

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.

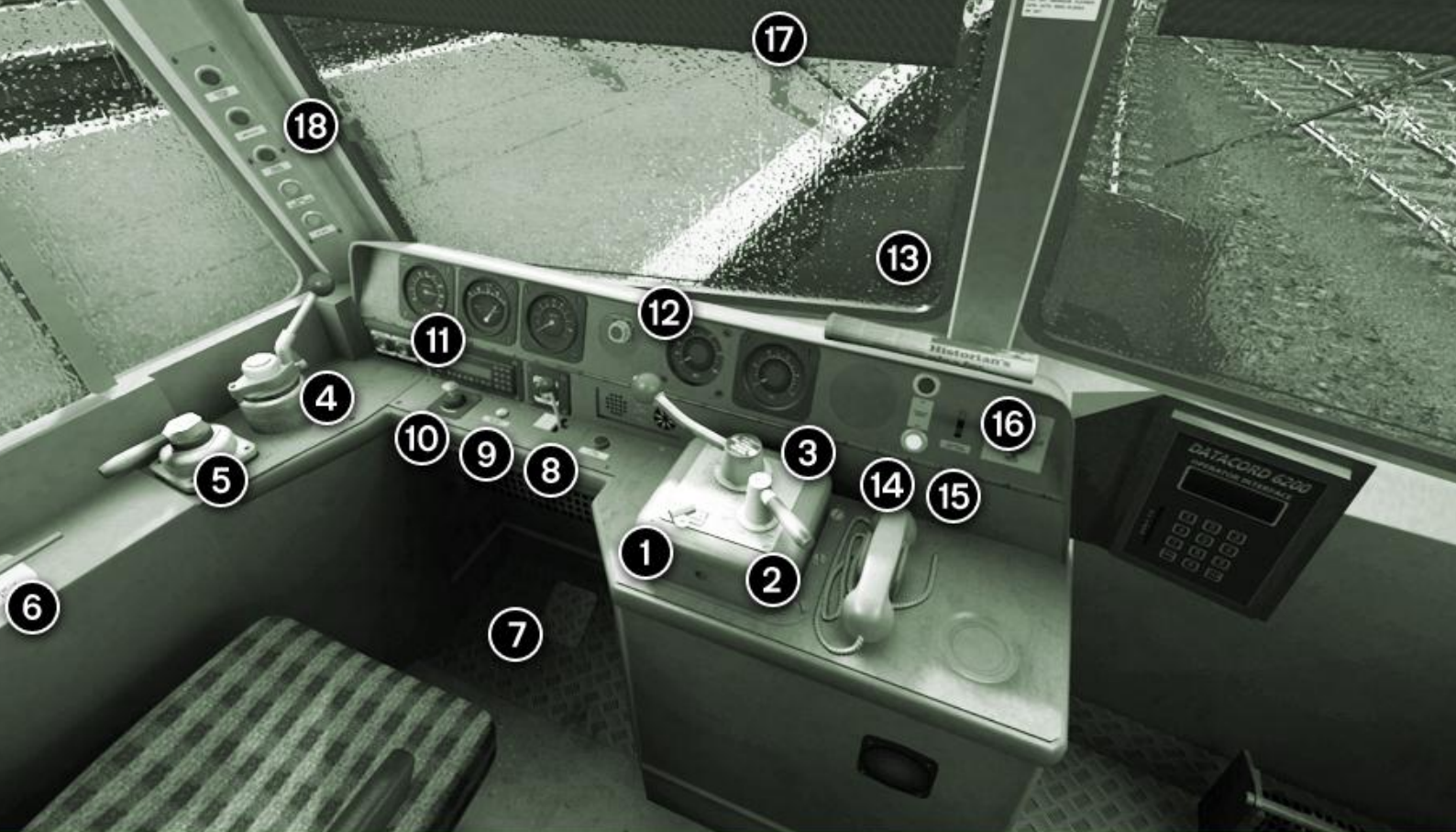
The refurbished EMD engine, together with a reconditioned alternator provides for improved reliability and performance.

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.

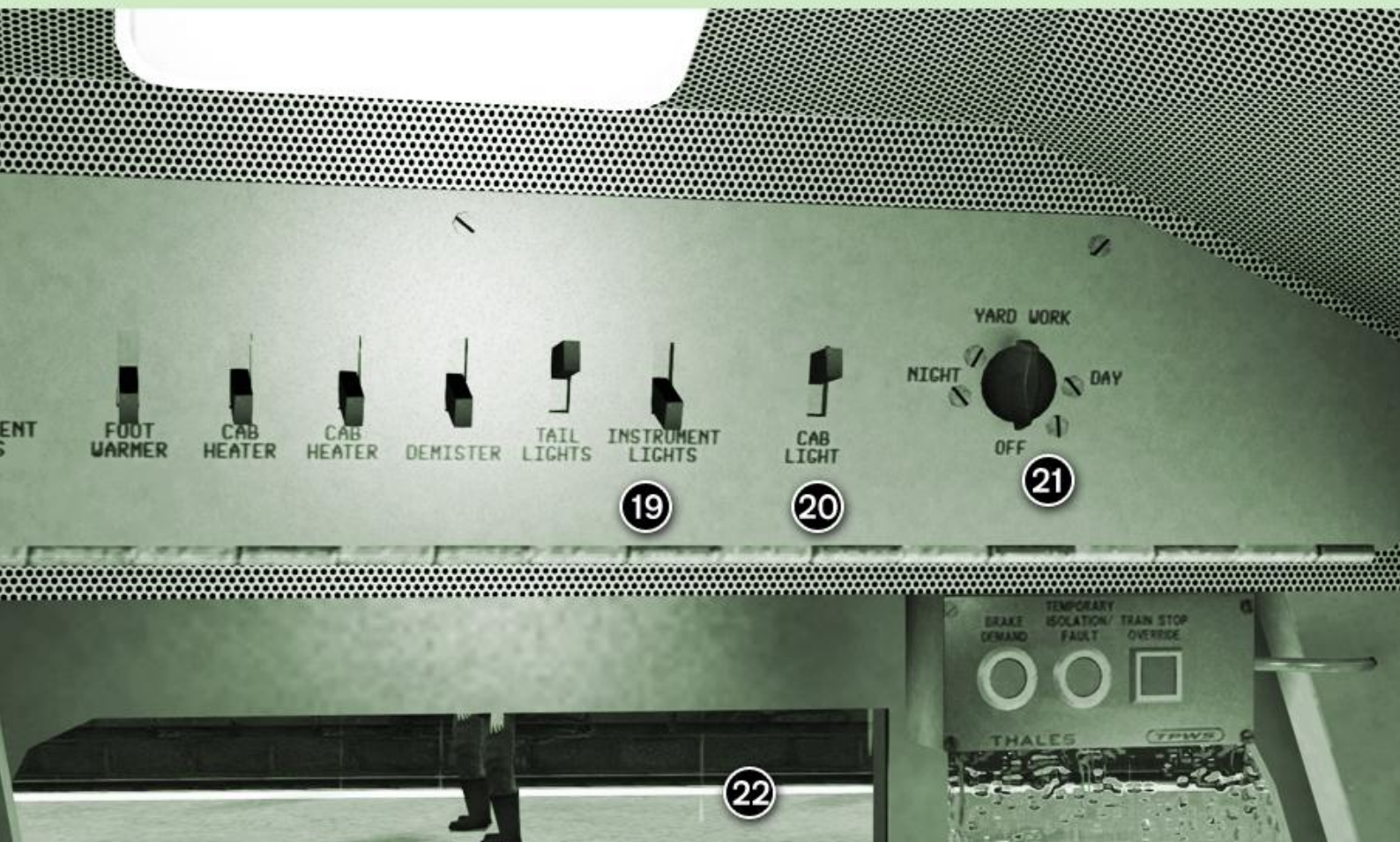
Source Wikipedia: http://en.wikipedia.org/wiki/British_Rail_Class_57

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



DRIVER POSITION

OVERHEAD SWITCHES



Drivers 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

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

Driving the locomotive with train attached

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

Step 1	Ensure that the DRIVERS KEY is inserted and that all electronic systems are available [1]. For HUD users click the “BELL” icon.
Step 2	Move the REVERSER from the OFF position to the ENG ONLY position [2].
Step 3	Cancel the AWS self-test by pressing [Q]. Press [E] to cancel the DVD self-test if an audible warning is present. [9][7]
Step 4	Engine PRIMER should be audible. Wait 30 seconds and then press the ENG START button until the engine STOPPED LIGHT has extinguished [11][18]
Step 5	Ensure that the park brake is OFF by pressing the [/] key and confirming by monitoring at the PARK BRAKE STATE lights [14].
Step 6	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.
Step 7	Move the REVERSER from the ENG ONLY position to a desired direction [1].
Step 8	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].
Step 9a	Move the POWER CONTROLLER [3] to the first power position and note that current is 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.

Step 9b	If the rails are greasy or wet, the power must be applied more gradually in order to avoid slipping. If slipping occurs the WHEELSLIP annunciation light [18] will ILLUMINATE and sand will be applied automatically.
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Step 9c	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.
NOTE	<i>If the primary controls are not used within 48 seconds the DRIVER VIGILANCE DEVICE [7] 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 [7], an EMERGENCY brake application will occur. This is only true if the DRIVER VIGILANCE DEVICE system is activated.</i>

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'S VIGILANCE DEVICE / DRIVER'S SAFETY DEVICE (DVD/DSD)

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

The DRIVER'S 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 has many courses 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

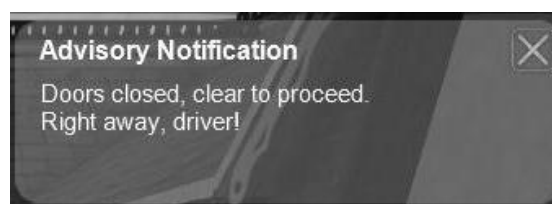
Should you encounter any engine or operational faults, refer to this handbook for symptoms, causes and solutions.

Symptom	Cause	Solution
ENG NOT FIRING	REVERSER is in the OFF positions	Move REVERSER into the ENG ONLY position.
DE-RATE LIGHT ILLUMINATED	ENGINE has not reached OPTIMAL TEMPERATURE	Wait for ENGINE to reach OPTIMAL TEMPERATURE
NO THROTTLE RESPONSE {A}	ENGINE OVERHEAT DETECTED	Confirm by checking if the GEN ALARM light is illuminated, wait for ENGINE to reach OPTIMAL TEMP
NO THROTTLE RESPONSE {B}	AWS or DVD has been tripped.	Reset the REVERSER position.
GEN ALARM LIGHT ILLUMINATED	ENGINE OVERHEAT	Wait for ENGINE to reach OPTIMAL TEMP
WHEELSLIP LIGHT ILLUMINATED	WHEELSLIP has been DETECTED, AUTOMATIC SANDING APPLIED.	Reduce THROTTLE setting.
ENG STOPPED LIGHT ILLUMINATED	ENGINE has stopped rotating.	Restart the ENGINE.
EMERGENCY BRAKES APPLIED AUTOMATICALLY	DVD buzzer was not reset.	RESET DVD when the audible warning by using the DSD pedal and then reset the REVERSER by moving it back to OFF and then back to the desired direction.

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:

ADVISORY	DESCRIPTION
Vigilance device disabled. To enable, press Shift+E	This notification is advising you that the vigilance device is disabled.
Vigilance device enabled. To disable, press Shift+E	This notification is advising you that the vigilance device is enabled.
Line speed change to X mph	This notification is advising you that the line speed has changed.
Line speed change to X mph in 1 mile	This notification is advising you 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 is advising you that you have exceeded the line speed limit.
Doors open / Doors closed clear to proceed. Right away, driver!	This notification is advising you that is safe to depart from a station or stopping point.
Level: Off	This notification is advising you that notifications have been disabled.
Level: Medium	This notification is advising you that only intermediate notifications will appear.
Level: High	This notification is advising you 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.
H	The locomotive will start with the “head board” displayed on the front of the locomotive.

Before these features can take effect you must save the scenario and enter play mode.

Example:

57001c

INSERT PICTURE

Scenario Assets /

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 Rail Tours livery with corresponding headboard.
- A complete set of MK1 passenger coaches including a Mini-Buffer coach.
- 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, 5 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
	Settle to Carlisle (Additional DLC available on Steam)
	Settle to Carlisle (Additional DLC available on Steam)
	Settle to Carlisle (Additional DLC available on Steam)
	Settle to Carlisle (Additional DLC available on Steam)
	Settle to Carlisle (Additional DLC available on Steam)
	Settle to Carlisle (Additional DLC available on Steam)

Rolling Stock & Scenario Assets

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

Name	Description
Mk1 Coaches [FO, TO, RMB, BSO]	Maroon Colour / Rail Tours Logo
Temporary Speed Restrictions	
Portable AWS Ramp	
Emergency Indicator	

Acknowledgements

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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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