GWR Small Prairies

Contents

Introduction

Thank you for purchasing the GWR Small Prairies Add-on for Train Simulator.

This pack contains our most complete product to date, containing all 3 versions of the Great Western Railway small prairies – the 44xx, 45xx and 4575 classes. They are provided in GWR green and BR black and green (45xx, 4575) with all logos and also in a fictional bonus red livery (4575).

Included with them are all the features you have come to expect from us including realistic wheel slip, simulated steam chest, operable cab doors/windows/hatches, 3D fireboxes and high detail modelling as well as many optional fittings allowing you to have your locomotives exactly how you would like, whether creating historic scenarios or running on a modern day preserved line or steam excursion.

In addition the 4575 can also be set up with optional auto-gear which makes it fully compatible with the autocoaches from the GWR Class 14XX Loco Add-On.

Please read this manual thoroughly, especially to get the best from Advanced Mode, and I hope you enjoy driving these small GWR workhorses.

All the best,
Victory Works

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Features

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

- GWR 44xx Class Locomotive
  - GWR Green (3 logos)
  - BR Black (pre and post 1956 logos)
- GWR 45xx Class Locomotive
  - GWR Green (3 logos)
  - BR Green (2 logos and orange/black lined)
  - BR Black (2 logos and red/grey lined)
- GWR 45xx Class Locomotive
  - GWR Green (3 logos)
  - BR Green (2 logos and orange/black lined)
  - BR Black (2 logos and red/grey lined)
  - Red and yellow "Celebration" livery with air compressor
    - Note: The air compressor is just a visual feature
  - Fully compatible with the GWR Class 14XX Loco Add-On autocoaches
- All 3 locomotives have a number of optional parts and fittings
- Custom sound sets inside and out
- Realistic cab with multiple views, including fully modelled firebox and coal
- 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
- Cab light effects including firebox glow and water gauge lamp
- Guards whistles when leaving a passenger pick up

- Great Western rolling stock
  - 6 ton Fruit 'A' Van (Diagram Y2) – with GW and shirt button logos
  - 10 ton Covered Goods van (Diagram V4) – with large and small GW logos and optional end vent
  - 10 ton Banana Van (Diagram Y5) – with large and small GW logos
  - Iron Mink (Diagram V6)
    - Grey GW livery
    - Black Gunpowder livery
    - Blue WW2 Salvage livery
  - 6 wheel Milk Siphon (Diagram O5) – with GW and shirt button logos
    - Optional milk churn load and opening doors
    - Dynamic lamps
  - 20 ton Toad Brake Van (Diagrams AA13 and AA15)
    - User selectable 20 character depot names
    - Dynamic lamps
- British Railways rolling stock
  - BR Standard Van with numerous options allowing over 400 variations:
    - Solid/planked sides
    - Plain, single, double, quadruple vent ends
    - 3 types of hinged door and 2 types of sliding door
    - GWR and BR axle boxes with optional connecting bar
    - 4 lower and 2 upper side vents
    - Markings for Banana, Fruit, Ale and Meat
    - Plain or black panel wagon information
    - Random chalk scribblings
  - GWR 6 wheel Milk Siphon in "BR used" condition
  - 20 ton Toad Brake Van in Bauxite with BR markings
    - User selectable 20 character depot names in BR layout

- 6 scenarios for the Falmouth Branch route
- 62 Quick Drive consists covering all liveries and with appropriate stock

Background

The Great Western 4400 class was introduced in 1904 and was primarily designed for passenger and mixed goods traffic on the Great Western's numerous hilly branch lines.

Only eleven 4400's were built before production was changed to the 4500 class, the same design but with larger driving wheels. The 4500's had various improvements made during the production of 75 locomotives including superheaters and outside smokebox steam pipes

Between 1927 and 1929 another 100 small prairies were built, but these were fitted with larger 1300 gallon water tanks and were given the name "4575", this being the first in the class to be built to this design.

All 3 classes carried their numbers over to British Railways in 1948 and continued to be used as they had been under the GWR until the end of steam in Britain.

Under BR some members of the 4575 were fitted with equipment for working with autocoaches - allowing a train to be driven from either end without having to run the locomotive around.

Three 45xx's and eleven 4575's were saved from the scrap yard and are in various states of preservation around Britain. No 4400's were saved all of them being scrapped by 1955.

Scenarios

6 career scenarios are included for the Falmouth Branch route.

All 3 locomotives in all liveries and with light engine and appropriate freight consists are also available in Quick Drive.

GWR/BR 45xx. 1] Get Off Your Iron Horse… and Drink Your Milk!
Saturday July 15th 1922.
Drive Great Western Railway locomotive 4513 from Penryn to Truro dropping off siphons loaded with milk.

GWR/BR 45xx. 2] Penzance Puzzle
Wednesday April 14th 1937.
Shunt the yard at Truro and prepare the minks for their return to Penzance.

GWR 45xx. 3] Give Generously
Tuesday September 30th 1941.
Drive Great Western Railway locomotive 5562 on the passenger stopping service from Truro to Falmouth, calling at all stations.
You will also be taking a specially painted Mink wagon which is being used to collect scrap goods to help the war effort.

GWR 45xx. 4] Hard Graft
Wednesday August 11th 1954.
Drive an ex-GWR 4575 locomotive taking a train of standard vans from Falmouth Docks to Plymouth.

GWR 45xx. 5] Night Freight
Friday November 2nd 1956.
Collect the vans and conflats from Truro yard and take them to Falmouth. Another night freight is running ahead so expect to stop at signals that are at danger.

GWR 45xx. 6] All Stops
Monday May 20th 1957.
Despite most perishable goods now being delivered by road the Monday afternoon stopping passenger service includes wagons to deliver meat and milk. Call at all stations from Falmouth to Truro, collecting passengers and delivering goods.

Control Modes

There are 3 ways to drive the 44xx/45xx/4575 locomotives.

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 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 or the F4 HUD.

To turn on 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 shown below.

Driving Controls

Listed below are the controls available when driving the 44xx/45xx/4575 locomotive in standard and advanced modes.

Note: Although reference is made to the 45xx, the controls apply to all 3 locomotive types in all liveries.

Also see the next section "Driving in Advanced Mode" 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.
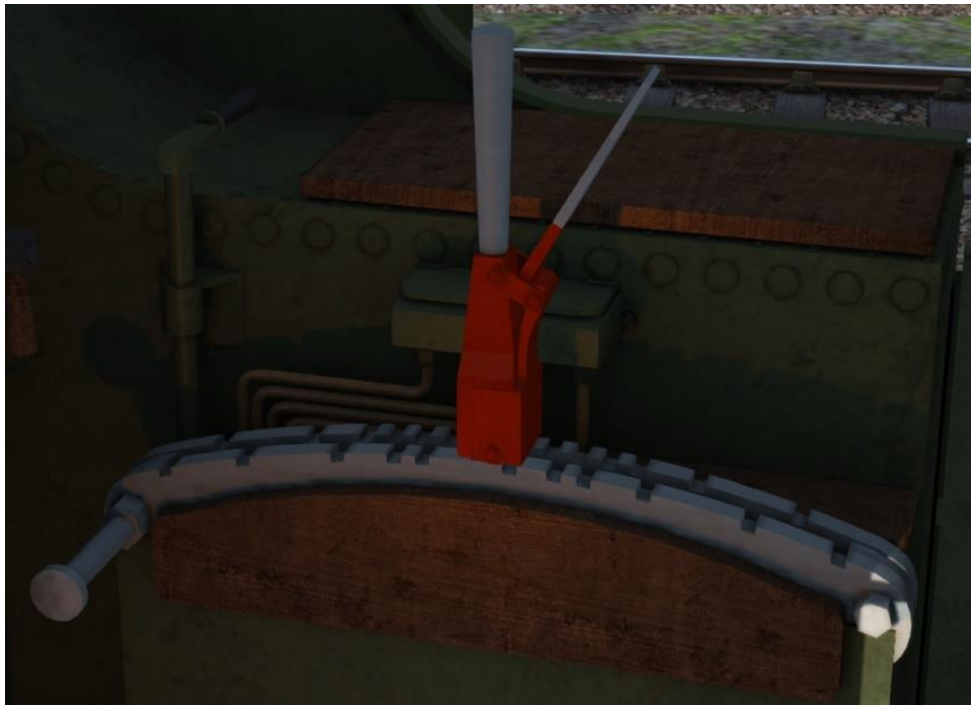
2. Reverser

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

Advanced Mode

Please note to move the reverser successfully, the regulator must be nearer to closed than fully open. Failure to do so will ensure that when the reverser lock is removed the reverser will be thrown out of your hands to the bulkhead putting it in full cut-off.

To move the reverser requires the hand lock to be taken off. To do this, press and hold the E key on the keyboard, move the reverser to the required position, and then release the hand lock (let go of the E key). Because of this speed is usually controlled more by the regulator than is common on screw reverser equipped locomotives. Due to the difficulty in changing the position, ensure you select a cut-off that you won't need to adjust before you reach the beginning of the gradient. Failure to assess the gradient correctly may result in a stall.

Key: E

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.
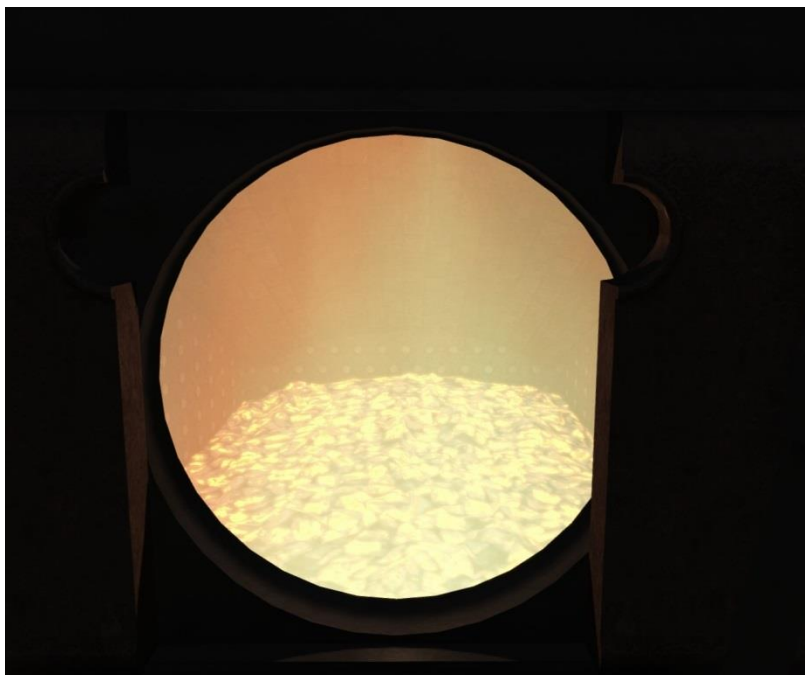
The coal level is slightly exaggerated over its working range so it can be used as a visual indicator of when firing is needed. The coal level rises and falls gradually but the images below will help in visualising how this can help.
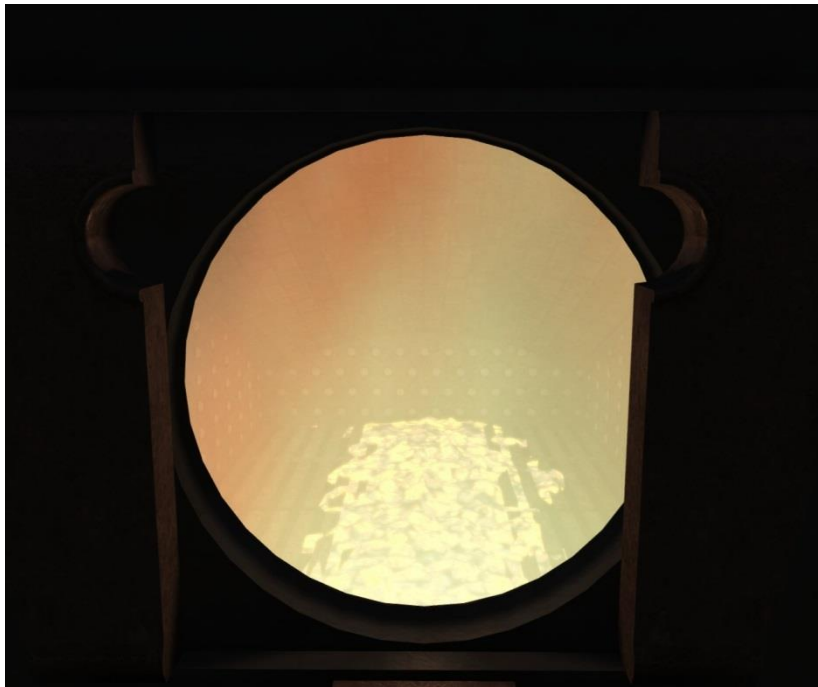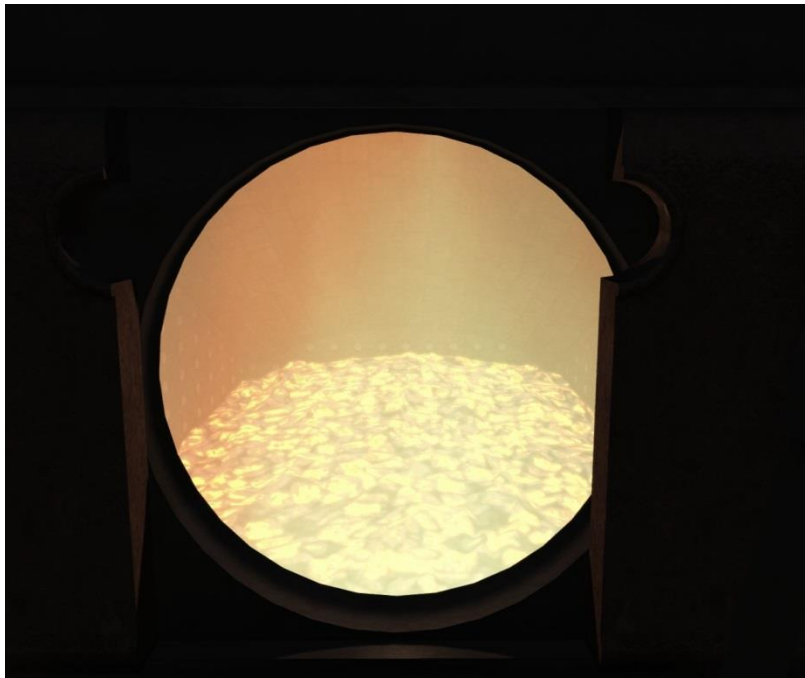
Coal level low *< 50% 591 lbs*
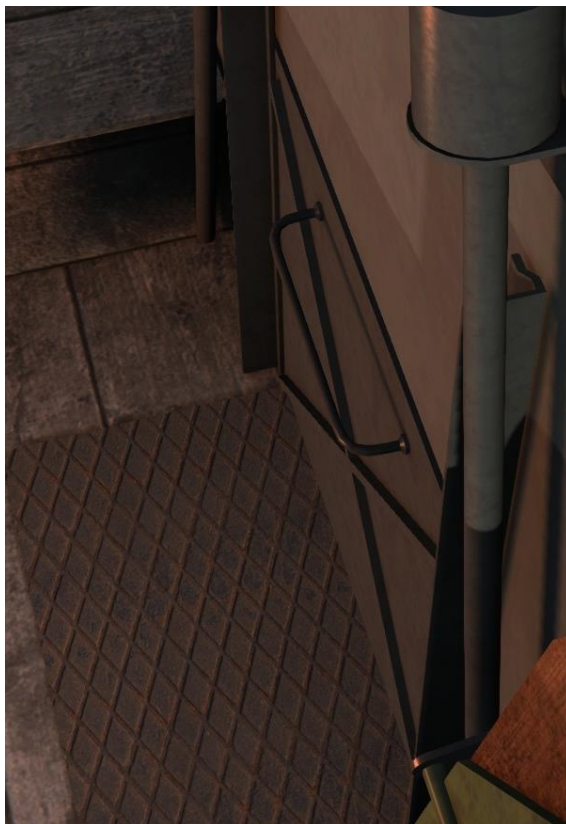The grate can be clearly seen with a very small amount of coal in the centre.

Coal level average *67% 793 lbs*
The grate is just covered with the coal's centre just on the 2nd rivet down on the back wall.

Coal level high *> 83% 982 lbs*
The grate is deeply covered with the coal's centre almost up to the 1st row of rivets on the back wall.

The coal bunker 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 195 psi. At 202 psi the first safety valve will start to hiss and over 205 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 210 psi. Both valves close again when the boiler is under 200 psi.

Note: The above values are 20 PSI less for the 44xx locomotive.

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).

For ease of use in the simulation the movement of both levers is connected, so opening one lever will close the other.

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, Shift 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, Shift 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.
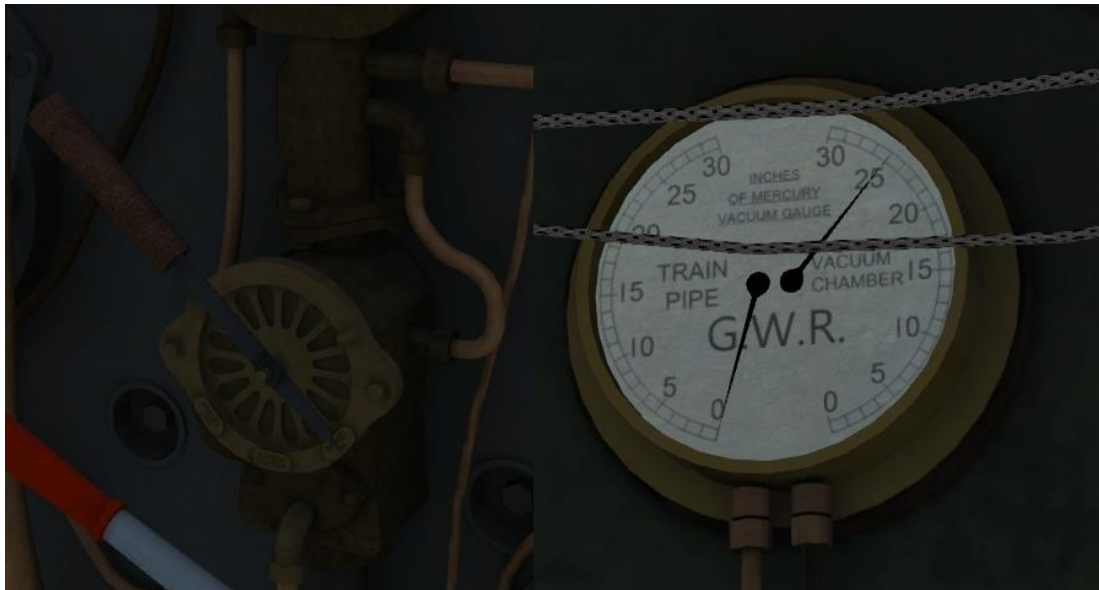
10. Vacuum Brake and Brake Pressure Gauge

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)

Advanced Mode

The small prairies have a mechanical ejector which will start to work when the locomotive is travelling at 12mph which will keep the brake pressure up. At speeds lower than this the brake system will leak slowly when the brake is in the running position.
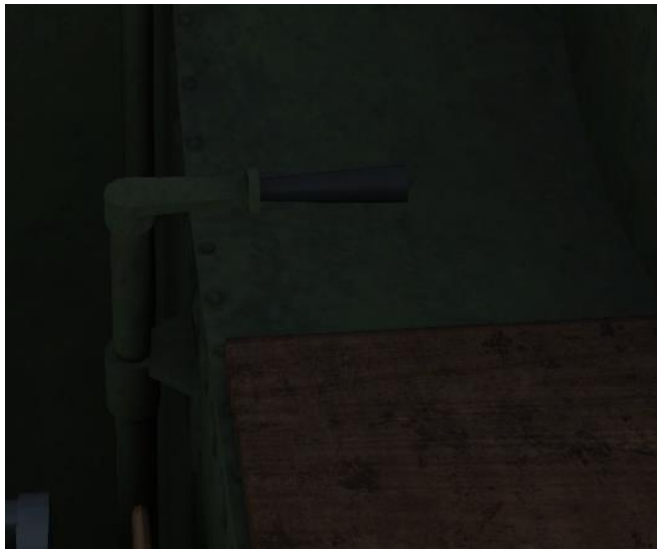
11. Sander

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 wet or 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 small prairies, like many GWR locomotives, have 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)

Note: This is an optional part so may not be active on all locomotives.

This system indicates a signal being either clear or at danger and issues a bell or buzzer tone to the locomotive crew. If a warning buzzer is heard it will need to be acknowledged or the brakes will 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 and logos

The small prairies have 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 scenario locomotive 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.

You can also cycle through the available company logos for each livery by using Control and the number 6 on the keypad.

Keys: Ctrl + Numpad 1-6

Driving in Advanced Mode

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 wet or 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 wet or 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.

Locomotive Numbering

When a 44xx/45xx/4575 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 setups are listed below.

The number has 14 digits in total and each locomotive and livery has different options.

44xx GWR, e.g. D4400YYYPBYNWG

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. ATC fitted – **Y**es or **N**o
7. Cab shutters - **Y**es or **N**o
8. Coal guard - **Y**es or **N**o
9. Buffers – **T**apered or **P**arallel
10. 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
   - **B, b -** Shirt button logo
   - **L, l –** GWR lettering
   - **N, n –** Great Western name
11. Smokebox pipes
12. Boiler top handle
13. Lamp casings – **R**ed or **W**hite

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

44xx BR, e.g. D4400BYYYPRYNG

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. Shed code (see below)
7. ATC fitted – **Y**es or **N**o
8. Cab shutters - **Y**es or **N**o
9. Coal guard - **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. Polished safety bonnet – **Y**es or **N**o
12. Smokebox pipes
13. Boiler top handle
14. Head code – Letter of the head code class (see Appendix)

45xx GWR, e.g. D4500YSYYPNNRB

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. ATC fitted – **Y**es or **N**o
7. Frames – **S**quare or **C**urved
8. Cab shutters - **Y**es or **N**o
9. Coal guard and boiler top handle- **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. 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
   - **B, b -** Shirt button logo
   - **L, l –** GWR lettering
   - **N, n** – Great Western name
12. Smokebox pipes
13. Lamp casings – **R**ed or **W**hite
14. Head code – Letter of the head code class (see Appendix)

45xx BR (Green/Black), e.g. D4500AYSYYPPYG

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. Shed code (see below)
7. ATC fitted – **Y**es or **N**o
8. Frames – **S**quare or **C**urved
9. Cab shutters - **Y**es or **N**o
10. Coal guard and boiler top handle- **Y**es or **N**o
11. Buffers – **T**apered or **P**arallel
12. 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
- **P, p -** Post 1956
- **R, r –** Pre 1956
- **L, l –** Lined (Green = Orange/Black, Black = Grey/Red)

13. Smokebox pipes
14. Head code – Letter of the head code class (see Appendix)

4575 GWR, e.g. D4575YN#YPBRB#

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. ATC fitted – **Y**es or **N**o
7. Auto-fitted
8. Cab shutters – **Y**es or **N**o
9. Coal guard - **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. 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
- **B, b -** Shirt button logo
- **L, l –** GWR lettering
- **N, n –** Great Western name
12. Lamp casings – **R**ed or **W**hite
13. Head code – Letter of the head code class (see Appendix)
14. *Unused*

4575 BR (Black), e.g. D4575AYNYPPNNB

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. Shed code (see below)
7. ATC fitted – **Y**es or **N**o
8. Auto-fitted
9. Coal guard and boiler top handle- **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. Company logo
- **P, p -** Post 1956
- **R, r –** Pre 1956
- **L, l –** Grey/Red lining
12. Polished safety bonnet – **Y**es or **N**o
13. *Unused*
14. Head code – Letter of the head code class (see Appendix)

4575 BR (Green), e.g. D4575AYNYPPNNB

1. D/W – A **D**ry or **W**et scenario
2 to 5. 4 digit locomotive number
6. Shed code (see below)
7. ATC fitted – **Y**es or **N**o
8. Auto-fitted
9. Coal guard and boiler top handle- **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. Company logo
   - **P, p -** Post 1956
   - **R, r –** Pre 1956
   - **L, l –** Orange/Black lining
12. Polished safety bonnet – **Y**es or **N**o
13. Airbrake – **note**: this is visual only
14. Head code – Letter of the head code class (see Appendix)

4575 GWR (Red), e.g. DC150#YNYP#YYA

1. D/W – A **D**ry or **W**et scenario
2 to 4. 3 digit locomotive number
5 & 6. *Unused*
7. ATC fitted – **Y**es or **N**o
8. Auto-fitted
9. Coal guard - **Y**es or **N**o
10. Buffers – **T**apered or **P**arallel
11. *Unused*
12. Polished safety bonnet – **Y**es or **N**o
13. Airbrake – **note**: this is visual only
14. Head code – Letter of the head code class (see Appendix)

The black and green BR locomotives can display a shed code on the smokebox door plate. The letters below show the code for the shed location:
A: Didcot
B: Gloucester
C: Machynlleth
D: Penzance
E: Plymouth Laira
F: Swindon
G: Treherbert
H: Truro
I: Weymouth

Rolling Stock Numbering

Included with the small prairies pack is a number of items of rolling stock which can be set up with specific options and logos using the stock number.

6 ton Fruit 'A' Van (Diagram Y2)
Fifth character: Less than 3 - GW small letters, Between 3 and 5 - GW large letters, Over 5 - Shirt button logo

10 ton Covered Goods van (Diagram V4)
Fifth character: Less than 5 - GW small letters, Over 5 - GWR large letters, Between 2 and 7 - Show end vent

10 ton Banana Van (Diagram Y5)
Fifth character over 5: GWR large letters

20 ton Toad Brake Van (Diagrams AA13 and AA15)
The 20 digits after the 5 digit van number are used to put text on the side of the van. There must always be 20 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.   17787###################T

Letters A to Z are catered for, they must be entered in upper case, as well as & (ampersand) ' (apostrophe) and . (period). A $ will show a small underlined C, often used in the abbreviation for Junction: Jun$^{\underline{c}}$
e.g. 17787###TRURO###########T, 17787#SWINDON####JUN$####T

The 26th character can set the brake van with either **T**apered or **P**arallel buffers.

BR Standard Van

The 5 digits after the 6 digit van number are used for visual options allowing over 400 combinations of fittings, e.g. 767701SNOGN

7th character, **S**olid or **P**lanked sides
8th character, **N**o vent, **1** vent, **2** vents, **4** vents Ends
9th character, (Hinged) **SO**lid, **P**lanked, **V**-braced, (Sliding) **S**olid, **3**-bar Doors
10th character, **G**WR, **B**R axle boxes (using lowercase **g** or **b** adds a connecting bar)
11th character, **U**pper, **L**ower or **N**o Side Vents (using lowercase **u** or **n** or selecting lower vents will remove the black painted BR information panel)

The following decals are shown based on specific option selections:

Banana
- **N**o end vents, **N**o side vents, any hinged doors (**O**, **P**, **V**)

Fruit
- **1** end vent, **L**ower side vents, either sliding doors (**S**, **3**)

Ale
- **4** end vents, **N**o side vents, any hinged doors (**O**, **P**, **V**)

Meat
- **4** end vents, **U**pper side vents, any hinged doors (**O**, **P**, **V**)

Random chalk scribbles are also added to some vans.

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.

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Bonus: If you've read this far, well done you have earned a secret! Whilst stationary in the red bonus livery of the 4575 pressing the V key will visually simulate charging the air compressor.

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.