

Rule Book Module TS1
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Issue 18 | December 2024

General signalling regulations

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Conventions used in the Rule Book

A black line in the margin indicates a change to that rule since the last printed version. The Rule Book Briefing Leaflet in the online Standards Catalogue contains more information about the changes.
Green text in the margin indicates who is responsible for carrying out the rule.

A white i in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

If you do not understand anything in the Rule Book, ask your manager or supervisor to explain it to you.

Example



driver



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You will need this module if you carry out the duties of a signaller.

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General signalling regulations

1

Working at signal boxes

1.1 Recording in the Train Register

You must:

- make an appropriate entry in the Train Register of any unusual incident and other items as shown in the Rule Book and train signalling regulations
- sign this entry and record the time.

If you are another signaller in the same signal box, you must countersign the entry if it affects you.

1.2 Recording times in the Train Register

Unless otherwise shown in the *Signal Box Special Instructions*, you must record the following times in the Train Register, legibly in pen:

On absolute block and electric token block lines - the time at which all bell signals are sent and received and the time at which trains arrive, or depart from the signal box.

On track circuit block and ERTMS lines - the time at which all train descriptions are sent and received and the time at which trains arrive, depart or pass the signal box.

On tokenless block lines - the time at which trains arrive, depart or pass the signal box.

On all lines - the times an attendant at an AHBC, CCTV, OD or RC level crossing:

- takes duty at the crossing
- takes local control
- gives up local control
- is authorised to leave the crossing.

1.3 Change of signaller

When going off duty, you must:

- tell the signaller taking over what trains are in the section, whether the equipment is in order, and any other necessary information
- sign the Train Register with the words 'off duty at.....hours' immediately below the last entry.

If you are taking duty, you must:

- make sure you receive all necessary information
- sign the Train Register with the words 'on duty at.....hours'.

1.4 Signaller leaving the signal box while on duty

If you have to leave the signal box (other than to carry out normal duties) without another signaller being left in charge, you must:

- tell the signaller at each adjacent signal box before you leave and when you return
- record the details in the Train Register.

If you are the signaller at an adjacent signal box, you must also record the details in the Train Register.

2 Bell signals

2.1 Standard code of bell signals

You must use the following bell signals when shown in the Rule Book module concerned or in the following regulations.

- Absolute block (AB)
- Electric token block (ETB)
- Track circuit block (TCB)
- General signalling regulations (GSR).

Module or regulation	Description	Bell code
	Call attention	1
AB TCB ETB	Is line clear for (description of train in TCB system):	
	Class 1	4
	Class 2	3-1
	Class 3	1-3-1
	Class 4	3-1-1
	Class 5	2-2-1
	Class 6	5
	Class 7	4-1
	Class 8	3-2
	Class 9 passenger (Class 373 or other passenger train if specially authorised)	1-4
	Class 9 empty coaching stock (Class 373 train)	1-4-1
	Class 0 locomotive or locomotives	2-3

Module or regulation	Description	Bell code
AB TCB ETB	Train entering section	2
AB TCB ETB	Train out of section	2-1
AB TCB ETB	Obstruction removed	2-1-2
AB TCB ETB	Cancelling	3-5
AB ETB	Train incorrectly described	5-3
AB ETB	Restricted acceptance	3-5-5
AB	Line now clear to clearing point	3-3-5
AB	Locomotive arrived	2-1-3
	Train drawn back clear of section	3-2-3
AB ETB	Obstruction danger	6
TCB	Emergency alarm	6
AB	Blocking back inside home signal	2-4
	Blocking back outside home signal	3-3
AB	Block line for protection purposes	2-2-2
AB	Line blockage completed	1-2-2
AB	Shunting into forward section	3-3-2
	Shunt withdrawn	8
AB	Working in wrong direction	2-3-3
	Train clear of section	5-2
	Train withdrawn	2-5
ETB	Release token	5-2
	Token replaced	2-5
GSR	Stop and examine train	7

Module or regulation	Description	Bell code
AB ETB	Train passed without tail lamp	9 or 4-5
AB	Train or vehicles proceeding without authority in the wrong direction	2-5-5
	Train or vehicles proceeding without authority in the right direction	4-5-5
ETB	Train or vehicles proceeding without authority	2-5-5
AB ETB	Opening of signal box	5-5-5
AB ETB	Closing of signal box	7-5-5
AB	Closing of signal box where section signal is locked by the block	5-5-7
GSR	Testing equipment	16
GSR	Police assistance urgently required	1-1-6
AB TCB ETB GSR	Train that can pass trains signalled 2-6-1 or 2-6-2 on an opposite or adjacent line but which will be signalled 2-6-2 or 2-6-3 for part of its journey	2-6-1
	Train that cannot be allowed to pass trains signalled 2-6-2 or 2-6-3, on an opposite or adjacent line	2-6-2
	Train requiring an opposite or adjacent line to be blocked	2-6-3
	Train with speed or route restrictions only	2-1-6
	Opposite line, or an adjacent line used in the same or opposite direction, to be blocked for the passage of train conveying out-of-gauge load	1-2-6
GSR	Signaller required on telephone	1-2

2.2 Call attention

You must send **call attention (1)** and have it acknowledged before you send any other bell signal, except for:

- **train entering section (2)**
- **restricted acceptance (3-5-5)**
- **obstruction danger (6)**
- **emergency alarm (6) (TCB)**
- **police assistance urgently required (1-1-6)**
- **signaller required on telephone (1-2)**
- **train or vehicles proceeding without authority in the right direction (4-5-5)**
- **train or vehicles proceeding without authority in the wrong direction (2-5-5)**
- **train or vehicles proceeding without authority (2-5-5) (ETB).**

2.3 Repeating and acknowledging bell signals

You must acknowledge all bell signals by repeating them, except where otherwise shown in the train signalling regulations.

You must not consider any bell signal as understood until it has been correctly acknowledged.

3

Signal box equipment

Note: The term 'lever' includes a switch, button or workstation control.

3.1 Checking and testing equipment

When you open a signal box you must, as soon as possible, check that the instruments, signals, points and other equipment are working properly.

Where provided, you must test the bells and block indicators as long as no train has been signalled. You must also do this for each line immediately after an intermediate signal box has switched out of circuit.

You must send **testing equipment (16)**, and when acknowledged, move the block indicator to each position in the correct sequence.

When you have acknowledged **testing equipment**, you must acknowledge each movement of the block indicator with **one beat**.

When an intermediate signal box has been switched out of circuit, the signaller at that signal box must be told the results of the test.

Unless otherwise shown in the *Signal Box Special Instructions*, you must test emergency bells, alarms and indicators between 1000 and 1100 hours daily.

You must test each TPWS failure indication unit at the start of your turn of duty.

If the TPWS indication unit fails its test or the main power fails, you must tell the signalling technician immediately. However, you may continue to work normally.

If a TPWS failure is indicated, you must treat the associated TPWS equipment as not able to cause an automatic brake application.

3.2 Recording the results of checks and tests

When you check or test equipment for whatever reason, you must record the details in the Train Register, including any telephone calls you make or receive for test purposes.

3.3 Block indicators and block bells

You must use block indicators and bells only for the purpose shown in the train signalling regulations or Rule Book modules.

3.4 Telephones

You must not use a telephone instead of bell signals or train describers except where authorised in the train signalling regulations.

If you need to speak to the signaller at an adjacent signal box, you may get that signaller's attention by sending **signaller required on telephone (1-2)**.

3.5 Using reminder appliances

3.5.1 On a signalling control

You must use a reminder appliance on the most appropriate lever to prevent the operation of:

- the signal or route setting position (RSP) protecting a route over which the normal passage of trains (or certain trains) is stopped
- the signal or RSP protecting a route over which trains can pass only after the driver has been told to proceed at caution in connection with an incident, failure or unusual occurrence
- any signal, RSP or level crossing equipment that is disconnected or defective
- the signal or RSP protecting a train or vehicles detained or left on a running line where track circuits are not provided.

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3.5.2 On an override switch

You must use a reminder appliance on an override switch which, if operated to the override position, would:

- clear a signal on which you have already placed a reminder appliance
- clear a junction signal leading towards a line on which the normal passage of trains is stopped
- issue an MA from a RSP on which you have already placed a reminder appliance.

3.5.3 On signalling equipment that must not be operated

You must use a reminder appliance when signalling equipment or equipment at a controlled level crossing:

- must not be worked, or
- is to be kept in a particular position as shown in the rules, regulations and instructions.

3.5.4 On block instruments and token instruments

You must use the block or token instrument reminder when a train or vehicles:

- are detained or left at the home signal
- are detained or left within the clearing point
- have been left in the block or token section.

If there is no block or token reminder, and there are no track circuits, you must place a reminder appliance on the lever controlling the home signal.

You must also use the block instrument reminder if the block indicator has been placed to **train on line** to protect engineering work.

3.5.5 Removing a reminder appliance

You must not remove a reminder appliance until the line is clear or normal working is resumed.

However, if you need to signal a train to a route that is not affected, or for a movement to proceed after the driver has been told to proceed at caution, you must:

- remove the reminder appliance
- operate the signalling control
- immediately replace the reminder appliance after you have operated the signalling control.

3.6 Checking that signals and points are working

After operating a signalling control, you must confirm that the signal or points are working correctly, by looking at them if possible, or by observing indicators if they are provided.

If you can normally see the distant signal of the next signal box, you must tell the signaller there if the distant signal is not working correctly or the signal light fails.

3.7 Releases for points, facing point locks, signals, block instruments and level crossings

3.7.1 Sealed releases

If a sealed release is provided, you must only use it if:

- a lever working points or a facing point lock is locked by a failure of a track circuit
- controlled level-crossing barriers are locked down by failure of a track circuit or by the occupation of a track circuit by a failed train and you have the driver's confirmation that the train will not be moved without your authority.

Before using a sealed release, you must make sure each time:

- that it is safe to do so
- that the portion of line is clear and no movement is about to be made over it.

Before operating a release to raise level-crossing barriers, you must also make sure that:

- the protecting signals are at danger and their controls are in the normal position
- the auto raise switch (if provided) is in the 'manual' position.

If you have used a sealed release, you must tell Operations Control and make an entry in the Train Register.

3.7.2 Manual time releases

Before you use a manual time release, you must make sure that the line concerned is clear.

You must only use a manual time release if one of the following applies.

- You have to change the route after the junction signal has been cleared.
- You cannot restore a signal lever after the passage of a train because a track circuit or treadle has failed where backlocking is provided.
- You have to place the block indicator to **line clear** again after it has been placed in that position in connection with:
 - testing block instruments
 - testing a signal released by **line clear**
 - closing a signal box where the section signal is released by **line clear**
 - a train being cancelled after being accepted
 - a shunting movement having been completed.

4 Working signalling equipment

4.1 General

When you place or keep a signal at danger or close a route, you must make sure the danger aspect or indication is showing correctly.

4.2 Replacing a distant signal to caution

Note: This regulation applies where the signalling equipment does not replace the signal to caution after the passage of a train.

You must replace a distant signal to caution as soon as the train has passed the signal.

4.3 Replacing a stop signal to danger

Note: This regulation applies where the signalling equipment does not replace the signal to danger after the passage of a train.

You must replace a stop signal to danger:

- as soon as the last vehicle of the train has passed the signal, or
- where there are points facing to the movement, as soon as the last vehicle is clear of the points.

If a train is stopped with a portion still on the approach side of a stop signal, you must place that signal to danger.

4.4 Replacing a stop signal to danger after it has been cleared or withdrawing a movement authority (MA)

4.4.1 In an emergency

In an emergency, if you have replaced any signal to danger, or closed a route, you must make sure that the driver is aware that you have done so before you:

- permit any obstruction of the route to which the signal or MA applies
- move any points in that route.

4.4.2 Except in an emergency

If you have cleared a signal for a train to proceed, you must not replace it to danger if this will cause the driver to see an irregular sequence of aspects or indications.

If you have issued an MA for a train to proceed, you must not withdraw it if this will cause the train to make a brake application or require the driver to apply the brake.

If you have cleared a signal for a train to start, you must not replace it to danger before the train starts until you have made sure that the driver is aware that you are going to do so, or you have made sure the train does not have a driver.

If you have issued an MA for a train to start, you must not withdraw it before the train starts until you have made sure that the driver is aware that you are going to do so, or you have made sure the train does not have a driver.

If a train stops at a signal that you had cleared for the train to proceed, you must not replace it to danger until you have made sure that the driver is aware that you are going to do so.

If a train stops at an end of authority (EoA) where you have issued an MA for the train to proceed, you must not withdraw the MA until you have made sure that the driver is aware that you are going to do so.

4.5 Clearing a stop signal when the next signal is at danger

If you cannot clear a stop signal, you must not clear any associated signals on the approach to it until the train has stopped or nearly stopped at each signal in turn.

You do not need to apply this instruction if the stop signal on the approach to the stop signal at danger is a colour light that can show a yellow aspect, and:

- is controlled by the occupation of a berth track circuit, or
- requires the line to be clear up to and including the overlap track circuit of the signal at danger.

4.6 Clearing a stop signal when it is not certain the section signal is at danger

If you are not sure whether the section signal is at danger, you must not clear the stop signal on the approach to the section signal unless you have told the driver about the circumstances.

4.7 Clearing stop signals at crossing places on an electric token block or tokenless block line

If trains are approaching a crossing place from opposite directions, you must keep both home signals at danger, unless the *Signal Box Special Instructions* authorise otherwise.

When the first train to be allowed to draw forward has stopped, you may clear the home signal for this train to proceed into the loop. After it has stopped in the loop, you may clear the signals for the other train, if the line is clear.

If a shunting movement is to be made on a running line at a crossing place, you must not clear your home signal in the opposite direction for an approaching train until:

- the shunting movement has stopped
- you have instructed the driver not to make any further movement towards the section signal.

This does not apply if you can set the points to prevent the shunting movement fouling the single line.

After you have cleared a home signal, you must not allow a shunting movement to be made towards the section signal in the opposite direction, until the approaching train has passed clear of the single line.

This does not apply if you can set the points to prevent the shunting movement fouling the single line.

4.8 Clearing a calling-on signal

You must not clear a calling-on signal until the train has stopped or nearly stopped at it.

4.9 Clearing a subsidiary or position-light signal associated with a main signal

You must always use the main aspect or indication when there is an associated subsidiary or position-light signal, except when:

- shunting
- attaching or detaching
- the line is occupied and permissive working is authorised for that line and the type of train concerned
- it is necessary during single line working or working by pilot
- a failure of equipment means the main aspect or indication cannot be displayed.

4.10 Working signals at converging junctions

Note: This regulation does not apply on lines signalled by the track circuit block or ERTMS regulations.

The signals referred to in this general signalling regulation are shown in [diagram TS1.1](#) on page 26.

Where home signal B1 is on the approach to the signal protecting a converging junction B2, you must not clear B1 signal for a train to proceed towards B2 if a conflicting movement has been authorised between signals B3 and B4.

If you have allowed a movement from signal B5 towards signal box D, you must not clear signal B1 unless any of the following applies.

- There are points beyond signal B2 that have been set for another line that is clear (*not illustrated*).
- The conflicting movement has passed clear of the junction.
- The conflicting movement has stopped at signal B5.

If you have accepted a train from signal box D, you must not clear signal B1 unless any of the following applies.

- There are points beyond the protecting signal B2 that have been set for another line that is clear (*not illustrated*).
- There are points beyond the protecting signal B3 that have been set for another line that is clear (*not illustrated*).
- The conflicting movement has passed clear of the junction.
- The conflicting movement has been stopped at signal B3.
- The junction is not within the clearing point from signal box D.

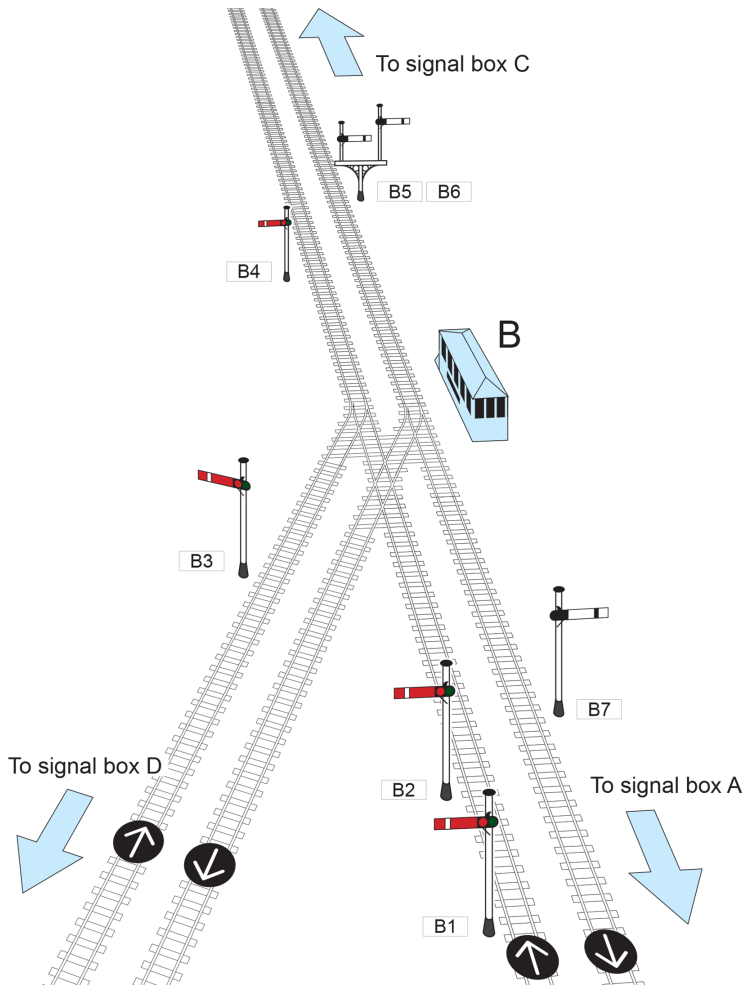


Diagram TS1.1

4.11 Working signals at diverging junctions

4.11.1 When the train speed must be reduced

If the signal at a diverging junction does not have approach release arrangements, you must not clear the signal for a route where the speed must be reduced, until the train is close to the signal. You must also be sure that the speed of the train has been suitably reduced.

This does not apply if the train that is to pass is shown to take that route in the working timetable or supplement to the working timetable.

You must only clear a stop signal which is beyond a diverging junction after you have cleared the junction signal and then only as shown in the train signalling regulations.

4.11.2 Setting a route

If you cannot set the route for a train until the train is close to the junction signal, you must take account of the speed and position of the train, and only set the route if it is safe to do so.

5

Use of signal post replacement switches (SPRS)

You must not give a person permission to operate an SPRS until the signal is showing a proceed aspect.

You must not rely on an SPRS to keep a signal at danger unless the person operating the SPRS has confirmed the signal:

- was showing a proceed aspect immediately before the key was operated, and
- has returned to danger when the key was operated.

6

Stop signals interlocked with block instruments

6.1 When another 'line clear' or token release is needed

When the section signal is locked by the block, or until a token is released, you must send **cancelling** and when acknowledged, send **is line clear** again if:

- you have not cleared the section signal before the block indicator has been placed to **train on line**
- you have placed the section signal to danger after the train has stopped, to allow you to work points on the approach side of the signal for shunting purposes
- you have replaced the section signal to danger before a train has passed it, (either by mistake or in an emergency). In which case, you must not send **cancelling** until the train has stopped.

6.2 Failure of the block indicator to release a signal

Except as shown in regulation 6.1, if a section signal stays locked when the indicator is at **line clear**, you must:

- treat the section signal as being correctly locked at danger
- tell the signaller at the next signal box about the circumstances and reach a clear understanding of what is to happen
- stop the train and instruct the driver to pass the signal at danger.

You and the signaller at the next signal box must be sure about the identity of the train before the signaller at the next signal box sends **train out of section**.

You must not try to get another **line clear** until the train has passed through the section and you have received and acknowledged **train out of section**.

7

Working during poor visibility or snow

7.1 When to apply the regulations for working during poor visibility

You must apply the regulations for poor visibility when visibility (determined as near as possible from the driver's eye level) is less than 183 metres (200 yards).

7.2 Semaphore signal lights and spectacles obscured by snow

If you become aware or suspect that signal lights or spectacles are becoming obscured by snow, you must arrange for them to be cleared.

During darkness, until you are told the signal lights or spectacles have been cleared of snow, you must treat the signals as defective.

7.3 Drawing forward to a semaphore section signal during poor visibility

During poor visibility you must not allow a train to draw forward to a semaphore section signal to wait for acceptance unless:

- the train will stay within your view, or
- a track circuit is provided to remind you of the presence of the train at the signal.

8

Ground frames

8.1 Release for a movement into a siding

Before you give a release for a ground frame, you must reach a clear understanding with the ground frame operator about:

- the movement to be made
- whether or not the train is to be shut in.

You must not allow a train to be shut in at an intermediate siding for other trains to pass, unless:

- the line is signalled by track circuit block or ERTMS, or
- authority is given in the *Signal Box Special Instructions*.

If the train is to be shut in, before you restore the ground frame release to normal operation, you must get confirmation from the ground frame operator that the train is clear of the running line.

8.2 Release for a movement from a siding

You must not release the ground frame for a movement from the siding to the running line until all track circuits are clear:

- between the protecting signal or block marker for the running line and the points to be released
- to the next main running signal or block marker on the line to which the movement is to be made unless the *Signal Box Special Instructions* allow a movement onto an occupied line.

8.3 Release for a movement from one running line to another

If the movement will be from one running line to another or across a running line, you must not release the ground frame until the line is clear between the protecting signal or block marker and the points to be released on all affected lines.

8.4 Entries in the Train Register

You must make a suitable entry in the Train Register whenever:

- a train has been shut in at a siding
- a train has left the siding and the ground frame release has been returned to normal.

8.5 Defective ground frame indication

If you lose the 'normal' indication or cannot get a 'normal' indication after the ground frame has been relocked, you must make sure that at the ground frame:

- the levers or switches are locked in the normal position
- the indicator, where provided, is showing normal detection.

If the points are not locked in this way, you must make sure:

- they are secured in the normal position
- they are padlocked, if left unattended.

You must then treat the signal on the approach to the ground frame as defective and instruct each driver to pass that signal at danger.

On an ERTMS line, you must treat the RSP on the approach to the ground frame as defective and instruct each driver to pass the EoA without an MA.

9 Working of points

9.1 Facing points fitted with facing-point locks

You must always use facing-point locks for the passage of trains and, whenever possible, for shunting movements.

If the train signalling regulations state that points need to be set before **is line clear** is acknowledged, you must not consider facing points with facing-point locks to be set correctly until they are locked.

9.2 Movement of vehicles carrying passengers over points

You can only allow a vehicle carrying passengers to pass over points in the facing direction if:

- the points are locked by a facing-point lock, and also by locking bars or track circuits, or
- the points have been secured for the movement.

9.3 Trap points, derailleurs and worked catch points

Except when a movement is being made over any of these, you must make sure that:

- trap points and derailleurs are set to prevent vehicles escaping onto or fouling other lines
- points leading to a running line are set to protect the running line
- worked catch points are set to prevent vehicles running back.

10

Train movements

10.1 Additional running lines

When it is shown in the train signalling regulations that trains must be stopped or instructed to proceed at caution, you must make sure that the same action is taken for trains on additional running lines if those trains might be affected.

10.2 Propelling movements

You must not clear a signal for a propelling movement to begin, or authorise a train operating in ERTMS to begin a propelling movement, unless the route is set throughout for the movement.

You must not allow a propelling movement to proceed towards a position-light signal or shunting signal if any other movement is occupying or about to occupy the converging point immediately beyond that signal.

If you have allowed a propelling movement to proceed towards a position-light or shunting signal that is at danger, you must not allow another movement to occupy the converging point immediately beyond that signal until the propelling movement has been completed.

10.3 Movements to running lines already occupied

You must not allow a train to enter an occupied portion of line between two signals or block markers worked from the same signal box unless one of the following applies.

- Permissive working is authorised for the type of train concerned.
- A shunting movement is to take place for which a position-light or shunting signal can be cleared, or an MA issued.
- A shunting movement is to be made for which there is no position-light or shunting signal, or an MA cannot be issued.
- A movement is to enter a line that is obstructed by an accident, failure, obstruction or engineering work.

11

Working trains carrying passengers over goods lines or goods loops

11.1 Allowing trains carrying passengers over goods lines or goods loops

You must not allow a train carrying passengers to enter a goods line or goods loop unless:

- the arrangements have been published, or
- it is an emergency, as long as you have been authorised to do so by the signal box supervisor or Operations Control.

Unless the arrangements have been published, you must stop each train carrying passengers and tell the driver what is happening before you allow the train on to the goods line or goods loop.

11.2 If the line is not protected by trap points

Before you allow a train carrying passengers onto a goods line or goods loop that is not protected by trap points from a movement from sidings, you must be sure, or get an assurance from the person in charge, that:

- these sidings are clear of vehicles and no movement will approach, or
- all vehicles and traction units on these sidings are properly secured and are clear of the line to be used by the train carrying passengers.

If the driver of any traction unit is present, you must tell the driver, or be sure that the driver has been told, not to make any further movement until authorised by you.

11.3 Additional instructions for TCB or ERTMS goods lines or goods loops

You must not allow a train carrying passengers to approach a stop signal or block marker on the goods line or goods loop unless the line is clear and the route is correctly set to the next stop signal or block marker beyond.

You must keep all points in the correct position until the train has passed clear of those points or has stopped at the signal or block marker protecting those points.

You must not allow another train to approach a stop signal or block marker if there is a train carrying passengers in the signal or block section beyond.

11.4 Additional instructions for a goods loop not on a TCB or ERTMS line worked from one signal box

Before you allow a train carrying passengers to enter the goods loop, the loop must be clear throughout and all points beyond the loop exit signal must be correctly set for that train.

You must keep all points in the correct position until the train has passed clear of those points or has stopped at the signal protecting those points.

You must not allow another train to enter the loop when it is occupied by the train carrying passengers.

11.5 Additional instructions for a goods line not on a TCB, ERTMS or absolute block line worked from two or more signal boxes

You may only allow a train carrying passengers to enter a goods line not worked by TCB, ERTMS or absolute block if the *Signal Box Special Instructions* allow this.

12

Dealing with trains that cannot be relied upon to operate track circuits

12.1 When this general signalling regulation must be used

You must carry out this regulation if:

- the train is to carry out line proving after lines have been closed in excess of 48 hours after engineering works, or
- you are told that a train cannot be signalled normally because a track circuit actuator (TCA) on the train has become defective.

You must pass on the details to the next signaller who is to signal that train.

12.2 Points locked by track circuits

You must not operate points that are locked by track circuits until the train concerned has passed well clear of them. You must use:

- individual point switches on a route-setting panel, or
- individual point controls on a work station.

12.3 Operation over a TCB or ERTMS line

You must not allow another train to follow the train concerned until that train has passed beyond:

- the overlap of a signal that has been placed to and kept at danger
- an EoA (or its overlap if provided) at which the route has been closed.

General signalling regulations

If necessary, you must tell the driver of the train concerned to stop specially to report the arrival of the train at a specified signal, block marker or location.

If another signaller is involved, you must get an assurance from that signaller that the train has arrived.

12.4 Operation on other than TCB or ERTMS line

When you are waiting for the next signal box to accept the train concerned, you must not allow it to proceed beyond your signal box if it would be out of sight.

If the section signal is out of sight, you must not allow a following train to approach the section signal until the train that cannot be relied upon to operate track circuits has arrived at the next signal box.

If necessary, you must ask the signaller at the next signal box to tell you when the train arrives.

12.5 Intermediate block signals

Where there is an intermediate block signal, you must not clear the section signal for a following train until the train that cannot be relied upon to operate track circuits has arrived at the next signal box.

If necessary, you must ask the signaller at the next signal box to tell you when the train arrives.

12.6 Level crossings operated by a crossing keeper

Where a crossing keeper relies on the operation of track circuits to be aware of an approaching train, you must tell the crossing keeper about the approach of any train that cannot be relied upon to operate track circuits.

13

Safety of personnel

13.1 Personnel asking for trains to be stopped

13.1.1 When this regulation must be used

You must carry out this regulation when:

- personnel need to work on the outside of a train stopped on a running line because of failure or other incident, or who need to check that working equipment on an OTM is correctly positioned
- a driver asks you to block a line for their or another member of the traincrew's personal safety to walk alongside their train
- a designated person (DP) needs to carry out work on the side of a vehicle which is less than 3 metres (approximately 10 feet) from an adjacent running line
- a DP needs to walk with a group to a train stopped on a running line because of failure or other incident
- a member of station staff or an infrastructure manager's employee needs to retrieve an item from a platform line by either going onto that line or by using retrieval equipment whilst remaining on the platform.

If a train or OTM is within a protection zone, the engineering supervisor can ask you to block an adjacent line.

13.1.2 Reaching a clear understanding

You must ask the person who has asked for the protection, the exact location and lines on which trains are to be stopped, or will still be stopped.

If an item is to be retrieved from a platform line, you must find out how the item is to be retrieved.

If an item is to be retrieved from a platform line by someone going onto that line, you must also stop trains on any line adjacent to the platform line.

General signalling regulations

If the person asking for the protection is not sure which lines they want trains stopped on, you must stop trains on all lines.

Unless you have already stopped trains on the lines concerned, you must agree a suitable time for this to be done with the person asking for protection.

13.1.3 Providing protection from trains

If you do not control the protecting signal or block marker protecting the line to be blocked, you must:

- tell the controlling signaller
- get an assurance from that signaller that trains have been stopped on the line concerned.

You must use a *Personnel asking for trains to be stopped form* (NR3178) to record details of the line to be blocked, the protecting signals or block markers and the role of the person who is asking for the line blockage.

If the location of the activity will be beyond any points or crossover, you may clear the protecting signal or issue an MA for an unaffected route as long as you have agreed this with the person asking for the protection.

Additionally if the line blockage includes an absolute block section you must make sure **block line for protection purposes** is sent as shown in module TS3 *Absolute block regulations*, regulation 3.6. Part C.

When the line to be blocked is clear of trains and signalling protection has been provided, you must read the completed form to the person who has asked for trains to be stopped. If that person agrees that the entry is correct, you must complete the confirmation section of the NR3178 form.

If that person agrees that the details are correct, you must then:

- confirm to the person concerned that the line will stay blocked until that person tells you that the protection is no longer needed
- remind that person about any other lines that are still open for normal working
- give the person an authority number
- give that person permission for the activity to start.

If any crossing keepers will be affected by the protection arrangements you must tell them.

13.1.4 When the activity is completed

When the person who asked for the line to be blocked confirms that the activity is completed and signalling protection is no longer needed, you must record this on form NR3178.

The person who asked for the line to be blocked will tell you their authority number.

You must then tell any other signaller or crossing keeper involved that normal working may be resumed.

13.2 COSS, IWA or PC blocking a line

13.2.1 When this regulation must be used

A controller of site safety (COSS), individual working alone (IWA) or a protection controller (PC) may ask for a line to be blocked as part of a safe system of work, as long as no engineering trains or on-track plant will occupy the line concerned.

General signalling regulations

13.2.2 Agreeing the arrangements

You must agree with the COSS, IWA or PC:

- the line to be blocked
- the nature of the work
- the locations between which the work will take place
- the amount of time needed to do the work
- the time after which permission can be given for the line blockage to start
- which signals or block markers will protect the activity, including those in both directions on a single or bi-directional line
- any additional protection needed if the work will affect the safety of the line
- the arrangements if single line working is taking place
- the arrangements at any level crossings affected by the line blockage.

The signal or block marker that controls the entry to the portion of line that is to be blocked is the signal or block marker referred to as the protecting signal or block marker on a NR3180 form. Any other signal that must be kept at danger, or block marker where the route must be closed is referred to on the form as an 'additional signal'.

You can only agree a line blockage if one of the following applies.

- A signal or block marker protecting the activity is within your area of control.
- A signal or block marker protecting the activity is within the area of control of another signaller, and you have explained to that signaller the arrangements you have agreed.
- On a single or bi-directional line you have spoken to another signaller who controls the signal or block marker protecting entry to the portion of line concerned, and agreed that signal will be kept at danger or the route closed at the block marker.

If the location of the work will be beyond any points or crossover, you may set the route for an unaffected line as long as you have agreed this with the COSS, IWA or PC.

See [diagram TS1.2](#) on page 46 and [diagram TS1.3](#) on page 47.

If the site of the work will be less than 200 metres from the protecting signal or block marker, and the work will affect the safety of the line, the COSS, IWA or PC will tell you and you must also keep the previous signal at danger or the route closed at the previous block marker unless the route can be set for an unaffected line.

See [diagram TS1.4](#) on page 48 and [diagram TS1.5](#) on page 49.

If that previous signal or block marker is controlled by another signaller, you must get confirmation from that signaller that this has been done.

If you have told the COSS, IWA or PC, you can allow the signal to be passed at danger or the EoA to be passed without an MA so that a train can reach a:

- station
- siding
- crossover being used for single line working.

See [diagram TS1.6](#) on page 50 and [diagram TS1.7](#) on page 51.

If the work will affect the operation of any level crossing, you must carry out the regulations in module TS9 *Level crossings - signallers' regulations*.

If any crossing keepers will be affected by the protection arrangements or the work, you must tell them.

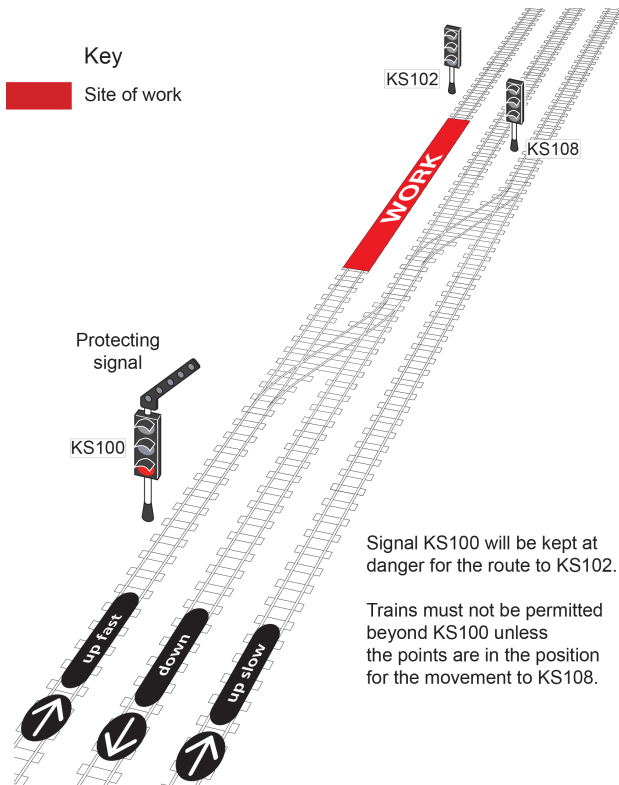


Diagram TS1.2

Work taking place beyond points that will be used

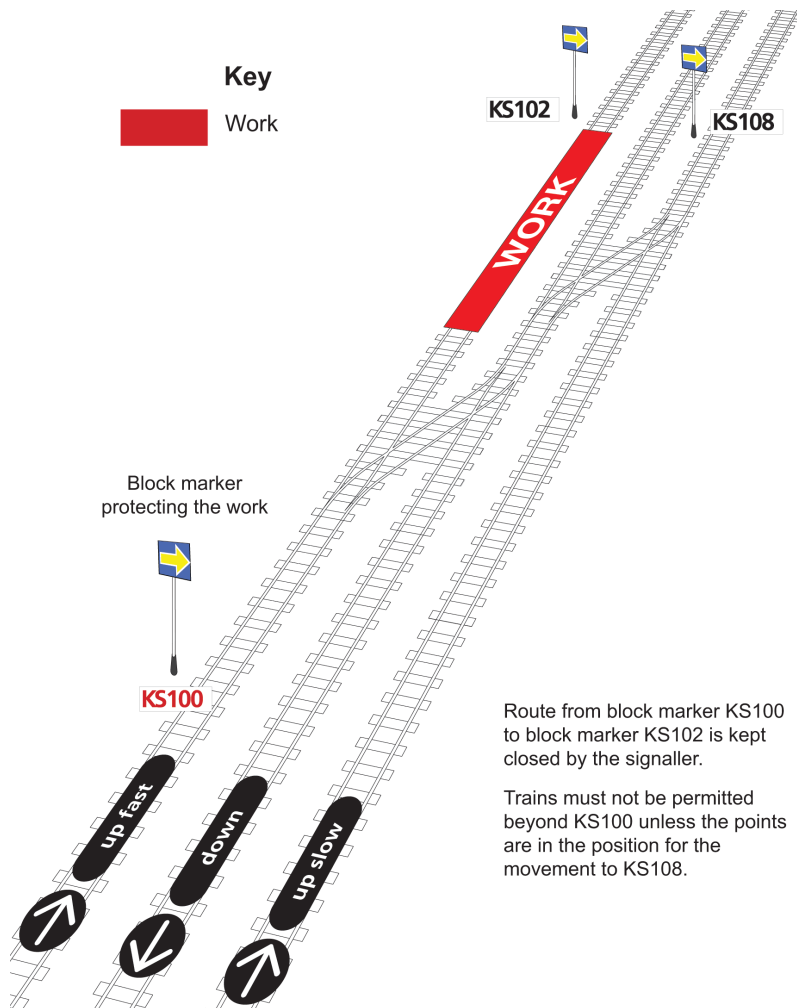


Diagram TS1.3

Work taking place beyond points that will be used

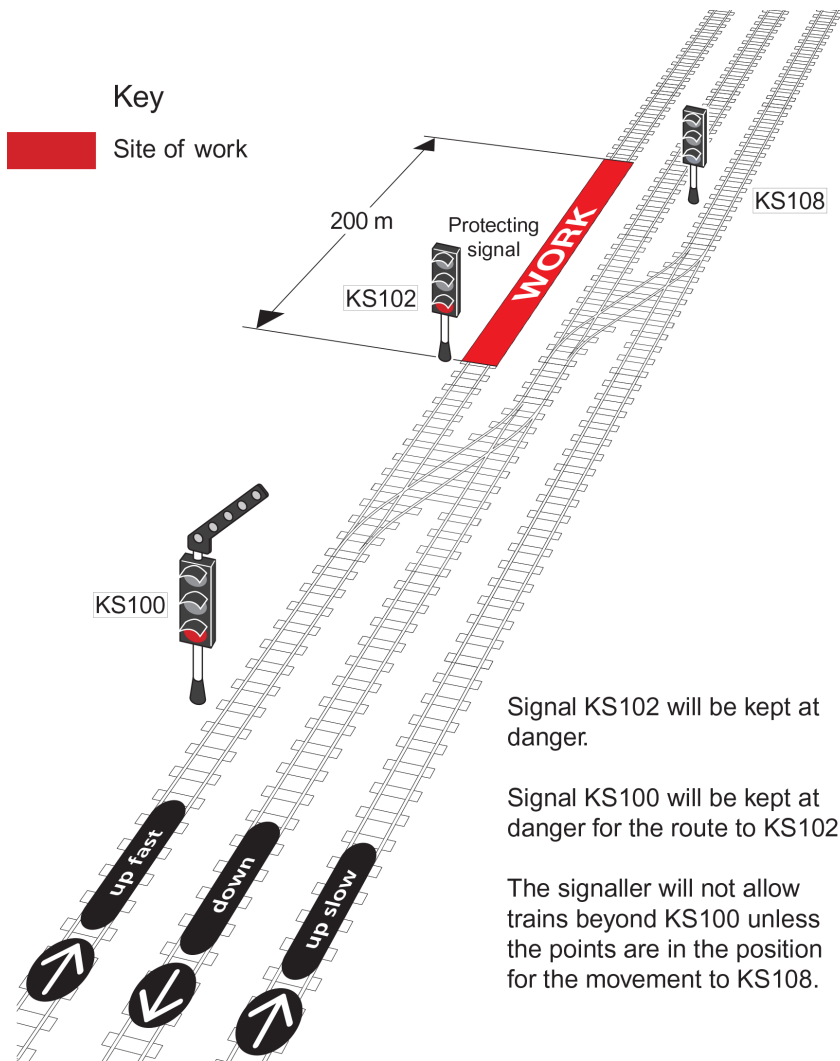


Diagram TS1.4

Work taking place close to the signal

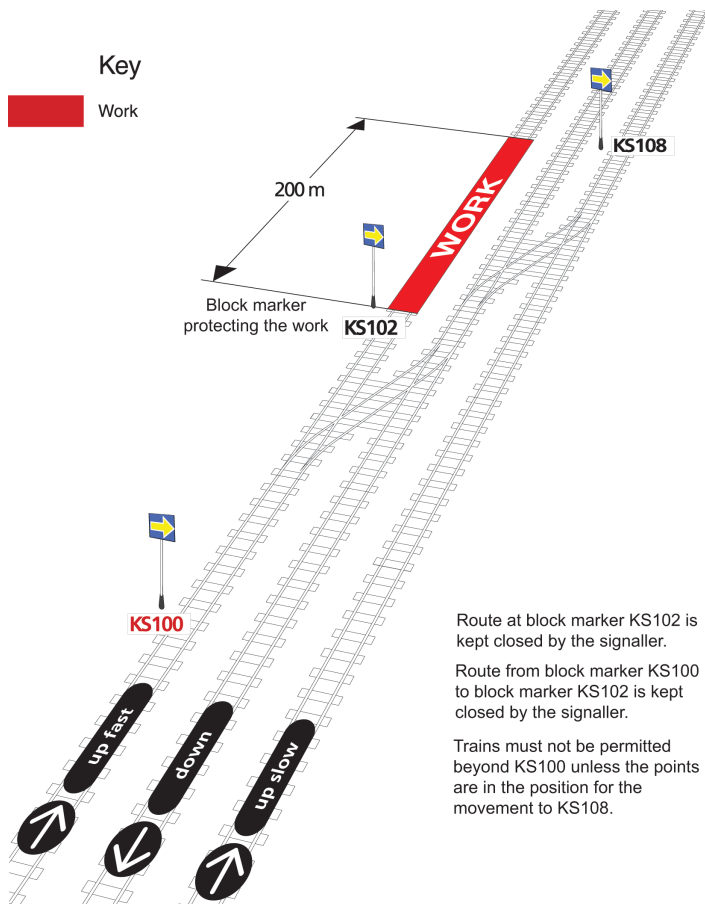


Diagram TS1.5
Work taking place close to a block marker

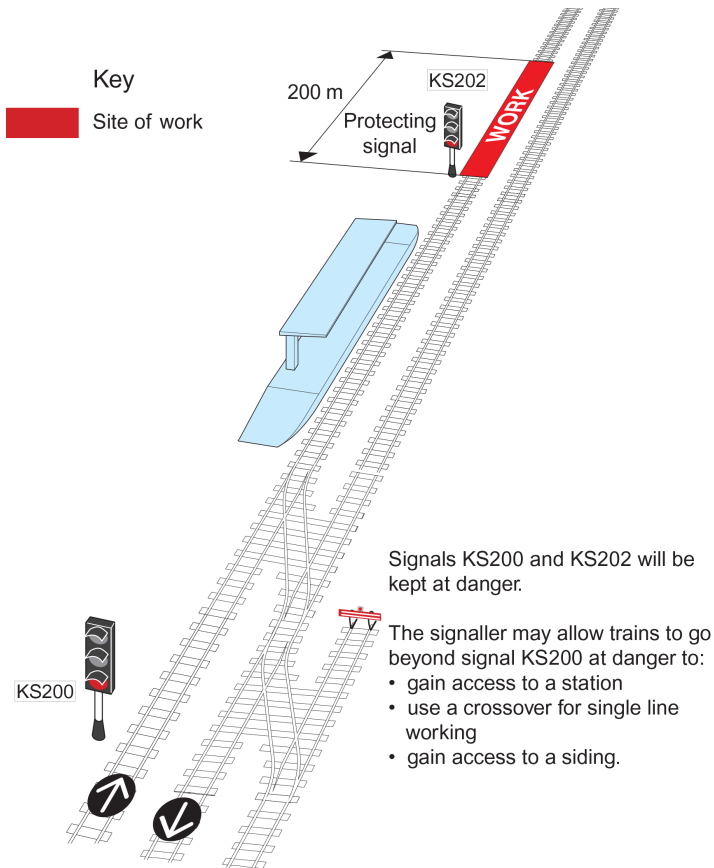


Diagram TS1.6

Work taking place close to the signal

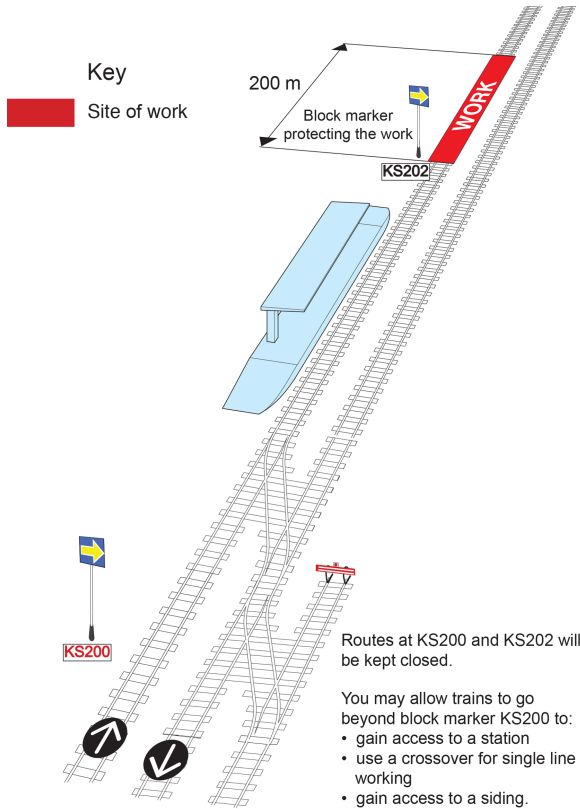


Diagram TS1.7

Work taking place close to a block marker

General signalling regulations

13.2.3 Blocking the line

You must record details of the line to be blocked and the protecting signals or block markers on a NR3180 form.

The COSS, IWA or PC will complete a NR3180 form and read it to you. You must make sure that the entries are correct.

You must place or keep signals at danger, arrange for the signal to be placed to danger by operating an SPRS or close the route and keep it closed to protect the line blockage.

You must protect the line blockage in both directions on a single or bi-directional line.

You must also make sure all points are in the position necessary to protect the line blockage.

You must tell any other signaller who controls a portion of line within the line blockage.

If any other signaller controls a signal or block marker leading onto the line to be blocked you must get their confirmation that they have protected the line blockage.

If you are that other signaller, you must:

- record the details in the Train Register
- tell any crossing keepers who will be affected by the protection arrangements or the work.

You must make sure that the line to be blocked is clear of all trains unless both of the following apply.

- The *Signal Box Special Instructions* allow a line to be blocked with a train in the section.
- You and the COSS, IWA or PC are sure that all trains have passed the location where the activity is to take place.

You can also grant a line blockage with a train that is within the limits of the portion of line to be blocked, if it has become disabled or the driver of the train has confirmed that the train is at a stand and will make no further movements without your permission.

If necessary, you must confirm this with any other signaller involved. If you are that other signaller, you must record the details of the line blockage in the Train Register unless you have already done so.

Absolute block line

If the line blockage includes an absolute block section, you must send **block line for protection purposes** to the next signal box as shown in module TS3 *Absolute block regulations*, regulation 3.6. Part C.

Tokenless block line

If the line blockage includes a tokenless block section, you must place or keep the acceptance switch in the **normal** position and ask the signaller at the other end of the section to do the same.

If the tokenless block section is occupied by a train when the line blockage is granted, you must not press the **train arrived** button until the line blockage has been given up.

Single line worked with a token

If the line blockage includes a section worked with a token, if possible, you must withdraw a token and place it on the Train Register.

If the token section is occupied by a train when the line blockage is granted, you must not place the token in the instrument or send **train out of section** until the line blockage has been given up.

13.2.4 Additional protection

The COSS, IWA or PC may request the use of additional protection, but must always provide or request you to provide additional protection if the work will affect the safety of the line.

General signalling regulations

You must agree with the COSS, IWA or PC which of the following additional protection methods will be used.

- A signalling technician disconnecting signalling equipment.
- The COSS, IWA or PC operating a lock-out device.
- The COSS, IWA or PC placing one or more track circuit operating devices (T-COD).
- The COSS, IWA or PC activating one or more remotely-activated track circuit operating devices (T-COD).
- The COSS, IWA or PC using a device that remotely disconnects signalling equipment.
- The COSS, IWA or PC getting the token.
- The COSS, IWA or PC providing detonator protection.
- Applying engineering possession reminders (EPRs).
- Another signaller placing the block indicator to **train on line**.
- Keeping the acceptance switches at **normal** on a tokenless block line.

The permitted types of additional protection serve the following purposes.

- Disconnection including route barring, lock-out device, T-COD, remotely-activated T-COD, remote disconnection, staff/token in the COSS's possession - To keep the protecting signal at danger, independently of any action by the signaller.
- Disconnection, T-COD or EPR - To keep the signal immediately on the approach to a site of work at danger, independently of any action by the signaller.
- Token - To prevent any train being given authority to enter the single line.
- EPRs - To keep the protecting signal at danger in axle counter areas.
- Block indicator placed to **train on line** - To keep the protecting signal at danger in absolute block signalling areas.
- Acceptance switches placed at **normal** - To prevent a train being allowed into a tokenless block section.
- Detonator protection - Placed at the protecting signal or block marker as a second line of defence against an error in clearing the protecting signal or issuing an MA.

Disconnecting signalling equipment

If additional protection is to be provided by disconnecting signalling equipment, you must agree the necessary disconnections with the signalling technician. You must tell the COSS, IWA or PC when the disconnections have been made.

Remote disconnection of signalling equipment

If additional protection is to be provided by a remote disconnection of signalling equipment, you must agree the necessary disconnections with the COSS. You must tell the COSS when the disconnections can be made.

General signalling regulations

Operating a lock-out device

If additional protection is to be provided by operating a lock-out device, the COSS, IWA or PC must operate the device before you grant the line blockage.

T-COD

A T-COD can only be used if all the following conditions apply.

- Use at a particular location is authorised by the *Sectional Appendix*.
- The signalling equipment is working normally at the time the T-COD is to be placed on the line.
- The work will not affect the correct operation of the track circuit concerned.

When the protecting signal has been placed to danger or the route has been closed, you must check that the track circuit concerned is showing clear. You can then give permission to the COSS, IWA or PC to place the T-COD on the line.

When the COSS, IWA or PC tells you that the T-COD has been placed on the line, you must check that the track circuit is showing occupied.

Remotely-activated T-COD

A remotely-activated T-COD can only be used if all the following conditions apply.

- Use at a particular location is authorised by the *Sectional Appendix*.
- The signalling equipment is working normally at the time the T-COD is to be activated.
- The work will not affect the correct operation of the track circuit concerned.

You must make sure that:

- if the track circuit is beyond a controlled signal, the signal has been placed to danger
- if the track circuit is on an ERTMS line, the route has been closed
- if the track circuit is beyond an automatic signal, no train is approaching the signal
- the track circuit concerned is showing clear.

When the COSS, IWA or PC tells you that the T-COD has been activated, you must check that the track circuit is showing occupied.

Getting the token

If additional protection is to be provided by getting the token, the COSS, IWA or PC must get the token before you grant the line blockage.

Detonator protection

If additional protection is to be provided by detonator protection, the COSS, IWA or PC will arrange for it to be placed:

- at the protecting signals or block markers for the line blockage, or
- clear of any points or through-crossing that will be used for normal train movements.

Engineering possession reminders (EPRs)

Where authorised in *Signal Box Special Instructions*, you must protect the line blockage by applying the appropriate EPRs.

Placing the block indicator to train on line

Where authorised in *Signal Box Special Instructions*, you must place the block indicator to **train on line** to protect the line blockage by preventing the protecting section signal from being cleared.

Keeping the acceptance switches at normal

You must place or keep the acceptance switch at **normal** and ask the signaller at the other end of the section to do the same.

13.2.5 Granting authority to work

You must tell the COSS, IWA or PC when the protecting signals have been placed to danger or the routes have been closed, and give an authority number.

If additional protection is needed, you must not give the authority number until the additional protection has been provided.

13.2.6 Closing the signal box during the line blockage

You can close the signal box if additional protection has been provided and the line blockage is planned to be in place until after the signal box has reopened.

13.2.7 Completing or suspending the line blockage

When the work needing the line blockage has been completed or suspended, the COSS, IWA or PC will tell you their authority number and that the line blockage is no longer needed.

You must record the details on the NR3180 form.

You must tell any other signaller or crossing keeper involved.

If you are a signaller in another signal box that was affected by the line blockage, you must make an appropriate entry in the Train Register when you are told the line blockage has been given up.

Disconnected signalling equipment

If the line blockage was protected by signalling equipment being disconnected, after the line blockage has been given up or suspended, you must arrange for a signalling technician to make the necessary reconnections.

Remote disconnection of signalling equipment

If the line blockage was protected by signalling equipment being disconnected remotely, after the line blockage has been given up, you must tell the COSS, IWA or PC that the necessary reconnections can be made.

When a lock-out device has been operated

If a lock-out device has been operated, you must check with the COSS, IWA or PC that the lock-out device is no longer in operated mode.

T-COD

You must check that the track circuit where the T-COD had been applied is showing clear. If it is not showing clear, you must check with the COSS, IWA or PC that the T-COD has been removed.

Remotely-activated T-COD

You must check that the track circuit where the T-COD had been activated is showing clear. If it is not showing clear, you must check with the COSS, IWA or PC that the T-COD has been deactivated.

Single line worked with a token

If the COSS, IWA or PC had the token, you must be sure that the token has been returned to the signal box at either end of the section, or restored it to an instrument that is not at a signal box, before agreeing that the blockage has been given up.

Engineering possession reminders (EPRs)

If the line blockage was protected by EPRs, you must remove them after the line blockage has been given up or suspended.

SPRS

If a signal has been kept at danger by an SPRS, you must arrange for it to be returned to automatic working.

Block indicator placed at train on line

If you have placed the block indicator to **train on line**, you must carry out the instructions in regulation 3.6.14 of module TS3 *Absolute block regulations*.

13.2.8 First train over the affected portion of line when the work has affected the safety of the line

You must specially watch the operation of track circuits during the passage of the first train over each line that was affected by the line blockage.

On a track circuit block line, you must not allow a second train to pass over the line that was affected by the line blockage unless there is a controlled signal which you have replaced to danger between the first and second trains.

On an ERTMS line, you must not allow a second train to pass over the line that was affected by the line blockage unless there is an EoA at which the route is closed between the first and second train.

Where there is an intermediate block signal, you must not clear the section signal for a second train until you have received **train out of section** for the first train.

13.2.9 If the line blockage is to resume

You must give the COSS, IWA or PC a new authority number each time the line blockage is resumed.

You must use a new form NR3180 if the line that needs to be blocked or the protection arrangements are changed.

13.3 Personnel working on or near points

If personnel are to work on or near points, you must find out:

- which points are affected
- the position the points must be kept in
- how long the work will take
- whether the points will be secured or the points machine isolated to prevent any movement of the points that might cause injury.

You must then agree a suitable time for the work to start.

From this time, you must keep the points in the agreed position and apply a reminder appliance (if you have not already done so because you have agreed a line blockage in connection with the work) until you are told the work has stopped or is completed.

During the work, you may signal trains normally over the route for which the points are set, unless you have agreed a line blockage.

13.4 Taking possession of sidings

13.4.1 When this general signalling regulation must be used

Where you control the entrance to a siding or sidings, a person in charge of the siding possession (PICOS), may ask for possession of the siding or sidings concerned.

13.4.2 Agreeing the arrangements

You must agree:

- the name and contact number of the PICOS
- the location of the siding or sidings involved
- whether it is the whole length of a siding or just part of it that will be taken under possession
- how line protection will be arranged
- the date and time possession will be taken and when it will be given up
- who will tell the shunter, if involved.

13.4.3 Possession of the whole length of a siding

If you have agreed with the PICOS that possession may be taken of the whole siding, you must:

- where you control the points at the entrance to the siding, make sure those points are set to prevent movements from entering it
- where you do not control points at the entrance to the siding, make sure those points are set by the PICOS to prevent movements from entering it and give the PICOS permission to apply line protection by clipping and padlocking the points.

13.4.4 Possession of part of one siding

If you have agreed with the PICOS that possession may be taken of only part of a siding, you must give the PICOS permission to place line protection on the siding concerned.

A possession limit board (PLB) or red light must be placed so that it may clearly be seen by an approaching movement.

If any of the following apply, a sleeper must be placed across the rails, or a derailer must be placed.

- The part of the siding under possession has become unsafe for any movements to take place over it.
- The work taking place would make it unsafe for any movement to enter the part of the siding under possession.
- Anyone will be required to work on or near that part of the siding.

You must not allow any movement to enter the siding concerned until you have confirmed with the PICOS that the line protection is in place.

13.4.5 If movements can enter from either end

If movements can enter from either end, you must make sure the necessary actions in this regulation are carried out at both ends of the siding.

13.4.6 Siding adjacent to a running line under possession

If possession of the siding is to be taken in association with a possession of an adjacent running line, the PICOS does not need to provide line protection unless:

- the siding is a through siding and the PICOS needs to prevent access at the far end of the siding, or
- possession of the siding will be taken before possession of the running line.

When possession of the siding will be kept after the adjacent running line possession is given up, the PICOS must make sure line protection is provided before the adjacent running line possession is given up.

If the siding possession is being used for movements to enter or leave an adjacent running line possession, and it is necessary for you to be involved, the PICOS or PICOP as appropriate, will come to a clear understanding with you about each movement.

13.4.7 Telling the shunter

If you agreed with the PICOS that you would tell the shunter about the possession arrangements, you must do this when the possession is taken and is given up.

13.4.8 Giving up the possession

The PICOS will inform you when the possession is given up. You must confirm that any line protection that was provided has been removed.

13.4.9 Recording the arrangements

You must record in the Train Register:

- the name and contact number of the PICOS
- the siding or sidings taken under possession
- whether possession of the whole or part of the siding is taken
- the location of any line protection
- the date and time that possession is taken
- the date and time that possession is given up.

13.5 Personnel working on vehicles in sidings

13.5.1 When this general signalling regulation must be used

You must carry out this regulation when personnel are to carry out work on a vehicle in a siding which you control the entrance to and they need protection from movements into that siding.

13.5.2 Agreeing the arrangements

You must agree, with the person asking for the protection, the details of the siding towards which movements must be stopped.

You must:

- place the points leading to the siding in the correct position to protect the siding
- make an entry in the Train Register
- confirm to the person concerned that no movements will be allowed towards that siding
- remind that person that all other lines will stay open to traffic.

13.5.3 When the activity is completed

When the person who asked for the protection tells you that the work has been completed, you must make an entry in the Train Register and remove the reminder appliances.

13.6 Personnel setting up a safe system of work

If a person setting up a safe system of work contacts you to ask if single line working is in operation, you must:

- find out how long they will be working there
- tell them about any current or planned single line working that may affect them.

13.7 Crossing the line procedure

13.7.1 When this regulation can be used

You can use this procedure if an IWA or COSS is walking alone, or is with a group that is walking and needs:

- to cross no more than four running lines
- to walk past a structure that restricts clearance from a running line.

General signalling regulations

You can only use this procedure as long as all of the following apply.

- The location is one that has been approved for the use of the procedure and you have been given details about the location and the conditions for using it.
- The IWA or COSS is competent to use the procedure and you have been given that person's name.

The person making the request must contact you using a mobile phone.

13.7.2 Agreeing the arrangements

The person making the request must tell you:

- the location where the line will be crossed, or a structure will be passed by
- their name and employer
- how long it will take to cross the line or pass by the structure.

You must make sure that:

- the location is one that is approved and you have details of
- the person concerned is authorised to carry out the procedure and is named on a list you have.

13.7.3 Granting authority

You must then:

- refer to the details you have about the location
- make sure that there is enough time for the person or group to cross the line or pass by the structure before the next train reaches the location.

If there is not enough time, you must tell the IWA or COSS to wait and contact you again.

If there is enough time for the person or group to cross the line or pass by a structure you must:

- tell the person making the request that they can cross the line or pass by a structure
- stay on the phone with the person making the request.

13.7.4 After the line has been crossed

The person making the request will:

- tell you when everyone is clear of the line
- end the phone call.

If you lose telephone contact after agreeing to the request, or you are not told that everyone is clear of the line you must stop the next train proceeding towards the location.

You must tell the driver to:

- approach the location at caution
- not pass the location unless it is safe to do so
- tell you whether the line is safe for trains to pass normally.

You can then allow trains to proceed normally.

14

Requesting police assistance

If you need police assistance, but it is not possible to use a

phone, you must send **police assistance urgently required (1-1-6)** or the special train description **1-16** to any adjacent signal box.

If you receive this special bell signal or special train description, you must immediately request the police to attend the signal box from which the bell signal or train description was received.

15

Out-of-gauge trains and trains that have route restrictions

15.1 Being aware of out-of-gauge trains and trains that have route restrictions

You must not let a train proceed that is out-of-gauge, carrying an exceptional load, or has route restrictions, unless you have the details of the restrictions that apply to the movement of the train and how it must be signalled.

15.2 Dealing with an out-of-gauge train

An out-of-gauge train will have a train identity including the letter 'X'.

You must deal with any train described as being out-of-gauge as shown below depending on the restrictions that apply to it in any area under your control.

15.2.1 If a train is shown with restriction 'adjacent lines or sidings need not be kept clear'

You must deal with the train normally, but take into account any routing restrictions that are shown.

15.2.2 If a train is shown with the restriction 'no out-of-gauge train must be allowed on the running lines or sidings on both sides of the load'

You must not allow the train to proceed if any of the following applies.

- It will pass or be passed by another train with the same restriction on an adjacent line or siding.
- It will be on a running line or siding which is required to be kept clear for another out-of-gauge train.
- It has been published in the *Weekly Operating Notice* or a special notice that an engineering train or on-track machine on an adjacent line under possession is out-of-gauge when working.

15.2.3 If an adjacent running line is to be kept clear for the passage of the out-of-gauge train

You must not allow the out-of-gauge train to proceed if any of the following applies.

- A train or vehicle is standing on the adjacent line concerned within the portion of line where this restriction applies.
- Permission has been given for a train to proceed or approach on the adjacent line concerned
- The adjacent line concerned is under possession, or a line blockage has been granted on it.

You must speak to any other signaller involved to find out whether any of those situations apply.

Before you allow the out-of-gauge train to proceed, you must block the adjacent line concerned, as shown in regulations 15.3 and 15.4.

15.3 Blocking an adjacent line signalled by track circuit block or ERTMS

You must place or keep signals at danger, or close the route and keep it closed, to prevent any train entering the portion of line that must be kept clear until the out-of-gauge train has passed.

If you do not control the signal or route protecting the line to be blocked, you must:

- tell the controlling signaller
- get an assurance from that signaller that trains have been stopped on the line concerned.

If you are that other signaller, you must make an appropriate entry in the Train Register.

15.4 Blocking an adjacent line signalled by absolute block

15.4.1 Blocking an adjacent line used in the opposite direction (see diagram TS1.8 on page 71)

Note: For the purpose of this general signalling regulation, A, B, C, and D represent four signal boxes on the same line of route. The adjacent line used in the opposite direction, between signal box A and signal box C, needs to be blocked for a train carrying an out-of-gauge load.

When you are to signal a train which needs the adjacent line to be blocked, you must send **1-2-6** to signal box B. You may send this bell signal whatever the position of the block indicator is for the adjacent line.

signaller box
A

When you receive **1-2-6** from signal box A, you must not acknowledge it but send **1-2-6** to signal box C, whatever the position of the block indicator is for either line.

signaller box
B

signaller box C

When you receive **1-2-6** from signal box B, and when the adjacent line is clear, you must:

- if the out-of-gauge train will foul the clearing point on the adjacent line, block back inside home signal to signal box D
- acknowledge **1-2-6** to the signaller at signal box B
- keep the adjacent line clear until the out-of-gauge train has passed.

signaller box B

When the signaller at signal box C acknowledges **1-2-6**, as long as the adjacent line is clear, you must:

- place the block indicator for the adjacent line to **train on line**
- acknowledge **1-2-6** to the signaller at signal box A
- keep the adjacent line clear until the out-of-gauge train has passed.

signaller box A

When the signaller at signal box B acknowledges **1-2-6**, as long as the adjacent line is clear, you must:

- place the block indicator for the adjacent line to **train on line**
- signal the train carrying the out-of-gauge load normally using the special **is line clear** signal **2-6-3**.

signaller box A and B

When you receive **train out of section** for the out-of-gauge train you must:

- give **one beat** of the bell for the adjacent line
- place the block indicator for the adjacent line to **normal**.

15.4.2 Blocking an adjacent line used in the same direction (see diagram TS1.9 on page 75)

Note: For the purpose of this general signalling regulation, A and B represent two signal boxes on the same line of route. The adjacent line used in the same direction, between signal box A and signal box B, needs to be blocked for a train carrying an out-of-gauge load.

signaller box A

When you need to block the adjacent line used by trains in the same direction for a train carrying an out-of-gauge load, you must make sure:

- you have received **train out of section** for the previous train over the adjacent line, and
- the block indicator for the adjacent line is at **normal**.

You must send **1-2-6** to signal box B for the line on which the train carrying the out-of-gauge load will travel.

signaller box B

If the adjacent line is clear and you receive **1-2-6** from signal box A for the line on which the train carrying the out-of-gauge load will travel, you must:

- acknowledge **1-2-6** to signal box A
- place the block indicator for the adjacent line to **train on line**.

signaller box A

When the signaller at signal box B has acknowledged **1-2-6** and placed the block indicator for the adjacent line to **train on line**, you must signal the train carrying the out-of-gauge load normally using the special **is line clear** signal **2-6-3**.

signaller box B

When you send **train out of section** to signal box A for the train carrying the out-of-gauge load, you must also:

- give **one beat** of the bell for the adjacent line
- place the block indicator for the adjacent line to **normal**.

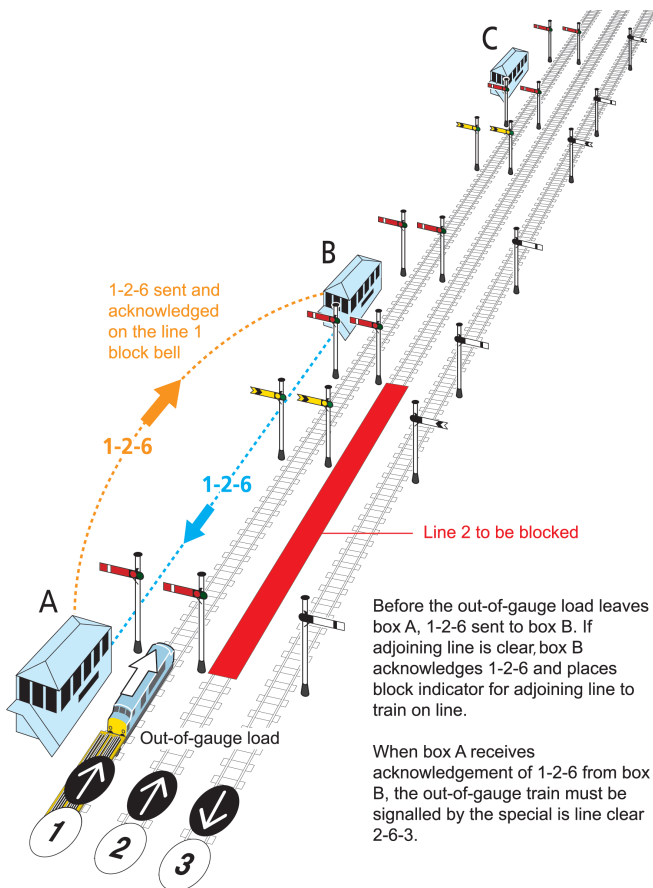


Diagram TS1.9

Blocking an adjacent line used in the same direction

15.5 Signalling an out-of-gauge train

15.5.1 On any line

You must not allow an out-of-gauge train to proceed until you are sure all the necessary conditions are in place.

15.5.2 On a track circuit block or ERTMS line

You must carry out these instructions for an out-of-gauge train if it is shown that no other out-of-gauge train is allowed to be on the running lines or sidings on both sides, or an adjacent running line must be kept clear for its passage.

signaller box
A and B

If the train is to travel between two signal boxes, you must both carry out the instructions in track circuit block regulation 3.5, or ERTMS level 2 regulation 3.5.

You must use the appropriate **is line clear signal**.

signaller box
A

If more than one signaller in the same signal box is involved with the movement of the out-of-gauge train, you must all reach a clear understanding as to the action to be taken.

15.6 Signalling a train that has route restrictions

A train that has a train identity including the letter 'Q' has route restrictions and must follow its planned route.

You must deal with the train normally, but make sure that it follows the planned route.

Before you signal the train over a running line or route that is different from that planned, you must find out from the driver whether the restrictions on that train's movement allow the train to operate over that alternative route.

16

Accidents and incidents: reporting procedures

16.1 Telling Operations Control about accidents or incidents

You must give Operations Control any information you receive about an accident or unusual incident.

16.2 Dangerous goods incident

You must stop the passage of trains on all lines at the location, making sure you do not bring trains to a stand in the immediate area unless there is no damage to the wagon, tank, container or flask.

You must pass the information you have received from the traincrew to Operations Control using the message prefix: **'This is a rail dangerous goods emergency.'**

This information must include:

- the train reporting number, if appropriate
- where and when the incident happened
- the wagon types and numbers, if known
- the position of the wagons on the train or in the siding
- as many details of the incident as possible
- whether any railway personnel or members of the public are involved
- the six-character 'Emergency Code', made up of four numbers followed by two letters.



The four-figure 'United Nations number' identifies the substance in the vehicle and the two-letter alpha code allows Operations Control to identify which number to use for specialist assistance.

General signalling regulations

If there is any doubt whether dangerous goods are involved, you must tell Operations Control immediately. If possible, you must give Operations Control the position in the train of the vehicles concerned.

16.3 Irradiated fuel flasks

If an incident involves an irradiated fuel flask, you must make sure that the report from the traincrew includes answers to the following questions in the order shown. Each question must be answered 'Yes' or 'No'.

1	Is the flask wagon derailed?	Yes/No
2	Has the flask wagon been involved in a collision?	Yes/No
3	Is there a fire near the flask?	Yes/No
4	Are large quantities of liquefied petroleum gas, petroleum or other flammable liquids present?	Yes/No
5	Is there any visible damage to the flask or to the cover (if fitted)?	Yes/No

If the answer to any of the questions is 'Yes', you must stop the passage of trains on all lines at the location. However, you must not stop trains in the immediate area.

You must immediately pass this information to Operations Control in the same order.

17

Broken rails and bridge strikes

17.1 Broken, distorted or damaged rails or broken fishplates

17.1.1 Signaller's actions

If you are told about a broken, distorted or damaged rail or that both fishplates are broken on the same rail, you must:

- stop trains from passing over the affected line
- tell Operations Control
- arrange for a rail defect examiner (RDE) or rail defect nominee (RDN) to examine the rail or fishplates concerned.

17.1.2 Authority to run trains

When the RDN or RDE has examined the defective rail or fishplates, and gives permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened
- tell the driver the location of the defective rail or broken fishplates
- instruct the driver not to exceed the specified reduced speed over the defective rail or broken fishplates.

You must not allow a train to pass over any adjacent line when a train is passing over the defective rail or broken fishplates.

You must continue to instruct drivers to proceed at the speed authorised by the RDN or RDE until one of the following applies.

- The RDN or RDE advises that the condition of the defect has worsened and train movements must be stopped.
- An emergency speed restriction is imposed over the line or lines concerned.
- An RDE authorises that normal speed of trains may be resumed.

17.1.3 Report of only one broken fishplate

If you are told by a rail defect examiner (RDE), a rail defect nominee (RDN) or anyone who has carried out a basic visual inspection that one fishplate of a pair is broken, you must tell Operations Control. Operations Control will arrange to advise a competent engineer.

You can allow trains to pass over the broken fishplate as long as you do all of the following.

- You stop each train over the affected line.
- You tell the driver what has happened.
- You tell the driver the location of the broken fishplate.
- You instruct the driver not to exceed 20 mph (30 km/h) over the broken fishplate.

You must continue to do so until you are told that the broken fishplate has been repaired, an RDE or competent engineer authorises any higher speed, or an emergency speed restriction has been imposed.

You do not need to stop trains on any adjacent line.

If an RDN has reported the defect, or an RDN arrives at site before you receive any authorisation from a competent engineer or an RDE, the RDN will examine the fishplate fixings to make sure they are secure, and will tell you what has been found. The RDN will then remain on site to observe the defect and make sure it does not worsen.

If the defect does worsen, for example the other fishplate of the pair breaks, the RDN will tell you and you must stop the movement of trains until the RDN tells you that trains can be allowed to pass as shown in regulation 17.1.2.

17.2 Bridge strikes

17.2.1 Underline bridge strike

If you become aware that an underline bridge has been struck by a road vehicle, you must:

- stop trains passing over the affected bridge, unless otherwise shown in the *Signal Box Special Instructions*
- tell Operations Control
- arrange for a bridge strike examiner (BSE) or bridge strike nominee (BSN) to examine the bridge.

After the bridge is examined, you must carry out the instructions of the BSE or BSN. This may be to permit trains to pass over the bridge at normal or a specified reduced speed.

If you are given permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened and the location of the bridge
- instruct the driver not to exceed the specified reduced speed over the bridge.

17.2.2 Overline bridge strike

If you become aware that an overline bridge has been struck by a road vehicle, you must:

- tell Operations Control
- arrange for a BSE or BSN to examine the bridge
- carry out regulation 20 for the lines concerned.

General signalling regulations

You must also make sure the driver of the train which is to examine the line is aware of the exact location of the bridge and tell the driver:

- to stop short of the affected bridge
- unless there is obvious damage to the bridge or there is debris on the line, to pass under the bridge and not to exceed 5 mph (10 km/h).

If the driver reports that the line appears safe for the passage of trains, you must instruct the driver of each train which will pass over the affected line to pass under the bridge at no greater speed than 20 mph (30 km/h).

After the bridge is examined, you must carry out the instructions of the BSE or BSN. This may be to permit trains to pass under the bridge at normal or a specified reduced speed.

If you are given permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened and the location of the bridge
- instruct the driver not to exceed the specified reduced speed under the bridge.

17.2.3 Late reported bridge strike

If you become aware that an underline or overline bridge has been struck some time earlier, and trains have continued to pass since the bridge strike happened, you must try to get details of:

- the approximate time the bridge was struck
- the type of vehicle that hit the bridge
- whether any damage to the bridge has been reported.

Underline bridge

You must carry out regulation 17.2.1 and then carry out the instructions given by Operations Control about the speed and type of trains that may pass over the affected bridge.

Overline bridge

You must carry out regulation 17.2.2 unless Operations Control tell you otherwise.

18

Trespassers, animals or minor obstacles on the line

18.1 Trespassers

If a driver tells you about trespassers, you must get as much information as possible including:

- the reporting number of the train
- the location of the trespassers
- whether the trespassers are on the lineside or on or near the line
- if the trespassers are moving, which direction they are moving in
- whether the trespassers appear likely to endanger trains
- a brief description of the trespassers. If possible, include distinguishing features such as age and what they are wearing.

If the driver tells you that trespassers are on the lineside but not moving towards the line, you must tell Operations Control and take any other action that will allow the trespassers to be removed.

You can continue to signal trains normally.

If you are told about trespassers who are on or near the line, or on the lineside and moving towards the line, you must:

- stop each train which would proceed over the affected portion of line
- tell each driver what is happening, and to proceed at caution past the location.

You must continue to tell each driver to proceed at caution until you are sure the line is clear.

If you are told about trespassers who may endanger trains, you do not need to examine the line, but you must:

- stop each train which would proceed over the affected portion of line
- tell the driver what is happening, and to proceed at caution.

If there is a tunnel that might be affected, you must also tell each driver not to exceed 10 mph (15 km/h) through the tunnel.

You must not allow more than one train to be in the tunnel at the same time.

You must continue to tell each driver to proceed at caution until you are sure the line is clear.

In all cases of reported trespassers, if the entrance to the section is controlled by another signaller, you must tell that signaller.

18.2 Animals or minor obstacles

You must arrange for the line to be cleared if you become aware that:

- animals are likely to cause an obstruction
- minor obstacles are on the line
- a cow, bull or other large animal is within the boundary fence.

You do not need to examine the line, but you must:

- stop each train which would proceed over the affected portion of line
- tell each driver what is happening, and to proceed at caution.

If there is a tunnel that might be affected, you must also tell each driver not to exceed 10 mph (15 km/h) through the tunnel, and not allow more than one train to be in the tunnel at the same time.

You must continue to stop and tell each driver to proceed at caution until you are sure the line is clear.

If the entrance to the section is controlled by another signaller, you must tell that signaller.

19

Stop and examine train

19.1 When this general signalling regulation must be used

You must carry out this regulation if you become aware of anything unusual or wrong such as:

- signals of alarm
- an insecure load
- a vehicle on fire
- a hot axle box
- a door open or on the catch
- a person has fallen from a train
- unusual noise coming from a train
- other mishaps.

You must also look for damage to the infrastructure which might have been caused by the train including:

- multiple or sequential track circuit failures, or
- multiple or sequential loss of detection of points.

19.2 Anything unusual or wrong with a train

If you become aware of anything unusual or wrong with a train, or you receive **stop and examine train (7)**, you must immediately:

- stop the train concerned
- stop trains on any adjacent lines from passing the train concerned
- stop trains proceeding on the same or any other line over the affected area
- tell the signaller who controls the area from which the train approached what has happened
- if necessary, carry out train signalling regulation 4
- arrange for the train to be examined and dealt with as necessary.

If you cannot stop the train concerned before it enters the area controlled by another signaller, you must immediately tell that signaller what has happened.

You must first send the **emergency alarm** on a TCB or ERTMS line, or send **stop and examine train** on other lines where block bells are provided.

19.3 After the train has stopped

After the train has been stopped and you have found out whether any line is obstructed, you may allow normal working on unobstructed lines.

If after the train has been examined, nothing can be found wrong with the train, you must:

- stop the first train to travel over the affected area on any line, and
- tell the driver what has happened.

You must then instruct the driver to:

- proceed at caution through the affected area
- report the state of the line to the next signaller or at a specified point ahead.

Until you receive a report on the state of the line, you must instruct the driver of any other train that is to pass through the affected area to proceed at caution.

If another signaller is involved, you must tell that signaller what has happened.

The other signaller must then carry out this regulation 19.3.

19.4 If the train cannot be dealt with

If, after the train has been examined, it is not possible for it to be dealt with but it can proceed safely to a point where it can be dealt with, you must:

- agree the arrangements with the signaller who controls the area ahead
- signal the train in the normal way.

You must not allow the train to pass, or be passed by, a train on an adjacent line unless you have been assured that it can be done safely.

These arrangements must be repeated for each section the train has to pass through.

19.5 Door open on a passenger train

19.5.1 If a person has fallen from the train

If you are told a person has fallen from a train, you must arrange to examine the line.

19.5.2 If it is not known whether a person has fallen from the train

If you are told that a door is open or is on the catch on a passenger train and you have been told the door has been closed, but it is not known whether any person has fallen from the train, you do not need to examine the line. However, you must:

- stop the first train on each line and tell the driver what has happened
- instruct the driver to proceed at caution over the affected portion of line.

19.5.3 When no-one has fallen from the train

If it is confirmed that no-one has fallen from the train and the door has been closed, you may resume normal working.

20

Examining the line

20.1 When the line is to be examined

If the train signalling regulations require a line to be examined, this can be achieved by one of the following.

- You can see the line is safe for trains to pass.
- You can get a competent person to check the line is safe for trains to pass.
- You can get the driver of a train passing over the affected line to check the line is safe for trains to pass.

You must not use a train to examine the line, but must instead arrange for a competent engineer to examine the line if any of the following are reported:

- broken, distorted or damaged rails
- broken fishplates
- an underline bridge has been struck by a road vehicle, unless otherwise shown in the *Signal Box Special Instructions*
- damage to a bridge not caused by a road vehicle
- subsidence
- suspected damage to any other structure below or above the railway.

20.2 Before an examination using a train can start

If another signaller is involved, you must both reach a clear understanding about what is to be done.

You must be sure that the last train to enter the affected section has passed, complete with tail lamp, beyond the stop signal or block marker ahead of the affected portion of line.

You must not allow a train with a failed headlight to examine the line during darkness, or poor visibility, or if there is a tunnel in the section, unless a portable headlight is fitted to the front of the train.

If there is more than one line, you must treat each line as affected unless you have definite information that a line is not affected. Each affected line must be examined individually but this can be done at the same time.

Where the affected portion of line is in a tunnel, you must not allow another train to enter or pass through the tunnel while a train is being used to examine the affected portion of line.

If the overhead line equipment is to be examined using a train, you must also carry out the instructions shown in module AC AC *electrified lines*.

You may allow trains on all other lines not affected to continue to run. However, during the time an affected line is being examined, the driver of each train on lines immediately next to the affected line must be:

- told what is happening
- told the locations between which the adjacent line is affected
- instructed to pass the affected portion of line at caution
- told to report as soon as possible if anything is seen to be wrong.

You must continue to do this until any train being used to examine the affected line has passed over the affected portion of line.

20.3 Dealing with the train that will be used to examine the line

Before you allow the train that will be used to examine the line to enter the affected section, you must:

- tell the driver why the line is to be examined
- reach a clear understanding with the driver as to which portion of the line is to be examined.

You must instruct the driver that, when the signal is cleared or you have given permission to pass the signal at danger, an MA is received or the EoA is to be passed without an MA:

- to proceed at caution over the affected portion of line
- if the affected portion of line is in a tunnel, not to exceed 10 mph (15 km/h) through the tunnel
- if the line is to be examined because of a reported track defect, not to exceed 20 mph (30 km/h)
- report the state of the affected line at an agreed location beyond the affected portion of line.

20.4 Signalling the train being used to examine the line

Where another signaller is involved, when the train to be used to examine the line is ready to enter the affected section, you must tell the other signaller and get permission for the train to enter the section. The examining train must then be signalled normally.

When **obstruction danger** has previously been sent, the signaller accepting the examining train, must send **obstruction removed**.

When the driver has been given the necessary information, you may clear the signal or issue an MA for the train to proceed or give the driver permission to pass the signal at danger or pass the EoA without an MA.

After the examining train has gone beyond the signal or block marker protecting the affected portion of line, you must not allow another train to follow until a report is received stating the line is clear and safe for trains to run on.

If the driver tells you the line is obstructed, you must immediately carry out train signalling regulation 4.

If the driver needs the train to return to the end of the section at which it entered, this must be done as shown in module TW7 *Wrong-direction movements*. You must not send the **cancelling** bell signal until the train is clear of the section concerned.

20.5 Resuming normal working

If the driver of the train being used to examine the line reports that the line appears to be safe for the passage of trains, you may resume normal working over that line.

However, if the line has been examined for a reported track defect you must tell the driver of each train that is to pass over the affected line:

- a track defect has been reported
- to proceed at caution over the affected portion of line not exceeding 20 mph (30 km/h).

You must continue to do this until a competent engineer has confirmed that the affected portion of line is safe for normal operation.

20.6 When a track circuit fails to clear or shows occupied for some other reason

20.6.1 Before the passage of the first train

You must carry out this regulation if a track circuit:

- fails to clear after the passage of a train, or
- shows occupied for some other reason.

You must make sure that no train has been signalled over the affected portion of line and that the last train over the affected portion of line has passed clear of the track circuit concerned and one of the following applies.

- That train has occupied and cleared the overlap of the signal or block marker beyond the affected portion of line.
- You have received **train out of section** for that train.
- You have been told that the train has passed out of the section with tail lamp attached.

On a single line or bi-directional line, you must also carry out the instructions shown in module P2 *Working single and bi-directional lines by pilot*.

Unless you are sure that the line is not obstructed, you must arrange for the line to be examined as well as carrying out the following instructions.

20.6.2 First train to pass on an adjacent line

If the first train to pass on a line immediately next to the affected line before the affected line is examined, the driver of this train must be told:

- what is happening
- the locations between which the adjacent line is affected by the track circuit
- to pass the affected portion of line at caution
- to report as soon as possible if anything is wrong.

20.6.3 First train to pass over the affected line

You must stop the first train to pass over the affected portion of line and ask the driver if the line appears to be clear as far as can be seen.

If the driver confirms that the line appears to be clear as far as can be seen, you must:

- tell the driver what has happened
- reach a clear understanding with the driver as to which portion of the line is to be examined
- tell the driver to pass the signal at danger or the EoA without an MA and to proceed at caution over the affected portion of line
- tell the driver not to exceed 10 mph (15 km/h) through any tunnel on the affected portion of line
- tell the driver to report the state of the affected line at an agreed point ahead of the affected portion of line.

20.6.4 When it is known the affected line is not obstructed

If it has been confirmed that the line is not obstructed, you must treat the track circuit as having failed.

20.6.5 If the affected track circuit again shows clear

If the affected track circuit shows clear before the signalling technician arrives, but a train has not yet passed over the affected track circuit, you must carry out the instructions for a first train passing over the affected line. After you have given the driver the necessary instructions, you may clear the signal or issue an MA. If it is then proved that the line is clear, you may resume normal working.

If a train has already passed over the affected track circuit, you may resume normal working.

20.6.6 If the track circuit is showing occupied then clear at intervals

If, after a train has passed over the affected track circuit, it shows occupied and clear at intervals, and as a result there is a possibility that a signal or signals could revert to danger in front of a train or affect an MA which has been issued, you must treat the track circuit as having failed.

If you have been treating a track circuit as failed but the affected track circuit shows clear before the technician arrives, you may resume normal working as long as:

- at least three trains have passed over the affected track circuit
- the track circuit has been observed to have operated normally for and between each train.

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Train an unusually long time in section

If you become aware that a long time has passed after a train has entered a section, you must try to contact the driver to find out the cause.

If you cannot contact the driver, until you have found out what is wrong, you must:

- stop each train on any adjacent line travelling towards the overdue train
- tell the driver of each train the circumstances regarding the overdue train
- instruct the driver to proceed at caution when the signal is cleared or an MA is received
- tell the driver to report what has happened with the overdue train
- signal each train normally.

If another line is not available, you must get help from a competent person.

If the entrance to the section is controlled by another signaller, you must tell that signaller.

22

Cautioning drivers of moving trains

If the rules require you to stop a train to tell the driver to proceed at caution, you can instead use a GSM-R berth-triggered broadcast to tell the driver.

You can only do so if, in the particular situation concerned, an instruction allows you to.

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Operation of line-proving trains

When you are told about a line-proving train by Operations Control, you must specifically watch the operation of the track circuits during the passage of the line-proving train over the line that is to be proved.

On a TCB line

You must not allow a second train to pass over the line being line proved unless there is a controlled signal which you have replaced to danger between the first and second trains.

On an ERTMS line

You must not allow a second train to pass over the line being line proved unless there is an EoA at which the route is closed between the first and second trains.

On an absolute block line

If there are intermediate block signals, you must not clear the section signal for a second train until the first train has arrived at the signal box ahead.

Level crossings

If there are automatic level crossings on the line being line proved, you must observe the operation of the crossing where possible when the line-proving train passes over it.

If you are unsure about whether the crossing is operating correctly, or suspect the crossing has failed, you must follow the instructions in module TS9 *Level crossings - signallers' regulations*.

Notes



Contact: <https://customer-portal.rssb.co.uk/>
Tel: +44 (0) 20 3142 5300
Web: www.rssb.co.uk

