

The information in this booklet only applies to virtual trains

**Train Simulator**

**Train Crew Manual**

# **Class 57/0 Diesel Locomotive**

## **Drivers Operational Handbook**



Issue 1

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## Technical Information

The Class 57/0 diesel locomotives were introduced by Brush Traction between 1997 and 2004. They are rebuilds, with reconditioned EMD engines, of former Class 47 locomotives, originally introduced in 1964-5.

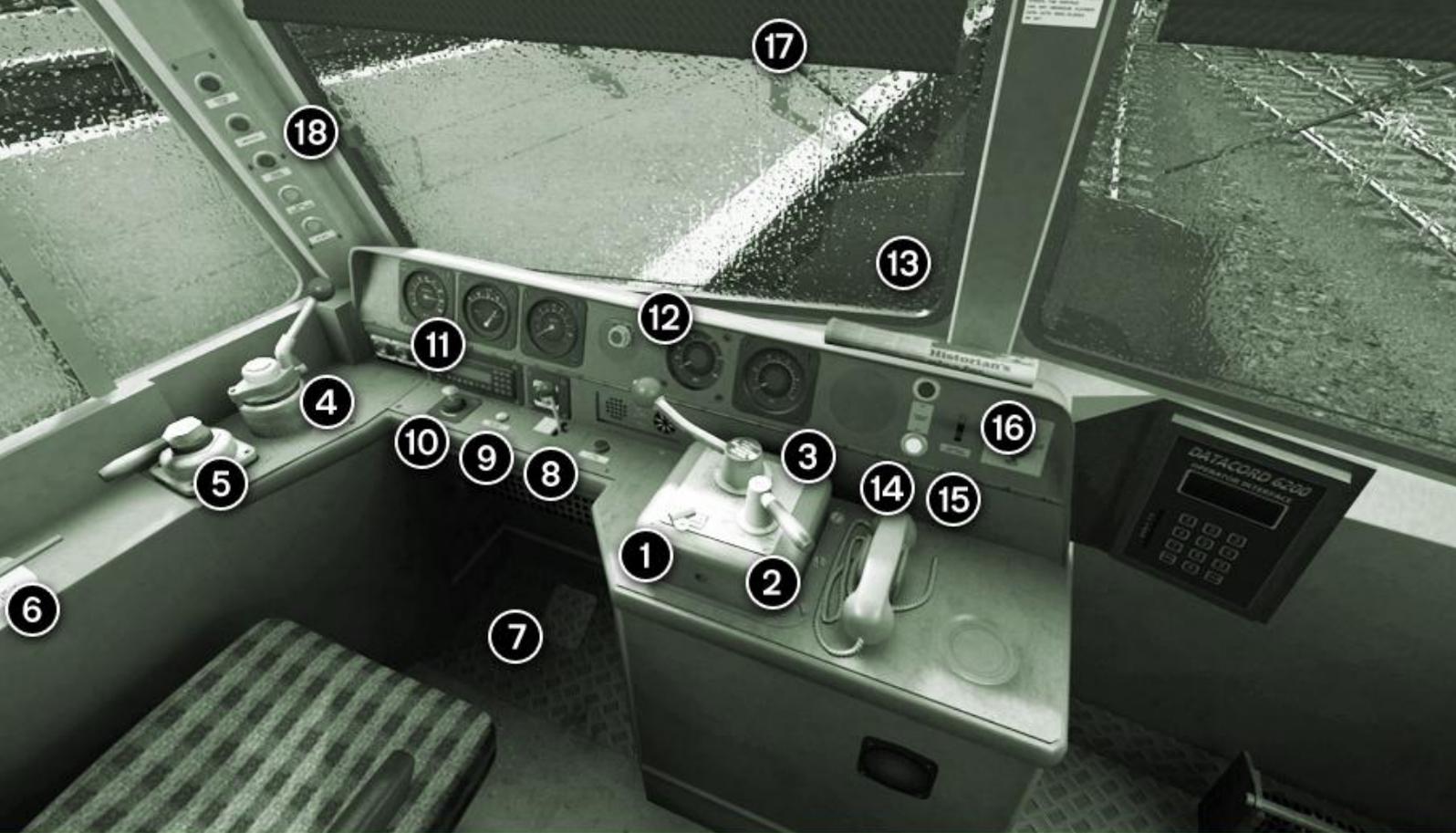
The refurbished EMD engine, together with a reconditioned alternator provides for improved reliability and performance.

The class has its origins in 1997 when Freightliner ordered an initial six locomotives. In 2000 a prototype locomotive, number 57601, was converted with electric train heating, with a view of obtaining orders from passenger companies.

They are known as “Bodysnatchers”, or “Zombies” to enthusiasts, by virtue of the fact the shell (body) of the Class 47 has been stripped, re-wired and re-engineered.

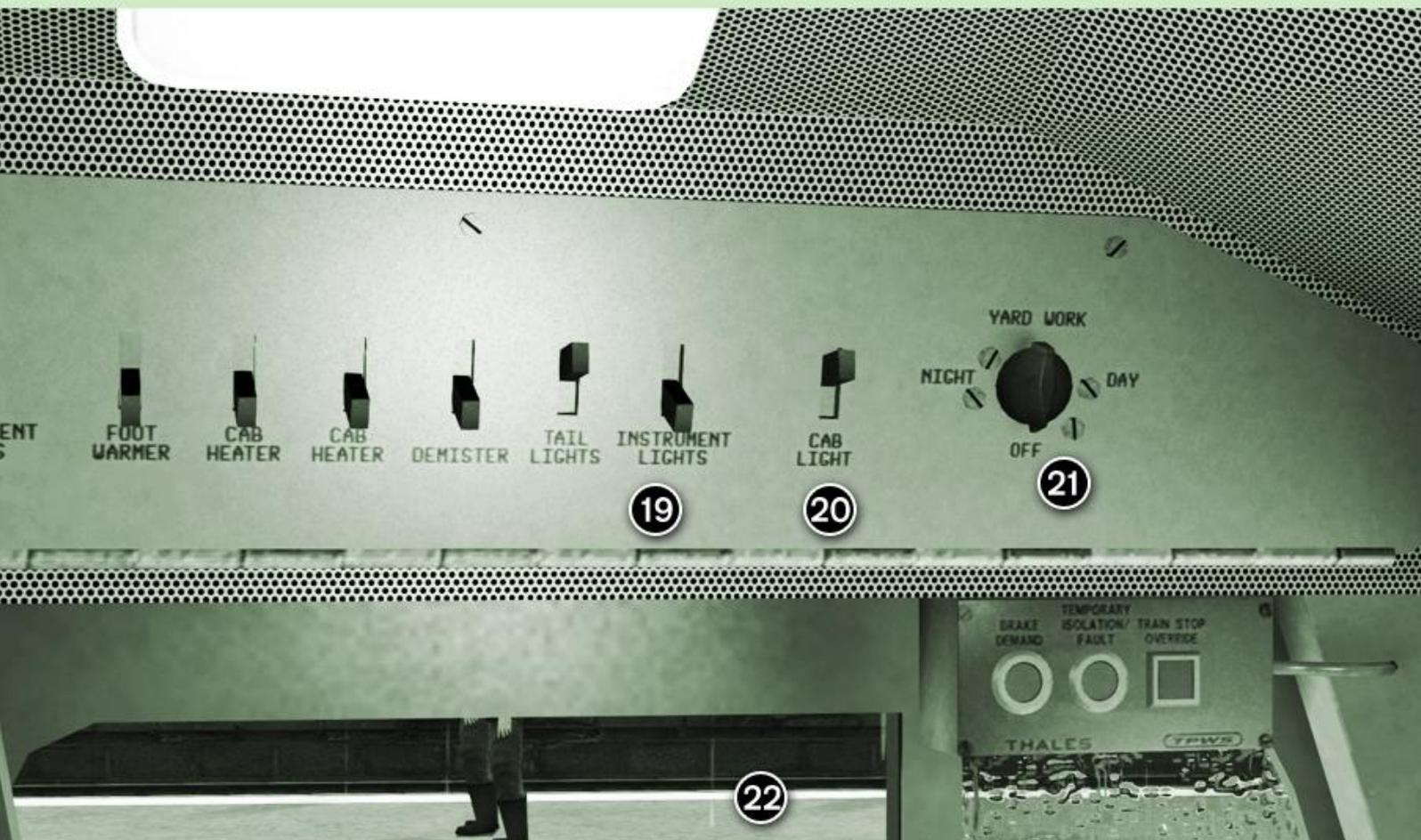
Source Wikipedia: [http://en.wikipedia.org/wiki/British\\_Rail\\_Class\\_57](http://en.wikipedia.org/wiki/British_Rail_Class_57)

<b>Maximum speed</b>	75 mph (121 km/h)
<b>Weight</b>	114.0 tonnes
<b>Brake Force</b>	60 tonnes
<b>Engine</b>	2500hp EMD 645-E3 12 Cylinder
<b>Electric train heat</b>	NIL
<b>Configuration</b>	Co-Co



## DRIVER POSITION

## OVERHEAD SWITCHES



## Driver's Cabin Controls

1	Driver's Key
2	Reverser
3	Throttle (Power Controller)
4	Auto Brakes
5	Locomotive Brakes
6	Emergency Brake Valve
7	Driver Safety Device (DSD) Foot Pedal
8	Horn
9	Advance Warning System (AWS) Reset
10	Variable Wiper Speed
11	Engine Start/Stop
12	Train Length System
13	Click Hotspot for displaying Locomotive Headboard
14	Click Hotspot for Park Brake Toggle
15	Instrument Light Dimmer
16	Newspaper
17	Sunblind
18	Annunciator Lights - GEN Fault, Wheel-slip, Engine Stopped, Brake Timing, De-rate
19	Instrument Lights
20	Cab Lights
21	Headlights
22	Driver's Window

## Non-Standard Keyboard Controls

<b>ACTION</b>	<b>ACTION DESCRIPTION</b>	<b>ADD. KEYS</b>	<b>KEY</b>
<b>ENG START</b>	Starts the engine		<b>Z</b>
<b>ENG STOP</b>	Stops the engine	<b>CTRL</b>	<b>Z</b>
<b>HIGH HORN</b>	-		<b>B</b>
<b>TRAIN LENGTH</b>	Activates the train length system		<b>Y</b>
<b>CAB LIGHT</b>	Activates the cab lights		<b>M</b>
<b>INSTR LIGHT</b>	Activates the instrument lights		<b>N</b>
<b>INSTR LIGHT DIMMER</b>	Toggles the brightness of the Instrument Lights	<b>SHIFT</b>	<b>N</b>
<b>DSD PEDAL</b>	Resets DVD alerter		<b>E</b>
<b>DVD TOGGLE</b>	Toggles the DVD systems ON and OFF	<b>SHIFT</b>	<b>E</b>
<b>PARK BRAKE</b>	Toggles the handbrake		<b>/</b>
<b>SANDER</b>	Sand is automatically applied on this locomotive.		<b>NIL</b>
<b>DRIVERS KEY</b>	Inserts the Drivers Key into the desk		<b>R</b>
<b>VAR SPEED WIPERS</b>	Activates the windshield wipers.		<b>V</b>
<b>ADVISORY NOTIFICATIONS</b>	Toggles the amount of information shown on pop-up messages	<b>SHIFT</b> <b>OR</b> <b>CTRL</b>	<b>F</b>
<b>ROUTE INFORMATION</b>	Shows proceeding route information		<b>F</b>

## Driving the locomotive with train attached



*If engine is already running you may skip the **green indicated** steps.*

<b>Step 1</b>	Ensure that the DRIVER'S KEY is inserted and that all electronic systems are available [1]. For HUD users click the "BELL" icon.
<b>Step 2</b>	Move the REVERSER from the OFF position to the ENG ONLY position [2].
<b>Step 3</b>	Cancel the AWS self-test by pressing [Q]. Press [E] to cancel the DVD self-test if this system is enabled. [9][7]
<b>Step 4</b>	Engine PRIMER should be audible. Wait 30 seconds and then press the ENG START button until the engine STOPPED LIGHT has extinguished [11][18]
<b>Step 5</b>	Ensure that the park brake is OFF by pressing the [ / ] key and confirming by monitoring at the PARK BRAKE STATE lights [14].
<b>Step 6</b>	Wait for the DE-RATE LIGHT [18] to extinguish. Once extinguished you may proceed. If you proceed with the DE-RATE LIGHT [18] illuminated, the locomotive will be limited to HALF POWER.
<b>Step 7</b>	Move the REVERSER from the ENG ONLY position to a desired direction [1].
<b>Step 8</b>	Move the AUTO BRAKE LEVER into the RELEASE position and wait for an increase in BRAKE PIPE PRESSURE and a decrease in BRAKE CYLINDER PRESSURE. After, move the AUTO BRAKE LEVER into the RUNNING POSITION. [4].
<b>Step 9a</b>	Move the POWER CONTROLLER [3] to the first power position and note that current is

	<p>registering on the DRIVING AMMETER. When traction current has risen to the maximum for the controller position, increase power gradually in accordance with payload and rail adhesion.</p> <p>When the train is moving, the power controller may be used as necessary in order to maintain the required speed. The DRIVER AMMETER dial is divided into a GREEN and YELLOW sector. The locomotive must not be operated when the DRIVING AMMETER pointer in the YELLOW sector for more than a total of 1 hour during a particular scenario.</p>
<b>Step 9b</b>	<p><b>If the rails are greasy or wet</b>, the power must be applied more gradually in order to avoid slipping. If slipping occurs the WHEELSLIP annunciation light <b>[18]</b> will ILLUMINATE and sand will be applied automatically.</p>
<b>Step 9c</b>	<p><b>Starting the train on a gradient</b> requires usage of the LOCO BRAKES. First, apply full LOCO BRAKES and then release the TRAIN BRAKES completely. Apply desired throttle input and gradually release the LOCO BRAKES as the train gain momentum.</p>
<b>NOTE</b>	<p><i>If the primary controls are not used within 48 seconds the DRIVER VIGILANCE DEVICE <b>[7]</b> will sound in the form of continuous beeps which must be acknowledged within 5 seconds. If you fail to acknowledge the alert, with the DSD Foot Pedal <b>[7]</b>, an EMERGENCY brake application will occur. This is only true if the DRIVER VIGILANCE DEVICE system is activated.</i></p>

# Acronyms and Systems

## **DRIVER'S KEY**

The DRIVER'S KEY is a device which locks the REVERSER and POWER CONTROLLER to prevent unauthorised use of the locomotive. It also disables various electronics within the cab.

## **ADVANCE WARNING SYSTEM SELF-TEST (AWS)**

When the REVERSER has been moved from OFF to ENG ONLY, the ADVANCE WARNING SYSTEM self-test will commence. This is an audible continuous horn which is cancelled by pressing [Q].

## **DRIVER'S VIGILANCE DEVICE SELF-TEST (DVD)**

When the REVERSER has been moved from OFF to ENG ONLY the Drivers Vigilance Device self-test will commence. This is an audible continuous beeping which is cancelled by pressing [E].

## **DRIVER VIGILANCE DEVICE / DRIVER SAFETY DEVICE (DVD/DSD)**

The DRIVER VIGILANCE DEVICE ensures that the driver is conscious, is fully aware and able to respond quickly to alerts. After a period of approximately one minute, a buzzer will sound if the following controls are not moved: POWER CONTROLLER, AWS RESET, HORN, AUTO BRAKES or DSD PEDAL. If the controls are moved, the timer will be reset and the buzzer will not sound for an additional minute.

When the buzzer does sound you must promptly press [E] or click the DRIVER SAFETY DEVICE pedal situated beneath the driving desk within 5 seconds. Failing to do so will result in an emergency brake application.

*The DRIVER VIGILANCE DEVICE is automatically paused when viewing the train externally as to prevent accidental penalties.*

*The DRIVER VIGILANCE DEVICE is disabled by default, to enable it press SHIFT+E once. Once enabled the state is remembered for future use.*

## **GENERAL FAULT ANNUNCIATION LIGHT**

A GEN FAULT annunciation light illumination can be for a number of reasons and it is recommended that you refer to the FAULT FINDING section of this document.

## **DE-RATE ANNUNCIATION LIGHT**

When the DE-RATE annunciation light is illuminated the locomotive is restricted to HALF POWER which normally indicates that the engine has not yet reached an optimal operating temperature. Should the DE-RATE annunciation light illuminate; refer to the FAULT FINDING section of this document.

## **WHEELSLIP ANNUNCIATION LIGHT**

When the WHEELSLIP annunciation light is illuminated, the locomotive has lost sufficient traction and sand is automatically being applied to the wheels in an attempt to regain traction. Should the WHEELSLIP annunciation light illuminate; refer to the FAULT FINDING section of this document.

## **TRAIN LENGTH SYSTEM**

The TRAIN LENGTH SYSTEM is a device which starts a timer at the point in which the TRAIN LENGTH SYSTEM was activated. It is used to allow the operator to approximately judge when the rear of the train has passed a certain point, such as passing ascending speed limits. A single beep confirms activation and a double beep will confirm that the rear of the train has passed the point in which the system was activated.

## **DRIVER AMMETER**

The DRIVER AMMETER indicates the electrical current strength supplied by the main alternator to the traction motors. The scale is divided into a yellow sector and a green sector. Current readings in the green sector may be used continuously, whereas current indicated by the yellow sector must be limited to one hour during a particular duty.

## Fault finding

Should you encounter any engine or operational faults, refer to this handbook for symptoms, causes and solutions.

Symptom	Cause	Solution
ENG does not FIRE	REVERSER is in the OFF position	Move REVERSER into the ENG ONLY position.
DE-RATE LIGHT illuminated	ENG has not reached optimal temperature, locomotive restricted to half power	Wait for ENG to reach optimal temperature.
No THROTTLE response {A}	ENG OVERHEAT detected.	Confirm by checking that the GEN ALARM light is illuminated; wait for engine to cool to optimal temperatures.
No THROTTLE response {B}	AWS or DVD has been tripped.	Reset the REVERSER position.
No THROTTLE response {C}	BRAKE PIPE pressure is below 4.25 BAR.	Release the TRAIN BRAKES or increase BRAKE PIPE pressure to 4.5 BAR. Reset THROTTLE position to 0 and try again.
WHEELSLIP LIGHT illuminated	WHEELSLIP has been detected and automatic sanding is taking place.	Reduce THROTTLE setting.
ENG STOPPED LIGHT illuminated	ENG has stopped rotating.	Restart the ENG.
GEN ALARM LIGHT illuminated	ENG has exceeded operational temperature. Or ENG has not yet reached operational temperature.	Allow ENG to cool if running hot (engine fans will be audible). Or allow ENG to warm if cold.
EMG brake application	DVD or AWS has been tripped	Release TRAIN BRAKES and Reset the REVERSER position before trying to take power again. Cancel any cabin alerts.

## Advisory Notifications

Oovee is proud to present the new “advisory notification” system. Simple in execution, the facility displays pop-up messages in the corner of the screen informing the player of various situations that he/she may or may not be aware of. The list below contains all of the possible messages in this package:

<b>ADVISORY</b>	<b>DESCRIPTION</b>
Vigilance device disabled. To enable, press Shift+E	This notification indicates that the vigilance device is disabled.
Vigilance device enabled. To disable, press Shift+E	This notification indicates that the vigilance device is enabled.
Line speed change to X mph	This notification indicates that the line speed has changed.
Line speed change to X mph in 1 mile	This notification indicates that the line speed is due to change in 1 mile.
WARNING! You are exceeding the speed limit. The speed limit is x mph.	This notification indicates that you have exceeded the line speed limit.
Doors open / Doors closed clear to proceed. Right away, driver!	This notification indicates that it is safe to depart from a station or stopping point.
Temporary speed restriction X mph	This notification indicates that the train has entered a temporary speed restriction zone.
Temporary speed restriction ended	This notification indicates that the train has passed a temporary speed restriction zone.
Level: Off	This notification indicates that the notifications have been disabled.
Level: Medium	This notification indicates that only intermediate notifications will appear.
Level: High	This notification indicates that all notifications will appear.

## Creating scenarios with this locomotive

This locomotive contains a number of special characters that can be added to the locomotive number window in the scenario editor to enable various functions described below.

CHARACTER	DESCRIPTION
C	The locomotive will start with the engine turned off.

*Before this feature can take effect you must save the scenario and enter play mode.*

Example:

57001c



## Scenario Assets

Included with this pack are a number of scenario assets that have been developed to extend the gameplay of our scenarios, listed below:

### **Excavator and Rusty Rails (Static Objects)**



**Temporary Speed Restriction Boards (Interactive Objects)** – The train must adhere to the indicated speed when entering a temporary speed restricted zone.



**Temporary Speed Restriction Boards (Interactive Objects)** – This board indicates that the temporary speed restriction has now been terminated and you can return to normal line speeds.



**Temporary Speed Restriction Boards (Interactive Objects)** – This board indicates that the AWS magnet beforehand does not apply to you.



**Emergency Indicator Boards** – This board indicates emergency unplanned track maintenance work is taking place. This board is usually accompanied by a temporary AWS magnet.



**Temporary AWS Magnets** – Temporary AWS magnets are used to warn drivers of a proceeding temporary speed restriction or of an emergency indicator board. Temporary AWS magnets are bi-directional.



## Compatibility

## Modes

The Class 57/0 may be run in either EXPERT MODE or SIMPLE MODE, however please note that running in SIMPLE MODE severely limits functionality and is not recommended.

## **Train Simulator HUD (Heads-Up-Display)**

The Class 57/0 does operate with the TS2012/2013 HUD but it is important to note that before the HUD can be used you must follow steps 1 to 3 on page 6 in order to unlock the controls by using the mouse or keyboard.

## **Rail Driver**

The Class 57/0 will operate with a connected Rail Driver device providing that the steps 1 to 3 are followed on page 6 by using the mouse or keyboard.

## **Xbox Controller**

The Class 57/0 will operate with a connected Xbox Controller (TS2013 only) device providing that the steps 1 to 3 are followed on page 6 by using the mouse or keyboard.

## Features

The Class 57/0 has been designed to make full use of the Train Simulator 2013 features and effects. These effects are as follows:

- Illuminating dial lights.
- Illuminating cab lights.
- Illuminating head and tail lights.
- EFX sound effects that provide sound occlusion in the cab view.

The pack includes:

- Class 57/0 in Freightliner livery with corresponding headboard.
- FEA-B wagons with a range of containers.
- Various scenario assets including, temporary speed restrictions, temporary AWS magnets and railway maintenance objects.

With the following features:

- High quality audio recorded from a prototypical 645 engine.
- Highly immersive cab with animated windows and corresponding sound effects.
- Realistic physics and simulation data.
- Fully functional multiple working for double header locomotives
- Fully functional train length system.
- Engine water temperature actually cooled by roof fans (audible) with the possibility of overheating the locomotive if excessively worked.
- Realistic throttle to engine response delay.
- Cold start versions with fuel primer functionality.
- Dynamic exhaust smoke.
- Fully functional external fuel amount gauge.
- Drivers Vigilance Device with the ability to enable or disable.
- Advance Warning System self-test.
- NEW: Advisory Notification System

## Scenarios

This table contains a list of the scenarios included with this pack, 6 in total. You must own the Settle to Carlisle DLC add-on to enable you to play the scenarios. Scenarios are unlocked in sequence and must be completed in ascending order.

Name	Route
[FL 01] Morning Containment	Edinburgh to Glasgow ( <a href="#">Additional DLC available on Steam</a> )
[FL 02] Ex-Grangemouth	Edinburgh to Glasgow ( <a href="#">Additional DLC available on Steam</a> )
[FL 03] Shunter	Edinburgh to Glasgow ( <a href="#">Additional DLC available on Steam</a> )

## Additional Rolling Stock

This table contains a list of the liveries included with this pack, 1 in total.

Name	Description
FEA-B_FL(Load)(A) - FEA-B_FL(Load)(P)	Assorted containers across 16 wagons

## Acknowledgements

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**Scenario Development:** Reece Bolton

**Functionality Scripting:** Simon Hall

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Product testing was an essential part of this project and we thank everyone on our own beta testing programme and also the RailSimulator.com beta members for all their assistance during development.

Thank you for purchasing this add-on.

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