

GE/RT8000/T8
Rule Book

Module T8

Handsignalling duties

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For information regarding the Rule Book, contact:

enquirydesk@rssb.co.uk

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

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1

Competence and when handsignals have to be used

The person responsible: handsignaller

1.1 Competence

handsignaller You must be certified as competent to carry out these duties.

1.2 When handsignals have to be used

handsignaller You will be appointed at a location where it is necessary to give a signal to a driver which cannot be given by a fixed signal.

You will need to give handsignals to a driver when:

- protecting engineering work on a line not under a possession
- protecting a line where the AC traction current has been switched off
- a signal is defective or cannot be cleared
- temporary block working is in operation
- single line working is in operation.

You will not be asked to carry out handsignalling duties for any other purpose.

2 Equipment

*The person responsible: **handsignaller***

When you are carrying out the duties of a handsignaller, you must **handsignaller** have the following with you:

- a red and a yellow flag
- a handlamp which can show a red and a yellow light
- enough detonators for the task
- clips and scotches (if necessary)
- signal post replacement key (if necessary)
- Temporary Block Working Tickets RT3184 (if necessary).

3

General instructions

The person responsible: handsignaller

3.1 Handling and using detonators safely

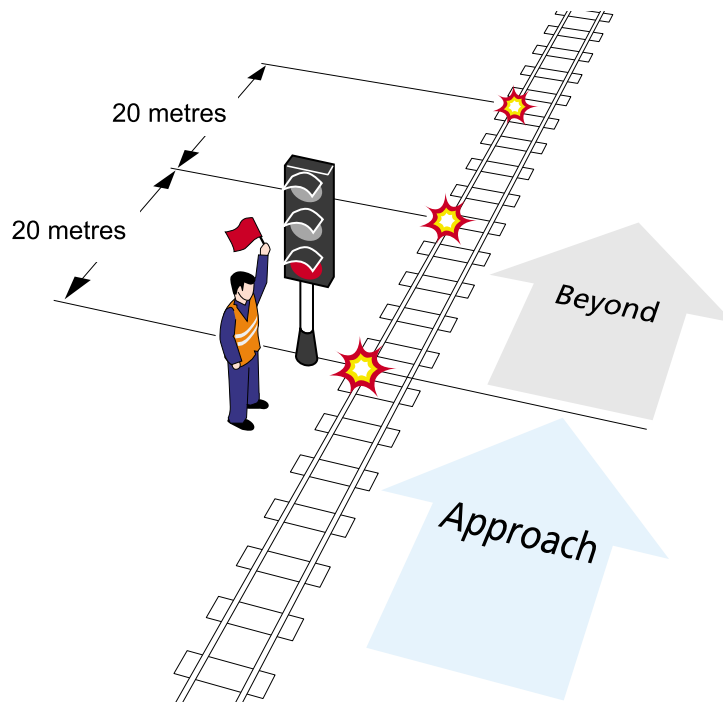
handsignaller You can find the arrangements for handling and using detonators safely in section 3.9 of module G1 *General safety responsibilities*.

3.2 Placing detonators on the line at a signal

handsignaller If you are required to place one detonator on the line at a signal, you must place it next to the signal.

If you are required to place three detonators on the line at a signal, you must place one next to the signal and the other two beyond the signal 20 metres (approximately 20 yards) apart. You must not place any detonators on the approach to a signal.

See diagram T8.1 on page 7.



Placing detonators on the line at a signal
Diagram T8.1

3.3 Placing detonators on the line when not at a signal

handsignaller If you expect detonators to be exploded, you must make sure the detonators are placed far enough from you so that the driver has enough time to see your handsignal **after** exploding the detonators.

See diagram T8.2 on page 9.

3.4 Replacing exploded detonators

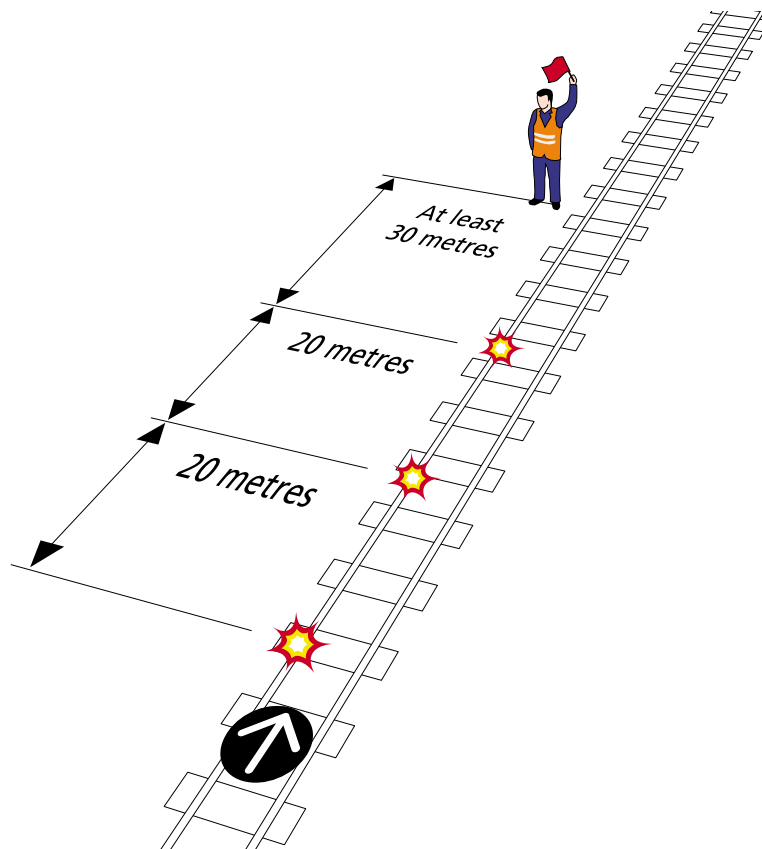
handsignaller You must immediately replace any detonators that have been exploded.

3.5 Giving instructions to drivers

handsignaller You must come to a clear understanding with the signaller before giving a driver instructions.

When giving instructions you must make sure:

- they are what the signaller told you
- you reach a clear understanding with the driver.



Placing detonators on the line when not at a signal

Diagram T8.2

3.6 Staying in position

handsignaller You must stay in position until another handsignaller takes over from you, or the person shown below who appointed you tells you that you are no longer needed.

This person will depend on the circumstances. It may be one of the following:

- A **protection controller (PC) or controller of site safety (COSS)** when protecting engineering work on a line not under a possession.
- A **pilotman** during single line working.
- A **signaller** in connection with:
 - a defective or disconnected signal
 - a signal that cannot be cleared because of the failure of signalling or level crossing equipment
 - protection of the line where the AC traction current is switched off
 - temporary block working.

4

Engineering work not under a possession

The person responsible: handsignaller

4.1 Where to position yourself

You must position yourself where the controller of site safety (COSS) or protection controller (PC) tells you. This can be:

- in a signal box
- at a signal being kept at danger by the signaller
- at a signal equipped with a signal post replacement switch
- a position where there is no signal box or signal.

handsignaller

4.2 In a signal box

The COSS or PC will tell you to position yourself in the signalbox when the signal protecting the engineering work does not have a telephone.

handsignaller

You must:

- get an assurance from the signaller that the signal or signals are being kept at danger until it is safe for trains to pass
- countersign the entry made by the signaller in the Train Register
- stay in the signal box as a reminder not to clear the signal or signals.

4.3 At a signal kept at danger by the signaller

handsignaller You must:

- check the signal is at danger
- get an assurance from the signaller that the signal will be kept at danger until it is safe for trains to pass
- show a red handsignal to any train approaching on that line
- place three detonators on the line 20 metres (approximately 20 yards) apart.

See diagram T8.1 on page 7.

When you are told by the COSS or PC that the line is safe for trains to start running again, you must remove the detonators and the red handsignal.

4.4 At a signal with a signal post replacement switch

You must:

handsignaller

- check the signal is showing a proceed aspect
- if it is not showing a proceed aspect, immediately contact the signaller
- if it is showing a proceed aspect, get permission from the signaller to key the signal to danger
- key the signal to danger
- check the signal is at danger
- tell the signaller when you have done this
- show a red handsignal
- place three detonators on the line 20 metres (approximately 20 yards) apart
- keep the signal at danger until it is safe for trains to pass.

See diagram T8.1 on page 7.

When you are told by the COSS or PC that the line is safe for trains to start running again, you must:

- remove the detonators and the red handsignal, and
- get permission from the signaller **before** restoring the signal to automatic working.

4.5 Positioned where there is no signal box or signal

handsignaller You must:

- show a red handsignal to any approaching train
- place three detonators on the line 20 metres (approximately 20 yards) apart
- immediately replace any detonators which have been exploded.

See diagram T8.2 on page 9.

When you have been told by the COSS or PC that the line is safe for trains to start running again, you must remove the detonators and the red handsignal.

4.6 Clearance of a junction signal

handsignaller If a junction signal is cleared for a route that is not affected by the engineering work, you must remove the detonators if it is safe to do so and also the red handsignal.

You must not attempt to remove the detonator in any situation if it would be dangerous to do so, for example if the train is close to you or visibility is poor.

You must again show the red handsignal and replace the detonators immediately when the train has passed the junction signal, or the signal is replaced to danger without the train having passed it.

5 Not used

6 Protection of the line where the AC traction current has been switched off

The person responsible: handsignaller

handsignaller You must position yourself where the signaller tells you.

You must:

- show a red handsignal to approaching trains
- place three detonators on the line 20 metres (approximately 20 yards) apart.

You must immediately replace any detonators that have been exploded.

7

Defective or disconnected signalling equipment

*The person responsible: **handsignaller***

7.1 Where to position yourself

You must position yourself where the signaller tells you. This will be at:

handsignaller

- a signal
- the place where the signal would normally be
- a signal box.

You must report your arrival to the signaller immediately, wherever you are positioned.

7.2 Stop signals

At a stop signal you must:

handsignaller

- show a red handsignal to each approaching train until the train has stopped
- place a detonator on the line to which the signal applies, as shown in section 3.2 of this module.

If a train is to proceed, you must reach a clear understanding with the signaller before you give instructions to the driver.

handsignaller You must then, in the following order:

- repeat to the driver the instructions given to you by the signaller
- reach a clear understanding with the driver
- tell the driver not to move the train until you show a yellow handsignal
- remove the detonator from the line
- show a yellow handsignal.

For your own safety, you must not show a yellow handsignal until you have removed the detonator.

You must again show the red handsignal and replace the detonator immediately the train has passed.

7.3 If a train is not to be stopped

handsignaller If the signaller tells you it is not necessary to stop the train because the driver has already been given the necessary instructions, you must in the following order:

- remove the detonator from the line
- show a yellow handsignal.

You must only attempt to remove the detonator if it is safe to do so.

You must again show the red handsignal and replace the detonator immediately the train has passed unless the signaller tells you otherwise.

7.4 Other signals

When you are positioned at a signal that cannot normally display a red aspect, you must show a yellow handsignal to each approaching train. **handsignaller**

7.5 Securing mechanical points

You are responsible for **securing** mechanical points, but only if instructed by the signaller. **handsignaller**

The signaller will tell you:

- which points need to be secured
- the position in which the points need to be secured.

You must immediately tell the signaller when you have secured the points.

7.6 Power-operated points

You must **not** operate or secure power-operated points.

handsignaller

When power-operated points need to be operated by hand, this must **only** be done by:

- a route setting agent, or
- a points operator.

You must **not** speak to a route setting agent or points operator about the operation of power operated points by hand.


You must take instructions **only** from the signaller.

8

Temporary block working

The person responsible: handsignaller

8.1 Where to position yourself and your responsibilities

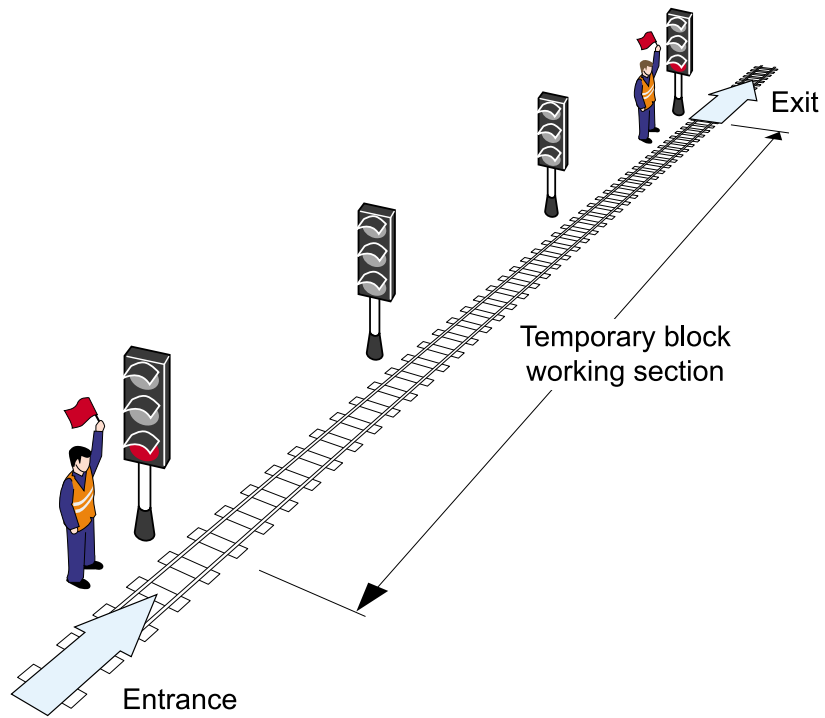
handsignaller When temporary block working  is to be introduced, you must position yourself where the signaller tells you. This will be either at the entrance or exit signal. (See diagram T8.4 on page 21.)

Your responsibilities will be to:

- stop trains
- give messages and instructions from the signaller to the driver.



During an extensive failure or extensive disconnection of signalling equipment, temporary block working can be introduced on a track circuit block double or multiple line (but not on a single line). Temporary block working allows the driver, with the signaller's permission, to pass at danger two or more consecutive signals which normally display a main aspect.



Temporary block working
Diagram T8.4

8.2 Method of working

handsignaller A signal will be selected to control the entrance to the section and a signal will be selected to control the exit of the section.

The signaller will personally instruct the driver to enter the temporary block working section to:

- assist a failed train
- evacuate passengers from a failed train
- remove the rear portion of a divided train
- remove a train or vehicle which has proceeded without authority.

It will not be necessary to issue the driver with a Temporary Block Working Ticket (RT3184) in these circumstances.

There may be more than one temporary block working section.

8.3 When you arrive at the entrance signal

You must report your arrival to the signaller.

handsignaller

If the signal is equipped with a signal post replacement switch, you must:

- get permission from the signaller to operate the signal to danger
- operate the signal to danger
- check the signal is at danger
- tell the signaller when you have done it
- keep the signal at danger until temporary block working is withdrawn.

In every case you must then:

- show a red handsignal to each approaching train until the train has stopped
- place a detonator on the line as shown in section 3.2 of this module
- tell the signaller when a train arrives.

8.4 When a train has stopped at the entrance signal

Handsignaller at the entrance signal

handsignaller When a train has stopped at the signal, the signaller will tell you when the train may proceed.

The signaller will give you the necessary instructions to complete the Temporary Block Working Ticket (RT3184). You must then, in the following order:

- fill in the ticket (RT3184) as necessary
- read back the train reporting number on the ticket (RT3184) to the signaller
- give the necessary instructions to the driver
- hand the ticket to the driver (if there is more than one locomotive at the leading end of the train, show it to each driver and hand it to the driver of the leading locomotive)
- tell the driver **not** to move the train until you show a yellow handsignal
- remove the detonator from the line
- show a yellow handsignal.

For your own safety, you must **not** show the yellow handsignal until you have removed the detonator.

You must again show the red handsignal and replace the detonator immediately the train has passed unless the signaller tells you otherwise.



Example of Temporary Block Working Ticket RT3184

RT 3184 <i>December 2003 (Side 1 of 1)</i>
TEMPORARY BLOCK WORKING TICKET INSTRUCTIONS
Temporary Block Working applies over the line _____
between signal No. _____ at _____
and signal No. _____ at _____
When authorised to proceed, the Driver must:-
Pass signal No. _____ at Danger
Ignore signal Nos. _____

Run at reduced speed and NOT EXCEED 50 mph
Approach at caution and check that it is safe to pass over level crossings at:-

NOT EXCEED 15 mph OVER ANY FACING POINTS
Observe the following additional instructions

Stop at signal No. _____ and give up this ticket
AUTHORITY
Authority for train No. _____
Given by Signaller at _____
At time/date _____

8.5 When you arrive at the exit signal

handsignaller You must:

- report your arrival to the signaller
- check the signal is at danger
- if the signal is not at danger, advise the signaller
- show a red handsignal to each approaching train until the train has stopped
- place a detonator on the line.

8.6 When the train arrives at the exit signal

Handsignaller at the end of the section

handsignaller When the train has stopped at the signal, you must:

- collect the Temporary Block Working Ticket (RT3184) from the driver
- tell the signaller the train has arrived and the reporting number shown on the ticket.

8.7 When the train is to leave the temporary block working section

Handsignaller at the end of the section

When the signaller tells you the train can proceed, you must:

handsignaller

- tell the driver not to move even if the signal clears until you have given the driver permission to do so, as you are going to remove the detonator from the line
- remove the detonator
- instruct the driver to obey the signal when it **clears**.

After the train has left the temporary block working section, you must:

- again show the red handsignal
- replace the detonator, and
- tell the signaller when the train, complete with tail lamp, has passed 200 metres (approximately 200 yards) beyond the exit signal.

8.8 Dividing temporary block working into two or more adjoining sections

If you are appointed at the signal which is the exit of the first section and the entrance signal to the next section, you must carry out the duties of both the entrance and exit handsignallers, **except** the signal will not be cleared for a train to proceed.

handsignaller

8.9 Withdrawing temporary block working

When temporary block working is to be withdrawn, you must get the signaller's permission before keying a signal equipped with a signal replacement switch back to normal working.

handsignaller

You must give any completed Temporary Block Working Tickets (RT3184) to your supervisor or manager.

9

Single line working

The person responsible: handsignaller

9.1 Where to position yourself and your responsibilities

handsignaller You must position yourself where the pilotman tells you. (This will normally be opposite a signal on the blocked line where trains on the single line working in the wrong direction will have to stop.)

See diagram T8.5 on page 29.

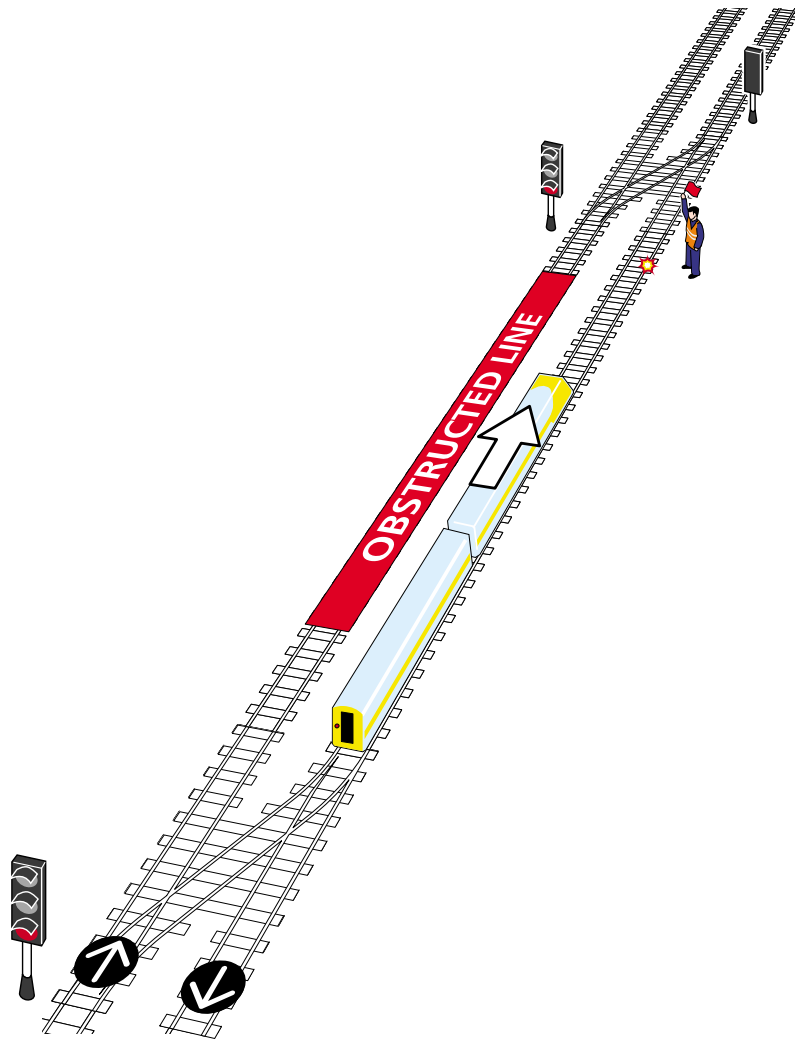
Your responsibilities will be to:

- place a detonator on the line being used for single line working
- show a red handsignal to each train travelling over the single line in the wrong direction until the train has stopped.

9.2 Trains travelling in the wrong direction

a) When a train has stopped

handsignaller When a train has stopped, the signaller will tell you when it can proceed and what instructions to give the driver. You must reach a clear understanding with the signaller before giving instructions to the driver.



Trains travelling in the wrong direction

Diagram T8.5

Handsignalling duties

9
section

handsignaller You must then, in the following order:

- repeat to the driver the instructions given to you by the signaller
- reach a clear understanding with the driver
- tell the driver not to move the train until you show a yellow handsignal
- remove the detonator from the line
- show a yellow handsignal.

For your own safety, you must not show a yellow handsignal until you have removed the detonator.

You must again show the red handsignal and replace the detonator immediately the train has passed unless the signaller tells you otherwise.

b) When trains are to be stopped and set back over a crossover

If a train is to draw forward and then set back over a crossover to return to the right line, before allowing a train to draw forward, you must:

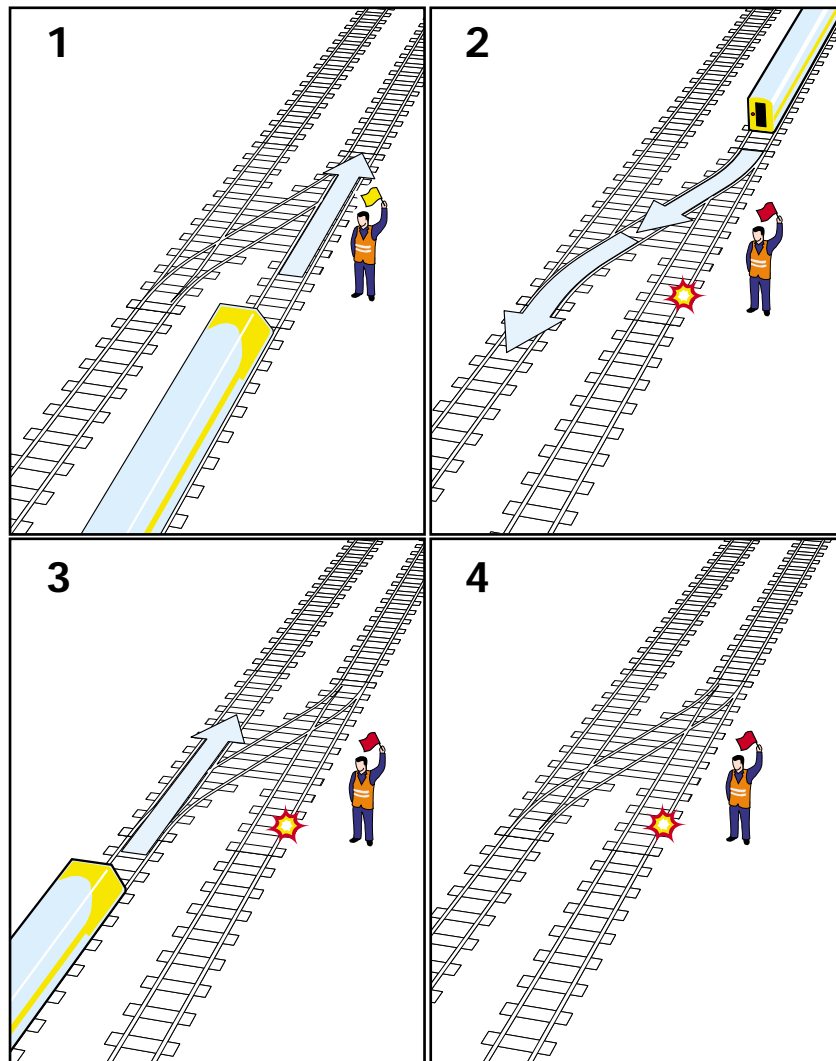
- stop every train, and
- remind the driver what is to be done.

When authorised by the signaller, you must then carry out the instructions in 9.2 a).

You must again show the red handsignal and replace the detonator immediately the train has passed unless the signaller tells you otherwise.

See diagram T8.6 on page 31.

In this situation these are the only responsibilities you have as a handsignaller.



When trains are to be stopped and set back over a crossover

Diagram T8.6

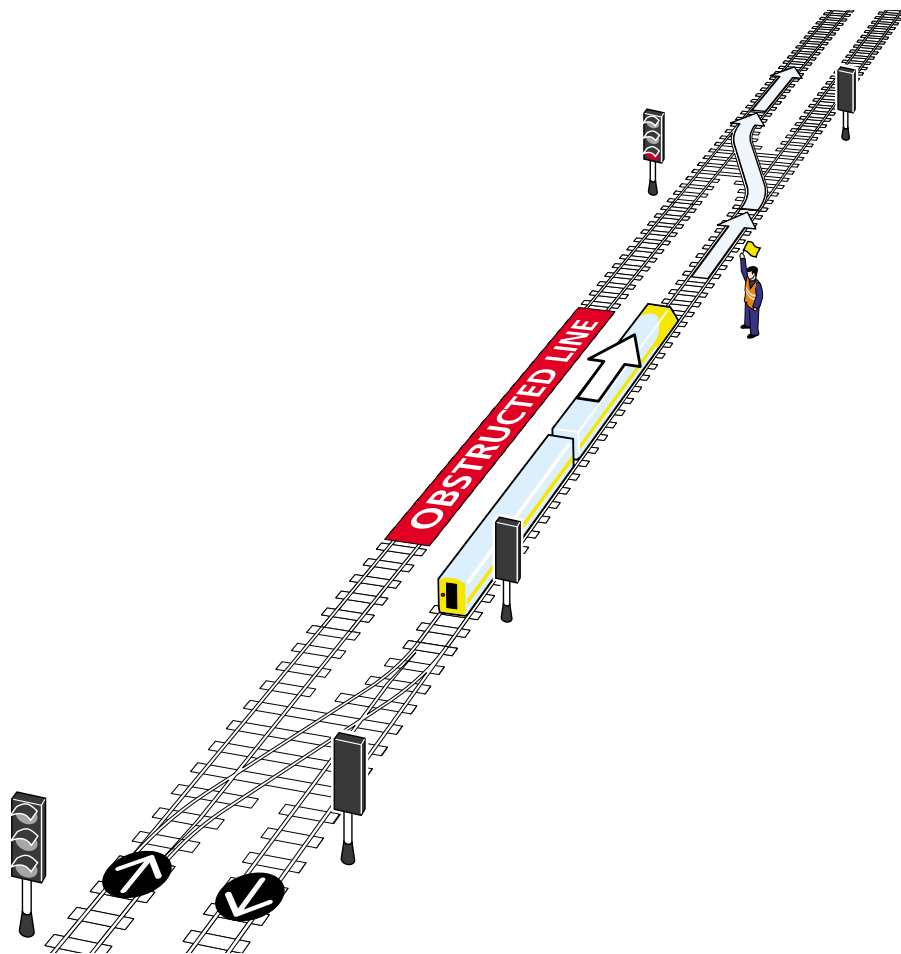
c) If a train is not to be stopped

handsignaller If the signaller tells you it is not necessary to stop the train because the driver has already been authorised to obey your handsignal, you must, in the following order:

- remove the detonator from the line
- show a yellow handsignal.

You must only attempt to remove the detonator if it is safe for you to do so.

See diagram T8.7 on page 33.



If a train is not to be stopped
Diagram T8.7

9.3 Trains travelling in the right direction

handsignaller You do not need to handsignal or stop trains travelling on the single line in the right direction.

When a train is approaching you in the right direction, you must remove the detonator and the red handsignal.

You must not attempt to remove the detonator in any situation if it would be dangerous to do so, for example if the train is close to you or visibility is poor.

When the train has passed you in the right direction, you must again show the red handsignal and replace the detonator unless the signaller tells you otherwise.

9.4 Single line working on multiple track circuit block lines where more than one running line is available

handsignaller Single line working may be introduced over one of the unobstructed lines if all of the following apply:

- there are more than two running lines
- **all** lines in one direction are blocked
- two or more lines in the opposite direction remain open.

You must:

- position yourself where the pilotman tells you
- carry out the instructions in sections 9.2 to 9.3
- place a detonator on the line in each direction on the approach to the portion of line where conflicting movements could happen.

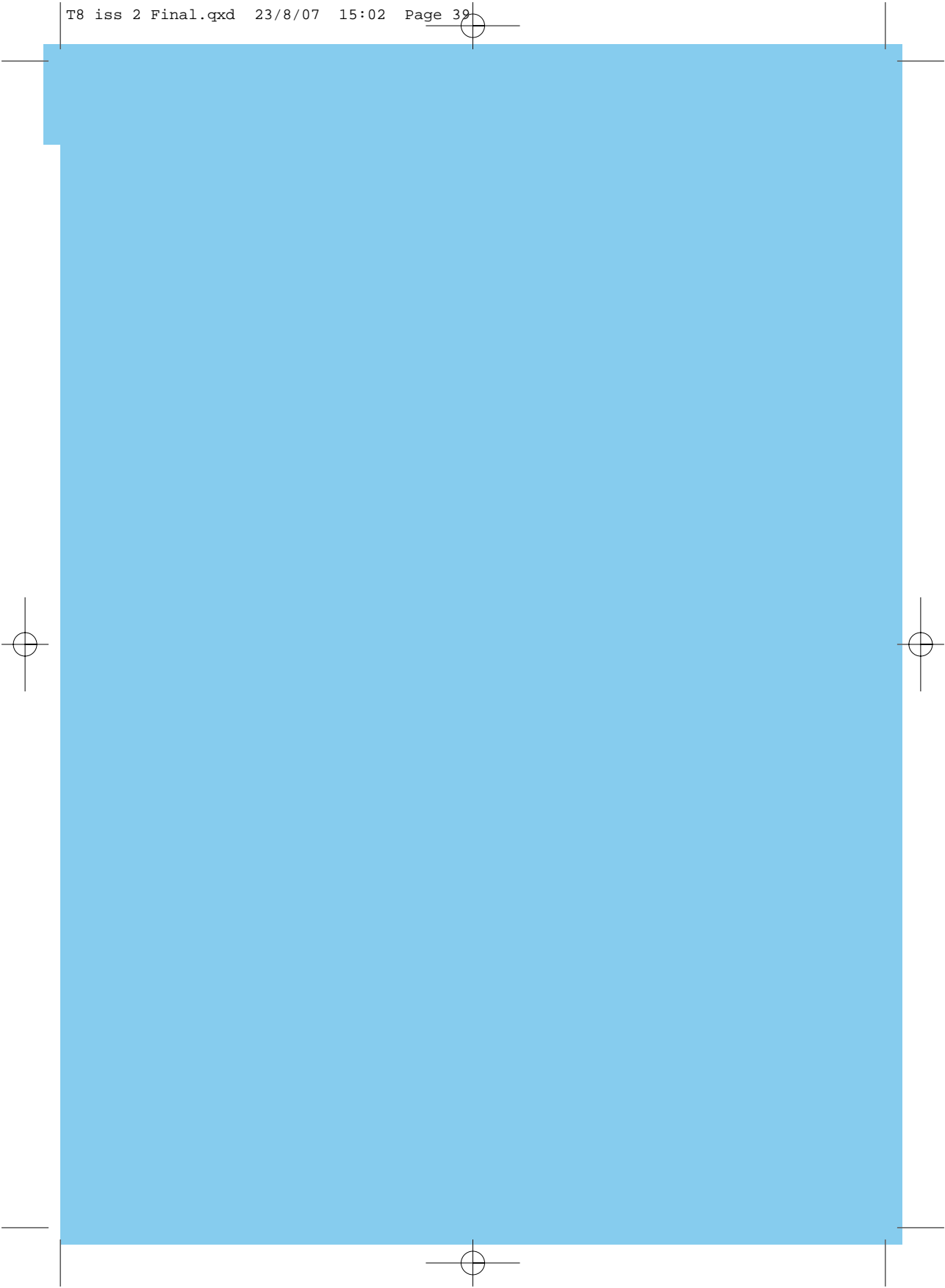
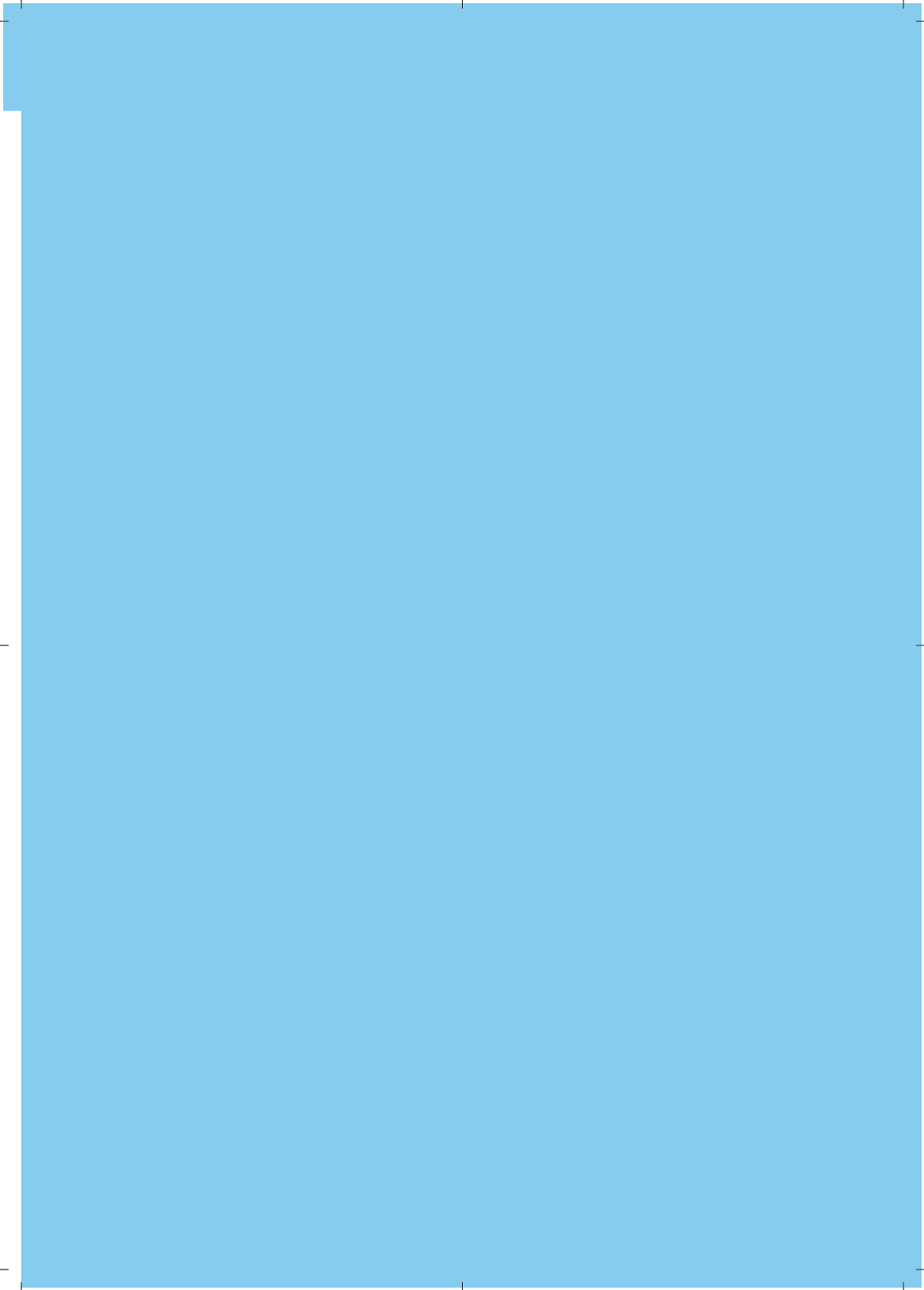
When the signaller tells you a train can proceed, you must remove the correct detonator and then show a yellow handsignal.

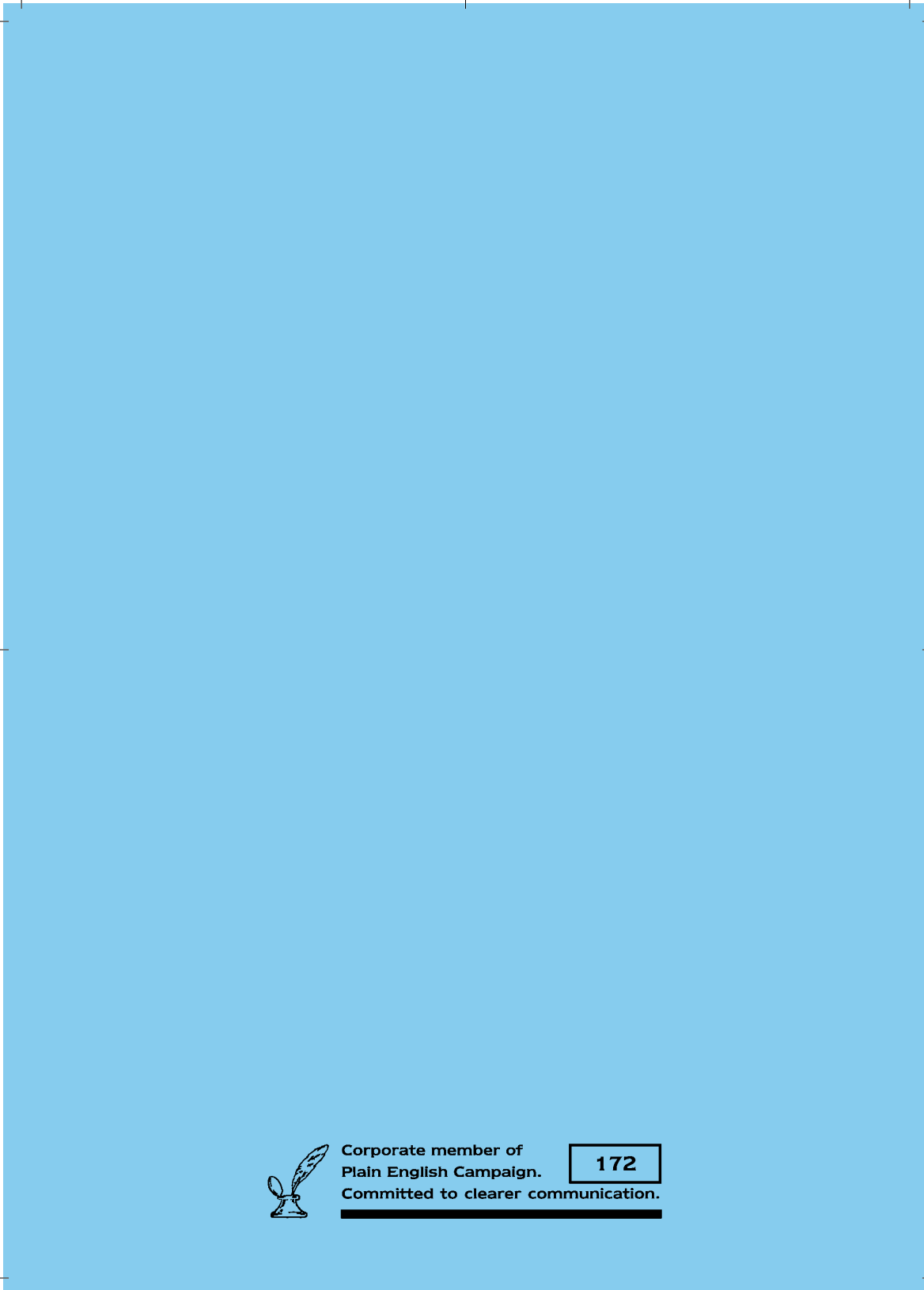
Glossary of terms and abbreviations

The term	Includes or means:
Aspect	The indication of a colour light signal that the driver sees.
Detonator	A small disc-shaped warning device, designed to be placed on the railhead for protection and emergency purposes. It explodes when a train passes over it.
Facing points	Points where two routes diverge. Includes switch diamonds and swing-nose crossings.
Junction signal	A signal that controls more than one running route and can display an indication of route.
Level crossing	Any manned, automatic or open crossing shown in Table A of the <i>Sectional Appendix</i> .
Main aspect	The following aspects of a colour light signal: <ul style="list-style-type: none"> • red • yellow • two yellows • flashing yellow • two flashing yellows • green.
Mechanical points	Points that are mechanically operated without any other form of power operation.
Pilotman	A person who has been appointed to manage the passage of trains over a single line during a failure of equipment, during repairs or due to an obstruction.
Power-operated points	Points that are operated by means other than mechanically.

Glossary of terms and abbreviations

The term	Includes or means:
Protection	Ways of making sure that a line is protected. This includes keeping signals at danger, placing detonators on the line, using a track circuit operating clip and showing a hand danger signal.
Running line	A line as shown in Table A of the <i>Sectional Appendix</i> as a passenger line or as a non-passenger line.
Signal post replacement key	The key used to operate a signal post replacement switch.
Signal post replacement switch	A switch on the post of an automatic or semi-automatic colour light signal that can be operated by a key to turn it to, and keep it at, danger.
Single line	One line is available for movements in both directions.
Stop signal	A signal that can show a stop aspect or indication.
Tail lamp	Includes an illuminated built-in red light or blind.
Track circuit block	A method of signalling trains in a section of line using track circuits or other means of automatic train absence detection and without using block instruments.





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