

Rule Book Module TS11  
GERT8000-TS11  
Issue 7 | December 2024

# Failure of, or work on, signalling equipment - signallers' regulations

Published by  
Rail Safety and Standards Board Ltd



## Conventions used in the Rule Book

### Example

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.

driver

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.

**Published by  
RSSB**

**The authoritative version of this document is available at [www.rssb.co.uk](http://www.rssb.co.uk)**

**Contents approved by Traffic Operation and Management Standards Committee.**

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**First issued December 2013  
Issue 7, September 2024  
Comes into force 07 December 2024**

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

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## General

### 1.1 Definitions

#### Another signaller

This includes signallers at adjacent signal boxes and signallers at other panels or workstations in the same signal box.

#### Complex failure

A failure of power-operated points which needs more point ends to be set or secured (or both) than a simple failure. It also includes all failures that affect switch diamonds or swing-nose crossings.

#### Defective signal

A signal which is not operating or displaying correctly, or where the light is out when it should be illuminated.

#### Equipment disconnected

Equipment that has had its functions limited so that it cannot be operated by the signaller. This includes a signal adjusted to show only its most restrictive aspect or route setting barring.

#### Equipment out of use

Equipment that the signaller must not operate.

#### Equipment removed

Equipment that has been permanently taken out of operational use.

### **Equipment restricted**

Equipment that has had its functions limited but may continue to be operated by the signaller. This includes:

- temporary approach controls on signals
- signals with restricted aspects
- on an ERTMS line, a route setting position (RSP) restricted to prevent the signaller from issuing an MA beyond it
- points that have been restricted so they can only be used in the normal (or reverse) position.

### **Group of signals**

Signals that are placed together that apply to parallel lines.

### **Lever**

This includes a switch or workstation control.

### **Points operator**

A competent person who is provided during a simple failure to set and secure power-operated points as directed by the signaller.

### **Route-setting agent**

A competent person who is provided during a complex failure to set and secure power-operated points as directed by the signaller.

## Signalling equipment

This includes:

- signals and associated indicators such as right away (**RA**), close doors (**CD**) and **OFF** indicators
- points, track circuits, axle counters and treadles
- automatic warning system (AWS), train protection and warning system (TPWS)
- ERTMS equipment
- train operated warning system (TOWS)
- level crossing controls
- interlockings and block signalling equipment
- data transmission equipment.

## Simple failure

A failure of power-operated points that needs one of the following to be set or secured, or both.

- A single point end.
- A single point end and co-acting trap point.
- Both ends of a crossover.

## Work which affects the normal operation of signalling equipment

Any work which will interfere with signalling equipment and needs the signaller's permission before it is carried out but which can be completed in a suitable interval between trains.

## **Work which affects the normal passage of trains**

Any work which will interfere with signalling equipment and would prevent trains passing or would allow trains to pass only by diversion or degraded-mode working.

### **1.2 When the regulations in this module apply**

The regulations in this module apply:

- during a failure of signalling equipment
- during work on signalling equipment
- when a release of signalling controls is needed.

### **1.3 When the regulations in this module do not apply**

The regulations in this module do not apply to work on signalling equipment when all the following are met. The work:

- will not affect the normal passage of trains
- does not need the signaller's co-operation
- will not affect the normal operation of the signalling equipment.

The regulations in this module do not apply when the signalling equipment is to be disconnected to provide additional protection for a line blockage.

### **1.4 Signaller's responsibilities**

You must never interfere with signalling equipment.

You are responsible for the safe working of trains when the regulations in this module are to be applied.

You must not operate any signalling equipment that is affected by the work unless the signalling technician has given you permission to do so.

If the interlocking is still working and the signalling technician has given permission to do so, you must operate the lever that controls the following equipment that has been disconnected before authorising a movement.

- A signal.
- A route setting position (RSP).
- Points.
- A facing point lock or bolt.

When you are relieved, you must make sure that the new signaller fully understands the arrangements that apply. If a Signal Engineering Work form (RT3187) is being used, you must make sure that the new signaller signs part 3 in your presence.

## 1.5 Using a Signal Engineering Work form (RT3187)

You must use form RT3187 when:

- signalling equipment will be taken out of use, disconnected or restricted to allow work as shown in regulation 3 of this module, and
- trains, other than engineering trains in a possession, have to pass through the affected area.

You do not need to use form RT3187 if all the signalling equipment affected is within the area of a line blockage, protection zone, or possession and it is planned to restore the equipment to normal use before the line blockage, protection zone or possession is given up. You must record the details of all affected equipment in the Train Register.

However, if the line blockage, protection zone or possession will be given up but signalling equipment will stay disconnected or restricted, you and the signalling technician must fill in form RT3187 before the line blockage or possession is given up.

You do not need to use form RT3187 during a failure of signalling equipment unless equipment will be taken out of use, disconnected or restricted and it will not be possible to complete the work before trains have to pass.

## **1.6 Telling the driver at a previous signal or block marker**

If in these regulations you must tell the driver at a previous signal or block marker about a defective signal ahead and that previous signal is operated by another signaller, you must:

- tell the other signaller about the defect or disconnection
- reach a clear understanding about what is to be done.

On ERTMS lines, if you must tell the driver at a previous block marker about the inability to issue an MA at the block marker ahead and that block marker is operated by another signaller, you must:

- tell the other signaller about the defect or disconnection
- reach a clear understanding about what is to be done.

If you are that other signaller, you must stop each affected train and give the driver the necessary instructions as shown in these regulations.

If there is no previous signal or block marker, such as where the defective signal or ERTMS equipment controls movements from a siding or terminal station, you must tell the person in charge at that location (if there is one) to tell drivers about the defective signal or defect.

If there is no person in charge, you must tell the driver about the defective signal when you give permission to proceed.

## 2 Work that will not affect the normal passage of trains

### 2.1 When this regulation applies

You must apply this regulation to work on signalling equipment which will not affect the normal passage of trains, but which will affect the normal operation of signalling equipment.

### 2.2 Before starting work

You must come to a clear understanding with the signalling technician about:

- what work needs to be done
- how the signalling equipment will be affected
- any other equipment that will be affected
- how long the work will take
- the time that permission will be given for the work to start
- the time by which the work must be completed.

You must only give permission for the work to start when there is a suitable interval between trains.

You must make an entry in the Train Register.

### 2.3 When the work is completed

When the signalling technician tells you the work is completed, you must make a suitable entry in the Train Register.



## **2.4 If the work cannot be completed**

If the signalling technician tells you that the work cannot be completed on time and you cannot agree more time to complete the work, you must treat the equipment as failed and carry out regulation 5 of this module.

# 3

## Work that will affect the normal passage of trains

### 3.1 When this regulation applies

You must apply this regulation to work on signalling equipment which will affect the normal passage of trains.

### 3.2 Before starting work

You must come to a clear understanding with the signalling technician about:

- what work is to be done
- the details of equipment that will need to be disconnected, restricted, or taken out of use
- any other equipment that will be affected
- how long the work will take
- how the work will affect train working
- the time that permission will be given for the work to start
- the time by which the work must be finished.

You must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

### 3.3 At the agreed time

At the agreed time and when it is safe to do so, you must:

- place or keep the affected equipment in the agreed position
- tell any other signallers who are affected by the work
- give the signalling technician permission to start the work.

You must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

If you are another signaller involved, you must make an entry in the Train Register.

Once you have given the signalling technician permission to disconnect, restrict or take out of use the agreed signalling equipment, you must not allow trains to pass until the signalling technician tells you the disconnections or restrictions have been made.

When the signalling technician tells you the disconnections or restrictions have been made or the equipment has been taken out of use, you must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

### **3.4 During the work**

No alteration to the work must be made unless the signalling technician has first agreed the changes with you.

If it is necessary to agree changes, you must again carry out regulation 3.2 of this module.

You must use a new form RT3187 and cancel the previous form.

### **3.5 When the work is completed**

When the signalling technician tells you the work is completed and the equipment is in working order, you must enter the details in part 4 of your copy of form RT3187 at the same time as the signalling technician.

You must tell any other signaller involved.

If you are another signaller involved, you must make an entry in the Train Register.

## 3.6 If all the work cannot be completed

If the signalling technician tells you that all the work cannot be completed, you must find out the details of:

- the work that has been completed
- equipment that is in working order
- work that has not been completed
- any equipment that will stay disconnected or restricted
- any equipment that will be taken out of use
- what arrangements will be made to complete the work, if known.

You must:

- fill in part 4 of form RT3187 for the equipment that is back in order at the same time as the signalling technician
- use a new form RT3187 giving details of all equipment that will stay disconnected, restricted or will be taken out of use
- make a suitable entry in the Train Register
- tell Operations Control
- tell any other signaller involved.

If you are another signaller involved, you must make an entry in the Train Register.

# 4

## Releasing signalling controls

### 4.1 When this regulation applies

You may only ask for signalling controls to be released when one of the following applies.

- a) A track circuit has failed holding points and it is necessary to move those points to the opposite position.
- b) A track circuit or other equipment has failed holding a route and it is necessary to release that route so that signals can be worked or an MA issued for movements that are clear of the failure.
- c) An obstruction of the line, derailment or engineering work is keeping a track circuit occupied and it is necessary to work signals or issue an MA for movements that will be clear of the obstruction.

You must not ask for the release of a control which will allow:

- a line clear to be given on any block indicator, or
- a proceed aspect or indication to be displayed by a signal held at danger by a track circuit or axle counter failure
- an MA to be issued beyond an EoA when a track circuit or axle counter failure is preventing it on that route.

### 4.2 Procedure for releasing signalling controls

Before you ask for a release of a signalling control, you must make sure the portion of line affected is clear of trains and that the intended movement can be made safely.

You must reach a clear understanding with the signalling technician as to which controls are to be released.

You must fill in part 1 of your copy of a Release of Signalling Controls form (RT3186) at the same time as the signalling technician.

If the signalling technician agrees to release the signalling controls, you must:

- make sure there are no trains moving or signalled in the affected interlocking area
- not operate any lever within the affected interlocking area.

You must then fill in part 2 of your copy of form RT3186 at the same time as the signalling technician.

When the signalling technician tells you the signalling controls have been released, you must fill in part 3 of your copy of form RT3186 at the same time as the signalling technician.

When you and the signalling technician have completed part 3 of form RT3186, you may allow trains to be signalled in the interlocking area concerned.

If the release given is the type shown in regulation 4.1 b) or c), before you allow each train to proceed, you must make sure that any points which are normally locked by the released track circuits are secured.

## 4.3 Change of personnel

If you are the new signaller, you must sign part 5 of form RT3186 while the signaller you are taking over from is present.

If the signalling technician is changed, you must enter details of the new signalling technician in part 5 of form RT3186.

## **4.4 Cancelling a release of signalling controls**

If a release has been given for the reason shown in section 4.1 b) or 4.1 c), you must arrange for the release to be cancelled as soon as it is no longer needed.

Before you authorise the signalling technician to carry out the restoration, you must make sure the portion of line concerned is clear of trains.

You must then fill in part 4 of your copy of form RT3186 at the same time as the signalling technician.

When the signalling technician tells you that the signalling controls have been restored, you must cancel your copy of form RT3186 by writing 'CANCELLED' across it.

# 5

## Failure of signalling equipment

### 5.1 Immediate actions

When signalling equipment fails, you must:

- make the operational railway safe
- tell any other signallers affected
- tell Operations Control
- make sure trains pass safely
- enter the details in the Train Register.

### 5.2 Indications failure

If there has been an apparent failure of a signal or set of points, you must confirm whether all of the following apply.

- When cleared, the protecting signal shows the correct aspect (and where appropriate, the indication of route).
- In the case of an automatic signal, the signal section ahead, including the overlap of the next stop signal is clear, and the correct signal aspect is displayed.
- After a train has passed, the signal returns to danger.
- The signal that protects the points can be cleared.
- It is possible to issue an MA.
- There is no indication that an electronic link has failed.

If there is more than one route, you must apply this instruction to each route.

If you can confirm that all of the above apply, then the signal or set of points is working correctly, and you can treat the failure of the signal or points as being a failure of indications only. You can allow trains to run normally.

You can also allow trains to run normally if a signalling technician has confirmed that the failure concerns indications only.



If a track circuit fails to clear after the passage of a train or shows occupied for some other reason but the signal is able to show a proceed aspect or indication or it is possible to issue an MA on an ERTMS line, you must make sure that all of the following apply.

- The last train has passed through the section.
- The next train has been stopped and you have instructed the driver to proceed at caution when the signal is cleared or after an MA has been received and to report the correct signal aspect is shown at each signal concerned.
- The driver has confirmed that each signal has shown the correct aspect (including any indication of route).
- After a train has passed, the signal returns to danger.
- There is no indication that an electronic link has failed.

If there is more than one route, you must apply this instruction to each route.

This will confirm that the track circuit is working normally and you can treat the failure of the track circuit as being an indications failure only. You can allow trains to run normally.

You can also allow trains to run normally if a signalling technician has confirmed that the failure concerns indications only.

### 5.3 Before starting work

You must come to a clear understanding with the signalling technician about:

- what equipment has failed
- what other equipment will be affected by the work to repair the failure
- whether any equipment needs to be disconnected, restricted or taken out of use
- whether form RT3187 has to be used.

You must agree with the signalling technician the time that work can start.

You must enter in the Train Register all details agreed with the signalling technician.

If you are another signaller involved, you must make an entry in the Train Register.

## **5.4 If the work requires signalling equipment to be disconnected, restricted or taken out of use**

Before work is allowed to start that requires signalling equipment to be disconnected, restricted or taken out of use, you must:

- place or maintain the equipment in the agreed position
- if no train will pass before the work is completed, make an entry in the Train Register
- if trains will pass before the work is completed, enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician
- tell any other signaller who is affected by the work
- when it is safe to do so, give the signalling technician permission to start the work.

If you are another signaller involved, you must make an entry in the Train Register.

Once you have given the signalling technician permission to disconnect or restrict the agreed signalling equipment, you must not allow trains to pass until the signalling technician tells you the disconnections or restrictions have been made.

## **5.5 During the work**

No alteration to the work must be made unless the signalling technician has first agreed the changes with you.

You must enter in the Train Register the details of any agreed alterations.

If form RT3187 has been used, you must cancel it and enter the details of the agreed alterations on part 2 of a new form RT3187 at the same time as the signalling technician.

## **5.6 When the work is completed**

When the signalling technician tells you the work is completed and the equipment is in working order, you must:

- make an entry in the Train Register, or if form RT3187 has been used, fill in part 4 of your copy at the same time as the signalling technician
- tell any other signaller involved
- tell Operations Control.

## **5.7 If all the work cannot be completed**

If the signalling technician tells you that all the work cannot be completed, you must find out the details of:

- work that has been completed
- equipment that is in working order
- work that has not been completed
- any equipment that will stay disconnected or restricted
- any equipment that will be taken out of use
- what arrangements will be made to complete the work, if known.

You must:

- use form RT3187, giving details of all equipment that will stay disconnected, restricted or will be taken out of use
- make a suitable entry in the Train Register
- tell Operations Control and give details of the equipment still affected by the failure.

## 5.8 Failure of an electronic link

During the failure of an electronic link between the signal box and an interlocking, you must not rely on the indications in the signal box for the equipment in the interlocking area concerned.

This does not apply if the signalling technician confirms that the failure only exists in the fault indication circuit and the operating indications can be relied on.

# 6

## **Failure of, or work on, signalling equipment when the line is under possession**

### **6.1 When this regulation applies**

You must apply this regulation as well as the relevant parts of regulations 2, 3, 4 and 5 when a failure of, or work on, signalling equipment takes place within a possession.

### **6.2 Work on signalling equipment**

If work which requires signalling equipment to be taken out of use, disconnected or restricted will affect the movement of engineering trains or OTP, before you give the signalling technician permission to do so, you must arrange a suitable time with the PICOP.

### **6.3 Failure of signalling equipment**

#### **6.3.1 Becoming aware of a failure**

If you become aware that signalling equipment within a possession has failed, you must immediately tell the PICOP.

Until the signalling equipment has been repaired, you must, if necessary, carry out regulations 6.3.2 to 6.3.5.

#### **6.3.2 Failure of a signal or banner repeater**

If, as a result of a failure, a signal or banner repeater is not showing its most restrictive aspect or indication, you must:

- tell the PICOP
- instruct the PICOP to tell the driver of each affected train about the signal or banner repeater.

### **6.3.3 Points failures**

If there is a points failure, you must tell the PICOP that no more movements must take place over the points until:

- the correct detection is obtained, or
- you receive confirmation that the points are in the correct position for the movement and, if they are facing to the movement, they have been secured.

### **6.3.4 Failure of trains to operate track circuits**

If a train or vehicle fails to operate a track circuit, you do not need to carry out regulation 15.

### **6.3.5 Disconnecting or restricting signalling equipment**

If the failure requires a disconnecting or restricting any signalling equipment within the possession, before you give the signalling technician permission to do so, you must arrange a suitable time with the PICOP.

## **6.4 Operating signalling equipment for tests**

If any signalling equipment needs to be operated for testing purposes, you must agree with the PICOP the time at which this can be done.

## **6.5 Signalling work affecting a line under possession**

You must carry out these instructions when work such as testing of signalling equipment is taking place which will affect the operation of signalling equipment within the possession, but the person in charge of that work is not located within the limits of the possession.

You must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician before work starts.

When the signalling technician tells you that the work is completed and the equipment is in working order, you must enter the details in part 4 of your copy of form RT3187 at the same time as the signalling technician.

# 7

## **Train approaching defective trackside equipment, defective main aspect on TCB or ERTMS lines, an EoA without an MA or a missing block marker**

### **7.1 Allowing a train to approach**

You may allow a train to approach a signal with a defective main aspect if you are sure that signal is showing a danger aspect and the signal is kept at danger, or you are sure it is showing the correct aspect and will not cause the driver to see an incorrect sequence.

If this cannot be done, you must not allow a train to approach the defective signal until the driver has been told about the defect and one of the following applies.

- The line is clear up to and including the overlap of the next stop signal that is displaying the correct aspect, beyond the defective stop signal.
- The line is clear up to and including the overlap of the second stop signal beyond a defective distant signal.
- The line is clear to the buffer stops on a dead-end line.

### **7.2 Train approaching an EoA without an MA**

You must not allow a train to approach an EoA without an MA unless the line is clear up to and including the overlap of the next EoA (or the buffer stops on a dead-end line).



### **7.3 If a controlled signal has returned to danger for no apparent reason**

If a controlled signal returns to danger for no apparent reason, you must:

- tell Operations Control and arrange for the signalling technician to attend
- only allow a train to approach the signal when it is at danger
- clear the signal only when the approaching train is at or nearly at a stand at it.

You must continue this method of working until the signalling technician tells you that normal working can be resumed.

### **7.4 Train approaching a missing block marker**

You must not allow a train to approach a missing block marker unless the line is clear up to and including the overlap of the next EoA (or the buffer stops on a dead-end line).

### **7.5 Failure of trackside equipment that prevents a level 1 launch**

When you become aware of a failure of trackside equipment which prevents a level 1 launch, you must not allow a train to proceed until you have made sure the train is in level 2.

# 8

## **Train approaching a defective signal on other than TCB or ERTMS lines**

### **8.1 Allowing a train to approach**

A train may approach a defective stop signal if it has been placed to, and is kept at, danger and you are sure the correct aspect or indication is showing.

A train may approach a defective distant signal if it has been placed to, and kept at, caution and you are sure the correct aspect or indication is showing.

You may also allow a train to approach a defective signal if you have made sure the correct proceed aspect or indication is being shown, it will not cause the driver to see an incorrect sequence and one of the following applies.

- The train has been accepted by the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.

If none of the above apply, you must not allow a train to approach a defective signal until the driver has been told about the defect and one of the following applies.

- The train has been accepted by the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.
- The defective signal is between the home signal and the section signal and the line is clear to the section signal.

## **8.2 When the defective signal is an intermediate block home or distant signal**

If an intermediate block signal is defective, you must not allow a train to pass the section signal until the driver has been told about the defective signal and the train has been accepted by the next signal box.

# 9

## Allowing a train to pass a defective or disconnected stop signal

### 9.1 Passing the signal at danger

You must carry out the instructions in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* before authorising a driver to pass a stop signal that is:

- defective
- disconnected
- not showing any aspect or indication
- missing
- held at danger by a failure of other signalling equipment.

### 9.2 Clearing a subsidiary or position-light signal

You may clear a subsidiary signal or a position-light signal in place of the main aspect or indication if a stop signal is held at danger by:

- a failure
- a disconnection
- a failure of other signalling equipment.

You must tell the driver what is happening.

However, if the train is not normally allowed to enter the section under the authority of a subsidiary or position-light signal, you must make sure the line is clear under the same conditions as it would be for the main aspect to be cleared.

### 9.3 Unable to clear a stop signal but all track circuits are showing clear

On a track circuit block or ERTMS line, if you cannot clear a stop signal that has failed but all track circuits for the route are showing clear, you may authorise a driver to pass the signal at danger. However, this only applies if all the following conditions are met.

- The last train authorised to proceed has passed clear of the overlap of the next stop signal.
- No conflicting movement has been authorised.
- You have told the driver that all track circuits are working correctly and are showing clear.

If another signaller is involved, you must come to a clear understanding with that signaller as to what is to be done.

In the case of a track circuit block or ERTMS single line, you must also:

- operate any acceptance or directional switch as though the signal is working normally
- if the single line is controlled from one signal box, keep a record of the time each train is authorised to pass the controlling signal at danger
- if the single line is controlled from two signal boxes, signal trains as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.

# 10

## **Allowing a train on which ERTMS is in operation to pass an EoA when it is not possible to signal the movement**

### **10.1 Unable to issue a Full Supervision (FS) MA to the train**

If you cannot issue an FS MA to a train, you may set a proceed on site authority (PoSA) or permissive route if available, which will issue an on-sight (OS) MA to the train.

You must make sure the line is clear:

- up to and including the overlap of the next EoA which is at a stop signal or block marker, or
- to the buffer stops on a dead-end line.

### **10.2 Unable to issue any MAs to the train**

If you cannot issue an FS or OS MA to the train you must find out whether the train can operate at an ERTMS level compatible with lineside signals. If so, you must instruct the driver to proceed and obey lineside signals.

If the train cannot operate at a level compatible with lineside signals, you must instruct the driver to pass the EoA without an MA as shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

### 10.3 Unable to issue an MA but all track circuits are showing clear

If you cannot issue an MA but all track circuits for the route are showing clear, you may authorise a driver to pass an EoA without an MA. However, this only applies if all the following conditions are met.

- The last train authorised to proceed has passed clear of the overlap of the EoA.
- No conflicting movement has been authorised.
- You have told the driver that all track circuits are working correctly and are showing clear.

If another signaller is involved, you must come to a clear understanding with that signaller as to what is to be done.

In the case of an ERTMS single line, you must also:

- operate any acceptance or directional switch as though the RSP is working normally
- if the single line is controlled from one signal box, keep a record of the time each train is authorised to pass the EoA without an MA
- if the single line is controlled from two signal boxes, signal trains as shown in regulation 3.5 of module TS10 ERTMS *ERTMS level 2 train signalling regulations*.

### 10.4 Resuming normal working after obeying lineside signals

When it is again possible to issue a movement authority, the train must be stopped at the first convenient opportunity and the driver advised to return to normal working.

# 11

## **Defective position-light or shunting signal or defective stop board or limit of shunt indicator**

### **11.1 Defective position-light or shunting signal**

You must not allow a train to approach a position-light signal or shunting signal at which the normal indication is defective if a conflicting movement needs to be protected by that signal.

You may allow a train to approach a defective position-light signal or shunting signal that will not be needed to protect a conflicting movement as long as you have told the driver about the defective signal.

### **11.2 Defective stop board or limit of shunt indicator**

You must not allow a train to approach a defective stop board or a limit of shunt indicator if a conflicting movement is to be protected by that stop board or limit of shunt indicator.

You may allow a train to approach a defective stop board or limit of shunt indicator that will not be needed to protect a conflicting movement, as long as you have told the driver about the defective stop board or limit of shunt indicator.



# 12

## Defective banner repeating signal

You must not allow a train to approach a defective banner repeating signal unless one of the following applies.

- The distant signal to which it applies is showing a clear indication or green aspect and the banner repeating signal is showing an **OFF** indication.
- The stop signal to which it applies is showing a proceed aspect or indication and the banner repeating signal is showing an **OFF** indication.
- The signal to which it applies is showing a green aspect and the banner repeating signal is showing a green **OFF** indication.
- The previous signal is showing one yellow aspect or a caution indication and the banner repeating signal is displaying an **ON** indication.
- The driver has been told about the defective banner repeating signal.

# 13

## **When trains are to approach a defective signal forming one of a group**

If a signal forms one of a group of signals and there is no aspect or indication being displayed at that signal when there should be one, you must tell the driver of each train, needing to approach that group of signals on:

- the line affected
- any other line in the same direction.

If there are signals in the group in the same direction controlled by another signaller, you must tell that signaller about the defect.

If you are that other signaller, you must tell the driver of each train approaching that group of signals, about the failure.

# 14

## Defective points

### 14.1 If you suspect that points have been run through

If you suspect points have been run through, you must not allow any movement to pass over the points in the facing direction until the signalling technician has examined them and tells you:

- the points have not been damaged, or
- they are damaged but can be used when secured.

If the points are found to be damaged, you must not allow any movement to pass over the points in the facing direction until:

- the points have been secured
- the movement can be made safely.

You must also keep the protecting signal at danger until the signalling technician tells you that you may clear it.

You must carry out this regulation even if you have the correct detection.

### 14.2 Defective mechanically-operated points

You must arrange for mechanically-operated points to be checked if any of the following apply.

- They cannot be operated from the signal box.
- They cannot be locked from the signal box.
- You cannot get the required indications.
- You cannot get a 'normal' indication from a ground-frame release.

You may deal with the failed points yourself until a competent person or a signalling technician arrives.

You must tell the person checking the points:

- which points are defective
- when trains have been stopped on the line or lines involved
- if any other lines are still open
- to make sure the points are in the required position
- to make sure the points are not damaged or obstructed.

If you can do so, you must work the relevant levers to correspond with the required position of the equipment. You must do this even if the points or facing point lock (or both) are disconnected.

You must not allow a train to pass over the defective points unless you can get the correct detection indicated on the points, or you have been given an assurance by the person checking the points that:

- they are set in the correct position
- they are not damaged or obstructed
- they have been secured, if they are set for a facing movement.

## 14.3 Defective power-operated points

### 14.3.1 Checking the points

You must arrange for power-operated points to be checked and if necessary, operated by hand if any of the following applies.

- They cannot be operated from the signal box.
- You cannot get 'normal' or 'reverse' indications.
- You cannot get a 'normal' indication from a ground-frame release.

You must arrange for a points operator to attend in the case of a simple failure or a route-setting agent in the case of a complex failure.

You may deal with the failed points yourself until a points operator, a route-setting agent or a signalling technician arrives.

You may tell the signalling technician to operate and secure the points before the points operator or route-setting agent arrives.

When the points operator or route-setting agent arrives on site, you must record their name, employer and the time in the Train Register.

You must tell the points operator or route-setting agent:

- which points have failed
- when trains have been stopped on the line or lines involved
- if any other lines are still open.

You must tell the points operator or route-setting agent to check the points, and tell you whether:

- the points are in the normal or reverse position
- the points are damaged or obstructed
- the point motor is still running.

If you are told the point motor is still running, you must return the points to their previous position.

### **14.3.2 Procedure for a simple failure**

If the points have to be operated by hand, you must use the route list, if there is one and tell the points operator which point ends need to be set and in what position.

When the points operator has told you the points have been set you must:

- if you can, operate the lever to correspond with the position the points have been set in
- if you have detection, clear the protecting signal or issue an MA.

If you cannot get detection, you must instruct the points operator to:

- secure these points with a clip and scotch if facing to the movement
- secure these points with a scotch if trailing to the movement
- tell you when this has been done.

### 14.3.3 Procedure for a complex failure

During a complex failure, the location affected may be split into two or more areas. In this case:

- there must be a route-setting agent for each area
- you and the route-setting agents must clearly understand which points each route-setting agent will be responsible for.

If the points have to be operated by hand, you must use the route list, if there is one and tell the route-setting agent:

- which point ends need to be set
- in what position they must be set
- the route that is to be set, for example Up Fast to Up Slow.

The route-setting agent must record this information on a point-setting form.

When you are sure that the route-setting agent has filled in the point-setting form correctly you must:

- tell the route-setting agent to operate the points by hand
- get the route-setting agent's assurance that this has been done.

When the route-setting agent has told you the route has been set you must:

- if you can, operate the lever to correspond with the position the points have been set in
- if you have detection, clear the protecting signal or issue an MA

If you cannot get detection on any points, you must instruct the route-setting agent to:

- secure only these points with a clip and scotch if facing to the movement
- secure only these points with a scotch if trailing to the movement
- tell you when this has been done.

### **14.4 Passing a signal at danger or an EoA without an MA during a failure of power-operated points**

Before authorising the first train to pass a signal at danger or an EoA without an MA that protects the defective points, you must first stop any train on a line which could become obstructed.

### **14.5 Leaving points secured and unattended**

When trains can continue to operate with some or all of the defective points set in one position and left unattended, you must instruct the points operator, or route setting agent in the case of a complex failure, to:

- clip, padlock and scotch both facing and trailing points in the required position
- leave the point controls set for manual operation
- tell you when this has been done.

You must record the details in the Train Register.

### **14.6 Change of route-setting agent or points operator**

If someone takes over from the points operator or route-setting agent, you must record the name and employer of the new points operator or route-setting agent and the time in the Train Register.

## 14.7 Returning power-operated points to normal operation

When the signalling technician tells you the points are now in working order, you must, as soon as trains have passed clear, tell the points operator, or route-setting agent in the case of a complex failure, to:

- remove the clips and scotches
- return the point machines to power operation
- tell you when this has been done.

If the points have been left unattended, you must tell the signalling technician to do this.

When you are told this has been done, you must:

- operate the points
- ask the points operator, route-setting agent or signalling technician to check the points are working correctly.

If the points are working correctly, you must tell the points operator, route-setting agent or signalling technician that normal working is being resumed.

You must record in the Train Register the time that normal operation has resumed.



# 15

## **When a train or vehicle fails to operate track circuits**

**Note:** these regulations do not apply to vehicles that cannot be relied upon to operate track circuits or when you are not relying on the track circuit because of rail-head conditions.

### **15.1 Immediate actions**

If a train or vehicle fails to operate a track circuit, you must immediately:

- place or keep signals at danger or close the route to protect the train or vehicle
- place or keep signals at danger or close the route to protect the track circuit concerned
- tell Operations Control (including the details of when the previous train passed over the track circuit concerned).

You must also arrange for the train to be stopped at the first available location so that the train can be examined.

### **15.2 Allowing trains to pass over the track circuit concerned**

Until the signalling technician tells you that the track circuit that failed to operate can be relied upon to indicate the presence of trains correctly, before allowing a train to pass over the track circuit concerned, you must:

- make sure the previous train has passed beyond the overlap of the next stop signal or EoA beyond the track circuit concerned
- keep points in the correct position for the train movement using individual point controls
- place at danger any other signal or close any other route which would conflict with the movement.

You must not allow another train to pass beyond the controlled signal or block marker on the approach to the signal or block marker protecting the track circuit concerned until the train has passed beyond the track circuit concerned.

On a track circuit block (TCB) single line, it is not necessary for a pilot to be appointed, and you must signal trains as shown in track circuit block regulation 3.5.

### **15.3 Line not used for a considerable time or first train following a possession or line blockage**

You do not need to carry out regulations 15.1 and 15.2 when a train or vehicle fails to operate a track circuit, but has operated track circuits elsewhere:

- when the line has not been used for a considerable time, or
- when the train was the first to pass over a portion of line that was affected by a possession or line blockage.

However, you must:

- report the failure to Operations Control
- before allowing a train to pass, make sure the previous train has passed beyond the overlap of the next stop signal or EoA beyond the track circuit concerned
- carefully watch the track circuit indications concerned as each train passes over it
- keep signals to danger or close the route to protect trains as they pass over it
- keep points in the correct position for each train passing over it using individual point controls
- not rely on the track circuit until a train has correctly operated it.

# 16

## Track circuit showing occupied when clear

### 16.1 Failure of track circuits

If a track circuit fails to clear after the passage of a train or shows occupied for some other reason, you must arrange for the line to be examined.

On a single line, you also must introduce working by pilot, except where:

- an exemption is authorised in the *Signal Box Special Instructions*, or
- the line is worked by a token and the driver has the token.

If it is reported that the line is not obstructed, you must carry out the instructions in either regulation 16.2, 16.3 or 16.4 as appropriate.

## 16.2 On a double line

You may authorise the driver of each train to pass over the affected track circuit, as long as one of the following applies.

- You can make sure the portion of line concerned is clear after the passage of each train.
- A competent person has been appointed to report the train has passed complete with tail lamp.
- You have seen the previous train occupy and clear the track circuit ahead of the signal or EoA beyond the affected portion of line.
- On a track circuit block or ERTMS line, where the track circuit concerned is between two signal boxes, you have introduced working as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.
- Where the track circuit is associated with an intermediate block section, the train must have been accepted by the next signal box before you allow the train to pass the section signal.

## 16.3 On a single line

You may authorise the driver of each train to pass over the affected track circuit, as long as one of the following applies.

- You can make sure the single line is clear after the passage of each train.
- A competent person has been appointed to report the train has passed complete with tail lamp.
- If you cannot make sure that each train leaving the single line is complete with tail lamp, the pilot accompanies every train.

On a track circuit block single line where two signal boxes are involved, you must also introduce working as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.

## 16.4 On a bi-directional line

You may authorise the driver of each train to pass over the affected track circuit, as long as one of the following applies.

- You allow trains to only work in one direction and you carry out regulation 16.2 of this module.
- If trains are to pass in both directions, you carry out regulation 16.3 of this module.

# 17

## **Automatic Warning System (AWS) equipment**

### **17.1 When an AWS warning indication has not been received**

If you are told that an incorrect AWS indication (or no indication) was received when an AWS warning indication should have been received (AWS fault codes 5 or 7), you must make sure the driver of each train that is to pass over the defective equipment is told about the fault.

### **17.2 When an AWS clear and warning indication are received together**

If you are told that a clear and warning indication were received together (AWS fault code 4), you must:

- make sure the signal concerned is not showing a green aspect, or a semaphore distant signal is not showing 'clear'
- instruct the driver of the first train to tell you what AWS indication is received.

If that driver tells you the correct indication was received, you do not then need to tell the drivers of other trains.

### **17.3 When AWS is under repair or is out of use**

If AWS equipment is being repaired or is out of use, you must make sure the driver of each train that is to pass over the defective equipment is told about the fault.

You do not need to do this if the AWS warning indication will be given together with an appropriate signal aspect or indication.

# 18

## **Train protection and warning system (TPWS) equipment**

### **18.1 Immediate action**

Where a TPWS failure is not clearly identifiable from other types of failure and a failure is indicated, you must carry out regulation 7 or 8 of this module until you identify whether:

- the TPWS equipment has failed
- a lamp is out in a signal
- it is an indications failure only.

### **18.2 TPWS train-stop failure**

If the TPWS equipment has failed and is causing an automatic brake application when the signal is showing proceed, before you allow a train to pass over the failed TPWS equipment, you must:

- tell the driver what is happening
- instruct the driver to operate the TPWS override button before passing over the TPWS track equipment.

### **18.3 TPWS has failed and will not cause an automatic brake application**

If the TPWS equipment which applies to a signal has failed and will not cause an automatic brake application, you must set the forward route before you allow a train to approach that signal.

# 19

## Standby batteries for colour-light signals

**Note:** These instructions do not apply to signals on track circuit block or ERTMS lines.

### 19.1 Failure of the main power supply

If the main power supply fails, you must tell Operations Control and make an entry in the Train Register.

You may continue to work normally as long as the standby batteries are working and visibility is clear.

If the main and standby power supplies both fail, you must treat each affected signal as being defective.

### 19.2 Failure of the main power supply during poor visibility

#### 19.2.1 To a distant signal

If the main power supply to a distant signal has failed, you must not acknowledge **is line clear** for a train on that line unless one of the following applies.

- **Train out of section** or **obstruction removed** has been received from the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.

#### 19.2.2 To an intermediate block home or distant signal

If the main power supply to an intermediate block home or distant signal has failed, you must not allow a train to pass the section signal until the train has been accepted by the next signal box.



# 20

## Failure of repeaters

### 20.1 Arm repeaters for semaphore signals

If an arm repeater indicates that a signal is defective, but you can see that the signal responds correctly to the lever, you do not need to treat the signal as defective.

If the signal is a distant signal, you must keep the signal at caution until the repeater is repaired.

### 20.2 Light repeaters for semaphore signals

If a light repeater indicates that a signal light is out, you must immediately find out if it is actually out.

In the case of a distant signal that is in sight of the signaller in another signal box, you must ask that signaller if the light is out. If this signaller tells you the light is lit, you do not need to treat the signal as defective.

If the light is out, you must:

- arrange for it to be relit
- treat the signal as defective during darkness or poor visibility.

If you are the signaller at the previous signal box, you must continue to observe the light in the signal until you are told the repeater is in order. However, if the light goes out when it should be lit, you must immediately tell the signaller who controls the distant signal.

### **20.3 Repeaters that apply to a group of semaphore signals**

If a light repeater applies to two or more signals, you must treat any 'light out' indication as applying to each signal concerned.

If the repeater is provided to indicate the position of two or more signals or slots worked by the same lever, you must treat any fault indication as applying to all the equipment concerned.

### **20.4 Repeaters for power-operated points worked from a mechanical frame**

If the points indicator does not show the correct position of the power-operated points, you must find out whether it is the indicator that has failed rather than the points.

You must operate the points lever to the opposite position and back again. If you can then clear the signal leading over the points, you do not have to treat the points as defective but only the indicator as failed.

If you cannot clear the signal leading over the points, you must treat the points as defective.

# 21

## **Resetting and restoring axle counters**

You must be sure that the affected section of line is clear and the protecting signal is placed to and kept at danger, or the route closed before starting the resetting and restoration procedure as shown in the *Signal Box Special Instructions*.

You must arrange to examine the affected section of line before the resetting and restoration procedure is completed.

If the equipment requires a train to pass through the affected section as part of the resetting process, the train being used to examine the line can do this.

## 22

### **Signals that are raised or lowered**

If you are told that work is going to be carried out on a signal that has to be raised or lowered from its normal position for the work to be carried out, you must not allow a train to approach the signal until the driver has been told that the signal may not be displayed in its usual position.

If the signal is one of a group of signals, you must make sure that the drivers of all trains that will approach that group of signals have been told about the raised or lowered signals. This applies to trains on:

- the affected line
- any other line in the same direction.



## Notes





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