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NETWORK RAIL
NORTH WEST

SECTIONAL APPENDIX
TO THE WORKING TIMETABLES AND BOOKS OF RULES AND REGULATIONS

GENERAL INSTRUCTIONS AND INSTRUCTIONS RELATING TO THE SPECIFIED OPERATING PUBLICATIONS

(NOTE. THIS SECTION MUST
BE READ iN CONJUNCTION WITH
GEOGRAPHICAL SECTIONS 1 – 10
OF THE SECTIONAL APPENDIX)

MANCHESTER
06 DECEMBER 2003
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OPERATIONS & SAFETY MANAGER

NETWORK RAIL NORTH WEST SECTIONAL APPENDIX

INTRODUCTION

The Network Rail North West Sectional Appendix (Sectional Appendix) consists of the following sections:

1. General Instructions and Instructions relating to the Specified Operating Publications.

This section is divided into the following parts:

- An explanation of the meaning of the terms and symbols used in Tables A, B and D of this publication.
- General instructions and instructions relating to specified operating publications (the General Section) applicable across Network Rail North West Region. (Note that the specified operating publications are listed in the Catalogue of Railway Group Standards.)
- Indexes of line headings and locations, e.g. signal boxes, shown in this publication.

2. Geographical Sections.

The geographical sections are numbered 1 to 10 and each section contains the following parts:

- A general map of the geographical area covered, with the Table A page numbers of the key routes identified.
- An index of the lines included in the section.
- Tables A, B and D for the lines included in the section.
- Location specific instructions, (Local Instructions).

UP-DATE OF THE SECTIONAL APPENDIX

Amendments to the Sectional Appendix are contained in the Periodical Operating Notice, published on the first Saturday of February, April, June, August, October and December. Between these dates amendments can be found in the Weekly Operating Notice.

NETWORK RAIL NORTH WEST SECTIONAL APPENDIX

GENERAL INSTRUCTIONS AND INSTRUCTIONS RELATING TO THE SPECIFIED OPERATING PUBLICATIONS

LIST OF CONTENTS

EXPLANATION OF TABLE 'A' TERMS AND SYMBOLS

Table A consists of schematic maps showing all running lines in a particular geographical area. These maps include the details shown below.

LOCATION COLUMN

The location column includes the names of junctions, stations, signal boxes, level crossings and ground frames. Also shown are tunnels, hot axle box detectors (HABD), overhead line neutral sections (OHNS), national radio network (NRN) channel change boards and some other significant features.

Stations are identified by the name highlighted in bold text. Junctions are identified by name with the suffix 'Jn'. Signal boxes are identified by name and the suffix 'SB', the prefix used on signal plates may also be shown, e.g. 'Colwich SB (CH)'. Ground frames are indicated by the suffix 'GF' or "EGF" for an emergency ground frame. (Note that the term ground frame includes switch panels.)

Level crossings are indicated by the letters 'LC'. The type of level crossing may be indicated by one of the following abbreviations after the name:-

ABCL*	Automatic Barrier Crossing - road warning lights and barriers monitored by traincrew
AHBC*	Automatic Half Barriers
AOCL*	Automatic Open Crossing - road warning lights monitored by Traincrew
CCTV	CCTV Operated (Manually Controlled Barriers)
FP	Footpath Crossing (only shown if telephone provided)
MCB	Manned Barriers
MCG	Manned Gates
MWLB	Miniature Warning Lights with Barriers
MWLF	Miniature Warning Lights at User Worked Footpath Crossing
MWLG	Miniature Warning Lights with Gates
MWLO	Open Crossing with Miniature Warning Lights
TMOB	Traincrew Operated Barriers
TMOG	Traincrew Operated Gates
OC	Open Crossing without road warning lights
UWB	User Worked Barriers (only shown if telephone provided)
UWG	User Worked Gates (only shown if telephone provided)

* 'X' shown after the above abbreviations for level crossing type (e.g. AHBC-X) indicates that the crossing works automatically for movements in the wrong direction.

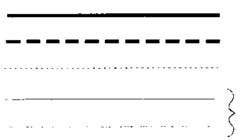
MILEAGE COLUMN

The mileage column shows the position in miles and chains in relation to lineside mileposts, of details shown in the Location, Running Lines and Permissible Speeds columns. The mileage at which there is a change in the permissible speed is indicated by the asterisk (*)symbol.

Changes in milepost mileage are shown thus   60.19 / 0.00   1.70 / 25.30

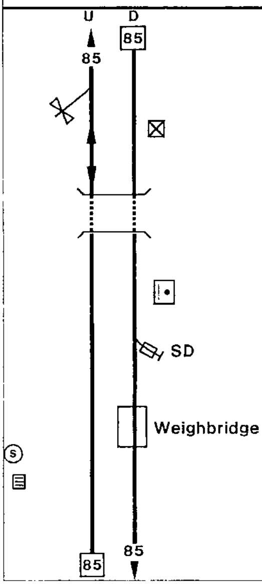
RUNNING LINES AND PERMISSIBLE SPEEDS COLUMN

Glossary of Symbols



Passenger line
Goods line
Siding
Lines shown for information purposes only
(Refer to page indicated)

U = UP	D = DOWN
UM = Up Main	DM = Down Main
UF = Up Fast	DF = Down Fast
US = Up Slow	DS = Down Slow
UG = Up Goods	DG = Down Goods
UPL= Up Passenger Loop	DPL= Down Passenger Loop
UGL= Up Goods Loop	DGL= Down Goods Loop
URS= Up Refuge Siding	DRS= Down Refuge Siding
CL = Crossing Loop in Single Line	



Speed on Down line carried forward from previous page. Speed on Up line carried forward to next page.

Network Rail Boundary with private owner gates

Patrolman's lockout device

Arrows depicting direction of travel

Tunnel

Signal Box

Sand Drag

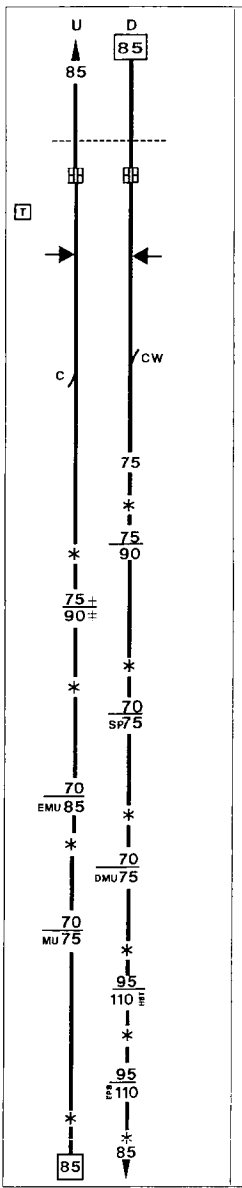
Weigh Bridge

Shut in Facility at Ground Frame

Ground Frame/Switch panel

Speed on Up line carried forward from previous page. Speed on Down line carried forward to next page.

Glossary of Symbols - *continued*



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Level Crossing

Overhead Line Neutral Section (OHNS)

Lineside Telephone

Hot Axle Box Detectors, Wheelchex device or Wheel Impact Load Detectors as indicated in the remarks column

Worked Catch Points
Unworked Catch Points

Where appropriate the distance from fixed signals is shown in the the signalling and remarks column

Permissible speeds are indicated on the line concerned the limits are indicated by asterisks and the mileage is shown in the mileage columns.

Standard differential permissible speed

Where a non standard differential permissible speed applies, it is indicated by # + ‡ and details of the restriction are given in the remarks column

Sprinter Trains Differential (class 150- 166)

Electric multiple unit trains differential permissible speed

Diesel multiple unit trains differential permissible speed

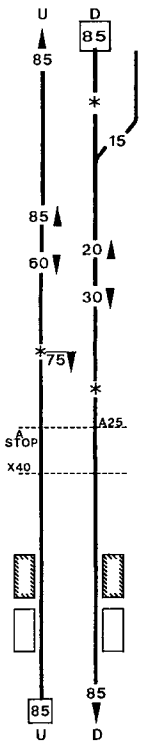
Multiple unit train differential permissible speed

High Speed Train differential permissible speed

Enhanced differential permissible speed

Speeds carried over to next page

Glossary of Symbols - *continued*



Speeds carried over from previous page

Speed through connection

On single or bi-directional lines where different speeds apply in different directions. These are shown adjacent to the line concerned with an arrow indicating which direction they apply

Change of speed applies in wrong direction

Level Crossing with right direction approach speed
Movements in the up direction must be brought to a stand before proceeding over the level crossing
Level Crossing with wrong direction approach speed.

Station Platforms

Parcels Platform

Speeds carried over to next page

SIGNALLING AND REMARKS COLUMN

Signalling Systems

Unless stated otherwise Track Circuit Block is the method of working. The following abbreviations are used where a different mode of signalling is provided.

AB	Absolute Block
OT	One-train working where a train staff is not provided
OT(S)	One-train working where a train staff is provided
ET	Electric Token Block
NST	No-signaller token
TB	Tokenless Block

Where Permissive Working is authorised this will be indicated by the use of the following abbreviations, with details of the line on which it applies:

PP	Permissive working (sharing) on platform line for class 1, 2, 5 and 0 trains (unless otherwise stated).
PP-A	Permissive working on platform line, for attaching/detaching movements and during periods of (unplanned) significant service disruption only, for class 1, 2, 5 and 0 trains (unless otherwise stated).
PP-C	Permissive working on platform line, during periods of (unplanned) significant service disruption only, for class 1, 2, 5 and 0 trains (unless otherwise stated).
PF	Permissive working for class 3 to 8 and 0 trains (unless otherwise stated).

Details of permissive working arrangements on platform lines will be found in the 'platform length' boxes.

Remarks

At the top of the remarks column the National Radio Network (NRN) area code and where applicable Cab Secure Radio (CSR) code or GSM-R (IVRS) Radio System area is shown as follows:

Electrified lines are shown by the remark 'AC:', or 'DC:' followed by the name of the Electrical Control Room controlling that area (e.g. 'AC: Crewe')

The remarks column also gives additional information as follows:

- **Automatic warning system (AWS)**. Passenger lines are fitted unless otherwise shown. Goods lines are fitted only where shown.

SIGNALLING AND REMARKS COLUMN - *continued*

Remarks - *continued*

- **Fixed (Train Operated) Warning Systems using the abbreviation 'FWS'**. Where shown FWS applies to all running lines on the Table A concerned unless otherwise indicated. (This does not include Patrolman's or Traffic Lockout Devices, which are indicated as shown in the Glossary of Symbols.)

- **Train protection warning system (TPWS).** Passenger lines are fitted unless otherwise shown. Goods lines are fitted only where shown.

- **Loop and refuge siding lengths.** These are shown in metres and feet excluding a 3 SLU (63 ft) allowance for one locomotive and brake van, (i.e. this length has already been deducted from the figure shown).

- **Platform lengths.** These are shown in metres along with any permissive working details for the platform concerned.

Additional remarks are included on the limits of signal box control areas, catch point mileages, explanations of abbreviations used to describe running lines in Table A and some other elements of local information, e.g. protection procedure T(2)-T prohibitions.

EXPLANATION OF TABLE B - SPECIAL WORKING AUTHORITIES

Table B contains a list of all special working arrangements authorised on Network Rail North West Region including locations where:

- Propelling movements are authorised in accordance with *Rule Book Module SS2, Section 4, Clause 4.8.b).*
- Wrong-direction shunting movements are authorised.
- Authorised working of freight vehicles in accordance with instructions for '*Working of trains not fitted throughout with the continuous brake*' shown in the General Section of this Sectional Appendix.
- Freight trains may be assisted in rear in accordance with *Rule Book Module TW3, Section 12, Clause 12.1.*

EXPLANATION OF TABLE D - ROUTE AVAILABILITY

Table D shows route availability information for Network Rail North West controlled lines and is divided into 5 separate table as follows:

D1 Diesel Multiple Units.
D2 Electric Multiple Units.
D3 Locomotive Hauled Coaching Stock, including HST.
D4 Locomotives, including the route availability (RA) index of each route.
D5 Freight Vehicles, including the RA index of each route and any authorities for heavy axle weight vehicles.

Tables D1 - D4

These tables consist of the list of lines as shown in Table A and a series of columns for each type of vehicle. The following codes are used to identify which vehicle types are permitted on each route:

Authority Code	Meaning
Y	The vehicle type is permitted without restriction.
N	The vehicle type is prohibited.
R*	The vehicle type is permitted subject to the restriction(s) shown in the Notes & Restrictions column.
E	Indicates that an electric traction unit may be hauled over a non-electrified line with pantograph(s) lowered.

Where authority is shown for passenger carrying vehicles to run on non-passenger lines, this does not mean that authority is given for loaded passenger trains to run.

Table D5

This table consists of the list of lines as shown in Table A, the RA index of each route, any general authorities for heavy axle weight vehicles, the gauge of the route and other route restrictions. (Temporary or vehicle specific heavy axle weight authorities are not shown.)

The gauge of the route is shown as one of the following:

- standard locomotive gauge indicated by a forward-slash symbol, (i.e. /),
- W6A (W6) – meaning clear to W6A Gauge,
- W6A Ex. (W7) – meaning clear to W6A Exception Gauge for 8ft. containers,
- W6A Ex. (W8) – meaning clear to W6A Exception Gauge for 8ft 6in containers,
- SB1C (W9) – meaning clear to W6A/SB1C gauge.

Additional restrictions or clearances may also be shown as notes in the Notes & Restrictions column.

ROUTE AVAILABILITY – TABLE D - *continued*

Table D5 - *continued*

The 'Heavy Axle Weight Vehicles' column indicates whether a vehicle which exceeds the RA index of the route may be conveyed, and if so under what conditions:

Authority Code	Meaning
Y	There are no particular restrictions for vehicles that exceed the RA of the route, and form RT3973HAW can be produced on this basis. 25.5 tonne axle weight vehicles in use on the network as of April 1998 are not restricted. (Note that this information does not include vehicles which may have individual restrictions placed upon them.)
N	Vehicles that exceed the RA of the route must not run without the authority of the Regional Structures Assessment Engineer. If authority is given a vehicle specific form RT3973HAW can be produced.
R*	Vehicles which exceed the RA of the route can run subject to the particular restriction(s) identified, and form RT3973HAW can be produced on this basis. 25.5 tonne axle weight vehicles in use on the network as of April 1998 are not restricted. (Note that this information does not include vehicles which may have individual restrictions placed upon them.)
--	No request to run vehicles that exceed the RA of the route has previously been made and any request to do so must be referred to the Regional Structures Assessment Engineer. 25.5 tonne axle weight vehicles may be able to run following assessment.

Restricted Vehicles

Vehicles identified below can not run without reference to the Regional Structures Assessment Engineer, who will identify any restrictions that apply to that particular vehicle over a specified route in accordance with the Route Availability Group Standard:

Coil Strip Wagon BN001A

EXPLANATION OF LOCAL INSTRUCTIONS

This contains location specific operational instructions relevant to locations shown in the geographical section concerned.

GENERAL INSTRUCTIONS - INDEX

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D

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General Instructions - Index - *continued*

Page

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General Instructions - Index - *continued*

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W

Z

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INSTRUCTIONS RELATING TO SPECIFIED OPERATING PUBLICATIONS

USE OF MOBILE TELEPHONE EQUIPMENT IN SOLID STATE AND COMPUTER BASED INTERLOCKING AREAS – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE G1, SECTION 4, CLAUSE 4.2*

The use of mobile communications equipment is **prohibited** in equipment rooms, or within 3 metres of trackside location cupboards or exposed circuit boards, at the locations shown below:

At or Between

1. Merseyrail and Edge Hill signal box areas

Mann Island Jn. and West Kirby (via Loop)
Canning Street Jn. and Rock Ferry
Bidston East Jn. and New Brighton
Dee Marsh Jn. and Bidston Dee Jn.
St. James No. 1 Tunnel and Southport
Paradise Jn. and James Street
Sandhills Jn. and Ormskirk
Walton Jn. and Kirkby
Picko No. 1 Tunnel and Regent Road L.C.
Edge Hill Signal box Relay Room

2. Manchester Piccadilly signal box area

Wilmslow and Slade Lane Jn. (via Styal)
Heald Green South Jn. and Heald Green West Jn.
Manchester Airport and Heald Green North Jn.

3. Manchester South signal box area

Down and up Stoke lines between 6m 20ch and Cheadle Hulme Jn.
All lines between 179m 50ch (north of Handforth) and 188m 70ch (north of Adswood Road Jn.)

4. Deansgate Junction signal box area

33 m.p. (between Northenden Jn. and Skelton Jn.) and Ashley.
Skelton Jn. and 29m 40ch (on Partington line).
Timperley (Metrolink) and Altrincham.

5. Stoke-on-Trent signal box area

All lines between 33m 60ch (south of Highfields LC) and 8m 40ch (south of Congleton station)
Down and up main (Norton Bridge) lines between 2m 40ch and Stone Jn.

(Stoke-on-Trent signal box area continued)

Down and up Derby lines between 1m 20ch and Stoke Jn.
Down and up branch lines between Kidsgrove Jn. and 0m 50ch (Crewe side of Kidsgrove OHNS)

(Note that GSM-R IVRS hand portables are exempt from this restriction.)

6. Manchester North signal box area

Windsor Bridge South Jn. and Manchester Victoria East Jn.
Ordsall Lane Jn. and Deal Street Jn.
Manchester Victoria East Jn. and Vitriol Works
Thorpes Bridge Jn. and Oldham
Miles Platting Jn. and Baguley Fold Jn.
Philips Park West Jn. and Brewery Jn.
Philips Park West Jn. and Ashburys West Jn.
Baguley Fold Jn. and Philips Park South Jn.

7. Ditton signal box area

Carterhouse Jn. and Ditton East Jn.
Runcorn Station and Ditton East Jn.
Ditton East Jn. to Speke Jn.

PERSONAL SAFETY WHEN WALKING ON OR NEAR LINES ELECTRIFIED BY THE DC CONDUCTOR RAIL SYSTEM - *RULE BOOK MODULE G2, SECTION 8, CLAUSE 8.2*

Additional instructions concerning personal safety on lines electrified by the DC conductor rail system within Network Rail North West Region will be found as follows:

- the local operating publication titled '*Working Instructions for DC Electrified Lines in the Liverpool Area*', or,
- the General Instruction shown in this publication titled '*Instructions to traincrews working other than DC electric trains and other staff who are required to work over, or in the vicinity of, DC electrified lines in the Liverpool area*'.

Staff working on the DC electrified lines in the Liverpool area should refer to the '*Working Instructions for DC Electrified Lines in the Liverpool Area.*' The general instruction contained in this sectional appendix is intended primarily as a 'working over' document for traincrew and others who come into contact with the DC network at boundary locations such as Hunts Cross, Chester and Bidston and who do not work primarily on DC electrified lines.

POINT HEATERS – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE M4*

Electric Point Heaters

At certain locations point heaters are switched on automatically at pre-determined temperature levels.

If advice is received that frost or falling snow is forecast or that the air temperature is expected to fall below freezing point and at the same time there will be rain or wet fog, the signaller must operate the heater switch for the area(s) concerned to the 'ON' position two hours before the weather conditions are expected to occur. If less than two hours warning is received, the heater switch must be operated to the 'ON' position as soon as advice is received.

If a warning is not received but the signaller considers that there is a risk of the points becoming frozen or if the signaller observes or is advised that snow is beginning to fall, the signaller must immediately operate the heater switch to the 'ON' position for the area(s) concerned.

The signaller must operate the heater switch(es) to the 'OFF' position where there is no further risk of the points being frozen or blocked by snow.

MOVEMENT OF ON-TRACK MACHINES OVER AHB LEVEL CROSSINGS NOT FITTED WITH TREADLES – *RULE BOOK MODULE OTM, SECTION 4, CLAUSE 4.3.b)*

All AHB level crossings on Network Rail North West Region are provided with treadles and therefore *Rule Book Module OTM, Section 4, Clause 4.3.b)* does not apply.

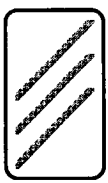
SEMAPHORE SUBSIDIARY SIGNALS - *RULE BOOK MODULE S1, SECTION 3, CLAUSE 3.4*

At certain locations a subsidiary warning signal distinguished by a letter "W" is provided.

When cleared, a warning signal authorises the driver to proceed as far as the next stop signal. The clearing of a warning signal placed below the section signal must be taken as an indication that the section is clear only to the home signal of the signal box in advance and drivers must regulate their train speed accordingly.

COUNTDOWN MARKER BOARDS – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE S1*

These signs are provided on the approach to signals at certain locations on Network Rail North West Region. They consist of a series of three boards as shown below:



Outer board situated 300 metres (328 yards) from the signal

Intermediate board situated 200 metres (219 yards) from the signal

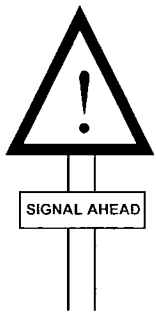
Inner board situated 100 metres (109 yards) from the signal

The boards are rectangular with a white background and red stripe(s) on a 45 degree angle. The purpose of the countdown markers is to inform drivers of the distance to the signal with which they are associated.

The locations of new countdown markers will be published in Section C of the Weekly Operating Notice prior to erection.

SIGNAL REMINDER BOARDS - ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE S1*

The following sign consists of a black exclamation mark on a white background within a red triangle and may be provided on the approach to signals at certain locations on Network Rail North West Region. The supplementary information sign consists of black letters on a white background. The purpose of the sign is to remind drivers of the presence of a signal ahead in an effort to reduce the incidence of signals passed at danger.



The locations of new signal reminder boards will be published in Section C of the Weekly Operating Notice prior to erection.

COASTING BOARDS - ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE S1*

Coasting boards, consisting of a white diamond sign mounted on a pole, are positioned at the side of the line, at an appropriate distance on the approach side of stations, on the sections of the line shown below. Drivers of EMU trains, which are running to time and are due to stop at the station concerned, must shut off power at the coasting board and allow the train to coast before bringing the train to a normal stop at the platform.

Birkenhead Park to West Kirby
Bidston East Junction to New Brighton
Hunts Cross to Southport (excl. tunnels)
Green Lane to Chester
Sandhills to Ormskirk
Walton Junction to Kirkby

ZERO (0) MINUTE PLATES - *RULE BOOK MODULE S4, SECTION 2, CLAUSE 2.1.b)*

During times of service disruption signals may be temporarily fitted with a telephone identification plate exhibiting the number zero (0) inset on the black and white diagonal striped sign as shown in *Rule Book Module S4, Section 2, Clause 2.1.b).* Drivers must contact the signaller immediately if detained at a signal fitted with a 'zero plate'.

DIFFERENTIAL PERMISSIBLE SPEEDS APPLYING TO THE NETWORK RAIL MPV WHEN OPERATING ON DC ELECTRIFIED LINES IN THE LIVERPOOL AREA - *RULE BOOK MODULE SP, PART A, SECTION 2, CLAUSE 2.4*

Where differential permissible speeds apply over the same section of line, drivers of Network Rail MPV units in the number range DR98901 to DR98999 are authorised to observe the **higher permissible speed** (bottom figure) as defined in *Rule Book Module SP, Part A, Section 2, Clause 2.4.*

This authority applies to all lines electrified by the DC 3rd rail system in the Liverpool area **except** those between Birkenhead North and Rock Ferry stations inclusive via the Loop line and Brunswick and Sandhills stations inclusive via the Link line.

ENHANCED PERMISSIBLE SPEED FOR TILTING TRAINS OPERATING IN TILTING MODE – *RULE BOOK MODULE SP, PART A, SECTION 2, CLAUSE 2.5*

Drivers of tilting trains operating in tilting mode should note that the enhanced permissible speed signs provided between Carnforth North Jn. and Upperby Jn. apply to Class 390 trains only.

LOOSE SHUNTING OF FREIGHT VEHICLES - *RULE BOOK MODULE SS2, SECTION 2, CLAUSE 2.2*

Except where specially authorised in local instructions, loose shunting of freight vehicles is prohibited on all lines and locations shown in this Sectional Appendix.

WORKING OF GROUND FRAMES – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE(S) TS1, SECTION 8 AND SS2, SECTION 4, CLAUSE 4.7*

1. Unlocking the ground frame from the signal box
The ground frame operator must telephone the signaller and come to a clear understanding regarding the movements to be made before requesting that the ground frame be unlocked. The signaller must inform the ground frame operator when the frame has been unlocked. Where a plunger working in connection with a release lever at the ground frame is provided, it must be pressed and held in until the lever is out of the catch.

2. Relocking the ground frame once movements are complete
The ground frame operator must inform the signaller that the ground frame can be relocked once:

- all movements have been completed, and the train is clear of the points ready to depart or has been shunted into the siding(s) clear of the running line(s), and,
- all ground frame levers have been replaced in the normal position.

The signaller must inform the ground frame operator when the ground frame has been relocked. Until this advice is received, the ground frame operator must not rejoin the train or allow it to proceed.

3. Ground frame bell codes
At ground frames where separate telephone ringing facilities are not provided, the 'Attend Telephone' bell code 3-3-3-3 must be used by the person requiring to speak to the signaller or vice versa.

At ground frames, where bell communication is also provided with the signal box, the following codes must be used if there is a failure of the telephone. (The call attention signal, 1 beat, must be sent and acknowledged before the required code is sent.)

To signal box
- Unlock ground frame 2
- Train shunted clear of running line(s) - Lock ground frame.....3
- Train on running line ready to depart - Lock ground frame 5

(These codes must be acknowledged by repetition when the ground frame has been unlocked/locked).
- Running line(s) fouled.....6

From signal box
- Clear running lines for train to pass.....7

(To be acknowledged by repetition and the bell code 3 sent when the line(s) have been cleared).

4. Mishaps or incidents during shunting
If the ground frame operator observes any irregularity on the running lines or should a running line be fouled, the signaller must be advised immediately. Where bell communication is provided, in order to obtain the signallers' attention without delay, six or more beats on the bell must be given in rapid succession. The ground frame operator must also carry out whatever emergency protection is required in accordance with the Rule Book.

5. If unable to relock the ground frame
Should the signaller be unable to relock the ground frame and special emergency instructions not be in force, a following train must not be allowed to proceed until an assurance has been received that the points have been firmly secured in the normal position or the failure has been rectified.

6. Ground frame unlocked by Annett's key taken from the signal box
The key must be inserted in the lock provided on the ground frame lever to release it. The key will be locked in the lever until it is restored to the normal position. The Annett's key must be returned to the signal box when the work has been completed.

CONTAMINATED WHEELSETS DURING LEAF FALL SEASON - *RULE BOOK MODULE T1B, SECTION 11*

These instructions apply when a train that has failed to operate track circuits during the leaf fall season is being taken from either:

- the location of the failure to operate track circuits to a suitable location at which the train is to be examined, or,
- from the location of the initial examination to a further location where the train is to be re-examined or taken out of service.

1. Safe movement of the train.

1.1
For the purpose of these instructions the train must be treated as an OTM, which cannot be relied upon to operate track circuits, and any other signallers involved in the movement of the train must be advised. The train must be signalled as shown in *Rule Book Module TS1, Section 12, Clauses 12.1.2, 12.1.4 and 12.1.8.*

1.2
The driver must be instructed to continue at normal speed but to approach any barrow or foot crossing with white light indications at caution not pass over them unless it is safe to do so.

1.3
In accordance with *Rule Book Module TW8, Section 5, Clause 5.4* signallers/crossing keepers working level crossings with full barriers at signal boxes, including by remote control (RC) or by closed-circuit television (CCTV), which are fitted with an auto-raise switch must place this in the manual position before the 'crossing clear' button is pressed for the train.

2. Examining the train.

When the special examination is undertaken, the following procedure must be used:

2.1 Special examination where it is possible to examine all wheels on the train.

All wheels on the train must be examined.

If a wheel exhibits a continuous black band of contamination, half an inch wide or more in the centre of its tread, it is to be considered as contaminated.

If one or both wheels of an axle are contaminated the axle is to be considered as contaminated.

If more than 50% of the axles examined in the train are contaminated the train must be taken out of service at a suitable location immediately or as soon as possible.

2.2 Special examination where it is only practicable to examine all wheels on one side of the train.

All wheels on one side of the train must be examined.
If a wheel exhibits a continuous black band of contamination, half an inch wide or more in the centre of its tread, it is to be considered as contaminated.

If more than 50% of the wheels examined in one side of the train are contaminated the train must be taken out of service at a suitable location as soon as possible.

If 50% or less of the wheels examined in one side of the train are contaminated, the train may proceed to the next suitable location at which the wheels on the other side of the train may be examined. If during this further examination more than 50% of the wheels on the other side of the train are found to be contaminated, the train must be taken out of service at a suitable location immediately or as soon as possible.

When it is necessary for the train to proceed to a point at which it is to be taken out of service or further examined then it must be dealt with in accordance with clauses 1.1, 1.2 and 1.3 of this instruction.

NETWORK RAIL NORTH WEST REGION - LOCATIONS WHERE THE USE OF T-COD IS AUTHORISED IN CONNECTION WITH *RULE BOOK MODULE T2, SECTION 8, PROTECTION PROCEDURE T2-A.*

The use of track circuit operating devices (T-COD) is authorised between the locations listed in the following table, subject to the location specific restrictions shown in the table and the general restrictions shown below:-

1. T-COD must **NOT** be used where:

- permissive working applies, (as indicated by the 'remarks' PP, PP-A, PP-E and PF in Table A of this publication),
- axle counters are in use,
- check rails are present,
- guard rails are present,
- leafguards are present,
- track circuits in sidings are present,
- the Signaller considers that there is a risk of becoming route locked.

2. In some cases the table shows the location at which use of T-COD is authorised as commencing at a signal that cannot be replaced to danger. It must be understood that the signal limits shown in the table refer solely to the application of the T-COD and not to signals from which protection under Rule Book protection procedure T2-A can be obtained. A suitable signal in rear must be used for protection purposes.

3. Signallers should note that certain track circuits are equipped with time releases. When agreeing the time at which the T-COD must be removed from the line, sufficient time must be allowed for any release to operate.

4. Where a Train Operated Warning System (TOWS) is fitted it must be disabled before T-COD can be used. (Note that the location of TOWS sites are shown in Table A of this publication using the abbreviation 'FWS' – fixed warning system.)

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Part 1 **NW1001 Armitage Jn. (incl.) to Preston (Fylde Jn.)** **Down lines** • down fast in advance of CH.135 Lichfield Trent Valley Jn (excl) to in rear of CH.69 Armitage Jn (excl) • down fast in advance of CH.126 Armitage Jn (excl) to in rear of CH.58 Rugeley Trent Valley Station (incl) • down slow in advance of CH.127 Armitage Jn (excl) to in rear of CH.65 Rugeley South Jn (excl) • down fast in advance of CH.105 Rugeley North Jn (excl) to in rear of CH.18 Colwich Jn (excl) • down slow in advance of CH.106 Rugeley North Jn (excl) to in rear of CH.23 Colwich SB • down main in advance of CH.17 Colwich Jn (incl) to in rear of SD4.104 Milford Jn (excl) • down slow in advance of SD4.227 Milford Jn (excl) to in rear of SD4.87 Trent Valley Jn No.1 (excl) • down fast in advance of Whitehouse Jn (131m 20ch) to in rear of SD4.83 Stafford No.4 (excl) • down fast in advance of Stafford No.5 (134m 40ch) to in rear of NB.15 Norton South Jn (excl) • down slow in advance of Stafford No.5 (134m 40ch) to in rear of NB.16 Norton South Jn (excl) • down fast in advance of NB.144 Norton Bridge South Jn (excl) to in rear of MY.102 Whitmore (incl) • down slow in advance of NB.145 Norton Bridge South Jn (excl) to in rear of MY.101 Whitmore (incl)	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Down lines - *continued* • Betley Road, BR.101,102 signals to Basford Hall BH.11, 15 signals • between Basford Hall and Crewe South Jn. CE.101, 103 signals to CE.105, 107 signals • Crewe Coal Yard CY.48, 52 signals to Birdswood WN.249 signal • 200 metres in advance of Norton L.C. to Warrington South Jn. WN.217 signal • between Dallam Jn. and Winwick Jn. WN.168, 169 signals to WN.159, 161 signals • between Winwick Jn. and Golborne Jn. WN.153 signal to WN.149 signal • between Golborne Jn. and Bamfurlong Jn. WN.144, 145 signals to WN.119, 121 signals • between Wigan North Jn. and Euxton Jn. WN.8 signal to PN.16, 17 signals • between Euxton Jn. and Farington Jn. PN.37, 38 signals to PN.46, 47 signals • between Farington Curve Jn. and Preston Ribble Jn. PN.53, 54 signals to PN.75, 76 signals	• must not be used on goods lines between Bamfurlong Jn. and Wigan Station Jn. • must not be used on goods lines between Skew Bridge Jn. and Fylde Jn.

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up lines • between Preston Ribble Jn. and Farington Jn. PN.72, 73 signals to PN.51, 52 signals • between Farington Jn. and Euxton Jn. PN.44, 45 signals to PN.35, 36 signals • between Euxton Jn. and Wigan North Jn. PN.14, 15 signals to WN.11 signal • between Springs Branch Jn. and Bamfurlong Jn. WN.74, 75 signals to WN.79, 84 signals • between Bamfurlong Jn. and Golborne Jn. WN.122, 123 signals to WN.146, 147 signals • between Golborne Jn. and Winwick Jn. WN.151 signal to WN.155 signal • betwen Winwick Jn. and Dallam Jn. WN.162, 163 signals to WN.178, 179 signals • between Acton Grange Jn. and Norton L.C. WN.242 signal to WN.246 signal • 200 metres in advance of Norton L.C. to Crewe North Jn. CE.144, 146 signals • between Crewe South Jn. and Basford Hall CE.102, 104 signals to BH.56, 58 signals • between Betley Road and Madeley. BR.113, 114 signals to Madeley Jn (up fast), Madeley MY.32 signal (up slow)	• must not be used on goods lines between Fylde Jn and Skew Bridge Jn. • must not be used on goods lines between Wigan Station Jn. and Bamfurlong Jn.

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up lines - *continued* • up fast in advance of NB.105 Whitmore (incl) to in rear of NB.8 Norton Bridge North Jn (excl) • up slow in advance of NB.106 Whitmore (incl) to in rear of NB.12 Norton Bridge South Jn (excl) • up fast in advance of Norton Bridge South Jn NB 58a points (138m 0ch) to in rear of SD5.139 Stafford No.5 (excl) • up slow in advance of Norton Bridge South Jn NB 59b points (138m 0ch) to in rear of SD5.135 Stafford No. 5 (excl) • up fast/up main in advance of SD4.214 Stafford No.4 (excl) to in rear of CH.8 Colwich Jn (excl) • up slow in advance of Trent Valley Jn No.1 (132m 60ch) to in rear of SD4.102 Whitehouse Jn (excl) • up fast in advance of CH.9 Colwich Jn to in rear of CH.52 Rugeley North Jn (excl) • up slow in advance of CH.118 Colwich Jn (excl) to in rear of CH.53 Rugeley North Jn (excl) • up slow in advance of CH.125 Rugeley South Jn (excl) to in rear of CH.68 Armitage Jn (excl) • up fast in advance of CH.61 Rugeley South Jn (incl) to in rear of LD.3 Lichfield Trent Valley (excl)	
NW1005 Kidsgrove Jn. to Crewe South Jn. **Down direction** • in rear of Coopers LC (1m 20ch) to Alsager CE.183 signal	• must not be used on up & down goods loop at Alsager

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW1009 Basford Hall Jn. to Sydney Bridge Jn. (Independent lines) **Down Manchester Independent** • Salop Goods Jn. SG 26 points to Sydney Bridge Jn. **Up Manchester Independent** • Sydney Bridge Jn. to Salop Goods Jn. SG.62 signal	
NW1017 Salop Goods Jn. to Crewe Coal Yard (Liverpool Independent lines) **Down Liverpool Independent** • Salop Goods Jn. SG 26 points to section signal SG.13	
NW1021 Winwick Jn. to Golborne Jn. (via Earlestown) **Down direction (incl. Up Chat Moss)** • between Winwick Jn. and Earlestown South Jn. WN.547 signal to WN.548 signal • between Earlestown East Jn. and Newton-le-Willows Jn. WN.537 signal to WN.533 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up direction (incl. Down Chat Moss) • between Earlestown South Jn. and Winwick Jn. WN.544 signal to WN.154 signal	
Part 2 **NW2001 Weaver Jn. to Liverpool Lime Street** **Down main/fast/slow lines** • Weaver Jn. to Runcorn RN.10 signal • Runcorn RN.12 signal to Speke Jn. SE.80 signal (down fast) • Ditton DN.307 signal to DN.309 signal (down slow) • Allerton Jn. AN.24 signal to Allerton AN.23 signal (down slow) • Allerton Jn. AN.54 signal to Allerton AN.53 signal (down fast) • Allerton Jn. AN.101, 103 signals to Edge Hill LE.9, 11 signals	• must not be used on reception lines at Halewood
Up main/fast/slow lines • between Edge Hill and Allerton Jn. AN.114, 116 signals to AN.31, 7 signals • Allerton Jn. AN.8 signal to Speke Jn. SE.9 signal (up slow) • Ditton DN.314, 118 signals to DN.306, 108 signals • Ditton, DN.106 signal to Runcorn RN.28 signal • Runcorn RN 27 signal to Weaver Jn.	• must not be used on reception lines at Halewood

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW2015 Ordsall Lane Jn. to Edge Hill **Down line** • between Ordsall Lane Jn. and Parkside Jn. MP.543 signal to WN.512 signal • between Earlestown and Rainhill. WN.563 signal to RL.3 signal • Roby station LE.289 signal to Edge Hill LE.45 signal **Up line** • Edge Hill LE.36 signal to Roby station HN.35 signal • Rainhill RL.24 signal to Earlestown West Jn. WN.539 signal • between Earlestown East Jn. and Newton-le-Willows Jn. WN.537 signal to WN.533 signal • between Parkside Jn. and Ordsall Lane Jn. WN.511 signal to MP.542 signal	• must not be used on "up & down" goods loop at Earlestown • must not be used on "up & down" goods loop at Earlestown
NW2023 Springs Branch Jn. to Huyton Jn. (St. Helens lines) **Down line** • between Ince Moss Jn. and St. Helens Jn. WN.95 signal to SH.23 signal • St. Helens SH.112 signal to SH.108 signal	• must not be used on St. Helens down goods loop

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up line • St. Helens SH.101 signal to SH.2 signal • St. Helens SH.4 signal to Ince Moss Jn. WN.96 signal	
Part 3 **NW3001 Crewe North Jn. to Holyhead** **Down main/fast/slow/single lines** • Crewe North Jn. CE.161 signal to Crewe Steel Works SW.2 signal • Beeston Castle & Tarporley BC.4 signal to Chester East Jn. CR.29 signal • Chester Roodee Jn. CR.113, 115 signals to Saltney Jn. CR.117 signal • Rockcliffe Hall home signal RH.1 to section signal RH.3 • Rhyl RL 19 points to RL.14 signal • Llysfaen LJ.49 signal to Llandudno Jn. LJ.57 signal • Bangor BR.9 signal to BR.11 signal • Holyhead HD.115 signal to HD.114 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Single/up main/fast/slow lines • Bangor BR.58 signal to BR.56 signal • Conwy LJ.72 signal to Llandudno Jn. LJ.70 signal • between Llandudno Jn. and Llysfaen. LJ.58 signal to LJ.50 signal • Rockcliffe Hall home signal RH.8 to section signal RH.6 • Mold Jn. MJ.2 signal to Chester South Jn. CR.122, 124 signals • Chester East Jn. CR.28 signal to Beeston Castle & Tarporley BC.25 signal • Crewe Steel Works SW.19 signal to Crewe North Jn. CE.142 signal	
NW3003 Chester East Jn. to Acton Grange Jn. **Down line** • Chester East Jn. CR.51 signal to Mickle Trafford MT.23 signal • Norton NN.9 signal to Acton Grange Jn. **Up line** • Acton Grange Jn. to Norton NN.3 signal • CR.38 signal to Chester East Jn. CR.32 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW3005 Gobowen (excl.) to Saltney Jn. **Down main** • Croes Newydd North Fork CN 54 points to CN.6 signal **Up main** • Croes Newydd North Fork CN 7 points to CN.61 signal **Croes Newydd Up & Down Loop** • Whole line	
NW3007 Wrexham Central to Bidston West Jn. **Single/down main** • Wrexham General Station, platform 4 (north end) to CN.51 signal • Dee Marsh DM.23 signal to DM.21 signal **Up main/single** • Dee Marsh DM.1 signal to DM.3 signal • Croes Newydd North Fork CN.75 signal to Wrexham General Station platform 4 (north end	• sequential track circuits must be reset after removal of T-COD • sequential track circuits must be reset after removal of T-COD

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW3011 Chester West Jn. to Hooton South Jn. **Down line** • Bache station to Hooton South Jn. HN.214 signal **Up line** • Hooton South Jn. 7¾ m.p. to Chester West Jn. CR.412 signal	
NW3023 Edgeley Jn. No.2 to Mickle Trafford **Down main** • Northenden Jn. NJ.2 signal to Skelton Jn. DJ.3 signal • 7½ m.p. (between Navigation Road L.C. and Altrincham) to Hale DJ.27 signal • Hale 8¾ m.p. to Mobberley MY.1 signal • Plumley West PY.24 signal to Northwich East Jn. GK.31 signal • Northwich West Jn. GK.37 signal to Mouldsworth MH.31 signal	• must not be used on down goods loop at Skelton Jn. • must not be used on "down & up" goods loop at Northwich

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up main • Mouldsworth MH.5 signal to Hartford West Jn. GK.6 signal • Hartford East Jn. GK.16 signal to Plumley West home signal PY.2 • Mobberley MY.4 signal to Hale L.C. DJ.38 signal • Hale 8¾ m.p. to Altrincham DJ.23 signal • Skelton Jn. DJ.18 signal to Northenden Jn. NJ.18 signal	• must not be used on "down & up" and up goods loops at Northwich
NW3029 Sandbach North Jn. to Northwich West Jn. **Down main, up main and single** • between Sandbach SH.22 signal and Northwich GK.43 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Part 4 **NW4001 Preston Ribble Jn. to Cove L.C.** **Down lines**	
• Preston Fylde Jn. PN.149, 151 signals to Lancaster South Jn. PN.226 signal • Lune Viaduct south end to Hest Bank PN.267 signal • 200 metres in advance of Bolton-le-Sands L.C. to Carnforth South Jn. PN.274 signal • between Carnforth North Jn. and Oxenholme. 6¼ m.p. to CE.38 signal • between Oxenholme and Carlisle South Jn. CE.61 signal to CE.286 signal	• must not be used on Barton & Broughton loop and Oubeck goods loop • must not be used on the following lines :- Tebay up & down goods loop, Harrisons down goods loop, down slow between Penrith South Jn., CE.186 signal and CE.188 signal. Down through goods between Upperby Bridge Jn. and Upperby Jn.
• between Caldew Jn. and Kingmoor CE.451 signal to CE.494 signal • Mossband 6¾ m.p. to CE.547 signal	• must not be used on down goods/arrival/departure lines between Caldew Jn. and Floriston L.C.

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up lines	
• regional boundary (12m 30ch) to CE.509 signal (up main), CE.505 (up goods) • Floriston CE.497 signal to Carlisle North Jn. CE.336 signal	• must not be used on up goods between CE.505 signal and Carlisle Yard, up goods/avoiding/departure lines between Carlisle Yard and Caldew Jn.
• Upperby Jn. CE.278 signal to Carnforth North Jn. PN.294 signal	• must not be used on up through goods between Upperby Jn. and Upperby Bridge Jn., Plumpton loop, Eden Valley loop, Shap loop, Grayrigg up goods loop, Oxenholme up goods loop.
• Carnforth South Jn. PN 720A points to Bolton-le-Sands PN.272 signal • Morecambe South Jn. PN.265 signal to Lancaster North Jn. PN.249 signal • Lancaster South Jn. PN.222 signal to Preston Fylde Jn. PN.152 signal	• must not be used on No.1 and 2 up & down goods loops at Carnforth. • must not be used on Oubeck up goods loop and Oxheys goods loop.

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW4005 Preston Flyde Jn. to Blackpool North **Down main/fast/slow lines** • Maudland 1 m.p. to Kirkham North Jn. KM.31 signal • Kirkham North Jn. KM.49 signal to KM.51 signal • Kirkham North Jn. KM.44 points to KM.38 signal **Up fast/slow/main lines** • Kirkham North Jn. KM.80 signal to Preston Fylde Jn. PN.161 signal	• must not be used on Salwick Loop
NW4007 Kirkham North Jn. to Blackpool South • between KM.36 signal and 9 m.p.	• sequential track circuits must be reset after removal of T-COD
NW4021 Upperby Jn. to Rome Street Jn. **Down through goods** • CE.414 signal to Bog Jn.	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up through goods • Bog Jn. CE.416 signal to Upperby Jn. CE.279 signal	
NW4025 Currock Jn. to Bog Jn. **Down M & C goods** • whole line **Up M & C goods** • whole line	
NW4031 Gretna Jn. to Annan (excl.) **Down Dumfries/up Dumfries/'up & down' Dumfries** • between Gretna Jn. and regional boundary (109 m.p.)	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW4033 Carnforth North Jn. to Carlisle South Jn. (via Barrow) **Down Furness, main, M & C** • Dalton Jn. home signal DJ.2 to section signal DJ.3 • Maryport MS.106 signal to MS.48 signal • Maryport MS 41 points and MS.44 signal • Maryport down and up platform between MS.31 signal and MS 40 points • 200 metres in advance of Rosewain L.C. to Dalston CE.349 signal • 200 metres in advance of Low Mill L.C. to Currock Jn. CE.361 signal **Up M & C, main, Furness** • Currock Jn. CE.365 signal to CE.359 signal • 200 metres in advance of Low Mill L.C. to CE.346 signal • 200 metres in advance of Rosewain L.C. to Wigton station WN.37 signal • Maryport MS.14 signal to MS.18 signal • Maryport down and up platform between MS 40 points and MS.31 signal • Carnforth Station Jn. home signal CS.52 to CS.50 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW4041 Dalton Jn. to Park South Jn. **Down line** • Dalton Jn. to section signal	
Part 5 **NW5001 Crewe North Jn. to Manchester Piccadilly** **Down fast/main/slow/loop lines** • Sydney Bridge Jn. SH.75 signal to Manchester South MS.215 • Heaton Norris Jn. HN.32, 35 signals to Slade Lane Jn. MP.25, 26 signals • Longsight MP.41 signal to MP.63 signal **Up fast/main/slow/loop line** • Longsight MP.38 signal to MP.35 signal • Slade Lane Jn. MP.23, 24 signals to Heaton Norris Jn. HN.90, 73 signals • Adswood Road Jn. (No.10 points) to Crewe North Jn. CE.154 signal	• must not be used on down goods loop at Wilmslow • must not be used on up goods loop at Alderley Edge

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW5003 Wilmslow to Slade Lane Jn. (Styal lines) **Down line** • Wilmslow Jn. to Heald Green South Jn. MP.283 signal • Heald Green 3¾ m.p. to Slade Lane Jn. MP.13 signal **Up line** • Mauldeth Road MP.298 signal to Heald Green North Jn. MP.286 signal • Heald Green South Jn. MP.284 signal to Wilmslow Jn.	
NW5008 Norton Bridge Jn. to Stone Jn. • up main in advance of NB.161 (1m 10ch) to in rear of NB 5 Parrot's LC (incl)	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW5009 Colwich Jn. to Cheadle Hulme **Down main** • in advance of Colwich Jn (38m 40ch) to in rear of signal CH.111 (37m 00ch) • in advance of Hixon LC (35m 00ch) to in rear of signal SOT.241 (33m 09ch) • in rear of Congleton station (8½ m.p.) to Macclesfield MD.42 signal • Macclesfield MD.107 signal to Cheadle Hulme Jn. MS.385 signal **Up main** • Bramhall MS.384 signal to Macclesfield MD.15 signal • Macclesfield MD.124 signal to in advance of Congleton station (8½ m.p.) • in advance of Hixon LC (35m 40ch) to in rear of signal CH.5 Colwich Jn (incl)	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW5011 Heaton Norris Jn. to Guide Bridge Station Jn. **Down direction** • Heaton Norris Jn. 1¼ m.p. to Guide Bridge Station Jn. **Up direction** • Guide Bridge Station Jn. to Heaton Norris Jn. 1¼ m.p.	• must not be used on up goods loop at Heaton Norris
NW5015 Hadfield to Ardwick Jn. **Down main/down & up passenger loop** • Newton station GB.861 signal to Ardwick MP 315 signal **Up main/down & up passenger loop** • Ardwick MP.312 signal to Godley station GB.856 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW5021 Stalybridge to Guide Bridge West Jn. **Down** • Stalybridge Jn. to Guide Bridge West Jn. **Up** • Guide Bridge West Jn. to Stalybridge Jn.	
Part 6 **NW6001 Manchester Piccadilly East Jn. to Euxton Jn.** **Down lines** • between Manchester Piccadilly MP.1188 signal and Oxford Road MP.404 signal • Deansgate station MP 2414A points to Ordsall Lane Jn. MP.501 signal • Windsor Bridge North Jn. MP.511 signal to Burnden Jn. MP.625, 627 signals • Bolton MP.637 signal to Euxton Jn. PN.34 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up lines • Euxton Jn. PN.33 signal to Bolton MP.638 signal • Bolton East Jn. MP.626 signal to Windsor Bridge North Jn. MP.510 signal • Ordsall Lane Jn. 190¼ m.p. to Deansgate station MP.458 signal • between Oxford Road MP.402 signal and Manchester Piccadilly MP 238A points	
NW6003 Castlefield Jn. to Allerton Jn. **Down lines** • Castlefield Jn. to Glazebrook East Jn. GE.38 and 50 signals • Glazebrook GE.37 signal to Birchwood station GE.36 signal • Warrington Central WC.2 signal to WC.3 signal • Warrington Central WC.4 signal to Hunts Cross HC.95 signal	• must not be used on United F.C. platform line, Trafford Park reception lines and up & down electric line at Hunts Cross
Up lines • Hunts Cross 7¼ m.p. to Warrington Central WC.54 signal • Warrington Central WC.51 to WC.49 signal • Glazebrook East Jn. GE.101 signal to Castlefield Jn.	• must not be used on up & down electric line at Hunts Cross, Trafford Park reception lines and United F.C. platform line

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW6009 Windsor Bridge South Jn. to Southport **Down Atherton/main/Hindley lines** • Pendleton MP.561 signal to Walkden WN.20 signal • Crow Nest Jn. CN.7 signal to Wigan South Jn. WN.35 signal • 33¼ m.p. (between Pool Hey L.C. and Meols Cop) to ML.147 signal **Up Hindley/main/Atherton lines** • Southport ML.148 signal to 33¼ m.p. (between Meols Cop and Pool Hey L.C.) • between Wigan South Jn. and Crow Nest Jn. WN.35 signal to CN.20 signal • Pendlebury Tunnel West Portal MP.564 signal to Windsor Bridge North Jn. MP.560 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW6011 Bolton East Jn. to Blackburn Bolton Jn. • between MP.654 signal and 15 m.p. • between 16 m.p. and PN.457, 458 signals	• must not be used on 'up & down' goods between Blackburn Bolton Branch Jn. and Bolton Jn.
NW6013 Lostock Jn. to Crow Nest Jn. **Down** • whole line **Up** • whole line	
NW6015 Wigan Wallgate to Kirkby **Up line** • Wigan Wallgate WW.132 signal to WW.131 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Part 7 **NW7001 Manchester Victoria West Jn. to Hebden Bridge** **Down lines** • Manchester Victoria East Jn. MN.705, 807 signals to Miles Platting MN.709, 811 signals • Miles Platting MN.711 signal to Vitriol Works VW.52 signal • Castleton CE.34 signal to home 2 CE.35 signal • Littleborough PN.336 signal to regional boundary (22m 62ch) **Up lines** • zonal boundary (22m 62ch) to Smithy Bridge SB.3 signal • Castleton CE.57 signal to CE.56 signal • Vitriol Works VW.29 signal to VW.30 signal • Moston station VW.32 signal to Miles Platting MN.710, 850 signals • Miles Platting MN.706, 808 signals to Manchester Victoria East Jn. MN.704, 806 signals	• must not be used on down passenger loop. • must not be used on Castleton down goods loop
NW7007 Farington Curve Jn. to Ormskirk • between PN.55 signal and Midge Hall MH.14 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW7009 Farington Curve Jn. to Hall Royd Jn. (East Lancs. Lines) **Down East Lancs. Lines** • between Farington Curve Jn. and Bamber Bridge PN.519 signal to PN.486 signal • Hoghton East GF to Blackburn Bolton Jn. PN.451 signal • Daisyfield Jn. PN.424 signal to Huncoat L.C. PN.402 signal • 18¼ m.p.(between Huncoat station and Hapton) to Towneley L.C. PN.361 signal • 23 m.p. (between Towneley L.C. and Towneley Tunnel) to Copy Pit PN.348 signal • 200 metres in advance of Portsmouth L.C. to Hall Royd Jn. **Up East Lancs. Lines** • Hall Royd Jn. to PN.345 signal • 200 metres in advance of Portsmouth L.C. to Towneley L.C. PN.359 signal • Gannow Jn PN.363 signal to Huncoat L.C. PN.401 signal • PN.403 signal to Daisyfield Jn. • Blackburn Taylor Street PN.417 signal to Pleasington PN.476 signal • Lostock Hall Jn. PN.487 signal to Farington Curve Jn. PN.522 signal	• must not be used on down goods line at Rose Grove
NW7017 Gannow Jn. to Colne • between Gannow Jn. and 21¾ m.p.	• sequential track circuits must be reset after removal of T-COD

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW7019 Thorpes Bridge Jn. to Rochdale (via Oldham) **Down main** • Dean Lane MN.903 signal to Oldham, OM.23 signal **Up main** • Oldham OM.18 signal to Thorpes Bridge Jn.	
NW7021 Miles Platting Jn. to Marsden **Down main/down passenger loop** • between Park West Jn. and Baguley Fold Jn. MN.815 signal to BF.23 signal • Stalybridge SE.35 signal to Diggle Jn. DE.24 signal **Up main** • Diggle Jn. DE.2 signal to Stalybridge SE.42 signal • Baguley Fold BF.18 signal to Park West Jn. MN.812 signal	• must not be used on down goods line at Stalybridge • must not be used on up goods line at Stalybridge

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW7025 Philips Park West Jn. to Ashburys West Jn. **Down Ashburys** • whole line **Up Ashburys** • whole line	
NW7027 Baguley Fold Jn. to Philips Park South Jn. **Down Baguley** • whole line **Up Baguley** • whole line	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Part 8 **NW8001 Hunts Cross West Jn. to Southport** **Down Southport** • Garston 5¼ m.p. to Liverpool Central ML.21 signal • Sandhills ML.49 signal to ML.51 signal • Bootle Oriel Road ML.63 signal to Bootle New Strand ML.69 signal • Marsh Lane crossover ML.79R signal to Waterloo ML.81 signal • 7½ m.p. (between Hall Road and Hightown) to Eccles L.C. ML.93 signal • Freshfield ML.99 signal to Ainsdale ML.101 signal **Up Southport** • 16 m.p. (between Hillside and Ainsdale) to Ainsdale ML.102 signal • Ainsdale ML.100 signal to Freshfield ML.98 signal • 10¼ m.p. (between Eccles L.C. and Hesketh L.C.) to Hall Road ML.88 signal • 200 metres in advance of Waterloo L.C. to 4 m.p.(between Seaforth and Marsh Lane crossover) • ¾ m.p (Central tunnel Hunts Cross end portal) to Garston 5¼ m.p.	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW8005 Sandhills Jn. to Ormskirk **Down Ormskirk** • Kirkdale No.2 tunnel (Liverpool end portal) to Walton Jn. ML.207 signal • Walton station to Aintree ML.215 signal • Old Roan station to Maghull ML.219 signal • Maghull ML.221 signal to Town Green ML.223 signal • Town Green ML.225 signal to Ormskirk ML.229 signal **Up Ormskirk** • Ormskirk, 11¾ m.p. to Town Green ML.224 signal • Town Green 9¾ m.p. to Maghull ML.220 signal • 6½ m.p. (between Magull and Old Roan) to Aintree ML.218 signal • Aintree ML.216 signal to Walton station ML.210 signal • Kirkdale No.1 tunnel ML.208 signal to Kirkdale ML.206 signal	
NW8009 Walton Jn. to Kirkby **Down Kirkby** • Rice Lane station to Fazakerley ML.305 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Up Kirkby • Fazakerley L.C. to Rice Lane station ML.302 signal **Down & Up Kirkby** • between ML.308 signal and Kirkby	
NW8011 Mann Island Jn. to West Kirby (via Loop) **Down West Kirby** • Birkenhead Park ML.559 signal to ML.561 signal • Birkenhead North ML.571 signal to Bdiston East Jn. ML.573 signal • Leasowe ML.585 signal to Melrose Avenue L.C. **Up West Kirby** • Melrose Avenue L.C. to Leasowe ML.584 signal • Birkenhead North 3¾ m.p. to Birkenhead Park ML.560 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW8013 Canning Street Jn. to Hooton South Jn. **Down Chester** • Green Lane ML.719 signal to Rock Ferry ML.721 signal • Rock Ferry 13¼ m.p. to Port Sunlight station • Spital station to Hooton, 8½ m.p. **Up Chester** • Hooton 8½ m.p. to Spital ML.738 signal • Port Sunlight station to Rock Ferry ML.734 signal	
NW8015 Bidston East Jn. to New Brighton (New Brighton lines) **Down New Brighton** • Bidston East Jn. 4¾ m.p. to New Brighton ML.605 signal **Up New Brighton** • New Brighton ML.606 signal to Bidston East Jn. ML.602 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
Part 9 **NW9001 Dore West Jn. to Edgeley Jn. No.1 (Hope Valley lines)** **Down lines** • Chinley East Jn. CY.157 signal to New Mills South Jn. NMS.143 signal • Hazel Grove High Level Jn. HG.25 signal to Woodsmoor EY1.45 signal • Davenport ¾ m.p. to Edgeley Jn. No.1 **Up lines** • Edgeley Jn. No.1 to Davenport EY1.29 signal • Woodsmoor HG.8 signal to Hazel Grove High Level Jn. HG.30 signal • Chinley CY.146 signal to Chinley East Jn. CY.162 signal	• includes 'up & down' Hope Valley and down Cheadle loop at Hazel Grove • includes 'up & down' Hope Valley at Hazel Grove
NW9003 Chinley East Jn. to Chinley South Jn. (Chord line) • Whole line	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW9005 Chinley North Jn. to Buxton **Down & up goods/down goods** • between Chinley North Jn. and CY.168 signal **Up goods/down & up goods** • CY.165 signal and Chinley North Jn.	
NW9007 New Mills South Jn. to Ashburys East Jn. **Down main** • New Mills Central NM.3 signal to NM.6 signal • New Mills Central NM.201 signal to Marple South tunnel RJ.25 signal • Romiley Jn. RJ.21 signal to Ashburys East Jn. **Up main** • Ashburys East Jn. to Romiley Jn. RJ.6 signal • Marple South tunnel RJ.12 signal to new Mills Central NM.22 signal	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW9009 Marple Wharf Jn. to Rose Hill **Down line** • RJ.13 signal to Rose Hill **Up line** • Rose Hill to RJ.27 signal	
NW9011 Romiley Jn. to Hyde Jn. **Down branch** • whole line **Up branch** • whole line	
NW9017 Hazel Grove High Level Jn. to Northenden Jn. **Down Cheadle loop and 'up & down' Cheadle** • whole line	

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NW9021 Buxton to Hazel Grove East Jn. **Down lines** • Hazel Grove HG.23 signal to Hazel Grove East Jn. **Up lines** • Hazel Grove East Jn. to HG.26 signal	
Part 10 **NZ0001 Gargrave to Carlisle South Jn.** **Down lines** • regional boundary (230 m.p.) to Hellifield home signal H.42 • Kirkby Thore KT.1 signal to KT.3 signal • Howe & Co's siding HS.12 signal to London Road Jn. **Up lines** • London Road Jn. CE.406, 407 signals to Howe & Co's Siding 303 m.p. • Kirkby Thore KT.4 signal to KT.2 signal • Settle Jn. section signal SJ.11 to 1B home SJ.12 signal • Hellifield home signal H.21 to H.23 signal	• must not be used on British Gypsum siding at Kirkby Thore • must not be used on Hellifield up loop

Routes and Locations on which T-COD can be used	Remarks (including any location specific restrictions in addition to the general restrictions shown in the Rule Book)
NZ0003 Settle Jn. to Carforth Station Jn. **Up** • Carnforth Station Jn. to section signal CS.10	
NZ0009 Corby Gates to Petteril Bridge Jn. **Down Newcastle** • regional boundary (58 m.p.) to Petteril Bridge Jn. **Up Newcastle** • Petteril Bridge Jn. to regional boundary (58 m.p.)	
NZ0011 London Road Jn. to Bog Jn. (Newcastle Goods line) **Down Newcastle goods** • whole line **Up Newcastle goods** • whole line	

PROTECTION OF PERSONNEL WHEN WORKING ON RAIL VEHICLES - *RULE BOOK MODULE T10, SECTION 1, CLAUSE 1.2*

At the following locations, sidings are used for maintenance and repairs or form part of depots. When sidings are in use by maintenance personnel, the movement of rail vehicles will be under the control of a Designated Person (DP), who is responsible for arranging protection and who will be identified by an orange arm-band endorsed "DP" in black letters. At other times, movements will be under the control of operating staff. Movements in sidings used for these arrangements must not exceed **5 mph**.

When maintenance personnel are in the sidings, visitors and staff of other departments/companies must report to the DP and must not start work until their presence has been recorded and the relevant protection has been provided.

Location	*Line(s)*
Crewe C.S.	Depot roads 1-7
Crewe T.M.D.	Depot roads 1-5 Depot bays 6 and 7 (North) Depot bays 6-8 (South)
Crewe Plant Maintenance Depot	No.1 Shop Road, Crane Road, Pit Road Sidings 1-4
Crewe E.M.D.	Depot roads 1-4, Short Block Roads, Overhead Train Road, Pan Train Road, Concrete Train Road
Warrington New Found Out Sidings	Cripple Siding, Lifting Road
Wigan T.M.D.	Depot roads 1-3
Springs Branch Repair Siding	North Siding No. 12
Carlisle Upperby Carriage Maintenance Depot	A.M. & E.E. Sidings, Depot roads 1-4, Sidings 5-11
Carlisle T.M.D.	Depot roads 1-4
Fiddlers Ferry	Cripple Siding
Speke Wagon Repair Sidings	Sidings 12-14
Allerton T.M.D.	Depot roads 1-5
Allerton C.S.	Wheel Lathe Road
Edge Hill Downhill Carriage Depot	Pit Road
Edge Hill, Combermere St. P. & M. Depot	Tamper Bay
Chester Plant Maintenance Depot	Depot road
Chester Wagon Shop	Sidings 3-10, Trip Road
Holyhead F. & I. Point	Depot roads 1-4
Longsight Depot	All roads and sidings
Longsight Wheel Lathe Depot	All depot Roads
Peak Forest	Fuel Road

Protection of Personnel when working on Rail Vehicles - *continued*

Newton Heath T.M.D.	Depot roads 1-10
Guide Bridge Main Sidings and Avenue Sidings	All sidings
Birkenhead North T.M.D.	Depot roads A-C, 3-6
Dee Marsh Wagon Repair Point	Cripple Sidings 1-2
Hall Road T.M.D.	Depot roads 1 and 2, Sidings 3-6
Carnforth Maintenance Depot	Cripple Sidings 1 and 2, Depot Road No.3, Stabling Siding No.4
Barrow F. & I. Depot	Siding No.7
Workington F. & I. Depot	Loco Depot Nos. 5 and 6 roads, C. & W. Depot Roads 7-15
Currock Wagon Shop	Back Road, Crane Road, Depot roads 2-6, Sidings No.7

GSM-R (IVRS) RADIO SYSTEM – *ADDITIONAL INSTRUCTIONS TO RULE BOOK MODULE TW1, SECTION 3*

1. Description of system

GSM-R (IVRS) is a radio system, which enables users to contact the signaller in the event of an emergency.

A retro-reflective information sign (850mm by 450mm) consisting of a white diamond on a black oval circle on a white background and stencilled GSM-R (as shown below), will be provided at the commencement of a GSM-R (IVRS) radio network area. The same sign with an additional red diagonal stripe indicates the exit point of a GSM-R (IVRS) radio area.

ENTRY BOARD

EXIT BOARD

The signs are provided at the following locations:

	ENTRY BOARDS		EXIT BOARDS	
Location	**Line**	**Mileage**	**Line**	**Mileage**
Highfields L.C.	Down Main line	34m 50ch	Up Main line	33m 43ch
Norton Bridge Jn	Down Main line	2m 43ch	Up Main line	2m 43ch
Foley	Down line	1m 40ch	Up line	1m 30ch
Kidsgrove	Up Branch line	1m 18ch	Down Branch line	1m 4ch
Congleton	Up Main line	8m 39ch	Down Main line	8m 43ch

2. Duties of signallers

2.1 Emergency calls

a) Receiving an emergency call
On receipt of an EMERGENCY CALL, the signaller shall come to a clear understanding with the caller and make the necessary protection arrangements in accordance with rule book requirements.

The signaller should be aware that other users with in 5 km (two cells) of the caller initiating the EMERGENCY CALL will also be included in the call and, if necessary, the signaller should instruct other drivers hearing the call to stop in order to complete protection of the line.

If advised of an emergency requiring protection of the line via means other than GSM-R (IVRS), the signaller must make the necessary protection arrangements in accordance with rule book requirements.

b) If an NRN emergency broadcast is also required
The signaller must contact Operations Control and request an NRN emergency broadcast, stating the location and nature of the broadcast required.

c) If it is not possible to come to a clear understanding with the caller
If, following the receipt of an EMERGENCY CALL, it is not possible to come to a clear understanding, the signaller must establish the area from which the call was initiated and bring trains in that area at the time of the call to a stand. The signaller must speak to the driver of each train stopped and establish whether an emergency exists and carry out the relevant requirements of the rule book. The signaller must also contact any adjoining signal box/signaller if an EMERGENCY CALL is dropped on the fringe of the signallers area of control to allow the appropriate rule book requirements to be carried out.

d) Where no verbal communication is received with an incoming emergency call
If the signaller receives no verbal communication on receipt of an incoming EMERGENCY CALL, the signaller must try to establish contact with the call originator. If no contact can be established, the signaller must bring trains in the area to a stand in a controlled way. The signaller must speak to the driver of each train stopped and establish whether an emergency exists and carry out the relevant requirements of the rule book.

2.2 System misuse
The signaller should report any system misuse to Infrastructure Fault Control for investigation.

2.3 Emergency 999 and 112 calls made from hand portables
Emergency 999 and 112 calls made from GSM-R (IVRS) hand portables in the area are routed to the Shift Performance Manager's terminal at Stoke-on-Trent S.C. The Shift Performance Manager must action this call in the most appropriate way depending on the information received.]

3. Duties of Drivers

3.1 Ensuring hand portables are switched on
Drivers shall ensure that the GSM-R (IVRS) hand portable, where supplied, is switched on prior to the start of any journey that includes a GSM-R (IVRS) area.

3.2 Emergency calls

a) Making an emergency call
Any driver travelling over the routes described as being fitted with GSM-R (IVRS) in Table A of this sectional appendix, carrying a GSM-R (IVRS) hand portable, must use it to contact the signaller in the event of an Emergency where protection of the line is required in accordance with the requirements of the rule book. Once the EMERGENCY CALL has been established on GSM-R (IVRS), it should only be cleared following instruction from the signaller. If the GSM-R (IVRS) call fails to establish contact with the signaller within 40 seconds, the driver must establish communication with the signaller as per the requirements of the rule book.

b) Receiving an emergency call
If a driver receives an incoming EMERGENCY CALL they must act accordingly. The caller and signaller must not be interrupted unless requested to so by the signaller.

If an EMERGENCY CALL is received and not understood for whatever reason (call dropped / lack of clarity / no speech), the driver must immediately reduce speed to enable the train to be stopped short of any obstruction. The driver may then proceed to the next location where the signaller can be contacted.

4. System security
Lost and stolen GSM-R (IVRS) hand portables must be reported immediately by the TOC/FOC to the Transportation Technical Centre (0208 522 3314).

5. System failure

5.1 Advice of system failure / non-availability
If advised of any non-availability of GSM-R (IVRS), Operations Control must arrange for a control 'wire' to be sent to the Train Operator Controls concerned.

5.2 Planned outages
Planned outages must be arranged by the Regional Telecoms Engineer and published in Section D of the Weekly Operating Notice.

6. System testing
The Network Rail Signaller Manager is responsible for ensuring that one base station is tested each week enabling all base stations to be tested over a 20 week period. Appropriate records must be maintained recording the tests.

HAULING DEAD TRACTION UNITS - *RULE BOOK MODULE TW1, SECTION 7, CLAUSE 7.1*

Up to four dead locomotives may be coupled to the hauling locomotive provided none of the locomotives have any wheels raised off the rails.

STABLING OF VEHICLES ON RUNNING LINES – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE TW1, SECTION 11*

The stabling of vehicles on running lines is prohibited except at terminal stations, bay platforms and when specially authorised.

ONE SHOT SANDING EQUIPMENT – *RULE BOOK MODULE TW1, SECTION 17*

The Driver of a train who has operated one-shot sanding equipment must bring the train to a stand and immediately report the reason for the operation and the location at which it was done to the signaller.

On receipt of this information the signaller must maintain the signal in rear of the affected train at danger until such time as the instructions contained in *Rule Book Module TW1, Section 17* have been carried out in liaison with Operations Control.

MANUAL APPLICATION OF SAND OR SANDITE – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE TW1, SECTION 17*

If a report is received from a driver of poor rail adhesion or if poor rail adhesion is anticipated, Operations Control may arrange for an authorised person to apply sand or sandite by means of hand held apparatus, (e.g. 'sand bomb' or 'handite' machine), provided that only a short length of rail head is involved.

After the sand or sandite has been applied using the appropriate equipment the signaller must take the following action:

1. Controlled test stop
A controlled test stop as shown in *Rule Book Module TW1, Section 17, Clause 17.3* must be made at the location concerned.

2. Operation of track circuits
Following the application of sand or sandite the requirements of *Rule Book Module TS1, Section 12, Clauses 12.1.2, 12.1.4, 12.1.5, 12.1.6, 12.1.7, 12.1.8 and 12.1.9* (as relevant to the circumstances of the movement) must be observed in respect of the next train or trains over the line concerned, until the correct operation of track circuits has been observed.

SANDITE TRAINS - *RULE BOOK MODULE TW1, SECTION 17, CLAUSE 17.6*

1. Types of sandite train.

There are two types of sandite train in operation; the Network Rail Multi-Purpose Vehicle (MPV) and a modified Class 37 locomotive. Each type is fitted with pumps and storage tanks for application of sandite mixture.

2. Locating sandite sites.

Sandite marker boards, as described in *Rule Book Module TW1, Section 17, Clause 17.6* are used to identify the lines and sites where sandite is to be applied. Details are also published in the Working Timetables and supplements.

Where details have not been shown in the relevant notice, the driver must stop the train at a signal or the signal box in rear of the section of line concerned, and inform the signaller where the sandite is to be applied.

3. Speed when applying sandite.

The MPV can apply sandite at speeds between 20 and 30 mph. Trains other than the MPV must apply sandite at a constant speed of 20 mph. If train speed falls below 15 mph sandite application must cease.

4. Route availability.

Sandite trains are prohibited on route NW8011 between Mann Island Jn. and James Street via the Loop line.

The adapted Class 37 locomotive may travel on any line cleared for Class 37 locomotives in Table D4 of this Sectional Appendix.

The MPV may travel on any route cleared to the W6a loading gauge or greater in Table D5 of this Sectional Appendix. (Note that MPV's fitted with trip cock equipment must have this equipment latched up when operating on lines other than those electrified by the DC 3rd rail system in the Liverpool Area.)

5. Location of sandite trains.

The location and utilisation of sandite trains can be found out by contacting the dedicated Sandite Desk at the English Welsh & Scottish Railway CSDC in Doncaster.

6. Operation of track circuits.

When applying sandite, or for 200 metres (220 yards) after the application has stopped a sandite train **must not** be relied upon to operate track circuits.

The requirements of *Rule Book Module TS1, Section 12, Clauses 12.1.2, 12.1.4, 12.1.5, 12.1.6, 12.1.7, 12.1.8 and 12.1.9* (as relevant to the circumstances of the movement) must be observed in respect of a sandite train when applying sandite, and in respect of the next train or trains over the line concerned, until the correct operation of track circuits has been observed.

Signallers must specially observe the operation of track circuits during the passage of the next train over the line on which sandite has been applied and must not rely on the operation of these track circuits until this next train, or a subsequent train, has correctly operated them.

7. Detention of the sandite train at a signal.

If a sandite train is detained at a signal during or after applying sandite, the signaller must be reminded **immediately** about the presence of the train by the driver carrying out the instructions contained in *Rule Book Module S4, Sections 2 or 3.*

If the train has stopped at an automatic, semi-automatic or intermediate block home signal at which the telephone has failed, the train may proceed in accordance with *Rule Book Module S5, Part B, Sections 1 and 2* but sandite must not be applied until the train reaches the next controlled signal or a signal box.

8. Protection of the line on which the sandite train is standing.

If the train is stopped by train accident, including fire or accidental division, during the application of sandite or for 200 metres (220 yards) after the application has stopped then the train **must not** be relied upon to operate track circuits.

9. Train description.

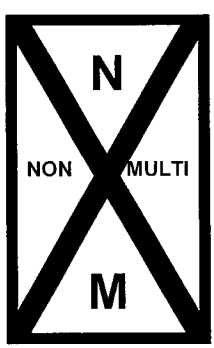
Sandite trains must carry a reporting number consisting of 4Z**. The special 'Is Line Clear' bell signal 3-4-2 must be used where train describers are not in use.

MULTIPLE UNIT TRAINS EQUIPPED WITH AUTOMATIC COUPLERS – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE TW2, PART C, SECTION 10, CLAUSE 10.1* AND *MODULE TW5, PART B, SECTION 5*

To assist staff in identifying automatic couplers which could be damaged by coupling the train to another train, a yellow and black 'Non Multi' sign will be fixed to the offside windscreen of the cab concerned so that the sign will be directly opposite the driver of another train.

During normal working, no attempt should be made to couple an automatic coupler where this sign is shown.

In the event of a train equipped with automatic couplers becoming disabled and requiring assistance, the driver of the disabled train must, when requesting assistance, specifically advise the signaller whether or not a 'Non Multi' sign is displayed in either of the end cabs of the train. Similarly, the driver of the assisting train, before proceeding towards the disabled train, must specifically advise the signaller whether or not a 'Non Multi' sign is displayed in the cab at the end which would be coupled to the disabled train.



(Black and white example shown. Version in use has a black cross and text on a yellow background.)

If assistance can only be provided is such a manner that one or other of the cabs to be coupled has a 'Non-Multi' sign displayed, technical advice must be obtained. Under no circumstance should any attempt be made to couple the trains until this advice is received. Technical authority may be granted to couple the trains using the automatic couplers subject to conditions which will be specified at the time. If such authority must be granted, it will be necessary to use an emergency coupling.

COUPLING OF LOCOMOTIVES IN MULTIPLE OR TANDEM - *RULE BOOK MODULE TW3, SECTION 11, CLAUSE11.2*

1. Maximum number of locomotives that may run coupled together.

Up to five locomotives **under power** may run coupled together, unless a lower number is shown in any publication dealing with the working of locomotives.

2. Electric locomotives coupled in multiple or tandem.

The **80 mph** maximum speed of electric locomotives running in multiple or tandem with pantographs raised on **each** locomotive is authorised only on the following sections of line.

- Armitage Jn. to Gretna Jn. (all lines),
- Crewe to Manchester,
- Wilmslow to Slade Lane (via Styal) – **up line only**.

On all other sections of line electric locomotives working in multiple or tandem with **each** pantograph raised must not exceed **60 mph**.

DIESEL MULTIPLE UNITS FITTED WITH TRACK CIRCUIT ACTUATORS (TCA) - *RULE BOOK MODULE TW5, PART B, SECTION 28*

An empty DMU with a defective TCA that is proceeding to a maintenance depot or other location as identified in the contingency plan, should be allocated reporting number 5Z09 for identification purposes.

LEVEL CROSSINGS BETWEEN PLATFORMS – ADDITIONAL INSTRUCTIONS TO *RULE BOOK MODULE TW8*

At stations where passengers have to cross the track from one platform to another staff must exercise the greatest possible care to prevent the risk of an accident.

At all stations where footbridges or subways are provided special care should be taken to prevent passengers using the level-crossings.

OTHER GENERAL INSTRUCTIONS

AXLE COUNTERS – LINES EQUIPPED

The following lines of route are equipped with Axle Counters:

Route	Sections of line equipped
NW1005 Kidsgrove Jn. to Crewe South Jn.	Stoke-on-Trent box area only.
NW2027 Edge Hill Bootle Branch Jn. to Regent Road L.C.	Down and up Bootle lines between Picko No. 1 Tunnel and Bootle Branch Jn. end of Oriel Rd. Tunnel.
NW3001 Crewe North Jn. to Holyhead	Part of down main - Colwyn Bay end of Abergele & Pensarn station to 215m. 20ch. Down main line - Little Chef L.C. to Bangor station (excl.). Up main line – Bangor station (excl.) to 224m. 60ch. Platform 2 at Holyhead station.
NW3007 Wrexham Central to Bidston West Jn.	Down Wrexham – Shotwick G.F. to signal ML.580R. Up Wrexham – approx. 1m. 30ch. to 11m. 60 ch.
NW5001 Crewe North Jn. to Manchester Piccadilly	Up fast line in Stockport station.
NW5008 Norton Bridge to Stone Jn.	Stoke-on-Trent box area only.
NW5009 Colwich Jn. to Cheadle Hulme	Stoke-on-Trent box area only.
NW5010 Glebe Street Jn. to Caldon Quarry	Signal SOT.463 berthing track section.
NW5012 Foley Crossing (excl.) to Stoke Jn.	Between Foley Crossing box and Stoke Jn.
NW7021 Miles Platting Jn. to Marsden	Marsden end of Standege Tunnel.
NW8011 Mann Island Jn. to West Kirby (via loop)	Loop line. Down and up West Kirby lines between James St. station and Birkenhead Park station.
NW8013 Canning Street Jn. to Hooton South Jn.	Down and up Chester lines between Canning St. Jn. and Birkenhead Central station.
NW9001 Dore West Jn. to Edgeley Jn. No. 1 (Hope Valley lines)	Through Disley Tunnel.
NW9007 New Mills South Jn. to Ashburys East Jn.	Down and up main lines between Marple and Romiley Jn.
NW9009 Marple Wharf Jn. to Rose Hill	Part of up Rose Hill line.

Axle counter sections may fail as a result of the following activities being undertaken:

- Re-railing
- Rail grinding past axle counter heads
- Removal of rails with axle counter heads
- Tamper, stoneblower or ballast cleaner/regulator operations past axle counter heads, but not including journeys to or from the work site
- Motorised trolley operation
- All work within 1 metre (0.9 yards) of axle counter heads with tools or any equipment which may impact on axle counter heads
- Loading and unloading of materials

It is advisable to have a Signalling Technician on standby in order to facilitate, without delay, the restoration of an axle counter section.

CLASS 92 LOCOMOTIVES - OPERATIONAL RESTRICTIONS

In addition to the route availability shown in Table D4 of this Sectional Appendix the following Class 92 traction specific instructions must be carried out by all concerned:

- The locomotive electrical train supply (ETS) must not be connected.
- If two locomotives are coupled together or used in the same train formation, then only one shall be under power and connected to the traction electrical supply system.
- Regenerative braking is prohibited.
- When being dead-hauled the 'Battery Isolation Switch' must be set to the 'Isolate' position.

CLEANING OF LOCOMOTIVE WINDSCREENS IN PLATFORMS

1. Cleaning of windscreens under overhead line equipment.
Cleaning of locomotive windscreens under live overhead line equipment (OLE) can only be done where specially authorised as follows:

Location	***Traction***
Crewe	All locomotives
Liverpool Lime Street	All AC electric locomotives and Class 31 and 47 diesel locomotives
Manchester Piccadilly	All locomotives
Preston	All locomotives.

This work must only be done by authorised staff using equipment specially provided for this purpose. (**The equipment provided must never be raised above the top of the locomotive windscreen**.)

2. Method of work.

The following instructions apply at all locations where there is no OLE and at the 'electrified' locations specially authorised above. There are also additional instructions for cleaning of locomotive windscreens at Preston and Crewe stations in the relevant local instructions section(s) of this publication.

Whilst the work is being carried out the provisions of *Rule Book Module T10* must be applied. In addition to the requirements of *Section 6* of *Module T10* the following additional protection must be provided before work commences:

a) A red flag, or a red light (particularly if visibility is poor), must be exhibited 20 yards (20m) from the end of the last vehicle nearest the direction from which vehicles might be shunted against the locomotive(s) on which the cleaning is taking place. The red light may be steady for flashing.

b) If it is possible for vehicles to be shunted against both ends of the locomotive(s) on which the cleaning is taking place, this protection must be provided at both ends.

c) A 'NOT TO BE MOVED' board must be positioned on the driving desk in each locomotive cab. Only the staff carrying out the work are authorised to position and remove these boards. Whilst a reminder device is exhibited, the locomotive must not be moved.

EMU STOCK FITTED WITH BUCKEYE COUPLERS WHICH ARE NORMALLY MAINTAINED IN THE 'UP' POSITION

Where it is necessary for any member of the staff to go between two units fitted with buckeye couplers, either of which is capable of being moved, the person concerned must take possession of the driver's brake controller key, returning it to the driver when the operation requiring the person to go between the units is completed.

INSTRUCTIONS TO TRAINCREWS WORKING OTHER THAN DC ELECTRIC TRAINS AND OTHER STAFF WHO ARE REQUIRED TO WORK OVER, OR IN THE VICINITY OF, DC ELECTRIFIED LINES IN THE LIVERPOOL AREA

1. Scope of instructions.

These instructions are not intended for traincrew required to work trains during normal traffic hours over trip cock fitted areas of the DC electrified lines in the Liverpool area. Any traincrew required to work in normal traffic hours over trip cock fitted lines must be supplied with the *Working Instructions for DC Electrified Lines in the Liverpool Area*, and be competent in all relevant requirements of that publication.

2. Movement of traction units not fitted with trip cocks.
Before any train not fitted with a trip cock is allowed to enter upon the Mersey Section or the Link or Loop lines, the driver must obtain the authority of, the signaller at either Merseyrail or Hunts Cross signal boxes.

3. Description of the system.
DC electrified lines consist of one (positive) conductor rail located on the sleeper ends in the cess and/or six-foot ways in addition to the two running rails; one of the running rails is electrically bonded over the joints and acts as a conductor for the return (negative) current.

4. Danger of live equipment.

4.1 It must always be assumed that the conductor rails and connections **are live.**

4.2 **The conductor rail is charged with electricity and it is dangerous to step upon, touch or come into contact with either the conductor rails or their connections. In addition, staff must not step upon conductor rail protection boarding.**

4.3 **On no account must a broken or displaced conductor rail be touched until it has been isolated**

4.4 Although the traction return current flows through the running rails and the negative conductor rail where provided, these rails are not dangerous to human life.

4.5 It is dangerous to pour water on to, or in the immediate vicinity of, the line conductor rail, or to allow water issuing from locomotives, hose pipes, hydrants, etc., to come into contact therewith.

4.6 **Staff are warned not to cross the conductor rail more than absolutely necessary** in the discharge of their duties, and great care must be taken to avoid contact with the conductor rail. When possible use must be made of lifts, subways, over-bridges, barrow or other crossings where these are provided.

5. Emergency telephones.

5.1 Telephones for emergency use are provided at signal boxes, ground frames, passenger stations, inspection sheds and other points on the electrified lines.

These telephones are housed in cabinets identified by a white telephone on a green background with the words "EMERGENCY TELEPHONE" in white.

5.3 These telephones must only be used for communicating with the Electrical Control Operator (ECO) and all messages must be repeated back to ensure that they are correctly understood.

5.4 *Contacting the Electrical Control Operator.*

Contact with the ECO can be made either by the emergency telephones described above, or by ringing the numbers shown below :

Location	*British Telecom*	*E.T.D.*	*N.R.N. Band III*	*Short Code (ETD)*
Sandhills ECR	0151-298 2840	05-22428/29/30	#2-170	170

- If busy use "P" button to obtain priority call

6. **Switching off electricity in emergency.**

6.1 Any person becoming aware of a derailment, mishap or other emergency requiring or likely to require, the electricity to be switched off, must telephone the ECO at once, or arrange for this to be done.

6.2 If it would save time, radio or any lineside or other telephone may be used for communicating with the ECO as an alternative to using an emergency telephone.

6.3 When a lineside telephone communicating with a signal box is used, the messages between the person requesting the isolation and the ECO must be passed on by the signaller without delay.

6.4 Before telephoning for the electricity to be switched off, traincrews must ensure that where a line(s) other than that on which their train is standing is obstructed, such line(s) is protected in accordance with the provisions of *Rule Book Module M1.*

6.5 The person contacting the ECO must first say that '**This is an emergency call**', then must state:

(a) where they are speaking from
(b) their name, job title and employer
(c) the line or lines concerned
(d) the location (e.g. the nearest bridge, station, signal or other structure)
(e) the telephone or radio call number you are using (so the ECO can contact you if necessary)
(f) why the isolation is required and whether any person is in danger from the conductor rail or its connections
(g) whether police, fire, ambulance or other emergency services are waitning to give assistance

The person contacting the ECO must remain in contact until either:

- assured by the ECO that the electricity has been switched off and the equipment made safe, or
- alternative arrangements have been agreed.

6.6 The person making the request will be known as the person in charge of the isolation and this person alone must be responsible for dealing with the ECO in these circumstances. If this person is relieved, this person must advise the ECO the name and grade of the person left in charge of the isolation, who must also confirm to the ECO that this person is now in charge. The ECO must satisfy himself that the relief is fully aware of the limits of the isolation. Electricity will be restored only for, or after consultation with, the person in charge of the isolation.

7. Procedure in case of fire.

7.1 Any outbreak of fire on or near to the electrified lines must be reported immediately to the ECO.

7.2 In reporting fire, care must be taken to state the exact location and which line(s) is affected.

7.3 Urgent measures must be taken to extinguish fires likely to affect cables or other electrical equipment. In addition *Rule Book Module G1, Section 9* arrangements regarding fires must be observed as applicable. The local instructions regarding procedure in case of fire contained in the Local Information Card must also be carried out.

7.4 B.C.F. extinguishers painted yellow or with a yellow band are suitable for use on fires on, or in the immediate vicinity of, electrified lines, cables or train equipment which may be alive.

ANY EMPLOYEE INHALING OR COMING INTO CONTACT WITH THE VAPOUR FROM B.C.F. EXTINGUISHERS MUST IMMEDIATELY BE PLACED IN FRESH AIR AND, IF B.C.F. ENTERS THE EYES, THEY MUST BE FLUSHED WITH CLEAN WATER.

A.F.F.F. Spray Extinguishers painted beige, must not be directed at live electrical equipment, including overhead line equipment, conductor rails or electric train heating equipment UNTIL THE ELECTRICITY HAS BEEN SWITCHED OFF.

Exception: A.F.F.F. extinguishers may be directed at train/traction electrical equipment BUT ONLY after the electric train supply (E.T.S.) and/or main traction supply has been switched off.

Battery circuits may remain energised in order to retain emergency train lighting and communication equipment.

7.5 Dry sand or earth is suitable for extinguishing fires, but water or extinguishers containing water must NOT be used under any circumstances until electricity has been switched off from the vicinity of the fire. Even then water must not be used if other means of extinguishing the fire are available.

8. Damage to conductor rails and cables.

When damage, smoking, excessive flashing (except normal sparking caused by a passing electric train), or fusing is noticed, the matter must be reported immediately by telephone to the ECO, starting the location and which line(s) is affected.

9. **Interference with electrical equipment.**

All staff must exercise vigilance to prevent interference with any portion of electrical equipment.

10. Flooding of permanent way.

10.1 Whenever an electrified line is flooded up to the tops of sleepers, any person observing or becoming aware of such flooding must arrange for the ECO to be at once informed, reporting the location, depth and extent of flooding and any subsequent change of conditions.

10.2 All concerned are warned that when flood water is lying on the surface of the permanent way, they must take care not to step into the water, as it may be highly charged with electricity.

10.3 Where circumstances arise causing it to be necessary for any person to step into the water, the conductor rail must be isolated before he does so.

11. Wagon sheets.

Great care must be exercised in securing sheets on wagons routed over electrified lines so as to prevent the sheets being dislodged by wind. Sheet strings must not be allowed to hang loosely.

12. Securing of couplings and brake pins.

12.1 Guards and shunters working trains passing over electrified lines must see that brake pins or long couplings are not allowed to hang down. The attention of maintenance staff must be called to all brake levers which are found to be less than six inches from the rail level when in their lowest position. Guards and shunters are responsible for walking round their train to see that all is in order in this respect prior to leaving the last depot or yard before they pass over electrified lines. The middle link of loose couplings must be pushed up in order to clear the conductor rail.

12.2 Drivers are responsible for seeing that screw couplings attached to their locomotives are clear of the conductor rails.

12.3 Train staff when pinning or unpinning handbrakes, coupling or uncoupling vehicles, etc., must as far as practicable, work on the side of the vehicles at which there is no conductor rail.

13. **Traincrew alighting from locomotive and/or examining, etc., their train.**

When working over electrified lines, traincrews must not alight from the locomotive more than is necessary. Before examining, adjusting, repairing, etc., any part of a vehicle which is near to the conductor rail, arrangements must be made for the current to be switched off.

14. Detraining of passengers in emergency.

Should it be necessary for passengers to be detrained, other than at a platform, the current must be switched off before they are allowed to leave the train. The conductor rail of the line upon which the train is standing and also any conductor rails alongside or over which the passengers may have to walk must be isolated.

15. Prevention of damage and obstruction to conductor rail.

Contact must be prevented between any object or ballast and a live conductor rail and material must not be dragged across or dropped on such a rail.

16. Dangerous to touch collector shoes.

Collector shoes of an electric multiple unit are connected together by cables and whether in contact with the conductor rail or not must be considered dangerous to life.

PROCEDURE FOR THE PROTECTION OF LAMPMEN

At locations where lampmen have to work alone on or near the line, and cannot carry out their duties safely without the need to block any adjoining line, the following procedure must be applied:

1. BEFORE WORK STARTS.

1.1 Agreement to be reached.
The lampman must advise the signaller concerned and agree:

- which line(s) will be affected
- the length of time required, the time when work will start and the time by which it must be completed
- that all signals protecting the location will be maintained at danger.

1.2 Reminder appliances.
The signaller must, at the time agreed for the work to start, place or maintain the protecting signals at danger and use the appropriate reminder appliances.

1.3 Entries in the train register/occurrence book.
When signal protection has been afforded, the signaller must make the following entry in his train register/occurrence book:

"As agreed with Lampman ..... the ..... line(s) has/have been blocked for lamping duties. Signal/Release No(s). ..... maintained at Danger/Normal.

Time ..... Date ..... "

1.4 Entries to be endorsed.
Before work commences the lampman must ask the signaller to read back the entry and when satisfied that it is correct repeat his name and, if not present in the signal box, state the location from where he is speaking. The signaller must endorse the entry accordingly. The lampman, if present in the signal box, must endorse the entry also.

2. WHEN WORK HAS BEEN COMPLETED.

2.1 Advice to signaller
When work is completed and the lampman is clear of the line in a position of safety, he must advise the signaller accordingly.

2.2 Entries in the train register/occurrence book
When advised by the lampman that work has been completed and the line is clear, the signaller must make the following entry in his train register/occurrence book:

"Advised by Lampman ..... that work is finished and the ..... line(s) is/are now clear.

Time ..... Date ..... "

The lampman, if present in the signal box, must endorse the entry.

RECORDING OF CONVERSATIONS

Telephone calls to Network Rail Signal Boxes, Electrical Controls and Operations Controls may be recorded for the purposes of monitoring the quality of safety related information being exchanged and to assist with investigations into incidents.

SIGNAL BOX TELEPHONE NUMBERS

Signal box	Telephone No.	Signal box	Telephone No.
		A	
Abergele	055-5225	Ashburys	05-85023
Allerton Jn.	05-21600	Ashton Moss North Jn.	05-85050
Appleby North	05-80900	Askam	05-80619
Arnside	05-80630	Astley	05-89030
Arpley Jn.	05-89199	Atherton Goods Yard	05-85665
		B	
Baguley Fold Jn.	05-85048	BlackpoolNorth No.2	05-87442
Bangor	055-4213	Blackrod Jn.	049-5234
Bare Lane	05-87295	Blea Moor	05-86220
Barrow-in-Furness	05-80601	Bootle	05-80713
Basford Hall Jn.	05-32790	Bransty	05-80499
Beeston C. &Tarporley	05-56361	Bromley Cross	049-5299
Betley Road	05-32789	Burscough Bridge Jn.	05-21447
Blackpool North No.1	05-87441	Buxton	05-86445
		C	
Canning Street North	05-23044	Castleton East Jn.	05-84957
Carleton Crossing	05-87464	Chapel-en-le-Frith	05-86466
Carlisle		Chester	05-56218
South Panel	05-80230	Chinley	05-38351
Carnforth North Jn. to Wreay (incl. Oxenholme to Windermere)		Colwich	05-86422
		Crewe (North Panel)	05-32809
Middle Panel	05-80206	Crewe (South Panel)	05-32810
Wreay to Caldew Jn. (incl. Wigton to Carlisle)		Crewe Coal Yard	05-32812
		Crewe S.S. North	05-32805
North Panel	05-80233	Crewe Steel Works	05-32804
Caldew Jn. (incl. Kingmoor Complex) to Cranbury and Annan		Croes Newydd Nth. Fork	05-56387
		Crosfield's Crossing L.C.	05-89059
Carnforth Station Jn.	05-87349	Crow Nest Jn.	049-5210
Carterhouse Jn.	05-21760	Culgaith	05-80910
		D	
Daisyfield	05-86215	Diggle Jn.	05-85110
Dalton Jn.	05-80621	Dinting	05-85248
Deansgate Jn.	05-88266	Ditton Jn. No.1	05-21708
Dee Marsh Jn.	05-56344	Ditton Jn. No.2	05-21709
Deganwy	055-2264	Drigg	05-80714
Denton Jn.	05-88280		
		E	
Earles Sidings	05-86473	Edgeley Jn. No.1	05-88240
Eccles	05-85336	Edgeley Jn. No.2	05-88241
Edale	05-86472	Ellesmere Port	05-56264
Edge Hill	05-22829		
		F	
Fiddlers Ferry Power Stn.	05-89162	Frodsham Jn.	05-56417
Foxfield	05-80701	Furness Vale	05-88324

Signal box	Telephone No.
G	
Gaerwen	055-4251
Garston Jn.	05-21596
Garsdale	05-80907
Glazebrook East Jn.	05-85077
Grange-over-Sands	05-80617
Great Rocks Jn.	05-86450
Greenbank	053-7252
Gresty Lane	05-32788
Grindleford	05-86474
Guide Bridge	05-85083
H	
Halton Jn.	05-21739
Hazel Grove	05-88295
Heaton Norris Jn.	05-88325
Helsby Jn.	05-56266
Hellifield	03-31736
Holyhead	055-3203
Holywell Jn.	055-5234
Hooton	05-22485
Horrocksford Jn.	05-86320
Howe & Co's Siding	05-80216
Hunts Cross	05-21567
Huyton	05-22793
K	
Kirkham	05-82538
Kirkby Stephen	05-80908
Kirkby Thore	05-80977
L	
Litton's Mill Crossing	05-89172
Liverpool Lime Street	05-22762
Llandudno Jn.	055-2213
Llandudno Station	055-2244
Llanrwst	055-2239
Low House Crossing	05-80245
M	
Macclesfield	05-88395
Madeley (*WCML*)	05-32815
Manchester North	
West Panel	05-88084
Windsor Bridge Sth.Jn. (excl.) & Ordsall Lane Jn. (excl.) to Miles Platt. Jn. (excl.)	
East Panel	05-88087
Miles Platt. Jn. (incl.) to Vitriol Works (excl.) Oldham Mumps (excl.) to Baguley Fold Jn. (excl.) & Philips Park South Jn. (incl.)	
Manchester Piccadilly	
Station Panel	05-84007
Ardwick Jn. to Manchester Piccadilly and West end of Platform Nos. 13 & 14	
Longsight Panel	05-84008
Ardwick Jn. (excl.) to Heaton Norris Jn.	
Heald Green Panel	05-84738
Slade Lane Jn.(excl.) to Manchester Airport, Heald Green North Jn. to Wilmslow (excl.)	
Manchester Piccadilly *(continued)*	
Oxford Road Panel	05-84009
Manchester Piccadilly West End Platforms Nos. 13 & 14 to Ordsall Lane Jn. (excl.) and Glazebrook E.Jn. (excl.)	
Windsor Bridge Panel	05-84010
Westhoughton/Blackrod/Bromley Cross to Deal Street (excl.) and Salford/Ordsall Lines, Ordsall Lane Jn. to Eccles (excl.), Windsor Bridge N.Jn. to Pendlebury Tunnel	
Manchester South	05-88278
Maryport Station	05-80485
Merseyrail (North Lines)	05-21061
Merseyrail (Wirral Lines)	05-21064
Mickle Trafford	05-56347
Midge Hall	05-82277
Millom	05-80705
Mobberley	05-88230
Mold Jn.	05-56364
Monk's Siding	05-89168
Mostyn	055-5247
Mouldsworth	05-56348
N	
New Mills Central	05-85234
New Mills South Jn.	05-86444
Northenden Jn.	05-88290
Norton	05-89057
Norton Bridge	05-38359

Signal box	Telephone No.	Signal box	Telephone No.
		O	
Oldham	05-85278		
		P	
Parbold	05-89553	**Preston** *(continued)*	
Park South	05-80618	"B" Panel	05-82266
Parton	05-80477	*Blackburn to Farington Curve Jn.*	
Peak Forest South	05-86430	*Farington Jn. to Lostock Hall Jn.*	
Penmaenmawr	055-2269	*Blackburn to Bromley Cross (excl.)*	
Penyffordd	05-56330	*Euxton Jn. to Blackrod (excl.)*	
Plumley West	05-37261	*Coppull to Farington Curve Jn. (excl.)*	
Poulton	05-87460	*Farington Curve Jn. to Midge Hall (excl.)*	
Prescot	05-22905	"C" Panel	05-82265
Prestatyn	055-5251	*Skew Bridge to Broughton North*	
Preston		*Preston Fylde Jn. to Salwick (excl.)*	
"A" Panel	05-82270	"D" Panel	05-82605
Blackburn to Hebden Bridge, Gannow Jn to Colne, Hall Royd Jn. to Smithy Bridge		*Broughton North to Carnforth North Jn. Morecambe South Jn. to Bare Lane*	
		R	
Rainford Jn.	05-89588	Rockcliffe Hall	055-6371
Rainhill	05-23086	Romiley Jn.	05-85134
Rhyl	055-5208	Rufford	05-82294
Rochdale	05-85032	Runcorn	05-21738
		S	
St. Bees	05-80551	Speke Jn.	05-21528
St. Helens Station	05-89088	Stafford No.4	05-38317
Salop Goods Jn.	05-32799	Stafford No.5	05-38320
Salwick	05-82261	Stoke-on-Trent SC	
Sandbach	05-32796	Supervisor	05-30383
Sandycroft	055-6370	North Panel	05-30453
Sellafield	05-80555	South Panel	05-30288
Settle Jn.	03-31765	Stalybridge	05-85035
Shaw Station	05-85269	Stanlow & Thornton	05-56350
Silecroft	05-80709	Stockport No.1	05-88209
Smithy Bridge	05-86331	Stockport No.2	05-88210
		T	
Talacre	055-5253	Totley Tunnel East	019-2545
		U	
Ulverston	05-80613		
		V	
Valley	055-3234	Vitriol Works	05-81107
		W	
Walkden	05-81377	**Warrington** *(continued)*	
Warrington		South Panel	05-89078
North Panel	05-89148	*Winwick Jn. to Weaver Jn. (excl.)*	
WN1 Up/Down WN2 (Standish) to Bamfurlong Jn. including Wigan North St. Helens Line		*Norton (Excl.) to Warrington South Jn. (Helsby Lines)*	
		Warrington Central	05-89191

Signal box	Telephone No.	Signal box	Telephone No.
Warrington *(continued)*		Wennington	05-87288
Middle Panel	05-89048	Wigan Wallgate	05-89569
Golborne Jn. to Parkside Jn./Newton-le-Willows Jn., Earlestown to Winwick Jn., Astley (excl.) to Rainhill (excl.) Bamfurlong Jn. to Winwick Jn.		Wigton	05-80249
		Wilmslow	05-88359
		Winsford	05-32806
		Workington Main No.2	05-80532
		Workington Main No.3	05-80533

WORKING ARRANGEMENTS IN CONNECTION WITH METROLINK

1. DETAILS OF LINES.

1.1 Manchester Victoria to Bury (former Bury lines).

The Metrolink lines run parallel to the Network Rail lines between Manchester Victoria station concourse and the entrance to Collyhurst Tunnel on the formation of the former Bury lines and are owned and maintained by Metrolink.

The former down Bury line is known as the outbound line and the former up Bury line is known as the inbound line.

A storage siding, known as Millgate siding, is provided on the approach to Manchester Victoria station, with a trailing connection into the inbound line. Between this connection and the island platform is a facing crossover between the outbound and inbound lines.

Metrolink trains are permitted to work in either direction on both inbound and outbound lines between the platform and Millgate siding.

The maximum permissible speed of Metrolink trains is **50 mph.**

The signals on the Metrolink lines are controlled from the Metrolink Control Centre at Queen's Road. Radio communication is provided between the Control Centre and all Metrolink trains.

1.2 Timperley to Altrincham (Metrolink lines).

Except as shown below, the Metrolink lines between Timperley and Altrincham are used only by Metrolink trains. The track and signalling equipment are owned and maintained by Network Rail and the overhead line equipment by Metrolink. These lines are shown in Table A of this Appendix.

The signals between Timperley (exclusive) and Altrincham are controlled by the Network Rail signaller at Deansgate Junction signal box. The SPT's are housed in vandal-resistant cabinets, (opened by a standard B.R. 1 key), provide communication with the signaller at Deansgate Junction signal box.

Non-Metrolink trains may only run over the Metrolink lines during engineering operations when a possession has been taken of the line(s) concerned in accordance with the *Rule Book Module T3*. In addition, the connection between the up main line and the outbound line at Altrincham may only be used when a possession has been taken of both lines in accordance with the *Rule Book Module T3*.

1.3 Cornbrook Jn.

The Metrolink lines run parallel to Network Rail lines. The maximum permissable speed of Metrolink trains is **50 mph**. The signals on the Metrolink lines are controlled from the Metrolink Control Centre at Queens Road. The boundary between the outbound Metrolink Eccles line and the adjacent Network Rail up Liverpool line is marked with blue posts and boundary signs.

2. Personal Safety.

Traincrews and other staff working on Network Rail lines adjacent to Metrolink lines must be alert to trains operating on these lines.

Staff whose duties require them to go on or near the Metrolink lines must observe the requirements of *Rule Book Module G2* as necessary. Where these refer to the signaller, contact must be made with the Metrolink Controller at Queen's Road in connection with the Manchester Victoria to Collyhurst Tunnel section of line and with the Network Rail signaller at Deansgate Junction in signal box in connection with the Timperley (exclusive) to Altrincham section of line.

'Sentinel' Personal Track Safety competence cards are recognised by Metrolink and must be carried by all staff whose duties require them to go on or near the Metrolink lines.

Metrolink staff whose duties require them to go on or near Network Rail lines must be in possession of a Metrolink staff identification card and training record or contractors card.

3. Overhead Line Equipment.

The overhead line equipment associated with the Metrolink system is energised at 750 volts DC, but non-Metrolink staff must observe the provisions of *Rule Book Modules G2 and AC1* as far as practicable. Where, in those publications, reference is made to the Electrical Control Room or the Electrical Control Operator, these should be read as the Metrolink Control Centre and the Metrolink Duty Manager respectively.

4. Engineering Operations.

Arrangements for engineering operations to be undertaken by Network Rail or their contractor's staff necessitating the blockage of a Metrolink line or the isolation of the associated overhead line equipment must normally be agreed at a pre-planning meeting and details published in the appropriate Operating/Engineering Notices of each company.

Work of an urgent nature not published in such notices may be carried out with prior agreement between the Network Rail department(s) concerned and the Metrolink 'Authorised Person'.

When an isolation of the overhead line equipment is involved, a Metrolink Permit to Work must be issued to the Network Rail (or their contractor) PICOP (see specimen below).

5. Communication with the Metrolink Control Centre, Queen's Road.

On every Metrolink platform there is a push-button operated Passenger Emergency Call point which gives direct voice communication with the Metrolink Control Centre.

Additionally, there are lineside plug-points for portable telephones at Millgate siding, at the entrance to Collyhurst Tunnel, midway between Altrincham and Navigation Road stations and at Deansgate Junction.

The emergency BT telephone number of the Metrolink Control Centre is 0161-203 5619.

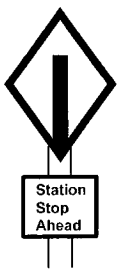
Anyone unable to use, or without access to, any of the above facilities should communicate with the nearest signaller or with the Network Rail Operations Control (telephone 05-85669 or 85676).

6. Trackside Signs.

Trackside signs are provided on the Metrolink lines as depicted on the following page. These apply only on Metrolink trains and should be ignored by non Metrolink staff.

Working arrangements in connection with Metrolink - *continued*

Permanent Speed Restriction.
White diamond-shaped sign with black border and numerals.



Attention Sign.
White diamond-shaped sign with black border and vertical line adjoining the bottom of the border; associated notice on white rectangular sign with black border and lettering.

Temporary Speed Restriction Warning Indicator.
White diamond-shaped sign with black border and red letter.

Temporary Speed Restriction Speed Indicator.
White diamond-shaped sign with black border and red numerals.

Temporary Speed Restriction Termination Indictor.
White diamond-shaped sign with black border and red letter.

SPECIMEN - FRONT

METROLINK

Control/PICOP PTW No. A

PERMIT TO WORK (TYPE A)

N.B. This permit is required for work within 2m of the line or 2.75m of the OHLE or as specified by the Engineer.
It may only be accepted by a Metrolink trained PIC.
This Permit and your PIC badge must be produced on request.
Every section must be completed, if not applicable this must be stated.

Department or Contractor

Worksite limits

Work to be carried out

Permit to work STARTS Date Time

FINISHES Date Time

Prepared on Date by (name in capitals) Signature

PROTECTION OF WORK (Delete as applicable)

1. PHYSICAL- Is a possession required ? # YES/NO

If YES, an absolute engineers possession of the #INBOUND/OUTBOUND line(s) at the above location is required, to include worksite limits, any electrical isolation limit and additional protection in accordance with Metrolink Rule Book Section S.

I (name in capitals) # as PICOP/on behalf of PICOP (name in capitals)

certify the above possession is in force at : Date Time Signature

Other protection or precautions required:-

2. ELECTRICAL- Is any electrical protection required ? # YES/NO

If YES :- Switching Program number must be implemented to :-

I (name in capitals) # as Senior Controller/on behalf of Senior Controller

(name in capitals) certify the above switching program has been completed

and the isolation control sheet updated with this permit.

Date Time Signature

3. ISSUE

Permit issued by (name in capitals) Signature Date Time

SPECIMEN - BACK

4. ACCEPTANCE

I have read this permit and understand that it is only valid when parts 1, 2, 3 and 4 are complete, and then only between the times stated.

PIC (name in capitals) _____ Signature _____ Date _____ Time _____

5.TRANSFER

This permit may only be transferred with the consent of the PICOP, or Senior Controller if applicable. The person to whom it is transferred accepts full responsibility for it. Both the PIC and PICOP/Control copies must be updated with details of any transfer.

From PIC Signature	New PIC Print name	New PIC Signature	OK message received by (name in capitals)	Date	Time

6. CANCELLATION OF PERMIT

6.1 All tools and staff under my control have been withdrawn and staff warned that it is no longer safe to work in the area defined in the permit.

6.2 Has the equipment been returned to a normal operational state ? (tick box) YES ☐ NO ☐

If NO, please specify :-

PIC (name in capitals) _____ Signature _____

Date _____ Time _____ Dictated to _____

7. PERMIT ACCEPTED BACK

Accepted back by (name in capitals) _____ Signature _____

Date _____ Time _____

WORKING OF TRAINS NOT FITTED THROUGHOUT WITH THE CONTINUOUS BRAKE

1. May run only where authorised.
Trains not fitted throughout with the continuous brake may only run where specially authorised in Table B of this Sectional Appendix.

2. Provision of a brake van and side lamps.
A brake van, in which the guard must ride, must be provided at the rear of the train.

The guard must ensure that two side lamps are carried on the rear most brake van. During darkness, fog or falling snow or when passing through a tunnel, they must show a white light forward. The indication to the rear must be red except as follows:

(a) Trains running in the reverse direction on a bi-directional double line must exhibit a white light on the side next to the other line and a red light on the opposite side.
(b) Trains on a relief or slow line and trains on a goods line or loop adjacent to a main or fast line must exhibit a white light on the side next to the main or fast line and a red light on the opposite line.

3. Applying the handbrake.
The guard must apply the handbrake as necessary to steady the train when travelling down a gradient and take care not to lock the wheels. The guard must also apply the handbrake as soon as it becomes apparent that the driver is applying the brakes unless instructions are issued to the contrary. If the driver requires the guard to apply the handbrake, the driver must give three short blasts on the horn and repeat this as necessary.

The guard must apply the handbrake before leaving the brake van.

4. Maximum speed of movements.
Speed must not exceed **25 mph** or any lower speed that may be laid down.

5. Looking back during the movement.
The driver must look back frequently, particularly when accelerating, to check that the whole train is following in order. If the train is stopped abruptly, the driver must go back and ascertain whether any vehicle is lock buffered or derailed or the guard is hurt.

6. Working over steep inclines.
The train must stop before descending any steep incline specified in the Working Timetable or loads tables and any other incline as required by the driver.

Unless the driver is satisfied that the load is small enough to ensure that the train can proceed without applying the wagon brakes; the guard must apply the number of wagon brakes required by the driver, the brakes applied must be immediately behind the locomotive or fitted head. The train may then be restarted and drawn slowly on to the incline. If there are too few (or too many) brakes applied, the driver must stop immediately and give six blasts on the horn (given 3-3). The driver must then instruct the guard to adjust the brakes accordingly.

The driver must carefully control the speed of the train down the incline and the guard must also observe the speed. The locomotive and brake van brakes must be kept in reserve and used only if necessary to stop the train. The train must stop at the foot of the incline to enable the brakes to be released.

INDEX OF LINE HEADINGS

NW3001	Crewe North Jn. to Holyhead	3
NW5001	Crewe North Jn. to Manchester Piccadilly	5
NW1013	Crewe Sorting Sidings North to Gresty Lane	1
NW4025	Currock Jn. to Bog Jn.	4

D

NW7013	Daisyfield Jn. to Hellifield	7
NW4041	Dalton Jn. to Park South Jn.	4
NW6007	Deal Street Jn. to Ordsall Lane Jn.	6
NW5013	Denton Jn. to Ashton Moss North Jn.	5
NW5017	Dinting South Jn. to Dinting East Jn.	5
NW9001	Dore West Jn. to Edgeley Jn. No.1 (Hope Valley lines)	9

E

NW2021	Earlestown South Jn. to Earlestown West Jn. (Liverpool Curve)	2
NW2017	Eccles to Weaste	2
NW2027	Edge Hill Bootle Branch Jn. to Regent Road L.C.	2
NW3023	Edgeley Jn. No.2 to Mickle Trafford	3

F

NW7009	Farington Curve Jn. to Hall Royd Jn. (East Lancs line)	7
NW7007	Farington Curve Jn. to Ormskirk	7
NW7011	Farington Jn. to Lostock Hall Jn. (Lostock Hall lines)	7
NW5012	Foley Crossing (Excl.) to Stoke Jn.	5
NW3021	Frodsham Jn. to Halton Jn.	3

G

NW3019	Gaerwen to Amlwch	3
NW7017	Gannow Jn. to Colne	7
NZ0001	Gargrave to Carlisle South Jn.	10
NW5010	Glebe Street Jn. to Caldon Quarry	5
NW5019	Glossop to Dinting West Jn.	5
NW3005	Gobowen (Excl.) to Saltney Jn.	3
NW1011	Gresty Lane to Salop Goods Jn.	1
NW4031	Gretna Jn. to Annan (Excl.)	4

H

NW5015	Hadfield to Ardwick Jn.	5
NW3037	Hartford C.L.C. Jn. to Hartford Jn.	3
NW3033	Hartford East Jn. to Hartford North Jn. (East Goods lines)	3
NW3035	Hartford West Jn. to Hartford North Jn. (West Goods lines)	3
NW1023	Haydock Branch Jn. to Kelbit P.S.	1
NW9017	Hazel Grove High Level Jn. to Northenden Jn.	9
NW5005	Heald Green South Jn. to Heald Green West Jn.	5
NW5011	Heaton Norris Jn. to Guide Bridge Station Jn.	5
NW4013	Hest Bank to Bare Lane	4
NW3013	Hooton South Jn. to Helsby Jn.	3
NW8001	Hunts Cross West Jn. to Southport	8

K

NW1005	Kidsgrove Jn. to Crewe South Jn.	1
NW4007	Kirkham North Jn. to Blackpool South	4

L

NW3017	Llandudno Jn. to Llandudno	3
NW3015	Llandudno Jn. to Blaenau Ffestiniog	3
NZ0001	London Road Jn. to Bog Jn. (Newcastle Goods lines)	10
NW6013	Lostock Jn. to Crow Nest Jn.	6

M

NW5007	Manchester Airport to Heald Green North Jn.	5
NW6001	Manchester Piccadilly East Jn. to Euxton Jn.	6
NW7001	Manchester Victoria West Jn. to Hebden Bridge	7
NW6005	Manchester Victoria East Jn. to Windsor Bridge South Jn.	6
NW8001	Mann Island Jn. to West Kirby (Via Loop)	8
NW9009	Marple Wharf Jn. to Rose Hill	9
NW7021	Miles Platting Jn. to Marsden	7
NW4017	Morecambe Jn. to Heysham Port	4
NW4011	Morecambe South Jn. to Morecambe	4
NW4029	Mossband Jn. to Bush - on - Esk	4

N

NW1007	Nantwich (Excl.) to Crewe South Jn.	1
NW9007	New Mills South Jn. to Ashburys East Jn.	9
NW3031	Northwich South Jn. to Northwich Station Jn.	3
NW5008	Norton Bridge Jn. to Stone Jn.	5

O

NW2015	Ordsall Lane Jn. to Edge Hill	2
NW4019	Oxenholme to Windermere	4

P

NW7015	Padiham Power Station Sidings to Rose Grove West Jn.	7
NW8003	Paradise Jn. to James Street (Stock Interchange/ Holding line)	8
NW2019	Parkside Jn. to Lowton Jn. (East Curve lines)	2
NW1002	Penkridge Station (incl.) to Trent Valley Jn. No.1 (Stafford)	1
NW7025	Philips Park West Jn. to Ashburys West Jn.	7
NW7023	Philips Park West Jn. to Brewery Jn.	7
NW4009	Poulton to Burn Naze	4
NW4005	Preston Fylde Jn. to Blackpool North	4
NW4003	Preston Fylde Jn. to Deepdale Jn.	4
NW4001	Preston Ribble Jn to Cove L.C	4
NW1027	Preston South Jn. to Strand Road	1

R

NW9011	Romiley Jn. to Hyde Jn.	9
NW1004	Rugeley Town (excl.) to Rugeley North Jn.	1
NW2003	Runcorn to I.C.I. Salt Works (Runcorn Dock Branch)	2

S

NW1017	Salop Goods Jn. to Crewe Coal Yard (Liverpool Independent lines)	1
NW1015	Salop Goods Jn. to Crewe North Jn. (Chester Independent line)	1
NW3029	Sandbach North Jn. to Northwich West Jn.	3
NW8005	Sandhills Jn. to Ormskirk	8
NZ0003	Settle Jn. to Carnforth Station Jn.	10
NW1003	Silverdale to Madeley	1
NW3025	Skelton Jn. to Partington	3
NW2005	Speke Jn. to Garston Jn.	2
NW2023	Springs Branch Jn. to Huyton Jn. (St. Helens lines)	2
NW2025	St Helens Station to Ravenhead Jn.	2
NW5021	Stalybridge to Guide Bridge West Jn.	5

T

NW7019	Thorpes Bridge Jn. to Rochdale (Via Oldham)	7
NW3027	Timperley to Altrincham (Metrolink lines)	3

U

NW4023	Upperby Jn. to London Road Jn.	4
NW4021	Upperby Jn. to Rome Street Jn.	4

W

NW8009	Walton Jn. to Kirkby	8
NW2011	Walton Old Jn. to Arpley Jn.	2
NZ0007	Warcop to Appleby	10
NW2001	Weaver Jn. to Liverpool Lime Street	2
NW6015	Wigan Wallgate to Kirkby	6
NW5003	Wilmslow to Slade Lane Jn. (Styal lines)	5
NW6009	Windsor Bridge North Jn. to Southport	6
NW1021	Winwick Jn. to Golborne Jn. (Via Earlestown)	1
NW9013	Woodley Jn. to Bredbury Sidings	9
NW3007	Wrexham Central to Bidston West Jn	3

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