

LONDON MIDLAND AND SCOTTISH RAILWAY COMPANY

Signal and Telegraph Engineer's Office,
DERBY.

Our Ref.49603.A.

9th December 1930.

Standardisation of Block.

Please note that the Divisions have been told the following are the requirements of standard block referred to in memorandum of meeting held in the Chief General Superintendent's Office November 29th 1927.

Class "A" Block to embody Paragraphs 1 and 2 only.

Class "B" Block to embody Paragraphs 1, 2, 3, 4, 5 & 7.

Class "C" Block to embody Paragraphs 1, 2, 3, 4, 5, 7, 9,10, and the lock on the Starting Signal as in the last paragraph of page 3.

P. LOMAS (sgd)

Mr. Bucknall

STANDARDISATION OF BLOCK APPARATUS.

MEMORANDUM OF MEETING HELD IN CHIEF GENERAL SUPERINTENDENT'S OFFICE, NOVEMBER
29TH, 1929.

P R E S E N T.

Traffic Department

Mr. Byrom
" Murray
" Carter
" Bradshaw
" Fisher
" Royle
" Ford
" Shoppee

Signal & Telegraph Dept.

Mr. Bound
" Michod
" Lomas

The proposals contained in Mr. Bound's letter of the 17th September, 1929, respecting the standardisation of Block Apparatus were discussed and it was decided that the following principles should be adopted :-

- (1) Where it becomes necessary to provide new Block instruments, the basis design shall be of the "Combined" type with Up and Down Indicators and S>S> Bell, all mounted in one case.
It was agreed that wherever the Midland pattern interlocking Block instruments are provided, the same are to remain unless equal or greater protection is provided.
- (2) A separate needle for route signalling purposes not to be included as part of the Standard block instrument, and no provision to be made for giving "beats" on the Block Indicators. Where route indication is necessary, consideration to be given to the most suitable means to meet the special circumstances, viz.,
 - (a) Special "Is Line Clear?" bell signals.
 - (b) Route indicator needle on an independent circuit.
 - (c) Train describers.
- (3) Where track circuits are provided in rear of home signals the length of the track to be 200 yards, whether the track is in rear of an inner or outer home signal.
An instruction to be issued in the case of track circuits in rear of outer Home signals that annunciators are provided to assist signalmen in carrying out the provisions of Rule 40.
- (4) A separate track circuit indicator lettered "Track clear/Occupied" to be provided and attached to the Block Instrument, alongside the needle to which it applies.
- (5) Where an outer home signal is provided for free acceptance the "arm" in addition to the "lever" to be proved at danger.
- X (6) The proposal to lock the distant signal by the track circuit in rear of home signal where provided, not to be adopted.

- (7) A warning red lamp to be embodied in the standard block instrument which will light up only when the distant signal arm or weight bar is not in the "on" position when the distant signal lever is normal.
- X (8) The proposal that in certain instances the track circuit in rear of a home signal should be extended forward to clearance point or to a point opposite the box not to be adopted as a general principle, but consideration to be given to individual cases as they arise in connection with new work.
- (9) The proposal that the home signal lever should be locked in the normal position when the starting signal is at danger until the track circuit in rear of the home signal is occupied, thus compelling proper observance of Rule 39A was agreed.
- (10) For the purpose of considering the required Block Control, the line to be divided into three classes of routes of varying importance, as under :-
- A. unimportant lines over which no through express trains run, and practically all passenger trains stop at all stations.
 - B. Secondary lines over which few through express passenger trains run, but where a number of trains do not stop at all stations.
 - C. Main, through and important lines carrying a heavy express passenger traffic, also secondary lines as per B where a tunnel more than $\frac{1}{4}$ mile long intervenes between two Cabins, or other exceptional circumstances obtains.
- A. Unimportant Lines.

For the equipment of these lines, a standard "Combined" three wire three position basic type of instrument to be used. The commutator handle to be uncontrolled and free to be turned to any position. No track circuit, treadle or other extraneous control to be provided nor any locking between instruments and signals to be included unless, owing to special circumstances, extra protection is required.

This type of Block system to be known as "Ordinary" block.

B. Secondary Lines.

For equipment of these lines, the standard "Combined" type of instrument to be used together with the following additions :-

A track circuit 200 yards in length to be provided in rear of home signal(s) and to have the following functions when occupied :-

- (a) To operate a separate track indicator lettered "Track clear/occupied".
- (b) To operate annunciator for approximately 10 seconds if home signal is normal.
- (c) To place and/or maintain the block needle to T.O.L. where it will remain irrespective of the position of the commutator handle. When the track circuit is cleared, the needle will remain in the T.O.L. position until the commutator handle has been moved from the T.O.L. position or in the event of the commutator handle not being in the T.O.L. position until it has been placed in that position and restored to normal.

The home signal lever(s) to be in the full normal position and the catch handle down before "Line Clear" can be given to the rear box.

The home signal lever replaced cannot be pulled again until the starting signal of same box or intermediate signal or points between home and starting signals have been pulled and replaced.

This type of block system to be known as the "Controlled" Block.

C. Primary Lines.

For the equipment of these lines the standard "combined" type of instrument with additions as for "B" lines to be used, together with the undermentioned additional control. This Block System to be known as "Interlocking" Block.

The Starting signal lever at the rear box to stand normally locked and to be free to be pulled only when the needle is at the "Line Clear" position and locked so that it can only be pulled once for each "Line Clear" indication received and must be restored to normal before the next stop signal in rear can be taken off.

MIDLAND DIVISION.

MOST IMPORTANT LINES.

- * Barfield, and St.Pancras via Sheffield, Alfreton and Leicester.
- * Clay Cross and Derby.
Derby and Bristol, via Camp Hill and via Selly Oak.
- * Cudworth (exc) and Wincobank, via Chapeltown.
- * Masboro' and Chesterfield, via Staveley.
- * Trowell Junction and Glendon, via Melton.
- * Manchester Central and Ambergate.
- * Derby and Trent.
Trent and Nottingham.
- * Manchester Central and Liverpool Central (via straight line and via Warrington).
Old Trafford Junction and Cornbrook West Junction.
Glazebrook East Junction and Godley Junction.

LESS IMPORTANT LINES.

Dore and Chinley Line.
Burton Branch.
Ambergate and Codnor Park.
Radford and Mansfield.
Nottingham and Lincoln.
Manton and Helpston.
Syston and Melton Mowbray.
Burton and Leicester.
Whitacre, Nuneaton and Leicester.
Mangotsfield and Bath.
Ashburys East Junction and New Mills South Junction.
Kentish Town and Crouch Hill.
Altcar and Hillhouse and Halewood East junction.
Halewood North Junction and Hunt's Cross East Junction.
Hough Green Junction and Widnes East Junction via Widnes Central.
Trafford Park Junction and Throstle Nest South Junction.
Skelton Junction and Deansgate Junction (exc).

UNIMPORTANT LINES.

Tibshelf South Junction and Teversall.
Pye Bridge and Kirkby.
Mansfield and Worksop.
Pear Tree & N. and Trent via Castle Donington.
Rugby Branch.
Bedford and Northampton (part single line).
Bedford and Hitchin (exc)(part single line).
Acton Branch.
Water Orton and Lichfield Road junction.
Ashchurch and Evesham.
Ashchurch and Upton-on-Severn (part single line).
Stenson junction and Chellaston Junction.
Ashby Junction and Shackerstone Junction (part single line).
Shackerstone Junction and Coalville Junction.
Hyde junction and Romiley Junction.
Brinnington Junction and Reddish Junction.
Bredbury Junction and Romiley Junction.

- * Isolated distant signals on these sections of line
to be renewed in colour light form.

WESTERN DIVISION.

MOST IMPORTANT LINES.

- * Euston and Gretna (exc).
Harker (Brunthill) exc and Carlisle No.3.
Camden No.2 and Broad Street (No.2 lines electrified also No.1
up line between Camden Road junction and York Road junction).
South Acton Junction and Camden Road Junction (via Hampstead
Heath). (Electrified Lines).
- * Roade and Rugby, via Northampton.
- * Rugby and Birmingham and Stafford, via Stour Valley.
Birmingham (South End) and Bushbury Junction, via Bescot.
Portobello Junction and Wolverhampton.
Harborne Junction and Perry Bar.
Crewe and harlescott Crossing (exc).
Crewe and Holyhead.
Llandudno Junction and Llandudno.
Warrington and Chester.
Birkenhead (Woodside) and Chester.
- * Crewe and Manchester (London Road).
- * Slade Lane Junction and Wilmslow (via Styal).
Heaton Norris and Stalybridge.
- * Weaver Junction and Edge Hill.
- * Manchester (Exchange) and Liverpool (Lime St.).
Winwick Junction and earlestown.
Cheadle Hulme Junction and Colwich, via Macclesfield, including
Stone and Norton Bridge.
Altrincham and Manchester (London Road)(Electrified Line).
Liverpool Cen. (L>L>) and West Kirby (Electrified Line).
Bidston East and Dee junction and New Brighton (Electrified Line).
Rock Ferry and Birkenhead (Hamilton Square)(Electrified Line).

LESS IMPORTANT LINES.

- Kew east Junction and South Acton Junction.
- Willesden High Level Junction and North Pole Junction (exc)
(Part Electrified Lines).
- Willesden No.1 and Mitre Bridge Junction.
- Bletchley and Oxford (exc).
- Bletchley and Bedford (St.John's).
- Rugby and Peterboro' (exc).
- Rugby and Leamington.
- Northampton and Market Harboro'
- Blisworth and Northampton.
- Pleck Junction and Barlaston Junction.
- Bescot No.3 and Ryecroft Junction.
- Wallington (exc) and Stafford No.5.
- Edgeley and Buxton.
- Ruyton Station and Springs Branch.
- Bootle branch.
- Springs Branch and Eccles Junction.
- Bamfurlong Junction and Standish Junction, via Whalley Line.
- De Trafford Junction and Hindley North No.2.
- Morecambe South Junction and Morecambe.
- Carnforth and Carlisle No.5, via Barrow and Whitehaven (part
single line).
- Oxenholme and Windermere.
- Crewe and Kidsgrove Central Junction.
- Stoke Junction and Stenson Junction.
- North Rode Junction and Uttoxeter (Churnet Line).

Denton Junction and Crowthorn Junction.
Ashton Moss Junction and Droylesden.
Halton Junction and Frodsham Junction.
Chester and Altrincham.
Afonwen and Menai Bridge (part single line).

UNIMPORTANT LINES.

Boars Head Junction and Adlington Junction.
Low Gill and Ingleton.
Penrith and Derwent Junction (part single line).
St. Lukes Junction and Island Road.
Dalton Junction and Park South.
Corkickle No.1 and Marron junction (part single line).
Cleator Moor Junction and Siddick Junction.
Edge Hill and Waterloo.
Uttoxeter Curve.
Dalston and Poplar.
Leighton Buzzard and Dunstable.
Bedford St. John's and Cambridge (exc) (part single line).
Rugby and Leamington.
Leamington Spa Avnue and Berkswell Junction.
Kenilwort Junction and Coventry (part single line).
Coventry and Nuneaton.
Aston and Lichfield City Sutton Branch.
Stechford and Aston.
Dudley and Wichnor (except between Pleck Junction and Ryecroft Junction).
Dudley Port (H.L.) and Sedgely Junction.
Priccan End Branch.
Ryecroft Junction and Rugeley (T.V.)
Ryecroft Junction and Heath Town Junction, via Short Heath.
Ryecroft Junction and Lichfield Road Junction.
North Walsall Junction and Lichfield Road Junction.
Bickershaw and Tyldesley, via Pennington.
Howe Bridge and Atherton Junction.
Kenyon and Bolton (Great Moor Street).
Bolton Great Moor Street and Roe Green Junction.
Arpley Junction and Walton Old Junction.
Ditton junction and Edgeley.
Widnes and St. Helens.
Rainford Branch (part single line).
Marston junction and Burton.
Buxton and Rocester (part single line).
Kidsgrove (Liverpool Road junction) and Etruria (Loop line).
Leek Brook Junction and Stoke.
Market Drayton and Newcastle Junction.
St. Helens Junction and Sutton Oak Junction.
Parkside and Golborne Junction.
Ordsall Lane and Castlefield Junction.
Denton Junction and Stockport Junction.
Garston to Allerton Junction (part single line).
Corwen and Mold Junction (part single line).
Tattenhall Junction and Whitchurch, Chester Junction.
Seacombe and Seacombe junction.
Hooton and Helsby.

Continued.

Hooton and West Kirby.

Northampton (B.St. Junction) and Yarwall Junction.

Northampton, Duston Junction North and Bridge Street Junction.

* Isolated distant signals on these sections of line
to be renewed in colour light form.

CENTRAL DIVISION.

MOST IMPORTANT LINES.

- * Carlisle and Skipton.
Todmorden and Preston, via Accrington.
Todmorden and Manchester V.
- * Manchester V. and Liverpool (Ex) via Atherton and Pemberton
Loop Line.
Diggle and Manchester, via Micklehurst and Greenfield.
Windsor bridge No.3 and Euxton Junction, via Bolton (including
Agecroft connecting line).
Lostock junction and Crow Nest Junction.
Dobbs Brow junction and Horwich Fork Junction.
Hindley and Southport.
Preston and Blackpool and Fleetwood.
Pool Hey junction and Southport St'Lukes via Meols Cop
(Electrified between Meols Cop and St.Lukes).
Heysham, Morecambe and Lancaster.
Bamber Bridge and Walton Junction.

LESS IMPORTANT LINES.

Lancaster and Settle Junction.
Colne and Rose Grove.
Accrington and Clifton Junction.
Manchester and Bury (Electrified Lines).
Rose Grove and Great Harwood Junction, via Padiham.
Philips Park No.1 and Ardwick Junction.
Castleton East Junction and Bolton East Junction.
Bury (B.St.) and Bury (K.St.) connecting line.
Carnforth Engine Shed and Wennington Junction.
Ashton (O.A.G.B.Junction) and Oldham Clegg St.
Castleton North junction and Castleton South Junction.
Miles Platting and Rochdale, via Oldham.
Farington Curve Junction and Mons Lane junction.
Farington Curve Junction and Lostock Hall Engine Shed.
Todd Lane Junction and Lostock Hall Junction.
Wigan and Pemberton Junction.
Hellifield and Bolton (West Junction) excluding Blackburn -
Daisyfield Junction to Bolton Junction.
Crossens to Meols Cop Junction and Hawkshead Street Junction
(Electrified Lines).
Sandhills and Southport (Electrified Line).
Radcliffe Central (South Junction) and Bradley Fold Junction.
Radcliffe Central (North Junction and West Junction).

UNIMPORTANT LINES.

Colne and Skipton.
Middleton and Middleton Junction.
Werneth and Middleton Junction.
Hoyton and Hoyton Junction.
Bacup and Stubbing.
Horwich to Blackrod Junction and Horwich Fork Junction.
Chorley and Cherry Tree Junction
Lostock Hall Junction and Farington Junction.
Rainsford Junction and Ormskirk.
Aintree Station Junction and Marsh Lane Junction.
Preston and Crossens
Greenfield and Oldham (Clegg Street).

Clifton Hall No.1 and Molyneux Junction.
Holcombe Brook and Tattington Junction.

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to be renewed in colour light form.