

ANSG 604

Indicators and Signs

Applicability

NSW
SMS

Publication Requirement

External Only

Document Status

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Purpose

To describe the types of indicators and signs used in the *Australian Rail Track Corporation (ARTC) NSW Network*.

General

The placement, sizes and details of trackside signs are given in the Civil Engineering volume of the *Practices and Procedures* manuals.



The Figures in this Rule show examples of the indicators and signs used in the ARTC Network. White or lunar white lights are shown in blue ●.

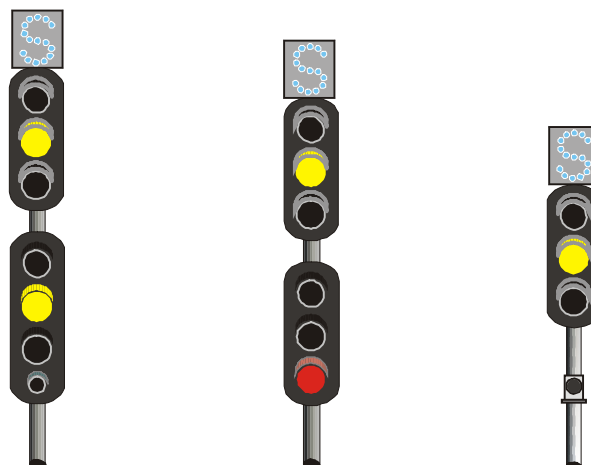
Route indicators

In single and double light colour light signalled territory, multi-lamp *route* indicators on *running signals* indicate, in most cases, the turnout route.

If the signal displays a PROCEED indication, the route indicator shows:

- letters, usually related to the name of a line, as in 'S' for Suburban, and 'UM' for Up Main, or
- numbers, usually referring to the number of a station *platform*, as in '3' for the line beside Platform 3.

Figure ANSG 604-1



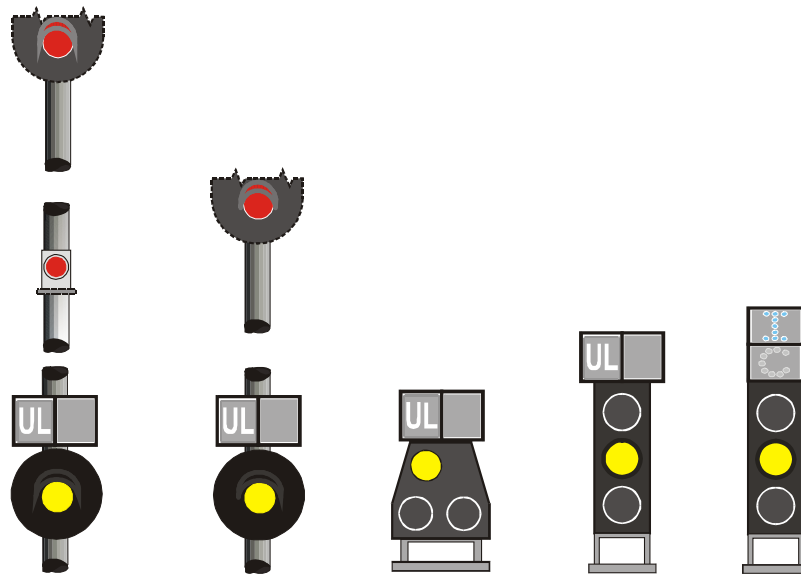
Examples of multi-lamp route indicators

Route indicators on *shunting signals* or *co-acting signals* may show:

- a *running line* turnout route, or
- a *shunting* route.

The route indicator may be stencil type or multi-lamp type.

Figure ANSG 604-2



Examples of route indicators

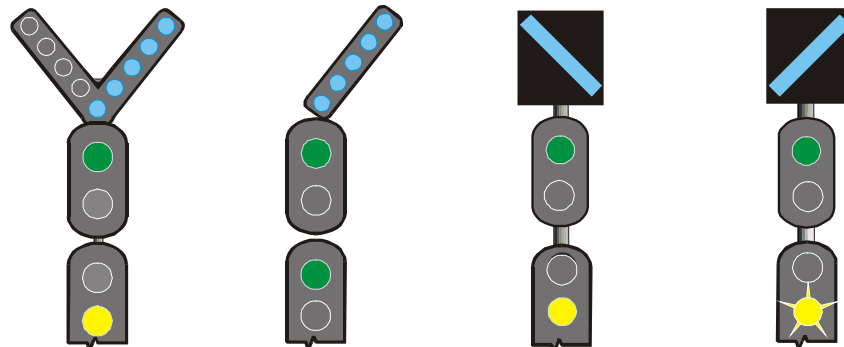
Turnout repeaters

Turnout repeaters are placed at braking distance from *points* to give advance warning that a turnout route is set.

They have one or more angled rows of white lights, or light-emitting diodes (LEDs), in a separate unit fixed to the top of a signal. The lights are angled up towards the turnout route.



Figure ANSG 604-3

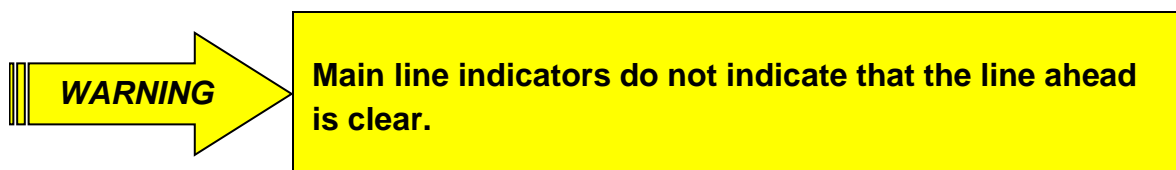


Examples of turnout repeaters

Main line indicators and indicator repeaters

Main line indicators:

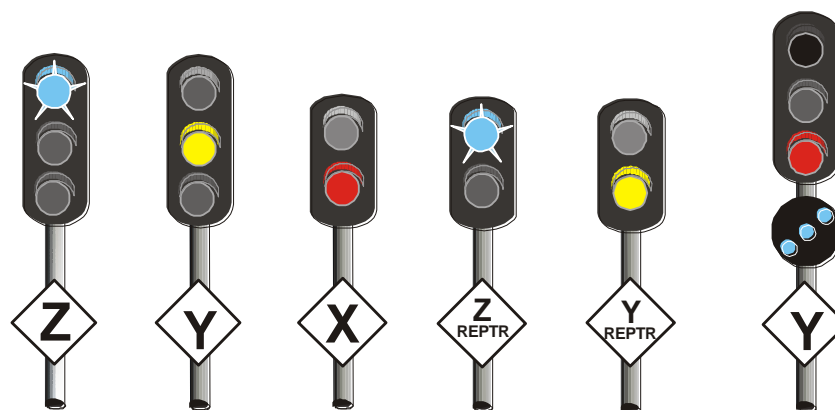
- advise rail traffic crews about the condition of the points and level crossings, and
- are identified by a black letter on a white reflective diamond attached to the indicator post.



If indicators are able to display a STOP indication, they may be passed at STOP only in accordance with Rule *ANSG 610 Passing indicators at STOP*.

Indication	Means
Pulsating white light	Points are set for the main line, and warning equipment at a level crossing is in working order.
Steady yellow light	Points are set for the main line, and warning equipment at a level crossing is in working order. The next main line indicator, where provided, may be at STOP, or Proceed at Restricted Speed: <ul style="list-style-type: none">• to the next mechanical point indicator or• STOP sign at a terminal location.
Steady red light	STOP.
Steady red light with angled white lights	Points are set for the turnout.

Figure ANSG 604-4



Examples of main line indicators and main line indicator repeaters

Main line indicator repeaters

If the *sighting distance* to a main line indicator is restricted, a main line indicator repeater is placed before the main line indicator.

Main line indicator repeaters are identified as 'REPTR', under the same black letter as the main line indicator being repeated.

Indication	Means
Pulsating white light	The main line indicator being repeated is not at STOP.
Steady yellow light	The main line indicator being repeated may be at STOP.

Point indicators

Point indicators are used to indicate the position of points.

Catch point indicators show the position of catch points.

Point indicators and catch point indicators may be:

- colour light, or
- mechanical.

If the indicator displays:

- a red light, the points are not set, or
- a white arrow, the points are set and locked for the route indicated by the direction of the arrow.

Figure ANSG 604-5



Examples of vertical colour light catch point indicators.

The left of each pair shows that points are not set or that catch points are open.

The right of each pair shows that points are set or that catch points are closed

Figure ANSG 604-6



Examples of mechanical catch point indicators.

The left of each pair shows that catch points are open.

The right of each pair shows that catch points are closed.

Mechanical point indicators

Mechanical point indicators (arrow type) have an illuminated white arrow that indicates the route set, but does not indicate whether points are locked.

Mechanical point indicators (bar type) have a reflective white bar on a black background. If the white bar:

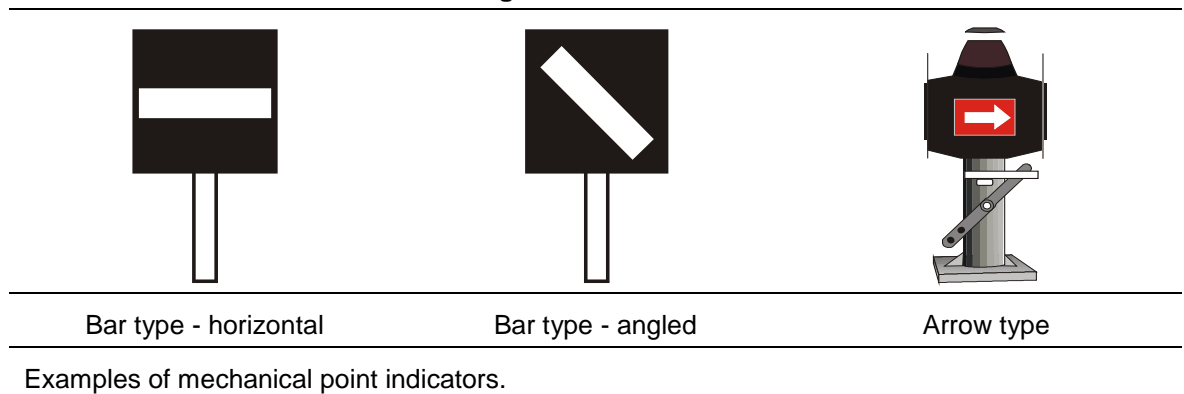
- is horizontal (STOP), the points are unlocked, or are not set in NORMAL position, or
- is angled at 45° (NORMAL), the points are set and locked in NORMAL position.

Where the points can be set and locked in either the normal or reverse position, a point setting indicator will also be provided to indicate the position of the points.

The white bar is angled at 45° and indicates the points are set and locked in either the normal or reverse position.

If a mechanical point indicator (bar type) is at STOP, approaching *Drivers* or *track vehicle operators must* stop and check the position of the points.

Figure ANSG 604-7



Point setting indicators

Point setting indicators provide an indication of the setting of the points.

Point setting indicators do not indicate that the points are locked.

Point setting indicators are displayed by reflectorised targets as follows:

Green Arrow

Indicates the main line points are set for the main line. The arrow points up and away from the line.



Yellow Dumb Bell

Indicates the main line points are set for the crossing loop or branch line.



Red Dumb Bell

Indicates the main line points are set for the siding or dead end.



Yellow Circle

Indicates the crossing loop points are set for the crossing loop or yard points are set for the straight.



White Square

Indicates the crossing loop points are set for the siding or yard points are set for the turnout route.



U indicators

In *token* territory, U indicators are fitted to the posts of some starting or home/starting signals.

If the U indicator is displayed:

- the controlling signal box is unattended, and
- points beyond the home/starting signal are locked in NORMAL position.

If the starting or home/starting signal directly protects a Type F level crossing, illumination of the U indicator shows that the warning equipment is in working order.

Figure ANSG 604-8



Example of a U indicator.

Warning lights and alarms

Illuminated white or orange warning lights are provided at *locations* where workers on *track* have a restricted view of approaching *rail traffic*. If rail traffic approaches, the lights go out.

Figure ANSG 604-9

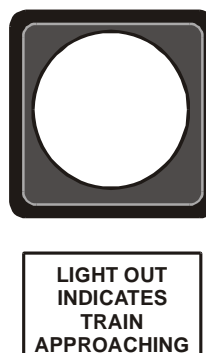


Examples of warning lights.

Illuminated white crossings lights, sometimes combined with *audible warning devices* as additional alarms, are provided at pedestrian crossings restricted to use by rail workers.

If rail traffic approaches, the lights go out and alarms are activated in time for workers to go to, or remain in, a *safe place*.

Figure ANSG 604-10



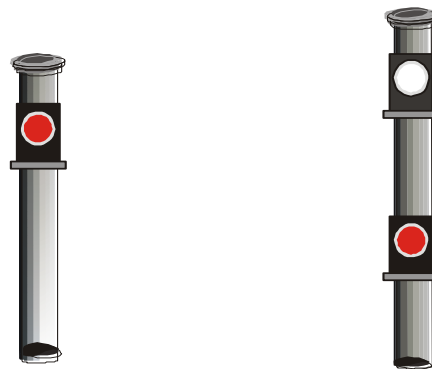
Crossing light.

Dead end lights

Dead end lights are small red lights to indicate the end of *dead end sidings*. The lights display STOP indications only.

If it is possible for a dead end light to be mistaken as a running signal at STOP, a white light above the red light is used to distinguish it from a running signal.

Figure ANSG 604-11



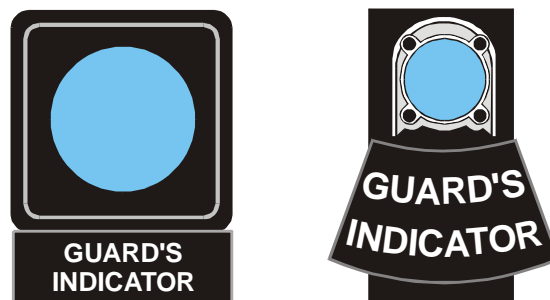
Examples of dead end lights.

Guard's indicators

If it is possible for the signal at the exit-end of a platform to be obscured from a guard's view, a guard's indicator is placed over the platform.

If the exit-end signal displays a PROCEED indication, a guard's indicator shows a lunar white or a blue light.

Figure ANSG 604-12



Examples of guard's indicators.

YARD LIMIT signs

YARD LIMIT signs:

- define the limits of *yards*, and
- define the end of a *section*, and
- in *Train Order territory*, define the *yard limits* of a *Train Order location*.

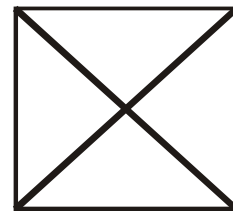
Drivers and track vehicle operators must respond to YARD LIMIT signs in accordance with:

- Rule *ANSG 606 Responding to signals and signs*, and
- Rule *ANTR 418 Yard limits*.

Figure ANSG 604-13



Front



Back

Examples of YARD LIMIT signs in Train Order territory.

Figure ANSG 604-14



Examples of YARD LIMIT signs outside Train Order territory.

LANDMARK and LOCATION signs

LANDMARK and LOCATION signs are reflective yellow signs that may be placed on the approach side of a location where rail traffic may be required to stop.

The location may be a:

- Signal
- STOP sign
- main line indicator
- YARD LIMIT sign
- mechanical point indicator.

LOCATION signs are used to indicate approach to a location. In signalled territory, they give additional warning of approach to a signal.

LOCATION signs are placed:

- not more than 3000m before the location, and
- at a safe braking distance from the location.

Some LANDMARK and LOCATION signs display a distance in metres on the bottom of the triangle to indicate to rail traffic crews the distance to where rail traffic may be required to stop.

Drivers and track vehicle operators must respond to LANDMARK and LOCATION signs in accordance with Rule *ANSG 606 Responding to signals and signs*.

Figure ANSG 604-15



Examples of LANDMARK and LOCATION signs.

SHUNT LIMIT signs

SHUNT LIMIT signs:

- indicate the limit to which a shunting movement may be made on a running line, and
- have white text on a red reflective or illuminated background.

Figure ANSG 604-16



Examples of SHUNT LIMIT signs.

STOP signs

STOP signs:

- may be passed only if *authorised*, and
- have white text on a red reflective background.

Figure ANSG 604-17



Examples of STOP signs.

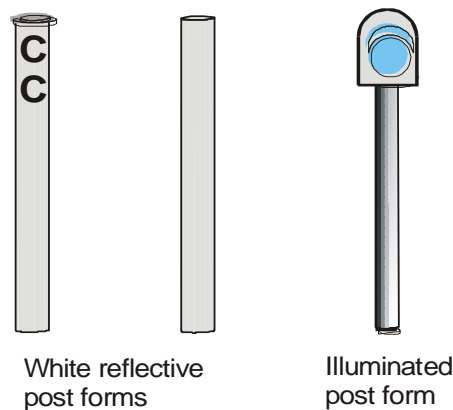
Clearance posts

In areas without *track-circuits*, *clearance posts* are usually located between two *converging* lines to show the clearance limit.

Some clearance posts have:

- a reflective background, or
- a white light that must be illuminated at night or in conditions of *low visibility*.

Figure ANSG 604-18



Examples of clearance posts.

CATCH POINT signs

CATCH POINT signs:

- indicate that there are catch points ahead, and
- have white text on a red reflective background, and
- are provided where catch points are not protected by a *fixed signal* or an indicator.

Qualified Workers must check that catch points are closed correctly before a shunting movement begins.

Figure ANSG 604-19



Examples of CATCH POINT signs.

DERAIL signs

DERAIL signs:

- indicate that there is a *derail device* ahead, and
- have white text on a red reflective background.

DERAIL signs are provided if:

- movements can be made towards derail devices, and
- the devices are not protected by a fixed signal or an indicator.

Qualified Workers controlling shunting must remove derail devices before authorising shunting movements beyond a DERAIl sign.

Figure ANSG 604-20



Examples of DERAIl signs.

Narrow track clearances

Warning signs are placed in locations where there is restricted clearance between:

- vehicles on *adjacent* lines, and
- the track and other *infrastructure* or buildings.

Workers performing shunting at locations with these warning signs must not:

- stand between a moving vehicle and a vehicle standing on an adjacent track, or
- ride on the side of a vehicle moving next to vehicles standing on an adjacent track.

Qualified Workers performing shunting must act in accordance with *ANTR 420 Shunting and marshalling*.

Figure ANSG 604-21



Example of a NARROW TRACK CLEARANCES sign.

Worksite warning signs

Worksite warning signs are placed on the departure end of a platform to indicate that an inner *Handsignaller* is located ahead.

Figure ANSG 604-22



Examples of worksite Handsignaller warning sign.

DISTANT Warning signs

DISTANT WARNING signs are used during *pilot staff working* if there is no signal within 2000m of a STOP sign being used to protect points or a *crossover*.

Figure ANSG 604-23



Example of a DISTANT WARNING sign.

Prohibitive signs

If a signal carries a prohibitive sign, Drivers and track vehicle operators must follow the directions on the sign.

SLIP SITE signs

Signals fitted with a SLIP SITE sign are *interlocked* with slip detectors to respond to landslips.

Figure ANSG 604-24



Example of a SLIP SITE sign.

TONNAGE signs

A TONNAGE sign may be fitted on or near a signal placed before a rising grade.

Tonnage signals are absolute signals for prescribed trains.

The prescribed train may only proceed past the signal if a medium aspect or higher is displayed.

There may also be a tonnage (T) indicator. If the T indicator is lit, Drivers of prescribed trains may ignore the instructions of the TONNAGE sign.

Distant for Tonnage Signal

A full clear aspect on the signal in rear of the Tonnage signal indicates that the Tonnage signal will have a proceed aspect for prescribed trains. Where a full clear cannot be displayed on the preceding signal then a T indicator may be used and indicates that the Tonnage signal will have a proceed aspect for prescribed trains.

Figure ANSG 604-25



**DRIVERS OF GOODS
TRAINS WITH 75%
OF FULL LOAD
MUST WAIT HERE
UNTIL SIGNAL
SHOWS MEDIUM**

Tonnage indicator and example of instruction sign.

Starting or home/starting signal signs

Some starting or home/starting signals in *bidirectional Rail Vehicle Detection territory* have prohibitive signs.

Figure ANSG 604-26

**THIS SIGNAL MUST NOT BE PASSED
AT STOP EXCEPT ON THE AUTHORITY
OF A SPECIAL PROCEED AUTHORITY
OR DURING PILOT STAFF WORKING**

Example of a starting signal sign.

Distant signal and repeater signal signs

Distant signals and colour light *repeater signals* that can display STOP have signs with black text on a white reflective background.

Figure ANSG 604-27

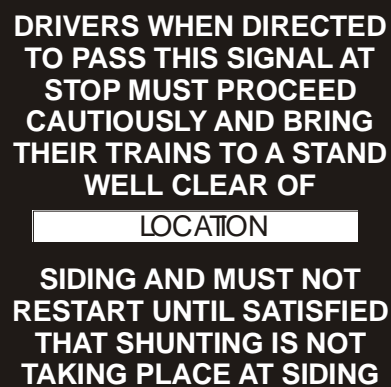
**WHEN THIS SIGNAL
IS AT STOP WAIT
ONE MINUTE AND THEN
PROCEED CAUTIOUSLY
TO NEXT SIGNAL**

Example of a distant signal or repeater signal instruction sign.

Intermediate siding signs

Signals that protect *intermediate sidings* must be passed only in accordance with the instructions on the sign.

Figure ANSG 604-28



DRIVERS WHEN DIRECTED
TO PASS THIS SIGNAL AT
STOP MUST PROCEED
CAUTIOUSLY AND BRING
THEIR TRAINS TO A STAND
WELL CLEAR OF
LOCATION
SIDING AND MUST NOT
RESTART UNTIL SATISFIED
THAT SHUNTING IS NOT
TAKING PLACE AT SIDING

Example of intermediate siding sign.

Absolute signal signs

Signals fitted with an absolute signal sign must not be passed at STOP without the *Signaller's* permission.

Figure ANSG 604-29



THIS
SIGNAL
MUST
NOT BE
PASSED AT
STOP
WITHOUT
AUTHORITY
FROM
SIGNALLER

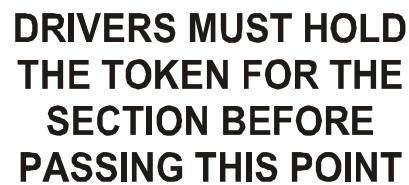
Example of absolute signal sign.

System of Safeworking territory signs

Token territory signs

Token territory signs show that a token is necessary to occupy the section ahead.

Figure ANSG 604-30




**DRIVERS MUST HOLD
THE TOKEN FOR THE
SECTION BEFORE
PASSING THIS POINT**

Example of token territory sign.

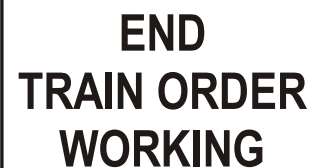
Train Order working signs

Train Order working signs show the beginning and end of the territory where the Train Order System of safeworking applies.

Figure ANSG 604-31



**BEGIN
TRAIN ORDER
WORKING**



**END
TRAIN ORDER
WORKING**

Begin and end Train Order working sign.

Train Order Network Control boundary signs

Network Control signs

BEGIN and END Network Control signs are used to define the limit of authority at a Train Order Network Control boundary location.

Figure ANSG 604-32



Example of Begin and End Network Control signs.

END SIGNALLED AUTHORITY signs

END SIGNALLED AUTHORITY signs show that there is a set of manual lever operated non-interlocked points to enter a siding, *loop* or yard.

The signs have:

- white text on a red background in the upper half, and
- white text on a black background in the lower half.

Drivers or track vehicle operators must not pass these signs without the correct authority for the area.

Figure ANSG 604-33



Example of END SIGNALLED AUTHORITY sign.

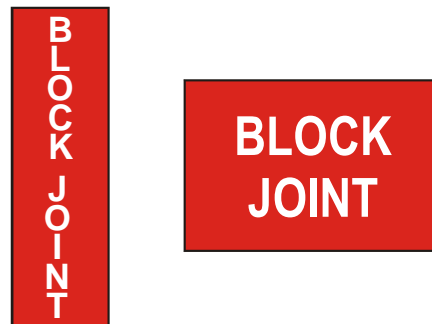
BLOCK JOINT signs

BLOCK JOINT signs:

- show the locations of insulating block joints between separate track-circuits of track-circuited line, and
- have white text on a red reflective background.

Signallers may require rail traffic to stand clear of a block joint.

Figure ANSG 604-34



Example of BLOCK JOINT signs.

Single light signal signs

Begin and end single light indication signs show a change of signal type in use.

Figure ANSG 604-35



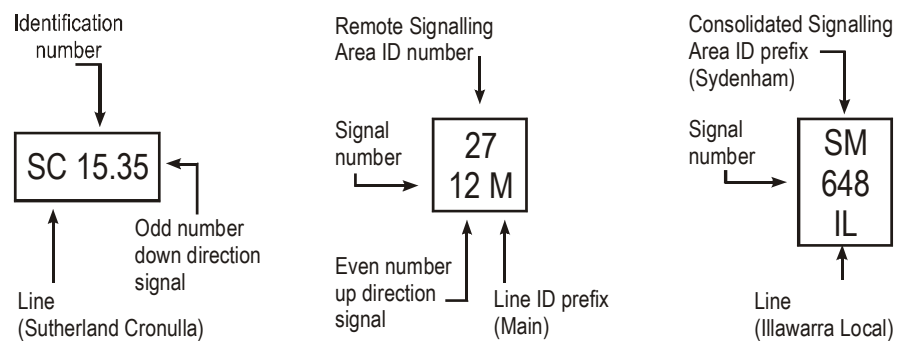
Begin and end single light indication signs.

Signal identification signs

Signal identification signs:

- are fixed to running signals and some shunting signals, and
- have letters and/or numbers that uniquely identify the signal.

Figure ANSG 604-36

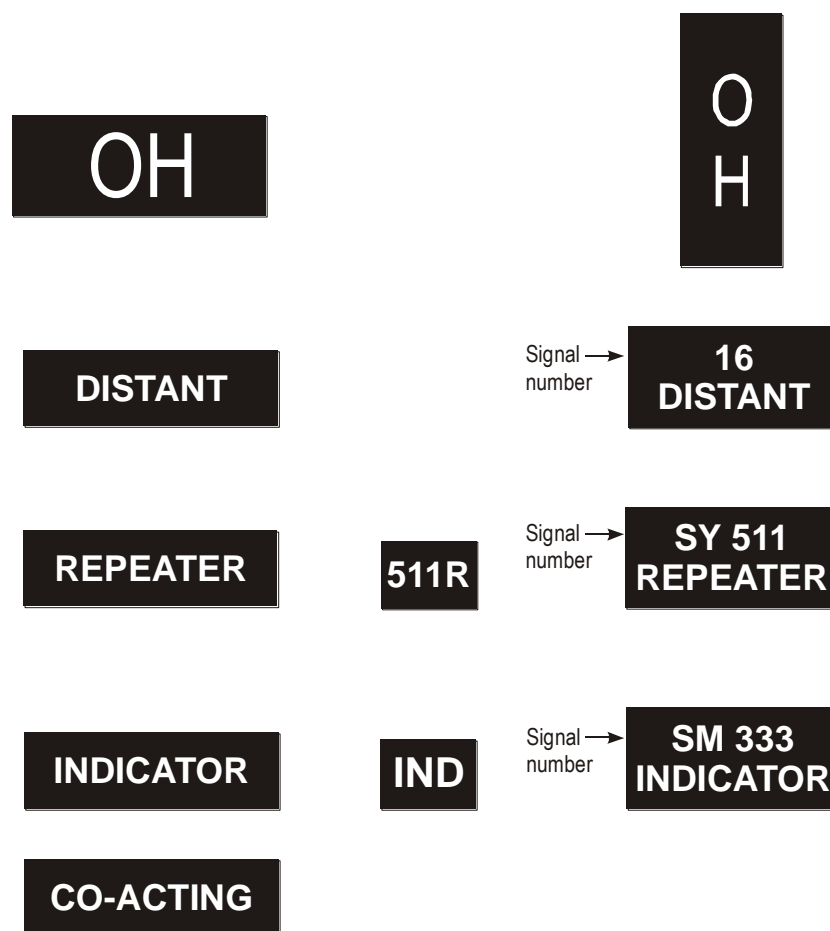


Examples of signal identification signs.

Signal designation signs

Signal designation signs are provided for some signals and are fitted to either the signal post or to a wall near the signal.

Figure ANSG 604-37

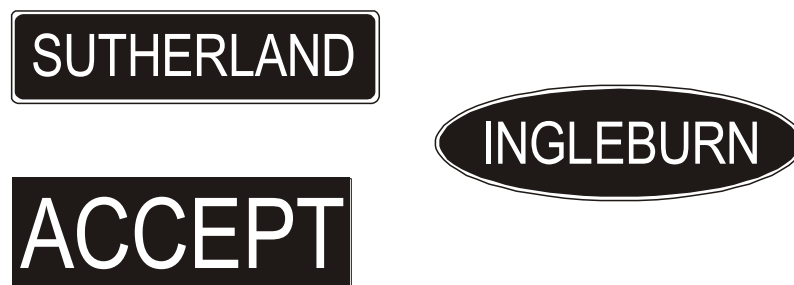


Examples of outer home signal, distant signal, repeater signal and co-acting signal designation plates.

Accept signal signs

Signs are fitted to some accept signals. They show the name of the controlling location, or the word ACCEPT.

Figure ANSG 604-38



Examples of accept signal signs.

Speed signs

Drivers and track vehicle operators *must* make sure that the front of a *train* or *track vehicle* passes a speed sign at or below the speed given by the sign.

If speed signs allow an increase in speed, Drivers and track vehicle operators must not increase speed until the rear of the train or track vehicle has passed the speed sign.

Temporary speed restrictions

General

Temporary speed restrictions may be imposed, altered or withdrawn only by appropriate *Maintenance Representatives*.

Temporary speed restriction signs take precedence over permanent speed signs.

Network Control Officers must warn Drivers and track vehicle operators entering an affected portion of track about speed restrictions until:

- the Maintenance Representative says they can travel at *normal speed*, or
- temporary speed signs have been installed, or
- affected portions of track are protected by Handsignallers.

If temporary speed restrictions are continued, the Maintenance Representative must *advertise* the restrictions in a *Weekly Speed Notice*.

Temporary track speed signs

Temporary *track speed* signs:

- have black text on a white background for passenger trains, or
- have black text on a yellow background for freight trains.

A single yellow background speed sign applies to all rail traffic.

A white background speed sign, by itself or under a yellow background speed sign, applies only to passenger trains.

Single speed restriction

If there is a single speed restriction, temporary speed signs must be placed as follows:

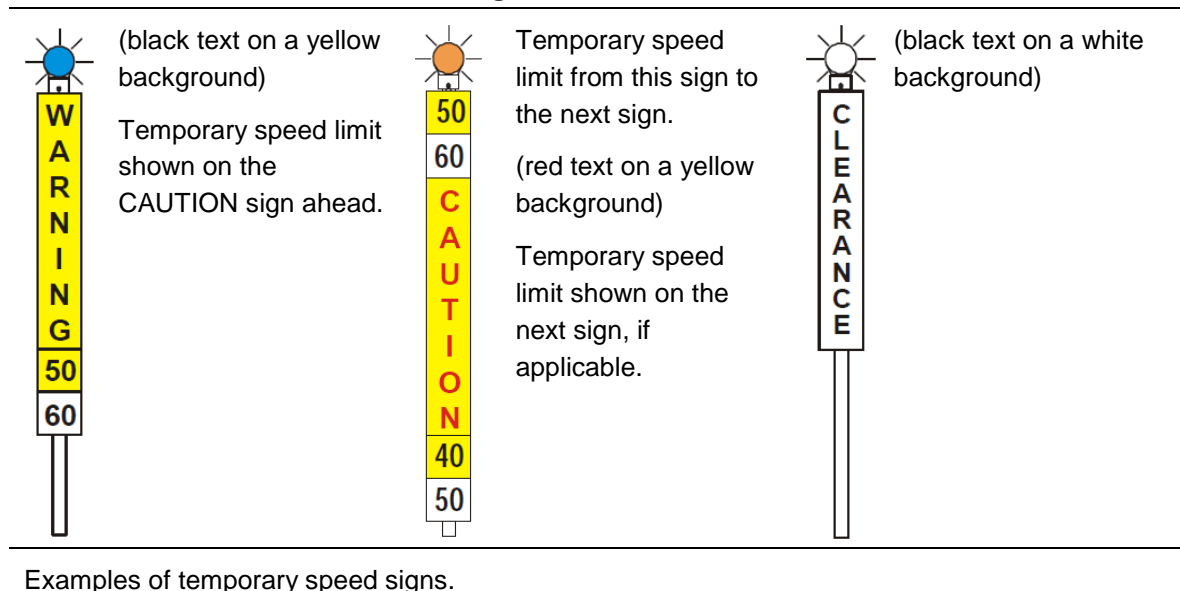
Sign	Placement	Meaning
WARNING	2500m before the affected portion of track.	Temporary speed restriction ahead. The bottom of the sign shows the limit that applies in the affected portion.
CAUTION	50m before the affected portion of track.	Temporary speed restriction. The top of the sign shows the limit that applies in the affected portion.
CLEARANCE	50m beyond the affected portion of track.	Temporary speed restriction no longer applies. Normal speed may be resumed.

Multiple speed restriction

If there are multiple speed restrictions within 2500m of each other, temporary speed signs must be placed as follows:

Sign	Placement	Meaning
WARNING	2500m before the first affected portion of track.	Temporary speed restrictions ahead. The bottom of the sign shows the limit that applies in the first affected portion.
CAUTION	50m before each affected portion of track, and 50m beyond each affected portion, except the last.	Temporary speed restrictions. The top of each sign shows the limit that applies from the current CAUTION sign to the next. If required, the bottom of each sign shows the limit that applies between the next CAUTION sign and the CAUTION sign after that.
CLEARANCE	50m beyond the last affected portion of track.	Temporary speed restrictions no longer apply. Normal speed may be resumed.

Figure ANSG 604-39

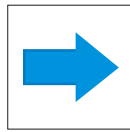


Multiple routes

Temporary speed signs must be placed on all lines that might give access to the affected line.

Temporary WARNING and CAUTION signs must have a supplementary sign to indicate the track to which the speed restriction applies.

Figure ANSG 604-40



Examples of supplementary symbol and text signs used to indicate the line to which a temporary speed restriction applies.



Flashing lights must be used on temporary speed signs in the areas bounded by:

- Helensburgh, Macarthur, Emu Plains and Cowan
- Islington and Telarah.






Permanent speed signs

Track speed signs

Permanent track speed signs:








- are fixed next to the line at locations nominated in the Train Operating Conditions manual (TOC), and
- show the maximum speed for the portion of line.

Figure ANSG 604-41

	Sign type	Meaning
Permanent Speed - All Rail Traffic		60 km/h speed limit applies to all rail traffic beyond this sign.
Permanent Speed - Specific Rail Traffic		100 km/h speed limit applies to, XPT, Xplorer, Hunter and Endeavour trains beyond this sign.
		80 km/h speed limit applies to Hunter, XPT, Xplorer, Endeavour and all multiple unit trains beyond this sign.
		80 km/h speed limit applies to Locomotive hauled passenger and freight trains and track vehicles, and
		100 km/h speed limit applies to Hunter, XPT, Xplorer and Endeavour trains beyond this sign.

Examples of permanent track speed signs.

Figure ANSG 604-42

	Sign type	Meaning
Permanent Speed All Rail Traffic		60 km/h speed limit applies to all rail traffic beyond this sign.
Permanent Speed Specific Rail Traffic		80 km/h speed limit applies to Hunter, XPT, Xplorer, Endeavour and all multiple unit trains beyond this sign.
		80 km/h speed limit applies to Locomotive hauled passenger and freight trains and track vehicles beyond this sign, and
		100 km/h speed limit applies to Hunter, XPT, Xplorer, Endeavour trains beyond this sign.
		60 km/h speed limit applies to Locomotive hauled passenger and freight trains and track vehicles beyond this sign, and
		70 km/h speed limit applies to specific classes of freight trains, and
		80 km/h speed limit applies to Hunter, XPT, Xplorer, Endeavour trains beyond this sign.

Examples of permanent track speed signs.



A single yellow background speed sign with black text applies to all rail traffic.

A white background speed sign without the MU designation, by itself or under a yellow background speed sign, applies only to XPT, Xplorer, Hunter and Endeavour trains.

Turnout speed signs

The letter "X" before the numbers on a permanent speed sign shows the maximum speed for the turnout.

Figure ANSG 604-43








Sign type	Meaning
Turnout Speed - All Rail Traffic 	30 km/h speed limit applies to all rail traffic through the turnout beyond this sign.
Turnout Speed - Specific Rail Traffic 	40 km/h speed limit applies to, XPT, Xplorer, Hunter and Endeavour trains through the turnout beyond this sign.
	30 km/h speed limit applies to, XPT, Xplorer, Hunter, Endeavour and all multiple unit trains through the turnout beyond this sign.
	30 km/h speed limit applies to Locomotive hauled passenger and freight trains and track vehicles through the turnout beyond this sign, and 40 km/h speed limit applies to Hunter, XPT, Xplorer and Endeavour trains through the turnout beyond this sign.
Examples of Turnout speed signs.	

Figure ANSG 604-44

Sign type	Meaning
Turnout Speed - All Rail Traffic 	30 km/h speed limit applies to all rail traffic through the turnout beyond this sign.
Turnout Speed - Specific Rail Traffic 	40 km/h speed limit applies to Hunter, XPT, Xplorer, Endeavour and all multiple unit trains through the turnout beyond this sign.
	30 km/h speed limit applies to Locomotive hauled passenger and freight trains and track vehicles through the turnout beyond this sign. 40 km/h speed limit applies to Hunter, XPT, Xplorer and Endeavour through the turnout beyond this sign.
Examples of permanent track speed signs.	

If there is no speed sign at a turnout, rail traffic must not travel faster than 25km/h through the turnout.

Drivers and track vehicle operators must maintain the correct speed until the last vehicle clears the turnout.

NOTE

A single yellow background turnout speed sign with black text applies to all rail traffic.

A white background turnout speed sign without the MU designation, by itself or under a yellow background speed sign, applies only to XPT, Xplorer, Hunter and Endeavour trains.

Advisory speed signs

Advisory speed signs:

- are provided where there is not enough signal sighting distance to allow trains to stop if required at the second signal ahead, and
- have red text on a silver background for XPT, Xplorer and Endeavour trains, or
- have red text on a yellow background for freight trains, and passenger trains other than XPT, Xplorer and Endeavour, or
- have yellow text on a blue reflective background for freight trains exceeding 1150m.

Drivers must reduce train speed so that the train is travelling at the indicated speed before the front of the train reaches the first signal ahead.

If the first signal ahead shows FULL CLEAR, normal speed may be resumed.

Figure ANSG 604-45



Examples of advisory speed signs.

Intermediate train stop advisory speed sign

These signs may be placed before an intermediate *train stop*. If the signal beyond this sign indicates STOP, train speed must be at or below the indicated speed before the front of the train passes the sign.

Figure ANSG 604-46



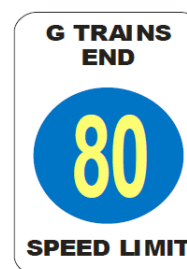
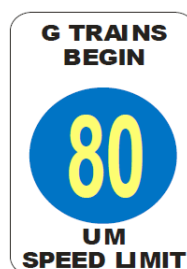
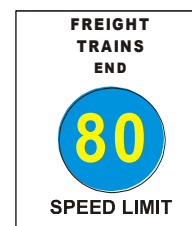
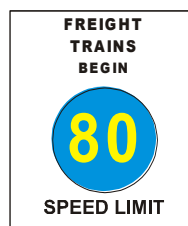
Example of intermediate train stop advisory speed sign.

Freight train speed signs

Freight train speed signs:

- indicate a maximum speed of 80km/h for freight trains or specific classes of freight trains, and
- have yellow text on a blue background, and
- are fixed next to the line at locations nominated in the Train Operating Conditions manual (TOC), and
- may indicate the line to which the freight train speed limit applies.

Figure ANSG 604-47



Example of Freight train speed signs.

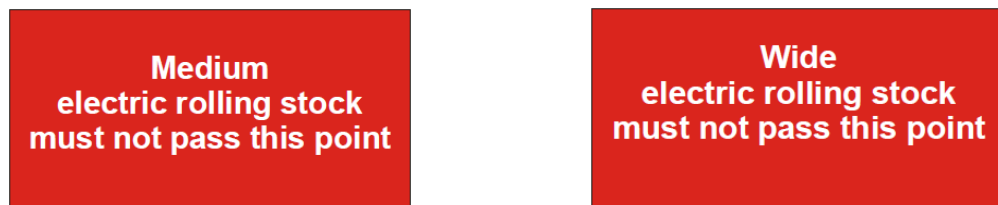
Electric train signs

Rolling stock prohibition

Electric rolling stock prohibition signs:

- indicate the point that medium or wide gauge electric rolling stock must not pass, and
- have white text on a red background.

Figure ANSG 604-48



Examples of electric rolling stock prohibition signs

Electric train STOP signs

Electric train STOP signs:

- indicate the point that electric trains must not pass unless they are authorised to travel with *pantographs* lowered, and
- have a black symbol on a yellow background or white text on a red background.

Figure ANSG 604-49

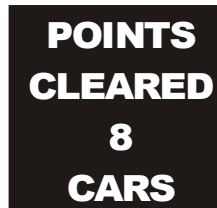


Examples of electric train STOP signs

POINTS CLEARANCE

POINTS CLEARANCE signs are provided at some locations to tell Drivers of 8-car electric trains that the train is clear of the relevant points.

Figure ANSG 604-50



Electric train points clearance sign.

WHISTLE signs

Drivers and track vehicle operators must sound the *whistle* before the front of a train or track vehicle passes a WHISTLE sign.

Figure ANSG 604-51



WHISTLE signs.

Related ARTC Network Procedures

ANPR 713 Placing temporary speed signs

Effective Date

11 October 2015