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Quick Start Guide: Amtrak SW1000R Diesel Switcher



- 1. Enter the required Cab and sit in the Engineer's seat
- 2. Set the following three switches:
 - a. Engine Run Switch to ON
 - b. Generator Field Switch to ON
 - c. Control & Fuel Pump Switch to ON
- 3. Next, the PCS needs to be reset by moving the Automatic Brake to Emergency and then back to Release.
- 4. Move the Engine Startup Switch to Fuel Prime for a few seconds
- 5. Move the Engine Startup Switch to the Engine Start position and hold it until the engine catches
- 6. Set the cab and gauge lights as appropriate
- 7. Set the exterior lighting as appropriate
- 8. Wait for the brakes to charge
- 9. Set the Independent Brake to Full Application
- 10. Set the Handbrake to Release
- 11. Insert the Reverser Handle
- 12. Set the Reverser to the appropriate direction
- 13. Throttle can now be applied as appropriate.

Quick Start Guide: Amtrak Ex-Metroliner Cab Car



- 1. Enter the required Cab
- 2. Sit in the Engineer's Seat
- 3. Wait for the PCS to be reset, this will complete once the brakes have fully charged
- 4. Close the Main Circuit Breaker
- 5. Set the Reverser to the Forward position
- 6. Set the Brake Mode to Lead
- 7. Set the Parking Brake to Off
- 8. Set the cab and gauge lights as appropriate
- 9. Set the exterior lighting as appropriate
- 10. Release the Automatic Brake
- 11. Throttle can now be applied as appropriate.

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 (Metroliner Cab Car only).

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 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 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.

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 Aspect Display Unit in the center of the desk:

How to Activate/Deactivate ATC

Whilst sitting in the engineer's seat, press CTRL-ENTER to toggle the ATC and ACSES safety systems together (Metroliner Cab Car only).

How to Use ATC

Simply ensure that your speed is kept beneath the lit speed indicator on the middle of the control desk. If the speed indicator changes to a greater speed you will hear an audible tone, but you don't need to do anything else except optionally increase your speed. If the speed indicator drops to a lower speed, then an alarm will sound that you must acknowledge by pressing Q (B button on Xbox controller) and slow promptly to the new maximum speed as indicated.

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 ACSES

Whilst sitting in the engineer's seat, press CTRL-ENTER to toggle the ATC and ACSES safety systems together (Metroliner Cab Car only).

How to use ACSES

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 indicator, at a 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. 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 their starting state (move throttle to minimum, reverser to neutral and brakes to full service), you can then release the brakes and continue.

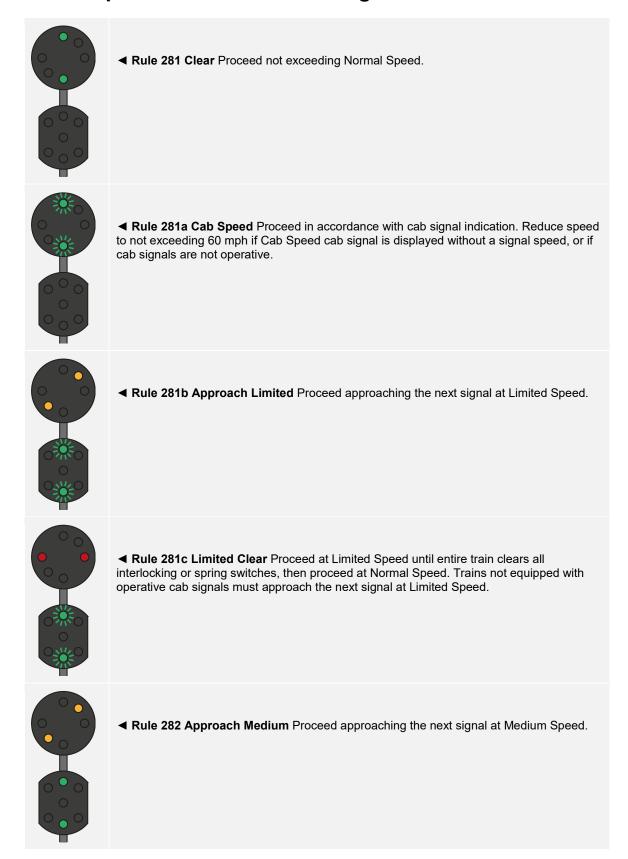
American Railroad Signalling: Northeast Corridor

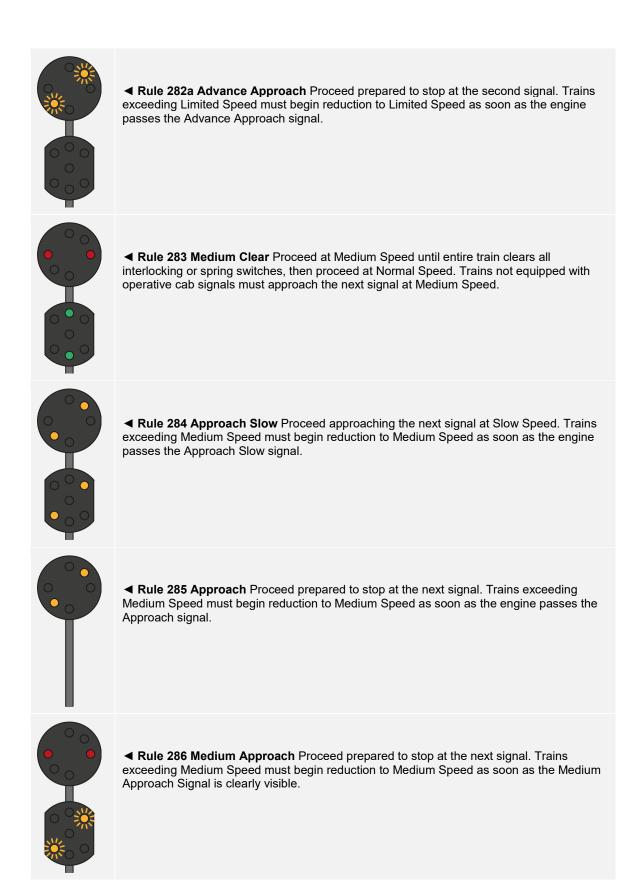
Signals used on the Northeast Corridor as represented in Train Sim World consist of a number of components that form the basis of advising the Engineer, the state of the route ahead. There are several signal types used on Northeast Corridor, which are made of one or more "signal heads" arranged vertically 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:

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.
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 45 mph.
Medium Speed	Defines the MAS as 30 mph.
Slow Speed	Defines the MAS as 15 mph.
Restricted Speed	Defines the MAS as 20 mph when outside of interlocking limits and 15 mph when within interlocking limits.
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







■ Rule 288 Slow Approach Proceed prepared to stop at the next signal. Slow Speed applies until entire train clears all interlocking or spring switches, then Medium Speed applies.



■ Rule 290 Restricting Proceed at Restricted Speed until the entire train has cleared all interlocking and spring switches and the leading wheels have:

- 1. Passed a more favorable fixed signal, or
- 2. Entered a non-signalled area, or

Trains with operative cab signals must not increase speed until the train has run one train length or 500 feet (whichever distance is greater), past a location where a more favorable cab signal was received.



■ Rule 291 Stop & Proceed Stop, then proceed at Restricted Speed until the entire train has cleared all interlocking and spring switches and the leading wheels have:

- 1. Passed a more favorable fixed signal, or
- 2. Entered non-signalled DCS territory, or

Trains with operative cab signals must not increase their speed until they have run one train length or 500 feet (whichever distance is greater) past a location where a more favorable cab signal was received.

Where a letter G (Grade marker) or a letter R (Restricting marker) is displayed in addition to a number plate as part of these aspects, freight trains may observe the signal as though Rule 290 Restricting were displayed.



■ Rule 292 Stop You must not proceed beyond this signal.



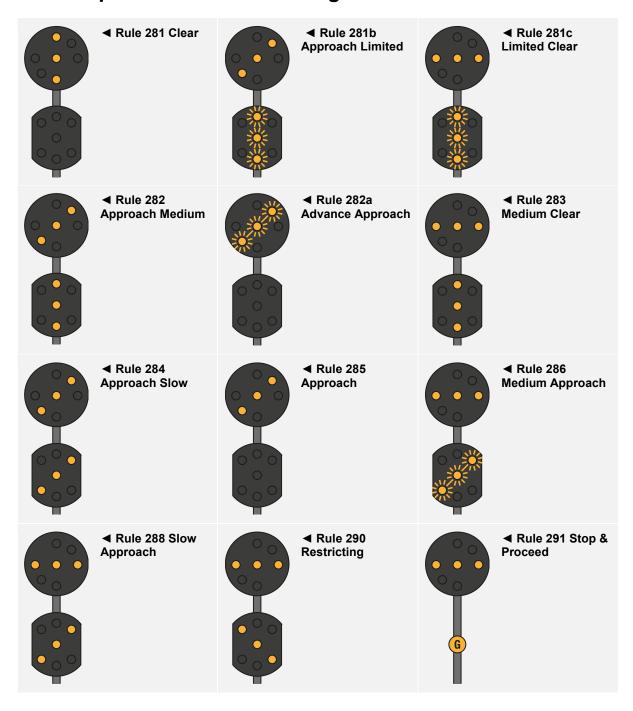
■ Rule 280a Clear to Next Interlocking Trains with inoperative cab signals, automatic train stop, or speed control must proceed on fixed signal indication, (and cab signal indication, if operable) not exceeding 79 MPH.

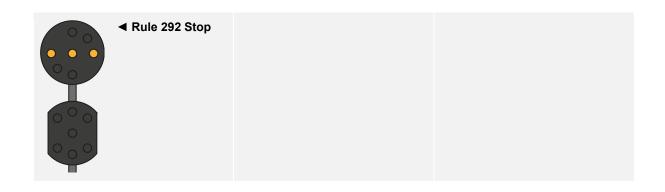
Trains with inoperative cab signals must approach the next home signal prepared to stop, unless Approach Normal (Rule 280b) is displayed on a distant signal prior to the home signal.



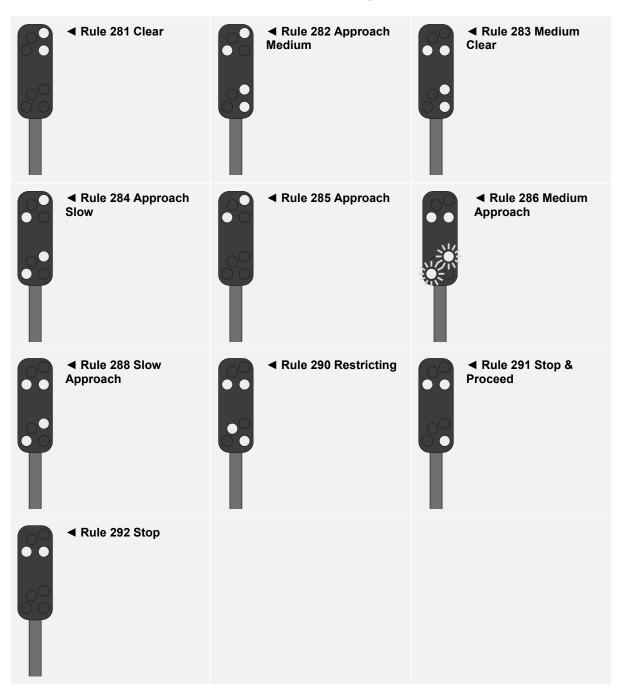
■ Rule 280b Approach Normal Trains with inoperative cab signals, automatic train stop, or speed control must proceed on fixed signal indication, (and cab signal indication, if operable) not exceeding 79 MPH.

Main Aspects: PRR Position Light





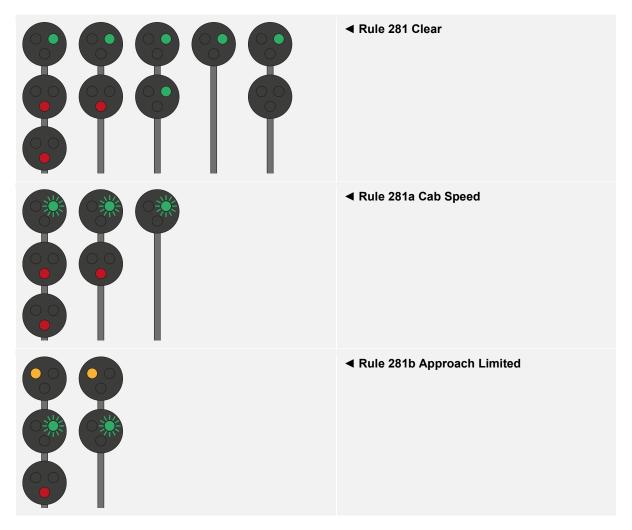
Main Aspects: Pedestal Position Light (Domino)

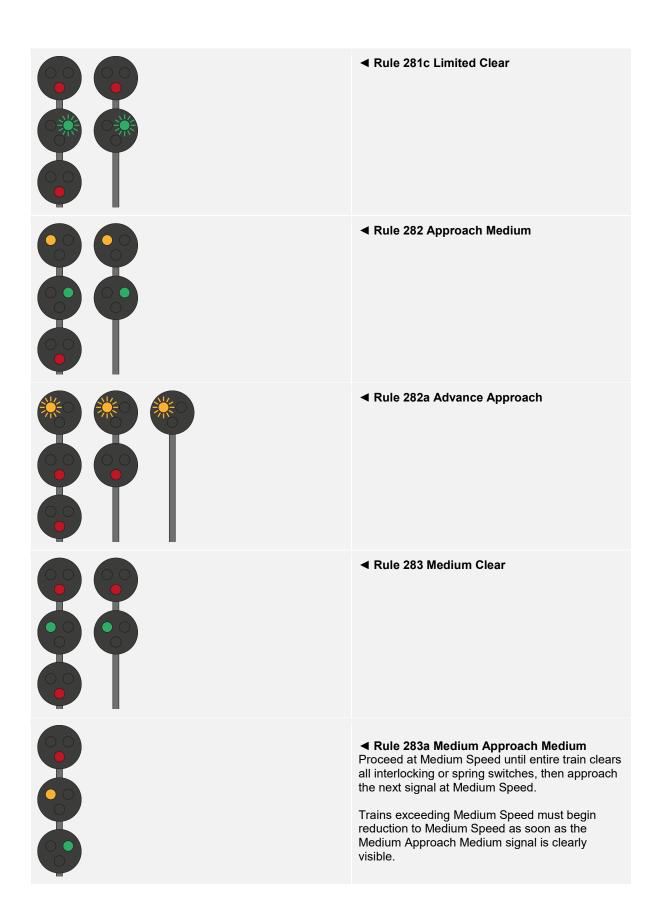


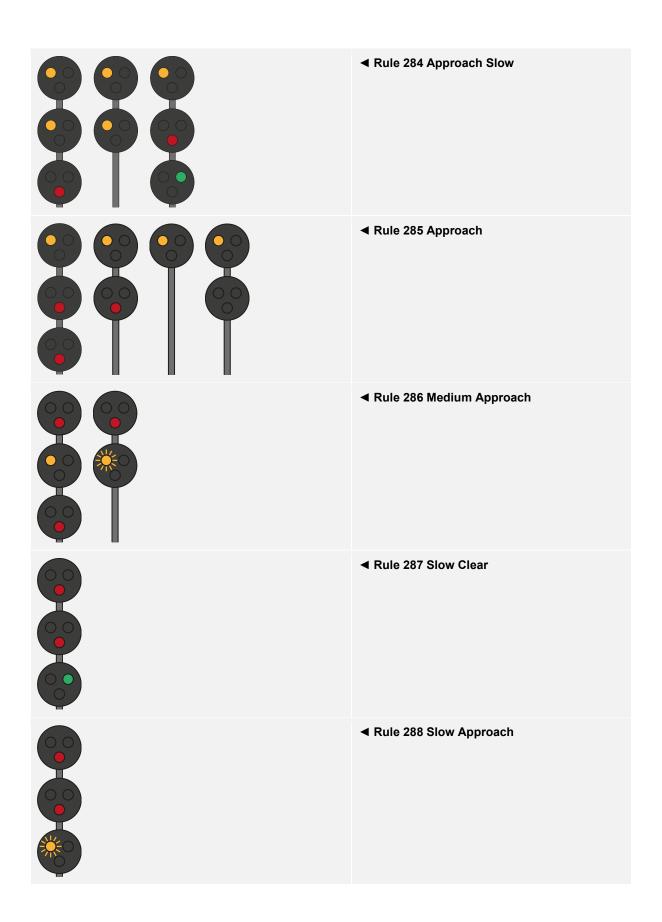
Main Aspects: PRR Dwarf Signals

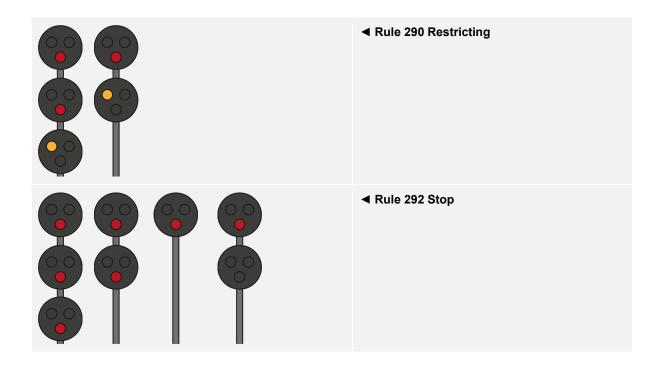


Main Aspects: Triangular Colour Light (Tri-Light)









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.

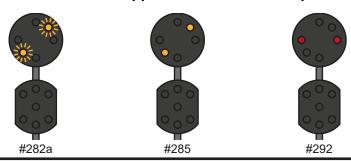
Progressions Leading to a Stop

Rule 285 Approach ► Rule 292 Stop



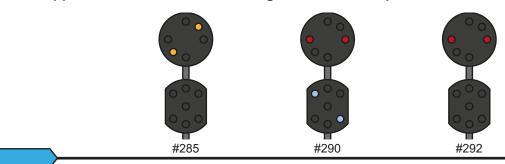
In the above example, the Approach signal precedes the Stop signal which is warning the engineer that a signal they are approaching is displaying a Stop aspect. The engineer would normally begin reducing speed in preparation for bringing the train to a complete stop.

Rule 282a Advance Approach ► Rule 285 Approach ► Rule 292 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.

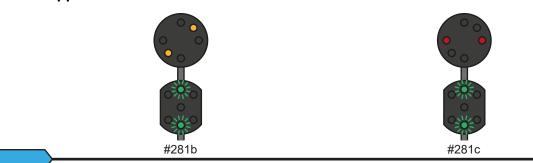
Rule 285 Approach ► Rule 290 Restricting ► Rule 292 Stop



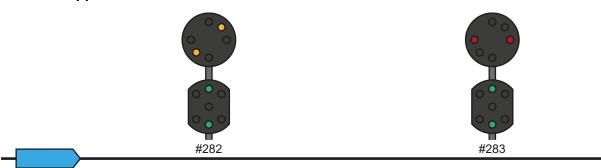
If two signals are too close together, instead of showing an Advanced Approach signal, you may see a Restricting aspect in between the Approach and Stop signals to bring you further down in speed.

Progressions for Slowing Down

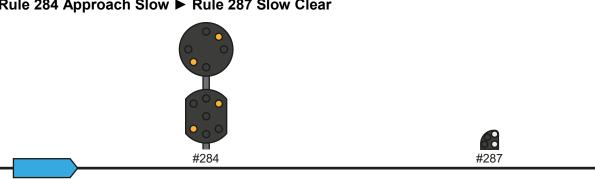
Rule 281b Approach Limited ► Rule 281c Limited Clear



Rule 282 Approach Medium ► Rule 283 Medium Clear



Rule 284 Approach Slow ► Rule 287 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 100 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 281b Approach Limited ▶ Rule 282 Approach Medium ▶ Rule 284 Approach Slow ► Rule 287 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.

Reacting to Signals on the Route

Depending on the aspect displayed on a signal, you may need to take appropriate action as follows:

Rule & Aspect	Action
281 Clear	Continue at normal speed.
281a Cab Speed	Operate according to the speed displayed in the cab. In the case of the ACS-64, this speed will be displayed in the "Maximum Authorized Speed" section of the Aspect Display Unit when you have ATC and ACSES enabled. If you are exceeding the cab speed when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach the cab speed and then maintain this speed.
281b Approach Limited	Approach the next signal at 45 mph. If you are exceeding 45 mph when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 45 mph. Do not exceed 45 mph as you approach the next signal.
281c Limited Clear	This signal usually comes after an Approach Limited signal and will only appear at interlockings. Do not exceed 45 mph through the entire interlocking. When the train has cleared the interlocking, you can accelerate to the Maximum Authorized Speed. If the in-cab signals are not operating, you must approach the next signal at 45 mph.
282 Approach Medium	Proceed approaching the next signal at 30 mph. Although this signal states "medium" speed, the signal speed in the cab for this particular aspect will show 45 mph. Trains passing an Approach Medium signal are permitted to go 45 mph but MUST slow to 30 mph before passing the next signal. ACSES will ensure the train is slowed to 30 mph before the next signal. If you are exceeding 45 mph, when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 45 mph. Maintain 45 mph if you wish but ensure you are travelling no more than 30 mph before passing the next signal.
282a Advance Approach	Be prepared to stop at the second signal. Not the NEXT signal, but the signal after that. If you are exceeding 45 mph when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 45 mph. Do not exceed 45 mph as

	you approach the next signal. Keep in mind that you are being progressed to a stop.
283 Medium Clear	This signal usually comes after an Approach Medium signal and will only appear at interlockings. Do not exceed 30 mph through the entire interlocking. When the train has cleared the interlocking, you can accelerate to the Maximum Authorized Speed. If the in-cab signals are not operating, you must approach the next signal at 30 mph.
283a Medium Approach Medium	This signal will only appear at interlockings. Do not exceed 30 mph through the entire interlocking. If you are exceeding 30 mph when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 30 mph. Do not exceed 30 mph as you approach the next signal.
284 Approach Slow	Approach the next signal at 15 mph. Although this signal states "slow" speed, the signal speed in the cab for this particular aspect will show 30 mph. Trains passing an Approach Slow signal are allowed to go 30 mph but MUST slow to 15 mph before passing the next signal. ACSES will ensure the train is slowed to 15 mph before the next signal. If you are exceeding 30 mph when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 30 mph. Maintain 30 mph if you wish, but ensure you are going no more than 15 mph before passing the next signal.
285 Approach	Be prepared to stop at the next signal. You should never assume you are going to get any aspect more favorable than a Stop signal next. If you are exceeding 30 mph when passing this signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 30 mph.
286 Medium Approach	This signal essentially means the same as 285 Approach but is used when switching tracks. Approach is for straight ahead movements. You should never assume you are going to get any aspect more favorable than a Stop signal next. If you are exceeding 30 mph when you clearly see the signal, move the brakes into Suppression, acknowledge the signal, and release the brakes once you reach 30 mph.
287 Slow Clear	This signal usually comes after an Approach Slow signal and will only appear at interlockings. Do not exceed 15 mph through the entire interlocking. When the train has cleared the interlocking, you can accelerate to the Maximum Authorized Speed. If the in-cab signals are not operating, you must approach the next signal at 30 mph and cannot start accelerating until you have left interlocking limits.

288 Slow Approach	Proceed but be prepared to stop at the next signal. You should never assume you are going to get any aspect more favorable than a Stop signal next. You will have already slowed to 15 mph before receiving this signal. It is meant to be given when switching tracks in Slow speed areas and the next signal is a Stop signal. Do not exceed 15 mph through the entire interlocking, then 30 mph applies afterward.
290 Restricting	Be sure to abide by the 20-mph limit outside of interlocking limits and 15 mph when within interlocking limits. Restricting can happen within interlocking limits or outside of interlocking limits. If you pass a more favorable fixed signal, you can only start accelerating when the entire train has cleared the interlocking. If your cab signals upgrade to a more favorable aspect, you must move one train length or 500 feet (whichever distance is greater) before accelerating.
291 Stop and Proceed	Bring the train to a complete stop before the signal. Once stopped, you can pass the signal at 20 mph outside of interlocking limits and 15 mph when within interlocking limits.
292 Stop	Bring the train to a complete stop before the signal and stay stopped until the aspect improves.

In-Cab Indications

Whenever you pass a trackside signal, the in-cab display is also updated. The indication that is displayed in the cab may or may not be the same as the trackside signal that you passed. If the indication displayed in the cab matches the trackside signal at the entrance to a block, then the trackside signal should be obeyed. If the signal block conditions change whilst you are between trackside signals, the in-cab display may change, and the in-cab indication should be obeyed until you reach the next trackside signal.

Refer to the chart below to note the differences:

Trackside Signal Indication	In-Cab Signal Display
Clear	Clear
Cab Speed	Clear, Cab Speed, Approach Limited, Approach Medium
Limited Clear	Approach Limited, Approach Medium
Medium Clear	Approach Medium
Approach Limited	Approach Limited, Approach Medium
Approach Medium	Approach Limited, Approach Medium
Advance Approach	Approach Limited, Approach Medium
Medium Approach	Approach
Approach	Approach
Approach Slow	Approach
Slow Clear	Restricting
Slow Approach	Restricting
Restricting	Restricting
Stop & Proceed	Restricting
Stop	Restricting

Default English Keyboard & Other Controls

	Keyboard		Controller	
Name	Increase / Press	Decrease	Increase / Press	Decrease
Throttle	Α	D	Right Trigger	Right Bumper
Brake	í	;	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	K			
High Horn	Space		Left Stick Click	
Master Switch	CTRL + W			
Alerter / ATC Reset	Q		B Button	
Cab Light	Ł	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:

1 Key - First Person Camera or Cab Camera

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

2 Key - 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 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.

3 Key - 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.

8 Key - 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 includes many options for you to customise the Head Up Display (HUD):

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

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. 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