

Records of the Rugby Locomotive Testing Station

H.N. (later Sir Nigel) Gresley, CME of the LNER, expressed the desirability of the establishment of a national locomotive testing station to be at the disposal of the British main line railways and the private locomotive building industry, during the course of his Presidential Address to the Institution of Locomotive Engineers, 29 September 1927. BY 1930 a site on the outskirts of Leeds had been provisionally selected, but subsequent appeals for funds to the Government of the day were rejected in view of the prevailing economic conditions. The GWR already had a stationary testing plant of its own at Swindon, and the Southern Railway considered its future lay with extensive electrification. In 1937 the LMSR and LNER boldly decided to jointly build a Test Plant at Rugby. For design characteristics inspiration was sought from the newly opened plant at Vitry in France (1933) and the well established plant at Altoona on the Pennsylvania Railroad in the USA. Specifications were issued during 1938, the contract for the test bed being let to Messrs Heenan & Froude of Worcester. Work on the building was well advanced when halted by the outbreak of World War 2 in 1939. Work resumed after the war and the Plant was officially opened in October 1948.

A total of 26 different locomotives rode the rollers at Rugby; surprisingly this included a four-coupled locomotive (Class D49) but no eight-coupled. No fewer than ten were 4-6-0s, and eight were 2-10-0s, mainly of the BR Class 9F type in its various forms.

It can be said that by the time the Test Plant had got into its stride in the early 1950s mobile road testing had attained a high degree of sophistication, and that when steam locomotive testing ceased in the late 1950s data from stationary testing at Rugby could be satisfactorily reconciled with results from mobile testing.

The last steam locomotive tests took place at Rugby in 1959, but nearly all the associated records and correspondence remained on those premises when the National Railway Museum came into being in 1975. This material was transferred to York in 1976 and over subsequent years sorted and listed. These records now reside in 117 numbered boxes. A large quantity of Amsler paper rolls and a large

selection of contractors' drawings for the Plant and its equipment have yet to be catalogued.

In most cases a comprehensive report was subsequently prepared, with the notable exception of the ex-LMS Rebuilt 'Royal Scot' 4-6-0 No 46165. In some cases the locomotive in question, notably SR Class Merchant Navy 4-6-2 (original) and LMS 'Duchess' 4-6-2, were tested both on the road (Skipton-Carlisle) and on the Plant.

Introduction originally written by CP Atkins, NRM Librarian, 27 January 1982, and updated by M Bashforth, Assistant Archivist, and Miriam Davey, volunteer, 2008-2009.

Summary of Tests at Rugby Locomotive Testing Station

Eng ID	Railway	Class	No	Run Nos	From	To	Notes
A	LNER	D49 4-4-0	6276 4	54-65 69-78 82-107	07-05-49 14-06-49 02-08-49	01-06-49 29-06-49 25-08-49	Reidinger Poppet valve gear
B	LMS	5 2-6-0	4272 5	1064- 1117 1191- 1211	10-02-54 31-08-54	30-04-54 01-10-54	Piston valves
C	LMS	5 2-6-0	4282 4	1229- 1275 1570- 1637	08-11-54 15-06-56	07-01-55 28-09-56	Reidinger valve gear and modified version
D	LNER	B1 4-6-0	6135 3	403-411 449-508 544-589	13-11-50 15-01-51 07-06-51	23-11-50 30-03-51 01-08-51	
E	LMS	5MT 4-6-0	4475 2	19-30	24-01-49	09-02-49	Caprotti valve gear
F	LMS	5MT 4-6-0	4476 5	282-298 299-236 327-360 361-383	02-06-50 10-06-50 02-08-50 07-09-50	13-06-50 28-07-50 01-09-50 04-10-50	Single and double chimneys alternate
G	LMS	5MT 4-6-0	4486 2	384-402 412-448	12-10-50 29-11-50	31-10-50 08-01-51	Dirty and clean boiler alternate
H	LMS	5MT	4521	145-281	03-01-	19-05-	Lead tests

		4-6-0	8		50	50	
I	BR	5 4-6-0	7300 8	590-657 692-714	13-08- 51 30-01- 52	05-11- 51 21-02- 52	
J	BR	5 4-6-0	7303 0	924- 1022	22-07- 53	03-11- 53	
K	BR	5 4-6-0	7303 1	1894- 2062	11-02- 58	31-10- 58	Augmented superheater
L	LMS	6P 4-6-0	4572 2	1638- 1763	02-09- 56	26-02- 57	Improved draughting
M	LMS	7P 4-6-0	4616 5	1469- 1569	07-12- 55	25-05- 56	
N	LNER	A4 4-6-2	6000 7		16-10- 48	19-10- 48	Demonstrati on
O	BR	7 4-6- 2	7000 5	509- 543 658- 691	17- 04-51 03- 12-51	28- 05-51 22- 01-52	
P	BR	7 4-6-2	7002 5	822-895 1023- 1027	31/10/ 52 25/11/ 53	20/02/ 53 27/11/ 53	
Q	SR	MN 4-6-2	3502 2	715-812 896-923 1028- 1063	19/03/ 52 10/03/ 53 05/12/ 53	02/10/ 52 07/05/ 53 25/01/ 54	Multiple jet blastpipe/si ngle blastpipe
R	LMS	8P 4-6-2	4622 5	1276- 1351	31/01/ 55	16/05/ 55	
S	MOS/ WD	2-10- 0	7379 9	1-10 31-50	26/11/ 48 21/02/ 49	14/01/ 49 13/04/ 49	
T	MOS/ WD	2-10- 0	7378 8	51-53 66-68 79-81 108-144	22/04/ 49 08/06/ 49 26/07/	05/05/ 49 10/06/ 49 28/07/	

					49 21/10/ 49	49 19/12/ 49	
U	BR	9F 2-10- 0	9201 3	1118- 1190	07/05/ 54	20/08/ 54	Single Chimney
V	BR	9F 2-10- 0	9201 5	1212- 1228	12/10/ 54	27/10/ 54	Single chimney, reduced reg. opening
W	BR	9F 2-10- 0	9202 3	1352- 1430	07/06/ 55	28/09/ 55	Franco- Crosti boiler
X	BR	9F 2-10- 0	9205 0	1431- 1468 1764- 1803	07/10/ 55 06/03/ 57	15/11/ 55 26/04/ 57	Single chimney
Y	BR	9F 2-10- 0	9216 6	2063- 2141	21/11/ 58	17/03/ 59	Double chimney, mechanical stoker
Z	BR	9F 2-10- 0	9225 0	2142- 2173 2174- 2257	09/04/ 50 21/05/ 59	07/05/ 59 01/09/ 59	Double chimney, Giesl Oblong ejector
--	EE Co	4-6-0	GT3	1804- 1893	22/07/ 57	31/01/ 58	Gas Turbine loco

Purpose of Tests:

- A Evaluation of infinitely variable Reidinger poppet valve gear
- B/C Comparison of Reidinger poppet valve gear and Walschaerts valve gear (piston valves)
- D General performance and efficiency tests
- E Evaluation of Caprotti poppet valve gear
- F Single v Double blastpipe experiments
- G Dirty boiler tests
- H Variation of valve lead tests
- I/J General performance and efficiency tests
- K Electrically augmented superheat

- L Improved draughting (double chimney) tests
- M General performance and efficiency tests
- N Demonstration only
- O/P General performance and efficiency tests
- Q General performance and efficiency tests
- R General performance and efficiency tests
- S/T Test plant general calibration
- U General performance and efficiency tests
- V Reduced regulator opening experiments
- W Evaluation of Franco-Crosti boiler
- X General performance and efficiency tests (for comparison with
W)
- Y Evaluation of Berkley mechanical stoker
- Z
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Rugby Locomotive Testing Station

Records held at the National Railway Museum, York

Record of Test Runs 1948–1959 (Runs 1 to 2257, 26/11/48 to 1/9/59)

Index of Reports

Log Book 1948–1951 (19/10/48 to 14/7/51)

Box No	Contents
1	<ul style="list-style-type: none">Proposed Locomotive Testing Plant near Leeds, 5 page report and appendix dated Feb 1930Report of the Locomotive Experimental Station Committee, 1930Preliminary correspondence files:<ul style="list-style-type: none">No 1: missingNo 2: 15/11/34 to 28/11/35No 3: 27/11/35 to 31/12/37
2	Preliminary correspondence files: <ul style="list-style-type: none">No 4: 01/01/38 to 30/07/38No 5: MissingNo 6: 01/01/39 to 31/10/44
3	<ul style="list-style-type: none">Pennsylvania Railroad Locomotive Test Plant at Altoona, Pa.Methods used at the Locomotive Test Plant, Altoona (contains circulars dated 1929–1947)ASME Power Test Codes
4	Spare copies of memoranda and published articles: includes 1938 estimates of range of size of locomotives likely to be tested
5	Messrs Heenan & Froude Ltd, tender and specification, 1938
6	<ul style="list-style-type: none">Messrs Heenan & Froude Ltd, Brochure on Rugby Locomotive Test Plant, illustrated with photographs and drawings, 36pp, c 1950 (presented to NRM by Froude Engineering Ltd, April 1979)British Railways, Brochure on Rugby LTS, 1948 (2

	<p>copies)</p> <ul style="list-style-type: none"> Rugby LTS, photograph albums <ul style="list-style-type: none"> No 1: 1949-1950 No 2: 1950-1956 No 3: 1957-1963 																														
7	Rugby LTS, yearly reports 1947 1950 1948 1951 1949 1952																														
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11	Rugby LTS Notebooks																														

		<u>Runs</u>	<u>Date</u>
	No. 1	1 - 50	29.11.48 to 13.04.49
	2	51 - 107	22.04.49 to 25.08.49
	3	108 - 195	21.10.49 to 01.03.50
	4	Missing	
	5	282 - 383	02.06.50 to 04.10.50
	6	384 - 465	12.10.50 to 02.02.51
	7	466 - 550	05.02.51 to 13.06.51
	8	551 - 602	13.06.51 to 11.09.51
	9	602 - 657	11.09.51 to 03.11.51
	10	658 - 701	03.12.51 to 11.02.52
	12	748 - 822	06.06.52 to 31.10.52
	13	823 - 873	03.11.52 to 16.01.53
	14	874 - 943	16.01.53 to 12.08.53
	15	944 - 1019	13.08.53 to 28.10.53
	16	1020 - 1101	30.10.53 to 14.04.54
	17	1102 - 1200	14.04.54 to 22.09.54
	18	1201 - 1294	22.09.54 to 22.02.55
	19	1295 - 1387	23.02.55 to 15.08.55
	20	1388 - 1488	06.08.55 to 06.02.56
	21	1489 - 1588	07.02.56 to 01.08.56
	22	1589 - 1678	01.08.56 to 21.11.56
	23	1679 - 1768	21.11.56 to 14.03.57
	24	1769 - 1848	14.03.57 to 03.10.57
	25	1849 - 1939	08.10.57 to 11.04.58
	26	1940 - 2030	21.04.58 to 06.10.58
	27	2031 - 2117	06.10.58 to 17.02.59
	28	2118 - 2210	17.02.59 to 23.06.59
	29	2211 - 2257	24.06.59 to 01.09.59
12	Smokebox Gas Analysis Books		
		<u>Runs</u>	<u>Date</u>
	No. 1	284 - 447	06.06.50 to 08.01.51
	2	457 - 689	26.01.51 to
			08.01.51
	3	692 - 922	30.01.52 to
			06.05.53
	4	925 - 1117	23.07.53 to

	30.04.54 1192 - 1211 20.08.54 5 1121 - 1190 20.08.54	10.05.54 to 10.05.54 to
13	6 1356 - 1569 25.05.56 7 1571 - 1763 26.02.57 8 1765 - 2073 08.12.58 9 2074 - 2257 01.09.59	17.06.55 to 18.06.56 to 57 to 09.12.58 to
14	Miscellaneous Notebooks Coal bunker stock (6) Thermocouples (2) Indicators (1) Coal samples (2) Dynamometers, oil inspection & examination (1) Control desk (5) Uncertain (1)	
15	Instrumentation Files Discharge through blast pipes Calibration of instruments (C1) Plant procedure (17/6) Plant mileage Kent's exhaust steam flowmeter	
16	Instructions for electronic instruments	
17	Water consumption, test locomotives A, C, D, G, H, I, L, M, O, Q, W, X	
18	Water consumption, test locomotives B, C, F, J, K, P, Q, R, U, X, Y, Z	

19	Coal and water data, test locomotives B, C, K, L, M, R, V, W, X
20	Coal and water data, test locomotives B, I, J, O, P, Q, U, Y, Z
21	Coal analysis, test locomotives B, C, D, F, G, I, J, K, L, M, O, P, Q, R, U, V, W, X, Y, Z
22	Vacuum readings, test locomotives C, J, M, P, Q
23	Vacuum readings, test locomotives B, C, U, W, X
24	Smokebox and chimney vacuum data, test locomotives J, K, X, Y, Z Firing data, test locomotives B, J, Q, W
25	Ashpan vacuum, test locomotives K, L, X, Z Boiler pressure drop, test locomotives B, L, R, W, X
26	Blast pipe pressure, test locomotives, B, C, I, J, O, P, Q, U
27	Temperature pressure, test locomotives C, L, M, P, Q
28	Temperature pressure, test locomotives K, R, W, X
29	Temperature pressure, test locomotives, B, C, J, Q, U, V
30	Firebox temperature data, test locomotives, C, K, L, M, X, Y, Z
31	Smoke high pressure steam dynamical charts, test locomotives, K, Y, Z
32	Low pressure readings, test locomotives, B, C, D, I, J, L, M, P, Q, U, V, W, X
33	Low pressure readings, test locomotives F, G, I, O, P, Q
34	Coal data: Steam locomotives, fuel costs & fuel consumption, Jan

	<p>1954 Coal trials, LMR 4-6-0 locos 1955</p> <p>Auxiliary fuel consumption, steam locomotives (2/57)</p> <p>Coal and water consumption of steam locomotives (2/58)</p> <p>Tests with large and graded coals, Feb. 1954, Report R8 (5 copies)</p> <p>Comparative trials of Grade 2B and Grade 3B coals, Oct. 1957, Report R12 (5 copies)</p>
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Locomotive Test Data

Box	Loco ID	Details
35	A	LNER Class D49 4-4-0 No 62764
36 A-B	B	LMS Class 5 2-6-0 No. 42725
37 A,B,C	C	a, LMS Class 5 2-6-0 No. 42824 (1854) b, LMS Class 5 2-6-0 No. 42824 VG mod. (1956)
38 A,B	D	LNER Class B1 4-6-0 No. 61353
39 A,B	E	LMS Class 5 4-6-0 No. 44752
40 A-B	F	LMS Class 5 4-6-0 No. 44765
41 A-B	G	LMS Class 5 4-6-0 No. 44862
42 A-B	H	LMS Class 5 4-6-0 No. 45218
43 A-B	I	BR Class 5 4-6-0 No. 73008
44 A-B	J	Br Class 5 4-6-0 No. 73030
45 A-C	K	BR Class 5 4-6-0 No.73030
46 A-C	L	BR Class 5 4-6-0 No. 73031
47 A-B	M	LMS Class 6 4-6-0 No. 45722
N/A	N	Not available
48 A-B	O	BR Class 7 4-6-2 No. 70005
49 A-C	P	BR Class 7 4-6-2 No. 70025
50 A-B	Q	SR Class MN 4-6-2 No. 35022

51 A-B	R	LMS Class 8 4-6-2 No. 46225
N/A	S	Not available
52 A-B	T	WD 2-10-0
53 A-B	U	BR Class 9F 2-10-0 No. 92013
54 A-B	V	BR Class 9F 2-10-0 No. 92015
55 A B	W	BR Class 9F 2-10-0 No. 92050 (1955) BR Class 9F 2-10-0 No. 92050 (1957)
56 A-B	X	BR Class 9F 2-10-0 No. 92023
57 A-B	Y	BR Class 9F 2-10-0 No.92166
58 A-C	Z	BR Class 9F 2-10-0 No. 92250
59	GT	Gas Turbine GT3 4-6-0 English Electric

Rugby Locomotive Testing Station Files

Box	Report	Details
60	R1	Miscellaneous correspondence 1956-1965
	R2	<p>Technical Reports and Memoranda</p> <p>Technical notes, subjects:</p> <p>/A General principles of Locomotive Testing by Test Plant and Dynamometer</p> <p>/B Efficiency of a Locomotive Smokebox</p> <p>/C Overall Efficiency of the Engine and Boiler ("Sankey" diagram)</p> <p>/D Examination of an Indicator Diagram. Arrangement of Indicator</p> <p>/E Damping Device (Stress in Drawbar, Movement of Pen and Softening Spring)</p> <p>/F Mediating Gear - Effect of Locomotive wheels being off CL of rollers</p> <p>/G Thermocouples and Resistance Thermometers for Firebox, Tube and Smokebox Temperatures</p> <p>/H Estimation of Steam Discharged by Safety Valves</p> <p>/J Gas Analysis</p> <p>/K Fluctuation in Discharge from Blast Pipe (Kent's Exhaust Steam Meter)</p> <p>/L Superheater Design</p> <p>/M Capacity of Locomotive Testing Plant - Low Speed Tests</p> <p>/N Moving Engines on and off the Test Plant</p>
61	R3	<p>Work by Civil Engineer</p> <p>/1 14.12.37 to 15.3.40</p> <p>/2 15.3.40 to 31.3.48</p> <p>/3 3.4.48 to 3.1.57</p>
	R3A	Specification (various) for Locomotive Testing Station buildings issued by Chief Civil engineer, Sept. 1938 - July 1939

	R4	Specification (various) for Locomotive Testing Station buildings issued by Chief Civil engineer, Sept. 1938 - July 1939
	R5	Mobile Test Unit (MTU) 12.6.37 to 29.11.45
	R6	Mobile Test Unit Committee Minutes (with index) Minutes 138 to 518, 9.6.37 to 28.7.39
	R7	Dynamometer reports and correspondence 29.12.37 to 7.11.49

62	R8	Accountancy arrangements 23.11.37 to 27.1.61
	R9	Mr. D. R. Carling's paper for the Institution of Locomotive Engineers 1950
	R10	Work by Electrical Engineer 4.1.38 to 17.8.62
	R11	Work by OMS 5.1.38 to 11.8.64
	R12	Press notices, publicity
	R13	Smoke nuisance 16.2.38 to 29.8.49
	R14	Institution of Mechanical Engineers /1. Missing /2. 8.7.44 to 30.9.48 /3. 1.10.48 to 4.3.49
63	R15/2	Alteration or additions involving increase in cost
		Institution of Locomotive Engineers
	R16	
	R17	
		Locomotive Testing Station, Vitry (France)
	R17/1	Memoranda of Meeting of Management Committee
		30.12.37 to 5.2.46
	R18	
	R19	List of published articles of interest.
	R20	
64	R21	Instruments /1 Missing /2 1/46 to 8/47

		<p>/3 9/47 to 6/49</p> <p>/4 7/49 to 11/54</p>
65	R22	71/2 ton hand power wheel
	R23	15 ton Overhead Electric Travelling Crane
	R24	15 ton Overhead Electric Travelling Crane
	R25	15 ton Overhead Electric Travelling Crane
	R26	Telephones and Bells
	R27	Correspondence ref Monsieur Place (Chief Engineer at Vitry Locomotive Testing Station, Paris) 11.2.38 to 29.6.38
66	R28	<p>Heenan & Froude Ltd. Correspondence files:</p> <p>/1. 24.12.37 to 30.6.38</p> <p>/2. 1.7.38 to 12.10.38</p> <p>/3. 14.10.38 to 31.12.38</p>
67	R28	<p>Heenan & Froude Ltd. Correspondence file, cont.:</p> <p>/4. 1.1.39 to 31.3.39</p> <p>/5. 1.4.39 to 30.6.39</p>
68	R28	<p>Heenan & Froude Ltd. Correspondence file, cont.:</p> <p>/6. 1.7.39 to 29.9.39</p> <p>/7. 3.10.39 to 18.3.41</p> <p>/8. 30.8.41 to 31.12.46</p> <p>/9. 1.1.47 to 31.12.47</p> <p>/10</p>
69	R28	<p>Heenan & Froude Ltd. Contract</p> <p>/A Specification</p>
70	R28	/B Sub-let orders

71	R28	<p>/C Memoranda of longitudinal oscillations of locomotives on Test Bed. MSS drafts etc.</p> <p>/D Heenan & Froude's calculations in respect of stresses and loads</p>
72	R28	<p>/E Spare drum shaft bearings (Timken)</p> <p>/F Work undertaken by Crewe and Derby Works for Heenan & Froude's</p> <p>/G Unloading and storage on site of materials from Heenan & Froude's</p> <p>/H Paint remover</p> <p>/J Schedule of progress</p> <p>/K 1 - ton Morris Overhead Electric Runway (for coal)</p> <p>/L Agendas and memoranda of meetings with Heenan & Froude (includes visits to Rugby)</p> <p>/M Payment of accounts</p> <p>/N Self - sealing couplings "Avery"</p> <p>/O Pooley coal weigher and hopper</p> <p>/P Acceptance Trials</p>

		Publications Photographs
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	R46	Oils and greases:
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77	R50 R51	Reports to Superintending Committee with agenda of meetings 21.8.38 to 21.11.47 Expenditure statements: /1 24.3.38 to 28.12.49 /2 1/50 to 12/51 /3 1/52 to 12/54 /4 30.1.55 to 24.2.57 /5 3/57 to 12/58 /6 42.1.59 to 31.12.60
78	R52 R53 R54 R55 R56 R57 R58 R59	Drum grinding machine 1939 Authorization of expenditure 12/38 to 2/56 Mobile Testing Unit Committee Minutes of Sub-Committee 12/38 to 7/39 Mobile Testing Unit Committee, Instrument Sub - Committee Correspondence 7/38 to 9/39 Orders placed
79	R60 R61 R62 R63 R64 R65 R66	Inspection and testing of material: /1 7.11.38 to 13.3.40 /2 2.5.46 to 2.11.48 LMS (CME) Draughtsmen 2/38 to 9/39 Mr Herbert's visit to America 3/38 to 10/38 Specification 9/46 to 7/53 The "Penberthy" ejector 9/46 to 7/53
80	R67	Organisation (3 files)
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	R69	Visits by Mr. Bond 6/38 to 7/39
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83	R100 R101 R103 R104 R105 R106 R107 R108 R108/1	Resumption of work 11.9.44 to 24.4.47 General file during period of suspended work 9.5.41 to 26.8.46 Clocks (including time recording clock) Lifting tackle and chain Coal for firing locomotives 4.3.48 to 19.12.66 (3 files) Heating Economic Boiler No. 496 etc.
84	R109 R110 R111 R112 R113 R114 R115 R116 R117 R118	Opening Ceremony and visit by Railway Executive Visitors Book. Also individual visitors 1.7.49 to 4.6.65 Private cars used on Railway Executive business National Insurance Acts 1946 Fire protection Suggestion Articles for publication Noise in factories Loan of appliances

85	R119 R120 R122 R123 R124 R125 R126 R127 R128 R129 R130 R131 R132 R133 R134* R135 R136 R137 R138 R139* R140 R141 R142 R143* R144 R145 R146 R147 R148	Amsler equipment 4.1.56 to 10.6.63 Setting of engines on the test bed 11/48 Use of refreshment room by railway staff Inter - regional boxing championships Protection of racks and soleplates Universal Machine Tool (Kitchen & Wade) Tool grinder (No. 2 file only) Air compressor Dragbox LNER B1 4-6-0 Protection in frosty weather Drivers and firemen Stations re-naming 2-10-0 "Austerity" locomotive No.WD 73788 8.2.49 to 21.2.51 Supply of industrial alcohol Storage of chemicals Additional drawbars and safety links Ex - LNER Class B1 4-6-0 locomotive Storage of tools Closing of stations Material on delay
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86	R152 R153 R154 R155	Drawing Office equipment LMS Sports Club Stores catalogue numbers Gardens

	R156	Standardization of rule book
	R157	Damping dashports
	R158	Smoothing damper at Vitry Test Plant (translations & correspondence 1946 - 1949)
	R158*	Ex-LNER Class D49 4-4-0 infinitely variable rotary cam valve gear
	R159	Control of Engagement (Amendment) Order 1948
	R160	Mileage and Examination records of engines
	R161	Labelling and loading of wagons
	R162*	Mechanical stoker - locomotive 4-5/49 (relates to SR MN 4-6-2)
	R163	Minutes of meetings with Railway Executive Officers 3/40 to 2/50
	R164	Meetings with Railway Executive Officers correspondence 4/49
	R165	Procedure to be applied in connection with locomotives to be sent to the Locomotive Testing Station: 11.4.49 to 24.9.56 9.10.56 to 24.8.59
	R166	Valve events for LM Class 5 5-6-0 locomotives 5/49
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87	R170	British Association for Commercial and Industrial Education
	R172	Renting of allotments
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	R174	Arrangements to be made by Motive Power Dept for Locomotive Testing Station, Rugby 4.1.57 to 6.5.63
	R175	Police reorganisation
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	R178	Spare parts
	R179	Visits to the Testing Station
	R181	Selsyn drive

	R182	Klaxon horn and electric bells for Test House
	R183	Gears for Cambridge recorders
	R184	Anti-corrosion protection for water cooler
	R185	Telephone directories
	R186	Dead weight pressure gauge testers
	R187	Popular version of BTC Annual Report
	R188	Electrical connections on Testing Plant
	R189	Filing system, technical data
	R 190	Consumption of electricity, gas and water
	R191	Fans on firing platform
	R192	Roller units
	R193	Calibration and testing gear, drawbar friction test rig
	R194*	2-10-0 "Austerity" locomotive no. WD 73788/BR 90764, 31.5.48 to 19.3.51
	R195	ER 1699 locomotive only (ex-NER 4-6-0 Counter - pressure locomotive 3.6.48 to 6.7.51
	R196*	Ex-LMS Class 5 4-6-0 Caprotti valve gear 30.11.48 to 10.2.49
	R197	Tools
	R198	BBC programme "Down Your Way" 1951
	R199	Ear defenders
88	R200	Theft of coal, coke, wood etc
	R201	Four weekly periods
	R202	Window cleaning
	R203	Compilation of Test Reports, method of stating point of compression 1/50
	R204	Conveyance of LMR workmen by omnibus companies
	R205	Institute of Transport Examinations
	R206	River pollution - discharge of oil from LTS drains
	R207	Closing of construction account
	R208	Western Region's Steam Flow Meter 2/50 to 1/55
	R209	Failure of brick arches of locomotives on test
	R210	Keys and locks
	R211	Rugby Further Education Committee Engineering Advisory Committee
	R212	Locomotive diagrams

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	R214	Pressure gauges
	R215	Authorisation of staff to move engines in steam
	R216	Training pupils at Rugby LTS
	R217	Labour difficulties on the railways
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89	R220	Agreements with insurance companies and other corporations respecting "knock for knock"
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	R223	Oil sealing rings - dynamometer bearings
	R224	Design for new standard locomotives, dragboxes and footplates 6 - 7/50
	R225	Slipping locomotive wheels
	R226	Lectures etc. by members of the Testing Station staff
	R227	Economy campaign
	R228	Development of traffic, target scheme
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	R230	BR Class 7 4-6-2 No. 70025, 25.1.51 to 8.6.53
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	R232	Disposal of unclaimed money found on railway property
	R233*	Publication and distribution of Test Reports
	R234	BR Class 5 4-6-0 (NO. 73008) 13.4.51 to 28.4.54
	R235	Test fittings for locomotives 18.11.48 to 9.3.59
	R236	Instruction book for BR Standard steam locomotives
	R 238	Henry Balfour & Co. Ltd. v. The Railway Executive
	R239*	Bellows for back pressure valves outlets on dynamometers
	R240	Tests with (original) SR MN Class 4-6-2 31.10.51 to 16.9.55
	R241	Recordings for "Home Flash" programme
	R242	Burglary into the Administration Building Rugby LTS
		Use of wheeldrop at Rugby following derailment of LM

	R243	4-6-2 No. 46252 at Polesworth 19.11.52
	R244	Film, Rugby LTS
	R245	Television broadcast from Rugby LTS 1953
	R246	The Mond Nickel Co. application to film at Rugby LTS
	R247	Transport Policy
	R248	Data, filming at Rugby LTS 1952
	R249	Pathe Pictorial, filming at Rugby LTS 1952
	R250	Drum speed indicator bearing housings
	R251*	Control panel
		Proposed tests with BR Class 7 4-6-2 No. 70025,
	R252	21.8.52 to 7.4.54
	R253	British Movietone film 1952
	R254	Roller unit, alignment indicator
		Railway civil defence schemes
90	R255	International Railway Congress, London 1954, visit to Rugby LTS
	R256*	BR Standard Class 5 4-6-0s, improvement of steaming 31.3.53 to 1.11.54
	R257	Access road and precincts
	R258	Feed water tanks
	R259	Motors for force pump lubrication of dynamometer
	R260	Rugby Engineering Society Jubilee, Sept. 24 - 26,
	R261	1953
		Locomotive coal supplies. Tests with mixture of Large
	R262	Coal and Graded Coal from Yorkshire pits, 1953 -
	R263	1956
		Rugby LTS, external name sign
	R264*	Friction and adhesion - Adhesion Sub-Committee of Research Co-ordination Committee, 7.8.53 to
	R265*	27.3.54
		BR. Standard Class 9 2-10-0 locomotives fitted with standard and Franco-Crosti boiler
	R267	Ex-LMS Class 5 2-6-0 (Hughes/Fowler) fitted with
	R268*	Reidinger Rotary valve gear or Walschaerts valve gear, 17.9.53 to 27.10.58
	R269*	Steel and Railways (proposed film)

R270	Proposed tests of LMR Class 8 4-6-2 15.9.54 to 12.11.58
R271*	Class 9 2-10-0 locomotive No. 92015, modification of regulator, 24.9.54 to 22.8.55
R272	British Railway, increased productivity
R273	English Electric Co. Gas Turbine Locomotive, 11.1.55 to 13.12.61
R274	BBC Television Service, Rugby LTS, 1955.
R275	British Coal Utilisation Research Association, training
R276*	of firemen
R277*	Strike by Aslef members, 29.5.55 (and other strikes)
R278	Tests with ex-LMS Class 6 (5X) "Jubilee" locomotive 10/55
R279*	Tests with ex-LMS Class 7 Rebuilt "Royal Scot" 4-6-0 locomotive 6.10.55 to 15.1.57
R280	
R281	Drawbar stops on Test Plant
R282	Ex-LMS Class 6 (5X) "Jubilee" 4-6-0, 2.5.56 to
R283*	3.1.58
	LMS Hospital Fund
R284	Failure of Plant Brake, Sept. 1956
R285	British Transport Commission, correspondence.
R286*	Comparative tests of Rugby and Derby Farnborough indicators with Loco. No. 92050, 28.1.57 to 8.8.57
R287	Lemaitre blastpipe 1957
R288*	Platform elevating gear
	Superheat and cylinder performance (BR Class 5 4-6-0 No. 73031) 31.12.56 to 17.6.59
R289	
R290	Stores
R291*	BR Class 9 2-10-0 Locomotives fitted with Berkley
R292	(mechanical) stoker.
R293	
	Facts and figures about British Railways
R293*	Giesl Ejector 11.12.58 to 17.11.60
	BBC visit, 1959
R294*	Use of low grade fuel for steam locomotives, 1959
R295	(Giesl Ejector)

	R296 R297*	Giesl Ejector, proposed application to BR Stet Class 5 4-6-0, 17.7.59 to 1.9.59 Filming of Giesl Ejector Closing down of Testing Station "Care and Maintenance" 26.10.59 Locomotive No. 10800 (NBL 800 HP Bo-Bo DE, 1950) proposed tests at Rugby 4.3.60 to 19.4.60
91		Bound Volumes. 1. Rugby Locomotive Testing Station Log Book 1948 - 1951 2. Rugby Locomotive Testing Station Index of Reports 3. Rugby Locomotive Testing Station Record of Test Runs 1948 - 1954 4. Locomotive Testing Plant Bulletins. Pennsylvania Railroad (2 volumes) 1910 - 1919

Rugby Locomotive Testing Station Test Reports

No.	Title and description	NRM Location
R1	Valve event trials with infinitely variable poppet valve gear. Loco No. 62764 Class D49/2 4-4-0 May-Aug. 1949	n/a
R2	Variation of lead trials with Walschaerts valve gear/ Loco No 45218 Class 5 4-6-0 Jan - May 1950	Test/LMS/16
R3	Blastpipe and chimney experiments. Loco No 44765 Class 5 4-6-0	Test/LMS/16
R4	Water Treatment Committee - Clean and Dirty Boiler Tests with LMR Class 5 Engine No 44862 January 1951	n/a
R5	Preliminary report on the tests with Eastern & North Eastern Region's B1 Class 4-6-0 Loco No 61353 No date, c. 1951	n/a
R6	Preliminary report on the tests with British Railways Standard Class 7 4-6-2 locomotive No. 70005 No date, c.1951	n/a
R7	Final report on the tests with Eastern & North eastern Region's Class B1 4-6-0 Locomotive No. 61353	Test/LNER/6
R8	Tests with large and graded coals. Feb. 1954	n/a
R9	Report on tests with BR Standard Class 9 2-10-0 locomotive No. 92015 with reduced regulator opening. Nov. 1954	n/a
R10	Comparative tests with LMR Fowler Class 5 2-6-0 locomotives fitted with piston and poppet valves (with appendix) Jan 1957	Test/LMS/14
R11	Improvement of steaming of LMR Class 6 Jubilee 4-6-0 locomotives Oct. 1957	Test/LMS/19
R12	Comparative trials of Grade 2B and Grade3B coals. Oct. 1957	n/a
R13	Performance and efficiency tests of LMR "Duchess" Class 4-cylinder 4-6-2 express	Test/LMS/22

	locomotive No. 46225 July 1958	
R14	Not verified	n/a
R15	Not verified	n/a
R16	Preliminary performance and efficiency tests of the English Electric Company's gas turbine locomotive GT3 4-6-0 Feb. 1959	Test/GT/2
R17	BR Class 9 2-10-0 locomotive fitted with Berkley mechanical stoker. Oct. 1959	Test/BR/9 ?
R18	BR Standard Class 9 2-10-0 locomotive fitted with Giesl Oblong Ejector, comparative tests. Sept. 1959	n/a

Rugby Locomotive Testing Station: Information in the RC Bond Papers

1. Folio containing special technical papers, including new dynamometer car and Mobile Testing Unit/Plant, 1936–1939.
2. Special Technical Memoranda
3. General Description of Rugby Plant, from "The Railway Gazette" 29 Oct. 1948.
4. Rugby LTS, Instructions for the conduct of Tests and the Presentation of results at the Locomotive Testing Station (20 April 1939)
5. Papers on Vitry Locomotive Testing Station.
6. Folio of dynamic effects of locomotives on straight track.
7. 1917 – 1918 paper for "The Railway Engineer" on locomotive draughting.
8. Memorandum on the Effect of Oscillating Forces Applied to a Stationary Test Plant by a Steam Locomotive in Motion.
9. Locomotive Testing Station, Rugby. Design, Supply and Erection of Locomotive Testing Plant, General Specification, 1st April 1938.
10. Folder containing Rugby LTS Superintending Engineers Reports. 25 March 1938: 26 Sept. 1938: 28 March 1939
24 July 1939
11. Memorandum on the design of the Mobile Testing Plant, 23 Nov. 1937