

# THE JOURNAL OF THE LONDON UNDERGROUND RAILWAY SOCIETY

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## GREAT CENTRAL LINE PROPOSALS

On the 22nd October 1964, British Railways published their proposals for closure of long stretches of the Great Central Line, totalling more than sixty miles in all, together with the closing down of the marshalling yards at Annesley and Woodford Halse. These plans, if they were put into effect, would completely destroy the Great Central as a trunk route, displace a total of 1400 railway employees - and, of course, wreck the public transport facilities of a large part of the Midlands.

Whether this will come to pass is doubtful now, as the new Minister of Transport - Mr. Tom Fraser - stated a few days after the publication of the BR plans that there would be no more major rail closures before a thorough review of transport facilities as a whole in affected areas.

Be that as it may, some information has been received which is of considerable interest to students of the Underground system. In making the announcement of the BR plans, Mr. H.C. Johnson, General Manager of the London Midland Region, commented that the number of London passengers affected was too small to have any bearing on the future of Marylebone station, which was a separate question. Nothing else was said about Marylebone on that occasion, but a few weeks later reports were received from an authoritative source (though not an official one) of far-reaching proposals concerning that station, to be brought forward once the closure of the GC had been accomplished to BR's satisfaction.

Briefly, these proposals were reported to be as follows. The Wycombe Line diesel service now running into Marylebone to be diverted to terminate at Paddington; the line from Amersham out to Aylesbury Town to be electrified on the LT 4-rail 600v. D.C. system; Marylebone station and approach roads to be

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similarly electrified, and connections made to the LT lines into Baker Street by means of crossovers laid in at appropriate points; the additional electric stock needed to work the new services to be obtained from the Broad Street stock (North London Line) which it was anticipated would be closed by the time Marylebone electrification works were completed. It can be imagined how popular this last item would be with those fighting to save the North London Line, and could well prove another example of tactless wishful thinking on the part of BR - like tube cars to the Isle of Wight!

The only detail not provided by informants has been whether the new services would be worked by BR or LT - but as stock was to be provided by BR, it would seem probably that the intention was for them to work the line.

In the light of new transport policies outlined by the Socialist Government, it seems probably that the GC will be kept open, the Marylebone/Aylesbury electrifications will not be so necessary, the North London Line retained - and therefore official confirmation of this scheme never be obtained. But it must be said that the informants who contributed the information are usually reliable and have been right in the past. It was felt, therefore, that a scheme of such importance should be recorded in the Journal, even if official confirmation is lacking.

#### LONDON RECORD SOCIETY

The above Society was inaugurated at a meeting in the Guildhall on 1st December 1964, with the objects of advancing education by stimulating public interest in archives and similar historical material relating to London, and to publish source material.

It is intended that Transport Records shall be covered by publications in the future, but the first volume will be a calendar of London assize rolls of the 14th and 15th centuries. Membership is open to individuals and to corporate bodies; TLURS is joining, and members wishing for further information should contact the Editor.

#### NEW RAILWAY BREAKDOWN VEHICLES FOR LONDON TRANSPORT

London Transport took delivery last September of seven new breakdown vehicles equipped to make on-the-spot repairs to Underground trains which have developed a major defect in service or have to be re-railed. They are being operated by the department of

the Chief Mechanical Engineer (Railways) and normally work in pairs. Each pair of vehicles consists of a heavy Leyland breakdown vehicle and a 3-ton Thames Trader which acts as a tender to it. In common with other emergency vehicles, such as fire engines, the vehicles are painted red. They also carry an illuminated "L.T. Urgent" sign on the cab roof to draw the attention of police and other road users to the urgency of the vehicle's journey when travelling to a railway breakdown.

Four Leylands and three Traders were ordered by London Transport, to make up three pairs with one Leyland held in reserve. One pair is based at Ealing Common rolling stock depot, the second at Hainault and the third at Neasden, where the reserve vehicle is also stationed to cover the other vehicles at overhaul periods.

The new vehicle replaced older lorries which had been converted from pre-war double-deck buses and had become inadequate to carry the equipment now used for breakdown work.

The Leyland breakdown vans are on Leyland Titan PD3A/1 bus chassis with an 18ft.6in. wheelbase and an overall length of 27ft.5 $\frac{1}{4}$ in. Each is powered by a 9.8 litre six-cylinder engine which develops 125 b.h.p. at 1,800 r.p.m. Specially-equipped bodies have been built by Mann Egerton & Co. Ltd. and five-crew cabs are fitted. Basically similar Leylands fitted with Mann Egerton bodies and cabs were recently brought into service as emergency repair vehicles for use by the Permanent Way Engineer.

The bodies of the Leyland vehicles are fitted with a sliding door forward on each side and at the rear there are double full-width doors giving access to the 19ft. x 7ft.11in. body. A one-ton capacity Burton-wood tail lift is fitted for lifting and lowering heavy equipment. There is additional storage space under the bulkhead platform, access to which is through flaps on both sides. Extra illumination in the interior is given by reinforced translucent plastic panels in the roof.

The Thames Trader breakdown tenders are low-frame vehicles of 3 tons capacity on an 11ft. 6ft. wheelbase. They have six-man Reall (Coachbuilders) Ltd. cabs fitted with an additional door on the near-side. The power unit is a standard Ford four-cylinder diesel engine.

The 11ft.9in. x 6ft.10in. body is entered by double full-width doors at the rear. As in the Leyland vehicles, some panels of the roof are of translucent plastic.

When the first vehicle of each type arrived at London Transport's Neasden depot considerable care was given to determining the best position in the body for each item of breakdown equipment. The first vehicle was held at Neasden until the second arrived so that the layout of the tools and materials could be copied and in this way each vehicle acted as a pattern for the next to be delivered and assured a standard arrangement. Because of the urgent nature of the vehicles' duties, great stress is laid on quick access to equipment.

Much of the equipment for the new breakdown lorries and tenders was removed from the older vehicles now replaced, but as some of it needed replacement the opportunity given by the introduction of the new vehicles has been taken to introduce lightweight equipment where practicable. This is easier to handle and enables more to be carried by each vehicle.

Re-railing plates which had previously been built up from timber and steel have been replaced by plates of high tensile aluminium supplied by Alcan Industries, reducing the weight from 175lb. to 100lb. The associated rail clamp pushers are now also made of aluminium, reducing the weight from 264lb. to 70lb.

New hydraulic jacks have been introduced at the same time as the new vehicles. Sixteen 25-ton Tangye Hydralite jacks and eight 15-ton tall Hydralite jacks are in service, all having aluminium alloy castings. The new jacks weigh 35 and 26lb. for the 25 and 15 ton jacks respectively compared with 185 and 105lb. for the older equipment.

One of the major advantages of the new vehicles compared with those they replaced is that the smaller tenders are equipped to handle more serious breakdowns by themselves. This means that in many cases one vehicle will be sufficient to deal with a breakdown instead of two, increasing the available cover should more than one emergency occur at the same time. To give the 3-ton vehicles this greater versatility, additional equipment, including a stretcher, is carried, they are also provided with radio communication facilities and there is room in the cab for a full breakdown gang. Previously the extra equipment was carried on the main vehicles only and the breakdown gang was split between the two vehicles.

Much of the space for breakdown equipment in both types of vehicle is taken up by wooden blocks which are used for packing beneath derailed Underground cars. The usual practice is for the derailed car to be raised by jacks until it is above track level. It is then manoeuvred into a position directly over the running

rails and lowered on to them. It is impracticable over much of the Underground network to use cranes for re-railing vehicles. Parking the vehicles near the section of railway concerned in an incident, especially if the breakdown occurs in Central London, has its own problems, as the vehicles have no parking concessions. Police assistance, however, helps to overcome many difficulties.

When they are not answering a breakdown call the members of the breakdown gang are employed on maintenance and repair work at the depot to which their vehicle is attached.

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#### LONDON TRANSPORT BUILDS ELECTRIC SHUNTING LOCOMOTIVE FOR ACTON WORKS

London Transport has placed in service on November 19th 1964 an electric shunting locomotive which has been constructed in the heavy repair shop at Acton railway works. It is being used in the yard at Acton for shunting railway cars entering the Works for overhaul and for marshalling them into train formation again on completion of the overhaul.

The locomotive, L.11, is being used to supplement an existing locomotive, L.10, which was built from two 1903 motor cars at Acton in 1930. With the increase in multiple unit stock, fewer single cars can be self-propelled; this has increased the movements by locomotive within Acton Yard.

The new locomotive was built from two 1931 motor cars, cut approximately in halves and joined back to back. The frame has been spliced with plates, welded and riveted. The majority of the air piping, the main and auxiliary reservoirs, and the triple valves, have been raised from below the frame and installed in the former passenger compartment. As the unit spends all of its time in the open, the normal number of heaters in the passenger compartment has been maintained to protect the equipment from the effects of bad weather.

The windows in the passenger compartment have been covered with sheet metal, the ventilators being left uncovered. The vehicle carries detonators, a short-circuiting device and signal flags in the normal way.

Although L.11 retains its normal Ward type drawgear at the west end, the east end of the vehicle is fitted with two sets of Ward type drawgear, one for tube cars and the other for surface stock. The tube drawgear protrudes 5" further than is normally the case to facilitate coupling. The coupling gear for the surface stock can be moved vertically through 2", as the height of the gear varies on different

types of surface cars. A mechanical indicator in the cab shows whether the gear is in a raised or a lowered position. Adaptor boxes are available to match cars fitted with auto-couplers.

As Acton Works has a single-ended yard, the double drawgear is needed only on one end of the vehicle, all movements being made by propelling from the west end. The locomotive may have to move 4-car units up the steep gradient adjacent to the Trimming Shop and, to facilitate this, special sanding gear is fitted. This consists of four standard valves, two for each bogie, fed from a divided hopper in each cab. These are heated by standard cab heaters to keep the sand free of moisture.

The end door at the east end, where the second set of drawgear is fitted, has been removed but an extra window has been added at floor level, to enable the driver to see the coupler more easily. A horizontally divided door has been fitted on the drivers side at the east end of the locomotive to give the driver a better view when reversing.

The locomotive is painted maroon, with standard London Transport lettering. It retains the standard 1931 tube stock control equipment of British Thomson Houston Co. Ltd., manufacture and is fitted with Westinghouse braking equipment only, the electro-pneumatic brake having been removed.

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#### NEWS FLASHES

NF360 A new car-carrier service will commence this summer between London and Rosslare. The train will run between Kensington (Olympia) and Fishguard to serve the normal Fishguard-Rosslare boats, will run nightly (except on Saturday nights) from 11th July to 25th September, and will run at weekends only in the early part of the season.

NF361 It was announced on 23rd December 1964 that Dr. Richard Beeching will relinquish his appointment as Chairman of the British Railways Board shortly, and return to Imperial Chemical Industries Limited.

NF362 London Transport staff have been receiving increased sick pay since 1st January 1965, the new minimum being £2 per week.

NF363 An ICT/EMIDEC computer weighing five tons has been installed recently in a new computer centre for LT. This centre is in a recently-erected office building in Baker Street. The computer will be used first for payroll work, and later for stores records; it is not likely to be used for the compiling of timetables.

NF364 The decision on the closure or otherwise of the Broad Street Line is expected to be announced shortly.

NF365 Two passenger conveyors just installed at a station on the Paris Metro have a length of 434ft, and are the longest pedestrian walkways in Europe.

NF366 A notice posted in Trinity Square Gardens reads "In connection with the improvement of Tower Hill station it is regretted that the use of these gardens will be restricted on and from 30th November 1964."

NF367 The contract for the rebuilding of Tower Hill station has gone to W. & C. French Limited, who started work there in December. The job is worth £853,000 and will take 2 years.

NF368 During his introduction of a discussion on the growth of private car ownership and the redevelopment of public transport, Mr. J.D.C. Churchill, LT commercial officer, said at the Institution of Civil Engineers on 3-12-1964 that a substantial increase in the carrying capacity in the suburban railway network of British Railways would be needed - which would mean more Underground lines in central London too. He also asked if it was fair that the travelling public should bear the full financial cost of work which would be of social benefit to London as a whole.

NF369 A drive by 99 inspectors of London Transport and British Railways on the District Line in the Wimbledon area on 22-9-1964 caught 186 travellers who had not paid their fares. 132 Summonses were issued and were heard at Wells Street Magistrate's Court on the 17th November - a record number for one day at a London court. Fines totalling £304 were imposed, plus costs amounting to £186. This operation would seem to indicate that fare rates would not need raising quite so often if more attention were paid to the collection of tickets and detection of bilkers.

NF370 A 13-year-old boy fainted and fell on the track in front of a tube train on the evening of 28-10-1964. Station staff and passengers gave emergency signals to the driver, who managed to stop his train just short of the boy.

NF371 More automatic ticket issuing machines have been installed recently at Hammersmith station, District Line, to help out with the shortage of booking office staff. They are situated in the main concourse, in two groups, and there are large illuminated panels above each bank of machines, giving a list of stations to which bookings can be made from the machines. Also at Hammersmith, women booking clerks are now employed on Sundays - it is presumed for the same reason.

NF372 On Monday 26-10-1964 a Piccadilly Line train was stopped for some time on the fast road at Chiswick Park, for an unknown reason. Piccadilly Line trains ran fast on slow road from Acton Town to

Hammersmith; this caused delays to District Line services, and trains called at Gloucester Road and South Kensington stations on the former fast road.

NF373 The empty stock train which runs daily from the depot at Ealing Common to New Cross depot uses the ex-fast road through Gloucester Road and South Kensington.

NF374 It is reported that substantial work may be carried out at Ickenham station within the next six months. A new switch room has already been built on the southbound platform, and new light posts are shortly to be installed. A new switch room has also been built recently at Hillingdon station.

NF375 On the weekend of 24/25-10-1964 the brick piers and arches at Edgware Way were demolished by bulldozer. The rubble was then taken by lorry a mile up the road and tipped onto the new motorway works at the bottom of Brockley Hill. The piers etc were part of the extension of the Northern Line from Edgware to Elstree started before the last war. Near to Elstree roundabout the twin tube tunnel mouths can still be seen, although only the top halves are visible above the surface of water that has flooded them.

NF376 A points failure at Bank station caused cancellation of three rush-hour trains in each direction on the Waterloo and City Line on the morning of 15-10-1964.

NF377 The famous Panyer Boy tablet of 1688, which was for many years on St Paul's station, Central Line has been re-erected in the Paternoster Development area. It was removed from the station in 1940 for safety reasons during the war.

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#### PERFORMANCE OF A60 STOCK ON FAST METROPOLITAN LINE SERVICES

J.A.S. MILNE

I have been fortunate enough to sample some quite excellent runs on the 0638 Amersham to Baker Street recently.

This service must be one of the few during the morning that can receive an "unchecked" run throughout from Moor Park to Finchley Road. The previous service, ahead from Wembley, is the 0623 ex Amersham "slow" which leaves a six minute leadway for the 0638 Amersham.

Runs 1 and 2 are quite usual samples of running, but in the latter we almost came to a stand at Neasden platform to set down a member of the staff. This however made the running more interesting particularly to accelerate from a stand at Neasden over the many "current rail" gaps that exist there.



Run 3 must surely be almost a record time since not a single delay of any form existed apart from the approach-controlled Harrow North Junction, and the "fixed" yellow before passing Wembley Park. In the case of the former double yellow aspects are exhibited at Pinner and a single yellow aspect at North Harrow, the junction home signal remaining at "danger" until the appropriate track circuit becomes occupied. Thus, speed is rarely reduced until North Harrow station has been passed, in this case however only a slight reduction in speed was noticeable, followed by gradual acceleration once clear of the North Junction and full power being developed continuously from Harrow South Junction to Neasden South where only a "touch on the brakes" prevented an alarming sensation over the several crossovers there. However the train held the track remarkably well in spite of the resulting jolts and bangs. A fine climb to Kilburn followed by the usual acceleration to South Hampstead and a cautious approach to Finchley Road resulted in a 2 min. 29 second early arrival (Moor Park incidentally was departed 1 min. 50 sec. late).

m.		Bkd. Time	Run 1		Run 2		Run 3	
			Act. m.s	Av. mph	Act. m.s	Av. mph	Act. m.s	Av. mph
0	Moor Park	0	-	-	-	-	-	-
5.89	Harrow	9	7.41	46.0	7.33	46.8	7.15	48.7
8.66	Wembley Park	12 $\frac{1}{2}$	10.47	53.6	10.33	55.4	10.07	58.0
10.07	Neasden	14 $\frac{1}{2}$	12.37	46.1	12.37	40.9	11.28	62.7
13.15	Finchley Road	19 $\frac{1}{2}$	17.02	41.9	17.21	39.0	15.11	49.7

## LETTERS TO THE EDITOR

15th December 1964

Dear Mr. Davis,

Now that Underground is committed generally to the use of the 24-hour clock system, there is a point about its use for denoting the time for midnight which may be of some possible interest to other members.

It appears that in our own time-tables this time is usually recorded as 24.00, but in the Continental tables the practice has been adopted of reserving 24.00 for arrival times only and using 0.00 or 00.00 for all departures. It does appear, since the times given in the public time-tables are nearly always for departures, that it might help to simplify those tables by giving the midnight departure timing in the Continental manner. This is, of course, a matter of choice by the operators concerned, but its use would enable departures,

Station A	23.57		23.57
" B	24.00	to be simplified to	0.00
" C	0.02		0.02

Yours sincerely

16 Pendrell Road,  
London, S.E.4.

Frederick F. Brown

13th January 1965

Dear Sir,

In the current Central Line Working Time Table the following "marathon" is worked by one train.

Departing from White City Depot as No. 63 at 02.25 it arrives at West Ruislip at 02.57, renumbering to No. 1; it leaves at 03.41 and stables at Woodford Sidings at 00.30 the following day.

During this 22 hour 5 minute stint it covers 417.41 miles and makes 469 station stops. Has this record been beaten by any other line on the L.T. system? Maybe somebody with the time and patience (!) would care to do some research into this fascinating aspect of W.T.T.'s.

Yours faithfully,  
R.E. Labrum

134 Cranley Drive,  
Ilford, Essex.

11th December 1964

Dear Mr. Davis,

The statistics given by Mr. Valentine in the December issue of Underground are interesting, but do not provide any indication of the more concentrated conditions of the M.-F. evening peak. It is a fact also that statistics alone do not always give a realistic picture of the situation.

London Bridge Stations take the bulk of all rail commuter traffic between the central and South-Eastern areas of London and the daily peak-hour delay and congestion, aggravated by the adjacent rail bottle-neck are already only too well known by regular commuters. If now, private commuter traffic, by roads, were to be banned from entering Central London and this additional load superimposed upon the existing peak-hour concentration, the disputed statement of my letter would prove to be something of an obvious

understatement.

The attacks now being made by public transport interests upon the private commuter and the subtle efforts now being employed to get private road traffic banned from the Central London area are very ill-conceived, since no member of the public is under any real obligation to use any of the services provided, and since the repeated unfavourable attention and innuendo levelled at the private commuter can do nothing but make him more antagonistic towards public travel.

The present road congestion is due partly to the lack of adequate and attractive rail facilities, and partly due also to the failure of road development to keep pace with the basic needs of the public. In these circumstances, interference with the private commuter is most inopportune.

Yours sincerely,

16 Pendrell Road,  
London, S.E.4.

Frederick F. Brown

20th October 1964

Dear Mr. Davis,

Following the Society's visit to the abandoned Alexandra Palace branch, the following references may be of interest:-

The Railway Magazine July 1919. 'The Edgware, Highgate & London Railway.' pp. 1-7 illus. by H.L. Hopwood.

The Railway Magazine August 1939. 'Northern Heights Branches of the LNER.' pp. 109-118 illus. by D.S. Barrie.

Both articles deal primarily with the history of the lines, but the second contains references to the electrification work then in progress.

A drawing of the new Highgate Station together with a lengthy note are to be found on p.328 of the July 1941 issue of the Railway Magazine, and there are several references and maps of the planned extensions in 'Improving London's Transport' published by the Railway Gazette 1946.

This last publication, is I believe, available from the Society's Library

Yours faithfully,

113 Wandle Road,  
Morden Surrey.

S.E. Jones

F. Henry Howson; World's Underground Railways; London, 1964; Ian Allan Limited; 128 pp 9in. x 6in., with numerous maps and illustrations; cloth bound; £1.5.0d. Obtainable from the Society.

After a considerable lapse of time, two books have reached the market within a very short time of each other, both dealing in some detail with the Underground systems of the world -- for a review of John R. Day's "Railways Under the Ground" see November 1964 Underground, p.173.

The book now under review is lavishly produced, being printed on unusually heavy art paper and extremely well provided with both pictures and maps. Written by the author of "London's Underground", it is a mine of up-to-date information on the world's subway and tube lines. The form in which the information is presented is somewhat episodic however; an outline history of the system being considered is, in each case, immediately followed by a "detail" section, giving statistics and technical information. This is extremely valuable for quick reference, but makes the book less enjoyable to read than is John Day's. It must be remembered too, that the present book is 10/- dearer.

Anyone looking for a reliable reference book on this particular subject will be well satisfied with Howson; if a brief story of the subject (still containing an amazing amount of information and statistical detail) is wanted, Day is recommended.

#### NEW RAIL-HEATING TROLLEY

London Transport commenced experiments in mid-1963 with a rail heating trolley which enables the de-stressing of long welded rails to be carried out at any time of the year when the weather is not too severe. The trolley proved very successful and was put into regular service in November 1963.

Before the introduction of the new device all de-stressing of lengths of long welded rail after any disturbance to them in cold weather has been a seasonal day-time task which would only be carried out at times of the year when the average rail temperature was between 65° - 75°F. At present, for day-time de-stressing under traffic, the keys have to be removed and replaced by long de-stressing keys, the warm conditions then do the rest. A sudden change of temperature, however, while the work of adjustment is being carried out can render the rails too cool and bring de-stressing work to an

end for the day. A reasonably heavy shower of rain and sudden fall of temperature may well cause this. The use of the trolley will provide an alternative method allowing a length of track to be dealt with at night at any time of the year, provided that weather conditions are not too severe.

The rail-heating trolley follows the general pattern of a similar device used by British Railways for flat-bottom track but has some important modifications to make it suitable for use on London Transport's bull-head track. The platform is of lightweight construction and is mounted, like a normal platelayer's trolley, on four light wheels. The axles have insulating sections of nylon to prevent interference with track circuits.

The presence on London Transport tracks of the positive conductor rail outside the running rails and the incidence of train-stops and other trackside apparatus not found on main-line tracks made it undesirable that the trolley should be propelled by men walking alongside. The London Transport trolley has therefore been fitted with a bicycle-type drive, the rider sitting on a saddle and holding dummy handlebars while he pedals the machine along. The gearing is such that one man can easily pedal the trolley for a reasonable distance at the low operating speed required - about 2 m.p.h. The rider can be relieved at the end of the section of track, but the trolley should not be stopped, if it can be avoided, while it is heating the rails. A handbrake is provided so that the rider can stop the trolley on a gradient; he also has control through the pedals, as there is no free-wheel device.

At each corner of the trolley is carried a 100-lb bottle of propane, and from these flexible hoses run to the heaters. The heaters consist of sheet steel hoods, coated with aluminium heat-resisting paint, which are carried on small rollers at each end. The rollers are slightly wider than the head of the rails on which they run, and their flanges keep the hoods parallel with the track. They are fitted into a system of levers which enables each hood to be carried, individually, in the appropriate position. The hoods are connected to the trolley through insulated outrigger arms and spacing bars. At the end of each hood nearest the trolley, two built-in tubes carry the propane burners. These are inserted after ignition and held in position with bayonet type locks. Two large pressure lamps are mounted on the trolley to floodlight the hoods when the equipment is used at night.

A robust wooden chest is provided to house burners, hoses and gas regulators, when not in use, and the trolley and warming hoods

can be assembled and dismantled by two men in a very short time in order to take full advantage of the engineers' night possession for the actual de-stressing operation.

The sequence of operations is as follows:-

The keys are removed from the chairs, and at every twelfth sleeper a small roller is inserted between the underside of the rail and the chair; a larger roller is inserted between the side of the rail head and the chair. The small under-rail rollers used by London Transport are oval in shape and are known as bead rollers, as their largest diameter is only  $\frac{1}{4}$  inch. They are threaded on a wire frame which anchors them in place on the chairs.

At each 120 ft. along the length of track to be de-stressed, scribed lines on a white painted area are made on the rail and rail chair; the lines being coincident. When heat is applied to the rail by the warming trolley, the lines separate and the correct rail expansion can be checked by measuring the distance between the two scribed lines. The track is steel keyed for a distance of 30ft. at the end so that the rails, when heated, can only expand in one direction, i.e. towards the adjustment switch. All equipment on the track likely to be affected by heat from the warming trolley such as signal bonds and traction cables, etc. is protected by asbestos blankets. At the same time the warming trolley is assembled and positioned on the track ready to commence the heating operation.

The burners are ignited and the gas pressure adjusted for the required temperature rise. The hoods, which are in a raised position off the rails, are lowered and the trolley is pedalled slowly towards the free end of the rail. In order to check the temperature rise, a thermometer reading is taken of both rails and the gas pressure regulators are adjusted if necessary for equal heating. A gang of men follows closely behind the trolley, removing the rollers and driving steel keys into the chairs.

During the heating the warming hoods are raised over special obstructions such as blockjoints and train stops and lowered immediately behind the obstruction.

After completion of the de-stressing operations, a string line passing across the track between fixed datum pegs driven in the ballast at both the fixed and free ends of the track allows the position of the rails relative to the datum pegs to be marked. This is effected by means of plumb line from the string line, and scribing

a line coincident with the plumb line on a white painted area on the rail web. Should any subsequent rail movement occur, this will be evident during periodical inspections at a later date.

The new equipment is designed for use on the open sections of line which constitute about two-thirds of the whole London Transport railway system. De-stressing is not necessary in tunnels as the temperature remains constant throughout the year. On open lines rails are de-stressed after they are installed and it is only necessary then to de-stress them when they have been disturbed for changing a block-joint or resleepering etc. outside the mid-range temperature.

The trolley was built by D. Wickham & Co. Ltd., to their standard design, modified by London Transport engineers to suit their requirements. The hoods and burners, modified to London Transport requirements, were supplied by the British Oxygen Group and the rollers were made by London Transport.

The whole equipment has been supplied to the requirements of Mr. C.E. Dunton, M.A. (Cantab), M.I.C.E., Chief Civil Engineer, London Transport.

### SOCIETY NOTICES

BOOKS Books stated as available from the Society may be obtained from the General Sales Manager, A.J.S. Milne, Cherrywood, Peterley, Great Missenden, Buckinghamshire. The appropriate remittance should accompany all orders, and if it would be possible to collect the ordered books at a Society meeting, this should be stated when ordering, as postage is a heavy item. In this connection, it is hoped that a Bookstall will be open at all Society meetings from March onwards. This will have books, photographs, badges and so on available - but if a member is particularly anxious to obtain a certain book as soon as possible, it should be ordered in the usual way as the Society cannot guarantee large stocks on the stall yet - the finances will not allow it.

SUBSCRIPTIONS FOR 1965 Subscriptions for the current year are now overdue. Further issues of the Journal will not be sent to members in arrears until remittances are received, and they will not be eligible to attend the AGM in March. Rates are 15/- for Members and 7/6d for Associate Members; payment should be made to the Registrar, R.E. Labrum, 134 Cranley Drive, Ilford, Essex.

ANNUAL GENERAL MEETING FOR 1965 This will be on Saturday 27th March in the Meeting Room, Kensington Central Library, Campden Hill Road. Proposed Amendments to Rules, Motions for Discussion and Nominations to the Committee should be submitted in writing to the Secretary, N.E.W. Fuller, 4 Southcombe Street, London, W.14 to reach him not later than 15th February 1965. Retiring members of the Committee are N.E.W. Fuller, G.P. Jasieniecki, and J.P. Wirth, all of whom are willing to stand for re-election.

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### THE TIMETABLE

09.50 Saturday 6th February Visit to Mitre Bridge Electric Depot, British Railways. Members who have already applied meet in the HIGH LEVEL Booking Office (at east end of Willesden Junction "New Station"). The Rolling Stock, which includes some of the old Met Electric Locos, has not been used lately, so old clothes are advisable! A few places are left for this.

18.45 for 19.00 Thursday 11th February An Illustrated Paper on Direct Current Control Equipments on the Underground will be read by B. John Prigmore, M.A., M.Sc., D.I.C., A.M.I.E.E., the Honorary Chairman of the Electric Railway Society, whose members we shall welcome as our guests at this meeting. The venue will be the Lounge of the Fred Tallent Hall, 153 Drummond Street, London, N.W.1., where light refreshments will be available from 18.30. This should be a most informative evening.

11.00-20.00 Saturday 27th February Stand at A Transport and Travel Exhibition organised by The Norbury and South London Transport Club. This will be held in the Streatham Congregational Church Halls, Streatham High Road, London, S.W.16. These halls are next to the Ice Rink - nearest stations Streatham or Streatham Common. Admission is 1/-, and tickets may be obtained in advance at the above Society events from Roger Manley.

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