



Rule Book Briefing Leaflet

Issue 32



December 2018

The following modules and handbooks will be re-issued and come into force on 01 December 2018:

Glossary Glossary of Railway Terminology

Handbook 8 IWA, COSS or PC blocking a line

Handbook 16 AC electrified lines

Handbook 21 Safe work leader (SWL) blocking a line

Module AC AC electrified lines

Module M1 Dealing with a train accident or train evacuation

Module M2 Train stopped by train failure

Module S5 Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)

Module SS1 Station duties and train dispatch

Module TS1 General signalling regulations

Module TS2 Track circuit block regulations

Module TS10 ERTMS level 2 train signalling regulations

Module TW5 Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

RS521 Signals, Handsignals, Indicators and Signs Handbook

The following handbooks will be withdrawn on 01 December 2018:

RS516 Cab Secure Radio (CSR) Handbook

RS520 GSM-R (IVRS) Radio system Handbook

For details please read this briefing document.

Glossary of Railway Terminology

In service

This item has been revised to indicate that a train is in service from the time it is ready to start a journey rather than when it starts its journey.

Journey

This item has been revised slightly to improve clarity. There is no change of intent.

Out of service

These two items have had their headings changed to '**Out of service (train)**' and '**Out of service (vehicle)**' to make it easier to understand why there are two items and when each one applies.

Handbook 8 IWA, COSS or PC blocking a line

KEY CHANGES

A line blockage can only be granted with a train within the portion of line concerned either where this is authorised, or when the train has become disabled and the driver has told the signaller it will not be moved.

Additional protection should always be used when it is possible to do so, as shown on the revised Line Blockage Form (NR3180).

To clarify the intended meaning, the wording of section 5.1 has been changed to state that the request to the signaller to restore a disconnection of signalling apparatus must not be made until after the line blockage has been given up or suspended.

DETAIL OF CHANGES

Section headings in bold relate to issue 6 of handbook 8

2 Blocking the line

2.2 Additional protection

The wording has been changed to state that additional protection should be used whenever possible.

3 Granting the line blockage

The situations in which a line blockage can be granted with a train within the portion of line concerned have been changed.

5 Giving up or suspending the line blockage

5.1 When the line blockage is to be given up or suspended

The wording has been changed to make it clear when the signaller should be asked to arrange reconnection of disconnected equipment.

Handbook 16 AC electrified lines

KEY CHANGES

Because of the introduction of bi-mode trains which can either operate as electric trains drawing power from the ac electrification system, or in a self-powered mode using their own tractive power, a number of changes have been made to the rules in this module. Bi-mode trains change over between self-powered and electric mode at planned locations, and may also do so in order to travel into areas where there is damage to the overhead line equipment.

Section 3.1 has been changed to make it clear what is meant by overhead line equipment (OLE) being made safe, and that the OLE must still be treated as dangerous.

Section 7 has been changed to state that the electricity must always be switched off before a person above or near to the OLE is approached.

DETAIL OF CHANGES

Section headings in bold relate to issue 3 of handbook 16

3 Dangers of the system

3.1 Treating the OLE as being live

The wording has been changed to make it clear that although this module refers to OLE being 'made safe', it is still to be considered as being dangerous, and must not be touched.

3.3 Reporting objects and defects to the ECO

A damaged or loose balise in connection with automatic power changeover (APCO) equipment must be reported to the signaller and a new section 3.4 has been added to state this.

7 Rescuing a person from the OLE

This section previously contained instructions about coming into contact with live OLE, or a person touching it. However, this would be a very dangerous practice, and the precautions suggested would not make it safe to do so. The instructions have now been changed to state that the electricity must always be switched off before a person is approached.

10 Arranging coasting under the OLE

The wording has been altered to include bi-mode trains as well as electric trains with lowered pantographs as being ones that may continue to pass through the affected area.

The possibility of trains continuing to run now also includes bi-mode trains operating in self-powered mode as an alternative to coasting.

The illustration of signs has been renamed to refer to pantograph signs, as these may also be used to indicate where bi-mode trains change to or from self-powered mode.

Handbook 21 Safe work leader (SWL) blocking a line

KEY CHANGES

A line blockage can only be granted with a train within the portion of line concerned either where this is authorised, or when the train has become disabled and the driver has told the signaller it will not be moved.

Additional protection should always be used when it is possible to do so, as shown on the revised Line Blockage Form (NR3180).

To clarify the intended meaning, the wording of section 5.1 has been changed to state that the request to the signaller to restore a disconnection of signalling apparatus must not be made until after the line blockage has been given up or suspended.

DETAIL OF CHANGES

Section headings in bold relate to issue 3 of handbook 21

2 Blocking the line

2.2 When additional protection is necessary

The wording has been changed to state that additional protection should be used whenever possible.

3 Granting the line blockage

The situations in which a line blockage can be granted with a train within the portion of line concerned have been changed.

5 Giving up or suspending the line blockage

5.1 When the line blockage is to be given up or suspended

The wording has been changed to make it clear when the signaller should be asked to arrange reconnection of disconnected equipment.

Module AC - AC electrified lines

KEY CHANGES

Following an incident in which a driver who had left a train in order to find out information suffered an electric shock from live OLE, a driver must not attempt to leave the cab to find out information, or to examine a train, pantograph or the OLE unless told by the signaller that the OLE is safe to approach, but not to touch. A signaller must not tell a driver to leave the cab to examine a train for any of these reasons until the electrical control operator (ECO) has confirmed that it is safe for the driver to approach the OLE but not touch it. Sections 12 and 13 have been amended to include these changes.

There is a new section 12.5 referring to trains that have caused a tripping, which would include trains that are not electrically-hauled. A driver must not attempt to leave the cab to examine a train or the OLE unless told by the signaller it is safe to approach the OLE but not to touch it. The title of section 12 has been changed to include reference to tripping. Section 13.1 has been amended to refer to tripping in this situation as well as sequential tripping.

As a result of a review of the rules concerning defective on-train equipment, if an ADD has been isolated on a train the driver might be instructed not to exceed a speed lower than 100 mph for some or all of the journey.

Because of the introduction of bi-mode trains which can either operate as electric trains drawing power from the ac electrification system, or in a self-powered mode using their own tractive power, a number of changes have been made to the rules in this module. Bi-mode trains change over between self-powered and electric mode at planned locations, and may also do so in order to travel over non-electrified lines, or into areas blocked to electric traction or where there is damage to the overhead line equipment, and the rule changes mainly concern these situations.

Section 3.1 has been changed to make it clear what is meant by OLE being made safe, and that the OLE must still be treated as dangerous.

Section 7 has been changed to state that the electricity must always be switched off before a person above or near to the OLE is approached.

DETAIL OF CHANGES

Section headings in bold relate to issue 4 of module AC

1 Definitions

New definitions have been added of what is meant in this module by a 'bi-mode train', a 'dual-voltage train', an 'electric train' and a 'self-powered train'.

The definition of overhead line permit has been amended to make it clear this does not indicate that any electrical equipment on the train has been made safe.

3 Dangers of the system

3.1 Treating the OLE as being live

The wording has been changed to make it clear that although this module refers to OLE being 'made safe', it is still to be considered as being dangerous, and must not be touched.

3.3 Reporting objects and defects to the ECO

There is a new requirement to report a damaged, loose or malfunctioning automatic power changeover (APCO) balise, or a missing sign associated with power changeover locations, to the signaller, and for the signaller to advise drivers of bi-mode trains about the situation. This is shown in a new section 3.4.

7 Rescuing a person from the OLE

This section previously contained instructions about coming into contact with live OLE, or a person touching it. However, this would be a very dangerous practice, and the precautions suggested would not make it safe to do so. The instructions have now been changed to state that the electricity must always be switched off before a person is approached.

11 Electric trains moving to or from non-electrified lines or lines blocked to electric trains

11.1 Towards an isolated section

This has been changed to apply to bi-mode trains as well as electric trains.

11.2 To and from non-electrified lines

This has been changed to apply to bi-mode trains as well as electric trains.

11.3 To and from a line blocked to electric trains

This has been changed to apply also to bi-mode trains which are to operate in self-powered mode over the line blocked to electric trains, with added instructions concerning bi-mode trains.

The title has been changed to correctly reflect that this also applies to a train passing over the line concerned.

A new section 11.4 has been included which deals with wrong-direction movements by bi-mode trains past locations where a changeover between traction modes is necessary.

12 Driver's instructions following a loss of line light, ADD operation, or damage to the OLE

The title of this section has been amended to refer to tripping.

12.1 When an electric or bi-mode train operating in electric mode must be stopped as soon as possible

This has now been renamed as the instructions apply to bi-mode trains in electric mode as well as to electric trains.

12.4 Examining the train

The title has been changed to include examining the OLE because the new section 12.5 includes a reference to that.

The section has been renumbered to 12.7 so that the sequence of instructions follows the sequence of events.

Except in an emergency, a driver must not attempt to leave the cab until told by the signaller that the OLE has been made safe to approach, but not to touch.

New instructions have been added concerning the arrangements under which a bi-mode train may be able to continue in self-powered mode, or can do so if already in that mode.

12.5 Providing electric train supply when the train cannot proceed

The section has been renumbered to 12.8 so that the sequence of instructions follows the sequence of events.

12.6 Telling the signaller about problems or incidents with the OLE

Except in an emergency a driver must not attempt to leave the cab until told by the signaller that the OLE has been made safe to approach, but not to touch.

As a result of this change the driver only has to tell the signaller the nearest overhead line structure number if it is possible to do so before leaving the cab.

12.7 Sequential tripping

A driver must not attempt to leave the cab until told by the signaller that the OLE has been made safe to approach, but not to touch.

The section has been renumbered to 12.4 so that the sequence of instructions follows the sequence of events.

A new section 12.5 has been added, concerning tripping caused by any type of train.

12.8 Isolating the ADD

As a result of the introduction of a new section 12.5 (Tripping), this section has been renumbered 12.9.

A new sentence has been added advising drivers that they may be instructed to not exceed a speed lower than 100 mph for some or all of the journey.

A new instruction has been included to explain that after the ADD has been isolated, an alternative pantograph can be used, or a bi-mode train can continue in self-powered mode

13 Signaller's instructions following a report of a defect or tripping of the OLE

13.1 If sequential tripping has taken place

This has now been renamed (If tripping has taken place) as it also applies when tripping has been caused by any type of train.

The signaller must arrange with the ECO to make it safe for a driver to leave the cab and to approach the OLE but not to touch it, and the driver must not be told to leave the train until the ECO has confirmed this.

13.2 If a loss of line light, ADD operation or suspected damage to the OLE is reported

The signaller must arrange with the ECO to make it safe for a driver to leave the cab and to approach the OLE but not to touch it, and the driver must not be told to leave the train until the ECO has confirmed this.

13.4 Resuming normal working

A new section 13.5 has been added to explain that a bi-mode train may be able to continue on its journey using diesel power, and the arrangements that apply.

14 Instructions for examining the OLE

14.2 Examining the OLE using a train

This section has been amended to refer to the purpose of the examination being to find out whether bi-mode trains are able to operate past the site in self-powered mode, as well as whether trains can coast with pantographs lowered.

14.3 Responsible person arriving on site

The illustration of the 'lower pantograph' and 'raise pantograph' signs has a new title referring to them as 'pantograph' signs, as they can now also be used when a bi-mode train changes to self-powered mode.

15 Moving trains after an OLE incident

15.2 When a pantograph has been damaged but another is available

This section has been renamed as it now refers to a bi-mode train in self-powered mode also being able to proceed in this situation.

15.5 Allowing trains to coast at up to permissible speed with pantographs lowered

The sub-heading referring to missing or defective high-speed coasting signs has been altered to refer to them as 'pantograph' signs, as they can now also be used when a bi-mode train changes to self-powered mode.

A new section 15.6 has been added to state that sections 15.4 or 15.5 apply to a bi-mode train operating in electric mode, and that a bi-mode train can operate in self-powered mode instead of coasting.

16 Preventing damage or danger from on-train equipment overheating

A new instruction has been added concerning the need to isolate the automatic power changover (APCO) equipment on the train.

The wording of this section has been changed so that it refers more clearly to a train that has more than one pantograph.

17 Traction unit driven off the contact wire

The title and text have been changed to refer to 'electric trains' rather than a 'traction unit' as this is a more accurate description of when the instructions apply.

The wording of this section has been changed so that it refers more clearly to a train that has more than one pantograph.

18 Defective automatic power control (APC) track inductor

The title and the whole of this section have been revised to include the actions necessary when an APCO balise is defective or damaged.

Module M1 Dealing with a train accident or train evacuation

KEY CHANGES

This module has been amended as a consequence of the introduction of emergency special working in Module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

A correction for clarity has been made to section 2.1.

A slight correction has been made to diagram M1.3.

DETAIL OF CHANGES

Section headings in bold relate to issue 5 of module M1

2 What to do after a train accident

2.1 Driver's actions

The wording has been changed to make it clear that this refers to the line on which the train concerned had been travelling prior to the accident, as is already stated in section 3.

3 Emergency protection

3.1 Providing emergency protection

Emergency special working has been added as an occasion where, if the whole train is derailed, the driver must also protect the line on which their train had been travelling, .

3.3 Protecting a multi-track line

The diagram has been slightly amended as the distance was shown inconsistently.

3.8 Protecting your own line

Emergency special working has been added as an occasion where, after protecting any other lines, the driver must protect the line on which their train is standing.

Module M2 Train stopped by train failure

KEY CHANGES

This module has been amended as a consequence of the introduction of emergency special working in Module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

DETAIL OF CHANGES

Section headings in bold relate to issue 6 of module M2

2 Protecting the failed train with emergency protection

2.1 When to place emergency protection

Emergency special working has been added as an occasion where the driver must carry out emergency protection if their train has failed and the signaller cannot be contacted immediately.

This section has been re-worded to make clear that emergency protection is only required when the signaller cannot be contacted immediately and the train has also failed within a temporary block working or emergency special working section.

Module S5 Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)

KEY CHANGES

A new section has been added detailing the regulations for emergency special working.

The signaller's actions following a SPAD have been changed, as the train can now be moved to a more convenient location when that location has been agreed with Operations Control, without specifying a maximum distance.

DETAIL OF CHANGES

Section headings in bold relate to issue 8 of module S5

1 When a signal can be passed at danger or an EoA passed without an MA

1.1 Signaller's authority

Situation 4 has been rewritten to make its intended meaning clearer. Authority can be given to pass a main aspect or stop signal at danger for shunting purposes only when there is no position-light or semaphore shunting signal for the movement. An EoA can be passed without an MA for this purpose only when it is not possible to issue an MA.

1.3 Authorising a driver to pass two or more consecutive signals at danger on a TCB line

This is a new section. It states that where it is necessary to authorise the driver under the same authority to pass at danger two or more consecutive main running signals on a TCB line, other than a single line, emergency special working or temporary block working must be introduced.

This is because the new emergency special working regulations in section 5 of Module S5 provide an alternative method of working which may also be introduced in this situation.

3 Authorising the movement

3.1 Instructions from the signaller

Emergency special working has been added as an occasion where the signaller does not have to instruct the driver to proceed at caution unless entering the section as an assisting train or to examine the line.

3.4 Dealing with TPWS

Emergency special working has been added as an occasion when a driver must operate the TPWS temporary isolation switch.

4 During the movement

4.1 Points and crossings

Emergency special working has been added as an occasion when a driver may pass over points or crossings at up to 50 mph (80 km/h) if they have been given permission to do so.

4.2 Train speed

Emergency special working has been added as an occasion when a driver may travel at a speed not exceeding 50 mph (80 km/h) unless instructed to proceed at caution.

5 Emergency special working

A new section has been added covering emergency special working. The principles of emergency special working are similar to those already in use for temporary block working. However emergency special working arrangements do not require the provision of handsignallers at the entry or exit signals, and allow the use of detection on points when this is available. Emergency special working should therefore be quicker to implement than temporary block working.

6 Temporary block working

6.1 Principles

This section has been renamed to 'Authorising temporary block working'. The first paragraph has been moved to a new section 1.3 of Module S5, which now states that where it is necessary to authorise the driver under the same authority to pass at danger two or more consecutive main running signals on a TCB line, other than a single line, emergency special working or temporary block working must be introduced.

This is because the new emergency special working regulations in section 5 of Module S5 provide an alternative method of working which may also be introduced in this situation.

The term 'Network Rail area operations manager' is no longer current and has been removed.

9 Driver passing a signal at danger or an EoA without authority

9.3 Signaller's actions

This section has been amended to allow a train to be moved to a more convenient location when this has been agreed by Operations Control, without limiting the distance of that movement.

This is to allow a train to be moved which would otherwise be obstructing other train movements.

The form has been renumbered as NR3189 and combined with its ERTMS equivalent.

Module SS1 Station duties and train dispatch

KEY CHANGES

There have been some difficulties in carrying out the instructions in section 3.8, as it is not always possible for a driver to see whether the external orange hazard lights have gone out. The wording of section 3.8 has been amended to state that the driver must check that the doors have closed either by observing the orange hazard lights have gone out, or that the traction interlock light is illuminated. This section also now describes this as being an action before starting the train safety check, to explain the sequence of events better, and sections 3.5, 3.6 and 3.7 have also been amended to include a similar explanation.

Some difficulties have been experienced in carrying out section 3.15, which has been reworded to explain more clearly what is required.

DETAIL OF CHANGES

Section headings in bold relate to issue 5 of module SS1

3 Train dispatch

3.5 Dispatching a train with power-operated doors with a guard from a staffed platform

The wording has been changed to explain when checking the external orange hazard light occurs in the sequence of events described.

3.6 Dispatching a train with power-operated doors with a guard from an unstaffed platform

The wording has been changed to explain when checking the external orange hazard light occurs in the sequence of events described.

3.7 Dispatching a DO train with power-operated doors from a staffed platform

The wording has been changed to explain when checking the external orange hazard light occurs in the sequence of events described.

3.8 Dispatching a DO train from an unstaffed platform

The wording has been amended to explain that the check that the doors have closed can be done by either one of two means.

3.15 Dispatching a DO empty coaching stock train from an unstaffed platform

The wording has been amended to explain more clearly what is required.

Module TS1 General signalling regulations

KEY CHANGES

An error has been corrected in the list of bell signals in regulation 2.1.

In regulation 10.3, the situations in which a shunting movement can enter an occupied portion of line have been clarified.

Regulation 13.2 has been changed. A line blockage can only be granted with a train within the affected portion of line where this is authorised, or when the driver of a disabled train has confirmed that the train will not be moved until the line blockage is given up.

Regulation 13.2.7 has also been changed to make it clear when a disconnection can be reconnected, or engineering possession reminders removed.

DETAIL OF CHANGES

Section headings in bold relate to issue 8 of module S5

2 Bell signals

2.1 Standard code of bell signals

The description of the bell signal 2-6-1 has been corrected. As previously published the description was incorrect. This amendment has previously been published in the Periodical Operating Notice.

10 Train movements

10.3 Movements to running lines already occupied

This regulation has been amended to make it clear that a shunting movement can be allowed to enter an occupied portion of line when a position-light or shunting signal is cleared, or on an ERTMS line an MA is issued. Alternatively the shunting movement can be allowed to pass the signal at danger where no position-light or shunting signal is provided for the movement, or when on an ERTMS line it is not possible to issue an MA for that movement.

13 Safety of personnel

13.2.4 Additional protection

In line with the wording of form NR3180, additional protection should now be provided whenever it is possible to do so.

13.2.7 Completing or suspending the line blockage

The wording has been changed to make it clear that a disconnection must not be reconnected, or engineering possession reminders removed, until after the line blockage has been given up or suspended.

Module TS2 Track circuit block regulations

KEY CHANGES

This module has been amended as a consequence of the introduction of emergency special working in Module S5 *Passing a signal at danger or an end of movement authority (EoA) without a movement authority (MA)*.

There is also a change to regulation 3.5 to include the use of this regulation when signalling an out-of-gauge train.

DETAIL OF CHANGES

Section headings in bold relate to issue 5 of module TS2

3 Method of signalling

3.5 Signalling by bell or telephone

3.5.1 When this regulation must be used

This regulation has been amended to include the use of this regulation when signalling an out-of-gauge train. This amendment was not made when general signalling regulation 15 was changed in December 2017.

3.5.3 Method of signalling by bells or telephone

This regulation has been amended to state that when signalling by bell or telephone, the signaller may accept a train as long as no conflicting movement has been authorised and, during emergency special working, the line is clear as shown in section 5 of module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

Module TS10 ERTMS level 2 train signalling regulations

KEY CHANGES

There is a change to regulation 3.5 to include the use of this regulation when signalling an out-of-gauge train.

DETAIL OF CHANGES

Section headings in bold relate to issue 3 of module TS10

3 Method of signalling

3.5 Signalling by bell or telephone

3.5.1 When this regulation must be used

This regulation has been amended to include the use of this regulation when signalling an out-of-gauge train. This amendment was not made when general signalling regulation 15 was changed in December 2017.

Module TW5 Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

KEY CHANGES

The term 'entering service' has been replaced with 'starting a journey'. It had become apparent that the term 'in service' as defined in the Rule Book glossary was not always understood which resulted in an incorrect understanding of the meaning of entering service. This change on its own does not affect the ability of a train to start a journey with a defect unless the conditions for that specific defect have also been changed; if that is the case this will be explained in the changes for specific items of equipment.

There have been changes to the speed trains are permitted to travel at with defective AWS, driver's safety device, driver's vigilance equipment and TPWS. Details are shown under the sections for these items of equipment.

The instructions for door defects have been revised as the previous arrangements were based around individual vehicles, but many new trains have wide gangways with no dividing doors between vehicles. In many circumstances it is more appropriate to consider the effect of a defective door or doors on the whole train rather than an individual vehicle. Further details are shown in section 6 Door defects on passenger vehicles.

DETAIL OF CHANGES

Section headings in bold relate to issue 8 of module TW5

2 Competent person travelling with driver

2.4 Defective or isolated DSD or driver's vigilance equipment

The driver in addition to pointing out to the competent person, how to stop the train in an emergency, also has to point out how to contact the signaller.

The competent person in addition to confirming that they understand how to stop the train in an emergency, also has to confirm that they understand how to contact the signaller.

If it becomes necessary for the competent person to stop the train, they should also use the train radio to contact the signaller if this is possible.

3 Air suspension

3.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to start a journey if the air suspension is not inflated.

3.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text in the second paragraph now refers to authority to 'start a journey' rather than 'enter service'.

3.3 When in service

The heading has been changed to '**During a journey**'.

4 Automatic warning system (AWS)

4.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

4.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers to allowing a train to 'start a journey', rather than 'enter service'.

4.3 If the AWS becomes defective when in service

The heading has been changed to '**If the AWS becomes defective during a journey**'.

4.4 Isolating the AWS when in service

The heading has been changed to '**Isolating the AWS during a journey**'.

4.5 If the AWS is defective or isolated

The speed permitted in the table for when a competent person is not provided has been changed from 40 mph to 50 mph for freight trains and 60 mph for all other trains, except during poor visibility when it remains at 40 mph to give the driver a greater opportunity to view emergency speed restrictions (ESR) signs. This entry has also been slightly simplified to refer to proceeding to the location where a competent person is to be provided.

5 Brake defects

5.4 Brake no longer operating on the leading vehicle of a multiple-unit train

This heading has been changed to '**Brake no longer operating on the leading vehicle of a passenger train**'. It can now apply to locomotive hauled, push and pull trains and HSTs as well as multiple unit trains.

6 Door defects on passenger vehicles

6.1 Vehicles which must be placed out of use

Due to the extensive changes made to section 6, some of the previous content of section 6.1 has been moved to new section **6.3 Vehicles which passengers must not travel in**.

The diagrams are no longer shown as they could not show all the possible permutations and in new section 6.3 the actions required often depend on the type of emergency egress control provided on the defective door, which may not be immediately obvious to traincrew.

The new section 6.1 is headed '**Starting a journey**'. This requires that a train does not start a journey with a defective door unless the train operator's control has given authority to do so.

6.2 Taking defective doors out of use

The heading has been changed to '**Arrangements for defective doors**'.

A new third paragraph has been added, which requires the label or indication showing the door is out of use to also indicate that it can still be released by passengers in an emergency if the emergency egress control is of a type that allows the door to be opened when secured out of use. This information is available from the train operator's control.

6.3 If the doors on one or both sides cannot be released

This section has been renumbered as section 6.4.

There is a new section 6.3 **Vehicles which passengers must not travel in**. This includes a table which shows if a vehicle has to be taken out of passenger use. Some of this information was previously shown in section 6.1 **Vehicles which must be placed out of use**. However, in most cases this now depends on whether the door emergency egress control will still release the door if it has been placed out of use. If necessary, the train operator's control can provide this information.

If a door giving access to wheelchair accommodation is defective, special arrangements have to be made for wheelchair users to prevent a situation where they are able to board on one side of the train but at their destination the platform is on the side of the defective door.

The table includes an entry for vehicles which only have one passenger door (and no other emergency exit) on one side which was not previously considered.

6.4 If the train has to be worked forward with a door open

This section has been renumbered as 6.5; there are no other changes.

7 Driver's reminder appliance (DRA)

7.1 Entering service from a maintenance depot

The heading has been changed to 'Starting a journey from a maintenance depot'.

The text now refers to not allowing a train to 'start a journey' if the DRA is defective.

7.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to 'Starting a journey from somewhere other than a maintenance depot'.

7.3 When in service

The heading has been changed to 'During a journey'.

The text now refers to the DRA becoming defective 'during a journey'.

8 Driver's safety device (DSD) and driver's vigilance equipment

8.1 Entering service from a maintenance depot

The heading has been changed to 'Starting a journey from a maintenance depot'.

The text now refers to not allowing a train to start a journey if the DSD or vigilance equipment is defective.

8.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers to allowing a train to 'start a journey', rather than 'enter service'.

8.4 When in service

The title has been changed to '**During a journey**'.

The conditions previously shown in sections a), b), c) and d) are now shown in a table to make it easier to understand which conditions apply.

The speed permitted on lines without ERTMS or ATP for when a competent person is not provided is now 50 mph for freight trains and 60 mph for all other trains, except during poor visibility if AWS is not working when it remains at 40 mph to give the driver a greater opportunity to view emergency speed restrictions (ESR) signs.

9 Driving cab windows - broken or obscured

9.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to start 'a journey' if you do not have a clear view.

9.2 Entering service from somewhere other than a maintenance depot or when in service

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot or during a journey**'.

10 Driving controls defective

10.1 When in service

The title has been changed to '**During a journey**'.

11 Emergency bypass switch (EBS)

11.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey' if the EBS has been operated in any cab.

11.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers to a train being able to 'start a journey' rather than 'enter service'.

A train formed of more than one unit, now only has to have a guard or competent person if the journey will be on a line that is not signalled by TCB or ERTMS.

There is a new instruction to the signaller that if a track circuit remains occupied, after the passage of a train on which the EBS has been operated, the driver has to be contacted immediately to find out if the train is still complete.

11.3 Operating the EBS when in service

The heading has been changed to '**Operating the EBS during a journey**'.

There is a new instruction to the signaller, that if a track circuit remains occupied, after the passage of a train on which the EBS has been operated, the driver has to be contacted immediately and asked if the train is still complete.

12 ERTMS on-train equipment

12.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey' if the ERTMS equipment is not working in any cab which is to be driven from with ERTMS in operation.

12.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text in the second paragraph now refers to allowing a train to 'start a journey' rather than 'enter service'.

12.3 When in service

The heading has been changed to '**During a journey**'.

12.4 If ERTMS is not in operation when it should be

The text now refers to a train being able to 'start' or 'continuing a journey' rather than 'enter service'.

a) On an ERTMS line where lineside signals are provided

If AWS and TPWS are not operating the train may be allowed to be dealt with as one that has defective AWS and TPWS, see sections 4 and 24. This allows the signaller to clear signals and the driver to drive according to the signal indications displayed.

The signaller now has to tell the next signaller that ERTMS is not in operation and the arrangements for signalling the train.

13 External orange hazard lights

13.3 Train continuing in service

The heading has been changed to 'Train starting or continuing a journey'.

The text now refers if a train is to 'start' or 'continue a journey'.

14 Headlights, marker lights and tail lamps

14.1 Entering service from a maintenance depot

The heading has been changed to 'Starting a journey from a maintenance depot'.

The text now refers to not allowing a train to 'start a journey' if a headlight, tail lamp or marker light is not working.

14.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to 'Starting a journey from somewhere other than a maintenance depot'.

The text now refers to not allowing a train to 'start a journey'.

14.3 When in service

The heading has been changed to 'During a journey'.

In the table an addition has been made for the actions against 'The headlight has completely failed'. An operative marker light can be regarded as a white light.

15 Hot axle boxes and activation of lineside hot axle box detectors

15.1 Entering service

The title has been changed to 'Starting a journey'.

The text now refers to not allowing a train to 'start a journey' rather than 'enter service'.

16 Lifeguards

16.1 Entering service

The heading has been changed to 'Starting a journey'.

The text now refers to not allowing a train to 'start a journey' rather than 'enter service'.

16.2 When in service

The heading has been changed to 'During a journey'.

17 On-train data recorder (OTDR)

17.1 Entering service

The title has been changed to 'Starting a journey'.

The text now refers to not allowing a train to 'start a journey' rather than 'enter service'.

17.2 When in service

The heading has been changed to 'During a journey'.

The text now refers to 'during a journey'.

18 Public address system on DO trains

18.1 Entering service

The title has been changed to 'Starting a journey'.

The text now refers to before 'starting a journey' rather than 'entering service'.

18.2 When in service

The heading has been changed to 'During a journey'.

19 Sanding equipment to assist train braking

19.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey' rather than 'enter service'.

19.2 Entering service from somewhere other than a maintenance depot or when in service

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot or during a journey**'.

21 Speedometer

21.1 Entering service

The heading has been changed to '**Starting a journey**'.

The text has also been changed to refer to not allowing a train to 'start a journey' rather than 'enter service'.

21.2 When in service

The title has been changed to '**During a journey**'.

The text now refers to there being 'no other authorised working speedometer in the cab'.

22 Track circuit actuators (TCA)

22.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey' rather than 'enter service'.

22.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers allowing a train to 'start a journey' rather than 'enter service'.

22.3 When in service

The heading has been changed to '**During a journey**'.

The text now refers to 'during a journey'.

c) when the train cannot continue normally

In the final paragraph, the arrangements for sounding the warning horn on approach to a level crossing are now specified as 'from the location the train starts to travel at caution until the front of the train is on the crossing'.

23 Traction interlock switch (TIS)

23.1 Entering service from a maintenance depot

The heading has been changed to 'Starting a journey from a maintenance depot'.

The text now refers to not allowing a train to 'start a journey' if the TIS has been operated or is unsealed.

23.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to 'Starting a journey from somewhere other than a maintenance depot'.

The text now refers to not allowing a train to 'start a journey' conveying passengers.

24 Train protection and warning system (TPWS)

24.1 Entering service from a maintenance depot

The heading has been changed to 'Starting a journey from a maintenance depot'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

24.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to 'Starting a journey from somewhere other than a maintenance depot'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

24.3 When in service

The heading has been changed to 'During a journey'.

24.5 If the TPWS is defective

The text now refers to permission being given for a train to 'start a journey' rather than 'enter service'.

The speed permitted in the table for when a competent person is not provided, has been changed from 40 mph to 50 mph for freight trains and 60 mph for all other trains. This entry has also been slightly simplified to refer to proceeding to the location where a competent person is to be provided.

25 Train radio equipment

25.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

25.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

25.3 When in service

The heading has been changed to '**During a journey**'.

The text now refers to 'during a journey' or 'continuing a journey' rather than 'in service'.

26 Vehicles with locked wheels, wheel flats, shifted tyres or dragging brakes

26.1 Entering service

The heading has been changed to '**Starting a journey**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

26.2 When in service

The heading has been changed to '**During a journey**'.

27 Warning horn

27.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

27.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

The text now refers to 'a train can start a journey', rather than 'can enter service'.

27.3 When in service

The heading has been changed to '**During a journey**'.

28 Wheel slide protection (WSP) equipment

28.1 Entering service from a maintenance depot

The heading has been changed to '**Starting a journey from a maintenance depot**'.

The text now refers to not allowing a train to 'start a journey', rather than to 'enter service'.

28.2 Entering service from somewhere other than a maintenance depot

The heading has been changed to '**Starting a journey from somewhere other than a maintenance depot**'.

RS521 Signals, Handsignals, Indicators and Signs Handbook

KEY CHANGES

The 'end of emergency special working' sign referred to in Module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* has been added to this handbook.

Section 2.6 dealing with splitting distant signals has been revised. This now includes the configurations of both left-hand and right-hand diverging junctions, which were previously not included or were not drawn correctly.

A new section 5.17 has been added, as the signs provided on bi-directional lines are different from AWS gap signs and should not be referred to under the same heading.

DETAIL OF CHANGES

Section headings in bold relate to issue 4 of Handbook RS521

5 Other signals and indicators

5.16 AWS gap indicators

This section has been amended to provide clarity so that it refers to AWS gap indicators only. A new section 5.17 has been added referring to the signs provided on some bi-directional lines which are not AWS gap indicators, and where AWS equipment is provided for temporary and emergency speed restrictions in both directions of travel.

12 Other lineside signs

12.12 End of emergency special working sign

This is a new sign and has been added.



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