Class 66 Enhancement Pack 2.0 Vol. 1

Contents

How to Install

1) Locate where you have downloaded this pack and unzip it. Information on how to do this can be found *here*.
2) Go to the location where you have extracted the files from the .zip file.
3) Now find the .exe file called 'Class 66 Enhancement Pack 2.0 Vol 1'. Double-click this file.
4) Follow the steps and by the end of the process, the main part of this pack will have installed.
5) If you intend to use any of the included scenarios, make sure you have the freely available extra stock pack and relevant payware add-on packs listed on the product page installed so the scenarios function as intended.
6) To ensure the cab environment sounds as intended in this pack, please make sure that 'EFX' is ticked within your in-game Audio settings.

Liveries

Italics are what the livery is called in the scenario editor.

EWS:

- EWS logo (no buckeye coupling or mirrors) – *EWS1*
- EWS logo – *EWS2*
- EWS logo with LED lights – *EWS2 (LED)*
- DB logo – *EWS2 (DB)*
- DB logo with LED lights – *EWS2 (DB) (LED)*
- Unbranded – *EWS2 (UB)*
- Unbranded with LED lights – *EWS2 (UB) (LED)*

DB:

DB Schenker logo – *DBS*

DB Schenker logo with LED lights – *DBS (LED)*

DB Cargo logo – *DBC*

DB Cargo logo with LED lights – *DBC (LED)*

Differing number fonts and logo positions are applied automatically depending on number. Correct as of March 2025.

The following livery variations appear automatically depending on number.

66099 - Ukraine

66077 & 66085 – Powered by HVO

66150 – We are the future

Maritime (DB):

With original lights – *DB/Mari*

With LED lights – *DB/Mari (LED)*

Freightliner:

Original Freightliner logo – *FL1a*

Original Freightliner logo with LED lights– *FL1a (LED)*

Original Freightliner logo with 40 Years decals – *FL1a (40)*

Original Freightliner logo with Zero Injuries decals – *FL1a (Zero)*

Original Freightliner side logo with revised Freightliner small logos – *FL1b*

Original Freightliner side logo with revised Freightliner small logos & LED lights – *FL1b (LED)*

Revised Freightliner logo – *FL1c*

Revised Freightliner logo with LED lights – *FL1c (LED)*

Unbranded – *FL1 (UB)*

Freightliner Powerhaul:

Revised Freightliner logo – *FL2a*

Revised Freightliner logo with LED lights– *FL2a (LED)*

Revised Freightliner logo with Zero Injuries decals – *FL2a (Zero)*

Revised Freightliner side logo with small G&W logos – *FL2b*

Revised Freightliner side logo with small G&W logos & LED lights – *FL2b (LED)*

Revised Freightliner (G&W) logo – *FL2c*

Revised Freightliner (G&W) logo with Zero Injuries decals – *FL2c (Zero)*

Revised Freightliner (G&W) logo with LED lights – *FL2c (LED)*

Freightliner Genesee and Wyoming:

Without Zero Injuries decals – *FL3*

With Zero Injuries decals – *FL3 (Zero)*

GB Railfreight 1:

Without 1A depot plates – *GB1*

With 1A depot plates – *GB1 (1A)*

First logos – *GB1 (First)*

GB Railfreight 2 & 3:

With Europorte logo – *GB2a*

Without Europorte logo– *GB3a*

Without Europorte logo & with LED lights – *GB3a (LED)*

Yellow base - with Europorte logo – *GB2b*

Yellow base - without Europorte logo– *GB3b*

Yellow base - without Europorte logo & with LED lights – *GB3b (LED)*

GB Railfreight 4:

With original lights – *GB4*

With LED lights – *GB4 (LED)*

GB Railfreight Grey – *GB (Grey)*

Metronet:

With First logo – *Metronet (First)*

Without First logo – *Metronet*

First GB Railfreight:

With First logo – *First GBRF*

Without First logo – *First GBRF (UB)*

Direct Rail Services 1:

DRS logo – *DRS1*

Freightliner logo – *DRS1 (FL)*

Freightliner logo & Zero Injuries decals – *DRS1 (FL/Zero)*

Unbranded – *DRS1 (UB)*

Unbranded & with Freightliner logo – *DRS1 (UB) (FL)*

Unbranded & with Freightliner logo & Zero Injuries decals – *DRS1 (UB) (FL/Zero)*

Direct Rail Services 2:

DRS logo – *DRS2*

GB Railfreight logo – *DRS2 (GB)*

Unbranded – *DRS2 (UB)*

Advenza Freight:

Advenza Freight logo – *Advenza*

First logo – *Advenza (First)*

Colas:

Colas Rail lettering – *CR*

Colas Rail Freight lettering – *CRF1*

Colas Rail Freight lettering & revised logo – *CRF2*

Unbranded – *CR (UB)*

Fastline Freight

External Variations

A number of external variations are possible depending on the livery & number of the locomotive. These are automatically applied in the simulator.

Nameplates

Over 150 different 2D nameplates are featured.

Cooler Group Grille

Standard

Low Emission

Coupling

Hook

Buckeye

Light Clusters

Original

'Bug Eye'

Revised

Original LED

Revised LED

'Bug Eye' LED

Mirrors

Keyboard Controls

Non-standard keyboard controls are listed below:

Shift+Ctrl+B -	Brake type TREAD/DISC
L -	Cab light switch ON/OFF
Shift+C -	Clag Factor INCREASE
Ctrl+C -	Clag Factor DECREASE
C -	Driver to guard buzzer
E -	Deadman's pedal (Driver Vigilance Device reset)
Ctrl+D -	Driver vigilance device (DVD) ON/OFF
Ctrl+Numpad 2 -	EM2000 screen DOWN
Ctrl+Numpad 4 -	EM2000 screen LEFT
Ctrl+Numpad 6 -	EM2000 screen RIGHT
Ctrl+Numpad 8 -	EM2000 screen UP
Ctrl+Numpad Enter -	EM2000 screen SELECT/ON
Ctrl+Numpad 1 -	EM2000 screen EXIT/OFF
Ctrl+Page Up -	EM2000 screen NEXT PAGE
Ctrl+Page Down -	EM2000 screen PREVIOUS PAGE
Z -	Engine start button
Shift+Ctrl+Z -	Engine stop button
Ctrl+G -	GSM-R REGISTER/DEREGISTER
H -	Headlight switch CLOCKWISE
Shift+H -	Headlight switch ANTI-CLOCKWISE
Space -	Horn LOW LOUD
B -	Horn HIGH LOUD
Ctrl+Space -	Horn LOW SOFT (New horns only)
Ctrl+B -	Horn HIGH SOFT (New horns only)
Shift+Ctrl+H -	Horn Factor UP
Ctrl+H -	Horn Factor DOWN
I -	Instrument lights switch ON/OFF
Shift+W -	Master key IN/OUT
Shift+M -	Motor Factor INCREASE
Ctrl+M -	Motor Factor DECREASE
Ctrl+N -	NRN radio REGISTER/DEREGISTER
K -	Tail lights switch ON/OFF
U -	Train length button
Ctrl+Numpad Enter -	Visual aids ON/OFF

Features

Physics

Traction

Engine RPM

Accurate engine RPM figures are used for each power notch. This varies depending on whether the locomotive is a low emission variant or not.

Notch	Standard	Low Emission
Idle	200	200
1	270	270
2	343	343
3	490	490
4	568	650
5	650	754
6	754	754
7	821	821
8	904	904

Idling RPMs vary depending on the following factors:

- Coolant temperature above 125°F: 343rpm
- Turbocharger temperature hot after extended running at full power: 343rpm
- Main reservoir pressure below 6.5 bar: 490rpm

Tractive Effort

Traction power is controlled via the 8 notch power controller with each notch providing a proportional power increase. Notch 1 provides 12.5% power, notch 2 provides 25% power etc.

A maximum tractive effort of 409 kN is available from a standing start which starts reducing at around 8mph. When using a Class 66/6, 470 kN of maximum tractive effort is available which starts reducing at around 7mph. This means that these locomotives are excellent at getting heavy loads on the move but they tend to "run out of steam" as they approach their maximum speed of 75mph.

Amps will rise broadly in line with engine RPM so if going from Idle to Notch 8 for example, you won't be putting full power down until the engine has reached its maximum rpm of 904. The same applies when notching down except if you move to Idle, then power is removed much quicker.

Generator Transition

To provide maximum acceleration, at 37mph (32mph on a Class 66/6), the traction motors move from being connected in series, to parallel. You will know this is happening when the amps on the ammeter suddenly drop to allow the transition to take place, before slowly returning to normal. This transition can also occur in reverse (parallel to series) when losing speed at 34mph (29mph on a Class 66/6).

Variable Performance

Any driver will tell you that traction performance can vary from one locomotive to another depending on mechanical variations between each locomotive. We have simulated this variance by randomly allocating a 'Power Factor' every time you drive this locomotive in the simulator. This factor can reduce or increase performance by a maximum of 6% either way.

To see if your locomotive is a stronger or weaker one, use the 'Power data' screen on the EM2000 and look at the 'EngShHP' value. When in notch 8, a locomotive providing 3200hp is strong, whilst if it's only providing 2800hp, is weak.

Wheelslip Protection (WSP)

In general, these locomotives are very good at avoiding meaningful wheelslip due to their co-co bogie arrangement and sophisticated 'creep control' system which allows individual axles to move slightly quicker than the locomotive's speed to obtain maximum tractive effort. There are times however that adhesion is poor enough to induce proper wheelslip and when this occurs, wheelslip protection aids the driver.

When wheelslip is encountered during acceleration, a two-stage process takes place:

1) Power is reduced on a per axle basis and the wheelslip indicator light illuminates in the cab. Sand is also automatically applied.
2) Once the wheelslip stops, power is reapplied to the notch selected on the power handle and the wheelslip indicator light extinguishes. If wheelslip reoccurs, the process starts again.

As a driver, you must assess which power notch is most suitable for the conditions and balance the occurrence of wheelslip with the maximum possible rate of acceleration.

Adhesion

Adhesion between a train's wheels and the rails plays a big part in allowing a train to accelerate or brake. Too little of it and the train will slip or slide. There are a myriad of factors that control the level of adhesion and we have attempted to simulate the most important of these to give a varied and realistic driving experience:

Season

Adhesion is generally good in dry conditions during summer and spring. Slightly decreased adhesion during winter to take account of the increased amount of moisture and possible ice on the rails due to cooler temperatures. Much decreased adhesion during autumn due to leaf mulch.

Weather

Adhesion decreases in wet weather, especially so when rain first starts falling before it has had a chance to clean the railhead. If rain is light, it will take longer for the railhead to be cleaned whereas heavy rain will clean it quicker, resulting in adhesion recovering sooner.

When using the drizzle weather pattern in our Sky & Weather Enhancement Pack, adhesion is particularly poor as the rain hasn't enough force to clean the railhead but still makes it sufficiently wet to worsen adhesion.

Time of Day

Adhesion will decrease somewhat after dusk as the air cools and dew is more likely to form on the railhead. This persists throughout the night until around an hour after sunrise when higher temperatures or the sun dry it out. In our simulation, this factor is reduced during summer to account for warmer temperatures, which on average result in less dew.

Tunnels

When adhesion is poor due to external factors such as weather or season, adhesion will generally improve upon entering a tunnel, which is not as susceptible to these factors. When adhesion is good during dry weather and outside of autumn, adhesion may decrease a little upon entering a tunnel due to their damp nature.

Brakes

PBL (Train) Brake

This locomotive is fitted with a PBL brake lever to control train brake force. To apply or release the brakes, the lever must be held in the relevant position as you observe the outer needle on the brake pipe gauge. This needle tells you the target brake pipe pressure with 5 bar being fully released and 3.35 bar fully applied. The actual brake pipe pressure needle will follow closely behind.

As a rule, this brake is infinitely variable. The only exception is when applying the brakes from release, where an initial brake application of 4.6 bar will be applied even if you just briefly hold the lever in 'Apply'. Note that there is also a 1.5 second delay in the brakes applying when selecting this initial brake application.

Direct (Loco) Brake

This brake lever controls solely the locomotive's air brakes and works in the same manner as the PBL brake. The only difference is that the 'Release' position is not spring-loaded.

You can observe brake force by looking at the brake cylinder pressure gauge to the left of the windscreen. 0 bar is fully released and 4.6 bar is fully applied.

Tread Brake Simulation

By default in Train Simulator, braking performance is constant throughout the speed range so a full brake application at 70mph will have the same level of retardation than at 10mph. This is a fairly good representation of how disc brakes work but for stock with tread brakes, this is not so realistic.

As a result, this pack has scripted brake force to simulate the relatively poor performance at high speed, and the 'bite' at lower speeds where performance increases quite significantly.

Disc brake physics are turned on by default as most rolling stock these locomotives have hauled is fitted with this type of brake. You can change the simulated brake type by pressing **Shift+Ctrl+B**.

Also, please note that the rolling stock you are hauling must be especially adapted to work properly with our tread brake simulation. If it is not, the correct physics will still occur on the locomotive, and to some degree on the stock behind, except for the extra 'bite' at low speed.

Variable Performance

Any train driver will tell you that braking power performance can vary quite noticeably from train to train depending on a variety of factors. We have simulated this variance by randomly allocating a 'Brake Factor' every time you drive this locomotive in the simulator. This factor can reduce or increase performance by a maximum of 10% either way. There is no way of finding out what factor your train has been allocated except for assessing its 'feel' when powering or braking; just like a real driver!

Gradients

By default in Train Simulator Classic, only gradients of 1 in 185 or steeper have a gravitational effect on a train and this is only suitably realistic on gradients of approximately 1 in 125 of steeper. This means on gradients shallower than 1 in 125, the train does not experience the gravitational forces upon it than it should.

With this information in hand, we have managed to get rid of this limitation by making the train invisibly power or brake itself to simulate the effect that gravity has where Train Simulator Classic by default doesn't do so. This is all invisible to you as the player so you won't suddenly find the power or brake handles moving without your say so, but it does mean you have to drive to the gradients of the route a lot more than before, just like a real driver, especially on mainline routes where gradients rarely reach the severity where Train Simulator Classic has them behave realistically. You will also now find that if trying to recreate real timetabled runs, your timings will much more closely match reality.

Cooler Group & Temperature Simulation

To the best of our ability using the reference material available for this locomotive, we have simulated the manner at which engine coolant temperature varies depending on a number of variables:

Fan speed: The faster the cooler group fans spin, the higher the cooling performance.

- **Engine load**: The higher the load on the engine, the more heat that is created. This operates on a delay so if going from off to notch 8 for example, it will take 60 seconds for the full heating effect of this power change to take effect. This takes into account the heating time of the engine components and the time it takes for the coolant to be pumped around the system before it reaches the thermostat.
- **Random factors**: For both fan speed and engine load factors, a random multiplier is calculated separately to simulate varying levels of mechanical condition where some cooler groups will run more efficiently than others and some engines will produce more heat than others.
- **Ambient temperature (season)**: Cooling performance is at its lowest during summer and highest during winter due to the outside ambient temperature.
- **Ambient temperature (time of day)**: When ambient temperatures are likely to be highest in the middle of the day, cooling performance is reduced compared to during the night. This is most pronounced in summer when cooling performance is reduced by half at the hottest part of the day between 13:00 & 17:00. This is when you are most likely to experience the engine derating. If it is raining during the summer, it is assumed the temperature is lower than if not.
- **Coolant temperature**: With all other factors treated as constant, temperature rises quicker at lower temperature and slower at higher temperatures. If you think of a boiling kettle, it's a lot quicker to heat water from 20 to 30 degrees than 90 to 100 degrees.

The cooling system has two coolant circuits and there are two cooling fans within the cooler group. When 185°F is reached on circuit 1, fan 1 will activate and the same for circuit 2/fan 2. When the temperature is brought down to 175°F on a circuit, the respective fan will deactivate.

Upon the first fan activating, you will hear the screech of the cooler group louvres opening to allow the outside air to access the radiator. You will also hear the louvres screech shut when both fans deactivate.

From a driver's perspective, this isn't something that you need to worry about as these locomotives are very good at ensuring their coolant temperature doesn't rise to a level where the engine derates itself; something which a driver helping us with the development of this pack says has never happened to him.

It's worth noting that the cooling fans are directly linked to engine speed so you will only hear them properly in notch 6 or above as below that, the fans are running at too low a speed to hear them well over the engine.

Also, please note that when starting from cold, the engine will idle at the equivalent of notch 2 (343rpm) until the temperature in circuit 1 reaches 125°F. This helps the engine warm up quicker.

Finally, after extended running at high power notches, the engine will idle at the equivalent of notch 2 (343rpm) to ensure the turbocharger doesn't cool too quickly.

EM2000

The EM2000 screen above the driver's window provides information on many aspects of the locomotive. Please see below for the functions which have been simulated. It can be navigated by using the keyboards controls listed in the ***Keyboard Controls*** section of this manual:

Main Menu

This is the first screen you see when turning on (Ctrl+Numpad Enter) the EM2000 screen. Only 'Data Meters', 'Unit Information', 'Running Totals' & 'Maintenance' can be accessed:

Meter Menu (Page 1)

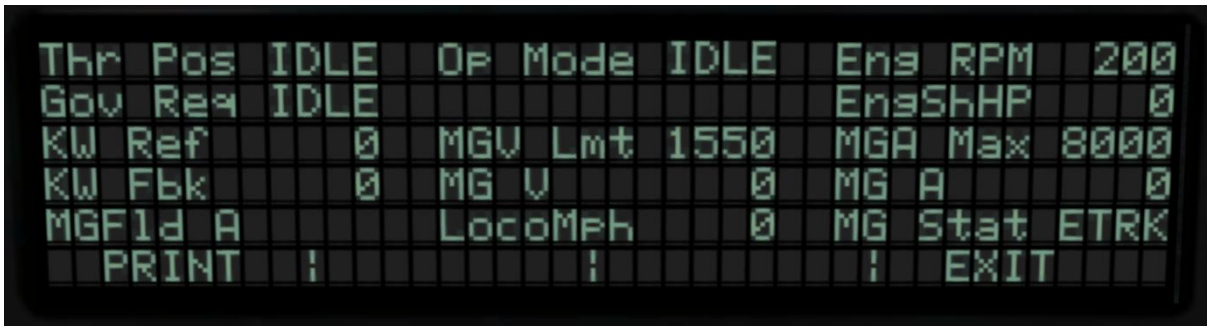
This is the screen you see when you select 'Data Meters' on the Main Menu. Only 'Power data' & 'Cooling System' can be accessed:

Meter Menu (Page 2)

This is the second page of the 'Meter Menu'. Neither 'Engine Monitor' nor 'EMD Test' can be accessed:

Power data

This is the screen you see when you select 'Power data' from within the 'Meter Menu'. This is what most drivers will use whilst driving. The main data it displays is throttle position, reverser status, engine RPM, amps & speed:

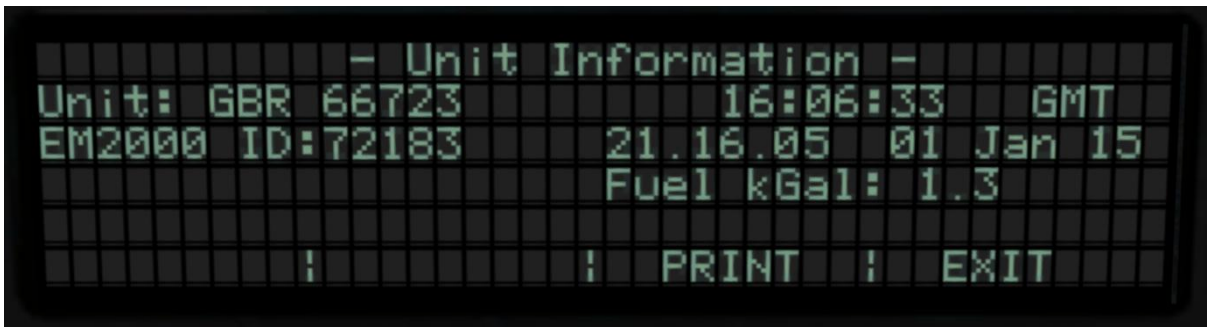


Cooling System

This is the screen you see when you select 'Cooling System' from within the 'Meter Menu'. The main data it displays is throttle position, engine temperature & fan status:

Unit Information

This is the screen you see when you select 'Unit Information' on the Main Menu. It displays the locomotive number (with relevant Freight Operating Company) and fuel level:



Running Totals Menu

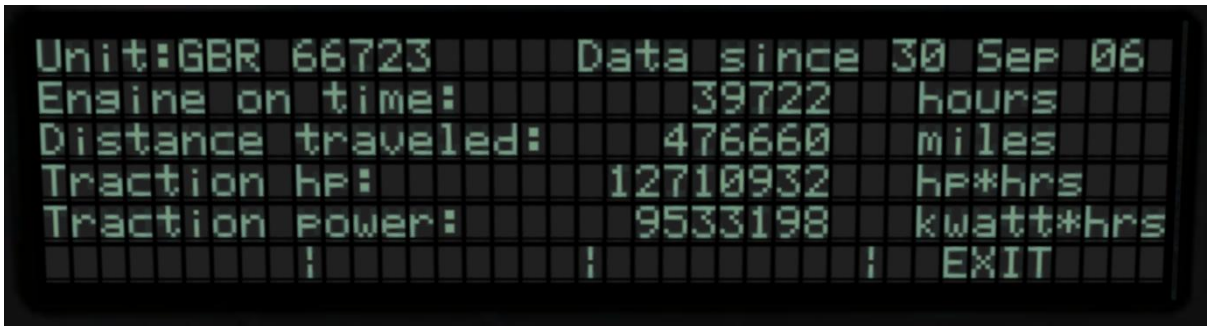
This is the screen you see when you select 'Running Totals' on the Main Menu. Only 'Show running totals on display' can be accessed:

Display Totals Data Menu

This is the screen you see when you select 'Show running totals on display' on the 'Running Totals Menu'. Only 'Lifetime totals' can be accessed:

Lifetime totals

This is the screen you see when you select 'Lifetime totals' on the 'Display Totals Data Menu'. It displays the locomotive number (with relevant Freight Operating Company), the date when the locomotive was commissioned (estimated by subclass) and other figures estimated based on the locomotive's build date:



Maintenance Menu

This is the screen you see when you select 'Maintenance' on the Main Menu. Only 'Air Brake Setup' can be accessed:

Air Brake Setup (Passenger/Goods Timing Changeover)

This is the screen you see when you select 'Air Brake Setup' on the Maintenance Menu. Press **Ctrl+Numpad Enter** to select 'Continue' and move to the next screen:

This is the screen you see when you select 'Continue' on the Air Brake Setup screen. To cycle brake timing modes, press **Ctrl+Numpad Enter**:

Driver Vigilance Device

A driver vigilance device is provided which sounds every 60 seconds when the reverser is in either **Forward** or **Reverse**. This must be reset using the pedal (**E** key). This 60 second timer is reset should you move the power controller, PBL brake lever or reset the AWS.

Variable Traction Motor Volume

The volume of the traction motors can vary depending on their mechanical condition. To simulate this, we have implemented a random 'motor' factor to each locomotive which ranges from 1 to 6; 1 being barely audible and 6 being prominent. This can also be controlled on the player locomotive by using **Shift+M** and **Ctrl+M**.

Horn Variants

Three different types of horn are provided depending on the type of locomotive you are driving.

- **New**: Low emission locomotives. Soft tones also available.
- **European**: 66734, 66793 to 66799 & 66306 to 66316
- **Original**: All remaining locomotives

When using the original horns, three horn variations are also provided under the guise of 'Horn Factor'. Upon loading a scenario, your locomotive will be randomly allocated one of these horns. If you wish to change it, press **Shift+Ctrl+H** or **Ctrl+H**.

Trailing Mode

To simulate this locomotive shut down in a consist or with the engine idling but not providing any power, a 'Trailing' version is provided which can be found in the scenario editor with a '(Trail)' suffix.

By default, the engine will be idling but to have it shut down, add **;Dead=1** to the locomotive number.

National Radio Network (NRN)

To activate this, you must be familiar with the scenario editor and add **;NRN=x** to the locomotive's number. **x** is the 3-digit zone number you will be driving in. To have the NRN already registered when you start the scenario, add an asterisk, *****, after the number.

If not already registered upon starting the scenario, you may register the radio by pressing **Ctrl+N**. To deregister, press **Ctrl+N** again.

Global System for Mobile Communication-Railway (GSM-R)

Beginning in 2013 and completed by 2016, Global System for Mobile Communication - Railway, more commonly known as GSM-R, replaced the existing National Radio Network (NRN) & Cab Secure Radio (CSR) systems. A simple version of this communication system and its accompanying unit has been simulated.

To activate this, you must be familiar with the scenario editor and add **;GSMR=xxxxyyy** to the locomotive's number. **xxxx** is your 4-character train reporting number and **yyy** is the signal number you are standing at in a 3-digit format. To have the GSM-R already registered when you start the scenario, add an asterisk, *****, to the end of this.

To register the radio, assuming it is not already registered upon starting the scenario, setup the cab and wait for the GSM-R screen to boot. When 'GSM-R GB' appears, it has booted. You may then register the radio by pressing **Ctrl+G**. To deregister, press **Ctrl+G** again.

Dynamic Exhaust Effects

Dynamic exhaust effects mean that the exhaust reacts to what the engine is doing. For example, when in notch 8, the engine will produce more exhaust than it would when idling. On top of that, when starting up, exhaust reacts in sync with the engine revving up.

Finally, in reality, the smokiness of each locomotive varies depending on how well maintained it is, so to represent this in the simulator, a random 'clag' factor is allocated to each loco which ranges from 1 to 10; 1 being the cleanest and 10 being the dirtiest. This can also be controlled on the player locomotive by using **Shift+C** & **Ctrl+C**.

Exhaust Cam

A camera view facing the exhaust is provided to allow you to enjoy the sight and sound of the locomotive at work. This replaces the right-hand 'head-out' view so to access it, press **Shift+2** and the **Right-hand Arrow** key.

AI Horns

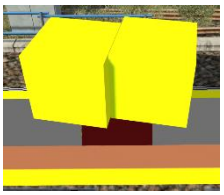
To blow an AI train's horn in a scenario, you must edit the speed limit properties of the section of the track at which you would like the AI train to sound its horn. Please see below for instructions:

1) In the scenario editor, go to the location at which you would like the AI train's horn to sound, and press **Spacebar** 3 times. The track will now display a certain colour which represent its speed limit.

2) Go to the top-left-hand fly-out and click the 'Select' icon.

3) Hover your mouse over the piece of track where you like the AI horn to sound. A yellow border will appear around the track when it is selected.

4) Click and drag the yellow box in either direction until the measurement reading at the bottom of the screen says at least '1.0 metres'.



5) Go to the right-hand fly-out and change the two 'Speed Limit' values to '900'.

6) Click outside of any menus and the section of track you selected will now say 'Unspecified'. Any AI train which passes over this section of track will now blow its horn.

The manner in which the AI train blows its horn is randomly calculated each time, meaning no horn is ever the same. You may hear a single tone (any post-2007 liveries only), a two tone, a three tone, or now and then, even the infamous 'Ilkley Moor' sequence.

Cold Start

'Cold start' means the locomotive is in the following state when it loads:

- Main reservoir and brake cylinder pressures are 0
- Engine is shut down
- Parking brake on

To prepare a locomotive from cold, please follow the instructions below:

1) Insert the master key by pressing **Shift+W**.

2) Reset the AWS self-test by pressing **Q**.

3) Press the engine start button by pressing **Z**.

4) After a few seconds of the engine idling, the compressor will now charge the main reservoir. The engine will automatically rev to 490rpm to assist in building air pressure quicker. This works as the compressor is directly linked to the engine.

5) When the main reservoir reaches 6.5 bar, you have sufficient air to obtain a brake release and get on the move.

6) Now release the parking brake by pressing the parking brake release button. When the parking brake indicator displays 'OFF', the parking brake is released.

After carrying out this procedure, your locomotive will be successfully prepared from cold.

Bits and Bobs

This section is dedicated to aspects of this pack that don't warrant a dedicated section but are still of note:

- Separate engine audio is provided for both standard & low emission variants.
- Separate engine audio is provided for both no.1 end & no.2 end cabs.
- Engine audio varies depending on whether the loco is revving up or down. More grumbly and obviously under load when revving up or steady.
- Engine idle becomes more defined and rhythmic when compressor is active.
- Full cab visual overhaul with higher quality shading, gauges, weathering & realistically transparent windows.
- Master key added
- Notch indicator added above the power handle
- The speedometer in a 66/6 cab correctly shows the maximum permitted speed as 65mph instead of the standard 75mph.
- Low emission variants have 'ElectroMotive' on the ammeter instead of 'General Motors Corporation'.
- Windows visibly open from outside if open in the cab
- Variable speed windscreen wipers
- External windscreen wipers only move at the end of the locomotive where the driver is located
- TPWS lights illuminate when keying in
- 1 second delay between train passing over AWS magnet and AWS warning sound occurring. The F3/F4 HUD will show the warning immediately so you must wait 1 second before trying to cancel it.
- The headlight only provides illumination before sunrise and after sunset. This is to avoid the unrealistic appearance of projected light in broad daylight.
- The visible driver automatically moves to whichever cab you are in, or is leading on an AI train.
- In-cab decals which state the locomotive number and cab number.
- If the main reservoir falls below 6.5 bar, the emergency brake will apply
- AI train windscreen wipers activate when raining

- The frequency at which the ticking spirax valve sounds varies from locomotive to locomotive and increases when main reservoir pressure is higher.
- Air dryer sounds when selecting notch 3 or above and keeps doing so every 57 seconds until power is returned below notch 3. This component helps keep moisture out of the air system.
- 66793 to 66796 have 66/6 physics as per reality
- Power is automatically cut if locomotive goes above 77mph
- Emergency brake application if locomotive goes above 80mph
- Sander lever only applies sand below 9mph

Setting up the Driver's Cab

Please follow these steps to set up the cab so you are ready to move:

1) Insert the master key by pressing **Shift+W**.
2) Cancel the AWS self-test alarm by pressing **Q**.
3) Release the train (auto) brake by holding **semi-colon** until the outer brake pipe gauge needle reads 3.35 bar.
4) Turn the tail lights off by pressing **K**.
5) Turn the headlights on by pressing **H**.

You should now be ready to move off. For information on this, please see below.

Driving Guide

The following steps should allow you to drive in a realistic and safe manner:

1) Move the reverser to your desired direction of travel by pressing either **W** for forward or **S** for reverse.
2) Reset the Driver Vigilance Device (DVD) self-test by pressing **E**.
3) Move the brake handle to 'Hold' by pressing **semi-colon**.
4) Move the power handle to 'Notch 1' by pressing **A** and confirm the ammeter is rising. You may wish to select a higher notch if you have a heavier train or are on a steep uphill gradient.
5) Release the train brake by holding **semi-colon** until the outer brake pipe gauge needle reads 5 bar.
6) As soon as you begin moving, increase power as you see fit.
7) When returning the power handle to 'Off' by by pressing **D**, ideally you should move to 'Notch 1' and wait for the amps to settle before moving to 'Idle'. This prevents any unnecessary jolts.

How to Use in the Scenario Editor

How to place

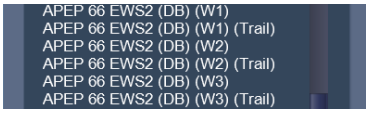
To place a class 66 in the scenario editor, please follow the instructions below:

1) In the left-hand rolling stock fly-out, click the object set filter which looks like a blue box with an orange arrow to the right of it.

2) Go to the right-hand fly-out which should have appeared. Select 'RSC' from the drop-down menu.

3) Tick the second & third box beside 'Class66Pack03'.

4) The liveries should now be visible in the left-hand rolling stock fly-out. W1, W2 & W3 variants are provided. W1 being the cleanest & W3 the dirtiest.



Numbering

When placing in the scenario editor, you are able to control a number of features via the locomotive number

Cold start

To activate cold start mode on a player train, add **;Cold=1**

NRN

To have the NRN available to be registered in a scenario, add **;NRN=x**.

x = 3-digit NRN zone number.

Add an asterisk, *****, to have the NRN already registered at the start of a scenario.

GSM-R

To have the GSM-R available to be registered in a scenario, add **;GSMR=xxxxyyy**.

xxxx = 4-digit train reporting number.

yyy = 3-digit signal number in front of locomotive.

Add an asterisk, *****, to have the GSM-R already registered at the start of a scenario.

Nameplates

To remove a nameplate, add **;NP=0**.

Tail lamp

To add a tail lamp to the no. 1 end, add **;TL=1** to the locomotive number.
To add a tail lamp to the no. 2 end, add **;TL=2** to the locomotive number.

Mirrors

To show cab-side mirrors, add **;M=1** to the locomotive number.
To hide cab-side mirrors, add **;M=0** to the locomotive number.

Brake type physics

To apply tread brake physics, add **;BT=T** to the locomotive number.

Example number

66001;NRN=066*;BT=T;TL=2

Key:
66001 - Locomotive number
;NRN=066* – NRN radio to be registered to zone 066. Registered automatically upon scenario start.
;BT=T – Tread brake physics
;TL=2 – Tail lamp on no.2 end

Scenarios

APC66EP: 6M09 11:24 Temple Mills - Croft

Route = MML - London to Bedford (AP)
Track covered = Carlton Road Junction - Bedford
Traction = GB Railfreight 66704
Date = 20th November 2001
Duration = 1 hour

APC66EP: 6V08 13:27 Tunstead - Bedford

Route = MML - London to Bedford (AP)
Track covered = Bedford – Dudding Hill Junction
Traction = Freightliner 66413
Date = 16th August 2018
Duration = 1 hour 35 minutes

APC66EP: The Whitehouse Wanderer

Route = MML - London to Bedford (AP)
Track covered = Dudding Hill Junction - Bedford
Traction = EWS 66132
Date = 25th May 2013
Duration = 1 hour 10 minutes

Credits

Nicolas Schichan – Scripting & EM2000

David Adams – Sound recording & general assistance

TSRollingStock – Buckeye coupling model