		66 37	34
56.84	219 79	TORQUAY	26	27 11	25*		68 03	31*
59.00	222 12	PAIGNTON	45	34 35	(11E)	74	74 07	(RT)

There are rather fewer runs with twelve coach loads from which to select, and the two in the final table are the best that have turned up. Nigel Wilson has provided the log of run 10, again with *Union of South Africa*, which sadly turned out to be one of the final excursions with this deservedly popular locomotive after a long and distinguished career. As something of a tribute, tabulation of the two runs in this table has been carried through to Paignton, a branch that needs some introduction as it is probably relatively unfamiliar. The crossover to access it at Newton Abbot West Junction is restricted to 40 mph, leaving little space to accelerate before hitting Kingskerswell bank, two miles of 1-in-110 to post 218, and after a brief summit level there follows a sharply curved drop at 1-in-73 before Torre and an even steeper but straight 1-in-55 to Torquay. A sharp curve after the station leads to a short rise that lifts the line to the clifftops giving good views of the bay on the left, and the approach to Paignton is always taken slowly to pull up close to the signal protecting the farther level crossing and access to the Torbay railway.

There is very little to choose between runs 9 and 10 on the climb to Whiteball though honours perhaps go to the King in run 9 with 45 mph at the tunnel being notable with this load. The energy shown by this run on the climb was possibly in the knowledge of a late-running service train behind that would overtake at Tiverton. After crawling along the loop before actually stopping, 6024 carried on so well that at Exeter it caught up the train that had gone past, and an exhilarating passage of the curves between Powderham and Starcross at the full permitted 75mph saw practically all the time regained on arrival at Dawlish Warren. An easy schedule on to Paignton more than accommodated the two tsr's.

On the face of it, run 10 was slightly behind run 9 at the summit, but things are so close that when allowance is made for the recorder's position the final run actually ends up a couple of seconds quicker. It was somewhat ahead of time at this point, and in the knowledge of tight margins ahead could take things easily down the hill but ran into a signal check before Exeter nonetheless. Leisurely progress continued on the coastal section with the train still running early, and despite turning off the main line after the racecourse to use the significantly slower route through the loop platform 1 at Newton Abbot, a neatly judged run registered perfect time to Paignton.

Eastbound over Whiteball

Frank Collins

The climb to Whiteball summit – marking the railway's passage over the Blackdown Hills and the watershed between the English and Bristol Channels, as well as the border between Somerset and Devon – is probably most thought of in the context of the 10-mile climb westbound from Taunton, culminating in 2½ miles at 1-in-90 or steeper between Wellington and the summit tunnel.

For steam however, the eastbound passage from Exeter to the summit still offers a significant test of engine and enginemanship. The grades may be gentler, with nothing steeper than around two miles of 1-in-115 on the final approach to the summit, but with Exeter St David's being virtually at sea level, the height gain is slightly greater, and crews face 20 miles of almost continuous uphill work, with only brief downhill respites at Rewe, approaching Hele crossing, and through the old Tiverton Junction station to help them.

In the modern world the eastbound climb presents few challenges to the class 800/802 IETs, Voyagers or mini-HSTs which operate almost all of the scheduled passenger services, and which cover the 30.75 miles between Exeter and Taunton in not much over 20 minutes. Threading a heavy steam-hauled train through the scheduled traffic therefore has to be carefully planned – and there is no place for a gentle potter through the countryside or

otherwise hanging around. Frequently steam specials will depart Exeter on the heels of a scheduled service, and hard running all the way is required to ensure Taunton is reached without risk of delaying the next one.

To get the best out of the climb – as well as a path – requires a 75-mph loco. Some of the runs in the earlier years however were hampered by a 35-mph clearance restriction for an overbridge a mile or so south of Tiverton Junction, in effect ruining the whole run and severely impeding the ability to 'charge' the final 1-in-115 or make a decent time to the summit.

The Archive contains a couple of runs in the 1990s with 6024 'King Edward I' – classic GWR motive power for this route of course. The run recorded by Alastair Wood on 16th October 1994 with 11-on got out to Cowley Bridge Junction in a perfectly respectable 3m58s and was running in the mid-60s on the lower part of the climb. It then suffered an AWS leakage right at the foot of the 1-in-115, so laboured up to the summit at barely 30 mph, and took 38m26s to Taunton overall, losing 3½ mins to schedule in the process. Two and a half years later, on 5th April 1997, C P Ritchie recorded the same loco, this time with only 8-on. The King was taken much more gently on this occasion, barely reaching 60mph on the easier grades, before suffering a prolonged slowing for around four miles around the overbridge restriction. From 40mph at Cullompton the King then did quite well, reaching 59mph at the foot of the 1-in-115 and breasting the summit at almost 50mph. The conversion of a two minute late start into a 2½ minute early arrival though, was down to the 42 minute schedule rather than the performance.

+																			
Run				1					2					3					
Date				Sat 16/3/1996					Sun 19/02/1995					Sun 19/9/2010					
Train				15:16 Exeter St Davids -					13:15 Exeter - Paddington					Torbay Express					
Loco				7802 Bradley Manor					60009 Union of South Africa					71000 Duke of Gloucester					
Load formation				8 Mk1 297/					11 Mk1 413/440					11 Mk1 395/414					
Recorder				F G Collins					Sean Emmett					M Wilson					
Position/ GPS				7/9					12/12 no					2/12					
miles	M	C	Timing Point	Sch.	m	s	mph	*ave*	Sch.	m	s	mph	*ave*	Sch.	m	s	mph	*ave*
0.00	193	72	Exeter St Davids	0	0	0.0	1 E		0	0	00.0	P6		0	0	00.0	P5	
1.24	192	53	Cowley Bridge J	4	4	02.0	33	*18.4*	3	4	05.0	42	*18.2*		2	55.5	48	*25.4*
2.35	191	44	Stafford's Bridge		5	47.5	43	*38.0*										
3.70	190	16	Stoke Canon LC		7	33.0	51/50	*46.1*		6	51.0	63	*53.4*		5	28.5	66	*57.9*
4.74	189	13	Rewe		8	45.5	53	*51.5*		7	49.0	64	*64.4*		6	24.0	67	*67.3*
5.90	188	00	MP		10	01.5	57	*55.1*							7	23.5	73	*70.3*
7.14	186	61	Silverton		11	20.0	57	*56.8*		9	54.0	71	*69.1*		8	24.5	74	*73.0*
8.39	185	41	Hele & Bradninch		12	36.5	60	*58.8*		10	56.0	74	*72.6*		9	25.5	76	*73.8*
10.14	183	61	OB		14	23.0	57	*59.2*		12	22.0	74	*73.3*		10	49.0	77	*75.4*
12.56	181	27	Cullompton		16	58.0	55	*56.3*		14	16.0	78/75	*76.6*		12	44.0	75	*75.9*
13.76	180	11	OB		18	22.0	49/48	*51.4*							13	44.0	69	*72.0*
14.74	179	13	Tiverton Junction		19	35.0	50	*48.1*		15	57.0	78/81	*77.5*		14	35.0	68/75	*68.8*
16.58	177	26	Tiverton Parkway	23	21	48.0	46	*49.7*	19	17	20.0	80	*79.7*		16	04.0	73	*74.3*
17.90	176	00	MP		23	35.5	41	*44.4*		18	21.0	77	*78.2*		17	11.0	71	*71.2*
19.15	174	60	Burlescombe		25	34.0	36	*38.0*		19	20.5	72	*75.6*		18	16.5	67/64	*68.7*
19.88	174	02	Whiteball		26	46.0	36	*36.2*		19	57.5	70	*70.5*		18	57.0	65	*64.4*
20.74	173	13	Whiteball TE		27	59.0	54	*42.5*		20	39.0		*74.8*		19	42.0		*69.0*
21.88	172	02	Beam Bridge		29	11.0	63/71	*56.9*		21	26.0				20	36.0	77/79	*75.8*
23.70	170	16	Wellington		30	50.0	67	*66.4*		22	37.0				22	01.0	73	*77.3*
24.90	169	00	Poole Siding		31	55.5	64	*66.0*		23	32.0	77/78	*78.5*		23	04.0	68/70	*68.6*
26.25	167	52	Bradford-on-Tone		33	12.5	61	*63.1*		24	35.0	76/78	*77.1*		24	13.5	69	*69.9*
27.84	166	05	Victory		34	50.0	58	*58.6*		25	49.0	77	*77.2*		25	35.5	69	*69.7*
29.46	164	35	Silk Mill		36	40.5	47	*52.9*		27	26.0	38	*60.3*		27	13.0	42	*60.0*
30.75	163	12	Taunton	42	39	03.0		*32.5*	35	30	13.0		*27.8*		29	58.0		*28.1*

Also running on a 42-minute schedule the previous spring was Bradley Manor, in run 1. I have included this run partly because of what is unusual mainline motive power by today's standards, and to represent the GWR in the modern era – but by comparison to the rest of the runs in the tables, its performance belongs to a bygone age.

Modern steam schedules for this section demand much more – 35 or even 33 minutes. Run 2 has appeared in print before, but is worthy of repeat here. 'Number 9' was in outstanding form, the A4 and its crew making short work of the climb with 11-on. Speed was continually above 70 mph for over 20 miles, from Silverton until the brakes were applied after Victory crossing for the Taunton stop. Remarkably this included breasting the summit at 70 mph, which so far as I can ascertain, has to be a record in itself, especially with this load. The summit was passed in almost even time from the Exeter start, and no other run with this load has evidenced speeds as high on the climb. There was no hanging around on the descent either, and an even-time run to Taunton was the result.

We move forwards 15 years for run 3 – recorded on the Torbay express, which has provided regular summer-Sunday steam opportunities over Whiteball for many years now. 71000 on this occasion was on very fine form, and had the benefit of starting from the up main platform 5, rather than the loop platform 6 with its restricted exit. 'The Duke' therefore opened up over a minute's advantage over the A4 before Cowley Bridge Junction, as well as being able to get going into the climb sooner. The A4 had the better of the second half of the climb, but 'The Duke' still maintained a full minute's advantage by the summit, passing Whiteball in a very impressive 18m 57s for the 19.88 miles. Downhill things were a little more restrained, but the start-to-stop time of under 30 minutes is very notable.

Run				4					5					6				
Date				Sun 10/07/2011					Sun 03/06/2018					Sat 10/8/2019				
Train				16:45 Kingswear - Bristol TM					16:50 Kingswear - Bristol TM					15:50 Exeter St Davids - Waterloo				
Loco				60163 Tornado					35028 Clan Line					35028 Clan Line				
Load formation				11 Mk1					12 Mk1					11 Mk1				
Recorder				F G Collins					F G Collins					F G Collins				
Position/ GPS				8/12					10/13					8/12				
miles	M	C	Timing Point	Sch.	m	s	mph	*ave*	Sch.	m	s	mph	*ave*	Sch.	m	s	mph	*ave*
0.00	193	72	Exeter St D	0	0	00.0	P6 RT		0	0	00.0	45	12L	0	0	00.0	P6/tsr 22	23L
1.24	192	53	Cowley Br J	4	3	51.5	42	*19.2*	2	1	28.5	56	*50.3*	3	4	37.5	38	*16.1*
2.35	191	44	Stafford's Br		5	13.5	55	*48.8*		2	37.5	61	*58.0*		6	08.5	49	*44.0*
3.70	190	16	Stoke Canon		6	36.5	62	*58.6*		3	55.0	65	*62.7*		7	41.5	56	*52.3*
4.74	189	13	Rewe		7	36.5	63	*62.2*		4	51.5	66	*66.1*		8	49.5	56	*54.9*
5.90	188	00	MP		8	39.0	67	*67.0*							10	00.0	62	*59.4*
7.14	186	61	Silverton		9	45.5	67	*67.0*		6	54.0	71	*70.5*		11	11.0	64	*62.7*
8.39	185	41	Hele		10	51.5	71	*68.2*		7	56.5	75	*72.0*		12	20.0	69	*65.2*
10.14	183	61	OB		12	19.5	72	*71.6*		9	20.5	76/75/78	*75.0*		13	49.5	71/73	*70.4*
12.56	181	27	Cullompton		14	19.5	74	*72.7*		11	15.0	77	*76.2*		15	50.0	74	*72.4*
13.76	180	11	OB		15	18.5	70/69	*73.2*		12	11.5	74/72	*76.5*		16	49.5	70/68	*72.6*
14.74	179	13	Tiverton J	19	16	09.0	71/75	*69.5*	15	13	00.5	73	*71.6*	18	17	41.0	70/75	*68.2*
16.58	177	26	Tiverton Pwy	21	17	38.5	73	*73.9*	17	14	27.0	77	*76.5*	20	19	10.5	73	*73.9*
17.90	176	00	MP		18	44.5	71	*72.3*		15	29.0	76	*76.9*		20	16.5	70	*72.3*
19.15	174	60	Burlescombe		19	51.5	64	*67.2*		16	31.5	70	*72.0*		21	23.5	64	*67.2*
19.88	174	02	Whiteball	27	20	33.5	62	*62.1*	20	17	09.5	68	*68.7*	24	22	07.0	62	*60.0*
20.74	173	13	Whiteball TE		21	19.5	72/78	*67.5*		17	52.5	76/79	*72.2*		22	53.0	72/77	*67.5*
21.88	172	02	Beam Bridge		22	14.0	77/75/79	*75.1*		18	46.0	76	*76.5*		23	48.0	73/77	*74.5*
23.70	170	16	Wellington		23	39.5	72	*76.8*		20	08.5	79	*79.6*		25	15.5	74/72	*75.1*
24.90	169	00	Poole Siding		24	38.5	77	*73.2*		21	06.0	75	*75.1*		26	14.5	74/76	*73.2*
26.25	167	52	Bradford		25	41.5	75	*77.1*		22	08.5	78	*77.8*		27	18.5	74	*75.9*
27.84	166	05	Victory		26	59.5	73/sig36	*73.3*		23	24.0	75/sigs	*75.7*		28	35.0	76	*74.7*
29.44	164	37	Silk Mill		28	39.0	39	*57.9*		25	23.0	33	*48.4*		29	53.0	73	*73.8*
30.75	163	12	Taunton	39	32	04.0		*23.0*	33	28	19.0		*26.8*	35	30	57.5	76pass	*73.3*

Table 2 sets out three of my own runs, two from the Torbay Express. The 2011 Tornado run (Run 4) followed the then pattern of including an Exeter stop; this was for pathing purposes, so enforcing the use of the restricted platform 6. The running on this occasion is best described as very respectable, if not quite up to the standards of the other Pacifics shown here. 60163 just managed 75mph in the dip after Tiverton Junction and passed the summit in 20m 33s at 62mph – with a platform 5 start this would probably have been a good minute less, and inside even time start-pass. On the other hand, there was no need to push any harder – the train on this occasion had a 39 min schedule and arrival in Taunton was seven minutes early.

We conclude with two Merchant Navy runs in the form of 'Clan Line'. The 2018 offering in run 5 was again on the Torbay Express – by this time the schedules had been modified so that the train was scheduled to run the 59 miles from Paignton to Taunton non-stop in 70 minutes. This is something of a masterclass in pathing, and requires everything to run to time with the steam train to fit into a procession of service trains coming from further west at that time of day. We got away from Kingswear on time, but the handover to Network Rail took longer than allowed, so we were six minutes late from Paignton – which erodes all of the critical margin. Approaching Aller Junction we received a heavy signal check, and the up HST was running parallel to us. Impressively, the decision in Control was to let us run ahead of the HST. The 14:37 Penzance – Bristol TM stopper was also running 15 minutes late, so gave us further checks at Dawlish Warren and after Starcross – and we passed St David's now 12 minutes down. With a clear road ahead, the climb to Whiteball was stupendous – comfortably beating 71000 in run 3 and arguably even the A4 in run 2, with one additional coach.

Clan Line features again for our final run. This was a very special day – Clan Line had hauled the train down from Waterloo in the morning, and back again in the evening – but the return was via Bristol TM and Westbury, avoiding the need to turn the loco. For reasons I cannot now remember, we got away from Exeter 23 minutes late – and of course starting from platform 6, with the additional constraint of a 20mph tsr around Riverside. The climb was not as good as the 2018 effort – but of course there was a long run ahead to consider – but stands comparison to Tornado's 2011 effort. After passing Taunton at full speed, we then had a splendid high-speed run across the levels, and stopped alongside Temple Meads station in under 75 mins from Exeter, despite a severe signal check at Worle Juntion. We successfully recovered all the arrears of the late start – only to end up 12 mins late in Waterloo because of a track fault outside the terminus – a very special day nevertheless

WANDERINGS IN WEST WALES

JOHN SPARKES

In 1993, steam returned to the Central Wales line for the first time since 1964 to commemorate the 125th anniversary of the route, with steam from Shrewsbury to Carmarthen. Whilst the engines were in the area, the opportunity was taken to run steam over lines in the west of the Principality – very unusual routes for steam. The logs are tabulated below.

CARMARTHEN-TENBY				TENBY – CARMARTHEN				
Date		30/05/1993		Date		30/05/1993		
Train		1028 Carmarthen-Tenby		Train		1255 Pembroke Dock		
Loco		80079		Loco		44767		
Banked from Narberth		44767 Tender first		Removed at Whitland		80079		
Load		7,245/257 3/8		Load		7,245/267 5/8		
Weather		Wet/drizzle						
Dist		m s		miles		sch	m s	
0.00	CARMARTHEN	0 00		0.00	TENBY	0	0 00	
0.55	Carmarthen Bridge J			0.75	MP 274		3 32	
0.88	Llanstephan	5 57		1.50	MP273 ¼		5 04	24/34
1.88	MP 246 ¾	7 09	17½ /30	2.00	MP 272 ¾		6 02	26
4.86	Sarnau	12 50	41	2.75	MP 272 ¼		7 11	24
8.39	St Clears	17 09	53	3.37	Moreton		8 59	37 ½
9.13	MP 254		48	4.16	SAUNDERSFOOT		10 26	31/37 ½
10.13	mp 255	19 20	43/54 ½	4.92	KILGETTY		11 35	
12.28	Whitland TW	21 53	brakes	7.42	Templeton		15 41	
14.03	WHITLAND	26 28		8.75	MP 266		17 54	29
0.00		33 26	26	10.58	NARBERTH		22 27	40/29*/47
	Sig stop	0 12			Detach 80079		34 09	
1.38	MP 260 ¼	4 59	30				45 42	
4.38	MP263 ¼	9 50	26/ 35	15.80	WHITLAND	30	49 16	
5.21	NARBERTH	12 23	17 slip	0.00		35	49 36	
5.63	MP 264 ½	14 58	Stalled	1.75	Whitland TW		3 50	44/58
		24 08	Set back	3.75	MP 255		6 09	53/69
	Restart	106 12		5.64	St Clears		7 46	68 ½
6.13	MP 265	109 50	13	7.75	MP 251			50
6.38	MP 265 ¼	110 55	13	9.16	Sarnau		11 13	56/58
6.63	MP 265 ½	112 00	13	11.45	MP 246 ¾		14 35	Brakes
6.88	MP 265 ¾ (Cold Blow)	113 06		13.13	Llanstephan		16 22	28
7.13	MP 266	114 05	15	13.48	Carmarthen Bridge J	21	17 46	
8.16	Templeton	116 10	40	14.03	CARMARTHEN	25	20 19	
11.64	SAUNDERSFOOT	121 55						
12.43	Moreton	123.16	32 easy					
15.81	TENBY	131 18						

Comments: the maximum load for a class 4 loco in steam days was 252 tons and trains of this weight and over were frequently piloted from Whitland to Pembroke Dock. This calls into question the wisdom of allowing 80079 to run alone. Whether it would have managed the difficult twisting climb to Cold Blow summit in fine weather is an interesting point. It was probably not helpful that 44767 was tender first.

Notes: Fishguard train below:

Weather – fine after a drizzly morning
Late departure caused by late arrival, following the problems with the Trip to Tenby, which arrived at Carmarthen 20 mins late. The special for Fishguard Harbour left 14 minutes late and arrived 25 mins late

Notes: Milford Haven train

Weather – fine Late departure due to delays at Milford Haven (outward train arr 4 L)

Gradient Summary: short Level, then 1 in 82 R to MP282 ¾ , 1 in 440 R to MP 282 ½ , 1 in 88 R to MP 281 ½ , easier with short 1 in 75 R nr Johnston, downgrade apart from two minor summits to Haverfordwest, then steady rise to Clarbeston Road – 1 in 101 from MP 274 ½ to MP 273, 1 in 115 MP273 ½ to MP272, 1in 105 from there to MP 273 ½.

FISHGUARD HARBOUR – CARMARTHEN						MILFORD HAVEN – CARMARTHEN					
Date		30/05/1993				Date		31/05/1993			
Train		1745 Fishguard Hrbr-Carmarthen				Train		1144 Milford Haven-Carmarthen			
Loco		44767				Loco		31/03/2119			
Load		7,245/257 5/8				Load		7,245/257 5/8			
miles		sch				Dist		sch			
0.00	FISHGUARD HARBOUR	0	0	00		0.00	MILFORD HAVEEN	0	0	00	45L
0.63	GOODWICK		2	10	33	0.83	MP 284		3	10	17 ½
1.23	MP 287		3	16	33	1.56	Herbranston J		5	20	24
1.48	MP 286 ½		4	16	30/27	2.08	MP 282 ¾		6	20	25
2.48	MP 286 ½		5	26	24/22 ½	2.33	MP 282 ½		6	50	35
3.48	MP 285 ½		6	46	23	2.83	Gulf Oil Branch J		7	46	32
3.73	MP 285 ¼		7	18	27 ½	3.33	MP 281 ½		8	40	28 ½ *
4.18	Jordanstown		8	57	42	3.99	JOHNSTON		10	02	31 ½ /45/53
4.35	Letterston W.		9	24		5.33	MP 279 ½		11	49	23
6.99	Mathry Road		11	13	53/50/54	8.03	MP 276 ¾				brakes
7.91	Welsh Hook		13	26	51 ½ /58		Sig stop		16	42	
9.70	Wolf's Castle		15	20	60/56				21	58	
10.57	MP 276		16	15	60/62	8.73	HAVERFORDWEST	16	25	14	53L
12.08	Spital TE		17	43	58/53			18	28	29	
13.57	MP 273		19	24	51 ½	9.83	MP 275		31	33	33/41
14.32	MP 272 ¼		20	21	45 ½	11.83	MP273		34	07	39
						12.83	MP 272		36	12	
15.69	CLARBESTON RD	22	24	23	5* token exch	15.69	CLARBESTON ROAD	26	38	14	Water Stop 56L
		24				0.00		0	0	00	26min 67L
17.57	MP 269		26	25	64	0.88	MP 270		1	08	41/53
18.57	MP 268		27	39	74	2.88	MP 268		4	16	64/66 ½
19.57	MP 267		28	26	75 ½ /78 ½	3.88	MP 267		5	11	69/64
21.57	MP 265		30	06	63	6.13	MP 264 ¾		7	36	42
22.32	CLUNDERWEN		30	54	64/69	6.63	CLUNDERWEN		8	18	45
23.57	MP 263		31	52	72	7.88	MP 263		9	45	/64
24.57	MP 262		32	52	51 ½	8.88	MP 262		10	41	66
25.57	MP 261		33	57	60	9.63	MP 261 ¼		11	23	64
26.90	Llanboidy		35	19	62	11.21	Llanboidy		13	00	55 bks
27.70	WHITLAND		35	58	66 ½	12.01	WHITLAND	12	13	49	56
29.45	Whitland TE		37	23	/69	13.76	Whitland TW		15	41	59 ½
31.57	MP 255		39	35	59 ½	14.88	MP256		16	53	50/42
33.34	St Clears		40	11	59	15.88	MP 255		18	13	46/53
34.57	MP 252		42	24	62	17.65	St Clears		20	06	62
35.57	MP 251		43	26	61	18.88	MP 252		21	18	
36.86	Sarnau		44	34	64	19.88	MP 251		22	29	51 ½/58
38.57	MP 248		46	05	63 ½ - brakes	21.17	Sarnau		23	49	56/58
39.57	MP247		47	11	49 ½						Sigs (severe)
40.85	Llanstephan		49	16		25.16	Llanstephan		30	06	
41.20	Carmarthen Bridge J	51	50	16	Caution	25.51	Carmarthen Bridge J	27	31	06	
41.73	CARMARTHEN	53	52	46	18L	26.04	CARMARTHEN	30	32	49	74L

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A demanding line, which must have been a test in the days of steam and must still be so to heavy oil trains.

TWO CASTLES TO PLYMOUTH

LES SUMMERS

For our Past Times Train 'The Mayflower', the initial run behind immaculate EWS Class 47 47793 *Sir Christopher Wren* left Didcot about half a minute late. Running non-stop via Swindon and Badminton we reached Bristol in 62.5 minutes, an average speed of 61.9mph.

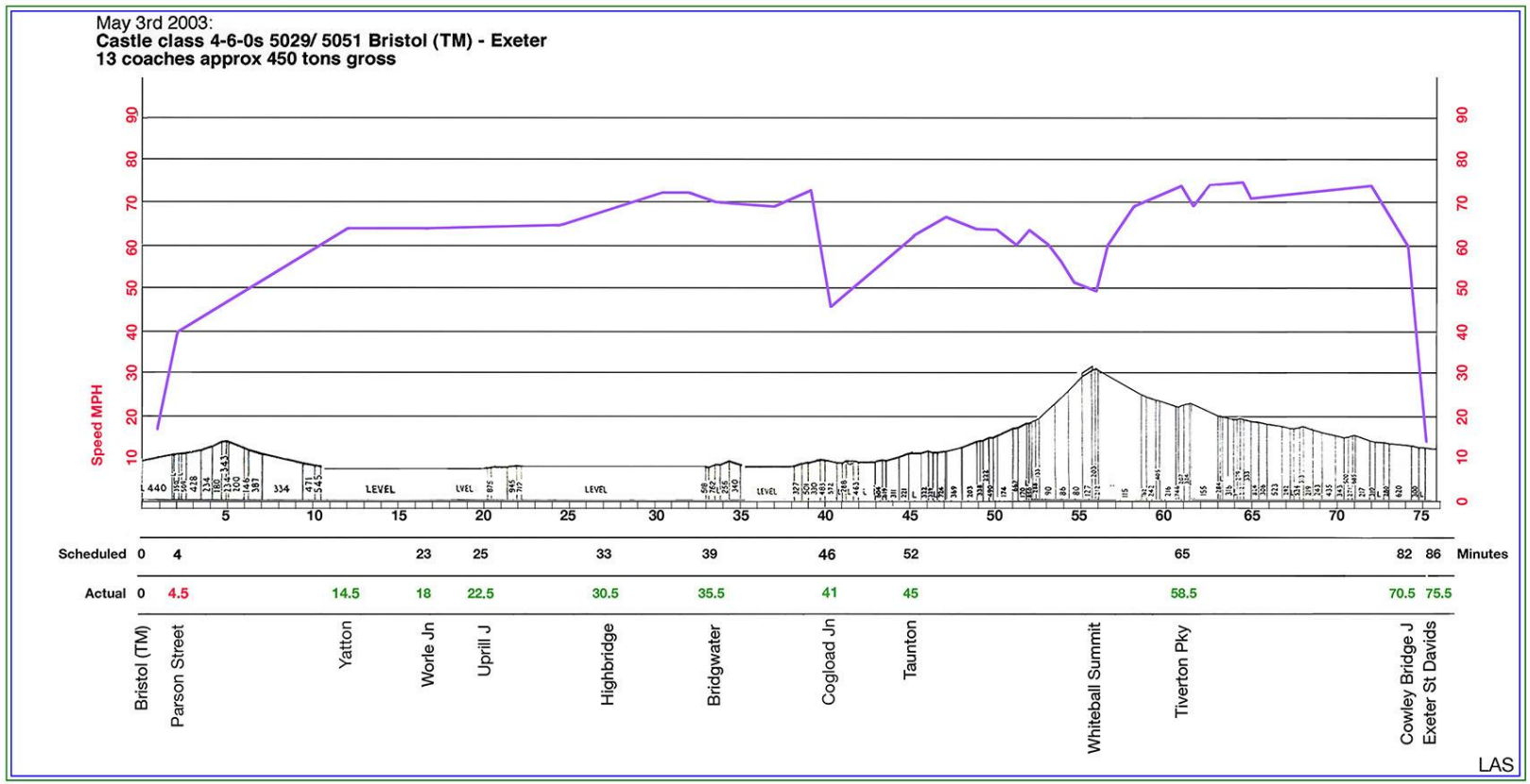
The two *Castles* were awaiting our arrival at Temple Meads but the necessity of picking up a support coach from the back of the train, coupled with some extremely inefficient signalling, meant that we actually left Bristol 8.5 minutes late. However, once away from Temple Meads both engines were opened up to 64 mph and five minutes regained before Worle.

From Yatton right through to Durston the line is flat with just a few inconsequential grades and our engines made full use of this, there was a maximum of 72mph between Highbridge and Taunton with the running almost continuously at 70mph or above. Consequently, we passed Taunton only 1.5 minutes late, just over even time from Bristol. Almost immediately at Norton Fitzwarren Junction starts the climb up to Whiteball: a long ten mile grade finally reaching 1: 90 - 80 over the last 2.5 miles. I recorded an estimated speed at the summit of 50mph but this may be a touch high, I would not argue that it might have been 48/49 mph. There were two engines on our train and taking 13 bogies over the summit at or around that speed bears comparison with published runs by both OS Nock and Cecil J Allen. They reported only slightly inferior readings at this point with similarly loaded trains, hauled by one *Castle*, so I think that the speed quoted, with two engines running pretty well, at least at that point in the day, is acceptable.

Down from Whiteball, through Tiverton to beyond Stoke Cannon there was some very fine running; Tiverton was passed at 73.4mph and for the next 14 miles speed was almost continuously above 70mph with a maximum of 75mph at milepost 182.5. We were three minutes early at Cowley Bridge and two minutes early at the stop at Exeter. Net time from Bristol was 75.5 minutes against a booked time of 86 minutes giving an average speed of 60.07 mph. However, it is clear that had we not been signalled into the side platform necessitating a very slow run to stop, arrival would have been at least two minutes earlier giving an average speed of 61.7 mph: good for a steam train running in ordinary service. In fact, the pass - pass average Uphill Junction to Cowley Bridge was 68.25 mph.

I have added a graphical representation of this part of the run which requires some explanation. The originator of the system I have deployed appears to have been Humphrey Baker who submitted a graphical log to Cecil J Allen which he published in a 1923 *Railway Magazine* article. The system was used again by Allen, several times, but never became general, probably because, in the manner in which it was used - not all information could be provided. But I think my graph overcomes that constraint. It is not as detailed as some recorders would regard as essential, particularly between Temple Meads and Worle Junction, but the essential nature of the run is immediately apparent. The continuous line shows the speed at various points, the intermediate sections between stations having being timed against quarter-mile posts, provides a reliable support for the overall speed profile, and allows a reasonably accurate estimation of the speed from the outset of the journey to the point where the first time was taken. The provision of a gradient profile set exactly against the speed indicates the main demand on the locomotive's haulage of the train load.

The observer however requires more information than this, and that is provided in the two rows beneath the grid which give the 'scheduled' timing, above, and the 'actual' record below. Since we are able to deploy some colour (we can further improve the readability by putting the 'actual' figures in red where time is being lost and green where the allocated time is being clipped. On this occasion, although the train left Temple Meads 8.5 minutes late, and lost a further half minute to Parson Street, as far as scheduled interval times are concerned, the train ran consistently ahead of schedule, not surprisingly, so the figures are continually green after that point. (incidentally the train was two minutes early into St Davids.) This makes it considerably easier to appreciate the locomotives' performance, now possible virtually 'at a glance'. This is certainly of benefit to even those readers fairly conversant with performance records, and for the inexpert, is a considerable boon. As to accuracy, while I would not hold out this record against forensic study by a latter-day Cecil J Allen, I do believe that recording of intermediate


May 3rd 2003:
Castle class 4-6-0s 5029/ 5051 Bristol (TM) - Exeter
13 coaches approx 450 tons gross
Speed MPH
Scheduled 0 4 23 25 33 39 46 52 65 82 86 Minutes
Actual 0 4.5 14.5 18 22.5 30.5 35.5 41 45 58.5 70.5 75.5
Bristol (TM)
Parson Street
Yatton
Worle Jn
Uprill J
Highbridge
Bridgwater
Cogload Jn
Taunton
Whiteball Summit
Tiverton Pky
Cowley Bridge J
Exeter St Davids
LAS

quarter mile posts, as often as possible, does make it likely that the speed profile is acceptably accurate. *Editors' note: colours not shown in this article but they are on the RPS website].*

After Exeter, the fabulous run round the South Devon sea wall provides no opportunity for fast running, although by Newton Abbot we were 3.5 minutes up on schedule: one minute due to what I considered to be an early departure. Through Newton Abbot at 60mph, speed almost immediately dropped as we felt the gradient up to Dainton which was breasted at 27.2 mph. It was apparent that the train was now being held back, not surprisingly because we passed Totnes six minutes early. It is always difficult to determine from the train what is happening on the engine but one feels that this restraint on the speed was continuous and had the effect of reducing the speed at which we got over Rattery and the summit at Wrangaton. The 1:83 climb to Mutley Tunnel was hampered by pw works and a maximum of 38.2 mph was recorded. Arrival at Plymouth North Road was all of 7½ minutes early, 69.5 minutes from Exeter against a booked time of 76 minutes. This log demonstrates that even allowing for the doubled heading it was a very fine run and the fact that both engines are near enough 70 years old is not without relevance.

After those excitements the return journey started out with considerable disappointment when it was announced that both engines had been failed. About five or ten minutes later a further announcement indicated that only 5051 had been failed and that a diesel would be put on the train to assist 5029 over the banks to Exeter. It is clear that someone jumped up and down at the first announcement, though I have never discovered who. I have not set out a record of the steam/diesel portion of the return, it was plagued by poor organisation at Plymouth, which meant that we left 22 minutes late and two unfortunate incidents, in the latter case involving injury to a member of 5029's support team which meant that we were into Exeter 50 minutes late.

Had someone taken charge at Exeter and got the engine changes and watering completed efficiently we might have left without losing further time. As it was, 5029, now single handedly taking 450 tons left no less than 83 minutes late. (See table II) There was no way that it could make up anything more than a small portion of this time though the crew, to their credit, obviously tried. Out of Exeter, the gradient is almost continuously against the train for around 20 miles up to Whiteball. I clocked the speed at 46mph at Tiverton and this appeared to me to be the maximum until we were over the summit when the *Castle* was finally able to put on a show. The maximum speed down Wellington Bank was 72mph and remained at or above 70mph through Taunton and past Highbridge; between Bridgwater and Highbridge the maximum was 75mph. We had dropped another six minutes and these pyrotechnics only recovered 2.5 minutes of that lost time, so that I estimate that had 5029 been able to run at a reasonable speed thence to Bristol only another 5-10 minutes would have been saved. As it was disaster now struck.

Speed decreased and after crawling through green signals we finally stopped dead near Flax Bourton and remained there for some 24.5 minutes. Little information was coming back from the engine: first we were told that there was a problem with a 'dirty fire' which suggested a considerable wait would be necessary before we got going again, then a more comprehensible reason was announced, char was blocking the draught and the smokebox was being cleared before we could proceed. The problem of poor coal for preserved steam operations has not gone away and may yet halt steam operations. On this particular run, we were 138 minutes late into Temple Meads, a sad end to a very invigorating steam trip.

Date		03/05/2003		
Loco		5029/5051		
Load		13/450 est		
Miles		sch	mins	mph
0.00	Bristol (TM)	0	0.00	
1.85	Parson Street	4	4.50	
16.08	Worle J.	23	18.00	64
19.70	Uphill J.	25	22.00	
26.95	Highbridge	33	30.50	70
	MP 148.5			72
	MP 150			72
33.25	Bridgwater	39	35.50	70(est)
	MP 155			69
	MP 157 (Durston)			72
	Cogload J	46	41.00	
44.80	Taunton	52	45.00	62
	MP 165			68
	MP 169.25			60
	MP 171.75			56
	MP 172.5			51
	Whitehall Summit			50
	MP 176			69
60.75	Tiverton Parkway	65	58.50	73
	MP 179.25			69
	MP			73
	MP 182.5			75
	MP 185.5 (Hele)			70
	MP 190.5			73
74.30	Cowley Bridge J	82	70.50	60
75.60	Exeter St Davids	86	75.50	

Miles		sch	mins	mph
0.00	Exeter St Davids	0	0.00	
0.90	Exeter St		3.00	
	MP 199.5			60
8.50	Starcross		11.00	60 (est)
	MP 204			62
10.55	Dawlish Warren	14	13.00	65 (est)
	MP 205.25			58
15.05	Teignmouth		17.00	55
20.20	Newton Abbot	25	22.25	60
21.30	Aller J.		23.50	55(est)
	MP 216.75			43
	MP 217.25			36
24.10	(Dainton)			27
28.90	Totnes	40	36.00	37
	MP 224.75			31
	MP 225.25			28
	MP 226.25			31
33.45	Rattery			37
	MP 230			47
	(Wrangaton)			45(est)
39.45	Ivybridge			55
	MP 236.75			43
	MP 238.5			50
44.25	Hemerden	65		33
48.00	Plympton			65
50.55	Lipson J.			38
51.05	Plymouth (NR)	76	69.50	

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Date		03/05/2003		
Loco		5029/5051		
Load		13/450 est		
Miles		sch	mins	Speed
0.0	Exeter St David's	0	0.00	
3.4	(Stoke Cannon)		12.00	45
	MP 187			40
	MP 186.25			32
8.4	(Hale)		15.00	45
12.6	(Cullompton)		20.50	43
14.8	Tiverton Parkway	20	26.00	46(est)
	MP 177			45
	MP 176			36

Miles		sch	mins	Speed
	Whitehall			30(est)
	Wellington Bank			72(max)
28.8	Norton Fitzwarren		39.50	69/70
30.8	Taunton	32	41.00	69/70
42.3	Bridgwater	42	50.50	75
48.6	Highbridge	47	55.50	75
55.9	Uphill J.	53	65.00	
60.0	Worle	56	71.00	
63.6	Yatton		77.00	
67.5	Nailsea		84.00	
	Flax Bourton			stop 24.5min
74.7	Bedminster		125.00	
75.6	Bristol TM	75	130.00	

Swindon Gloucester August 1985

Michael Rowe

The initial preparations for the 150th Anniversary celebrations of the Great Western Railway commenced in 1980 with the formation of an ad hoc committee. The festivities appropriately, were to be centred on Swindon: including an exhibition at Swindon. a mobile exhibition and a series of steam hauled trains. The subsequent announcement of the impending final closure of the Swindon Works led to a scaling down to a travelling exhibition and, during August, two daily steam hauled return trains between Swindon and Gloucester. There were also '150year' themed steam hauled specials such as Plymouth to Bristol, Newport to Swindon, Tyseley to Stratford upon Avon. Naturally these involved Swindon built locomotives, specifically in order of construction, King Class 4-6-0 No.6000, Hall Class 4-6-0 No.4930, Castle Class 4-6-0 No.7029, BR Standard Class 4MT 4-6-0 No.75069 and BR Standard Class 9F 2-20-0 No.92220. Four of these participated in the Swindon Gloucester workings.

Table A

Log		I		II		III	
Date		07/08/1985		13/08/1985		20/08/1985	
Train		10.55		15.52		10.55	
Loco Class Number		Hall 4-6-0 4930		Hall 4-6-0 4930		Castle 4-6-0 7029	
Load no/tare/gross tons		7/232/-		7/232/-		8/265/-	
Recorder		B.D.J.Walsh		R.White		B.D.J.Walsh.	
m.ch	Location	actual	mph	actual	mph	actual	mph
0.00	Swindon	0-00	sgstp29se	0-00		0-00	
0.39	SWN Loco Yard	4-38	(45)(66)	4-22	/dep 09-32	5-31	/dep 08-30
4.12	Purton	9-18	(63) slack	15-04	49	14-27	(51)(52)
8.13	Minety	13-12	(65)(65)	20-03	47	19-10	(54)(57)
11.11	Oaksey	15-56	34	23-40	52	22-19	54
13.56	Kemble	19-06	(59)(52)	27-46	(25)(40)(33)	26-20	(39)(49)(42)
17.23	Sapperton TE	24-05	(42)(45)sig	34-08	29	31-46	(39)(45)(40)
17,41	Sapperton sum't			34-36	28	32-05	
20.57	Chalford			39-07	51		(47)(55)
22.00	St Marys	32-04	sig(30)(37)		58	36-54	(50)(54)
24.69	Stroud	36-46	(46)(37)	44-34	stop/59-08	40-53	(54)(57)
27.51	Stonehouse	40-33	(20) s stop	4-39	48	43-59	(47)sig(23)
29.32	Standish J	52-14	(52)(59)	7-15	(38)(59)	47-38	(58)(59)
33.51	Tuffley J		-52	13-02	(47)(29)	53-35	57
35.73	Glos Yard J	60-13		14-55		56-33	
	Tramway J	62-38				58-27	
36.65	Gloucester	64-36	1ML	18-41	stop	59-35	4E

The Swindon Gloucester route included the climb to Sapperton with the result that although loads were light (seven or eight coaches) the locomotive performances were not without interest. The start from Swindon is favourable to Purton with gradients between level and 1/260 Down. The line then rises to Kemble with stretches at 1/330, 1/400, 1/406, Level and the final 3.1 miles at 1/330. The Swindon Kemble section in 1985 was single track. The four miles from Kemble to Sapperton Summit begin with a Level third of a mile and then rise at 1/123 and 1/200 before a mile at 1/100 and a final mile at 1/94.

From Gloucester the initial 7.4 miles to Standish Junction are overall adverse, the steepest sections 1½ miles at 1/104 and 1.2 miles at 1/299 before Standish Jct. The next 7.4 miles to Brimscombe, are adverse and conclude with two miles at 1/250. The Sapperton incline commences at Brimscombe: 1/103 to St Marys level crossing, then 1/75, 1/70 and 1/74 to Mile Post 98, a short level is followed by 1/75 and 1/60 to the tunnel entrance and finally 1/90 through it, to the Summit.

Hagley Hall, No.4930 (log I) was the only down run to hurry, if only slightly. Initially there was a 29 second wait for the single line Kemble section. then with speeds in the mid-sixties, a signal check to 34mph at Oaksey, 59mph after Kemble and 42mph minimum. Sapperton tunnel was entered in five seconds over 24 minutes. This enthusiasm resulted in checks all the way to Gloucester. The schedule for the 10.55 non-stop to Gloucester was to Swindon Loco Yard in four minutes, Kemble 23, Standish J 51 and Gloucester 64 minutes. Six days later (Log III) No.4930 with an additional coach reached Gloucester four minutes early without exceeding 57mph, a minimum of 40mph up to Sapperton and a check to 34mph past Kemble.

The Standard 4 No.75069 (Log IV) regained two minutes of a late start but throughout, the exhaust suggested all was not well; the minimum before the tunnel was 35mph. Earlier in the year the loco had hauled an eight coach (284/310 tons) SLOA excursion from Newport to Swindon via Gloucester and back to Gloucester. The running better reflected the loco's capability: 66mph before Kemble, passed in 16 minutes 38 secs, 37mph maintained on the last mile up to Sapperton and Stroud reached in 34m24s following a signal check at Chalford. From the restart Tuffley Junction was passed in 12m29s with a maximum 69mph.

Castle No.7029 (logs III & VI) improved on the generous schedule reaching Gloucester four and 9½ minutes early. Minimum speeds to Sapperton were 40mph and 38mph respectively, maxima were 59mph before Kemble and 59mph at Stonehouse respectively. Bruce Nathan summed up the performance on the 25th succinctly, "Nothing exceptional in the way of speed, but quite a good climb to Sapperton summit and plenty in hand on this very easy booking."

There had been some doubt as to whether the King No.6000 would be available following earlier difficulties. On the morning of the 21st she ran to Swindon light engine with the Standard 4 but it was uncertain as to whether she would run. In practice the Standard Class 4 hauled the morning departure and the "King" the afternoon one. The footplate crew took matters very gently. {log V). The verdict from the footplate at Stroud was a cautious "she seems fine so far".

Table B

Log		IV		V		VI	
Date		21.8.85		21.8.85		25.8.85	
Train		10.55 bright & dry		15.52 bright & dry		10.55	
Loco Class Number		BR4 4-6-0 75069		King 4-6-0 6000		Castle 4-6-0 7029	
Load: no./tare/gross ton		7/234/260		7/232/260		8/265/280	
Recorder		M.J.Rowe		M.J.Rowe		B.I.Nathan	
miles		mm ss	mph	mm ss	mph	mm ss	mph
0.00	Swindon	0-00	12L	0-00	2L	0-00	¼L
4.12	Purton	7-20	(52((47)	10-52	(46)(39)	7-36	(54)(51)
8.13	Minety	12-07	(53)(54½)	16-28	46	12-09	(53)(55)
11.11	Oaksey	15-00	54	20-23	49	15-23	(54)(59)sig
13.56	Kemble	19-13	36	24-53	30	18-44	(34)(45)(38)
16.73	Sappert'n Siding	24-30	(42½)(36)	31-50	(36)(		38
17,23	Sappert' Tnl E.	24-50	35	32-25	23½)		
	Sapperton Sumt		35			24-24	38
20.57	Chalford	30-43	(62)brk(45)	39-40	41	28-11	52
24.69	Stroud	35-07	47	45-47	stop/65-11	33-13	(53)(56)
27.51	Stonehouse	38-18	57	5-04	(55)(51)	36-15	(57)eased
29.32	Standish Jct4	40-48	36	7-44	stop/18-20	39-08	34
	MP 94	45-33	(60)(61)	15-47			50
35.73	Glos Yard Jct	49-00	22	22-19		48-32	
	Tramway Jct	51-05	sigf (2)	23-32		51-28	
36.65	Gloucester	62-00	10L	25-06		56-14	7½E

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The UP direction running was more interesting, as indeed the gradient profile would suggest. The Hall on the morning service, after the initial enthusiasm of the Down run returned very

Table C							
Log		VII		VIII		IX	
Date		7.9.85		13.8.85		20.8.85	
Train		14.00		18.55		14.00	
Loco Class Number		Hall 4-6-0 4930		Hall 4-6-0 4930		Castle 4-6-0 7029	
Load: no/tare/gross		7/232/-		7/232/-		8/265	
Recorder		B.D.J.Walsh		R.White		B.D.J.Walsh	
mile	location	actual	mph	actual	mph	actual	mph
0.00	Gloucester	0-00	1¼L	0-00	1L	0-00	½E
	Horton Rd Jct	2-19		1-12	17	1-18	
0.72	Glos Yard Jct	4-43		3-07	23	3-05	
3.14	Tuffley Jct	7-04	(41)(45)	4-59	42	6-26	(53)(56)
7.33	Standish Jct	15-40	30	11-39	(30) sigs	11-59	(44)(47)
9.14	Stonehouse	19-51	(34)(49)	18-49	37		
11.76	Stroud	24-04	(42)(40)	22-52	(50)(45)	17-48	(59)(58)(62)
14.65	Brimscombe			26-34	(42)(47)		
15.14	St Marys LC	28-50	(41)(44)(20)			21-08	(56)(53)(50)
16.01	Chalford+			28-10	(49)(41)		
	Spper'tn Tnl W			31-34	(35)(39)(37)		
	Sapper' summit	38-13		33-39	(34)(58)	25-42	
19.42	Sapperton Tnl E	38-46	(47)(56)			25-58	(63)sig(34)
23.09	Kemble	43-08	(53)(61)(51)	39-39	dep/64-07	31-36	dep/34-36
25.54	Oaksey	46-04		4-35	53	38-11	(70)(74)
28.53	Minety	49-31	(44)(45)(50)	7-43	59	40-37	75
30.09	MP 84	51-31	(46)(50)			41-49	(79)(80)
32.53	Purton	54-39	46	12-11	52	43-46	(72)(62)
	SWN loco sdg	59-53		16-49	24	46-11	
36.65	Swindon	62-23	3¼E	19-02		50-59	16½E

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Table D							
Log		X		XI		XII	
Date		21.8.85		21.8.85		25.8.85	
Train		14.00		18.55		13.20	
Loco Class Number		BR4 4-6-0 75069		King 4-6-0 6000		Castle 4-6-0 7029	
Load: no/tare/gross		7/234/260		7/234/260		8/265/280	
Recorder		M.J.Rowe		M.J.Rowe		B.I.Nathan	
miles		mm ss	mph	mm ss	mph	mm ss	mph
0.00	Gloucester	0-00	8¼L	0-00	17½L	0-00	1½L
	Tramway Jct	1-00		1-50		3-17	
0.72	Glos Yard Jct	2-07		3-07		5-28	
3.14	Tuff' Jct MP95	6-16	(45)(53)	5-07	(46)(55)	7-45	(31)(36)
7.33	Standish Jct	12-12	32	11-30	sig(16)	17-44	(30)(38)
9.14	Stonehouse	15-21	(40)(52)	15-46	(39)(58)	20-54	(40)(41)
11.76	Stroud	18-41	53	18-50	55	24-34	(48)(51)(46)
14.65	Brimscombe	see	separate	table		27-02	46
16.01	Chalford					29-37	(40)(38)(35)
	Sapper Tnl W	27-08	28	29-04	44		
	Sapp'r Summit	30-14	24	30-30		35-01	(49)(58)eased
19.42	Sapp.n Tnl E	30-49		30-55	(71) max		
23.09	Kemble	35-34	49	35-56	dep/58-55	39-53	(46)(47)
25.54	Oaksey	38-37	(50)(56)(47)	4-03	68	43-26	(41)(40)(43)
28.52	Minety	42-02	(50)(48)(51)	6-28	74	48-13	(44)(42)(45)
32.53	Purt0n	47-04	49	9-58		54-08	(47)(45
	MP 77¾	54-14	dep/57-04	16-42	dep/20-35		
36.65	Swindon	59-57		23-22		62-35	1E

conservatively, falling to 29mph at Sapperton and reaching 61mph after Kemble. Mr Nathan's note of his return run with the 'Castle; read "A slow start out of Gloucester, but performed very well up the bank to Sapperton in contrast to the same locos last 'official' run in 1965: then took


46229
408
Passengers must not cross the line


703
6201


35028
THAMES-AVON
EXPRESS
25


423
AWS
B
44
B
42
AWS
118


B
42
AWS
60163


70013
100

things very easily but still came into Swindon on time." In 1965 No.7029 with a ten-coach train (340/370 tons) after passing Stroud at 40mph fell to 9mph at one point before Sapperton; taking almost seventeen minutes from passing Stroud to the summit,

All six trains ran easily as far as Stroud: Table E details four climbs from Stroud to Sapperton summit, including the better of the two with the Hall and the Castle.

Standard 4 No.75069 continued its smoky way as per the down direction, but more so; the passage of the tunnel was especially sulphurous, average speed was 20.7 mph. The time from passing Stroud to the summit was 12 minutes 43 seconds. On the March SLOA run: 48mph at Brimscombe, 21mph at MP97, 24mph at MP96½ and, after a slip to 13mph entering the tunnel, average speed through it was 16.8mph.

The Hall, although slower than 75069 over the initial stages, entered the tunnel at 35 mph: Stroud to the summit occupied 11minutes-47seconds. The Castle with a time of 7m54s and the King, including the signal check 11m40s, 8¼ minutes net, were in a different league as their BR power classifications of 7 and 8 would suggest.

The King's (Table E log XI) Gloucester departure was badly delayed by the late running DMU, and despite restraint and a signal check after Standish Junction was still badly checked at Mile Post 99½. Once clear, the Driver and Inspector presumably decided No.6000 was in good "nick", speed rose from 29mph to 42mph on ½ mile at 1/185, 42mph was maintained on 1/103 and 1/70, increased to 45½mph on the 1/74. There was an easing entering the tunnel, the average through the tunnel on the 1/90 to the summit was 44.3mph. The 86 second passage contrasted with 186 seconds by 75069 earlier in the day. Number 6000 developed a maximum EDHP on the climb of 1,650-1,700, 1,400-1,450 through the tunnel.

The Castle {Table E log IX) the previous day, with an additional carriage, probably performed even better. It had the advantage of reaching 62mph after Stroud and still travelling at 56mph past Brimscombe. The time of 4 minutes 34 seconds from there to the summit was excellent. The log suggests the minimum before the tunnel entrance was 50mph indicating an average EDHP over the three miles from Brimscombe of 1625-1675. The Hall developed an EDHP c.1000 over the same section and the smoky 75069 c.650-700. In fairness to 75069 the EDHP in the Down direction up to Sapperton had been in the range 900-950.

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Table E Stroud to Sapperton Summit

Log number		X		VIII		IX		XI	
Loco no. load tare		75069 7/234		4930 7/232		7029 8/265		6000.029915	
location	gradient	actual	mph	actual	mph	actual	mph	actual	mph
Glo;'ster		00-00		00-00		00-00		00-00	
Stroud		18-41	53	22-52	50	17-48	59	18-50	55
MP 100	1/100R 1/185R	20-59	55		45		58	20-55	sigs
MP 99½	1/185R Level	21-32	53	26-34 A	42		62	23-47	29
MP 99	1/310R 1/103R				47	21-08 B	56	24-42	42
MP 98½	1/75R 1/70R	22-46						25-23	42
MP 98	1/70R 1/74R	23-24	45	28-10	49		55	26-05	43
MP 97½	1/74R	24-08	36		41			26-47	43
MP 97	Level 1/75R	24-50	33				53	27-23	45½
MP 96½	1/60R	25-54	28				52	28-04	44
MP 96	1/60R	27-04	26				59		44
Tnl Ent	1/90R	27-08		31-34	35			29-04	
Summit	1/90R	30-14	24	33-39	34	25-42		30-30	

Notes: A – Time at Brimscombe MP 99¼ B – time at St Marys l/c MP 98¾.

Table F for interest includes three logs from earlier years. Whilst the pre-WWII "Cheltenham Spa Express", as befitting its status for a time as the "World's fastest train", was regularly timed between Swindon and London Paddington the Gloucester Swindon sector received less

attention. The RPS data base has four logs by Mr J.Wrottesley and one from Mr Aston. Castle No.5045 dropped a quarter of a minute to Stroud, gained a quarter of a minute to Kemble and after a brief signal stop reached Swindon half a minute late. (The Swindon departure was on time and the 65 minutes schedule to London was kept with 4¼ minutes to spare). Timekeeping with the seven-coach train, as far as Swindon, involved an average of 35.5 mph between Chalford and Sapperton Siding and a maximum of 69mph before Swindon.

Standard Class 4 No,75000 with single chimney (No,75069 was fitted with a double chimney at Swindon in 1960) was working the "Severn Venturer Special" organised by the Railway Enthusiasts Club, "a tour of certain closed branches in Gloucestershire". Number 75000 hauled the Swindon to Westerleigh Junction and Gloucester to Swindon stages. The climb to Sapperton, with the light load, was gentle but the running with 5ft 8in diameter wheels past Oaksey, before signals interfered, was sprightly.

Castle No.4079, on its last "official outing" was driven easily to Sapperton (36.5mph average between Chalford and Sapperton Sidiing) with controls set at ¾ Regulator and cut off 25%. On the descent Kemble was passed at 76mph and then with Full Regulator and 21% reached 90mph at both Minety and Purton with 87mph in between.

Whilst not quite matching this, Castle No.7029 reached 80mph on August 20 and a similar speed was attained by King 6000 the following day (reached 74mph and was still accelerating. The recorder in the darkness failed to see the mile posts and long welded track prevented the use of rail joints). Bearing in mind there was a steam 60mph limit at the time both runs were surprising. Was this the same footplate crew on both days? The King passed Purton in over half-minute less time from the Stroud restart then No.5045 with the "Cheltenham Spa Express". Number 7029 the previous evening was 1½ minutes better.

Table F

Log		XIII		XIV		XV	
Date		15/05/1936		15/04/1956		08/08/1965	
Train		Chelt'm Spa Xpress		7.18 pm A		Ian Allan Rail Tour	
Loco		Castle 4-6-0 5045		BR4 4-6-0 75000		Castle 4-6-0 4079	
Load: no/tare/gross		7/220		3/90/100		6/206/215	
Recorder		G.J.Aston		H.G.Ellison		M.B.Warburton	
m.ch	location	actual	mph	actual	mph	actual	mph
0.00	Gloucester	0-00	RT	0-00	sigs		
1.06	Glos SJ	3-12		4-13		0-00	
2.02	Tuffley J	5-13	(48)(54)	6-30	32	3-24	43
7.30	Standish J	11-03		12-38	58	8-52	60
9.14	Stonehouse	12-50		14-24	60	10-33	(63)(64)
11.76	Stroud	16-15	dep/15-54	17-05	(62)(47slack	13-31	(44) slack
14.65	Brimscombe	3-21	40	20-30	56	17-11	51
15.27	St Marys LC		42				
16.08	Chalford	6-54	42	21-58	(48)(42)	18-48	(41)(30) B
17.48	Frampton Xng		36	25-06	(33) MP96		
20'52	Sapperton Sdg	12-58		27-58	36	25-11	34
23'09	Kemble	16-45	dep/18-54	30-50	73	28-02	(79) B
25'54	Oaksey	4-36	61	33-02	(73)(75)	29-51	85
28'52	Minety	7-04	63	36-30	sig (47)	31-52	(90)(87)
32.53	Purton	10-35	(68)(69)	41-08	sig(40)(55)	34-25	90
33.69	Bremell Sdg		sig stop		(64)pws(10)	35-27	87
	SWN loco sdg	14-54	/15-02	46-44		sigs	
	Swindon	18-39	½ML	49-10	sigs	41-53	

Although the impending closure of the Swindon works undoubtedly put a dampener on the 150th celebratory events the daily running of four Swindon built locos to and from Gloucester in the August of 1985 recreated the practice of three decades previously well.

A SELECT DOZEN

Paul Ritchie

My selection is based on my enjoyment of steam specials as an 'enthusiastic amateur' rather than as a 'technical expert'. I've briefly summarised highlights of twelve trips, all with different locomotives. Invariably I stood near the front of the train looking out at an open droplight window (goggles on - those were the days!), listening to and observing how the engine was being worked. Times and speeds at locations and mileposts were noted, using a stop watch. I 'upgraded' to using a GPS in 2006.

Many of the logs include speeds in excess of the overall limits imposed on individual locomotives. This added to my excitement and on no occasion did I feel such speeds were reckless.

I wish to conclude this introduction by expressing my admiration for the locomotive restoration and maintenance teams, and the enthusiastic professionalism of the footplate crews, long after steam finished on the main line.

46229 'Duchess of Hamilton'. 14 coaches (full-say 540 tons)
Saturday 29th October 1983. Hellifield-Dent

Departure was two minutes early and after a steady start to Settle Junction (59 mph) the Duchess attacked the 'Long Drag' with great energy passing Settle at 50mph. Two slips in Stainforth cutting brought speed down to 40mph then the Duchess was really opened up, achieving 51mph after Helwith Bridge, 50mph at Horton-in-Ribblesdale 46mph at Ribblehead and 43mph entering Blea Moor Tunnel then 61mph before a photo stop at Dent. The start to stop time was 28m 57s for the 23 miles – a gain of just over 16 minutes on the 45 minute schedule: a magnificent performance.

48151. 12 coaches (full-say 450 tons)
Saturday 24th October 1987. Chesterfield – Edale

A keen crew ensured we were treated to a resounding performance by the 8F. After a strong start 43 mph was achieved before tacking the 1/100 to Bradway tunnel. With full regulator and 60% cut off for the last half mile, speed was held at a minimum of 31.5mph – rousing stuff! In the Hope Valley, the maximum in the dip after Bamford was 58mph then the 8F was opened up for the 1/00, passing Hope at 50mph and with occasional slipping adding to the drama, speed gradually declined to 33.5mph before this gutsy performance ended by a scheduled stop at Edale for water and photographs.

This was 48151's first main line passenger trip following restoration

45596 'Bahamas'. 11 coaches (full-say 425 tons)
Saturday 3rd August 1991. Ludlow – Church Stretton

A strong start led to expectations of a determined assault on the 13-mile climb to Little Stretton. We were not disappointed! 54mph was achieved before a 20mph bridge restriction at Onibury. Hard work continued with 40mph at the top of 1/112 before braking for another bridge restriction taken at 23mph after Craven Arms. Undaunted, the crew rose to the occasion and the 3-cylinder roar from the 'Jub' was music to the ears. Then, with full regulator and 48% cut off, we attained 56mph in the brief dip before passing Marsh Brook box at 55mph. This was thrilling stuff, with the speed falling only slightly to 52 mph at the summit of the 1/112 before braking at Church Stretton for another speed restriction of 25 mph.

75069. 11 coaches (full-say 425 tons)
Sunday 28th June 1992. Exeter Central – Salisbury

This run featured some remarkable hill climbing by this Class 4 rated locomotive with a heavy train. After 62 mph at Broad Clyst, 75069 tackled the adverse gradients in fine style with 43mph at Whimple, 41mph at Honiton and 36mph minimum on the final mile at 1/90 to the tunnel. A lively descent followed, with 71mph before braking for a 20mph TRS at the foot of the climb to Hewish. Working hard, the Standard accelerated to 40mph through Axminster and attained 51mph before braking for a pathing stop at Chard Junction. From there, speed was worked up to 47mph on the 1/200, falling to a minimum of 43mph after a mile at 1/120.

After a scheduled stop at Yeovil Junction, hard work continued through Sherborne (51mph) and up the 1/80 in fine style with a minimum of 28 mph, recovering to 37mph at Milborne Port.

65mph after Templecombe gave impetus for the two- mile climb, mostly at 1/100, to the Buckhorn Weston Tunnel exit at 39mph. Similarly, 62mph at Gillingham helped to achieve a minimum of 31mph at Semley after four miles at 1/130/114/100.

Smart running to Salisbury concluded a remarkable performance by 75069.

60532 'Blue Peter'. 13 coaches (full-say 520 tons)
Saturday 29th November 1997. Crewe – Penrith

Departure from Crewe was 26 minutes late and it was evident that the Carlisle crew of John Finlayson and Steve Chipperfield were keen to regain time. Warming up after a steady start to Winsford (54 mph), the A2 was worked harder, attaining 74.5mph before braking for a TRS to 24 mph at Acton Bridge. More hard work achieved 74mph at Moore, and an exhilarating 75mph through Warrington, but then progress was halted by another TRS to 50mph on the climb to Golborne. Accelerating over the top to 73mph, a slight easing to 68mph through Wigan preceded an energetic climb up 1/104 to Boar's Head, minimum 61.5mph, then 82mph at Balshaw Lane and a smart run in to the Preston stop, achieved a gain of five minutes on the 61 minute schedule.

From the subsequent water stop in the Barton loop (dep 22mins late), good running gained five minutes by Morecambe South Junction (65mph) when Blue Peter's rasping exhaust demonstrated more energy for the challenges ahead. Sweeping through Hest Bank at 70mph, Carnforth 77mph, maximum 80mph, minimum 67.5mph after 2.5 miles at 1/134, 82mph before Milnthorpe, 65mph at Oxenholme (12L) and 48mph at Grayrigg. An easing through the Lune Gorge in the 50's preceded more energy, gaining another minute to Tebay (62mph) but the attack on Shap was thwarted by a 40mph TRS at Greenholme. Nevertheless, the A2 powered up the 1/75 passing Scout Green at 34.5mph and maintaining 29.5mph on the final 1.5 miles to the summit at MP 37.5. A swift descent brought us to an arrival in Penrith Loop 14 minutes late.

Carlisle – Carnforth

Blue Peter's return south, 20 minutes late, was in the hands of Bob Hart and Peter Dykes. The A2 was worked very hard, passing Penrith at 70mph in 24m25s (schedule 20 minutes!). There was no let-up on the climb to Shap Summit. After seven miles at 1/125 the speed was 52mph and with the loco continuing to blaze away on slightly easier grades, Shap station was passed at 61mph and this speed was maintained up the final 1/106/130, achieving a Carlisle-Shap Summit time of 38 minutes 45 seconds. Outstanding!

Lively running included 85mph at Scout Green before braking hard for a 40mph TRS at Greenholme, 70mph at Low Gill, 68mph at Grayrigg, 79/83mph at Oxenholme, and 82mph at Milnthorpe, before adverse signals brought speed down to 15mph at Carnforth.

60800 'Green Arrow' 11 coaches (full-say 425 tons)
Saturday 7th November 1998. Preston – Carlisle

The V2 took over this train at Preston 55 minutes late and I expect Carlisle driver Gordon Hodgson relished the challenge to regain time with one of his favourite locomotives. 65mph was achieved after eight miles and for the next 20 miles, speed was maintained in the 65-76mph range, falling only to 57.5 mph on the 1/134 north of Carnforth. Then 68.5 mph on the level before Milnthorpe, 57mph at Hincaster (top 1/173), 45mph at Oxenholme, 35mph minimum at Grayrigg, 61.5mph in the Lune Gorge, 59mph at Tebay, 33mph at Scout Green and a minimum of 26mph at the top of the 1/75 (MP 37.5). Running remained unchecked by out of course delays and we stopped in the loop at Penrith having gained eight minutes on the 94-minute schedule from Preston. Leaving just 17 minutes late, and with good running, maximum 78mph, a further seven minutes were gained to Carlisle, notwithstanding a signal check to 31mph at Upperby Junction.

34027 'Taw Valley' 10 coaches (half full-say 380 tons)
Saturday 4th March 2000. Crewe – Carlisle

Drivers were Kevin Treeby to Carnforth, then Peter Kirk to Carlisle.

I've included this run for the performance between four signal checks (Acton Grange, Wigan, Farington, and Lancaster) and a check/brief stop before an unscheduled visit to the loop at Penrith. Also, there was a TRS to 28mph for a mile approaching Barton & Broughton and a short restriction to 30mph after Hincaster.

Highlights were the acceleration from 61.5mph at Winwick Junction to 69.5mph after the two mile climb mainly 1/132/150 to Golborne Junction; the acceleration from 16.5mph through Wigan to 48.5mph at Boar's Head (top 1/104); speeds maintained between 70 and 75mph for 10 miles before Lancaster; and the acceleration from 43mph at Lancaster to 72mph at Hest Bank, before stopping in the loop at Carnforth for water, having gained six minutes on the schedule from Crewe.

From the Hincaster slack, Taw Valley accelerated to 48mph at Oxenholme, raised the echoes with 57mph after two miles at 1/131, and a superb 52mph minimum on the final two miles at 1/106 to Grayrigg.

The running to Penrith was unexceptional probably because of the reason for the unscheduled stop in the loop: Taw Valley was uncoupled to gain access to a non-electrified siding for coal to be brought forward in the tender, clear of the overhead wires.

A sprightly run followed, with speeds for 12 of the 18 miles to Carlisle in the 73-81mph range.

35005 'Canadian Pacific' 10 coaches (full-say 390 tons)
Saturday 9th September 2000.
Taunton – Exeter St David's. Driver: Colin Parry (?)
The climb to Whiteball began with 22mph at Norton Fitzwarren after a water stop in the loop at Silk Mills (departure two minutes early). By Wellington we were doing 56mph, then a maximum of 58mph and a rousing 51.5mph after 2.5 miles at 1/90/86/80. Smart running brought us into Exeter St David's eight minutes early.

Exeter St David's – Bristol. Driver: Brian Dudley-Ward

After a steady re-start to Silverton (61 mph), Canadian Pacific really got going with 66.5mph at Hele & Bradninch, 74mph at Cullompton, 72.5mph Tiverton Junction, 78mph maximum, 76.5mph Tiverton Parkway, and 72.5mph minimum at the top of two miles at 1/115 just before Whiteball Tunnel. First class footplate work continued with speeds maintained between 70 and 78mph for 46 miles between MP 184 (after Hele & Bradninch) and MP138 (Uphill) when brakes were applied to observe a 40mph TRS. Recovering from this, speed reached 75 mph after 2.5 miles of 1/334, followed by 72.5mph minimum at the top of two miles at 1/387/146/200. Arrival at Temple Meads was on time. Absolutely outstanding.

General note: I travelled on this train with 35005 throughout from Birmingham Snow Hill via Stourbridge J, Bristol, Bath and Westbury to Paignton, returning direct to Bristol then as outward, approximately 450 miles. 8h06m out, 6h46m back. Scheduling/timekeeping was exemplary. The maximum lateness anywhere on the whole journey was three minutes, concluding with the Kingswear arrival seven minutes early and return to Snow Hill nine minutes early.

45407 running as 45157 'Gordon Highlander' 10 coaches (full-say 390 tons)
Saturday 7th July 2001. Carlisle – Mauchline and Glasgow Central - Carlisle

To Dumfries, Paul Kane was driving, Steve Chipperfield firing, and Gordon Hodgson was the Inspector. The Black 5 took over at Carlisle and was soon into its stride passing Gretna Junction, 8.5 miles in 11 minutes with a maximum of 65.5mph at Mossband. The 26-minute schedule for the 24.5 miles to Dumfries was impossible for a loco nominally limited to 60mph, and there was a 35mph TRS for 1.5 miles soon after Gretna. After a strong recovery from this to 63mph, speeds were maintained in the 60's (maximum 67mph), apart from 58 mph on the 1/200 at Ruthwell Bank, before braking for a water stop at Dumfries eight minutes late.

Departure was also eight minutes late with Gordon driving and Paul firing. We were treated to a masterful performance to arrive at Mauchline seven minutes early despite a short TRS to 30 mph before Holywood and another to 20mph before Kirkconnel. Hard work achieved 49mph before braking for the 40mph limit over Portrack Viaduct, right at the foot of the 13-mile climb to Drumlanrig Tunnel, mostly at 1/200/150. This was attacked with great vigour with a maximum of 61mph before Thornhill (58mph), and concluding the 1/150 at 55.5 mph, a resounding result! Speed was kept to 63mph on the easier grades before surmounting 2.5 miles at 1/180 at 56.5mph. Kirkconnel was passed at 36mph – recovering from the TRS - then another resounding effort brought speed to 62mph at New Cumnock and with free running to a 66.5mph maximum, we stopped at Mauchline seven minutes early, a gain of 15 minutes.

From Glasgow Central to Carstairs, Paul was driving and Gordon firing. Departure was 8 minutes late, but this was more than recovered after a reduced pathing stop at Braidhurst, before passing Motherwell three minutes early to begin the 10.5-mile slog to Craigenhill at 17mph. It began to rain but undeterred, the Black 5 blasted away, surefooted, reaching the top at 52.5mph showing a white feather.

Passing Carstairs at 30 mph (still three minutes early) following a short TRS, Steve took the regulator with Paul firing to Lockerbie. They demonstrated once again what a Black 5 can do, quickly attaining 62mph, then averaging exactly 60mph over the final eight miles to Beattock Summit where the speed at the top of the 1/99 was 56.5mph. What a triumph!

Good running, restrained to 65 mph maximum, and a shortened water stop at Lockerbie (which replaced the scheduled stop in the loop at Beattock) enabled a re-start 27 minutes early. Once up to 60mph the Black 5 was eased a little to maintain speeds in the 60-67mph range for the next 19 miles. An unchecked run brought us into Carlisle in just under 30 minutes start to stop for the 26 miles. The schedule was 28 minutes pass to stop.

This was the best 'Class 5' performance I've been fortunate to witness – a masterclass of enthusiastic expertise on the footplate throughout, and the Black 5 was never short of steam even when being driven extremely hard which was most of the time!

5690 'Leander' 9 coaches (full-say 345 tons)
Saturday 2nd September 2006. Crewe – Carlisle - Crewe

Departing four minutes late, with Albert Seymour driving and Alastair Meanley firing, a fast start saw us through Winsford in 10m17s at 73mph and this was the minimum speed (max 83mph at Moore) until braking 20 miles later to 56 mph for a 60 mph TRS at Winwick Junction. Although progress was then hampered by signal checks and a TRS, arrival at Carnforth Loop for water was almost on time.

Re-starting four minutes late, an unchecked run to Carlisle in 67 minutes 38 seconds was outstanding, with just over 18 minutes gained on the 86 minute schedule! Notable speeds were 52mph at Oxenholme, 43mph minimum at Grayrigg, Tebay 72mph, 38mph minimum on Shap, 85mph at Clifton and 86mph before Southwaite.

This excellent run was even more remarkable as it was accompanied by heavy rain throughout.

With Albert Seymour driving and Dean Morris firing, we left two minutes late with no let up in the weather – the heavy rain persisted. Passing Penrith in just under 25 minutes at 66mph, the long 1/125 was topped at 48mph, and the final 1/106/130 at 47mph. We shot past Scout Green at 83mph, Tebay 81.5mph, Grayrigg 72.5mph, Oxenholme 82mph, Milnthorpe 78mph, before arriving in the loop at Carnforth for water,10 minutes early.

We were able to leave 10 minutes early and by Warrington, this had increased to 16 minutes notwithstanding three moderate temporary speed restrictions. Further delays caused by signal stops at Acton Bridge and Crewe Coal Yard, and slow line running was insufficient to prevent a six-minute early arrival at Crewe when the crew received a much deserved round of applause.

71000 'Duke of Gloucester' 9 coaches (full-say 340 tons)
Monday 28th May 2007 Bristol – Plymouth - Bristol

On the footplate: Ray Churchill, driver; Chris Birmingham, fireman; Andy Taylor, Inspector.
Leaving Temple Meads nearly 12 minutes late, the Duke was soon into its stride with speeds in the 70's for 47 miles from Flax Bourton until the climb to Whiteball, where the speed at the top of the 1/80 was an amazing 69mph. We stopped for water in the loop at Tiverton Junction just three minutes late.
Resuming one minute late, lively running to a pathing stop at Newton Abbot preceded an all-out attack on Dainton Bank, accelerating to 55mph before falling to 49mph at Stoneycombe and 41mph minimum into the tunnel.

We suffered a signal check to 6mph approaching Totnes, passed at 42mph. Another superb effort on Rattery Bank increased speed to 51mph, falling only to 44mph at Tigley (1/52). The 60mph line limit on to Hemerdon prevented any more drama, then with a maximum of 78mph down the bank, arrival at Plymouth was two minutes early.

Leaving Plymouth on time, with the same crew, the Duke's assault on Hemerdon began with 66mph at Plympton and we blasted up the 1/42 at a minimum of 35mph. At Totnes we were checked for a diversion through the platform at 25 mph, then had to ease for the 55mph restriction before opening up on the climb to Dainton at a minimum of 44mph. Good running

brought us into Exeter St David's 12 minutes early in an estimated net time of 57 minutes from Plymouth.

Steady running from St David's successfully took account of a Voyager which had left just before us, and was due to stop at Tiverton Parkway. After a bridge restriction to 30mph approaching Tiverton Junction, we swept through Tiverton Parkway at 71mph, increasing to 73mph before topping the 1/115 at 68 mph. Impressive!

A 25-minute scheduled stop at Taunton was reduced to 23 minutes. We left 15 minutes early and arrived at Temple Meads 25 minutes early in just over 42 minutes for the 45 miles from Taunton.

A fitting conclusion to an outstanding performance.

70013 'Oliver Cromwell' 10 coaches (full-say 390 tons)
Saturday 2nd July 2011 Liverpool Street – Norwich

Driver: Andy Taylor, Fireman; Craig Stinchcombe. A determined effort was made after an eight-minute late departure, producing speeds in the 60's on the rising gradients, with a maximum of 67mph at the foot of the three miles of Brentwood Bank at 1/103/85/156. The Brit tackled this in fine style with a minimum of 50.5mph and burst through Shenfield at 66.5mph, and later, a maximum of 79mph through Witham.

Seven minutes were gained to Colchester (water stop) and lively running resumed with a minimum of 60mph at the top of the 1/157 after Bentley before a signal stop of nearly three minutes at Ipswich. Another signal check to 17mph at Haughley Junction prompted a rousing recovery on the 1/131, sweeping down through Finningham at 65mph. Speeds were maintained between 65 and 78 mph for 24 miles before braking for Norwich where arrival was six minutes early.

PRESERVED STEAM 1971-2021

Sandy Smeaton

On the basis that the readership would prefer to be entertained, the runs below are all outstanding examples of preserved steam performance. I confess to being uninspired by 60009 plodding around Scotland at sub-60's speeds after release from its imprisonment at Lochty in the early 1970's. But after steam returned to the West Highland Extension the positioning runs on the West Highland Line (WHL) main line out of necessity produced some excellent hill climbing (Ref 1). However operational problems frequently caused late running.

Reaching Craigendoran under an hour late was the exception rather than the rule. Of the 10 specials that ran from Fort William to Edinburgh between 1987 and 1993 only two kept time. The Achilles Heel was the climb from Arrochar to Glen Douglas where in autumn or winter would be damp, frosty or leaf strewn. The problem was overcome with occasional double heading, but post 1993 the privatised railway was increasingly less tolerant of the risk of shutting the WHL compared to the old BR regime with at least some sympathetic managers. Consequently, the annual WHL steam runs have become less regular. The most recent single headed up run was worked by 62005 in May 2014 as part of the 'Great Britain'. When 60532 appeared and NELPG brought it to Scotland even it did not inspire. 50 ft^2 of grate for firemen unaccustomed to it led to embarrassing blow-ups. However, after the 'Open Access' water shed of 1994, the combination of keen Carlisle footplatemen and WCML paths the performance improved markedly.

Table 1								Miles	M	C	LOCATION	Sch	M	s	Speed
Date:			Sat 21.3.98					33.50	33	40	MP		30	22	79
Train:			07.10 Birmingham - Carstairs					34.50	34	40	Wamphray		31	06	83
Locomotive:			60532 'Blue Peter'					37.00	37	00	Murthat (MP)		32	58	76
Load:			10 coaches/362 tons tare/390 gross					39.75	39	60	Beattock	40	35	13	73
Dvr/Fmn/Inspr:			B.Grierson/G.Hodgson/J.McCabe					41.00	41	00	MP		36	17	67
Weather:			Dry, no wind					42.00	42	00	"		37	12	64
Recorder position:			3/11 /No GPS					43.00	43	00	"		38	10	60
Miles	M	C	LOCATION	Sch	M	s	Speed	44.00	44	00	"		39	09	61
0.00	0	00	CARLISLE (Pl 3)	0	0	00	4L	45.00	45	00	Greskine (MP)		40	09	59
0.75	0	60	Caldew Jn		2	33	34	46.00	46	00	MP		41	11	56/58
2.08	2	06	Kingmoor		4	30	50	47.00	47	00	Harthope		42	14	57
4.00	4	00	Rockcliffe (MP)		6	29	62	48.00	48	00	MP		43	19	54
6.09	6	07	Floriston		8	19	73	49.00	49	00	"		44	26	53
7.00	7	00	MP		9	04	76	49.75	49	60	Beattock Summit	50	45	18	52
8.75	8	60	Gretna Jn	8	10	28	71	52.61	52	49	Elvanfoot		47	45	77/73
10.25	10	20	Quintinshill (MP)	10	11	46	67/65½	55.10	55	08	Crawford		49	47	74
13.00	13	00	Kirkpatrick		14	13	69	57.86	57	69	Abington DPL (w)	60	53	57	
14.50	14	40	Minor Summit		15	33	66	2.39	60	20	Wandelmill		4	25	66½
16.75	16	60	Kirtlebridge		17	25	76	5.39	63	20	Lamington		6	47	81
20.21	20	17	Ecclefechan		20	13	72	7.14	65	00	MP		8	06	80/77
21.00	21	00	MP		20	53	72	8.89	66	60	Symington (MP)		9	27	81
22.00	22	00	Castlemilk Summit		21	43	72	10.64	68	40	Thankerton		10	43	86
24.00	24	00	MP		23	16	81	12.14	70	00	Leggatfoot		11	48	80
25.84	25	67	LOCKERBIE	26	24	37	79/80	13.14	71	00	MP		12	33	84
28.69	28	55	Nethercleugh		26	45	78	14.89	72	60	"		14	47	Tsr 28
31.75	31	60	Dinwoodie		29	02	80	15.75	73	49	CARSTAIRS	21	17	31	5E

Table 1 is an example of the A2's capability. 'Blue Peter' had worked from Crewe and passed Grayrigg and Shap Summit at minimum speeds of 60mph and 55mph respectively. North of the border the A2 was no less dismissive of the gradients. Castlemilk, only 22 miles from Carlisle, was passed in even time after climbing 12 miles of 1 in 200. Beattock was passed in 35m 13s and the Summit in 45m 18s, climbing Beattock Bank at an average of 59.5mph. To put this run in context, the only faster times to Beattock Summit on record are 6201's on the LMS Trial Run of 1936 loaded to 7 coaches/225 tons, 6225 took 44m45s on 8.6.38 working an LMS special loaded to 7/232/235 (Ref 2) and 46236 in normal service on the 'Mid-day Scot' on 5.12.59, 44m 55s with 8/264/280 (Ref 3).

In 2001, 60800 was to have made its first appearance in Scotland working Pathfinder's 'Galloway Princess', but the V2 was too big to squeeze under OB45 at Newton-on-Ayr so 45407, running as 45157 'The Glasgow Highlander', stood in loaded to 10 coaches/360 tons tare about 385 gross. The northbound route from Carlisle was via the G&SW to Mauchline, Newton-on-Ayr then to Polmadie, where 45407 came off for servicing and 37710 came onto the rear for the short drag into Glasgow Central. Southbound the Black 5 worked out of Central to Braidhurst loop via Bellshill and then the WCML to Carlisle.

The Dumfries to Carronbridge and Braidhurst Loop to Beattock Summit sections are shown in Tables 2A and 2B below. A tsr shortly after the Dumfries restart and a 40mph Psr over Portrack Viaduct meant speed was only 39mph at the bottom of the climb to Carronbridge but had risen to 54½mph at MP83 and reached a maximum of 62mph on the level before Closeburn. On the 1 in 150 rise on to Carronbridge a steady 57mph was maintained. This latter required an average edbhp between Closeburn and Carronbridge of about 1,370.

45407 worked out of Central via Bellshill to Braidhurst Loop from where Table 2B shows the run south over Beattock Summit. Time was kept to Carstairs with a climb to Craigenhill in the low 40's. After a tsr through Carstairs, MP72 was passed at 49mph continuing to accelerate up the 1 in 150 to pass Leggatfoot at 53mph. Farther up the Clyde Valley Crawford was passed at 61mph only falling to 57½mph at the top of the 1 in 152 before Elvanfoot. The subsequent

short level section allowed a rise to 66mph before tackling the final two miles at 1 in 99 to the Summit, where speed fell to 54mph at MP50, nine chains before the gradient falls at 1 in 535 over the Summit. The average EDBHP between Elvanfoot and MP50 was about 1,450 edbhp, a very high figure for a Black 5. At Carlisle a brief conversation with Gordon Hodgson and Steve Chipperfield revealed that they had been trying to go over the Summit at 60mph with the engine in full forward gear!

Table 2A								Miles	M	C	LOCATION	Sch	M	S	Speed
Date:			Sat7.7.01					5.79	86	00	MP		10	38	46
Train:			1z36 10.04 Carlisle-Glasgow					7.54	84	20	Auldgirth		12	45	52
			'The Galloway Princess'					8.79	83	00	MP		14	09	54½
Loco:			45407 (running as 45157)					9.79	82	00	"		15	13	57
Load:			10 /360 /385					10.8	81	00	"		16	14	62
Driver/Fireman/Inspector:			Kane, Chipperfield, Hodgson					11.5	80	20	Closeburn		16	57	61
Weather:			Rain from Kirkconnel					12.8	79	00	MP		18	12	59
Recorder position:			8/11 / No GPS					14.2	77	50	Thornhill	24	19	36	58
Miles	M	C	LOCATION	Sch	M	S	Speed	15.8	76	00	MP		21	17	57
0.00	91	63	DUMFRIES	0	0	00	/slip	16.8	75	00	"		22	21	57
1.29	90	40	MP		3	35	33/Tsr 24	17.5	74	24	Carronbridge		23	05	57
2.79	89	00	"		6	38	40	17.8	74	00	MP		23	24	58
3.38	88	33	Holywood	6	7	25	47/51	18.7	73	05	Drumlanrig Tnl N pass		24	24	55/59
4.79	87	00	Portrack Viaduct		9	14	Psr 39								

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Table 2B								Miles	M	C	LOCATION	Sch	M	S	Speed
As 2A above except			1z37 16.45 Glasgow-Carlisle					16.88	73	00	MP		27	08	33
Weather:			Rain until Craigenhill					17.88	72	00	MP		28	32	49
Miles	M	C	LOCATION	Sch	M	S	Speed	18.88	71	00	MP		29	46	50
0.00	89	70	Braidhurst Up Loop	0	0	00	1E	19.88	70	00	Leggatfoot		30	55	53
0.44	89	35	MOTHERWELL	3	2	21	17	21.38	68	40	Thankerton		32	25	65/54
2.15	87	58	SHIELDMUIR	6	5	36	39	23.26	66	49	Symington		34	25	57/66
3.38	86	40	Wishaw South		7	25	42	26.63	63	20	Lamington		37	42	64
5.13	84	60	Garriongill Jn		10	10	36	29.63	60	20	Wandelmill (MP)		40	35	63
5.88	84	00	Law Jn	15	11	24	39	32.01	57	69	Abington	43	42	54	60/63
7.38	82	40	Castlehill (MP)		13	32	44	34.78	55	08	Crawford		45	34	61
7.94	81	75	CARLUKE		14	18	41/40	36.38	53	40	MP		47	11	57½
9.13	80	60	Braidwood		16	05	43	37.26	52	49	Elvanfoot		48	02	63½/66
9.88	80	00	MP		17	10	42	38.13	51	60	MP		48	51	63
10.88	79	00	MP		18	36	42	38.88	51	00	MP		49	36	59
11.38	78	40	Craigenhill (MP)		19	17	44	39.38	50	39	MP oop		50	07	56½
13.88	76	00	Lanark Jn	23	22	03	62	39.88	50	00	MP		50	39	54
16.26	73	49	CARSTAIRS	26	25	37	Tsr 22	40.13	49	60	Beattock Summit pass	51	50	57	52½

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In 2007 the Railway Touring Co. ran their first 'Great Britain' tour, successfully running from Penzance to Thurso with steam, for which we have to thank the late Nigel Dobbing. The following year a curtailed version, 'The North Briton', ran from Kings Cross to Kyle and back. 71000 featured in both years. In 2008 it worked from York to Edinburgh on the first day. The load was 13/462/490. Forty minutes had been allowed to water the loco in Tyne Yard, but since the coaches also needed watering, departure for Edinburgh was 32L, reduced to 26 minutes leaving the Morpeth pathing stop. Table 3 shows the running thereafter to Drem. On the first stage to Berwick loop 'Duke of Gloucester' took seven seconds under 49 minutes, inside even time for the 50.01 miles, including the cautious exit and entry at both loops. In 1953 the 'Flying Scotsman' was allowed 50 minutes between Morpeth to Berwick, pass to pass. No high output was required, just intelligent use of the gradients producing four running periods above 80mph allowing a punctual departure from the Berwick loop water stop.

Table 3								Miles	M	C	LOCATION	Sch	M	s	Speed
Date:			Sat 12.4.08					41.41	58	52	Beal		37	50	81/82
Train:			1z12 13.46 York – Edinburgh					43.60	60	67	Goswick		39	27	81
			'The North Britain'					44.76	62	00	MP		40	20	77
Locomotive:			71000 'Duke of Gloucester'					46.34	63	46	Scremerston		41	36	70
Load:			13 / 462 / 490					47.78	65	01	Spittal		42	53	53
Driver/Fmn/Insp:			D.Court/S.Hanczar/J.Smith					48.73	65	77	Tweedmouth		44	19	28
Weather:			Rain at Drem					49.76	67	00	BERWICK-UPON-TWEED	68	46	55	24
Recorder position:			8/14 /GPS					50.01	67	20	Berwick DGL (w)	71	48	53	
Miles	M	C	LOCATION	Sch	M	s	Speed	1.00	68	00	Marshall Meadows		3	44	22
0.00	17	19	Morpeth Down Loop	0	0	00	26L	2.00	69	00	MP		5	49	34
0.49	17	58	Wansbeck Viaduct N		2	20	14	2.84	69	67	Lamberton	8	7	14	38
1.31	18	44	PEGSWOOD		5	07	34½	"	54	49	*(Mileage change)*				
2.98	20	17	Longhirst		7	15	57½	4.45	53	00	MP		9	46	39½
3.41	20	52	Ulgham Lane		7	43	58½/64	5.58	51	70	Burnmouth		11	21	47
6.01	23	20	WIDDRINGTON		10	15	63	6.45	51	00	MP		12	25	52
7.96	25	16	Felton Lane		12	00	73	7.20	50	20	Ayton		13	15	55
8.38	25	49	Chevington	16/24	12	20	74/72	8.95	48	40	MP		15	03	63
11.26	28	40	ACKLINGTON		14	40	80	10.45	47	00	MP		16	32	58
12.76	30	00	Coquet Viaduct		15	48	78	11.16	46	23	Reston	17	17	18	57
14.60	31	67	Warkworth		17	14	77	14.45	43	00	MP		21	00	48
16.65	33	71	Wooden Gate		18	50	81	15.45	42	00	MP		22	15	48/47½
17.59	34	66	ALNMOUTH	35	19	31	84	16.24	41	17	Grantshouse	27	23	14	49½
19.76	37	00	MP		21	09	79	17.45	40	00	Penmanshiel Summit		24	39	55
21.76	39	00	"		22	50	68	19.95	37	40	MP		26	51	82
22.19	39	34	Little Mill		23	12	71	20.96	36	39	Co'path		27	34	86
23.25	40	39	Stamford		24	05	74	23.65	33	64	Innerwick		29	35	77
24.01	41	20	MP		24	43	75	24.20	33	20	Skateraw		30	02	74/72
25.76	43	00	Christon Bank		26	01	84	26.20	31	20	Oxwellmains		31	44	74
26.33	43	45	Falloden		26	25	83	27.45	30	00	Broxburn UB		32	40	81
28.76	46	00	CHATHILL		28	13	75	28.39	29	05	DUNBAR	42	33	19	84
29.88	47	09	Newham		29	08	76	30.45	27	00	Beltonford		34	54	76
31.98	49	17	Lucker		30	46	79	32.45	25	00	MP		36	28	77
34.34	51	46	Belford	52	32	33	80	34.09	23	29	East Linton		37	45	76
35.36	52	48	Crag Mill		33	21	82	35.28	22	14	Markle LC		38	40	80
36.76	54	00	MP		34	21	85	36.75	20	56	East Fortune		39	45	82
37.75	54	79	Smeafield		35	04	82	37.45	20	00	MP		40	19	Sigs 59
38.76	56	00	MP		35	48	79/78	39.45	18	00	Drem Down Loop	56	45	36	10E

On the 1 in 190 climb to Burnmouth, passed at 47mph the engine was not pushed unduly. The last three miles of 1 in 200 up to Grantshouse were climbed at 48mph, followed on the favourable grades to Drem with another three periods above 80mph. Stopping in Drem loop, 10½ minutes had been cut from the 56 minutes allowed. On the last section on to Edinburgh a signal failure made us about 10 minutes late on arrival, but it could not detract from the preceding high speed run. The 'Duke's' restoration from an abandoned wreck to mainline running standard was a considerable feat, but to find the sins of the original design and/or build is one of the outstanding feats of the preservation movement.

In 2010, in their 40th year of railtours, the SRPS organised a tour from Polmont to Aviemore and along the Strathspey Line to Broomhill. 61994 'The Great Marquess' worked the Perth-Aviemore section with a load of eight coaches. Booked stops were made at Pitlochry and Dalwhinnie. The climb to Druimuachdar from passing Blair Atholl is shown in Table 4, Train A. The maximum at the bottom of the climb was 48½mph, falling to 39mph at Struan. The curves and gradient then took their toll with speed falling to a minimum of 24mph at MP42¼. Thereafter the K4 rallied to climb the six miles at 1 in 70 at an average of 27.9 mph. This was considerably better than its previous attempt in August 2007 when a 17-minute blow-up was needed at MP49 after taking 32m32s from passing Blair Atholl to the dead stand. You were never quite sure what you were going to get from the 'Marquess', but when on form it did much good work, alas it is now destined for static display.

Table 4												
Date:				Sat 26.6.10					Thu 25.4.13			
Train:				A 08.28 Perth - Aviemore SRPS					B 11.00 Thornton Yard-Inverness 'Great Britain 6'			
Locomotive:				61994					44871			
Load:				8/280/300					7/255/270			
Driver/Fireman:				P.Walker / D.Wright					B.Duncan/ C.Hawkins			
Weather:				Warm, dry, no wind					Westerly with showers			
Recorder position:				3/9					8/8			
Miles	M	C	LOCATION	Sch	M	s	Speed		M	s	Speed	
0.00	35	09	BLAIR ATHOLL*(pass)*	0	0	00	45½	*9L*	0	00	38½	*2L*
0.89	36	00	MP		1	08	48/48½		1	15	46½	
1.89	37	00	MP		2	27	40½/37		2	38	39½	
2.89	38	00	MP		4	00	40		4	09	41½/41	
3.89	39	00	MP		5	27	42½		5	33	45	
4.56	39	54	Struan		6	26	39		6	29	40½	
4.89	40	00	MP		6	57	37		7	00	38/36	
5.89	41	00	MP		8	46	31		8	38	37	
6.89	42	00	MP		10	47	26½/24		10	17	34½/36	
7.89	43	00	MP		13	03	28		12	00	34½	
8.89	44	00	MP		15	08	29½		13	45	33½	
9.89	45	00	Dalnacardoch (MP)	12	17	11	29	*14L*	15	34	32½	*6L*
10.89	46	00	MP		19	19	27½		17	28	30½	
11.89	47	00	MP		21	34	26½/26		19	26	31	
12.84	47	76	Misplaced MP		23	42	27/29		21	18	30	
13.89	49	00	MP		25	57	28½		23	24	29½	
14.89	50	00	MP		27	59	30		25	17	34	
15.76	50	70	Dalnaspidal	19	29	43	34/42	*20L*	26	45	41/49	*10L*
16.89	52	00	MP		31	26	35/28		28	11	44½	
17.64	52	60	Druimuachdar Summit - pass		32	54	28½		29	16	41	

In 2012 RTC split the 'Great Britain' into two trains from Central Scotland to provide the option of going to Kyle from Inverness and returning via Skye and the Armadale ferry to Mallaig and then south down the West Highland line or taking the same route in the clockwise version. This was a revival of the Grand Circular tours initiated by enthusiast societies in 1973, after the Kyle line was saved, to increase its patronage.

In 2013 44871 was booked to work seven coaches from Thornton J to Perth and Inverness. After Perth the two booked stops at Dunkeld and Pitlochry each for one minute, were not made, so 44871 ran the 58.7 miles to Dalwhinnie from Perth non-stop. Blair Atholl was passed at 38½mph rising briefly to 46½mph and then to 40½mph passing Struan. Thereafter speed fell on the 1 in 70 very gradually to a minimum of 29½mph at MP49 where the 1 in 70 eases to 1 in 85. Throughout the climb there had been a feather at the valves. Bobby Duncan and Chris Hawkins had produced a text book run.

The scheduling of both these runs allowing only 19 minutes from Blair Atholl to Dalnaspidal, an average of 49.8 mph, higher than the maximum on both runs at any stage, was hopelessly optimistic. The maximum load for a Class 5 between Blair Atholl and Dalwhinnie was 255, so 44871 was on the limit and the K4 (5P/6F), 25 tons or 10% overloaded. Both runs were superior to the general post WWII era performances.

2013 was the 75th Anniversary of Mallard's 126 mph run and Locomotive Services Limited arranged with the appropriate bodies for temporary permission to run 'Bittern' at 90 mph. A brake and speed test run took place on May 29th when a brake test from 88 at Cholsey was performed on the outward run from Hanwell to Didcot. On the return, Burnham was passed at 91½mph. This set the scene for three runs on the ECML where 90mph would be attempted on three specified sections, operating conditions on the day permitting. The first run from Kings Cross to York took place as planned on 29th June when the A4 with 10 on ran 14 miles from near Arlesey to Tempsford, 10 miles from Claypole to Carlton and Barcroft to Balne at 90±½ mph. Then summer fire risk reared its ugly head causing both the 'Tyne Tees Streak' and 'The

Capital Streak' to be postponed from July, initially to August and then December. The former ran in the aftermath of a North Sea storm which restricted the northbound run from York to Newcastle to 50mph, but on the return, Thirsk to Tollerton was run at 90mph with a maximum of 92½mph. Two days later, on a benign winter's day 'Bittern', now with a load of 11, produced the sublime run shown in Table 5 below. After Connington, we did not escape from the slow line, but no one cared by then. The DB Schenker crews operated these specials meticulously.

Running on the level at 90mph required about 1,250 edbhp and the 1 in 200 climb from Grantham to Stoke Summit a bit more effort at 1,800 edbhp but still well within the A4's capability.

Table 5

Date:	Sat 7.12.13
Train:	14.19 York - Kings Cross
	'The Capital Streak' LSL
Locomotive:	60019 running as 4464 'Bittern'
Load:	11 /389 /420
Driver/F'm'n/Insp'r:	S.Hanszar/ M.Dale/ G.Jones
Weather:	Dry, cool and little wind
Recorder position:	13/14/ GPS

Miles	M	C	LOCATION	Sch	M	S	Speed
0.00	188	40	YORK (Platform 10)	0	0	00	T
0.38	188	10	Holgate J		2	07	21
1.91	186	47	Chaloners Whin		4	58	45
3.71	184	63	Copmanthorpe		7	04	56½
5.53	182	78	Colton Jn	6	8	52	63½
8.50	180	00	MP		11	33	74½
10.50	178	00	Stoker Wood		13	07	78½
12.50	176	00	MP		14	38	81
14.50	174	00	Hambleton S J		16	05	83
16.50	172	00	MP		17	31	87
19.50	169	00	Temple Hirst J	16	19	36	86
22.50	166	00	MP		21	39	90
24.33	164	14	Fenwick		22	52	89½
25.48	163	02	Moss		23	39	89½
26.33	162	14	Barcroft		24	13	89½
27.06	161	35	Noblethorpe		24	43	89
28.21	160	23	Shaftholme J	23	25	29	89
29.38	159	10	Daw Lane		26	16	89
30.48	158	02	Arksey	25	27	03	74½
31.68	156	66	Moat Hills		28	02	73½/73
32.51	155	79	DONCASTER	27	28	43	74½
33.50	155	00	MP		29	30	76½
34.50	154	00	Potteric Carr J	29½	30	17	76½
37.14	151	29	Rossington		32	20	76½
39.15	149	28	Pipers Wood		33	58	74
40.00	148	40	MP		34	37	79½
40.85	147	52	Bawtry		35	17	77
42.50	146	00	MP		36	35	75
44.53	143	78	Ranskill		38	10	73½
46.80	141	56	Sutton		40	04	69½
47.84	140	53	Botany Bay		41	01	58½
49.89	138	49	RETFORD	44	44	38	
1.15	137	37	Grove Road		3	34	38
2.43	136	15	Gamston		5	27	46
4.11	134	40	Askham TN		7	29	53
4.86	133	60	Markham Summit		8	18	58½
6.68	131	75	Tuxford North		9	58	70½
7.33	131	23	Dukeries J		10	29	76
8.25	130	29	Egmanton		11	12	82
9.61	129	00	MP		12	10	89

Miles	M	C	LOCATION	Sch	M	S	Speed
10.61	128	00	MP		12	49	91½
11.28	127	27	Crow Park		13	15	91½
12.30	126	25	Carlton-on-Trent		13	55	91
13.61	125	00	MP		14	48	90½
13.93	124	55	Cromwell		15	00	90½
15.14	123	38	Norwell		15	49	90
15.64	122	78	Bathley Lane		16	09	87½
16.53	122	07	Church Lane		16	47	79
17.83	120	63	Newark X		17	48	75
18.46	120	12	NEWARK	16½	18	18	75½
19.58	119	03	Barnby		19	11	73½
20.29	118	26	Bullpit Lane		19	47	74
22.36	116	20	MP		21	25	77½
23.28	115	27	Claypole	20½	22	08	75
23.98	114	51	FB 269		22	42	74½
26.11	112	40	MP		24	23	77
26.95	111	53	Hougham		25	02	76½
28.86	109	60	Barkston SJ	25½	26	34	73½
30.80	107	65	Peascliffe TS		28	10	72
33.18	105	35	GRANTHAM	28½	30	05	77
35.61	103	00	MP		32	01	74½
36.61	102	00	"		32	50	73½
37.63	100	79	Stoke Tunnel N		33	39	72
38.48	100	11	Stoke Summit	33½	34	22	72½
39.61	99	00	MP		35	16	82
41.34	97	22	Corby Glen		36	26	90
42.49	96	10	OB 220		37	12	92/92½
43.61	95	00	MP		37	56	91
44.61	94	00	"		38	37	81½
46.50	92	09	Little Bytham		40	01	82
48.36	90	20	MP		41	21	88
49.83	88	63	Essendine		42	20	91½
51.53	87	07	Greatford		43	27	92/91½
52.61	86	00	MP		44	10	92/92½
53.81	84	64	Tallington	44½	44	56	91½
56.14	82	38	Maxey		46	28	91½
56.73	81	71	Helpston	47	46	52	92
57.34	81	22	Woodcroft		47	15	92
58.64	79	78	Marholme		48	07	90½
59.44	79	14	FB 188K		48	39	90
60.55	78	05	New England		49	24	86
62.00	76	49	OB187		50	48	46½
62.28	76	27	PETERBOROUGH	51	51	08	49½
63.49	75	10	Fletton	52½	52	34	55½
65.09	73	42	OB 179		54	10	64½/74½
69.29	69	26	Holme	58	57	43	68
70.26	68	28	Connington N		58	35	63
71.36	67	20	Connington SJ	60	59	57	35
71.99	66	50	Connington Up Loop	62	61	42	1E

Four of the six runs described above are exceptional and will be hard to equal given the constraints of the modern railway on steam. However much of contemporary main line steam performance is still of a very high standard and will continue to provide much interest.

References;- 1:- Milepost 12¾ 'Present day steam over the County March' by Alastair Wood.
2:- RPS database, D.S.M. Barrie, Special 9.50am Euston-Glasgow.
3:- " " W. Robertson, 1.05pm Euston-Glasgow 'Mid-day Scot'.

Travels in Scotland

Martin Robertson

The first run in 1987 is over the Glasgow and South Western line, going northbound; a relatively unused route for steam traction. Most Great Britain rail-tours go up the east coast and return south via the GSWR or occasionally the WCML. The run was recorded in March 1986 with the Scottish Railway Preservation Society running a charter from Edinburgh to Edinburgh via Newcastle Carlisle and Glasgow to allow the movement of a loco north to work the summer steam services from Fort William. I believe it was a Carlisle based crew who worked the train from Carlisle to Kilmarnock with a Glasgow based crew taking over thereafter.

The GSWR is a fine test for steam locomotives, if a heavy trailing load is present, with an ascent to a summit at MP 99¼ between Annan and Dumfries then the lengthy ascent of the Nith Valley on gradients of 1:200 to 1:150. The performance that the Carlisle crew obtained from 45305 was excellent throughout, particularly on the long ascent from MP 86½ to Carronbridge. The reverse curves after Drumlnarigg Tunnel were given due observance before another fine ascent to a water stop at Kirkconnel. The hard running continued to New Cumnock with the loco being eased on the lesser gradients to Polquhap summit. A relatively restrained descent to Kilmarnock then followed.

Annan to Kilmarnock								
Date			Sat 14th March 1987					
Train			SRPS Railtour					
Loco			Black 5:- 45305					
Load			11/379/410					
Recorder			M D Robertson					
Miles	M	Ch	Location	m	s	mph	*avge*	Dbhp
0.00	107	19	ANNAN	0	00			
1.99	105	20	Powfoot J	4	46	42	*25.0*	
3.36	103	70	Cummertrees	6	28	50/55	*48.4*	
6.92	100	25	Ruthwell	10	23	53	*54.5*	1040
7.99	99	20	Mp	11	36	52	*52.8*	1110
9.62	97	49	Ironhirst	13	11	68/65	*61.8*	1120
11.51	95	58	Racks	14	52	68	*67.4*	
13.62	93	49	Brasswell	16	52	51	*63.3*	
15.45	91	63	DUMFRIES	21	20		*24.6*	
0.00			DUMFRIES	0	00		*43.5*	
1.79	90	00	Mp	3	41	49	*29.2*	950
3.37	88	33	Holywood	5	28	58	*53.2*	1380
5.29	86	40	Mp	7	22	63	*60.6*	1420
7.57	84	17	Auldgirth	9	36	59.5	*61.3*	1270
9.79	82	00	Mp	11	55	56	*57.5*	1150
11.44	80	28	Closeburn	13	36	58.5	*58.8*	1150
12.79	79	00	Mp	15	01	56	*57.2*	1360
14.16	77	50	Thornhill	16	31	54	*54.8*	1350
16.79	75	00	Mp	19	38	49.5	*50.6*	1160
17.49	74	24	Carronbridge	20	28	49	*50.4*	
18.72	73	05	Drumlanrigg TN	21	58	53	*49.2*	
20.29	71	40	Mp	23	40	54	*55.4*	
21.29	70	40	Ardoch	24	51	48/55	*50.7*	
23.79	68	00	Mennock	27	41	52.5	*52.9*	890
26.11	65	54	Sanquhar	30	23	51.5	*51.6*	1190
27.79	64	00	Mp	32	13	58	*55.0*	
29.45	62	27	KIRKCONNEL	34	37	15	*41.5*	
29.97	61	65	Water Stop	36	59		*13.2*	
0.00				0	00		*48.6*	
1.81	60	00	MP	4	57	38	*21.9*	
3.81	58	00	Upper Cairn	7	01	50	*58.1*	
6.89	54	74	New Cummnock	10	42	64/66	*50.2*	1150
9.36	52	36	Polquhap	13	01	64	*64.0*	680
12.25	49	45	Cummnock	15	48	61	*62.3*	
14.25	47	45	Auchinleck	17	48	59	*60.0*	
15.56	46	20	Barony Jn	19	02	62	*63.7*	
17.56	44	20	Ballochmyle V	21	06	56	*58.1*	
18.67	43	11	Mauchline	22	14	58	*58.8*	
21.46	40	28	Garrochburn	25	07	59/66	*58.1*	
24.06	37	60	Woodhead	27	44	55	*59.6*	
25.31	36	40	Mp	29	33	39*	*41.3*	
26.31	35	40	Hurlford	30	50	54	*46.8*	
28.10	33	57	KILMARNOCK	35	40			

I have not included the continuation onto Barrhead as it was the complete opposite of what had gone before. The loco was hardly opened out with speed not reaching 30mph before falling

to 18mph on the 1:75 to MP 17. A timid meander thereafter to Barrhead where the Black 5 was removed.

The second run was recorded with Standard Class 4 75014 coming south from Inverness in 1997. The loco had gone north earlier in the week before working two return trips to Kyle of Locahalsh to commemorate the 100 years since the opening of the line. I went north with the loco, but did not do either of the trips to Kyle of Lochalsh. Northbound the loco appeared to run out of steam around MP 42, falling to 24mph at Dalnacardoch and thereafter to 16mph on the 1:70 gradient, although a slight drizzle had set in and slipping may have occurred. A reasonable ascent to Slochd from Aviemore with speed falling to 19mph at the top of the 1:60 gradient, recovering to 25mph on the 1:93 gradient and clearing Slochd summit at 19mph. I was not sure how familiar the crew were with the loco and wrote after the run that the seven-coach load of Commonwealth bogie stock was probably too much for the loco.

The southbound run had the benefit of a very cold but dry day. From the outset the crew worked the loco, possibly close to its limit as far as Daviot after which there was noticeable easing. The easier stretch to Tomatin allowed steam to be regained for another excellent assault on the 1:60 gradient to Slochd Summit, although the minimum of 21½ mph was less than that at MP114¼. There was a very slow entry into Carr Bridge, to cross a service train.

I have included the Kingussie to Drumochter section which included a stop at Dalwhinnie to allow a member of the footplate team to exit to a waiting taxi. We were over an hour and a quarter late at this point. Another storming effort to breast Drumochter at 35mph, much to the delight of the lineside photographers. The DBHP values were remarkably consistent with the gradients calculated from Information Frank Collins provided in the early years of the Society.

There have been numerous memorable runs south of Inverness on Great Britain railtours, although most of these were provided with a pair of locos. The effort recorded by 75014 must rank as one of the best runs in consideration of the load and the class of engine involved.

Inverness-Carr Bridgea and Kingussie to Drumochter								
Date			Sat 12th Oct 1997					
Train			Inverness-Edinburgh Charter					
Loco			75014					
Load			7/260/270					
Recorder			M D Robertson					
Weather			Dry Cold					
Miles	M	Ch	Location	m	s	Mph	*Avg*	Dbhp
0.00	117	74	Inverness	0	00			
0.66	117	21	Millburn J	3	02	30/35	*13.1*	
1.37	116	44	Cradehall J	4	18	31	*33.6*	
2.42	115	40	Mp 115.5	6	42	24.5	*26.3*	
3.67	114	20	Mp 114.25	9	51	23.5	*23.7*	940
4.92	113	00	Mp 113	12	37	29	*27.1*	
5.92	112	00	Mp 112	14	39	30	*29.6*	1060
6.44	111	31	Culloden	15	42	45/51	*29.7*	
7.42	110	40	Mp 110.5	16	47	44.5	*53.9*	1060
8.92	109	00	Mp 109	19	14	31.5	*36.9*	
9.92	108	00	Mp 108	21	13	29/26.5	*30.1*	
10.80	107	10	Daviot	23	07	28.5	*27.9*	1130
11.92	106	00	Mp 106	25	38	23	*26.7*	910
12.67	105	20	Mp 105.25	27	55	17e'd/34	*19.6*	
14.77	103	12	Moy	32	37	31	*26.8*	
15.92	102	00	Mp 102	34	37	44	*34.5*	
16.92	101	00	Mp 101	35	53	48.5	*47.4*	
17.92	100	00	Mp 100	37	13	46.5	*45.3*	

Miles	M	Ch	Location	m	s	Mph	*Avg*	Dbhp
18.92	99	00	Tomatin	38	34	42.5	*44.7*	
19.92	98	00	Mp 98	40	06	34	*39.3*	
20.92	97	00	Mp 97	42	07	27	*29.8*	
21.92	96	00	Mp 96	44	33	21.5	*24.7*	
22.54	95	31	Slochd	46	11	21.5 min	*22.8*	930
23.92	94	00	Mp94	48	08	50	*42.3*	
25.92	92	00	Mp 92	50	46	35br	*45.6*	
27.87	90	04	Carr Bridge	58	09	vvse	*15.8*	
0.00	71	46	Kingussie	0	00			
1.57	70	00	Mp 70	3	57	40.5	*23.8*	
2.82	68	60	Newtonmore	5	40	47	*43.9*	
4.57	67	00	Mp 67	7	60	43/41	*45.0*	
6.07	65	40	Mp 65.5	10	08	43/48	*42.0*	1100
7.57	64	00	Mp 64	12	04	47/45	*46.8*	1120
9.07	62	40	Inchlea	13	59	50.5	*46.8*	810
10.57	61	00	Mp 61	15	49	44.5	*49.1*	810
11.57	60	00	Mp 60	17	11	45	*44.2*	
13.00	58	46	Dalwhinnie	21	05	vvse	*22.0*	
0.00				0	00			
0.57	58	00	Mp 58	2	35	22		
1.57	57	00	Mp 57	4	49	30.5	*26.9*	
2.57	56	00	Mp 56	6	40	34	*32.4*	1090
3.76	54	65	Balsporran	8	32	43	*38.3*	
4.57	54	00	Mp 54	9	42	41.5	*41.7*	
5.84	52	59	Drumochter	11	31	46pass	*41.9*	1160

The third run is from Oban to Crianlarich with 48151: this was one of the Highland Rail Festival trips in 1999. A steady run with the 8F running tender first and sticking to the 40mph limit. The loco was probably not unduly extended but still a pleasant sight as it forged up Glen Lochy. There appears to be only one run which bettered the Dalmally to Tyndrum Lower time, recorded by a youthful Noel Proudlock back in 1954.

Oban to Crianlarich								Miles	m	c	Location	m	s	mph	*ave*
Date			Sunday 26.09.1999					9.10	49	46	Loch Awe	14	55.0	42	*43.1*
Train			Highland Rail Festival Oban-Fort William Trip					9.67	49	00	Mp	15	48.0	42	*38.7*
Loco			48151					10.67	48	00	Mp	17	20.0	37	*39.1*
Load			6/222/230/355 Tons					11.70	46	78	Dalmally	20	24.0		*20.2*
Recorder			M D Robertson					0.00				0	00.0		*34.4*
Weather			Good					0.97	46	00	Mp	3	56.5	24	*14.8*
Miles	m	c	Location	m	s	mph	*ave*	1.97	45	00	Mp	6	05.0	30.5	*28.0*
0.00	71	40	Oban	0	00.0	(-10)		2.97	44	00	Mp	8	04.0	29	*30.3*
1.00	70	40	Mp	3	14.0	22	*18.6*	3.97	43	00	Mp	10	12.0	27	*28.1*
2.00	69	40	Mp	5	54.0	19.5	*22.5*	4.97	42	00	Mp	12	12.5	37	*29.9*
3.02	68	38	Glencruitten	9	03.5	22.5	*19.4*	5.97	41	00	Mp	13	46.0	37.5	*38.5*
4.50	67	00	Mp	11	41.5	35	*33.7*	6.97	40	00	Mp	15	20.5	41	*38.1*
6.10	65	32	Connel Ferry	14	29.0	35/27	*34.4*	7.97	39	00	Mp	16	49.0	40.5	*40.7*
7.50	64	00	Mp	17	10.5	32.5	*31.2*	8.97	38	00	Mp	18	17.0	41	*40.9*
8.96	62	43	Achnacloich	19	52.5	29/35	*32.4*	9.97	37	00	Mp	19	41.0	41	*42.9*
9.50	62	00	Mp	20	51.0	32/29	*33.2*	10.97	36	00	Mp	21	06.0	41	*42.4*
10.50	61	00	Mp	22	46.0	33	*31.3*	11.39	35	47	Tyndrum Summit	21	42.0	41	*42.0*
11.50	60	00	Mp	24	44.5	29	*30.4*	12.09	34	71	Tyndrum Lower	23	28.0		*23.8*
12.82	58	54	Taynuilt	28	39.0		*20.3*	0.00				0	00.0		*30.9*
0.00				0	00.0		*26.8*	0.89	34	00	Mp	1	53.0	43	*28.4*
0.67	58	00	Mp	2	12.5	26	*18.2*	1.89	33	00	Mp	3	24.0	42	*39.6*
2.17	56	40	Mp	4	57.0	37	*32.8*	2.89	32	00	Mp	5	08.5	28*	*34.4*
4.17	54	40	Mp	8	14.0	42	*36.5*	3.89	31	00	Mp	6	58.0	34	*32.9*
5.84	52	67	Falls/Cruachan	10	24.0	44	*46.2*	4.67	0	35	Crianlarich Lwr J	8	24.5		*32.5*
7.67	51	00	Mp	12	55.5	41*	*43.5*	5.22	36	25	Crianlarich	11	15.0		

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My Top Three Runs

Frank Price

Selecting just three runs from the past 50 years of preserved steam has not been easy – in the end I have gone for three different locomotives on three different routes and chosen them as much for the sense of occasion as for the locomotive performance per se – although it was excellent in all three cases. So here we go, in reverse order. In 'bronze' position is

34027 Waterloo-Bournemouth 11 September 1992.

This was the first steam departure from Waterloo since 1967, and effectively marked the lifting of the ban on steam on the third rail. The Southern Region had largely been a no-go area for steam, on supposed safety grounds, after most of the rest of the network had been opened to steam, although some successful runs had been organised by the Salisbury Area Manager in the 1980s. But Network South East were keen to encourage steam operation where possible, and after some Ashford -Hastings shuttles in June in connection with Ashford 150 celebrations, a late evening return to London on 7th June was advertised with ‘unusual motive power’, This turned out to be rebuilt West Country 34027 ‘Taw Valley’ running to London Bridge, effectively breaking the ban on steam, and paving the way for a departure from Waterloo. The occasion for this run was an open day at Bournemouth depot, and the run was allowed as a proving exercise on condition that it took place after dark to reduce the risk of trespass. Motive power

was again 34027 and this was parked in Clapham Yard beforehand and then, in a nice gesture, positioned at the buffer stops at Waterloo for photography, much to the surprise of home going commuters. Departure was scheduled for 8pm but with all the excitement we were a few minutes adrift. Control had intimated that there should be no further delay and this was all the encouragement that the crew needed. The run is logged in table 1, courtesy of the RPS archive. Speed in the high 70s was attained at Weybridge and again after MP 31 before a water stop at Basingstoke.

Date		11 Sept 1992		
Train		The Bournemouth Ltd		
Loco		34027		
load		10/390 tons		
Driver		R White		
Miles	Location	sch	Time	Speed
0.0	Waterloo		0 00	12L (2012)
1.3	Vauxhall		5 03	32
3.9	Clapham J		8 54	42
7.2	Wimbledon		13 18	55/61
9.8	New Malden		15 52	66
12.0	Surbiton		17 48	70
13.3	Hampton Court J		18 52	73
14.4	Esher		19 45	75
17.1	Walton on Thames		21 58	74/71
19.1	Weybridge		23 38	75/78
21.7	West Byfleet		25 40	75
24.3	Woking		27 48	72
28.0	Brookwood		30 57	70
30.3	MP 30 1/4		32 53	69.5
31.0	MP 31		33 32	69
33.2	Farnborough		35 24	72
36.5	Fleet		38 02	75/76
39.4	Winchfield		40 27	71

Miles	Location	sch	Time	Speed
42.2	Hook		42 55	67/71/sl app
46.0	MP 46			
47.8	Basingstoke	55	50 45	8L
	(water stop)		0.00	3L
2.5	Worting J		5 32	45
10.3	Micheldever		13 24	56/73
13.9	Wallers Ash		16 11	80
16.6	Winchester J		18 07	83
18.8	Winchester		19 41	85
21.9	Shawford		21 58	80/sig
25.8	Eastleigh		30 20	ss 2.5min
31.4	Southampton	42	43 11	4L
0.0	Southampton		0 00	6L
3.3	Totton		5 56	52
6.2	Lyndhurst Rd		9 10	61
8.9	Beaulieu Rd		11 36	68/73
13.6	Brockenhurst		15 41	69
16.3	Sway		18 09	61
19.3	New Milton		20 34	80/83
21.8	Hinton Admiral		22 25	75
25.3	Christchurch		25 40	63
27.0	Pokesdown		28 03	55sig
28.7	Bournemouth	34	32 46	4L (2247)

The highlight of the run was a high-speed dash down from Micheldever through Winchester, with an average of 80 mph and a maximum of 85 mph, and this at a time when the official 60 mph limit was still in force for steam on the network. Although arrival at Bournemouth was not until just before 11pm, there were, according to police estimates, upwards of 2,000 people on the platform to welcome the train. Fortunately, there were no reports of trespass and the mood of the evening was encapsulated in the headline in the next issue of 'Steam Railway': 'Waterloo watershed – now anything is possible' And so it proved, with steam now a regular feature on the Southern.

In second place is

60163 Preston-Carlisle 24 June 2010.

No account of steam over the last 50 years would be complete without mention of the first new build steam since 1960, in the form of A1 pacific 60163 'Tornado', one of the great achievements of the preservation era. The story of its design and build over 19 years, at a cost in excess of £3M, is too familiar to need repeating here, and the locomotive has established itself as a consistent performer with many even-time runs to its credit. Most of these have been on the ECML, but I have selected one on the rival west coast route to the North. Its first assault on Shap, dubbed 'The Border Raider', gave the engine the opportunity to set itself against some stiff competition, including 71000 'Duke of Gloucester' the then holder of the 'Blue Riband' for the fastest limb of Grayrigg and Shap.

The day started drizzly as 60163 came onto the train at Crewe, although it turned dry later. The runs did not start well: we had an indifferent run to Preston including a signal stop near Warrington to investigate reports of rough riding. There was then a lengthy water stop, so the train was some 20 minutes late away for its run to a planned water stop at Penrith. The log is in table 2. There was some good running through Lancaster, passed centre road at 72 mph, and Carnforth (73 mph) before the climb to Shap, with minima of 48 mph at Grayrigg, then a nicely judged 77 mph through the Lune gorge on the falling grades to Tebay before the climb of Shap proper, with a minimum of 42 mph on the climb, despite a slip at Scout Green due to a flange lubricator. Mike Notley, in his analysis for 'Steam Railway', estimated that a maximum of 2,300 edhp was produced, and the previous record for the overall climb, by 71000 on 21st October 2006, had been beaten by 19 seconds, to produce probably the fastest ever climb from the bottom of Grayrig to the top of Shap with a load of 13 coaches: 23m 37s. There was more to come however: the booked pathing and water stop at Penrith was cancelled so that the train was now running 20 minutes early and with a clear run down into Carlisle we stopped there in 87m 32s, again probably the fastest recorded run from Preston with this load and 2½ minutes in even time – an average of 61.8 mph. It was also the first non-stop run between Preston and Carlisle in preservation and credit was due to the signallers for providing a clear road throughout. A very creditable performance by locomotive and crew (Keith Murfin, Chris Woolwark, Graeme Bunker and TI Bob Hart) and a record that still stands.

Date		24.6.10		Miles		m s	mph
Train		07-16 Euston - Carlisle		47.0	Grayrigg	45 45	49
Loco		60163 'Tornado'		52.0		50 22	75
Load		13 445/480 tons		55.0	MP 34	52 50	64
Weather		Cloudy/dry		57.0	MP 36	55 02	48
Recorder/pos		F Price 6/13 Y		58.2	MP 37 ¼	56 42	42
Driver		Keith Murfin		65.0		62 58	74
Fireman		Chris Wallwork		72.3	Penrith	68 58	69
Miles		m s	mph	75.0		71 10	74
0.0	Preston	0 00	19L	80.0		75 10	75
21.0	Lancaster	22 30	72	83.5		78 00	75
27.2	Carnforth	27 33	73	86.0		80 10	70
40.1	Oxenholme	38 24	62	90.2	Carlisle	87 32	19E

And in first place, a truly remarkable piece of running and organisation and a trip described by driver Ray Churchill as the most emotional train that he had had the privilege to be on the footplate for.

5043 Plymouth-Bristol 10 May 2014.

This tour, a joint venture between Vintage Trains, West Coast Railways, First Great Western and Network Rail, was organised to commemorate the 50th anniversary of 1Z48, an Ian Allan sponsored railtour which ran on 9 May 1964 to mark the passing of steam on the Western Region and which was really the last hurrah for GWR express steam, in particular the Castles. The tour, which also marked the 60th anniversary of City of Truro's exploits on the Ocean Mail special, was carefully planned and a number of Castles were specially chosen and prepared with the aim of achieving 100 mph running. Although these plans were to be thwarted on the day, the tour was well documented by O S Nock, Cecil J Allen and others and has acquired almost mythical status over the years and a re-run of even part of it was not to be missed. Sadly, as an impecunious schoolboy in the Midlands at the time the costs of getting to London and travelling on the train were out of reach for me (even for a second-class fare of £6 12s 6d!) but a goodly number of those who did participate in 1964 were present on this sell-out recreation of one leg, from Plymouth to Bristol, hauled in 1964 by 7029 'Clun Castle' and on this occasion by its Tyseley stable mate 5043 'Earl of Mount Edgcumbe'.

Initial reaction on seeing the timings was one of disappointment, as the advertised non-stop run from Plymouth to Bristol had had a pathing stop inserted at Dawlish Warren. However, the

presence of the First Great Western General Manager and staff on the train in real time contact with signal controllers, and the knowledge of what had been achieved on previous trips gave grounds for cautious optimism, which in the event was not misplaced.

An early start brought me to Oxford for the outward leg, hauled by D1015 Western Champion, nicely turned out in maroon. An uneventful run down the GW main line, with a maximum of 92mph near Bridgwater, saw us into Plymouth just a few minutes down. D1015 was due to return to Tyseley via Bristol and the Lickey and duly departed at 1430 with four well-filled coaches of diesel punters. By now 5043 was in the station, complete with Z48 headcode, having run down from Laira, and backed onto the train. With its support coach and the REG water carrier, our load was now eight coaches, including two of Tyseley's Pullmans, around 285 tons tare and over 300 gross. By comparison in 1964, 7029 had a load of 7 and a gross load of 265 tons. 7029 had made the non-stop run to Bristol in a shade over 133 minutes so this was our goal.

The log is in table 3, alongside the 1964 and 1904 runs for comparison. Our departure time had been altered several times on the day but in the event, we left slightly early just after the 1504 HST. Ray Churchill made a cautious start and it took some time to get going, taking 5½ minutes for the first mile. We touched 61mph just past Tavistock Junction before tackling the climb to Hemerdon. We seemed to make slightly heavy weather of the climb, speed falling to below 20mph before passing the site of Hemerdon sidings at the top of the 1 in 42. The ashes of Bill Rundle, who had been the fireman on 7029 in 1964. and who had sadly passed away the previous year, had been put in the firebox on the climb. We then made steady progress, passing Ivybridge station at 46mph and Totnes at 65mph in just over 36 minutes. The climb to Dainton was achieved at a minimum speed of 32mph and we then descended to Newton Abbot, passed at 64mph in a fraction under 46 minutes; two minutes inside the booked timing. By now tension in the train was rising as we were rapidly approached the notional stop at Dawlish Warren. The brakes came on, but they were only for the 60mph restriction through Teignmouth and as we swept through Dawlish, past the site of the recently reconstructed sea wall, we were doing 64mph under clear signals. Speed then picked up to the mid-70s, with a maximum of 77mph just past Exminster. Ray Churchill then eased 5043 back to pass Exeter. MP194, immediately south of the platforms, and 52 miles from Plymouth, was passed at 43mph in 64 min 18 sec. Vintage Trains had thoughtfully provided the timings for the 1964 run in the commemorative booklet so the two runs could be compared: 7029 had passed Exeter, on schedule, in 71 minutes. So, at this stage 5043 had the advantage but 7029 had made some very fast running in the later stages of its run, which we would not be able to match.

We made a good climb to Cullompton, with a minimum of 70mph on the climb, but then the brakes came on. Were we going to be put into the loop at Tiverton? Fortunately, this was not the case and it was just a slowing behind the HST which had overstayed its booked stop at Tiverton Parkway, although speed was down to 38mph as we passed the station in just over 80 minutes. We climbed to Whiteball and went into the tunnel at 57 mph. Speed picked up as we descended Wellington bank (1 in 80/86/90) and Ray Churchill had to apply the brakes to keep us to 80 mph. As we raced down toward Taunton, speed was in the high 70s: 80 mph just before Norton Fitzwarren and we tore through Taunton station at 77 mph in just under 93 minutes and nearly four minutes to the good compared with 7029. Speed continued in the mid to high 70s as we hurried across the Somerset Levels: 80 mph just past Cogload Junction, 74 mph at Bridgwater, 76 mph at Yatton, 78 mph at Worle Junction and 74 mph at Nailsea. As the brakes came on for the approach to Bristol at Parson Street we had covered the previous 52 miles in 40 min 25 sec at a flying average of 77 mph. A tremendous performance. A clear run saw us draw to a stand at the west end of Temple Meads platform 3 over 30 minutes early in 130m04s for the 127.6 miles from Plymouth, an average of 58.9 mph and an improvement of over three minutes on 7029's 1964 time. A truly fantastic achievement. Almost certainly the fastest steam run between the two cities since City of Truro in 1904 and the longest non-stop run in the preservation era. With great work from the footplate crew and a lot of help from

Network Rail, in particular the signallers who had made several critical decisions to keep the train rolling, 5043 had rewritten the record books.

Date		10/05/2014		09/05/1964		09/05/1904	
Train		15-10 Plymouth - Bristol TM		16-20 Plymouth - Bristol		Ocean Mails Special	
Loco		5043		7029		3440	
stock		GUV+5MK1s+2Pullmans,285/300		7/243/265tons		4/148tons	
Recorder pos GPS		F Price 5/8 Y		O S Nock		Rous-Marten	
Driver		R Churchill		H Roach			
Fireman		A Meanley		W Watts, H Rundle			
Weather		Dry & sunny. Some wind.					
Miles		min sec	mph	min sec	mph	min sec	mph
0.00	Plymouth	0 00	0	0.00	T	pass 0.00	25
1.00		5 30	36				
4.00		8 51	61.5				
6.00		11 42	24.4				
6.60	Hemerdon summit	13 35	20.5	11 14	23	8 47	
10.00		18 25	47				
11.65	Ivybridge	20 20	46				
17.00		27 55	32				
23.20	Totnes	36 06	65	32 21	58	24 32	77
25.00		37 51	54				
27.00		40 04	52				
28.00	Dainton tunnel in	41 29	32				
31.90	Newton Abbot	45 56	63.7	44 20	35/20sig	33 35	
41.50	Dawlish Warren	55 05	63.7				
46.00		59 00	72				
49.00		61 24	77		/25		
52.10	MP 194	64 18	43	Sta 70 51	35	55 55	
58.00		70 15	70				
64.00		75 11	74/brks				
68.70	Tiverton Parkway	80 08	38				
72.20	Whiteball tunnel in	84 19	57				
75.00		86 43	80 brks		97/80		100
80.00		90 39	80				
82.90	Taunton	92 53	77	96 39	78	83 44	76/65
88.00	Cogload Jct.	96 52	78				
90.00		98 23	80				
94.40	Bridgwater	101 54	76	106 35	78	93 03	77
100.00		106 14	77				
105.00		109 47	76				
110.00		113 43	78				
115.70	Yatton	118 21	76	121 12	91	109 54	76
119.60	Nailsea	121 34	74				
124.00		124 49	77.6				
126.00	brakes	126 23	72				
127.00		127 25	39				
127.60	Bristol TM	130 04		133 10	10E	Pylle Hill J 120 12	

The BR Standards – my greatest hits compilation

Richard Neville-Carlé

If you want to enjoy some happy moments from my days out behind preserved BR Standard steam locomotives, then read on.

I suppose that all of us who remember the last days of steam in the 1960s retain a passion for the engines produced by whichever of the pre-nationalisation Big Four companies was the one

we saw as ‘our own’. But, in the 1950s, the British Railways (BR) Standards came along. They were much needed to update steam motive power and to replace ageing engines that, during World War 2, had suffered from poor maintenance or had not been replaced sooner.

But they were not quite ‘our own’, were they? And the bigger ones lacked the sophistication and individuality of the snazzy thoroughbreds that had been produced by the Big Four. The Standards had rugged simplicity, relative reliability, and ease of maintenance, and had a rather cloned appearance. And, on top of this, for some observers, the Standards seemed overly derived from the practice and designs of the London Midland and Scottish railway (LMS).

I never logged steam trains when they were in BR service but, from 1990, once bitten by the bug that gave me a desire to record the excellent mainline performance of steam in preservation, I set out to analyse the work of as many classes of steam locomotive as I possibly could. This article is about the many joyous times in that quest that I have had behind the Standards and when they did a grand job, often surpassing my wildest expectations, and engendering my love of and respect for these engines.

Robert Riddles’ BR Standard locos

From 1951, BR started to build steam locomotives to its own standard designs, which were largely based on LMS practice but incorporated ideas and modifications from the other constituent British companies and worldwide. Their design was overseen by Robert Riddles.
The characteristic features of the engines were intended to facilitate low running costs and ease of maintenance. They had a family resemblance including taper boilers, high running plates, two cylinders (all except for one of them), Walschaerts valve gear, and streamlined cabs. But the stud included many variants: some had double chimneys, others had Caprotti valve gear, and a few had Crosti boilers. So, the Standards (and their performance and weights) were not so standard after all.

Although more were ordered, 999 BR Standards were constructed: the last, one of the large freight 2-10-0 engines, 92220 *Evening Star*, was built in 1960. Most never achieved their design service life and were withdrawn in working order. This was because BR’s 1955 Modernisation Plan included the phasing out of steam traction. Major withdrawals, even of very new steam engines, occurred and steam traction ended in August 1968.
Over 40 Standard engines are preserved.

Some points to note

Compulsory seat reservations on a fully loaded special trains like those hauled by preserved steam engines mean that an allocated seat may not be the most ideal one for logging. And sometimes I was with fellow travellers or the train ran in the dark before I had a GPS device. In short, my records are the best that I could make in the circumstances and often included speeds assessed from rail welds.

I have indicated the logs that I made jointly with Paul Johnstone, another RPS member.
To moderate my efforts, I have looked in the *RPS Archive* at others’ logs of the Standard-hauled trains that I cite here. The other recorders are J Heaton, CP Ritchie and GAM Wood. Most trains were only recorded by me. Others’ logs show only minor discrepancies with mine, allowing me, subject to some minor amendments incorporated in the tables, to regard mine as reliable
.
In preparing this article, I have drawn on E Talbot’s book ‘A pictorial record of British Railways Standard steam locomotives’

In the tables, I have distinguished between logs that use tons and tonnes.

In my early logs, I recorded trailing weights that were usually rounded to the nearest five tons. So, for this article, I have taken those trailing weights and added the weights of the locomotives in working order.

On the North Wales coast

Table 1 shows a pair of runs up the north Wales line by the two most powerful of the Standard passenger engines: the class 8 and class 7 4-6-2s. The log made in February 1991 was only my second mainline steam excursion: by the time of the trip in August 1992, I had become something of an "old hand" logging big steam engines that were recreating their historical performances, and a definite fan of the BR Standards.

There was only one class 8P locomotive: 71000 *Duke of Gloucester*. The engine was built to replace the ex-LMS Pacific 46202 *Princess Anne* that was written off in the Harrow collision in 1952. It is the only Standard to have a three-cylinder configuration. It is a souped-up version of the class 7MT, with the same sized 6'2" driving wheels, and besides the extra cylinder, it has a bigger firebox and Caprotti valve gear. In BR days, it was regarded as something of a disappointment because of its poor steaming. In the renovation that took place before running in preservation, it was found that 71000 had not been fabricated in line with the drawings for the loco. Once the firebox air admission holes had been enlarged to the size they were meant to be, the engine has steamed and performed as had always been expected.

There were 55 class 7MT 4-6-2s, that were known colloquially as *Britannias*, after the first loco in the class, 70000. The engines were almost as large as 71000, but had only two cylinders and were fitted with Walschaerts valve gear. The locos worked throughout Great Britain, but on some lines, they suffered from adverse comparison with their pre-nationalisation predecessors. They were reliable performers once some early teething troubles were resolved.

Apart from a short, sharp climb to and descent from Penmaenrhos tunnel, the line between Llandudno Junction and Chester is almost as flat as a pancake. From Chester, the line climbs gently to Crewe.

In 1991, behind 71000, I did not have an ideal logging seat, and so this is only an average speed record, as you can see from Table 1. The train was really loaded up: mainly consisting of 1960 Metro-Cammell pullman stock but also including an ETHEL to provide train heating, but turned in a good performance. It left Llandudno Junction 3½ minutes late after a water stop there and, because of the check through Rhyl and Prestatyn, was 10 minutes late passing Holywell Junction. It was impossible to recover all the lost time and the train got to Crewe four minutes late, having taken its scheduled time for this leg of the trip.

In 1992, 70000 had a rake of more conventional stock. I have started the log at Prestatyn because, after Llandudno Junction, the train called at Rhyl before its next holiday resort stop. The train was away from Prestatyn three minutes early: this was in contrast to earlier in the day when we had left Holyhead 32½ minutes late after the class 08 station pilot there failed and Britannia had to shunt her own stock … to an accompanying round of applause from the railway enthusiasts gathered on the overbridge at the southern end of the station to take photographs of the light engine. By the way, the spectacle of watching a Pacific engine demeaning herself as a shunter caused a subsequent long queue outside a fish and chip shop that was located nearby where many of us – yes, I was one of them – had planned to get our lunch. That line of hungry gricers was a non-railway manifestation of the knock-on delays that we train timers know only too well.

Anyway, starting away before time from Prestatyn, the train ran earlier and earlier to Crewe. It was four minutes early away from Chester and then six minutes early when a class 47/8 came on to take the train back across country towards the Home Counties. When I left the train at

Luton for a service train to St Pancras, it had arrived 9½ minutes early. Given the work that is needed to weave steam excursions into an already busy timetable, passengers should be very happy when this happens.

Table 1

Date		19-Feb-91			26-Aug-92		
Train		14:05 Holyhead - Euston			15:45 Holyhead - St Albans		
Stock		8P 71000 + 14 (various)			7MT 70000 + 12 (Mk I)		
		637 tons gross			598 tons gross		
Rec		RDNC			RDNC		
Miles	*Timing point*	*Time*	*Ave Sp*	*Notes*	*Time*	*Ave Sp*	*Act Sp*
0.00	LLANDUDNO JCT	0:00:00	-				
3.99	Colwyn Bay	0:08:06	29.5				
5.81	Penmaenrhos T W	0:10:08	53.9				
10.11	Abergele	0:15:46	45.8	sigs			
14.36	Rhyl	0:22:26	38.3	sigs			
17.95	Prestatyn	0:28:01	38.6	sigs	0:00:00	-	-
21.54	Talacre	0:32:56	43.8		0:05:58	36.1	53/61
27.54	Holywell Jct	0:39:06	58.4		0:12:15	57.3	59/63
31.90	Flint	0:43:13	63.6		0:16:32	61.1	60/62/60
36.53	Shotton	0:47:31	64.5		0:21:09	60.1	61/58/62
41.01	Mold Jct No 1	0:52:14	57.1		0:25:48	57.9	60
44.34	Chester	0:57:42	36.5	sr	0:30:20	44.0	-
45.84	Christleton Tunnel E	1:00:40	30.3	sr	0:03:58	22.7	37/52/47
51.04	Tattenhall Road	1:06:33	53.0		0:10:36	47.0	54/55/49
57.35	Calveley	1:13:43	52.8		0:18:03	50.8	51
61.74	Worleston	1:18:04	60.5		0:22:55	54.1	61/stop
65.45	CREWE	1:24:39	33.8		0:32:50	22.5	-

Average Speeds	*Miles*				
Llandudno Jct - Crewe	65.45	46.4	mph		
Prestatyn - Chester	26.39			52.2	mph
Talacre - Mold Jct	19.48	60.5	mph	58.9	mph

On the Settle and Carlisle

Now we move to one of Britain's epic lines – the Settle & Carlisle (S&C) that was once part of the Midland Railway's (MR) mainline from London to Glasgow – and, in 1994 in Table 2, we see 70000 *Britannia* tackling a line that had a notorious reputation in steam days. In the early 1990s, I used the up line as a proving ground for various classes of Pacific steam engines because it is a relatively under-used stretch of track – so out of course delays are infrequent – and where the huge canvas of the Cumbrian landscape means that, even when there is a delay, a train still has plenty of opportunity to display its performance capacity.

Starting south from Appleby, the line runs quite sharply downhill to Ormside before it begins an almost continuous climb to Ais Gill summit, 15 miles away, mainly at a gradient of 1:100. From Ais Gill to a further summit in Blea Moor tunnel, the line plateaus and is moderately graded. After Blea Moor, the line is downhill, mostly at 1:100, to Settle Junction that is 15 miles away. For reasons I do not need to explain, this route was affectionately known – in both directions – as 'the long drag'. With 30 minutes or more of full power needed for the climbs, the skill and stamina of footplate crews were – and still are – sorely tested.

Oh dear! Having said that delays coming south over the S&C were infrequent, in 1994 70000 had one at Kirkby Stephen and its impact is hard to assess. Although the train reached Ais Gill summit at 42 mph, the year before a London and North Eastern A4 class engine pulling 11 carriages had achieved 55 mph there and a LMS Princess Coronation class with the equivalent of 15 on and then 12 on had managed 44 and 51 respectively. But, bearing in mind the effort by 70000 and her crew to get away from a stop in the middle of this climb, with its inevitable consequence on the fire and boiler, perhaps the speed at the summit was a minor triumph.

Curiously, and unusually, my log seems very short of details of the punctuality of the excursion. The reason I make this point is because I have been trying to understand why, once on the downhill leg of my extract in Table 2, the train persistently exceeded the line's 60 mph speed limit. A further factor in my perplexity is that, having diverged westwards at Hellifield from the MR route to Leeds to reach Farington Junction on the west coast mainline for our return journey to London, where we re-attached the class 86/2 electric locomotive that had brought the train down from Euston earlier in the day, the train was not behind schedule. Having found no other record of this train, perhaps it will remain one of life's unsolved mysteries?

Table 2					*Miles*	*Timing point*	*Time*	*mph*	avge
Date		09-Jul-94			17.53	Ais Gill	00:33:14	42/50	42.4
Train		13:00 Carlisle - Euston			20.60	Gardsale	00:38:45	-/47	33.4
Stock		7P 70000 + 12 (MkI)			23.88	Dent	00:06:45	sr30	29.1
		608 tons gross			26.46	Blea Moor TN	00:10:19	54	43.5
Rec		PDJ/RDNC			28.79	Blea Moor	00:16:24	-	22.9
Miles	*Timing point*	*Time*	*mph*	*avge*	30.03	Ribblehead	00:19:44	-/65/63/sr	22.3
0.00	APPLEBY	00:00:00			34.74	Horton	00:24:35	65	58.3
2.47	Ormside	00:05:01	58	*29.6*	36.48	Helwith Bridge	00:26:21	55	59.0
5.36	Griseburn	00:08:56	38	*44.2*	39.03	Stainforth	00:28:16	67	69.8
7.50	Crosby Garrett	00:11:58	50/57	*42.3*	40.79	Settle	00:29:50	69	67.5
10.69	Kirkby Stephen	00:20:19	/32/ss	*22.9*	42.75	Settle J	00:31:31	75	70.0
12.99	Birkett Tun S	00:26:19	28	*23.0*	44.78	Long Preston	00:33:35	brakes39	58.8
14.03	Mallerstang	00:28:17	40/43	*31.7*	46.00	HELLIFIELD	00:37:36	sr/pass	18.3
Average Speed		*Miles*							
Ribblehead - Long Preston		14.75	63.9	mph					

From Plymouth to Taunton

If you considered that the gradients on the S&C line were difficult, let us look at Table 3 and two Standards tackling the positively Alpine profile of the south Devon banks in 1995, and then running into and through Somerset over the significant Whiteball summit.

Always an innovator, Isambard Kingdom Brunel had new technology in mind when, in the mid-1840s, he advised the promoters of the South Devon Railway on its new line between Exeter and Plymouth, that was later absorbed into the Great Western Railway (GWR). An 'atmospheric railway' was in prospect; one that used trackside steam engines to create a vacuum in a sealed pipe between the running rails to draw trains equipped with a piston (instead of a locomotive) along the track. The prospective operational cost savings in the acquisition, maintenance and weight of locos seemed appealing. So, the engineering of the south Devon line incorporated steep gradients that were unthinkable with contemporary conventional loco-hauled technology. But, alas, the atmospheric railway came a cropper, not least because the vacuum pipe was prone to leaks and this fault was its Achilles heel. So, Brunel's optimism meant that, forever afterwards, conventional trains on the south Devon line have had to tackle some extraordinarily severe inclines.

Starting east from Plymouth, the line is downhill to Tavistock Junction and then rises at 1:42 to a summit at Hemerdon. A relatively moderately graded section follows to Marley Tunnel after which the line plunges down at up to 1:46 to Totnes. After the ensuing bank at up to 1:37 to Dainton Tunnel, there is a descent at up to 1:41 to Newton Abbot. From there, along the left bank of the river Teign to Teignmouth, along the coast to Dawlish Warren, and then up the Exe estuary to Exeter, the line is almost on the level. Leaving Exeter, the line is uphill for 20 miles to Whiteball Tunnel, with a final ascent at 1:115 for 2 miles. There is a subsequent ten-mile descent to Taunton with a maximum gradient of 1:80.

Because this article is beginning to look a bit like a product of a '70000 fan club', let us concentrate on the class 4MT 4-6-0 75014 that piloted the train in Table 3. This was one of 80 that were built, had similar characteristics to the GWR Manor class engines, 5'8" driving

wheels, and could operate where heavier engines were barred. The class was allocated to BR's London Midland, Western and Southern regions.

The two Standard engines in Table 3 did not quite have the power of modern traction and, anyway, the power characteristics of steam locomotives are nothing like their successors but, once over the summit of Hemerdon bank, a casual reader could be forgiven for thinking that, as far as Newton Abbot, this was a log made behind a class 52 or class 50, or even on an HST. After the stop at Exeter, the pair's subsequent attack on the climb to Whiteball was impressive as the flying average of over 65mph – almost all of it uphill – from Cowley Bridge Junction to Wellington shows.

Table 3					Miles		Time	mph	*avge*
Date		29-Apr-95			31.86	Newton Abbot	00:54:03	-/45/52	*13.2*
Train		12:10 Plymouth - Paddington			37.01	Teignmouth	01:02:05	45	*38.5*
Stock		4MT 75014 + 7P 70000 + 12 (Mk I)			41.46	Dawlish Warren	01:07:02	64/67	*53.9*
		737 tons gross			47.19	Exminster	01:12:21	66/stop	*64.6*
Rec		PDJ/RDNC			52.04	Exeter St David's	01:23:40	-	*25.7*
Miles		Time	mph	*avge*	53.28	Cowley Br J	00:03:07	43	*23.8*
0.00	PLYMOUTH	00:00:00	-	-	55.74	Stoke Canon	00:05:27	62	*63.3*
2.94	Tavistock J	00:06:11	62/22	*28.5*	60.43	Hele	00:09:59	68	*62.0*
6.81	Hemerdon	00:12:38	28/58	*36.0*	64.60	Cullompton	00:13:40	69/65/67	*68.0*
11.60	Ivybridge	00:18:05	54/66	*52.7*	68.60	Tiverton Pkwy	00:17:11	66	*68.2*
18.16	Marley TE	00:25:14	56/65	*55.1*	72.15	Whiteball TS	00:20:32	63/69	*63.6*
23.13	Totnes	00:29:55	47/50/49	*63.6*	75.69	Wellington	00:23:44	60/66	*66.3*
28.00	Dainton TS	00:36:29	37/59/stop	*44.5*	82.79	TAUNTON	00:31:58	-	*51.7*

Average speeds	*Miles*	*mph*
Plymouth - Exeter	52.04	*37.3*
Exeter - Taunton	30.75	*57.7*
Cowley Br J- Wellington	22.41	*65.2*

Just to mention HSTs again, the subsequent run of this excursion to Paddington was very severely disrupted when an HST running ahead of it failed between Westbury and Newbury and caused a 33-minute delay on that stretch. Nonetheless, our train arrived at Paddington on time, because of a slack onward schedule and some smart work by the line controller.

On a Devon branch line

On 12-May-1994, I led members of my civil service team on a visit to Exeter to talk about the implementation of the piece of local authority legislation that we were charged with policing. The time that has elapsed means that I cannot recall whether it was Devon County Council or Exeter City Council that we met, or whether we were seeking to refine our policy on their advice or give the authority a bit of a ticking off. Why am I telling you this? It is because, as the ice was breaking before the formal meeting began, the senior Devonian officer there asked me, 'Do you know this part of the world?', and I said, 'In fact, I was here in Exeter less than two weeks ago for the steam festival'. It turned out that my interlocutor was a fellow rail enthusiast, thought that the festival had been a great success and, given my empathy, the meeting that followed went very smoothly.

The steam festival in question was 'Rail Fair' and, on one of the days of it, I had made a day trip from Waterloo to Exeter by class 159 diesel multiple units; a short visit to Exmouth for a picnic lunch with a friend, while squinting into the sun to watch the trains running past Dawlish Warren on the GWR line on the other side of the river Exe; and then made a steam hauled trip from Exeter to Barnstaple and back.

Table 4 shows the outward leg of that excursion. It was operated by a pair of class 4MT 2-6-4Ts that 'top and tailed' a long rake of Mark I coaches. I will make no bones about it, the 2-6-4Ts are, to my aesthetic eye, the comeliest – gosh, what an old-fashioned adjective?! – of all the BR Standards. 155 were built, had 5'8" driving wheels, and they were allocated to all BR

regions, though they came to be particularly associated with the operation of the former London Tilbury and Southend (LTS) line out of London Fenchurch Street.

The former Southern Railway's (SR) Barnstaple branch rises all the way from Exeter to Copplestone, with a steepest bank of 1:122. After that, it is downhill along the Taw valley to Barnstaple on relatively easy gradients that take the line back to near sea level.

I have not included the run by these two tank engines because of their heroic speed or power output. I am showing you this trip because it was in many ways like a re-enactment of the wonderful film that I love to watch that was shot from the observation car at the rear of the *Devon Belle* train on this line in the sunshine of 1951. From a performance point of view, for safety reasons, the configuration of the train meant that our speed was limited to 45 mph … that, as you see, was slightly exceeded on occasions. And the stop just before Eggesford was for the footplate crew to operate the switch that closes the gates at the level crossing south of the station.

Table 4				
Date		01-May-94		
Train		14:30 Exeter-Barnstaple		
Stock		4MT 80079 + 80080 + 13 (Mk I)		
		683 tons gross		
Rec		RDNC		
Miles	Timing point	Time		*avge*
0.00	EXETER ST D'S	00:00:00		-
1.29	Cowley Br J	00:05:54	easy	*13.2*
4.32	Newton St Cyres	00:11:34		*32.0*
6.92	Crediton	00:17:47	sigs	*25.1*

Miles	Timing point	Time		*avge*
10.55	Yeoford	00:08:36		*25.3*
11.50	Coleford J	00:09:58	46max	*41.7*
13.51	Copplestone	00:12:54		*41.0*
15.15	Morchard Rd	00:15:04		*45.5*
17.54	Lapford	00:18:17		*44.5*
21.36	Eggesford	00:26:14	stop	*28.9*
25.33	Kings Nympton	00:07:21	50 max	*32.3*
28.21	Portsmouth Arms	00:11:27		*42.3*
32.39	Umberleigh	00:18:19		*36.5*
34.74	Chapleton	00:21:45	51 max	*41.0*
39.14	BARNSTAPLE	00:32:52		*23.8*

On the former Southern mainline between London and Devon

Tables 5 and 6 show BR Standards on the London and South Western Railway's (LSWR) mainline to the south west of England.

The class 5MT 4-6-0s were a development of the highly successful and much loved Stanier 'Black Five' class locos. 172 of them were built, had 6'2" driving wheels, and they worked over almost all of BR. Like other Standards, there were a substantial number of derivatives: in the case of the class 5s, it was the use of Caprotti – as opposed to Walschaerts – valve gear. In BR days, the class 5s were occasional performers on principal expresses on this line.

The other engine displayed here is another of the class 4MT 4-6-0; this is one that was fitted with a double chimney. Before preservation, rarely were these locos put on the sort of duties that 75069 found itself on in 1992.

The line between Salisbury and Exeter is – unashamedly – one of my favourites and has a picturesque quality through the changing rural landscapes in Wiltshire, Dorset, Somerset and Devon. The engineering of it is not conducive to sustained high speed running, being a curving switchback. In BR steam days, trains used the kinetic energy gained from previous rapid descents to attack the line's key summits at Semley, Buckhorn Weston Tunnel, between Templecombe and Sherborne, just west of Crewkerne, and Honiton Tunnel. Some of the banks include 1:80 gradients. The singling of much of the line after it lost mainline status in the 1960s presents a different operational challenge.

The excursion in 2003 to Exeter from Clapham involved more than one 'Class 5', as it happens. Having taken the train to St David's, 73096 ran tender first back to Yeovil Junction to use the turntable there for the early evening run back to the metropolis. Class 5 diesel, D9016 *Gordon Highlander*, brought the afternoon train from Devon to Somerset before 73096 was put on the

front of the train for the concluding sprint to London. As a result, there was a curious mixture of enthusiasts on board the train: and I confess that I had a foot in both camps.

The train was not particularly well-patronised and although I had booked my seat – in one of the dining cars – only a few days earlier, I was seated on the aisle. The outward journey was disrupted – largely, it seems, by operational issues with service trains – and the train left Yeovil Junction 24 minutes late. It was only 12 minutes behind schedule when it got to Exeter. The train was apparently timed to take account of a clearance problem (that I have noted behind other steam engines) near the site of Hardington Siding box, west of Yeovil, and the 20mph speed restriction at the foot of Honiton bank, where the railway crosses the river Axe, that at that time applied to all loco-hauled trains and marred any barnstorming attempt on the subsequent severe incline. But, as you can see from Table 5, the footplate crew made a good fist of handling 73096 and we had an exciting run.

Table 5					*Miles*		*Time*		*avge*
Date		06-Jul-03			21.90	Axminster	00:29:03	80 max	71.8
Train		08:45 Clapham J-Exeter St Ds			25.21	Seaton Jct	00:34:29	sr 20	36.6
Stock		5MT 73096 + 11 (Mk I/II)			29.96	Honiton TE	00:42:55		33.8
		527 tonnes gross			32.09	Honiton	00:45:59		41.6
Rec		RDNC			36.69	Feniton	00:50:03		67.9
Miles		*Time*		*avge*	40.43	Whimple	00:53:12		71.2
0.00	YEOVIL J	00:00:00		-	44.09	Broad Clyst	00:56:06		75.8
8.81	Crewkerne	00:15:34	?clearance	34.0	47.66	Exmouth J	00:59:31		62.8
11.44	Hewish	00:19:33		39.5	48.78	Exeter Central	01:01:37	sr	31.8
16.81	Chard	00:24:48		61.4	49.64	EXETER ST D'S	01:04:41	sr	16.9
Miles	*Average Speeds*								
49.64	Yeovil - Exeter St D's								*46.0*
36.22	Hewish-Exmouth J								*54.4*
15.57	Honiton - Exmouth J								*69.1*

Looking at Table 6, coming up from Yeovil that afternoon in 2003, and starting six minutes down on the schedule, 73096 made up eight minutes to Salisbury, despite a signal check approaching the short loop through Gillingham station on the single line from Templecombe to Wilton. The extent to which the engine was working at full power during the run was brilliantly illustrated while the train ascended the long, taxing bank after Sherborne. The restaurant car attendant came round to serve tea and coffee during the climb and, in doing so advised, 'Don't leave the full cups on the table because, if you do, the beverage will all end up in the saucer'. Almost immediately, with the regulator full open, the two-cylinder 73096 began to demonstrate its characteristic yawing and jerky pull, and all seated at my table held our cups aloft, trying to get them to our lips smoothly!

The onward run to Clapham was similarly sprightly and commendably punctual: for instance, the train topped the long climb to Grateley from Tunnel Junction, outside Salisbury, at a creditable 60mph.

The run by 75069 in Table 6 is, for me, a significant one. It was the start of my love affair with the BR Standards. The excursion in 1992 was part of a wonderful event that, over two weekends, involved the first steam hauled passenger trains over the LSWR line west of Yeovil Junction since steam had been withdrawn. Splashing the cash on dining seats, I made return trips between London and Exeter on both weekends. Earlier in the day of 75069's run, I had been hauled by SR King Arthur 777 *Sir Lamiel* on the down leg of the trip. Oh dear, how very disappointing that run had been compared with the class 4MT's excellent effort? This 'little' engine had picked up only a modest 90 seconds on its schedule, but it was a defining moment, and one that is reflected in the whole of this article. (By the way, the novelty of the 1992 excursion explains why 75069's train was, counter-intuitively, heavier than the 2003 one).

Table 6

Date		28-Jun-92			6-Jul-03		
Train		15:00 Exeter St Ds - Waterloo			16:48 Exeter St Ds - Clapham J		
Stock		4MT 75069 + 11 (Mk I)			5MT 73096 + 11 (Mk I/II)		
		544 tons gross			527 tonnes gross		
Rec		RDNC			RDNC		
Miles	*Timing point*	*Time*	*Ave Sp*	*Act Sp*	*Time*	*Ave Sp*	*Notes*
0.00	YEOVIL JCT	0:00:00	-	-	0:00:00	-	
4.56	Sherborne	0:08:49	31.0	52/31/41/33	0:08:12	33.4	
10.61	Templecombe	0:18:24	37.9	48/71	0:15:26	50.2	
15.05	Buckhorn W Tun E	0:23:17	54.5	45	0:19:14	70.1	max 81
17.38	Gillingham	0:25:56	52.6	60	0:22:48	39.1	sigs
21.45	Semley	0:31:26	44.5	33/61	0:29:45	35.2	
26.43	Tisbury	0:37:07	52.5	59/61	0:34:34	62.0	
30.92	Dinton	0:41:29	61.7	59	-	-	max 73
36.46	Wilton	0:47:46	52.9	38/40	0:43:38	66.4	
38.98	SALISBURY	0:53:21	27.0	-	0:48:29	31.1	-
Average speeds		*Miles*					
Yeovil - Salisbury		38.98	43.8	mph		*48.2*	mph
Templecombe - Wilton		25.85	52.8	mph		*55.0*	mph

On the Brighton line

Preserved steam on the intensively used Brighton line is a rare thing. But between Christmas and New Year in 1993, an evening excursion ran to and from Brighton from London Victoria behind the Class 4MT 75069 that had featured on the LSWR line a year earlier (see Table 6). The details of the up run from Brighton are shown in Table 7.

The excursion did not have +the greatest of luck because of very heavy recent rainfall and, as a result, the fragile greensand cutting near Haywards Heath tunnel had collapsed onto the track and fouled and shorted the third rail power supply. The outward leg – that took place in the immediate aftermath of this – was badly disrupted, and the train lost over 50 minutes after a punctual start from Victoria. By the time it returned to the metropolis, the weather had cleared up and, after the engine had been turned on the Hove triangle, the train was blessed with an almost clear road because all trains from south of Haywards Heath had been cancelled. This fact contributed to the chance to make a good fist of the run, that was seized on with vigour by the footplate crew.

Everything about the civil engineering of the Brighton line smacks of real class, as far as Croydon. Almost all of the line was constructed at a ruling gradient of 1:264; curvature is minimal; and all of the original bridges and tunnels feel splendid to pass through. Leaving Brighton, there is a climb to the entrance to Clayton tunnel, and then a descent to just beyond Wivelsfield, where the line begins a climb to the north end of Balcombe tunnel, eight miles away. The following down gradient ends just after Gatwick Airport station, with a following seven mile ascent to Quarry tunnel, and a continuous fall from there to Victoria. Beyond East Croydon, the line was built more cheaply and there are numerous junctions and speed restrictions.

As you can see in Table 7, with a ten-coach load, the train made a respectable start up the bank to Clayton tunnel and was in its stride on the falling gradient to Wivelsfield. Looking at its schedule, my interpretation is that the train had been scheduled for a 60mph maximum speed – probably for pathing reasons – and it adhered to that even though there was little electric powered traffic about. The train stopped near the landslip for safety reasons and I would have better details of the point and extent of the delay were it not for two things: at the time, I was not as familiar with the Brighton line as I am these days (after commuting up and down it once or twice a week between 2013 and 2019), and the lighting had failed in the carriage that I was travelling in and, in 1993, that meant sitting in the dark in the secluded location on the outskirts of Haywards Heath where we came to a stop.

Once through the trouble spot, the train made a steady climb to the summit at Balcombe tunnel and made a good ensuing descent that carried it up the following bank to Quarry tunnel in excellent style. Passing through the speed restrictions at East Croydon with the minimum of delay, the train was limited in speed by the many speed restrictions on the last part of the route and, between Clapham Junction and Victoria, went via the chord past Stewarts Lane depot, to gain access to the east side of the terminus.

Table 7

Date		30-Dec-93		*Miles*		*Time*	*avge*
Train		19:38 Brighton - Victoria		18.54	Balcombe TN	00:30:53	*45.6*
Stock		4MT 75069 + 10 (Mk I)		21.30	Three Bridges	00:33:50	*56.2*
		519 tons gross		23.98	Gatwick Airport	00:36:29	*60.6*
Rec		RDNC		27.10	Salfords	00:39:25	*63.9*
Miles		*Time*	*avge*	28.94	Earlswood	00:41:15	*60.1*
0.00	BRIGHTON	00:00:00	-	33.26	Quarry TN	00:46:09	*53.0*
1.30	Preston Park	00:04:03	*19.3*	37.20	Purley	00:50:01	*61.1*
4.73	Clayton TS	00:09:20	*38.9*	40.21	East Croydon	00:53:17	*55.3*
7.04	Hassocks	00:12:01	*51.6*	42.04	Thornton Heath	00:55:53	*42.1*
9.91	Wivelsfield	00:14:54	*59.8*	44.11	Streatham Comm	00:58:00	*58.8*
-	-	-	*stop*	46.06	Balham	01:00:56	*39.9*
12.83	Haywards Heath	00:22:57	*21.7*	48.00	Clapham J	01:04:12	*35.6 sig*
16.76	Balcombe	00:28:33	*42.2*	50.90	VICTORIA *	01:13:59	*17.8*
				* Via St La			

miles	*Average speeds*	*mph*
50.9	Brighton - Victoria	*41.3*
18.66	Balcombe Tun N - Purley	*58.5*

After the problems on the outward journey and a curtailed stop in Brighton, the train was 22 minutes late starting out. But, despite the unscheduled delay caused by the landslip, it made mincemeat of its 87-minute schedule for the non-stop run to Victoria. The train reeled off 18½ miles at nearly 59mph over a roller coaster route and was only nine minutes late in the end. So, unsurprisingly, looking back on it after nearly 30 years, this trip is one that I am very glad that I had the chance to make.

A ramble through Essex along the left bank of the Thames

Like the sojourn on the Barnstaple branch in 1994 that I described earlier, the gentle trip in Table 8 behind the smaller BR Standard class 4MT 2-6-0 76079 – with 5'3" driving wheels – is not included here for its dynamic or novel performance.

This excursion is memorable for me because it marked the awakening of my then partner's love of steam trains. She came from a family with railway connections; her grandfather had worked in 'The Plant' in Doncaster. But steam was a mystery to her: one day we were out for a stroll near the railway through Ilford, but where while the line is invisible, the passing traffic is audible, and I said, 'There's a steam train coming', and she said, 'How do you know that?'. A steam engine's whistle blew, and she realised that I knew what I was talking about. So, in 2001, when a couple of half-day excursions along the former LTS line from Fenchurch Street station were in prospect on the early-May bank holiday, I booked us a couple of seats on the morning train. She was hooked. So much so that she moaned about the short stay on the Essex coast before our return – it was behind a Black Five – and then, after that, we made other mainline steam excursions together.

The line via Grays seen in Table 8 is the southern branch of the LTS line, that follows the Thames estuary more closely, not the direct route from Barking to Southend. It is almost level until a stiff bank between Westcliff and Southend Central. The line then falls away to sea level at Shoeburyness.

There is something heart-warming when, for instance, in the bright sunshine that glistened on the Thames estuary that day, people taking advantage of the holiday weekend, busy buying shellfish from the numerous stalls alongside the line at Leigh-on-Sea, turn in surprise at the passing of a steam-hauled train and wave. When you are on the train, it makes you feel as though you are part of something really rather special.

Table 8				*Miles*		*Time*		avge
Date		07-May-01		14.08	Tlibury Town	00:04:11		24.7
Train		09:25 Fenchurch St - Shoe'ness		17.56	East Tilbury	00:10:42	sr	32.1
Stock		4MT 2-6-0 76079 + 10 (Mk I)		19.69	Stanford-le-Hope	00:13:39		43.2
		469 tonnes tare		24.94	Pitsea	00:22:52	57max/	34.2
Rec		RDNC		27.50	Benfleet	00:27:02	sig	36.9
Miles	*Timing point*	*Time*	avge	30.90	Leigh-on-Sea	00:30:54	80 max	52.8
0.00	BARKING	00:00:00	-	33.19	Westcliff	00:34:06		42.9
3.09	Dagenham Dock	00:06:07	30.3	34.05	Southend Central	00:36:43		19.8
5.15	Rainham	00:08:53	44.7	34.98	Southend East	00:02:50		19.6
8.50	Purfleet	00:13:16	45.9	36.28	Thorpe Bay	00:04:21		51.4
12.35	Grays	00:18:53	41.1	37.86	SHOEBURYNESS	00:08:16		24.3

On the Norwich line

When new, Standard Class 7MT 4-6-2, 70013 *Oliver Cromwell* – built at Crewe Works, in 1951 – was allocated to Norwich depot to work on express services along the former Great Eastern Railway (GER) mainline between London Liverpool Street and Norwich. Bigger and better than anything that been employed on the line until then, the introduction of 70013 and her sister *Britannia* Pacifics revolutionised express services in East Anglia. Later in her BR days, 70013 was selected to operate the last steam passenger train on BR in August 1968: she took the celebrated *Fifteen Guinea Special* on the Manchester to Carlisle leg of the excursion.

After leaving Colchester on a down grade, there is a subsequent four-mile climb to Ardleigh, followed by a 1:134 bank down to Manningtree. A climb follows to a summit beyond Bentley with a maximum gradient of 1:145 and then the line descends to sea level at Ipswich. From there, it rises to a summit after Haughley Junction: it is a gentle incline as far as Stowmarket, but it sharpens to 1:131 thereafter. The descent towards Diss includes nearly two miles at 1:132. Tivetshall is the next summit and after an onward switchback ride, Swainsthorpe is midway down a long descent.

The largely two-track GER line carries an intensive passenger service and is also heavily used by freight trains to and from the North Sea ports of Felixstowe and Harwich. Its operation is therefore a tricky thing and delays on service trains are common so, when an excursion comes along, there can be added difficulties. I have chosen the outward trip in Table 9 because it was the least disrupted part of a rewarding day out: the return journey was badly affected by a track circuit failure near Colchester that meant that all trains on the GER were running out of path. Even so, the down train had a slow passage through Ipswich because it was behind a freight train and ran through the station wrong line. But, once on the long, relatively straight, but undulating line onwards to Norwich, 70013 showed a bit of class. Despite the awkward passage through Ipswich, the train gained seven7 minutes on its schedule between Colchester and Norwich.

You can see from the date that the excursion ran on St George's day and, besides the fine running on the way back to London after the delay at Colchester that included a spell at 77mph overtaking astonished car drivers on the parallel A12(T) road near Hatfield Peverel, another memorable thing was the way the staff of the Norwich pub where I had lunch were in full historical costume, and brandishing stage weapons at any customer who looked vaguely like a dragon … and even if they did not!

Table 9									
Date		23-Apr-09			*Miles*		*Time*	*Act Sp*	*avge*
Train		10:23 Liverpool Street - Norwich			17.09	Ipswich	00:25:32	31/66sig/UL	*34.1*
Stock		7MT 70013 + 10 (Mk I/II)			25.44	Needham Mkt	00:36:40	65 DL	*45.0*
		515 tonnes gross			28.93	Stowmarket	00:39:53	67	*65.1*
Rec		PDJ/RDNC			31.34	Haughley J	00:42:08	58/53/72/69	*64.3*
Miles		*Time*	*Act Sp*	*avge*	39.78	Mellis	00:50:03	73/81	*63.9*
0.00	COLCHESTER	00:00:00	-	-	43.31	Diss	00:52:48	74/71/73/64	*77.2*
4.40	Ardleigh	00:06:58	56/65/26	*37.9*	48.89	Tivetshall	00:57:38	68/78/66	*69.2*
7.76	Manningtree	00:11:23	45/53/50sig	*45.7*	58.01	Swainsthorpe	01:05:13	70/73	*72.2*
11.44	Bentley	00:15:36	57/51/59/13	*52.3*	63.25	NORWICH	01:13:13	-	*39.3*
miles	*Average Speeds*								
63.25	Colchester - Norwich								*51.8*
32.58	Needham - Swainsthorpe								*68.5*

On the East Coast Mainline

And, to round off this review, Table 10 shows a relatively unchecked high-speed run behind Standard 8P 4-6-2 71000 up the east coast mainline (ECML) between Doncaster and Peterborough. The log starts at the point where the train, having made a water stop at the Royal Mail terminal on the down side of the formation, had crossed to the up side via the flyover, and was held at signals before being released onto the up main at Loversall Carr Junction. At that point, the train was running about three-quarters of an hour late because 'operational difficulties' at York had delayed our departure from there. So, the footplate crew had every incentive to get, and then keep, the train moving.

There is an uphill start through Rossington to a summit shortly before Bawtry. An ensuing relatively level stretch leads to a 1:178 bank south of Retford. Tuxford is beyond the next summit before, after the line has fallen at 1:200 to Crow Park, the line is level to Newark. That is where the ascent begins in the up direction to Stoke summit, with a steepest gradient of 1:200. Over the top, the line falls for 15 miles to Tallington at a maximum of 1:178. The ensuing run in towards Peterborough is fairly level.

Well, as you see from Table 10, 71000 put in a fine performance during this run in the dark. A start to stop average speed of more than a mile a minute is a fine achievement, and it is sad that, in the era before I had a GPS device, the high quality of the welded track made it impossible to assess the actual speeds we were doing until the train was on the lesser quality of the slow line down Stoke bank. It is also sad to say how poorly patronised the train was, when the steam engine worked so hard and effectively, and when my log of the down train, that was hauled by two class 31 diesels, shows a flying average from Stoke summit to Bawtry of 85.6 mph and was wildly beyond my expectations too. *Duke of Gloucester*'s train was 47 minutes late when it left Peterborough and, although it picked up 20 minutes on the schedule to Kings Cross, it was therefore still nearly half an hour late when it got there.

Table 10				*Miles*		*Time*		*Speed*
Date		22-Nov-06		20.40	Tuxford	00:21:10		71.7
Train		14:33 York - Kings Cross		24.89	Crow Park	00:24:39		77.3
Stock		8P 71000 + 10 (MkI/II)		32.24	Newark	00:30:20		77.6
		505 tonnes gross		37.00	Claypole	00:34:09		74.9
Rec		RDNC		42.64	Barkston SJ	00:39:00		69.7
Miles		*Time*	*Speed*	46.86	Grantham	00:42:59		63.6
0.00	MP 152.25	00:00:00	-	52.20	Stoke Summit	00:48:02	/SL	63.4
0.97	Rossington	00:03:31	16.6	60.13	Little Bytham	00:54:42	max 84	71.3
4.62	Bawtry	00:08:00	48.8	67.54	Tallington	01:00:32	max 81	76.2
8.34	Ranskill	00:11:09	70.7	72.91	Werrington J	01:07:27	sigs sev	46.6
13.73	Retford	00:15:35	72.9	76.00	PETERBOROUGH	01:14:59	FL/sigs	24.6
miles	*Average speeds*							
76.00	MP 152.25 - Peterborough							*60.8*
62.91	Bawtry - Tallington							*71.9*

Given the number of trains that use the ECML, I am sure that, when 71000 diverted onto the slow line, we were immediately overtaken by one or more 125 mph service trains that we had delayed on the long taxing climb from Newark. But, in the context of celebrating mainline steam in preservation, who cares?

FURTHER READING

In addition to the regular columns in Railway Magazine, Steam Railway and Heritage Railway, the following books give further information on steam running since 1971 and can be recommended.

'A Decade of BR Steam Running 1971-1981'. Les Nixon. Ian Allan. 1981
'Preserved Steam on the Main Line'. J.S.Whiteley & G.W.Morrison. OPC. 1989
'Main Line Steam in the 1980s'. Roger Siviter. Sutton Publishing. 2003
'Main Line Steam'. Bill Sharman. Atlantic Publishers. 1997

For material discussing locomotive performance prior to 1968 as a basis of comparison with more recent times, see various books by O S Nock. These include:

'*60 Years of West Coast Express Running'. Ian Allan. 1976*
'Fifty years of Western Express Running'. Edward Everard. 1954
'Locomotive Practice and Performance'. Patrick Stephens Ltd. 1989. Contains a selection of reprints of his articles from the Railway Magazine 1959-1974.

For a large number of runs on mainly Southern routes, see:

'*Bulleid's Pacifics'. D.W. Winkworth. George Allen & Unwin. 1974*

See also:

'30 Not Out'. The Story of Steam since 1979. Steam Railway No. 365 August 2009.
'Souvenirs of Steam'. Jeff Cogan and Ken Bull. SLOA/Newburn House. 1984
'Steam Returns to London' Joan Jackson. Ian Allan. 1990
'25 Years of Main Line Steam'. Supplement to Railway Magazine October 1996

Photo Credits	
Page	
Cover	34067 'Tangmere' hurries the Cathedrals Express for Salisbury through Vauxhall. December 2007. (Frank Price)
2 Uppr	The train that started it all. 6000 'King George V' approaches Tyseley with the Bulmers Pullman train from Hereford. 2nd October 1971. (Frank Price)
2 Lwr	Midland Compound 1000 and V2 4771 'Green Arrow) during a photo stop at Hellifield in 1980. Note the lineside trespass! (David Maidment)
35 Uppr	46229 'Duchess of Hamilton' crosses Ribblehead Viaduct, at that stage still double tracked. David Maidment on the footplate. 12th March 1983 (David Maidment collection)
35 Lwr	46229 awaits departure from Garsdale with a northbound 'Cumbrian Mountain Express'. 20th February 1982. (Terry Phillips)
36 Uppr	35028 'Clan Line' passes Denham Halt with the 10-15 Marylebone-Stratford. 27th April 1985. (Richard Neville-Carle)
36 Lwr	Complete with original reporting number, 6201 'Princess Elizabeth' climbs Shap on the 75th anniversary of its non-stop run from London to Glasgow. 16th November 2011. (Chris Kapolka)
37 Uppr	6024 'King Edward I' enters Bristol Temple Meads with the stock for the 09-36 to Weymouth. 1st August 2008. (Richard Neville-Carle)
37Lwr	Pacific super-power. Britain's two most modern express passenger locomotives, 71000'Duke of Gloucester' and 60163 'Tornado' prepare to depart Bristol Temple Meads for Plymouth. 25th July 2012 (Frank Price)
38 Uppr	70013 'Oliver Cromwell' crosses the River Clyde at Carstairs with a returning Manchester-Edinburgh 'Auld Reekie' excursion. 27th March 2012. (Martin Robertson)
38 Lwr	46115 'Scots Guardsman' climbs Beattock with the 'Mid-day Scot' from Manchester Victoria to Edinburgh. 11th March 2017 (Martin Robertson)
71 Uppr	'Earl of Mount Edgcumbe' exits Box tunnel on its non-stop run from Paddington to Bristol. April 2010. (Chris Kapolka)
71 Lwr	60163 'Tornado' at Huntingdon, 09-29 Ealing Broadway-York. 8th December 2019. (Richard Neville-Carle)
72	46100 'Royal Scot' passes Frampton Mansell at dusk on a returning Worcester – Paddington train. 28th October 2017. (Les Summers)


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