

Train Sim World®

NEC: New York

DRIVER'S MANUAL



DOVETAIL GAMES

TSW

TRAIN SIM WORLD®

NEC: NEW YORK

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Introducing Train Sim World: NEC New York



Train Sim World®: NEC New York is an all new first-person simulator that brings to life the experience of the North East Corridor featuring both passenger and freight trains on America's busiest passenger line.

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 the Amtrak ACS-64 and CSX GP38-2 in and around New York as you ensure commuters get to their destinations. This add-on caters for players of all ability levels with accessible tutorials for beginners and advanced procedures for experts.

An Introduction to the Northeast Corridor



This route represents the busy and vital portion of Amtrak's electrified Northeast Corridor in and around the New York City area.

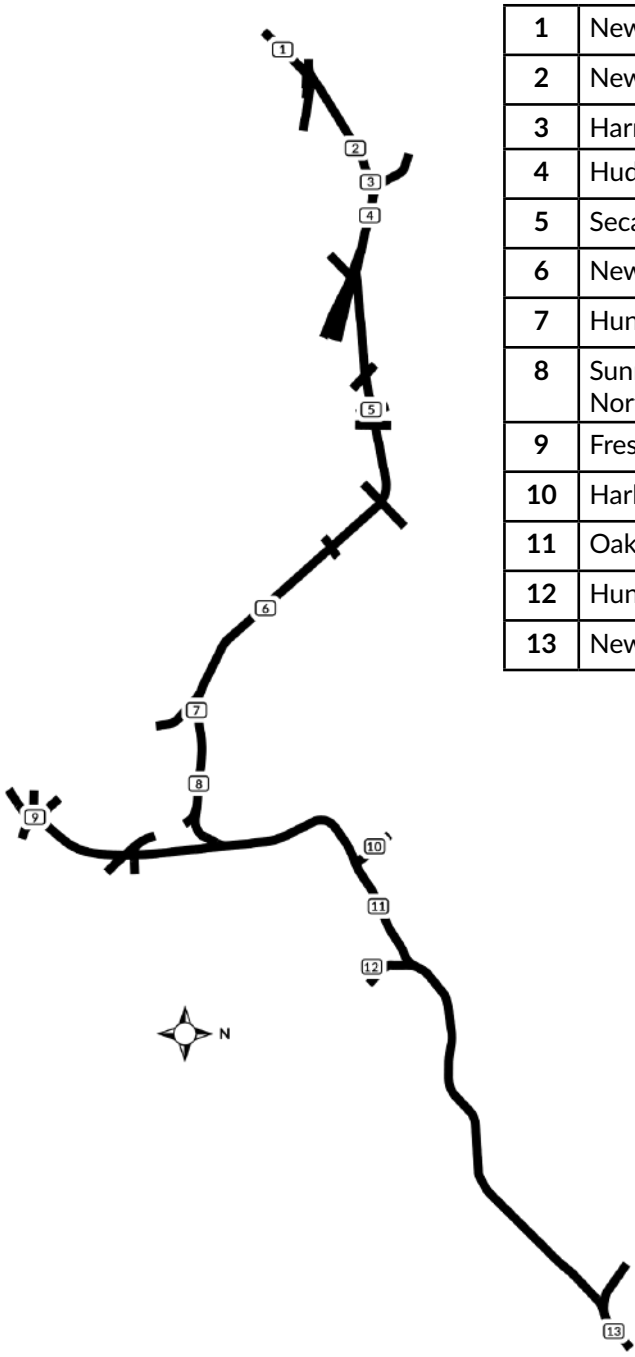
Amtrak's Northeast Corridor, extending 457 miles from Boston, Massachusetts via New York City to Washington, D. C., is the busiest passenger route in the U. S., and certainly one of the most famous. Today, Amtrak carries more than 12 million passengers annually on the NEC.

South of New York, the route's heritage is a part of the great Pennsylvania Railroad's electrified lines; North of New York City, the route was built and operated by the famed New York, New Haven & Hartford. Upon its formation in May 1971, Amtrak assumed the intercity passenger operations of the Northeast Corridor.

Notable landmarks on this route include historic New York Penn Station, Amtrak's busiest station nationwide; the Hudson River and East River tunnels that provide access to Penn Station; sprawling Sunnyside Yard, which is the servicing and staging point of Amtrak services to and from New York City; and the awe-inspiring Hell Gate Bridge crossing of the East River.

In addition to trackage owned and operated by Amtrak, this route includes adjoining CSX freight-only trackage including Oak Point Yard, Harlem River Yard, Hunts Point Produce Terminal in the Bronx section of New York City, and CSX's Fremont Secondary connecting the Hell Gate Line with the New York & Atlantic's Fresh Pond Yard in Queens, New York.

NEC New York Route Map & Key Locations



1	Newark Int Airport
2	Newark Penn
3	Harrison
4	Hudson Yard
5	Secaucus Junction
6	New York Penn
7	Hunterspoint Avenue
8	Sunnyside Yard & North Shore Facility
9	Fresh Pond Yard
10	Harlem Waste Facility
11	Oak Point Yard
12	Hunts Point Yard
13	New Rochelle

The Game Modes

Tutorials

Tutorials 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

These provide a selection of operations over the NEC New York route, Scenarios are objective based activities which provide unique experiences. Put your skills to the test mastering the operations in the unique New York Penn station or handle freight in CSX's Oak Point Yard, all on the busiest part of the busiest rail line in the United States.



Services

These provide 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. Featuring many individual services, you'll always find something going on.



An Introduction to the Amtrak ACS-64 Electric Locomotive



The Northeast Corridor has been home to a long lineage of famous electric locomotives, including the Pennsylvania Railroad's iconic GG1 and Amtrak's long-lived AEM-7. Today's standard-bearer on the NEC is the ACS-64 ("ACS" stands for "Amtrak Cities Sprinter"). Constructed by Siemens Mobility, a subsidiary of Siemens AG of Germany, the stylish electric locomotive's design is based on the successful EuroSprinter. Amtrak has purchased 70 ACS-64s, the first of which entered service in February 2014.

With a 6,400-kW (8,600-horsepower) capability, the four-axle, 54,250-pound ACS-64 features a monocoque body and double-cab. It regularly operates at speeds up to 125 miles per hour. The ACS-64 is equipped to operate on each of the NEC's three A.C. voltages (25 kV 60Hz; 12.5 kV 60 Hz; and 12 kV 25Hz) and features high-capacity regenerative braking.

Now, and likely for decades to come, the ACS-64 serves as the versatile workhorse of the Northeast Corridor, entrusted to power Amtrak's Northeast Regional, Keystone, and long distance services over the length of the busy and fast-paced NEC.

Amtrak "Amfleet I" Passenger Equipment

When Amtrak was created in 1971, it inherited vintage equipment from the private-carrier railroads and an immediate need was for new locomotive-hauled rolling stock. To quickly address that requirement, Amtrak, together with the Budd Company, developed the "Amfleet" concept, which was based upon the carbody

design of the Pennsylvania Railroad's high-speed "Metroliner" electric-multiple-unit equipment.

Between 1975 and 1977, Budd produced 492 "Amfleet I" cars, including coaches and café/lounge cars. Measuring 84 feet long, with a coach capacity of up to 84 passengers and vestibules at each end, these stainless-steel cars were well suited to the needs and rigor of the high-density Northeast Corridor. In the early 1980s, 150 "Amfleet II" cars were constructed for longer-distance services. Decades after their construction and with numerous program upgrades, the Amfleet I fleet remains the primary equipment for Amtrak's Northeast Regional services and the cars are authorized to operate at speeds up to 125 mph.

Included with this route are the Amfleet I standard coach, café car, and a car configured for Business Class services, which is offered on many Northeast Regional trains.

Quick Start Guide: Amtrak ACS-64

1. Enter the required cab.
2. Press and hold the 'Battery Control' button for approximately 5 seconds.
(Located on rear wall panel of the cab, at the top left)
3. Sit in the engineer's seat.
4. Put the reverser switch into the 'Neutral' position to activate the engineer's console.
(Located near the top centre of the engineer's console)
5. Press the 'Pantograph Up' button.
(Located on the left side of the engineer's console)
6. Make sure the MCB switch is in the 'Closed' position. This might requires the switch first being moved into the 'Open' position, before being returned to the 'Closed' position.
(Located to the left of the 'Pantograph Up' button)
7. The TOD (Train Operator Display) will indicate when the Air Brakes are fully charged.
(The TOD directly in front of the Engineer should show a main reservoir pressure of approximately 140 PSI)
8. Put the reverser switch into the 'Forward' or 'Reverse' position.
(Located near the top centre of the engineer's console)
9. Move the automatic brake and independent brake handles into their 'Release' positions.
(Located on the right side of the engineer's console)
10. Gradually move the master controller forward into the throttle range to start applying tractive effort to the train.
(Located on the left side of the engineer's console)
11. The last few pounds of air pressure holding the train stationary will release and the train will start to accelerate.

An Introduction to the CSX GP38-2 Locomotive



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. The GP38-2 was ending production at the same time today’s 21,000-mile rail giant 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 locomotive fleet and, in fact, is having its life extended via the railroad’s rebuilding programs.

50-foot Plate C Boxcar

During the first century of American railroading, the boxcar was railroading’s versatile workhorse, carrying anything from LCL (less-than-carload) traffic to lumber, manufactured products and grain. Specialized rail equipment began replacing the boxcar as early as the 1960s, but through the decades, the boxcar has remained an important part of the railroad scene. Through railroading’s history, boxcars have ranged from the wooden cars of the 19th century 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.

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 element 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. 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 various manufacturers, the 30,500-gallon tank car is representative of a general-purpose tank car and often carries ethanol and similar liquid commodities.

73-foot Centerbeam Flatcar

The centerbeam flatcar is a staple of contemporary U. S. railroading, used to efficiently haul lumber, wallboard, and similar products. In design, the cars are similar to bulkhead flats, but with a center partition providing extra stability for the loads. The centerbeam design was first introduced in the 1960s by Canadian National and from the 1980s through today has been widely used throughout North America. The most common length of centerbeam flats is 73 feet.

85-foot Open Deck Flatcar and Containers

The flatcar has been a tool of railroading since the origins of the industry, but like all rolling stock, it has dramatically evolved over the decades in length, weight, and purpose. In recent years, railroads have increasingly been called upon to haul paper waste and trash from collection facilities in major cities to disposal sites. Today, such haulage is often accomplished with the use of 85-foot-long open-deck flatcars equipped to carry four 20-foot-long closed containers.

Quick Start Guide: CSX GP38-2

1. Set the handbrake, you'll find the handbrake crank handle 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 isolation 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 isolation 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 the 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.

Safety Systems – Alerter

The **Alerter** is a straightforward 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 – ACS-64

On the back wall of the cab there is a switch that turns the alerter on and off.

Alternatively, while sat in the engineer's seat of either cab you can press **SHIFT-ENTER** to toggle the alerter state.

How to Activate / Deactivate – GP38-2

On the rear wall of the cab, open the fuse cabinet and find a fuse switch marked Warning Devices. Click the switch to the 'on' position to enable the alerter.

How to Use

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 or the **B** button on the Xbox controller.

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

Safety Systems – ATC

Automatic Train Control is a signal-based cab signalling and train control system. Its purpose is to inform the engineer of the Maximum Authorised Speed (MAS) at any given time while operating on the route. As signal indications change they will be reflected on the display unit to the right of the main Train Operator Display.

Note: that ATC will only have any effect if the signal indication is not clear/green – while the signal is clear/green there are no limits imposed by ATC. See ACSES for how this situation is managed.

How to Activate/Deactivate

Press **CTRL-ENTER** to toggle the ATC and ACSES safety systems together. It is not possible to operate them independently from the keyboard.

You can also find a switch for the ATC on the back wall of the cab.

How to Use

As you drive, monitor the ADU for signal aspects and Maximum Authorised Speed. If the signal aspect changes in either direction (*faster or slower*) there will be an audible alert.

You have 5 seconds to respond to the alarm, begin slowing the train and reach 0.5 metres per second deceleration. Once the train is slowing at 0.5 metres per second per second the “*SUPPRESSION*” indicator on the ADU will begin to flash and you will have a further 5 seconds from this point to increase your braking to reach 1.5 metres per second per second deceleration. Once you reach 1.5 metres per second per second the “*SUPPRESSION*” indicator will stop flashing and be on continuously and you can continue braking now until you are within the MAS. Once within the MAS, release the brakes and continue your journey.

If you fail to achieve any of the targets outlined above, the train will engage a penalty brake application.

In the event of a penalty application, you will not be able to take any further actions until the train has stopped. Once it has come to a complete stop, you should reset controls to normal state (*throttle to minimum, reverser to neutral, brakes to full service*), you can then release the brakes and continue.

Note: The cab signal indications shown on the cab represent the last indication that you passed, i.e. they are the signal indication you are currently within, they are not advance notice of the upcoming signal indication.

Safety Systems – ACSES

ACSES, the Advanced Civil Speed Enforcement System, is a form of Positive Train Control (PTC) that takes a much greater role in the safety of the train. While ATC has a very coarse view of the road ahead based on the signal aspects it receives and shows to the engineer, ACSES adds a clear view of all the speed limits along the line and any temporary speed restrictions that are in place.

ACSES will guide the engineer down to speed reductions using a gradual change of Maximum Authorised Speed and the engineer need only follow this to achieve an optimum and safe speed.

How to Activate/Deactivate

Press **CTRL-ENTER** to toggle the ATC and ACSES safety systems together. It is not possible to operate them independently from the keyboard.

You can also find a switch for ACSES on the back wall of the cab.

How to use

As you run along the line, simply monitor the Maximum Authorised Speed and ensure that you are within it at all times.

As you approach a speed reduction, the “*Time to Penalty*” indicator will start showing a number of seconds until the penalty brake will apply. Begin slowing the train and keep this above zero while noting the MAS as it begins to reduce. You cannot exceed the MAS at all, and should use the Time to Penalty to predict changes.

For example, if you’re running at 45 mph in a 45 mph section with 45 on the MAS then you’re within limits and will be fine. As you approach a 30 mph limit however what would happen is that the MAS drops to 44 mph and you’re immediately running over speed and will get a penalty application. Watching the Time to Penalty, at some point prior to the reduction in the MAS the Time to Penalty would have started counting down to the moment that the MAS begins to reduce, so you would then begin to slow the train away from 45 mph.

As you slow the train, you will see the Time to Penalty adjusting – if you’re over braking away from the ideal deceleration curve the Time to Penalty will increase, and if you’re under braking towards the ideal deceleration curve then it will decrease. Try to remain consistent as you slow to provide a smooth, efficient and safe ride for passengers.

There is an audible alert once the Time to Penalty starts showing a value, and a

further audible alert when the MAS begins to change (*in either direction*). If you fail to achieve any of the targets outlined above, the train will engage a penalty brake application.

In the event of a penalty application, you will not be able to take any further actions until the train has stopped. Once it has come to a complete stop, you should reset controls to normal state (*throttle to minimum, reverser to neutral, brakes to full service*), you can then release the brakes and continue.

Passenger Door Controls

In Train Sim World: NEC New York, you can control the passenger entry and exit doors on each side independently i.e. either left side or right side. A simple method of control has been implemented for the ACS-64. Simply press the TAB key to call up the menu and select on which side of the train you wish to lock/unlock the doors.

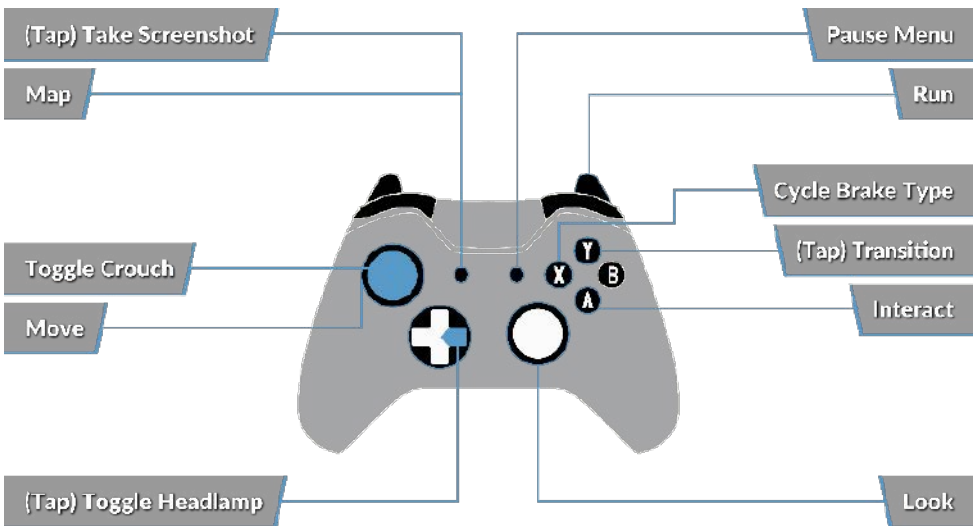
On the ACS-64, you cannot directly interact with the passenger car doors because this is normally controlled from the passenger cars themselves, so you must use the TAB key to cause the doors to open/close.

Controls / Input Devices

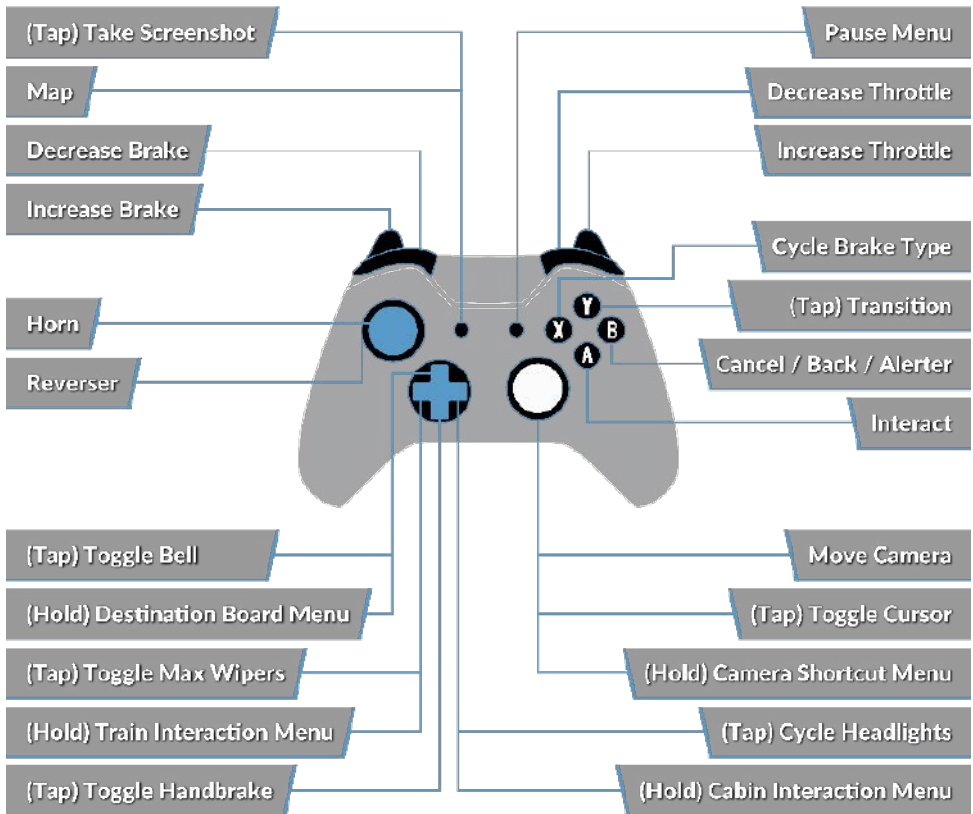
Input devices like the controller and keyboard take on different functions depending on what you are doing.

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 - 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

Locomotive Controls

Name	Keyboard		Controller	
	Increase/ Press	Decrease	Increase/ Press	Decrease
Throttle & Brake	A	D	Right Trigger	Right Bumper
Reverser	W	S	Left Stick Up	Left Stick Down
Auto Brake	Apostrophe	Semi Colon	Left Trigger	Left Bumper
Headlights	H	SHIFT + H	D-Pad Right (Hold)	D-Pad Right (Hold)
High Horn	Space		Left Stick Click	
Low Horn	N			
Master Switch	CTRL + W			
Alerter / ATC Reset	Q		B	
Pantograph	P	SHIFT + P		
Sander	X			
Cab Light	L	SHIFT + L		
Handbrake	\	SHIFT + \		
Emergency Brake	Backspace			
Wipers	V	SHIFT + V	DPad Up	
Toggle Alerter	SHIFT + Enter			
Toggle ATC	CTRL + Enter			
Toggle ACSES	CTRL + Enter			

Controlling the Camera & Camera Modes

Train Sim World: NEC New York 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, 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.

Customising the HUD

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

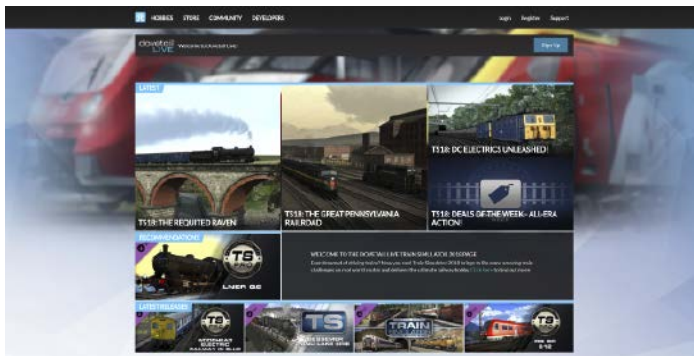
Control	Function
CTRL + 1	Toggles the in-world objective marker
CTRL + 2	Toggles the in-world next speed limit marker
CTRL + 3	Toggles the in-world next signal marker
CTRL + 4	Cycles the next speed limit / signal information panel in top right
CTRL + 5	Toggles the speedometer panel (or clock/compass while walking)
CTRL + 6	Toggles the Score Display
CTRL + 7	Toggles the passenger stop marker on the track
CTRL + 8	Cycles the centre dot transparency (off, 50/50, white)

Dovetail Live Account

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?

Train Simulator World: NEC New York 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 TSW: NEC New York?

This is an easy process and will allow you to play Train Sim World: NEC New York in English, French, Italian, German, Spanish, Russian and Polish. To change the language of Train Sim World: NEC New York, right-click on the Steam icon on your PC desktop, left click on 'Library', right click on 'Train Sim World: New York', 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: NEC New York 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: NEC New York can be downloaded from the Steam Store Page at store.steampowered.com/app/577357. Scroll down the page and locate the Download Manual Link to download.

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

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TRAIN SIM WORLD®

NEC: NEW YORK