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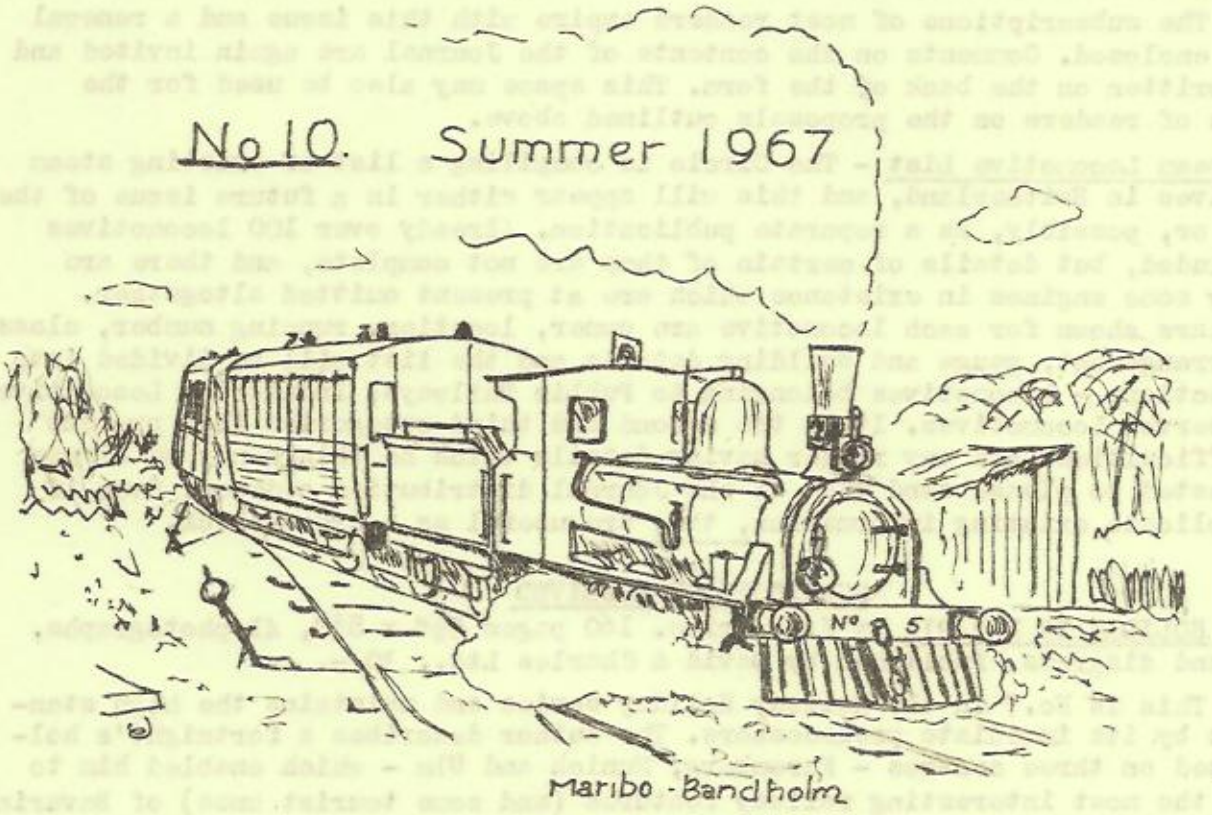

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EDITORS

Main Lines – A.E. Durrant, 148 Sutton Court Road, London W.4.
Minor Railways – W.J.K. Davies, "Lothlorien", 290 Lower Luton Road, Wheathampstead, Hertfordshire.

Distribution – L. King, 25 Woodcock Dell Avenue, Kenton, Harrow, Middlesex.

This issue of the Journal is a record in two respects – it contains the highest number of pages of any issue so far, and it is the first in which photographic illustrations have appeared. Unfortunately the high costs of reproduction do not permit these in every issue, but we hope to include them from time to time. This assumes, of course, that the Journal will continue on present lines, as a basically duplicated publication. However, investigations are being made into the practicability of a printed Journal, and this might be possible, using a litho process, provided a considerable increase in readership could be achieved and that readers were prepared to pay rather more per copy. By way of compensation for the increased price, photographs would be a regular feature of each issue and the general appearance of the finished product would be better. It is emphasised that, at present, this is no more than a suggestion, but readers' comments are invited, particularly as to their willingness or otherwise to pay an increased price.

The subscriptions of most readers expire with this issue and a renewal form is enclosed. Comments on the contents of the Journal are again invited and may be written on the back of the form. This space may also be used for the comments of readers on the proposals outlined above.

Swiss Steam Locomotive List – The Circle is compiling a list of existing steam locomotives in Switzerland, and this will appear either in a future issue of the Journal or, possibly, as a separate publication. Already over 100 locomotives are included, but details of certain of them are not complete, and there are probably some engines in existence which are at present omitted altogether. Particulars shown for each locomotive are owner, location, running number, class, wheel arrangement, gauge and building details and the list will be divided into three sections – Locomotives belonging to Public Railways; Industrial Locomotives and Preserved Locomotives. It is the second and third categories that present most difficulties, and any reader having details which he thinks may be of use is requested to please send them to the Journal distribution address. Even if they duplicate existing information, they are useful as a cross-check.

PUBLICATIONS RECEIVED

RAILWAY HOLIDAY IN BAVARIA by J.H. Price. 160 pages 5½" x 8¼", 41 photographs, 7 maps and diagrams. Published by David & Charles Ltd., 30/-.

This is No.7 in the Railway Holiday series and maintains the high standard set by its immediate predecessors. The author describes a fortnight's holiday based on three centres – Nuremberg, Munich and Ulm – which enabled him to see all the most interesting railway features (and some tourist ones) of Bavaria, and to include brief excursions to Württemberg and Baden also. Although Bavaria is best known for its electrified main lines, these do not by any means form its complete railway system and this book features, in addition, steam, diesel and battery traction, suburban traffic, branch lines, and private and mountain railways. The maps show clearly the route taken, and the illustrations are well reproduced. However, the latter could have been better selected, as three photo-

(Continued on Page 17.)

AUTOMATIC COUPLERS FOR EUROPE

by P.M. Kalla-Bishop

All the major railways of Europe, with the exception of those of the Soviet Union, are members of the International Union of Railways - normally known by its initials in French, UIC. This organisation looks after all technical matters concerning the inter-running between railway systems and is active in standardising railway practice throughout Europe. Since 1956 the UIC has been concerned in the development of an agreed automatic centre coupler, and recently a major decision was taken by the European Ministers of Transport Conference, to the effect that such couplers should be adopted throughout Europe within the next nine years.

Sometime before 1976 there is to be an Appointed Day, or more likely a week-end, on which all traffic will be brought to a halt. Engineering staffs will devote themselves to fitting automatic couplings to all rolling stock used across international frontiers, and disposing of the old coupling links and buffers. Similarly, the greater part of the motive power must be dealt with on the Appointed Day. Rolling stock that only sees internal use on an individual railway system will be dealt with at a later date, but nevertheless the job must be completed before 1976. Perhaps Portugal, Spain, Albania and Great Britain will be partially exempt from the latter ruling, for reasons that will readily occur to the reader.

Apart from stock piling automatic couplers themselves in readiness for the Appointed Day, as well as other stores, some other preparatory work can be undertaken. While automatic couplings have been under discussion, most railways for the last half-dozen years have been building most of their rolling stock with strengthened buffer beams for such couplers. Nevertheless the buffer beams of a vast amount of older stock and motive power must be strengthened, and perhaps minor alterations undertaken at the ends of the units. Taking Europe as a whole, it is estimated that the complete changeover will cost about £500 million. The DB got out some figures on its own system and calculates that the return on the expenditure that it will incur will be 5%, plus the saving of 20 railwaymen's lives each year.

The Willison type of automatic centre coupler is to be used, first evolved in the United States about 50 years ago in an endeavour to make a much-needed improvement on the coupler still used there universally even today. The Willison type coupler was taken up by the Soviet Union and from about 10 to 12 years ago it has been universal on its railways. In view of through working of wagons from the Soviet Union and because of available manufacturing facilities, the east European UIC railways are adopting the Soviet Union type of coupler, and any west European type must be compatible with this. Extensive trials have been made of Willison type couplers produced by three west European manufacturing consortia, and agreement on a standard design is being reached now. There remains the horse-trading among all the railway equipment manufacturers of Europe to decide on licensing arrangements and financial details. The new west European coupler will additionally provide for automatic connection of air brakes and electrical services, an improvement also being taken up in the Soviet Union.

Automatic centre couplers are also going to have an effect on wagon design. While the DB was running trials of couplers for the UIC, fitted to four-

wheel wagons of UIC standard design suitable for running at over 50 mph (80 kmph), it was found that a strong brake application at speed caused the wagons to bunch up in a zig-zag fashion. Trains of up to 100 wagons were tried and it was found that the forces impelling the zig-zag formation were so great that wagons could be levered off the track; on one occasion at least there was a considerable derailment. The brake application which resulted in derailment was by no means outside normal service requirements and the matter was rigorously investigated. Zig-zag derailments are quite familiar to me - when I was young my "O" gauge clockwork locomotive could be brought to a sudden stand by means of a stop rail; the centre coupled tinplate wagons behind it derailed in just this fashion.

As the result of the DB investigation it was concluded that the play of the wheels inside the track and the axleboxes in their guides was compounded by the overhang beyond the wheelbase to the end of the wagon, so that the centre coupler was forced outside its reach. The reach, or horizontal movement of the coupler, must be limited to ensure that opposing couplers always hit each other and couple under all conditions of curvature. A coupler thrown outside its reach will tend to lever the next wagon off the track, the levering action perhaps having a lifting component if a loaded wagon is down on its springs compared with a neighbouring empty wagon, the couplers then being at slightly different heights.

For various reasons the play between wheels and track and of axleboxes cannot be reduced, nor can wagon wheelbases be extended because of curves. The only way to reduce the wagon overhang beyond the wheelbase, and thus avoid excessive throw at the end of the wagon, is to shorten the wagon body, i.e. to have smaller wagons. But Europe is going the way of the United States and the Soviet Union, average wagon loads are going up and the need will be for larger wagons, not smaller. Bogie wagons are the answer, both to reduce overhang and to meet traffic needs. Already European railways are ordering standard UIC bogie wagons and with the adoption of centre couplers, it will no doubt be laid down that any train that will exceed 50 mph during the course of its journey, must be made up of bogie wagons only.

Possibly because I have not read the right reports, and certainly because I have not asked the right people the right questions, I do not know the attitude of BR to centre couplers. As members of UIC they are committed to fit all their international rolling stock, and to be ready to receive the centre-coupled stock of other systems. What about all the wagons that are supposed to flow through the Channel Tunnel when it opens? It looks as if BR will be universally centre-coupled too, with bogie wagons, as well as the rest of Europe. One thing seems certain, a lot of readers of the Continental Railway Journal will be prefacing their remarks in years to come "Ah, I remember before centre couplers..."

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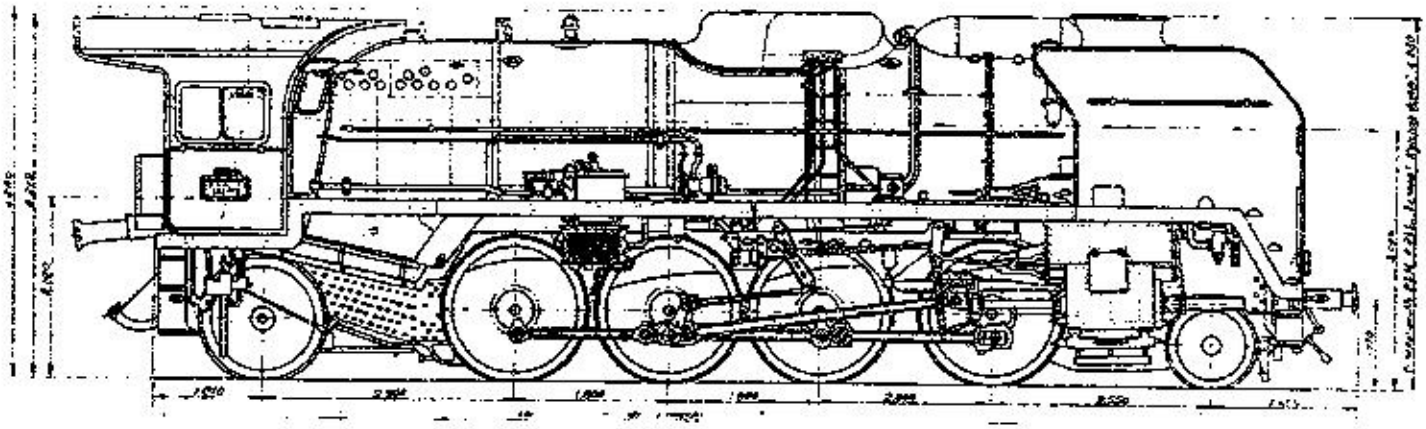
LOCOMOTIVE RUNNING ON THE PARIS - GRANVILLE LINE

by M.S. Smith

This line is in the Ouest Region of the SNCF and runs westwards from Paris (Montparnasse) for approximately 204 miles to Granville, on the coast. Scenery is the same throughout; pleasant rolling and slightly hilly country, maximum height about 600 feet above sea level, with smallish towns and villages dotted about. As no very large towns are served, the timetable is not extensive and there are



about 3 or 4 through trains each way daily, according to season. One is an autorail, the others are steam hauled. Locomotives used are invariably the 141P 4-cylinder compound 2-8-2 type, and these are changed at Argentan (approx. 122 miles from Paris) where the main depot is situated. The 141P's are stoker-fired, and have a maximum permitted speed of approximately 64 mph. With a grate area of 46 sq. ft., they might be placed amongst Britain's larger Pacifics as regards power output, but not of course speed.

Montparnasse is now the only station in Paris to have steam hauled main line trains, and starting from here, a survey of the gradients follows. The first 14 miles rise at about 1/250 to St. Cyr, where the route leaves the main line to Rennes. Then follow 11 miles of broken descent, often at 1/100, and with short upward breaks; whence the line climbs brokenly again for 10 miles, much at 1/125, and even $\frac{1}{8}$ mile at 1/83 just before Garancières, the summit being just before Tacoignières. A 5-mile dip at 1/100-125 down and up, with Houdan at the bottom, then 5 miles of level and another 5 miles of dip at 1/100-125, bring the line to Dreux, the largest intermediate point on the line, and 50 miles from Paris.

The restart is 1 mile at 1/100 up, then 6 miles of falling 1/111-333 lead to St. Germain and an 8-mile bank up at 1/100-250-125, with a break of 1/250 falling in the middle. From the top of this bank the next 37 miles, through Verneuil and L'Aigle, have a general tendency to rise, and the short breaks of falling and level do not favour any of the restarts to be made by trains coming from Paris. At the end of this 37-mile section is the first of the two main summits of the line, 102 miles from Paris, just past Planches. Thence 10 miles of steep descent, including 5 miles at 1/115, and a further 10 miles of roughly level bring the line to Argentan, 122 miles from Paris.

The start is $\frac{1}{2}$ mile level, then a typical mile up at 1/155, followed by 1 mile down at 1/182 and $4\frac{1}{2}$ miles gently sloping at 1/1000, 500 and level, through Ecouché. Next comes a 7-mile bank up at 1/125-111-125-100 to Les Yveteaux, the second main summit of the line, 136 miles from Paris. Now 2 miles down at 1/100 are followed by 10 miles of undulating track, mostly at 1/250-333 to Messei. The line now becomes a virtual switchback for the last 56 miles to Granville, with scarcely any level track, though there is a general tendency for the line to descend rather than rise, as it must drop to near sea level by Granville. Much of this switchback is at 1/100, and apart from 2 miles at 1/500, the least steep

gradient is 1/333. The worst banks have to be tackled by trains bound for Paris; leaving Granville there are 7 miles at 1/100-111 up, and leaving Vire 5 miles at 1/100 up.

It can be appreciated that even with fairly light loads, performance must be sound, as many of the bookings average 50 mph or over, start to stop, and when trains are strengthened as in the finer months, locomotives must be driven hard merely to keep time; e.g. a gain of only 18 secs. on one schedule between Argentan and Briouze involved a minimum of 50 mph up the bank to Les Yveteaux with 420 tons gross load. On trains from Paris, loads are usually reduced at Argentan, or at Briouze in the summer, where a portion is detached for Bagnoles de l'Orne, with corresponding strengthening in the opposite direction. The following samples of performance have been taken from several trips during March to October 1966.

On one run from Paris with a gross load of 455 tons, there was a drop from 65 to 50 mph up the 4 miles of 1/200-100-83 to Garancières, and from 63 to 53 up the 6 mile bank after Dreux. Then a good start was made from L'Aigle, with 60 mph attained in 4½ mins. and 2¾ miles out, and St. Hilaire 6.4 miles, preceded by 3 miles at 1/340-140 up, was cleared in no more than 7m..58s. at 63 mph. It is this sort of start that makes possible smart start to stop times, and indeed this last effort gained but 30 secs. on schedule. The starts tabled below from Verneuil and L'Aigle were recorded on 3 successive trips in 3 different months. Such starts are very consistent and typically French. The third run was most energetic, even allowing for the lighter load, and the start from L'Aigle to a point 2.0 miles out in 3m. 26s., when speed was 60 mph, makes interesting comparison with the starts on 3 consecutive days by different BR Brush Type 4 diesels (sorry) from Reading towards Paddington. Although the latter line is level, and the train was 8 mins. late each day, the times to a point also 2.0 miles out were no better than the 141P, and further the load was a trifle lighter at 370 tons gross.

	Miles	Gross load	420 T	455 T	385 T
			M S	M S	M S
Verneuil	0.0	Start	0 0	0 0	0 0
Bourth	5.9	Pass	7 57	7 57	7 29
L'Aigle	0.0	Start	0 0	0 0	0 0
Rai-Aube	3.5	Pass	5 09	5 16	4 53
St. Hilaire	6.4	Pass	7 46	7 58	7 25

But a 141P can do much better than this, and occasionally one can record such starts as that from Argentan of the same train as in the second run above, but now with a different engine and crew. Leaving 1¾ minutes late, the locomotive was quickly put into compound working, the exhaust became extremely loud, and 141P.113 accelerated so hard that at the end of the ½ mile level and 1 mile up at 1/155 she was doing almost 60 mph in less than 3 mins., a performance which seemed almost incredible. The vigour of this start was such that Ecouché, 6.3 miles, was passed in 7m. 34s., speed not having exceeded 62 mph, and with a minimum of 47 mph up the bank to Les Yveteaux, 141P.113 rolled into Briouze dead on time.

Tests, however, have showed that a 141P can put out a drawbar horsepower of 3,200 at 60 mph when working compound at 52% cut-off (in both h.p. and l.p. cylinders) and perhaps one day a driver sufficiently so inclined will work his

locomotive this hard when leaving late, and produce an absolute record for acceleration with steam with a good load.

My grateful thanks are due to the SNCF for use of a gradient and distance chart, without which detailed timing would have been impossible.

Editorial Note It is reported that diesels will shortly take over the main Paris-Granville workings, if they have not already done so. This article may, therefore, have to serve as an obituary notice to the 141P's on that route.

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FINNISH STATE RAILWAYS, STEAM LOCOMOTIVE STOCK, 1966

Class	Type			Locos.
Hr1	4-6-2	Built	1937-51	1000-21
Hv1	4-6-0	"	1915-21	545/50/4/5/6/60/3/5/8/9/72/3, 649/55
Hv2	4-6-0	"	1919-26	579/82/4/90/1, 677/80-2/4, 778-80
Hv3	4-6-0	"	1932-41	781-5, 991-9
Pr1	2-8-2T	"	1924-26	761-7/9-76
Tk3	2-8-0	"	1926-53	800-2/7/9/11/2/4/6/7/21/3/9/31/3-5/7/9-42/4/6-8/51/2/4/6/9/60/1/4/5/7/8/73/81/6/7/92/3/5-9, 1100-14/16-8/29-70
Tr1	2-8-2	"	1940-57	1030-96
Tr2	2-10-0	"	1946-57	1304-8/10/3/4/7/9
Tv1	2-8-0	"	1917-45	594-6/8/9, 602/5/7/9/10/3/7/86-91/3-5/7-9, 702-8/16/20/2/3/5-7/30/2/3/5-8/41, 900-2/5/8-37/9-48, 1201-11
Tv2	2-8-0	"	Alco 1917	618/23/6/7/31-3/5
Vr1	0-6-0T	"	1913-27	532-7/9-42/4, 656-70, 787-99
Vr2	0-6-2T	"	1930-31	950-65
Vr3	0-10-0T	"	1924-26	752-6
Vr5	0-6-2T	"	1945	1400-23 (Rebuilt from Vr4 0-6-0T, 1948-54)

Classification:-

H = Passenger
P = Suburban
T = Freight
V = Shunting

r = over 14 ton axle load
v = 11 to 14 ton axle load
k = under 11 ton axle load

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LOCATION OF EAST GERMAN STEAM LOCOMOTIVES (STANDARD GAUGE)

The following extracts from the 1964 locomotive allocation cover the more interesting classes. Whilst the information is somewhat out of date, it should nevertheless form a useful basis for tracking down specific types.

Class	Found at
01^{5}	Berlin Ost, Erfurt P, Wittenberge
03^{10}	Halle Vcs, Stralsund
18^{2}	Halle Vcs
18^{3}	Halle Ves
19^{0}	Halle Ves
22	Dresden Alt, Erfurt P, Gera, Görlitz, Karl Marx Stadt, Reichenbach, Weimar, Zittau, Zwickau

23^{0}	Halle Ves
23^{10}	Brandenburg, Dresden Alt, Halle P, Leipzig Süd, Neubrandenburg, Schwerin
24	Jerichow
25	Arnstadt
38^{2-3}	Falkenstein, Karl Marx Stadt
43	Lubbenau, Rostock, Stralsund, Wismar
55^{0}	Erfurt P
55^{16}	Hegenow Land
55^{25}	Berlin (Lichtenberg, Schoneweide), Bitterfeld, Dessau, Gusten, Leipzig Süd, Rostock, Wittenberg
56^{1}	Weissenfels
56^{2}	Berlin (Lichtenberg), Hegenow Land, Neustrelitz
56^{20}	Erfurt G, Gera, Jena, Weimar, Weissenfels
57^{10}	Rostock, Schwerin, Stendal, Stralsund, Wismar, Wittenberg
58^{30}	Dresden Friedrichstrasse
62	Berlin Ost
65^{10}	Halberstadt, Halle P, Leipzig Süd, Nordhausen, Probstzella
74^{0}	Jerichow
74^{4}	Berlin Ost, Rostock, Seddin, Weistermark
74^{66}	Jerichow
74^{67}	Seddin
75^{4}	Bautzen
75^{5}	Adorf, Falkenstein, Gera, Karl Marx Stadt
79^{0}	Halle Ves
83^{10}	Altenburg, Brandenburg, Leipzig Wahren
89	Seddin
89^{2}	Dresden Alt
89^{70}	Halle G
91^{3}	Eberswalde, Gotha, Weimar, Bautzen, Neustrelitz
91^{65}	Arnstadt
92^{65}	Brandenburg
92^{66}	Halle P
94^{20}	Adorf, Bautzen, Falkenstein, Reichenbach, Reisa, Zittau
93^{0}	Berlin (Ost, Grünewald, Rankow), Frankfurt/Oder, Seddin, Weistermark
93^{5}	Berlin (Ost, Pankow), Eisenach, Gotha, Meiningen, Rostock
95^{0}	Blankenburg, Probstzella
95^{66}	Blankenburg

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MIDDLE EAST RAILWAYS

These notes are based on information supplied by P.J. Pearce and Co., Nov./Dec. 1966, supplemented by B. Roberts, March 1967. Notes on locomotives amplified by H.C. Hughes and A.E. Durrant.

SYRIA

Standard Gauge Loco. Stock, 21/11/66

158/9	0-6-0	Esslingen 1890-3	Ex-Bagdad Rly. Same as TCDD 33.001-10/31-6
218-20	2-6-0	Borsig 1912	" " " " " " 34.001-18/46-48
351-55	2-8-0	Maffei/ Kr.M 1911/38	Ex-DHP
451-75	0-8-0	Prussian G8	Ex CF Nord (France)
501/2	0-10-0	Prussian G10	
685-88	2-10-0	NBL 1944	Ex-WD

The Borsig 2-6-0 work expresses and are extremely popular. WD 2-10-0 work freight, but are heavy on repair owing to inadequate bearings. The G10 bank the line north of Aleppo (Halep), between Km 16 and Km 44. All locomotives are oil burning. A new line from Aleppo to the Mediterranean port of Latakia is under construction using Russian-loaned money, equipment and advisory staff, and will probably be worked by Skoda diesels. Main shed and works are at Halep, where 22 and 3 locomotives respectively were seen, plus five dumped at the works. There is a small shed at Homs, where three engines were seen. On the isolated section of the railway across the N.E. corner of the country, forming part of the Turkey-Iraq route, the shed is at El Yaroubie and houses 2-6-0 No.220 plus a number of G8's.

Syrian Section of Hedjaz Railway (1050 mm gauge)

An official stock list was unobtainable, but the following list has been compiled based on observation:-

33-37	0-6-0T	Hohenzollern	1905/8	
61/2	2-6-0T	Jung	1906/7	Rebuilt from 2-6-0
90-111	2-8-0	Hartmann	1907-11	
160/1	2-8-0	Borsig	1914	
259-63	2-8-2	Hartmann	1918	
751-56	2-6-0T	SLM	1894	
803-05	0-6-2T	SLM	1896	Ex-Lebanon 'B' class, orig. DHP
961/2	0-4-4-2T	Hartmann	1906	Ex-DHP

The shed and works are at Damascus, with a small depot at Deraa. All locomotives are in splendid green livery. They work to but do not cross the borders with Jordan and Lebanon. One ancient diesel seen on a local at Damascus was the only infernal combustion machine seen. Photography severely frowned upon!

JORDAN

Jordan Hedjaz stock as at 1/12/66:-

21-23	2-8-2	RSH	1951	Modified Indian YD class
51-53	2-8-2	Jung	1955	
61-63	2-6-2T	H.St.P	1955	
71-73	2-8-2	H.St.P	1955	
81-85	4-6-2	Nippon	1953	Similar to Siamese locos. To Jordan 1959
140-45	4-6-4T	NBL	1941	Built for Malaya. To Jordan via Egypt
254/7/8	2-8-2	Hartmann	1918	Original Hedjaz locos.

LEBANON

Chemins de Fer Libanaise (CFL), Ex-DHP. Locomotive stock as at 24/11/66:-

Standard Gauge

Class G	21/4/7/30/1/4	0-8-0	Cail 1906
" G8	101-110	0-8-0	Prussian G8

Sheds at Tripoli and Beirut; works at Rayak.

1050 mm Gauge

A31-37	0-8-2T	SLM	1906	Rack and adhesion
B2-12	0-6-2T	SLM	1894-1904	Ditto, but some with rack gear removed
E103/4	0-6-0T	Tubize	1893	Withdrawn & dumped
S301-07	0-10-0T	SLM	1924-40	Rack and adhesion

Sheds at Beirut and Rayak; works at Rayak.

IRAQ

Standard Gauge stock as at 4/12/66:-

In service

Class 5A	1211-15	0-6-0T	Ex USA/TC	
TD	1421-32	2-8-0	Ex WD (LMS 8F), ex Iran 1945-7	
TE	1441-47	2-8-0	Krupp 1956	
PC	1501-03	4-6-2	RSH 1940. Named Bagdad, Mosul, Basra.	

Dumped

Class SG	1203-05	0-6-0	Borsig 1912; rebuilt from tank locos.
GA	1407-09	2-6-0	Hanomag 1914; ex Bagdad Rly; same as TCDD 34.001-18
GB	1411-16	2-8-0	Henschel 1913; " " " " " " 45.101-15
ROD	1401-06	2-8-0	Ex ROD/WD via Palestine 1945

Sheds are at Basra (Shalchiva), Bagdad, Kirkuk and Mosul. All traffic north of Mosul is steam. Bagdad-Basra standard gauge, a new line, is in theory all diesel, but Basra has two 0-6-0T + ROD tenders for shunting, whilst the three streamlined 4-6-2, currently stored, may be refurbished for the Basra passenger trains owing to diesel unreliability.

Metre Gauge stock as at 4/12/66

Class W	41-64	2-8-2	Alco 1913	USA type
Y	71-80	2-8-2	VF 1953	Modified Indian YD
Z	81-100	2-8-2	Esslingen 1955/6	
HG,HGS	102-208	4-6-0	Various 1902-25	Many ex India
NA	224	4-8-0	NBL 1920	Now out of use; ex India

Out of use

	352/3	0-4-0T/Tender		
F	226/52/4	0-6-0		Ex India
	326-29	2-6-2T	HL 1916	Built for India; to Iraq via Tanganyika
	301	0-6-0WT		Preserved

Sheds at Bagdad (Shalchiya), Basra (Maqil) and Jalawla. Most traffic Bagdad-Basra still metre gauge, as it consists of through traffic from the oil-fields at Kirkuk. Since withdrawal of the last 4-8-0, traffic north of Kirkuk to Erbil is handled by double-headed 4-6-0, on a thrice weekly train, the 2-8-2 being too heavy for this line.

Kirkuk has a shed, sub of Jalawla, with a floating allocation. It also houses the three Hudswell Clarke 2-8-4T belonging to the Iraq Petroleum Company, which run a seven days per week passenger service. This line has three stations - Exchange, Baba and "K-1", full journey time being about 25 mins. There are five trains per day each way, plus a short working to Baba which is Fridays excepted.

IRAN

The system is now fully dieselised, but over 200 steam locomotives are still in store. A government scheme recently announced suggests that lines from the coast be built with foreign capital, and that these would be worked by the current steam stock, which would add a "Tourist" value to operations. (Why not run them on the main line during the tourist season? Ed.)

Steam stock:-

30.21-23	0-6-0T		Named Sohrab, Rustam, Give
41.01-58	2-8-0		
41.121-209	2-8-0	LMS 8F	
42.01-12	2-8-2	Nohab	3-cylinder
42.108-63	2-8-2		USA wartime class
52.01-70	2-10-2	VF 1952	Last new steam
86.01-04	4-8-2+2-8-4G	BP 1936	

There are also two 2-6-0, probably those by Baldwin in 1931 for the Southern Persia State Railways, and some 2-10-0 given as Class '52'. However, 2-10-0 would be Class 51 under the scheme whereby the first digit gives coupled and the second digit gives carrying axles. These 2-10-0 would undoubtedly be the 16 pre-war German built locomotives. Of the pre-war 2-8-0, there were 49 very large German examples, and five smaller ones by Beyer Peacock. There were also six 2-10-2 built by Krupp for China, diverted during the war, and these may be the other 52 class.

The Anglo-Iranian Oil Co. had some 3-foot gauge locomotives at Abadan, including 0-6-2T by Peckett in 1928 and 0-6-0 tender locomotives by Hudswell Clarke in 1948, but whether these still exist was not ascertained.

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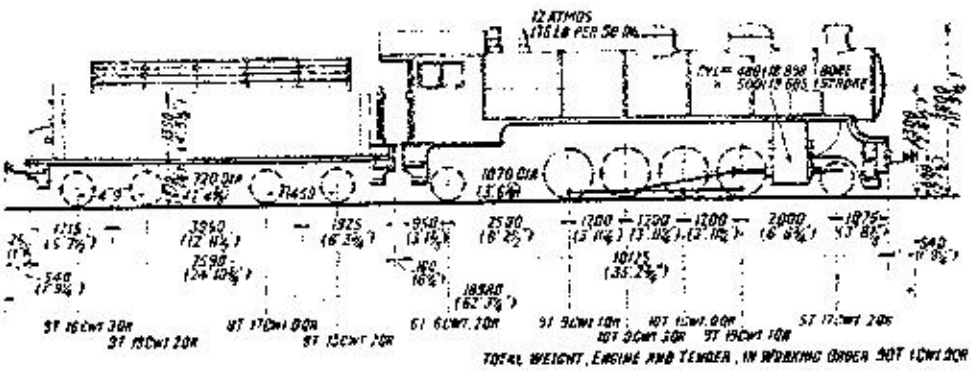
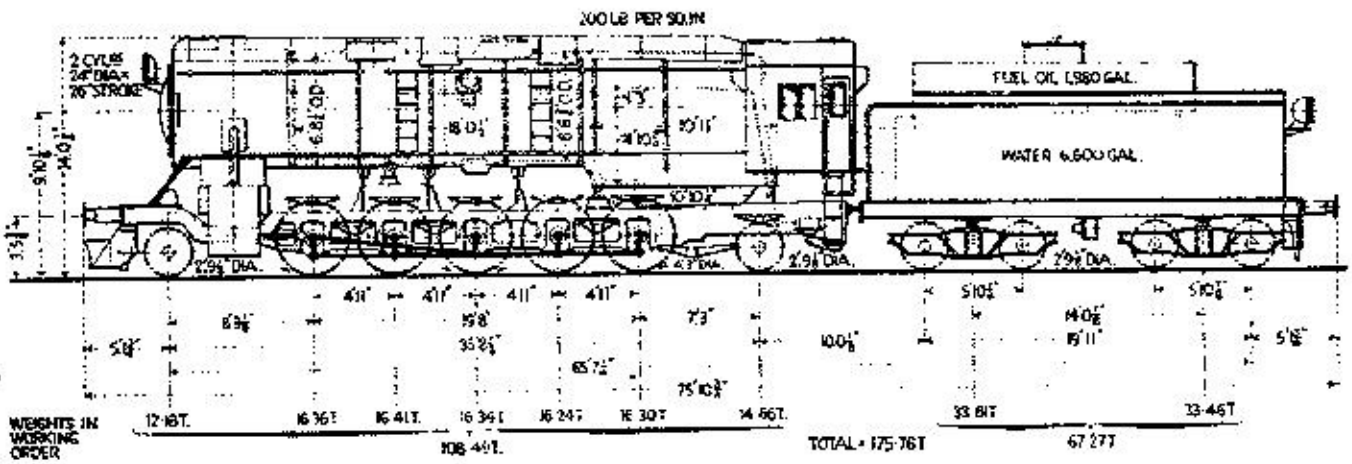




Above - Hedjaz Railway 1918 Hartmann 2-8-2. Below - Iranian State Railways Vulcan Foundry 2-10-2.

SPAIN

The line from Cidad-Dosante to Villarcayo (21 km) closed to passengers as from 1st December 1966. It had only one train per day each way, and was part of the former Santander-Mediterraneo.

Apart from the inevitable TER trains, the line from Barcelona to Lerida appears to be 100% steam, mostly standard 2-8-2's. At San Vicente shed (change-over point from electric to steam), ex-Norte 2-8-0, ex-MZA 4-8-2 and standard 4-8-2 were also noted. Other types seen on the line were standard 4-8-0 (240F 2678) and MZA 4-8-0 (240F2290). Lerida is a good centre, the bridge over the river immediately east of the station being recommended for photography. All trains from Lerida to Tarragona, Barcelona and Pobla de Segur must cross the bridge; also all light engines to and from the shed. The shuttle service between station and shed was a 4-8-4T plus one 6-wheeler.

On the Lerida-Tarragona line, passenger traffic is handled by ex-Norte 4-6-0, and much of the freight by 282F class Garratts, both Central of Aragon and standard versions being noted. Reus (A) station is closed, and all trains now run into Reus (Paseo Mata) where a reversal is necessary. The 14.50 from Lerida was delayed here on one occasion for over half an hour, waiting while 230.2098 wandered off to the sub-shed to turn. However, the 18.10 from Tarragona was noted with electric traction. At the scenic country junction of Picamoixons 242.0254 was waiting with the 17.25 to Barcelona via Roda.

Dieselisation between Tarragona and Tortosa is now almost complete, although 462F0405 was noted on a freight, presumably bound for Valencia, at Tarragona, and 241.2080 was on a ballast train. A pleasant surprise at Tortosa was the station pilot, 040.2534, in very good condition. On the Tortosa-Zaragoza line, the service to La Puebla de Hijar is still worked by ex-MZA Henschel 4-8-0, mostly in very good condition. Engines are changed at Alcañiz, where 120.2131 was dead but apparently usable in a siding opposite the shed. Between La Puebla and Zaragoza only steam was noted, all of standard oil-fired types. Between Zaragoza and Miranda standard 2-8-2's predominate, especially on the slower passenger workings. Diesels now penetrate this route, working 15.50 Zaragoza (Sep.)-Alsasua and 09.45 return and also, it is believed 02.58 Zaragoza (Sep.) - Alsasua and 21.55 return. Standard 4-8-2 work between Castejon and Miranda on expresses. Several 4-8-0's in the 2316-35 series were observed working around Castejon. The only 4-cylinder engines seen at work were 241.4080 on a freight at Castejon (in terrible condition) and 241F4085 heading the 14.55 Miranda-Zaragoza (Arrabal). 0-8-0T 040.0207 "Fresser" was dumped at Gallur. Logroño, not normally a very inspiring place, saw some unusual excitement one evening when a fire in the carriage sidings completely gutted 3 old wooden-bodied 'Wild-West' type coaches and badly scorched 2 others.

At Miranda de Ebro a strange anomaly in motive power resulted in a 4-8-4 working the westbound "Iberia Express", but a diesel on the eastbound. Two streamlined 4-8-2 were noted on freight, including 241.2103 which had lain derelict at Madrid Delicias for many years. The Irun-Vigo and Vigo-Irun trains were both 4-8-4 hauled between Miranda and Venta. Huesca presented several ex-MZA 4-8-4T's which work the connecting services to Tardienta and Ayerbe. Ex-Oeste 4-8-4T's (series 0201-8) were seen shunting around Zaragoza, and also piloting 2-8-0's on freight on the Canfranc line. The 06.55 from Casetas to Canfranc was a fine sight with a pair of Norte 2-8-0, both engines working all the way. (The foregoing Spanish notes cover the period 20th-30th April this year.)

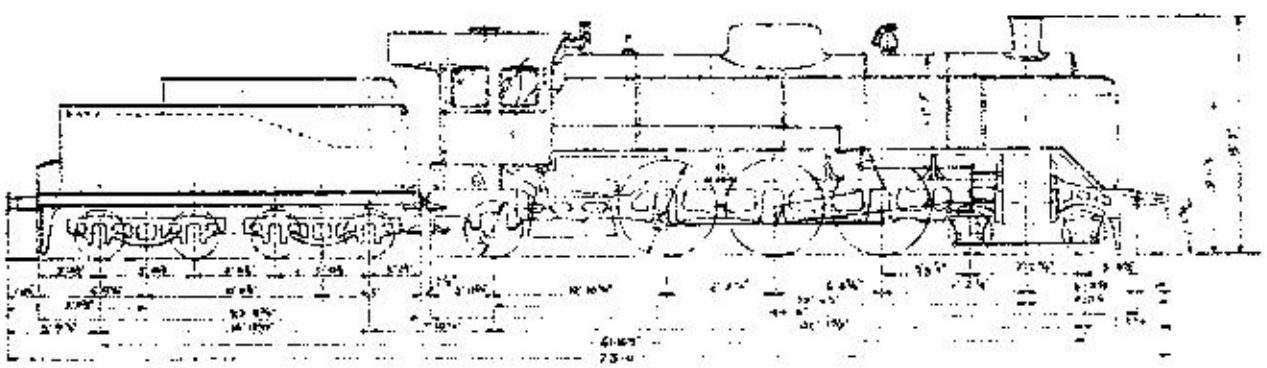
FRANCE

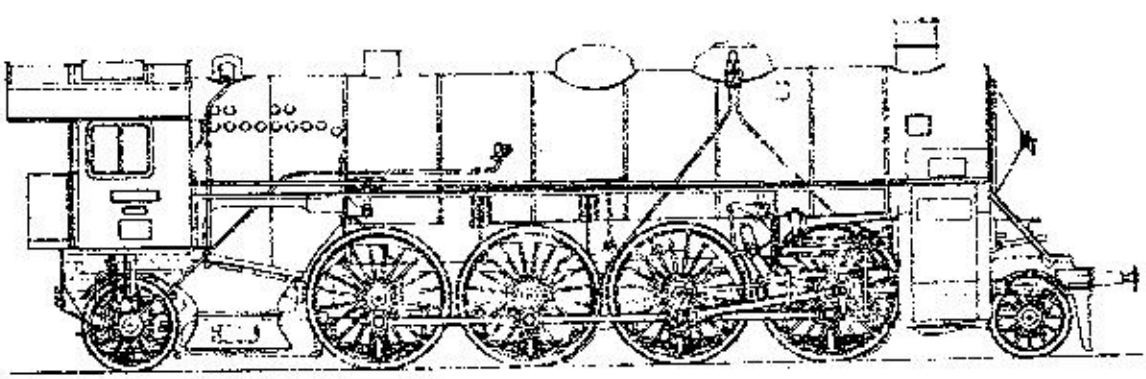
On the Nord, the last Chapelon pacific, 231E22, was withdrawn on April 10th. On the previous day it worked a relief to the morning down boat train, working throughout from Paris Nord to Calais. The first four coaches were reserved for French railfans and a special stop was made at Noyelles for those wishing to visit the Réseau de la Somme. The engine worked a return special from Noyelles to Paris Nord in the evening. On the 10th, E22 worked the "Golden Arrow" from Amiens to Paris. At Present Calais has 8 pacifics in service (231G42/70/97/235 and 231K31/40/65/73), although several others are held in reserve at places like Lille and Hirson. There are three basic pacific diagrams at Calais, as follows, though these are subject to variation to meet traffic requirements:-

1. Day 1 - 14.14 Calais M.-Amiens; 18.50 Amiens-Abbeville.
   Day 2 - 06.39 Abbeville-Amiens; 09.23 Amiens-Calais.
2. Day 1 - 15.02 Calais M.-Amiens; 20.42 Amiens-Boulogne.
   Day 2 - 07.03 Boulogne-Amiens; 13.41 Amiens-Calais.
3. Day 1 - Standby at Calais; 19.19 Calais M.-Amiens.
   Day 2 - Standby at Longueau; 20.03 parcels Amiens-Calais Ville.

Standard 0-10-0T's 050TQ 9 and 12 are now to be seen at Calais Maritime.

Visitors to the Sud-Ouest at Easter reported an increase in dieselisation in a hitherto unsuspected quarter, namely Tours. All turns previously noted as Tours pacific duties were diesel hauled, including the Rouen-Tours train which was loco-hauled instead of an autorail for the holiday period. On the other hand, 231D's based at Nantes were more in evidence than ever before, even working up towards Angers.





Above - Finnish State Railways (VR) Class Hrl 4-6-2. Below - Saxon State Railways 1919 express 2-8-2, now DR Class 19^{0}. Shown as built.

Freights from Longueau to Rouen are now diesel hauled, and the 150P are withdrawn. The last of this class in service are a few at Chaumont.

GERMANY

Among the lines threatened with closure is the last DB rack line, from Honau to Lichtenstein. Honau to Münsingen would be closed to all traffic and Münsingen-Schelkingen (adhesion) would remain for freight. This line is described in "Railway Holiday in Bavaria", reviewed on page 2 of this Journal.

On the Trier-Koblenz line, freight traffic is hauled by 44 class 2-10-0, but varies considerably from day to day. Luxembourg-Koblenz expresses mainly have V160 diesels, but some Trier-Koblenz expresses have 01 class pacifics. The 13.28 Trier-Koblenz appears to be a regular working for a 38 class 4-6-0, which is reputed to return overnight. The infrequent expresses on the Köln-Junkerath-Trier line appear to be 01-hauled, all other loco-hauled traffic seen being in the hands of V100 diesels. On the Trier-Saarbrücken line, fast trains are in the hands of 01 class. Locals from Saarbrücken that penetrate the northern part of the line are predominantly worked by 23 class 2-6-2, but a few 78 class 4-6-4T and V100 were seen.

Electrification of the Kassel-Giessen line is complete, so that the 10 class pacifics are again displaced. 10.001 is reported to have hauled a short special in the Münster-Paderborn-Kassel area in April this year, double heading an 01. This may have been its last run, and confirmation would be welcome. Both 66 class 2-6-4T are now withdrawn and in April were dumped minus numberplates on a siding at the back of Giessen shed. In contrast, the 65 class 2-8-4T's are active at Limburg, several of them being noted there and on the line to Giessen.

Electrification work has started between Aachen West and Mönchengladbach. Expresses on this line are at present mainly hauled by 03 class pacifics, but some locals have V100 diesels. Work has also started on electrification of the Osnabrück-Bremen line, foundations for overhead masts having been noted. This is almost certainly the best remaining line for steam traction in Germany, with numerous trains and with fast schedules for the expresses. A recent day's observation from 08.15 to 17.00 at Vehrte (11km. from Osnabrück) produced 53 trains, of which only 10 were diesel, these being mainly the F-trains and certain locals. On the other expresses 01^{10} class pacifics were almost universal, while 41 class 2-8-2 and 44 class 2-10-0 worked nearly all the freight. No Crosti 2-10-0's were seen at work at the Osnabrück end of the line, but they may possibly still appear nearer to their home depot of Kirchweyhe.

CZECHOSLOVAKIA

A good spot for photography and tape recording on the Plzen-Praha line is on the steep bank out of Zdice, where most freights are banked. Classes noted here on a recent visit were 354^{2}, 365, 423^{0}, 464^{0}, 475^{1}, 498^{0}, 524^{0}, 534^{0}, 555 and 556.

Acknowledgements for information to A.Eaton, B.Harrison, J.H.Price and J.B.Toy.

Illustrations on Facing Page

1.) V.R. Class Vr5 0-6-2T 1404 and Vr1 0-6-0T 532 at Seinajoki shed. (19.5.63.)
2.) D.R. Rebuilt 2-8-2 22.084 at Dresden Neustadt. (17.7.64.)
3.) R.E.N.F.E. 4-8-0 240.2318 leaving La Encina on the afternoon Alicante-Valencia express. (9.66.)
4.) S.N.C.F. 4-8-2 241P29 at Sablé on morning Paris-Nantes express. (Easter '66)

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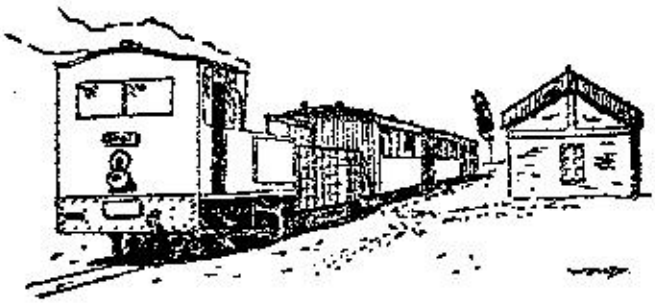


MINOR RAILWAYS SECTION

SPAIN

Vasco-Asturiana - From 30th January the Pravia service was taken over by diesel railcars, the four daily steam trains to Pravia and San Esteban being replaced by nine railcars. The timetable still shows locomotive hauled trains on the line to Ujo and Collanzo. San Feliu-Gerona - At the end of April the service was being maintained by 0-6-2T's 5 and 6. Nos. 1 and 3 were out of use in the shed at San Feliu, both looking in poor condition. No.4 was in the workshops. No.2 was lying extremely derelict in the carriage shed adjacent to the station (entrance to which can be gained via the Gent's embassy!) Also there, equally derelict, were ex-Onda-Castellon Nos.5 and 7 of similar type.

BELGIUM

The T.T.A. has acquired an 0-6-0 tram locomotive from the Charbonnages d'Argenteau (which is now diesel-worked) and it is hoped to have the steam locomotive in use this summer.

GERMANY

Kleinbahn Frankfurt-Königstein - This line had a nasty accident on 17th November when railcar train VT101, VT104 and VS202 ran away after brake failure and collided head-on with a steam passenger train drawn by 2-6-2T No.262. There were several casualties, the leading railcar unit ending up draped over the locomotive, and the line was seriously short of motive power. In consequence, various DB railcars of Class VT24 have been hired and DB locomotive 94.613 has been used on goods and passenger work, together with No.261 of the DEG's Teutoburger Wald Eisenbahn. Herforder Kleinbahn is now completely sold up. Köf 10 (s.g.) went to Streuber's in Herford; Köf 12 (n.g.) went to Juist on 19.12.66; and Köf 14 is on Sylt. Jülicher Kreisbahn - An MAK 4-wh.D has replaced the steam engine for goods work. A coach from Kiel-Schönberg has replaced Jülich No.1 which has been sold off as a clubhouse. Mittelbadische Eisenbahn has closed the section Kehl Turnhalle-Auenheim to all traffic from 25.9.66. The Freistett branch is now goods only. Möckmühl-Dörzbach (Jagsttalbahn, 750mm gauge) - This line has actually reinstated passenger traffic with newly repainted railcars! A train runs daily from Bieringen (07.18) to Krautheim and returns at 13.00. A school train works between Jagsthausen and Möckmühl. W.E.G. - VT05 on the Amstetten-Gerstetten line

Illustrations on Facing Page

5.) J.Z. 0-8-2 No. 83.155 at Dreznica with Sarajevo-Dubrovnik train. Part of this 760mm gauge line has now been displaced by standard gauge. (See notes and news.) (22.9.66)

6.) Danish Museum Railway 0-6-0T No.3 "Faxe" at Maribo on 16.20 train to Bandholm. (26.5.63.)

7.) C.F.R. 760mm gauge 0-8-0T 764.158 at Band with passenger train from Tirgu Mures to Mihesul de Cimpie. (18.9.66.)

8.) C.F.R. 760mm gauge 0-6-0 389.001 in the main street of Agnita with 15.40 Agnita-Sibiu passenger train. (15.9.66.)

was badly damaged in a level crossing accident at Amstetten - it had to be carted away in two pieces. All passenger traffic is by bus. On the Heilbronn-Marbach narrow gauge DB line, regular rail traffic was discontinued from 25.9.66.

FRANCE

Réseau Breton - Passenger services have been withdrawn from all narrow gauge lines, and the tracks in Carhaix passenger station lifted; the railcars are stored at Port-de-Carhaix. The Guingamp-Carhaix line is in course of conversion to standard gauge, but narrow gauge freight trains continue to run for the time being on most of the other lines.

JUGOSLAVIA

As from 1.12.66, the narrow gauge line between Sarajevo and Ploce (where a vast new harbour is being constructed) was replaced by a standard gauge line 194kms. long and much of it on a new alignment. Diesel traction is used at present, but the line is in course of electrification. Dubrovnik is still served by narrow gauge trains, connecting with the Ploce line at Caplijna, 164kms. from Sarajevo, which has replaced Gabela as the junction station. The main day train to Dubrovnik is now worked by diesel railcars, formerly used for the "Mad Sarajevan".

AUSTRIA

Österreichische-Alpin Montangesellschaft (OAM) - This concern runs a 7-km. 760 mm gauge line from Radmer to the ÖBB station of that name, between Eisenerz and Hieflau. For most of the distance the line runs beside the road, but nearer the ÖBB line it is at a higher level. The layout at the junction is quite small and cannot be seen from the main line. The n.g. line runs to a tippler, which feeds a hopper, which in turn loads ÖBB iron ore hoppers to run down to Hieflau. There appear to be four locomotives, but last July only one was working. They are 12/200 and 13/200, both 0-4-0T; and 14/200 and 15/200 both 0-6-2T, the two latter being ex-ÖBB class 498, and 15/200 was identified as Krauss Linz 1479/28, ex-ÖBB 498.02. It would appear that there is a fairly frequent service on the line, since trains are only 5 wagons each and the mine has an electric railway system, though a very much smaller affair than the Iron Mountain line at Eisenerz. The latter seems to be all electric as far as internal railway workings are concerned; observation from roads failed to reveal any steam, and it is a heavily guarded place. A second steam narrow gauge line worked to and from an iron ore tippler at Präbichl, but this has been removed recently. The road bed has just been made into a road, but the loco-shed still has a short section of rail leading into it. The shed is heavily boarded up, but appears to be empty. Graz - Noted in a scrap yard with no rail connection on the northern outskirts of the city near to an ÖBB line were the remains of standard gauge locomotives including 657.1005, plus two almost intact 760mm gauge engines. These were identified as ÖBB 798.02/03, Jung 10116 and 10125, both of 1944, and both 0-6-0T. In the works of the GKB was an 0-6-0T No.98.703 with the name "Andritzer Schleppbahn" as the owner. It is understood to be ex-ÖBB 97.236, then DR 98.7026, then ÖBB 89.236. Perhaps one of our Austrian readers could elucidate.

Acknowledgements for information to J.B.Toy, S.Gradidge and J.H.Price.

AUSTRIAN LOCOMOTIVE LIST This contains all locomotives and railcars of the ÖBB and private lines with shed allocation as at 31.12.66. While supplies last, copies are available to readers at 1/6d each postage included. Orders as for Slezak publications (See next page).

PUBLICATIONS RECEIVED (Continued from Page 2.)

graphs of the "Adler" is excessive, even if they depict different replicas, and much as one may admire the Bavarian pacifics, one illustration would have been enough.

DER GIESL-EJEKTOR by Josef Otto Slezak. 64 pages 6" x 8", 73 photographs, 3 diagrams. Published by Verlag J.O. Slezak, Wien. (See special offer below).

This is No.7 in the International Annals of Locomotive History. The first 22 pages describe, in German, the history and function of the Giesl ejector and allied devices, and give details of its application in various countries. There follow a two-page description of the ejector in English, a chronological list of ejector fitted locomotives and a bibliography. The last 32 pages contain the illustrations, many of great interest, which depict the application of the ejector to locomotives of countries throughout the world.

By special arrangement with the publisher, we are able to offer this book to readers at the reduced price of 10/9d postage included. Certain earlier Slezak publications, reviewed in previous issues of the Journal, are also still available at reduced rates, as follows:- Locomotive Works of Europe - 5/-; Verzeichnis der Deutschen Lokomotiven - 6/-; Breite Spur und Weite Strecken - 17/-; Die GySEV - 14/-; Archiv Elektrischer Lokomotiven - 24/-. Orders accompanied by remittance, made payable to "L. King" please, should reach the Journal distribution address not later than 10th July. Payment may be combined with Journal subscription renewal.

N A R R O W G A U G E I N R O U M A N I A

by D. Trevor Rowe

The CFR (short for Caile Ferate Romane or Roumanian State Railways) operate some 600 route kilometres of narrow gauge, all of 76cm gauge with passenger services, made up of the following sections:-

System No.	Lines	Kms.
1	Alba-Iulia - Zlatna	38
2	Turda - Abrud	94
3	Sibiu - Agnita	62
	with branch Cornatel - Vurpar	13
4	Praid - Tirgu Mures - Lechinta	178
	with branch Band - Mihesul de Cimpie	28
5	Odobesti - Burca	23
6	Satu Mare - Biscad	51
	Satu Mare - Ardud - Somcuta	94
	with branch Ardud - Ghilvaci	18
	Total	599

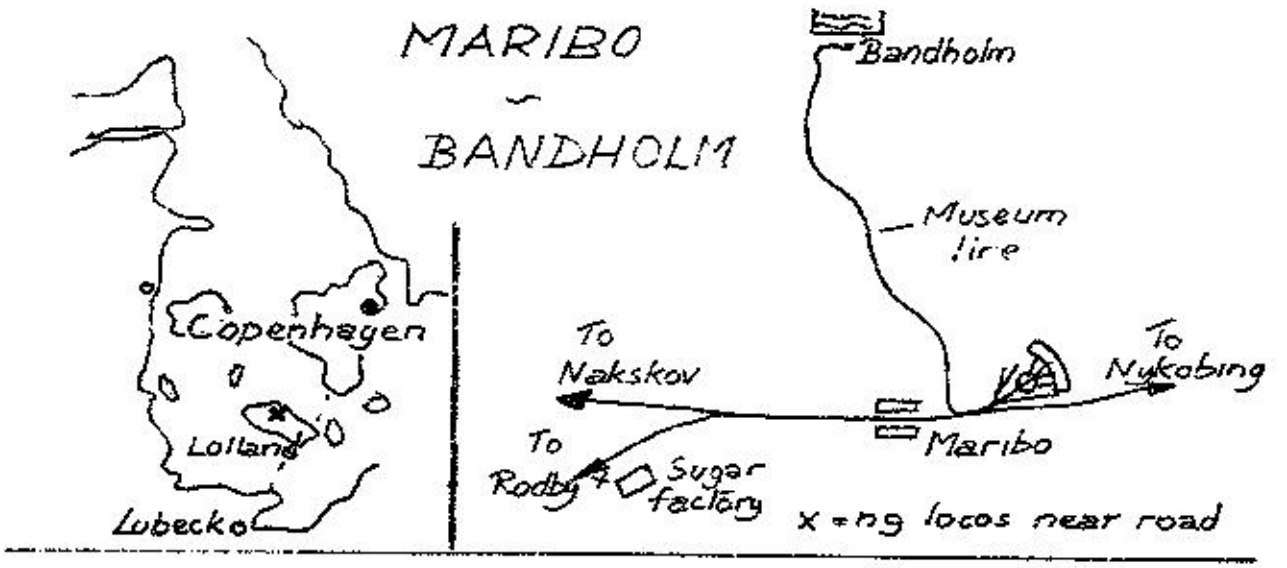
Agnita to Sighisoara (47kms.) was closed (at least to passenger traffic) between 1963 and 1966. All the above lines, with the exception of Odobesti-Burca, were visited in September 1966 and found to be 100% steam worked. The following locomotives were noted then, although one or two were seen previously by Frank Jones, or recorded in the NGRS newssheet for August 1966. The locomotives are listed in numerical order and the system numbers are purely the

author's own invention for reference purposes.

Loco. No.	Wheel Arrangement	Builder (if known)	System
1.3554	0-6-0		3
2.3621	"		3
3.3763	"		3
4.3659	0-8-0		3
389.001	0-6-0	WN 3061/85	3
395.001	0-6-2T	StEG 2428/95	1
395.003	"	" 2430/95	1
395.004	"	" 2431/95	1
395.005	"	Wietzer, Arad 25/97	1
395.104	0-6-2T	Krauss Linz 2360/90	1
396.002	0-6-2T		4
397.001	0-6-2T	WN 3630/93	4
399.104	0-6-2T	Not seen; ref NGRS Newsletter	3
4001/2/6/13	0-8-0T		4
IVK 148	0-4-4-0T Meyer	Hartmann 3205/08 (Ex Saxon State)	4
490.014	0-8-0T		2
490.017	"	Navag 2863/12	2
490.021/27/43	"		2
6845	0-6-2T		3
764.001	0-8-0T	Schwartzkopff 8299/24	6
764.003	"	" 8301/24	4
764.004	"	" 8302/24	4
764.006	"	" 8304/24	3
764.007	"	" 8305/24	3
764.012	"	Resita 379/37	3
764.051-5/7-9	0-8-0	Chrzanow (Poland) About 1948	6
764.102	0-8-0T	Schwartzkopff 1937	3
764.103/9	"	" "	2
764.113	"	Resita 386/37	2
764.151/3/4	0-8-0T		2
764.155/6	"		4
764.157	"	Uzine 23 Aug 514/49	4
764.158	"	" " " 515/49	4
764.159/60	"		4
764.202	0-8-0	Uzine 23 Aug 525/49	4
764.203/6	"		4
764.207	"	Uzine 23 Aug 529/49	4
764.209	"		4
764.301/52	0-8-0T		2
764.403	0-8-0T		4
764.409	"		2
764.411-3	"		1
764.427/8	"		2
764.474	"		2

Note - Several of the 0-8-0T's are provided with a combined tender/van.
In NGRS Newsletter of Aug. 1966, 395.104 is said to have originally been No.2 RIVA of the Mori-Arco-Riva line in Italy.

(Continued on Page 21.)



The number of working steam locomotives in Denmark is small and diminishes each year. It is therefore fortunate that the Danish Railway Club (DJK) have created a working museum with a remarkable collection of veteran locomotives and rolling stock, gathered mainly from the so-called Private Railways which operate many of the branch and secondary lines in the country. The collection is all the more interesting because many of the Private Railways have closed in recent years and the survivors have relatively few steam locomotives even in reserve.

The focal point of this "museum" is the old steam depot of the Lolland Railway (LJ) at Maribo on the island of Lolland, where the locomotives and rolling stock, including a number of freight vehicles, are kept and restoration work carried out. The LJ is obviously very helpful, and apart from the use of the depot, the "museum" train starts from the LJ station at Maribo and runs over the branch line to Bandholm on which the LJ operate freight services. A development which the DJK have in mind is to run a passenger service over another LJ freight only branch, from Maribo to Rødby Ferry. This would provide an opportunity to make better use of their larger steam locomotives, and also to link up with the "Bee Line" to and from North Germany. The LJ management are believed to be favourably disposed towards this proposal.

Services were first operated in the summer of 1962, and trains now run on Sundays and public holidays from late May to late September, being operated entirely by volunteers who are extremely friendly - a characteristic of Danish people in general. The service starts about midday, and the timetable shows four return trips, though no doubt more are run if required.

The Maribo-Bandholm line was the first Private Railway in Denmark, apart from the main-line companies which eventually formed the State Railways. It was

opened in 1869, became part of the Lolland Railway in 1893, and is 7.5km. (4.5 miles) long. The area is entirely rural, with a pleasant mixture of farmland and open woodland. The line is virtually level with no major earthworks, and is laid with rather light track on sand ballast. One point of interest is that the railway owned the only British locomotives ever supplied to a Danish Private Railway - two 0-4-2ST's built by Robert Stephenson, Newcastle-on-Tyne, Works Nos. 1917/8 of 1869.

Leaving Maribo, passenger trains have to propel out of the station and then reverse to reach the Bandholm branch, and vice versa in the opposite direction. At Bandholm there is a small station with a yard and run-round facilities and the line continues thence for about 200-300 yards to the harbour. Here a make-shift platform has been constructed and trains connect with a veteran steamship service to Sakskøbing along the coast, whence one can be transported back to Maribo by vintage bus - a vintage circular tour!

The DJK are also planning to lay a 70cm. gauge "tourist" line in Knuthenborg Park - a sort of stately home - near Bandholm, on which to run the narrow gauge locomotives which they have acquired. Altogether the Danish "Museum" Railway is well worth a visit, and will become an even greater attraction when the proposed developments take place.

LOCOMOTIVES

The following list gives details of the locomotives on the Danish "Museum" Railway or owned by the DJK. All are at the LJ steam depot at Maribo unless otherwise stated.

No.	Name	Type	Built		Gauge	Original Owner	Note
2	KJØGE	0-6-0WT	Krauss, München	761/79	Std.	ØSJS	(1)
3	FAXE	0-6-0WT	" "	759/78	"	ØSJS	(1)
5		0-6-0	Vulcan, Maribo	10/01	"	OHJ	(2)
6		0-8-0WT	Borsig	4471/95	"	ØSJS	(3)
11		4-6-0T	Henschel	8142/07	"	HHB	(4)
19		2-6-0	"	17887/20	"	LJ	
?		0-4-0T	Esslingen	2874?/97	"	KB?	(5)
M1	DEVA	1-A-A-1	Atlas, Stockholm?	16/21	"	LJ	(6)
M1		1-A	?	/26	"	LB	(7)
?	ELSE	0-4-0WT	Orenstein & K.	9774/21	785mm.	?	(8)
2		0-6-0WT	"	9224/21	700mm.	?	(9)
B2		0-6-2T	"	11420/27	"	See notes	(10)
B4		0-8-0T	"	5844/12	"	" "	(10)
5		0-8-0T	Henschel	12321/13	"	" "	(10)

Notes

(1) These works numbers are quoted by the DJK in their booklet about the line and "Kjøge" does in fact carry the number shown. No.3 is said to have been obtained from the Nykøbing sugar factory, and No.2 probably came from the same source. Four locomotives of this type were supplied to the ØSJS (East Zealand Railway) in 1878. According to W.Bay in "Locomotives of the Private Railways of Denmark", Nos. 1 & 3 were sold to the Nykøbing sugar factory in 1910, these being Works Nos. 758/60; No.2, Works No. 759 went to the LJ in 1910, being

scrapped in 1929; and No.4, Works No. 761 was scrapped by the ØSJS in 1911. There is an obvious discrepancy here and clarification would be welcome. Confirmation is also required that the Works plate of No.2 carries the year 1879. According to Bay, all four locomotives were built in 1878. The two survivors were acquired by the Museum Railway in 1961 or shortly after.

(2) Transferred to HTJ in 1956. (OHJ and HTJ are both part of Holbaek Private Rlys.)

(3) One of a pair of locomotives which were the first eight-coupled machines in Denmark. No.6 was sold by ØSJS to Frederiksvaerk steel works in 1953. Obtained by DJK in 1962.

(4) The only tank engine of this wheel arrangement ever to run in Denmark. Originally HHB No.4; sold to Gribskov Railway (GDS) in 1940 and renumbered 11.

(5) This is reported to be an 0-4-0T by Esslingen/1897. The only such engine still existing in Denmark is believed to be Kalvehave Rly. No.1, Esslingen 2874/97; sold to DSB in 1898 - class N, No.186; sold to Rangerstationen Valby in 1937.

(6) Diesel-electric locomotive.

(7) Petrol-mechanical railcar.

(8) Stored at DJK depot, Maribo - 6/66. Obtained from cement factory at Assens, north Jutland.

(9) Stored as (8). Obtained from peat (?) railway in north Jutland.

(10) These three locomotives were stored (6/66) in the open at the sugar factory about a mile west of the centre of Maribo, as indicated on the diagram. They had apparently been donated to the DJK on the closure of the railway serving the factory, but in earlier years were reported at Sakskøbing, Gørlev and Nakskov beet factories respectively.

ROLLING STOCK

The DJK and Museum Railway have a large and varied collection of passenger and freight rolling stock.

Acknowledgements to:-

Various anonymous members of the DJK for hospitality and information given during visit in 6/66.

Official DJK booklet about the Museum and the Maribo-Bandholm railway.

'Locomotives of the Private Railways of Denmark' by W. Bay.

'Locomotives of the Danish State Railways' by W. Bay.

J.A. FORSHAW

NARROW GAUGE IN ROUMANIA (Continued from Page 18.)

From the above, the extent of most of the classes will be apparent; however the following information from 'Dusty' Durrant's list, which also supplied some of the works numbers, will assist:-

Series	764.001-008	Schwartzkopff	764.009-018	Resita
	764.101-112	Schwartzkopff	764.113-122	Resita
	764.440	Resita 1956		

Also listed are two series of 2-6-0T's - 201-206 (Breda 812-7/06) and 301-10 (Breda 1232-41/10) which must be presumed scrapped.

There are naturally a few locomotives missing from the above list and it is reasonable to assume that any of the post-war types not noted are nonetheless still in existence. The NGRS newsletter referred to mentions 764.357 as being in service on a forestry line from Vintul de Jos to Orastie. A total of 67 locomotives has actually been seen in the last few years. On the systems visited in 1966 there were probably around a further six in sheds or out working, and one line was not visited.

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