BOSSMAN GAMES

THINK BIG

LMS Stanier 5XP Jubilee Class

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1 Background

1.1 Design & Specification

Power Type	Steam
Locomotive Weight	79.55 long tons
Vehicle Length	64 ft 8.75 in
Build Date	1934 - 1936
Tractive Effort	26,610 lbf
Power Class	LMS: 5XP BR: 6P
Total Produced	191
Fuel Capacity	Stanier Tender: 4,000 gallons of water, 9 long tons of coal
	Fowler Tender: 3,500 gallons of water, 9 long tons of coal

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2 Rolling Stock - Locomotives

2.1 Jubilee Loco – LMS Crimson Lake Livery

- Also includes:
  - Tender – Stanier LMS Crimson Lake livery – welded.
  - Tender – Stanier LMS Crimson Lake livery – riveted.
  - Tender – Fowler LMS Crimson Lake livery

2.2 Jubilee Loco – BR Green Livery

- Also includes:
  - Tender – Stanier BR Green livery – welded.
  - Tender – Stanier BR Green livery – riveted.
  - Tender – Fowler BR Green livery
  - All of the above with both late & early BR logos.

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2.3 Jubilee Loco – Black & Chrome Livery

- 5552 Silver Jubilee only.

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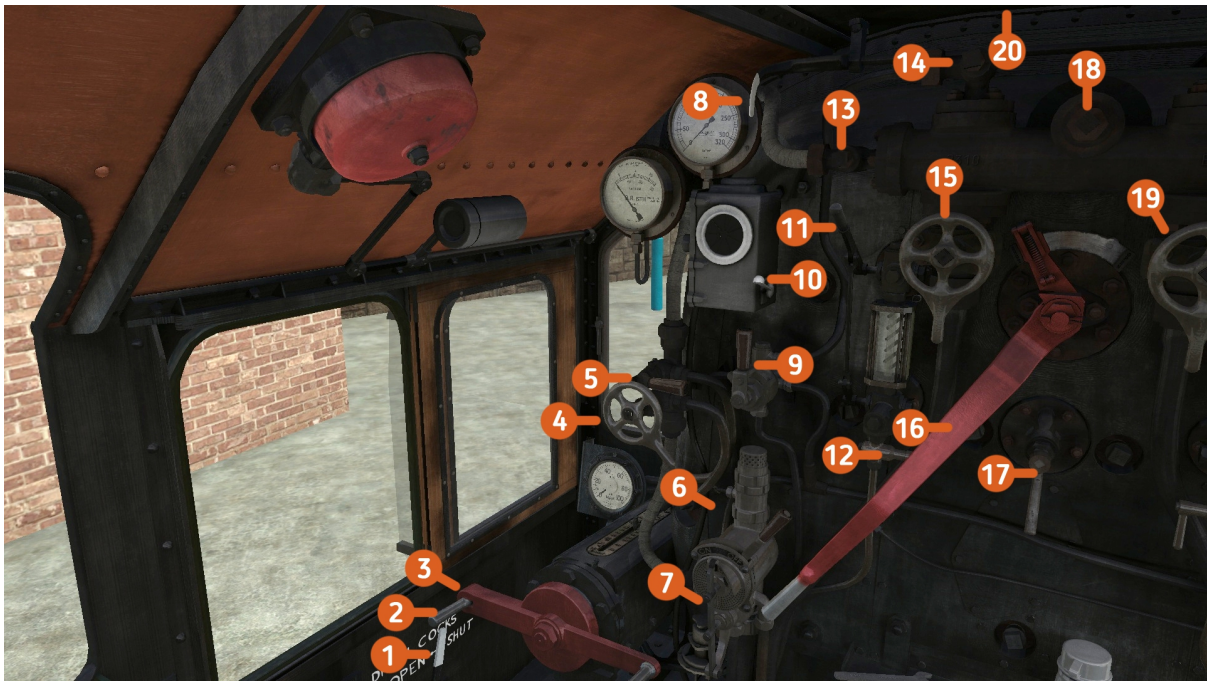
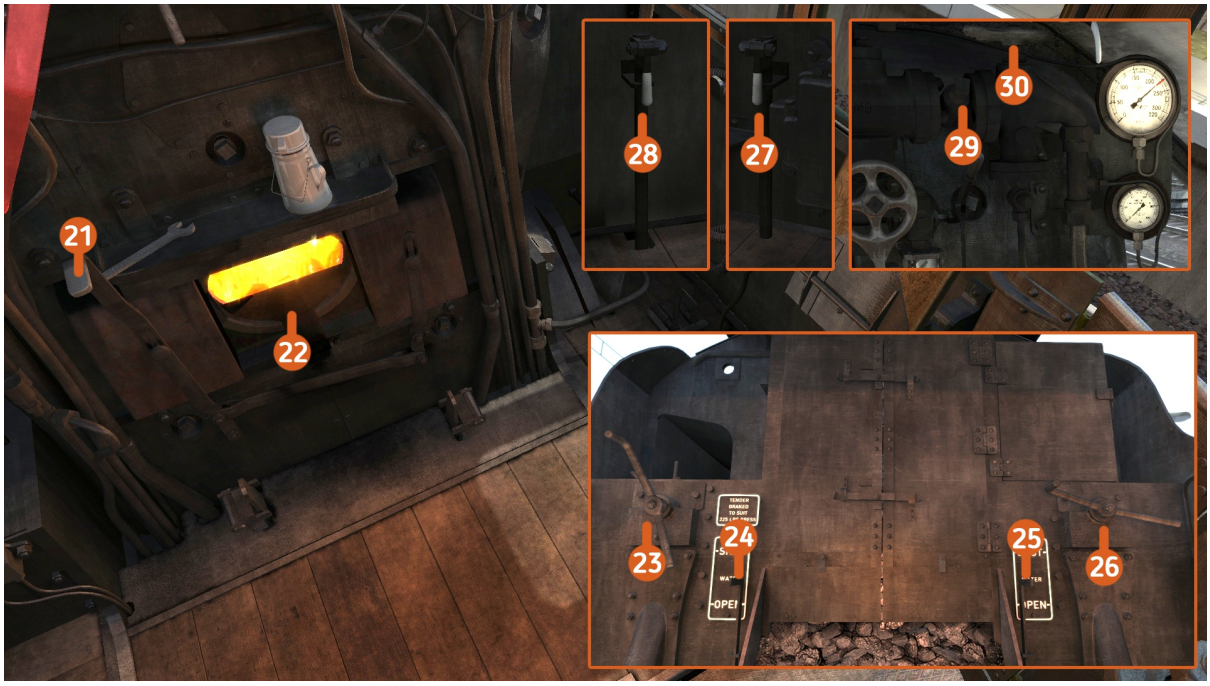
3 Driving the LMS Jubilee Class

3.1 Cab Controls





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1	Cylinder Drain Cocks	**16**	Regulator
2	Reverser Lock	**17**	Blower
3	Reverser	**18**	Manifold Isolation Valve
4	Large Ejector	**19**	Right Injector Steam Valve
5	Small Ejector	**20**	Roof Vent & Roof Vent Locks
6	Combi' Brake Handle (Vac & Steam)	**21**	Firebox Doors
7	Steam Brake	**22**	Air Deflector Flap
8	Whistle	**23**	Handbrake
9	Steam Sander	**24**	Right Injector Tender Water Stop Valve
10	AWS Acknowledgement	**25**	Left Injector Tender Water Stop Valve
11	Gauge Glass Isolating Handle	**26**	Waterscoop Control
12	Gauge Glass Drain Cock	**27**	Left Injector Water Trimmer Valve
13	Brake Isolation Valve	**28**	Right Injector Water Trimmer Valve
14	Sander Isolation Valve	**29**	Steam Heat Isolation Valve
15	Left Injector Steam Valve	**30**	Steam Heat Regulating Pressure Valve

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3.2 Locomotive Keyboard Controls

Key	Action
W / S	Reverser
E	Reverser Lock
A / D	Regulator Open / Shut
Shift+A / Shift+D	Regulator Slam Open / Slam Shut
Q	AWS Reset
; / '	Combination Vacuum/Steam Brake Off / On
[/]	Steam Brake Off / On
/	Handbrake On
Shift+/	Handbrake Off
Ctrl+R	Automatic Fireman On / Off
H / Shift+H	Headboard – cycles through headboards
Space Bar	Whistle Loop
B	Whistle Variation
V	Short Whistle
F / Shift+F	Firebox Door Open / Shut
R	Stoke Fire
I	Injector Steam Valve Left
O	Injector Steam Valve Right
K	Injector Water Valve Left
L	Injector Water Valve Right
Ctrl+L / Ctrl+Shift+L	Water Trimmer Right Open / Shut
Ctrl+K / Ctrl+Shift+K	Water Trimmer Left Open / Shut
Ctrl+M / Ctrl+Shift+M	Front Damper Open / Shut
M / Shift+M	Rear Damper Open / Shut
N / Shift+N	Blower Open / Shut
C	Cylinder Cocks Open / Shut
X / Shift+X	Sander Front / Off / Rear
Ctrl+Shift+Y	Tender Tank Lid Open / Shut
Ctrl+F	Firebox Flap Up / Down

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Page Up / Page Down	Brake Mode
U / Shift+U	Large Ejector Open / Shut
J / Shift+J	Small Ejector Open / Shut
Y / Shift+Y	Water Scoop
Ctrl+Shift+P	Performance Mode

Locomotive Lamp controls – as viewed facing the front of the loco or tender.
Oil headlamp, oil tail lamp, high-intensity headlamp , modern tail lamp.

Ctrl+1 / Ctrl+Shift+1	Bottom left loco lamp
Ctrl+2 / Ctrl+Shift+2	Middle loco lamp
Ctrl+3 / Ctrl+Shift+3	Bottom right loco lamp
Ctrl+4 / Ctrl+Shift+4	Top loco lamp
Ctrl+5 / Ctrl+Shift+5	Bottom left tender lamp
Ctrl+6 / Ctrl+Shift+6	Middle tender lamp
Ctrl+7 / Ctrl+Shift+7	Bottom right tender lamp
Ctrl+8 / Ctrl+Shift+8	Top tender lamp

3.3 General Keyboard Controls

Key	Action
Shift + Ctrl+C	Couple Manually
G / Shift+G	Points/Switches
Tab / Ctrl+Tab	Request authority to pass a signal at danger
T	Load/Unload - Press once to load/unload passengers or freight.

3.4 Regulator

When using the regulator on this loco there are a couple of things to note:

- When you're in second valve (the second half of the regulator's travel) make sure to slam the regulator open and then slam it shut.
- If this isn't done the regulator will not shut properly.

3.5 Vacuum Brake Leak

As per the real life counterparts, the vacuum brake system on these locos have a slight leak. This means that once the vacuum brakes are released you must continue to use the ejectors to maintain vacuum. This can be done with the small ejector so as not to waste too much steam.

3.6 Sanders

When using the sanders on this loco, there is a delay of a few seconds whilst the steam that powers them works it's way through the system. You'll be able to tell

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they're working by either hearing the hiss of steam or seeing steam coming from the sanding pipes.

3.7 Injectors

Both injectors on the loco can be toggled on or off with their respective keyboard controls. Whilst the loco has water trimming valves, these are already set up in the correct positions for operation. However, the water trimming valves may need to be adjusted when the boiler pressure drops below the normal operating pressure of 225psi.

For example, to use the Fireman's side injector:

- Injector Water Valve Right – Open by pressing L or by using the mouse
- Injector Steam Valve Right - Open by pressing O or by using the mouse
- You should hear the injector “pick up” after a few seconds by listening out for a distinctive “singing” sound.
- If the boiler pressure is lower than around 200psi the injector may not work right away. You will hear the sound of steam blowing out of the injector and you may need to adjust the Water Trimmer Right until the injector “picks up”.

3.8 Ideal Fire Mass

The ideal fire mass for this locomotive is 875lbs for mainline running. The fire can be dropped to a lower mass if running on a preserved railway running at speeds of around 25mph to avoid unnecessary blowing off of the safety valves.

3.9 Automatic fireman

This locomotive has an Automatic Fireman, which can be toggled on and off using Ctrl+R. This will take over control of stoking the fire. The injectors still need to be controlled manually as the automatic system cannot predict station stops and gradient changes etc. which may or may not require injector usage. On locos with a lifting fireman's seat, you can use the seat to control the automatic fireman. Putting the seat in the up position will turn on the automatic fireman.

3.10 Performance Mode

Performance Mode is available, which will improve frame-rates on older machines. To enable this press Ctrl+Shift+P.

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3.11 Locomotive Numbers In Scenarios

It is possible to set various features on and off using the locomotive number within the scenario editor, for both the player train and AI services.

By default the number will appear like this example: **5564#NNN#DCSN5##13A#**

5564	Locomotive number. Number range 5552 – 5742. Entering the number will automatically make the appropriate nameplate and builders plate appear.
#	Spacer character – no function.
N	Front lamp code - lamp codes explained below.
N	Rear lamp code - lamp codes explained below.
N	Headboard selection – headboards explained below.
#	Spacer character – no function.
D	Smokebox saddle type: S = single, D = double.
C	Dome type: C = domeless, S = domed.
S	Chimney type: S = single, d = double.
N	Yellow cab stripe (BR livery only): N = no stripe, Y = stripe present.
5	Locomotive condition: 5 through to 1, 5 = engine in good condition, 1 = terrible condition.
#13A	Shedcode. The first character is for single numbered shedcodes. The second and third character are for 2-digit numbered shedcodes. The fourth character is the letter of the shedcode. For example: #13A shows a 13A shedcode, and 1##B would show a 1B shedcode.

3.12 Headboards

A selection of headboards are included in this pack. The headboards are listed below, along with their corresponding letter, which can be used in the scenario editor as explained above:

- A - The Great Britain
- B - The Cathedrals Express
- C - Cumbrian Mountain Express
- D - North Wales Coast Express
- E - Welsh Marches Express

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3.13 Lamp Codes

The following lamp codes can be set using the scenario editor as explained above:

N	No lamp.
T	Tail lamp.
S	Shunting.
A	Express Passenger.
B	Ordinary Passenger.
C	Parcels, Fish, Fruit, Livestock, meat, milk or perishable train composed entirely of vehicles confirming to coaching stock requirements. Express freight, livestock, perishable or ballast train fitted with the automatic brake operative throughout. Empty coaching stock train, not authorised to carry class A headcode.
D	Express freight, livestock, perishable or ballast train partly fitted with the automatic brake operative on not less than one third of the vehicles.
E	Express freight, livestock, perishable or ballast train partly fitted with not less than four braked vehicles next to the engine and connected by the automatic brake pipe. Express freight, livestock, perishable or ballast train with a limited load of vehicles not fitted with the automatic brake.
F	Express freight, livestock, perishable or ballast train not fitted with the automatic brake.
G	Light engine or light engines coupled. Engine with no more than two brake vans.
H	Through frieght or ballast train not running under class C, D, E or F head codes.
J	Mineral or empty wagon train.
K	Freight, mineral or ballast train stopping at intermediate stations. Branch line freight. Freight, ballast or Officer's Special train requiring to stop in section.

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3.14 Numbers & Nameplates

Below is the list of numbers and names available in this pack. All 191 locomotives are included:

5552	Silver Jubilee	5600	Bermuda	5648	Wemyss	5696	Arethusa
5553	Canada	5601	British Guiana	5649	Hawkins	5697	Achilles
5554	Ontario	5602	British Honduras	5650	Blake	5698	Mars
5555	Quebec	5603	Solomon Islands	5651	Shovell	5699	Galatea
5556	Nova Scotia	5604	Ceylon	5652	Hawke	5700	Amethyst
5557	New Brunswick	5605	Cyprus	5653	Barham	5701	Conqueror
5558	Manitoba	5606	Falkland Islands	5654	Hood	5702	Colossus
5559	British Columbia	5607	Fiji	5655	Keith	5703	Thunderer
5560	Prince Edward Island	5608	Gibraltar	5656	Cochrane	5704	Leviathan
5561	Saskatchewan	5609	Gilbert and Ellice Islands	5657	Tyrwhitt	5705	Seahorse
5562	Alberta	5610	Ghana	5658	Keyes	5706	Express
5563	Australia	5611	Hong Kong	5659	Drake	5707	Valiant
5564	New South Wales	5612	Jamaica	5660	Rooke	5708	Resolution
5565	Victoria	5613	Kenya	5661	Vernon	5709	Implacable
5566	Queensland	5614	Leeward Islands	5662	Kempenfelt	5710	Irresistible
5567	South Australia	5615	Malay States	5663	Jervis	5711	Courageous
5568	Western Australia	5616	Malta GC	5664	Nelson	5712	Victory
5569	Tasmania	5617	Mauritius	5665	Lord Rutherford of Nelson	5713	Renown
5570	New Zealand	5618	New Hebrides	5666	Cornwallis	5714	Revenge
5571	South Africa	5619	Nigeria	5667	Jellicoe	5715	Invincible
5572	Eire	5620	North Borneo	5668	Madden	5716	Swiftsure
5573	Newfoundland	5621	Northern Rhodesia	5669	Fisher	5717	Dauntless
5574	India	5622	Nyasaland	5670	Howard of Effingham	5718	Dreadnought
5575	Madras	5623	Palestine	5671	Prince Rupert	5719	Glorious
5576	Bombay	5624	St. Helena	5672	Anson	5720	Indomitable
5577	Bengal	5625	Sarawak	5673	Keppel	5721	Impregnable
5578	United Provinces	5626	Seychelles	5674	Duncan	5722	Defence
5579	Punjab	5627	Sierra Leone	5675	Hardy	5723	Fearless
5580	Burma	5628	Somaliland	5676	Codrington	5724	Warspite
5581	Bihar and Orissa	5629	Straits Settlements	5677	Beatty	5725	Repulse
5582	Central Provinces	5630	Swaziland	5678	De Robeck	5726	Vindictive
5583	Assam	5631	Tanganyika	5679	Armada	5727	Inflexible
5584	North West Frontier	5632	Tonga	5680	Camperdown	5728	Defiance
5585	Hyderabad	5633	Aden	5681	Aboukir	5729	Furious
5586	Mysore	5634	Trinidad	5682	Trafalgar	5730	Ocean
5587	Baroda	5635	Tobago	5683	Hogue	5731	Persverance
5588	Kashmir	5636	Uganda	5684	Jutland	5732	Sanspareil
5589	Gwalior	5637	Windward Islands	5685	Barfleur	5733	Novelty
5590	Travancore	5638	Zanzibar	5686	St. Vincent	5734	Meteor
5591	Udaipur	5639	Raleigh	5687	Neptune	5735	Comet
5592	Indore	5640	Frobisher	5688	Polyphemus	5736	Phoenix
5593	Kolhapur	5641	Sandwich	5689	Ajax	5737	Atlas
5594	Bhopal	5642	Boscawen	5690	Leander	5738	Samson
5595	Southern Rhodesia	5643	Rodney	5691	Orion	5739	Ulster
5596	Bahamas	5644	Howe	5692	Cyclops	5740	Munster
5597	Barbados	5645	Collingwood	5693	Agamemnon	5741	Leinster
5598	Basutoland	5646	Napier	5694	Bellerophon	5742	Connaught
5599	Bechuanaland	5647	Sturdee	5695	Minotaur		

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3.15 Driver & Fireman Assistants

Using the headlights button on the HUD it is possible to switch on various assistance systems which help the player control the loco.

Mode Number	Mode Description
1	Trimmer Assist automatically sets the injector trimmer handles.
2	Water levels/injector are controlled automatically.
3	Boiler Assist level 1 – Gives a warning if you are priming or not.
4	Boiler Assist level 2 – Advises you if water level is too high or low.
5	HUD mode disables the reverser lock and opens small ejector.

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4 Scenarios

4.1 [LMS 5XP] 01. 5Z90 Bury to Carnforth Steamtown

Take 5690 Leander on a light engine move from Bury to Carnforth Steamtown in preparation for a railtour from Carnforth to Carlisle at the weekend.

Duration: 45 Minutes
Difficulty: Medium

4.2 [LMS 5XP] 02. 1Z90 Cumbrian Mountain Express - Part 1

Take 5690 Leander with the Cumbrian Mountain Express from Carnforth to Carlisle. Expect a clear run with your 11 coach train.

Duration: 90 Minutes
Difficulty: Easy

4.3 [LMS 5XP] 03. 1Z93 Cumbrian Mountain Express - Part 2

Take 45593 Kolhapur on the return journey of the Cumbrian Mountain Express. The weather has turned and the rails are very slippery, so care must be taken with the heavy train 13 coach train!

Duration: 65 Minutes
Difficulty: Hard

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5 DLC Requirements

The following add-ons are required for the scenarios:

- **West Coast Main Line Over Shap Route Add-On** – KrossRails

These add-ons are available through the Steam Store: http://store.steampowered.com/

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6 Credits

Ben Jervis
3D Artist, Scenario Writer, Audio Recordings & Bossman

Simon Payne
Internal Tester

Bossman Games would like to thank the following people for their invaluable contribution towards the development of the LMS Stanier 5XP Jubilee Class:

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Audio recording access with 45690 Leander

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Scripting & Audio Implementation

Jack Blakemore
3D Artist – Fowler Tender Modeling

Oldham Video Productions
Audio Recordings

Rail Sim Users Group

UKTrainSim Forum

The Train Simulator Community

Dovetail Games

Dovetail Games Beta Testers

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7 Disclaimers

7.1 Realism

Due the level of realism provided in this pack the correct driving style must be adopted, which may differ significantly from any other steam locomotives in Train Simulator. This manual will provide you with all you need to know about successfully driving the Bossman Games Stanier Jubilee Class.

This loco does not fully support control via the HUD, Xbox controller or via Simple Controls.

7.2 PC Performance

Every effort has been made to make this add-on as realistic and as detailed as possible within the confines of Train Simulator. As a result, some users may experience low frame rates on older machines. It is recommended that in cases where frame rates are low, the user should lower their graphical settings within Train Simulator to allow for a better gaming experience. TS2019 64-bit Edition is recommended.

7.3 End User License Agreement (EULA)

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7.4 Commercial Add-Ons & Scenario Packs

Bossman Games do not allow the development or sale of any commercial add-ons or associated products (without prior written consent) including but not limited to:

- Scenario Packs
- Audio Enhancement Packs

7.5 A Thank You From Bossman Games

Bossman Games would like to offer a huge thank you to you for purchasing this product and hope that you get many hours of enjoyment from it. Should you have any feedback for us - whether positive or negative - it is always appreciated.

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