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The full credit list can be accessed from the TSW "Options" menu.

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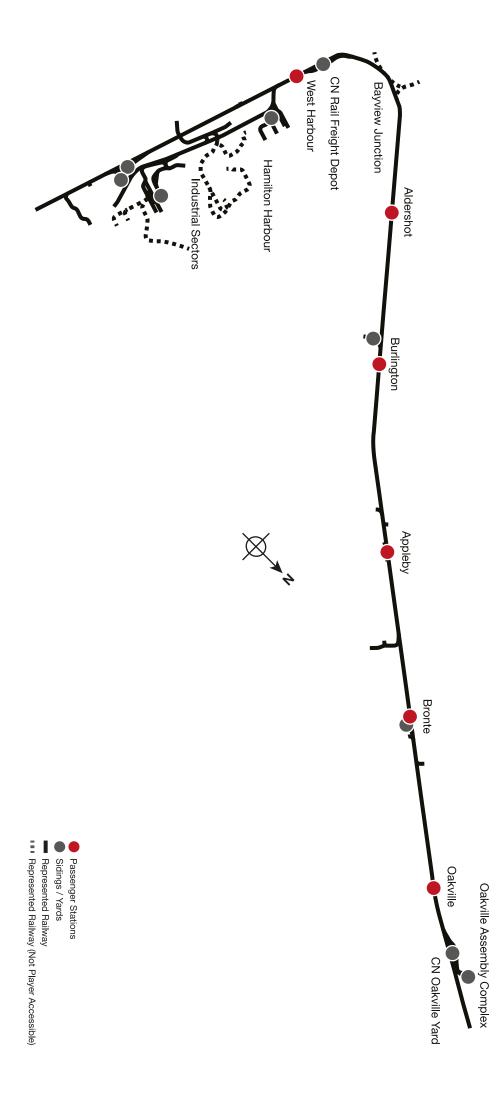
## Introducing Canadian National Oakville Subdivision



Canadian National's Oakville Subdivision is an important and vital segment of the super railroad's 20,400-mile (32,830 km) route system, linking the Toronto area (and points east) with CN's lines to the west of Canada and to the United States. Serving as both an important main line and an abundant provider of originating freight traffic from large industries and shippers along the route.

The east terminus of the Canadian National Oakville Subdivision route is Oakville, Ontario, which is home to both a freight yard for handling local tonnage and a large nearby auto assembly plant. From Oakville, the line proceeds south-westerly near the shore of Lake Ontario, via Bronte, Burlington, Aldershot, and famed Bayview Junction to Hamilton. Hamilton is a beehive of railroading activity, home to multiple yard complexes, connecting point with CN's Grimsby Subdivision, and host to the Port of Hamilton's massive and bustling Industrial Sector that is laced with active rail lines and sidings.





## The Game Modes

#### Journeys

Blends together more than 24 hours of sequential gameplay. Start a Journey and enjoy hundreds of scenarios, timetabled services, and jobs to complete around the railway.

### 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. If you're new to Train Sim World, we recommend you start here to learn the fundamentals.

#### Scenarios

Scenarios are objective-based activities which provide unique experiences. Move coaches around, drive passenger and freight services and experience some of the operations that occur on the route.

#### Timetables

These provide a host of activities throughout an entire 24-hour time period, Timetable 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. Featuring many individual services, you'll always find something going on.

## 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 (1491.4 kW), four-axle (B-B) GP38-2 garnered 2,222 sales to more than 60 original buyers.

## Introducing the Electro-Motive GP9RM

Owner of a large fleet of classic Electro-Motive GP9s, the Canadian National beginning in the 1980s put its veteran Geeps through a rebuilding process that included chopped noses, power plant upgrades, and electrical enhancements. These locomotives, reclassified by the railroad as GP9RMs, were remanufactured in several variants for main line, local and switching, and yard duties.

## Quick Start Guide: Electro-Motive GP38-2 & GP9RM

- 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 lefthand 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 & GP9RM for Multiple Unit Working

### As MU Lead

Ensure the locomotives have been fully set up as per the Electro-Motive GP38-2 & GP9RM 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 DEAD

### As MU Trail

When setting up the EMD GP38-2 or GP9RM 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:	CUT-OUT
MU-2A Valve:	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

ON
ON
ON
CUT-OUT
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 of this locomotive. As the lead unit applies throttle positions, 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 GP38-2s at the front and a pair of EMD GP38-2s 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 who 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 & GP9RM Multiple Unit Lighting Controls

The Electro-Motive GP38-2 and GP9RM have 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 & GP9RM**

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 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 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.

## **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: Oakville Subdivision

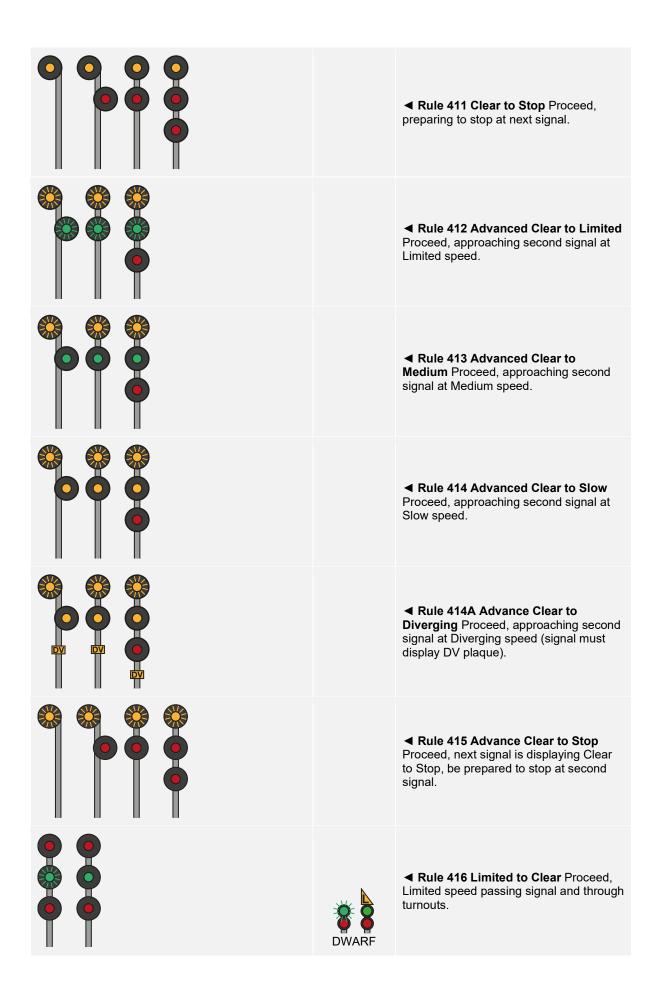
Signals used on the Oakville Subdivision as represented in Train Sim World consist of a number of components that form the basis of advising the Engineer of the state of the route ahead. There are several signal types used on the Oakville Subdivision, which are made of one or more "signal heads" arranged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

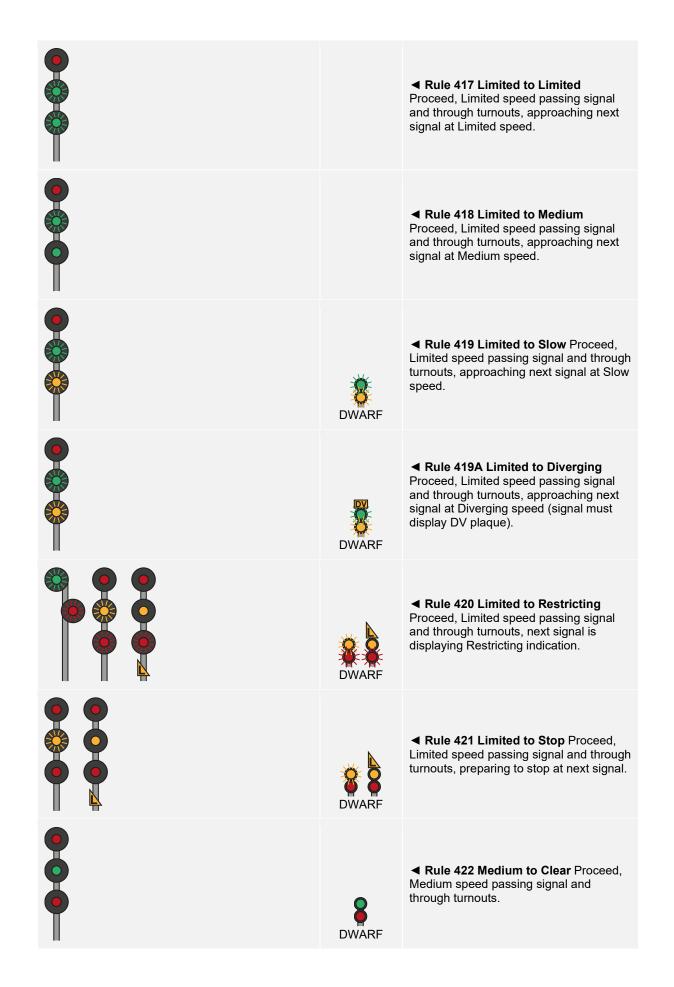
In order to understand the terms used for each of the aspects, it is necessary to provide an outline of the terms as explained below:

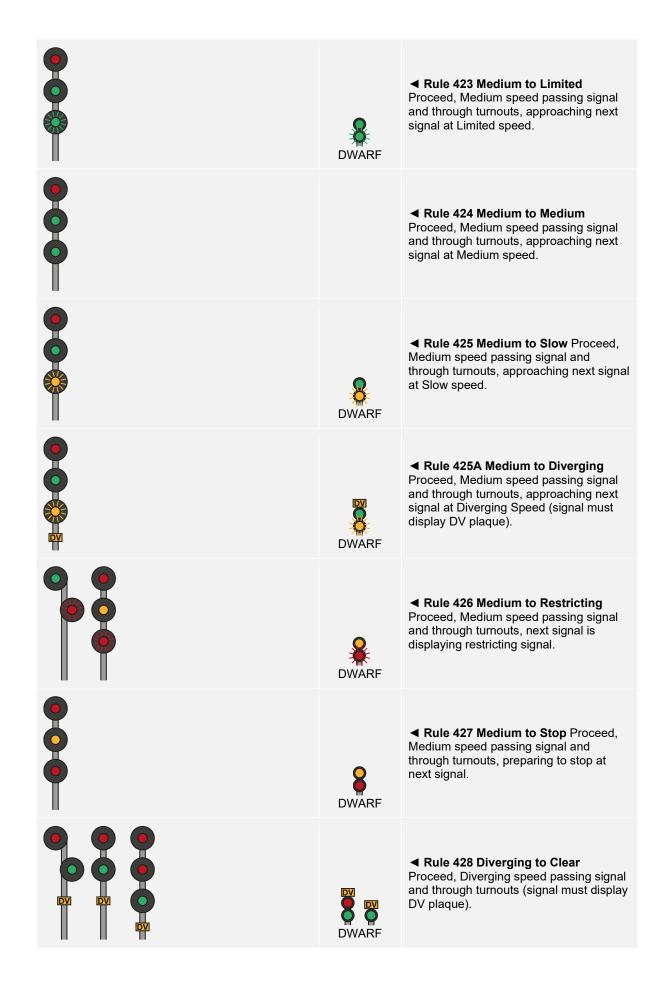
Term	Meaning
Normal Speed	Also known as the Maximum Authorized Speed (MAS). This relates to the normal operating line speed or the maximum possible speed for a given route.
Limited Speed	Defines the MAS as 45 mph.
Medium Speed	Defines the MAS as 30 mph.
Diverging Speed	Defines the MAS as 25 mph.
Slow Speed	Defines the MAS as 15 mph.
Reduced Speed	Able to stop within one-half the range of vision of equipment.
Restricted Speed	Able to stop within one-half the range of vision of equipment, misaligned switch, broken rail, etc. but in any case, not exceeding Slow Speed.
Block or Signal Block	Relates to the gap between signals.

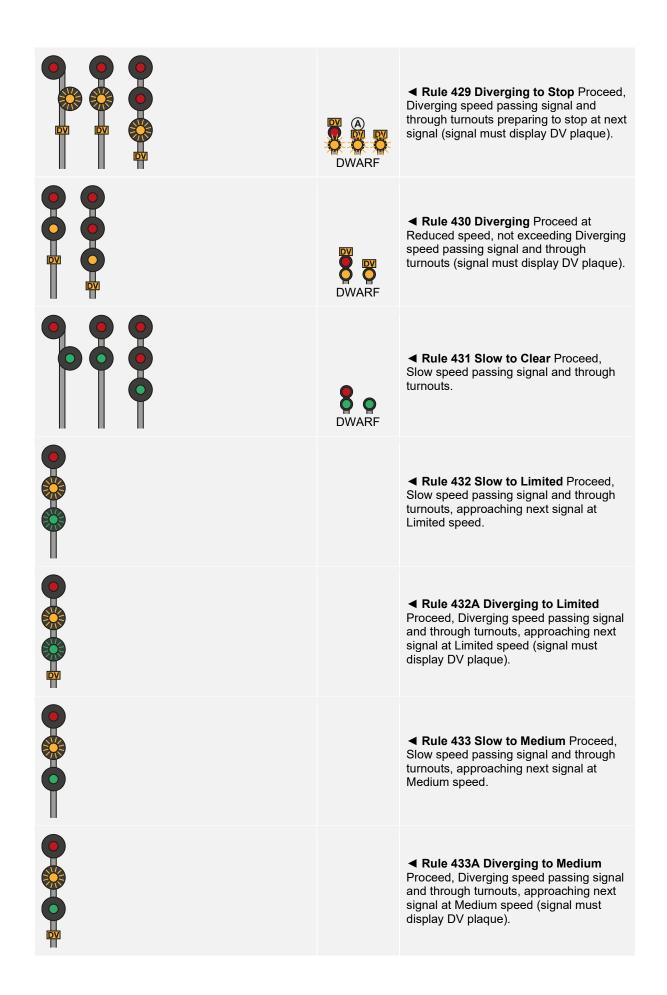
# ◄ Rule 405 Clear Proceed. 8 DWARF ◄ Rule 406 Clear to Limited Proceed, approaching next signal at Limited speed. DWARF ◄ Rule 407 Clear to Medium Proceed, approaching next signal at Medium speed. ŏ DWARF ◄ Rule 408 Clear to Diverging Proceed, approaching next signal at Diverging speed (signal must display DV plaque). DWARF ◄ Rule 409 Clear to Slow Proceed, approaching next signal at Slow speed. ŏ DWARF ◄ Rule 410 Clear to Restricting Proceed, next signal is displaying Restricting indication.

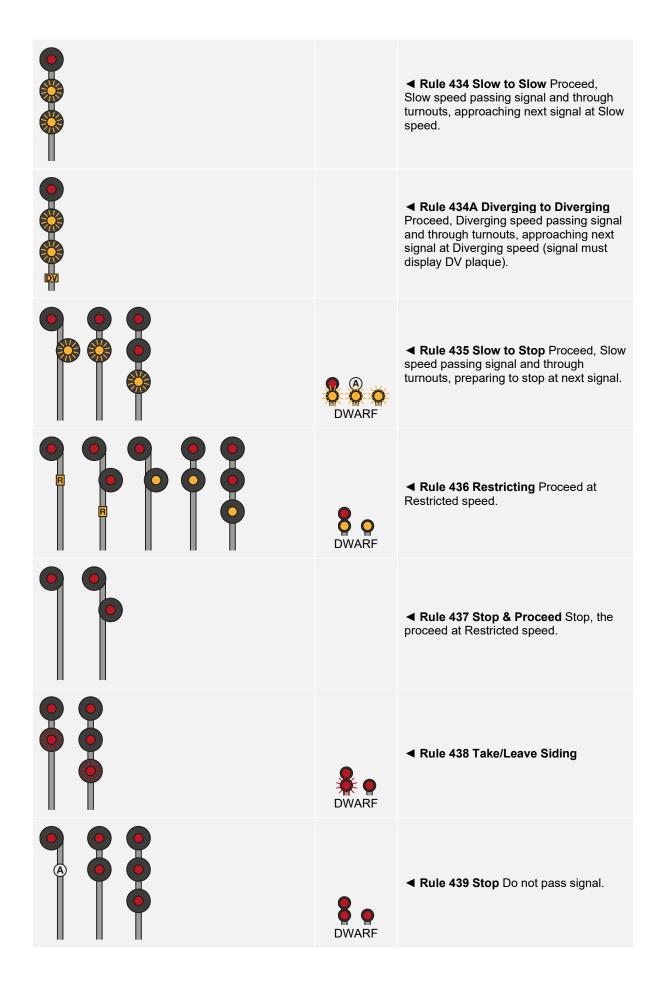
## Main Aspects: Colour Position Light











## **Signal Progression**

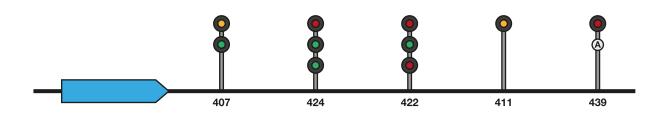
Signals are essentially a form of network, one signal talks to its neighbour further up the line and its other neighbour further down the line. That next signal will also talk to its neighbour further up the line, and that signal will also talk to its neighbour, etc... and so on and so forth. If you 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 407 Clear to Medium ► Rule 424 Medium to Medium ► Rule 422 Medium to Clear ► Rule 411 Clear to Stop ► Rule 439 Stop



In the above example, this progression leads you through a section where Medium speed is imposed before then returning to a typical Clear section however the fifth signal is showing a Stop aspect and the preceeding signal is therefore warning that the next signal is at Stop. It is also possible that the engineer will have passed a Rule 413, Advanced Clear to Medium, signal before approaching the Rule 407, Clear to Medium, signal. In either case, the engineer will have started braking to Medium speed on sight of the Rule 407 signal.

#### Rule 415 Advance Clear to Stop ► Rule 411 Clear to Stop ► Rule 439 Stop



In the above example, the Advance Clear to Stop signal precedes the Clear to 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.

### **Progressions for Slowing Down**

Rule 412 Advance Clear to Limited ► Rule 406 Clear to Limited ► Rule 416 Limited to Clear



Rule 413 Advance Clear to Medium ► Rule 407 Clear to Medium ► Rule 422 Medium to Clear



Rule 414 Advance Clear to Slow ► Rule 409 Clear to Slow ► Rule 431 Slow to Clear



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

### **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 to 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 to 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**

	Keyboard		Cont	roller
Name	Increase / Press	Decrease	Increase / Press	Decrease
Throttle	А	D	Right Trigger	Right Bumper
Brake	٢	;	Left Trigger	Left Bumper
Reverser	W	S	Left Stick Up	Left Stick Down
Headlights	н	Shift + H	Hold D-Pad Right Also: Tap D-Pad Right to cycle headlight settings	Hold D-Pad Right
Marker Lights	К			
High Horn	Space		Left Stick Click	
Master Switch	CTRL + W			
Alerter / ATC Reset	Q		B Button	
Cab Light	L	Shift + L		
Instrument Lights	L	Shift + I		
Handbrake	١	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.

## **Using the In-Game Cameras**

Train Sim World includes several 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 of your cab controls. You can also click the right mouse button to activate the mouse pointer. Click the right mouse button again to return to camera control.

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#### Boom Camera

Your camera extends outward on an invisible pole, you can rotate it around your focussed vehicle. Use Ctrl + left or 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**

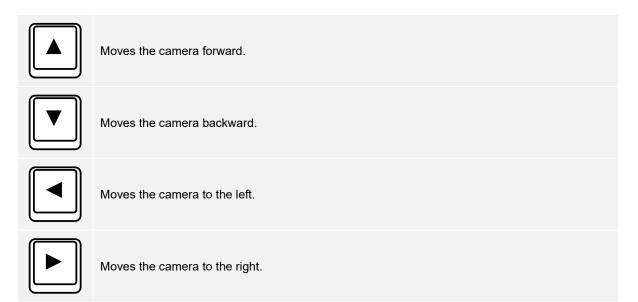
A camera that allows you to freely look in all directions whilst locked to a vehicle. This camera is useful for coupling and changing switches. Press it once to view the front of your consist and again to view the rear. Freely move your view using the cursor keys.

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#### 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.

When in any of the camera modes, you can use the cursor keys to move the camera whilst using the mouse to pan and pitch the view:



## **Dovetail Live**

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 likeminded 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. 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 Simulator 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