

Train Sim World®

CSX Heavy Haul

OPERATOR MANUAL





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Introducing Train Sim World®: CSX Heavy Haul



Train Sim World®: CSX Heavy Haul is an all new First Person Simulator that brings to life the experience of operating powerful and heavy freight trains on one of America's most famous railroads.

Powered by Dovetail Games' new SimuGraph® vehicle dynamics engine and Unreal Engine 4® technology, Train Sim World uses real world data to accurately replicate the performance, sounds and feel of real trains. Master a range of diverse locomotives in a variety of activities from switching in busy yards to commanding heavy trains over steep grades. Catering for players of all ability levels with accessible tutorials for beginners and advanced procedures for experts.

An Introduction to Sand Patch Grade



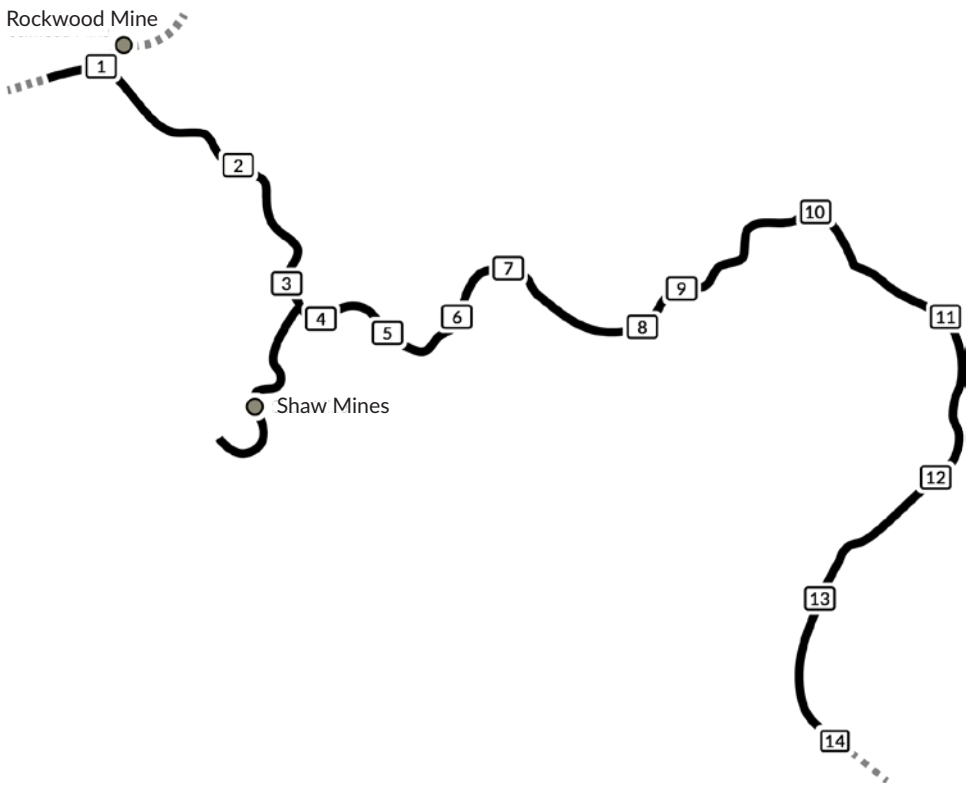
Sand Patch Grade, a vital link in the sprawling 21,000-mile rail system of CSX, crosses the Allegheny Mountains, climbing from Cumberland, Maryland (at an elevation of 627 feet above sea level) to the line's summit at Sand Patch, Pennsylvania (elevation, 2,258 feet), then beginning a westward descent to Rockwood, Pennsylvania (1,837 feet). To climb over the rugged Alleghenies, Sand Patch Grade's tough east slope ascent culminates with a 1.94 percent gradient near Manila, then a plunge through 4,475-foot-long Sand Patch tunnel.

It was the famed Baltimore & Ohio – America's first common-carrier railroad – that fathered Sand Patch, opening the line in the early 1870s as a key route west to Pittsburgh and, eventually, to America's railroad capital of Chicago.

Today, as CSX's Keystone Subdivision, Sand Patch Grade serves as a busy conveyor of diverse freight tonnage, including intermodal traffic, coal, coke, minerals, grain, steel, oil, autos and auto parts, and other manufactured products. Locally-originated coal tonnage is loaded at Rockwood on the adjoining S&C Sub and drawn from the Salisbury Branch. And Sand Patch Grade is also host to Amtrak's daily Washington (D.C.)-Chicago Capitol Limited.

Cumberland, Maryland, at the eastern foot of Sand Patch Grade, is home to a major CSX classification yard and engine terminal facilities.

Sand Patch Grade Route Map & Key Locations



| | | | |
|---|--------------------|----|-------------|
| 1 | Rockwood | 8 | Roddy |
| 2 | Garrett | 9 | Glencoe |
| 3 | Salisbury Junction | 10 | Fairhope |
| 4 | Meyersdale | 11 | Hyndman |
| 5 | Keystone | 12 | Cooks Mills |
| 6 | Sand Patch | 13 | Ellerslie |
| 7 | Mance | 14 | Cumberland |

The Game Modes

Tutorials

From Yard Switching to Refuelling, from Loading Coal to Braking, Tutorials gives you the knowledge you need to get the most from your locomotives and trains via interactive lessons that teach you key concepts. If you're new to Train Sim World, we recommend you start here to learn the fundamentals.



Scenarios

Providing a selection of operations over the Sand Patch Grade route, Scenarios are objective based activities which provides unique experiences. Put your skills to the test mastering the busy Cumberland Yard or challenge your mettle by powering heavy freight over Sand Patch Summit.



Services

Providing a host of activities throughout an entire 24-hour time period, Service Mode is a new way to play. There's always something to do with a large variety of services to take control of or ride along with. Sit back and enjoy the action and capture amazing screenshots, hop on or off and ride along with the various services as they go about their duties or take control and carry out the duties yourself.



Basic Terminology

Long Hood vs Short Hood



On a US Locomotive, the term “Long Hood” refers to the large portion that you might normally consider to be the rear. The “Short Hood” refers to the short portion that you might normally consider to be the front. They are not simply called “Front” and “Rear” because in some cases, US locomotives are the other way around - with the front being the Long Hood. It is therefore important that you understand and use the correct terms to avoid confusion.

Multiple Unit Working / Working in Multiple

Multiple Unit Working or Working in Multiple is a system of operation where two or more locomotives are connected in a train consist and operated from the Lead Locomotive (the locomotive at the front or head end) by a single crew. Locomotives working in multiple may be all at one end of the train, split throughout the train or at the front and rear of the consist.

In most cases, Multiple Unit Working means that you can distribute the hauling load between the multiple locomotives in the consist allowing for greater tractive effort overall and therefore, greater pulling and stopping power.

An Introduction to the EMD GP38-2

The Electro-Motive “Geep” first appeared on the North American railroad scene in 1949, in the form of the classic GP7. Over the following decades, more than 20 different variations of iconic “Geeps” were produced by Electro-Motive, and among the most successful and versatile of this landmark line of locomotives has been the GP38-2.

Produced between 1972 and 1986, the 16-cylinder, 2,000-horsepower, four-axle (B-B) GP38-2 garnered 2,222 sales to more than 60 original buyers. Like the SD40-2, the GP38-2 was ending production at the same time today’s CSX was being formed, but nonetheless CSX became a major operator of the type by inheriting the GP38-2 fleets of four predecessor roads. The venerable and versatile GP38-2 carries on today as a key locomotive in CSX’s modern-day locomotive fleet and, in fact, is having its life extended via the railroad’s rebuilding programs.



Starting the EMD GP38-2 Locomotive

1. Set the **Handbrake**, you'll find the handbrake wheel or lever at the short hood end of the locomotive
2. Enter the cab and open the fuse box
3. Check that the main breaker and all fuses are switched to the on position and close the fuse box door
4. Above the fuse box, set the **Start/Run Switch** to the Start position
5. Turn on the **Engine Room Light**, **Platform Lights** and **Cab Light** if required
6. Ensure the **Reverser** and **Throttle** at neutral positions
7. Proceed to the long hood end of the locomotive and open the **Latch** (upper right of the engine room door) and then the **Engine Room Doors**
8. Move and hold the **Prime/Start Switch** to the **LEFT (Prime)** for 5 seconds
9. Release the **Prime/Start Switch** and then move it to the **RIGHT (Start)** momentarily to trigger the engine start
10. Await the engine start to compete
11. Close the **Engine Room Doors** (note they must be closed in the right order!)
12. Return to the cab and set the **Start/Run Switch** to the Run position
13. Turn off the **Engine Lights** if you turned it on
14. Turn on the **Number Lights** as appropriate
15. Sit in the engineer's seat
16. At the top right of the main control stand (your left), you will see three switches labelled **Engine Run**, **Field Generator** and **Control & Fuel Pump**, set all three switches to the on position (or upward)
17. Turn on the **Ditch Lights**, **Gauge Lights** and set **Headlights** to bright
18. Check the brake stand and ensure the **Cut-Off Valve** is set to **Freight**
19. Check the **MU-2A Valve** and ensure it is set to **Lead or Dead**

A cold and dark locomotive starts with no air in the brake pipe, so this must now be pressurised.

1. Leaving the **Reverser** in neutral, move the **Throttle** to **Notch 1**. You will hear the engine rev up and on the left-hand gauge of the two brake gauges, you should see the red needle (denoting the Main Reservoir pressure) rising, and on the right-hand gauge, the red needle (denoting the Brake Cylinder pressure) also rising as the air is immediately fed into the locomotive's brake system. Wait for the Main Reservoir to reach 140psi.
2. Check that the **Independent Brake** is set to its maximum setting (full on).
3. Release the **Automatic Brake**, you should now see the white needle in the left-hand gauge (denoting the Equalising Reservoir pressure) rise, and the white needle in the right-hand gauge (denoting the Brake Pipe pressure) rise behind it. Once both of these needles reach 90psi, the air brake system is ready for service.
4. Move the Throttle back to **Notch 0**.
5. Step out to the front of the locomotive and release the **Handbrake**.

The locomotive is now ready for operation by setting the **Reverser** to your intended direction of travel. All you need to do now is release the **Independent Brake** and apply throttle as required.

Setting up the EMD GP38-2 for Multiple Unit Working

As MU Lead

Ensure the locomotives have been fully set up as per the EMD GP38-2 start-up instructions if required. Once the locomotives are operational then you can set them up for Multiple Unit working.

The start-up instructions will set the locomotive up to be suitable for leading a consist or being the sole locomotive in a consist.

The key settings to be aware of, should you need to change a locomotive from trailing back to lead are as shown below.

These three switches enable the power controllers (e.g. Throttle) to work:

| | |
|---------------------------------|----|
| Engine Run: | ON |
| Generator Field: | ON |
| Control & Fuel Pump: | ON |

These three valves control whether the brake handles operate the brakes on the train:

| | |
|-----------------------------|---------------|
| Brake Cut-off Valve: | FREIGHT |
| MU-2A Valve: | LEAD OR TRAIL |

As MU Trail

When setting up the EMD GP38-2 in a non-lead position you have several options depending on which role you want it to play in the consist:

No Power, No brakes or "Dead in Tow"

This is useful if you are towing a completely cold and dark locomotive. In this instance, set the control stand up as follows:

| | |
|---------------------------------|----|
| Engine Run: | ON |
| Generator Field: | ON |
| Control & Fuel Pump: | ON |

| | |
|-----------------------------|---------------|
| Brake Cut-off Valve: | FREIGHT |
| MU-2A Valve: | LEAD OR TRAIL |

Note: If the locomotive engine is not started then the first three switches are not important. However, if the engine is running and you just want it to sit in idle, then

setting them to ON means they will ignore all signals from the lead locomotive and remain in idle.

No Power, Full Brakes

| | |
|---------------------------------|----|
| Engine Run: | ON |
| Generator Field: | ON |
| Control & Fuel Pump: | ON |

| | |
|-----------------------------|---------------|
| Brake Cut-off Valve: | CUT-OUT |
| MU-2A Valve: | TRAIL 6 OR 26 |

In this configuration, the power controls in the locomotive have control over the engine so the lead unit will not be able to operate it remotely. This will mean that it remains at idle and does not contribute any power to the consist. The brake settings cut out the brake handle and set it up to be driven by a connected unit in the "Lead or Trail" configuration (which your lead unit should be set to). This means the locomotive will supply additional brake force to your train.

Power and Full Brakes

| | |
|---------------------------------|-----|
| Engine Run: | OFF |
| Generator Field: | OFF |
| Control & Fuel Pump: | OFF |

| | |
|-----------------------------|---------------|
| Brake Cut-off Valve: | CUT-OUT |
| MU-2A Valve: | TRAIL 6 OR 26 |

In this configuration, we disable the control stand for the power controls which will allow the lead unit to have full control over the power on this locomotive. As the lead unit applies throttle positions so the internal electronics of this locomotive's stand will do the same. Brakes are also set up to be managed by the lead unit.

Distributed Power

When you have a consist set up with locomotives that are not directly connected, such as when you have a locomotive set at the front and another set at the rear. This requires a slightly different configuration to ensure that all locomotives function correctly in the consist. The Radio is therefore used to operate the rear locomotive.

If you have an example consist with a pair of EMD GP38-2s at the front and a pair of EMD GP38-2s at the rear, you would need to set up as follows:

Front Pair

| | |
|-----------------------|--|
| Lead Unit: | Set up as Lead and ensure the radio fuse is on |
| Trailing Unit: | Set up as Trail |

Rear Pair

| | |
|-----------------------|--|
| Lead Unit: | Set up as Lead and ensure the radio fuse is on |
| Trailing Unit: | Set up as Trail |

In this configuration when the engineer makes a throttle or brake change on the front pair lead unit, the front trailing unit will respond because it is physically connected. At the same time, a radio message is sent (this is not audible to the player) which the rear pair lead unit will react to and will follow the same settings. This will then be automatically reflected on the rear pair trailing unit through its direct connection. This system is intended to mimic the behaviour of a second engineer in the rear pair leading unit that is following the actions of the lead engineer.

When set up in this way, the engineer at the front of the train has full control over all four locomotives simultaneously.

Setting up the EMD GP38-2 Multiple Unit Lighting Controls

The EMD GP38-2 has a switch on the wall behind the engineer's seat that has four settings. These allow you to set up the way the headlights will work on the other locomotives in the consist.



Single Unit or Intermediate Unit

In this setting, the locomotive will not react to headlight instructions coming from other locomotives in the consist. The headlights, if required, must be set up using the normal switches on the control stand.

Controlling with Unit Coupled at Long Hood End

Use this setting if this locomotive is the controlling unit for the lighting configuration (usually this would be the lead locomotive), and the next unit in the consist is coupled to this locomotive's long hood end.

Controlling with Unit Coupled at Short Hood End

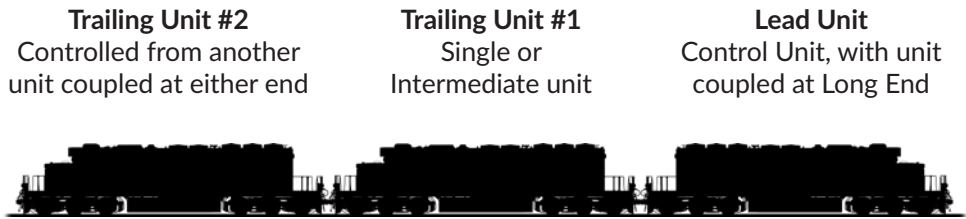
Use this setting if this locomotive is the controlling unit for the lighting configuration (usually this would be the lead locomotive), and the next unit in the consist is coupled to this locomotive's short hood end.

Controller from Another Unit Coupled at Either End

If this unit should respond to lighting commands from a controlling unit then use this setting.

When the lighting is set up correctly, this means that the engineer can use the front and rear headlight controls on their lead locomotive control stand and it will correctly operate the lights on the locomotives in the consist.

Example



In this example, the light switches are set up as described in this three locomotive consist.

Once done, the engineer can sit in the lead unit and if he operates the front light switch, the lead unit lights will come on as expected. If he operates the rear locomotive light switch, rather than the lights on the rear of the lead unit coming on, the lights on the short hood of Trailing Unit #2 will come on remotely.

An Introduction to the EMD SD40-2

The 3,000-horsepower, six-axle (C-C) SD40-2, as part of Electro-Motive’s “Dash 2” line, made its debut in 1972. Through 1986, Electro-Motive produced nearly 4,000 SD40-2s, making the locomotive one of the most successful diesel locomotives of all time.

Powered by EMD’s reliable two-cycle, 645-series diesel power plant, and well-suited to virtually any type of mainline service, from fast intermodal duty to lugging heavy coal tonnage, the SD40-2 was purchased by more than 30 railroads, including giants Burlington Northern, Union Pacific, and CP Rail. During the time the SD40-2 was in production, CSX did not yet exist, but CSX’s predecessors were active buyers. Thus, with the creation of CSX in 1986 and its acquisition of half of Conrail in 1999, CSX came to own more than 300 SD40-2s. Today, the venerable EMD SD40-2 remains a front-line locomotive for CSX, found across its system (and frequently on Sand Patch Grade) handling duties ranging from heavy haul to totting priority auto traffic.



Starting the EMD SD40-2 Locomotive

1. Set the **Handbrake**, you'll find the handbrake wheel or lever at the short hood end of the locomotive.
2. Enter the cab and open the fuse box
3. Check that the main breaker and all fuses are switched to the on position and close the fuse box door.
4. Above the fuse box, set the **Start/Run Switch** to the Start position
5. Turn on the **Engine Room Light, Platform Lights** and **Cab Light** if required
6. Ensure the Reverser and Throttle at neutral positions
7. Proceed to the long hood end of the locomotive and open the **Latch** (upper right of the engine room door) and then the **Engine Room Doors**
8. Move and hold the **Prime/Start Switch** to the **LEFT (Prime)** for 5 seconds
9. Release the **Prime/Start Switch** and then move it to the **RIGHT (Start)** momentarily to trigger the engine start
10. Await the engine start to complete
11. Close the **Engine Room Doors** (note they must be closed in the right order!)
12. Return to the cab and set the **Start/Run Switch** to the **Run** position
13. Turn off the **Engine Lights** if you turned it on
14. Turn on the **Number Lights** as appropriate
15. Sit in the engineer's seat
16. At the top right of the main control stand (your left), you will see three switches labelled **Engine Run, Field Generator** and **Control & Fuel Pump**, set all three switches to the on position (or upward)
17. Turn on the **Ditch Lights, Gauge Lights** and set **Headlights** to bright
18. Check the brake stand and ensure the **Cut-Off Valve** is set to **Freight**
19. Check the **MU-2A Valve** and ensure it is set to **Lead or Dead**

A cold and dark locomotive starts with no air in the brake pipe, so this must now be pressurised.

1. Leaving the Reverser in neutral, move the **Throttle** to **Notch 1**. You will hear the engine rev up and on the left-hand gauge of the two brake gauges, you should see the red needle (denoting the Main Reservoir pressure) rising, and on the right-hand gauge, the red needle (denoting the Brake Cylinder pressure) also rising as the air is immediately fed into the locomotive's brake system. Wait for the Main Reservoir to reach 140psi.
2. Check that the **Independent Brake** is set to its maximum setting (full on).
3. Release the **Automatic Brake**, you should now see the white needle in the left-hand gauge (denoting the Equalising Reservoir pressure) rise, and the white needle in the right-hand gauge (denoting the Brake Pipe pressure) rise behind it. Once both of these needles reach 90psi, the air brake system is ready for service.
4. Move the **Throttle** back to **Notch 0**.

5. Step out to the front of the locomotive and release the **Handbrake**.

The locomotive is now ready for operation by setting the **Reverser** to your intended direction of travel. All you need to do now is release the **Independent Brake** and apply throttle as required.

Setting up the EMD SD40-2 for Multiple Unit Working

As MU Lead

Ensure the locomotives have been fully set up as per the EMD SD40-2 start-up instructions if required. Once the locomotives are operational then you can set them up for Multiple Unit working.

The start-up instructions will set the locomotive up to be suitable for leading a consist or being the sole locomotive in a consist.

The key settings to be aware of, should you need to change a locomotive from trailing back to lead are as shown below.

These three switches enable the power controllers (e.g. Throttle) to work:

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When setting up the EMD SD40-2 in a non-lead position you have several options depending on which role you want it to play in the consist:

No Power, No brakes or "Dead in Tow"

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***Note:** If the locomotive engine is not started then the first three switches are not*

important. However, if the engine is running and you just want it to sit in idle, then setting them to ON means they will ignore all signals from the lead locomotive and remain in idle.

No Power, Full Brakes

| | |
|---------------------------------|----|
| Engine Run: | ON |
| Generator Field: | ON |
| Control & Fuel Pump: | ON |

| | |
|-----------------------------|---------------|
| Brake Cut-off Valve: | CUT-OUT |
| MU-2A Valve: | TRAIL 6 OR 26 |

In this configuration, the power controls in the locomotive have control over the engine so the lead unit will not be able to operate it remotely. This will mean that it remains at idle and does not contribute any power to the consist. The brake settings cut out the brake handle and set it up to be driven by a connected unit in the "Lead or Trail" configuration (which your lead unit should be set to). This means the locomotive will supply additional brake force to your train.

Power and Full Brakes

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If you have an example consist with a pair of EMD SD40-2s at the front and a pair of EMD SD40-2s at the rear, you would need to set up as follows:

Front Pair

Lead Unit: Set up as Lead and ensure the radio fuse is on
Trailing Unit: Set up as Trail

Rear Pair

Lead Unit: Set up as Lead and ensure the radio fuse is on
Trailing Unit: Set up as Trail

In this configuration when the engineer makes a throttle or brake change on the front pair lead unit, the front trailing unit will respond because it is physically connected. At the same time, a radio message is sent (this is not audible to the player) which the rear pair lead unit will react to and will follow the same settings. This will then be automatically reflected on the rear pair trailing unit through its direct connection. This system is intended to mimic the behaviour of a second engineer in the rear pair leading unit that is following the actions of the lead engineer.

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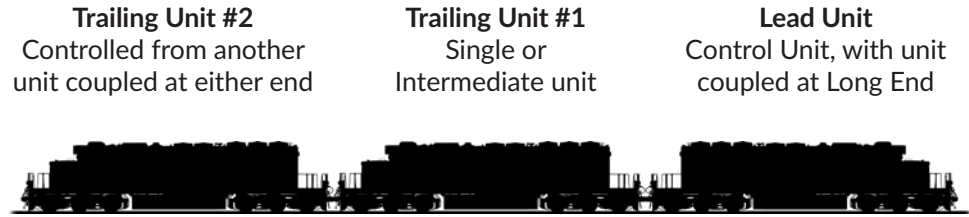
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Controller from Another Unit Coupled at Either End

If this unit should respond to lighting commands from a controlling unit then use this setting.

When the lighting is set up correctly, this means that the engineer can use the front and rear headlight controls on their lead locomotive control stand and it will correctly operate the lights on the locomotives in the consist.

Example



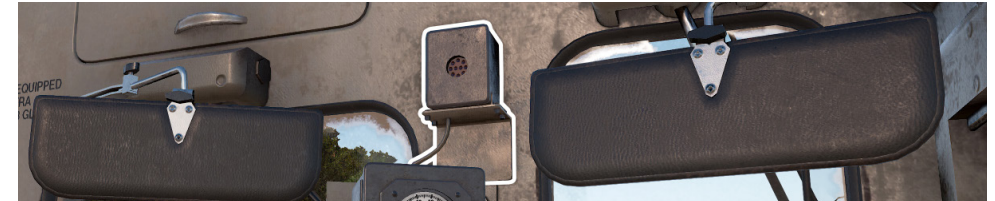
In this example, the light switches are set up as described in this three locomotive consist.

Once done, the engineer can sit in the led unit and if he operates the front light switch, the lead unit lights will come on as expected. If he operates the rear locomotive light switch, rather than the lights on the rear of the lead unit coming on, the lights on the short hood of Trailing Unit #2 will come on remotely.

Operating the Alerter on the EMD SD40-2 & EMD GP38-2

The Alerter is a simple system that is designed to require the engineer to respond to an alarm at regular intervals to ensure they are still in control of the locomotive. Failure to respond in a timely manner will cause the locomotive to cut power and apply full brakes and bring the train to a stop.

By default, in Train Sim World: CSX Heavy Haul, the Alerter is disabled. To enable it either press **CTRL + NUMPAD ENTER** on your keyboard or open the fuse cabinet and turn the "Warning Devices" fuse on.



When the alerter is enabled, if you are travelling at over 5mph it will begin a countdown from 65 seconds (there is no visual representation for this). Once that countdown reaches zero it will make a sound in the cab and turn an indicator on. On the HUD, you will also see the Alerter icon light up.

Once this has happened you have 5 seconds to respond before the control system takes over and stops the train.

To acknowledge the alerter press the Acknowledge button on the control stand, the Q key on your keyboard or the B button on your Xbox controller. Any time you move any of the primary controls such as throttle, brake, reverser or operate the horn etc. the timer will also reset, so while you're actively controlling the locomotive you will likely not hear any alarms from the alerter at all.

If you fail to respond in a timely manner to the alerter, the brakes will apply and bring the train to a stop. After the brakes have been applied you will need to wait for the train to stop and then perform the PCS reset procedure (next page) before you can proceed again.

On the EMD GP38-2 the process and procedure is identical, but the in-cab alarm looks very slightly different, combining the alerter indicator with other indicators.



Resetting PCS Application on the EMD GP38-2 & EMD SD40-2

When the Pneumatic Control Switch (or PCS) is open, the train brakes cannot be released and the throttle controls are deactivated. To operate your train again you must reset the PCS.

You can tell if it is activated by looking for the PCS OPEN light being illuminated:



Once the train has come to a complete stop, follow these steps:

If there is an alarm such as the Alerter sounding, acknowledge it (Q Key, B button on your controller).

1. Set the **Throttle** to **Idle**
2. Set the **Reverser** to **Neutral**
3. Set the **Independent Brake** to **Full Service**
4. Set the **Automatic Brake** to **Emergency**
5. **Wait for 60 seconds**
6. Release the **Automatic Brake** and wait for the Equalising Reservoir/ Brake Pipe to return to 90psi

While the **Automatic Brake** is releasing, you will need to put the **Throttle** in to **Notch 1** so that the compressor can recharge the Main Reservoir.

Once the Equalising Reservoir and Brake Pipe needles have returned to 90psi, and the main reservoir has recharged to 140psi, put the **Throttle** back to **Idle**.

You should now be able to release the Independent Brake, set the Reverser and apply Throttle.

An Introduction to the GE AC4400CW

The benchmark for modern railroad freight motive power in North America today is 4,000+ horsepower, A.C. traction, and six axles – and it was largely the landmark General Electric AC4400CW, introduced in 1993, that helped establish that standard.

Constructed at General Electric's Erie (Pennsylvania) manufacturing facility and powered by GE's efficient and proven 16-cylinder, four-cycle FDL-series power plant, the 4,400-horsepower AC4400CW quickly became a successful railroad workhorse nationwide, with more than 2,500 units produced through 2004. Among the largest users of the AC4400CW is CSX, which operates a fleet of more than 600 of the powerful locomotives system-wide. Put to work in all types of mainline service, the big GE diesels, which weigh in at over 400,000 pounds, regularly can be seen hauling tonnage over the Alleghenies and across famed Sand Patch Grade.



Starting the GE AC4400CW Locomotive

1. Ensure the **Handbrake** is set on the left at the long hood end of the locomotive
2. Enter the cab and set the **Start/Run Switch** to the **Start** position
3. Press the **Engine Start** button and await the engine start to complete
4. Move the **Start/Run Switch** to the **Run** position
5. Turn on the **Front Number Lights**
6. Sit in the engineer's seat
7. Press the **Left Arrow Key** on your Keyboard once to focus on the engineer's **Primary IFD**
8. Press "1" on the IFD keypad to select the Air Brake Setup screen
9. The correct settings are:

| | |
|---------------------------|---|
| Feed Valve: | 90psi (use F1/F2 on the IFD Keypad to adjust if needed) |
| Auto Brake: | Cut in (use F3 on the IFD Keypad to toggle if needed) |
| Independent Brake: | Lead (Use F4 on the IFD Keypad to toggle if needed) |

10. If you made any changes, press F6 on the IFD Keypad to make those changes active
11. Press F8 on the IFD Keypad to come out of the Air Brake Setup screen
12. Press the **Left Arrow Key** on your Keyboard **twice** more to get to a switch panel down by the left of the engineer's leg
13. Set the three switches labelled **Engine Run**, **Gen Field** and **Control** to the on position (or upward)
14. Turn on the **Gauge Lights**
15. Press the **Right Arrow Key** on your keyboard **three** times to return to the main engineer's camera view
16. Ensure the main reservoir is reading 140psi on the engineer's IFD
17. Ensure the **Independent Brake** is applied fully
18. Release the **Automatic Brake** and wait for the BP (Brake Pipe) and ER (Equalising Reservoir) to fully pressurise to 90psi.
19. Ensure that the BC (Brake Cylinder) is reading at least 50psi, if it is below this, the brakes are not properly on and you should check the **Automatic Brake** handle position.
20. Move again to the long hood end of the locomotive and release the **Handbrake**
21. Return to the cab and set the Headlights to **Bright Aux**

The locomotive is now ready for operation by setting the **Reverser** to your intended direction of travel. All you need to do now is release the **Independent Brake** and apply throttle as required.

Setting up the GE AC4400CW for Multiple Unit Working

The same rules and settings apply to the GE AC4400CW as for the EMD SD40-2 and EMD GP38-2.

For the brake configuration, you should use the 1 key on the engineer's IFD Keypad to select the Air Brake Setup screen and select the appropriate setup. Once complete, press the F6 key to save the changes.

The Engine Run, Gen Field and Control switches perform the same tasks as on the EMD SD40-2 and must be set up following the same rules as the EMD SD40-2 on each locomotive in the consist.

Setting up the GE AC4400CW Multiple Unit Lighting Controls

The GE AC4400CW has slightly different controls to the EMD SD40-2 and EMD GP38-2, with a five-position switch on the wall behind the engineer's seated position.



If this unit is a lead unit, then set it to either;

Short Hood Lead

If the short hood of the locomotive is outward facing and should have its lights operated.

Long Hood Lead

If the long hood of the locomotive is outward facing and should have its lights operated.

If this unit is trailing, then set it to either:

Short Hood Trail

If the short hood of the locomotive is outward facing and should have its lights operated.

Long Hood Trail

If the long hood of the locomotive is outward facing and should have its lights operated.

Otherwise, if the unit is on its own or in the middle of a consist, set it to Single or Middle unit.

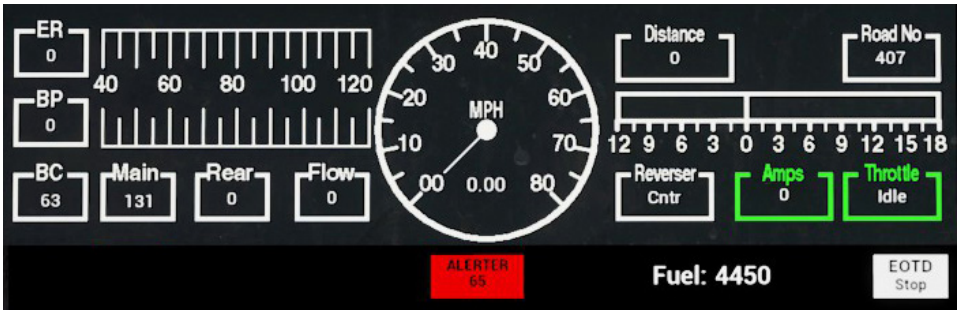
In the EMD SD40-2 and EMD GP38-2 examples, if those locomotives were replaced with GE AC4400CWs then they would be defined as follows:

| | |
|--------------------------|-----------------------|
| Lead Unit: | Short Hood Lead |
| Trailing Unit #1: | Single or Middle Unit |
| Trailing Unit #2: | Short Hood Trail |

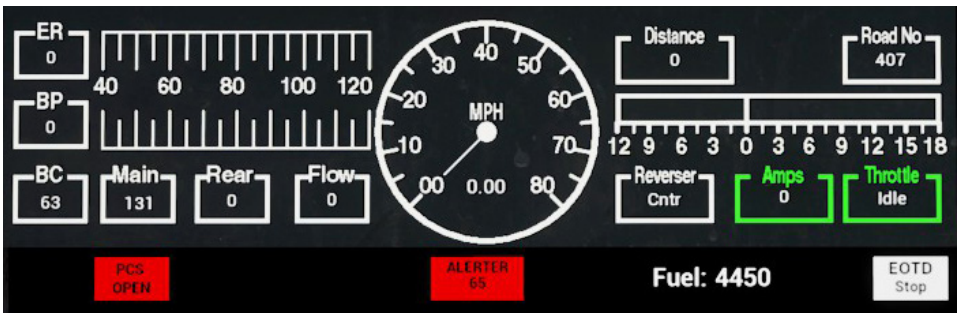
Operating the Alerter on the GE AC4400CW

In the GE AC4400CW there is no in-cab interactive way to enable or disable the alerter, it is disabled by default. To enable or disable it, press **CTRL + NUMPAD ENTER**.

Once enabled, an additional indicator shows up on the standard IFD screen:



This indicator shows “ALERTER 65”. The 65 is the countdown timer so that you can always see it, if you are travelling over 5mph then this will begin to count down and once it gets to 5 the alerter will sound and must be responded to by pressing the Acknowledge button on the desk, the Q key on your keyboard or the B button on your Xbox controller before the counter finally reaches zero.

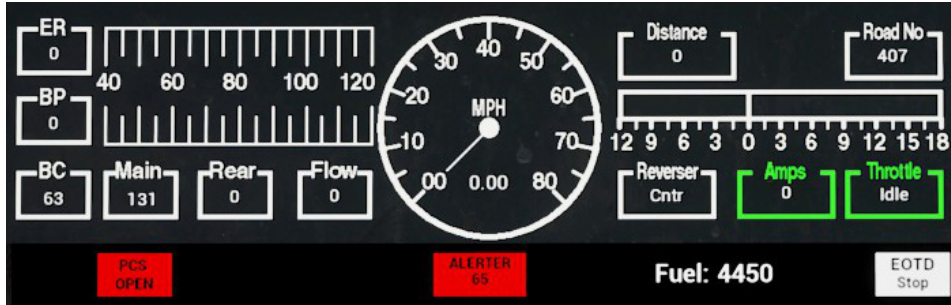


Once the emergency brake has applied and the “PCS OPEN” indicator is showing you will need to let the train stop and then follow the PCS Reset procedure for the AC4400CW to continue. This is detailed in a following section of this document.

Resetting PCS Application on the GE AC4400CW

When the Pneumatic Control Switch (or PCS) is open, the train brakes cannot be released and the throttle controls are deactivated. To operate your train again you must reset the PCS.

You can tell if it is activated by looking for the PCS OPEN indicator being present on the engineer's IFD:



Once the train has come to a complete stop, follow these steps:

If there is an alarm such as the Alerter sounding, acknowledge it (Q Key, B button on controller).

1. Set the Throttle to Idle
2. Set the Reverser to Neutral
3. Set the Independent Brake to Full Service
4. Set the Automatic Brake to Emergency
5. Wait for 60 seconds
6. Release the Automatic Brake and wait for the Equalising Reservoir / Brake Pipe to return to 90psi

Important Note: The Compressor on the AC4400CW is computer controlled and will activate automatically to maintain the pressure in the Main Reservoir, unlike on the older EMD SD40-2 and EMD GP38-2 locomotives.

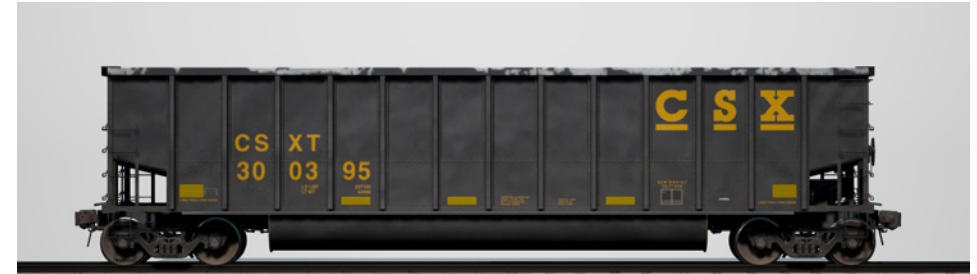
Once the Equalising Reservoir and Brake Pipe needles have returned to 90psi, and the main reservoir has recharged to 140psi, put the throttle back to Idle.

You should now be able to release the **Independent Brake**, set the **Reverser** and apply **Throttle**.

Included Rolling Stock

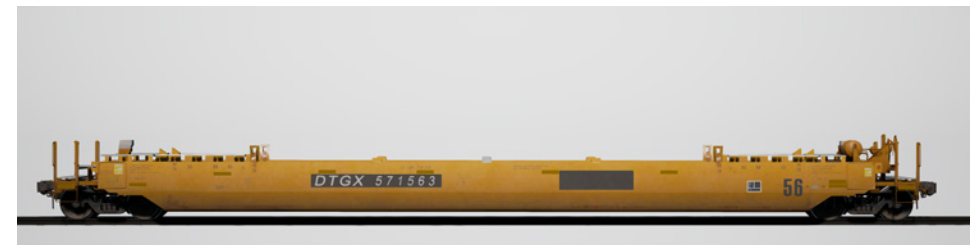
Sand Patch Grade is a busy steel artery that helps transport millions of tons of freight per year – and Train Sim World: CSX Heavy Haul features six types of contemporary freight equipment regularly operated on the route to tote a wide variety of tonnage and commodities.

BethGon II® Coal Gondola



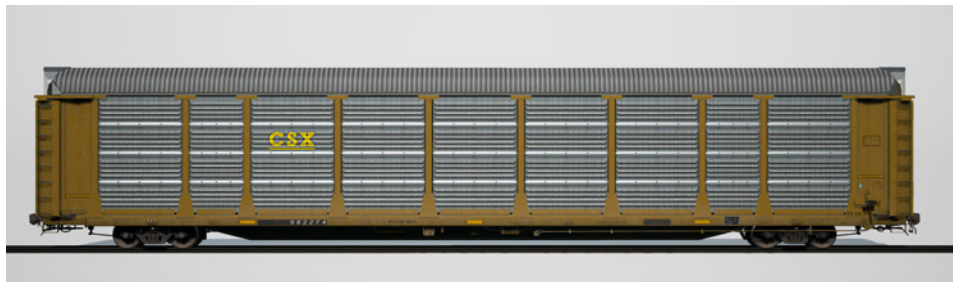
Over its history, nothing has been more synonymous with Sand Patch Grade than hauling coal tonnage. In 1986, Johnstown America (now FreightCar America) introduced the aluminum-bodied BethGon tub gondola which quickly became a standard for coal-hauling across much of North America. In 2001, the enhanced BethGon II was introduced and by 2006, more than 100,000 aluminum-bodied cars had been constructed. CSX operates an expansive fleet of tub gons which feature maximum operating weights up to 286,000 pounds.

Husky Stack® 53-foot Container Car



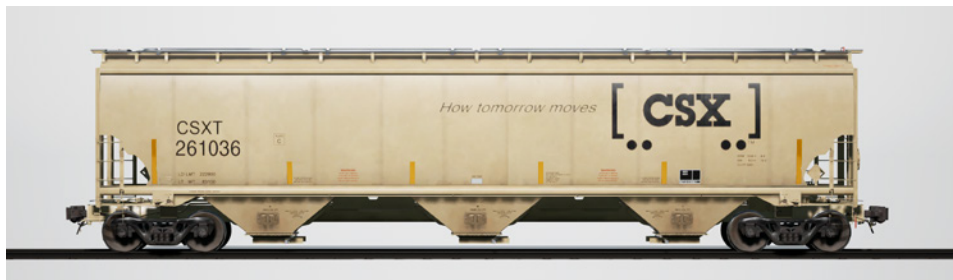
Perhaps nothing is more representative of today's golden age of American freight railroading – nor more impressive – than a mile-long, towering intermodal stack train. First introduced in the late 1970s, stack cars have grown progressively longer and heavier and have been built in a variety of configurations. The 53-foot-well Husky Stack built by the Greenbrier Companies is a high-capacity, single-unit well car that carries containers ranging from 20- to 53-feet long in its well and can hold containers from 40- to 53-feet long in the top position.

89-foot Bi-Level Auto Rack



Beginning in the 1960s, auto racks helped the railroads recapture a lion's share of the transportation of new automobiles and the massive cars soon became a staple of American freight railroading. Originally open-sided, the auto racks have evolved into fully enclosed cars (to protect their contents) that stretch 89-feet in length and have been constructed in bi-level, tri-level, and convertible variants by a number of car builders. A CSX Bi-Level auto rack as constructed by TrinityRail will soon be in service on the Train Sim World Sand Patch Grade route.

5201-Cubic-Foot Covered Hopper



Covered hoppers made their first appearance on U. S. railroads in the early 1930s and have evolved into a primary workhorse of contemporary railroading. Today, in various sizes and configurations, covered hoppers carry everything from sand and cement to potash, grain, corn, and many other bulk commodities. As constructed by TrinityRail, the 5201-cubic-foot covered hopper is versatile car especially suited to carting agricultural products and dry chemicals.

30,500-Gallon Tank Car



Much like covered hoppers for dry commodities, tank cars represent a fundamental type of railroad equipment today for moving a diverse range of liquid loadings. In various sizes and in pressurized, non-pressurized, and insulated variants, tank cars carry contents ranging from crude oil to chemicals to food products. As constructed by the Greenbrier Companies and other manufacturers, the 30,500-gallon tank car is representative of a general-purpose tank car and often carries ethanol and similar liquid commodities.

50-foot Plate C Boxcar



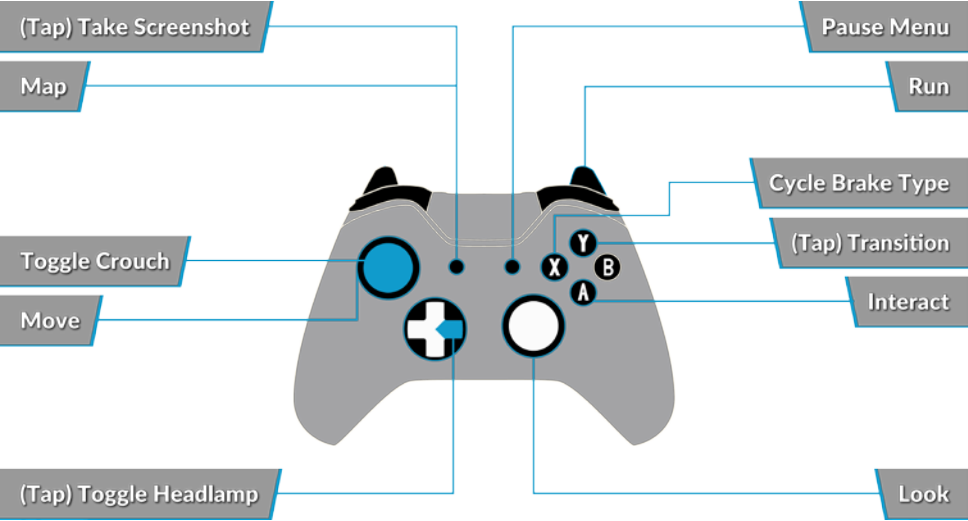
During the first century of American railroading, the boxcar was railroading's maid-of-all-work, carrying anything from LCL (less-than-carload) traffic to lumber and manufactured products and grain. Specialized rail equipment began replacing the ubiquitous boxcar as early as the 1960s, but through the decades, the boxcar has remained an important part of the railroad scene. Through railroading's long history, boxcars have ranged from the tiny wooden cars of the 19th century all the way to 86-foot-long auto-parts-carrying giants. Among the most common type of boxcar in service since the 1970s has been the "Plate C" 50-foot boxcar, which has been constructed by numerous manufacturers, and a versatile 50-footer in CSX livery will be included with the Sand Patch Grade route.

Controls / Input Devices

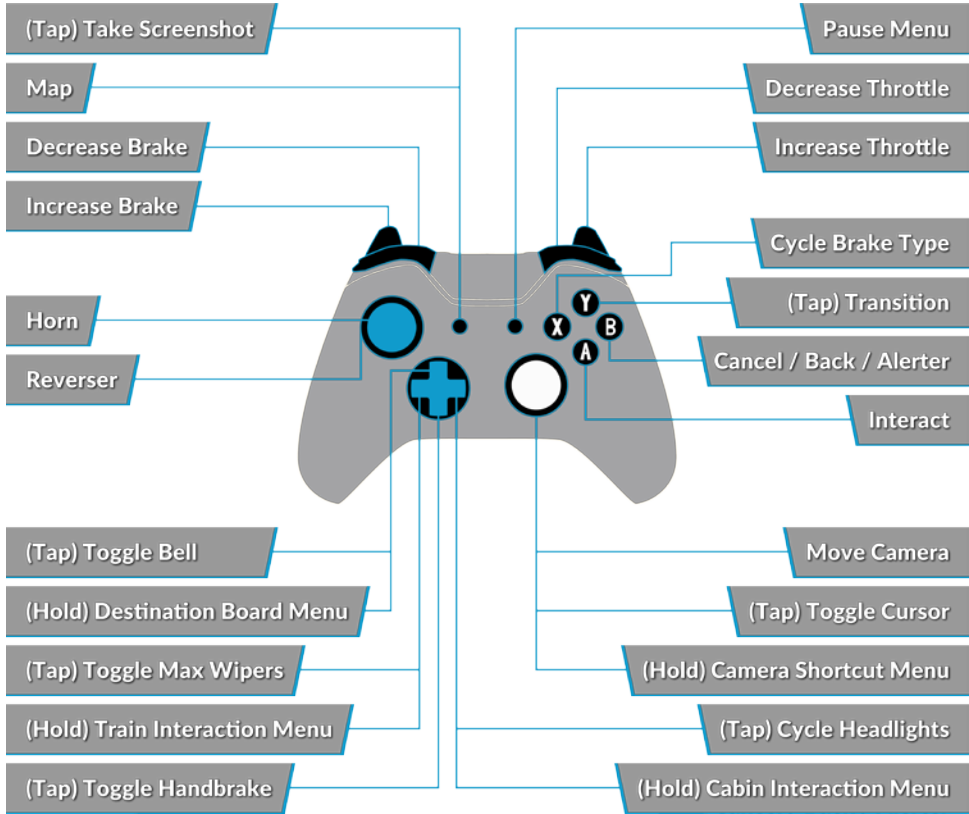
Input devices like the controller and keyboard take on different functions depending on what you are doing.

| Mode | Notes |
|---------------------------|--|
| First Person | When walking around the world in first person, this is the mode that is active. |
| Diesel Locomotive Driving | While you are sat at the controls of a diesel locomotive, this is the mode that is active. |
| External Camera | If you are driving a locomotive and opt to move to an external view camera, the system will behave in this mode. |

Controller - First Person Mode



Controller - Diesel Locomotive Mode



Keyboard - First Person Mode

| | |
|------------------|---|
| W/A/S/D | Walk forwards, Backwards, strafe left and right |
| C | Crouch |
| E | Interact with ladder, stairs etc. |
| L | Toggle headlamp/torch |
| Shift | Run |
| Mouse move | Turn, look up/down |
| Mouse left click | Interact |

Keyboard - Diesel Locomotive Mode

| | |
|---------|-----------------------------------|
| W/S | Reverser forwards, backwards |
| A/D | Throttle increase, decrease |
| Q | Alerter Reset |
| ; / ' | Autobrake Release / Apply |
| [/] | Independant Brake Release / Apply |
| < / > | Dynamic Brake Release / Apply |
| H | Headlight sequence forwards |
| Shift-H | Headlight sequence backwards |
| X | Toggle Lead Axle Sander |
| V | Increase wiper speed |
| Shift-V | Decrease Wiper Speed |
| Space | Horn |
| B | Toggle Bell |
| K | Toggle Step/Platform lights |
| I | Toggle instrument lights |
| E | Stand up from seat |
| J | Ditch Lights |
| ESC / P | Pause |

Camera Keys while Driving

| | |
|---|------------------------------|
| 1 | Cab Camera |
| 2 | External Front Follow Camera |
| 3 | External Rear Follow Camera |
| 8 | Free Roaming Camera |

Keyboard - External Follow and Free Roam Camera Mode

| | |
|-------------|-------------------------|
| Cursor Keys | Move camera |
| Shift | Accelerate camera speed |
| Ctrl-F12 | Take screenshot |

Controlling the Camera & Camera Modes

Train Sim World: CSX Heavy Haul includes a number of cameras for you to control, here's an outline of those cameras and some examples of use:



First Person Camera or Cab Camera

Use this camera to operate your locomotive, flip switches and handle all your cab controls.



Boom Camera

Just like the camera from Train Simulator 2017, your camera extends outward on an invisible pole, you can rotate it around your focussed vehicle. Use [CTRL] + Left & Right Cursor keys to switch between vehicles or press the [2] Key again to switch between the front and rear of your consist.



Floating Camera

A new camera that allows you to freely look in all directions, useful for coupling and changing switches. Press it once to view the front of your consist and again to view the rear. Freely move your view using the cursor keys.



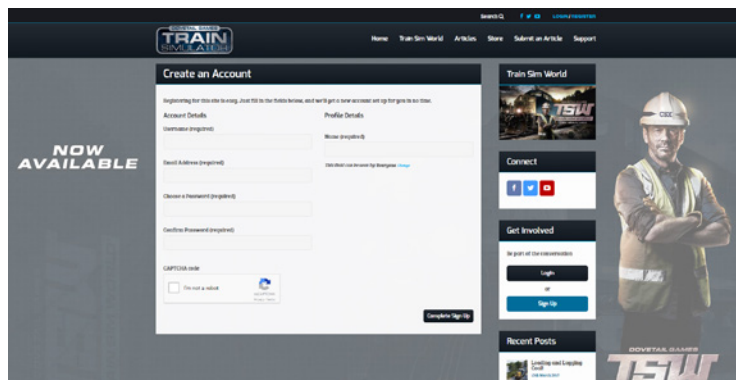
Free Camera

Freely move around without limits using this camera. Use this camera to navigate your way around a busy yard, change switches or position it to get the perfect screenshot.

Dovetail Live & TScorn Accounts

Train-simulator.com is your one-stop destination for everything Train Simulator related, including features, interviews, competitions and all the latest news. We have an ever-growing and vibrant community of train enthusiasts from all over the world, ranging from experienced railroad veterans to new players getting into the world of train simulation. So, if you haven't already, why not sign up for an account today and join our community – we'd love to have you on board.

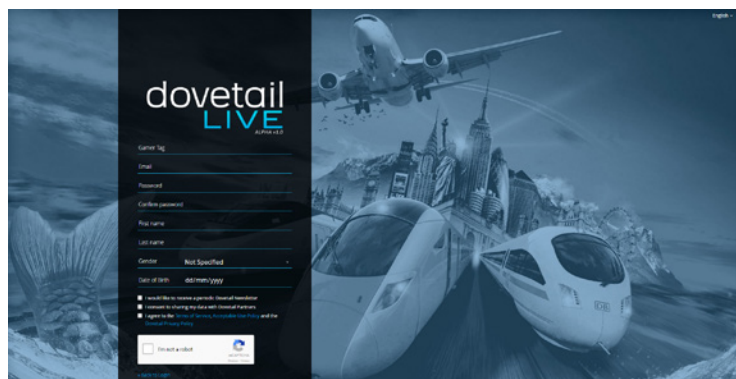
See more at: www.train-simulator.com/register/



Dovetail Live is an online destination which enables players to interact with Dovetail's products and each other in an environment tailored specifically to fans of simulation entertainment. Dovetail Live will evolve to become central to Train Sim World®, enriching the player experience in every way from offering rewards, building a community of like-minded players and helping every player find the right content to create their own perfect personal experience.

Signing up for Dovetail Live is completely voluntary. However, users that do sign up for it will receive exclusive benefits in the future.

See more at: live.dovetailgames.com



Troubleshooting Guide & How to Get Support

I have a problem downloading the Steam client, how do I contact them?

You can contact Steam Support by opening a customer service ticket at support.steampowered.com/newticket.php. You will need to create a unique support account to submit a ticket (your Steam account will not work on this page) and this will enable you to track and respond to any tickets you open with Steam.

How do I install any secondary programs that the game may need?

TSW: CSX Heavy Haul requires certain secondary programs to operate properly. These are standard programs that most up-to-date computers already have installed on them, such as DirectX and Flash Player. If these programs are not already installed on your computer, the installation files can be found on the Train Simulator World: CSX Heavy Haul DVD-Rom, at the following location: Local Disk (C:) > Program Files (x86) > Steam > SteamApps > common > TSW > CommonRedist

How do I change the language of TSW: CSX Heavy Haul?

This is an easy process and will allow you to play TSW: CSX Heavy Haul in English, French, Italian, German, Spanish, Russian and Polish. To change the language of TSW: CSX Heavy Haul, right-click on the Steam icon on your PC desktop, left click on 'Library', right click on 'Train Simulator World: CSXH Heavy Haul', left click on 'Properties', and finally left click on the Language tab and select your preferred language.

How do I reset my display screen size settings?

It is possible to change the display screen size settings for TSW: CSX Heavy Haul from within the game. Changing display screen size settings is done from the Settings menu in the Display tab.

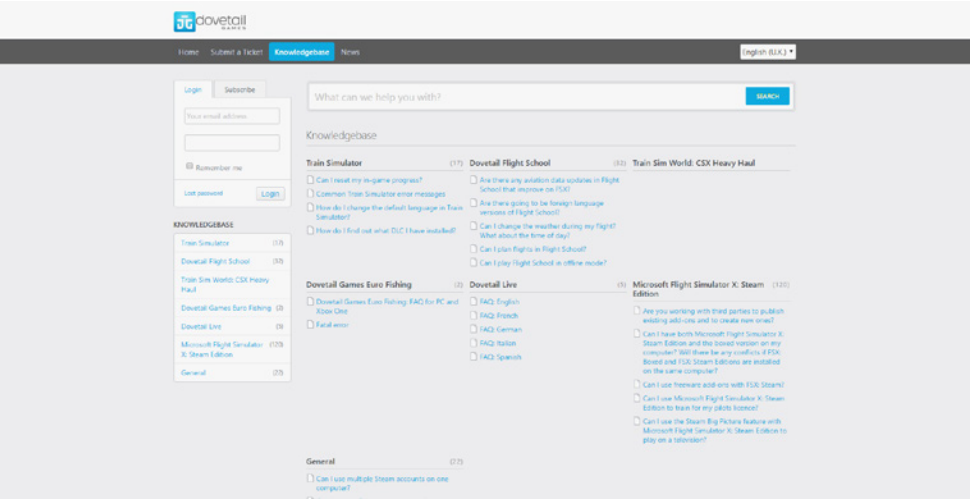
Where can I find the digital manual?

This digital manual for Train Sim World: CSX Heavy Haul can be downloaded from the Steam Store Page at store.steampowered.com/app/53007070. Scroll down the page and locate the Download Manual Link to download.

Can I download Train Sim World: CSX Heavy Haul from Steam rather than the DVD?

Yes, you can. If you do not have Steam already, download and install it from store.steampowered.com/about. Once downloaded, open Steam and click 'Add a Game', located in the bottom left corner of the Steam window. From here, select 'Activate a Product on Steam' and enter the activation code on the inside back page of this catalogue when prompted. Train Sim World: CSX Heavy Haul will then download and install automatically.

For any questions not covered here, visit our Knowledgebase at dovetailgames.kayako.com



DOVETAIL GAMES

TSW

TRAIN SIM WORLD®

CSX HEAVY HAUL

Service Mode Timetable

Westbound

| Service Type Origin Destination | Q249 Autorack Baltimore Connellsville | Q355 Manifest Cumberland Toledo | Q015 Intermodal Chambersburg Grafton | Q130 Intermodal Chicago Portsmouth | Q353 Manifest Cumberland Willard | Q217 Autorack Philadelphia Connellsville | K145 Oil Philadelphia Trenton | Q640 Manifest Cumberland Selkirk | Q261 Autorack Baltimore Connellsville | Q115 Intermodal Chambersburg Chicago | U876-A Empty Coal Cumberland Shaw Mine | Q137 Intermodal Baltimore Chicago | X790 Light Engine Cumberland Toledo | Q359 Manifest Cumberland Indianapolis | K143 Oil Philadelphia Rose Lake | Q250 Autorack Baltimore Connelsville | Q375 Manifest Cumberland Willard | K557 Manifest Baltimore Detroit |
|--|--|--|---|---|---|---|--|---|--|---|---|--|--|--|--|---|---|--|
| Cumberland | 00:25 | 00:56 | 01:33 | 07:56 | 08:33 | 08:44 | 09:36 | 11:53 | 12:15 | 12:47 | 14:32 | 16:05 | 16:57 | 17:30 | 17:56 | 18:21 | 19:10 | 20:50 |
| Hyndman | 00:50 | 01:24 | 01:58 | 08:21 | 09:01 | 09:09 | 09:59 | 12:21 | 12:40 | 13:12 | 14:58 | 16:29 | 17:20 | 17:53 | 18:19 | 18:46 | 19:35 | 21:19 |
| Mance | 01:20 | 01:57 | 02:28 | 08:51 | 09:34 | 09:41 | 10:27 | 12:54 | 13:10 | 13:42 | 15:26 | 16:58 | 17:47 | 18:21 | 18:47 | 19:16 | 20:04 | 21:45 |
| Salisbury | 01:38 | 02:16 | 02:45 | 09:08 | 09:53 | 09:58 | 10:45 | 13:13 | 13:28 | 13:59 | 15:56 | 17:19 | 18:04 | 18:38 | 19:05 | 19:34 | 20:21 | 22:03 |
| Shaw Mine | | | | | | | | | | | | | | | | | | |
| Rockwood | 01:50 | 02:28 | 02:57 | 09:20 | 10:04 | 10:20 | 10:57 | 13:24 | 13:40 | 14:11 | | 17:32 | 18:15 | 18:50 | 19:17 | 19:46 | 20:32 | 22:15 |

Eastbound

| Service Type Origin Destination | Q358 Manifest Indianapolis Cumberland | Q352 Manifest Willard Cumberland | N536 Coal Newell Brunswick | Q276 Autorack Toledo Baltimore | Q008 Intermodal East St Louis Little Ferry | Q116 Intermodal Chicago Chambersburg | Q226 Autorack Louisville Baltimore | I368 Manifest Chicago Cumberland | Q368 Manifest Chicago Cumberland | U876-C Branch Coal Shaw Mine Yoder | U876-D Coal Yoder Cumberland | Q138 Intermodal Chicago Baltimore | Q394 Manifest Toledo Cumberland | Q016 Intermodal Chicago Chambersburg |
|--|--|---|-------------------------------------|---|---|---|---|---|---|---|---------------------------------------|--|--|---|
| Rockwood | 00:51 | 06:57 | 08:10 | 08:42 | 09:33 | 13:32 | 13:58 | 15:27 | 16:47 | | | 17:38 | 19:01 | 22:05 |
| Shaw Mine | | | | | | | | | | 17:00 | | | | |
| Salisbury | | | | | | | | | | 17:17 | 17:30 | | | |
| Mance | | | | | | | | | | | | | | |
| Hyndman | 01:46 | 07:52 | 09:06 | 09:38 | 10:29 | 14:28 | 14:54 | 16:29 | 17:42 | | 18:17 | 18:34 | 19:56 | 23:01 |
| Cumberland | 02:09 | 08:15 | 09:29 | 10:01 | 10:52 | 14:51 | 15:19 | 16:56 | 18:08 | | 18:43 | 18:57 | 20:18 | 23:24 |

Short Operation

| Service Type Origin Destination | X582 Switching Cumberland | X592 Car Move Rockwood Mine | X575 Power Move Cumberland | U876-B Coal Loading Shaw Mine |
|--|---------------------------------|-----------------------------------|----------------------------------|-------------------------------------|
| Cumberland | 11:15 | | 14:30 | |
| Shaw Mine | | | | 16:00 |
| Rockwood | | 11:15 | | |