

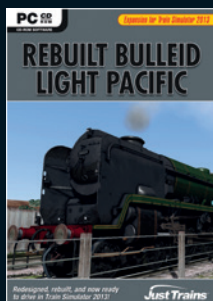
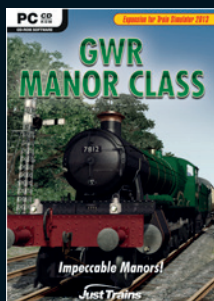
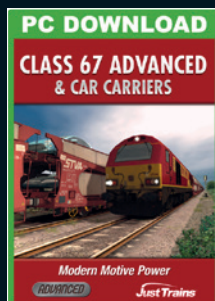
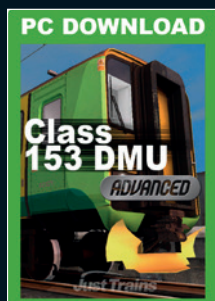
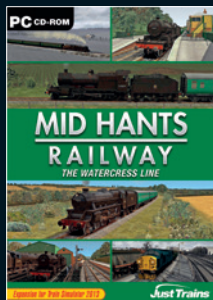
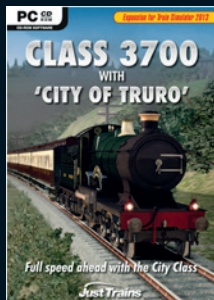
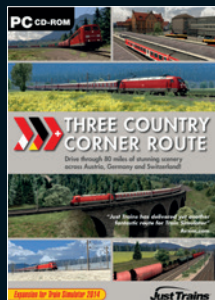
CHINA RAILWAYS SS7C ELECTRIC LOCOMOTIVE

PLUS BONUS CONTENT



DRIVER'S GUIDE

The Spirit of Train Simulation



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CHINA RAILWAYS SS7C ELECTRIC LOCOMOTIVE DRIVER'S GUIDE

Electric locomotive expansion for Train Simulator 2014

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INTRODUCTION

This collection for TS2014 includes the China Railways SS7C electric locomotive and also some free bonus content – the RWSO Rolling Stock Pack with a number of passenger cars and freight wagons, and also the ChengYu Railway Part 2 route.

Please note that this bonus content has been adapted from previous freeware releases and is therefore not developed to the same stringent standards as the SS7C electric locomotive. Support and warranty is not available for the RWSO Rolling Stock Pack and ChengYu Railway Part 2 route.



INSTALLATION

You've already got this far after purchasing the Download of the Just Trains SS7C Electric Locomotive add-on, but here are some FAQs that might be helpful.

How do I install and unlock the software once I have paid for it?

Full instructions will appear on screen once you have bought a Download add-on. These will also be sent to you in an email for future reference.

How will I know the product has unlocked correctly?

A message will appear on screen telling you that the unlocking process has been completed (and how to contact us in the unlikely event that you experience any problems). Please read all instructions and emails carefully.

What happens if I change my PC or need to reinstall the software?

If you change your computer system or your licence files are 'broken' (perhaps due to a re-installation of Windows or a hard drive malfunction) you will need to unlock the software again.

Once you have unlocked this add-on you can install it as often as you like on the same computer system.

How do I re-download my product?

1. Click on the 'Account' tab on the Just Trains website
2. Log into your account
3. Click the 'Your Orders' button
4. You will see a list of your purchases and you can download the software you require

Graphics settings

Depending on your computer's specification, you may wish to increase or decrease the various graphical detail options to get the best performance.

You can adjust these display settings in Train Simulator 2014 via the Main Menu screen using the Settings option in the top right area and then clicking on the Graphics button. The best results are when TSX Mode is enabled.

Website updates

Please check our website at www.justtrains.net for any news or updates on this and other products.

Technical Support

To obtain technical support (in English) please visit the Support section at justtrains.net. As a Just Trains customer you can obtain free technical support for any Just Trains or Just Flight product. If you don't have Internet access, please write to us at Just Trains Technical Support, 2 Stonehill, Stukeley Meadows, Huntingdon, PE29 6ED, UK.

Regular news

To get the latest news about Just Trains products, sign up for our newsletter at www.justtrains.net/newsletter.

You can also keep up to date with Just Trains via Facebook (facebook.com/justtrains) and Twitter (twitter.com/justtrains).

Uninstalling the software

To uninstall this software from your system:

- Go to the Windows Start menu and select 'Control Panel' (if you are in Windows Classic view, Control Panel will be found under 'Settings').
- Double-click on the item 'Add or Remove Programs' (Windows XP) or 'Programs and Features' (Windows Vista or 7). In Windows 8 move your mouse to the bottom left corner, right-click with your mouse, then left-click on the 'Programs and Features' menu that appears.
- Select the program you want to uninstall from the list provided and click the 'Uninstall' option.
- Follow the on-screen instructions to uninstall the program.

Uninstalling or deleting this software in any other way may cause problems when using this program in the future or with your Windows set-up.

CHINA RAILWAYS SS7C ELECTRIC LOCOMOTIVE

Included locomotives

This add-on includes the SS7C dual-purpose electric locomotive in both the standard livery and the yellow 'banana' livery seen on the last 15 units.



Standard livery



Yellow 'Banana' livery

History

As China's Ministry of Railways sought to increase the running speed of trains nationwide in the 1990s, many new electric locomotives were designed, each one tailored for a specific type of railway line in China. One particularly successful development was the SS7C, or Type Shaoshan 7C Dual Purpose Electric Locomotive. (Shaoshan is the birthplace of Mao Zedong, the founding father of the People's Republic of China.)

The SS7C has its roots in the SS7 Electric Locomotive, a Bo-Bo-Bo locomotive developed for mountainous lines where the many tight curves meant that Co-Co locomotives would quickly wear out their wheels as well as the track, thanks to the larger tri-axle bogies.

Like all Shaoshan-series electric locomotives before it (except the SS5, an experimental higher-speed locomotive), the SS7's maximum structural speed is 100km/h. This posed problems for raising running speeds – even where terrain and line design allowed for speeds greater than 100km/h, there were no locomotives capable of running at higher speeds.

The SS7C was designed to surpass the 100km/h barrier. With a lighter axle weight and altered gear ratio, the maximum design speed was 140km/h, with a maximum operating speed of 120km/h as specified by the Ministry of Railways. In addition, the SS7C was fitted to provide locomotive-supplied power to passenger cars (for air conditioning, lighting, etc.) as well as dual-pipe air braking, optimising its use in higher-speed passenger trains.

Prototypes were produced by August 1998 and, after rigorous testing, serial production began in 1999. By 2005, after 141 units (SS7C 0001-0141) had been built, the Ministry of Railways ordered various technical upgrades to be fitted to all subsequent units. Following this, 30 upgraded units (SS7C 0142-0171) were produced by the end of 2006, when the Ministry of Railways ceased to order domestically designed locomotives in favour of the HeXie series of locomotives jointly developed with the well-known international players Siemens, Alstom, Toshiba, EMD, and General Electric. (HeXie literally means 'Harmony', which is the guiding principle issued by President Hu Jintao – to create a harmonic society.)

The last 15 units (SS7C 0157-0171) were given a different livery to the previous units for reasons unknown, and these rare yellow units have been nicknamed 'Banana' by rail fans.

Operations

The SS7C was designated as the key locomotive for the Longhai Railway (Lianyungang to Lanzhou) in the 'Third Great Acceleration' in 2000 (six campaigns with names loosely translated as 'Great Accelerations' were run to increase the speed of trains in China). The first 15 units served the Zhengzhou to Xi'an segment, and the next 20 units served the Xi'an to Lanzhou segment.

In 2001 the SS7C was again called to duty in the 'Fourth Great Acceleration', with further units entering service on the Xiangyu Railway (Xiangfan to Chongqing).

Today, with both the Longhai and Xiangyu lines upgraded to 160km/h and using the 160km/h locomotives developed later, the SS7C has moved out of the spotlight, serving the slower (120km/h) trains on those lines. More importantly, however, many SS7C units have been reallocated to express trains on slower lines such as the Chengyu (Chengdu to Chongqing) and Chengkun (Chengdu to Kunming) lines, where they remain the fastest locomotives available.

Technical Specifications

Type	SS7C
Purpose	Mainline passenger and freight (dual purpose)
UIC Classification	Bo-Bo-Bo
Gauge	1,435 mm
Weight	132 t
Axle Weight	22 t
Length	22,016 mm (from centres of couplers) 20,800 mm (frame length)
Width	3,105 mm
Height	4,769 mm above rails (pantograph down) Pantograph reaches overhead line at 5,100 – 6,500 mm above rails
Electrical Supply	25kV AC Overhead Line (via pantograph)
Power Output	4,800 kW (continuous)
Tractive Effort	220 kN (continuous) 310 kN (starting)
Brake Types	Air (tread) brakes, dynamic brake
Max. Dynamic Brake Force	173 kN

Cab controls



The letters in square brackets refer to the keystrokes used to operate the cab controls.

- A. Cab signal
 - B. Speedometer
 - C. Fault indicators
 - D. LKJ-2000
 - E. Brake gauges
-
- 1. Reverser: [W] forward, [S] back
 - 2. Power handle: [A] forward, [D] back
 - 3. Train brake: ['] forward, [;] back
 - 4. Locomotive brake:] forward, [back
 - 5. Master key: no control
 - 6. Pantograph: [P] back, [Shift]-[P] forward
 - 7. Main circuit breaker: [O] toggle
 - 8. Rotary phase converter: [I] toggle

9. Traction motor fans: [U] toggle
10. Dynamic brake fans: [Y] toggle
11. Main headlight: [H] forward), [Shift]-[H] back
12. Auxiliary headlights: [J] forward, [Shift]-[J] back
13. Marker lights: [K] forward, [Shift]-[K] back
14. Cab light: [L] forward, [Shift]-[L] back
15. Corridor lights: [N] toggle
16. Compartment lights: [M] toggle

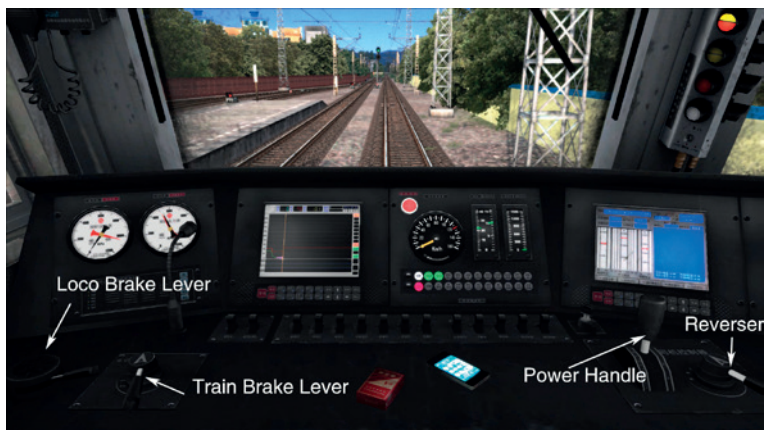


17. Horn (high pitch): Spacebar
18. Horn (low pitch): [B]

Wiper (out of sight): [V]

- F. Blinds: Drag to move
- G. Seat: Drag to move
- H. Cab door: Drag to move

Driving controls



Reverser

The Reverser has four positions and can only be moved between these positions if the Power Handle is in the 0 (neutral) position:

- Backward
- Neutral (default position)
- Forward
- Brake (dynamic brake)

Power Handle

The Power Handle has a number of numerical positions. In addition to the 0 position (neutral, the default position) there are two zones of position:

- Driving zone positions, with a * position (minimum power) and then positions 2 to 14 with notches at increments of 0.5
- Braking zone positions, ranging from B14 to B1 with notches at increments of 1

The Power Handle's allowed movement depends on the Reverser position:

- While the Reverser is in neutral, the Power Handle cannot be moved from the 0 position
- When the Reverser is in Forward or Backward, the Power Handle can be moved forward into the driving positions
- When the Reverser is in Brake position, the Power Handle can be moved backwards into the brake positions

The use of the Power Handle is outlined below:

- In driving position * the locomotive applies minimum power and, left in this notch, will reach and maintain 10km/h
- In driving positions 2-14 the number corresponds to the final speed achieved, e.g. left in position 4, the locomotive will accelerate and maintain 40km/h
- In braking positions (B14-B1) the number corresponds to the final speed achieved **plus 10** – e.g. left in Position **6**, the locomotive will slow down and maintain **50km/h** – this is somewhat counterintuitive but reflects real-world operation.

Note: The dynamic brake is automatically adjusted in accordance with the Power Handle position, so it is not mapped to any key, and the HUD dynamic brake control should not be touched.

Train Brake lever

The Train Brake lever has the following positions:

- Quick Release – train brakes are quickly released. This is only used in longer freight trains to ensure adequate brake release
- Release (default position) – train brakes are released at the normal service rate. This is the position to release brakes in routine operation
- Hold – train brakes are held at the current pressure
- Apply – train brakes are gradually applied until full service
- MU (Multiple Unit) – the handle can be removed in this position
- Emergency – train brakes are quickly applied for emergency braking

Note that in real life each driver has only one brake handle and this is kept with him/her – either in the driving cab or taken away if the locomotive is parked. This means that the train brake control of all non-driving cabs is in the MU position, since this is the only position in which the handle can be removed.

Loco Brake lever

The Loco Brake lever has four positions:

- Release (not named): This position is spring-loaded and the handle will return to the Running position if it is not held down in this position. When held in this position, any braking on the locomotive from the Train Brake will be gradually released (in the locomotive only – the rest of the train's train brake is not affected). This is called 'bailing the independent'.
- Running: In this position the loco brake is not engaged, but the locomotive will brake in response to the Train Brake.
- Apply: This is a zone rather than a specific position. In this zone the loco brakes are applied in proportion to the handle's position.
- Full Service: In this position the loco brakes are fully applied.

Systems controls



The **Master Key** unlocks the other system controls and the reverser when inserted. It also switches on power to various cab instruments and displays. Simply click on the key to insert/remove it.

The **Pantograph** switch controls the position of the pantograph (which collects power from overhead lines) and has three positions:

- Front – raises the front pantograph
- Off – lowers both the pantographs
- Rear – raises the rear pantograph

The pantograph opposite the direction of travel is used (i.e. raise the rear pantograph for travelling forwards); this is so that if the pantograph crashes into anything, no debris will fall on the roof-mounted electrical circuits, but will fall instead on the wagons behind.

Note that due to the limitations of the host simulator, 'front' means the Cab I end, and 'rear' means the Cab II end. If you switch cabs, you'll need to set the switch appropriately to raise the pantograph opposite the direction of travel.

The **Main Circuit Breaker** switch controls the main circuit breaker, which controls whether overhead power is turned on. The switch has two positions:

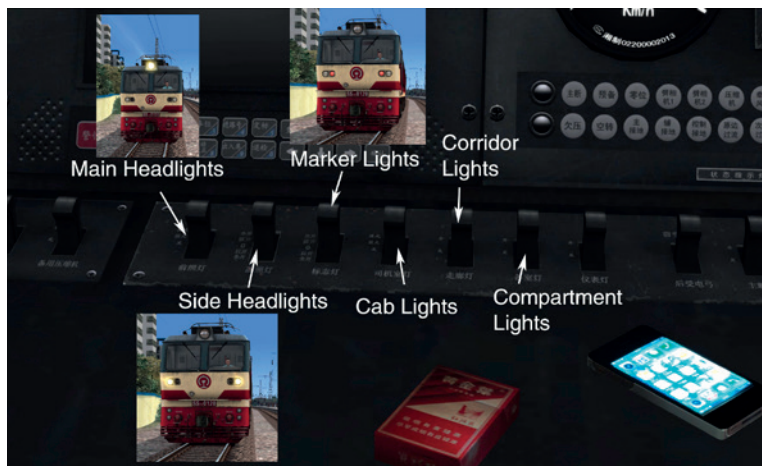
- On – circuit is complete and power is available
- Off – circuit is broken and overhead power is off. The locomotive cannot move, and cab instruments and displays remain on battery power. The Main Circuit Breaker (MCB) should always be OFF before raising or lowering the pantograph to prevent sparking between the pantograph and the overhead lines – the MCB is fitted with a spark extinguisher and is designed to handle the sparking as it completes/breaks the circuit.

The **Phase Converter** switch controls the rotary phase converter (RPC), which converts single-phase AC electricity into three-phase AC for the three-phase motors. The motors will not have power until the RPC is turned on.

The **Traction Motor Fan** switch controls the cooling fans for the traction motors. With the cooling fans off, power is limited to Notch 2.5 for shunting movements only.

The **Dynamic Brake Fan** switch controls the cooling fans for the dynamic brakes.

Light controls



The **Main Headlight** switch controls the forward-pointing main headlight. To operate the rear headlight, simply switch cabs. There are three positions:

- Off – main headlight is off
- Dim – main headlight is on low beam
- Bright – main headlight is on high beam

The **Auxiliary Headlights** switch controls the auxiliary headlights, which are the two smaller headlights under the front cab window. There are five positions:

- Both – all auxiliary headlights are lit
- Front – front auxiliary headlights are lit
- Off – all auxiliary headlights are off
- Rear – rear auxiliary headlights are lit
- Both – all auxiliary headlights are lit

The **Marker Lights** switch controls the red marker lights mounted next to the auxiliary headlights. This switch also has five positions:

- Both – marker lights on both ends are lit
- Front – front marker lights are lit
- Off – all marker lights are off
- Rear – rear marker lights are lit
- Both – marker lights on both ends are lit

Normal use of exterior lights

Mainline running by day – main headlight on Dim, auxiliary headlights on Front, marker lights on Rear.

Mainline running by night – main headlight on Bright, auxiliary headlights on Front, marker lights on Rear.

Shunting – main headlight OFF, auxiliary headlights in direction of travel, marker lights in the opposite direction.

Cab Light switch controls lighting in the cab and also has 'Bright' and 'Dim' positions.

Corridor Light switch controls lights in the corridor of the locomotive (visible from the exterior through windows in the side of the locomotive).

Compartment Lights switch controls lights in all the various equipment compartments in the locomotive, also visible from the exterior.

Instrument Lights switch is currently a dummy switch.

Starting up the SS7C locomotive

Ensure the brakes are applied – **Loco Brake** lever set to **Full Service**.

If coupled to a train, ensure that the **Train Brakes** lever is left in **Apply**.

Insert the **Master Key** (by dragging the key towards the socket). Both display screens should switch on, and the status display lights for 'Main Circuit Breaker', 'Low Overhead Voltage', 'Setup' and 'Handle Zero' should illuminate.

Raise the **Pantograph** (for driving forward, raise the rear pantograph). After eight seconds or so, once the pantograph is fully up and in contact with the overhead contact line, the red 'Low Overhead Voltage' light should extinguish.

Once the 'Low Overhead Voltage' light is off, close the **Main Circuit Breaker** (MCB). The white 'Main Circuit Breaker' light should then extinguish.

Once the MCB light is off, switch on the (Rotary) **Phase Converter** (RPC). The Phase Converter can be heard starting up. Once the Phase Converter has started, shunting movements are permitted – use the Reverser and the Power Handle to move the locomotive. While the RPC is off, however, power is limited to Notch 2.5.

To depart from the station, switch on the **Traction Motor Fans**. The fans can be heard starting up.

Once the Traction Motor Fans are running, the locomotive is ready.

Before moving off

Check the signal in front of you:

- In a depot (or on the shunting track of a station) there should be a shunting signal in front of you, and you can ask for it to be cleared by pressing the [Tab] key or [Ctrl]-[Tab].
- If coupled to a train at a station, there should be a departure signal in front of you.

Turn on the appropriate lights:

- For going forward, the **Side Headlights** switch should be moved to the 'Forward' position; the **Marker Lights** switch should be moved to the 'Backward' position.

- If departing the station, switch on the **Main Headlights**. Use the 'Dim' setting by day and the 'Bright' setting at night.

Use the appropriate horn to indicate that you are about to move:

- For shunting movements (within a station), sound the **low-pitched horn** for three seconds.
- For departing from the station, sound the **high-pitched horn** for three seconds.

Push the **Reverser** into **Forward** (or **Backward**).

Release the brakes – put the **Train Brakes** lever in **Release**, and the **Loco Brake** lever in **Running**.

Speeding up

Push the **Power Handle** into the driving zone and set the handle to the * notch. If the locomotive was started up and prepared correctly, the green 'Setup' and 'Handle Zero' lights should extinguish; if the locomotive was not fully prepared (e.g. shunting with the Traction Motor Fans off), the 'Setup' light will stay on.

Advanced Technique: *If coupled to a passenger train, the Power Handle should be left there for around 15 seconds, so that couplings can be stretched gently before full power is applied.*

If coupled to a freight train, set the handle to a higher notch (3-4) so enough power is applied to start the entire train.

Once the train is moving, set the **Power Handle** to the desired speed (e.g. notch 10 to maintain 100km/h). Beware of speed limits, which are displayed on the HUD.

Advanced Technique: *Power is graded between positions * and 11, so maximum power is applied when the Power Handle is in notch 11 or above.*

When the desired speed is below 110km/h, maximum acceleration can be achieved by setting the **Power Handle** to notch **11** while the train is accelerating, and moving it back to the appropriate notch once the train is approaching the desired speed.

Using the Dynamic Brakes (use **ONLY** for freight trains)

First, turn the **Dynamic Brakes Fan** on, and wait for it to start.

Return the **Power Handle** to the 0 (Neutral) position.

Advance the **Reverser** to **Brake** position.

Pull the **Power Handle** backwards into the braking zone, stop at B14, and watch the ammeter for negative current – this will only happen if the Dynamic Brakes Fan is on.

Once braking starts, steadily move the **Power Handle** back to the handle position corresponding to the speed desired (e.g. Notch B5 for braking to 40km/h).

When disengaging dynamic brakes before the set speed is reached, first move the **Power Handle** lever to the notch just below your current speed and then, once the braking force starts to decline, slowly move it to the notch above the current speed, and finally return it to zero.

Note that for freight trains, dynamic brakes and air brakes can be used together to stop the train; for passenger trains, the dynamic brakes should not be used at all.

Using the Air Brakes

When the Air Brakes are needed, push the **Train Brakes** lever into the **Apply** position and the brake cylinder pressure can then be seen steadily increasing on the HUD.

Once the desired amount of brake cylinder pressure is reached, move the lever back to the **Hold** position to maintain the pressure.

Advanced Technique: For passenger trains, the couplings should be kept stretched so the passengers do not feel a jolt when power is applied later; this means you should disengage (bail) the locomotive's brakes.

To do so, once the Train Brakes are engaged, immediately hold the **Loco Brake** lever in the **Release** position (by holding down the [key or holding the HUD lever in the full downwards position – the lever will spring back to the Running position if not held there) and release all braking on the locomotive. This ensures that the couplings are stretched as the train stops.

This technique should never be used for freight trains, as they need to be stopped with couplings compressed to reduce the risk of couplers being pulled apart by wagons braking at different rates.

When the brakes need to be released, simply move the lever into the **Release** position and the brake cylinder pressure will steadily decrease. If the lever is moved back into the **Hold** position, the current pressure in the brake cylinder will be maintained – this can be used to incrementally release the brakes.

Once you come to a complete stop, both the **Train Brakes** and the **Loco Brake** should be applied in full to ensure the train does not move unintentionally. To do this, leave the **Train Brakes** lever in the **Apply** position, and move the **Loco Brake** lever to the **Full Service** position.

Troubleshooting guide



Fault Indicator

Problem: Both cab displays are off, and the reverser cannot be moved.

Cause: Master key is not inserted.

Solution: Insert master key (click on the key).

Problem: The red indicator light (for 'Low Voltage') is lit, and the locomotive cannot take power.

Cause: Pantograph is not raised.

Solution: Raise a pantograph (usually the rear one).

Problem: The white indicator light (for 'Main Circuit Breaker') is lit, and the locomotive cannot take power.

Cause: Main Circuit Breaker (MCB) is off.

Solution: Turn the MCB switch to ON.

Problem: Both green indicator lights (for 'Setup' and 'Handle Zero') are lit.

Cause: The Power Handle is in position zero. There may be set-up problems (see entries below).

Solution: Put the Reverser into Forward or Back, then move the Power Handle into a driving notch.

Problem: A green indicator light (for 'Setup') remains lit when the Power Handle is moved from zero, and the locomotive cannot take power despite the Reverser and Power Handle being appropriately set.

Cause: The Rotary Phase Converter (RPC) is off.

Solution: Turn the RPC switch to ON.

Problem: A green indicator light (for 'Setup') remains lit when the Power Handle is moved into driving notches, and the locomotive does not produce more power when the handle is raised above Notch 2.5.

Cause: The Traction Motor Fan is off.

Solution: Turn the Traction Motor Fan switch to ON and wait for the fans to start up.

Problem: A green indicator light (for 'Setup') remains lit when the Power Handle is moved into braking notches, and the ammeter does not show negative current.

Cause: The Dynamic Brakes Fan is off.

Solution: Turn the Dynamic Brakes Fan switch to ON and wait for the fans to start up.

Cab signal system

The SS7C Locomotive is fitted with the 8-Aspect Cab Signal system currently used in China.

The cab signal box has eight aspects with 11 different displays (three flashing displays):



GREEN means that the signal ahead is displaying a green aspect.



GREEN-YELLOW means that the signal ahead is displaying a green-yellow aspect. (Note that this is only available on certain signals.)



YELLOW means that the signal ahead is displaying a yellow aspect, and the following signal is displaying a red aspect. This means the driver should slow down and prepare to stop by the second signal.



FLASHING YELLOW 2 (yellow light with the number 2 inside) means that the signal ahead is displaying a yellow aspect, and the following signal is displaying a flashing yellow and a steady yellow.

This means the driver should prepare to slow to 80km/h by the second signal for a high-speed turnout.

STEADY YELLOW 2 (yellow light with the number 2 inside) means that the signal ahead is displaying a yellow aspect; and the following signal is displaying a double yellow.

This means the driver should prepare to slow to 50km/h by the second signal for a low-speed turnout.



FLASHING DOUBLE YELLOW means that the signal ahead is displaying a flashing yellow and a steady yellow, unless it is a departure signal (see below).

This means the driver should slow to 80km/h by the next signal for a high-speed turnout.

If a departure signal (of any aspect) is ahead, flashing Double Yellow means a high-speed turnout on the way out of the station, so the driver should not speed up beyond 80km/h until the entire train is clear of the turnout.

STEADY DOUBLE YELLOW means that the signal ahead is displaying a double yellow, unless it is a departure signal (see below).

This means the driver should slow to 50km/h by the next signal for a low-speed turnout.

If a departure signal (of any aspect) is ahead, steady Double Yellow means a low-speed turnout on the way out of the station, so the driver should not speed up beyond 50km/h until the entire train is clear of the turnout.



STEADY RED-YELLOW (despite the name, the yellow half is on top) means that the signal ahead is displaying a red aspect.

This means the driver should prepare to stop by the next signal.

FLASHING RED-YELLOW means that the signal ahead is displaying either red-white or red-blue.

In both cases the driver should cross the signal at no more than 20km/h and continue visually – the integrity and occupation of the track ahead is not guaranteed, so the driver is to continue at no more than 20km/h, keep a lookout for hazards and prepare to stop immediately if any hazards are spotted.

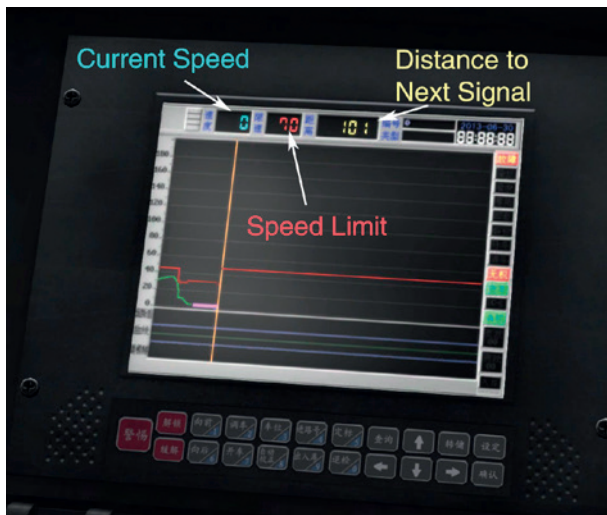


RED means that the train has passed a signal displaying a red aspect – the driver should stop immediately, unless cleared to proceed visually (by aspects described above).



WHITE means that the cab signal is not receiving information from the ground signals. The driver should refer to ground signals and be mindful that they may be of any aspect.

LKJ-2000



A limited simulation of the LKJ-2000 display is incorporated into the cab of the SS7C.

The real-world LKJ-2000 is a device now found universally in all locomotive cabs in China. It is both a driver aid and a black box – its function is to display route information (pre-programmed and stored onto the driver's IC card for each shift) and operational information (including the current mechanical status of the locomotive) to the driver, as well as to record all operational information so the driver's performance can be analysed later.

In this simulation we have included displays for:

- Current speed (in blue)
- Current speed limit (in red)
- Distance to next signal (in yellow)

SCENARIOS

The SS7C Locomotive comes with a set of scenarios designed to be used with the ChengYu 2.0 route and the RWSO Rolling Stock Pack, both of which are included in this package.

Tutorial scenarios

This series of four step-by-step tutorials will introduce you to the operations of an SS7C locomotive. The tutorials can be found in the Drive>Tutorial section of the TS2014 interface.

Tutorial 1: Starting up the SS7C

Before you drive the SS7C Electric Locomotive you must be able to start it from a shut-down state. This tutorial walks you through the steps involved in starting up the locomotive, and completing this tutorial unlocks Tutorial 2.

Tutorial 2: Basic Driver Training

In this tutorial we go over the basic controls used in everyday driving. Completing this tutorial unlocks Tutorials 3 and 4, as well as the Free Roam scenarios.

Tutorial 3: Advanced Passenger Train Handling

In this tutorial we discuss the advanced techniques used by real-world train drivers when hauling passenger trains with the SS7C. Completing this tutorial unlocks all the Passenger scenarios.

Tutorial 4: Advanced Freight Train Handling

In this tutorial we explore the advanced techniques used by real-world train drivers when hauling freight trains with the SS7C. Completing this tutorial unlocks all the Freight scenarios.

Free Roam scenarios

A few open-ended Free Roams are provided so you can drive the SS7C and explore the ChengYu 2.0 route at your leisure. These are found in the Drive>Free Roam section of the TS2014 interface.

Free Roam: Yong Chuan

Starting at Yong Chuan (a major passenger station), a number of SS7C-hauled trains are available for you to drive and explore the route.

Free Roam: Guang Shun Chang

Starting at Guang Shun Chang (a major freight station), a number of SS7C-hauled trains are available for you to drive and explore the route.

Passenger scenarios

These scenarios let you take on the day-to-day duties of a passenger train driver driving the SS7C. All are available as both Standard and Career scenarios, found in the Drive>Standard and Drive>Career sections of the interface, respectively.

Nuts and Bolts

It's a beautiful day and your next trip is a short hop from Rong Chang to Yong Chuan – not all drivers get such easy days!

The Full Length

Ready for a longer drive? Your next task is to haul an express passenger train all the way to Shi Yan Qiao.

Into the Night

Not all passenger trains are created equal; the one you're about to drive, for instance, is one of those 'red eye' trains. Are you up for the night driving?

Every Single Stop

It's a stormy day out there and there has been some disruption further up the line with a couple of breakdowns. You have been called in to haul a stopping passenger train, an unusual task for a SS7C driver.

Freight scenarios

This selection of scenarios lets you experience some typical journeys for an SS7C freight train driver. All are available as both Standard and Career scenarios and can be found in the Drive>Standard and Drive>Career sections of the interface.

Running Slow

During the day, when the line is busy with passenger trains, freight trains have to run in the gaps in the traffic. Today you're taking a low-priority freight train and there will be a few yellow lights and red lights, so don't drive too fast!

Mail Run

Each night hundreds of express mail trains zoom around the network taking mail and parcels across the country. Tonight you'll become a part of this huge operation as you take a mail train through to Guang Shun Chang.

Fully Loaded

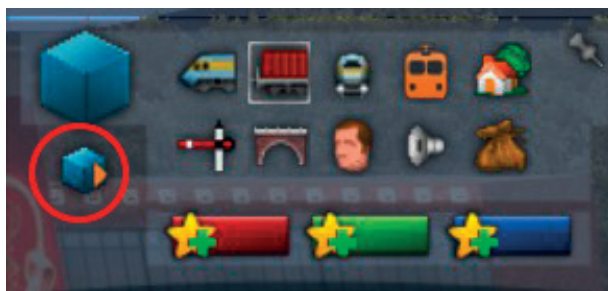
A fully loaded express coal train weighing in at 3,000 tons needs to be taken across the line. Can you handle this heavy train on the steep gradients?

Quick Drive scenarios

A number of Quick Drive consists have been provided so you can create your own scenarios to run the SS7C on any Quick Drive-enabled route of your choice. These are found under 'SS7C Locomotive' in the Quick Drive consist selection menu.

Using the SS7C in custom scenarios

In order to use the SS7C in a custom scenario you are working on, simply enable it in the Object Set Filter:



1. Start the Scenario Editor.
2. Open the left middle fly-out panel, and click the small blue cube (circled in the image above) to load the Object Set Filter in the right-hand fly-out panel.
3. Open the right-hand fly-out panel, which should now be the Object Set Filter.



4. Open the drop-down menu and navigate through the provider list to RISC.
5. Under the provider RISC is a list of the add-ons installed, with three columns of checkboxes on the right:
 - a. The leftmost column can be checked to enable an add-on for a route
 - b. The middle column can be checked to enable an add-on for a scenario
 - c. The right column is used to remove objects within an add-on from the browser list (but they are kept visible in the route/scenario).
6. Tick the middle checkbox for the SS7C add-on.
7. The SS7C locomotive can then be found in the Locomotive tab of the browser. Two entries can be found: 'SS7C Standard' for the standard livery and 'SS7C Yellow' for the 'banana' livery.

LOCOMOTIVE NUMBERING

The SS7C features custom numbering and allocation (the depot to which a locomotive is allocated), and while realistic numbering and allocation is generated automatically when an SS7C locomotive is placed into a scenario, you may wish to change the numbers.

The numbering and allocation follows the format 'SS7CnnnnA' (SS7C-number-allocation):

- The first four digits must be 'SS7C'
- The next four digits represent the number of the locomotive
- The last digit represents the depot allocation:
 - A: Xi'an Railway Bureau, Ankang Depot (西局安段)
 - H: Chengdu Railway Bureau, Chongqing Depot (成局重段)
 - K: Kunming Railway Bureau, Kunming Depot (昆局昆段)
 - L: Lanzhou Railway Bureau, Lanzhou Depot (兰局兰段)
 - N: Nanning Railway Bureau, Nanning Depot (宁局邕段)
 - X: Wuhan Railway Bureau, Xiangfan North Depot (武局襄段)
 - Z: Guangzhou Railway Corporation, Zhuzhou Depot (广铁珠段)

Note that only the Chongqing Depot, Zhuzhou Depot and Kunming Depot are equipped with the yellow SS7C, so only H, K and Z are available for the yellow version.

Examples:

The 15th SS7C, allocated to the Xi'an Railway Bureau's Ankang Depot, is entered as SS7C0015A.

The 152nd SS7C, allocated to the Chengdu Railway Bureau's Chongqing Depot, is entered as SS7C0152H.

RWSO ROLLING STOCK PACK

Introduction

This bonus content pack features a substantial collection of Chinese rolling stock created by RISC's predecessor, RWSO. Please note that the content of this pack is adapted from a previous freeware release and is therefore not made to the same stringent standards as RISC's premium (payware) titles. We hope that the rolling stock will nonetheless enhance your driving experience.

Compatibility

This route was made in RailWorks (prior to the Train Simulator 2012 update) and is compatible with Train Simulator 2014 apart from a known issue of bogie transparency which the developers were unable to fix without rebuilding the vehicles from scratch.

When the passenger car bogies are viewed in front of the horizon, with no scenery objects nearby, there is a visual defect as you can see in the image below:



Passenger cars

YZ22/YZ22B – Type 22 and Type 22B ‘Hard Seat Car’



Type 22B Ying Zuo Che (Hard Seat Car)

Type 22 passenger cars were the mainstay of passenger cars in China from the 1960s to the early 1990s and are still passenger train icons for those who grew up in this era.

Designed in the 1950s, they represent the older generation of passenger cars, and despite the significant technical upgrades in the revised Type 22B (which entered production in the late 1980s), they were gradually replaced by derivatives of the Type 25 from the 1990s onwards. Few Type 22B cars remain in service today on short distance 'slow stopping services'.

Presented here are the 'Hard Seat Cars' of the Type 22B series which provide economy class seating for passengers travelling short distances (or short hops on long distance trains). When used in short distance trains, they make up most of the cars in the train; in long distance trains they make up half the train, with the other half consisting of sleeper cars.

Specifications

Length	23,600 mm	
Width	3,105 mm	
Height	4,280 mm	
Max. Structural Speed	100 km/h (Type 22)	120 km/h (Type 22B)
Max. Operating Speed	100 km/h (Type 22)	120 km/h (Type 22B)
Braking	Tread Brake	
Air Conditioning	None	
Power Supply	N/A	

YZ25A – Type 25A ‘Hard Seat Car’



Type 25A Ying Zuo Che (Hard Seat Car)

Type 25 passenger cars were initially conceptualised in 1979 (the '25' reflects the 25.5m length of the cars) but the type remained experimental and 25.5m passenger cars did not take off until the development of the Type 25A. Arising from a 1987 international tender won by a joint bid between the three prominent railway wagon companies (Changchun Works, Puzhen Works and Tangshan Works), the Type 25A passenger cars were designed and 168 cars were produced by 1990.

The type revolutionised air-conditioned carriages with the development of Generator Cars equipped with three diesel generators to supply AC electricity at 380V to up to 20 cars. Although only 168 units were produced, due to the cost of imported parts, they serve as the template on which all modern passenger cars (except the advanced CRH-series high-speed EMUs) are designed. Most 25A passenger cars remain in service today.

Presented here are the 'Hard Seat Cars' of the Type 25A series which are used almost exclusively on long distance trains where they make up half the train, with the other half being sleeper cars, providing economy class seating for passengers making short hops on these long distance trains.

Specifications

Length	25,500 mm
(Generator Car)	(23,580 mm)
Width	3,105 mm
Height	4,433 mm
Max. Structural Speed	140 km/h
Max. Operating Speed	120 km/h
Braking	Tread Brake
Air Conditioning	AC380V
Power Supply	Generator Car

YZ25B – Type 25B ‘Hard Seat Car’



Type 25B Ying Zuo Che (Hard Seat Car)

Following the success of the Type 25A passenger cars, the Ministry of Railways ordered the production of 25.5m passenger cars. Both air-conditioned and non-air-conditioned variants were ordered to introduce premium air-conditioned services while retaining the low-cost non-air-conditioned services.

The Type 25B is the non-air-conditioned variant, which is essentially a domestic production version of the 25A with the air conditioning units and power supply lines taken out. Air conditioning is retained in the ‘Soft Bed Cars’ (premium sleeper cars) and dining cars, but in those cars power is supplied by small generators suspended from the undercarriage.

Production started in 1993 and Type 25B cars were steadily produced to replace Type 22 and Type 22B cars, but as focus (and demand) shifted to air-conditioned trains, production waned and eventually stopped. Today the Type 25B cars are mostly found on non-air-conditioned ‘regular stopping services’, as well as on many of the temporary extra services offered around the holiday season.

This package includes the ‘Hard Seat Cars’ of the Type 25B series which provide economy class seating for passengers travelling short distances (or short hops on long distance trains). When used in short distance trains, they make up most of the cars in the train; in long distance trains they make up half the train, with the other half being sleeper cars.

Specifications

Length	25,500 mm
Width	3,105 mm
Height	4,433 mm
Max. Structural Speed	140 km/h
Max. Operating Speed	120 km/h
Braking	Tread Brake
Air Conditioning	None (Soft Bed Cars: AC380V)
Power Supply	N/A (Soft Bed Cars: Onboard Generator)

Liveries



Converted Type 25B Hard Seat Car

Due to later demand for air-conditioned cars, some units were converted for service as part of air-conditioned trains. These vary in their build; some have air conditioning fitted to essentially match the Type 25A/25G cars, while others simply have power lines running through the car to supply other cars.

YZ25G – Type 25G ‘Hard Seat Car’

The Type 25G is directly derived from the Type 25A, with the only difference being that all parts are manufactured domestically and are produced to less rigorous standards to reduce costs.

Production started in 1992 and continues today, with more than 20,000 cars produced. The Type 25G is the main type in the current China Railways fleet, operating everywhere across the entire network both in ‘regular stopping services’ and ‘express services’.

Presented here are the Hard Seat Cars of the Type 25G series which are used almost exclusively on long distance trains where they make up half the train (with the other half being sleeper cars), providing economy class seating for passengers making short hops on these long distance trains.

Note that the type has undergone various developments during its long production run, resulting in four distinct generations of Type 25G cars.

Specifications

Type 25G	1st Gen	2nd Gen	3rd Gen	4th Gen
Length	25,500 mm		25,500 mm	
(Generator Car)	(23,580 mm)		(N/A)	
Width	3,105 mm			
Height	4,433 mm			
Max. Structural Speed	140 km/h			
Max. Operating Speed	120 km/h			
Braking	Tread Brake		Disc Brake	
Air Conditioning	AC380V		DC600V	
Power Supply	Generator Car		Locomotive-Supplied	

YZ25G – First Generation (1992-2001)



First Generation Type 25G Ying Zuo Che (Hard Seat Car)

The first generation of the Type 25G is directly derived from the Type 25A cars, and the following generations will be compared to this generation.

YZ25G – Second Generation (2002-2003)



Second Generation Type 25G Ying Zuo Che (Hard Seat Car)

In 2002 a revised version of the Type 25G entered production, with disc brakes instead of tread brakes, electronic anti-skid devices, electro-pneumatic doors instead of manual doors, and vacuum toilets (which collect waste instead of direct outflow onto the tracks).

YZ25G – Third Generation (2004-2008)



Third Generation Type 25G Ying Zuo Che (Hard Seat Car)

The development of locomotive-supplied power, where air conditioning in passenger cars is powered from the locomotive (typically an electric locomotive), led to the production of this generation of Type 25G cars, where power input is changed to DC electricity at 600V to conform to the locomotives capable of supplying power to passenger cars. This change is visible externally in the inverter box and the battery box under each car.

Note that this generation of cars still uses electro-pneumatic doors and vacuum toilets, with the addition of dual-pipe air brakes (as opposed to older single-pipe air brakes).

YZ25G – Fourth Generation (2008-present)



Fourth Generation Type 25G Ying Zuo Che (Hard Seat Car)

Despite the advent of higher-speed passenger cars, production of the Type 25G remains strong, as passenger trains in China are divided into three main categories:

- High Speed Rail (CRH – 200km/h or above)
- Sub-High Speed (120-160km/h)
- Regular Speed (up to 120km/h)

The Regular Speed category is still in very strong demand as the faster services are expensive and serve fewer destinations, and as China Railways shifts towards electric locomotives (capable of supplying DC600V power to passenger cars), many regions are replacing older AC380V generator car-supplied Type 25G cars with newer DC600V locomotive-supplied cars.

To reduce costs, this current generation of Type 25G cars is no longer fitted with electro-pneumatic doors or vacuum toilets.

Liveries

Due to the ubiquity of Type 25G cars, there are units in service with locally owned railways displaying non-standard liveries:

JinWen (Jinhua-Wenzhou) Railway



Type 25G Hard Seat Car in JinWen livery

Blue 'Fake 25K'



Type 25G Hard Seat Car in Blue (25K-style) livery

HeJiu (Hefei-Jiujiang) Railway



Type 25G Hard Seat Car in HeJiu livery

YZ25K – Type 25K ‘Hard Seat Car’



Type 25K Ying Zuo Che (Hard Seat Car)

As the Ministry of Railways set out on campaigns to increase train speeds across the network, it was clear that the Type 25B and 25G cars could not run fast enough to satisfy the Ministry's ambitions and thus the Type 25K was designed.

Transplanting advanced technology from the experimental Type 25Z Sub-High Speed cars onto the Type 25G cars, the Type 25K cars were designed to run at 160km/h while satisfying braking distance requirements. In practice, however, it was found that the Generator Cars, owing to their specialised bogies, could not run above 142km/h and the other cars could not run reliably above 145km/h.

Despite the later cars having bogie upgrades and changing to DC600V Locomotive-Supplied Power, the type was eventually limited to a Maximum Operating Speed of 140km/h and production ceased when a more advanced Type 25T (which could handle 160km/h operations without issue) entered production. Existing Type 25K cars were retained, however, and they form the backbone of the 'special express' service class, between the 'express' services served by Type 25G cars and the 'non-stop express' services provided by Type 25T cars.

Here we have one of the 'Hard Seat Cars' of the Type 25K series, which make up half the train on special express services (with the other half being sleeper cars), providing economy class seating for passengers making short hops on these long distance special express trains.

Specifications

Length	25,500 mm
(Generator Car)	(23,580 mm)
Width	3,105 mm
Height	4,433 mm
Max. Structural Speed	140 km/h
Max. Operating Speed	120 km/h
Braking	Disc Brake
Air Conditioning	AC380V
Power Supply	Generator Car

Freight wagons

Type C Open Wagons



Type C62AK Open Wagon

The various sub-types of the Type C open wagon dominate the China Railways freight wagon fleet, with approximately 300,000 units in service making up more than 50% of the fleet. These open wagons are versatile and can carry coal (the type's major use), mineral ores, construction aggregate, wood, steel, containers and many other types of freight. Presented here are the various sub-types of C62, C64, C70, and C80.

Type P Boxcars



Type P62K Boxcar

Boxcars are suitable for goods which require protection from the weather as well as for loose freight. Presented here are the various sub-types of P62, P64, P65, P70 and PB. Note that Types P65 and PB are specially designed for carrying parcels and form special 'parcel express' trains.

Type N Flatbed Wagons



Type NX17BT Flatbed Wagon

Type N flatbed wagons are used to carry wood, cars, steel, and construction materials, and are increasingly used to carry containers. Presented here are the various subtypes of N17, NX17, and NX70.

Type X Container Flatbed Wagons



Type X6A Container Flatbed Wagon

With the increasing demand for container carriages, specialised container wagons were designed and dubbed Type X. These flatbed wagons only carry containers and are fitted with devices to prevent the container doors from opening accidentally. Here we have the various sub-types of X1, X2, X3, X4 and X6. Note that X2H and X2K are twin-deck container carriers.

Type G Tankers



Type G60K Tanker

The various generations and sub-types of Type G tankers perform all the carriage of liquids on China Railways, including petroleum (the most common freight), lubricant oil, bitumen, organic chemicals, strong acids, strong alkali, liquefied petroleum gas (LPG), food-grade plant oil and even water. Presented here are the various sub-types of G11, G17, G60, G70, GL, GS and GY.

Specialised wagons

Type B Refrigerated Boxcars



Type B15E Refrigerated Boxcar

Various refrigerated boxcars are available in China and they use different cooling methods. Some (such as the B6 and B15E types presented here) are single wagons cooled with an ice/salt mixture; some are single wagons fitted with a generator and refrigeration devices, and others come in sets of five (four freight-carrying cars and one generator car) with a generator car powering the refrigeration devices on the four freight-carrying cars.

Type JSQ Car Carriers



Type JSQ5 Car Carrier

Type JSQ car carriers were developed over various generations to carry cars. Presented here are the Type JSQ5 purpose-designed twin-deck car carrier and Type J5SQ, a twin-deck car carrier converted from Type J5 livestock wagons.

Type K Ore Hoppers



Type K18 Ore Hopper

Type K hoppers were specially designed for the mining industry, with opening doors on the underside for automatic unloading. Presented here are Type K14K and K18 ore hoppers.

Type U Cement Wagons



Type U60 Cement Wagon

Type U wagons were designed to carry powdered cement in bulk and are unloaded using compressed air. Derivatives of the type have been developed to carry other powdered goods such as powdered lime and quartz sand. Here we have the Type U60 cement wagon.

Type W Poisonous Substances Boxcar



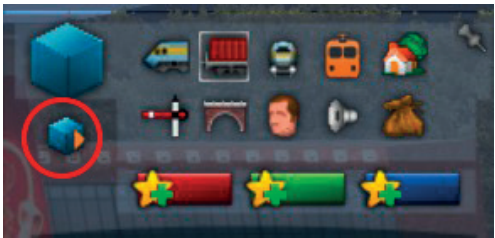
Type W5SK Poisonous Substances Boxcar

Poisonous substance boxcars were originally designed to carry chemicals and insecticides, in order to address the issues of cleaning and contamination encountered in carrying poisonous substances in regular boxcars. These wagons have since been approved for carrying any solid material which is poisonous or radioactive. Presented here is the Type W5SK poisonous substances boxcar.

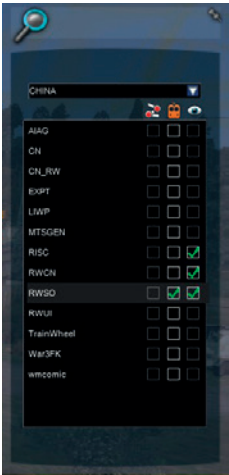
Using the rolling stock in custom scenarios

In order to use the SS7C and the RWSO rolling stock in a custom scenario you are working on, simply enable them in the Object Set Filter:

- 1. Start the Scenario Editor.

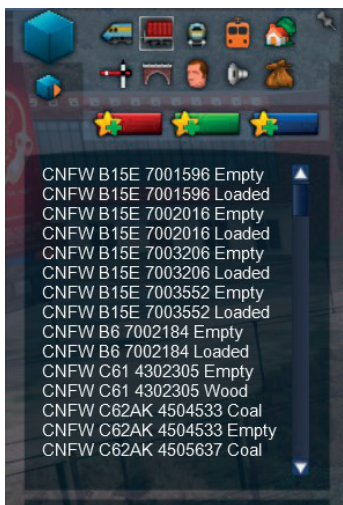


- 2. Open the left middle fly-out panel, and click the small blue cube (circled in the image above) to load the Object Set Filter in the right-hand fly-out panel.



- 3. Open the right-hand fly-out panel, which should now be the Object Set Filter.
- 4. Open the drop-down menu and navigate through the provider list to CHINA.

5. Under the provider CHINA is a list of the add-ons installed, with three columns of checkboxes on the right:
 - a. The leftmost column can be checked to enable an add-on for a route
 - b. The middle column can be checked to enable an add-on for a scenario
 - c. The right column is used to remove objects within an add-on from the browser list (but they are kept visible in the route/scenario).
6. Tick the middle checkbox for the RWSO add-on.
7. The various rolling stock can then be found under the wagons tab of the browser:



- a. Passenger cars have the prefix CNPC, the model name and the wagon number (e.g. CNPC YZ25G 350600)
- b. Freight wagons have the prefix CNFW, the model name and the wagon number (e.g. CNFW C62AK 4504533)

Please note that all freight wagons have two entries each – an Empty and a Loaded variant. This is because empty and loaded freight wagons have different physics simulation parameters, and it is not possible to fully implement this using the game engine's own 'cargo' features.

CHENGYU RAILWAY PART 2

Introduction

To enhance your experience with the SS7C electric locomotive, we have included this bonus content pack featuring the Shi Yan Qiao to Lan Gan Tan segment of the Chengdu to Chongqing (ChengYu) Railway.

Please note that this bonus content pack is adapted from a previous freeware release and is therefore not developed to the same stringent standards as the SS7C locomotive.

Compatibility

This route was created in Train Simulator 2012 (prior to the Train Simulator 2013 update) and is compatible with any copy of Train Simulator 2012 (now Train Simulator 2013) purchased before 20 September 2012, or any copy of Train Simulator purchased after 20 September 2012 **with the European and US Loco & Asset Packs installed.** (Please note: the European Asset Pack is essential, while the US Asset Pack is highly recommended.)

Route information

The Chengdu to Chongqing railway, often called the ChengYu Railway for short, is a 505km railway connecting the cities of Chengdu and Chongqing. It was the first mainline railway built since the foundation of the People's Republic of China.

The ChengYu Railway Part 2 continues where Part 1 (Nei Jiang to Long Chang) left off, and continues on to Lan Gan Tan.

History

The ChengYu Railway has its roots in the Sichuan-Hankou railway, a much grander railway planned by the Qing Dynasty government as early as 1903. Rather than being funded by the state, funds were to be raised from the people living in the regions served by the line, with ownership resting with the locally owned Sichuan-Hankou Railway Company.

Due to insufficient fundraising, however, the Qing government arranged to borrow £6m from a bank consortium formed between Great Britain, the United States, France and Germany, and construction rights were sold as part of the loan conditions. To do this, the Qing government seized ownership of the project, calling it 'nationalisation

of the railways', but the money raised from locals was never refunded. Instead, shares in the national railways were to be issued. This was met with significant opposition and led to the Railway Protection Movement centred in the Sichuan Province.

As part of the Railway Protection Movement, strikes and boycotts were organised, and in September 1911 the Sichuan-Hankou Railway Company passed a shareholder resolution calling the Sichuan public to withhold the payment of taxes to the Qing government. In response, the Governor-General of Sichuan ordered the company to be closed and its leaders arrested. Outraged by this move, protesters marched on the Governor-General's office in Chengdu to demand the release of the company's leaders. In a monumental mistake, the Governor-General ordered troops to open fire on the protesters, killing dozens.

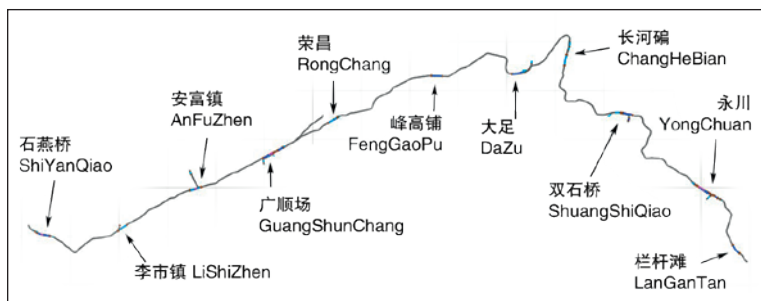
The bloodshed served only to escalate matters and eventually anti-Qing groups organised uprisings, with large armed groups soon overwhelming government authorities in Sichuan. This led to a sequence of events which culminated in the Wuchang Uprising by revolutionaries, leading to many local revolutionary uprisings collectively known as the Xinhai Revolution, which ended with the abdication of Emperor Puyi in February 1912, marking the end of over 2,000 years of imperial rule in China.

The turbulent political events left the Sichuan-Hankou Railway (then nearly two years into construction) more or less abandoned until 1936, when the government of the Republic of China picked up the Chengdu to Chongqing section, naming it the ChengYu Railway (Cheng for Chengdu, and Yu is the short name for Chongqing) and continuing construction on the line. With funding issues and the breakout of the Sino-Japanese War (part of WWII), work stopped again at 14% completion.

In 1950, despite a very tight national budget and political instability (the People's Republic of China having been founded less than a year beforehand), the decision was made to construct the ChengYu Railway. More than 100,000 locals rallied to the cause and joined 30,000 troops in constructing the line. With the use of locally sourced materials, the line was complete in less than two years, with construction starting on 15 June 1950 and finishing on 13 June 1952. The inaugural train was able to travel the full length of the line on 1 July 1952, a date which coincided with the 31st anniversary of the foundation of the Communist Party of China.

The ChengYu Railway saw a variety of traction power, from steam power in its early days to diesel power. With the electrification project completed in late 1987, the vast majority of operations on the line now use electric locomotives.

Stations



1. Shi Yan Qiao
2. Li Shi Zhen
3. An Fu Zhen
4. Guang Shun Chang – with a goods yard and some industrial lines
5. Rong Chang
6. Feng Gao Pu
7. Da Zu
8. Chang He Bian
9. Shuang Shi Qiao
10. Yong Chuan – a major station with many industrial sidings
11. Lan Gan Tan

Rolling stock

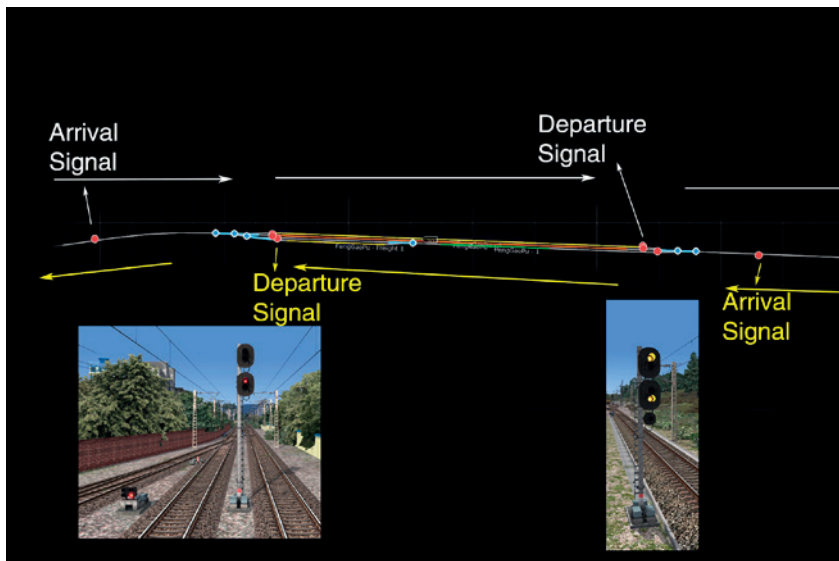
In addition to the RWSO Rolling Stock Pack provided here which includes various passenger coaches and freight wagons found in China, we have also included the SS3 Electric Locomotive which hauls most trains on the real-world Chengdu-Chongqing line at present.

Note that the SS3 Electric Locomotive is only available as an AI locomotive as it does not have a cab model.



Signals

The ChengYu Railway is portrayed here using single line 3-aspect automatic blocking signals – in real life this upgrade (from semi-automatic blocking signals) has been implemented between Chengdu and Neijiang, while the same upgrade for this part of the line is still in the works.



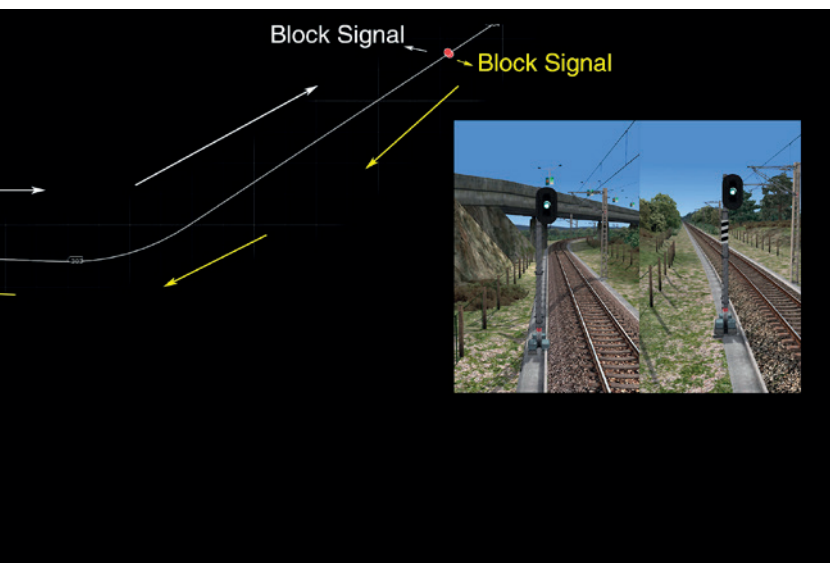
Basics of Chinese signals

The Chinese signalling system works on a by-station basis, with the entry to each station protected by Arrival Signals and the exit protected by Departure Signals. Where Automatic Blocking is used, Block Signals can be found between stations, often around 1-1.5km apart.

Cab signalling is used to continuously inform the driver of the next signal's status so the driver can plan ahead, especially where terrain or buildings prevent the driver from seeing the signal from around a bend. For more details on the 8-aspect cab signal, refer to the locomotive section of the manual.

Within stations, Shunt Signals are also found. These do not apply to mainline trains and are only cleared manually for shunting movements. In Train Simulator this can be requested by pressing [Tab] for the signal in front or [Ctrl]-[Tab] for the signal behind.

Where necessary, Repeater Signals are installed. These are used in and around stations to inform the driver of the main signal's aspect beyond the main signal's visibility (either around a corner, or at long distances for long industrial sidings).



Departure Signals (3-Aspect)



GREEN: Cleared to leave the station – there are at least two open (not occupied) blocks ahead. The next block signal is either green or yellow.

YELLOW: Cleared to leave the station – there is only one open block ahead. The next block signal is red.



RED: It is forbidden to pass this signal – the points have not been set or there is a train ahead.

WHITE: Shunting is allowed.
(The Departure Signals also serve as Shunt Signals, and can be called on as such using [TAB]). Mainline trains must not leave the station on a shunting aspect.

Block Signals (3-Aspect)



GREEN: Proceed at line speed – there are at least two open blocks ahead. The next block signal is either green or yellow.



YELLOW: Caution, reduce speed – there is only one open block ahead. The next block signal is red.



RED: It is forbidden to pass this signal – a train is occupying the block ahead.



OFF (single line only): It is forbidden to pass this signal – the opposite direction is active.

Last Block Signal before an Arrival Signal (3-Aspect)



GREEN: Proceed at line speed – the Arrival Signal (see the following pages) is showing Green or Yellow.



YELLOW: Caution, reduce speed. The Arrival Signal is either showing Double-Yellow or Red.



RED: It is forbidden to pass this signal – a train is occupying the block ahead.



OFF (single line only): It is forbidden to pass this signal – the opposite direction is active.

Arrival Signals (3-Aspect)



GREEN: Proceed at line speed straight through the station. (Note: 'straight through' means no diverging points.)



YELLOW: Proceed straight into the station and stop. (Note: 'straight' means no diverging points.)



DOUBLE YELLOW: Proceed via diverging points into the station.



RED: It is forbidden to pass this signal – the points are not set, or there is a train ahead.



RED + WHITE (call-on – requested using [Tab]): Proceed into the station at no more than 20km/h, watch the points and prepare to stop at any time. Note that the points may not be set and there may be a train occupying the track ahead, so proceed at your own risk, watch the points, and be prepared to stop suddenly.

Shunt Signals



BLUE: Shunting is not allowed – mainline trains should ignore this signal.



RED: Same as Blue, but used instead of Blue at the end of longer industrial lines for better visibility.



WHITE (call-on – requested using [Tab]): Shunting is allowed.

Repeater Signals



OFF: Main Signal is not open.



GREEN: This is a Departure Repeat Signal, and the Departure Signal is open (green or yellow).



WHITE: This is a Shunt Repeat Signal, and the Shunt Signal is open (white).

Pressing [Tab] when facing a Repeat Signal results in the Main Signal's call-on being requested.

Signage

In real life, drivers in China are directed by the on-board computer system known as LKJ-2000, which displays all the information (gradient, speed limit, curvature, bridges/tunnels/level crossings) about the next 4km of track, as well as recording all the parameters of their own train. Thus speed signs are not present beside the track, since up-to-date speed limits and other data are tailored to each train and loaded into the system via IC cards issued to each driver before departure.

Consistent with the real-life practices in China, no speed signs are visible beside the track, but hidden speed signs have been placed so that all appropriate speed limits show up on the HUD, which simulates to a degree the function of LKJ-2000.



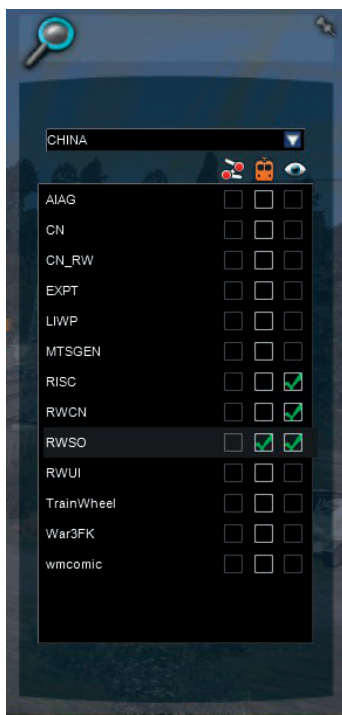
Speed limits displayed on the HUD

Using the ChengYu Part 2 assets in custom routes and scenarios

In order to use any of the ChengYu assets for a custom route or scenario you are working on, simply enable the relevant add-on in the Object Set Filter:

1. Decide whether you'd like to enable the assets for a scenario only, or for a route (which enables all the scenarios in the route to use these assets at the expense of slightly longer loading time).
2. Start the Editor:
 - a. To enable our assets for a scenario only, start the Scenario Editor
 - b. To enable our assets for a route, start the World Editor
3. Open the left middle fly-out panel, and click the small blue cube. This loads the Object Set Filter as the right-hand fly-out panel.
4. Open the right-hand fly-out panel, which should now be the Object Set Filter.
5. Open the drop-down menu and navigate through the provider list to China.

6. Under the provider CHINA is a list of add-ons installed, with three columns of checkboxes on the right:
 - a. The leftmost column can be checked to enable an add-on for a route
 - b. The middle column can be checked to enable an add-on for a scenario
 - c. The right column is used to remove objects within an add-on from the browser list (but they are kept visible in the route/scenario)



7. Tick the relevant checkbox for the add-on you wish to enable
 - a. For custom scenery assets used in the ChengYu 2 route, enable the RWSO and RWCN add-ons (Note that some scenery objects are found under the provider 'Kung' in the 'public' add-on)
 - b. For the SS3 AI locomotive (and the RWSO Rolling Stock pack), enable the RWSO add-on

NOTE: *The included version of RISC Chinese Signals is outdated and due to be replaced, and as such we have only included the necessary objects for the ChengYu 2 route to function; we do not recommend using this version in your routes as the upcoming version will need to be placed differently in the Editor. For this reason we will not be offering support for using these signals in custom routes.*

CREDITS

SS7C electric locomotive, RWSO Rolling Stock Pack and ChengYu 2.0 Route

Development RISC Simulations

The supply and use of the RWSO rolling stock and ChengYu 2 route is kindly permitted by agreement with the developers via RISC Simulations.

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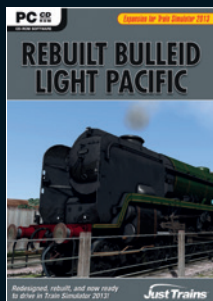
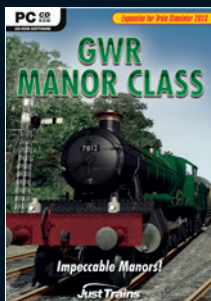
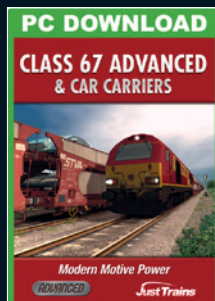
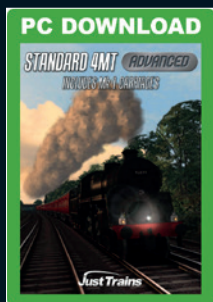
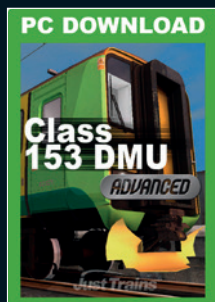
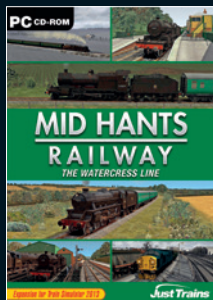
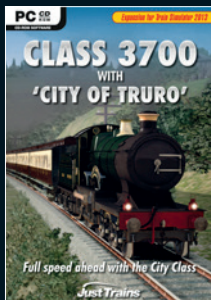
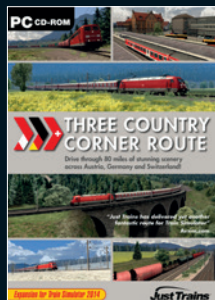
Don't be fooled by a load of old tosh about file 'sharing'. The sites that host these 'shared' files are multi-million dollar operations that cover their backsides with the excuse that they are simply a 'gateway' to the files. In fact, they actively encourage piracy and are often funded by advertising. Most of them are illegal money-laundering operations by another name.

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