GWR 48/58/14xx & Autocoach

Contents

 Release Version 1.0

Introduction

Thank you for purchasing the GWR 48/58/14xx & Autocoach DLC for Train Simulator.

An iconic Great Western Railway tank engine, the 48xx class was made up of 75 locomotives built in 1932-1936 and seen on many branch lines throughout the western region.

Re-numbered from 48xx to 14xx in 1946 due to an experimental oil burning class requiring its number the 14xx class continued in use for much the same purpose up until the end of steam in Britain.

This DLC also contains the 58xx class, 20 locomotives built without fittings for autocoach running, as well as the GWR Diagram A31 autocoach in both GWR and BR liveries.

The autocoach can be used as a driving vehicle (with no power of its own) when attached to any consist. If it is coupled to an auto-fitted compatible locomotive created by Victory Works then it also provides a more realistic driving experience using a special Advanced Mode which will utilise features of the locomotive.

Please read this manual thoroughly, especially to get the best from Advanced Mode, and I hope you enjoy driving this iconic train.

All the best,

Pete Gillam (karma99 on Steam and various forums)
Victory Works

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 Release Version 1.0

Features

- Simple, standard and advanced driving modes
- Xbox controller support ***SIMPLE AND STANDARD MODES ONLY***

- 4 versions of the 4800 Locomotive:
  - 48xx – Great Western Railway, autocoach fitted
  - 58xx - Great Western Railway, unfitted
  - 14xx – British Railways, autocoach fitted
  - 58xx – British Railways, unfitted
  - All can be given optional water top feeds and/or whistle deflectors
- Great Western Railway versions have appropriate fittings for each member and 3 available logos (shirt button, GWR, Great Western)
- British Railways versions have appropriate fittings for each member as well as pre and post 1956 logos.
- Custom sound sets inside and out
- Realistic cab with multiple views, including fully modelled firebox and coal
- Fully modelled and animated valve gear
- Realistic wheel slip physics and effects ***ADVANCED MODE ONLY***
- Simulated steam chest ***ADVANCED MODE ONLY***
- Cylinder cock management ***ADVANCED MODE ONLY***
- Boiler management with priming possible ***ADVANCED MODE ONLY***
- Realistic injector control ***ADVANCED MODE ONLY***
- Realistic forward and reverse dampers ***ADVANCED MODE ONLY***
- Dynamic steam and smoke colour and quantity
- Realistic boiler water gauges effected by gradient, acceleration and speed and with blow down test
- Opening windows with rain effects, opening doors and roof hatch
- Dynamic lamp setting

- 2 liveries of the GWR Diagram A31 Autocoach:
  - Driveable unpowered cab for any consist
  - Period and Modern passengers
  - Intelligent display of driver in cab
  - Ground platform support with animated steps using special scenario marker – requires ground level platforms to be added/included with route

- Additional features when coupled to a Victory Works auto-fitted locomotive, including:
  - Realistic simulated remote control, including steam chest of driving locomotive ***ADVANCED MODE ONLY***
  - Whistle/gong alert
  - "Intelligent" lamp setting
- 6 scenarios for the Falmouth Branch route
- 20 Quick Drives covering all liveries and autocoach combinations

Background

The Great Western 4800 class was based on the older 517 class which was showing its age in the 1930s and also featured an open cab. The first locomotive in the class, number 4800, was built at Swindon Works in 1932 and 74 more locomotives were built by 1936.

The 4800 class was built for running autotrains by being connected to one or more autocoaches - a special coach with a driving cab and duplicated controls designed for push-pull working on small branch lines where the locomotive could not always change ends easily.

Swindon Works also built 20 of the 5800 class engines which were the same design but were not fitted with autotrain equipment.

Numerous variations of autocoach were built by the GWR, many of them being converted from the Steam Railmotors which were tried at the beginning of the 20th century but had proven to be too impractical. The autotrain provided much more flexibility with engines and coaches able to be changed as required.

The Diagram A31 coaches were converted from the 9 steam railmotors numbered 73-76, 78, 79, 81-83. The vestibule driving cab was retained and the luggage area moved to the rear of the coach providing additional seating.

The 4800 class locomotives kept their original numbers until the GWR converted 12 2800 class locomotives to oil firing in 1946, renumbering them 4800 and so the existing 4800 class became the 1400 class. They kept these numbers even after the oil firing experiment was abandoned in 1948.

Retaining its numbering throughout its service, the last locomotive of the 5800 class was withdrawn in 1959.

The 4800 class was withdrawn by 1965 and later scrapped however 4 examples survived to preservation.

Scenarios

6 career scenarios are included for the Falmouth Branch route.

The locomotives in all liveries and with various single and double autocoach and light engine consists are also available in Quick Drive.

GWR 48xx/14xx. 1] Sunday Driver, Part 1

Sunday August 14th 1938.
Drive a Great Western autotrain headed by engine 4805 on the passenger stopping service from Truro to Falmouth.

- Based on the actual GWR 1938 Sunday timetable.

GWR 48xx/14xx. 1] Sunday Driver, Part 2

Drive the return trip from Falmouth to Truro driving from the cab of autocoach 209.

- Based on the actual GWR 1938 Sunday timetable.

GWR 48xx/14xx. 3] Dock Shuttle

Drive the 16:10 GWR autotrain stopping service from Truro to Falmouth, calling at all stations.

- Based on the actual GWR 1938 weekday timetable.

GWR 48xx/14xx. 4] Extra Goods

Drive a GWR autotrain using engine 4849 and autocoach 211, collecting a goods van at Falmouth and driving to Penryn where it needs to be dropped off. The final destination is Truro and passengers should be collected at all stations en route.

GWR 48xx/14xx. 5] Cornish Conundrum

September 1954.
The shunter at Falmouth Docks has failed, but there is still plenty of work to be done. Using ex-GWR engine 5812, build a train of wagons from around the docks.

GWR 48xx/14xx. 6] In the Bleak Midwinter

Christmas Eve 1961 and snow is causing disruption across the rail network. Drive ex-GWR locomotive 1471 pulling two A31 autocoaches from Falmouth to Truro. Expect delays and red signals along the way.
This scenario is particularly challenging in ***Advanced Mode*** due to the realistic wheel slip.

Control Modes

There are 3 ways to drive the 48xx/58xx/14xx and autocoach.

Simple Mode

This is selected using the menu in Train Simulator and provides a simple stop/go, forwards/backwards set of controls via the simulators built in HUD.

Standard Mode

This is the default mode if you choose to drive in Expert mode using the Train Simulator menu. The locomotive will operate with more complex controls and can be driven just using the F4 HUD or an Xbox controller.

Advanced Mode

This is an advanced mode for those who want a more realistic experience and introduces features such as condensed water in the cylinders, overfilling the boiler, realistic wheel slip and a simulated steam chest. To achieve these extra functions use of a keyboard is required, although this can be used in conjunction with mouse operation of the F4 HUD.1

To enter Advanced Mode you can press Control A at any time, and this will also turn it off again.

The ***Advanced Mode*** controls and features are denoted below.

Driving Controls - Locomotive

Listed below are the controls available when driving the 48xx/58xx/14xx locomotive in standard and advanced modes.

Note: Although reference is made to the 48xx, the controls apply to all 3 locomotive types in both liveries.

Also see the next section “Driving in Advanced Mode - Locomotive” for additional information.

1. Regulator

This controls the amount of steam allowed into the cylinders, hence directly controlling the speed in conjunction with the reverser.

Keys: A,D

Advanced Mode

In advanced mode the locomotive steam chest is simulated. This will add a delay and smoothing to the increase and decrease of the regulators power to simulate steam moving through the locomotives pipes and valves. Please note that the F5 HUD regulator value will not reflect the actual position of the in-cab regulator but the value used to simulate the chest.

2. Reverser

This is like the gears on a car. It is usual to start with the reverser set at 75 percent cut-off (full). As you pick up speed you reduce the cut-off, thereby allowing economic driving as well as good speed whilst hauling a load.

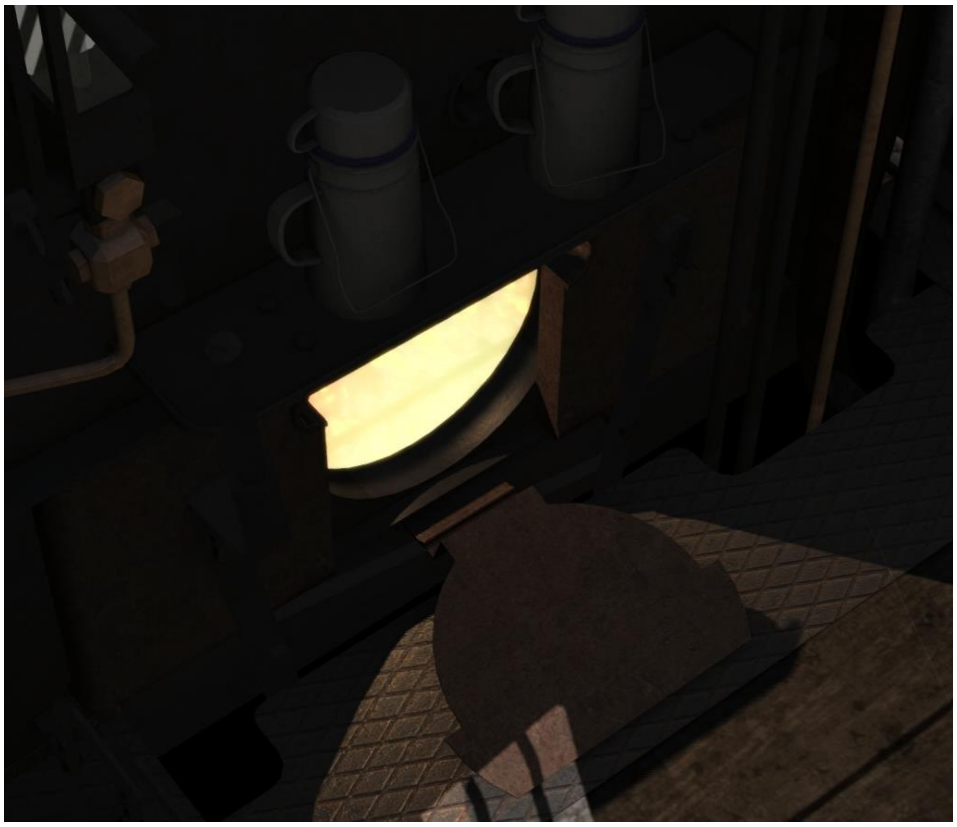
Keys: W, S

3. Cylinder Cocks

Advanced Mode

Never move away from more than a short standing start without ensuring that these are open. When a locomotive sits static for any amount of time, water condensation builds up in the cylinders. Thus when the piston is in motion, and because water does not compress, the cylinder will explode.
The cylinder cocks are designed to expel this condensed water and should be opened for at least 4 turns of the locomotive wheels when the locomotive sets off after being stationary for some time.
The amount of stationary time varies depending on the time of day (the assumption that most steam locomotives were working from early in the morning) and also the weather. If you stop for more than a couple of minutes it's safer to open them for a few wheel rotations just to be sure, and always ensure they are open when first setting off in a scenario.

Key: C



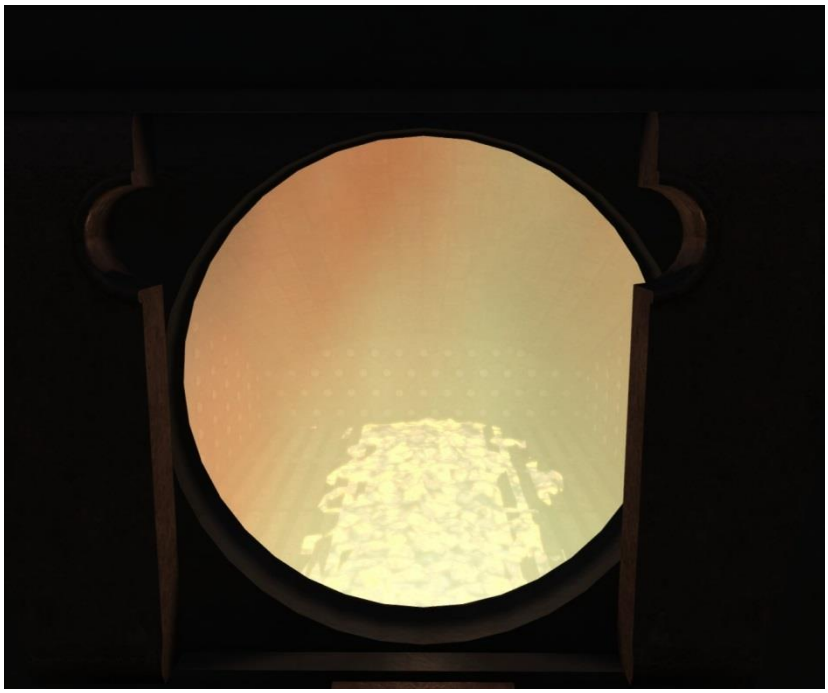
4. Firebox

Ensure the firebox doors are fully open to allow maximum stoking. A related tool is the coal box door in the coal bunker. When the firebox door is open, pull the coal bunker door to regulate the input of coal into the firebox.

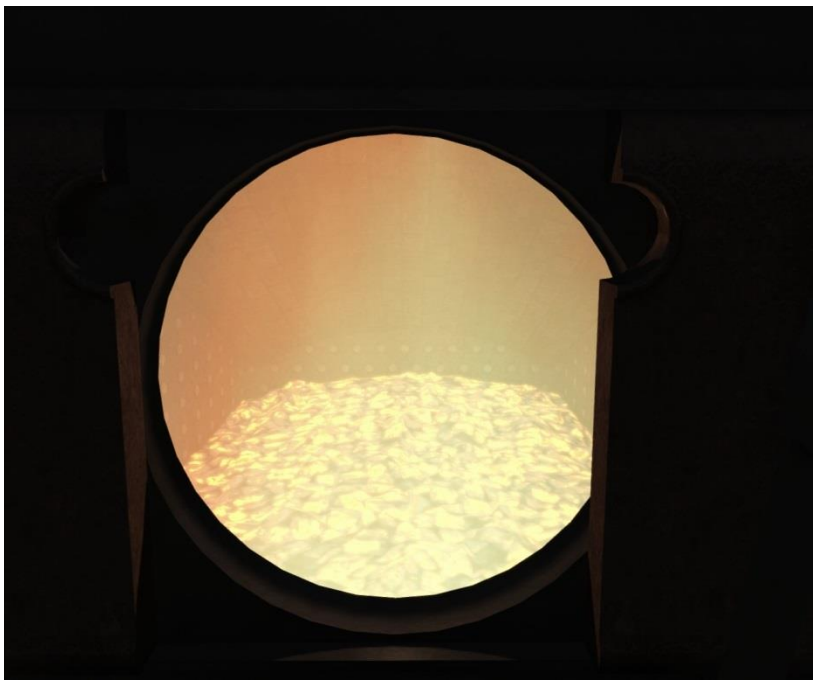
Key: F
Keys: R, Shift R (stoking)

As an additional tool for those who like to drive with minimal or no HUD display the firebox and coal is fully modelled with a specific cab view for checking the fire mass.

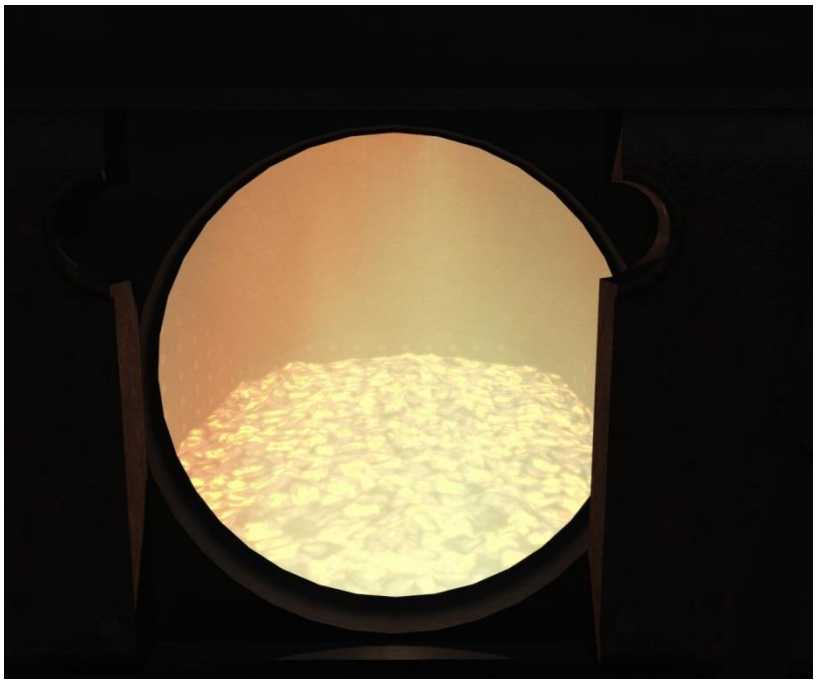
The coal level is slightly exaggerated over its working range so it can be used as a visual indicator of when firing is needed. The coal level rises and falls gradually but the images below will help in visualising how this can help.



Coal level low *< 50% 456 lbs*
The grate can be clearly seen with a very small amount of coal in the centre.



Coal level average *73% 665 lbs*
The grate is just covered with the coal's centre just on the 2nd rivet down on the back wall.



Coal level high *> 85% 775 lbs*
The grate is deeply covered with the coal's centre almost up to the 1st row of rivets on the back wall.

The coaling door controls stoking speed.

5. Blower and Boiler Pressure Gauge

The most useful application of the blower is when the regulator is at idle. Since there is no throughput of steam when at idle, air flow is minimised and therefore the fire loses heat. In some circumstances (such as when the safety valve is going off) this is acceptable but if you need to get some pressure into the boiler while the regulator is closed then fully opening the blower will force air over the fire, increasing temperature and then boiler pressure. It is good practice to turn off the blower again when you open the regulator to save on unnecessary steam usage.

Keys: N, Shift N

The boiler runs best at around 160 psi. At 162 psi the first safety valve will start to hiss and over 165 psi it will open and the excess steam will vent quickly and noisily. If the boiler is still continuing to gain pressure a second larger valve will open at 170 psi. Both valves close again when the boiler is under 160 psi.

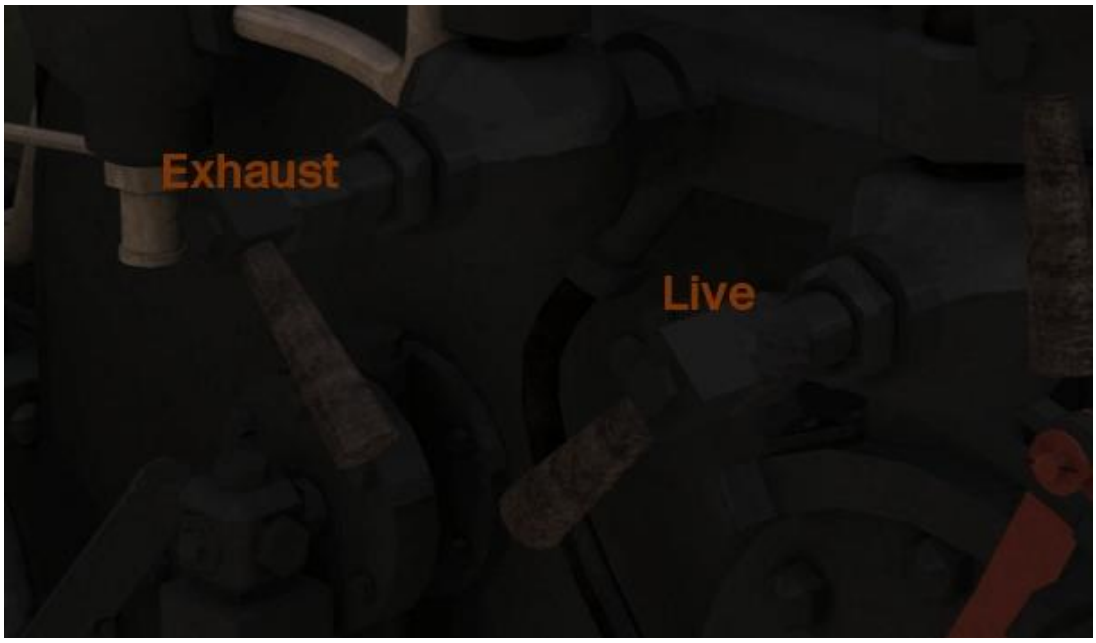
6. Dampers

Another tool related to the firebox. This helps control the heat of the firebox, closing it will reduce the air flow through the fire, thereby lowering heat and steam production. Opening it will allow more air in, hence producing more heat and steam.

Keys: M, Shift M

Advanced Mode

There are 2 damper levers; the left hand is for the front damper and the right hand for the rear damper. Each has 3 notches: closed, half and full. To get the maximum amount of air to keep the locomotive running well you need to set the damper **in the direction of travel** to fully open (pulled up) and close the other one (pushed down). Any other combinations will provide less or no air to the fire.



7. Exhaust injector steam (left)

This takes steam from the cylinders and recycles it to blast water from the tanks into the boiler. It is preferable when you are running low on steam.

Key: I

Live steam injector steam (right)

The Live injector works the same as the Exhaust injector but uses live steam from the boiler, rather than exhaust steam. This is the preferred method when you have lots of steam and need to fill the boiler quickly.

Key: O

Advanced Mode

In Advanced mode the exhaust injector will only work when there is exhaust steam to be used, i.e. the regulator is open and the locomotive is in motion.

8. Live (right side of cab) and Exhaust (left side of cab) water taps

These are used to adjust the flow of water for the appropriate Live or Exhaust injector control.
Keys: K, Shift K / L, Shift L

Advanced Mode

In Advanced Mode you will need to operate the injectors as the real thing and balance the water and steam to use them properly.
The correct procedure is as follows – for either Live or Exhaust injectors use the appropriately named controls:

1. Fully open the water control tap.
    - You will hear and see water coming from under the left or right hand side of the cab.
2. Turn the injector steam lever until you hear the injector start working.
    - If you hear a hiss and see a jet of steam under the cab you have too much steam pressure and the water is not entering the injector.
    - If you hear running water and see water running from the pipe under the cab you need more steam to force it into the boiler.

9. Boiler Gauge Glass

Attached to the boiler is a strong glass tube indicating the current level of water in the boiler. If this reaches the bottom then the fusible plugs will melt and relieve the boiler pressure whilst providing a warning to the locomotive crew.

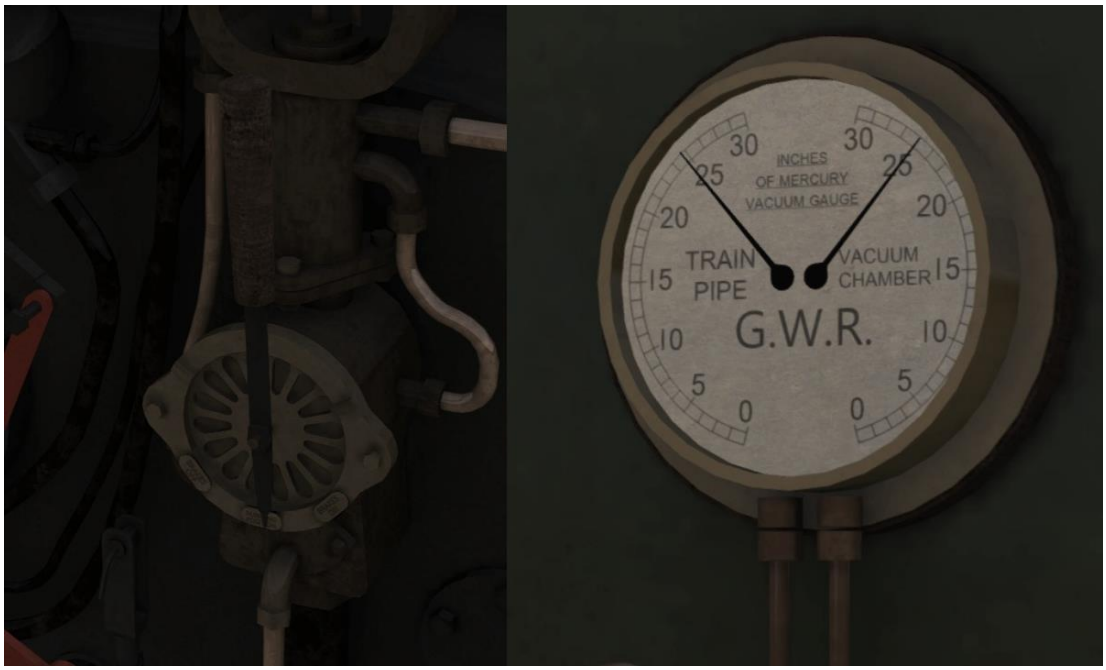
The water level is not static when the locomotive is in motion and will wobble around appropriately. It is also affected by gradients, acceleration and deceleration.

Advanced Mode

Overfilling the boiler (past 110%) at high pressure can force water into the cylinders and cause the same problems as having condensed water from standing still. If you overfill the boiler open the cylinder cocks immediately and leave them open until the water level in the glass falls.

You can also perform a blow down test on the gauge glass by doing the following:

1. Shut off the water supply to the top and bottom of the glass by pulling the lever down.
2. Move the tap at the bottom of the gauge up, the water will empty from the glass.
3. Return the lever and tap to their previous positions by reversing the above process to refill the glass.



10. Vacuum Brake and Brake Pressure Gauge

The vacuum brake is used to pull the brake shoes away from the wheels by creating a vacuum in the pipes connected to them. The brake has 3 settings, brake off which forces a vacuum into the pipes and takes the brakes off, brake on which lets air into the pipes and applies the brakes, and brake running which holds the vacuum steady at its current pressure.
The brake pressure gauge shows the current pressure in the system, from 0 (on) to 25 (off).

Keys: ‘ (apostrophe), ; (semicolon)

11. Sander

The sander assists in starting and stopping without the wheels slipping.

Keys: X, Shift X

Advanced Mode

Sand is essential in pulling away with minimal wheel slip in icy conditions.

12. Whistles

Steam locomotive whistles are powered by steam from the boiler and are used to signal a trains approach, warn of danger and often to signify departure. The 48xx like many GWR locomotives has 2 whistles, the second being used to communicate messages to the guard of the train.

Key: Space, Ctrl Space

13. Handbrake

A hand operated screw that applies the brakes to the locomotive without the need to release the vacuum in the brake pipes.

Key: /

14. Doors, Windows and Roof Hatch

Working in the cab of any steam locomotive is hot work. To aid in the comfort of the crew you can open the windows and the roof hatch. Click and drag with the mouse.

You can also open the side doors, rear doors and slide the side weather protection panels.

15. Automatic Train Control (ATC)

The world's first train safety equipment as fitted on the Great Western Railway.

This system added a magnetic pick up which would indicate a signal being either clear or at danger and would issue a bell or buzzer tone to the locomotive crew. If a warning buzzer was heard it would need to be acknowledged or the brakes would be automatically applied.

If you are driving on an AWS fitted route you will hear a bell ring if you pass a clear (green) signal. If you pass a signal at danger (red, yellows or distant red) a buzzer will sound and you will have 3.7 seconds to clear the warning or the train will be brought to a stop.

Press the Q key or press down the lever on the side of the ATC box to acknowledge the warning.

Note: For AWS to function the route that the locomotive is running on needs to have been fitted with the relevant scenery markers. This is not the case for the Falmouth Branch so the included scenarios will not trigger any ATC alerts.

16. Head code setting

The 48xx has a standard GWR 4 lamp set up for the front and rear – 1 lamp at the top and 3 below – to show the standard GWR head codes (see Appendix).

The codes can be pre-set using the locomotive scenario number or changed by the driver at any time.

You can show or hide each lamp by holding the Control key and pressing numbers 1 to 4 on the keypad. Control and number 5 on the keypad will switch the direction of white/red filters for forward and reverse running.

The lamps are also intelligent in that they will not show for each end if something is coupled to the front or rear of the locomotive, and if the locomotive is coupled to a Victory Works autocoach then the driving vehicle will always have a white filtered lamp and the last vehicle in the autotrain, a red filtered lamp.

Keys: Ctrl + Numpad 1-5

Driving in Advanced Mode - Locomotive

Advanced Mode ONLY

The following is a summary of how to drive successfully in Advanced Mode. It does not contain hard figures – e.g. set the reverser at 25% and the regulator at 30% - as these are the things you will learn by driving the locomotive.

However there are some realistic features that are incorporated that require some specific knowledge for the best operation.

Before you start

Dampers – make sure you have the dampers set for running in the appropriate direction (see Controls Section 6).

Head Code - If you wish to, set the appropriate head code (see Controls Section 16).

Fire – Assuming you are not using the auto-fireman and not about to run downhill for a long way you will want to start building the fire as soon as possible (see Controls Section 4).

Gauge Glass Test – If you have time at the start of a scenario then you can perform gauge glass blow down tests to pass the time (see Controls Section 10).

Setting Off

Cylinder Cocks – If you are just starting or have been stationary for a while, ensure that the cylinder cocks are open. As you drive off, listen for the change in pitch as the water empties or count 4 full revolutions of the wheels and then close them (see Controls Section 3).

Wheel Slip – In icy conditions due to the accurate wheel slip and simulated steam chest you will need to use the regulator like a real driver would. Primarily on starting (when the reverser cut off is high) this means you must manage the steam entering the pistons to make sure that the power being applied to the rails does not exceed the amount of grip available.
If you open the regulator and just leave it open the pressure will continue to build as will the amount of power being applied to the rail. This will likely cause wheel slipping in icy conditions.

As a real driver would you need to “pump” the regulator to gradually build the pressure in the cylinders as you accelerate. This means opening the regulator for a moment and then closing it again, the residual steam will continue to work and cause the locomotive to carry on accelerating. Continually doing this will allow the locomotive to build speed and pressure gradually and avoid wheel slip.
Once a slow speed is reached you can then leave the regulator open and accelerate and adjust as needed to maintain a constant speed.
The speed at which you can stop pumping varies and is based on how much grip is available – an icy rail will need a much higher speed to allow full power than a dry rail.
The weight of the consist will also affect how long it takes before this speed is reached (simply because a heavier load takes longer to accelerate) which means you are more likely to have to manage the wheel slip for longer, therefore making it more likely.

In summary, as you set off do not throw the regulator to full and leave it there! Pump it gradually, increasing the power slowly until you can leave the regulator open. And be aware of the weather, a wet or icy rail provides a lot less grip.
This brings us to:

Sander – The sander helps to provide grip for the wheels on the rail and should be used when starting in icy conditions (see Controls Section 12).

Under Way

Water Filling – You will need to use the water levers and the injector steam levers to fill the boiler (see Controls Section 9).
Due to the water gauge glasses wobbling around and being effected by gradient and acceleration it is normal procedure to try and keep the boiler between half and three quarters full to avoid overfilling the boiler and causing priming to occur.

Driving Controls - Autocoach

To change to another driving locomotive or autocoach in a consist press Ctrl and = together.
IMPORTANT: Only do this when the consist is stationary.

The A31 autocoach can be used as a driving cab on any Train Simulator consist but it must have a powered steam locomotive somewhere in the train. This is not accurate – a real autocoach can ONLY drive a locomotive that is fitted for this purpose – but it allows you to use it with locomotives from other developers.

If you are using a Victory Works auto-fitted locomotive then special functions are available.

Also see the next section “Driving in Advanced Mode - Autocoach” for additional information.

Listed below are the controls available when driving the A31 autocoach in standard and advanced modes.

1. Regulator

This controls the amount of steam allowed into the cylinders, hence directly controlling the speed in conjunction with the reverser. The regulator in the autocoach is connected to the locomotive via a shaft running under the coach and telescopic couplings.

Keys: A, D

Advanced Mode

To move the regulator requires the hand lock to be taken off. To do this, press and hold the E key on the keyboard, move the regulator to the required position, and then release the hand lock (let go of the E key).

Key: E

If the autocoach is in a consist being powered by a Victory Works auto-fitted locomotive then it will use the simulated steam chest of that locomotive (see locomotive Controls Section 1).

2. Vacuum Brake and Brake Pressure Gauge

The vacuum brake is used to pull the brake shoes away from the wheels by creating a vacuum in the pipes connected to them. The brake in the driving cab has 3 settings, brake off which forces a vacuum into the pipes and takes the brakes off, brake on which lets air into the pipes and applies the brakes, and brake running which holds the vacuum steady at its current pressure.
The brake pressure gauge shows the current pressure in the system, from 0 (on) to 25 (off).

Keys: ‘ (apostrophe), ; (semicolon)

Advanced Mode

The brake control in the autocoach is connected to the same pipe system as the brake in the locomotive but cannot open the brake ejector directly and to leave this open all the time would waste steam. Therefore using it relies on some communication with the fireman in the locomotive to create the vacuum to release the brakes. See below for a full description on how to drive from the autocoach.

3. Sander

The sander assists in starting without slipping and also halts slips when ascending hills covered with leaves or light snow.

Key: X, Shift X

4. Handbrake

A hand operated screw that applies the brakes to the wheels without the need to release the vacuum in the brake pipes.

Key: /

5. Whistle / Gong

The autocoach does not have its own whistle and the whistle cord can only be connected to the whistle on a locomotive if that locomotive is fitted with a mechanical connection on the rear of its cab designed to pull the whistle levers inside.

If the A31 autocoach is not connected to a locomotive with this fitting (currently the Victory Works 48xx/14xx is the only locomotive thus fitted but more are planned) then a gong operated by a pedal is used by the driver in the same way a whistle would be to warn of danger.

Key: Space

6. Bell

In an autotrain the bell in the autocoach is your communication device to talk to the fireman of the locomotive powering the train. You will use it to tell him to release the brakes and notch up the reverser.

There is a useful plaque on the bell and bell button box summarising the meaning of the number of bell rings. See below for a full description on how to drive the autocoach.

Key: B

7. Wiper

Above the driving window is a hand operated wiper. This can be used to clear rain, snow and dirt directly in the driver's view.

Key: V

The wiper operates in a single sweep for each button press or wiper click. It does not move continuously. Well, it is hand operated!

8. Automatic Train Control

The autocoach is fitted with Automatic Train Control which functions in the same way as the ATC on the locomotive (see Controls Section 15).

9. Ventilation

Although a far cry from a locomotive footplate you can still open the windows and doors of the autocoach cab for ventilation. Click and drag with the mouse.

Driving in Advanced Mode - Autocoach

Advanced Mode ONLY

In simple and standard driving modes the autocoach will allow driving in the same way as any locomotive in Train Simulator (it must be in a consist with a steam locomotive to provide power).

In advanced mode you can have the full experience of being separated from the locomotive, with a limited set of controls and communicating with the fireman in the locomotive via a series of bell rings.

In the autocoach the usual tasks of notching up (moving the reverser as you gain and lose speed) and creating the vacuum to release the brakes are performed by the fireman.

Bell sequence and their meanings

These are repeated on a plaque by the bell button, above the driver's window.

1. Start
    - **a.** If stationary or slow the reverser is set to 75%. Brake release remains enabled if already requested.
    - **b.** If moving and over 12mph then reverser is set to 48%, if moving and over 30mph then reverser is set to 22%. Brake release is disabled.
2. Stop
    - **a.** If in motion the reverser is set to 75%. Brake release is disabled.
    - **b.** If stationary the reverser is set to 0%. Brake release is disabled.
3. Brakes Off
    - **a.** Brake release is enabled and the brake vacuum will not hold steady, steam (and therefore boiler pressure) is used by this until the signal for **Start b.** or **Stop** is sent to the fireman.

Push the bell quickly in succession to tell the fireman what you need him to do. There will be a delay and then a confirmation of the same number of bells. Wait for the confirmation before the next request.

Driving procedure

Ready to leave

- 1 bell to get reverser to 75%.
- 3 bells to release the brake.
- Move the brake to the far right to release.
- Open the regulator as the brakes release.
- Once the brake vacuum is at 25 inches move the brake back to the central position.

When at speed (over 12mph)

- 1 bell to get the reverser to 48%.

When at speed (over 30mph)

- 1 bell to get the reverser to 22%.

Slowing for stop

- 2 bells to set the reverser to 75% for finer control as the destination is approached.
- Important: At this point the brake release is not available, so any brake you apply will remain on until you stop or request another brake release from the fireman (which if repeated is sure to make him angry!). Therefore be frugal in braking, measure the distance to stop against your slowing speed and apply the brake accordingly. Stop, go, stop, go braking is not a part of correct driving on the Great Western Railway!

When Stopped

- 2 bells to set the reverser to 0%.

Locomotive Numbering

When a 48xx/58xx/14xx is added to a scenario the number will be randomly chosen from a list of all members of the appropriate class.

These are pre-set with the correct configurations for each number as they were historically outfitted. However if you wish to change any of the components then the setup is listed below.

The number has 10 digits in total, e.g. D4800YNNBB DI413YYYRB

1 .D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
- For the BR locomotives, the letter I should be used for the first 1 to keep the correct spacing

6. Auto-fitted – **Y**es or **N**o
7. Water top feed - **Y**es or **N**o
8. Whistle deflector and cab side steps - **Y**es or **N**o
9. Company logo and safety valve cover
   - An upper case letter will show a painted safety valve bonnet. A lower case letter will show a polished brass bonnet.
   - Great Western liveries
     - **B, b -** Shirt button logo
     - **L, l –** GWR lettering
     - **N, n** – Great Western name
   - British Railways
     - **R, r** – Pre 1956 logo
     - **O, o** – Post 1956 logo

- Any other letter will show no logo. Upper or lower case will still show the painted or polished safety valve bonnet.

10. Head code – Letter of the head code class (see Appendix).

Autocoach Numbering

When an autocoach is added to a scenario the number will be randomly chosen from a list: 202-205, 207-209, 211, 219.

This can be changed using the right hand fly out when the locomotive is selected.

The number has 16 digits in total, e.g. P202############

The first digit denotes whether the carriage sections should be populated with people.
M shows people in modern clothing. P shows people in period clothing. Anything else shows no passengers.

The next 3 digits are the number shown on the front, rear and sides of the locomotive.

The last 12 digits are used to put text on the destination board on the front of the coach.
There must always be 12 digits (initially set as # characters) so # is used to add an empty space between words or to pad the start and end to centralise the text.

e.g. ###truro#### Pontygwaith# bishops#lyd.

Letters A to Z are catered for, they can be entered in upper or lower case but are always shown in an upper case style, as well as & (ampersand) ‘ (apostrophe) and . (period).

Ground Platforms and Scenario Objects

The autocoach has a set of steps at the passenger doors. These were operated by the guard using a lever inside the porch when the train stopped at ground level platforms. These halts were added to branch lines when a quick and cheap pick up/drop off stop was required rather than a full station with raised platforms.

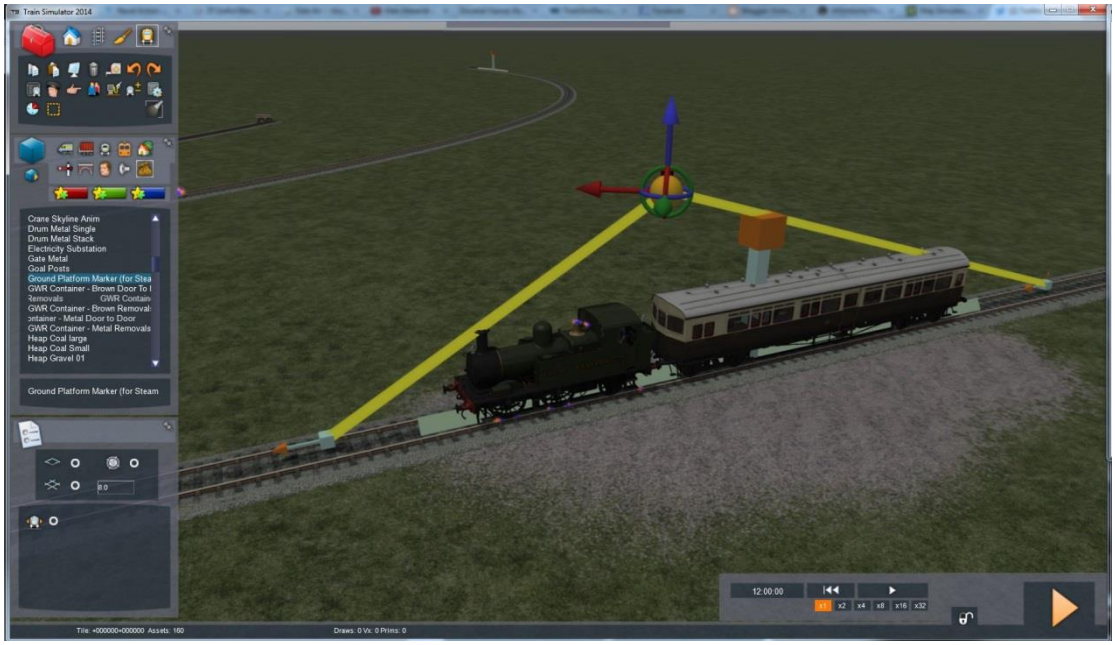
The steps on this model are fully functional however they require the platforms to be set up in the simulator and a special Ground Platform Marker added at each end of the platform to tell the autocoach when it is next to them.

Unfortunately at the current time although you can add platform markers and static scenery to scenarios, you can't add lofted items and this means you can't add the passenger spawning platform areas to a scenario. Due to this the ground platforms need to be added to the **route** and can't be added on an ad hoc basis to a **scenario**.

The special Ground Platform Marker can be added directly to the route or just to scenarios that feature the autocoach – if you do the latter then you will need to add it to every ground platform on every scenario that requires a pick up there.

You can do this yourself for any route using the Train Simulator route clone function or include ground platforms in new routes you are building.

Once you have added some scenery to look like a ground platform and laid down a platform loft (either an invisible one or hide the platform just under the ground) and a ground platform marker then you have all that you need on the route.



To add the marker, tick the VictoryWorks / GWR14xx assets in the object filter. Under the **Miscellaneous** tab find the asset called **Ground Platform Marker (for Steam Railmotor/Autocoach)** and place it in the middle of the track by the platform. Place the first link past one end of the platform and the second link past the other end. Once these are placed, drop the small orange/blue marker below the ground so it can't be seen.

Important: Make sure that the links are not placed dividing the links of a signal as this may cause odd signalling problems.

Note: The ground platform markers in this pack and the Victory Works GWR Steam Railmotor are fully compatible with each other.

Modification Policy

You are free to create modifications (including but not limited to re-skins, sound updates, “enhancement” packs, etc.) within the guidelines of Dovetail Games current policies (for example, no inclusion of 3D model files) however if they are made public then they must be provided **free of charge**. They can be hosted on a site that asks a nominal membership fee for quicker downloads (e.g. UK Train Sim) but cannot be sold in any way without the express permission of Victory Works.

If you wish to discuss terms for selling modifications please contact us via email at victoryworks@live.co.uk

To summarise – free mods are fine, as long as they adhere to DTG’s current policies. If you wish to sell mods then you **MUST** get permission first.

Acknowledgements

I would like to thank the following people for their help and encouragement during this project:

- Stuart Galbraith for his advice, ideas and critique
- DOM107 (UKTrainSim) for his Blender exporter
- Chris Barnes for allowing me to use his superb smoke/steam textures
- “The Secret Forum” for their critique and constant encouragement
- Matt Peddlesden
- Everyone at Dovetail Games
- My wife for all her support and my father for instilling in me a love of steam trains from an early age

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Appendix: Head codes

The following are the 1936 GWR head code classes that you can set using the scenario numbering system.

Class A

- Express passenger train.
- Breakdown van train going to clear the line, or light engine going to assist disabled train.
- Empty coaching stock timed at express speed.
- Express streamline railcar.

Class B

- Ordinary passenger or mixed train.
- Branch passenger train.
- Breakdown train not going to clear the line.
- Rail motor car, auto-train or streamline railcar.

Class C

- Parcels, newspapers, meat, fish, fruit, milk, horse, cattle or perishable train composed entirely of vacuum fitted stock with vacuum pipe connected to the engine.
- Express freight, livestock, perishable or ballast. Train pipe with not less than one third of the vehicles vacuum fitted and pipe connected to the engine.

Class D

- Express freight, or ballast train conveying a stipulated number of vacuum braked vehicles connected by the vacuum pipe to the engine and authorised to run at a maximum speed of 35mph.
- Empty coaching stock train (not specially authorised to carry "A" head code).

Class E

- Express freight, fish, fruit, meat, cattle or ballast train.
- Breakdown train not proceeding to an accident.

Class F

- Fast freight conveying through load, all unfitted.

Class G

- Light engine or light engines coupled.
- Engine with not more than two brake vans.

Class H

- Freight, mineral or ballast train or empty train carrying through load to destination.

Class J

- Freight, mineral or ballast train stopping at intermediate stations.

Class K

- Branch freight train.
- Freight or ballast train or Officers special train requiring to stop in section.