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FIFE CIRCLE: EDINBURGH - MARKINCH
VIA DUNFERMLINE & KIRKCALDY

RIVET GAMES

STEAM®

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CONTENTS

1 FIFE CIRCLE: EDINBURGH – MARKINCH VIA DUNFERMLINE & KIRKCALDY

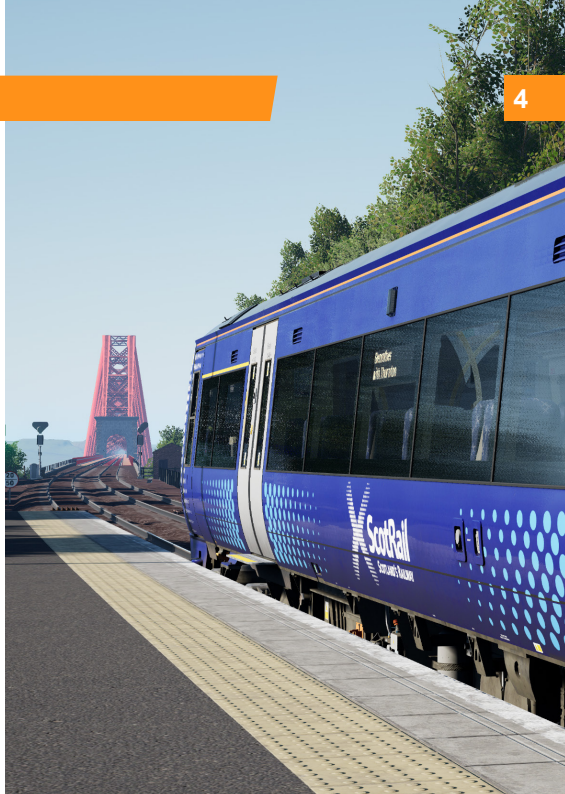
INTRODUCING FIFE CIRCLE

From the Scottish Capital to the Firth of Forth Lowlands, embark on key passenger services over iconic cantilevers and along picturesque coastline. ScotRail Turbostar in the spotlight, as this modern diesel legend populates the round-and-round rails of Rivet Games' Fife Circle Line in Train Sim World 4!

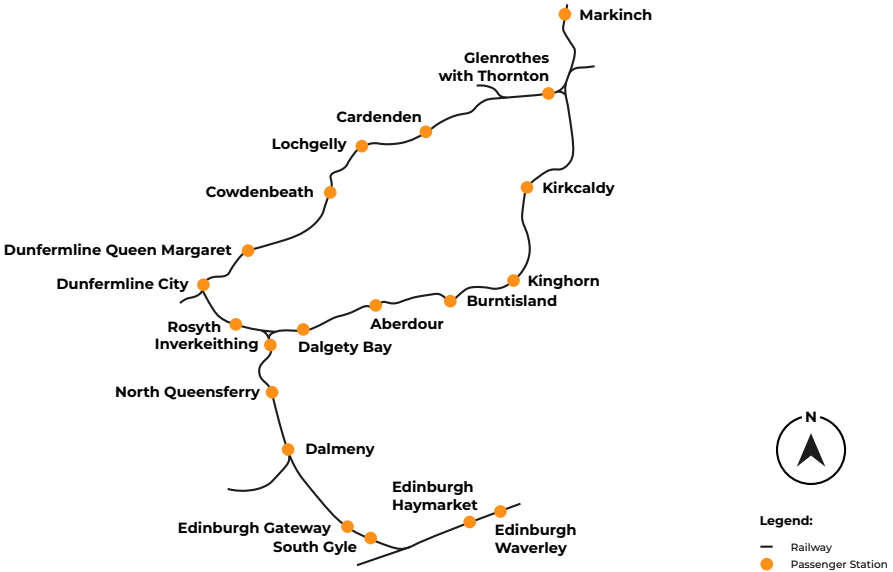
With a history dating back to the 1840s, what is operated today as the Fife Circle Line was built by multiple companies. Over time, lots of branch lines started to appear in both the regions of Fife and Lothian. However, there is one key obstacle which prevented the lines from initially joining up: the Firth of Forth, a mile-wide estuary north of Edinburgh.

Construction of the almighty Forth Bridge in 1890 changed everything. Spanning over 8000 ft, the cantilever bridge carried the railway high above the water and opened a vital connection between north and south. This led to the linking of lines via the coast, which itself is an extension of the East Coast Main Line, as well as the "loop line" which splits off at Inverkeithing and Kirkcaldy, via the city of Dunfermline.

In Train Sim World 4, climb aboard the ScotRail BR Class 170, a popular DMU throughout the UK, and serve the regions of Lothian and Fife on one of Scotland's last diesel-operated commuter lines. With the power of free roam, explore the route as you desire; Flying Scotsman would be right at home as it traverses the World-renowned Forth Bridge!



5 FIFE CIRCLE ROUTE MAP



GAME MODES

JOURNEYS

Blends together more than 24 hours of sequential gameplay. Start a Journey and enjoy hundreds of scenarios, timetabled services, and jobs to complete around the railway.

TRAINING

Training modules give you the knowledge you need to get the most from your locomotives and trains via interactive lessons that teach you key concepts. If you're new to Train Sim World, we recommend you start here to learn the fundamentals.

SCENARIOS

Scenarios are objective-based activities which provide unique experiences. Move coaches around, drive passenger services and experience some of the operations that occur on the route.

TIMETABLES

These provide a host of activities throughout an entire 24-hour time period; Timetable Mode is a new way to play. There's always something to do with a large variety of services to take control of or ride along with. Sit back and enjoy the action and capture amazing screenshots, hop on or off and ride along with the various services as they go about their duties or take control and carry out the duties yourself. Featuring many individual services, you'll always find something going on.

2 SCOTRAIL CLASS 170 DIESEL MULTIPLE UNIT

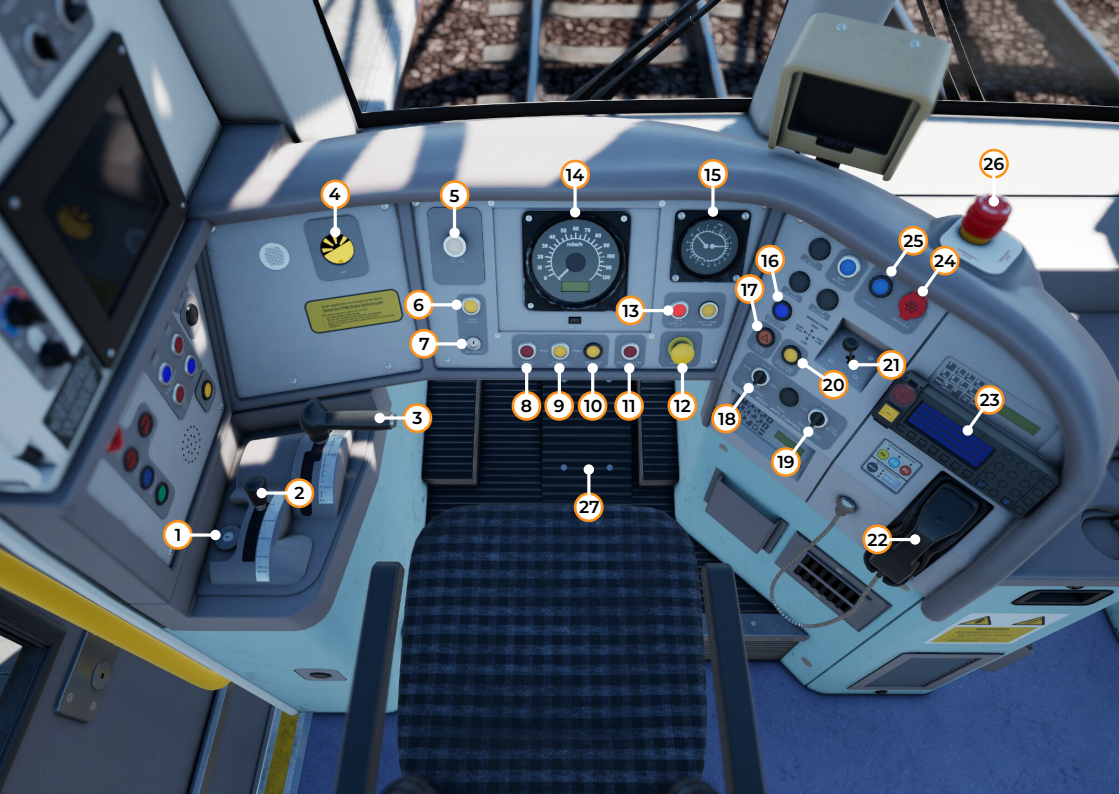
INTRODUCING THE SCOTRAIL CLASS 170

The British Rail Class 170 “Turbostar” is a diesel multiple unit (DMU), build for regional passenger services by Adtranz and Bombardier.

The Class 170 was derived from the Class 165 and 166, a fleet of modern DMUs from the early 90s. All these trains share quite a few design decisions regarding cab and body shape, as well as the similar transmission and final drive components. Built from 1998 until 2005, a grand total of 139 sets were built. They’re powered by a 422 hp engine and have a top speed of 100 mph.

Over it’s lifespan, the 170 has seen regional, long-distance and even (although rarely) suburban services.

ScotRail used to be the largest operator of the Class 170s, with a fleet of 55 three-car trains. As a result of the Edinburgh - Glasgow electrification (amongst others), the fleet has shrunk down to 30 sets, all assigned to the Edinburgh Haymarket Depot.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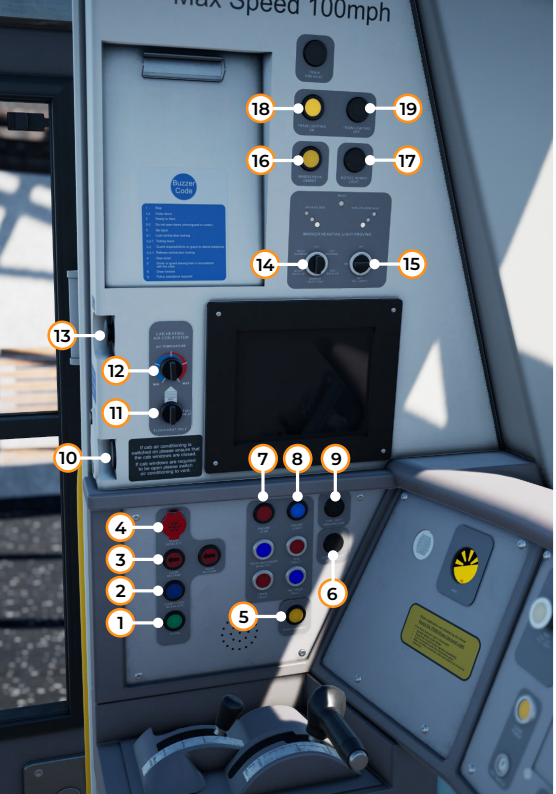
THE DRIVERS CAB: MAIN VIEW

1. The Master Key unlocks the reverser in the current cab.
2. The Reverser activates the current cab and set's the direction of travel.
3. Using the Combined Throttle and Brake lever, the driver can set how much the train accelerates or brakes.
4. The AWS Sunflower indicates the status of the AWS safety system. Learn more in the "Safety Systems" section of this manual further down.
5. The DRA controls allows the driver to lock traction, which is commenly used when stopping at a station before a red signal.
6. The Door Power Indicatior shows if the doors can be opened using the in-cab controls. Will turn off if the train is going faster than 5 mph.
7. To control the doors if this is not the active cab, the Door Power key needs to be turned.
8. The Brake Demand light indicates an active AWS/TPWS emergency braking.
9. This indicator lights in case of a failure on board (and during the self-test).
10. The Train Stop Override button needs to be pushed to pass a signal at danger while using the TPWS safety system.
11. The Safety Systems Isolated indicator will light up if any of the safety systems is isolated.
12. The AWS Reset button needs to be pushed to acknowledge an AWS alarm.
13. The Door Interlock Lost indicator will light up if any door on the train is open.
14. The Speedometer shows the current speed the train is travelling at in miles per hour.
15. The Brake Cylinder gauge shows the current brake pressure for both the main line and the brake cylinder.
16. The Doors Close/Interlock buttons closes all doors on the train (both left & right side).
17. The Hazard Lights button toggles the the hazard lights between on and off.
18. The Wiper selector controls if both wipers are active or just the drivers wiper.
19. Choose between three speeds using the Wiper Speed Selector.
20. Pushing the Apply Sand button will let sand fall onto the tracks in front of the wheels to increase traction.
21. The Horn lever is a four-directional lever. Push it up or down for the high or low hard horn sound and left and right for a softer version of the horn.
22. Press the Contact Signaller phone to request access to a blocked section of track in front of you. Additionally, you could use the button "SG" on the GSM-R device (Nr 23).
23. The GSM-R is a communication device between dispatcher & driver. Pressing "SG" will contact the dispatcher, pressing the "T" will trigger the system to self-test. The remaining buttons should be self-explanatory.
24. Press the Uncouple button to uncouple the train directly in front of you. Note that the Reverser has to be set to "Neutral" for this to work.
25. Press the Couple button to connect the systems between your and the train you just coupled to. Note that the Reverser has to be set to "Neutral" for this to work.
    Note that after driving onto a train with a compatible coupler, the train will be automatically coupled physically. Pressing the Couple buttons enables the two units to talk to each other and is required to fully control both units.
26. Pressing the Emergency Brake button will cause the train to instantly perform an emergency brake. Learn how to recover from one further down in this manual.
27. The Deadmans pedal needs to be pushed down every 30 seconds to let the system know the driver is awake. Failing to do so will cause an alarm and then trigger the emergency brake to activate.


Max Speed 100mph
Buzzer Cab
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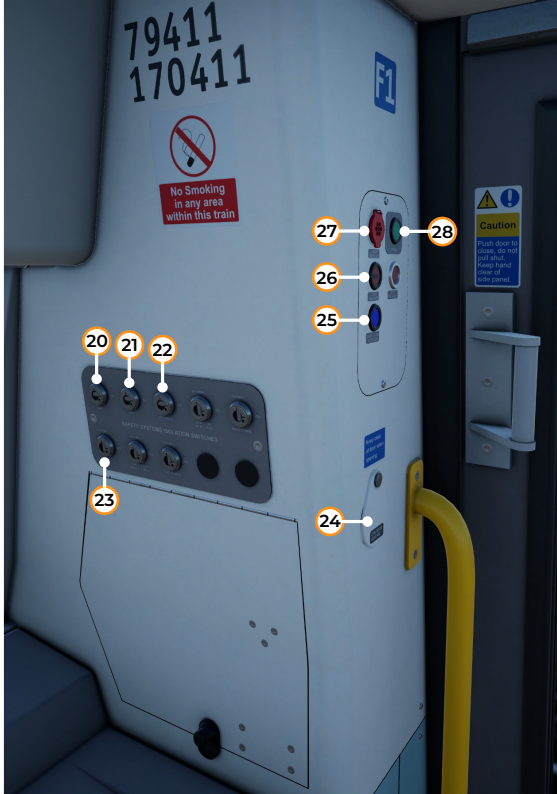
79411
170411
No Smoking in any area within this train
Caution
Push door to close, do not pull shut. Keep hand clear of side panel.
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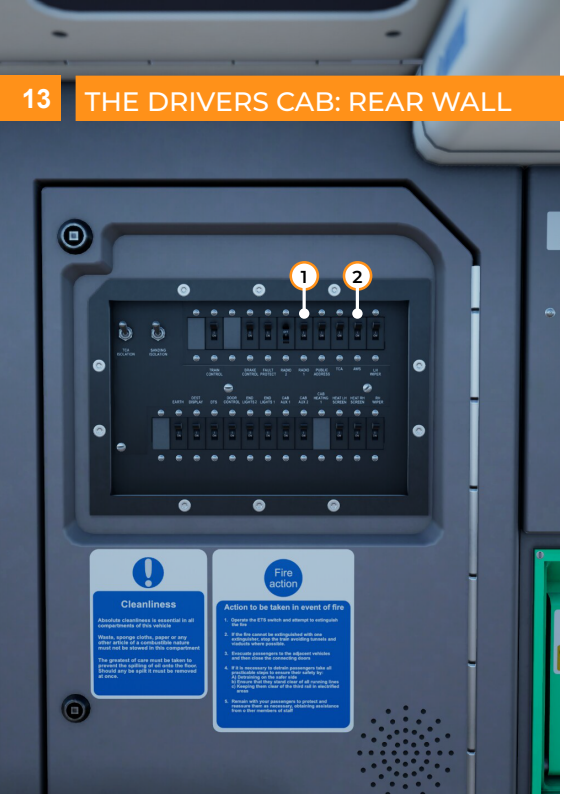
THE DRIVERS CAB: LEFT & RIGHT

1. The Signal button is used to sound a buzzing sound, letting the driver know that the train is ready for departure.
2. The Doors Close / Interlock buttons closes all doors on the train.
3. The Door Release button will open the doors on the left hand side of the train.
4. The Deselect button is used to open the doors between the current door and the active cab. Press it first and then the Door Release button (Nr 3) to open the doors. If there's no active cab, no doors will open. (In reality this would be used on stations that are too short for the full lenght of the train, making sure every open door is on the platform.)
5. The Foot Warmer toogles the foot heater for the driver.
6. Use the Compressor Speedup button to refill the brake reservoir faster (used while initially setting up the train with an relatively empty brake reservoir).
7. Pressing the Engine Stop button will shut down the engine.
8. Pressing the Engine Start button will start the engine.
9. The Cab Light Drivers Side button will toggle the cab light above the driver.
10. Use the Cab Door Release button to open the cab door on the left hand side.
11. Use the AC Mode knob to toggle between various heating and cooling modes.
12. Select the AC temperature using the Temperature dial.
13. Hold down the DSD Holdover button if you're out of your seat to prevent an emergency braking triggered by the deadmans pedal not being pushed.
14. Use the Headlights knob to set the correct headlight configuration.
15. Use the Tail Lights knob to set the correct taillight configuration.
16. Use the Windscreen demister to demist the cabs windscreen.
17. The Notice Board Light button toggles the light at the notice board of and off.
18. The Train Lighting On button is used to turn passenger lighting on.
19. The Train Lighting Off button is used to turn passenger lighting off.
20. The AWS isolation switch is used to isolate the AWS and TPWS safety systems. If isolated, the system is turned off.
21. Isolate the DSD safety system with the DSD isolation switch.
22. The Vigilance isolation switch is used to enable / disable the deadmans pedal.
23. The DRA Isolation switch is used to enable / disable the DRA safety system.
24. Use the Cab Door Release button to open the cab door on the right side.
25. The Close Doors / Interlock button closes all doors on the train and illuminates if all doors are closed.
26. The Door Release button opens all doors on the right side of the train.
27. Use the Deselect button to open the doors between the current door and the next active cab. For more information see the explanation at Nr 4.
28. The Signal button is used to sound a buzzing sound, letting the driver know that the train is ready for departure.

13 THE DRIVERS CAB: REAR WALL



1 Use the AWS Cut-Out switch to isolate the AWS and TPWS safety systems. This is an alternative way to using the isolation switch Nr 20 on page 12.

2 Use the Radio Cut-Out switch to enable / disables the GSM-R system (Nr 23 on page 10).

PASSENGER AREA: GUARD PANEL

1. Use the Guard Panel cover to open and interact with the guard panel, hidden at various passenger doors throughout the train.
2. The Door Close button will close the doors on the respective side of the train.
3. Insert & turn the Door Control key to enable using the guard panel. This will also light up the Door Power indicator (Nr 4) to indicate that the doors are powered.
4. The Door Power indicator is lit up if the guard panel is active (and the doors are powered).
5. Press the Door Release button to open the doors on the respective side of the train.
6. The Signal button is used to sound a buzzing sound, letting the driver know that the train is ready for departure.
7. Use the Deselect button to open the doors between the current door and the next active cab. For more information see the explanation at Nr 4 on page 12.
8. Use the Energize Local Door button to remove your local door from the train interlock system. This is used in the procedure of operating as a guard - for more details, see page 18.

3 OPERATING THE CLASS 170

GETTING STARTED

Enter the cab you will be driving in, sit in the driver's seat and check the following:

1. Master Key (Nr 1, page 10) is On.
2. The Reverser (Nr 2, page 10) is set to Forward.
3. Release the brake and apply power using the Combined Throttle and Brake lever (Nr 3).

Optional:

4. Set headlights (Nr 14, page 10) to the matching setting.
5. Set taillights (Nr 15, page 10) to the correct setting.

<u>If you wish to run with TPWS enabled:</u>

1. Enable TPWS with the keyboard combo "CTRL + ENTER".

<u>If you wish to run with AWS enabled:</u>

1. Enable AWS with the keyboard combo "SHIFT + ENTER".

ON-BOARD SYSTEMS: BRAKES

The ScotRail Class 170 comes with one braking system: A Dynamic Brake which is controlled using the same combined lever that controls the traction and brakes (NR 3).

Dynamic Brake

As it suggests, this position releases the brakes throughout the unit. When released, the Brake Cylinder will read 0 Bar with no changed to the Brake Pipe and Main Reservoir which will remain between 8 and 9.5 Bar.

Braking Levels (lever positions):

- **Brake 1:** Applies 33% braking force.
- **Brake 2:** Applies 66% braking force.
- **Brake 3:** Applies 100% braking force using the dynamic brake.
- **Brake 4:** Applies the full amount of air braking.

GUARD PANELS

You can operate the doors on the Class 170 as the driver from the cab. But in real life, there might be a guard on the train, which can take control over closing and opening the doors. He does that using the so called “Guard Panel”, which we fully simulated on this train.

Here’s how to operate it:

1. Open the cover (Nr 1, page 14).
2. Insert the key and unlock the panel (Nr 3), note that the “Door Power” indicator will light up.
3. Push the “Energize Local Door” button (Nr 8) to remove the door from the train interlock.
4. Open your local door manually, step onto the platform and make sure it’s safe to open the doors.
5. Press and hold the “Door Open” buttons (Nr 5) for 2 seconds to open the door.
6. Wait for the passengers to board, before making sure it’s safe to close the doors again.
7. Close the doors by pressing the “Doors Close” button (Nr 2).
8. Manually close your local door and push the “Energize Local Door” button (Nr 8) again to add the door back to the train interlock.
9. Signal the driver that all doors are closed and we can depart by pressing the “Signal” button (Nr 6) after a specified pattern.
10. Remove the “Door Control” key to disable the panel, the close the guard panel cover (Nr 1).

4 SAFETY SYSTEMS

AUTOMATIC WARNING SYSTEM (AWS)

The original concept of AWS was to provide the driver with an audible and visual indication of whether a distant signal was at clear or caution. Should the driver fail to respond to a warning indication, an emergency brake application would be initiated.

Since the introduction of multi-aspect signalling, the majority of signals are fitted with AWS and provide a failsafe method to alert the driver to potentially dangerous conditions ahead such as a signal at caution or danger, some types of level crossing or a dramatic change in permissable speed.

ENABLING OR DISABLING AWS

The default state of the AWS system is disabled. To enable the system you must be seated in the driving seat and the train must be stationary. Use the **Signalling Systems Enabled** control (See Settings > Controls menu). Repeat to disable the system again.

OTHER CONTROLS

AWS can also be enabled/disabled via in-cab switches. See Pages 10 - 17 and 19 - 28 for the location of the in-cab switches.

COMPONENTS OF AWS

AWS has its own indicator known as a sunflower (shown opposite) which displays either an on or off indication. The on indication simply advises that the driver has acknowledged an alert.

GENERAL NOTES

Unlike some European systems, AWS cannot differentiate between different types of cautionary or dangerous signal aspects nor can it monitor speed. The responsibility remains in the driver's hands how to respond to such alerts and obey appropriate signalling and signage at the line side.

AWS typically consists of a magnet placed in the four-foot and preceeds a signal by a distance of typically 200 yards (180 metres), which is then energised when the signal is at clear. A train-mounted device then reads the state of the magnet and reports the state accordingly in the cab.

AWS is a fail-safe system in that the system remains operational and provides a warning even when the system fails or is unpowered.

In modern trains, AWS is typically interconnected with the Train Protection & Warning System (TPWS) as it provides additional protection in the form of overspeed (going too fast) and overrun (passing a signal at danger) protection alongside the basic operation of AWS.

21 TRAIN PROTECTION & WARNING SYSTEM (TPWS)

The Train Protection & Warning System is used to stop the train by automatically initiating an emergency brake application if the train has:

- Passed a signal at danger without permission to do so.
- Approached a signal at danger too fast.
- Approached a reduction in permissable speed too fast.
- Approached buffer stops too fast.

ENABLING OR DISABLING TPWS

TPWS is tied to the basic operation of AWS and when AWS is disabled, so is TPWS. See Enabling or Disabling AWS on the previous page for further instructions.

GENERAL NOTES

TPWS typically consists of one or more types of loop placed in the four-foot at the following locations:

- on passenger lines, at all main running signals capable of showing a stop aspect, including some stop boards which protect crossing or converging train movements.
- at any signal capable of showing a stop aspect on a non-passenger line, where that signal that protects a crossing of, or convergence with, a passenger line.
- at stop signals where conflicting movements could take place in the overlap of the next stop signal ahead.
- on the approach to a buffer stop at the end of passenger platforms.
- on the approach to permissable speed restrictions, where the permissible speed on the approach is 60 mph or more and the reduction in permissible speed is at least one third.

The loops are typically of two types, TSS (Train Stop System) and OSS (Overspeed Sensor System). They generally are placed to factor a number of variables such as the braking performance of trains and gradient of the line, among others.

Alongside the track equipment, on-train equipment reads the status of the track equipment and takes action to stop the train if it deems appropriate to do so such as in the case of overspeed (going too fast) or if it is about to overrun (go past) a signal at danger.

The TSS is a single loop placed ahead of the signal it is protecting and is energised when a signal is at danger. Should a train pass the loop, the emergency brakes are triggered.

The OSS consists of two loops, an arming loop and a trigger loop. The arming loop starts a timer and if a train passes a trigger loop within a designated time period (which indicates a train is overspeeding) the emergency brakes are triggered.

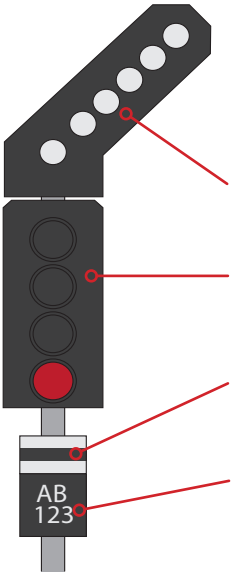
EMERGENCY BRAKE RECOVERY

At some point in your Train Sim World driving career, you will encounter an emergency brake application. Whatever the reason, here are some simple steps to get you back on your way quickly:

1. You should always begin by understanding why you received an emergency brake application. Was it an intervention by an on-board safety system? Was it because you tripped a trackside mechanism? Or something else? Understanding the exact cause can significantly help you avoid similar situations in the future.
2. If you can hear an alarm, and you are still moving, you must wait for the train to come to a complete stop before you can acknowledge or cancel the alarm.
3. Acknowledge/Cancel the alarm by pressing the **Alerter Reset Control** (See Settings > Controls menu). All audible alarms should have been silenced. If you can still hear alarms, please refer to the appropriate section about on-board safety or signalling systems.
4. Once at a complete stop, and all alarms have been acknowledged or cancelled, you should always 'reset' your driving controls. Resetting simply means to restore all the driving controls to their default position, neither applying power or braking (except where brake needs to be applied to prevent you from free-rolling) and the direction control or Reverser is set to its neutral or off state. In some instances, you may be required to move the brake handle to the Emergency position before the brakes can be released.
5. Once all the driving controls have been reset, move the Reverser to Forward.
6. Move the brake handle to the release position.
7. Move the throttle lever to a low throttle position to begin applying power.
8. Once the brakes have fully released, the train should begin to move.

5 BRITISH RAILWAY SIGNALLING GUIDE

BRITISH SIGNALLING: COLOUR LIGHT



British colour light railway signals consist of one or more physical components or modules that form the basis of advising the driver on the state of the route ahead. The components are, from top to bottom:

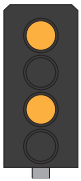
Junction Indicator or Route Indicator typically mounted above the main aspect head.

Main Aspect Head (the example shown is a four-aspect type) which provides a visual representation of the state of the route ahead.

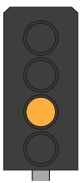
Signal Type Identifying plate advises what type of signal this is (the example shown is an automatic signal).

Signal Identification Plate advises the area this signal is situated in and its corresponding identification number.

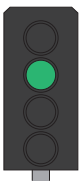
Stop
You must not proceed beyond this signal; the next block is occupied.



Advanced Caution
Proceed into the next block. Expect the next signal to be at Caution.



Caution
Proceed into the next block. Expect the next signal to be at Stop.

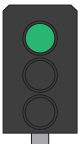


Clear
Proceed into the next block.

The examples above show the appropriate aspects for four-aspect block signalling. The Advanced Caution aspect is used to enable greater braking distance for trains travelling at high speeds or that have heavy loads, and even in situations such as on steep downhill grades that is likely to require greater distances to stop.

COLOUR LIGHT OVERVIEW

Stop
You must not proceed beyond this signal; the next block is occupied.



Clear
Proceed into the next block.

Caution
Proceed into the next block. Expect the next signal to be at Stop.

For three-aspect signalling, these signals cannot display the Advanced Caution aspect. The meaning of each aspect is identical to those of four aspect signals.

Stop
You must not proceed beyond this signal; the next block is occupied.

Clear
Proceed into the next block.

DISTANT SIGNALS

Caution
Proceed into the next block. Expect the next signal to be at Stop.

Clear
Proceed into the next block.

LIMITED ASPECT

Stop
You must not proceed beyond this signal; the next block is occupied.

Caution
Proceed into the next block. Expect the next signal to be at Stop.

For two-aspect signalling, these can only display the Clear and Stop aspect. However, care should be taken with two aspect signals as there can also be limited aspect and distant variants as shown above.

COLOUR LIGHT OVERVIEW

Distant signals are explained further along in this guide. However, Limited Aspect signals are those that are incapable of displaying a Clear aspect and are therefore limited to ‘degraded’ aspects. Degraded essentially means - if Clear is the best possible aspect you can receive, then the aspect below that is Caution, which is worse than Clear and Stop is worse than Caution. These are called degraded aspects because each one degrades or slows the movements of trains.

27 COLOUR LIGHT OPERATING SEQUENCE

The sequence of displayed aspects runs from left to right as shown in the examples below:

FOUR ASPECT SIGNALLING

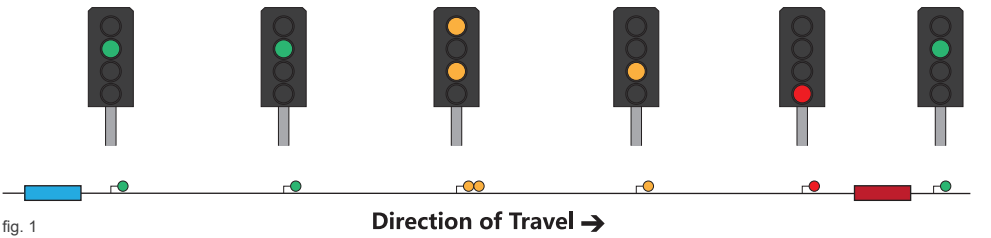


fig. 1

THREE ASPECT SIGNALLING

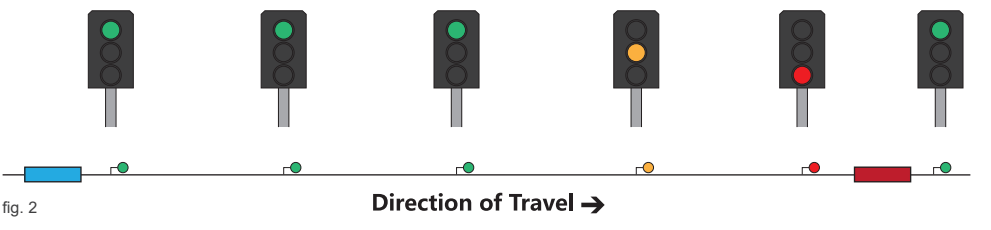


fig. 2

TWO ASPECT SIGNALLING

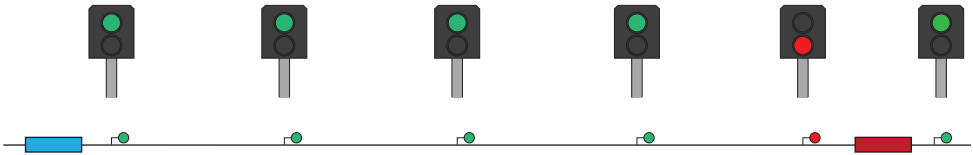


fig. 3

In these diagrams, if you are the blue train, the five signals spaced between you and the red train would follow the sequence as shown in these examples. They also form a protection barrier between you and the red train. The empty space between each signal is called a block. Essentially, there are four empty blocks between you and the train in front. The distance between you and the train you are following is important as it should provide you with enough distance to bring your train to a complete stop when travelling at the maximum permitted speed of the line.

For a three-aspect signalling system, the number of blocks for braking would be reduced to three blocks. This means there is less braking distance between you and the train in front since three-aspect signals are incapable of displaying the Advanced Caution aspect. So, you can form the conclusion that the greater the number of main aspects a signal can display, the greater the distance between you and the train ahead and the greater the overall braking distance and the safer it is.

For two aspect signalling, you can see that there is very little braking distance. In fact, you would be unaware you were following another train until you were in the block immediately behind it. Two aspect signalling is not commonly used on main lines and is usually used on slower branch lines with less traffic.

Typically, four-aspect signals are used where line speeds would be in excess of 100 mph. However, there may be instances where the line speed is lower but additional protection is required. For example, due to a junction with a preceding steep downhill section and therefore greater distance required for braking of heavier trains. It is also used to increase overall capacity as the more protection that is provided, the more trains can run on the same line.

Additionally, each buffer stop (the end of the track as found at the end of sidings or at a terminus station) is regarded itself as a Stop signal and therefore signals further back up the line would display the appropriate aspects.

Finally, for limited aspect signals, you would normally find these when on approach to terminus stations where the aspect is limited to Caution or Stop to add additional protection for trains within the platforms.

Co-Acting Signals

Co-acting signals are smaller versions of the main aspect signals and give both short and long-distance sighting of a signal. A co-acting signal repeats the exact same aspect of the main aspect and are always the same type (colour light or semaphore) as the main signal. You will typically find them at stations where visibility of the main signal is obstructed or impossible to read when stopped in a platform.

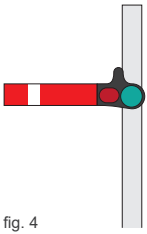


fig. 4

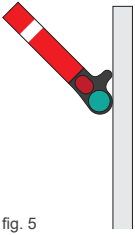


fig. 5

The examples above show the appropriate aspects for Upper-Quadrant signals (UQ), i.e. the signal arm raises into the upper quadrant of an arc in order to display its Clear aspect. Lower Quadrant signals are those that drop downwards but the meaning between each type is identical. For a Clear aspect (fig. 5), you should regard any indication that is at a 45-degree position and, for a Stop aspect (fig. 4), those indications that are at a horizontal position. Note that these signals are essentially only capable of displaying two aspects and you should regard them as such when considering speed and braking effort.

REACTING TO MAIN ASPECT SIGNALS

Clear

Continue at the maximum permitted speed for your train or for the route that has been set. If the train is fitted with AWS, a clear bell or tone will sound as you pass over the magnet that is situated on approach to the signal.

Advanced Caution

For lighter trains that have good braking, you should continue at the maximum permitted speed and look out for the next signal which is likely to be at Caution. If you are in a heavy train, are travelling at or just below 125 mph or are descending a steep grade, you should begin braking as soon as you see the aspect with a 14.5 PSI (1 Bar) reduction with the Driver's or Train Brake. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

Caution

All trains should be braking once this signal is in sight. If your speed is such that you are unlikely to stop before the next signal, increase your braking effort to 29 PSI (2 Bar) to further reduce your speed. The aim is to reduce your speed to around 25 mph well in advance of the Stop signal ahead. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

Stop

All trains must stop in advance of the signal. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

It is important that you bring your train to a stop as close to the signal as possible but ensure that you can safely read the displayed aspect from your seated position. Do not stop so close to the signal that you need to adjust your driving position in order to read the signal aspect. Do not stop so far away from the signal that there is an extended distance to cover before passing the signal. Doing so may result in the rear of the train occupying the rear-most signal block; impacting the safe movement of trains behind you.

Once you have come to a complete stop, it is considered good practice to move the Driver's or Train Brake into the full-service position to secure the train.

DISTANT OR RELATED ASPECTS

Distant signals, sometimes referred to as Related Signals, essentially provide advanced warning of the aspect being displayed on the next block signal (the signal it is related to). You are not required to take any action at distant signals, but they can be useful for providing extra braking distance when you have a heavy or fast train.

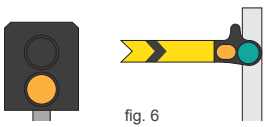


fig. 6

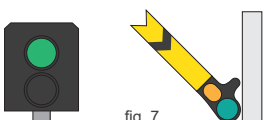


fig. 7

In the examples above, the top row of signals are displaying a Caution aspect. The bottom row are displaying a Clear aspect. These type of signals will show either a triangle or 'R' suffix on the identification plate as explained in the Identifying Signal Types section.

33 COMBINED MAIN ASPECT & DISTANT SIGNALS

When main aspect and distant signals are combined, they are effectively capable of displaying three aspects, as shown in the examples below. Combined semaphore signals are read from the top-most arm first and then the next lower arm, as explained below:

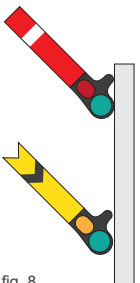


fig. 8

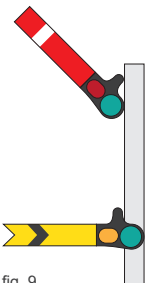


fig. 9

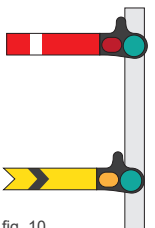


fig. 10

The signal on the left (fig. 8) both arms display a Clear aspect, so it is safe to proceed past this signal into the next block. This signal also advises that the next main signal is also displaying a Clear aspect, so it is also safe to proceed into that block too.

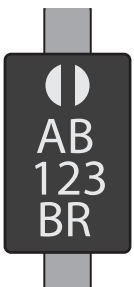
The centre signal's (fig. 9) top-most arm displays a Clear aspect but the lower arm advises that the following main aspect signal is displaying a stop aspect. You therefore need to regard this signal as Caution, you may pass this signal but be prepared to stop at the next signal.

The right signal's (fig. 10) top-most arm displays a Stop aspect. In this situation, the distant arm drops to caution because that is the lowest degraded aspect it can display. You should therefore not pass this signal.

IDENTIFYING SIGNAL TYPES

Most colour light signals carry identification plates that aid the driver in understanding how they should regard the indication the signal is displaying. Understanding how to read the identification plate can be useful in determining what type of signal is providing you with instructions or guidance.

The identification plate is typically mounted to the post that carries the main signal aspect head. However, due to placement or clearance issues such as when signals need to be placed on the ground in stations, the identification plate may be mounted on top of the signal head. The identification plate can be broken up into three dedicated sections:



The upper part of the identification plate employs a form of code that advises the driver on what type of signal is deployed. In this instance, a three aspect banner repeater.

The alphanumeric characters **AB 123** are the signal's area code and signal identification number in that area.

The suffix characters further advises what type of signal is deployed. In this instance, the letters BR mean Banner Repeater.

Here are some other types of identification plates that are commonly used:

Signals that carry no type identification are called Controlled Signals (fig. 11). This means the signal is directly controlled by a signaller or controller.

The horizontal black band on a white background signifies that this is an automatic signal that sets its aspect based on the passage of trains and not by a signaller.

With the word "SEMI" added, this advises that this signal is semi-automatic and can be controlled by a signaller or set to automatic operation if required.

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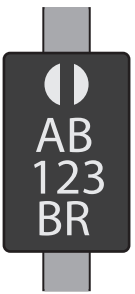

The upper part of the identification plate employs a form of code that advises the driver on what type of signal is deployed. In this instance, a three aspect banner repeater.

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With the word "SEMI" added, this advises that this signal is semi-automatic and can be controlled by a signaller or set to automatic operation if required.

BANNER REPEATERS & POSITION LIGHTS

Banner Repeater signals should be treated in exactly the same way as Distant/Repeater Signals. These signals are often used where visibility of the main signal is reduced or obstructed.

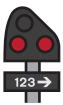
The horizontal band denotes the next main signal is displaying a stop aspect. You should be prepared to stop at the next signal.

The diagonal band denotes the next main signal is displaying a proceed aspect. Note that a proceed aspect can either be Clear, Advanced Caution or Caution. Most banner repeater signals can only display two aspects.

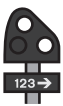
The diagonal band on a green background denotes the next main signal is displaying a Clear aspect. Note the distinction between Proceed and Clear. You will only find this on three aspect banner repeaters.

Position lights are subsidiary signals that grant on-sight movement authority to trains when a main aspect can't be provided, such as in sidings or a yard.

This signal means stop. There may be an obstruction ahead and you should not proceed beyond this signal without permission to do so.



This signal also means stop. If you are shunting, you should not proceed beyond this signal as this is the outermost shunt limit.



Proceed on sight at caution toward the next train, signal or buffer stop, and be prepared to stop short of any obstruction.

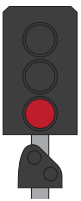
This signal also means proceed on sight at caution.

This signal means stop.

CALLING ON / PROCEED ON SIGHT

If the position-light is affixed below a main aspect signal, there may not be any indication provided as these indicators are incapable of displaying a red Stop aspect in the same way that Position-Lights do (previous page). If this indicator is unlit, you should always obey the main aspect. Typically, the position light below the main signal would be lit if movement authority is granted where the main aspect cannot provide an indication other than Stop (for example if the line ahead is occupied when coupling to vehicles in a station or siding). For these signals, you need to regard the signal as one indication even though there may be multiple aspects displayed:

Proceed at Caution toward the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



Stop. You must not proceed beyond this signal; the next block is occupied.

Alongside signals, there are some important signs to be aware of. Here are some of the examples you will find in the route:

Maximum Permitted Speed

The modern style of maximum permitted speed sign which, in this instance, requires you to not exceed 25 mph.

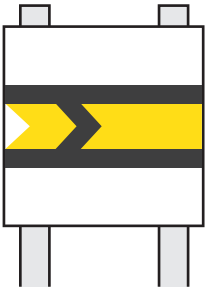
The “Morpeth Board” advises the driver that the maximum permitted speed will decrease ahead. You should begin to slow to match this new speed before you reach the speed restriction ahead.

Whistle & Coasting Boards

The modern variant of the whistle board at which the driver must make a clear single loud tone on the horn if between the hours of 7:30 am and 11:30 pm. At some sites, particularly at crossings it will be necessary to use a loud two-tone horn. Between the hours of 11:30 pm and 7:30 am, drivers must use discretion in use of the horn and should use a low tone except when required to warn other users of the railway of your approach, loud tones can therefore be used for this purpose.

The coasting board advises that the driver may coast (travelling along without power applied) to a stopping point or significant speed reduction beyond the board.

Fixed Distant Board



The Fixed Distant Board replaces the role of a controllable distant signal and essentially is regarded as a Caution aspect. This is therefore advising you that you may pass this board but the next signal will be at Danger. These boards are typically used on lightly-used routes and reduces the overall cost of signalling.

Fixed Stop Board

The Fixed Stop Board replaces the role of a controllable stop signal and essentially is regarded as a Stop aspect. You should stop at the board and then carry out the instructions indicated on the board before proceeding. In Train Sim World, the instructions are typically not simulated so, you may proceed beyond the board without carrying out the instructions advised.

6 GENERAL INFORMATION

I have a problem downloading the Steam client, how do I contact them?

You can contact Steam Support by opening a customer service ticket at **https://support.steampowered.com**. You will need to create a unique support account to submit a ticket (your Steam account will not work on this page) and this will enable you to track and respond to any tickets you open with Steam.

How do I change the language of Train Sim World 3?

This is an easy process and will allow you to play Train Sim World in English, French, German, Spanish, Russian and Simplified Chinese. To change the language of Train Sim World, double-click on the Steam icon on your PC desktop, left click on 'Library', right click on 'Train Sim World', left click on 'Properties', and finally left click on the Language tab and select your preferred language.

How do I reset my display screen size settings?

It is possible to change the display screen size settings for Train Sim World from within the game. Changing display screen size settings is done from the Settings menu in the Display tab.

For any questions not covered here, visit our knowledgebase at **https://dovetailgames.freshdesk.com**

ABOUT RIVET GAMES

Rivet Games is a team of passionate and talented artists and developers based in Stirling, Scotland. Building on years of prior experience of developing the highest quality environments and vehicles for simulation games, the team have a passion for ensuring everything they do is accurate, built to the highest possible standards, and above all, is fun and enjoyable.

For more information about Rivet Games and to find out more about how they work, please follow them on social media:

www.rivet-games.com
youtube.com/rivetgames
instagram.com/rivetgames
twitter.com/rivetgames
facebook.com/rivetgame

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