

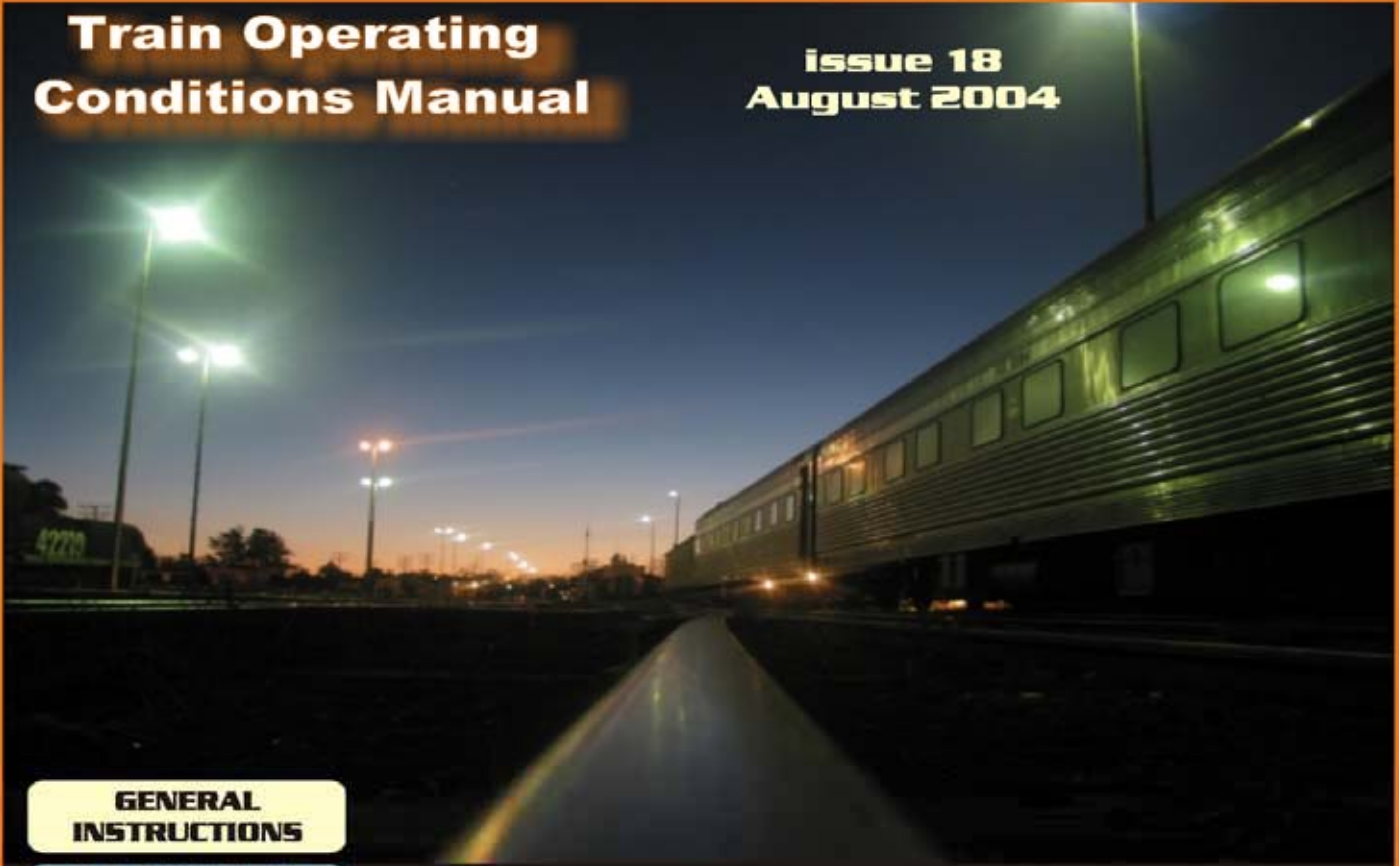


AUSTRALIAN RAIL TRACK CORPORATION LTD

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# Train Operating Conditions Manual

Issue 18  
August 2004



**GENERAL INSTRUCTIONS**

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**WESTERN SECTION PAGES**

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TRAIN OPERATING CONDITIONS



**OS 001 IM**

# **TRAIN OPERATING CONDITIONS**

**Manual No: OS 001 IM**

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# **TRAIN OPERATING CONDITIONS**

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**Version 1.4**

**JUNE 2003**

**Copy No:**

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# Foreword

This Document contains the Instruction Pages which shall be read in conjunction with the relevant Standard Working Timetables for the purpose of safe train operations and is applicable to all freight and CityRail passenger operations.

The document, when complete, will encompass the following information:

- General Instruction Pages
- Sydney Metropolitan Area Section Pages
- Southern Section Pages
- Southern Coal Working Pages
- Illawarra Section Pages
- Illawarra Coal Working Pages
- Western Section Pages
- Western Coal Working Pages
- Northern Section Pages
- Northern Coal Working Pages
- CityRail Section Pages

This document is issued for the use of train planners, train timetablers, train control personnel and train crews, and shall be read in conjunction with the relevant Safeworking Manuals, which it is intended to supplement, but in no way supersede.

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# Control sheet

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Manual Title:

**Train Operating Conditions**

Manual No:

**OS 001 IM**

## Amendment Instructions

This document is subject to strict document control. The control document/s will be issued to the Document Control Officer in each organisation for dissemination within that organisation under its own document control.

Each time this document is reissued in total, it will receive a new version number. Version numbers are full numbers (e.g. 1.0, 2.0 etc).

As a living document pages within the document may be amended and reissued individually to each organisational document control officer. Amendment(s) to pages will increase the document version number by 0.1 (e.g. 1.1 to 1.2).

Control sheets will be reissued with each amendment(s). Before the old control sheets are thrown away, check the version number to ensure that amendments have not been missed. If such is the case, contact the Supplier.

When a new page is received, insert it into the appropriate section of the document and destroy the superseded unit/page identified in the new Amendment Table.

If there are any suggestions for amendments, additions or improvements to the contents of this document, please complete and forward to the authorising position, a photocopy of the attached Copyholder's comment sheet.

## Amendment table

The amendment table allows a check of whether or not the document is up to date, by checking the date in the table against the date on the pages of the corresponding unit. It is also possible to check and ensure that all the pages are contained in each unit.

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**Date: August 2004**

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Index	September 2003	4	6.0
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<b>Section 6 – Train inspection</b>	December 2002	8	1.0
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<p>Refer to current <b>SOUTHERN WORKING TIMETABLE INSTRUCTION PAGES</b> and all relevant amendments. This section to be re-formatted</p>			

<b>SOUTHERN COAL WORKING PAGES</b>			
<p>Refer to current <b>SOUTHERN WORKING TIMETABLE INSTRUCTION PAGES</b> and all relevant amendments. This section to be re-formatted</p>			



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This table shows the current status of units in this manual.

This sheet must be used to check that your manual contains all of these units and that each unit is up to date.

When a new status sheet is forwarded to you, it is your responsibility to add, remove or replace any pages or units from this manual as instructed in the **bold** print on the new status sheet.

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**This glossary contains terminology used in the General Instruction Pages of the TOC manual. Terminology is consistent with the Network Rules and the Draft National Code of Practice.**

<b>airbrake</b>	A braking system activated by change of air pressure.
<b>articulated vehicle</b>	A vehicle comprising of two or more units, adjacent ends of individual units being supported on a common bogie and permanently connected by a device which permits a degree of free rotation in all planes.
<b>articulated platform</b>	The individual end or intermediate units of an articulated vehicle.
<b>automatic airbrake</b>	A braking system where the loss air pressure (e.g. brake pipe) automatically results in an emergency brake application.
<b>bank locomotive</b>	A locomotive provided at the rear of a train to assist it up a steep grade (bank).
<b>basic block working</b>	A form of manual block working which does not require the issue of a Condition Affecting the Network (CAN) form.
<b>block train</b>	A train required to travel under manual block working in track-circuited territory.
<b>block working</b>	See 'manual block working'.
<b>brake pipe continuity</b>	The brake pipe coupling hoses are connected and coupling cocks are open between vehicles to ensure changes in air pressure in the brake pipe is transmitted from one end of the train to the other end.
<b>consist</b>	Listed order of the vehicles arranged to make up a complete train.
<b>convoy</b>	A group of track vehicles not coupled but travelling closely together under a single Proceed Authority or a Track Occupancy Authority.
<b>coupling cock</b>	A cock (valve, tap) fitted at each end of the brake pipe(s), main reservoir pipe, etc. enabling the air connection to the coupling hose to be opened or closed when required.
<b>coupling hose</b>	A flexible connection generally fitted to the coupling cock of the brake pipe(s), main reservoir pipes, etc. to provide an air connection between adjacent vehicles.
<b>diesel multiple unit (DMU)</b>	A distributed power passenger train made up of similar diesel powered and non-powered vehicles capable of carrying passengers and operating as a train.
<b>distributed power</b>	A train operating with power units located at the front and one or more other locations in the train consist. Remote power units may be controlled from the lead locomotive by radio signal or hard wired through the train.
<b>draw capacity</b>	The strength of a vehicle (couplers, draftgear, underframe, etc.) used to determine the load that can be hauled behind the vehicle.
<b>electric multiple unit (EMU)</b>	A distributed power passenger train made up of similar electric powered and non-powered vehicles capable of carrying passengers and operating as a train.



<b>emergency cock</b>	A readily accessible manually operated valve or tap, in a vehicle with an automatic air brake that exhausts the brake pipe to atmosphere causing an emergency brake application. Sometimes referred as an emergency brake pipe tap.
<b>emergency coupler</b>	An adaptor used to couple vehicles with incompatible coupling systems.
<b>end-of-train marker (EOTM)</b>	A device other than tail lights fitted to the trailing end of the last vehicle of a train.
<b>fit for purpose</b>	Able to be used for the required function.
<b>handbrake</b>	A mechanical device used to secure a rail vehicle against movement. Handbrake includes a spring parking brake.
<b>handlamp</b>	A lamp or torch which can display red, white & green lights.
<b>haul</b>	To move rail traffic using motive power source at the leading end of the train.
<b>horn</b>	See whistle.
<b>light locomotive</b>	One or more locomotives not attached to another vehicle.
<b>loading cycle</b>	Cycle of operation of a freight train including travelling to a loading location, loading, travelling to destination and unloading.
<b>loading outline</b>	The maximum height and width to which rail vehicles can be loaded for a particular line without fouling, as prescribed in the Train Operating Conditions manual, Section 5, Loading Restrictions.
<b>locomotive</b>	A self-propelled rail-bound vehicle that may be used to move other vehicles. The Driver's cab of a multiple power unit is considered a locomotive.
<b>manual block working</b>	A method of special working which ensures sole occupancy by manually maintaining a block behind a rail traffic movement.
<b>marker lights</b>	Lights which indicate the front or rear of the train.
<b>marshal</b>	To arrange the order of vehicles in a train's consist.
<b>multiple unit locomotive</b>	Two or more locomotives marshalled together to provide the power to move itself or other vehicles.
<b>multiple unit train</b>	See DMU and EMU.
<b>must</b>	The word 'must' indicates that a statement is mandatory.
<b>Network Rules</b>	Rules issued by RIC to mandate the requirements for safe operation in the RIC network.
<b>normal speed</b>	A speed that does not exceed the current speed limit for the track and class of rail traffic.
<b>On-track vehicles</b>	Track maintenance vehicles (self propelled or trailer) that can operate on rail, and are typically used for track construction, maintenance and restoration, servicing and inspection of overhead electrical infrastructure.
<b>Operator</b>	An organisation that manages, operates or maintains rail traffic on the RIC Network.

<b>Operator's representative</b>	A person authorised by an Operator to act on the Operator's behalf.
<b>Operator Specific Procedures (OSP)</b>	A set of instructions prepared by an Operator on the RIC Network, or by RIC, specifically for that organisation's use.
<b>partial train inspection</b>	A train inspection carried out when the train consist is altered and includes only parts of a full train inspection.
<b>prescribed train</b>	A train laden in excess of a specified percentage of its maximum load that can be hauled by the motive power unit, for that portion of line.
<b>power car</b>	A self-propelled vehicle, which may or may not convey passengers and/or freight, and operates in conjunction with similar vehicles in a multiple unit consist.
<b>propel</b>	To manage airbrake operation of moving rail traffic from a cab that is not in the lead vehicle of a train.
<b>Qualified worker</b>	A worker certified as competent to carry out the relevant task.
<b>Rail Infrastructure Corporation (RIC)</b>	The owner and maintainer of the Network.
<b>rake of vehicles</b>	A number of vehicles that are kept together in a fixed train consist
<b>road/rail vehicle</b>	Pneumatically tyred road vehicles fitted with attachments that permit operation on rail, which can be readily transferred from one mode to another without additional facilities. Sometimes referred as Hi-rail vehicles.
<b>Rova Mech</b>	See TOC Waiver
<b>ruling grade</b>	The maximum grade on a section of track used to determine the motive power required for a train and the load that can be hauled a vehicle on that section of track.
<b>run around</b>	Locomotive movement where the locomotive is moved from one end of a train to the other end of the train to enable the train to change direction of travel.
<b>scaled wheel</b>	A build up of metallic material on a wheel tread's surface, generally as a result of overheating from sticking brakes or dragging brakes causing wheels to slide on the rail.
<b>single self-propelled vehicle</b>	A rail vehicle that can operate under its own power without being coupled to another vehicle.
<b>skidded wheels</b>	Flat areas on the wheel tread, caused when wheels "lock up" under braking or seized axles and the wheels slide or skid on the rail.
<b>tail lights</b>	Red lights used as end-of-train markers.
<b>thermal cracks</b>	Cracks in the running surface and adjacent areas of a wheel, caused by thermal effect of heating and cooling resulting from on-tread friction braking.
<b>TOC Waiver</b>	Train Operating Conditions (TOC) Waiver. – A notice of changes or exceptions to the requirements specified in the published RIC Train Operating Conditions Manual

<b>tonnage signal</b>	A signal at the foot of a steeply rising grade, fitted with a sign that directs Drivers of prescribed trains.
<b>track</b>	The combination of rails, rail connectors, sleepers, ballast, points and crossings.
<b>track circuit</b>	An electric circuit where current is carried through the rails and used to detect the presence of trains. Track-circuits are used in the operation and control of points, signalling equipment and indicators.
<b>track circuit shorting clip</b>	A cable which can be clamped to a line's rails to activate track-circuits.
<b>trackside monitoring equipment</b>	Devices that monitor and respond to track, trackside and rail vehicle condition.
<b>track speed</b>	The allowable maximum train speed for a portion of track.
<b>track maintenance vehicle</b>	See track vehicle.
<b>track vehicle</b>	A vehicle, usually self-propelled, used mainly for inspecting and maintaining track and infrastructure.
<b>track vehicle operator</b>	A Qualified Worker controlling the movement of a track vehicle.
<b>train</b>	A locomotive or self-propelled vehicle, alone or coupled to one or more vehicles.
<b>train consist</b>	A group of vehicle coupled together to form a train.
<b>train (identification) number</b>	A train or run number used to provide unique identification of a train. Refer to TOC General Instruction Pages, Section 7 Train Numbering
<b>trolleys</b>	Small rail vehicles that can be operated on rail and are moved manually.
<b>vehicle</b>	Any item of rolling stock that can operate on rail.
<b>wheel scale</b>	A build up of metallic material on a wheel tread's surface.
<b>whistle</b>	A device such as a horn, whistle, bell, siren or hooter fitted to a train or track maintenance vehicle to give audible warning.
<b>WOLO</b>	Speed restrictions applied during hot weather.
<b>work out of service</b>	To work to a suitable yard, service depot, siding or location where rolling stock can leave the running line for repair or replacement of vehicle equipment.

**FORMAT OF MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK PAGE**

**ITEM 3**  
Classification of Tracks

**ITEM 1**  
Sections

## Cootamundra - Parkes section 8

Maximum Speed of Locomotives and Rolling Stock							Notes
Class of Track	3	3	2				
Line Map reference	A	B	C	D	E	F	
<b>Locomotives</b>							
Multiple Locos	4	4	4				
S1	30	30	N/A				
S2	30	30	50				
S3	30	30	80				
S4	30	30	80				
S5	30	30	80				
S6	30	30	80				
S7	30	30	90				
S8	30	30	100				
S9	30	30	100				
S10	30	30	100				
S11	30	30	80				
S12	30	30	100				
S13	30	30	100				
<b>Freight</b>							
Class A	60	60	100				
Class B	60	60	100				
Class C	60	60	80				
Class D	60	60	60				
Class E	60	60	70				
Class F	N/A	N/A	N/A				
Class G	N/A	N/A	N/A				
<b>Passenger</b>							
XPT	N/A	N/A	N/A				
Xplorer	N/A	N/A	N/A				
Diesel Train	60	60	100				
Loco Hauled	60	60	100				
<b>Accident Cranes</b>							
70 tonne	50	50	50				
110 tonne	60	60	80				
120 tonne	30	30	30				
Notes:							
(a) Before trains are programmed to cross at Forbes, the Train Controller is to ascertain if the Silo Siding is clear of wagons. When it is determined the siding is empty, the middle and silo siding may be used for crossing purposes. No crossing loop is provided.							

**ITEM 2 Line Map**

- Signal Box
- Location
- Double Track
- Subsection break
- Grain (Loading facilities)
- Intermediate Location
- Single Track
- Crossing loop length
- AD indicates the next Down station is equipped for automatic working.
- AU indicates previous Up station is equipped for automatic working i.e. stations do not require to be attended for obtaining the Electric Staff for the section.
- Indicates crossing loop.
- Indicates Train Order location.
- Adjoining track sections

**ITEM 9 Private line/siding**

**ITEM 4 Multiple Locomotive Working**

**ITEM 5 Maximum Speed of Locomotives**

**ITEM 6 Classification of Freight Vehicles**

**Maximum Speed of vehicle**

**ITEM 7 Classification of Passenger Vehicles**

**ITEM 8 Safeworking Systems**

Safeworking System	System
Cootamundra North to Cootamundra West	Rail Vehicle Detection (North Fork)
Cootamundra to Cootamundra West	Rail Vehicle Detection (South Fork)
Cootamundra West to Stockinbingal	Electric Staff
Stockinbingal to Bribbaree	Electric Staff
Bribbaree to Caragabal	Electric Staff
Caragabal to Wurrinya	Electric Staff
Wurrinya to Forbes	Electric Staff
Forbes to Parkes	Electric Staff

**SAMPLE PAGE WESTERN SECTION 8**

**EXPLANATION OF 'ITEMS' FROM PREVIOUS PAGE**

<b>ITEM 1</b>	<b><u>SECTIONS</u></b>	<ul style="list-style-type: none"> <li>The Southern, Western, Northern and Illawarra regions are divided into various sections. Refer to SECTION LOCATION MAP for various sections.</li> <li>Each section provides the condition for operation of rolling stock.</li> </ul>
<b>ITEM 2</b>	<b><u>LINE MAP</u></b>	<ul style="list-style-type: none"> <li>See list page 1 for details.</li> </ul>
<b>ITEM 3</b>	<b><u>CLASSIFICATION OF TRACK</u></b>	<ul style="list-style-type: none"> <li>The class of track will affect the speed and types of locomotives and rolling stock authorised to run over the various sections.</li> </ul>
<b>ITEM 4</b>	<b><u>MULTIPLE LOCOMOTIVE WORKING</u></b>	<ul style="list-style-type: none"> <li>The columns associated with locomotives headed "MULTIPLE LOCOS" shows the maximum number of locomotives powering that may run coupled on each relevant section of track.</li> <li>Up to a maximum of <b>5 locomotives</b> total can be marshalled at the front of a train. However, the number of locomotives that can be powering at any given time is indicated in the multiple working section on the respective MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK page.</li> </ul>
<b>ITEM 5</b>	<b><u>MAXIMUM SPEED OF LOCOMOTIVES</u></b>	<ul style="list-style-type: none"> <li>Identifies locomotive speed categories and maximum speeds approved for that section of track.</li> <li>The letters N/A indicate these vehicles are not permitted to run over this section of track.</li> </ul> <p data-bbox="331 999 544 1048"><b>Operation of unlisted locomotives</b></p> <ul style="list-style-type: none"> <li>Refer to Track Access Provider for authorisation.</li> </ul>
<b>ITEM 6</b>	<b><u>CLASSIFICATION OF FREIGHT VEHICLES</u></b>	<ul style="list-style-type: none"> <li>Identifies freight vehicle class and maximum speeds approved for that section of track.</li> <li>The letters N/A indicate these vehicles are not permitted to run over this section of track.</li> </ul> <p data-bbox="331 1218 544 1267"><b>Operation of unlisted freight vehicles</b></p> <ul style="list-style-type: none"> <li>Refer to Track Access Provider for authorisation.</li> </ul>
<b>ITEM 7</b>	<b><u>CLASSIFICATION OF PASSENGER VEHICLES</u></b>	<ul style="list-style-type: none"> <li>Identifies passenger vehicles and maximum speeds approved for that section of track.</li> <li>The letters N/A indicate these vehicles are not permitted to run over this section of track.</li> <li>The grouping Diesel Train includes self propelled diesel trains and Rail Motors.</li> </ul> <p data-bbox="304 1482 544 1532"><b>Operation of unlisted passenger rolling stock</b></p> <ul style="list-style-type: none"> <li>Refer to Track Access Provider for authorisation.</li> </ul>
<b>ITEM 8</b>	<b><u>SAFeworking SYSTEMS</u></b>	<ul style="list-style-type: none"> <li>This section indicates the safeworking system and the area controlled by that system.</li> <li>When words 'Yard Working' appear, the nominated section of track will be worked in accordance with the instructions contained in NTR 418 – Yard Limits.</li> </ul>
<b>ITEM 9</b>	<b><u>PRIVATE LINE/SIDING</u></b>	<ul style="list-style-type: none"> <li>A Private (Non RIC owned) Line/Siding represented in the Section Pages(Line Map) by "P" is one that is not owned or operated by the Track Access Provider and therefore will not necessarily have operating conditions published in this Manual.</li> <li>Where this Manual contains information relating to the operating conditions for a private Line/siding, that information is published with the agreement or at the request of the owner/operator of that Line/siding.</li> <li>For the purpose of train control, to and from a private Line/siding, the operator in securing a train path on the Access Network, has certified that there is an interface understanding/agreement between the operator and the owner/operator of the private Line/siding, which authorises the train/vehicles to operate within the confines of the private Line/siding.</li> <li>In providing an agreed train path in accordance with the operations protocol, Track Access Provider has certified that the operator's train will be accepted from or delivered to the boundary of the private Line/siding nominated in the operator's train path application.</li> </ul>



**HOW TO DETERMINE DRAW CAPACITY TONNAGE**

1. Check vehicle Draw Capacity column in **LOCOMOTIVES AND ROLLING STOCK DATA** table

**Manildra Flour – Freight Rolling Stock**

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW CAPACITY	BRAKE TYPE	NOTES See Page 1
MGFH	Grain hopper	C	100	26.5	17.6	1.80	B4	1-4

UP	SECTIONAL RUNNING TIMES									FULL SECTIONAL LOADS													GRADE
	B1	C1	C2	C3	C4	D1	D2	D3	Loco	LOCOMOTIVE CATEGORIES = L													
										1	2	3	4	5	6	7	8	9	10	11	12	13	
WERRIS CREEK	2	2	2	2	3	2	2	3	1	4624	4274	4044	3750	3369	3274	3032	2761	2658	2386	2288	1600	1:261	
WERRIS CRK. STH	9	9	10	11	12	11	11	12	6	2414	2227	2104	1951	1743	1699	1561	1422	1372	1224	1175	820	1:82	
QUIPOLLY	7	8	9	11	14	11	13	15	6	2289	2111	1995	1849	1651	1610	1478	1346	1295	1158	1118	730	1:75	
QUIRINDI																							

**Trailing tonnage table**

DRAW-CAPACITY	GRADE 1 :																				
	30	33	35	40	45	48	66	70	72	75	77	80	85	90	95	100	110	120			
0.05	94	103	109	123	136	144	150	163	175	190	200	205	212	216	223	235	246	257	267	288	308
1.75	2898	3603	3802	429	437	6657	6996	7163	7411	7575	7817	8214	8602	8982	9353	10073	10764				
1.80	3334	3768	3811	411	42	6847	7188	735	7623	791	8040	8449	8848	9238	9621	10361	11071				
1.85	3489	3809	4019	453	88	7038	7396	7573	7835	8007	8264	8683	9094	9495	9888	10649	11379				

3. Find 1.80 in Trailing Tonnage table.

5. This figure 7623 tonnes indicates trailing tonnage permitted behind a MGFH over the section.

4. Cross reference Grade column with draw capacity column

**MAXIMUM LENGTH OF TRAINS / BRAKE TYPE**

1. The length of a train is the overall length of a train including all locomotives whether powering, off line, dead attached or banking. The train must also be covered by an access agreement between the Track Access Provider and the Operator, which will indicate the trains maximum length, motive power and maximum speed. The maximum length of trains also depends upon draw capacity (see HOW TO DETERMINE DRAW CAPACITY TONNAGE table) and the brake equipment type (see Step 2) that is fitted to the vehicles

2. Reference must be to the **LOCOMOTIVE AND ROLLING STOCK DATA** pages to determine the brake type (i.e. B1, B2, B3 or B4.) If no brake type is listed then assume B1 type. When a train is being marshalled at its point of origin, remmarshalled or has vehicles attached en route the Brake type list must be checked to ensure limits are not exceeded.

**Manildra Flour – Freight Rolling Stock**

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW GEAR CAPACITY	BRAKE TYPE	NOTES See Page 1
MGFH	Grain hopper	C	100	26.5	17.6	1.80	B4	1-5

3. Check this table to determine the allowable position of the vehicles in a train.

Brake type	Allowable vehicle position in train
B1	Any position in first 900 metres of train
B2 and B3	Any position in first 1500 metres of train
B4	Any position in an train

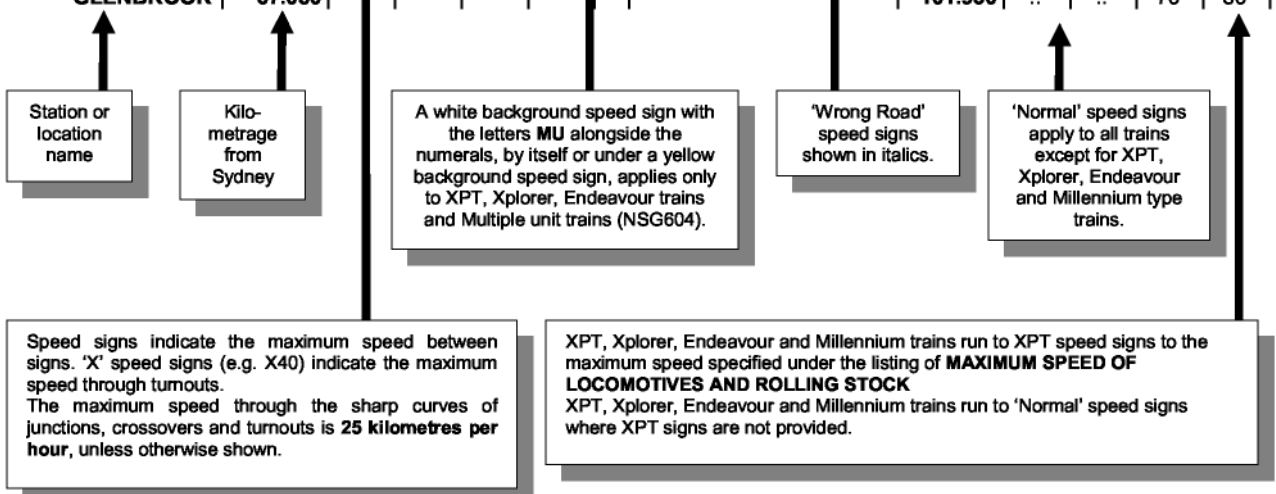
**FORMAT OF LOCATION OF SPEED SIGN TABLE**

**Location of Speed signs**

LOCATION	KILO-METRAGE	DOWN		UP	
		NORM	XPT	NORM	XPT
PENRITH	55.086				
	55.500	..	..	75	80
	57.350	100	115	..	..
	57.439				
EMU PLAINS	58.640	..	..	75	80
	58.945	70	75	..	..
	60.965	..	..	65	70
	61.080	75	80	..	..
	61.585	..	..	40	*65MU
	61.975	..	..	40	*65MU
	61.980	70	75	..	..
LAPSTONE	63.617				
	65.100	65	70	65	70
	65.800		60	60	65
	67.080				
GLENBROOK					

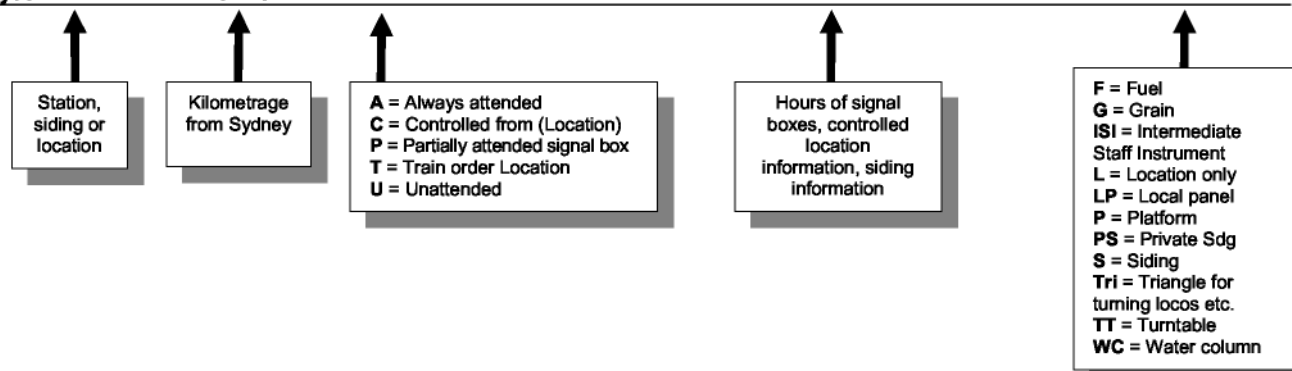
LOCATION	KILO-METRAGE	DOWN		UP	
		NORM	XPT	NORM	XPT
BLAXLAND	71.484				
	72.450	..	..	75	80
	72.740	65	70	..	..
	74.296				
WARRIMOO	75.300	..	..	65	70
	75.560	70	75	..	..
	<i>Up board on Down Main</i>	77.040	..	X15	X25
	77.250	60	65	..	..
	77.300	..	..	70	75
VALLEY HEIGHTS	77.410				
	79.000	..	..	65	70
<i>Up board on Down Main</i>	79.000	..	..	60	65
	79.420	50	60	..	..
	79.460	..	..	X25	X35
	79.669	..	..	70	80
SPRINGWOOD	101.930				



**FORMAT OF STATION DATA TABLE**

**Station Data**

Station	Kilometrage	Signal box Status	Hours of signal box	Facilities
Lithgow	155.781			P, TT
Wallerawang	171.261	C	Controlled from Western Rail Management Centre Orange	LP,P
Power Hse Sdg		U		S
Austen & Butta Sdg	175.827	U		S
Rydal	181.402			L





**MULTI LISTING OF ROLLING STOCK (Section 10 – General Instructions)**

**Pacific National – Freight Rolling Stock**

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW CAPACITY MN	BRAKE TYPE	NOTES See Page 1
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<b>Covered Wagons</b>								
RBFX	Box van	C	75	30	23.7	1.30	B3	
			80	30	23.7	1.30	B3	a

<b>Coiled Steel Wagons</b>								
RCAF	Coil ex NODY	C	76	24	15.1	1.80	B3	
			80	24	15.1	1.80	B3	a
			92	24	15.1	1.80	B3	b
RCDX	Coil	C	76	23	14.9	1.30	B1	

When vehicles are single entry listed and no notes are shown in the **NOTES** column, the **MAXIMUM GROSS MASS TONNES** column shows the maximum gross mass permitted

When vehicles are multi listed e.g. RCAF the following will apply:  
 1. When loaded up to **76 tonnes** normal working will apply.  
 2. When loaded **over 76 tonnes** and up to **80 tonnes** Note **a** will apply  
 3. When loaded **over 80 tonnes** and up to **92 tonnes** Note **b** will apply

NHOF	Ex NHOH fitted with X type bogies	C	76	23	17.1	1.80	••B3	
			80	23	17.1	1.80	••B3	a
NHPH	*8 permanently coupled coal wagons	G	120	23	*129.2	2.45	••B4	#
		B	Empty	23	*129.2	2.45	••B4	#

When 'Empty' is shown in the '**MAX GROSS MASS TONNES**' column the vehicles will operate to the maximum speed shown for the nominated classification. i.e. NHPH operate to **Class B** speeds when empty.

•• symbol indicates vehicle is fitted with two pipe brake system. Refer to **SECTION 2 – ILLAWARRA SECTION** for instructions relating to the operation of two pipe vehicles between Moss Vale and Unanderra. All other vehicles are single pipe brake system.