

# TRAIN SIM WORLD: PENINSULA CORRIDOR OPERATOR'S MANUAL





dovetail  
GAMES

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## Introducing Peninsula Corridor



The busy commuter railroad that today stretches down the San Francisco Peninsula was formed in 1860 as the San Francisco and San Jose Railroad, was completed south to San Jose in 1864, and in 1870 was absorbed into the Southern Pacific Railroad. For more than a century, giant SP operated what became known as its famed “Peninsula Commute Service.”

By the late 1970s, however, the “Peninsula Commute Service” was suffering operating losses and Southern Pacific sought relief. As an initial step, in 1980 the California Department of Transportation assumed control and provided funding for the route while introducing a new “Caltrain” branding for the commuter services (but with SP operating the line as a contractor). A decade later, via the creation of the Peninsula Corridor Joint Powers Board, Caltrain assumed full operations. Originally operating with ex-SP equipment, the California Department of Transportation and Caltrain took a first major step in fleet renewal in 1985-86 with the acquisition of Nippon Sharyo bi-level gallery commuter cars equipped for push-pull operations along with Electro-Motive F40PH-2 diesel-electric locomotives. In the intervening years, Caltrain’s fleets of gallery cars and F40PHs (which grew to include F40PH-2, F40PH-2CAT, and F40PH-2C variants) expanded and continue to serve the railroad. Beginning in 2003, the 1980s equipment was joined by MPI MP36PH-3C diesel locomotives and Bombardier bi-level commuter equipment.

Southern Pacific, which retained operating rights for freight traffic on the Peninsula, was merged into Union Pacific in 1996, and today UP continues to serve the route with freight and local services centered from South San Francisco yard.

In serving San Francisco and portions of California’s vibrant Silicon Valley, Caltrain has emerged as a vital and dynamic commuter railroad. Over its length (limited weekday services extend south from San Jose to Gilroy), Caltrain employs 29 locomotives and 118 passenger cars to operate nearly 100 trains per weekday, tote an average of 59,900

commuters each weekday, and serve more than 17 million riders per year. Caltrain's primary maintenance facility for its equipment is its modern Central Equipment & Maintenance Facility (CEMOF) located near the San Jose Diridon station.

# Peninsula Corridor Route Map & Key Locations



# The Game Modes

## Journey

Journeys are new to Train Sim World 2020 and presents a curated series of experiences that contain more than 20-hours of gameplay to get you started. If you're new to Train Sim World, we recommend you start here to learn the fundamentals and take part in the ultimate showcase of what Peninsula Corridor has to offer. What's more, every route comes with their own unique Journey and the hard part is simply deciding which journey you'll go on today!

## Training

Training Modules give you the knowledge you need to get the most from your locomotives and trains via interactive lessons that teach you key concepts.

## Scenarios

These provide a selection of operations over the Peninsula Corridor route, Scenarios are objective-based activities which provide unique experiences undertaking the tasks of an engineer on this busy commuter railroad.

## Timetable

Timetables provide a host of activities throughout an entire 24-hour time period and are often based on real world timetables. 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. Featuring many individual services, you'll always find something going on.

## Introducing the Electro-Motive F40PH-2CAT



Caltrain operates three variants of the highly successful “F40PH” family of diesel passenger locomotives as originally developed by Electro-Motive for Amtrak in 1976. The “workhorses” of the Caltrain fleet is its group of 15 F40PH-2CAT diesels, most of which were originally built as F40PH-2s in 1985 and since upgraded with separate Caterpillar 6-cylinder-powered HEP generators. The F40PH-2CAT is a four-axle (B-B) streamlined locomotive which delivers 3,200-horsepower for traction derived from EMD’s durable 645-series, 16-cylinder power plant.

### Quick Start Guide: Electro-Motive F40PH-2CAT

1. Enter the required Cab and sit in the Engineer’s Seat.
2. Set the Engine Run switch to On.
3. Set the Control & Fuel Pump switch to On.
4. Set the Generator Field switch to On.
5. Click on the Reverser to insert the handle, then move it into the Forward position.
6. Move the Independent Brake handle into the Release position.
7. If the Cut-Out Valve is set to Out, move it into the In position.
8. Release the train brakes by moving the Automatic Brake into the release position.
9. Throttle can now be applied as necessary.

## Resetting PCS on the Electro-Motive F40PH-2CAT

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 illuminated PCS OPEN indicator.

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).

1. Set the Throttle to Idle
2. Set the Reverser to Neutral
3. Set the Independent Brake to Full Application.
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 90 psi

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 90 psi, and the main reservoir has recharged to 140 psi, put the Throttle back to Idle.

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

## Introducing the Nippon Sharyo Gallery Cars



When Caltrain undertook its fleet renewal to replace aged ex-Southern Pacific equipment, the railroad selected Nippon Sharyo bi-level “gallery” commuter equipment. The railroad purchased 73 cars in 1985-86 (21 cab cars and 52 trailers) and has since expanded its fleet of Nippon Sharyo equipment to more than 90 cars. The cab cars, equipped with operating cabs and engineer’s controls, provide the railroad the ability to operate its trains in “push-pull” fashion. Typically, Caltrain commuter trains operate with locomotives on the south end of its trains and a cab car on the north end. The Nippon Sharyo trailers can seat up to 148 passengers.

### Quick Start Guide: Nippon Sharyo Gallery Cab Car

1. Enter the required Cab and sit in the Engineer’s Seat.
2. Set the Engine Run switch to On.
3. Set the Control & Fuel Pump switch to On.
4. Set the Generator Field switch to On.
5. Click on the Reverser to insert the handle, then move it into the Forward position.
6. Move the Parking Brake handle into the Off position.
7. If the Cut-Out Valve is set to Out, move it into the In position.
8. Release the brake by moving the Automatic Brake into the release position.
9. Throttle can now be applied as necessary.

## **Resetting PCS on the Nippon Sharyo Gallery Cars**

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 illuminated PCS OPEN indicator.

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).

1. Set the Throttle to Idle
2. Set the Reverser to Neutral
3. Set the Parking Brake to On
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 90 psi

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 90 psi, and the main reservoir has recharged to 140 psi, put the Throttle back to Idle.

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

## **Passenger Door Controls**

In Train Sim World: Peninsula Corridor, you can control the passenger entry and exit doors on each side independently i.e. either the left side or right side. A simple method of control has been implemented for the included trains. Simply press the TAB key and select which side of the train you wish to lock/unlock the doors from the pop-up menu.

## Introducing the Electro-Motive 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.

### Quick Start Guide: Electro-Motive GP38-2

1. Set the Handbrake. You'll find the handbrake wheel 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 are 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 Room Lights if you turned them 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, Generator Field 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 140 psi.
2. Check that the Independent Brake is set to its maximum setting (Full Application).
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 90 psi, 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 Electro-Motive GP38-2 for Multiple Unit Working

## As MU Lead

Ensure the locomotives have been fully set up as per the Electro-Motive 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:

<b>Engine Run:</b>	ON
<b>Generator Field:</b>	ON
<b>Control &amp; Fuel Pump:</b>	ON

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

<b>Brake Cut-off Valve:</b>	FREIGHT
<b>MU-2A Valve:</b>	LEAD OR DEAD

## As MU Trail

When setting up the EMD GP40-2 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:

<b>Engine Run:</b>	ON
<b>Generator Field:</b>	ON
<b>Control &amp; Fuel Pump:</b>	ON

<b>Brake Cut-off Valve:</b>	CUT-OUT
<b>MU-2A Valve:</b>	LEAD OR DEAD

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**

<b>Engine Run:</b>	ON
<b>Generator Field:</b>	ON
<b>Control &amp; Fuel Pump:</b>	ON
<b>Brake Cut-off Valve:</b>	CUT-OUT
<b>MU-2A Valve:</b>	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**

<b>Engine Run:</b>	OFF
<b>Generator Field:</b>	OFF
<b>Control &amp; Fuel Pump:</b>	OFF
<b>Brake Cut-off Valve:</b>	CUT-OUT
<b>MU-2A Valve:</b>	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**

In this configuration, 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 GP40-2s at the front and a pair of EMD GP40-2s at the rear, you would need to set them 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 Electro-Motive GP38-2 Multiple Unit Lighting Controls**

The Electro-Motive 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.

## Resetting PCS on the Electro-Motive GP38-2

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 illuminated PCS OPEN indicator.

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).

7. Set the Throttle to Idle
8. Set the Reverser to Neutral
9. Set the Independent Brake to Full Service
10. Set the Automatic Brake to Emergency
11. Wait for 60 seconds
12. 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.

## Reference Section

### Safety Systems: Alerter

The Alerter is a Driver Vigilance Device and its purpose is simply to ensure that the driver is constantly aware of the train and able to react and respond to the train in a timely manner.

#### How to Activate / Deactivate the Alerter

Whilst sitting in the engineer's seat, press SHIFT-ENTER to toggle the alerter state.

#### How to Use the Alerter

Once activated, every 60 seconds the alerter will trigger a visual indication on the Train Operator Display and an audible alarm. You then have a short time in which to respond to it by pressing the acknowledge button, the Q key on the keyboard.

If you do not respond in time, the train will apply penalty brakes until the train has stopped. You will not be able to undertake any further actions until the train has come to a complete stop. Once stationary, you should reset controls to a safe state (throttle to minimum, reverser to neutral, brakes to full service), you can then set the reverser, release the brakes and apply power.

## American Railroad Signalling: Peninsula Corridor

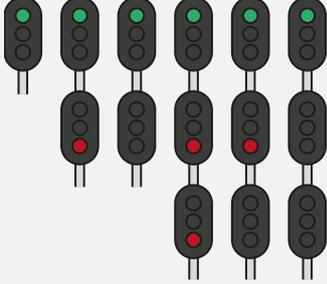
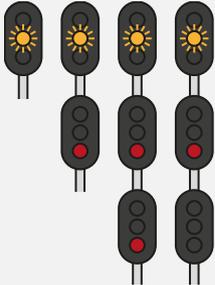
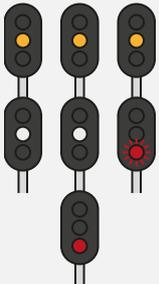
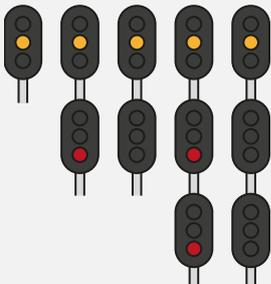
Signals used on the Peninsula Corridor as represented in Train Sim World consist of a number of components that form the basis of advising the Engineer, the state of the route ahead. There are several signal types used on Peninsula Corridor, which are made of one or more “signal heads” arranged vertically on a pole or mounted overhead on a gantry. The following pages explain the variations and the possible aspects that can be displayed.

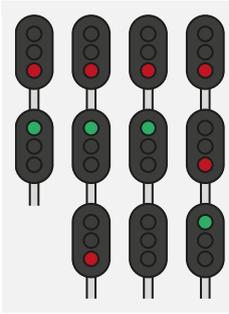
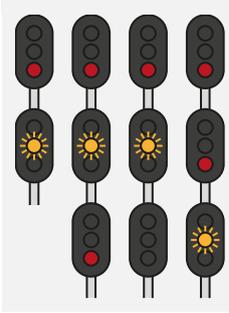
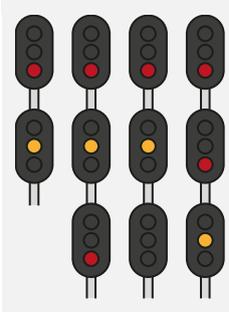
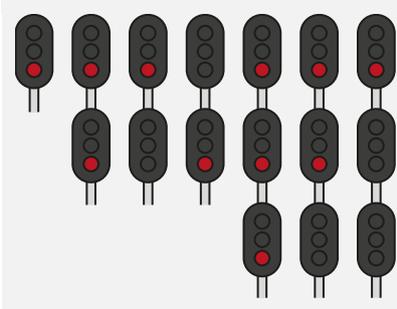
In order to understand the terms used for each of the aspects, it is necessary to provide an outline of the terms as explained below:

<b>Term</b>	<b>Meaning</b>
Normal Speed	Also known as the Maximum Authorized Speed (MAS). This relates to the normal operating line speed or the maximum possible speed for a given route.
Cab Signal	Relates to the indications that can be displayed on in-cab display equipment.
Signal Speed	Relates to the MAS that is implied by a specific signal aspect.
Limited Speed	Defines the MAS as 50 mph for passenger trains and 40 mph for freight trains.
Medium Speed	Defines the MAS as 35 mph for passenger trains and 25 mph for freight trains.
Slow Speed	Defines the MAS as 20 mph for passenger trains and 15 mph for freight trains.
Reduced Slow Speed	Defines the MAS as 15 mph for passenger trains and 5 mph for freight trains.
Restricted Speed	Defines the MAS as 20 mph for all trains.
Interlocking	Is an arrangement of signals that prevents conflicting movements through junctions or crossings. Typically, entrances to interlockings are protected by “Home Signals” which control movements through the interlocking.
Block or Signal Block	Relates to the gap between signals.

## Main Aspects: Colour Position Light (Route Signal Rules)

Route Signals are in effect between Southward block signals 433-1 and 433-2 and North Limit CP Lick.

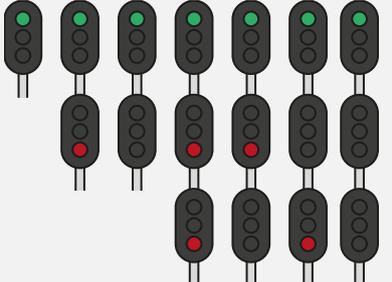
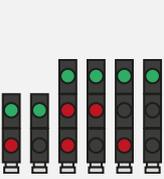
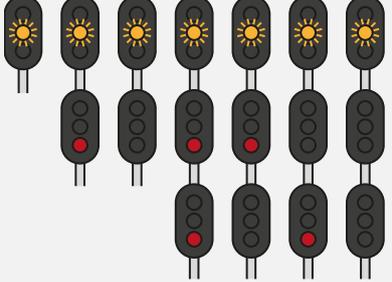
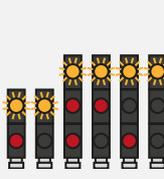
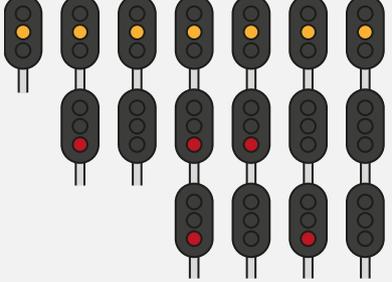
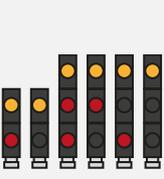
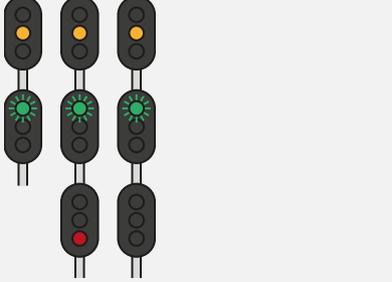
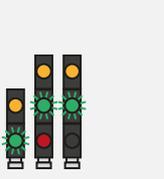
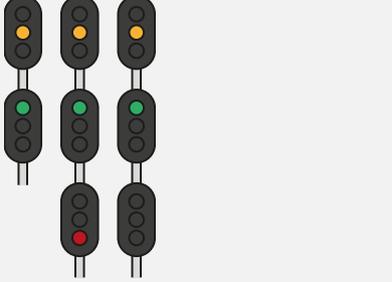
	<p>◀ <b>Rule 9.1.3 Clear</b> Proceed.</p>
	<p>◀ <b>Rule 9.1.6 Approach Diverging</b> Proceed prepared to advance on diverging route at next signal at prescribed speed through turnout.</p>
	<p>◀ <b>Rule 9.1.7 Advance Approach</b> Proceed prepared to stop at second signal. Freight trains exceeding 40 mph must immediately reduce to 40 mph. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 40 mph.</p>
	<p>◀ <b>Rule 9.1.8 Approach Restricting</b> Proceed prepared to pass the next signal at Restricted Speed, but not exceeding 15 mph.</p>
	<p>◀ <b>Rule 9.1.9 Approach</b> Proceed prepared to stop before any part of train or engine passes the next signal. Freight trains exceeding 30 mph must immediately reduce to 30 mph. Passenger trains exceeding 40 mph must immediately reduce to 40 mph.</p>

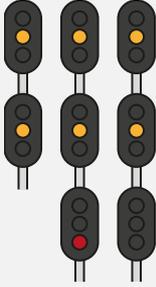
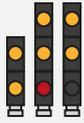
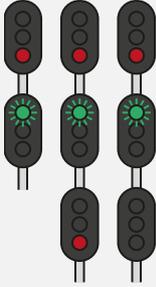
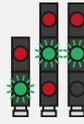
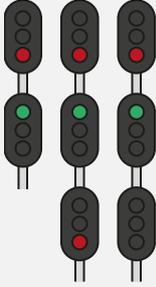
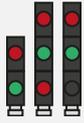
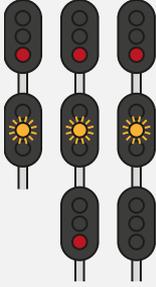
	<p>◀ <b>Rule 9.1.10 Diverging Clear</b> Proceed on diverging route not exceeding prescribed speed through turnout.</p>
	<p>◀ <b>Rule 9.1.11 Diverging Advance Approach</b> Proceed on diverging route not exceeding prescribed speed through turnout and be prepared to stop at second signal. Freight trains exceeding 40 mph must immediately reduce to 40 mph. Passenger trains may proceed, but must be prepared to pass the next signal not exceeding 40 mph.</p>
	<p>◀ <b>Rule 9.1.12 Diverging Approach</b> Proceed on diverging route at prescribed speed through turnout prepared to stop before any part of train or engine passes the next signal. Freight trains exceeding 30 mph must immediately reduce to 30 mph. Passenger trains exceeding 40 mph must immediately reduce to 40 mph.</p>
	<p>◀ <b>Rule 9.1.15 Stop</b> Stop before any part of the train or engine passes the signal.</p>

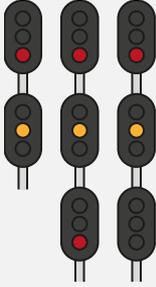
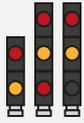
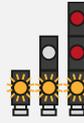
## Main Aspects: San Francisco Signal Rules

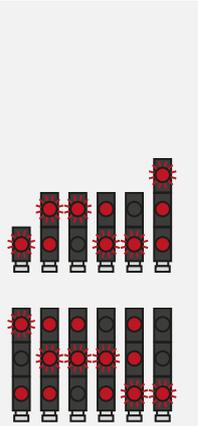
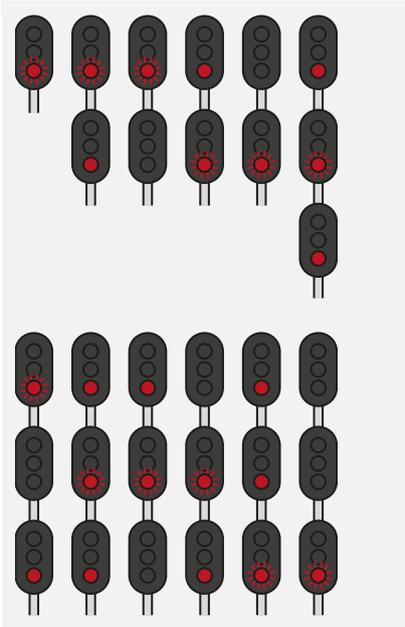
	<p>◀ <b>Rule 9.1.40 Reduced Slow Clear</b> Proceed at Reduced Slow Speed until entire train clears all control point switches, then proceed.</p>
	<p>◀ <b>Rule 9.1.41 Reduced Slow Advance Approach</b> Proceed prepared to stop at the second signal. Reduced Slow Speed applies until entire train clears all control point switches, then Limited Speed applies.</p>
	<p>◀ <b>Rule 9.1.42 Reduced Slow Approach</b> Proceed prepared to stop at the next signal. Reduced Slow Speed applies until entire train clears all control point switches, then Medium Speed applies.</p>

# Main Aspects: Colour Position Light (Speed Signal Rules)

	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.20 Clear</b> Proceed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.21 Advance Approach</b> Proceed prepared to stop at the second signal. Trains exceeding Limited Speed must begin reduction to Limited Speed as soon as the engine passes the Advance Approach signal.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.22 Approach</b> Proceed prepared to stop at the second signal. Trains exceeding Limited Speed must begin reduction to Limited Speed as soon as the engine passes the Advance Approach signal.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.23 Approach Limited</b> Proceed prepared to pass the next signal at Limited Speed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.24 Approach Medium</b> Proceed prepared to pass the next signal at Medium Speed.</p>

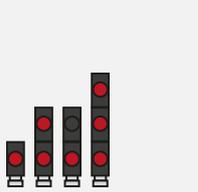
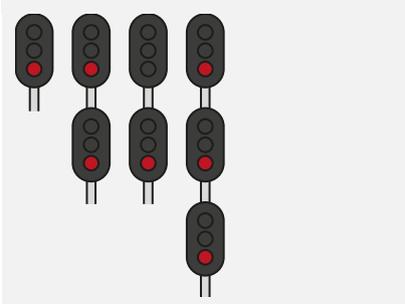
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.25 Approach Slow</b> Proceed prepared to pass the next signal at Slow Speed. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the engine passes the Approach Slow signal.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.26 Limited Clear</b> Proceed at Limited Speed until entire train clears all control point switches, then proceed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.27 Medium Clear</b> Proceed at Medium Speed until entire train clears all control point switches, then proceed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.28 Slow Clear</b> Proceed at Slow Speed until entire train clears all control point switches, then proceed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.29 Limited Advance Approach</b> Proceed at Limited Speed prepared to stop at the second signal.</p>

	 <p>DWARF SIGNAL</p>	<p>◀ <b>Rule 9.1.30 Medium Approach</b> Proceed at Medium Speed prepared to stop at the next signal. Trains exceeding Medium Speed must at once reduce to Medium Speed.</p>
	 <p>DWARF SIGNAL</p>	<p>◀ <b>Rule 9.1.31 Medium Approach Medium</b> Proceed at Medium Speed until entire train clears all control point switches, then proceed prepared to pass the next signal at Medium Speed. Trains exceeding Medium Speed must immediately reduce to Medium Speed.</p>
	 <p>DWARF SIGNAL</p>	<p>◀ <b>Rule 9.1.32 Medium Approach Slow</b> Proceed at Medium Speed prepared to pass the next signal at Slow Speed. Trains exceeding Medium Speed must immediately reduce to Medium Speed.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.33 Slow Advance Approach</b> Proceed prepared to stop at the second signal. Slow Speed applies until entire train clears all control point switches, then Limited Speed applies.</p>
	 <p>DWARF SIGNALS</p>	<p>◀ <b>Rule 9.1.34 Slow Approach</b> Proceed prepared to stop at the next signal. Slow Speed applies until entire train clears all control point switches, then Medium Speed applies.</p>



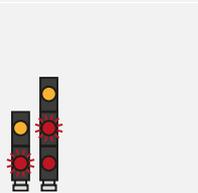
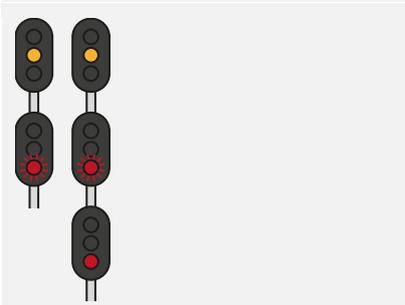
DWARF SIGNALS

◀ **Rule 9.1.35 Restricting** Proceed at Restricted Speed.



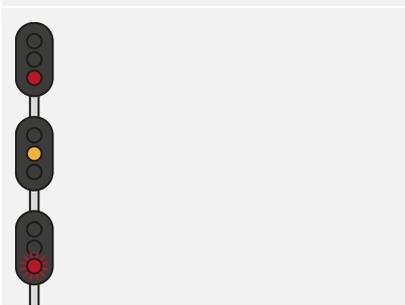
DWARF SIGNALS

◀ **Rule 9.1.37 Stop** Stop before any part of train or engine passes the signal.



DWARF SIGNALS

◀ **Rule 9.1.38 Approach Restricting** Proceed prepared to pass the next signal at Restricted Speed. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the engine passes the Approach Restricting signal.



DWARF SIGNAL

◀ **Rule 9.1.39 Medium Approach Restricting** Proceed at Medium Speed prepared to pass the next signal at Restricted Speed. Trains exceeding Medium Speed must immediately reduce to Medium Speed.

## Signal Progression

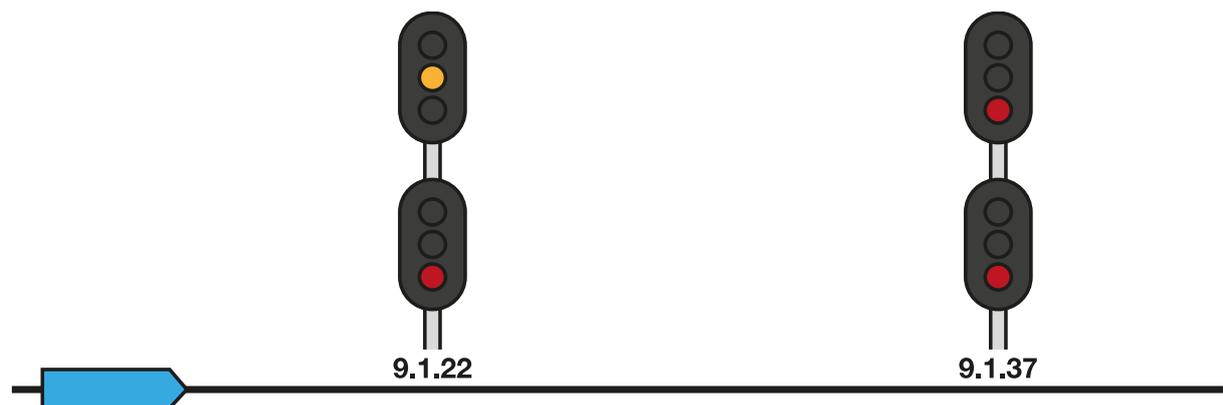
Signals are essentially a form of network, one signal talks to its neighbour further up the line and its other neighbour further down the line. That next signal will also talk to its neighbour further up the line, and that signal will also talk to its neighbour, etc... and so on and so forth. If you are approaching a Stop signal further down the line, because of this network, there are signals you will see on approach that will warn you about it. You will see those types of signals first, before you arrive at the Stop signal. In the same way, if you need to reduce speed to go over a switch, you will see signals that will bring your train down in speed, so by the time you're on final approach to the switch, you will be at the right speed to cross it.

This sequence is called a progression. Either an aspect (what a signal shows) is improved (i.e. going from a slow to a clear aspect) or it is degraded (i.e. going from slow to a stop).

As there are numerous circumstances that require train control, there can be many signal progressions.

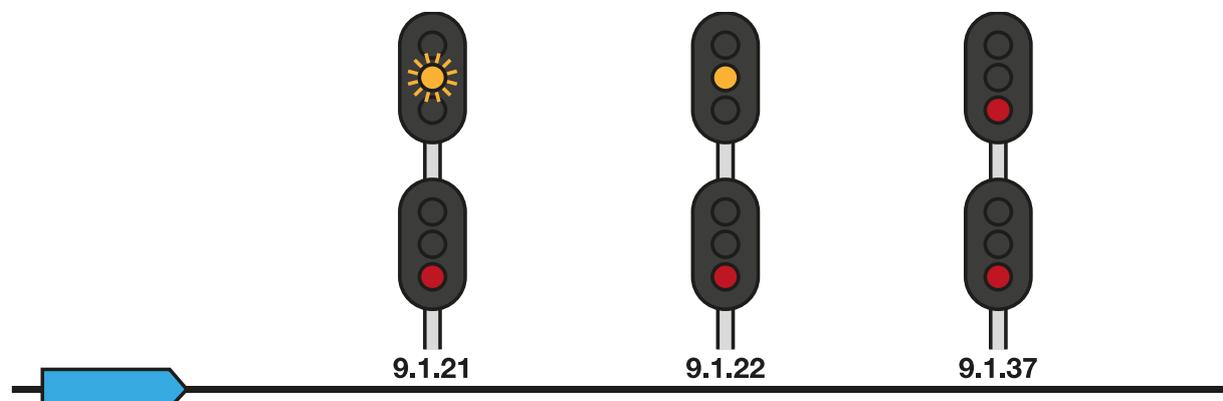
### Progressions Leading to a Stop

**Rule 9.1.22 Approach ► Rule 9.1.37 Stop**



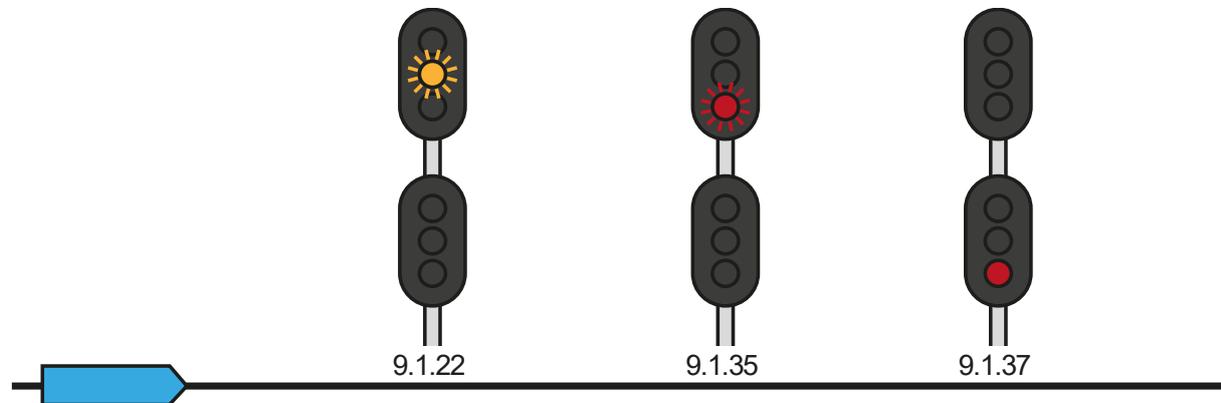
In the above example, the Approach signal precedes the Stop signal which is warning the engineer that a signal they are approaching is displaying a Stop aspect. The engineer would normally begin reducing speed in preparation for bringing the train to a complete stop.

**Rule 9.1.21 Advance Approach ► Rule 9.1.22 Approach ► Rule 9.1.37 Stop**



In the above example, this progression also incorporates an Advanced Approach aspect which the engineer will see before the Approach signal. This is useful when trains may be heavy or travelling at high speeds as it provides additional distance and warning for the engineer to begin slowing the train.

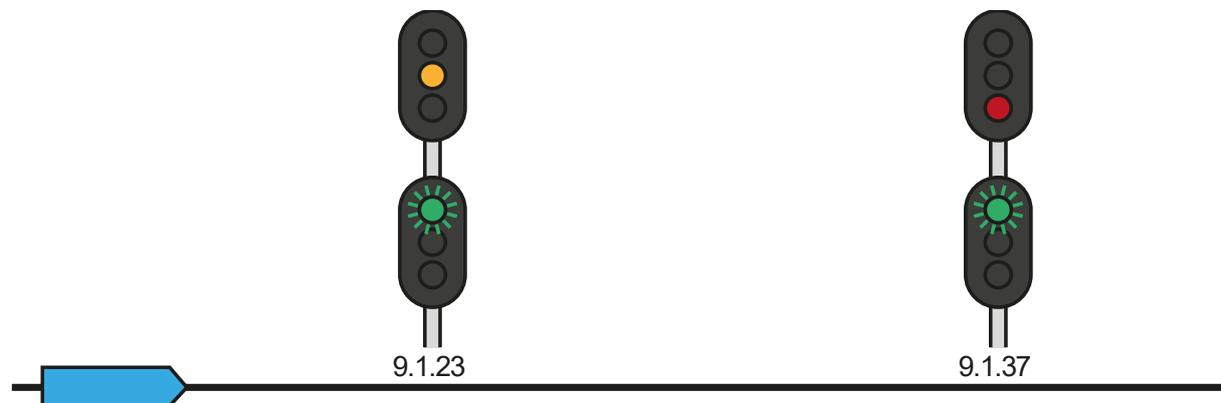
**Rule 9.1.22 Approach ► Rule 9.1.35 Restricting ► Rule 9.1.37 Stop**



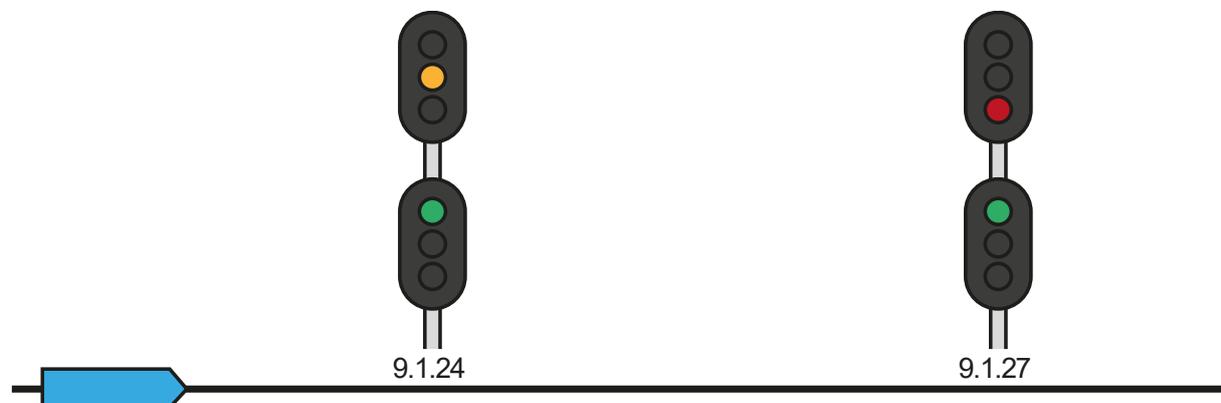
If two signals are too close together, instead of showing an Advanced Approach signal, you may see a Restricting aspect in between the Approach and Stop signals to bring you further down in speed.

**Progressions for Slowing Down**

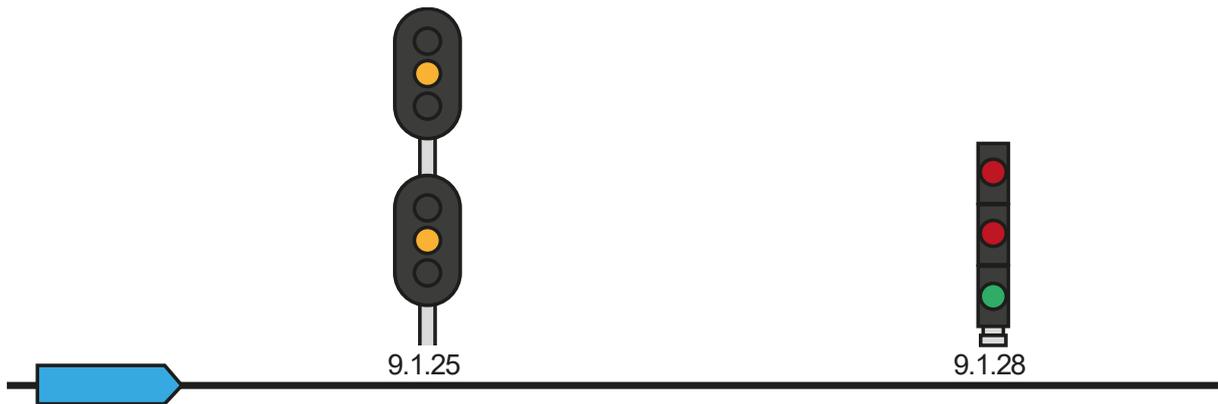
**Rule 9.1.23 Approach Limited ► Rule 9.1.37 Limited Clear**



**Rule 9.1.24 Approach Medium ► Rule 9.1.27 Medium Clear**



**Rule 9.1.25 Approach Slow ► Rule 9.1.28 Slow Clear**



The above three examples should be self-explanatory in that, in all three examples, each speed restriction is preceded by an appropriate Approach aspect for that speed.

However, the above examples would not be useful if your train was travelling at 70 mph and you needed to reduce to Slow speed – simply displaying an Approach Slow signal before the Slow Clear would not provide enough distance for your train to slow down. In such cases, you would expect the signal progression to go something like this:

**Rule 9.1.23 Approach Limited ► Rule 9.1.24 Approach Medium ► Rule 9.1.25 Approach Slow ► Rule 9.1.28 Slow Clear**



**Combined Progressions**

Combined progressions are those when one progression leads to a specific signal, but another is needed to warn about another signal soon thereafter. For example, if a Medium Clear is required to have the train pass over a Medium Speed junction, but then the train needs to come to a stop at the next signal, the Medium Clear progression and the Stop progression will be combined. There are many more combined progressions that you will see out on your travels. Keep a look out for them.

## Default English Keyboard & Other Controls

Name	Keyboard		Controller	
	Increase / Press	Decrease	Increase / Press	Decrease
Throttle	A	D	Right Trigger	Right Bumper
Brake	'	;	Left Trigger	Left Bumper
Reverser	W	S	Left Stick Up	Left Stick Down
Headlights	H	Shift + H	Hold D-Pad Right Also: Tap D-Pad Right to cycle headlight settings	Hold D-Pad Right
Marker Lights	K			
High Horn	Space		Left Stick Click	
Master Switch	CTRL + W			
Alerter / ATC Reset	Q		B Button	
Cab Light	L	Shift + L		
Instrument Lights	I	Shift + I		
Handbrake	\	Shift + \		
Emergency Brake	Backspace			
Wipers	V	Shift + V	D-Pad Left	
Toggle Alerter	Shift + Enter			
Toggle ATC	Ctrl + Enter			
Uncouple	Ctrl + Shift + C			
Flashlight (When Walking)	L			

Note: the above keys can be redefined in the in-game settings menu.

## Controlling the Camera & Camera Modes

Train Sim World includes several cameras for you to control, here's an outline of those cameras and some examples of use:

<b>1 Key</b>	<b>First Person Camera or Cab Camera</b> Use this camera to operate your locomotive, flip switches and handle all your cab controls.
<b>2 Key</b>	<b>Boom Camera</b> Just like the camera from Train Simulator, your camera extends outward on an invisible pole, you can rotate it around your focussed vehicle. Use Ctrl and the left & right cursor keys to switch between vehicles or press the 2 key again to switch between the front and rear of your consist.
<b>3 Key</b>	<b>Floating Camera</b> 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.
<b>8 Key</b>	<b>Free Camera</b> 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.

## Customising the HUD

Train Sim World includes many options for you to customise the Head Up Display (HUD):

<b>CTRL + 1</b>	Toggles the in-world objective marker.
<b>CTRL + 2</b>	Toggles the in-world next speed limit marker.
<b>CTRL + 3</b>	Toggles the in-world next signal marker.
<b>CTRL + 4</b>	Cycles the next speed limit / signal information panel in top right.
<b>CTRL + 5</b>	Toggles the speedometer panel (or clock/compass while walking).
<b>CTRL + 6</b>	Toggles the score display.
<b>CTRL + 7</b>	Toggles the passenger stop marker on the track.
<b>CTRL + 8</b>	Cycles the centre dot transparency (off, 50/50, white).
<b>F1</b>	Hide's the HUD.

## Other Keys

<b>F3</b>	Toggles the Frame Rate Counter.
<b>CTRL + F12</b>	Captures a High Quality Screenshot. The default save location is: My Documents\My Games\TS2Prototype\Saved\Screenshots\WindowsNoEditor
<b>9 Key</b>	Opens the 2D Map.
<b>Esc</b>	Opens the Pause Menu. Also used for Back and Cancel commands.
<b>Shift Key</b>	Hold when walking to run.
<b>C</b>	Press when walking to crouch.
<b>L</b>	Press when walking to turn on the flashlight
<b>W A S D Keys</b>	Use when walking to walk forwards, left, right and backward (respectively).

## Dovetail Live Account

The Dovetail Forums are your one-stop destination for everything Train Simulator and Train Sim World related. 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: <https://forums.dovetailgames.com>

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: <https://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](https://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?**

Train Sim World 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. These programs can be found at the following location: Local Disk (C:) > Program Files (x86) > Steam > SteamApps > common > TSW > \_CommonRedist

### **How do I change the language of Train Sim World?**

This is an easy process and will allow you to play Train Sim World in English, French, German, Spanish, Russian and Simplified Chinese. To change the language of Train Sim World, double-click on the Steam icon on your PC desktop, left click on 'Library', right click on 'Train Sim World', 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 Train Sim World from within the game. Changing display screen size settings is done from the Settings menu in the Display tab.

For any questions not covered here, visit our knowledgebase at <https://dovetailgames.kayako.com>