Class 67

Enhancement Pack

AP

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 67 Enhancement Pack'. 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 requirements installed, as listed on the product page.
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

EWS - *EWS AP*

Royal (EWS) - *Royal (EWS) AP*

Royal (DB Cargo) 1 - *Royal (DBC) 1*

Royal (DB Cargo) 2 - *Royal (DBC) 2*

EWS Silver - *EWS Silver AP*

DB Cargo Silver - *DBC Silver AP*

Wrexham & Shropshire - *WS AP*

Chiltern Railways - *CR AP*

Arriva Trains Wales - *ATW AP*

Diamond Jubilee - *DJ AP*

DB Schenker 1 - *DBS1 AP*

DB Schenker 2/DB Cargo 1 - *DBS2/DBC1 AP*

DB Cargo 2 - *DBC2 AP*

DB Cargo 3 - *DBC3 AP*

Caledonian Sleeper - *Serco Sleeper AP*

Colas Rail - *Colas AP*

British Pullman - *BP AP*

Keyboard Controls

Non-standard keyboard controls are listed below:

Ctrl+A -	AWS ON/OFF
P -	Brake overcharge button
Shift+C -	Clag Factor INCREASE
Ctrl+C -	Clag Factor DECREASE
E -	Deadman's pedal (DVD reset)
Y -	Driver reminder appliance (DRA) ON/OFF
C -	Driver to guard buzzer
Ctrl+D -	Driver vigilance device (DVD) ON/OFF
Shift+E -	Electric train heating (ETH) 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
Ctrl+Z -	Engine stop button
Ctrl+H -	Hazards lights ON/OFF
Shift+W -	Reverser handle IN/OUT
Shift+S -	Slow speed control ON/OFF
Page Down -	Slow speed control DECREASE SPEED
Page Up -	Slow speed control INCREASE SPEED
K -	Tail lights ON/OFF
R -	Train length button
Shift+Numpad Enter -	Visual aids ON/OFF
Numpad- -	Windscreen wiper DECREASE SPEED
Numpad+ -	Windscreen wiper INCREASE SPEED

Features

EM2000 screen

The EM2000 screen above the driver's window provides information on many aspects of the locomotive. Please see below for the screens it displays which can be navigated by using the keyboards controls listed on page 12 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)

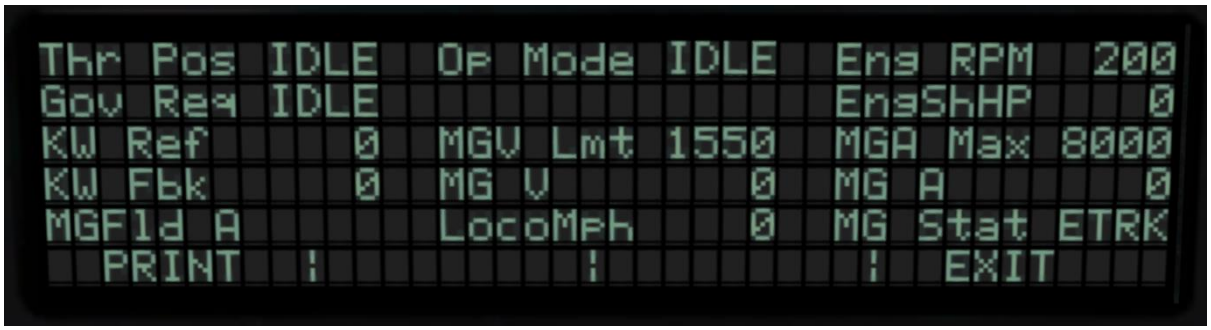
This is the screen you see when you select 'Data Meters' on the Main Menu. Only 'Power data' & 'Cooling System' can be accessed:

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), current time, current date (only correct if inputted manually via locomotive number) and fuel level:

Running Totals Menu

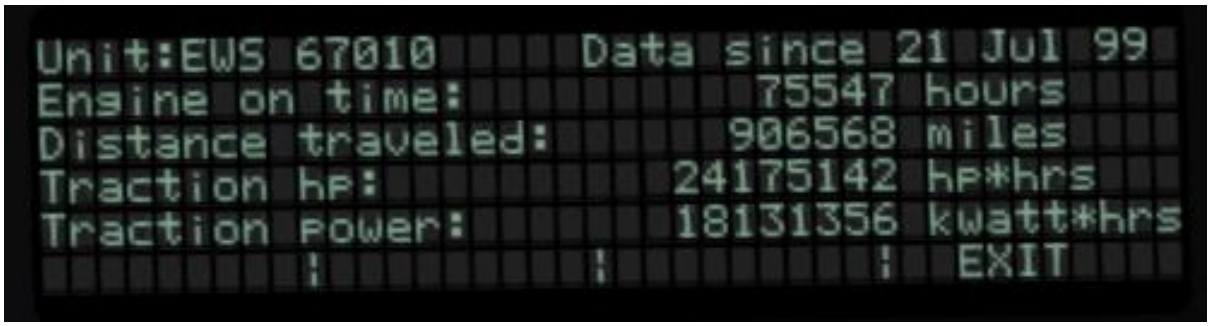
This is the screen you see when you select 'Running Totals' on the Main Menu. Only 'Show running totals on display' can be accessed:

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:

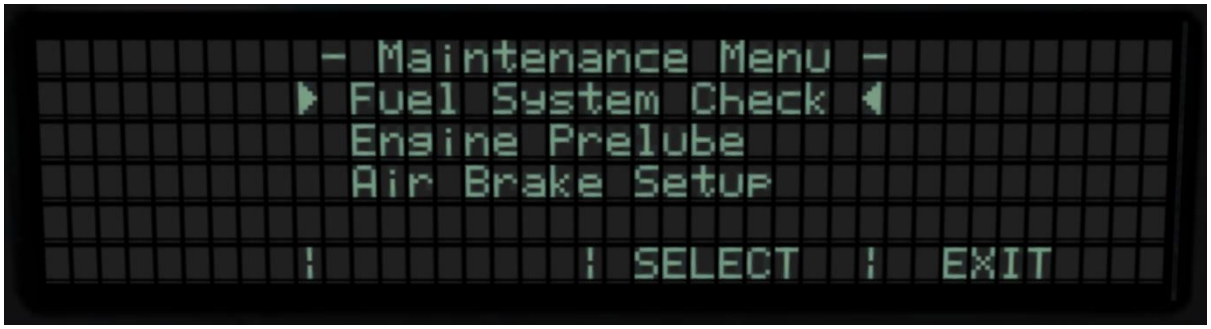
Lifetime Totals

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 or can be inputted manually via the locomotive number) and four figures which are estimated by using the commissioning date and current date:



Maintenance Menu

This is the screen you see when you select 'Maintenance' on the Main Menu. None of these options can be accessed.:



Temperature Simulation

Depending on engine rpm, engine temperature is calculated accordingly. If engine temperature reaches 167°F, the cooling fans will activate. When engine temperature falls below 131°F, the cooling fans will deactivate. Engine temperature can be observed via the 'Cooling System' screen on the EM2000.

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.

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**.

Variable Traction Motor Volume

Much like described above in relation to exhaust, locomotives tend to vary in how loud their traction motors are. 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 very prominent. This can also be controlled on the player locomotive by using **Shift+M** and **Ctrl+M**.

Functioning Reverser Handle

When setting up the locomotive, you must insert the reverser handle before you can move the reverser or the power handle. This can be done by pressing **Shift+W** and will initiate an AWS self-test which must be cancelled by using the **Q** key.

Trailing Mode

To simulate this locomotive with the engine on but not providing any power, we have provided a 'Trailing' version which can be found under the 'Rolling Stock' tab in the scenario editor, with a '(Trail)' suffix. Please note that this is not driveable.

The following things can be changed via the locomotive number:

Electric Train Supply (ETS)

To make the engine idle as if it is supplying ETS, add **;ETS=1** to the locomotive number.

Dead

To make the locomotive dead as if it's engine is shut down, add **;Dead=1** to the locomotive number.

Tail Lights

To turn on the tail lights at no.1 end, add **;TL=1** to the locomotive number.

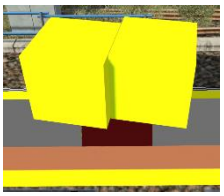
To turn on the tail lights at no.2 end, add **;TL=2** to the locomotive number.

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.

Numbering

If you wish, you are able to control the commissioning date of the loco and the date of the scenario that appear on the EM2000 screen, via the locomotive number. Please note that this is not essential for the loco to work.

On top of that, Electric Train Supply (ETS) can be turned on by default by adding **;ETS=1** to the locomotive number.

Example number:

67001N20150707S19990618;ETS=1

Key:

67001 - Locomotive number

20150707 - Scenario date (year/month/day)

19990618 - Locomotive commissioning date (year/month/day)

;ETS=1 - Electric Train Supply (ETS) on by default

Bits and Bobs

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

- Accurate traction physics.
- AWS can be isolated and this will be reported on the overhead panel in the cab
- 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.
- Driver vigilance device (DVD) which sounds every 60 seconds, unless either the power handle, brake handle, loco brake handle or AWS reset button is moved. Can be isolated and this will be reported on the overhead panel in the cab.
- The headlights only provide illumination before sunrise and after sunset. This is to avoid the unrealistic appearance of projected light in broad daylight.
- New headlight, marker light & tail light visuals.
- Separate engine start & stop keys.
- 'PBL' train brake realistically simulated with 'passenger' and 'goods' timings.
- Realistic brake air flow gauge behaviour.
- Variable speed windscreen wiper.
- Radar air hiss audible every 25 seconds when moving. The radar is used for assessing the locomotive's speed.
- Cab camera slightly amended so more of the cab desk is visible.
- Cab window glass made more transparent.
- Dynamic driver which automatically appears in the cab where the player is or the leading cab of an AI train.
- Flickering cab light when engine starts.
- Locomotive number and cab end number displayed within the cab.

Scenarios

APC67EP: 1Z19 11:27 Paddington - Cardiff Central
Route = South Wales Main Line
Track covered = Bristol Parkway - Cardiff Central
Traction = DB Schenker 67013 & DB Cargo Silver 67029
Year = 2015
Duration = 35 minutes

APC67EP: 2C67 08:00 Cardiff Central - Paignton
Route = South Wales Main Line
Track covered = Cardiff West - Bristol Temple Meads
Traction = Royal 67005 & 67006
Year = 2013
Duration = 1 hour

APC67EP: 5B09 14:29 Bristol Barton Hill - Cardiff Canton
Route = South Wales Main Line
Track covered = Bristol Barton Hill - Cardiff Canton
Traction = EWS 67009
Year = 2001
Duration = 45 minutes

Credits

Chiltern Railways - Supplying the access to record 67020 at Wembley depot
Nicolas Schichan - Advanced scripting & 3D plaques for Royal 67005 & 67006