

Regional Fast Rail Operations and other defined Corridors



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Section 36 – Regional Fast Rail Operations and other defined corridors

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Section 36 – Regional Fast Rail Operations and other defined corridors

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1. AREAS WHERE RULES APPLY

These rules and procedures are provided to compliment operations on the corridors and locations as defined in the table below

On various corridors as shown below, Territory Boards may be provided

The corridors and locations concerned are:

Sydenham to Bendigo	Regional Fast Rail Corridor
Sunshine to Ballarat	Regional Fast Rail Corridor
Werribee to Geelong	Regional Fast Rail Corridor
Pakenham to Traralgon	Regional Fast Rail Corridor
North Ballarat to Maryborough	
Southern Cross - Sunshine	Regional Rail Link Corridor
Deer Park Junction to Manor Junction	Regional Rail Link Corridor
Corio Quay Goods Line	

a. Sydenham to Bendigo

A territory board is provided on the Down side of Melton Highway lettered “Start RFR” at 24.040 km for Down trains and in the Up direction, a board lettered “End RFR” is located at 24.163 km adjacent to SDM 702 signal.

Territory boards are provided between BDG 02 / BDG 06 and BDG 04 signals lettered “End RFR” at the Up side of the Thistle Street Overpass for Down trains and in the Up direction, boards lettered “Start RFR” is located on the Down side of the Thistle Street Overpass.

Line between Watergardens and the Down end of Sunbury is managed by Metro Trains

b. Sunshine to Ballarat

A Territory board is provided at Automatic Signal MW 131 lettered “Start RFR” at KP 13.210 for Down Trains and at a point opposite at KP 13.210 lettered “End RFR” for Up Trains

A Territory board is provided at Signal No 52 at Ballarat lettered “End RFR” at 112.860 km for Down trains and in the Up direction a board lettered “Start RFR” is located at 112.366 km adjacent to Signal No 54 at Ballarat.

c. Werribee to Geelong

A Territory board is provided at the Down end of Werribee platforms lettered “Start RFR” at KP 32.010 for Down trains

for Up trains a board lettered “End RFR” is located at KP 32.010 on the Down side of No 28 signal.

Territory boards are provided at Geelong lettered “End RFR” at KP 72.864 adjacent to Signal GLG 160 for Down trains.

For Up Trains a board lettered “Start RFR” is located at KP 72.864 adjacent to signal GLG 160.

Territory boards are provided at North Geelong on the Melbourne Loop Line lettered “End RFR” Opposite Signal Post No 19 at North Geelong “C” for Down trains.

For Up Trains a board lettered “Start RFR” is located at KP 68.478 adjacent to signal GLG 62.

d. Pakenham to Traralgon

Territory boards are provided between the Racecourse Road Level Crossing and Signal Post PKM 40 and PKM 42 lettered “Start RFR” at KP 59.245 for Down trains and in the Up direction boards lettered “End RFR” is located at KP 59.245

A territory board is provided at TRG 06 signal lettered “End RFR” at KP 157.958 for Down trains and in the Up direction a territory board lettered “Start RFR” is located at KP 159.041 adjacent to TRG 10 signal.

e. Ballarat to Maryborough

Territory boards are not provided on this corridor.

f. RRL Lines – Southern Cross to Sunshine

Territory boards are not provided on this corridor

g. RRL Lines – Deer Park Junction to Manor Junction

Territory boards are not provided on this corridor

h. Waurm Ponds

Territory boards are not provided at this location

i. Warncoort Loop

Territory boards are not provided at this location

j. Corio Quay Goods Line

Territory boards are not provided at this location

k. Signalling Control

The Signalling control for the above Corridors is arranged as follows:

Corridor System and Controlling Location		From:	To:
Werribee – Geelong Control	ATC	MNJ 6 MNJ 18, MNJ 36 at Manor Junction.	GLG 160 Geelong and GLG 62 North Geelong.
Corio Quay – Nth Geelong C	ABS		
Waurm Ponds; -Control	ABC	WPD 2	WPD 28
Warncoort Loop; Control	Train Orders	G 1347	G 1412
Southern Cross to Manor Junction Control	ABS	SSS 909 – SSS 911 Southern Cross	MNJ 36 (Down Line) and MW 460(Up Line)
Deer Park Junction to Ballarat Control	ABS ATC	Home Signal DPW 706 and DPW 708	Home Signal 54 at Ballarat
Ballarat – Maryborough Control	ATC	Home Signal CWK 30 at Creswick	Home Signal MBY 28 at Maryborough
Sunbury– Bendigo Control	ATC	Home Signals SBY 42 and SBY 44 at Sunbury	Home Signals BGO 34 and BGO 36 at North Bendigo.
Pakenham – Traralgon Control	ATC	Automatic Signals D 646, DD 646, D 647 and DD 647 between Pakenham and Nar Nar Goon	Home Signal TRG 10 at Traralgon

2. SCOPE OF THESE RULES AND PROCEDURES

The rules in this section are intended to supplement or replace existing rules or procedures in the 1994 Book of Rules and Operating Procedures to complement Operations on the Regional Fast Rail and Regional Rail Link Corridors and other locations defined in these Rules

The text of each rule in this section makes clear how the additional rule is to be treated.

If an existing rule is not mentioned in this section, it remains applicable to operations in all areas including Regional Fast Rail Operating areas.

In areas outside those given in rule 1 of this section, the Rules and Procedures provided in Sections 1 to 35 of the 1994 Book of Rules and Operating Procedures, as amended, continue to apply.

3. DEFINITIONS

New definitions are given below to assist interpretation of these rules and the existing rules:

a. Signal Control System

The method of controlling any point, signal or other signalling device including any track indication systems.

b. TPWS (Train Protection & Warning System)

The electronic system of detecting the speed of a train and applying the brakes of a train automatically when a train is detected as exceeding the approach speed, signal speed or passes a fixed signal at the 'Stop' position.

c. Signal Track Section

The length of track between two fixed signals applicable to the same direction of travel provided with track circuits or axle counters or a combination of both.

d. Axle Counter

A device secured to the rail used to count the passage of wheels in or out of a section of track.

e. Blocking Commands

A Blocking Command includes any other appliance provided including any software sleeve or block command or any other means provided to maintain the signal controlling the entrance into the section in advance to the 'Stop' position.

f. Occupation Crossing

Occupation crossing will mean an intersection of the railway line with any private road giving access to farm property used for access to dwellings or for the movement of livestock or farm machinery.

g. Train Graph

Where these Rules refer to a Train Register Book this will also apply for the use of a Train Control Graph

4. FIXED SIGNALS AND INDICATORS

This rule contains details of additional signal aspects and indicators in use on the corridors defined in these Rules.

a. Three Position Uncontrolled Home Signals (*new rule*)

These are provided on the Regional Fast Rail corridors to divide long sections for operational convenience.

Uncontrolled Home signals are operated by passing trains. Three position Uncontrolled Home Signals have:

- two coloured lights placed vertically by night and day.
- the same number plate arrangement for home signals on the particular line concerned; e.g.: CFD10

Three position Uncontrolled Home Signals display the same aspects as a normal Home signal except there is no low speed signal or illuminated letter “A”.

At some locations, Uncontrolled Home Signals can be secured at the stop position through the Signalling Visual Display Unit.

b. Reduce to Medium Speed Signal (*addition to existing rule*)

The Reduce to Medium Speed aspect on Regional Fast Rail Corridors has been modified by the addition of new speed indicators.

c. Reduce to Medium Speed Signal

'Reduce to Medium Speed' is indicated by a yellow light above a green light.

When the 'Reduce to Medium Speed' signal is displayed the train may proceed at normal speed but must reduce to medium speed before the next signal. Medium speed is defined as a maximum of 40 km/h unless a speed indicator is provided. In the case where a speed indicator is provided the medium speed is defined as 65 km/h or 80 km/h as shown on the indicator.

d. Illuminated White Speed ‘65’ or ‘80’ km/hr. Indicator

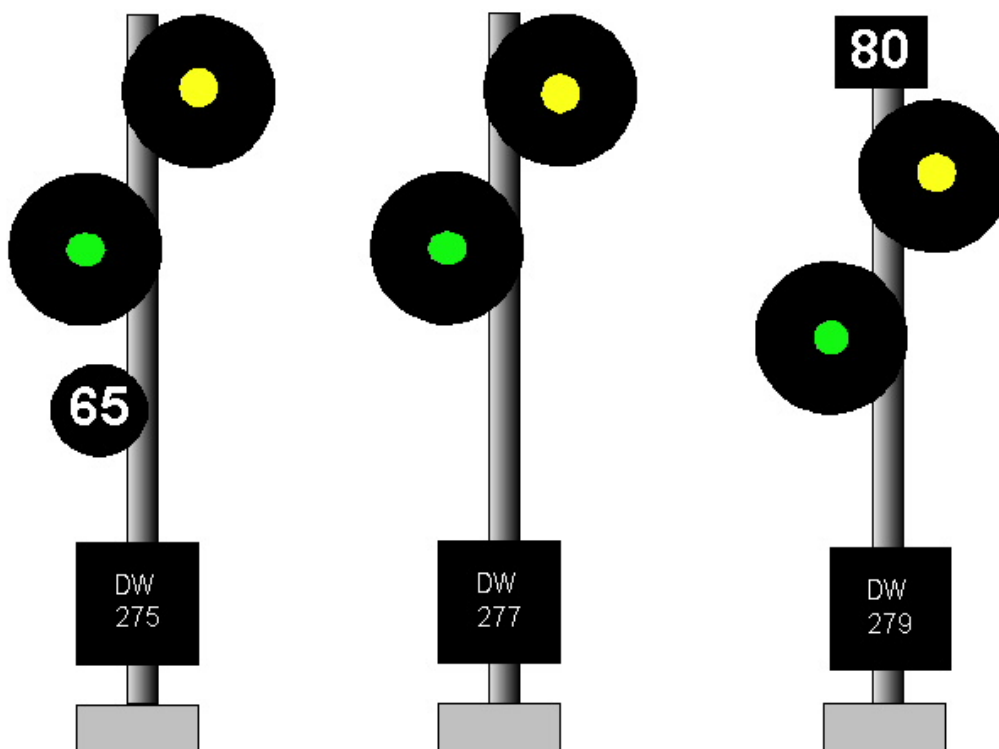
The illuminated white speed indicator (see figures below) ‘65’ or ‘80’ km/h displayed with a ‘Reduce to Medium’ signal indicates that the next signal in advance is showing a medium speed indication and a ‘65’ or ‘80’ km/h is also showing on that signal.

The Driver may proceed at line speed towards the next fixed signal but must reduce to a maximum speed of ‘65’ or ‘80’ km/h as indicated before the next fixed signal.

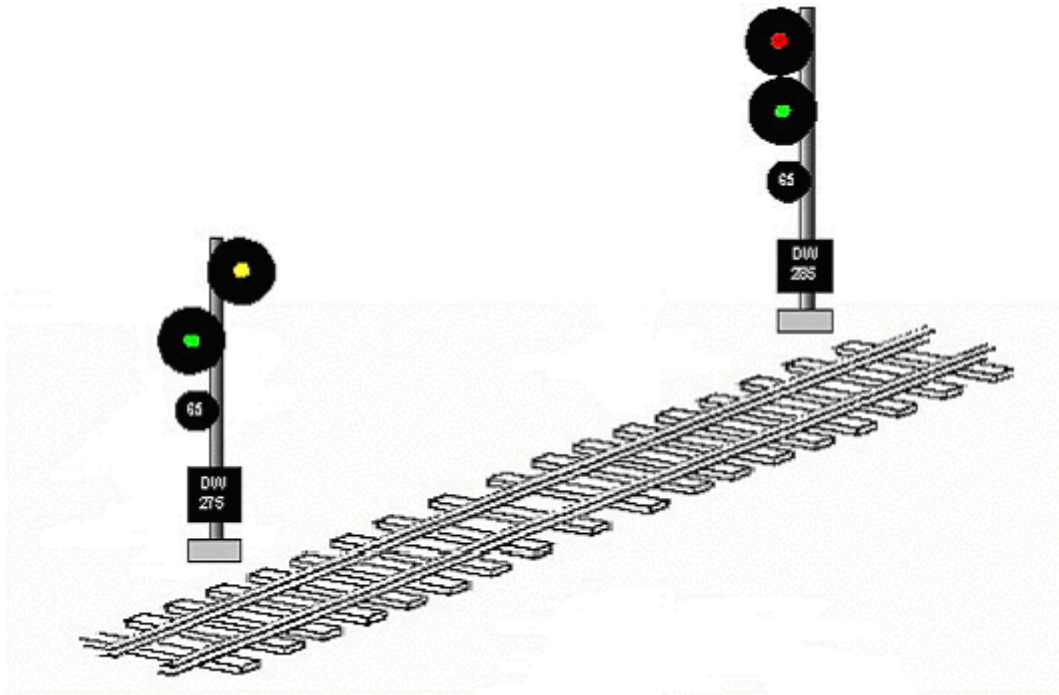
If after passing a ‘Reduce to Medium Speed’ signal, the Driver observes that the next signal is displaying an improved aspect such as normal speed. The Driver may regulate the speed of the train to the indication of that signal.

Should a signal displaying a ‘Reduce to Medium Speed’ indication that is normally provided with an illuminated white speed indicator (figures) ‘65’ or ‘80’ km/h for the route and such speed indicator is not illuminated, the Driver must regulate the speed of the train in accordance with the signal indication.

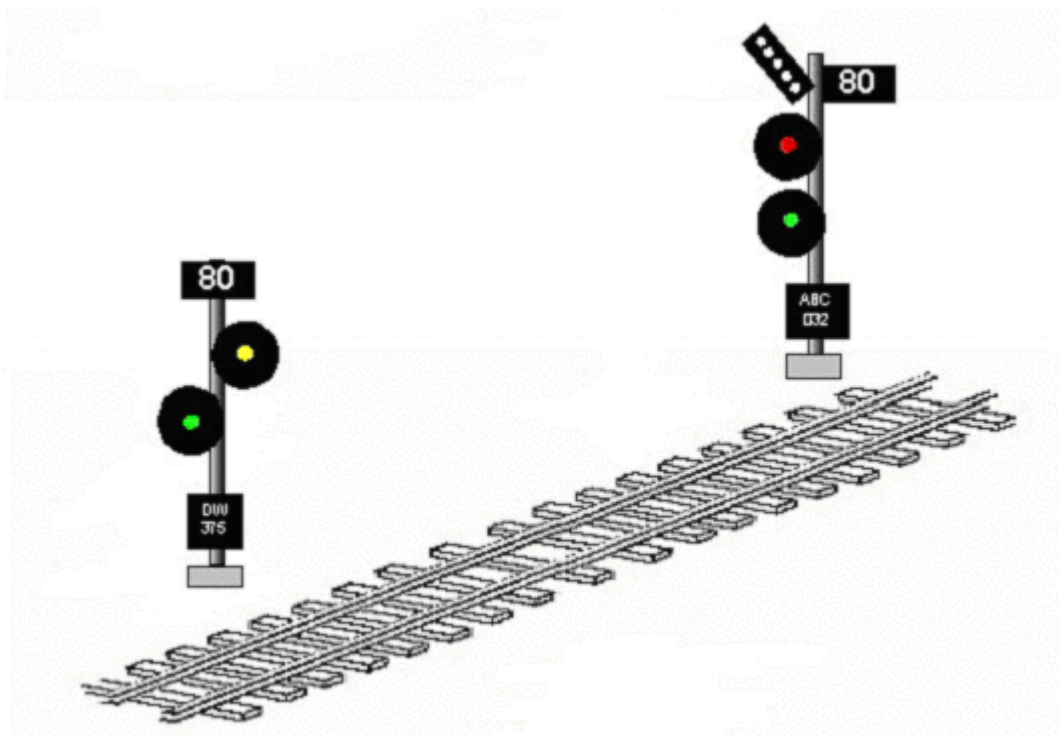
Typical view of signals displaying Reduce to Medium Speed



Typical signal sequence displaying '65' km/h illuminated indicator



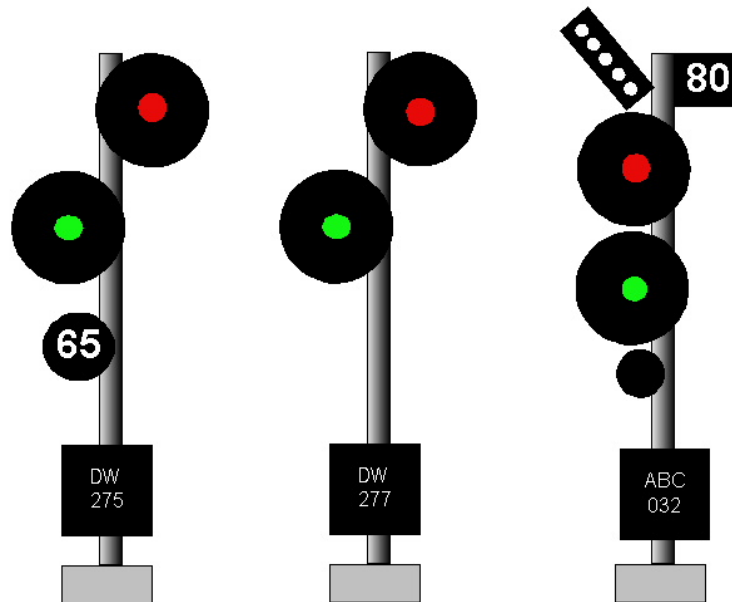
Typical Signal sequence displaying '80' km/h illuminated indicator



e. Clear Medium Speed Signal (addition to existing rule)

The 'Clear Medium Speed' has been modified to provide for 80 km/h speed indicators on the defined corridors

The 'Clear Medium Speed' signal is indicated by a green light below a red light.



Where the 'Clear Medium Speed' signal is displayed (without the speed indicator illuminated) the train must not exceed 40 km/h.

When an illuminated white speed indicator (figures) '65' or '80' km/hr. is displayed in conjunction with the medium speed indication, the Driver may proceed at a maximum speed of '65' or '80' km/h as indicated to the next fixed signal.

f. Banner Indicator (*new rule*)

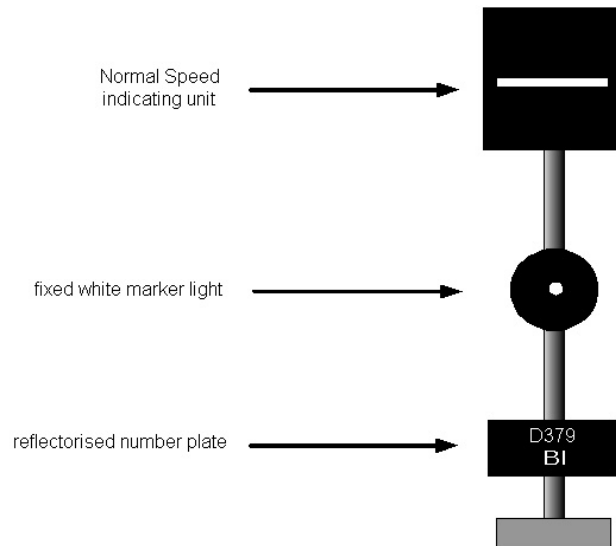
A Banner Indicator may be provided in the rear of a fixed signal to provide the Driver with an early indication of the signal indication shown on the signal ahead. The indicators are not fixed signals and are not to be considered as "the signal in advance" when passing defective signals in accordance with rules contained in Sections Nos 3, 16 or 36 of the Book of Rules and Operating Procedures.

The Banner Indicator may be provided with one or more indicators depending on the aspects displayed by the signal in advance.

The banner indicator is fitted with a reflectorised number plate to provide the number of the signal it indicates (such as D2345 BI).

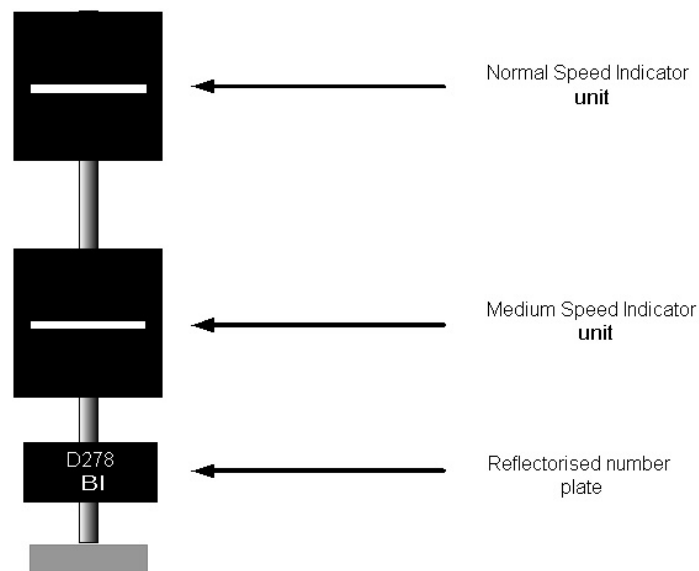
Normal Speed Banner Indicator

Banner Indicators provided for signals which display only normal speed aspects are only fitted with one working indicator. A fixed white (led) light is fitted below the indicator.

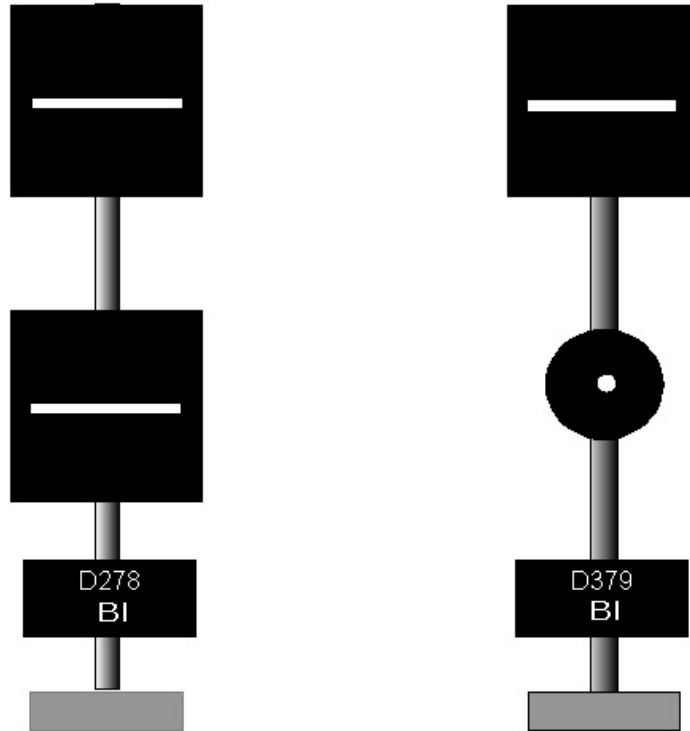


Normal/Medium Speed Banner Indicator

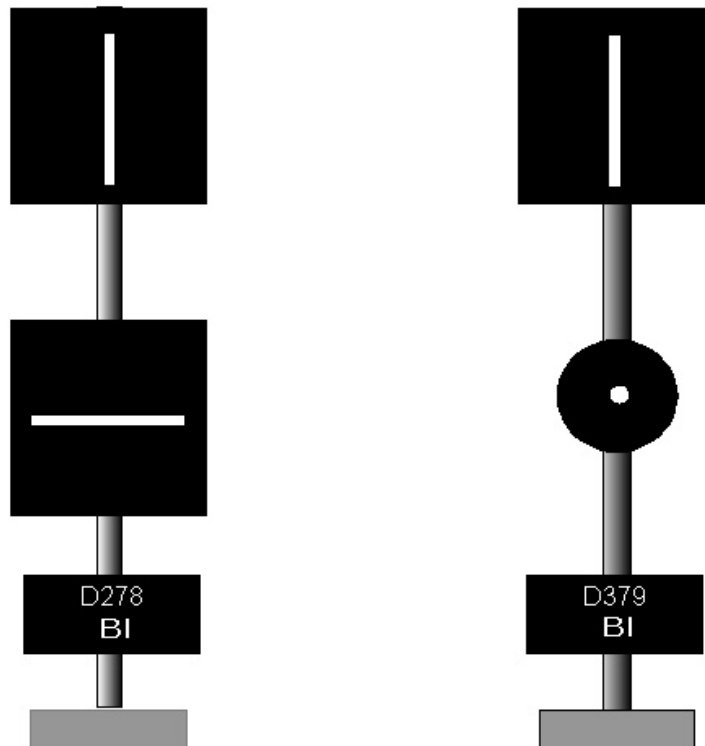
Banner Indicators provided for signals which display normal and medium speed aspects are fitted with two working indicators.



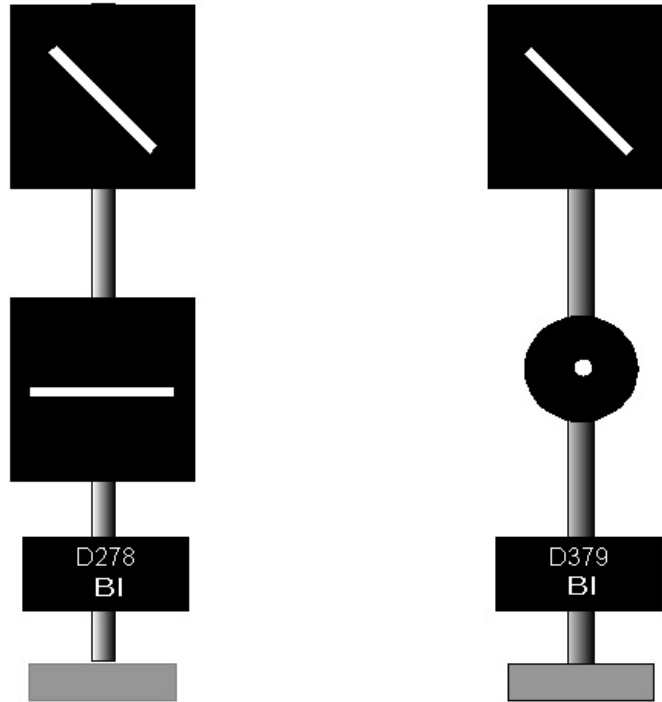
Next Fixed Signal at the Stop Position



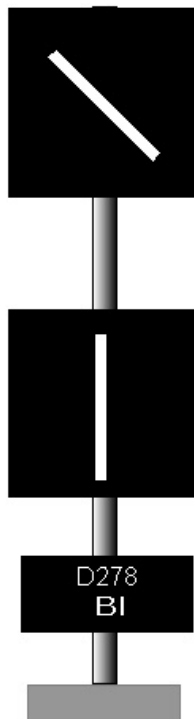
Next Fixed Signal displaying Clear Normal Speed



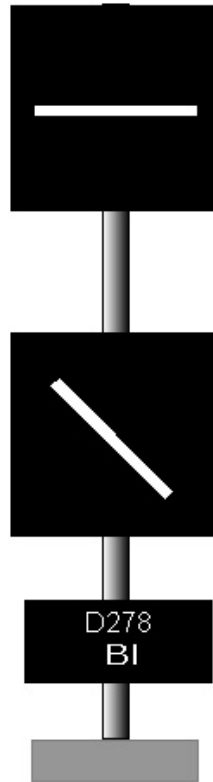
Next Fixed Signal displaying Normal Speed Warning



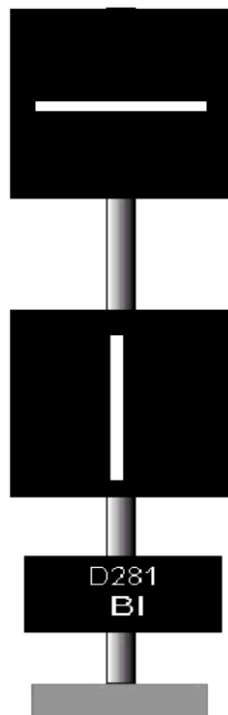
Next Fixed Signal Displaying Reduce to Medium Speed



Next Fixed Signal displaying Medium Speed Warning



Next Fixed Signal displaying Clear Medium Speed



g. Failure of Banner Indicator

Should one or both Indicators fail to display an indication when required, the Banner Indicator must be considered defective.

The Driver must consider that the next fixed signal is displaying a 'Stop' indication and regulate the speed of the train accordingly.

The Driver must report the fault to the Train Controller, together with the number of the defective Banner Indicator.

h. Failure of LED Active Speed Board

Should the controlling Signaller receive a fault alarm or verbal report that an LED active speed board is defective, the Signaller must arrange for the Drivers of all affected trains to be advised of the fault. The Signaller must also advise the Signal Maintenance Technician of the fault.

Train crews must continue to observe the speed reduction at the sign's location.

5. TRACK WORK OPERATIONS *(NEW RULE)*

Recording of On Track Activities and alterations to Signalling Equipment

It is not necessary for the employee in charge of the work to go to the Signal box to sign the Train Register Book if voice recording facilities are provided for telephones, authorised radio channels or where interlocking is remotely controlled from a Signal box.

The person in charge of the work must give the Signaller or Train Controller the numbers of points or signals affected and a description of the work to be undertaken.

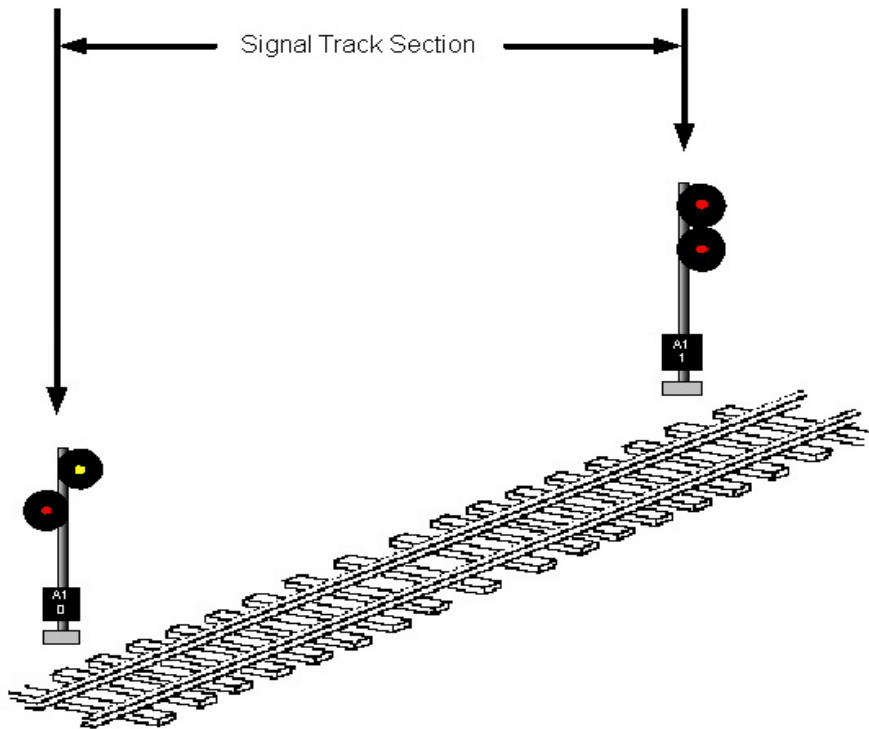
The Signaller or Train Controller must apply Blocking Commands including any software sleeve or blocking commands/jacks to the affected points or signals and note the details in the Train Register Book or other book provided. The Signaller or Train Controller and person in charge of the work must exchange names for recording purposes.

6. AXLE COUNTER DETECTION SYSTEM

Axle counters are provided at some locations in place of traditional track circuits. The Signal Track Section may be composed of one or more axle counters or there may be a mixture of track circuits and axle counters on a corridor.

a. Signal Track Section

A Signal Track Section is the distance between two fixed signals normally controlled by track circuits or axle counters. When a train enters a signal track section, the fixed signal controlling the entrance to the signal track section is secured at the stop position while the track circuits are occupied or until the axle counters have counted out the same number of axles leaving the Signal Track Section as entered the Signal Track Section.



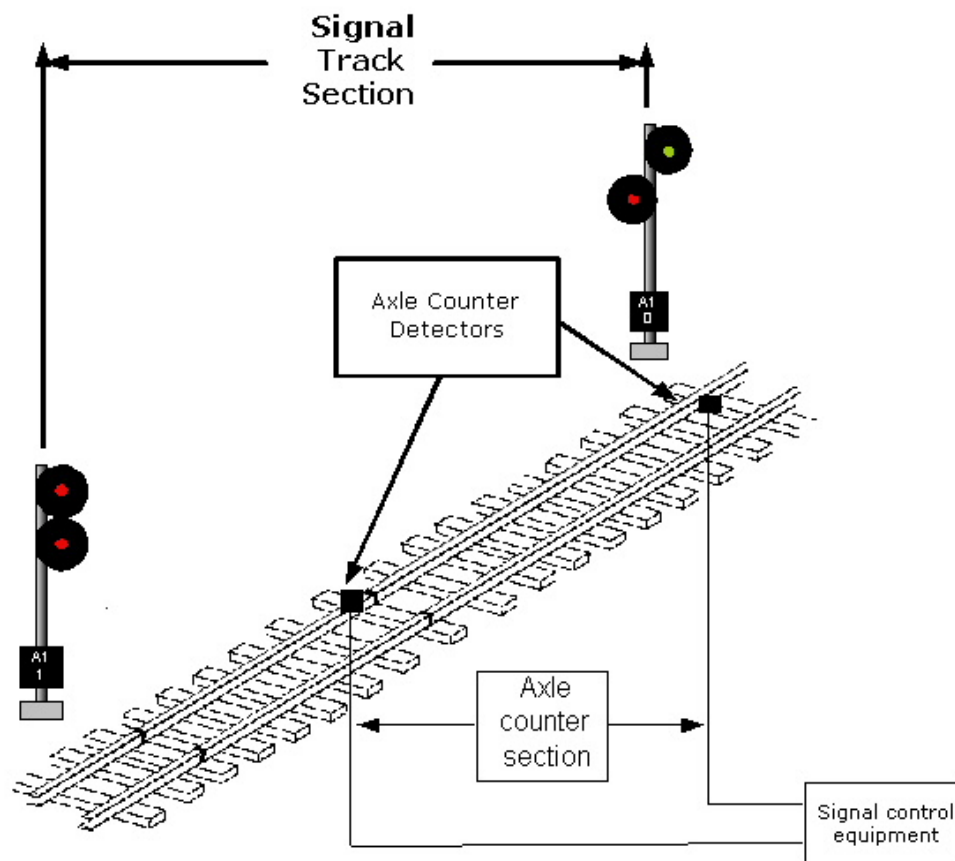
Typical signal track section

b. Operation of Axle Counters Train or other vehicle travelling through the track section

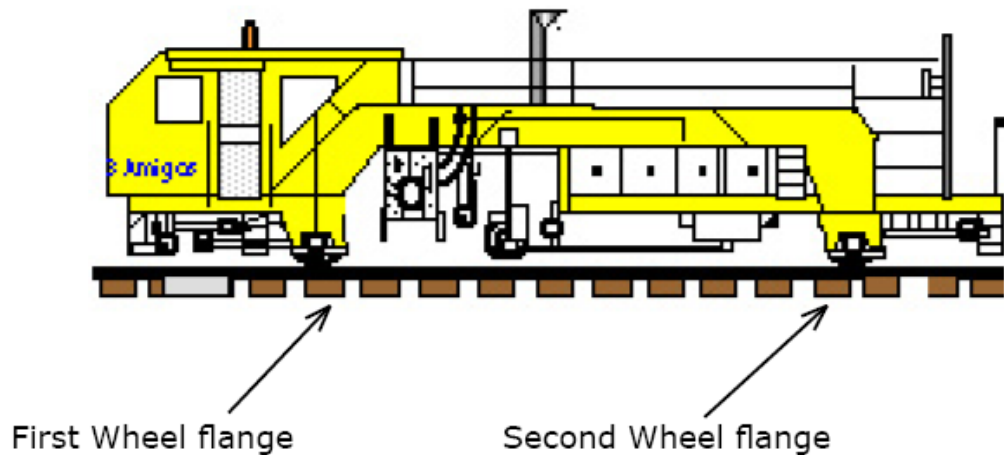
When a train or any other vehicle including Road/Rail vehicles and Track Machines with steel wheel flanges passes over an axle counter the number of flanges is counted. When the first axle is counted into an axle counter section, the fixed signal controlling the entrance to the signal track section is restored and maintained at the 'Stop' position until the identical number of wheel flanges is counted out of the axle counter section that is holding the fixed signal at stop.

The number of wheel flanges counted as entering the axle counter section must be identical to the number of wheel flanges counted as leaving the axle counter section for the section to be detected as clear.

Should a vehicle pass over an axle counter then set back the axle counter will reverse the count preventing an uneven count at the exit to the axle counter section and occupation of the signal track section.



The Track Machine below illustrates the number of wheel flanges counted.



c. Signal Control System Failure

The Signal Control System is defined as the method of operating any points, signals or other devices in a route including the track indication monitors.

A failure of the Signal Control System is defined as a failure of the control of the operation of any points, signals or other devices in a route including the track indication monitors. A failure of the Signal Control Systems includes the failure to determine the accuracy of indications displayed on track monitors.

No axle counter reset or release of any track circuit is permitted during a failure of the Signal Control System unless specially authorised by the Manager Safeworking.

d. Operation of Axle Counters for Track Machines-Road/Rail Vehicles and other Non-Track Circuited Vehicles

Where Axle Counters are in use Track Machines-Road/Rail Vehicles and other non-track circuited vehicles must operate under Absolute Block conditions unless otherwise authorised.

When Track Machines-Road/Rail Vehicles and other non-track circuited vehicles enter the signal track section the number of wheel flanges will normally be counted into and out of the axle counter sections.

Should any vehicle off track after passing an axle counter without being counted out of the axle counter section the axle counter section must be reset.

Section 36 – Regional Fast Rail Operations and other defined corridors

e. Localised axle Counter Resets

Axle Counters in use of the corridors listed below will be reset in accordance with the instructions contained in Sections f and g

Line	Track	From	To
Bendigo	West	Sunbury - M 402	Gisborne - GIS 06
	West	Gisborne - GIS 26	Kyneton - KYN 06
	Single	Kyneton - KYN 26	Taradale - TDE 06
	West	Taradale - TDE 10	Elphinstone - EPS 30
	Single	Elphinstone - EPS 26	Castlemaine - CME 08
	Single	Elphinstone - EPS 26	Castlemaine - CME 08
	West	Harcourt - HOT 10	Ravenswood - RVW 30
	Single	Ravenswood - RVW 26	Kangaroo Flat - KFT 06
	East	Ravenswood - RVW 32	Harcourt - HOT 12
	East	Elphinstone - EPS 32	Taradale - TDE 12
	East	Kyneton - KYN 08	Gisborne - GIS 28
	East	Gisborne - GIS 08	Sunbury - MM 402
Traralgon	Single	Maryvale – D 1514	Traralgon – D 1541
Maryborough	Single	North Ballarat - BAT 112	Maryborough – AM 2274

NOTE –

The resetting of Axle Counter Equipment at the following locations will be undertaken as shown

Location	Signals	Section 34 Procedure
Waurm Ponds	WPD 2 and WPD 28	34 – 64
Warncoort Loop	G 1347 and G 1412	34 – 56
Corio Quay		34 – 57

f. Axle Counter Section Reset Procedures (following failure of Axle Counters)

The authorisation of the Train Controller Control must first be obtained before an axle counter section reset is attempted.

When a track is indicated as being occupied and the Corridor Signaller is satisfied no train or other vehicle is occupying the track, the permission of the Train Controller Control must be obtained prior to requesting that the Signal Maintenance Representative attend the fault.

When the Signal Maintenance Representative Technician has corrected the fault and it is necessary to operate the Maintenance axle counter reset key switch track side the following procedure will apply:

Signal Maintenance Technician must contact the Corridor Signaller and request permission to reset the axle counter section.

The Corridor Signaller must communicate with the Train Controller and arrive at an understanding as to the axle counter section to be reset.

No reset may be authorised while any Train, Track Machine or Road/ Rail vehicle is approaching the affected Signal Track Section or is occupying the Signal Track Section in which the axle counter section is located.

Train Controller to ascertain details of section before reset (following failure of Axle Counters)

The Train Controller must prior to authorising the axle counter reset must ascertain that:

- The last Train, Track Machine or Road/Rail vehicle signalled over the track required to be reset is clear,
- The last Train, Track Machine or Road/Rail vehicle signalled over the signal track section is complete with tail signal,
- The signal track section required to be reset is unoccupied,
- The “Home” or “Dwarf” signal controlling the entrance to the Single Line section and the Home” “Dwarf” or “Automatic signal controlling entrance to the signal track section is at the ‘Stop’ position and the applicable sleeve or block is applied to prevent the signals being placed to the proceed position towards the effected line.

Train Controller to confirm axle counter track to be reset

The Train Controller Control must confirm the axle counter track required to be reset by visual observation of the track indication monitors prior to issuing the Axle Counter Reset Form and prior to permitting the resumption of normal traffic operations.

Should the Train Controller Control be unable to observe track indications the Train Controller Control must contact the Signal Maintenance Technician and confirm the track required to be released prior to issuing the Axle Counter Reset Form and prior to permitting the resumption of normal traffic operations.

Note: The Corridor Signaller must not permit the resetting of an axle counter when the Signal Control Systems have failed. The Train Controller must not issue the Axle Counter Reset Form when a failure of the Signal Control Systems exists.

The Train Controller Control may then authorise the resetting of the axle counter section by completing the Axle Counter Reset Form. If more than one axle counter section requires being reset, a fresh application must be made for each axle counter section.

An example of the Axle Counter Section Reset Form is shown at the end of this rule.

Signal Maintenance Technician Resetting Axle Counter

After the Train Controller Control has authorised the resetting of the axle counter section the Corridor Signaller and the Signal Maintenance Technician may then reset the axle counter section in accordance with the following procedures provided in the Signallers manual.

The Signal Maintenance Technician must contact the Corridor Signaller and confirm they are in position to operate the Maintenance key switch to reset the effected axle counter track section.

The Corridor Signaller will select the “Initiate Axle Counter Reset” function on the Signalling VDU and then immediately request the Signal Maintenance Technician to operate the Maintenance key switch.

On conformation that the key switch has been operated the Signaller will then select “Execute Axle Counter Reset” function and observe the indications on the Signalling VDU

The Corridor Signaller must confirm from visual observation on the track indication monitors that the axle counter track section has been reset and is showing as the track being unoccupied.

When the section is reset the Corridor Signaller must advise Train Controller Control whom must confirm from visual observation on the track indication monitors that the correct axle counter section has been reset.

The Train Controller may, when satisfied that the correct axle counter section has been reset, authorise the resumption of normal traffic.

Should it be necessary to operate rail traffic prior to all applicable axle counter sections being reset, the traffic must be operated under the applicable rules for failure of the signalling system.

g. Reset Procedures for Non-Track Circuited Vehicles

Immediately after any Track Machine, Road/Rail or other non-track circuited vehicle entering the section, the Signaller must apply a “Track Vehicle” block on the control equipment to enable an axle counter section reset.

Should the Corridor Signaller not apply a “Track Vehicle” block the axle counter section cannot be reset without the Signal Maintenance Technician operating the Maintenance key switch trackside.

When a Track Machine, Road/Rail or any other non-track circuited vehicle is to proceed over a signal track section where axle counters are in use and off track prior to passing clear of the track section the following procedure will apply when the section remains shown as occupied after the vehicles have off tracked.

Train Controller to Ascertain Details of Section Before Reset (Non Track Circuited Vehicles)

The Train Controller prior to authorising the reset must ascertain that:

- The last Train, Track Machine or Road/Rail vehicle signalled over the track required to be reset is clear,
- The last Train, Track Machine or Road/Rail vehicle signalled over the signal track section is complete with tail signal,
- The signal track section required to be reset is unoccupied,
- The “Home”, or “Dwarf” signal controlling the entrance to the Single Line section is at the ‘Stop’ position and the applicable sleeve or block is applied to prevent the signal being placed to the proceed position towards the effected line.

Train Controller to confirm axle counter section to be reset (Non Track Circuited Vehicles)

The Train Controller Control must confirm the axle counter section required to be reset by visual observation of the track indication monitors prior to issuing the Axle Counter Section Reset Form and prior to permitting the resumption of normal traffic operations.

Should the Train Controller Control be unable to observe track indications the Reset Procedures for Track Fault as indicated in **Rule 6 clause f** will apply.

Note: The Corridor Signaller must not permit the resetting of an axle counter section when the Signal Control Systems have failed. The Train Controller must not issue the Axle Counter Section Reset Form when a failure of the Signal Control Systems exists.

The Train Controller Control may then authorise the resetting of the axle counter section by completing the Axle Counter Section Reset Form. If more than one axle counter section requires to be reset, a fresh application must be made for each axle counter section.

Signaller Resetting Axle Counter Section

After the Train Controller Control has authorised the resetting of an axle counter section the Corridor Signaller may then reset the axle counter section in accordance with the procedure provided in the Signallers manual.

When the axle counter section is reset the Corridor Signaller must confirm from visual observation of the track monitors that the correct axle counter section has reset.

The Corridor Signaller must then inform the Train Controller. The Train Controller Control may when satisfied that the correct axle counter section has been reset, authorise the resumption of normal traffic.

h. Remote Axle Counter Resets

Axle Counters in use of the corridors listed below will be reset in accordance with the instructions contained in Sections **i** and **j**

Line	Track	From	To
RRL Line	Down Line	South Kensington – SKN 967	Manor Junction – MNJ 36
RRL Line	Up Line	Manor Junction MW 460	South Kensington – SKN 972
West Tower Line	Single Line	Melbourne Yard - MYD 762	South Kensington - SKN 781
Infrastructure Works block not available on West Tower Line			
Brooklyn Goods Line	Single Line	Sunshine SUE 943- SUE 941	Sunshine SUE 940 – SUE 923
Ballarat	Down Line	Deer Park – DPK 919	Deer Park West DPW 726
Ballarat	Up Line	Deer Park West – DPW 726	Deer Park – MW 194

NOTE –

The resetting of Axle Counter Equipment at the following locations will be undertaken

Location	Signals	Section 34 Procedure
Waurm Ponds	WPD 2 and WPD 28	34 – 64
Warncoort Loop	G 1347 and G 1412	34 – 56
Corio Quay		34 – 57

i. Axle Counter Section Reset Procedures (following failure of Axle Counters)

Axle Counters Track Section Occupied

When a track is indicated as being occupied and the Train Controller is satisfied no train or other vehicle is occupying the track, a reset of the axle counter may be attempted prior to requesting that the Signal Maintenance Technician attend the fault.

There are two possible methods for resetting an axle counter section following a failure of an axle counter or in conjunction with Infrastructure works. Either method can be used without restriction and at the discretion of the Train Controller. The Senior Train Controller must confirm the method to be adopted.

Next Train Reset

Provides the restoration of the axle counter track section initiated by a Train Controller reset command and the axle counter system clearing the track section if the next train travels through the signal track section with an equal number of wheels being counted in and out.

Track Reset/Infrastructure Works

Co-operative reset between the Train Controller and Senior Train Controller (or qualified Train Controller for Infrastructure Works) provided through the Train Control System and either the Interlocking or Object Controller monitoring the sequence of the commands within pre-defined time frames.

Should the axle counter reset fail, a Signal Maintenance Technician must be advised of the circumstances and be requested to attend the fault.

When the Signal Maintenance Technician has corrected the fault and it is necessary to reset an axle counter, the reset is to be carried as indicated in Rule 6 of these Rules as applicable.

No reset may be carried out while any Train, Track Machine or Road/ Rail vehicle is approaching the affected signal track section or is occupying the signal track section in which the axle counter section is located.

Train Controller to ascertain details of section before Next Train Reset (following failure of Axle Counters)

Prior to carrying out a Next Train Reset, the Train Controller must ascertain that:

- The last Train, Track Machine or Road/Rail vehicle signalled over the track required to be reset is clear;
- The last Train, Track Machine or Road/Rail vehicle signalled over the signal track section is complete with tail signal;
- The signal track section required to be reset is unoccupied;
- No rail movement is travelling towards the affected signal track section unless the rail movement can be stopped at a “Home” or “Dwarf” signal before the affected signal track section; and
- The “Home”, “Dwarf” or “Automatic” signal controlling the entrance to the section and the signal controlling entrance to the signal track section is at the ‘Stop’ position and the applicable sleeve or block is applied to prevent the controlling Home or Dwarf signal being placed to the proceed position towards the effected line.

The Senior Train Controller or qualified Train Controller must confirm the requirements indicated above.

Confirmation of axle counter track to be reset

The Train Controller and Senior Train Controller or other qualified Train Controller must confirm the axle counter track required to be reset by visual observation of the track indication monitors prior attempting to the Next Train Reset of an axle counter.

Resetting Axle Counter using Next Train Reset

After confirming the axle counter track requiring to be reset and applying appropriate signal blocks, the Train Controller may initiate the “Axle Counter Reset - Initiate” command.

The type of axle counter reset will then be displayed. The Train Controller must select the “Next Train Reset” option.

The indication of the signal track section being reset will change to an orange display.

The next train can then be allowed to travel over the affected signal track section. The block on the controlling Home or Dwarf signal may be removed to allow the train to be signalled towards or over the affected signal track section.

When the train travelling over the affected section has completely cleared the signal track section being reset with a correct axle count, the track indication will indicate that the signal track section is now clear.

When satisfied that the correct axle counter section has been reset, the Train Controller may allow the resumption of normal traffic.

Should it be necessary to operate rail traffic prior to all applicable axle counter sections being reset, the traffic must be operated under the rules for failure of the signalling system.

Should the axle counter signal track section fail to reset, a Signal Maintenance Technician must attend the fault.

Train Controller to ascertain details of section before Track Reset (following failure of Axle Counters)

Prior to resetting the axle counter following a failure of Axle Counters, the Train Controller must ascertain that:

- The last Train, Track Machine or Road/Rail vehicle signalled over the track required to be reset is clear;
- The last Train, Track Machine or Road/Rail vehicle signalled over the signal track section is complete with tail signal;
- The signal track section required to be reset is unoccupied;
- No rail movement is travelling towards the affected signal track section unless the rail movement can be stopped at a “Home” or “Dwarf” signal before the affected signal track section; and
- The “Home”, “Dwarf” or “Automatic” signal controlling the entrance to the section and the signal controlling entrance to the signal track section is at the ‘Stop’ position and the applicable sleeve or block is applied to prevent the signal being placed to the proceed position towards the effected line.

The Senior Train Controller must confirm the requirements indicated above.

Confirmation of axle counter track to be reset

The Train Controller and Senior Train Controller must confirm the axle counter track required to be reset by visual observation of the track indication monitors prior attempting to reset an axle counter.

Resetting Axle Counter by Track Reset

After confirming the axle counter track requiring to be reset and applying appropriate signal blocks, the Train Controller may initiate the “Axle Counter Reset - Initiate” command.

The type of axle counter reset will then be displayed. The Train Controller must select the “Track Reset” option. This will commence a 60 second timer to commence

Within the 60 second time frame, the Senior Train Controller may then confirm the reset by pressing the Axle Counter Reset Push Button and then selecting the correct signal track section “Confirm Reset” indication on Axle Counter Reset System equipment. The “Confirm Reset” must occur within 30 second of the Axle Counter Reset Push Button being pressed.

(NOTE: When the Axle Counter Reset Push Button is pressed, it will prevent the initiation of another Track/Infrastructure Reset by the Train Controller for a period of 30 seconds.)

An indication will be provided on the Axle Counter Reset System equipment VDU to indicate that the operation of the Axle Counter Reset Push Button has been accepted by the signalling system.

The interlocking will ensure that correspondence for the “Initiate Reset”, “Axle Counter Reset Push Button” and “Confirm Reset” (within the 60 second time period) commands, the blocking of applicable signals and that no “Execute Reset” command has been requested.

The indication of the signal track section being reset will change to an orange display.

The interlocking will then commence a **5 minute** “Execute Reset” timer. The axle counter reset may be cancelled at any time during this 5 minute period.

At the expiration of the 5 minute timer, the indication of the signal track section being reset will change to a flashing orange display.

The Train Controller may then select the “Axle Counter Reset - Execute” command. The interlocking will then confirm that the blocking of applicable signals, the “Axle Counter Reset - Initiate”, “Axle Counter Reset - Confirm” and “Axle Counter Reset - Execute” commands and the 5 minute timer expiration.

The axle counter section will then be reset. When the section is reset the Train Controller and Senior Train Controller must confirm from visual observation on the track indication monitors that the correct axle counter section has been reset.

When satisfied that the correct axle counter section has been reset, the Train Controller and Senior Train Controller may allow the resumption of normal traffic.

Should it be necessary to operate rail traffic prior to all applicable axle counter sections being reset, the traffic must be operated under the rules for failure of the signalling system.

Should the axle counter signal track section fail to reset, a Signal Maintenance Technician must attend the fault.

j. Reset Procedures for Non Track Circuited Vehicles or Infrastructure Works

Prior to any Track Machine, Road/Rail or other non-track circuited vehicle entering the section or before infrastructure maintenance activities commencing, the Train Controller must apply an “Infrastructure Works” command on the control equipment to enable an axle counter section reset.

Should the Train Controller not apply an “Infrastructure Works” command, the axle counter section cannot be reset without the Senior Train Controller confirming the axle counter reset as indicated in Section 36 Rule 9 clause (i).

When a Track Machine, Road/Rail or any other non-track circuited vehicle is to proceed over a signal track section where axle counters are in use and off track prior to passing clear of the track section or infrastructure works result in an axle counter track section continuing to show as being occupied after the works have been completed, the following procedure will apply when the section remains shown as occupied.

Train Controller to Ascertain Details of Section Before Infrastructure Works Reset (Non Track Circuited Vehicles or Infrastructure Works)

Prior to resetting an axle counter, the Train Controller must ascertain that:

- The last Train, Track Machine or Road/Rail vehicle signalled over the track required to be reset is clear;
- The last Train, Track Machine or Road/Rail vehicle signalled over the signal track section is complete with tail signal;
- The signal track section required to be reset is unoccupied;
- All infrastructure works have been completed and the line is clear and safe for rail traffic;
- No rail movement is travelling towards the affected signal track section unless the rail movement can be stopped at a “Home” or “Dwarf” signal before the affected signal track section; and
- The “Home”, “Dwarf” or “Automatic” signal controlling the entrance to the section is at the ‘Stop’ position and the applicable sleeve or block is applied to prevent the controlling Home or Dwarf signal being placed to the proceed position towards the effected line.

The Senior Train Controller or qualified Train Controller must confirm the requirements indicated above.

Train Controller to confirm axle counter section to be reset (Non Track Circuited Vehicles)

The Train Controller and Senior Train Controller or qualified Train Controller must confirm the axle counter track required to be reset by visual observation of the track indication monitors prior to attempting reset an axle counter

After confirming the axle counter track requiring to be reset and applying appropriate signal blocks, the Train Controller may initiate the “Axle Counter Reset – Infrastructure Works” command.

The type of axle counter reset will then be displayed. The Train Controller must select the “Infrastructure Works” option. This will commence a 60 second timer to commence.

Within the 60 second time frame, the Senior Train Controller or qualified Train Controller may then confirm the reset by pressing the Axle Counter Reset Push Button and then selecting the correct signal track section “Confirm Reset” indication on Axle Counter Reset System equipment. The “Confirm Reset” must occur within 30 second of the Axle Counter Reset Push Button being pressed.

(NOTE: When the Axle Counter Reset Push Button is pressed, it will prevent the initiation of another Track/Infrastructure Reset by the Train Controller for a period of 30 seconds.)

An indication will be provided on the Axle Counter Reset System equipment VDU to indicate that the operation of the Axle Counter Reset Push Button has been accepted by the signalling system.

The interlocking will ensure that correspondence for the “Initiate Reset”, “Axle Counter Reset Push Button” and “Confirm Reset” (within the 60 second time period) commands, the blocking of applicable signals and that no “Execute Reset” command has been requested.

The indication of the signal track section being reset will change to an orange display.

The interlocking will then commence a 5 minute “Execute Reset” timer. The axle counter reset may be cancelled at any time during this 5 minute period.

At the expiration of the 5 minute timer, the indication of the signal track section being reset will change to a flashing orange display.

At the expiration of the 5 minute timer, the Train Controller may select the “Execute Reset” command. The axle counter section will then be reset.

When the section is reset the Train Controller and Senior Train Controller or qualified Train Controller must confirm from visual observation on the track indication monitors that the correct axle counter section has been reset.

When satisfied that the correct axle counter section has been reset, the Train Controller and Senior Train Controller or qualified Train Controller may allow the resumption of normal traffic.

k. Axle Counter Field Reset – Signal Maintenance Technician

Requirements for Field Reset

Upon advice of an axle counter train detection fault or a fault that cannot be cleared using the next train reset, the Train Controller will contact the Signal Maintenance Technician to attend the fault.

The Signal Maintenance Technician will determine if the false occupancy of the Axle Counter Section is because of an equipment defect or miscount.

When the Signal Maintenance Technician requires a reset of the Axle Counter equipment, permission for the Axle Counter Field Reset cannot be granted until the Signal Maintenance Technician is onsite and confirmed to the Train Controller they are in position, and able to perform the Axle Counter Field Reset immediately; once the permission is confirmed and granted.

The Signal Maintenance Technician must contact the Train Controller/Signaller and:

- Advise of the requirement to reset the axle counter section or sections;
- Confirm the Signal Track section is clear of Rail Traffic; and
- Request Blocking commands be applied to prevent a train being signalled onto the effected Signal Track Section.

No reset may be authorised while any Rail Vehicle is occupying the Signal Track Section in which the effected axle counter section is located.

Where more than one Axle Counter Section in a Single Line Section the entrance to which is controlled from the same Home Signal requires to be reset locally by the Signal Maintenance Technician these can be authorised on a single form

When more than one Axle Counter Sections that require to be reset locally are in separate Signal Track Sections the entrance to which is controlled by separate Home Signals an additional Axle Counter Reset form will be required for each Single Line Section.

Train Controller to ascertain detail of section before reset

Prior to authorising the axle counter reset, the Train Controller must ascertain that:

- The signal track section required to be reset is unoccupied by any Rail Vehicle; and
- The signal controlling the entrance to the effected Signal Track Section is at the 'Stop' position and the applicable blocking commands are applied to prevent the signals being placed to the proceed position for the effected line.

Authorising the Axle Counter Reset

The Train Controller may then authorise the resetting of the axle counter section by completing the Axle Counter Reset Form.

Where more than one Axle Counter Section in a Single Line Section the entrance to which is controlled from the same Home Signal requires to be reset locally by the Signal Maintenance Technician these can be authorised on a single form

When an additional Single Line section protected by differing Home Signals requires being reset, a fresh application must be made for each Single Line section.

THE TRAIN CONTROLLER ON AUTHORISING THE AXLE COUNTER RESET IS TO ENSURE THAT NO TRAIN MOVEMENT IS PERMITTED TO PROCEED ONTO THE SIGNAL TRACK SECTION ON THE EFFECTED LINE UNTIL FURTHER ADVISED BY THE SIGNAL MAINTENANCE TECHNICIAN.

An example of the Axle Counter Section Reset Form is shown at the end of this Rule.

Signal Maintenance Technician Resetting Axle Counter

The Signal Maintenance Technician on receiving the authorisation for the resetting of the axle counter section may then undertake the reset.

When the reset has been completed and the equipment is indicating a vacant section, the Signal Maintenance Technician will confer with the Train Controller

In the event that an Axle Counter Track Section is not able to be reset the Signal Maintenance Technician shall advise the Train Controller and come to clear understanding of the status of the Axle Counter Sections prior to the resumption of Rail Traffic

The Train Controller is to endorse the Axle Counter Reset Form accordingly

Completion of Axle Counter Reset

The Train Controller must confirm from visual observation on the track indication monitors that the axle counter track section has been reset and is showing as the track being unoccupied.

The Signal Maintenance Technician will request the blocks to be removed from the signals controlling entrance to the Single Line Section.

Normal working may then be resumed.

Should it be necessary to operate rail traffic prior to all applicable axle counter sections being reset, the traffic must be operated in accordance with Sections 3 and 4 of the 1994 Book of Rules and Operating Procedures

l. Infrastructure Works

Prior to any Infrastructure works involving signal track sections with axle counters the Person in Charge of the works must confer with the Signal Maintenance Technician and arrive at an understanding as to the effect on the axle counter system.

m. Absolute Occupation

Operation of Road Rail vehicles

Prior to the operation of any Road Rail Vehicle's on a Signal Track Section where Axle Counters are in use the Track Force Protection Co-ordinator must contact the Train Controller.

The Train Controller must ensure the Infrastructure Blocking commands have been applied prior to the operation of the Road Rail Vehicle

When the Road Rail Vehicles are clear of the on-tracking location and clear of the effected Signal Track Section the Track Force Protection Co-ordinator shall advise the Train Controller

If required an Axle Counter Reset can then be undertaken

Reset of selected Track Sections

When an Absolute Occupation is in force involving signal track sections operated with axle counters, the Track Force Protection Co-ordinator can request the resetting of Axle Counter for the effected Signal Track Section Sections for a portion of line where works have been completed prior to the return of the Absolute Occupation.

Prior to an axle counter section reset on a portion of line under the cover of an Absolute Occupation the Axle Counter Territory Track Clear Form must be completed

This form must then be transmitted to the Train Controller prior to the issue of the Axle Counter Section Reset Form.

The Axle Counter Territory Track Clear Form can be utilised for the resetting of multiple Axle Counter Track Sections on portion of a Corridor under the cover of an Absolute Occupation

The receiving of this form indicates to the Train Controller that works on that the portion of line described is complete and clear of rail vehicles.

The Train Controller may then complete the Axle Counter Section Reset Form. An example of an Axle Counter Territory Track Clear Form is shown at the end of this rule.

Signal Maintenance Technician Testing Axle Counters

To permit testing of Axle Counter equipment involving Axle Counter Signal Track Sections, the Signal Maintenance Technician can reset affected Axle Counter Track Sections while the Absolute Occupation is in force

The individual axle counter reset required to be undertaken will be as jointly agreed to by the Signal Maintenance Technician, the Track Force Protection Co-ordinator and the Train Controller.

Return of Absolute Occupation

The cancellation of the Absolute Occupation indicates to the Train Controller that the Person in Charge of the works has confirmed that the signal track sections are clear of trains and other rail vehicles.

Any axle counter section reset can be undertaken when the Signal Maintenance Technician and Signaller have conferred and ascertained that the Absolute Occupation for the area concerned has been cancelled.

n. Infrastructure Work On-Track

No axle counter section reset is permitted during the period that infrastructure work is being conducted on-track until the person in charge has confirmed that no vehicles occupy the track.

Track Booked Out of Service

No axle counter reset is permitted during the period a track is booked out of service without the permission of the Track Manager.

When a portion of track is returned to service and an axle counter section reset is required no train or other on rail vehicle is permitted to enter the line until the person in charge has confirmed that no vehicles occupy the track.

In this instance the person in charge must inform the Signaller and Train Controller of the circumstances.

o. Axle Counter Territory Track Clear Form

Prior to an axle counter section reset on a portion of line previously booked out of service or under standard track protection, the Axle Counter Territory Track Clear Form must be completed.

This form must then be transmitted to the Train Controller prior to the issue of the Axle Counter Section Reset Form. The receiving of this form indicates to the Train Controller that the line booked out of service is clear of rail vehicles. The Train Controller may then complete the Axle Counter Section Reset Form.

An example of an Axle Counter Territory Track Clear Form is shown at the end of this rule.

p. Consecutive Axle Counter Section Failures

Where consecutive axle counter sections may have failed, the Manager Safeworking may authorise alternative arrangements in order to expedite the re-set process.

When authority is given the Senior Train Controller must supervise as necessary during the axle counter reset process. The events must be recorded for review purposes.

Section 36 – Regional Fast Rail Operations and other defined corridors

AXLE COUNTER TERRITORY TRACK CLEAR FORM <i>To be used on corridors where Signallers and Train Controllers Duties are combined</i>	
Purpose of form	This form must be completed when any track is under Absolute Occupation booked out of service / under track force protection /Track Warrant has been completed and an axle counter reset is required for the return of the track to normal operation. This form must be completed prior to the AXLE COUNTER RESET FORM being issued by the Train Controller
IDENTIFYING THE TRACK RETURNED TO NORMAL SERVICE	
Person in Charge of the Works provides information to the Train Controller of the effected track	Date...../...../..... Time..... To Train Controller Control The portion of track between Km..... and Km or Signals and on the <input type="checkbox"/> Bendigo, <input type="checkbox"/> Traralgon, <input type="checkbox"/> RRL, <input type="checkbox"/> Ballarat, <input type="checkbox"/> Maryborough, <input type="checkbox"/> Warncoort Loop, Corridor That was booked out of service / under track force protection/ Absolute Occupation /Track Warrant is now clear of all rail vehicles Person in Charge.....
TRAIN CONTROLLER REPEATS BACK DETAILS OF FORM TO TRACK MAINTAINER	
Train Controller repeats back form correctly and confirms details with Person in Charge of the Works	Repeated back correctly Date...../...../..... Time..... Train Controller Person in Charge.....
This Form must be attached to the AXLE COUNTER RESET FORM	

AXLE COUNTER SECTION RESET FORM

Axle Counter Reset Form for use where Train Controller/Signaller duties are combined

Date:

Time

Task	Details of Task:	Comment if required
Detail of effected axle counter section		
Reason for axle counter reset:	Track Fault <input type="checkbox"/> Track Vehicle Off-Tracking at Intermediate point <input type="checkbox"/> Completion of Track works <input type="checkbox"/>	
Last Train /track vehicle Movement cleared Axle Counter section?	Number: Time:	
Single Line Section confirmed clear at:	Time:	
Applied Blocks/Sleeves to:	Signals Tracks Points	
Axle Counter Numbers:	
Axle counter reset authorised	Time:	
Name of Signal Maintenance Technician conducting reset:	
Axle Counter Reset completed, Blocks Removed and normal working resumed:	Time:	
Train Controller Name	Train Controller Signature	

This form is only to be used on corridors where Signallers and Train Controllers Duties are combined

AXLE COUNTER SECTION RESET FORM

Date: **Time:** **Signalbox:**

<i>Controlling Signaller completes the details below and transmits to Train Controller:</i>	
1	<p>To the Train Controller.</p> <p>Permission is requested to reset the axle counter section..... to</p> <p>In the to Section due to:</p> <p>1. Track Vehicle No:.....off-tracking at an intermediate point in axle counter Section to at..... hours, or</p> <p>2. A track fault.</p> <p>The single line section is clear of all rail traffic. I have applied blocks/sleeves to Signal No:..... controlling the entrance to axle counter section..... to and to Points/ Signal(s) No's.....governing access to the section.</p> <p>Signaller.....Time.....</p> <p>Repeated Back O.K. by Train Controller at.....Hours</p>
<i>Train Controller completes the details below and transmits to Controlling Signaller:</i>	
2	<p>To the Signaller at.....Signalbox.</p> <p>I have confirmed that:</p> <p>1. Track Vehicle No:..... has off tracked at an intermediate point in axle counter section..... to at hours, or</p> <p>2. The last train signalled through the section was train No: Which cleared the section complete at..... hours.</p> <p>I authorise axle counter section.....to.....to be reset. The blocks/sleeves applied to Points/Signals No's..... are to remain applied until I again authorise their operation.</p> <p>Train Controller..... Time.....</p> <p>Repeated Back O.K. by Signaller atHours</p>
<i>Signaller completes the details below and transmits to Train Controller:</i>	
3	<p>To the Train Controller.</p> <p>Axle counter section.....to.....has been reset at.....hours.</p> <p>Time.....</p> <p>Repeated Back O.K. by Train Controller at.....Hours</p>
<i>Train Controller completes the details below and transmits to Controlling Signaller</i>	
4	<p>To the Signaller.</p> <p>Permission is granted to release the blocks/sleeves applied. Normal working may be resumed.</p> <p>Time.....</p> <p>Repeated Back O.K. by Signaller at.....Hours</p>

7. ADDITIONAL REQUIREMENTS FOR HANDOVER OF SHIFT AT SIGNAL BOXES *(NEW RULE)*

When the relieving Signaller arrives on duty, they must be made aware of any alarms indicated or any axle counter reset procedure proposed or in progress. Should a reset of an axle counter section be in progress the Signaller on duty must not hand over duty until the reset is completed.

8. USE OF AUDIBLE TRACK WARNING SIGNALS

a. Spacing of Audible Track Warning Signals *(modifies existing rules)*

When audible track warning signals have to be placed on the line in accordance with requirements given in Sections 7, 15 or 30, of the Book of Rules and Operating Procedures, the responsible employee must place the audible track warning signals not less than 20 metres apart at the prescribed distance from the defective signal, track repairs or obstruction requiring protection.

b. Placing Audible Track Warning Signals near Axle Counters

No audible track warning signal must be placed within 20 metres of any axle counter unit.

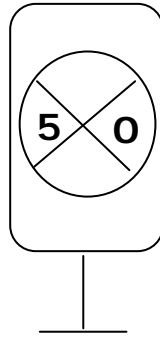
9. LEVEL CROSSINGS *(NEW RULE)*

a. Level Crossing Predictors

At certain level crossings, the design of level crossing predictor crossings has been adjusted so that Drivers of trains travelling at more than 50km/h at the predictor board may increase and continue to increase the speed of the train. Trains travelling at less than 50km/h at the predictor board must continue to obey the no acceleration procedure. This rule modifies the existing rule for predictor crossings that a train must not accelerate after passing a predictor board

Section 36 – Regional Fast Rail Operations and other defined corridors

The locations of level crossings provided with this facility will be indicated on the ‘SW’ commissioning circulars issued for each corridor and be added to the Network Service Plan



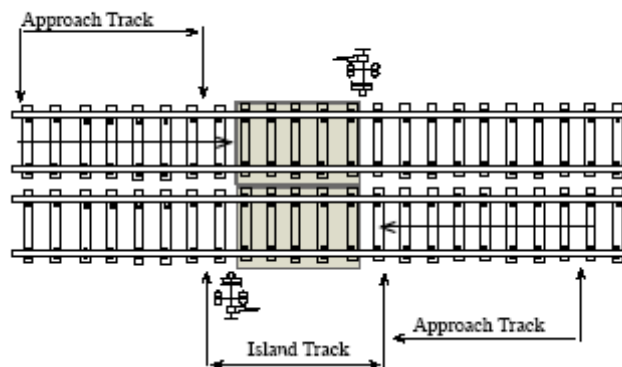
In-field Sign

Should the train stop on the approach to the level crossing and the level crossing warning equipment has commenced operation the level crossing warning equipment will continue to operate for fifteen seconds after which the warning equipment will stop.

The level crossing warning equipment will again commence operation once the train moves towards the level crossing. The train must not enter the crossing area until the crossing is protected and it is safe to do so.

Should a train be stationary on the approach to the level crossing and the level crossing equipment has ceased operation, the crossing equipment will be reinitiated after 10 minutes and will continue to operate until the approach track is cleared.

Should a train occupy the island track circuit; the level crossing will operate continuously.



b. Protection of Occupation and Level Crossings during the Crossing of Livestock and Farm Machinery

Occupation Crossing

An Occupation crossing will mean an intersection of the railway line with any private road giving access to farm property used for access to dwellings or movement of livestock or farm machinery. The occupation crossing may be an open crossing or a crossing provided with flashing lights, or a combination of flashing lights and boom barriers.

Occupation Crossing Gates

Where an occupation crossing exists between private land on both sides of the railway, gates are provided by the land owner on both sides of the occupation crossing to prevent livestock from entering the railway reserve or to prevent visitors from crossing the railway line without the permission of the land owner. Where one side of the occupation crossing abuts a public road, a single gate may be provided where necessary to contain livestock.

The gates must be used to prevent livestock gaining access to the railway reserve and to regulate the movement of livestock when authority has been granted for livestock to cross the railway line. Occupation gates must be hung so as to open away from the railway.

Track Inspection – Track & Crossing Profiles

The Track Inspector must regularly inspect the crossing to ensure compliance with the standards set by the Track Manager for the crossing profile to ensure that unauthorised building up of the surface level around the track has not taken place. In addition the inspection is to ensure that the crossing gates are satisfactorily secured in the closed position when not in use.

c. Livestock Crossing the Line (Specified Locations Only)

When it is necessary for any livestock to enter the railway reserve for the purpose of crossing the line only approved Occupation or Level crossings must be used.

Livestock must not be permitted to cross the line if any train, track machine, road rail vehicle or rail vehicle is approaching the crossing and will arrive at that crossing within ten minutes. The use of the occupation or level crossing must be arranged so that all livestock or machinery is clear of the line at least ten minutes prior to the arrival of any train, track machine, road rail vehicle or other rail vehicle.

The person in-charge of the stock must telephone the controlling Signaller as advised and request permission for livestock or heavy machinery to cross the railway.

Upon the request being received for livestock or heavy machinery to cross the railway, the Signaller must ascertain when the next train or track machine or other rail vehicle is due at the occupation crossing.

When satisfied that no train or other rail vehicle will arrive at the occupation crossing ten minutes before the crossing of the railway is complete, the Train Controller must be conferred with as to whether the period of permission may be granted.

When the Train Controller has given authority, the controlling Signaller must place the protecting Home Signal governing the approach to the crossing at the “Stop” position. A sleeve command must then be placed on the signals concerned. The details of the permission granted must be entered across the figure line of the Train Register Book.

On receiving advice from the landowner that the crossing is complete and clear, the Signaller must endorse the Train Register Book to this effect, and advise the Train Controller that the crossing has been completed.

Normal services may then be resumed once the sleeve commands have been removed from the protecting Home Signals concerned.

The Train Controller must endorse the train graph with the details of the period of permission granted and when the crossing is again clear.

PROTECTED OCCUPATION CROSSINGS USED FOR THE TRANSFER OF LIVESTOCK

BALLARAT CORRIDOR NAME	DISTANCE
Parwan Loop	45.187
N/A – Farm Access	45.763
N/A – Quarry Access	74.041
N/A – Farm Access	76.018
N/A	82.227
N/A	82.940
N/A	83.721
N/A – Property Access	86.457
N/A	92.311
N/A	93.184
N/A	102.683
BENDIGO CORRIDOR NAME	DISTANCE
Rae’s Road	42.191
Williamson Road	45.419
Riddles Creek Station Access	56.991
Ravenswood Street	145.084
LATROBE CORRIDOR NAME	DISTANCE
N/A	108.664
N/A	149.550

The following signage will be provided on each road approach to the Occupation Crossing:

<p>NOTICE</p> <p>BEFORE TRANSFERRING LIVESTOCK OR HEAVY MACHINERY:</p> <p>1. Obtain permission from Train Control on:</p> <p>WHEN THE CROSSING IS CLEAR:</p> <p>1. Advise Train Control on:</p>
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(Black Lettering on Reflective White Background)

10. INFRASTRUCTURE WORKS *(NEW RULES)*

a. Placing Trolleys on the Line

No person may place or operate a trolley on the line unless authorised to do so.

The person in charge must be certified as competent in the base Safeworking system and route knowledge of the line.

b. Protection of Works In or Around Tunnels

On lines where the Signaller has control of the fixed signals leading into a tunnel where work is to be undertaken the fixed signals must be secured at the Stop position before and whilst work is carried out.

The details of the permission granted must be entered across the figure line of the Train Register book.

c. Obtaining Absolute Occupation over a Recorded Telephone Line or Nominated Radio Channel

Where authorised the "Absolute Occupation" order may be obtained using a recorded PABX telephone or over a nominated recorded radio channel.

The Signaller may dictate over the recorded communications details of the "Absolute Occupation" form to the person requiring the "Absolute Occupation".

The details must be repeated back, and entered, by both employees onto an Absolute Occupation form/book.

Both employees must exchange names, entering them on the Absolute Occupation book/form.

The "Absolute Occupation" order must be cancelled by the person in charge of the works when the "Absolute Occupation" is no longer required.

The form/book must be filled in and transmitted over the recorded communication facility to the Signaller.

The Signaller must record the details, as dictated, on the "Absolute Occupation" form/book.

11.AUTOMATIC AND TRACK CONTROL SYSTEM

(AS APPLICABLE TO CORRIDORS LISTED IN THESE RULES)

a. System Objective

Object of the system

- Where two or more trains are to proceed in the same direction. To prevent more than one train being in a track section at the same time.
- When two or more trains are to proceed in the opposite direction on the single line. To prevent more than one train being in a single line section between two crossing stations at the same time.

This object is achieved by:

- In the case of trains proceeding in the same direction, electrically securing the fixed signals at the 'Stop' position, unless the track section ahead is clear.
- When trains are to proceed in opposite directions, by the signals being electrically controlled by the track and the position of the Departure Signal at the opposite end of the section, so that it is not possible for the signals controlling the entrance to the single line section at opposite ends to simultaneously exhibit a signal to proceed.

Track Detection *(new rule)*

At some locations axle counter equipment is provided as a method of train detection in place of conventional track circuits. Axle counters operate by counting the wheel flanges of a passing train into and out of a track section. Provided an equal number of wheels are counted into and from the track section, the system will permit a second train movement to be signalled into the section.

If the number of wheels counted into a signal track section does not match that number counted from the same section, the controlling fixed signal will be held at the 'Stop' position.

b. Fixed Signals

Arrival Signals (replaces sect 16 rule 2a)

The Home Arrival Signals at Unattended Crossing Stations and Loops are Three Position Home Signals.

Home Arrival Signals at Unattended Crossing Stations (replaces sect 16 rule 2b)

At Unattended Crossing Stations and Loops, the Home Arrival Signal may display a 'Clear Medium Speed' or 'Medium Speed Warning' indication for movements to No 2 Road.

Where the 'Clear Medium Speed' indication is displayed, the illuminated 65km/h speed indicator will be displayed in conjunction the signal indication.

Movements to No 2 Road will be speed proved via the signalling circuitry.

Intermediate Signals (replaces sect 16 rule 2c)

The Intermediate Signals between Unattended Crossing Stations and Loops may be either Three Position Automatic Signals or uncontrolled Three Position Home Signals.

Three Position Automatic Signals must not be passed at the 'Stop' position, except as prescribed in Section 3, Rule 1 of the Book of Rules and Operating Procedures.

Uncontrolled Three Position Home Signals must not be passed at the 'Stop' position, except as prescribed in these Rules.

Departure Signals (replaces sect 16 rule 2d)

The Departure Signals at Unattended Crossing Stations and Loops are Three Position Home Signals.

Control of Fixed Signals (replaces sect 16 rule 2 e)

In addition to the normal control of Fixed Signals, the Fixed Signals will be secured in the 'Stop' position if:

- conducting substances are placed across the two rails in track circuited areas,
- there are broken or displaced rails in track circuited areas,
- there are broken rail-connecting wires in track circuited areas,
- the selector lever of a dual control point machine is not in the 'Motor' operating position,
- In axle-counter areas, a Track Vehicle off-tracks at an intermediate point after being signalled into a track section, or
- The electrical release at HLM locked points failing to be returned to the controlling Signaller.
- Failure of TPWS equipment.

'Clear Medium Speed' Indication for Departing Trains

When a 'Clear Medium Speed' indication or Clear Low Speed indication on a Dwarf Signal is displayed for a train to depart a crossing station or loop, the speed restriction specified applies only until the train has cleared the points protected by the signal.

Block Light (replaces sect 16 rule 2g)

Indications are provided on the Visual Display Unit (VDU) by which the Signaller knows when the signal track section is clear, the opposing Home Departure Signal is at the 'Stop' position and no train is approaching in the opposite direction.

c. Home Departure Signals

Home Departure Signals control the Entrance of Trains to the Single Line Section

No Train must pass these signals at the 'Stop' position, except as provided below:

A relief train requires entering the section to assist a disabled train, or a Caution Order has been issued to pass the Signal.

Dwarf Signal Governing the Entrance to a Single Line Section

When a Dwarf Signal controls the entrance of trains to a single line section, the same exceptions as those for a Home Departure Signal apply when the Dwarf Signal is at the 'Stop' position

d. Dual Control Point Machines (*replaces sect 16 rule 4a*)

The points at Unattended Crossing Stations, Junctions and Loops are operated by dual control point machines. This enables the points to be motor-operated from the VDU at the control station and as hand points by the Driver or Signaller if a failure occurs. Full details relating to the use of dual control point machines can be found in Section 27 of the Book of Rules and Operating Procedures.

e. Failure of Block Indications (*replaces sect 16 rule 5*)

If the Block indications fail, the Signaller must ensure the signal track section is clear. The Signal Maintenance Technician and the Train Controller must be informed of the fault. If the Home Departure Signals are not affected and the signal track section is clear, trains may be signalled as normal.

f. Failure of Home Departure Signals at Unattended Crossing Stations, Junctions and Loops (*replaces sect 16 rule 6*)

The controlling Signaller is considered to be the Train Controller as far as the routing of trains to the nominated line and issue of verbal Caution Orders is concerned. The authorisation form (Form No. 2382) will not be required except where the failure involves Home Departure Signals for the following sections:

Werribee and Manor Junction (Down Trains Only)

Pakenham and Bunyip (Down Trains Only)

Failure of a Home Arrival or Home Departure Signal at an Unattended Crossing Station, Junction or Loop

In the event of a failure of a Home Arrival or Home Departure Signal at an Unattended Crossing Station, Junction or Loop, the following Rules must be observed:

The Driver must:

- Communicate with the Signaller via the dedicated radio channel for the corridor.
- State their name and grade, the number of the Signal displaying 'Stop', the train number, the originating station and destination of the train.

The Signaller must:

- Check if the Block indication is displayed,
- Confirm whether the last train signalled past the defective signal has cleared the relevant track section,
- Confirm whether the opposing Home Departure Signal (where applicable) will assume the 'Proceed' position, and
- Confirm that permission has not been given for a train or rail vehicle to be placed on track ahead of the affected Signal.

If positive detection is available on the points ahead of the defective Signal, the Signaller must place a sleeve command on the points in the required position. The sleeve command must not be removed until the train has cleared the track section.

The Signaller must then:

In the case of a defective Home Departure Signal,

- place a sleeve command on the opposing Home Departure Signal to prevent it from being operated, or
- In the case of a defective Home Arrival or other Signal, place a sleeve command on the opposing signal (where provided) to prevent it from being operated.
- Place a sleeve command on the affected Signal.

The Train Controller must then:

- Ensure a sleeve command has been placed on both the affected signal and the opposing Home Departure signal.
- Give the Signaller verbal authority for the issue of a Caution Order.

The Signaller must then:

- Obtain the verbal authority from the Train Controller for the issue of a Caution Order.
- Complete an ATC System Caution Order – (Form 2367) in the case of a Home Departure Signal, or
- Complete a Signaller’s Caution Order (Form 2377) in the case of a Home Arrival Signal, and
- Include a reference on the Caution Order to the relevant line where parallel lines exist.

The Signaller must then transmit the contents of the Caution Order to the Driver. It will not be necessary for the Driver to take down the details.

The Driver must repeat back:

- The Caution Order number,
- The number of the Signal concerned,
- The line to which the authority applies (where applicable), and
- The requirement for points to be manually operated (where applicable)

The Signaller and Driver must then exchange names.

Upon passing the defective Signal at the ‘Stop’ position, the Driver must proceed cautiously, being prepared to stop short of any obstruction.

Positive Detection Unavailable on Points

If positive detection is not available on the points ahead of the defective Signal, the Signaller must arrange for the Driver to place the dual control points into the ‘Hand’ operating position and to the required position. The Driver must advise the Signaller when the points have been manually operated to the required position. The points may be left in the ‘Hand’ operating position after the train has departed.

Points Situated away from Defective Signal

Where the points protected by the Signal are in excess of 100 metres from the Signal and positive detection is not available, the points may be placed into the 'Hand' operating position after the Caution Order has been issued.

Prior to passing over the points, the Driver must stop the train and place the dual control points into the 'Hand' operating position and then to the required position. The points may be left in the 'Hand' operating position after the train has departed.

If the Driver considers that difficulty may be maintained in regulating the control of the train on approaching the points, arrangements must be made for the points to be placed into the required position prior to passing the protecting Signal.

Follow-On Train Movements

Follow-on train movement may be permitted once the Block indications show the signal track section in advance of the defective Signal is unoccupied.

Where the block indications have also failed, a follow-on train movement must not be permitted until it has been ascertained that the first train has cleared the signal track section ahead of the defective Signal. Where this cannot be confirmed, a follow-on train movement must not be permitted until the first train has cleared the single line section.

Home Departure Signal Operational at the Opposite End of the Section

If the Home Departure Signal is operational at one end of the single line section, it must be operated in the usual manner when authorised by the Train Controller.

The Signaller must remove the sleeve command from the Signal and reapply it as soon as the train has passed the Signal.

Failure of an Uncontrolled Intermediate Home Signal

In the event of a failure of an uncontrolled Intermediate Home Signal, the following Rules must be observed:

The Driver must:

- Communicate with the Signaller via the dedicated radio channel for the corridor.
- State their name and grade, the number of the Signal displaying 'Stop', the train number, the originating station and destination of the train.

The Signaller must:

- Confirm whether the last train signalled past the defective Signal has cleared the track section ahead, and,
- Confirm permission has not been given for a train or rail vehicle to be placed on track ahead of the affected Signal.
- Place a sleeve command on the affected Signal.

Advise the Train Controller of the failure and obtain verbal authority to advance the train.

The Train Controller must:

- Ensure a sleeve command has been placed on the affected signal.
- Give the Signaller verbal authorisation for the issue of verbal instructions to the Driver.

The Signaller must then:

Give the Driver verbal instructions to pass the Signal at the 'Stop' position.

It will not be necessary for the Driver to take down the details. The Signaller and Driver must then exchange names.

Upon passing the defective Signal at the 'Stop' position, the Driver must proceed cautiously, being prepared to stop short of any obstruction.

g. Section Obstructed by Accident or Disabled Train (replaces sect 16 rule 13)

Disabled Train

If a train becomes disabled in a section and a relief train is required, the **Driver** must immediately:

- Communicate with the Train Controller via the Train Radio,
- Complete a Driver's Relief Authority giving the exact location and metric length of the train, and

Advise the details of the Driver's Relief Authority to the Train Controller by radio.

The Train Controller must:

- Repeat the particulars back to the Driver,
- Advise the Driver from which direction the relief train will come, and
- Complete a Train Authority obtaining the details from the information contained on the Driver's Relief Authority.

If the relief train is to arrive from the rear, the Driver must go back 500 metres, or to the next fixed signal if it is nearer.

If the relief train is to arrive from the advance, the Driver must advance 500 metres or to the next fixed signal if it is nearer.

NOTE: The provisions regarding relief trains entering an occupied section will apply (Refer Section 13 Rule 4 – of the Book of Rules and Operating Procedures). Authority may be given for a Return Train Authority to be issued for the relief train to return the disabled train to the Unattended Crossing Station or Loop in the rear.

Duties of the Train Controller and Signaller at the Location from which the Relief Train will depart

If the relief train is to depart from the location where the controlling Signaller is stationed, the

Train Controller must:

- Contact the Signaller and transmit a Train Authority to the Signaller, and
- Obtain confirmation that the details have been received correctly by informing the Signaller to repeat back the details.

The Signaller must:

- Repeat back the details to the Train Controller,
- Ensure all points are correctly set and secured with a sleeve command,
- Ensure a sleeve command is applied to the Home Departure Signal,
- Hand the Train Authority to the Driver of the relief train, and
- Arrange for the Driver to sign for the Train Authority on the butt of the form held by the Signaller.

The text of the Train Authority must include authority to pass the Home Departure Signal at the 'Stop' position and, where parallel lines are involved, the line concerned. The Driver may then proceed into the section in accordance with the provisions of Section 13 Rule 4 (d) of the Book of Rules and Operating Procedures.

Duties of the Driver of the Disabled Train

The Driver of the disabled train must not allow the train to be moved until the relief train arrives, unless arrangements have been made to prevent the relief train from entering the section.

Duties of the Driver of the Relief Train

On arrival of the relief train at the disabled train, the Driver of the relief train must:

- Collect and cancel the Driver's Relief Authority,
- Obtain the authority of the Train Controller to depart,
- Remove the disabled train to the end of the section nominated on the Train Authority,

On arrival of the combined trains complete at the Unattended Crossing Station or Loop, cancel the Train Authority, by writing the word 'Cancelled' together with the time date and signature across the face of the form, and

- Hand both forms in at the Driver's depot.

Relief Train to Depart from an Unattended Crossing Station, Junction or Loop

Where the relief train is to depart from an Unattended Crossing Station, Junction or Loop, **the controlling Signaller must:**

- Ensure all points are correctly set and secured with a sleeve command, and
- Ensure a sleeve command is applied to the Home Departure Signal.

The Relief Train Driver must:

- Communicate with the Train Controller via the Train Radio,
- Receive a Train Authority from the Train Controller,
- Repeat the details of the Train Authority back to the Train Controller, and
- Obtain the authority of the Train Controller prior to entering the section.

The text of the Train Authority must include authority to pass the Home Departure Signal at the 'Stop' position. The Driver may then proceed into the section in accordance with the provisions of Section 13 Rule 4(d) of the Book of Rules and Operating Procedures.

h. Assistance provided by a Following Train which has entered the Single Line Section

Where a following train has entered the single line section where the train is disabled, the second train may provide assistance.

Where intervening Automatic Signals may exist between the position of the following train and the disabled train, and the Signals are at 'Stop', the Driver of the following train must be instructed to draw cautiously forward in accordance with Section 3 Rule 1 of the Book of Rules and Operating procedures.

Where intervening uncontrolled Home Signals may exist between the position of the following train and the disabled train, and the Signals are at 'Stop', the Driver of the following train must obtain the authority of the Signaller prior to passing the Signal at the 'Stop' position.

i. Working of Trains to and from Obstruction in section

Unattended Crossing Stations, Junctions or Loops (*replaces sect 16 rule 14d*)

Where the Crossing Stations, Junctions or Loops on either side of the obstruction are unattended, a competent employee must be appointed to take charge.

Obstruction of an Adjoining Line (*replaces sect 16 rule 14e*)

If a derailment has caused the obstruction of any adjoining lines, immediate steps must be taken to protect all obstructed lines.

On corridors where the adjoining line has fixed signals controlled by track circuits, the Driver must immediately attach the emergency track circuit jumper cable to each rail of the line to secure the Signals at 'Stop' for protection of the obstruction.

On corridors, where the adjoining line has fixed signals controlled by axle counters. The Driver must immediately advise the Signaller via the local train radio (Channel 1) of the obstruction.

The Signaller must immediately:

- Instruct the Driver of any train approaching on the parallel line to stop, and remain stationary until further advised, and
- Where applicable place all intermediate Automatic Signals in the affected section to the 'Stop' position.

The Train Controller must arrange the working of relief trains to the point of obstruction on either side. The authority for any train movement to or from the obstruction will be a Train Authority issued by the Train Controller.

Where the controlling Signaller is situated at one end of the obstructed section, the Train Controller must transmit the Train Authority to the Signaller. The details contained in Rule **11.6(b)** of this section must then be complied with.

CAUTION: Attachment of the emergency track circuit jumper cable does not remove or lessen the necessity for protection of all obstructed lines.

j. Train Not to Return to the Unattended Crossing Station, Junction or Loop in the Rear, Except as Authorised (*replaces sect 16 rule 15*)

A train is not permitted to return from a single line section to the Unattended Crossing Station, Junction or Loop in the rear unless:

- As provided for in these Rules,
- A train is returning from an intermediate siding after locking away, or
- Permission has been granted by the Manager Safeworking.

k. Set-Back Movement to a Crossing Station, Junction or Loop

If it necessary for a train to return to the Crossing Station, Junction or Loop in the rear, **the Train Controller must:**

- Arrange for the controlling Signaller to place a sleeve command on the Home Departure Signal governing movements to the affected section,
- Arrange for the Signaller to place all points in the correct position and apply a sleeve command to the points involved, and
- Upon confirmation of clauses **1 & 2** above, issue a Train Authority to the Driver of the Train.

The Driver of the affected train must:

- Communicate with the Train Controller via the Train Radio,
- Receive the Train Authority from the Train Controller on the Train Authority form,
- Repeat the details back to the Train Controller,
- On a train with driving cabs at both ends, change ends and drive from the leading cab, or
- Where this is not possible, obtain the services of a competent employee in order to ride the leading vehicle to control the movement,
- Upon arrival of the train complete at the Crossing Station, Junction or Loop, cancel the Train Authority by writing the word ‘Cancelled’, together with the time date and Driver’s signature, and
- Advise the Train Controller that the movement has been completed.

Where the Controlling Signaller is situated at the location to which the train is returning, the Driver must hand up the Train Authority to the Signaller.

Once it has been determined that the train has arrived complete, the Signaller must cancel the Train Authority by writing the word ‘Cancelled’ together with the time, date and Signaller’s signature across the face of the form.

Co-ordination of Signalling & Train Failures

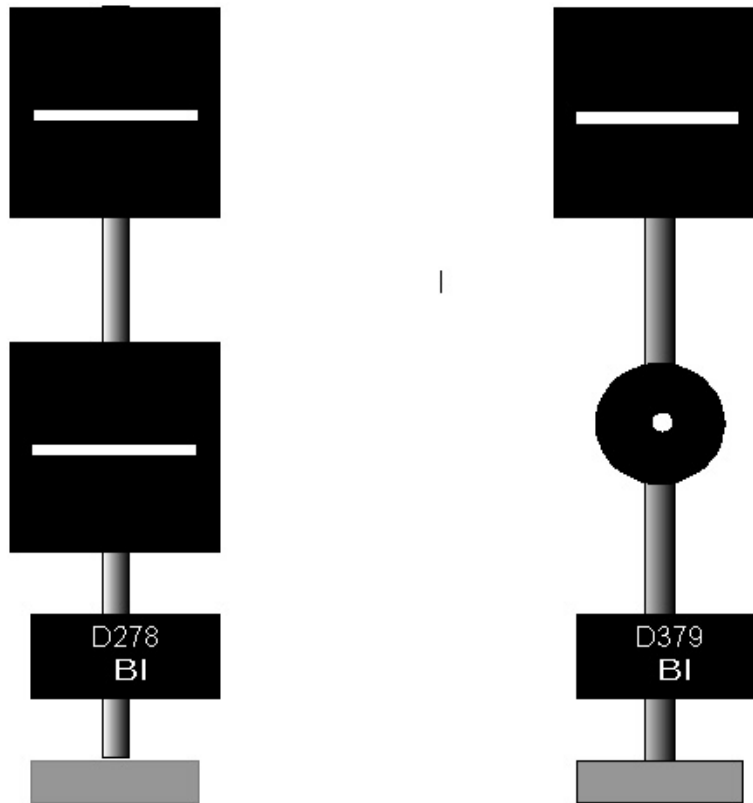
Both the Train Controller and the Signaller at the Regional Signal Control Centre will be jointly responsible for ensuring the appropriate resources are advised of signalling related failures and recovery for train failures.

12.OPERATING PROCEDURES – WORKING OF POINTS AND SIGNALS

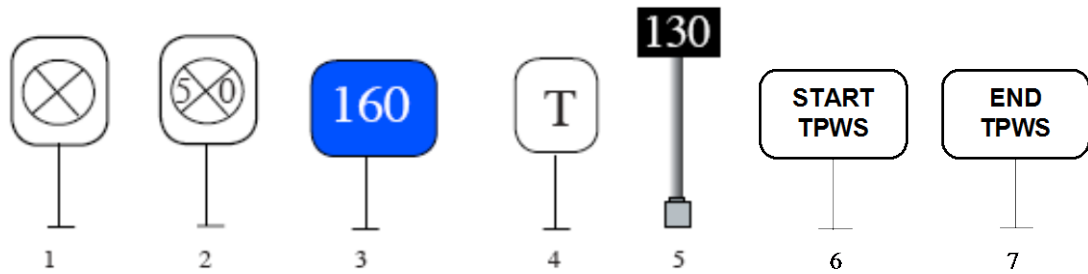
a. Symbols used on Lithographs and Arrangement Plans (*addition to Sect 27 rule 1b*)

Banner Indicator Symbols

The following symbols will be shown on signalling diagrams:



b. Co-ordination of Signalling & Train Failures Level Crossing Approach and Speed Boards



Standard Level crossing predictor indicator board.

Level crossing predictor indicator board with speed increase available in accordance with Rule 6.

Speed authorising board to allow trains authorised in the network operating procedures to operate at the designated speed, subject to any lower speed being observed, on high speed track ahead. The maximum speed is shown in numbers on the board.

Indicator board marking the position of a timing section for the approach operation of signalling for a diverging movement indicated by a 'T' on the board.

LED active speed board marking the end of a high speed running section with the highest authorised line speed for the track ahead shown on the board.

Boards are provided to identify the areas where TPWS Ground Equipment is fitted.

These Boards are white reflective rectangular boards with black letters.

13.USE AND OPERATION OF ROAD/RAIL AND TRACK VEHICLES (*NEW RULE*)

a. Route Knowledge

On lines where axle counters are in use the person in-charge of the vehicle must be qualified in the route knowledge for that portion of line. In addition to other requirements given in Section 30 of the Book of Rules and Operating Procedures, the minimum requirements must include:

- axle counters (including axle reset procedures),
- curves and gradients,
- fixed signals within the route,
- any special instructions for the line.

b. Removal at an Intermediate Point

Should a patrol vehicle or track machine be removed at an intermediate location within axle counter territory and the signal track section is shown to be occupied, the requirements of rule 6, resetting of the axle counter section must be complied with.

14. TRAIN PROTECTION & WARNING SYSTEM

a. TPWS (Train Protection & Warning System)

TPWS is a system that is designed to reduce the possibility and consequences of a Signal being passed at the 'Stop' position or at a speed in excess of the signal indication. It is fitted to signals on the corridors and locations, as indicated below.

Two functions are provided by TPWS. The first, the speed section, generates a demand for a brake application on a train that approaches a signal at the 'Stop' position or approaches a diverging/converging route at an excessive speed.

The second is the train stop which generates a demand for a brake application on a train which passes a signal at the 'Stop' position.

TPWS Trackside equipment is armed when TPWS is fitted; and

- The signal is at the stop position (train stop armed), or
- A signal is displaying a Medium Speed indication (i.e.: speed section is armed for Medium Speed), or
- The train has passed a 'Reduce to Medium Speed' indication and must reduce speed to medium speed before the next signal (i.e.: speed sections are armed).

The Train borne TPWS equipment operates on the principle of measuring the time taken to pass between two points on the track (i.e.: The locations of the arming and trigger loops). If this time is less than a pre-set time (nominally 1 second) a brake demand is initiated by the equipment on the train.

b. Drivers to Ensure the Train borne TPWS is Activated

Drivers must ensure that TPWS is active and passes the TPWS self-test during train preparation prior to commencing any movement over the Regional Fast Rail corridors as defined in Section 36 Rule 1 of the Book of Rules and Operating Procedures.

c. Trains Assisted by Other Locomotives

Should a train fitted with TPWS require to be assisted by a train in the rear, the TPWS in the front locomotive must remain activated.

Should the assisting train be equipped with TPWS, the TPWS must be isolated.

d. TPWS locations

TPWS line side equipment is fitted to signals on these corridors as indicated below.

SYDENHAM- BENDIGO			
	• SYDENHAM		
Start TPWS	Down Trains	Upside Signal SDM 718	MTM Location
End TPWS	Up Trains	Opposite Signal SDM 702	MTM Location
	• BENDIGO		
Start TPWS	Up Trains	Signals BGO 16 & BGO 18	
		Signal BGO 08	
End TPWS	Down Trains	Signals BGO 22 & BGO 24	
SOUTHERN CROSS - SUNSHINE – BALLARAT AND RRL LINES			
	Southern Cross	Signals SSS 728 & SSS 738	
	Sunshine	Signals MW 110 & SUN 933	
	SUNSHINE		
Start TPWS	Down Trains	Signal SUN 927	
End TPWS	Up Trains	Signal SUN 930	
	• BALLARAT		
Start TPWS	Down Trains	Signal 50	Geelong Line
End TPWS	Up Trains	Signal 50	Geelong Line
Start TPWS	Up Trains	Signal 46	
	Up Trains	Signals 24 & 28	
End TPWS	Down Trains	Signal 44	
	Down Trains	Signal 40	
	Down Trains	Opposite Signal 40	Geelong Line
WERRIBEE – GEELONG – WARRNAMBOOL			
	• WERRIBEE		
Start TPWS	Down Trains	Down side Cherry St	MTM Location
End TPWS	Up Trains	Signal 24 & 28	MTM Location
	• NORTH GEELONG		
Start TPWS	Up Trains	GLG 62	
End TPWS	Down Trains	KP 68.800	
	• SOUTH GEELONG		
Start TPWS	Up Trains	Signal Post 8	
End TPWS	Down Trains	Signal Post 2	
	WAURN PONDS		
Start End TPWS	Up Down Trains	Signal WPD 2	
Start End TPWS	Up Down Trains	Signal WPD 28	
	WARNCOORT LOOP		
Start End TPWS	Up Down Trains	Signal G 1347	
Start End TPWS	Up Down Trains	Signal G 1412	
PAKENHAM - TRARALGON			
	PAKENHAM		
Start TPWS	Down Trains	Overhead Structure 1839 near to Signal PKM 06	MTM Location
End TPWS	Up Trains	Overhead Structure 1887	MTM Location
	TRARALGON		
Start TPWS	Up Trains	At Start RFR board Signal TRG 10	
End TPWS	Down Trains	Signal Post TRG 06	

e. Train Borne TPWS Control Panel

The train borne TPWS Control Panel has two (2) combined illuminated push buttons and two (2) indicator lights.

- TPWS Carborne (TI) fault indication
- Brake demand (TSS and OSS) and acknowledge pushbutton
- Train stop override pushbutton
- Power up acknowledge indicator



Train Stop Override Facility

The Train Stop Override facility is a push button that allows a Driver to inhibit the initiation of a brake demand at a Train Stop when authorised to pass a signal at the 'Stop' position.

When activated, the action of the Train Stop will be overridden provided that the active Train Stop is passed within a pre-set time. This time is 20 seconds for passenger trains.

TPWS Temporary Isolation Switch

The Temporary Isolation Switch is a three-position switch, having a centre rest position with a momentary position either side. Turning the switch clockwise selects Isolation and anticlockwise normal operation. Temporary isolation inhibits the operation of TPWS until it is reset or if the driving cab's deactivated normal operation is restored.

Temporary Isolation must not be used without authorisation from the Train Controller, Centrol. e.g. when a locomotive is assisting in the rear of a train or the Train borne TPWS equipment has failed in service.

f. Unscheduled Stop Due to TPWS Over-Speed Intervention

When a train makes an unscheduled stop caused by a TPWS over-speed intervention, the Driver must:

- Make sure the train comes to a stand,
- Acknowledge the TPWS brake demand,
- Advise the Train Controller, Control, and
- Not allow the train to be moved until authority is given by the Train Controller, Control.

g. TPWS Intervention due to a Signal Passed at ‘Stop’ (Danger)

When a TPWS train stop intervention occurs in the vicinity of a Signal at ‘Stop’ (Danger), **the Driver must:**

- Make sure the train comes to a stand,
- Acknowledge the TPWS brake demand,
- Advise the Train Controller, Control, and
- Not allow the train to be moved until authority is given by the Train Controller, Control.

On observing the SPAD alarm, **the controlling Signaller must:**

- Take all reasonable steps to protect the trains movement and other trains in the vicinity,
- Confirm the details with the Train Controller,
- Record the details of the SPAD alarm across the figure line of the Train Register Book,
- Act under the Train Controller’s directions with respect to any further movement of the train involved, and
- Acknowledge the SPAD alarm once the details have been entered in the Train Register Book.

The Train Controller must observe the internal protocols relating to the management of a SPAD on the network.

h. Unscheduled Stop Due to TPWS Intervention Outside a Designated TPWS Area

If the train borne TPWS equipment activates either successively or intermittently outside of a designated TPWS area, **the Driver must:**

- Make sure the train comes to a stand,
- Acknowledge the TPWS brake demand,
- Advise the Train Controller, Control, and
- Follow the instructions of the Train Controller, Control.

The Train Controller, Control may allow the train to proceed, if it is required to enter a TPWS designated area, the provisions of Rule 14.8 must be observed.

i. Defective Train Borne TPWS Equipment

If the Driver becomes aware that the Train Borne TPWS equipment is defective, the Driver must contact the Train Controller, Control.

Arrangements must be made to have the affected vehicle repaired or replaced by a vehicle with operational TPWS equipment.

If arrangements cannot be made for repairs or a replacement vehicle, the Train Controller Control must authorise the Driver to isolate the TPWS equipment by operating the Temporary Isolation switch located in the vehicle's cab.

The following option must then be used to work the affected vehicle forward:

The vehicle with defective TPWS equipment must not exceed the maximum permissible line speed as detailed in the Network Service Plan or 130km/h, whichever is the least.

j. Failure of Communication

In the case of Clauses f, g, h & i above, if the Driver is unable to contact the Train Controller Control via the Train Radio, a mobile telephone may be used.

If mobile coverage is unavailable, the Safeworking Radio Channel may be used to relay communications between the Driver, Local Signaller and Train Controller, Control.

k. TPWS Fitted Vehicles

TPWS fitted Vehicles consists of:

V/Line N, A & P Class Locomotives,

Sprinter railcars,

Vlocity railcars, and

IEV 100 Track Recording Car

l. Non TPWS Fitted Vehicles

Non TPWS fitted vehicles operating on a RFR corridor must be treated as follows:

The Non TPWS Fitted vehicle must not exceed the maximum permissible line speed as detailed in the Network Service Plan or 130km/h, whichever is the least.