



# TrainSimWorld starters guide

TSW2020 edition

Rudolf Heijink

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# Preface

## ***Introduction***

For a long time I thought it would be useful to create a starters guide for Trainsimulator, to make it easier to start using this game. I did not yet complete that project, but now TSW has been published, I think it is useful to start with this guide right away and let it grow with all the answers given by community members.

Now the number of DLC is growing faster and faster, I decided to split this guide. The TSW Start Guide will provide you with general information, that is largely independent of the DLCs you bought. For a number of DLC, I will issue separate game guides. These game guides can provide more detailed information, specific for the route.

## ***Images***

Each chapter is introduced with a screenshot I made in game. Later I will replace them with screenshots from other routes and rolling stock.

## ***Acknowledgements***

A big thank you to all community members that contributed to the contents of this guide. May will not be aware of their contribution, but lots of information comes from the community forums.

I like to mention Jim Shilliday (PlaysWithTrains) for his corrections on version 0.4 of this manual and Juan Manuel Luengo for his Spanish translation.

## ***Frontpage image:***

F40PH train at the maintenance facility is ready for service (Peninsula Corridor Route)

## ***Disclaimer***

This guide is provided "as is" the author cannot accept any consequences from the use of this guide.

The contents is the sole responsibility of the author.

## ***Contact***

Comments are welcome at [trainsimulator@hollandhiking.nl](mailto:trainsimulator@hollandhiking.nl).

But please be aware that I cannot provide you help with your game issues. If you have any questions, please use one of the regular community forums.

Enjoy reading!

Rudolf Heijink

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## 1 Introduction

Train simulation is a serious game with a fairly steep learning curve. To give you a head start, I created this guide, which targets Train Sim World, available at steam:

<http://store.steampowered.com/app/530070>

This guide should help you with following questions:

1. What kind of game is it?
2. Should I buy this game?
3. Where can I find additional content and tools?
4. Which communities are useful for me?
5. Additions to the official game manuals
6. Tips and tricks you won't find in the manual

This guide is NOT a game manual, it is a guide that helps you understand the game.

In addition to this manual I will create a number of route guides with specific information on signalling, the rolling stock and whatever I can find for you. Check out my website for them!



## 2 Before you buy this game

### 2.1 About TrainSimWorld

TrainSimWorld (TSW) is a first person railway simulation program, or train simulator. Essentially, the game purpose is that you drive a train safely from A to B, performing a number of tasks on your way and avoiding violation of the basic rules for a train driver:

1. Never exceed the maximum allowed speed.
2. Never pass a signal at danger without explicit permission to do so.
3. Drive according to the time schedule, do not depart early, do not arrive late.
4. Perform all work orders.
5. Comply with safety regulations.

The game has no end, you can play it as long as you like. Also it is not competitive, you cannot win a game, but you can:

- Learn about different signalling rules
- Learn about the huge differences between different trains
- Enjoy beautiful landscapes
- Find out if you would like to be a train driver
- ...

Because a train drives on track, driving a train seems simple. Once the engine is working you can only drive and stop forward or backward. It is far more complicated than you might think.

- Trains are heavy, which means it takes a long time to make them stop. The braking system is not very helpful.
- Stopping exactly at the right spot is hard, if you combine it with the requirement to arrive on time.
- Signals may be difficult to see in time.
- Safety procedures may interrupt driving if you are not alert all time.
- Landscape (especially grades) and weather conditions have a lot of impact on the behaviour of a train.
- Trains have some flexibility, especially with long trains this may result in speed differences between front and rear.
- Steam engines have a lot of particular optimization rules to make them run properly, especially going up a hill. (Note TSW does not yet have any steam engines).

This makes train simulators a specific class of simulation games.

Train Sim World (TSW) is a third generation train simulator. Still, the key is you are a train driver and performs the tasks a train driver performs. It is new in a number of ways:

1. The game engine is more based on train physics than its predecessors, contributing to realism.
2. Trains and landscape are modelled with more detail than its predecessors. Just have a look at the picture above this chapter and see how much detail there is in the flowers.
3. TSW has a number of features like a cold boot, probably fairly realistic handling of multiple units and brakes. You can use these features and gain a lot more of insights in how you keep these engines running, though it is possible to just drive them more like TS2020.
4. New is that the game is much more prepared for new gameplay and multiplayer options, though these are not yet available. An example is that you walk now along the tracks, enter a train that is driven automatically, operate the turntable and switches by walking to the correct location. I'm sure there will be a gameplay possible where a driver and shunter work together to compose a train. Probably it will be possible to have a separate dispatch role.
5. This will be the first train simulator that will run on other platforms than Windows. Xbox and PS4 versions are available.
6. New is service mode, a whole day with scheduled trains. You pick one of them and drive that train to its destination. What would happen if other players pick other trains and drive these?
7. It has a number of features we take for granted, but that are in fact very new and innovative. One of them is that if you own additional engines, they can be integrated in the existing game, providing more variety.
8. It will be possible to create your own content and add this to the game, either as freeware or as payware. This is announced, but not yet released.

So, this all sounds good. The downside is that it is a new development and at the moment it is limited in content. The content creation tools are not yet available. There are a fair number of technical issues to solve. Also it is very demanding for resources. You need a powerful game PC to play.

If you are not sure if you will like to play this type of game, you may choose Open Rails. This is free and you can find out if you like the concepts, though I think in the long run, TSW will be far superior. See also section 2.5.1

## 2.2 Should I buy it now?

In order to find out if TSW is something for you, you should answer following questions with yes:

1. Do you like the idea of being a train driver, which requires a lot of focus and concentration, while for long periods of time nothing sensational will happen?
2. Do you possess a PC that meets the minimum requirements for TSW (see below)?

3. Do like to have a realistic driving experience? Like being able to walk around the train, walk along tracks, ride as a passenger, perform cold boots?
4. Would you like to play with setting up multiple units, cold boots for engines etcetera?
5. Can you afford to pay Euro 30 or US\$ 40 for this game?

If you answer most questions with yes, then you may consider to buy this game. If the problem is in the second question, you may either invest a lot of money, or try one of the alternatives.

You also may want to wait for the next sale. It definitely will be much cheaper then. I think you can get it for Euro 10 if you have enough patience.

## 2.3 System requirements PC version

MINIMUM:

- OS: 64-bit Windows 7 Service Pack 1, Windows 8 / 8.1 or Windows 10
- Processor: Intel Core i5-4690 @ 3.5 GHz or AMD FX-6300 @ 3.5 GHz
- Memory: 8 GB RAM
- Graphics: NVIDIA GeForce GTX 750 Ti or AMD Radeon R9 270 with 2 GB VRAM or more
- DirectX: Version 10 or newer
- Network: Broadband Internet connection
- Storage: 20 GB available space
- Sound Card: DirectX Compatible
- Additional Notes: Requires mouse And keyboard or Xbox Controller

RECOMMENDED:

- OS: 64-bit Windows 7 Service Pack 1, Windows 8 / 8.1 or Windows 10
- Processor: Intel Core i7-4790 @ 3.6 GHz or AMD Ryzen 7 1700X @ 3.8 GHz
- Memory: 8 GB RAM
- Graphics: NVIDIA GeForce GTX 970 or AMD Radeon RX 480 with 4 GB VRAM or more
- DirectX: Version 10 or newer
- Network: Broadband Internet connection
- Storage: 20 GB available space
- Sound Card: DirectX Compatible
- Additional Notes: Requires mouse And keyboard or Xbox Controller

You can trade some components a little bit. If you own an SSD and have a powerful processor, you may use a bit lower quality graphics card. If you are willing to accept some stutter and low frame rates and/or lower visual quality, you may use systems that are a bit under the level indicated.

What certainly will not work is a laptop without a separate graphics card.

Bottom line, you can try. If you play less than two hours, you can get a refund at steam.

**Warning:** I used an NVidia 660GTX which is underpowered, but it worked. After about 200 hours playing TSW the card was defect. It is possible that that it was overcharged, so be careful if your system does not meet the requirements!

## 2.4 TSW for consoles

TSW is also available for consoles, the XBOX1 and PS4. This may be a solution if you cannot afford to buy an expensive game PC or if you prefer to play on a large TV screen using a controller.

A few comments:

1. I love to use the XBox controller also when playing at the PC. Especially in First Person mode it is much easier than the keyboard, but I recommend to have at least a keyboard available when playing (if this is supported for consoles), but I am not sure this is a good solution to handle the controls in the engine. For this keyboard and mouse are more suitable.
2. The Sandpatch route is not, and will not be available for the consoles, because it has performance issues for a console.
3. The other DLC will be available for console as well. In most cases additional content will be available for all platforms at the same day.
4. Most important, the content creation tools will NOT be available for consoles as announced by DTG. You should be aware of this when buying console editions. Note that at the moment you do get any discounts for the PC version if you own the console version

**Note:** the game manuals for XBOX1 and PS4 are of a disappointing low quality, no information on safety systems, startup procedures etcetera. Maybe these are not supported at all, I don't know, but I recommend to consult the PC version manuals anyway.

## 2.5 Alternatives for TSW

If you are not sure if you will like this game, or if your computer does not meet the requirements, there are some alternatives.

### 2.5.1 Open Rails and Microsoft Train Simulator

Microsoft Train Simulator (MSTS) exists since 2001 and still has a large fan base. You still can run the program, even on a Windows10 computer and it is still useful because of the widely used assets that are part of the routes included in the base game. You can buy it directly from Microsoft for US\$ 1.99. (Yes this is correct!).

<https://www.microsoft.com/en-us/store/p/train-sim/9wzdncrfj2zq>

But there is a new game engine that is compatible with this simulator. It is called Open Rails. Version 1.3.1 is available now and it is free. (The version number means that it covers all basic functions MSTS has and some more).

Download it here:

<http://www.openrails.org/>

You still will need the original MSTS if you want to create content, but for just driving you no longer need MSTS, though you may still need some of the MSTS routes. For playing the game Open Rails is a better solution. It is almost compatible, but behaves a bit different, because they tried to improve physics. Gradually it will get additional features MSTS does not have.

Please be aware that the graphics quality of the old MSTS content may look very outdated, once you have seen TSW.

**Note:** Jim Shilliday says this cheap version of MSTS you can buy now will not work together with Open Rails because it is an app and has a very different installation method which is not compatible with Open Rails. So you need to search for the original discs and get them somewhere second hand.

One big disadvantage is that the visual quality of the graphics will look outdated, but it is far less demanding for your computer. The latest version of Open Rails has some downloadable content (one of them a BNSF (payware) route, which is nice for non-US citizens, because BNSF does not grant licenses outside the USA). Maybe this content has a much higher quality than the original MSTS content.

**Tip:** if you are new to train simulation, try this, without investing money you can find out if you like train simulation.

### 2.5.2 Trainz

Trainz is another simulator. I never owned it, so cannot tell if it is any good. It has a far smaller customer base than the other train simulators.

### 2.5.3 DTG TrainSimulator

In 2009 Kuju presented something they called RailSimulator. This evolved to RailWorks and what is now called TrainSimulator2020 (TS2020), which is developed further by DTG. DTG now has about 50 people working on this product, so it is kind of huge. It is the predecessor of TSW.

For TS2020 a large amount of additional content is available. DTG has announced that they will continue support and development for TS2020. This is discussed often by the community, but the simple fact that it will take 2-3 years before DTG will make a profit on TSW (my estimation), makes me believe they will not abandon the “cash cow” in the next few years. Experience with MSTS shows that there will be a fan base for TS2020 for a long period of time, so no need to worry.

TS2020 is a good alternative if you do not have the patience to wait for TSW to grow. Maybe you want to play both. Believe me, there will be a lot of fun playing TS2020 for the next years, where the amount of available content is a big selling point.

In 2019 DTG released a 64-bit version. You get it for free together with the 32 bit version. This circumvents some limitations in route size and amount of detail possible in rolling stock, because it allows more than 4Gb RAM to be used for the game.

In principle it should run more stable with regard to more demanding routes. Unfortunately it is less tolerant for bugs in content and crashes more often. Into my opinion TSW is far more stable and crashes far less than TS2020.

The result of this innovation is that people say there is no future for TSW ... which has been influenced by the decision of DTG to stop development of a flight simulator. I still believe our best bet for a decent Train Simulator is TSW for the next few years, so it better be successful.

Though TS2020 is a good grown up game, it feels old and low graphics quality if you played TSW for a while. Be warned.

**Note:** if you buy TrainSimulator it will be upgraded to the latest version of the core game for free. But you will not get the new routes that are sold together with the core game. So if you buy now a legal copy of say TS2014, the core game will be upgraded to the latest version but you will retain the routes for the TS2014 game. So if you can buy a cheap elder version somewhere, with a valid registration key, do so!

### 2.5.4 Run8

As far as I understand Run8 is targeting to a more realistic driving experience, including multiplayer, and a more or less realistic looking dispatch panel. For more information see <http://www.run8studios.com/>

At the moment I only see US based content and prices are a bit higher than for the DTG simulators. The landscape detail quality is below the present standards for TS2020.

### 2.5.5 Open BVE

Open BVE has some focus in Japan and the UK. It may be interesting if you like to play with a train simulator on exotic operating systems, e.g. Mac, Linux, iOS or Android. On the negative side, landscape detailing is low (as far as I can see at some YouTube videos), but it is free, so why not give it a try? <https://openbve-project.net/>



## 3 Bundles and DLC

### 3.1 Introduction

DLC stands for Downloadable Content. The idea for DLC is that you can extend the game with additional content. This content may be free or you may have to pay for it.

For the first release, DTG built the game around the Sandpatch Grade, a US freight route. The first game version has been released using the full name TSW (TrainSimWorld) Heavy Haul. The Sandpatch grade is fully integrated in the PC core game, though rolling stock can be found in separate data files. That's why now you have to buy the Sandpatch grade as part of the core game. This is not too bad, unless you really don't want this US stuff. Presently, if you buy the game as a new customer you need to buy the game including a number of routes. See the store page for what you get exactly.

September 14<sup>th</sup> 2017 the first real DLC was released, which is called Great Western Express (GWE) and covers the route London Paddington to Reading. For this guide, this is a problem as well, because the Sandpatch route is used to illustrate the functions of the core game.

November 29<sup>th</sup> 2017 the GP-40 DLC appeared, which provides an additional engine for Sandpatch and two wagon types (steel coil and centre beam). The engine can be used both at Sandpatch but also in Service mode at the North East Corridor route. December 14<sup>th</sup> 2017 the first electric and German route is published, called Trans Rapid (TR)

Since 2018 the number of DLC is growing steadily. In this guide I cover the DLC up to February 2020, but I will not continue to provide information on all available DLC. Now you also can buy starter bundles, which are priced very attractive.

**Note:** Please check carefully what you will get before you buy.

**Note:** Bundles for PS4 or XBOX do NOT contain the Sandpatch route.

There is no need to buy all DLC. You just buy what you like and skip the other ones. However, in some cases you get some additional value if you own combined DLC. Some examples will be provided at the end of this chapter, but I need to introduce the DLC first.

## 3.2 Bundles

### 3.2.1 TSW2020 bundle

At present, TSW has a starter kit, which comes with following DLC:

1. Sandpatch route (Heavy Haul, USA)
2. Great Western Express (GWE, UK)
3. Northern Trans Pennine (NTP, UK)
4. Main Spessart Bahn (MSB, Germany)
5. Long Island Railroad(LIRR, USA)

You can buy this starter kit, even if you already own the core game, but Steam will warn you that you will not get additional copies of DLC you already possess.

There also is a DeLuxe version, which includes the Peninsula Corridor route (USA)

### 3.2.2 Older bundles

In 2019 DTG sold TSW as a bundle, including a number of routes, so not all DLC described below are available separately. The core game comes with:

1. Sandpatch route (Heavy Haul, USA)
2. Great Western Express (GWE, UK)
3. Rapid Transit (Germany)
4. North-East Corridor (USA)

There also is a DeLuxe version that also contains the GP40-2 engine, which does not add much value, except it includes a steel coil van and a centerbeam van.

This bundle is no longer available, officially but if you can buy a copy cheap, it may be attractive to complete your collection.

## 3.3 DLC for United Kingdom

### 3.3.1 Great Western Express

The Great Western Express covers the area from London Paddington till reading. It is represented in the era where electrification is built, but not yet operational.

Three train types are included in the pack:

- The class 43 HST, with a maximum speed of 125 Mph in GWR livery
- The class 166 commuter train in GWR livery
- The class 66 in DB and EWS liveries

Features for this route:

1. Over 300 services in service mode, divided over HST, Regio express and a small number of freight services. A fair number of services include transferral of trains from and to the maintenance facilities in Reading or Oak depot.
2. Unloading facility for bulk cargo (only used in one scenario).
3. Train wash (used in some services, but not animated)

4. Fuel tank facility (used in one scenario)
5. Pulling off a defective HST with a helper coupling (used in one scenario)
6. Ride as a passenger with any passenger train
7. Slow speed function for class 66 (used in one scenario)
8. Busy traffic, so always a lot to see
9. Safety systems implemented in bit in a minimal way and not very accurate.

Duration of services varies from 30 minutes to over 1 hour for a distance of 35 miles.

I can recommend this DLC, it is quite good.

### 3.3.2 West Somerset Railway

The West Somerset Railway is represented as a heritage line. Unfortunately it only has diesel engines and passenger coaches.

- Class 47 diesel engine
- Class 09 shunter diesel engine

It has Mk1 coaches in red and brown livery.

Features of this route:

1. About 30 services, including several short shunting services
2. Beautiful scenario in late evening, you see the lights go on which has a very special atmosphere
3. Classic semaphore signalling
4. AWS and DSD for the class 47
5. Guard van with hand brake
6. Two coupling systems, (Bukey coupling and screw coupling)
7. Working turntable (used in scenarios)
8. Diesel tank facility (not used).
9. Manual set up of lights for Diesel Shunter
10. Wonderful sun down shunting scenario with realistic street lights.
11. Single track
12. Windmills
13. Solar panel fields
14. Cows and sheep in the meadows
15. Wonderful landscape

Services have a duration of 5 to 70 minutes. The passenger services suffer from a long in game waiting time. Time tables are poorly set and not maintainable.

I can recommend this DLC if you love enjoying the landscape and if you have a positive feel for heritage railways. Driving is a slow experience! The Diesel shunter is lovely.

The Class 33 DLC and the Class 52 DLC can be used at this route if you own them.

Also the Class 08 that comes with the Tees Valley Railway can be used. It replaces the Class09, but be aware this engine is designed for power, not for speed. You also need to setup the Class 08 for Vacuum brakes!

The Class 31 DLC also will run at WSR, here also, make sure to select Vacuum brake mode.

### 3.3.3 Class 33 Crompton

For the West Somerset Railway the Class 33 Crompton engine is available as a separate DLC. It does not come with additional rolling stock, only a few scenarios, and in service mode it can replace the class 47 running similar drives. It is a nice engine to drive, I like it better than the class 47.

### 3.3.4 Class 52

Also for WSR is the Class 52 engine in a red livery. It does come with some scenarios, but no additional services. So, once you played all services this just more of the same, just a different engine. Though it is received positively, I do not recommend to put it high on your wish list.

### 3.3.5 Northern Trans-Pennine route

The Northern Trans-Pennine route (NTP, Manchester Leeds) is set somewhere in the beginning of the 80ies of the last century and represents the decay of the UK railway system with closed tracks and stations.. It's a diesel route and modern safety systems are missing.

Most interesting is the Class 101 diesel-electric multiple unit. It has gears and this makes driving challenging and interesting. Second it comes with a Class 47 and a Class 45 engine in BR Blue livery.

In addition a mix of Mk1 and Mk2 coaches is provided, including guard coaches with a lot of space for mail.

A complete run with a class 101 may take quite long, due to its speed limits and the large number of stops.

### 3.3.6 Tees Valley Line

This route runs in an industrial atmosphere, where it combines heavy freight runs (coal and steel) and local passenger runs with the class 101.

It comes with three engines:

1. Class 101 (passengers, same one as for NTP)
2. Class 08 for shunting duties
3. Class 37 for heavy freight trains

One of the nice features is the animated coal unloading mechanics the coal vans have.

The route has a number of Easter eggs, which I will not disclose here. It is fairly short, but speed limits are low, so a service takes up to 70 minutes for passenger trains. The ix of services is nice, shunting, coal loading, depot drives, empty freight trains, load steel transports, passenger trains.

### 3.3.7 Heavy Freight pack

The NTP route does not have any freight service. The Heavy Freight pack adds this to the NTP route. You get a Class 40 in two liveries and the already known Class 08. Also two vans are included, a box van and an oil van. There are a fair number of additional services, including longer and shorter freight hauls, a small series of services that tell a single story. You really want this DLC if you own the NTP route.

### 3.3.8 Class 31

For the Tess Valley Line, a loco DLC consisting of the Class 31 and a PCA Cement van is available. This enriches traffic on this route A nice thing is that it will tow dead Class 101 passenger trains and perform the run around operations. I am not sure if these engines also will pull coal trains.

The Class 31 can also be used at WSR (use Vacuum brakes!), but not at NTP.

### 3.3.9 East Coastway

The first modern UK route, which covers part of the London-Brighton route and includes passenger services and a limited amount of freight services.

It is well received, but I do not own this route.

## 3.4 DLC for the USA

### 3.4.1 Sandpatch

Sandpatch is the first DLC for TSW. Essentially it covers Cumberland yard, which is one of those huge US railway yards and a double track route over the Sandpatch pass with steep grades up to 1.5%. Driving the long trains can be a bit challenging. The route is demanding more resources of your computer than the later ones. Therefore, it is NOT available for the consoles. The route has one passenger station, but no coaches and no passenger services.

Engines:

- GP38
- SD40-2
- GE AC4400CW

Features:

1. About 25 services in service mode.
2. Wagon doors can be opened (originally DTG intended to show cargo, but they gave up for performance reasons)
3. Detailed cold start procedure
4. Detailed multiple unit setup procedures
5. Functional turn table
6. Diesel fuel pump
7. Very detailed flowers along the tracks
8. Freeroam like shunting scenario in Cumberland
9. Two coal loading facilities (used both for services and scenarios)
10. Slow speed for the GE AC4400CW loco
11. Windmills
12. Pedestrians at the roads
13. Moving cars (on location only)

The average duration of a service is about 70 minutes. Track speeds range from 25-50Mph.

I think this DLC is quite good, due to the amount of detail put in it. The bad side is that it is relatively demanding for resources.

### 3.4.2 North East Corridor

North East Corridor covers the area for New Rochelle, through New York Penn to Newark International Airport and has in fact two almost separate routes. A diesel shunting route in the area of New York, connecting a number of yards. The second one is a moderate speed electric passenger line. Both routes are visible to each other but are completely disconnected. This allows for two completely separate experiences.

Engines:

- Amtrack ACS-64 electric locomotive
- CSX GP38-2

The route also has passenger coaches and a fair number of freight wagons, most the same as Sandpatch but some additional stuff for garbage transport. If you own the GP40 DLC, you can drive the diesel services with this engine as well.

Features:

1. Passenger services (not much variety, unfortunately)
2. Shunting services tell together the story like a day in the life of a shunter ...
3. Electric route with in cab signalling
4. Free roam shunting in service mode
5. Large number of yards

Services take from 5 minutes to a few hours to complete. The passenger services suffer from a long waiting time in New York Penn.

I have mixed feelings about this DLC. The diesel part is awesome, but the passenger services suck.

### **3.4.3 Long Island Rail Road: New York - Hicksville**

The Long Island Rail Road: (New York – Hicksville) route is a commuter route for the New York area. It comes with one train set, the M7. Despite this, it is an awesome route. Nice atmosphere, not very difficult to drive and a mix between local runs and more express like trains. A new feature is that it uses the third rail.

### **3.4.4 GP-40**

The GP-40 DLC is the only locomotive add on till now. It comes with two additional wagons, one for steel coils and the other a centerbeam flatcar. Both not very interesting.

You can run existing Sandpatch and NEC services with this loco as well. For Sandpatch you get a few not very interesting scenarios.

There is not even a separate manual. The only reason to buy this add on is to increase the variety at Sandpatch and North East Corridor. I only recommend to buy this with at least 50% discount.

### **3.4.5 The SW1200**

A nice additional thing is the SW1200 switcher. It is used for shunting passenger coaches at Sunnyside Yard, in New York. It also comes with a cab car you can use at the North East Corridor Route, which is a prerequisite for this route.

I do not own the loco, but it is on my wish list waiting for a proper discount.

### **3.4.6 Peninsula corridor**

A long route, mainly focussing on passenger services. It has a limited number of freight services, using a Union Pacific branded GP-38. It is a nice route in an urban context, but to be honest, it will not become my favourite, because there are no exciting new features. A run may take over 1 hour, if you have a regional service.

### **3.4.7 Baby bullet**

For Peninsula Corridor the Baby Bullet (MP36PH-3C), which comes with a loco, cab car and double deck coaches is a nice addition for more variety at this route. I think it does not add new services, but not sure of that.

## 3.5 DLC for Canada

### 3.5.1 Hamilton-Oakville

Congratulations to all Canadians! You managed to get the first non-UK/UK/German route. It looks like a nice one. Mainly shunting and a new feature, ethanol loading facility. There are some passenger stations along the route, but no passenger trains. The route comes with two engines, the GP38-2 in a new livery and a new GP9rm. The wagons are not new, they are very similar to the original Heavy Haul wagons. First reviews are mixed. People complain about the number of yards that are not accessible and the low number of shunting services. They think DTG has been too much in a hurry creating this route.

## 3.6 DLC for Germany

### 3.6.1 Rapid Transit

Rapid Transit is the first DLC covering Germany, it also is the first electric DLC.

It has only one Electrical Multiple Unit (EMU) the BR1442 Talent class.

The route is an S-Bahn route from Dessau through Leipzig to Markleeberg. Part of the route goes through a tunnel under Leipzig.

Features:

1. About 75 services in service mode
2. Tunnel with a lot of detail in the stations
3. Automatic coupling
4. Tempomat cruise control
5. Attempt to implement German signalling

Recently (April 2019) the route and BR1442 have been updated. PZB is working better now, few people think it is not yet working and the Br182 loco add-on adds some variety to the drives you can do.

### 3.6.2 BR182

The BR182 comes with double stock coaches we already know from the MSB route. Using new technology, if you own this DLC you will see them using existing services as AI traffic regularly. (Please mind, we take this more or less for granted but with TS2020 this is no way an option to do!)

The Br182 can also be used for the MSB route freight services, but not for the banking services.

**Note:** you need the RT route to be able to use this DLC, so you cannot use it at the MSB route if you do not own the RT route.

### 3.6.3 Ruhr-Sieg North

Ruhr-Sieg North (RSN) German route from Hagen to Finnentrop, over 60 km in total. It is a mix from freight and passenger services. Unfortunately a diesel shunter is missing for the many yards along the track.

Rolling stock:

- BR143 for both passenger and freight services
- BR185.5 for freight services
- BR146 for passenger services (very similar to the BR185.5)
- Control car

For passenger services, a set of double stock coaches is provided. For freight three types of wagons.

Features:

1. A fair number of services, a bit difficult to count them.
2. A rehauled attempt to implement PZB and Sifa.
3. Between Finnentrop and Plettenberg a number of viewpoints are accessible from first person mode. (These are a bit off track you really need to look for them).
4. Blinking lamp collectable. You need to fix this lamp and best is to find the during sun down, when the lights are on.
5. Variety in freight services with pickups and drop offs
6. AFB cruise control for both locos
7. Broken lights collectable, which requires sundown to locate them
8. Cold start procedures for BR143 and control car
9. Signalling explained in the manual

Note: PZB is not compatible with the PZB of the Rapid Transit route and there is no tutorial available.

Hopefully a shunter will be added soon for this nice route. Recommended.

### **3.6.4 Main-Spessart Bahn**

The latest German route is the Main-Spessart Bahn. It is a bit more targeting to freight traffic, up the steep (2.1%) Spessart ramp. Some interesting features:

1. Banking services up the Spessart ramp
2. Working destination displays outside the passenger trains
3. A nice harbour area with moving cranes, where you cannot yet drive (diesel only), but this will come soon hopefully.
4. Higher speed limits, up to 160 km/h

Engines included are the BR185.2, the BR146.2 and you can drive the BR143 if you own the Ruhr-Sieg North route. This route also badly needs a diesel shunter.

Personally I think the Ruhr-Sieg route is more interesting.

### **3.6.5 BR155**

The BR155 is an electric engine from the German Democratic Republic. After 1989 these engines came into service for the DB. For TSW this is a loco DLC for the RSN Route. It comes with an additional Falns wagon for heavy bulk transport (coal, iron). It has a completely different look and feel from e.g. the BR185, Br146 and BR182 and is a bit more challenging to drive. For RSN it has 16 additional services. You also can drive the lighter services (similar to the BR182) at the MSB route.

If you have a small budget, prefer the BR155 over the BR182 DLC. The BR155 does not (yet) support banking communications, though the button is present.

### **3.6.6 Rhein-Ruhr Osten**

The Rhein-Ruhr Osten route extends the Ruhr-Sieg Nord route more or less. Unfortunately it is not an extension of this route, though some people believe this was the original intention but failed for some unknown reason.

It comes with the DB BR422 S-Bahn train and the BR185.5 in MRCE livery. If you own the MSB route or RSN route, the engines for this route can drive as well at the RRO route. This also holds for the BR155 and BR182, which are sold separately.

A special feature is the moving “Wuppertal Schwebebahn” which cannot drive, but you will see it along the tracks.

### 3.6.7 Loco's at the German routes

The overview below shows which engine will run which services on German routes. Technically, more combinations are possible but DTG decided to allow realistic combinations only. That's why the BR146.2 does not drive at the RSN route, for instance.

The more add-ons you own, the more variety you may see. It is surprising how fast we take this for granted, the only thing you need to do is possess the proper add-ons. It is all arranged in the game logic. I think this is a very powerful tool also for workshop scenario's. Scenario creators can easily build alternatives based on what the is available. In the dev update of April 2019 the technology behind the scenes is explained briefly.

See also <https://live.dovetailgames.com/live/train-sim-world/articles/article/april-studio-update>

Route	Service Types	BR185.2 Railion	BR185.5 MRCE	BR185.2 DB	BR143	BR146.2	BR182	BR155	BR1442	BR422
<b>Main-Spessart Bahn</b>	Heavy freight									
	Banking loco									
	Banked freight									
	Light freight									
	Double headed freight							?		
	Passenger									
<b>Ruhr-Sieg North</b>	Freight									
	Freight coal									
	Passenger									
<b>Rapid transit</b>	EMU passenger									
	Loco passenger									
<b>Rhein-Ruhr Osten</b>	EMU passenger									
	Freight									
	Passenger									

**Figure 1 German loco's and routes overview**

**Note:** I do not own the RRO route, so I am not 100% sure about all combinations. It is based on my interpretation of information at the DTG website



## 4 Getting started

### 4.1 Game manuals

Except for the GP-40 and the Crompton all DLC come with manuals. They are a bit difficult to locate. You may go to the store page, scroll a bit down to find a link to the manual. The core game and the four included DLC have one big manual, consisting of the manuals for each DLC in one big pdf:

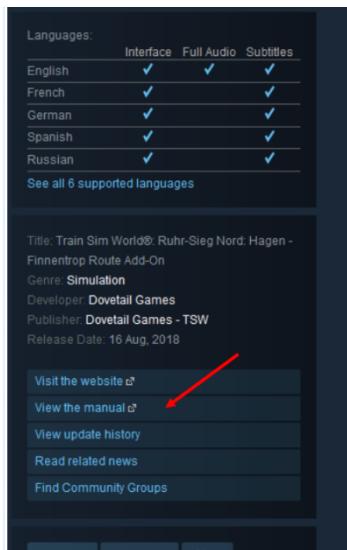


Figure 2 How to find the game manual

[https://steamcdn-a.akamaihd.net/steam/apps/530070/manuals/TSW\\_Steam\\_English\\_Digital\\_Manual.pdf?t=1533291880](https://steamcdn-a.akamaihd.net/steam/apps/530070/manuals/TSW_Steam_English_Digital_Manual.pdf?t=1533291880)

The manuals for the other DLC can be accessed from their own store page.

Unfortunately DTG made the choice not to download the manual as part of the game contents. Also, the quality of the manuals is poor and they are incomplete. The Ruhr-Sieg route has a nice single page overviews of the key mapping and of PZB. The key mapping also should help you with the other DLC.

For the bundle, DTG decided to bundle all separate DLC manuals in one big booklet. If you prefer separate manuals for each DLC, you may use google and you definitely will be able to locate the these as well.

For the console versions you can find the manuals here:

<https://live.dovetailgames.com/live/train-sim-world/articles/article/tsw-help>

**Note:** the game manuals for XBOX1 and PS4 are of a disappointing low quality, no information on safety systems, startup procedures etcetera. Maybe these are not supported at all, I don't know, but I recommend to consult the PC version manuals anyway.

## 4.2 In game documentation

In the game you find tutorials and scenarios that introduce the game features. It is worth the trouble to experiment a bit with the different settings.

## 4.3 Community documentation

There is a lot of documentation provided by community members. A starting point can be the community guides at steam:

<https://steamcommunity.com/app/530070/guides/>

At the DTG Live site you can find links to the manuals, time tables for service mode and signalling guides. They may be a bit hard to find, but this thread gives an overview:

<https://forums.dovetailgames.com/threads/tsw-manuals-and-timetables.13777/>

## 4.4 Streams

DTG streams more or less regularly about TSW. The past streams can be viewed at youtube:

<https://www.youtube.com/user/RailSimulatorDotCom/videos>

The streams give you a lot of additional information. They are useful if you intend to buy a DLC but also to learn about undocumented features.

The live streams can be followed here:

<https://www.twitch.tv/dovetailgames>

## 4.5 Support site

If you're experiencing problems with Train Simulator, please visit the Customer Support website at <http://dovetailgames.kayako.com/> and submit a ticket. Our Support Team is standing by to assist! if you have a non-support question or query then you can email [train-simulator@dovetailgames.com](mailto:train-simulator@dovetailgames.com)

(source: DTG)

The support centre is working reasonably well. They are responsive and will forward issues to the dev team. The problem with DTG is that they are slow in fixing issues and most issues never will be fixed. Keep reporting them. In the end that must help because each ticket you file costs them a lot of money.



## 5 Driving a train basics

### 5.1 Introduction

If you have never done so, start playing the tutorials. In some cases you will need to start a train from an engine off condition, in other tutorials most of the setup is done already. Usually the sequence is as follows:

Perform the train specific boot steps. These may be as simple as turning the **Master Key** on, or as complicated as starting with **turning on the battery**, start the engines, **raise the pantograph**, set up multiple units etcetera. Usually this is covered briefly in the DTG game manuals.

The **Reverser** determines the driving direction. At start-up it always will be in a neutral or off position. So, set it to the desired direction (W or S key).

You may want to set up the **lights** before proceeding (use the H-key for headlights and I-key for your instrument lights). For some loco's you will need to use the controls in the cab to set up lights properly.

Next, you need to release all brakes. Because some brake types work with compressed air, for a long train it may take some time before the brake is fully released. Normally you need to release the **independent brake** (or something equivalent with a different name), by keeping the [ key pressed. Then release the **train brake** (or drivers brake), keeping the ; key pressed.

For the M7 and FP40H you also need to charge the brakes before you can start.

Now you can operate the **throttle** (A-key to increase, D-key to decrease). Normally a little bit of power is enough and keep in mind it takes some time for the train to react.



At Sandpatch you do not need to turn on the engine, at the Peninsula Corridor route, however, you need to perform some additional start-up functions. These small differences can be confusing at first, but you will get used to them.

Some trains may have a **gear**, this works much like a gear in a car. You need to set the throttle in zero position and then advance the gear lever (e.g. using Ctrl+A and Ctrl+D for the class 101).

Things may get more complicated for some services or scenarios, especially if you need to change to the other cab or if you need to set up helper engines first.

## 5.2 Where to start?

When you buy TSW you get an overwhelming amount of content. Some of the content is far more complex to drive than other content. If you do not feel comfortable by diving in the deep right away, it may make sense to start in this order:

Experience the High Speed train (class 43) at the Great Western Express route. This train is fairly easy to drive and still impressive.

You may want to continue to master the class 166 at the same route. Easy braking, no complicated procedures and you can practice stopping quite well.

If you like, turn on AWS, the UK safety system which is quite easy to use.

If you got this, you may want to try for some more harder stuff, The MSB route will introduce some steep grades. I suggest you try driving freight trains. Dot not worry too much about getting there as soon as possible, but focus on keeping below the speed limit. Try the German passenger services as well. They are good for improving stopping skills.

Try if you like the German safety system PZW. This requires some study, but please read through all technical blah blah.

Once you mastered this, you are ready for the NTP route. The class 1010 is by far the most challenging to drive. This will take a lot of practice!

The heavy Haul route is nice as an in between. LIRR is easy drivable, but the ATC safety system may require some time to get used to it.

### 5.3 Speed limits

Safety is important for trains. One aspect is that you never may exceed any **speed limit**. Depending on the installed safety systems, you may get punished if you break this rule, usually by a power cut-off that makes your train stop. Later more on this topic.

Speed limits come in a large variety, and always the most strict condition applies.

**Track speed limit** is the speed limit that is allowed for a specific track. Track speed limits may be different for freight and passenger trains. There may be a default track speed, you just need to know as a driver, or they may be announced specifically. If a higher track speed is upcoming, this tracks speed holds as soon as the last wagon is at this track. For a lower track speed, it is in place as soon as the front of the train arrives in this area.

**Signal speed limits** are imposed by a signal. Normally a yellow signal means you need to reduce your speed. The allowed signal speed may be indicated explicitly or it may be common knowledge. There are also flexible signals whose sole purpose is to impose a specific speed limit.

**Train speed limits** apply to a specific engine or train type, e.g. sped limits for freight trains may be lower than speed limits for passenger trains. High speed trains, like the French TGV have a much higher speed limit than regional passenger trains.

**Safety systems** may impose additional speed limits or they may impose that you reduce speed in a timely manner.

**General safety** always applies. If there is a lot of fog and you can't see the signals, drive extremely slow, if a level crossing is out of order, drive slow, if your train is heavier than usual, you may need to drive slower than formally allowed. Safety is always the responsibility of the train driver.

In **TSW** upcoming Track Speed Limits are announced if you turn this function on in the HUD. If you do not wish to use the HUD, you may rely on the speed limit signs along the track or just practise so much that you know where speed limits change.

### 5.4 Using brakes

#### 5.4.1 Setup

For the UK routes, you may need to select the proper brake type. You can choose between freight and passenger and between airbrakes and vacuum brakes At NTP the brakes seem not to be setup properly in service mode, so you need to correct that. Note that the brake selector is only available in one of the two engine cabs.

This article nicely explains the difference:

(Contributed by [Peter Murias](#), Automotive engineer, maintain my own vehicles)

*Vacuum brakes are a system which was popular in Britain (and exported to India) but relatively rare elsewhere. The pressure in the brake pipe is reduced below atmospheric pressure, which releases the brakes on all vehicles in the train. To apply the brakes, air is admitted to the brake pipe, raising the pressure (reducing the vacuum) and causing the brake cylinders to apply the brake shoes to the wheels. Full brake*

*application is achieved when the brake pipe is at atmospheric pressure. A small reservoir of high-vacuum is used to provide the braking force, and is recharged when the brake is released- a simple one-way valve is used to maintain the vacuum in the reservoir.*

*Air brakes work similarly, but in the reverse sense. Air pressure in the brake pipe is above atmospheric pressure. This pressure is carried through to the brake cylinders on each vehicle, releasing the brakes. Reduction of the air pressure causes a brake application. Similarly to the vacuum brake, a reservoir of high-pressure air is maintained to apply the brakes, and is recharged through the brake pipe when the brakes are released.*

*They are both a fail-safe system, whereby a leak in the brake pipe, or a separation of the train, will cause the brakes to be applied. However, both types of brake tend to 'leak off' over time as the reservoir leaks to atmospheric pressure. Therefore a mechanical hand brake is also provided on each vehicle for use when parked.*

*It's possible for a single vehicle to be 'dual-fitted' to operate with both vacuum and air brakes. This can be done by having two brake cylinders- one for each brake system. During the transition to air brakes in Britain though, it was more common for a vehicle to have brakes working on one system only, and a just a through pipe for the other system to maintain continuity in the train. In this case, the vehicle using the 'wrong' system would be unbraked.*

To be honest, I have no idea which you need in which case. I think (please correct me) you should use air brakes for passenger trains and vacuum brakes for the freight operations. If you select the wrong one, the train should either not start moving or will not be able to brake.

A comment at steam says:

*It depends on the type of brakes fitted to the wagons. Take a look at the brake pipe on the end of the wagon. If it look like an elephants trunk then it vacuum braked, if just a air pipe then it's air braked.*

#### 5.4.2 Hand brake

All engines do have hand brakes, though this is not always documented. These are mainly used for parked



**Figure 3. Handbrake for SD40-2 (left) and the GP-38 (right).**

engines to prevent them from running away. The same applies to freight wagons and the old UK coaches. For the GP-38 and the SD40-2 you find the handbrake next to the entrance door at the short hood:

Do not forget to release the handbrake when you try to drive, it makes a huge difference.

### 5.4.3 Independent brake

The independent brake is used mainly if you drive with an engine unit and no wagons are coupled. It also can be useful when shunting with a short consist, because it does not have the disadvantages the automatic brake has. It is fast, direct but unsuitable to brake a long train.

Not all engines have an independent brake available.

### 5.4.4 Dynamic brake

The dynamic brake also works only on the engine. You may realize that an electro motor and a dynamo are essentially the same thing. They convert energy. A motor converts electrical energy to mechanical energy. A dynamo works the way round and converts mechanical energy tot electrical energy. This is exactly what the dynamic brake does. It absorbs the mechanical energy from a moving train and generates electricity. The electricity can be used either to load the batteries or it is transformed into heat. (For electric loco's it can be transferred to the overhead wires and re-used, for diesel this does not work).

This has some consequences:

1. You cannot apply power to the throttle and use the dynamic brake at the same time, which in general is not a good idea anyway.
2. It takes some time to switch from driving to braking. You must wait at least 10 seconds to change.
3. Dynamic brakes are less effective when speed decreases, because there is less energy to transfer.

Dynamic brakes are mainly used for fine grained speed control when you go down a grade. The idea is that you set the automatic brake to a fixed value (normally 84 psi should do) and then use the dynamic brake for fine tuning. This is useful because it generally is not a good idea to change the settings for the automatic brake too often.

It depends upon the specific loco and how braking is implemented if this strategy is good. For TSW HH I now use the dynamic brake as primary speed control going downhill. The automatic brake is used when the dynamic brake cannot keep speed in control.

Not all trains have dynamic brakes. In some cases the driver brake and dynamic brake are integrated into a single braking system.

### 5.4.5 Automatic brakes/driver brakes

For braking a long train, you need the driver brake or automatic brake,. TSW uses different names. Essentially, these brakes work on air pressure. The system is designed to be fail safe. If you lose air pressure, brakes are applied. So if there is any leak in the brake system, you lose pressure and brakes are applied. If you brake too often, you lose air pressure and you need to wait till the compressor has built up pressure again.

If you have a long train, it make take a lot of time to apply braking for all wagons. It also will take a lot of time before all brakes have enough pressure to release. E.g. the Class 33 needs 2-3 seconds before you see any effect of the brakes, and releasing them takes several seconds as well when minimally applied and tens of seconds when fully applied.

These delays make that you can do a lot of things wrong. Take care to:

- Start braking timely, sometimes 1-1.5km before you need to stop
- Do not lose all pressure if you don't need to (**initial application** is often enough)
- Avoid coming to a complete stop for a signal. It is better to drive very slow than brake fast and then wait a long time for pressure

Brakes have several states:

In **released state** you have full pressure in the brake system. Depending on the engine this may cause the brake system to be **overcharged**, which is not good.

The normal state during driving is **running**. You have full pressure and your brake is ready to be activated fast if you need so.

The **lapped state**, holds the actually set pressure. This makes it possible to control how strong you are braking.

In the **apply state** you apply braking and let pressure go. At the brake gauges you can see the remaining pressure. In general, it is not a good idea to let the pressure drop to zero. So, what you do normally is reduce pressure till you are satisfied and then you put the brake in lapped state to hold the set pressure.

Some brakes may have a state called **minimal application**. In many cases this state is sufficient to slow down a train.

Instead of these states other terms may apply. Some engines may use the lapped state instead of the running state and in German engines you may find settings like 1A, 1B, 2, 3, 4

Some brake systems allow you to release brakes just a little bit, but others do not have this option and brakes are released fully. But, your train may be very long and you may not have enough air to regain full pressure again right away. So, e.g. you start with 90psi brake pressure, you brake, drop it to 70 psi, release the brake and end up with 85psi. If you brake several times at a row, you may lose a lot of pressure and you come to a full stop. Then the only thing you can do is wait and try again. This may take up to 15 minutes!

In TSW until now I have not seen trains with such an extreme behaviour, but this will come definitely someday...

**Note:** when parking and shutting down the engine you may need to apply specific states for the driver's brake. Consult the documentation for details. I will cover that in route guides as well.

**Note:** TSW now has an accelerometer at the HUD. This shows if your train sped is increasing or decreasing. This may be useful to check how fast you are losing speed. Also you need to watch the break pressure.

**Note:** for most of the German engines you need to set the throttle in **Off** position when you brake. If you forget this, no power will be applied. This feature is not documented. In this way each engine type may have specific peculiarities.

#### 5.4.6 Emergency brake

If things go really wrong, you can apply the emergency brakes. Most trains have a separate device to activate emergency braking, but in most cases pushing the brake lever to the max will do. So be careful not to do that during normal operations!

Emergency braking may activate other safety procedures as well, so consult the manuals to find out what you need to do.

#### 5.4.7 Release or running position?

Release is a bit counter intuitively named position while running with air brakes... while it does technically release the brakes it should **NEVER** be used for doing that, to release the brakes the handle should **only** be placed in the running position. The release position is used to overcharge the brakes which is to say increases the brake pipe pressure above the standard 72.5psi (up to between 76-78psi). The purpose of this is to cause any distributors and hence brakes which may have gotten stuck on to release (hopefully this never happens).

On returning the handle to the running position the overcharge is bled off very slow taking about 2-3 minutes to do so, this has to be done slowly otherwise the distributors will apply the brake.

Misuse of the release position can result in the brakes dragging. If an application is made while an overcharge is in effect the control reservoirs will seal at the pressure they were applied at, meaning that distributor will not release the brake until the brake pipe pressure is above the control reservoir pressure (so if you apply the brake at an overcharge of 75psi, you will have to create above 75psi to release the brake fully again). Since the running position will only create up to 72.5psi you would need to use the release position to release the brakes.

If you suspect dragging brakes the correct procedure is to hold the brake handle in the release position for around 30-60 seconds, before letting the handle back to the running position. Once there the brake handle must be left there for 2-3 minutes, if you do apply the brake you will need to do the whole procedure all over again.

On Vacuum brakes the position will still technically overcharge the air brake on the loco, but it doesn't matter as the distributor isn't working on the air system so the above does not apply. In vacuum operation the position will speed up the vacuum exhauster's allowing you to release the trains vacuum brakes quicker.

Thanks to: [dominusedwardius](#) for providing this information and granting permission to use this.

## 5.5 Safety systems and driving aids

Trains are heavy and, because they are bound to track not very flexible. Therefore train accidents may have serious consequences. To improve safety a number of driving aids have been introduced in course of time. These aids can be very different, depending on country and era. Also the impact can be very different. The



British AWS system only gives a warning for a dangerous situation, while the German PZB system requires prompt actions which are specified in great detail.

In TSW these safety systems are implemented, but not always very successfully. By default they are turned off.

To get some idea, a very much simplified overview:

1. **Alerters** check if the driver is still capable of driving a train.
2. **Safety systems** warn or impose actions for signals showing a danger aspect or speed limits

3. **Door locking** functions prevent the train to drive while doors are not locked.
4. **Cruise controls** are systems to maintain a specific speed.

In the next sections I present an idea of the variety in these systems. Please consult the route guides, game manuals or other sources for detailed information.

### 5.5.1 Alerters

In TSW you can turn the Alerter function on using **Shift+Enter** key. For some engines there is a physical control available in the cab.

Alerters may have different names, depending on the country. DSD, Sifa, Warning Device, Alerter or the fancy Dutch word “dodemansknop” (dead mans button).

**Note:** For the US engines for the Sandpatch Route the manual incorrectly states that you need Ctrl+Enter to activate the alerter function.

Normally it will show a light at the dashboard every x seconds. You then need to acknowledge that you have seen this. If you fail to do so, a sound will be played, you still have a few seconds to acknowledge. If you still fail to respond, emergency brakes will be applied.

Variations can be that if you actively use the throttle or brake, the alerter will not be used. It is also possible that you can recover from the braking if you respond, so you will lose speed, but you will not come to a full stop.

Responding to the alerter can be done in the HUD, by pressing the appropriate button in the cab, by pressing the **Q key** or by pressing the **B button** at the Xbox controller.

### 5.5.2 Pass a signal at danger

In some cases a signal shows a red aspect and you need to pass it. In this case you need permission from the dispatcher. You can ask this permission by pressing the **Tab key**. You see a HUD control then. Press at the left side at the text “Request permission to pass signal at danger”. Wait a few seconds and hopefully it reports “Proceed at restricted speed”.

### 5.5.3 Safety systems

Safety systems protect the train against errors due to passing a signal at danger or over speeding. As explained in the introduction, the working varies from simply requiring the driver to acknowledge the alert buzzer till very detailed braking requirements. Because this is very dependent on the country where you are driving, it does not make much sense to explain all details here.

To activate the functions, use **Ctrl+Enter** as a key combination. Some engines also have controls in the cab to activate the safety system.

Names for safety systems you may encounter are:

- UK: AWS, TWPS
- USA: ACSES, ATC
- Germany: PZB, LZB (for high speed lines)
- Netherlands: ATB

PZB and ACSES are reasonably well treated in the official game manuals. Therefore in the guide I will briefly discuss UK safety systems as an example.

AWS stands for **Automatic Warning System**. See also  
[https://en.wikipedia.org/wiki/Automatic\\_Warning\\_System](https://en.wikipedia.org/wiki/Automatic_Warning_System)

AWS gives a visual and audio message in potentially dangerous situations:

1. When you approach a signal showing a “yellow” or “red” aspect.
2. At some routes, when you approach a signal that announces a lower speed limit

The audio message is a continuous buzzer.

In this case, you must acknowledge the AWS within a few seconds., but it does not enforce you to act upon the situation. If you don't acknowledge, the train will be forced to an emergency stop. In TSW you can acknowledge using the Q key or the B button at the XBOX controller (the latter does not work for the Class 43).

If you pass a signal showing a “green” aspect, you hear a “ping” but no action is required.

DSD stands for **Driver Safety Device**. The DSD checks if the driver is still alert. If you do not touch any controls, after say one minute you will hear a number of short beeps. You then must acknowledge this to avoid emergency braking.

**TPWS** stands for **Train Protection and Warning System**.

The purpose of TPWS is to stop a train by automatically initiating a brake demand, where TPWS track equipment is fitted, if the train has:

- passed a signal at danger without authority
- approached a signal at danger too fast
- approached a reduction in permissible speed too fast
- approached buffer stops too fast.

See also [https://en.wikipedia.org/wiki/Train\\_Protection\\_%26\\_Warning\\_System](https://en.wikipedia.org/wiki/Train_Protection_%26_Warning_System)

In the UK you also may find the Driver Reminder Appliance (DRA). A driver is required to activate this device, which blocks all train movements.

#### 5.5.4 PZB90

When I tried starting to use PZB on the German routes, I thought there was a clear explanation in the official manuals. Unfortunately it all is very confusing for two reasons:

1. The symbols are misleading a bit and intimidating because of the technical nature.
2. The descriptions are very detailed with the well-known German thoroughness, which is OK for specifications but not very useful for driving a train.

I will try to leave out this complexity and just explain what you should know.

If you want to use PZB, the first thing you must do is select the appropriate PZB mode:

Mode	Symbol	Meaning
0		This is for passenger trains max speed 165 km/h

M		This is for light freight trains with max speed 125 km/h
U		Heavy freight trains with max speed 105 km/h

The confusing points are that the symbols do not match the abbreviations and the symbols suggest a speed limit. This is not true, you can ignore the numbers shown in the symbols. You will see one of these symbols in the HUD and as a control in the cab.

**Note:** you only can select a driving mode if PZB is switched off (isolated).

The PZB mode can either be selected at the control in the cab or at the control in the machine room. This depends on the engine type.

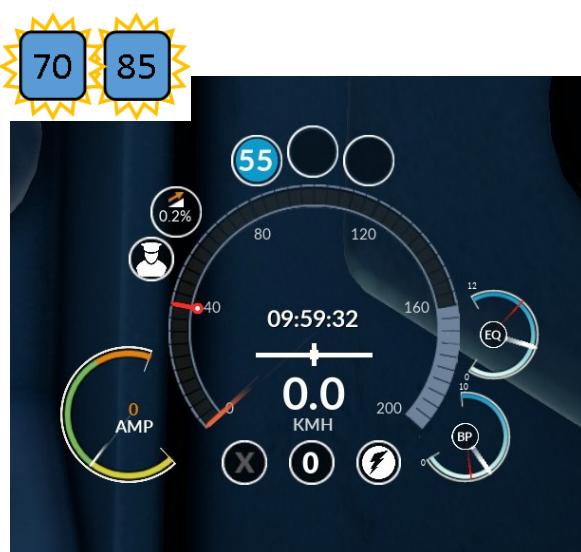
Once you have set the mode, you can switch PZB on. Normally you do this before you start driving.

You can either:

1. Use **Ctrl+Numpad Enter**
2. A switch somewhere in the cab or machine room

Once you have done, you see one of the symbols, depending on the selected mode in the HUD and as a control (see Figure 4).

Now you can start driving. As soon as you start driving you see the 70 and 85 symbols start flashing. The reason is that the system does not know if it is safe to drive fast, so it limits you to a maximum speed of 45km/h.



**Figure 4 PZB as shown in the HUD for heavy freight trains**

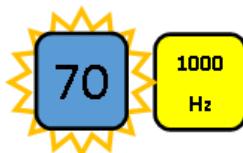
If your current speed limit is higher and you are sure to expect a signal aspect saying proceed without restriction. Press the **END key** to release this restriction.

Now you just can start driving, but you must be alert on two situations:

1. A warning signal that says expect stop or proceed with low speed
2. A warning for an upcoming speed restriction

In both cases anticipate by reducing your throttle to zero and depending on your speed start braking already.

Right at the spot you see a yellow thing at the track, that is a 1000 Hz magnet.. When you pass it, make sure to press the **Page Down** button immediately. You will see now this combi at your display (for a light freight train in this case):

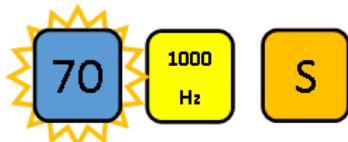


Your blue mode symbol starts blinking and you see an additional symbol appear. Do not worry about this 1000 Hz stuff, it might have been a simple yellow lamp as well.

Once you managed to do this, make sure to brake fast enough to reach the allowed speed limits as shown in the table below. If you drive too fast, you will not make it to brake fast enough. Please note, if you drive a heavy freight train and the next speed limit shows 90 km/h, you need to brake till the prescribed 55km/h! Once the 1000Hz button is turned off, you can increase your speed again.

Mode	Symbol	Reduce speed to
O		Max 85 km/h
M		Max 70 km/h
U		Max 55 km/h

If you do not respond timely or if you do not reach the maximum speed in time, the emergency brakes will be applied and you may see this pattern:



The only thing you can do is wait till the train stops and feel ashamed. Then you can press the **END key**, which completely resets the PZB system to its initial state.

If you drive faster than the maximum allowed PZB speed, emergency brakes will be applied till you comply with the speed limit again.

**Note:** at least for the BR185.2 the overspeed PZB function is not working.

If you are approaching a signal showing a red aspect, you will meet the 500Hz magnet. Again, forget about the 500Hz, see it as an orange warning that says reduce speed ASAP to max 25 km/h and you must have started braking already!



The last point, if you got permission to pass a signal at danger, this indicator is shown enforcing a 40 km/h limit:



For more details see e.g.

<http://www.sh1.org/eisenbahn/rindusi3.htm>

### 5.5.5 Door locking systems

For the safety of passengers, it is not advisable to drive a train while the doors are open. Railway companies have some solutions for this problem.

The **DRA or Driver Reminder Appliance** is a UK solution to prevent a train from driving with open doors. The driver is required to activate this appliance at each stop and to deactivate it before driving. It is not really connected with the doors.

See [https://en.wikipedia.org/wiki/Driver%27s\\_reminder\\_appliance](https://en.wikipedia.org/wiki/Driver%27s_reminder_appliance)

The driver needs to press this button, which blocks all train movements and is only allowed to release it under safe conditions. It should be used at station stops, but also if you leave the train or stop at a red signal.

It is modelled in the Class 43 and Class 166 but there is no key binding defined. In the game it is a bit neglected. Your game play may be more interesting and challenging if you use this function properly.

The German routes have more advanced systems. During a stop the driver brake will be applied while the doors are open and the throttle is blocked. The BR1442 (Talent) requires you to wait till the brake is released completely, before applying power, otherwise the throttle will not do anything.

Of course old trains do not have such functions.

### 5.5.6 Slow speed controls

Slow speed mode is supported for the **AC4400CW** (HH) and for the **Class 66** (GWE) engine. It is not documented in the manual and not very obvious in usage. Also the German engines BR143 and BR185.2 have such facilities, though they are not used in the game at all. At TVL the Class 37 has a slow speed control. Its working is explained in one of the scenarios.

You may find more detailed information in the route manuals.

### 5.5.7 Cruise controls

Some engines may have cruise control systems. The basic idea is that the driver can set a target speed and the engine will try to maintain that speed. Some systems do control both throttle and brakes, others only involve the throttle. If the brake is involved, they may only use the dynamic brake.

It may be necessary to apply additional braking. Some systems will turn the cruise control completely off, others will allow you to override the set sped only.

Until now only all German engines have cruise controls, but the double deck control car doesn't have one. The systems have two different names:

The BR1442 has the **Tempomat** system, which allows you to freeze your current speed.

The BR143, BR185.2 and BR146.2 do have a cruise control named AFB, which is an abbreviation of the German term "Automatische Fahr- und Bremssteuerung" (Automatic drive and brake control).

For the BR143 it is the normal way of driving. For the BR146 and BR185 you normally turn it on before departing. See the route guides for detailed instructions. You also can turn it on while driving, but then the procedure is a bit different. See the route guides for details.

As an example, in the cab of the BR1442 there is a control that allows you to increase or decrease the target speed for Tempomat in steps of 5 km/h. Use Ctrl+R to increase and Ctrl+Shift+R to decrease the set speed. (Thank you [chintzo](#) for the tip!).



**Figure 5** The purple marker at the speedometer shows Tempomat is active

## 5.6 Signalling

The basic rules for signalling are simple:

- If you see green, proceed.
- If you see yellow, slow down and prepare to stop
- If you see something flashing, slow down
- If you see red combined with other colours, slow down, it is like you must stop.
- If you see red, never pass, unless you got explicit approval. Doing otherwise is "game over" in TSW.

There may be a lot of other types of guidance for your behaviour as well. Most important are speed limits. Normally these should be announced in advance and you must adhere to them. You also must adhere to the maximum allowed speed of your train and sometimes your train is so heavy that it has a long braking distance which you need to take into account.

There is very much to say about signalling. Signalling refers to any sign along the track that gives instructions or information to passing trains. In the figures in this chapter I give some examples of signals.

**Note** that a red light combined with other colours means you can pass it, but sometimes only at a restricted speed. If you are in doubt, press TAB and ask the signaller for permission.

### 5.6.1 US signalling

For background information see for example:

[https://en.wikipedia.org/wiki/North\\_American\\_railroad\\_signals](https://en.wikipedia.org/wiki/North_American_railroad_signals)

DTG published a signalling guide for Sandpatch at their website:

<https://train-simulator.com/csx-heavy-highball-a-guide-to-signalling/>

You can issue a request to pass a red light at danger by pressing TAB. For TSW a popup appears, where you need to click on the text with your mouse and then you may be granted permission to proceed at restricted speed. If you do not get this permission, it is never a good idea to proceed.

There are far more combinations with blinking yellow lights, yellow and green, yellow and red and all this is dependent on the rail network. On Sand Patch the signalling is relatively simple. So always take some time to study the signalling for your route.



**Figure 6 Light signals.**

*On the left a simple track signal. In this cases it shows stop, which should be the default (safety first). In the middle is a low standing signal, mainly used in yards. On the right a signal that says proceed on the main track. Not sure what the yellow light is doing.*



**Figure 7. Fixed stop signal**

*This is used at sidings along the main track. It means that you must stop and ask permission to proceed. In TSW this works for service drive X592 (HH) where permission to pass is granted explicitly by the game.*



**Figure 8.** This signal announces a speed limit.

*Normally speed limits are first announced and will be effective later. The upper speed limit (55mph) is for passenger services, the lower is for freight services. Because trains are long, you need some ruling for validity of a speed limit. The lowest speed limit over the whole length of your train applies. So, as soon as the hood touches a lower speed limit, this lower limit is effective. A higher speed limit is effective when the last van of the train passes the sign.*



**Figure 9.** Level crossing warning sign

*This sign is a warning sign You may find it before level crossings. It instructs the driver to blow the horn and use the bell. To increase fun, the CSX operations manual says you need two long blows, a short one and a long one. In the USA it's called "Whistle Post" and still refers to blowing the whistle of a steam engine. TSW will take care of the bell for you and include flashing lights at night.*

### 5.6.2 UK signalling

UK signalling is slightly different from the US way of signalling. US signalling informs you about all tracks ahead. UK signalling only applies to your path.

You may see:

**Two yellow lights.** This means the next signal will be a single yellow light and the after that is red. So slow down depending on your braking distance. (A Class 43 at 125Mph should start braking with full service as soon as you can see this signal). If this is blinking it means you should expect to change tracks, which in most cases involves you need to slow down. (Not implemented for GWE).

**One yellow light.** . Prepare to stop at the next signal, it may be red.

**Red light.** . Stop.

**Green light.** . Proceed at the allowed speed.

In Figure 10 you see four examples of what signals look like. Upper left shows a diversion signal. The white line indicates that you will be diverted into the left direction. Upper right shows a single yellow, expect to stop. Lower left shows pass, but indicates a destination. In most cases you find this at the large yards near railway stations, e.g. Paddington or Reading. Lower right shows the double yellow.



**Figure 10.** Samples of signals for GWE

Some signals have additional indicators to specify routing information. Mldaureol

<https://forums.dovetailgames.com/members/mldaureol.4346/> posted this list at the DTG forums:

D - Down line i.e. the main line from Paddington to Reading.

R - Relief line to/from Paddington/Reading.

R1 - Relief line 1.

U - Up line i.e. the main line from Reading to Paddington.

SS - I presume a siding.

CL2 - Carriage line 2. i.e. a siding.

The West Somerset Railway and Leeds-Manchester route also have semaphore signaling on part of the tracks. There is a lot of variety, but essentially two signal types are relevant:

1. A signal with a yellow beam will announce the state of the next signal.
2. A signal with a red beam, says stop or go. You must stop if the beam is in horizontal position.

Both signals may be combined at a single pole.



Figure 11 UK semaphore signals



*Examples of UK semaphore signals. The left one is a main signal, the right one is a warning signal. Both are showing "stop".*

*This example shows signals covering two different tracks. At the right side it says "proceed" At the left side it says "stop". This controls which train is allowed to leave the station.*

### 5.6.3 German signaling

The German signalling system is a bit more complex than we are used in most countries. Essentially the general rule of the introduction holds. The more yellow and red you see the more you must slow down. If you only see red: stop.

The German system works with advance warning signals. These signals announce the state of the next signal. E.g, a yellow/green warning signal means you have to slow down till 40km/h or 60km/h at the next main signal.

Warning signals:

- Green/green: proceed at line speed
- Green/yellow: reduce speed at next main signal to 40km/h or the indicated allowed speed.
- Yellow/yellow: prepare to stop at the next main signal

A white additional light indicates that the next main signal is nearby or it repeats the previous warning signal.

Main signals:

- Green: proceed at line speed
- Green blinking: prepare for a lower speed limit at the next main signal
- Yellow/green: proceed at reduced speed (default 40km/h)
- Red: stop



**Figure 13** Examples of German signals

*At the left side, you see a signal at danger. In this case the red light is doubles. At the top right, the signal shows a green light, so you may proceed. The warning signal below it shows green and yellow, so keep your speed low.*



## 6 Miscellaneous features

### 6.1 Pick up fuel

To pick up fuel, you need to follow this sequence:



**Figure 14. Fuel cap removed. On the left you see the meter for fuel quantity.**

Park your engine near a fuelling point, take care that the tank is close enough to the fuel hose.

1. Remove the fuel cap.
2. Pick up the fuel hose and put it in the tank.
3. Turn open the red fuel valve.
4. Watch the fuel indicator near the tank till it no longer increases.
5. Hang the fuel hose back.
6. Close the tank by placing the fuel cap back.

Note: there is an in game tutorial that may be helpful.



**Figure 15. Open this valve for actual tanking.**

You do not need to close it afterwards.

Comment by **tittle**

Anyone notice that when you refuel the little bit diesel fuel spilling on the tank? I swear I can SMELL the diesel fuel. But it's detail like this that convinces me the developers care and are working hard to make this VERY realistic. It's still a young sim, so let's enjoy what is there and see how they can make it better!

## 6.2 Setting switches

There are three ways to set switches:

1. Click on the blue dot of the switch you want to change in the map overview.
2. Get out of your train and walk over to it, and click the lever.
3. Fly to the switch in free cam mode and click the lever, you don't need to leave loco.



**Figure 16. During tanking the fuel hose is connected to the tank opening.**

**Note** a scenario can block these functions, sometimes you need to wait till you get instructions to set a switch. It is also possible that the only the first method is blocked in a scenario.

When leaving or entering Cumberland (Sandpatch) sometimes you need to set switches to get to the proper track. You can use the signal state as a means to check to settings, if the signal aspect shows "pass" you probably set the path correctly.

Note that you can't change the switches on the Mainline(as of right now anyway).

## 6.3 Coupling

Coupling and uncoupling is an important feature. For most trains you need to move to the coupler and once you get near enough, your mouse or XBOX controller will provide you with the correct command.

WSR has an interesting (undocumented) feature. The MK1 coaches support two coupling mechanisms, Bukey coupling and with a screw. If the wrong coupling is visible, you first need to change the type and couple then.

You can leave the engine and do the coupling then, but you also can use camera mode 8, fly to the coupling location and do the job in that way.

The BR1442 has an automatic coupling in the cab. I think the Class 166C has one as well. They are not used in scenarios or services, so we wait for the content editor....

The Class 66C (GWE) has a very special coupler that makes it possible to tow away a Class 43 HST. There is a scenario showing how to do this.

**Note:** you must be very close to the coupling to do anything. In many cases this only works from one side of the train, so you may need to walk over to the other side.

## 7 Rewards

### 7.1 Introduction

TSW has a number of features to reword you for experience. In TSW2020 these have been extended and it is now more clear on how they work.

Now we have:

- Action points
- Levels
- Journeys
- Medals
- Tasks (Collectables)
- Achievements
- Mastery

None of these have any impact on the actual gameplay. Only Mastery rewards you with a little bit additional scenery and task will change a little bit what the game looks like (only scenery). So, if you do not like them, turn it off or ignore it all. If you like it, read on ...

### 7.2 Action points

The core system are Action Points. For certain actions in game you are rewarded with points. These points are added at the level of your avatar, engine and route. While you collected enough points you get a higher level. This looks nice and may encourage you to gain more experience, but the system is poorly designed and little thought was given to balance to points. In the next table I reconstructed more or less an overview of how to get points:

<b>Stopping at a station</b>	500	Probably deduction based on location accuracy
<b>Driving under speed limit</b>	30	Distance driven based. I think you get around 200 points per mile
<b>Driving max 2Mph above speed limit</b>	15	
<b>Driving more than 2Mph above speed limit</b>	0	
<b>Loading a wagon</b>	9	
<b>Unloading a wagon</b>	13	
<b>Go via point</b>	500	
<b>Stopping properly</b>	500	Points are deducted depending of the actual stopping distance versus the indicated spot.
<b>Pick up passengers</b>	500	Points are deducted for arriving late, but you will get a minimum of 250 points

Contrary to TS2020 you will not get points subtracted, so no need to be afraid you end with a points total below zero. The points will be added to your avatar, route and engine experiences. Each of them will level up each time you collected a number of points. There is no competition, so you just do it for yourself.

If want to get a large number of points, you need to play stopping passenger services. Peninsula Corridor may reword you with up to 25.000 points for a single all stops drive. In contrast, a freight service may reward you with no more than 4000 points, if there are no intermediate stops.

### 7.3 Levels

A number of Action Points builds op to a level. There are levels for avatars, routes and engines. There seems not be something like a highest level and unlike TS2020 levels are not published. So, no need to work on getting a higher level. Levels may give access to Mastery levels and Achievements though.

### 7.4 Journeys

A Journey is a collection of tutorials, scenarios and timetable services. Once completed a Journey it is registered, just like completing all scenario's, tutorials and services. This does not always work properly, be warned.

### 7.5 Medals

The number of action points has an upper limit for each drive. In addition to the action points, you get a medal if you managed to complete a drive successfully.

Medal	Requirement
Gold	Over 90% of achievable points
Silver	Over 70% of achievable points
Bronze	Over 50% of achievable points

At the overview page for each route, you cannot see the amount of medals you collected, but at the old player profile pages, a new tab is added to show the number of medals.

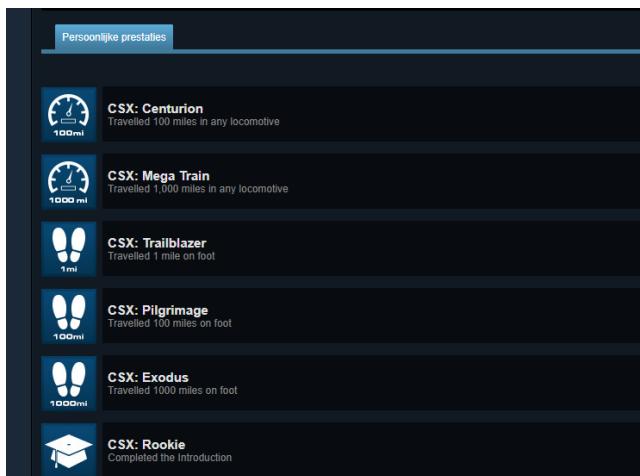


Figure 17 Overview of medals

You will only get medals for the routes that are included in the TSW2020 bundle, or in the routes that appear after TSW2020, so not for the older routes. The counting appears a bit bugged, For instance at the MSB route I got a number of medals, but they do not seem to match the amount of services I drove.

## 7.6 Achievements

Achievements are rewards that are managed by steam. You can see an overview at the product page. Contrary to TS2020 no information on achievements is given in game, you need to consult steam to see your progress. A number of achievements are bugged, either because the game is not properly registering them, or simply because counting of levels is inconsistently reported. Achievements are just for the honour, you do not get any rewards.



**Figure 18** Achievements details page at steam

## 7.7 Mastery

Recently DTG introduced Mastery. Mastery gives you a number of activities to complete end you get some (small) rewards. In order to use Mastery you need to login with Dovetail Games Live. You can get an account at the DTG website. In all manuals this is documented.

The rewards come at two levels. If you complete the first level, you get an additional static loco display you can choose. For the second level you can add an enhanced scenery tile to the route. Examples are balloons, a fair and some others.

At the moment of writing, Mastery is available for the four routes of the core game:

- Great Western Express
- Main-Spessart Bahn
- Northern trans Pennines
- Long Island Railroad

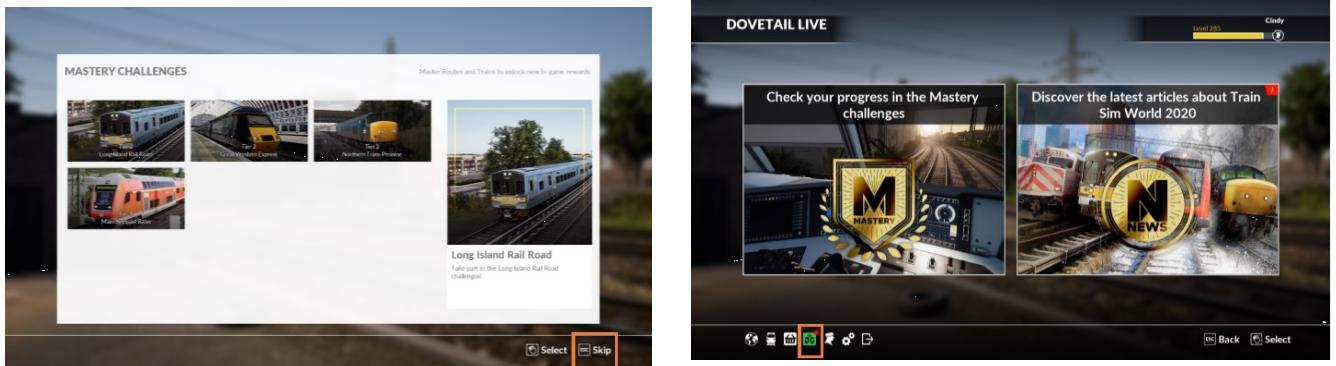
**Note** counting of results starts as soon as you are logged in with a DTG Live account. You do NOT get any reward for results you got before that moment.

Types of things you need to accomplish:

- Complete a tutorial
- Complete a number of scenarios
- Increase a loco 5 levels
- Increase a route 10 levels

Here is an introduction to Mastery: <https://www.youtube.com/watch?v=46rq51VuMjc>

- Drive xx miles

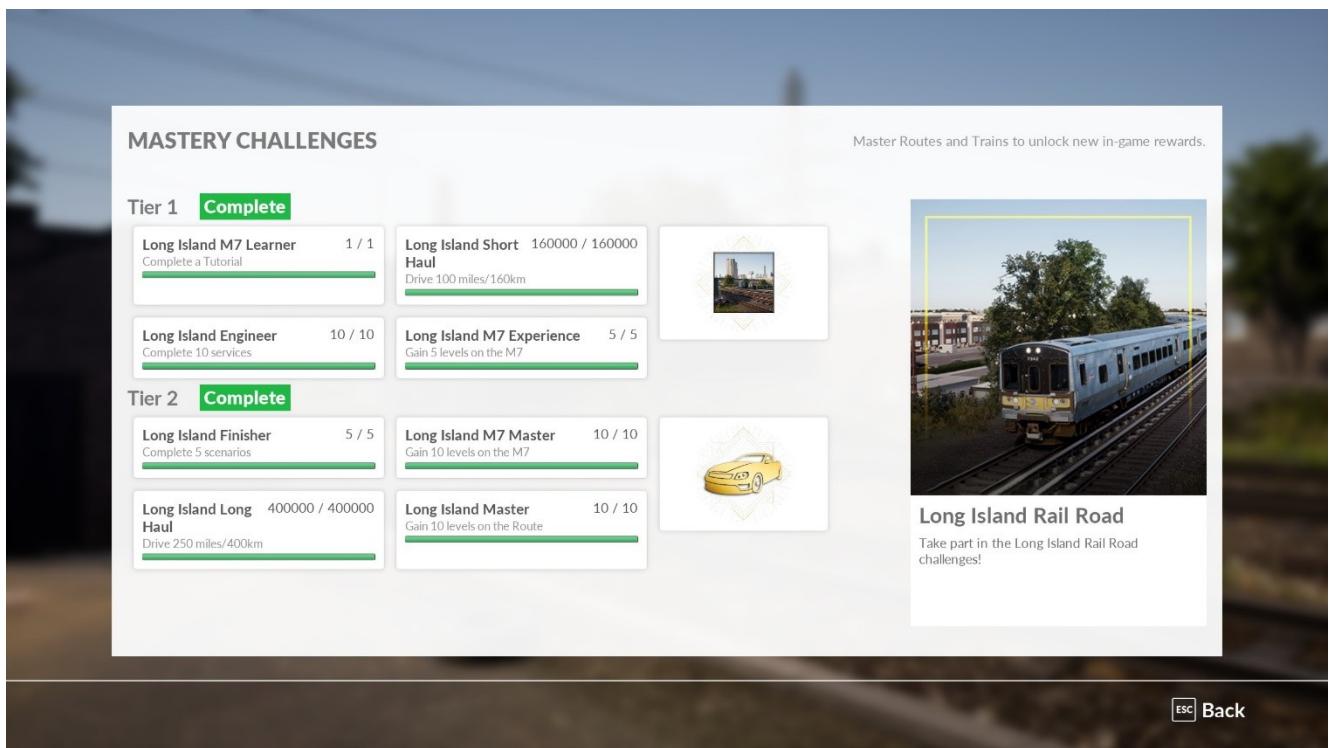


**Figure 19** Access to Mastery inside the game.

Left, immediately after startup, right after pressing the DTG Live button

You can view your results in following ways:

1. When starting TSW, if you are logged in to DTG Live, you will see the mastery page. Press Escape (Skip button) to proceed to the game.
2. In the route menu pages, you can click the DTG Live button. It then shows two pages, one for mastery and one the in game news pages. Click at the Mastery page. At the DTG site: make sure you are logged in. Click at the TSW game icon. Then you see a menu, one of the items is Mastery. The DTG site also offers a statistics page, which you may or may not like ...



**Figure 20** Example of Mastery details screen. In this case for LIRR.

At the DTG website you find Mastery as shown here:



**Figure 21** Mastery at the DTG website.

Make sure to select the TSW pages, then choose Mastery from the menu

In order to access the rewards, you need to activate them in game. You can do this from the main menu for each route.



**Figure 22** Activating Mastery rewards

Choose Switch Diorama to select another Diorama, select Configure Overlays to activate an enhanced game tile. Note that you can have only one Diorama active for all routes.

## 7.8 Tasks/collectables

When in walking mode you can perform four different actions and get an achievement if you complete each.

**Note** DTG decided to rename Collectables to Tasks starting with TSW20202 . I use them in a mixed way and in the game guides you probably will find the term Collectables still to be used a lot.

You do not need to do anything, just get near enough...



**Figure 23.** Collectables for Heavy Haul (Sandpatch)

Unfortunately not all achievements are properly implemented. For WSR you do not get the achievement and for RSN some collectables are not reachable or missing.

In the menu you can see your progress at the player profile page.



**Figure 24.** Progress on collectables.

At steam, for many route user guides are available to help you find the collectables. A direct link to these community guides:

<https://steamcommunity.com/app/530070/guides/?searchText=&browsefilter=trend&browsesort=creation order&requiredtags%5B%5D=Loot&requiredtags%5B%5D=-1>



## 8 Game settings

### 8.1 Introduction

TSW has a large number of settings you can adjust. Most of them you can apply during game play, which is a great advantage if you like to do some experiments.

Community members discovered some additional settings, not supported directly by TSW but they help to improve graphics and sound depending on taste and system capabilities. You cannot set them directly, but you must configure them in the appropriate files.

Some settings have a keyboard combination, that allows a very dynamic change.

Finally, the in game structuring is not always the best choice, so you easily may get confused.

Therefore a whole chapter on settings, starting with the basics and gradually introducing all concepts.

### 8.2 Settings by type

In this chapter the functional aspects of settings are discussed. In the sections after this one, it will be explained how you can change them. For this section I roughly use the division used in TSWTools, because that one is more natural than the division made in the game.

#### 8.2.1 Screen settings

Setting	Description	Comment
<b>Screen Resolution</b>	This one sets the screen resolution	Best is to make it match the resolution Windows recommends
<b>Window Mode</b>	The way the game is displayed on your screen	Best choice is Windowed FullScreen
<b>VSync</b>	Synchronizes the graphic card with the monitor.	Keep it off if you limit the frame rate below 60fps.
<b>Anti-alias method:</b>	Way to reduce image artefacts	FXAA is generally recommended.

<b>High Screenshot quality</b>	This sets the screenshot quality to a max, which may consume a lot of disk space	
<b>FPS limit</b>	Sets a limit to the frames per second rate	Higher fps especially makes fast moving stuff look better. A very high fps may cause trouble

A somewhat technical discussion on VSync: [http://www.tweakguides.com/Graphics\\_9.html](http://www.tweakguides.com/Graphics_9.html)

As far as I understood, if you have a very high fps (above 60) you may try to turn it on if you experience distortion, otherwise leave it off.

### 8.2.2 Graphics quality settings

You can measure fps using the F3 button while playing. Fps values may change a lot and it is affected by the way the route and rolling stock are created, but also by the graphic quality you set. I recommend to try keeping fps above 30 and below 60. A traditional celluloid movie uses fps value 24. You can see effects for instance with the spokes of a cart that may seem backward. Increasing fps may solve this problem. An fps above 60 is not very useful, your eyes can't cope with this high speed.

Use the fps measure to tune your graphics settings.

Setting	Description	Comment
<b>Graphics Preset/ Overall quality</b>	The simple way to set the graphics quality	Just try one and check if you still like your frame rates.
<b>Texture quality</b>	The level of detail of the surface of materials.	
<b>Foliage quality</b>	The level of detail of plants and trees	
<b>Shadow quality</b>	The level of detail of shadows	
<b>Effects quality</b>	?? let me know if you really know this	
<b>Post processing quality</b>	?? let me know if you really know this	
<b>View distance quality</b>	How far ahead your tracks and landscape are drawn	You also can set the Unreal parameter directly. Not sure how this helps, but people claim this improves overall quality a lot
<b>Audio quality</b>	Quality of sounds	No idea how this is tuned

### 8.2.3 HUD settings

The HUD (heads up display) is an overlay on the game screen to provide you with additional information. Essentially the HUD has two display styles:

1. Markers, showing you destination, next signal and next speed limit in the landscape ahead of you
2. HUD version, text blocks showing the information on screen



Figure 26 HUD with information in HUD version

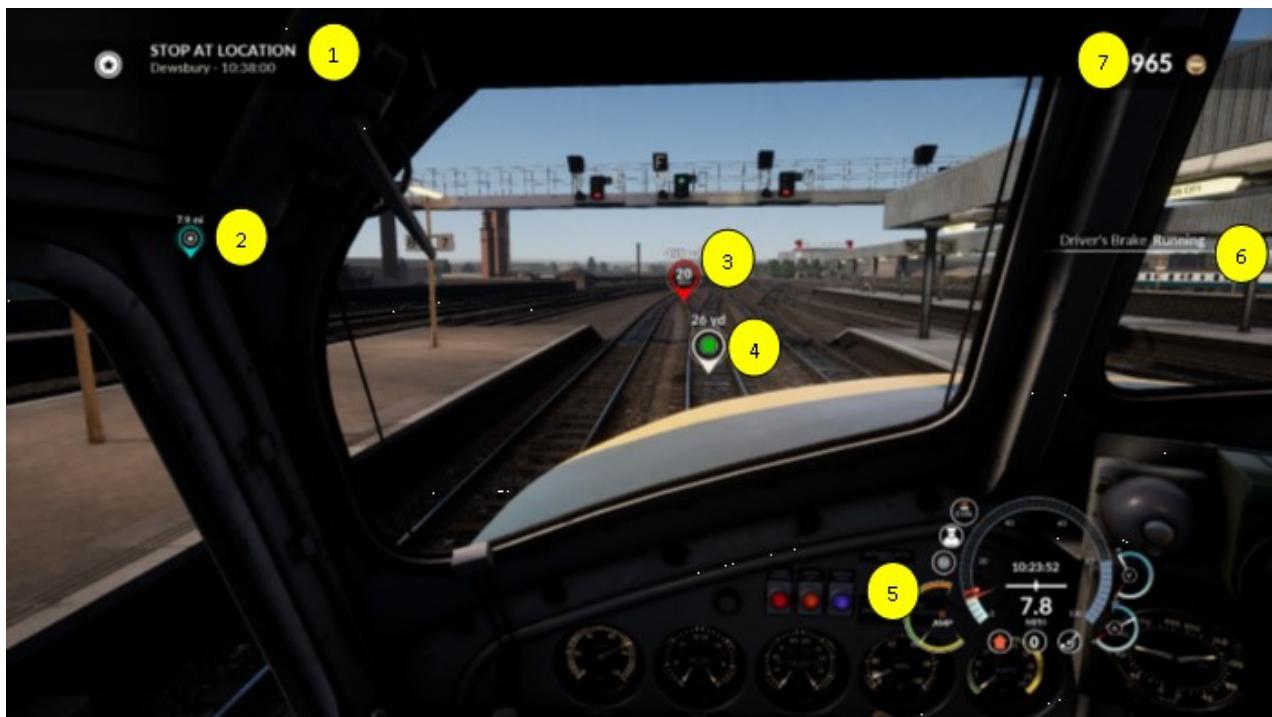


Figure 25 HUD with markers

The two figures use the same feature numbering with following interpretation:

1. **Objective marker**, which shows your next task. In HUD mode, the distance to the next driving task is shown here as well.

2. **Objective distance marker**, , a floating target that shows where to go. It is possible to assign a number of tasks where you need to determine the order yourself (e.g. release all brakes). In that case you will see more than one objective marker. The HUD version does not support that.
3. **Next speed limit marker**, shows the next speed limit distance and location.
4. **Next signal marker**. In this version it also shows the signal aspect. You can turn that off.
5. **Control display/compass**
6. **Notification**, informs you if you activate a control
7. **Score marker**, show your actual score for this drive

Not shown here is the **Button Prompt**. This shows a text with each control in the 3D world. This is useful because it tells you whether the control is functional. Many controls are not documented at all ...

You can show actual frame rates (**fps**) on screen through your keyboard.

The **Stop Marker** shows in game where you should stop your train. (Note depending on route it also is used for freight trains).

Also not shown is the **Reticule center dot**, which you can show or hide



**Figure 27.** Stop marker

Setting	Description	Comment
<b>Objective marker</b> <b>and objective distance marker</b>	You can select Hud, marker, both or none	Toggle in game available
<b>Next speed limit marker</b>	You can select HUD, marker, both or none	Toggle in game available
<b>Next signal marker</b>	You can select HUD, marker, both or none	Toggle in game available
<b>Next signal aspect</b>	Turn it on or off, but only through the settings menu	Toggle in game available
<b>Control display</b>	You can turn it on or off using the keyboard, but not through the settings menu	Toggle in game available

<b>Notification</b>	You can turn it on or off, but only in the settings menu	
<b>Button prompt</b>	You can turn it on or off, but only in the settings menu	
<b>Reticule center dot</b>	You can turn it on or off in game using the keyboard, but not via the settings menu	Toggle in game available
<b>Score marker</b>	You can turn it on or off in game using the keyboard, but not via the settings menu	Toggle in game available
<b>fps</b>	Frame rate, you can turn it on or off during game play.	Toggle in game available
<b>Stop marker</b>	Shows where your train should stop, setting in settings menu	Toggle in game available

Finally, in game you can turn on or off the complete HUD, using the F1 button at the keyboard.

#### 8.2.4 Sound settings

All sound volumes can be set with a slider in a range of 0.0 to 1.0 At least some people complain this is not loud enough and sounds are hardly audible (partly true, but maybe you don't want to turn up the volume of your speakers too much for a single game).

It is possible to set higher values, but then you no longer can use the in game settings menu to adjust the sound volumes. A few more sound related settings are covered here as well. However, I will explain how to set higher volumes in sections 8.3.4 (the hard way) and 8.3.5 (the easy way).

Setting	Description	Comment
<b>Master volume</b>	Basic sound volume	Recommended value is 3.5
<b>Ambient volume</b>	Surrounding scenery sound level	Recommended value is 2.5
<b>Dialog sound volume</b>	Volume for dialogs	Recommended value is 1.5
<b>Music volume</b>	Volume for music	Depends on how much you like the music, 1.5 is good to hear it
<b>ExternalAlert volume</b>	Plays sounds for alerters and safety device while you are not in the cab	Recommended is at least 1.5 if you want the function, otherwise select 0.0
<b>SFX volume</b>	SFX stands for sound effects	Recommended value is 3.5, or keep it as loud as the master volume
<b>MenuSFX volume</b>	Menu sound effects	Recommended to use 1.0 of you like this ..
<b>Subtitles</b>	Turns subtitles on or off in scenarios	Kee this on if you turn off dialog sound. For some routes there is no dialog sound, so you may miss some information if you turn this off.

### 8.2.5 Game play settings

In this section a mix of settings that influence game play is presented.

Setting	Description	Comment
<b>Run/walk</b>	Sets how fast you walk in first person mode	Set it in the settings menu, but you can override the setting in game
<b>Disable junction derail</b>	If you set this to true, the game will not complain about junctions that are set wrong	This horrible UI design because it is stated as a negative instruction. Think twice before you set this!
<b>Force feedback</b>	Turns force feedback function for the XBOX controller on or off. Not very useful, I think.	
<b>Measurements</b>	Sets unit system to imperial (Mph) or metric(km/h)	Setting depends on the country. It would be nice if it is set automatically ...
<b>Grade units</b>	Sets the way grades are represented in the HUD either a division or a percentage	
<b>Temperature units</b>	Degrees Celsius or Fahrenheit	Not relevant, it is not actively used in the game
<b>Cab sway</b>	Turns cab sway on or off	Use this setting according to your preferences.

### 8.2.6 Advanced settings

There are number of advanced setting, mainly generic for the Unreal engine. You can find a list here:  
<http://www.kosmokleaner.de/ownsoft/UE4CVarBrowser.html>

[pschlik.572](#) created an excellent guide on this topic. Most of what I have written in this section comes from his information and experiments.

<https://forums.dovetailgames.com/threads/a-guide-to-engine-ini-settings.4672/>

Setting	Description	Comment
<b>Eye Adaptation</b>	If you set this, the game will try to adapt to the behaviour of your eyes. It may cause a very leak overexposed dashboard. You can turn this off.	Use TSWTools or edit the engine.ini file
<b>Low Material Quality</b>	Set its value to 0 to improve rendering of grass, low fps impact	Use TSWTools or edit the engine.ini file
<b>Screen percentage</b>	You can set this below 100% for a better performance. I think you best don't touch it	Use TSWTools or the in game settings
<b>View distance scale</b>	Determines how far away objects will be rendered. A value of 5 seems to be optimal.	Use TSWTools or edit the engine.ini file
<b>Motion blur</b>	Motion blur is intended to give a sense of high speed, which looks horrible at low speed. It is default on, but you can turn it off in game. Unreal supports several levels of motion blur	In game: on or off only with the keyboard. In engine.ini or with TSWTools you can set it at any supported level.
<b>Foliage distance</b>	Makes trees and bushes look better at some distance. A value of 3 is recommended.	Use TSWTools or directly in engine.ini
<b>Gamma correction</b>	Allows to define where the value 0.5 in the color channels is mapped to after color grading (This is similar to a gamma correction). Value should be around 0.5, smaller values darken the mid tones, larger values brighten the mid tones, Default: 0.5	In engine.ini, using r.Color.mid. Useful for Sandpatch, 0.4 is suggested. WARNING: DTG will patch the Sandpatch route for the bleach colours, so make sure you remove this setting.

**Note:** **ViewDistanceScale** can be set from the game settings, but it will have a value up to 3. I am not sure if and how this interferes with the Unreal setting. Probably the safest way of working is to keep **ViewDistance** in the GameUserSettings.ini in sync with this value. TSWTools will take care of this for you, if you use TSWTools to manage the settings.

There are many more settings, but these ones seem the most useful for starting players.

### 8.3 Where to change settings

There are number of way you can change these settings. Each way is different in what you can set and how easy you can adapt the changes.

- In game settings menu: you can access this at any moment during gameplay and the good news is that all settings will be active right away. So, this is very powerful to play with the settings and see the effects right away.

- Keyboard mappings: you can remap the keys and this will have effect right away. You only can do this from the menu in the game.
- In game, using key combinations
- Change the .ini files: you can directly edit the .ini files. The settings will be effective after a restart of the game and you must avoid typing errors of course.
- Use TSWTools: better than editing the .ini files, you can use TSWTools. TSWTools supports all settings except keyboard mapping. And allows you to make backups of the .ini files as well.

### 8.3.1 In game settings menu

After you selected your avatar, you get a menu structure with some more general actions at the bottom. Please note, this general menu bar is not always visible, but it is in the main menu and during game play if you pause the game (escape key).



Figure 28 Game settings menu access

Once you open it, you see the different tabs for the settings menu. It is quite self-guiding, but the presentation is not always logical.

### 8.3.2 Keyboard mapping

Keyboard mappings can be set for the keyboard only. You cannot adapt the binding for the controller or mouse commands.

For the XBOX controller, you can view the mappings as they are set. This may be handy especially for starting players.

Unfortunately, you cannot bind unbound commands to a key. E.g. if the destination blinds are not bound, you cannot do this. Also I am not convinced changing the key binding is always working properly.

Keyboard mappings are probably bound to the profile of your avatar. So, if you switch to another avatar your changed key bindings are NOT available.

I did not find a way to open the profile files, so I cannot verify this or change anything here.

The keyboard settings menu is divided in locomotive, camera, first person and turntable. One setting, transition is coupled to first person mode, but affects all other modes as well.

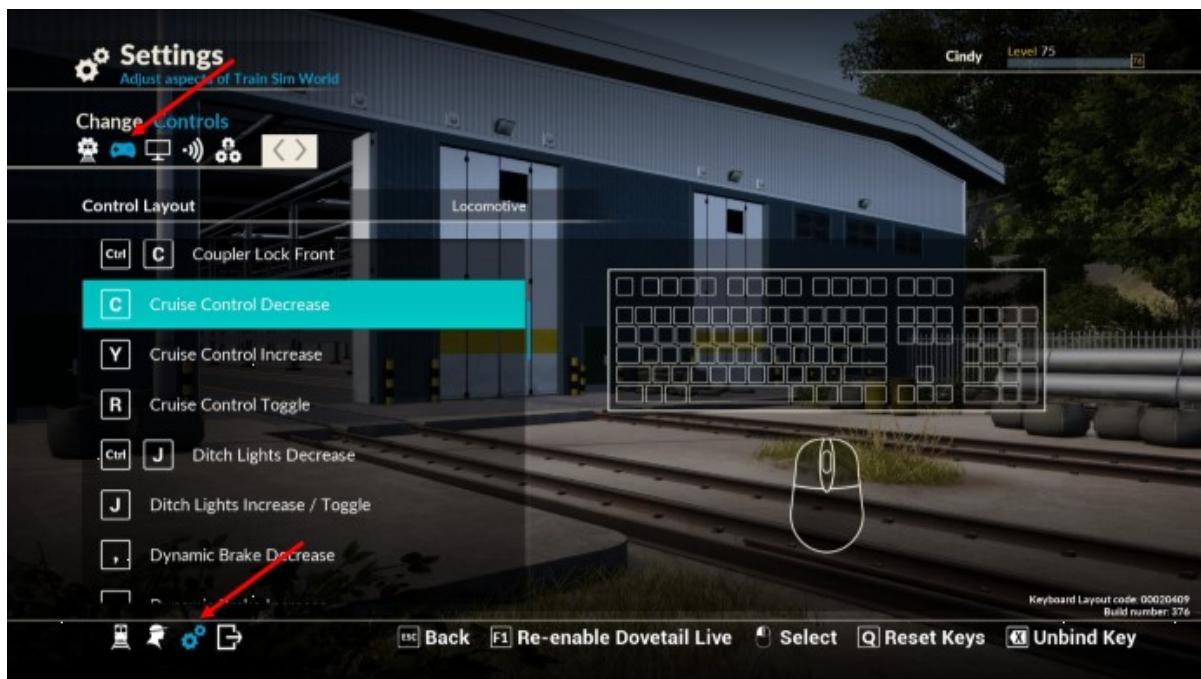


Figure 29 Changing keyboard mappings

### 8.3.3 In game keys for settings

HUD key	Key	Comment
<b>Toggle pause game</b>	Esc/P	You can resume the game by pressing Esc or P in the pause menu. In pause game you can save the game, exit scenario/game, change settings
<b>Toggles the HUD</b>	F1	Turns all HUD elements on or off
<b>Toggles fps display</b>	F3	Shows FPS on screen or hides it
<b>Toggles Objective marker/HUD</b>	Ctrl+1	If you turn the objective marker off, the distance to the objective is shown in the HUD. The distance is the straight line distance, not the distance along the track!
<b>Toggles next speed limit marker/HUD</b>	Ctrl+2	
<b>Toggles next signal marker/HUD</b>	Ctrl+3	
<b>Cycles through the HUD for next signal, next speed limit</b>	Ctrl+4	Try it!
<b>Toggle control display on or off</b>	Ctrl+5	Toggles the control display only on or off
<b>Cycles the opacity of the centre 'reticle' dot (0%, 50%, 100%).</b>	Ctrl+8	<b>Note:</b> in the earlier versions this was bound to Ctrl+5!
<b>When stuck, puts you in the driver seat</b>	Ctrl+0	In some cases due to bugs you cannot enter the cab in the normal way. Using Ctrl+0 helps in this case, eventually combine int with ctrl+ to switch cabs.

<b>Toggle Stop marker</b>	Ctrl+7	In many cases this also works for freight services, not sure if it works for Sandpatch as well. See Figure 27 for an example.
<b>Toggle score display</b>	Ctrl+6	Toggles a score display. It shows increasing points but the scoring is not documented.
<b>Toggle Motion blur</b>	Ctrl+F2	Toggles the motion blur effect. Useful for low speed operations, then you really don't want to see motion blur.

### 8.3.4 Changing .ini files

TSW users this folder for most configuration data and game status data:

C:\Documents\My Games\TS2Prototype\Saved

Depending on your system configuration, a different location may be used.

Inside this folder, there is a folder named **Config\WindowsNoEditor**

Most files in this folder are empty, but two of them are very interesting:

- The file **GameUserSettings.ini** contains a lot of user settings.
- The file **engine.ini** contains settings of the Unreal engine.

A number of game settings are derived from the Unreal settings. In this case it is best to use the in game settings to minimise the risk of confusion.

There is a curious practice here: if the default value for a setting is used, nothing is stored in the **GameUserSettings.ini** file. This can be very confusing if you think you can edit this file directly.

Also, some settings are NOT kept in this file (as far as I know). E.g., you can set motion blur off. I did not find this one and also the reticule dot is not displayed. It seems the key bindings are stored elsewhere as well.

For the advanced settings, I provide an example here :

```
[Core.System]
Paths=../../../../Engine/Content
Paths=%GAMEDIR%Content
Paths=../../../../TS2Prototype/Plugins/DLC/AC4400CW_YN3b/Content
Paths=../../../../TS2Prototype/Plugins/DLC/SandPatchGrade/Content
Paths=../../../../TS2Prototype/Plugins/DLC/CoalHopperBethogonII/Content
Paths=../../../../TS2Prototype/Plugins/DLC/BiLevelAutorack/Content
Paths=../../../../TS2Prototype/Plugins/DLC/CSX50ftBoxCar/Content
Paths=../../../../TS2Prototype/Plugins/DLC/CSX5201CuFtCoveredHopper/Content
Paths=../../../../TS2Prototype/Plugins/DLC/CSXDOT117TankCar/Content
Paths=../../../../TS2Prototype/Plugins/DLC/CSX_GP38-2/Content
Paths=../../../../TS2Prototype/Plugins/DLC/SD40-2_YN3b/Content
Paths=../../../../TS2Prototype/Plugins/DLC/GundersonHuskyStack/Content
Paths=../../../../TS2Prototype/Plugins/GenericDiorama/Content

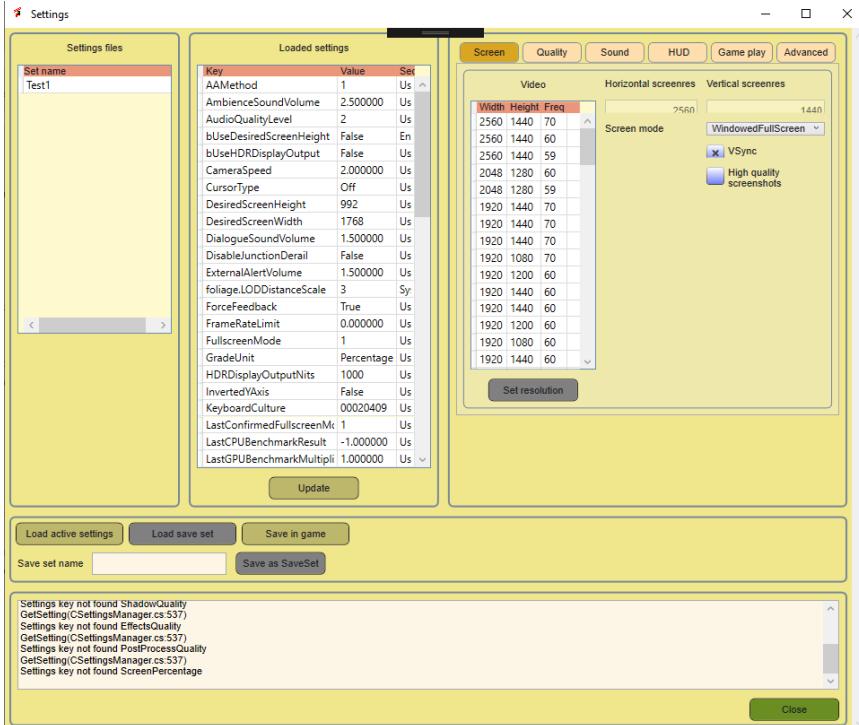
[SystemSettings]
r.EyeAdaptationQuality=0
r.MaterialQualityLevel=0
r.ViewDistanceScale=5
r.MotionBlurQuality=0
foliage.LODDistanceScale=3
```

If you want to do this manually, copy the part starting at **[SystemSettings]** to your engine.ini file where you can adapt the values. It seems these values will be preserved when you install new DLC.

### 8.3.5 Using TSWTools

I recommend using TSWTools to set your settings. TSWTools also has a game launcher, that allows you to prepare the game using specific settings for a route etcetera. TSWTools comes with a manual, which I will not repeat here. As an example one screen is shown here:

Figure 30 Screen settings menu in TSWTools



## 8.4 Graphics settings best practices

If you experience low fps, even with high end video cards. DTG gives some solutions you can try yourself, though they are working on updates in the game:

We have put together a list of suggestions based on in-house testing and your community feedback that may improve the overall performance of TSW:

1. Update drivers
2. Reduce shadow settings
3. Change to Full Screen mode (as opposed to Windowed Full Screen)
4. Turn off vsync
5. Lower your graphical settings by 1 (Ultra -> High, High -> Medium)
6. Set foliage settings to low
7. Reduce view distance to medium
8. For those that have a high-end nVidia Card (GTX 1060+), Go to nVidia Settings and set PhysX to GPU, and also enable DSR (VSR for AMD graphics cards.)

**Warning:** I used an NVidia 660GTX which is underpowered, but it worked. After about 200 hours playing TSW the card was defect. It is possible that that it was overcharged, so be careful if your system does not meet the requirements!



## 9 Content types

### 9.1 Tutorials

Tutorials consist of step by step instructions for a specific purpose. Most of them are very short. For the newer DLC they are restricted to show you a simplified cold boot, drive a bit and brake. If you are new to TSW, it is best to start playing all tutorials for the Sandpatch route. These are the most extensive. Then continue with GWE to learn more about passenger services.

Unfortunately, if you create a new avatar you are required to play at least one tutorial before you get access to the scenarios and services.

### 9.2 Scenarios

Scenarios are bit of a mix. Some are just game drives, others can be considered as a showcase for the features we may get when the scenario editor is available. Finally, some scenarios have a tutorial character and demonstrate game features.

### 9.3 First person mode

In the Services menu you can select either an engine or your avatar. If you select your avatar, you can choose season, time of day and a location. You now can walk along the tracks or at the station platforms.

If you are at one of the stations, you can enter a train that stops at the station and ride as a passenger, or you go to the cab and take control of the train and drive it yourself (you only can do this if the train is stopped).

You also can try to locate the tasks/collectables (see 7.8).



**Figure 31.** Unloading gravel

## 9.4 Time table

As a basis there is a timetable that lasts 24 hours. Trains are scheduled in the 24 hours scheme. You can take control of each of these trains, while the others are driven automatically.

During this process you can set season and weather, but you also can select a livery if more than one liveries is supported for an engine. If you own the GP-40 DLC, at the NEC or Sandpatch route you can drive a number of services with the GP-40 instead of the GP-38. For the automatically drive trains, the game will select the livery at random.

Probably in future it will be possible to create your own service mode service mode, so you may get a realistic density of traffic. At present it is not supported for a route to have more than one. This is a user interface issue, so I am sure DTG can solve this.

For most present DLC the major issue with time table mode is that it feels a bit boring, with little variety in the types of tasks. For the NEC route DTG did a great job for the diesel shunting services, for Ruhr-Sieg North they seriously attempted to increase variety. For WSR a number of very short shunting duties are included.

As long as no content editing tools are available, you will mainly use time table mode for game play.

## 9.5 Journeys

In TSW2020 Journeys are introduced as a new feature. A journey is a set of tasks, spread over approximately 24 hours. It seems DTG has in mind that it is kind of “A day in the life” but the implementation is confusing in this respect. In practice it looks a bit like a learning path where the learning is divided by rolling stock type and is a mix of tutorials, scenarios and time table drives. To me it seems that it is a bit for the lazy driver. You just run all journey stuff and you have experienced the variety of tasks, including a mix of weather types.

The bad news is, that if you already owned a route and played stuff before, it is not registered as a journey result. So, if you appreciate the check marks for done journeys, you need to play it all again.



## 10 Additions to the manual

### 10.1 Controls display

The HUD works different from the HUD in TS2020. DTG decided not to place any controls in the HUD. This forces you to use keyboard, mouse or XBOX Controller as main input devices. The HUD gives a summary of the major engine gauges and status.

**Note:** the details of the Controls Display depend upon the engine you are driving. The difference is mainly in the driver safety systems. For example, if you enable PZB in German loco's, the Controls Display will show PZB status, which is a great feature I really miss in TrainSimulator. The engine specific details are not covered in this guide, but I will cover them in the route guides.



Figure 32 The main gauges and control indicators at the HUD

In the next overview the gauges and controls are described briefly:

Nr	Description	Comments
1	Reverser direction	
2	Throttle notch	For the AC4400 the dynamic brake settings are not shown here. If you use the dynamic brake, the character 'D' is shown in this gauge.
3	Current brake type selected	Useful for the XBOX controller. Use the X button to cycle through the brake types.
4	Brake pipe reservoir pressure	Needed for the automatic brake
5	Equalizer reservoir pressure	Needed for the automatic brake
6	Current speed	Overspeed is shown by showing the numbers yellow or red
7	Simulation time	
8	Actual track speed limit	Note that the actual track speed limit shows the lowest speed limit over the whole length of a train. If the track speed increase, the higher speed limit will be valid when the whole train is in the area with the higher speed limit.
9	Grade steepness indicator and direction	Shows the grades, there is a setting that allows you to set the grade units.
10	Driver mode or Camera mode	Only for the XBOX Controller, use Y button to toggle.
11	Alerter	Functional if you enabled the alerter. Clear with Q-key or B-button on the XBOX controller.
12	Ampere gauge	Shows the power consumption of the engine. Should not be long in the orange area.
13	Cruise control speed	Target speed set for an active cruise control.
14	Accelerometer	Shows if your speed is increasing, decreasing or steady.
15	PZB state indicators	As an example, the PZB indicators are shown here for the BR185.2 engine.

### 10.1.1 Scenario marker

The specific markers here are scenario markers. If you are in walking mode and you walk over them, you can start a scenario there.

**Note:** the markers show the straight line distance, so the driving distance can be much longer. Sometimes it may even seem you are getting further away from your destination due to the curves.

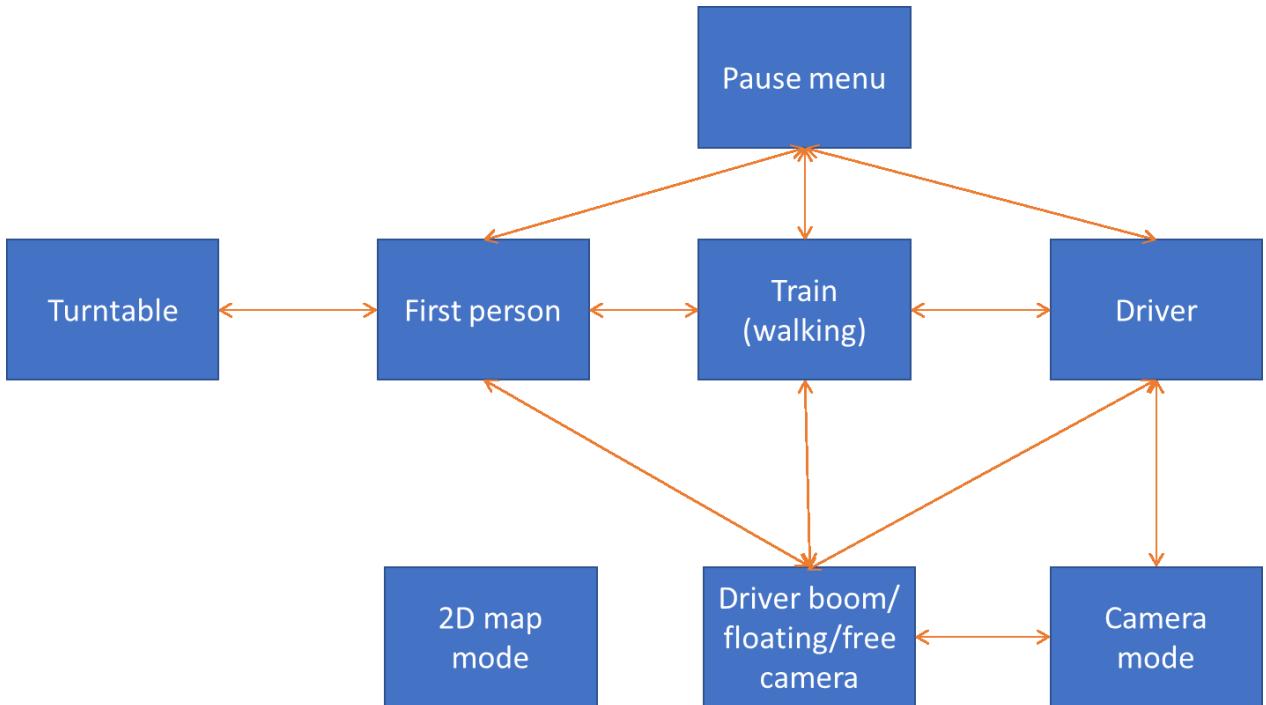


**Figure 33** Scenario or objective shows the location of an instruction.

## 10.2 Game modes

TSW uses a number of game modes. It may not be entirely obvious, but each time you use the **E-key** at your keyboard or press the **Y-button** of the XBOX controller, you are transferred to another game mode. In each game mode you have a different set of commands, and it can be dangerous to try changing game mode not using the E-key or its mouse/controller equivalent. This explains why you cannot control the turntable while you are standing. You must sit in the turntable seat to be in the right mode to control the turn table. It also may explain why people sometimes get stuck. An example is that when you cross the border of two wagons/engines, you should use the E key to make sure TSW understands what you are doing.

With the newer routes, this is less strict. For instance, if you enter a train in GWE using a platform, you just open the doors and enter the train. Generally it is not a problem to walk through a driving train.



**Figure 34.** Game modes and transitions between game modes.

This probably is not a complete overview but gives you some clues.

## 10.3 Keyboard

The keyboard works very similar to the Train Simulator key bindings, though there are some differences. The manual is not complete. The in game key mapping provides a number of key mappings not described in the manual, but this list also is not complete.

## 10.4 Mouse

Even if you use the XBOX controller, you still will need the mouse. This is due to the somewhat clumsy input bindings. The mouse is useful in the menus, but also for setting controls that do not have a key, like the windows, blinds and a lot more.

## 10.5 XBOX Controller

TSW supports the XBOX controller. I bought one and this is really recommended, especially in walking mode. It is much easier to use the controller than the combination of keyboard and mouse.

The functions of the XBOX controller are more or less shown in the game manual, though they contain some errors and are not complete.



Figure 35. XBOX controller button names

My major additions:

If you are outside the cab view, using the Boom Camera, Floating Camera or Free Camera, you can select a special camera mode using the Y button. This button toggles between driver mode, in which you can use all driver controls and camera mode. In camera mode you cannot use the driving controls, but you can move the camera position. Give it a try!

In the HUD you can see you are in Camera Control mode (see next section on the HUD).

To cancel the Alerter, you need to press the B button. This button also works in Camera Control mode.

To take a screenshot, you need to keep the back button pressed for about two seconds (see also page 35 in the manual). If you press the same button very short, you will open the 2D view.

The XBOX controller does not completely replace mouse and keyboard but for me it was a pleasant surprise and I can recommend to buy one if you intend to play a lot with TSW.

**Note:** The software has an annoying bug. If you use the mouse to set a control, the game does not automatically accept inputs from the XBOX controller anymore, at least can no longer move. Press 9 to open the 2D view and close it again. That solves this issue.

## 10.6 Input mappings

The key mappings are different if you are walking along the track (these are described properly in the manual) or if you are driving a train. Here I give a structured overview of all input bindings I am aware of.

I ordered them by command type and include both keyboard, XBOX controller and Mouse.

### 10.6.1 Menu input mapping

For the various menus the input mappings are not specified in the manual. I attempt to give you some guidance.

Command	Keyboard	Mouse	XBOX	Comments
Select item	Enter			
Next screen	E			
Next previous item	Tab	Drag mouse		
Bottom line menu		Drag mouse	 	I did not yet find out if there is any key combination, see Figure 36 to see what I mean.

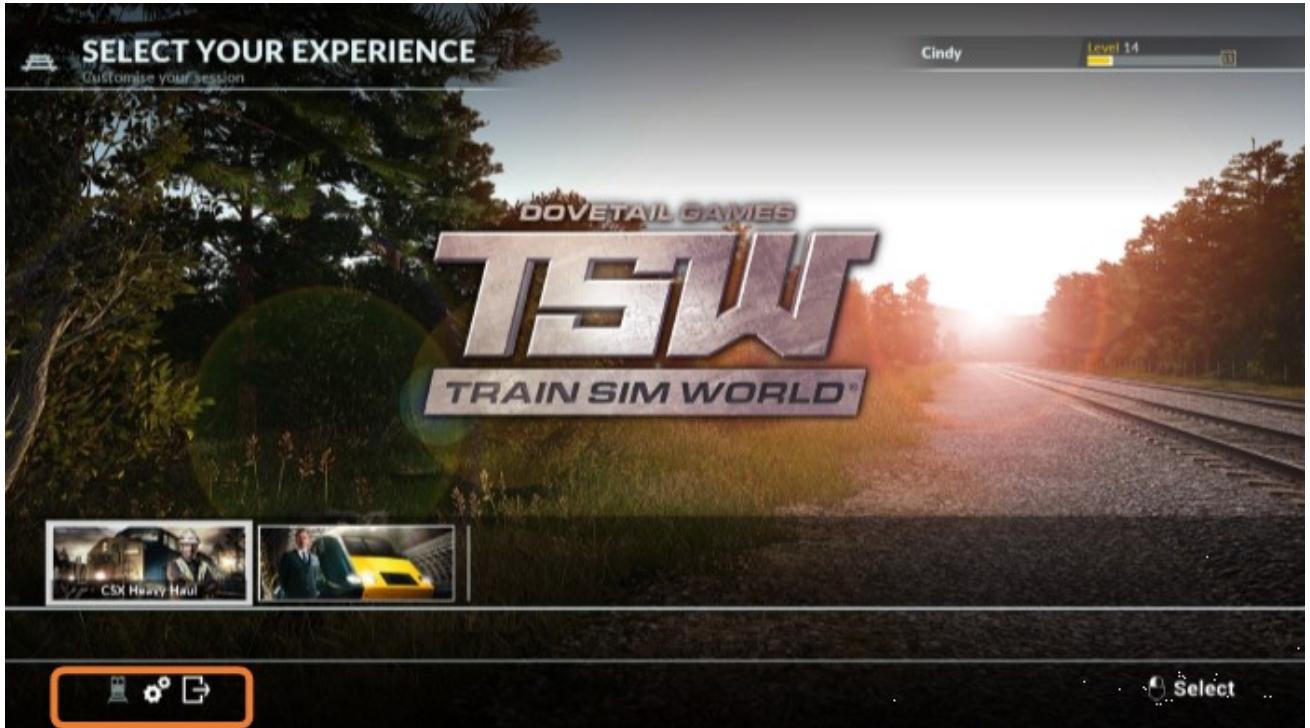


Figure 36. Bottom menu items

## 10.6.2 First person mode

Command	Keyboard	Mouse	XBOX	Comments
Walk forward	W, ↑			
Walk backward	S, ↓			
Toggle run/walk	Numlock			Use the game options menu to set the default
Toggle head light	L			
Toggle crouch	C			
Change game mode	E			E.g. climb on the train, sit in the driver seat ...
Interact			 	
Move sideways	A,D, ←→			
Look around, turn etc				The XBOX controller allows change the way you're heading in all directions
Turn				A bit primitive but you can look into other directions using the mouse
Zoom				

### 10.6.3 Driving

Description	Keyboard	Mouse	XBOX	Comment
<b>Set reverser forward</b>	W			Status is shown in the HUD
<b>Set reverser backward</b>	S			Status is shown in the HUD
<b>Increase throttle</b>	A			Status is shown in the HUD, but not in braking mode for the combined power handle in the AC4400CW
<b>Decrease throttle</b>	D			Status is shown in the HUD, but not in braking mode for the combined power handle in the AC4400CW
<b>Cruise control on/off</b>	R			
<b>Cruise control increase</b>	Ctrl+R or Y			Depends on train, Tempomat uses Ctrl+R, the other engines follow the TS2020 standard using Y
<b>Cruise control decrease</b>	Ctrl+Shift+R or C			Depends on train, Tempomat uses Ctrl+Shift+R, the other engines follow the TS2020 standard using C
<b>Gear increase</b>	Ctrl+A			
<b>Gear decrease</b>	Ctrl+D			

### 10.6.4 Braking

Command	Keyboard	Mouse	XBOX	Comments
<b>Cycle brake type</b>				If you use the XBOX controller, use the X button to cycle through the brake types.
<b>Decrease independent brake</b>	[			
<b>Increase independent brake</b>	]			
<b>Decrease automatic brake</b>	;			
<b>Increase automatic brake</b>	'			
<b>Decrease dynamic brake</b>	,			

Increase dynamic brake	.	
Emergency braking	Backspace	
Release emergency brake	Shift+Backspace	
Hand brake	\	
Release hand brake	Shift+\	

### 10.6.5 Lights

Command	Keyboard	Mouse	XBOX	Comments
Switches to next headlight state	H			This function is not always used consistently. For a finer control, you better use the switches inside the cab, when available.
Switches to previous headlight state	Shift+H			This function is not always used consistently. For a finer control, you better use the switches inside the cab, when available.
Switches to next rear headlight state	Ctrl+H			
Switches to previous rear headlight state	Shift+Ctrl+H			
Toggles cab light	L			
Toggles instrument lights	I			
Toggles both step lights and platform lights	K			Only for the engine you are currently driving
Toggles ditch lights	J			

### 10.6.6 Safety

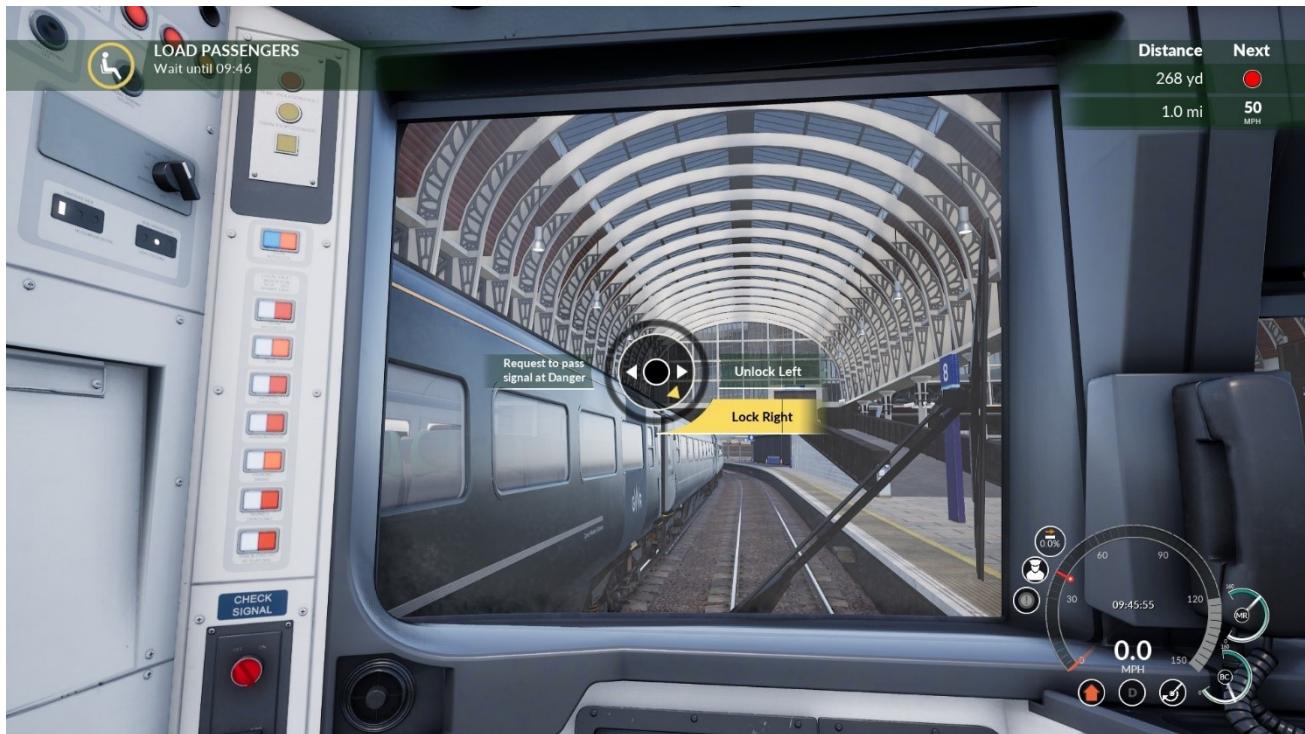
Command	Keyboard	Mouse	XBOX	Comments
Request permission to pass signal at danger in forward direction and open close doors for passenger trains	TAB			The TAB Key DOES work as advertised in asking permission to pass signal at danger but you will be denied by the dispatcher UNLESS your route can be connected to your objective by the dispatcher. Curiously, this key binding is NOT in the input mapping tables.
Request permission to pass signal at danger in backward direction	Ctrl+TAB			Not documented, not yet seen, I guess this exists
Toggle Safety functions	Ctrl+ Numpad Enter and/or			For Sandpatch initially DTG used CTRL+Enter for the Alerter function, later this functions was split between

	Shift+Numpad Enter	Shift+Enter for the Alerter and Ctrl+Enter for PZB, ACSES etcetera. For finer control, better use the in cab functions if available.
<b>Reset alerter/fault</b>	<b>Q</b>	 You need to press Q also if the PCS alarm is tripped (for Sandpatch route). At the XBOX this function also works in camera mode

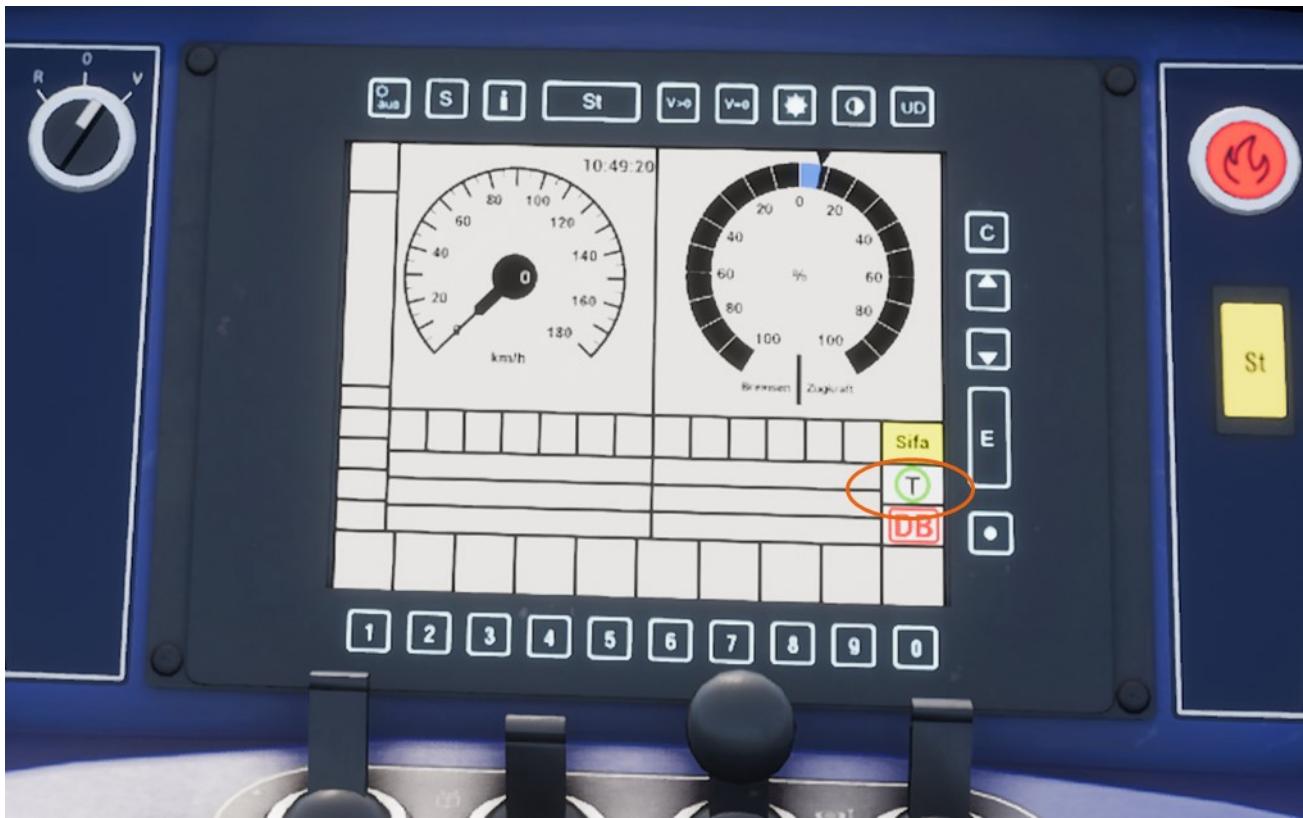
### 10.6.7 Lock or unlock doors to pick up passengers

For all engines, you can lock or unlock the doors using the **TAB** key. You need to select the proper side, using the mouse or the **arrow keys**. Use **Enter** to execute the desired action. If the driver controls opening and closing doors, you may find the appropriate controls in the cab, but not all engines have this function, e.g. the class 43 does not have them. In that case you must use the Tab key. Some trains have separate controls to choose the left or right side doors and a control to open the doors. Just try it, usually it is not very difficult to find out how to do this.

**Note:** modern engines will not start driving with doors that are not locked.



**Figure 37.** Use the TAB key to show the unlock/lock control.



**Figure 38.** Door locking symbol

#### 10.6.8 Auxiliary functions

Function	Keyboard	XBOX	Comment
Sander	X		You need to hold the key
Lead axle sander	Ctrl+X		You need to hold the key, needs confirmation
Increase wiper speed	V		
Decrease wiper speed	Shift+V		
Change to other game mode	E		See section 10.2 for a more detailed explanation.
Toggle bell	B		HH only
Horn (high tone)	Space bar		You need to hold the key to continue sound
Horn (low tone)	N		

<b>Crossing toggle</b>	C	Opens or closes the crossing between engines. Use the E-key to actually cross!
<b>Toggle master key</b>	Ctrl+W	Lock or unlock the master key. <b>Note:</b> in the input mapping Shift+Ctrl+W is specified to lock the master key.
<b>Start engine</b>	Z	A bit dangerous. Consult the official manual for start procedures for your engine.
<b>Stop engine</b>	Shift+Z	A bit dangerous. Consult the official manual for shutdown procedures for your engine.

### 10.6.9 Camera

The cameras work different from what you are used. The “**Boom camera**” replaces the front and rear view, the head out camera works only for the right window.

The Float camera is a new camera, that allows more freedom.

The key bindings for the camera are still a mess. You need keyboard, mouse and XBOX controller to be able to use all possibilities and there still are a number of bugs.

#### 10.6.9.1 Keyboard commands

Description	Key	XBOX	Comment
<b>Set cab camera</b>	1		
<b>Head out camera</b>	→		From cab camera
<b>Back to cab camera</b>	←		From headout camera
<b>Set instrument camera</b>	←		From cab camera, detail view on instrument board
<b>Back to cab camera</b>	→		From instrument camera
<b>Boom camera</b>	2		This camera is intended to follow the train. By pressing the key multiple times you can switch from front to rear.
<b>Floating camera</b>	3		Same as Boom Camera, but you can now look in any direction
<b>Free camera</b>	8		Move anywhere, though it works more like the 4-key in TS2018. The zoom and altitude functions are not working properly.
<b>Go to 2D map</b>	9		
<b>Return to 3D world</b>	Esc		From 2D map
<b>Move to next rail vehicle</b>	Ctrl + →		For Boom or Floating camera
<b>Move to previous rail vehicle</b>	Ctrl + ←		For Boom or Floating camera
<b>Moves to next cab</b>	Ctrl =		I think this is not yet working properly, so be careful. Because TSW supports true multiple units it may have unanticipated consequences when you are driving. It doesn't bring you to engines at the other end of the train, only adjacent engines.
<b>Moves to previous cab</b>	Ctrl -		I think this is not yet working properly, so be careful. Because TSW supports true multiple units

it may have unanticipated consequences when you are driving. It doesn't bring you to engines at the other end of the train, only adjacent engines.		
<b>Exit cinematic camera</b>	Enter	I found this instruction in the input mapper file. It seems not to be functional.

**Note:** if you are in cab view(key 1), you can use the left and right arrow key to cycle along a number of submodes. This is very handy, because you will pass the gauge panel, radio, switch board, fuse box etcetera. This is not documented, give it a try. The implementation is very dependent on the loco type.

#### 10.6.9.2 XBOX camera mode

Only in views outside the cab

Function	XBOX	Comment
Turn camera		
Zoom		
Reset alerter		
Toggle driver mode/camera mode		

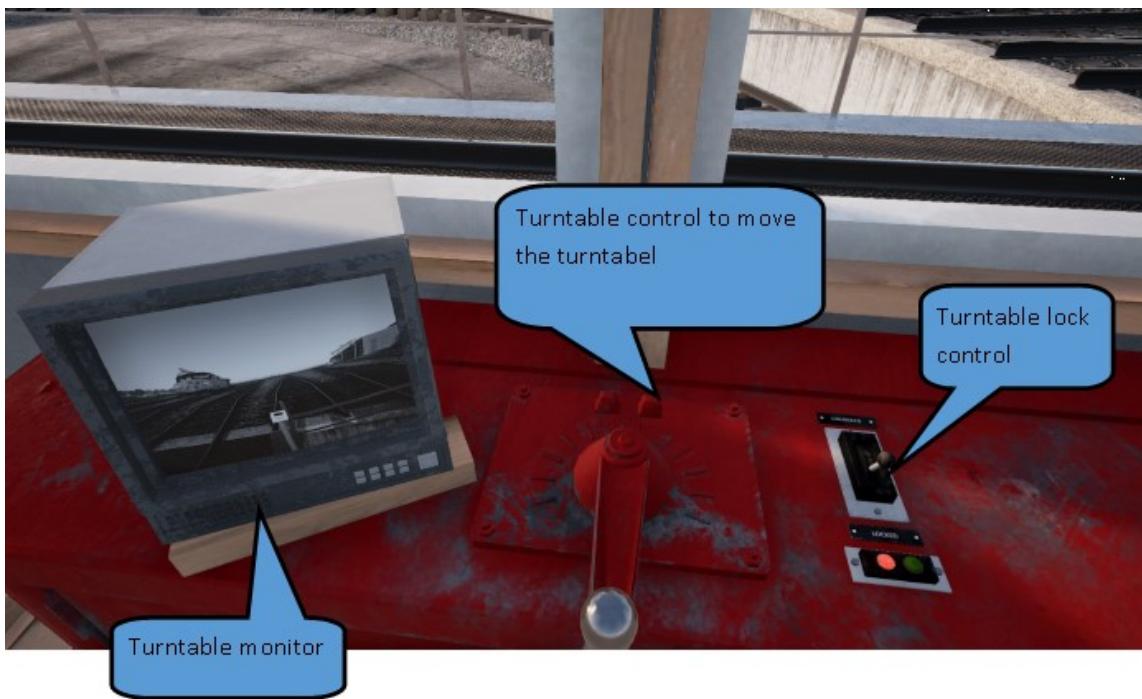
Unfortunately you cannot change the altitude yet in an easy way.

## 10.7 Turntable

Several routes do have a turn table. Sandpatch, West Somerset Railway and Main-Spessart route do have working turntables, though only Sandpatch has a camera.

Function	Key	XBOX	Comment
Switch monitor/toggle monitor views	W	A	The XBOX key only works if you have focus at the on/off button. This is not very easy, due to sensitivity of the controller.
Lock or unlock turntable	S	X	
Turn	A/D	LT RT	
Sit in control seat	E	Y	

The controls for the turntable are shown below:



**Figure 39. Turntable controls**

**Note:** there is an in game tutorial in the Sandpatch route for operating the turntable.

Make always sure to lock the turntable again!

## 10.8 Screenshots

You can take screenshots in two ways:

1. F12 key will make a screenshot including the HUD
2. Ctrl+F12 key will make a screenshot but it will switch off the HUD and use a higher resolution.

Screenshots made with Ctrl+F12 are saved in a folder under your “Documents” folder:

**Documents/My Games/TS2Prototype/Saved/Screenshots/WindowsNoEditor/**

In order to increase the confusion, screenshots created using F12 are stored here:

**steam\userdata\50621274\760\remote\530070\screenshots**

The part **50621274** in the path is user dependent, so you need to find out the correct value by yourself.

**Note:** User comment, not yet checked ...

I found the procedure to upload the CTRL+F12 shots as normal screenshots. Just give them the correct file name format and put them in the Steam screenshot folder for TSW. There are several Youtube videos on the correct procedure.

**Note:** TSWTools has a function to view screenshots from both sources. You also can rename the screenshots. TSWTools is a free toolkit for TSW users. Download locations see page 96.



## 11 Tips and tricks

### 11.1 Time tables

At this site you can find most time tables, collected with admirable patience!

<https://smtimetables.herokuapp.com/>

### 11.2 Youtube movies

Matt Peddesden published a number of youtube movies showing various aspects of TSW. Worth watching if you have enough patience.

[https://www.youtube.com/channel/UCK\\_xppPgbLvh8DofAsA1\\_OQ](https://www.youtube.com/channel/UCK_xppPgbLvh8DofAsA1_OQ)

### 11.3 TSWTools

At the same download page where you find this starter's guide, you can download **TSWTools**, a toolkit for TSW users. At the moment it has limited functionality. In version 0.3 you can:

1. Unpack the core game and DLC
2. View game files
3. View keybindings
4. View and edit game settings
5. Save multiple game settings files
6. View and save all screenshots (both steam and DTG)
7. Manage livery paks.
8. Start TSM, with a selected game settings file and optionally turn Sandpatch radio on

More features are coming. For a download location see Appendix A.

## 11.4 Where are the scenarios in TSW?

In their wisdom, it seems DTG has decided you need to do some tutorials before you can play the scenarios, not sure which ones, probably at least the introduction sequence and one engine tutorial.

## 11.5 Starting on a grade

### rhunt

When starting on a grade, apply your independent brake to full. Throttle up to run 2, and let your amps load up. (ideal amperage is around 500-600 amps) so you may have to throttle up to run 3.

Apply sand and slowly release the independent and that should start you rolling. Sometimes you may have to throttle down a little to prevent wheel slip. As the amps start to drop, count to 10 and throttle up one notch. When the amps start to drop again, do the same.

## 11.6 Turntable

Anyone else struggling to turn on the monitor in turntable tutorial? Neither mouse click or W-key working for just this.

Solution: First you have to right click on the mouse for interactive options!

## 11.7 Switching liveries

The HH engines can be used in two different liveries. You can choose your livery in this way:

At the services tab, you select one of the engines. Now at the bottom of the screen you see the key Q appear.

Press Q and you see both liveries.

Secret tip: in one of the updates of the GWE route DTG added a class 66 in EWS livery. You can select this one in services mode.

## 11.8 XBOX controller not recognized

If you have used the mouse, TSW may think that you do no longer want to use the XBOX controller and you cannot use it for example to move in first person mode. In this case it works if you switch to the 2D map (key 9) and then go back to game using 9 again.

## 11.9 Climbing back at the platform

After a misstep you may end on track next to the platforms. Fortunately you can save yourself!



**Figure 40.** Climb back at the platform in GWE can be done at these locations.

You can either use the entries at the ends of most platforms or the steps at regular intervals along the platforms. To use the steps you need to use the E key or Y button at the XBOX controller. Not all routes have steps!

## 11.10 Train wash

GWE has train wash systems both in Reading and Old Oak. Some services use the train wash. Maximum speed in the train wash is 3Mph, so take it easy! They are not working really great, you will not get wet if you keep the windows open.

## 11.11 Train lights

Lights in the passenger compartments can be turned on or off in some trains, but not all. You can do this from the driver seat and for some trains from one of the coaches as well.

## 11.12 Unpacking game files and change the key bindings

Do it in the easy way by using TSWTools or by the hard way described below.

First you will need an Unreal Engine Account from

<https://www.unrealengine.com/>

Download the latest UE4 Engine, Unreal Engine 4.15 and install it.

Navigate to the Unreal Engine 'UnrealPak.exe' file, that should be found here

**C:\Program Files\Epic Games\UE\_4.15\Engine\Binaries\Win64\**

Open a command prompt, e.g. right click empty space in the directory and select '*command prompt here*' from the context menu.

Click on your command prompt window and either type or copy this command into it.

`UnrealPak.exe <filepath>\WindowsNoEditor\TS2Prototype\Content\Paks\WindowsNoEditor.pak -extract`

where `<filepath>` refers to the path where you installed TSW.

For DLCs you need to look into the DLC directory, where you will find one single .pak file for each DLC.

`<filepath>\WindowsNoEditor\TS2Prototype\Content\ DLC`

For UnrealPak, the commandline options are given below:

```
-Test test if the pak file is healthy
-Extract extracts pak file contents (followed by a path, i.e.: -extract D:\ExtractedPak)
-Create=filename response file to create a pak file with
-Sign=filename use the key pair in filename to sign a pak file,      or: -
sign=key_hex_values_separated_with_+, i.e: -sign=0x123456789abcdef+0x1234567+0x12345abc
where the first number is the private key exponent, the second one is modulus and the third one is
the public key exponent.

-Signed use with -extract and -test to let the code know this is a signed pak
-GenerateKeys=filename generates encryption key pair for signing a pak file
-P=prime will use a predefined prime number for generating encryption key file
-Q=prime same as above, P != Q, GCD(P, Q) = 1 (which is always true if they're both prime)
-GeneratePrimeTable=filename generates a prime table for faster prime number generation (.inl
file)
-TableMax=number maximum prime number in the generated table (default is 10000)
```

Those parameters must be specified *after* the name of the pakfile, which is always the first argument. So, for example:

```
UnrealPak.exe filename.pak -extract D:\ExtractedPak
```

**Note:** You also can use the free TSWTools, much easier. See page 96 for how to get it.

## 11.13 Wind mills

Near Salisbury and Rockwood on Sandpatch there are some windmills. They are animated, but of course there should be wind to see that. Set wind speed in the weather pre-sets and you will see the windmills actually work. In RT you also may find windmills.

## 11.14 Mirrors

All three CSX engine types have mirrors that seem to work. For the SD40-2 you can unfold the mirror. You first need to set the blinds (there is a bug, the blinds are marked as sun visors) and then you can fold out the mirror. The unfolded mirror is not working. For the other two engine types, this is not working.

**Note:** in TSW mirrors still are not working properly. This is a problem in the Unreal Engine.

## 11.15 Reskinning and liveries

### 11.15.1 Creating reskins

Even though the content creation tools are not yet available, it is to a very limited extent possible to create mods. The restrictions are:

1. Only one mod for an object can be active in the game.
2. If you load more than one, the last one loaded in game will be used.

This video is a bit slow but it will explain how you can get access to the textures and create your mods:

<https://youtu.be/oMDKx6ft1zs>

I do not have any expertise in this area, so please ask your questions at the forums.

## 11.15.2 Using mods

A fair number of mods are available at the community sites. They all will be delivered in the .pak file format. Installation is simple: place this file in the game directory:

...\\steamapps\\common\\Train Sim World\\WindowsNoEditor\\TS2Prototype\\Content\\DLC

If your mod has replaces a core element, you may need this folder instead:

...\\steamapps\\common\\Train Sim World\\WindowsNoEditor\\TS2Prototype\\Content\\Paks

You may want to use TSWTools, which makes it a lot easier to collect these mods ant install them at the correct place.

## 11.16 Replacing engines

One guy found a way to replace an engine completely. Again, this way of working does not add new content, it just replaces content.

<http://www.trainsim.cz/?mod=article&f=0&nod1=33&nod2=2&nod3=10>

### 11.16.1 Setting air brakes versus vacuum brakes

Basically the locos are designed for WSR and by default will couple the vacuum pipes up between the locos instead of the air pipes like on all other dual braked locos. Since the vacuum brake doesn't control the Air brake, the air brake controls the vacuum brake, this means releasing the brake on the lead loco will cause the brakes on both locomotives to release their brakes, but there's nothing to draw the air brake off on the train since your loco isn't feeding the air brake pipe of the wagons since it isn't physically connected up to them.

To correct this, you will need to change the brake selector switches on both locos to Air, and change the timing switches to goods, then uncouple the recouple the coupler between the two locomotives, this should now couple the air brake pipes between the two locomotives so allowing you to control the entire train from the lead locomotive.

I turn on master switch, leave seat set to air and goods in both locos then after climbing down for 2nd loco uncouple and recouple from train, repeat between locos. Thank you DominusEdwardius. This game is really gaining momentum now. So many variations now available, make it a really worthwhile buy... Looking forward to next route or loco..

Acknowledgement to <https://forums.dovetailgames.com/members/jetgriff.13103/> and <https://forums.dovetailgames.com/members/dominusedwardius.402/>

See also <https://forums.dovetailgames.com/threads/settings-for-class-33-on-tees-valley.19399/>



## 12 Known issues

In this chapter I report issues I encountered or that were reported by other users at various locations. The list is valid till 20202, February and hopefully the issues will be fixed in near future. I chose to report only functionality that is not working. We can have long discussions on performance and game physics. I leave that out because I do not know what DTG intends to do.

I used the release notes as the main source to find out if bugs are fixed. So maybe some issues have been repaired without my knowledge.

### 12.1 Game pause issue

When esc to pause the game is not working press 9 to enter the 2D map then esc 2x to enable esc again.

### 12.2 Game save

Not all items are saved properly, e.g. if you found collectables you will lose them, train lights may or may not be saved.

The Last Played “button” suggests that it works per route. Unfortunately this is not true, it works globally for the game.

### 12.3 Throttle does no longer work when restoring a saved game

Stand up, sit down again, set the throttle back to idle and the it works again.

### 12.4 Cannot start again after a stop

Not a bug, depending on the route and engine a number of different solutions apply:

- Make sure the Throttle is at the Idle or Off position.
- Wait a few seconds after closing the doors before you apply power.
- Make sure you did not engage the emergency brake. If so, consult the manual on how to solve this issue.

## 12.5 Destination not shown after save

After you save a game and exit and come back to it later, the game doesn't show you the objective or where you need to go on your screen or train map.

Try pressing Ctrl and 1, might need toggling

## 12.6 Lost game saves due to update

Tip provided by [L0-Cache](#)

Here's a tutorial how you can get back your profile:

1. go to C:\Users\your user name\Documents\My Games\TS2Prototype\Saved\SaveGames
2. Copy all files
3. go to \steamapps\common\Train Sim World\WindowsNoEditor\TS2Prototype\Saved\SaveGames
4. paste all copied files
5. Start TSW and go to profiles and check if your old profile is back.

## 12.7 No route available

Sometimes you cannot complete a service you saved before, due to a signalling issue. In this case a signal says stop, though no trains are blocking the route. Asking permission to pass this signal at danger, will result in a "No route available" message. There is no work around, start the service again from the beginning and avoid using the Save function.

## 12.8 Foreign keyboards

Initially there have been a lot of issues with non-UK keyboards. Most of them are solved now, but if you live in a very exotic country, it is possible that your keyboard is not working properly. In this case, file an issue with the DTG customer service. You can set your keyboard to UK-English and language to UK-English as well. This at least makes your keyboard working.

In game you can find a keyboard code. It helps if you add this code to your ticket.

For GWE the issue reappeared, but f.i. for the US keyboard there is not an issue with HH, only with GWE. The most annoying issue is that you cannot apply the train brakes. I think it is resolved now properly, so this report is just in case ...

## 12.9 Key mapping

The key mappings as described in the game manual is not complete. Check this starters guide for an extended overview. Check Route Guides for specific details.

## 12.10 Login Dovetail-Live

The credentials for the Dovetail Live account are not saved properly, so you may be asked to login again. It seems to be improved, but maybe not yet fully solved.

## 12.11 Cannot move with XBOX controller

If you sue the XBOX controller, it may be handy to use the mouse to set in game controls. Once you have done that, you cannot move your camera with the XBOX controller anymore. A workaround is to activate the 2D view (key 9) and then go back to 3D mode, pressing key 9 again. It is a very annoying issue.

## 12.12 Loading screen when switching camera from front to back

Sometimes you may see loading screens (especially at Sandpatch) when you switch camera from the front to the back of the train and vice versa. This is behaviour of the game engine for performance reasons.



## 13 Communities

### 13.1 Introduction

For TS2018 a large number of community sites, called Dovetail Live exist, where you find help for this game. Most of them introduced a TSW forum as well. Of course information is limited, but a large part of the information in this guides comes from knowledge acquired from community sites. I recommend to participate actively. I mention only a few site to get you started. Please forgive me if your favourite site is not mentioned, but you always can ask me...

### 13.2 DTG sites

Dovetail has created a new community site, called Dovetail Live. You can become a member and log in during gameplay. They promise specific benefits. At the moment your credentials are not stored properly, so you may need to login again later. At the moment it just supports the Mastery feature (see 7.7). You can register here:

<https://live.dovetailgames.com/#/>

The official game site has a specific section for TSW:

<https://train-simulator.com/category/train-sim-world/>

You will find the latest news here. DTG also has a Face Book site.

DTG has its own forum where you can discuss DTG products.

<https://forums.dovetailgames.com/forums/trainsimworld/>

### 13.3 Steam forum

At steam you can find a fairly active game forum. If you post anything, in general you get replies within short notice. The forum is mainly in English, but few posts are in French, German, Russian, Chinese and Spanish.

Direct link:

<http://steamcommunity.com/app/530070/discussions/>

### **13.4 UKTS**

UKTS is a very active British community site with a large download base (not yet for TSW though) and an active and helpful forum. All communications is in English language.

<http://forums.uktrainsim.com/index.php>

### **13.5 Railworks America**

Railworks America is the US counterpart for UKTS. More targeted to US related issues. Also a large download section, tutorials and a well-organized forum. Of course, all is in English language.

<http://railworksamerica.com/>

### **13.6 Rail-sim.de**

A large community targeting to German language is rail-sim.de. Of course it is in German language, but you really need this for any German/Austrian/Swiss content.

<http://www.rail-sim.de/>

### **13.7 SimTogether**

SimTogether is an important Dutch community. Also a download section, mainly targeted to Dutch content. The forum is mainly in Dutch, but there is a forum in English language, though it is not used very much. Content is mainly in Dutch language.

<https://simtogether.com/>

### **13.8 Railsim.fr**

For the French community railsim.fr is a good starting point. The link is here to the TSW forum. Almost everything is in French language.

<http://www.railsim-fr.com/forum/index.php?showforum=32>



## 14 Frequently asked questions

### 14.1 Can I run this game at my system?

Your system specs should be around the minimum specs published by DTG. As you can see at the screenshots, far more detail is provided than we are used with Train Simulator. Therefore system requirements are a bit higher

### 14.2 Can we create our own content?

DTG is working on creating content creation tools, but this is a complex task. In January 2019 we have seen an extensive preview, focussing on scenario creation. What I have seen looks good, but just dumping the tools is not a good idea. You need tutorials, a folder structure to allow manageable content, a workshop system at steam etcetera. This appears to be much more work than anticipated, but it will come.

At the moment the content editor is in closed beta stage.

### 14.3 Does TSW support VR?

TSW does not support any Virtual Reality systems. Not heard if anything is in development.

### 14.4 Does TSW support Track IR?

TSW does not support TrackIR directly, but you can use it by installing an application that maps TrackIR to mouse input. This is not a perfect solution, but you may like it.

Here is video that explains how to do this:

[https://www.youtube.com/watch?v=V6\\_B484yDcM](https://www.youtube.com/watch?v=V6_B484yDcM)

## 14.5 Does TSW support RailDriver?

No, for Raildriver you need an application programming interface. This is not available. It is somewhere at the wish list of DTG.

But there is a third party solution that may help:

<https://forums.dovetailgames.com/threads/raildriver-support-now-for-tsw.19925/>

"As you might have seen elsewhere (Steam TSW forum, UKTS...), I have started working on Raildriver support for TSW. It is based on keyboard emulation using PI Engineering MacroWorks 3 and its associated scripts (more or less 1 script for each loco because they all have some different controls and behaviours, with a small supplied program to switch manually between locos).

The current version is always available @ <https://www.railsim-fr.com/forum/index.php?/files/file/1682-train-sim-world-raildriver-interface/>

Currently supported in version 1.2: the locos of CSX Heavy Haul, Great Western Express, Main Spessart Bahn & Tees Valley. Next ones will be Northern Transpennine then Long Island Railroad.

Please read carefully the readme file for instructions, limitations, etc... it's by no means perfect but already quite pleasant compared to keyboard/mouse only if you have a Raildriver."

## 14.6 When do we get multiplayer?

There are a number of indications the game is well prepared for multiplayer. It is promised by DTG but not yet announced. What we see now:

1. You can have multiple objectives in parallel. This may allow to divide task among more than one player.
2. There is service mode, which implements a 24 hours timetable. It is likely you can play a number of rides with players, while having the others played by the game.
3. You can have multiple roles in parallel. There are two or three seats in an engine and I can imagine roles to pick up crews with a truck, set switches in the yard or for a dispatcher.
4. If you leave the driver seat, you are asked if you want to give up control. If you do so, the game engine takes control.

But I also think a lot of work needs to be done:

1. Game instances must be able to sync at a common server.
2. There must be an interface where you can join a common game play.
3. There must be arrangements to accommodate differences in DLC.
4. Somehow game time must be synchronized over all players, you need to adhere to time tables.

So I believe it will take quite some time before multiplayer will become reality.

## 14.7 What about free roam

In TS you have freeroam mode, where you jump at an engine and drive without any task or schedule. DTG seems not to be a fan of this way of driving. Service mode comes more or less close to this. You can jump onto a train and take control, but you are bound to the schedule. Also some scenarios offer parallel tasks, where you can choose a train to drive. My guess is that there will not be freeroam, but maybe you will be able to create freeroam scenarios, once the editor is available. As far as I can see it will be much more flexible than the TS2018 editor.

## 14.8 Will there be DLC with ...

We need passenger trains, more routes, more countries and much more ...

You probably need a lot of patience. With train simulator it took about two to three years before larger numbers of DLC became available. It will not be much better for TSW. I expect some new routes in the fall of 2017 (this is my personal guess!!!). **Note:** a good guess, GWE arrived September 14<sup>th</sup> 😊.

I am sure it all will come. The development of TSW is a huge investment for DTG and they definitely want to make a fair profit. To make this profit, DLC are really needed to get a large player base and to get more revenues.

## 14.9 Will this be the end of Trainsimulator?

DTG states they will continue to support Trainsimulator and create new content. There are reasons to believe that this is a correct statement. DTG is a commercial company and they make a lot of money with Trainsimulator. TWS is just costing money. In marketing terms, Trainsimulator is the **cash cow**, providing the money they need to invest in TSW. I expect Trainsimulator will be continued for at least three more years, maybe longer, depending on the adoption rate of TSW. So no worry for now.

Some people are worried because Microsoft says Windows10 is the last Windows version. I also believe Windows is far from dead. The difference is that Microsoft has a different update strategy and is focussing more on supporting multiple platforms, especially Mobile.



## Availability of this guide

This guide and TSWTools are available here:

Site name	URL
<b>Holland Hiking</b>	<a href="http://www.hollandhiking.nl/trainsimulator/index.php">http://www.hollandhiking.nl/trainsimulator/index.php</a>

At this location you also find useful guides and tools for Trainsimulator

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