

UNDERGROUND NEWS

NUMBER 266

ISSN 0306 - 8617

FEBRUARY 1984

THE TIMETABLE

Friday 10 February

Cine-Film show by Mr.L.Collings - 'A Review of Underground Events in 1983'. 19.00 for 19.15 in the Conference Room, Baden-Powell House.

Tuesday 14 February

Evening visit to the Post Office Railway and Workshops, Mount Pleasant. Full details in UN 265.

Saturday 25 February

London Passenger Transport League's East London Transport Sale at East Ham Town Hall. 11.00 to 16.00. Nearest station: East Ham.

From 19.00 at the same location, there will be a Transport Film Show by Jim Blake. Different material will be used from that previously shown.

Friday 9 March

Talk, 'Light Rail Transport Schemes for London', by Mr.W.R. Clarke, General Manager, Docklands Light Railway, London Transport. 19.00 for 19.15 in the Conference Room, Baden-Powell House.

Wednesday 14 to Monday 19 March

Society visit to the Netherlands, affording opportunities to visit the Metro systems in Amsterdam, Rotterdam and Utrecht, as well as other activities. For full details, please write, enclosing an SAE, to Mr.J.F.Thomason, 51 Head Street, Pershore, Worcs., WR10 1DA, as soon as possible.

Saturday 31 March

Annual General Meeting, 1984. Full details of this, and the morning meeting, how to get there, and the formal notice of the A.G.M. will be published in the next issue of Underground News.

Friday 13 April

Illustrated talk, 'London Transport Service Locomotives and Miscellaneous Vehicles' by Mr.B.R.Hardy. 19.00 for 19.15 in the Conference Room, Baden-Powell House.

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DECEMBER CAXTON HALL MEETING

At our last meeting at Caxton Hall, an illustrated talk by Bob Greenaway was given, titled 'The Latter Days of the Q Stock', using slides and cine film.

Bob outlined his interest in District Line rolling stock as covering a period of 30 years, but stated that he had only started photographing from about the mid-1960's.

The 'Q' stock, it was explained, was a mixture of stock from 1923 to 1938, the earlier ex-District Railway stock having an American influence in its design. The first slides shown were of the 'G' class (later Q23), which were given the nickname by staff of 'horseboxes'. This was followed by the 'K' (Q27) class, and was a less 'fussy' design than the 'G' class. The next batch of slides covered the stock built during the period 1931 to 1936, as the 'L', 'M' and 'N' classes, the first two classes having both motor and trailer cars, with the 'N' class trailers only. In later years the 'L' and 'M' class motors were converted to trailers, but the motor bogies, less their motors, were retained under these cars.

The Q38 stock was introduced just before the war and was similar in appearance to the 'O' and 'P' stock, but had equipment so that it could operate with the older District stock. When converted to air-door operation, the 'G', 'K', 'L', 'M' and 'N' classes became Q23, Q27, Q31, Q35 and Q38 stock respectively. It was not until 1955, however, that the last air door conversions were completed.

Further slides showed two-car trains of Q38 stock waiting at Ealing Broadway for the peak hour, in order to couple to six-car trains to make eight-car formations, and of pre-Q38 stock at Farringdon on the District extension special service to Aldgate.

For the second part of the talk, Bob showed his cine film, covering all the Q stock classes, as well as 'R' and 'CO/CP' stocks. Four-car trains of Q stock were seen on the East London Line, and all routes of the main District Line were shown, as well as special tours. It was interesting to observe in the film the L. & S.W.R. semaphore signals in use at East Putney, and BR EMU's in green and blue liveries at Wimbledon. This included the all-blue (and then new) Bournemouth semi-fast and express stock, before the general adoption of Inter-City blue and grey for all passenger vehicles. We were also treated to views of the now extinct 2-BIL, 2-HAL and 4-COR Southern EMU's, next to District Line trains of Q, CO/CP and R stock at Wimbledon - also now extinct!

Special tours were also covered - one in 1968 to commemorate the District Line centenary, which ran from New Cross to Chesham non-stop, then visited Watford, Wimbledon, Richmond and High Street Kensington; the R.C.T.S. trip on 12 September 1971 using a six-car train which ran from Hammersmith (Met.) to Hounslow West and finished at Ealing Broadway; and the final tour which was on 26 September 1971, being two days after the last pre-Q38 train had ran in service as train No.100. This tour started at Whitechapel (East London Line), then to Shoreditch - Hammersmith (Met.), Ealing Broadway, Wimbledon and back to finish at Surrey Docks. It was interesting to note that all types of Q stock, from Q23 to Q38, survived up to 1971.

Preserved Q stock cars were then shown: Motor car 4184 at Gloucester Carriage & Wagon Works, motor car 4248 by London Transport, and trailer car 08063 by this Society. Slides included 4248 being transferred from Syon Park to Covent Garden and 4184 at Neasden being prepared for its new home.

Bob pointed out that the last CO/CP stock train to run in service on 31 March 1981 included two trailers that were originally Q38 stock. The R stock, of course, which was withdrawn on 4 March 1983, had motor cars that were originally Q38 trailers.

To conclude the evening's presentation, Bob showed slides of the Society's car No.08063, which was first stabled at Ashford when bought for preservation. The return to Ruislip depot was then shown and then the much work done by a small team of Society members for its showing at the Neasden and Acton Open Days in 1983.

Bob then thanked Brian Hardy, Fred Ivey, John Parsons, Bob Logan and others for the loan of their slides, and then answered questions put to him from the audience. Members then gave their appreciation of the very interesting and illustrated talk, which brought back many memories.

Mr. John Gillham then proposed a vote of thanks and gratitude to those members who had helped in the restoration work on the Society's car, which was carried unanimously.

DMH

EARLY TECHNICAL DEVELOPMENTS ON THE TUBE

by

B. J. Prigmore

(President, 1983)

Introduction

I feel that a President's Address should be on his pet topic, as his knowledge of that is probably part of the reason for the choice of a President. Having lived in North-West London as a boy, and used the tube regularly for over ten years, I became inquisitive about the how and why of technical matters. Maybe that is why I became a professional electrical engineer - and it has always been my pleasure to review traction technicalities in appropriate circumstances. In this written version of my address I intend to review, regrettably with less explanatory comment than would have been in the spoken version, several lines of technical development as exemplified on the tubes, and at least one line I think unique to the tubes. 'Early' stops by 1934: up to 1934 there were motors, trailers and control trailers, each freely miscible with its fellows to give operable trains, and each sufficiently basic for all but the trimmings to be reasonably understood. From 1938, the unit form of trains enabled many intra-unit elaborations to be made, and the trimmings came to overshadow the essentials: even the interested and knowledgeable enthusiast could not keep up fully! Let us now look at motors, control and auxiliary problems, in the rest of this essay.

Motors

City & South London

The 1890 batch of 14 locomotives had two-pole armature-on-axle motors, with Gramme ring armatures. (These were much as a serviette ring of iron laminations, wound with a continuous coil, from which equidistant tappings were taken to the commutator). The field magnets were U-shaped with a winding on each limb.

Later locomotives had conventional drum armatures. These were composed of peripherally slotted discs of iron laminations: the windings were in the slots, with the coil sides across the ends of the armature. On Nos.15-22 it is thought that the motors were as just described.

The more modern locomotives, Nos.23-52, had armature-on-axle motors with drum armatures. (There is a sample of one of these in the Science Museum, London, SW7). To keep them

shallow, polar projections (called 'salient poles') were on the horizontal axis only: the poles on the vertical axis were 'consequent' poles on the motor frames.

About 1908, Nos. 3-12 were rebuilt with nose-suspended axle-hung geared motors of tramway type, very well shown on page 3 of 'Tube Trains Under London' (J.G. Bruce, LT, 1968).

Central London

Again, with loco-haulage, the CLR locomotives of 1900 had armature-on-axle 4-pole motors. To keep them shallow (because of the limited space below the axles) these had short, but wound, salient poles on the vertical axis and longer ones on the horizontal axis. In 1901, the rebuilt locomotives with nose-suspended motors, and the two experimental motor coach trains, with similar motors, introduced box-frame 4-pole motors, with symmetrical field arrangements, to the tubes. The motor coaches also introduced the raised floor and equipment compartment over the motor bogie. (The story is that these six-car trains never ran in public service - does anyone know?)

The 1903 motor coaches each had 2 x 150 h.p. 4-pole motors. The relatively low power of these was probably acceptable because the carriages were smaller and lighter than those of the later tubes, and almost all stations had a down gradient of 1 in 30 at the departure end, so that reasonable acceleration could be obtained without the use of specially powerful motors.

Bakerloo, Piccadilly, Hampstead

These trains, with bigger and heavier carriages than on the CLR, had 2 x 240 h.p. 4-pole motors on each motor coach. Two-motor-coach six-car trains were feasible, but five-car trains were at times the norm, so despite sustained gradients of 1 in 60 (e.g. north of Camden Town) the power available, by the standards of the time, was even generous. One must remember that expectations of the time were not of the highest: a Railway Magazine of about 1910 remarks, on the CCE & H, that, 'speeds of over 30 mph were sometimes attained ...' and the writer got the impression that this was downhill !!

The 1914 Bakerloo motor coaches had GE212 motors, 4-pole box frame, but with interpoles. Interpoles remove the main commutation troubles, allowing more current yet sparkless commutation. Henceforth, brush and commutator maintenance were reduced. The Brush-built CLR cars of 1915 were lent to the Bakerloo for Watford line services and also had GE212 motors, as did the 36 'Watford Extension' motor coaches of 1920.

The 1923-34 'standard stock' motor coaches all had 2 x 240 h.p. 4-pole interpole motors, superficially as the GE212, but with minor refinements, as the art of d.c. motor design improved.

Control

City & South London

On the original locomotives the two motors were permanently in series, controlled by a multi-step stud rheostat (such as favoured by model railway practitioners in the 1920's or earlier). This was on one side of the locomotive: the brake valve and air reservoirs were on the other! About 1898 experiments were made with re-wound motor fields and series-parallel control. The reduced energy consumption arising from this led to the decision that all 30 of the later locomotives should have series-parallel control. Since the drivers were used to the horizontal-axis arm of the original stud rheostats, the controller was arranged similarly. The series-parallel connections were made by concentric segments of circles arranged appropriately as a face-plate controller - with studs on the outermost ring for resistance tappings. The writer did not have the patience to sort out

exactly what was done - for the published diagram of the circuit is really fearsome!

The ten rebuilds were given tram-type drum controllers, with vertical shafts, to suit the new 50 h.p. motors when they were rebuilt.

Central London Locomotives

The locomotives of 1900 each had an immense drum controller in the centre of the cab, with the casing 3'3" x 2'2½", and with the handles 1'9" long. This gave series-parallel control with nine series steps and seven parallel steps, and open-circuit transition (to be explained later). The controllers were unusual in having pairs of finger contacts joined by passive drum contacts as the drum was rotated. (The pairs were themselves in pairs or trios for the medium- and high-current parts of the controller). The reverser was a drum switch on a horizontal shaft under the main controller. There was only one such controller, of course, used in both directions of travel.

Series-Parallel: Transition Techniques

For series-parallel control, pairs of motors are put in series: only one stream of current is then required: resistance is cut out in steps, and the motors then have half the line voltage across each, and go at roughly half speed. Next the motors are switched in parallel (again with series resistance) so that the total current doubles and resistance is again cut out until the full-voltage setting is reached. As well as giving an economical half-voltage running setting the control gives energy economy since only half the full current is required for the first half of the accelerating period, instead of the full current had the motors always been in parallel.

To reconnect the pair in parallel, from series, is a problem of which two solutions were used on the tubes. The simplest is to switch off, reconnect, and switch on again. This gives a hiatus (albeit very short) during the accelerating period, when the motors are deprived of current, but is easy to arrange.

The elegant solution is 'bridge transition'. Here the motors and halves of the total resistance are connected in what electrical engineers call a 'balanced bridge' circuit without any switching off. The no-current arm of the balanced bridge is the erstwhile series connection. It is opened without the circuit being any the wiser, leaving the motor in parallel, each in series with half the resistance ... which is then cut out to give full voltage. This transition keeps current through both motors all the time, so gives no more jerk than ordinary notching. It is, of course, widely used.

Contactors Control

On the tubes, contactor control was always by electromagnetic contactors. These are power switches closed by electromagnets, the magnets requiring relatively little power. A set of contactors on each motor coach connects the power circuits: the contactors are fed from 'train wires'. In manual, or non-automatic control, notching is done by the driver, whose master controller feeds the appropriate succession of train lines, causing each motor coach equipment to notch in unison.

In later, automatic, equipments, a notching relay opens when motor current increases on notching, and closes, causing the next notch to be taken, when the motor current has decreased to the chosen 'notching current'. The contactors of such equipment are fitted with auxiliary contacts, connected in the control circuits so that as a notch is taken the control circuit is set so that the next contactor to close is connected to the control side of the notching relay. It will be seen from this that

each motor coach notches under the control of its own notching relay (also called 'accelerating relay'), and that the driver's master controller merely gives commands, such as 'series only' or 'parallel', via train wires, to each of the equipments on the train.

Review of Equipments

The Central London Railway experimental train had non-automatic electromagnetic series-parallel contactor control with open circuit transition, as also did the 64 motor coaches of 1903. The trailers, of course, had to be fitted with multi-core control cables, and 'jumper' sockets under the clerestory hoods, for incorporation into those motor coach trains. The other three tubes, of 1905-7, had similar control, but with bridge transition, and deadman's handles on the master controllers - a feature lacking on the Central London until about 1911, when trainstops were included in the automatic signalling then installed on the line.

The first control trailers, making true multiple-unit trains, were on the three tubes, but the CLR introduced them soon afterwards. (This writer stresses that a multiple-unit train is one composed of separately operable units, coupled and operated as one longer train. The Liverpool Overhead Railway, for instance, had motor coach trains, but the motor coaches lacked contactor control and had to operate in back-to-back pairs, with or without an intermediate trailer. The Waterloo & City and most of the Liverpool area L. & Y. electric also had direct control of pairs of motor coaches.)

The Bakerloo new and rebuilt motors of 1914 had non-automatic control, as the earlier stock. It is not known whether the new motors ever multiplied with the earlier stock.

The Central (Brush) 1915 stock was the first on the Underground to have automatic control - with electromagnetic contactors and bridge transition. The Watford Extension stock of 1920 had the same control. The master controllers were unusual in being rather small, and giving 'forwards' to full parallel, if moved clockwise and 'backwards' to full series only if moved anti-clockwise from 'off'.

The 1923-34 tube stock had similar control, but with conventional master controllers with reverse keys. (One advantage of the previous controllers was that there could be no mix-up between forwards and reverse). There were many minor differences between the GEC, MV and BT-H control equipments, but all would multiple together. The GEC master controller had rather large handles, and press-button 'deadman' features of the discouraged type (on which the button could be tied down with a handkerchief!) The MV ones had the whole handle hinged with a small 'mushroom' hand-hold, and the BT-H were as also on 1938 stock with the whole handle hinged and a large mushroom hand-hold, as big as one's palm.

Weak Field

To give increased free-running speeds, weak field control, as an extra step, was incorporated in the Watford replacement stock of 1930: over half the route had appreciable distances between stops, where 45 mph would be a useful speed. Field weakening was given by switching a 'field diverter resistor' (today's language) or 'field shunt resistance' (the language of 1930+) in parallel with the field winding. This took some of the armature current from the field winding, hence gave a weaker field for any given armature current than did 'full field', when all the armature current went through the field winding. One-third diversion was used: it gave about 10% higher speed. The 'WF' contactor was brought in by a separate current relay, so that the train had to be moving fairly freely for

weak field to be given. (Listen on the Isle of Wight: the 13th - WF - notch occurs following quite a pause after the 12th - FF - notch!)

All later stock had weak field when new. All earlier stock, except the Bakerloo 'local' motor coaches paired with the 1920 Cammell Laird trailers, had weak field fitted by 1936. At first it was not optional, but, later, the 'flag switch' was fitted so that weak field should only be used on suburban sections of route. The 'flag' was to show supervisory staff if weak field was in use!

Auxiliary Problems

A number of features of tube stock circuits arose because the Board of Trade would not allow 'power' wires along the train, paralleling all the appropriate collector shoes (such 'power jumpers' were allowed on the District). The wires giving lighting, control and (later) heating supplies along the train thus required special attention. One solution would be to let each motor coach supply its own unit only, and not to connect lighting wires between facing control trailers. (This was, in fact, done on the Mersey Railway).

A more elegant scheme, much reducing the number of occasions when all lighting went off because both motor coaches were 'gapped' at the same time (a rare occurrence) was to supply half the lights from the 'A' end, and the other half from the 'D' motor coach. The 'A' and 'D' motor coach lighting switches thus fed the appropriate main only. The problem was increased when 'middle motors' were introduced (Watford 1920, 'Standard' 1923+). The middle motor lighting switch was always 'off' - and was only switched on when, at Watford, a six-car train was reduced to a four-car train for off-peak service.

A safety elaboration was introduced with 'standard' stock. Though the lighting switch of a middle motor was supposed to be switched off by the crew, it was arranged that an air-operated switch was in series with the manual switch. Air under pressure, to open the switch, was taken from the hose-side of the cab-end train pipe for the brake - because only when a motor coach was not at the end of a train, was this section of train pipe under pressure. With these precautions, of course, more than one middle motor could be operated and crew absent-minded covered.

Control Trailers

The middle motor problem being solved, and 'A' and 'D' lighting mains being used, there is a consequent control trailer problem, when there is only one motor coach on the train. With an 'A' motor, the 'D' control trailer will lack supplies to the lighting etc. This was covered by connecting the 'A' to 'D' lighting wires (whence, also, the control power was taken) by means of a dummy auxiliary jumper plug, which was put in the 'aux' socket of a control trailer in use as such. Now use a magnifying glass on any photos you may have of a leading control trailer, and you will see the end of the plug projecting just below the socket cover (see LPTB Rolling Stock 1933-48, Hardy, pages 17 and 20, for example).

When not in use, this dummy plug was kept on a wire hook arrangement on the non-driving side of the control trailer cab bulkhead - and the last few are probably still there on the Isle of Wight: they were a few years ago when I saw them.

Conclusion

Development on the strictly technical side, as motors and control, kept up with the technology of the time - necessary for efficient and reliable operation. Other problems were solved by straight-forward and often 'nifty' means, rather than by complicated and subtle techniques as may

have happened in later years when many more intra-unit wires were available, from 1938 onwards.

CHARING CROSS (for 'Trafalgar Square') REOPENS

The rebuilt ticket hall at Charing Cross (Bakerloo Line - formerly Trafalgar Square) was opened by Mr. Dave Wetzel, Chairman of the GLC's Transport Committee on Monday 13 December 1983. The new platform murals, covered by hardboard since they were installed, were unveiled, and are based on paintings from the nearby National Gallery and National Portrait Gallery.

Platforms

The paintings represented on the platform murals were selected by London Transport and the two galleries concerned. The reproductions, incorporating a mixture of half tones and solid colour, were transferred by a silk screen printing process to 160 laminate veneer boards. The 15mm boards were then curved to fit the tunnel radius and finished with a textured surface. Many of the colourful paintings are made up of more than one panel. Rousseau's painting 'Tropical Storm with a Tiger', for instance, is 24 feet long and spans six panels. Other paintings include Kings and Queens of England, Shakespear, Nelson, Guy Fawkes, and St. George and the Dragon. The total paintings number 21 - nine from the National Gallery and twelve from the National Portrait Gallery.

At various intervals along the murals there are maps which show the many underground entrances at the Charing Cross complex and their relation to the galleries. The 'bullseye', 'CHARING CROSS for Trafalgar Square' is also incorporated in the mural panels. The murals on both platforms are illuminated by fluorescent lighting from under the frieze, which greatly enhances the completed work.

The platforms have been resurfaced with terrazzo tiles and new moulded seats in Bakerloo Line brown have been fitted. New clocks have been fitted at the platform ends. A new train describer has been installed on the northbound platform, giving the following displays:

FIRST	TRAIN
STONEBRIDGE PARK	QUEEN'S PARK
	NOT IN SERVICE

The 'First Train' is permanently illuminated, as is the usual Bakerloo Line notice, to be found at the bottom of most northbound Bakerloo indicators - 'All trains go to Marylebone & Paddington'.

Ticket Hall

The new ticket hall has been rebuilt on the site of the former Trafalgar Square station, now incorporated into the Charing Cross complex. The walls are clad in blue and green vitreous enamel panels, as are the supporting pillars, and the light coloured floor tiles and reflective ceiling gives a bright atmosphere. The new 'wall' ticket office has two booking windows, plus an excess fare window on the other side of the new AFC entry gates. In the booking hall there is a display of photographs showing the modernisation work in progress, plus pictures of the old ticket hall in 1935 and 1973. The subway to Cockspur Street has been left in its original state, but the other passageways have been modernised with new lighting, cream floor tiles and white wall tiles, including the steps up to Trafalgar Square.

The main building contractors for the modernis-

ation and rebuilding were McLaughlin & Harvey of Enfield. Ceiling and wall cladding was undertaken by Straeker Construction co.Ltd. of Greenford, and the mural panels were made by Perstorp Wareite. Platform seats were supplied by Hille International and the vitreous enamel panels in the booking hall are by Escol Panels (S & G) of Wellingborough.

The Editor wishes to thank the following, for their contributions to the above notes: London Transport (Press Office), R.Clwoser and D.F. Croome.

CHRISTMAS 1983 AND NEW YEAR 1984

Summary of Underground Services

As has been the policy in the last few years, no Underground services operated on Christmas Day, a restricted service on Boxing Day, and a Sunday service for any 'Bank Holiday' that happens to become involved! It has also been the custom to operate reduced services at peak times on most lines on other weekdays of the Christmas holiday period, and on a few lines, a reduced midday off-peak. This was the case for 1983, but not the previous holiday, when the (then) new timetables were a reduction on the previous full-service timetables. The present reduced peak timetables became available from Easter 1983, and details of same can be found in UN 257 (page 92).

Friday 23 December 1983

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Wednesday to Friday 28-30 December 1983

Reduced peak services on all lines using previous Timetable Notices (TTN's), except for the Victoria Line, where TTN 282/83 replaced TTN 225/79 (similar service, same number of trains (31)), and Bakerloo Line, where TTN 204/83 (similar service, same number of trains (18)), but revised stabling at Stonebridge Park) replaced TTN 20/83, but for the Christmas period only. On Friday 23.12.83, the Central Line operated TTN 18/83 instead of TTN 19/83, the former providing a more frequent service in the afternoon to some branches.

Saturday 24 December 1983

Normal Saturday services, but withdrawal of District Line services to Wimbledon (services reversed at Putney Bridge) and Richmond (services diverted to Ealing Broadway) after 21.30. No East London Line service to New Cross Gate after 21.45 (all trains to New Cross) and Paddington (H & C) station closed after 23.26.

Monday 26 December 1983 - 'Boxing Day'

Special services on all lines except the Circle and East London (where no services were provided) starting between 09.30 and 10.00 and finishing generally as on Sundays. For the benefit of recent members to the Society, the services are summarised below, with service intervals being shown in minutes (note 'A' refers to before 13.00 and after 21.00; note 'B' refers to the period between 13.00 and 21.00).

	Intervals		Trains in service	
	'A'	'B'	'A'	'B'
<u>Metropolitan</u> (No.1 Section)				
Hammersmith-Whitechapel	15	10	5	8
<u>Metropolitan</u> (No.2 Section)				
Baker Street-Harrow	15	15	}	8
Harrow-Amersham) via Watford)	30	30		
Harrow-Uxbridge	30	30		
<u>Jubilee</u>				
Charing Cross-Wembley Park	15	15	}	6
Wembley Park-Stammore	30	30		

District	Intervals		Trains in service		Lambeth North Lancaster Gate	Theydon Bois West Acton
	'A'	'B'	'A'	'B'		
Upminster-Barking	30	20	12	15	Angel Borough Brent Cross Chalk Farm Clapham North Goodge Street Kentish Town	Northern & Victoria Mill Hill East Morningston Crescent Tottenham Hale Totteridge Vauxhall West Finchley
Barking-Tower Hill	15	20				
Tower Hill-Turnham Green	15	10				
Turnham Green-Ealing	30	20				
Turnham Green-Richmond	30	20				
Edgware Road-Wimbledon	30	20	2	3		
Piccadilly						
Oakwood-Wood Green	30	20	10	15	In addition, Bank and Monument stations were closed for street access, but open for interchange between the Central, Northern and District lines.	
Wood Green-Heathrow	15	10				
Acton Town-Rayners Lane	30	30	2	2		
Northern						
Morden-Edgware (City)	20	20	7	7		
Kennington-Camden Town (via Charing Cross)	10	10	8	8	Sunday timetables on all lines, except for the Metropolitan Line (No.2 section), where a Saturday type of service was provided (starting and finishing at Sunday times) to cater for an LMR service between Marylebone and Aylesbury from about 08.00.	Stations closed on these two days, additional to a normal Sunday, were:
Camden Town-High Barnet	20	20				
Camden Town-Golders Green	20	20				
Victoria						
Brixton-Seven Sisters	15	10	6	9	Regents Park Ruislip Gardens South Ealing West Finchley West Ham	
Seven Sisters-Walthamstow	30	20				
Central						
West Ruislip-White City	30	20	10	15	Borough Chigwell Goodge Street Grange Hill Mansion House North Ealing	
White City-Leytonstone	15	10				
Leytonstone-Hainault	30	20				
Leytonstone-Loughton	30	20				
Bakerloo						
Queens Park-Elephant	15	10	4	6		
Total trains in service:			80	102		

Tuesday 27 December 1983

&

Monday 2 January 1984

BOOK REVIEW

LONDON'S UNDERGROUND STATIONS - A SOCIAL AND ARCHITECTURAL STUDY, by Laurence Menear. Published by Midas Books, Tunbridge Wells. 214 x 302 mm, 143 pages, hardback, with coloured covers, but otherwise in black-and-white. Price: £8.95

This is probably the most important London Underground book to have been published for several years. Its nucleus was a thesis prepared in the author's final year at the Harrow College of Higher Education, in 1980-81, but he has done a great deal of further research since then, so that the book covers London Underground station architecture from 1863 to 1983. Apart from the outside covers, the illustrations are entirely black-and-white drawings by the author - mostly of stations in their present-day condition, but a few as they were in past years. All stations presently served by London Transport trains are included, plus a few abandoned ones, such as British Museum, Wood Lane (CLR) and Wood Siding. By your reviewer's count there are 100 drawings of street elevations of stations, 22 platform views, 3 stairwells and 50 of details including booking halls.

The book is divided into chapters, starting with early Metropolitan and District stations, continuing with the original tube lines, the subsequent expansion and development of the system, and concluding with current developments, such as the East London Line rehabilitation, and the redecoration of Bakerloo and Central Line tunnel stations. The history of the railways themselves, as well as the development of architectural styles, is told in considerable detail, and the inclusion of stations built by BR and its predecessors is a valuable feature, as such stations are often neglected. There are 17 special studies, of which 16 are devoted to particular stations or groups of stations, and the 17th to logos and motifs. These are well done, but are initially disconcerting until one realises that they break into the main text.

The bibliography includes books, internal publications and brochures, issues of periodicals and broadcasts. There is a general index, and also a comprehensive index of stations, including open-

Stations Closed:

Metropolitan & Jubilee

Aldgate	New Cross Gate
Barbican	Northwood Hills
Bayswater	North Harrow
Canons Park	Paddington (Suburban)
Chalfont & Latimer	Preston Road
Chesham	Queensbury
Chorleywood	Rotherhithe
Croxley	Royal Oak
Farrington	Ruislip Manor
Goldhawk Road	Shadwell
Hillingdon	Shoreditch
Ickenham	Surrey Docks
Latimer Road	Wapping
New Cross	West Harrow

District & Piccadilly

Aldwych	Osterley
Becontree	Park Royal
Blackfriars	Ravenscourt Park
Boston Manor	South Ealing
Bow Road	Southgate
Cannon Street	Stamford Brook
Chiswick Park	Sudbury Hill
Cockfosters	Sudbury Town
Covent Garden	Temple
Elm Park	Upminster Bridge
Hounslow Central	Upney
Mansion House	West Brompton
North Ealing	West Ham
Olympia	

Central & Bakerloo

Barkingside	Maida Vale
Buckhurst Hill	Marylebone
Chancery Lane	North Weald
Chigwell	Ongar
Debden	Perivale
Ealing Broadway	Redbridge
Edgware Road	Regents Park
Epping	Roding Valley
Fairlop	Ruislip Gardens
Grange Hill	Snaresbrook
Holland Park	South Ruislip
Kilburn Park	Stratford

ing dates and renamings. The end-papers are of specially-drawn individual line diagrams, including abandoned services. The coloured front cover is a montage of the Piccadilly Circus 1906 street elevation, Chiswick Park, 55 Broadway and the appalling West Harrow street entrance.

The author has a good eye for detail, and many drawings highlight special architectural features. He has tried to spike one possible criticism by saying in the preface that he has not written the book as an architectural critic, but one's feeling on putting down this work is that it would have been still better with less railway history (which can be found elsewhere) and some spicing of the facts with architectural criticism - for example, how the wholeness of the Holden-style brick stations has been ruined by the installation of fluorescent lighting and the lack of control over internal shop signs, as at Leicester Square and Southgate. Nevertheless, a book well worth writing, and well worth acquiring.

DFC

MAGAZINE REVIEWS

In the November 1983 issue of RAIL ENTHUSIAST, there is a photograph of Moorgate in 1958, showing F and I stocks, and a class N2 tank on the widened lines. There is also an article on the proposed closure of Marylebone station (BR), and it is stated that if it is closed, a BR shuttle service could be run between Amersham and Aylesbury. Also proposed for closure under the same scheme is the Neasden-Northolt Junction line, which involves the station at Wembley Complex, formerly known as Wembley Hill. The National Bus Company has plans to turn Marylebone into a bus station, to ease traffic on the busy Victoria coach station.

In the December 1983 issue of RAILWAY MAGAZINE there is a photograph of Sarah Siddons behind a BR diesel near Hassocks, SR, returning from the Brighton Open Day. Under the heading of '50 years ago', it recalls that a new station at Northwood Hills opened on 15 November 1933 on the Met. & Gt. Central.

The January 1984 issue of RAIL ENTHUSIAST has a photograph of Pre-1938 tube stock at Ryde Esplanade, with trailer S43 - 60 years in passenger service on 28 January 1984. It is also stated that the other Cammell Laird trailers on the Isle of Wight will have achieved their 60th anniversary by April 1984. The magazine also states that previous proposals to transfer class 487 stock from the Waterloo & City to the Isle of Wight have been rejected, but speculates that the recently withdrawn cars could be reinstated for the Ryde Pier shuttle! (So far as it can be ascertained, there are, at present, no plans to use class 487 stock on the IoW - Ed.)

The RAILWAY MAGAZINE for January 1984 includes a number of LT items. These include: the reprieve of some LT stations, delivery of the 1983 tube stock, the proposed restoration of a Bakerloo Line service to Harrow & Wealdstone, and plans to restore services on the West London Line between Willesden Junction and Clapham Junction.

The review of 'Penthouse' (UN264, page 206) must be amended, as follows:

The quotation, starting in the seventh line, should read -

'Since the late 1960's the Bakerloo Line alone has lost 29 stations. Some of them have reverted to British Rail and others were surrendered to the new Jubilee Line. Five stations on the Northern Line have gone in recent years, as has the Latimer Road to Olympia section of the line first opened in 1864. The concentration of the missing stations and works in the area of Downing Street and the Ministry of Defense is enlightening, to say the least'.

Daily Telegraph:

1.12.83 - The Royal Air Forces Escaping Society (whose principal role is to help those surviving civilians on the Continent who aided shot-down Allied aircrew during the war) has moved to new, larger premises in a building long occupied by the University of London Air Squadron, and more recently, by the Kensington ATC. It stands above the disused Brompton Road tube station, secret wartime HQ for London's anti-aircraft defenses and a store for art treasures.

3.12.83 - Taxpayers will provide a bigger proportion of subsidies under the Bill introduced by the Government yesterday to take control of LT away from the GLC and put it under a board to be appointed by the Transport Secretary. In future two-thirds of the subsidy will come from London ratepayers and one-third from taxpayers. The current split is about 80% on the rates and 20% out of taxes in a total subsidy of £370 m. per year. However, the subsidies should be lower as the aim is to take LT out of politics and entrust it to professional transport managers. Under the London Regional Transport Authority, separate companies will be set up to run the Underground and London buses. Private capital may be introduced. Underground route mileage will be maintained, and it is aimed to hold fares steady in 'real terms'. The Government hopes to have the Bill approved by next summer.

5.12.83 - In an effort to promote sales of Keith Neal's 'Searching for Railway Telegraph Insulators', the Signal Box Press offered a long weekend for two in Guernsey to whoever unearthed the most and rarest of these objects. The single entry received came from a British Rail employee who scored five times as many points as the judges thought possible because they had forgotten about LT underground insulators. Some 200 copies of the book have been sold. (The Editor of this journal is pleased to announce that the winner was Society member David Hibbert, who has been a member since the Society was founded in late-1961.)

6.12.83 - BR is to build 149 EMU coaches for the Southern and Eastern region commuter services at York, costing £35.69 million.

LT now forecasts a surplus of £25 million for the year 1983, after subsidies from the Government and the GLC.

Yesterday, Dog Handler Police Constable Raymond Cooper, who kept 150 rioting football fans at bay at Piccadilly tube station with his dog, Myra, received a High Commendation.

During 1983 a redevelopment undertaken by Rush & Tomkins at 90-94 Fleet Street was funded by the London Transport Pension Fund.

7.12.83 - The GLC has commissioned a £50,000 feasibility study into re-using the Snow Hill tunnel which runs between Farringdon and Holborn Viaduct stations. The Southern Region's passenger planning officer said that there could be 10,000 daily journeys through the tunnel. The project would cost about £7 million, which would connect the Southern Region with the LMR's Bedford-Moorgate line.

10.12.83 - The aluminium figure of Eros at Piccadilly Circus will be removed for repairs after New Year's Eve. Apart from general deterioration he has a fractured left ankle and a dislocated thigh. When he returns in autumn 1985 his bronze base will have been moved 40ft. south-east as part of a major reconstruction of Piccadilly Circus including a new road scheme, a pedestrian piazza and the rebuilding of the underground subways.

Yesterday, Southern Region commuters at Westcombe Park station were confronted with a collecting tin for the Woking Homes Railcare

Centre and a notice 'Please give generously or we will cancel your train'. A newspaperman gave 10p and his train was 10 minutes late !

13.12.83 - Ten people were overcome by fumes yesterday as they escaped from a smoke-filled Holborn tube station, with 200 other passengers after a fire near the escalator linking the Central and Piccadilly lines. The ten were treated and later released from hospital. The fire, which caused the station to be closed for two hours, is thought to have started among workmen's materials, but damage was minimal.

14.12.83 - LT has told the GLC that it must achieve economies if it is to freeze fares until 1985. The proposed budget will be discussed by the GLC next month. LT wants to introduce more one-man operated buses and trains, savings in engineering work, and cuts in central administration. LT will ask for an operating subsidy of £175 million next year, compared with £193-million this year. Capital expenditure would continue at the same level, comprising £97 million for replacing assets, £47 million for improved passenger amenities at bus and underground stations, and £31 million for projects, including a new underground ticketing system. Economies of 9% over three years are sought, possibly involving the loss of 6,000 jobs. If fares are unchanged in 1984, a 6% increase in passengers is forecast.

15.12.83 - In 1980, LT, the Arts Council and the Telegraph Sunday Magazine ran a competition for the decorative treatment of the vaulted ceilings over the escalators at Holborn station. The winner was Ron Haselden, who designed two neon canopies with photo-electric cells triggered as each person stepped onto the escalator. Now, LT has announced a £7.4 million facelift for Holborn, but none of the five prize-winning entries will be used. Reasons given include the expense, and changes in the LT architect's department.

The Government transport grant to the GLC will drop from over £200 million to under £142 million next year.

22.12.83 - The Soviet newspaper 'Trud' reported promptly yesterday on the collapse of a wall in a Moscow underground railway tunnel. There were no casualties. The collapse was caused by water from thawing snow and ice, and occurred on Tuesday afternoon (20.12.83). The railway line was cut near the Tretyakov Gallery station, and passengers were ferried around the blockage by bus.

23.12.83 - A mentally disturbed man who attempted suicide by throwing himself in front of a New York underground train, has won a £457,000 out-of-court award from the New York City Transit Authority. The person lost an arm and a leg, and claimed that the train driver had demonstrated some negligence in not stopping the train sooner !

27.12.83 - The GLC are planning a new station at Homerton, costing £410,000, on the BR line from Richmond to North Woolwich. The opening is to coincide with the introduction of electric trains on the line in May 1985.

3.1.84 - The car used in the Harrods bombing was parked close to the entrance to Edgware station car park at 13.55 on Friday 16 December 1983. Today the police will be appealing for help from anyone who saw it, and will be interviewing people using the station.

5.1.84 - BR is to issue 20,000 train drivers with British-made watches, at a cost of up to £150,000. Originally, the issue was to be confined to drivers on the Bedford-St.Pancras line, but BR agreed with a union request to issue them to all drivers.

The Standard:

29.11.83 - The modernisation of Holborn station,

to cost £7.4 million, is to begin in 1985 and will take five years. The station will have an individual identity, by having a decorated theme of the nearby British Museum. The report states that the two Central and two Piccadilly platforms are to be modernised. (Presumably the Aldwych branch platform is to be excluded from the scheme ??)

11.1.84 - The front page story is a report that twelve cars of the new 1983 tube stock are too wide for the tube tunnels, which was found out by LT engineers during commissioning trials. The affected cars - $\frac{3}{4}$ " too wide - are to be modified before they enter service. The fault is believed to be caused by a lack of rigidity in the cars, causing them to bulge slightly.

POINTS OF INTEREST

Alan A. Jackson writes:

The Great Ruislip Mystery (UN 261, page 171)

Although I have read all the Metropolitan Railway papers of the relevant period, there is nowhere to be found any mention or explanation of the admittedly puzzling layout at Ruislip. We do know that when the Uxbridge line was built, land was taken throughout for four tracks and this is confirmed by a Board Report of 1917 (MET/112) which mentions that as a result, six acres 'within the fences' were available for wartime food cultivation. The Metropolitan also owned a good deal of land outside the fences, north and south of Ruislip station and all along the line, some of which was subsequently sold to Metropolitan Railway/Country Estates Ltd. for housing development.

Unless something not yet in the deposited papers comes to light, it seems the mystery will never be solved. At the time the line was opened, Ruislip was the only intermediate station between Harrow and Uxbridge and one can only speculate that the layout was intended for relatively easy conversion to a four-platform arrangement.

Nigel Hyde writes:

Metropolitan Locomotives at Paddington

Further to the review of RAILWAYS THROUGH LONDON (UN 262, page 182), the GWR suburban train which appears to be approaching Paddington (Suburban) station surely must have been an empty stock working either being propelled into or drawn out of the former siding west of the station. Closer examination, perhaps with a magnifying glass, may reveal whether the train is on the east- or westbound line.

Non-Stopping Panels on District Railway Stock

An examination, again with a magnifying glass, of pages 78 and 79 of the new edition of STEAM TO SILVER will show what the original possibilities actually were for District non-stopping. Page 97 of the same book shows the later reduced panels as they were on Q38 stock. In the 1950's the peak hour pattern was:

T/T Code	Destination	Non-Stopping
A	Ealing *	South Kensington & Gloucester Road
B	Wimbledon	West Brompton
C	Richmond	West Kensington & Barons Court
D	Hounslow	Ravenscourt Park & Stamford Brook

Note * followed Circle train to South Kensington and then able to overtake.

Staff Taxis

Further advantages of staff taxis instead of staff buses/coaches are as follows:

- (1) Staff were able to get to work on time.
- (2) Benefits to staff include a more personal service. The smaller vehicles offer more comfort, are warmer in winter, and their operation more flexible in London streets.
- (3) Replacement taxis can be obtained usually within 15 minutes, as each taxi is linked by radio to the London Wide Taxi control centre.

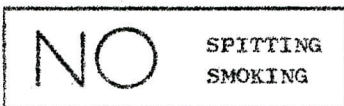
A further point of interest arising from the article in UN 264 (page 204) is that the coach firm of Whytes of Edgware abandoned London Transport and set up the 'in field' transport at London (Heathrow) Airport, providing staff transport 24 hours each day for all airport workers.

LETTER TO THE EDITOR

Sir,

Piers Connor's report on the New York Subway (UN 264, Underground Notebook No.7) brought back many memories of my youth and the days when rapid transit in New York was as dependable as the dawn. Living in the city during the 1940's and 1950's meant being dependant on public transport, and one's parents always found an apartment 'near the subway' so dad could get to work quickly and with minimum exposure to the elements. The subway was also a magic carpet to glittering Manhattan from one's Brooklyn or Queens residential neighbourhood.

My memories of the subway are of dependability and relative civility. I always knew that when I entered that hole in the ground there would always be a train along shortly. There were no worries then of fires, derailments and collisions. The safety of the subway was taken for granted as it is now, I believe, in London. Of course, the trains were crowded, especially during the peaks, but that was expected and they were no dirtier than any other public place which handled in excess of five million people a day. But the cars were not splattered with paint (I won't dignify this vandalism with the term 'graffiti') and people generally obeyed the rules as set down by stern warnings on enamelled signs (below). In those days the staff had pride in what they called 'the railroad' and there was good maintenance of stock, right-of-way, signals



and depots. New lines and extensions were always being planned or built, it seemed. Crime was a problem but it was

no worse than most places on the surface and passengers were not afraid to travel in the evening to films, the theatre, shopping or just for social visits. That's the way it was when I left New York in 1959.

I believe Mr.Connor was being overly kind in some of his comments and I would definitely not call New York a paradise for 'gricers'. This enthusiast, for one, has crossed the subway off his list for the foreseeable future for a number of reasons. Looking back it is impossible to pinpoint the time and reasons for the downfall of the subway but a programme of 'deferred maintenance during the 1960's and the failure to remove paint splatter immediately upon its application are good places to start. It seems city officials and the management of the subway system lost respect for 'the railroad' and for those who rode it. After all, they seemed to have said, isn't the automobile and the eight-lane superhighways (which were being bulldozed through our cities at the time) the wave of the future? Passengers are not stupid! They saw what was happening - the safety problems, the more frequent breakdowns, the seeming apathy on the part of the staff who in turn were not being

supported by management - and they, too, lost respect for the system. What resulted is what we see today - and which I saw on my most recent visit to the city. Mutilation of stock and stations is rampant; crime, although down in recent months, is much higher than it should be; smoking, spitting and even urination is all too common and the belligerency of some members of the public make the staff fearful of trying to stop it. Even police have to travel in pairs on many lines and officers have been attacked when they try to stop fare evasion. One was killed a few years ago when he told a passenger to stop smoking.

To update Mr.Connor's report, the number of derailments reached 20 by mid-December. An outside consultant earlier this year called many sections of track completely unsafe, forcing the Transit Authority to 'red flag' these areas and slow trains to as little as 10 mph. There were over 500 red flags out at one time, but a crash programme (no pun intended!) will have most of them fixed - at least temporarily - by early 1984. In the meantime, the Transit Authority is in the middle of a five-year, \$7.5 Billion (yes, Billion) programme to rehabilitate the worst of the system. Included are some 1,325 new cars, new tracks and roadbed, replacement of whole sections of the signal system which date to 1904 and station and tunnel rehabilitation, including drainage and ventilation. Over the years, new stock was ordered as needed, resulting in a now-staggering number of stock types. In the 1940's I can remember only about six, and one division, the IND, had nearly 2,000 cars of one type built by three manufacturers over a 12-year span.

One further comment on Mr.Connor's report. The cars are 'generally very old fashioned' for a very good reason - the Transit Authority and its predecessors found a system that worked, and stuck with it. Once they digressed. In the mid-1970's a new type of bogie was designed for the largest car order to that time - 754 type R-46. The bogie was a disaster with its one-piece frame repeatedly cracking in revenue service. The ultimate solution was to replace every single bogie on every car and scrap the originals. While the new bogies were being designed and built, the R-46 fleet was restricted to limited service, causing major problems in the scheduling of rolling stock and forcing the TA to rebuild some out-of-service cars and keep others in service after they should have gone for scrap. That is why public pronouncements on the 1,325 cars now being delivered stressed that they are being designed and built with 'tried and true' components.

I hope one day to be able to return to New York and ride the subway with confidence, able to see through windows unbesmirched with paint. I'm certain the work of Mr.Connor and others with LT International will help bring that day closer but I'm afraid it's still a long way off.

Yours sincerely,
Julian Wolinsky.

Los Angeles,
California, USA.

27 December 1983.

SOCIETY SECTION

Sales:

New stocks of Mr.J.C.Gillham's Inner Circle etc. track map have been received, and can be ordered now from the Postal Sales Manager (address on page 7 of UN 265.) Please note the new price, which is now 80p.

Also available is issue No.46 of The London Bus Magazine (Autumn 1983), price £1.50.

Lost Property

Will the person who left a pair of gloves and a copy of 'Reader's Digest' at the January Baden-Powell House meeting please contact the Editor of this journal, so arrangements can be made to return the items.

ROLLING STOCK ALTERATIONS

The following must be added/amended/corrected for 1983:

Hopper Wagons HW407 and HW408 were scrapped in April 1983 by V. Berry of Leicester.

D stock units 7066+7073 were received back at Ruislip from Metro-Cammell on 4 May 1983.

1960 stock trailers 4900/1/4/5 were taken to Booths, Rotherham, by road on 2 August 1983, from Hainault depot.

The last R stock to go for scrap on 27 October 1983 should have included DM 22661 (total 8 cars).

Battery locomotive L51 was repainted yellow in November 1983.

To elaborate on the delivery of 1983 tube stock, trains leave Metro-Cammell on Friday night, thence to Aylesbury via Princes Risborough, where it is then stabled overnight. The next morning (Saturday), it is then taken direct by BR to Neasden depot, after which the BR locomotive returns to Aylesbury (and ultimately to Bescot, near Birmingham).

December 1983

1983 Tube Stock

From Metro-Cammell, Birmingham, delivered to Neasden

3603-4603-3703+3604-4604-3704 10th

D Stock Ventilation Modifications

Units	Ealing - Ruislip	Ruislip - M.C.W.	Ealing - Acton
7532			5.12.83
7126+7025	5.12.83	6.12.83	
7054+7061	6.12.83	8.12.83	
7072+7049	12.12.83	13.12.83	
7034+7081	20.12.83	21.12.83	
7528			21.12.83
Units	M.C.W. - Ruislip	Ruislip - Ealing	Acton - Ealing
7004+7097	7.12.83	8.12.83	
7500			8.12.83
7104+7003	9.12.83	13.12.83	
7082+7031	15.12.83	16.12.83	
7538			20.12.83
7098+7123	22.12.83	23.12.83	

Miscellaneous Movements

L51 Acton to Ealing Common (ex-collision, burn-out & overhaul) 1st

L32 Lillie Bridge to Acton (overhaul & modifications) 7th

L21 Acton to Ealing (ex-hot box) 15th

L37 Lillie Bridge to Acton (collision) 15th

Service Stock

FB579 cut up at Ruislip by V. Berry, Leicester 16th

Units to Acton Works for Overhaul:

Piccadilly	319-519-119	1st	(d)
Central	1736-2736-9737-1737	1st	(b)
Jubilee	3444-4544-3544	7th	(d)
Metropolitan	5566-6566	8th	(d)
Jubilee	3245-4245-4345-3345	9th	(d)
Piccadilly	136-536-336	13th	(d)
Victoria	3007-4007-4107-3107	14th	(c)
Metropolitan	5160-6160-6161-5161	29th	(b)

Units from Acton Works after Overhaul:

Central	1716-2716-9717-1717	1st	(b)
Piccadilly	154-554-354	5th	(d)
Jubilee	3435-4535-3535	7th	(d)
Metropolitan	5525-6525	8th	(d)
Jubilee	3244-4244-4344-3344	9th	(d)
Piccadilly	156-556-356	13th	(d)
Metropolitan	5150-6150-6151-5151	15th	(b)
Central	1712-2712-9713-1713	15th	(a)
Metropolitan	5556-6556	22nd	(d)
Central	1740-2740-9741-1741	22nd	(b)

Explanation of overhaul codes:

- (a) Standard Heavy Overhaul
- (b) Half-life Overhaul
- (c) 18-year overhaul
- (d) 9-year overhaul

ROLLING STOCK REVIEW

No.7 - 1983

New Stock

1973 Tube Stock:

Entered service, Piccadilly Line

Car: 114

Entered service, Central Line:

Unit: 892

1983 Tube Stock:

From Metro-Cammell delivered to Neasden

Units: 3601 3602 3603 3604

D Stock:

From Metro-Cammell delivered to Ruislip

Units: 7128 7129

Entered service, District Line

Units: 7108 7124 7125 7126 7127 7128 7129

Stock Scrapped

1938 Tube Stock (cars):

10050	10155	10156	10167	10168	10179	10180	10181
10189	10197	10204	10208	10211	10216	10219	10220
10225	10236	10240	10250	10254	10258	10261	10284
10316	10319	10321					
11050	11155	11156	11167	11168	11179	11180	11181
11189	11197	11204	11208	11211	11216	11219	11220
11225	11236	11240	11250	11254	11258	11261	11284
11316	11319	11321					
12016	12025	12118	12119	12122	12128	12129	12131
12135	12144	12425	12430	12433			
012247	012248	012250	012257	012258	012262	012274	
012276	012278	012287	012294	012300	012301	012303	
012305	012308	012315	012318	012338	012353	012362	
012374	012380	012383	012393	012396	012476		

1960 Tube Stock (cars):

3910 3911 4900 4901 4904 4905

CO/CP Stock (cars):

53262 54211

R Stock (cars):

21100	21103	21105	21107	21121	21126	21133	21140
21141	21145	21147	21149				
22622	22629	22645	22646	22647	22650	22652	22653
22654	22655	22656	22657	22661	22663	22666	22668
22669	22674	22682	22683	22684	22686		
23230	23235	23244	23249				
23300	23303	23305	23311	23312	23320	23323	23333
23341	23344	23347	23349				
23400	23403	23405	23407	23413	23415	23426	23433
23437	23444	23447	23449				
23507	23509	23519	23529	23530	23542	23544	23550
23552	23553	23555	23556	23557	23561	23563	23567

Line Transfers

1959 Tube Stock (units):

Northern to Bakerloo -

1200 1204 1208 1216 1220 1224 1228 1232 1236
1240 1244 1248 1252 1256

1207 1211 1215 1219 1223 1227 1231 1235 1239
1243 1247 1251 1255 1259

1962 Tube Stock (units):

Central to Northern -

1742 1744 1746 1748

1972 MkII Tube Stock (units):

Jubilee to Northern -

3231 3232 3233 3234 3531 3532 3533 3534

Livery Alterations

From Maroon to Yellow:

Acton Yard Locomotive -

L11

Sleet Locomotive -

ESL107

Battery Locomotives -

L21 L27 L28 L35 L37 L39 L48 L51 L56

Pilot Motors -

L126 L127 L134 L135

Weed-Killing Ballast Motors -

L150 L151

From Gray to Yellow:

Flat Wagon -

F352

Refurbished Flat Wagons -

F357 F358 F366 F369 F385 F386 F394

Brake Vans converted to Match Wagons (tube) -

B580 B585

New Service Stock

Unimog depot shunter:

L84

Service Stock Scrapped

Hopper Wagons -

HW407 HW408 HW414 HW421 HW426 HW429

Pilot Motor cars -

L128 L129

Steam Cranes -

C605 C620 C621

Brake Van-

FB579

Reformations

1938 Tube Stock

From 10012-012256-12027-11012 8.83

To 10012-012256-12027-11178

From 10178-012271-12051-11178 8.83

To 10178-012271-12051-11012

1962 Tube Stock

From 1500-2528-9501-1501 1.83

From 1458-2458-9459-1459

To 1500-2528-9459-1459

From 1746-2746-9747-1747 4.83

To 1746-2746-1747

From 1748-2748-9749-1749 4.83

To 1748-2748-1749

From 1704-2576-9577-1577 10.83

To 1704-2704-9705-1705

To 1576-2576-9577-1577

1972 MkII Tube Stock

From 3250-4250-4350-3350 11.83

To 3250-4256-4356-3356

From 3256-4256-4356-3356 11.83

To 3256-4250-4350-3350

1973 Tube Stock

From 888-688-889 1.83

To 114-688-889

R Stock

From 23507-22650 1.83

To 23507-23320-22650

From 21147-23320-22682 1.83

To 21147-23231-22682

From 21141-23231-23235-23344-23444 1.83

To 21141-23235-23344-23444

From 21149-23249-23230-23349-23449 2.83

To 21149-23249-23349-23449

From 23586-22686 2.83

To 23586-23230-22686

From 21147-23231-22682 .83

To 21147-23231-22679

From 23581-22679 .83

To 23581-22682

Notes:

- (a) 11012 for scrap, 11178 renumbered to 11012.
- (b) 1458, 2458, 9501, 1501 collision damaged.
- (c) 9747, 9749 stored spare.
- (d) 1576 ex-collision, 2704 ex-2696, 9705, 1705 ex-spare.
- (e) 3250, 3356 fire-damaged.
- (f) Reformed for scrap

Renumbering of Stock

1938 Tube Stock DM:

11178 to 11012 9.83

1962 Tube Stock Trailers:

2644 to 2720	2.83	2694 to 2718	6.83
2720 to 2638	2.83	2448 to 2462	7.83
2638 to 2608	2.83	2462 to 2478	7.83
2608 to 2692	3.83	2492 to 2504	7.83
2682 to 2650	3.83	2504 to 2474	7.83
2692 to 2684	4.83	2522 to 2524	7.83
2684 to 2648	4.83	2528 to 2500	7.83
2488 to 2460	4.83	2510 to 2570	7.83
2570 to 2518	4.83	2518 to 2602	7.83
2532 to 2618	4.83	2618 to 2580	7.83
2648 to 2732	5.83	2728 to 2682	7.83
2408 to 2448	5.83	2650 to 2590	7.83
2478 to 2488	5.83	2590 to 2694	7.83
2494 to 2452	5.83	2714 to 2582	8.83
2732 to 2714	6.83	2704 to 2408	8.83
2460 to 2490	6.83	2490 to 2492	8.83
2474 to 2494	6.83	2452 to 2522	8.83
2500 to 2510	6.83	2582 to 2696	9.83
2602 to 2532	6.83	2524 to 2528	10.83
2580 to 2728	6.83	2696 to 2704	10.83

LONDON TRANSPORT SERVICE STOCK

No.3 - December 1983

The following observations were made on Wednesday 28 December 1983, when no Engineers' trains were scheduled to operate throughout the Underground network.

Abbreviations used for locations:

- AM Amersham (goods yard)
- AW Acton Works
- CF Cockfosters depot
- EC Ealing Common depot
- GG Golders Green depot
- H Hainault depot
- LB Lillie Bridge depot
- LR London Road depot
- N Neasden depot
- NF Northfields depot
- R Ruislip depot
- WHD W.H.Davis & Sons, Shirbrook
- X In transit between Booth's (Rotherham) and Ruislip depot

Number of Units overhauled at Acton during 1983

Stock	Jan	Feb	Mar	Apr	May	Jun	Jly	Aug	Sep	Oct	Nov	Dec	Total
1956 (N)	-	1	-	-	-	-	-	-	1	1	2	-	5
1959 (N)	1	1	2	2	1	3	1	2	1	-	3	-	17
1962 (C)	3	2	3	2	1	3	1	2	2	2	1	3	25
1972 MkI (N)	1	1	1	1	1	1	1	1	1	1	-	-	10
1972 MkII (N)	-	-	-	-	-	-	-	-	-	-	1	-	1
1972 MkII (J)	-	1	1	1	1	1	-	2	1	1	-	2	11
1973 (P)	-	-	-	1	1	1	-	2	-	2	-	2	9
A (M)	2	1	2	2	2	1	1	1	1	2	3	1	19
C69 (M)	1	2	1	2	1	2	1	1	3	-	2	2	18
Total:	8	9	10	11	8	12	5	11	10	9	12	10	115

Comparison number of Units overhauled at Acton 15 years ago: during 1968

1938 (N)	3	3	3	3	1	2	5	2	3	4	3	1	33
1938 (B)	4	3	2	1	3	1	2	-	1	2	1	2	22
1938 (P)	-	1	-	-	1	1	-	-	1	1	1	-	6
1959 (P)	5	4	6	4	6	4	4	2	-	1	-	-	34
1959 (C)	-	-	-	-	-	-	2	-	2	-	-	-	4
1962 (C)	3	3	1	3	2	1	3	2	5	8	6	6	43
Q (D)	-	1	1	1	-	1	1	-	-	1	-	-	6
CO/CP (D)	1	-	1	-	1	-	2	-	1	-	2	-	8
CO/CP (M)	2	2	2	2	2	1	2	1	2	2	1	2	21
R (D)	3	1	2	2	2	2	3	1	2	2	3	3	26
A (M)	3	1	2	1	3	1	2	1	2	1	2	2	21
Total:	22	19	20	17	21	14	26	9	19	22	19	16	224

Service Stock Locations (continued)

Other Notes:

† Awaiting scrap

* Yellow livery

Locomotives

Electric:

*L11 AW 12 NF L13A/B AW

Battery:

*L15 EC L16 AW L17 AW *L18 R L19 AW
 L20 AW *L21 N L22 AW *L23 EC L24 AW
 L25 AW L26 LB *L27 LB *L28 R *L29 LB
 *L30 AW *L31 AW *L32 AW L33 LB *L35 LB
 L36 N *L37 AW *L38 R *L39 R L40 LB
 L44 R L45 R L46 N L47 LB *L48 LB
 L49 LB L50 N *L51 R L52 N L53 N
 L54 LB *L55 LB *L56 LB L57 N L58 LB
 L59 R L60 LB *L61 LB

Diesel:

DL81 N DL82 EC DL83 LB

Unimog Shunter:

*L84 EC

Sleet:

†*ESL101 LR †*ESL102 H †*ESL104 GG
 †*ESL106 GG *ESL107 AW †*ESL108 H
 †*ESL114 CF †*ESL117 LR ESL118A/B N

Pilots:

*L126 AW *L127 AW *L130 R *L131 R
 *L134 AW *L135 AW

Ballast:

*L140 EC L141 EC L142 N L143 N
 *L144 LB L145 LB L146 R L147 R
 L148 LB L149 EC *L150 R *L151 R
 L152 LB L153 LB L154 LB L155 LB

Miscellaneous Vehicles

Flat Wagons:

†F304 N F305 R †F306 N †F310 EC
 F311 N †F313 N F314 LB †F315 EC
 F316 R F317 R F319 EC †F320 N
 F321 EC F322 LB †F323 N †F324 N
 †F325 EC F328 R F329 N F331 EC
 F332 N F333 EC F335 EC F336 LB
 †F338 N †F339 N F340 LB F341 R
 *F342 LB *F343 R *F344 R *F345 LB
 F346 R F347 R F348 R F349 N

*F350 LB *F351 LB *F352 R *F353 R
 F354 LB *F355 LB F356 R *F357 R
 *F358 LR F359 LB F360 LB F361 R
 F362 R F363 N *F364 R F365 LB
 *F366 R F367 LB F368 N *F369 R
 F370 N F371 LB F372 LB F373 N
 F374 LB F375 N F377 LB †F379 N
 F380 R F382 N F383 LB F384 LB
 *F385 R *F386 N F387 WHD F388 N
 F389 LB F390 LB F391 LB F392 LB
 F393 EC *F394 N F395 WHD F396 LB
 F397 LB F398 R

Additional notes:

F352 with Steiner HSM800 trench digger.
 F340 with Smalley 3009 concrete breaker.
 F341 tank car (for emptying drains).
 F311 with water tanks, maroon livery.
 F342, F343, F345, F350, F351, F355 with concrete mixers.
 F356, F360, F365, F367, F370, F374, F384, F389, F396, F398 with yellow sides only.
 F347, F388 carry cable drums.
 F333, F393 refurbished grey - F331 in course of refurbishing.
 F336 repainted yellow ends only.
 F356 bin wagon for rubbish trains.

Hopper Wagons:

*HW201 N *HW202 R *HW203 R *HW204 N
 *HW202 R *HW206 R *HW207 R *HW208 R
 *HW209 N *HW210 R *HW211 R *HW212 R
 *HW213 R *HW214 R *HW215 R *HW216 R
 *HW217 R *HW218 N *HW219 R *HW220 R
 *HW221 R *HW222 R
 HW403 LB †HW406 R HW415 LB HW416 LB
 †HW418 EC †HW420 R HW422 N HW423 LB
 †HW424 R †HW425 R HW428 N †HW435 R
 HW437 LB

Rail Wagons:

†RW454 LB †RW455 N †RW456 LB †RW457 N
 †RW458 LB †RW459 LB RW460 N RW461 R
 RW462 EC RW463 LB RW464 LB †RW465 EC
 RW466 N RW467 EC †RW468 N †RW469 EC
 RW470 EC RW471 EC RW472 LB RW473 R
 RW474 EC RW475 LB RW476 N RW477 EC
 RW478 N RW479 N RW480 LB RW481 N
 †RW482 N RW483 N RW484 N †RW485 EC
 RW486 EC RW487 N RW488 R RW489 LB
 RW490 R RW491 R RW492 R RW493 R
 RW494 R RW495 R RW496 R RW497 R
 RW498 R RW499 R RW500 R RW501 R

RW502 R RW503 R RW504 R RW505 N
RW506 N

Additional notes:

RW460, RW481, RW484 fitted with ELK equipment.
RW490 fitted with electric hoist for operating
with long rail trains.
RW490-504 fitted with 'hoop' side rails for
operating with five-car long rail trains.
RW469 without bogies, placed on top of RW465.

Brake Vans:

†B555 N B556 AW B558 EC †B559 N
B560 LB †B578 R *B580 X †B581 R
B582 LB B583 R B584 R *B585 X

Additional notes:

B558 in maroon livery with yellow ends.
B580, B585 tube stock match wagons.
B583, B584 surface stock match wagons.

Diesel Cranes:

*C606 EC *DEC617 EC *DEC618 LB DEC622 N
*C623 N

Jib Carriers:

*JC683 EC *JC688 EC JC689 LB *JC691 N

Gauging Car:

*G663 R

Track Maintenance Machines:

†*PBT761 R †*PBT762 R †*PBT763 R
†*PTL764 R *SC765 R *TMM771 R
*TMM772 H *TMM773 N *TMM774 AM
*TMM775 AM

Note:

TMM771-773 do not yet have 'TMM' prefixes.
TMM774-775 do not yet have any identification.

Rail Grinding Cars:

RG802 R RG803 R

Personnel Carriers:

PC850 N PC851 N *PC852 R †PC854 EC
*PC855 R †PC856 N *PC857 N *PC858 N
*PC859 N

Track Recording Trailer:

TRC912 AW

Tunnel Cleaning Train:

*TCC1-5 NF

Well Wagon:

WPW1000 EC

Cable Drum Wagons:

CW1050 R CW1051 R CW1052 R

NEWSFLASHES

NF 19/84 - From Sunday 4.12.83, ten outer London Underground stations had 'Authority To Travel' ticket machines commissioned, available for use only when ticket offices are closed. Passengers press a button to receive a ticket with the station name printed on it, and it is then surrendered at the end of the journey where the appropriate fare is paid. The stations involved are: Brent Cross, Hendon Central, Colindale, Colliers Wood, South Wimbledon, Hornchurch, Upney, Hounslow Central, Osterley and Northfields.

NF 20/84 - On Saturdays, Sundays and Bank Holidays from 3 December 1983 until 2 January 1984 (inclusive), car parking at LT stations was made free of charge to the public, to encourage underground travel to London at Christmas time, rather than road.

NF 21/84 - An improved style of tunnel lighting has been introduced on the District Line, and on the Metropolitan Line between Baker Street and

Finchley Road, in the form of fluorescent bulbs.

NF 22/84 - From Monday 9.1.84, some 5 years and 8 months after the arrangements were first introduced, District Line 'C' stock trains to and from Hammersmith on the Metropolitan Line run in passenger service, instead of running empty. The additional workings are as follows:

From Hammersmith to Edgware Road -

Mon-Fri: 06.42 15.20 15.31 15.41*
Sat: 10.47
Sun: 07.37

From Edgware Road to Hammersmith -

Mon-Fri: 09.43 10.05 10.09 18.45
Sat: 18.42
Sun: 23.40†

Note * starts from Goldhawk Road.

† from inner rail Circle service.

NF 23/84 - During the Christmas and New Year holiday period, through Piccadilly Line services to Heathrow (which terminated at Hatton Cross after 21.15 on Mondays to Fridays because of T4 construction work (see UN 260, page 149)) were restored with effect from Friday 23.12.83. Evening reversing at Hatton Cross was resumed with effect from Monday 9.1.84. A poster, advertising the arrangements, states that the Monday to Friday evening suspension will continue until about February 1984.

NF 24/84 - On certain Saturdays when Fulham F.C. play at 'home', some of the additional spare trains provided make special trips, especially for return traffic. On Saturday 7.1.84, for example, train 171 (6-cars C stock) ran non-stop from Putney Bridge to Kings Cross (via Edgware Road) carrying supporters, thence to Aldgate (reverse) and back to Triangle sidings. Also, train 170 (6-cars D stock) ran non-stop from Putney Bridge to Victoria, then to Mansion House (reverse), returning to Parsons Green. This is not the first occasion that C stock from the Wimbledon branch has ventured onto the northern side of the Circle Line on Saturdays for such purposes.

NF 25/84 - Further to NF 1/84, overhaul dates are still being applied to 1956/9/62 stocks and also A stock, but NOT on others. 1972 Mk1 stock unit 3229, for instance, ex-Acton on 5.7.83, was seen in service on 4.1.84 with no date on the exterior of the car body, but had a hand-painted date inside the cars by 'J' door on 3229 and 3329.

NF 26/84 - A train radio aerial was seen fitted to 1973 stock DM 872 on 3.1.84.

NF 27/84 - An engineer's train was derailed fouling the entrance to Hammersmith (Met.) depot early on 6.12.83. The train was formed (west) L50-HW201-RW489-F384-L57 (east). Considerable disruption was caused to the Hammersmith & City Line service.

NF 28/84 - At about 13.00 on 10.1.84, a pair of wheels on 1983 stock car 3704 became derailed on No.23 points in Neasden depot - the first 1983 stock derailment. Re-railing was completed by 15.00. There were no disruptions to services.

NF 29/84 - In connection with the redecoration of Tottenham Court Road (Northern Line) platforms, some old signs have been taken down and the LER decorative tilework and parts of the original station name (OXFORD STREET) were visible, as at 9.12.83.

NF 30/84 - The current 'plastic' Paris Metro pocket map has been completely redrawn, with all lines straight and at geometric angles (as in London). Our correspondent suggests that the new Paris version looks awful!

NF 31/84 - It is reported that the GEC Experimental Tube Train unit (894-694-895) currently stored at Ruislip depot is to be taken to Acton for conversion to 'standard'.

NF 32/84 - Not previously reported is that the two Hainault sleet locomotives (ESL102, ESL108), now out of service, were repainted yellow in 10/81 and 11/81 respectively.

NF 33/84 - At some time in 1983, the little-used emergency crossover at Hatch End was removed. To date, gaps in the current rails remain unfilled, and the former signal box still stands but has been vandalised. In connection with the development of Watford Junction station, alterations (presumed to be temporary?) have been made to the d.c. platforms. Platform No.1 (nearest the street) is out of use entirely as pile-driving is proceeding parallel to it a short distance away. Platforms 2,3 and 4 have all been shortened from the buffer stops end by about two- or three-car lengths, but each is still long enough to accommodate a six-car train.

NF 34/84 - From October 1983 all trains on the Isle of Wight were made 'no-smoking'. It is reported that the two withdrawn coaches (S19 and S30) are to be taken to Sandown for use as Permanent Way stores vehicles.

NF 35/84 - Cheap travel at 20p single or 40p return for any distance on the Underground was on offer to children under 15 years of age, from 24.12.83 to 6.1.84.

NF 36/84 - New 'feet off seats' notices started to appear first on 1962 stock on the Central Line from about mid-August 1983. These are plastic posters with sticky backs and are stuck to the car panelling at the transverse seat positions. Normal adverts therefore, can be positioned over these. These posters, which read 'Please don't put feet on seats', are now on trains on the Northern, Bakerloo and Metropolitan lines as well. One of these sticky-back posters was seen, however, attached to the front cab door of 1959 stock DM 1223 on the Bakerloo Line on 31.12.83.

Still with sticky-back notices, there is also a poster advising passengers not to leave their property on trains. So far seen on the Central Line (next to the double-door positions, but on the side of the longitudinal seats), it reads:



DON'T LEAVE
ANYTHING BEHIND

LOST SOMETHING? APPLY TO THE
LONDON TRANSPORT LOST PROPERTY
OFFICE AT 200 BAKER STREET
NW1 5RZ, GIVING FULL DETAILS

NF 37/84 - Since early December, a new style LT Underground poster map has been on display. It has a bold blue title on a white background and shows the special and peak only services, as well as listing the stations with restricted opening hours, stations with cycle storage facilities, and an explanation of the zonal fares system. Distinction is made between 'interchange with BR' and 'interchange with BR within walking distance'. The peak-hour and special services on the map are shown by broken lines in the appropriate line colour, and include:

Peak hours -

Liverpool Street-Aldgate, Baker Street Junction and at Chalfont & Latimer (Metropolitan).

Whitechapel-Barking (Hammersmith & City).

Whitechapel-Shoreditch (East London).

Queens Park-Stonebridge Park (Bakerloo).

Olympia-High Street Kensington (District, and not just to Earls Court, as previous).

Rayners Lane-Uxbridge and Holborn-Aldwych (Piccadilly).

Kennington (Northern, between Charing Cross and City branches, to and from Morden).

Epping-Ongar and at Woodford (to and from Hainault).

It is interesting to note the last mentioned service - one would think that the broken line should duplicate the normal service (which has the note of being closed after 20.00) but as far as Grange Hill only.

The Terminal 4 loop on the Piccadilly Line is also shown as under construction.

The only reference number is: FWT 10.1983, with no clue as to the printer

NF 38/84 - London Transport is to extend facilities for credit card holders. Access and Visa cards will be accepted from Monday 12.12.83, at Underground station ticket offices for 'over-the-counter' purchase of monthly and quarterly Travelcards and seasons. Passengers requiring tickets for periods longer than three months will need to apply two clear days in advance - four days for tickets starting on a Monday or a Tuesday. Most monthly and longer-period tickets are bought or renewed at off-peak times and LT hopes that credit card holders will continue this practice. It has been stated that if credit card holders cause delays at ticket offices, LT may have to consider restricting them to certain off-peak times, but hopes that will not be necessary. For the past year, credit holders have been able to order only quarterly or longer period tickets about a week in advance by telephone or post. The scheme is being extended to help customers and to encourage those who now use weekly Travelcards to consider taking up monthly tickets.

CHRISTMAS STORIES

- (1) Observed by a correspondent on 22.12.83 on the west end of a westbound D stock train at West Kensington - paper chains draped in loops across the cab windows, 'snow' sprayed into the corners of the cab windows, and a silhouetted Christmas tree using 'snow' in the offside cab window, about 18" high!
- (2) Eastcote station staff provided the usual excellent display of decorations in the booking hall.
- (3) Bromley-by-Bow (for the first time?) also had decorations in the ticket hall, plus the playing of Christmas carols in stereo.

Underground News is printed and published by the London Underground Railway Society. Correspondence for this journal should be addressed to the Editor Underground News, 'Heidi', 13 Castleton Road, Eastcote, Ruislip, Middlesex, HA4 9QQ. Members requiring a reply to their correspondence are asked to enclose a stamped addressed envelope. When writing to any Society Officer, please quote your membership number on all communications, including applications for visits.

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