RAIL SAFETY AND STANDARDS BOARD

Handbook RS521
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Signals, Handsignals, Indicators and Signs

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Signals, Handsignals, Indicators and Signs Handbook RS521

RAIL SAFETY AND STANDARDS BOARD

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You will need this handbook if you need to understand the meaning of signals, handsignals, indicators and signs.

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1.1 Definitions

Stop signal

A stop signal is a signal that can show a stop aspect or indication.

It also includes:

- position-light signals
- shunting signals
- limit of shunt signals or indicators
- stop boards
- buffer stop indications
- possession limit boards
- work-site marker boards.

Distant signal

A distant signal is a signal which cannot show a stop aspect or indication.

Some colour light distant signals are identified by a white triangle or the letters ‘R’ or ‘RR’ on the signal identification plate.

Automatic signal

A signal operated by the passage of trains. The signaller or a person operating a signal post replacement switch can place some automatic signals to danger.

Controlled signal

A signal operated by the signaller, some of which may be set by the signaller to work automatically.

Semi-automatic signal

A signal normally operated by the passage of trains, but can also be controlled from a signal box or a ground frame, or by a person operating a signal post replacement switch.

Intermediate block home signal

A stop signal that controls the exit from an intermediate block section, and the entrance to an absolute block section or another intermediate block section.

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1.2 Signal types - identification

The meanings of signal identification plates are as follows:

Controlled signal

Automatic signal

Semi-automatic signal

Intermediate block signal

Distant signals

Outer distant signal

Banner repeating signal

3 state banner repeating signal

Co-acting signal

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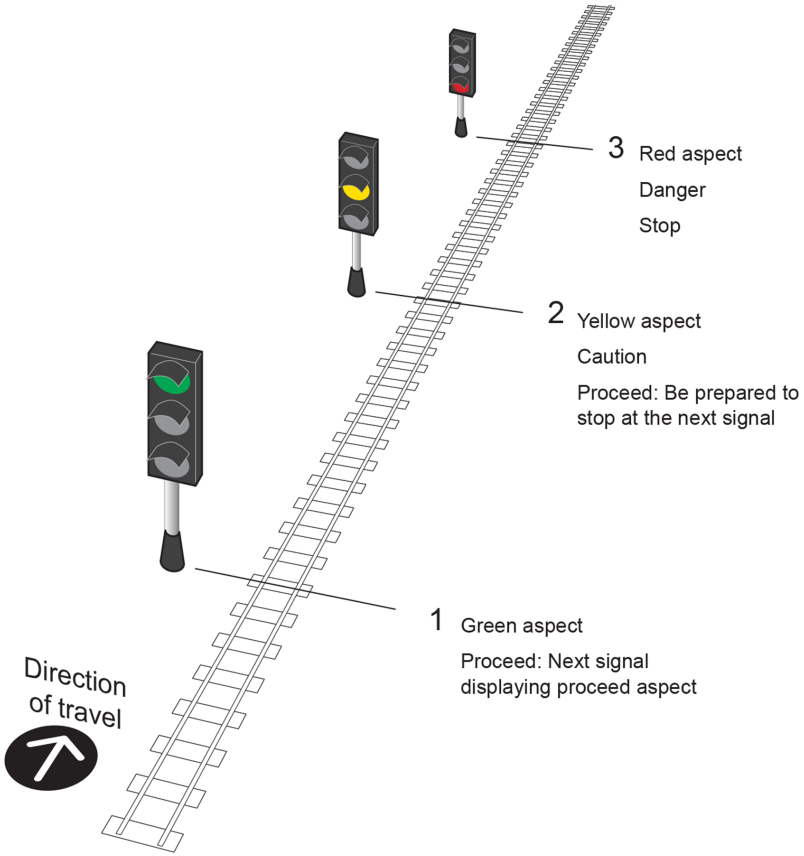
2 Colour light signals

2.1 Three-aspect signalling - normal sequence

The normal sequence of three-aspect signalling is:



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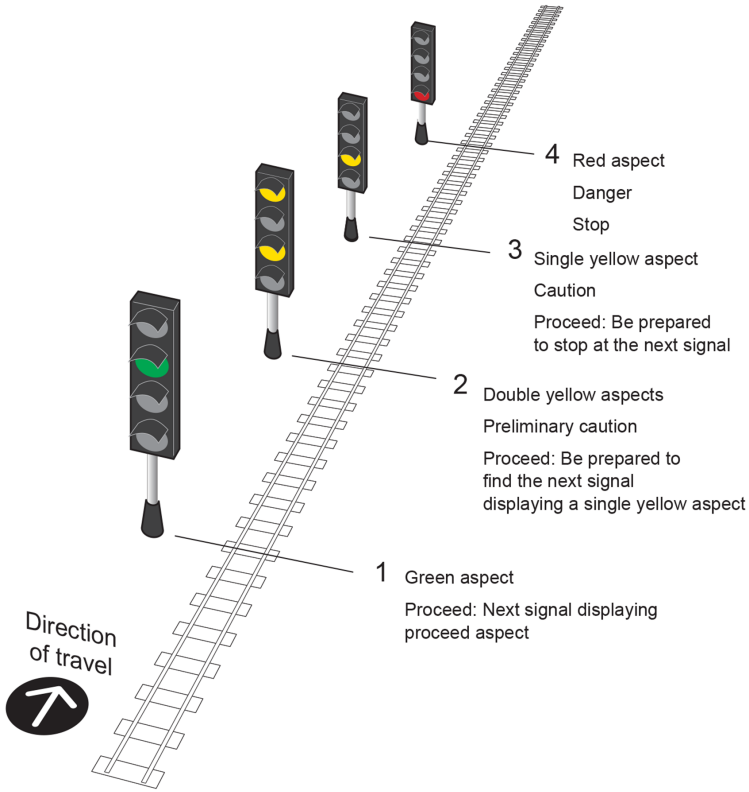
2.2 Four-aspect signalling - normal sequence

The normal sequence of four-aspect signalling is:



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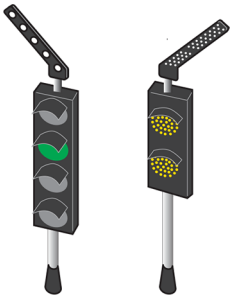
2.3 Junction indicators

Junction indicators are provided to show that a train is being signalled to a route to the left or right of the straight route.

A junction indicator is normally located above the signal, and will display a line of white lights when a proceed aspect is displayed.

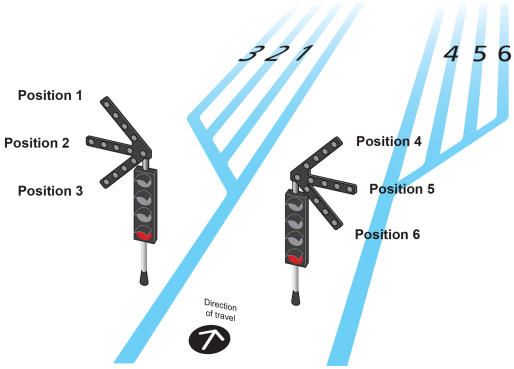


When the straight route is obvious, there is normally no junction indicator provided for this route.

Where there is no obvious straight route, a junction indicator will be provided for all signalled routes.

Where the straight route is not the highest-speed route, the junction indicator will normally apply to the lower-speed route.

Where the diverging routes ahead are both of equal speed, a junction indicator will be provided for each route.



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2.4 Route indicators

At some locations a route indicator is provided at the signal. The indicator will display either a letter or a number to show the route onto which the movement is being signalled.

Route indicators may also be associated with a junction indicator.

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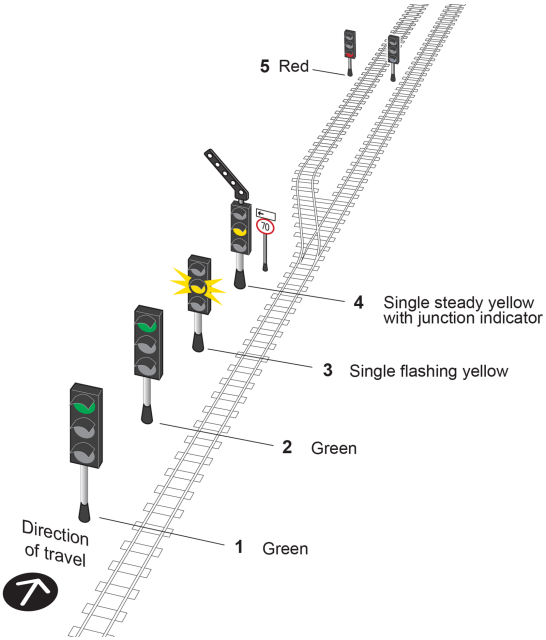
2.5 Flashing yellow aspects

A flashing yellow aspect means facing points at a junction ahead are set for a diverging route with a lower speed than that for the straight route.

The normal sequence of three-aspect flashing yellow signalling is:



Three-aspect flashing yellow signalling

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

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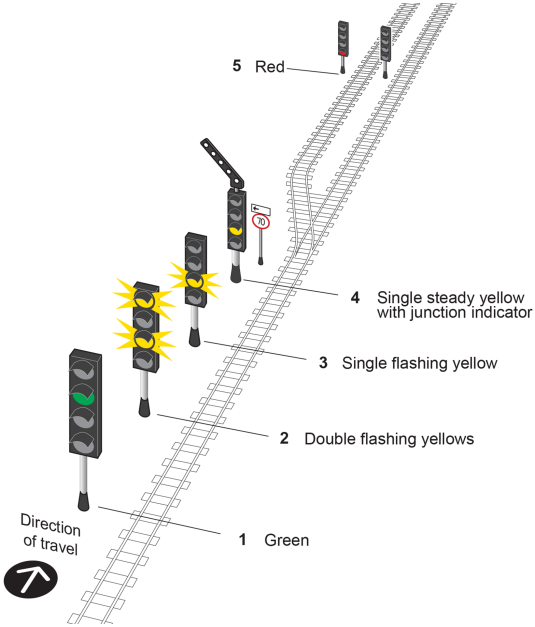
The normal sequence of four-aspect flashing yellow signalling is:



Four-aspect flashing yellow signalling

If the train is between signals 2 and 3 when signal 4 is cleared for the diverging route, signal 3 may then display one flashing yellow aspect. This applies even though a steady aspect has been displayed at signal 2.

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a single yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

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Flashing yellow signalling in ERTMS areas

For trains on which ERTMS is operating the ability of approaching signals to display flashing aspects will be disabled. Only standard aspect sequences will be displayed to these trains. Route or junction indicators will continue to operate.

2.6 Splitting distant signals

Splitting distant signals are used to show which route is set at a diverging junction.

Splitting distant signals may be provided with three or four aspect signalling.

Examples of a four aspect primary head with left-hand off-set head, and a three aspect primary head with right-hand off-set head are shown below.

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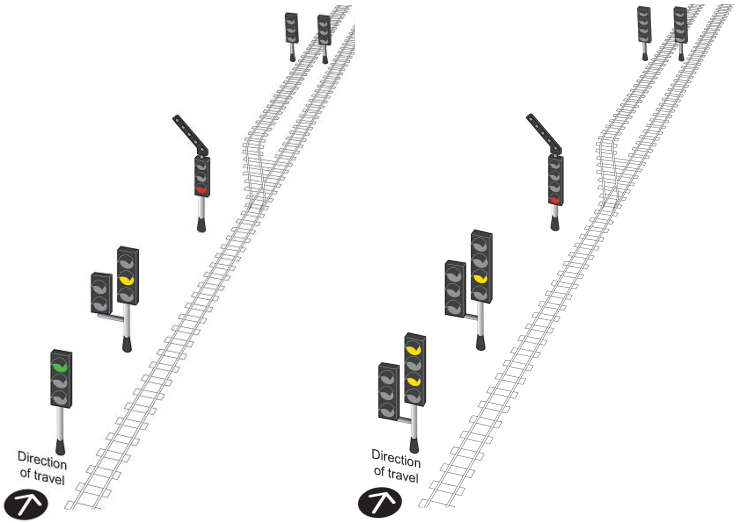

Splitting distant signals with junction signal at danger where there is a left-hand diverging route

The junction signals are at danger so no aspect is shown in the off-set heads.

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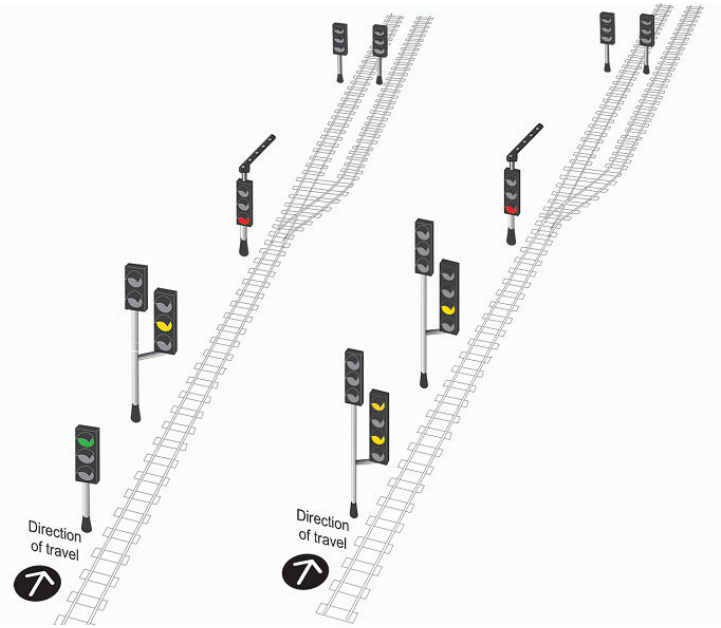

Splitting distant signals with junction signal at danger where there is a right-hand diverging route

The junction signals are at danger so no aspect is shown in the primary heads.

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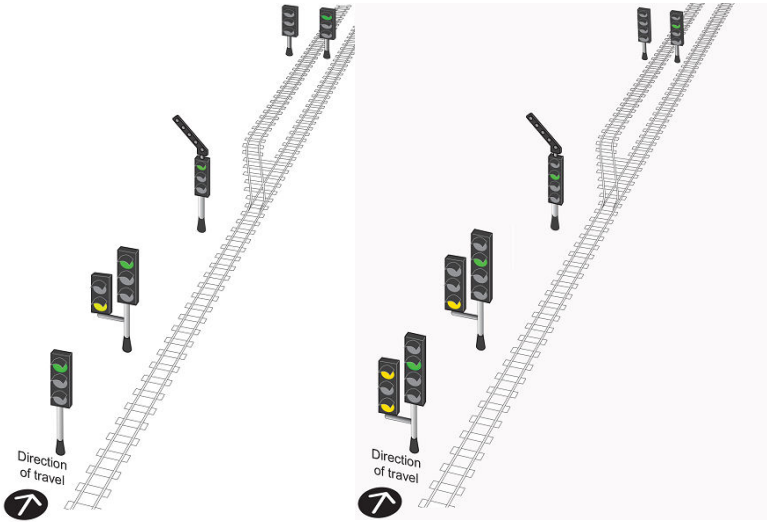

Splitting distant signals with junction signal cleared for the straight route where there is a left-hand diverging route

The aspects displayed in the primary heads indicate what aspect is shown at the first signal after the junction. The off-set heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.

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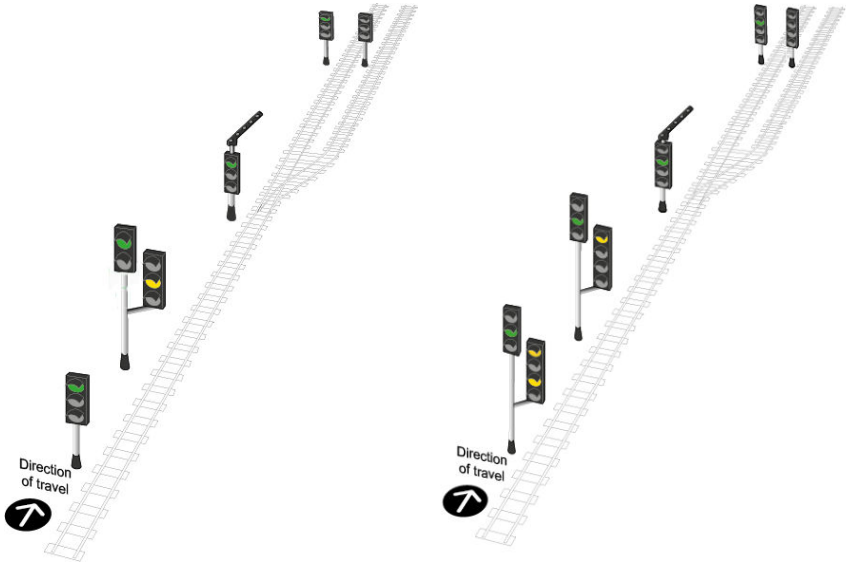

Splitting distant signals with junction signal cleared for the straight route where there is a right-hand diverging route

The aspects displayed in the primary heads indicate what aspect is shown at the first signal after the junction. The off-set heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.

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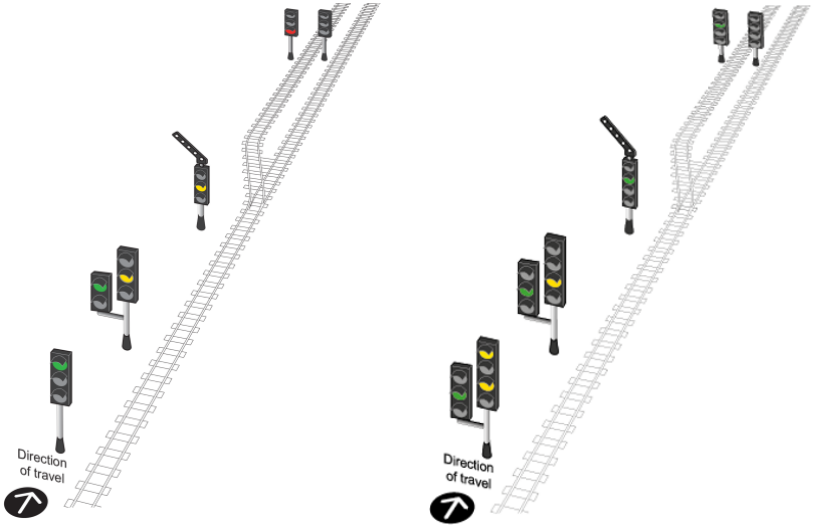

Splitting distant signals with junction signal cleared for the left-hand diverging route

The junction signal is cleared for the left-hand diverging route and is not approach released so the aspects displayed in the off-set heads indicate what aspect is shown at the first signal after the junction. The primary heads on the approach to the junction display aspects that are appropriate for the junction signal being at danger.

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Splitting distant signals with junction signal cleared for the right-hand diverging route

The junction signal is cleared for the right-hand diverging route and is not approach released so the aspects displayed on the off-set heads indicate what aspect is shown at the first signal after the junction. The primary heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.

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2.7 Position-light signals

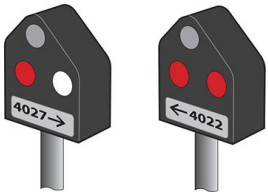
Position-light signals that display a red aspect

These position-light signals are normally positioned at ground level independent of a main aspect.

When proceeding on the authority of a main aspect, any position-light signals along the route between main running signals will show a proceed aspect.

The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.



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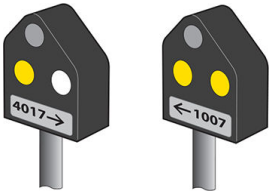
Position-light signals that display a yellow aspect

Position-light shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

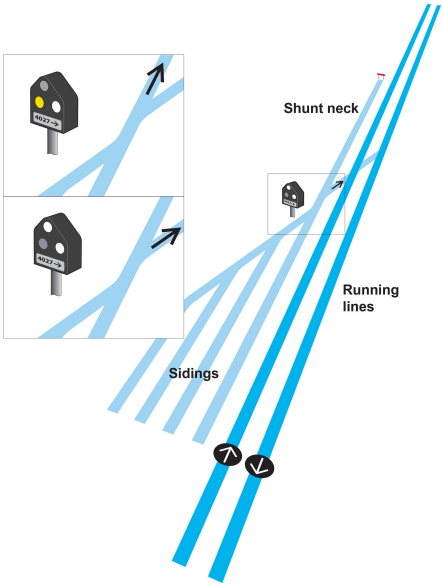
The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.



The signal can be passed in the ‘stop’ position when a movement is being made towards the shunt neck or siding and not the running line.

The route may be obstructed, including by a train or vehicle.



Yellow position-light signal

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Position-light signals that display a proceed aspect

If a position-light signal displays two white lights at 45°, this authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.

Position-light signals associated with a main aspect

These are normally positioned below the main aspect they are associated with, and often on the same signal post.

The normal aspect for a position-light signal is unlit. This means ‘obey the main signal’.

When the position-light signal shows two white lights at 45° it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.

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Position light signal that has an associated route indicator

Route indicators associated with position-light signals are of miniature design, and display a letter or a number that shows the route onto which the train is being signalled.

2.8 Colour light signals not in use

When not in use, main and position-light signals are covered up.

Main aspects may also have a large ‘X’ displayed over the cover.

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3.1 Distant signals

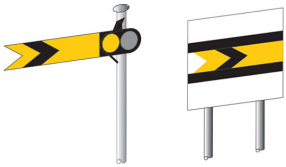
These signals show the following indications.

Caution

Indication by day: arm horizontal.

Indication by night: yellow light or reflectorised indication.

Meaning: be prepared to stop at the next stop signal, or other specified place to which the distant signal applies.

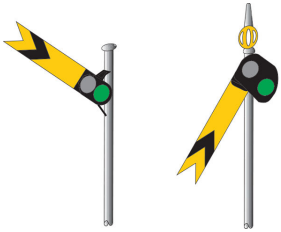


Clear

Indication by day: arm raised or lowered 45°.

Indication by night: green light.

Meaning: all associated stop signals worked from the same signal box are clear.



If there is only one distant signal provided for a diverging junction, this signal applies to all trains that approach it.

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3.2 Stop signals

These signals show the following indications.

Danger

Indication by day: arm horizontal.

Indication by night: red light.

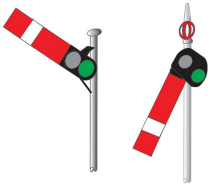
Meaning: stop.

Clear

Indication by day: arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed.



If there is a distant signal on the same post as a stop signal:

- the stop signal is worked by the signal box at that location, and
- the distant signal is normally worked by the signal box ahead.

The stop signal that controls movements into a loop, siding or no-block line may be a miniature semaphore arm.

Meaning when cleared: proceed at caution and be prepared to stop short of any train, vehicle or any obstruction.

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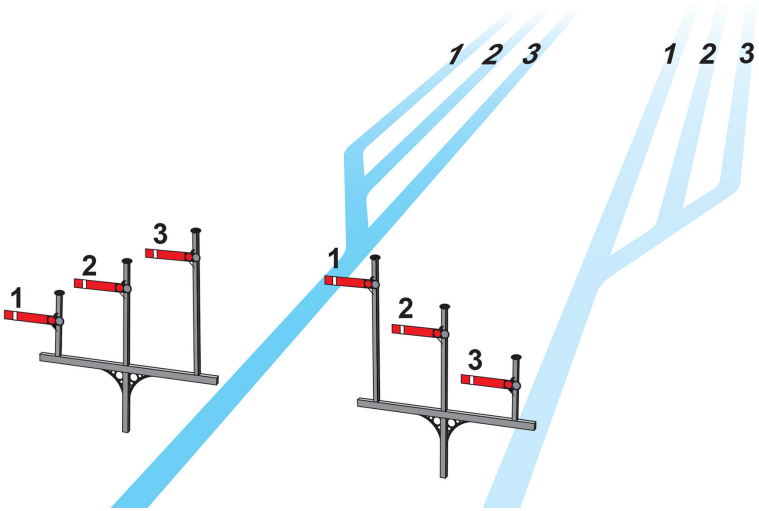
3.3 Route indications

Indications of route within semaphore-signalled areas may be given by one of the following methods.

- ‘Stepping’.
- ‘Stacking’.
- A route indicator.

The diagram below shows the ‘stepping’ arrangement of signals. This arrangement is the normal method of route indication on running lines in semaphore areas.

Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Stepping

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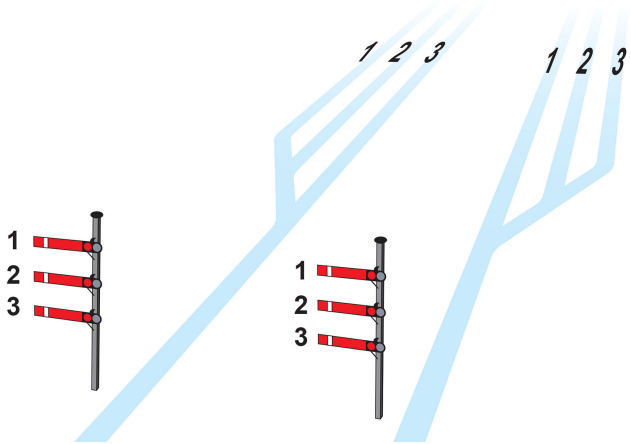
The diagram below shows the ‘stacking’ arrangement. This arrangement is the normal method of route indication for shunting signals in yards and sidings, and also on running lines where there is little gantry space.

Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Stacking

At some locations a route indicator is provided at the signal. The indicator will display a figure or letter to show the route onto which the movement is being signalled.

Route Indicator

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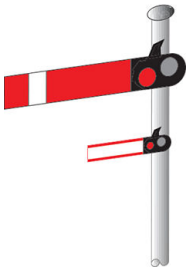
3.4 Semaphore subsidiary signals

Semaphore subsidiary signals are always associated with the main arm of a semaphore stop signal.

The subsidiary signal will always be positioned below the main semaphore arm with which it is associated, and on the same signal post.



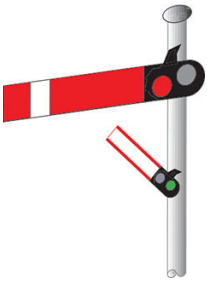
When the subsidiary signal is in the 'normal' position this means 'obey the main arm'.

The 'normal' indication is:

- the arm in the horizontal position
- a red, white or no light displayed.

The proceed indication is:

- the arm raised or lowered 45°
- a green light displayed.



When the signal is cleared, it authorises the driver to:

- pass the main arm at danger
- proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.

At some locations, clearing the subsidiary signal will also show an indicator displaying either the letter 'C' or 'S'.

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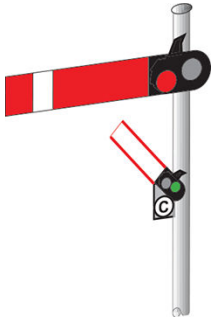
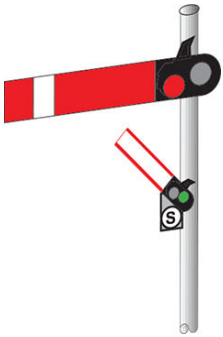
Calling-on

When this signal is cleared with the letter ‘C’ showing, it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



Shunt-ahead

When this signal is cleared with the letter ‘S’ showing, it authorises the driver to proceed for shunting purposes only.



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3.5 Semaphore shunting signals that display a red aspect

Semaphore shunting signals that display a red aspect are stop signals.

Shunting signals have a:

- white disc with a red horizontal bar, or
- miniature semaphore arm with a vertical white stripe.

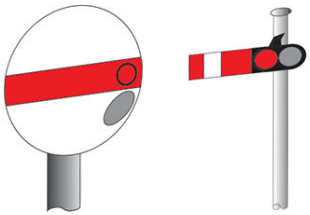
These signals show the following indications.

Danger

Indication by day: arm or bar horizontal.

Indication by night: red light.

Meaning: stop.

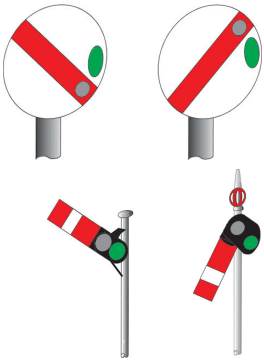


Proceed

Indication by day: disc turned 45° or arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



Uncontrolled when printed
Supersedes Handbook RS521 Issue 8 with effect from 06/06/2025
and comes into force on 06/12/2025

3.6 Semaphore shunting signals that display a yellow aspect

Semaphore shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

Shunting signals have a:

- white disc with a yellow bar
- black disc with a yellow bar
- miniature semaphore arm with a vertical black stripe.

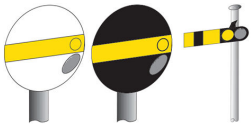
These signals show the following indications.

Stop

Indication by day: bar or arm horizontal.

Indication by night: yellow light.

Meaning: stop. The driver may pass the signal in the 'stop' position when the movement is being made towards the shunt neck or siding and not the running line.

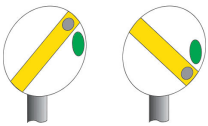


Proceed

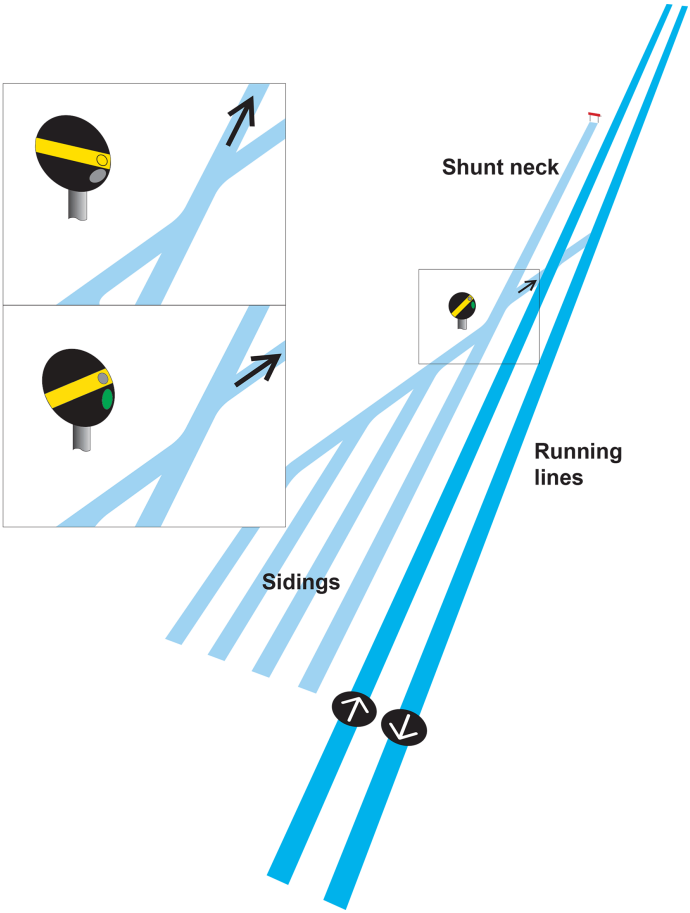
Indication by day: disc turned 45° or arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



Uncontrolled when printed
Supersedes Handbook RS521 Issue 6 withdrawn from 06/09/2025
and comes into force on 06/12/2025

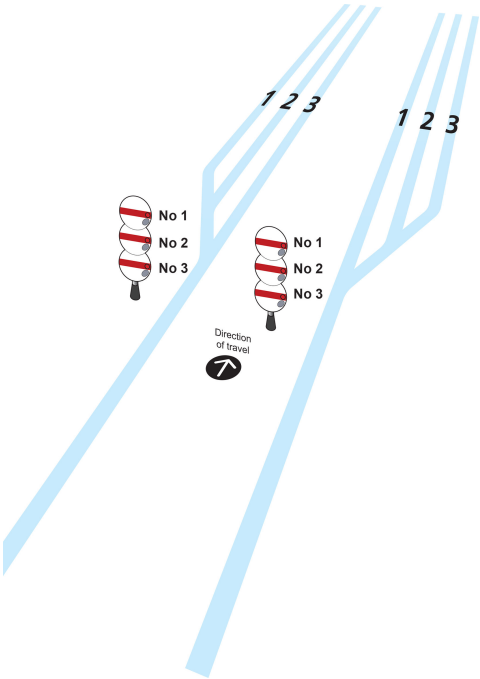


Yellow shunt signal

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/06/2025
and comes into force on 06/12/2025

3.7 Route indications by shunting signals

These signals show the following indications. Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Uncontrolled when printed
Supersedes Handbook RS521 Issue 6 withdrawn from 06/09/2025
and comes into force on 06/12/2025

3.8 Semaphore signals not in use

When semaphore signals are not in use, they have:

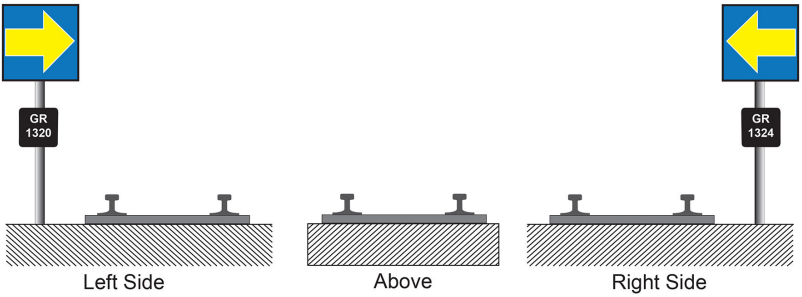
- a large X fixed on the signal arm, or
- the disc covered over.

Uncontrolled when printed
Supersedes Handbook NS021 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

4.1 Block markers

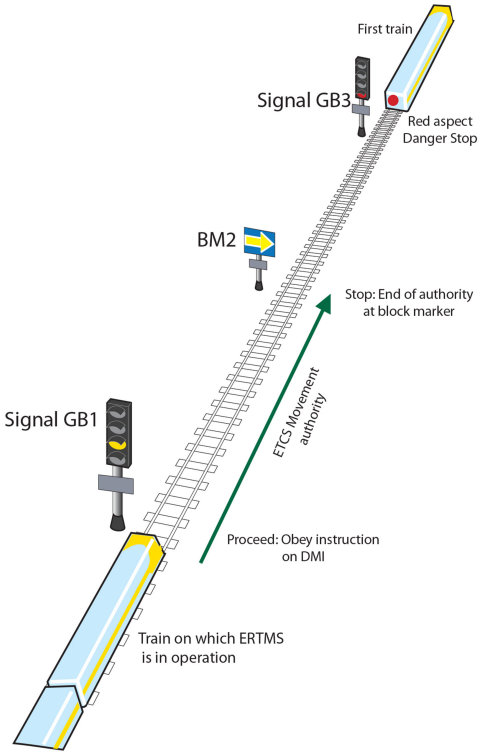
A block marker consists of a reflective square sign showing a yellow arrow on a blue background. The arrow shows which line the marker applies to.

Each block marker is provided with a unique identification plate, of white characters on a black background.



Uncontrolled when printed
Supersedes Handbook RS521 Issue 8 with effect from 06/09/2025
and comes into force on 06/12/2025

4.2 ERTMS lines where lineside signals are provided



A train on which ERTMS is operating can be issued with a movement authority (MA) to any intermediate block marker. In this case signal GB1 will display a yellow aspect.

If a train is not fitted with ERTMS or a train on which ERTMS is operating in other than full supervision (FS) or on sight (OS), then even if the route is set to block marker BM2 signal GB1 will display a red aspect.

Uncontrolled when printed
Supersedes Handbook RS021 Iss 3 with effect from 06/09/2025
and comes into force on 06/12/2025

4.3 Cab signalling boards

Warning of start of cab signalling board

This board indicates that ERTMS signalling is about to start.

Start of cab signalling board

This board indicates that ERTMS signalling is about to start.

End of cab signalling board

This board indicates the end of ERTMS signalling.

Uncontrolled when printed
Supersedes Handbook RS521 Issue 8 with effect from 06/09/2025
and comes into force on 06/12/2025

4.4 Shunt entry boards

Shunt entry boards consist of a reflective board showing a white chevron on a violet background. The chevron points toward the line to which the shunt entry board applies.

Shunt entry boards mark the entry of a shunt route on ERTMS cab signalled lines where lineside signals are not provided.

The identity of a shunt entry board is shown on an identification plate in white characters on a black background.

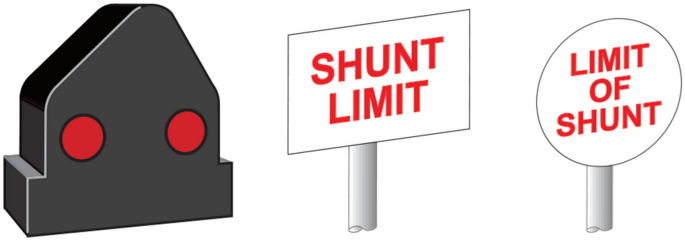
Uncontrolled when printed
Supersedes Handbook RS521 Iss 2 with effect from 06/05/2025
and comes into force on 06/12/2025

5.1 Limit of shunt signals or indicators

Limit of shunt signals or indicators are either:

- instructions on illuminated signs, or
- two red lights horizontally displayed.

No part of the train may pass a limit of shunt signal or indicator unless authorised by the signaller.



If a limit of shunt signal or indicator is passed without authority, it is a signal passed at danger.

5.2 Stop boards

A stop board shows the word 'Stop' and may also:

- show other instructions
- be illuminated.

The driver or person controlling the movement may only proceed past the stop board when:

- the instructions on the stop board have been carried out, or
- permission to do so has been given by the authorised person.

If a stop board is passed without authority, it is a signal passed at danger.

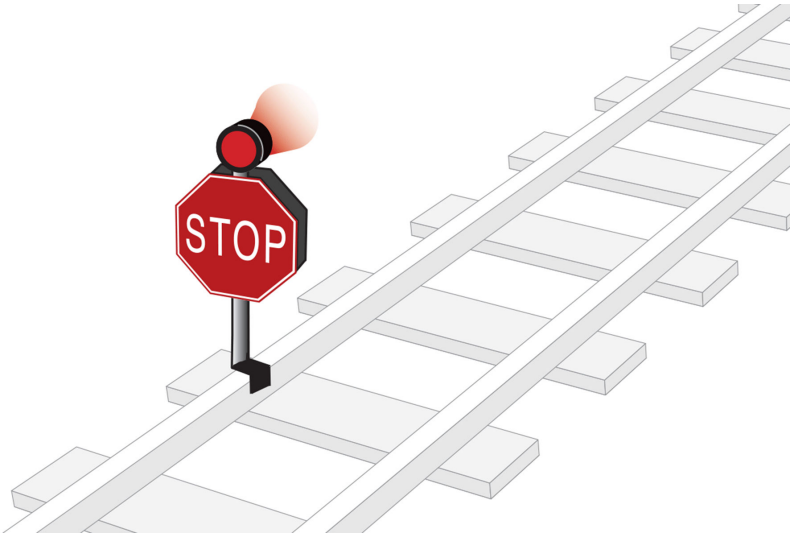
Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.3 Possession limit boards (PLB)

A PLB identifies the boundary of a possession. They may also be used as part of the protection for a line blockage.

The board is red, double-sided and is visible along the line in both directions.

It will also have a steady or flashing red light visible along the line in both directions.



If a PLB is passed without authority, it is a signal passed at danger.

Uncontrolled when printed
Supersedes Handbook RS541 Issue 2 with effect from 06/05/2025
and comes into force on 06/12/2025

5.4 Work-site marker boards

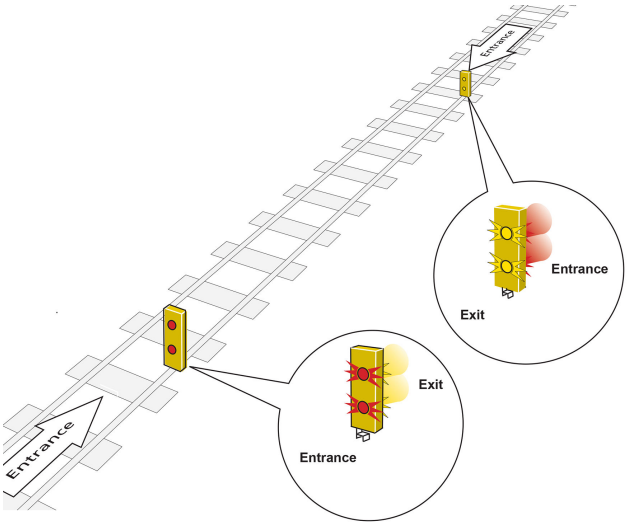
Work-site marker boards may be provided within a possession of a running line.

The board is yellow, double-sided and is visible along the line in both directions.

It has two red flashing lights which indicate an entrance to a work site. The authority of the Engineering Supervisor is needed to pass it.

It has two yellow flashing lights which indicate an exit from a work site. The authority of the PICOP is needed to pass it.

Both indications are treated as a stop signal.



If a work-site marker board is passed without authority, it is a signal passed at danger.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.5 Signal passed at danger (SPAD) indicator

Where provided, SPAD indicators are normally positioned about 50 metres (55 yards) beyond certain signals.

The indicator has a three-aspect signal head which is fitted with a blue backplate.

Indications and meanings

The indicator is not normally lit. If a signal is passed at danger, the indicator will be activated. It will then display:

- a flashing red light in the top and bottom aspect
- a steady red light with the word STOP in the centre aspect.

If the indicator is activated, any movement on the line to which the signal applies or any other line, is to be brought to a stand immediately and the signaller contacted.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 3 with effect from 06/05/2025
and comes into force on 06/12/2025

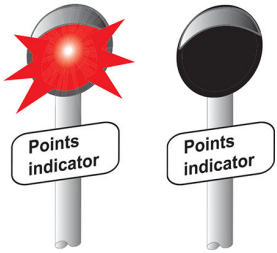
5.6 Points indicators

A points indicator is associated with hydro-pneumatic and certain other types of points and is identified by a sign showing the words ‘Points indicator’.

They display the following indications.

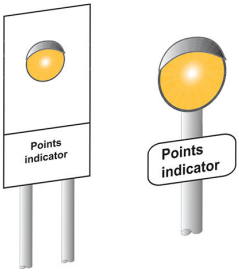
Indication: A red light that may be steady or flashing or no light is showing.

Meaning: Stop at the points indicator and contact the signaller unless otherwise authorised.



Indication: A steady yellow light.

Meaning: The points to which it applies are fitting correctly.



If a points indicator is passed without authority, it is a signal passed at danger.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.7 Banner repeating and co-acting signals

Banner repeating signals

Banner repeating signals are provided on the approach to certain signals which have restricted sighting (for example because of curvature of the line, buildings or tunnels), to give advance information of the signal aspect.

Position: On

Meaning: distant signal to which it applies is at caution.

Position: Off

Meaning: distant signal to which it applies is showing clear.

Position: On

Meaning: the signal to which it applies is at danger.

Position: Off

Meaning: the signal to which it applies is displaying a proceed aspect.

Position: Off

Meaning: the signal to which it applies is displaying a green aspect.

Position: On for the Straight Route

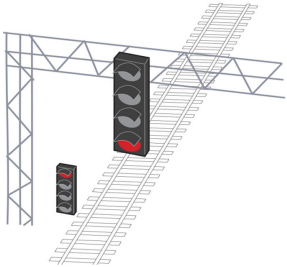
Off for the Diverging Route

Meaning: the signal to which it applies is displaying a proceed aspect for the diverging line and danger for the straight route.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 3 with effect from 06/05/2025
and comes into force on 06/12/2025

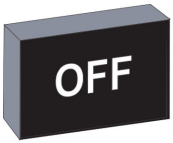
Co-acting signals

Co-acting signals are provided to give both short and long distance sighting of the signal. A co-acting signal repeats the exact aspect or indication of the main signal. Co-acting signals are always the same type (colour light or semaphore) as the main signal.



Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.8 ‘Off’ indicators



If an ‘OFF’ indicator is provided at a platform, it will:

- show the word ‘OFF’ when the signal to which it applies shows a proceed aspect
- on an ERTMS line without lineside signals, show the word 'OFF' when a route has been set
- allow a guard or platform staff to check the signal is clear, or a route has been set, before commencing the train despatch procedure
- show no indication when the signal to which it applies is at danger, or a route has not been set.

On a bi-directional platform line, the ‘OFF’ indication may be accompanied by an ‘UP’ or ‘DN’ or other indication to show which route has been set.

An ‘OFF’ indication does not always mean the line ahead is clear as the signal to which it applies may have been cleared for another train standing ahead in the same platform.

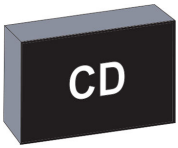
On an ERTMS line without lineside signals, an 'OFF' indication does not always mean that the line ahead is clear as a route may have been set for another train standing ahead in the same platform.

‘OFF’ indicators may be provided at locations other than platforms to show the driver that the signal to which they apply is displaying a proceed aspect, or a route has been set to which they apply.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 2 with effect from 06/05/2025
and comes into force on 06/12/2025

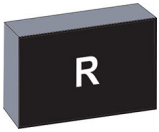
5.9 ‘Close-doors’ indicator

Close-doors indicators display the letters ‘CD’ when illuminated, and let the driver know that it is safe to close the power-operated doors on the train.

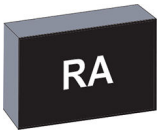


5.10 ‘Right-away’ indicators

Right-away indicators display the letters ‘R’ or ‘RA’.



If this indicator is illuminated, it tells the driver that station duties are complete, the train is secure and that it is safe to proceed.



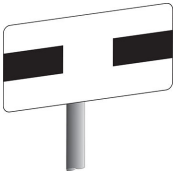
5.11 Rear clear marker

This sign informs the driver that the train has cleared a defined location to the rear.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.12 Mid-platform train berth marker

This sign informs the driver of the sub-divisions along a station platform to permit its use by more than one train.



5.13 Whistle boards

A whistle board may be provided on the approach to some level crossings.

The whistle board can be a retro-reflective round sign or a cut out.

Uncontrolled when printed
Supersedes Handbook RS541 Issue 2 with effect from 06/05/2025
and comes into force on 06/12/2025

5.14 Preliminary route indicators

A preliminary route indicator is provided where it is necessary for a driver to receive advance information about the route that has been set beyond a junction signal ahead of the train.

A preliminary route indicator displays an arrow pointing in the same direction as any junction indicator displayed at the junction signal that the preliminary route indicator applies to. If the junction signal is displaying a proceed aspect without a junction indicator, the associated preliminary route indicator will display an arrow pointing straight up.

If the junction signal is at danger, the preliminary route indicator is not illuminated.

The table below gives examples of the preliminary route indicator display which depends on what is displayed on the junction signal concerned.

Junction signal ahead showing:	Preliminary route indicator	Junction signal ahead showing:	Preliminary route indicator
Proceed with position 1 JI		Proceed with position 4 JI	
Proceed with position 2 JI		Proceed with position 5 JI	
Proceed with position 3 JI		Proceed with position 6 JI	
Proceed with no JI		Stop aspect	

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.15 Automatic warning system (AWS) cancelling indicators

On single and bi-directional lines, the AWS magnet will normally be suppressed for movements for which it does not apply, this means the AWS will not operate.

However, there are some locations where the AWS magnet is not suppressed.

In these cases a cancelling indicator is provided to tell the driver that the AWS warning indication does not apply to trains travelling in that direction.

Where the AWS magnet is permanently installed. The indicators look like this.

Where the AWS magnet is provided in connection with a temporary or emergency speed restriction on a single or bi-directional line. The indicators look like this.

The cancelling indicator is normally positioned 180 metres (approximately 200 yards) after passing over the AWS magnet.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 2 with effect from 06/05/2025
and comes into force on 06/12/2025

5.16 AWS gap indicators

In some AWS fitted areas AWS equipment is not provided throughout. These areas are identified with the following signs.

Where AWS is not provided at a station on a line equipped with AWS.

Start of AWS gap

End of AWS gap

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

5.17 AWS on a bi-directional line

On some bi-directional lines, AWS equipment is not provided in the opposite direction. These portions of line are identified with the following signs.

However, for a temporary or emergency speed restriction, AWS will be provided in both directions.

Where AWS is not provided in the opposite direction on a bi-directional line.

Start of the relevant section of line concerned

End of the section normal arrangements resume

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and Notes in force on 06/12/2025

6.1 Level crossing signs

Automatic barrier crossing locally monitored, automatic open crossing locally monitored crossings and open crossings

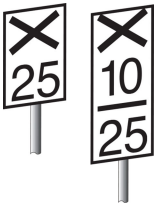
The warning board means that there is an automatic barrier crossing locally monitored, automatic open crossing locally monitored or an open crossing ahead.

Warning board

The speed restriction board shows the permissible speed from the board to the level crossing.

If differential speeds are shown on the speed restriction board, they have the meanings shown in section 7.4.

At open level crossings the speed restriction or stop board is combined with a whistle board.



Speed restriction board

Combined speed and whistle board

On ERTMS lines a speed restriction board is not provided but the speed restriction approaching the crossing will be shown on the driver machine interface (DMI).

Uncontrolled when printed
Supersedes Handbook RS821 Issue 8 with effect from 06/09/2025
and comes into force on 06/12/2025

Wrong-direction boards

Wrong-direction speed restriction boards are positioned on the approach to level crossings that have wrong-direction controls.

The numerals show the permissible speed from the board to the level crossing. Black numerals on a white background denote mph and white numerals on a black background denote km/h.

Sighting board on ERTMS lines

This sign indicates the point at which the driver is required to ensure that the level crossing is clear and to observe the driver's level crossing indicator.

Uncontrolled when printed
Supersedes Handbook RS521 Iss 8 with effect from 06/09/2025
and cease to be in force on 06/12/2025

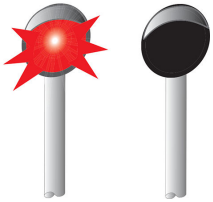
6.2 Level crossing indicators

A level crossing indicator is associated with locally monitored level crossings.

They display the following indications.

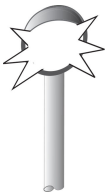
Indication: A red light that may be steady or flashing or no light is showing.

Meaning: Stop before reaching the level crossing and ensure it is safe before passing over it.



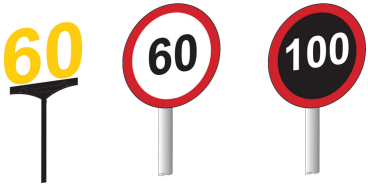
Indication: A flashing white light.

Meaning: The level crossing is working correctly, and providing the level crossing is clear, it is safe to proceed over it.



Uncontrolled when printed
Superseded handbook RS521 Iss 6 with effect from 06/09/2025
and comes into force on 06/12/2025

7.1 Permissible speed indicators



Permissible speed indicators show the start of the permissible speed.

Black text on a white background and cut-out signs show the speed in mph. White text on black background shows the speed in km/h.

In limited clearance areas the indicators are sometimes oval-shaped.

Acceleration indicators are only provided in conjunction with a permissible speed indicator.

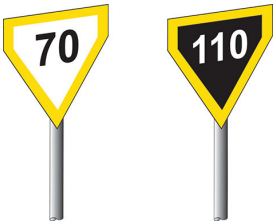
They allow acceleration of the train to the new permissible speed when the front of the train is at the position of the sign.

Uncontrolled when printed
Supersedes Handbook RS52 Iss 3 with effect from 06/09/2025
and comes into force on 06/12/2025

7 Speed indicators

7.2 Warning indicators

Warning indicators are provided on the approach to certain speed indicators and give a warning of a reduction in permissible speed ahead. Black text on a white background shows the speed in mph. White text on black background shows the speed in km/h.



There may also be a fixed AWS magnet on the approach to the indicator.

Uncontrolled when printed
Superseded Handbook RS501 Iss 6 with effect from 06/09/2025
and comes into force on 06/12/2025

7.3 Permissible speed indicators at diverging junctions

These show the speed to the left or right of the straight route at a diverging junction.

If there are diverging junctions to both the left and right and the permissible speed is the same, there is only one indicator.

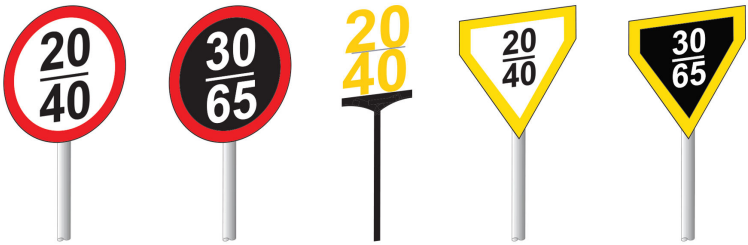
Uncontrolled when printed
Supersedes Handbook RS52 Iss 0 with effect from 06/09/2025
and comes into force on 06/12/2025

7.4 Differential permissible speed indicators

The bottom figure always shows the higher speed. It applies to:

- passenger trains (loaded or empty)
- parcels and postal trains (loaded or empty)
- light locomotives.

The top figure applies to all other trains.



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and comes into force on 06/12/2025

7.5 Permissible speed indicators with letters

These show the permissible speed and apply only to the trains shown by the letters.

This is what the letters mean.

HST	High speed trains.
MU	Multiple-unit trains.
DMU	Diesel multiple-unit trains.
EMU	Electric multiple-unit trains.
SP	Sprinter multiple-unit trains
CS	Class 67 locomotives.

The classes of train that can travel at these speeds are shown in the *Sectional Appendix.*

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and comes into force on 06/12/2025

7.6 Enhanced permissible speed (EPS) indicators

These show the enhanced permissible speed in mph and apply to tilting trains in tilting mode.

Where differential signs are provided, the bottom figure always shows the higher speed and applies to class 390 trains in tilting mode. The top figure applies to class 221 trains in tilting mode.

Warning indicators are provided on the approach to certain EPS speed indicators and give a warning of a reduction in the enhanced permissible speed ahead.

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Supersedes Handbook RS521 Iss 3 with effect from 06/09/2025
and comes into force on 06/12/2025

8 Speed restriction signs

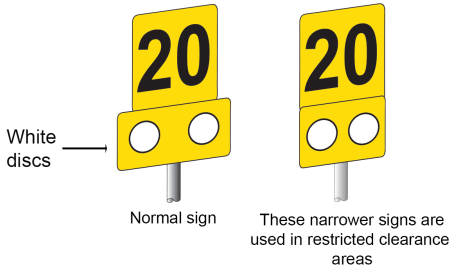
8.1 Temporary speed restriction signs

Warning boards

A warning board is placed on the approach to a temporary speed restriction ahead.

An AWS magnet is provided on the approach to a warning board.

There will be no AWS in AWS gap areas.



Speed indicator

A speed indicator shows the start of the speed restriction and the permitted speed over the restriction.

On ERTMS lines where lineside signals are provided, if the speed restriction starts within an ERTMS area but ends outside the ERTMS area, an additional speed indicator will be placed at the end of cab signalling board.

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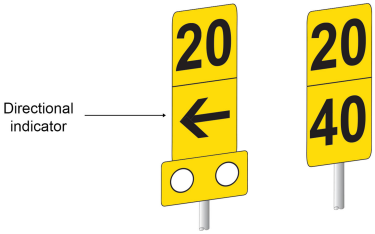
8 Speed restriction signs

Directional indicators

A directional indicator on a warning board or speed indicator shows that there is a speed restriction ahead on a portion of line that goes off to the left or right of the straight route at a diverging junction.



Differential temporary speed restrictions

A temporary speed restriction can show different speeds which apply to different types of trains.

The bottom figure always indicates the higher speed. It applies to:

- passenger trains (loaded or empty)
- parcels or postal trains (loaded or empty)
- light locomotives.

The top figure applies to all other trains.

Termination indicator

The termination indicator shows the end of the speed restriction and requires the whole train to pass the position of the sign before accelerating back to the permissible speed.

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8 Speed restriction signs

Acceleration indicator

The acceleration indicator shows the end of the speed restriction and allows acceleration up to the permissible speed when the front of the train is at the position of the sign.

SPATE indicator

The SPATE indicator shows the speed restriction has been withdrawn or will not be imposed.

SPATE is an abbreviation of ‘Speed Previously Advised Terminated Early’.

Repeating warning board

A repeating warning board is placed on the end of a platform or a connection from a siding or dead-end platform line to remind the driver there is a temporary speed restriction ahead.

The board will also have the associated speed indicator or a spate indicator below the board.

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8.2 Emergency indicator

When an emergency speed restriction is to be imposed an emergency indicator will also be used.

The indicator has flashing white lights which will be working at all times.

An AWS magnet is provided on the approach to an emergency indicator for an emergency speed restriction ahead.

There will be no AWS in AWS gap areas.

9 Electrified lines and power changeover (PCO) signs

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and comes into force on 09/12/2023

9.1 Neutral section signs

Neutral section warning board

This sign provides advance warning of a neutral section.

Neutral section indication board

This sign identifies the commencement of a neutral section.

Uncontrolled when printed.
Supersedes Handbook RSG21 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

9.2 PCO signs

This sign means that there is a PCO location ahead.

This sign indicates the location where a PCO can be started.

This sign indicates the location where a PCO to an overhead electric power system can be started.

This sign indicates the location by which a PCO from an overhead electric power system must have been completed.

This sign indicates the location where a PCO to or from a self-powered system must be carried out.

This sign indicates that during a PCO, a pantograph must not be raised after passing the sign.

9 Electrified lines and power changeover (PCO) signs

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and comes into force on 09/12/2023

This sign means that PCO applies on one or more routes diverging to the left.

This sign means that PCO applies on one or more routes diverging to the right.

This sign means that PCO applies on one or more routes diverging in both directions.

This sign means that PCO applies on the route indicated.

This sign means that PCO does not apply on the route indicated.

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and comes into force on 06/12/2025

9.3 Temporary PCO signs

This ‘advance lower pantograph’ sign provides warning of a lower pantograph sign ahead.

The sign also has flashing white lights.

This sign means ‘lower pantograph’.

This sign means ‘raise pantograph’.

This sign means ‘do not raise pantograph’.

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Guidance Handbook RG521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

GSM-R radio area

This sign indicates the start of a GSM-R radio section.

Areas where GSM-R radio is not provided

This sign indicates the end of a GSM-R radio section.

GSM-R alias plate

In places where there is no signal or where there may be confusion over the number to enter when registering the cab radio, an alias plate may be provided.

Uncontrolled when printed
Supersedes Handbook GS521 Issue 2 with effect from 06/09/2025
and comes into force on 06/12/2025

GSM-R signalbox phone number plate

At certain signals the GSM-R network may not be able to automatically route calls from the driver to the signaller who controls the area. This sign is a reminder to drivers of the signaller's GSM-R phone number.

GSM-R signalbox short code plate

An alternative method has been developed to avoid a driver having to dial the long 8-digit number. This is achieved by dialling a short code number. This sign displays the correct signaller's GSM-R short code number.

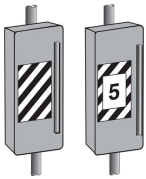
Uncontrolled when printed
Supersedes Handbook RS52 Hss 3 with effect from 06/09/2025
and comes into force on 06/12/2025

11 Telephone signs

11.1 Telephones

Signal post telephones

Telephones associated with a signal are similar to these. If the telephone has a number on the cabinet the number states the maximum amount of minutes that can elapse before the signaller is contacted by the driver.



Lineside telephones

These telephones are provided to contact the signaller.

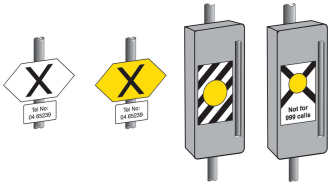
Uncontrolled when printed
Supersedes Handbook RS634 Issue 8 with effect from 06/09/2025
and comes into force on 06/12/2025

11.2 Limited clearance telephones

Telephones with yellow or white diamonds with the letter X or a yellow roundel.

If any of these signs are displayed it means that the signal post telephone is not in a position of safety. It may only be used to contact the signaller:

- in an emergency
- if told that the adjacent line has been blocked.



Telephone with limited clearance warning signs

These signs mean that a train driver may use the signal post telephone because it is in a position of safety in relation to the adjacent line and protection is provided by the presence of the train.

The telephone may only be used by other staff to contact the signaller:

- in an emergency
- if told that the line to which it applies has been blocked.

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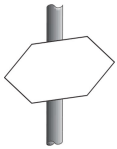
Superseded Handbook RS521 Iss 8 with effect from 06/09/2025
and comes into force on 06/12/2025

11.3 Signals without telephones

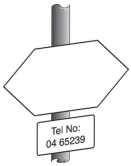
White diamond sign



This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller.

White diamond sign with a telephone number displayed

This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller. If GSM-R is not available the signaller may be contacted using the telephone number on the plate.



A driver may only leave the cab in order to use a lineside telephone to contact the signaller:

- in an emergency
- if told that the adjacent line(s) has been blocked.

Uncontrolled when printed
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and comes into force on 06/12/2025

12 Other lineside signs

12.1 Low adhesion hazard signs

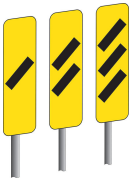
Entrance to a low adhesion area

This sign informs the driver of the entrance to a low adhesion area.

Exit from a low adhesion area

This sign informs the driver of the exit from a low adhesion area.

12.2 Sandite markers



These signs informs the driver of sites where Sandite should be applied. There are three signs.

- Three marks - advance warning of Sandite application site.
- Two marks - start applying Sandite.
- One mark - stop applying Sandite.

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and comes into force on 06/12/2025

12.3 Signal reminder signs

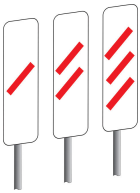
This sign informs the driver of a particular signal ahead.

12.4 Countdown markers

These signs inform the driver of the distance between the sign and the signal concerned.

There are three signs.

- Three marks - distance to signal normally 300m.
- Two marks - distance to signal normally 200m.
- One mark - distance to signal normally 100m.



12.5 Coasting boards

This board advises that the driver may coast to a stopping point or significant speed reduction beyond the board.

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12.6 Car stop markers

These signs inform the driver of the correct stopping point for the train. Various different types are in use of which these are examples.

12.7 Mile posts

These signs are situated on the lineside and used to identify locations. The number denotes the mileage and each mark under the number denotes quarter of a mile.

12.8 Gradient signs

These signs are situated on the lineside and used to identify the change in gradient at that particular location. Gradients are expressed as a ratio. e.g ‘1 in 460’ means the track rises (or falls) one unit in every 460 units. The angles of the gradient signs indicate the direction of the slope.

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12.9 Spring catch points sign

These signs are placed on the approach to spring catch points.

12.10 Bridge identity plates

These signs identify the location of bridge structures.

12.11 Safety signs

Limited clearance sign

This sign means there is no position of safety on this side of the railway for the length of the structure. It is not safe to enter or stand at that location when trains are running.

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and comes into force on 06/12/2025

No refuges warning sign

This sign means there is no position of safety on this side of the railway for the length of the structure. However, there are positions of safety, or refuges, on the opposite side of the railway line.

Prohibition sign

This sign means that staff must not pass beyond this sign while trains are running unless carrying out emergency protection. This is because it would not be possible to reach a position of safety or refuge safely. Extreme care is necessary if carrying out emergency protection.

12.12 End of degraded working sign

This sign indicates the end of a degraded working section.

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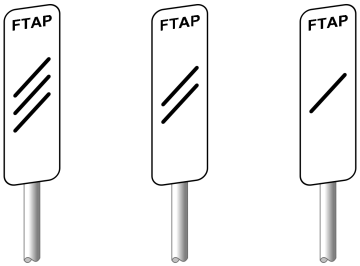
12.13 Flexible train arrival point signs

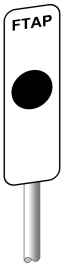
When an engineering train or on-track machine is to stop at a flexible train arrival point (FTAP) location before working in a possession or a protection zone, signs will be provided to guide the driver.

These signs have no significance for any other train.

Three countdown markers in succession will be provided on the approach to the FTAP.



An FTAP sign will be provided at the location where the train is to stop.



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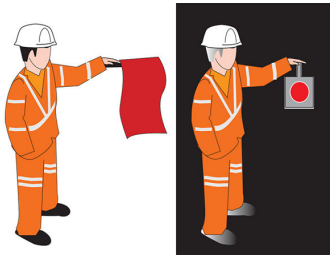
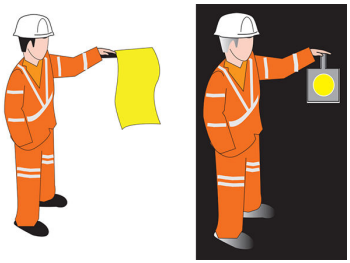
Red handsignal

A red flag during daylight or a red light during darkness or poor visibility means ‘STOP’.



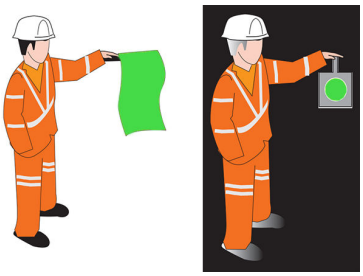
Yellow handsignal

A yellow flag during daylight or a yellow light during darkness or poor visibility is used when giving authority to pass a signal at danger.



Green handsignal

A green flag during daylight or a green light during darkness or poor visibility is used to give authority to pass over a level crossing.



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