

UK DMUs-EMUs-Trams #1

V1.1.5



David Brindley's excellent Class 318.

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Welcome!

This pack is part of a community project started by members of the UKTrainSim community. Our aims are simple:

- Build up a bank of resources for the community by combining skills and working together
- Make the packs simple and straight forward to use

Do I have the latest pack installed?

Every time you install a UKTS Freeware Pack it will automatically check to see if a more up-to-date version is available and warn you if you are trying to install an obsolete pack.

A small utility called “*UKTrainSim Freeware Pack Updater*” is also installed with every pack. This utility will allow you to quickly and easily check if updates for any of your packs are available. It also lists packs that you do not have with straight forward links to click and download them

How can I find out what is in this pack?

A gallery of images showing the items available in each pack can be accessed by visiting:

uktrainsim.com/FreewarePacks/galleries

A Google Documents spread sheet is available which gives further details of all the rolling stock included in each pack.

[View Google Documents Spread sheet](#)

Scenario Creators – Find the Rolling Stock you Want Quickly

All items in the UKTS Freeware Rolling Stock packs have standardised names. Due to the limited space available to display asset names in game a system of short hand codes is used. A “Quick Reference” of the codes is installed in the same folder as this manual and is also [available online](#).

There is also a [YouTube video](#) which shows how to enable and find the content in each pack.

Object Set Filters Required for This Pack

The following Developer and Product Filters must be enabled to use the content of this pack when creating scenarios:

- DRB_SimStuff → UK
- Kuju → RailSimulator
- RailVision → Addon
- RScott → Addon

How Can I Get Involved?

There are many ways members can take part in the project:

- Donate a new asset to the pack
- Donate a re-skin to the pack
- Research buildings, objects etc. to assist object creators
- Take pictures that can be used as texture resources
- Assist with the organisation of the packs
- Create tutorials to assist other members

If you have questions or want more information please visit the [Get Involved](#) page on the UKTrainSim Freeware Packs web site.

Additional Manuals for Pack Content

This section contains the manuals that came with certain items of rolling stock. You are strongly advised to read it if you want to get the most out of the pack. They contain background information and instructions for use.

BR 2EPB



Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the Railworks documentation for how to do this.

The object filters DRB_SimStuff - UK and Kuju – Railsimulator must be ticked in any scenario these are used in.

The EPB units appear in the selection menus with the following names:

locomotive menu:

FP DRB EPB DMBS 2car blue grey

FP DRB EPB DMBS 2car blue

FP DRB EPB DMBS 2car half blue grey

FP DRB EPB DMBS 2car half blue

FP DRB EPB DTSO blue grey

FP DRB EPB DTSO blue

FP DRB EPB DTSO half blue grey

FP DRB EPB DTSO half blue

wagon menu:

FP DRB EPB DMBS 2car blue grey

FP DRB EPB DMBS 2car blue

FP DRB EPB DTSO blue grey

FP DRB EPB DTSO blue

A two car unit is made up of DMBS-DTSO (see consist makeup below).

Note the two wagons of a unit are permanently connected and cannot be uncoupled when driving. Headcode numbers can be changed using the last two digits of the DMBS unit number. # gives a red box, % a white box, and * a blank. 0-9 for numbers.

Consist makeup

If you want appropriate performance with different train configurations you need to follow the following consist makeup instructions carefully.

To make a 2 car train, or multiples of 2 car trains (e.g 2EPB+2EPB+2EPB) then use the engine items

FP DRB EPB DMBS 2car half

FP DRB EPB DTSO 2car half

This creates a train which can be driven from either end.

If you want to make a train which combines 2 and 4 car units (e.g 2EPB+4EPB) then use

the engine item:

FP DRB EPB DMBS 2car

plus the wagon item:

FP DRB EPB DTSO 2car

OR

the engine item:

FP DRB EPB DTSO 2car

plus the wagon item:

FP DRB EPB DMBS 2car

In this configuration the 2 car unit can only be driven from the one end.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, SERIES, PARALLEL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration notching is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. SERIES will allow the power to notch up to half power. PARALLEL allows the power to advance to full power. To get full train speed the WEAKFIELD position should be selected. Field weakening occurs at about 38mph.

Although the top speed of this train is 75mph it will struggle to reach this speed on level track.

Note that classic camshaft power control systems like this do not allow "graduated" power release, ie you can't reduce power by moving the controller direct from PARALLEL to SERIES. To reduce power first move the controller to OFF, then advance it to SERIES.

Initial starting acceleration from stationary is the same whatever power position is selected, about 1.1 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

Brake control

The driver's brake handle provides control of two integrated braking systems - an electro-pneumatic (EP) system for normal use, and a classic automatic air brake for reversionary use. Either can be used at any time.

The EP brake is operated between the release position (handle fully to the left) and the first ridge that can be seen on the brake handle plate. It is a simple proportional, self lapping brake that provides graduated release. Level of brake application can be determined from the position of the handle, or the brake cylinder gauge (the middle one, full application is about 56psi). Note the brake pipe gauge pressure (red needle on the left gauge) does not vary with EP brake applications.

The auto air brake is operated by quickly moving the brake handle to the second ridge on the brake plate, without pausing. If you pause between the release and second ridge positions this will cause an EP application to occur. The second ridge is the brake LAP notch. There are two other notched

ridges to the right of this, APPLY and EMERGENCY. The LAP and APPLY notches can be used in a similar manner to the brakes on the default stock steam locos. Placing the handle in the APPLY position causes the brake pipe pressure to be reduced at a continuous rate, returning it to the LAP position will maintain the current brake pipe pressure, and thus brake application. There is no graduated release for the auto air brake - the handle must be returned to the RELEASE position and the brakes will be completely released. The EMERGENCY position causes the brake pipe to be reduced to zero and the brakes fully applied.

Drivers are encouraged to use both braking systems in a run, to ensure they are both working.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from default by:

- A reduce power >
- D increase power > ie MSTs style.
- keypad +/enter sound horn

Railworks2 "F4 HUD"

The driving controls on the HUD will not work with this train.

BR 2HAP



Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the Railworks documentation for how to do this. The object filters DRB_SimStuff - UK and Kuju – Railsimulator must be ticked in any scenario these are used in.

The HAP units appear in the selection menus with the following names:

locomotive menu:

FP DRB HAP DMBS blue grey
FP DRB HAP DMBS blue
FP DRB HAP DMBS half blue grey
FP DRB HAP DMBS half blue

FP DRB HAP DTCL blue grey
FP DRB HAP DTCL blue
FP DRB HAP DTCL half blue grey
FP DRB HAP DTCL half blue

wagon menu:

FP DRB EPB DMBS 2car blue grey
FP DRB EPB DMBS 2car blue
FP DRB HAP DTCL blue grey
FP DRB HAP DTCL blue

A two car unit is made up of DMBS-DTCL (see consist makeup below).

Note the two wagons of a unit are permanently connected and cannot be uncoupled when driving. Headcode numbers can be changed using the last two digits of the DMBS/DTCL unit number. # gives a red box, % a white box, and * a blank. 0-9 for numbers.

Consist makeup

If you want appropriate performance with different train configurations you need to follow the following consist makeup instructions carefully.

To make a 2 car train, or multiples of 2 car trains (e.g 2HAP+2HAP+2HAP) then use the engine items

FP DRB HAP DMBS half
FP DRB HAP DTCL 2car half

This creates a train which can be driven from either end.

If you want to make a train which combines 2 and 4 car units (e.g 2HAP+4EPB) then use the engine item:

FP DRB HAP DMBS
plus the wagon item:
FP DRB HAP DTCL

OR

the engine item:

FP DRB HAP DTCL

plus the wagon item:

FP DRB EPB DMBS 2car

In this configuration the 2 car unit can only be driven from the one end.

Note that HAPs have "express" gearing. When making consists with a mix of HAP and EPB units the acceleration behaviour will vary if you are actually driving a "HAP" or "EPB" driving car.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, SERIES, PARALLEL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration notching is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. SERIES will allow the power to notch up to half power. PARALLEL allows the power to advance to full power. To get full train speed the WEAKFIELD position should be selected. First stage of field weakening occurs at about 40mph.

Although the top speed of this train is 90mph it will struggle to reach this speed on level track.

Note that classic camshaft power control systems like this do not allow "graduated" power release, ie you can't reduce power by moving the controller direct from PARALLEL to SERIES. To reduce power first move the controller to OFF, then advance it to SERIES.

Initial starting acceleration from stationary is the same whatever power position is selected, about 0.75 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

Brake control

The driver's brake handle provides control of two integrated braking systems - an electro-pneumatic (EP) system for normal use, and a classic automatic air brake for reversionary use. Either can be used at any time.

The EP brake is operated between the release position (handle fully to the left) and the first ridge that can be seen on the brake handle plate. It is a simple proportional, self lapping brake that provides graduated release. Level of brake application can be determined from the position of the handle, or the brake cylinder gauge (the middle one, full application is about 56psi). Note the brake pipe gauge pressure (red needle on the left gauge) does not vary with EP brake applications.

The auto air brake is operated by quickly moving the brake handle to the second ridge on the brake plate, without pausing. If you pause between the release and second ridge positions this will cause an EP application to occur. The second ridge is the brake LAP notch. There are two other notched ridges to the right of this, APPLY and EMERGENCY. The LAP and APPLY notches can be used in a similar manner to the brakes on the default stock steam locos. Placing the handle in the APPLY position causes the brake pipe pressure to be reduced at a continuous rate, returning it to the LAP position will maintain the current brake pipe pressure, and thus brake application. There is no graduated release for the auto air brake - the handle must be returned to the RELEASE position and the brakes will be completely released. The EMERGENCY position causes the brake pipe to be reduced to zero and the brakes fully applied.

Drivers are encouraged to use both braking systems in a run, to ensure they are both working.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from the default by:

- A reduce power >
- D increase power > ie MSTS style.
- keypad +/enter sound horn

Railworks2 "F4 HUD"

The driving controls on the HUD will not work with this train.

BR 4EPB



Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the Railworks documentation for how to do this. The object filters DRB_SimStuff - UK and Kuju – Railsimulator must be ticked in any scenario these are used in.

The EPB units appear in the selection menus with the following names:

locomotive menu:

FP DRB EPB DMBS blue grey

FP DRB EPB DMBS blue

wagon menu:

FP DRB EPB TSO1 blue grey

FP DRB EPB TSO1 blue

FP DRB EPB TSO2 blue grey

FP DRB EPB TSO2 blue

A four car unit is made up of DMBS-TSO1-TSO2-DMBS. Ensure the TSO2 unit is oriented with the single central buffer pointing towards the adjacent driving car.

Note the four wagons of a unit are permanently connected and cannot be uncoupled when driving. Headcode numbers can be changed using the last two digits of the DMBS unit number. # gives a red box, % a white box, and * a blank. 0-9 for numbers.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, SERIES, PARALLEL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration notching is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. SERIES will allow the power to notch up to half power. PARALLEL allows the power to advance to full power. To get full train speed the WEAKFIELD position should be selected. Field weakening occurs at about 38mph.

Although the top speed of this train is 75mph it will struggle to reach this speed on level track.

Note that classic camshaft power control systems like this do not allow "graduated" power release, ie you can't reduce power by moving the controller direct from PARALLEL to SERIES. To reduce power first move the controller to OFF, then advance it to SERIES.

Initial starting acceleration from stationary is the same whatever power position is selected, about 1.1 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

Brake control

The driver's brake handle provides control of two integrated braking systems - an electro-pneumatic (EP) system for normal use, and a classic automatic air brake for reversionary use. Either can be used at any time.

The EP brake is operated between the release position (handle fully to the left) and the first ridge that can be seen on the brake handle plate. It is a simple proportional, self lapping brake that provides graduated release. Level of brake application can be determined from the position of the handle, or the brake cylinder gauge (the middle one, full application is about 56psi). Note the brake pipe gauge pressure (red needle on the left gauge) does not vary with EP brake applications.

The auto air brake is operated by quickly moving the brake handle to the second ridge on the brake plate, without pausing. If you pause between the release and second ridge positions this will cause an EP application to occur. The second ridge is the brake LAP notch. There are two other notched ridges to the right of this, APPLY and EMERGENCY. The LAP and APPLY notches can be used in a similar manner to the brakes on the default stock steam locos. Placing the handle in the APPLY position causes the brake pipe pressure to be reduced at a continuous rate, returning it to the LAP position will maintain the current brake pipe pressure, and thus brake application. There is no graduated release for the auto air brake - the handle must be returned to the RELEASE position and

the brakes will be completely released. The EMERGENCY position causes the brake pipe to be reduced to zero and the brakes fully applied.

Drivers are encouraged to use both braking systems in a run, to ensure they are both working.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from the default by:

- A reduce power >
- D increase power > ie MSTs style.
- keypad +/enter sound horn

Railworks2 "F4 HUD"

The driving controls on the HUD will not work with this train.

British Railways 4 SUB Electric



The 4SUB

The 4SUB Electric Multiple Units were originally built for the Southern Railway in their traditional square front design, with a wooden roof. However, Oliver Bulleid stamped his design ideas on newer, all metal bodied units. The Units had Driving Motor Brakes (DMBT, the T stands for Third Class) at either end and two trailers (TTO - Trailer Thirds Open). Initially the trains had compartments in combination of classes. However, over the years open versions became the norm and many units were rebuilt as open units.

Metal 4-SUB units started appearing in numbers in 1946, continuing to 1951. The eventual layout of seating provided for 386 passengers in a 4 coach train. Although anyone who ever travelled on these will know that many more spent their journeys standing! They travelled across virtually all the Southern suburban network (not the narrow loading gauge of the South Eastern though) on local, stopping trains.

The units started to be withdrawn towards the end of the seventies although one unit was repainted in a variant of the original Southern green around 1983 and used for specials as well as normal services. This unit has been kept for preservation by the Southern Electric Group. The 4Subs were painted in Southern Malachite Green initially. Then repainted in BR EMU Green until the sixties when they were repainted Rail Blue. These units never received blue and grey livery.

Installation

Please note that, as far as we know, this train will only work in Expert Mode and you will have to untick simple mode in the Gameplay Options.

The Model

The train and cab models were made by me in 3DCanvas. Physics, sounds and cab control blueprints were by Darren Carter.

Note that there are two DM models, one an open version (DMBTO) and one a compartment version (DMBT). There are also two trailers (TTOA) and (TTOB). These trains were not fitted with conventional buffers apart from at the driver end of the DMs. The trailers however, did have one central buffer. This rested against a buffer plate at the end of the coach that had no buffers. The A trailer had a buffer at one end, whilst the B Trailer had a buffer at either end. You need to ensure that the trailers are facing the right way round. See this diagram:



By the time the Heritage train was 'preserved' compartments had been phased out, so this train was made up of two DMBTO vehicles.

Driving the 4SUB

Most controls are the same as usual for Railworks. However, there are a few things to keep in mind when driving this train. The 4 Subs did not have a speedometer in the cab. It was thought that, as stations on the Southern suburban network are so close together, trains would never get to full speed. The dials in front of you are the ammeter and duplex. The handbrake to your right should be off already. In the real train, the power handle operates as a 'deadman's handle', which if released would bring the train to a halt. This feature is not implemented, but you will see the handle depress before moving round to increase power. You need to depress the power handle (press A once) before you can set the direction with the reverser or release the air brake. In addition, when you stop, the power handle will not return to the completely off position until the reverser is set to 'neutral'. The switch for the wiper is in front of you to the left of the windscreen. If you are using the RailWorks 'HUD' Driver display then you will notice a gradually decaying throttle on the HUD. This is

a feature of the scripting to limit the speed to a maximum value in each throttle position. When reapplying power, if your speed has passed the maximum for that particular throttle position, the HUD will stay at zero until you move to a position that requires more power. ie If re-motoring at 30 mph, the HUD throttle will stay at zero until you get to the parallel position on the handle.

The Southern units originally had whistles and these remained until the locos were refurbished in BR Blue. This is operated by the spacebar as usual. The later trains had two tone horns and these are operated by the J key. The Heritage train had both, although the horn would be operated as a default and the whistle just for effect. Although a seat was provided in the cab, my memory of them is that the drivers more often than not stood to drive. If you press H a driver will appear in the front cab and a lamp on the rear of the train. Press H again to swap these around. The BR Green and Blue versions share the original cab. The Heritage train has the later cab with more modern windscreen wiper.

Note: If your train is brought to an emergency stop by a red light, there is only one way to get it going again. First set the reverser to neutral, then move the throttle right around to zero and back in the 'up' position. Then press Shift R and you will be able to start again.

Class 317/1



This is a version of the BREL class 317/1 electric multiple unit, in original blue/grey "BedPan" livery.

This is for RailWorks only.

Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the railsim documentation for how to do this. The object classes DRB_SimStuff/UK and Kuju/Railsimulator must be ticked in the scenario.

The class 317 units appear in the selection menus with the following names:

locomotive menu:

FP DRB Class 317/1 DTSO BR blue grey

wagon menu:

FP DRB Class 317/1 TCO BR blue grey

FP DRB Class 317/1 MSO BR blue grey

FP DRB Class 317/1 MSO hi BR blue grey - pantograph at the "high" position of the default catenary.

A four car unit is made up of DTSO-MSO-TCO-DTSO. The pantograph end of the MSO should be arranged towards the center of the unit. The toilet end (small window) of the TCO should be arranged towards the center of the unit.

Note the four wagons of a unit are permanently connected and cannot be uncoupled when driving. The tightlock couplers of the unit ends will not couple with any other type of RailWorks wagons.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, HALF, FULL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration thyristor advance is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. HALF will allow the power to notch up to half power. Level balancing speed should be about 60mph. FULL allows the power to advance to full power. To get full train speed (about 100mph) the WEAKFIELD position should be selected. Field weakening occurs at about 65mph.

Unlike classic camshaft power control systems power can be reduced by selecting a lower notch. Selecting the SHUNT notch when moving at any speed will cause no change to the power setting.

Note that initial starting acceleration from stationary is the same whatever power position is selected, about 1.5 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

The brake handle consists of 3 "service" notches and an emergency position.

The emergency position provides basically the same level of retardation as the full service position. Brakes have graduated release.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from the default by:

keypad +/enter sound horn
P to raise pantograph, shift P to lower it.

F4 HUD

This train can be operated with the main F4 HUD controls. Do not use the HUD pantograph control as this may result in you being unable to move the train.

Destinations

Destinations are defined via the DTSO number first character:

-	<blank>
A	london euston
B	northampton
C	st pancras
D	bedford
E	cambridge
F	liverpool street
G	moorgate
H	royston
I	kings cross

Class 318

This is a version of the BREL class 318 electric multiple unit, in original SPTE "Strathclyde Red" & Black.

Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the railworks documentation for how to do this. The object classes DRB_SimStuff/UK and Kuju/Railsimulator must be ticked in the scenario.

The class 318 units appear in the selection menus with the following names:

locomotive menu:

FP DRB Class 318 DTSO Orange SPTE
FP DRB Class 318 DTSOL Orange SPTE

wagon menu:

FP DRB Class 318 MSO Orange SPTE

FP DRB Class 318 MSO hi Orange SPTE - pantograph at the "high" position of the default catenary.

A three car unit is made up of DTSO-MSO-DTSOL. The pantograph end of the MSO should be arranged towards the DTSO.

Note the three wagons of a unit are permanently connected and cannot be uncoupled when driving. The tightlock couplers of the unit ends will not couple with any other type of RailWorks wagons.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, HALF, FULL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration thyristor advance is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. HALF will allow the power to notch up to half power. Level balancing speed should be about 50mph. FULL allows the power to advance to full power. To get full train speed (about 90mph) the WEAKFIELD position should be selected. Field weakening occurs at about 60mph.

Unlike classic camshaft power control systems power can be reduced by selecting a lower notch. Selecting the SHUNT notch when moving at any speed will cause no change to the power setting.

Note that initial starting acceleration from stationary is the same whatever power position is selected, about 1.5 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

The brake handle consists of 3 "service" notches and an emergency position. The emergency position provides basically the same level of retardation as the full service position. Brakes have graduated release.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from the default by:

keypad +/-enter sound horn

P to raise pantograph, shift P to lower it.

F4 HUD

This train can be operated with the main F4 HUD controls. Do not use the HUD pantograph control as this may result in you being unable to move the train.

Destinations

Working together to make great community content

Destinations are defined via the DTSO number first character:

- <blank>
- A Glasgow Central
- B Dalmuir
- C Gourock
- D Ayr
- E Milngavie
- F Via Glasgow Central & Singer
- G Lanark
- H Largs
- I Via Glasgow Central & Blantyre
- J Wemyss Bay

e.g BF318255 will give unit 318255 with "Via Glasgow Central & Singer" and "Dalmuir" on the destinations.

Class 455/8



This is a version of the BREL class 455/8 electric multiple unit, in original blue/grey and NSE colours.

This is for RailWorks only.

Usage

The supplied files will not overwrite any existing stock. To use this train you will need to create your own consists in a scenario or free-roam session. See the railsim documentation for how to do this. The object classes DRB_SimStuff/UK and Kuju/Railsimulator must be ticked in the scenario.

The class 455 units appear in the selection menus with the following names:

locomotive menu:

FP DRB Class 455/8 DTSO BR blue grey

FP DRB Class 455/8 DTSO NSE

wagon menu:

FP DRB Class 455/8 TSO BR blue grey

FP DRB Class 455/8 TSO NSE

FP DRB Class 455/8 MSO BR blue grey

FP DRB Class 455/8 MSO NSE

A four car unit is made up of DTSO-MSO-TSO-DTSO.

Note the four wagons of a unit are permanently connected and cannot be uncoupled when driving. The tightlock couplers of the unit ends will not couple with any other type of RailWorks wagons.

Driving this train

Power control

The driver's power controller has 5 discrete positions - OFF, SHUNT, SERIES, PARALLEL and WEAKFIELD. Off should be clear. SHUNT provides a low power position where acceleration notching is suppressed. It is for use in shunting movements. The train will "balance" to a speed of about 5mph on level track in this position. SERIES will allow the power to notch up to half power. PARALLEL allows the power to advance to full power. To get full train speed the WEAKFIELD position should be selected. Field weakening occurs at about 38mph.

Note that classic camshaft power control systems like this do not allow "graduated" power release, ie you can't reduce power by moving the controller direct from PARALLEL to SERIES. To reduce power first move the controller to OFF, then advance it to SERIES.

Initial starting acceleration from stationary is the same whatever power position is selected, about 1.3 mph/sec.

It is common driving practice to move the controller direct to the WEAKFIELD position when pulling away.

Brakes

The brake handle consists of 3 "service" notches and an emergency position. The emergency position provides basically the same level of retardation as the full service position. Brakes have graduated release.

Use of Keyboard

This train uses custom key mapping. This will not affect the default key mapping of the simulator, including any customisations you may have made. The key mapping differs from the default by:

keypad +/enter sound horn

F4 HUD

This train can be operated with the main F4 HUD controls.

Destinations

Destinations are defined via the DTSO number first two characters:

- <blank>
- A Chessington Sth
- B Epsom
- C Guildford
- D Kingston
- E Richmond
- F Staines
- G Via Epsom
- H Via Richmond
- I Via Surbiton
- J Waterloo
- K Weybridge
- L Woking

e.g number CG5801 will define unit 455801 with left destination of "Guildford" and right "Via Epsom".

GWR Diesel Railcar



The Prototype

The GWR experimented with diesel railcars as a means of providing, not only economical traction on rural branch lines, but also a fast vehicle for suburban mainlines. The first vehicles came out in 1933 and had a smooth, streamlined body built by Park Royal, with AEC providing the mechanicals. Because of their smooth look and GWR colours, they acquired the nickname 'Flying Bananas'.

The vehicle represented here, however, is from a later batch designed and built by the GWR. Numbered from 19 to 32. It was first announced in 1939. They had a more angular body than their predecessors and were very successful, lasting into the 1960s. They were also adapted into a parcels only vehicle (no 34) and a two car DMU (33, 35, 36, 37, 38). However, extra coaches could be added to single and double versions to increase capacity.

Power was from two AEC 105 hp diesel engines, mounted in a staggered formation (the earlier cars engines were parallel). Mounted low under the bodywork and driving the bogie wheels through a drive shaft. The Railcar had a 5 speed gearbox, with a pre-selector gear box. They could reach a top speed of about 60 - 65 mph (the double unit a little more). They were about 62 feet long (over headstocks). They were fitted with the GWR ATC (Automatic Train Control) system, a forerunner of AWS. This sounded a bell in the cab when the train passed over a ramp. I have implemented this in a simplified form. The bell sounds and you can acknowledge it by pressing Q (again, a bell sounds), but your train shouldn't come to a stop if you don't press Q.

What are the different models?

4 different versions will appear on your scenario list:

GWR Railcar

This is the basic railcar as it first appeared in GWR colours with the late version totem. Automatic numbering is in place for this version.

GWR Railcar No 22

The same as above, but number fixed as No 22. At Didcot now it has no outer drive shaft on the bogies, but I have left it in its GWR condition (saves an extra model!).

BR RailcarBC

This is the Railcar as it would have appeared after nationalisation. The BC refers to the BR red and cream livery, known usually as 'blood and custard'. The drive shaft to the outer axle was removed in BR days.

BR Railcar Green

The Railcar as it would have appeared till the end of its life in DMU green with the yellow stripe.

Features

You can switch directions when driving this railcar. Press Ctrl = to switch to the rear cab. At a station, pressing T will open the door to the passenger compartment and open the doors of the luggage area. You will see that someone has left their bike here. A quick look at the passengers in the passenger view will soon tell you who! At night, if you press H the front lights will come on and a red light come on at the back. Press H again and the rear headlights come on for travel in that direction. Shift H reverses this process.

Driving the Railcar

The cab is slightly simplified from the real thing. For example, the odd looking speedometer would return information on how each engine was performing. I have implemented it as a simple indicator of speed.

The actual Railcar is a Diesel engined vehicle with 5 manual gears. Some vehicles were equipped with dual ratio gear boxes (which would have a third lever on the left hand side). Due to limitations in the implementation of the Diesel Mechanical Blueprints in RailWorks at present, it has not been possible to re-produce this accurately in this model. So, for the moment, gear changes are automatic. In fact, in the real thing, gear changes were controlled by a pre-selector gearbox. The driver would select the gear required, release the clutch and brake and accelerate, the gear would then engage. I have animated the Gear lever (and the clutch moves with it), so you can simulate this operation if you wish, but it will have no effect on the driving. The Railcars also had levers at either side called shunting throttles. These enabled the driver to sit by the side window and operate the train. These are non operational in this model.

To operate use the basic controls as follows

Press W to engage forward gear.

Press S to engage reverse gear.

There is also a central neutral position.

Press A to accelerate.

Press D to slow down.

Press ; to release vacuum brake and ' to apply.

Press / to release handbrake (on by default) press again to apply..

Press the Spacebar to operate horn.

Press X to operate sander.

Press V to operate windscreen wipers

As noted above E will operate the Gear lever, but gears are non operational at the moment. Shift E to return the gear lever.

T opens the doors and H operates the headlights.

A note on the accuracy of this model

I have done my best to make the model as accurate as I can, within my limitations and those of the sim. There are a couple of areas that I should 'fess up' to being not totally correct. I have already mentioned the lack of a true diesel mechanical, geared blueprint for this loco. Overall, I believe the model itself and its liveries is reasonably close to the prototype. The cab is based on No 22 at Didcot, with certain functions simplified (and brake gauges are non functioning). Even if all the controls are not quite as they should be, it should give you some idea of the cab experience of one of these trains. I have also modelled the passenger interior on No 22. According to Colin Judge's book, in GWR times the upholstery and walls were green. Unfortunately, I have not seen any visual representation of this, so I have used the colour scheme found on Didcot's vehicle. Chances are that they have had to compromise on materials and what they inherited from BR. I think that Didcot's version has a true GWR feel and the seat colours look good compared to the rest of the vehicle. So rather than guess at what the original was like, I am sticking with their version. This also saves having different versions of the passenger view! Note, by the way, that the passenger view will change if you change ends.

The least satisfactory part of the model will be the audio. I am no expert at this aspect of railway simulation, but have done my best. Almost all the custom sounds you hear are actually from a GWR Railcar. I videoed No 22 at Didcot, made this into a Windows Media file and took sound files from this. I used the Audacity sound program to edit and modify these. Through mainly trial and error (and a lot of help from Darren Carter), I have come up with something that sounds something like the original. If you think it sounds thin, remember we are talking about something that is, in effect, powered by two big bus engines. It is not going to sound (or perform) like a Class 47. I did not have access to the cab, so the sounds you hear in there are either recorded from the passenger area, through a partition or adapted from other sounds. They are therefore, not true representations of the cab. I hope though, that they will provide some atmosphere to improve the experience

2BIL British Railways Electric Class 401

The 2BIL

The 2 BIL Southern Electrics, were originally introduced in 1935 to be used mainly as semi fast trains on the Portsmouth route from London. The designation 2 BIL stands for Bi Lavatory, as there were two lavatories, one in each coach. They would later be used on the Brighton line and also semi fast services on the South West London routes.

They were made in two batches, with slight differences in design. The model here represents the later batch. In service, they would be used in multiples up to 8, or could be coupled to other unit types such as 4SUB and 2HAL. The 2 car unit was made up of a Driving Motor Brake Third (DMBT) and a Driving Trailer Composite Lav (DTCL), which had some First Class seating.

A number of units survived into the TOPS era, when they were out shopped in rail blue and designated Class 401.

The Model

The train and cab models were made by me in 3DCanvas. Physics and cab controls blueprints were based on original work by Darren Carter and Jimi Ibbets. Press H to see a driver in external view and a tail lamp at the rear of the train. The model features rain effect on the cab windows and also in the passenger view.

Driving the 2BIL

Most controls are the same as usual for Railworks. However, there are a few things to keep in mind when driving this train. The handbrake to your right should be off already. In the real train, the power handle operates as a 'deadman's handle', which if released would bring the train to a halt. This feature is not implemented, but you will see the handle depress before moving round to increase power. The switch for the wiper is in front of you to the left of the windscreen.

Acknowledgements

Thanks to Darren Carter for all his help with the cab controls and train sounds and squeals.. Acknowledgement also to Jimi Ibbets, whose original scripting was used by Darren. Both of these are my colleagues in the Virtual District project and it is their skills that make the train far more realistic to operate.

I originally received a lot of help for my 4SUB models from Graeme Gleave of the Southern Electric Group. And also from Michael Traves, who made MSTs models of these trains. I used a lot of their reference in these models as well.

See:

<http://www.emus.co.uk/sub.htm>

Also a big thank you to Joe Pearce, creator of the Coalburn Trench route. He tested these models exhaustively and ensured that I didn't release them with a number of schoolboy errors! Any mistakes left are firmly my fault however.

Known Problems

Duplicate Loco Numbers SBHH

This is a known issue with Railworks2 where it will quite happily allow duplicate loco numbers that are specified in the loco .bin files within the editor, but then throws a SBHH error once you click the play button or exit out of the editor and then try to launch a scenario via the main route window.

Work Around

Scenario creators should be careful not to place more than one item of any locomotive which is a singled numbered or named type.

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Credits

These packs would have been impossible without members of the community generously donating their time, energy, skill and expertise to the project.

My thanks go to Mike Simpson for his indispensable RWTtools, David Richardson for his design skills and Matt Peddlesden for his support. Kariban and Kromaatikse have done incredible work with rolling stock physics and many others have offered help and assistance along the way. Without you all this would not have been possible.

Donations for this pack were received from (alphabetical order):

- adburgess1992
- cowey2511
- danny3
- davveb
- DavidHossack
- MichaelDono
- RichardScott
- Traveller54
- Will

Version History

1.0.2 – 17th August 2011

1st public release.

1.0.3 – 30th August 2011

- Added version history to manuals
- Fixes to registry utility button
- Improved version detection script to prevent installer crashing
- Tweaks to updater program
- Warning popup added to uninstall routine informing users that removal of rolling stock may prevent scenarios which use them from working
- Name changed from “UK DMUs, EMUs, Railcars and Trams #1” to “UK DMUs-EMUs-Trams #1” due to Firefox not liking long filenames when downloading

1.0.4 – 29th September 2011

- Added new version of updater program
- Modified installer to allow packs to contain the same asset if needed
- Additional Content Added:
 - Class 166 as a Class 175 by MichaelDono
 - Updated all Class 166’s donated by danny3 to use the new Railworks 3 / Train Simulator 2012 version of the 166

1.0.6 – 10th November 2011

- Additional Content Added:
 - **UKTS 24323:** Class 317 NXEA Blue by Cowey2511
 - **UKTS 23591:** Class 317 National Express by adburgess1992
 - Updated MichaleDono’s Class 166 as a Class 175 reskin to use the new Railworks 3 / Train Simulator 2012 version of the 166
 - Added Class 166 as a Trans Pennine Express Class 185 reskin by Traveller54

1.1.0 – 23rd December 2011

- Renamed all items using the new naming system
- Reduced uninstall footprint significantly by storing data separate to installer code
- Content Updated:
 - DRB units with ambient glow error corrected
 - DRB units with door open and close error corrected
 - DRB units with shadow error corrected
- Additional Content Added:
 - **UKTS 26889:** Class 142 v2 by RailVision / Simon Coop
 - **UKTS 26959:** Class 142 Early livery Pacer pack by nattydredd
 - **UKTS 27475:** Class 142 Headlight Mod by thetrainfan

1.1.1 – 1st May 2012

- Added missing developer filter to the documentation for the RailVision class 142
- Additional content added:
 - **UKTS 23590:** Class 317 NSE Unbranded by adburgess1992

1.1.2 – 25th May 2012

- Content Updated:
 - **UKTS 26609:** 4 SUB Southern Electric by RichardScott (TS2012 lights and rain added)
- Additional Content Added:
 - **UKTS 29044:** BR SR Electric 2BIL by RichardScott

1.1.4 – 6th November 2012

- Fixed cab audio for various DRB_SimStuff items broken by recent TS2013 release
- Added improved 166 reskin textures by danny3

1.1.5 – 25th February 2013

- Fixed various issues with the Class 317's (thanks to Traveller54 for reporting / helping fix)
- Added installer dependency for the European Asset Pack