Scenario authors guide

Part I

Starters guide to scenario creation for Trainsimulator

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Version 1.0, September 2015

Preface

Introduction

It started when I got interested in creating scenario scripts and decided to create a scripting guide, because nothing like that existed. During writing the guide I managed to get in touch with DTG and they asked me to create this guide for them. Unfortunately I experienced a not very co-operative attitude, so I decided to continue on my own, hoping for better times.

The final result will be a three part Scenario authors guide:

You are reading Part I: The starters guide.

Part II, will cover advanced topics. A first version probably will be available in December 2015.

Part III, covering scripting is already available at the community sites at my Google Drive.

This document will enable you to create standard and freeroam scenarios for your own use. The basics will be introduced in a tutorial like manner, step by step. Part II will contain advanced topics, like publishing scenarios, quick drive, using scenery items, the cinematic camera etcetera.

Acknowledgements

All anonymous members of the Trainsimulator community for sharing their experience and helpfulness.

Disclaimer

This guide is provided “as is”. The author is not liable for the consequences of the use of this guide.

The contents is the sole responsibility of the author.

Contact

Comments are welcome at trainsimulator@hollandhiking.nl.

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

Enjoy reading!

Rudolf Heijink

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1 Introduction

Creating basic scenarios is a good entry point for creating your own content for Trainsimulator. In practice this can be a hard and time consuming job, which takes some time to learn the basics. It will take a lot of time to learn the details and to gain experience to create interesting scenarios for other players. This guide should help you to get started. I know there are YouTube videos and many more manuals. I prefer to create a written manual with a lot of pictures to show you step by step how to complete the job.

Tip: you may download this guide on a tablet computer and keep it near the screen where you run Trainsimulator.

Tip: the scenarios created in this manual are also available in Steam workshop. My author name there is **RudolfJan**, and the scenarios have names like RJH Tutorial ... Alternatively, the scenarios are included in the zip file package for this tutorial.

Part of the example scenarios are created for the **Somerset Dorset Joint Railway**. This route is available on Steam. It's not so expensive and includes the European Asset pack, which you will need anyway for many routes.

http://store.steampowered.com/app/208302/?snr=1_7_7_151_150_1

During writing I discovered the SDJR route missed some functions I wanted to demonstrate. That's why in the last chapter of this guide I switched, using the [WS] Seebergbahn. This route is available for free in Steam Workshop. For this route you need the European Asset pack to run.

This first part of the authors guide is built like a step-by-step tutorial. So, if you do not have any experience, take the time to perform each step by yourself and learn from it. For later use, there is an index at the end of the document to help you to find back specific topics.

If you have any comments or suggestions with respect to this guide, please send me a mail at this address: trainsimulator@hollandhiking.nl. I cannot provide any support to you. Please use the community forums if you need personal help. I'm active there as well, so you may get answers through that channel.

If you master everything in this part, there is good news, part III covering very advanced scripting stuff is already available (this is really hard stuff, mainly for programmers). Part II will be available (beta version) in December 2015. This will cover a lot of interesting topics, some easy but others fairly complex.

The scenario authors guide is available at these community websites (URLs refer to part III):

Site name	URL's
Treinpunt	http://forum.treinpunt.nl/index.php?action=downloads;sa=view;down=5867
UKTS	http://members.uktrainsim.com/filelib-info.php?form_fileid=33231
Railworks America	http://railworksamerica.com/index.php/download-library/accessories?view=document&id=1845:scenario-author-s-guide-part-iii-lua-scripting&catid=24:accessories
Railsim-de	http://rail-sim.de/forum/wsif/index.php/Entry/1534-Scenario-Authors-Guide-Part-III-Scripting/
Google Drive (all parts, beta's and other goodies as well)	https://drive.google.com/open?id=0B5xmS3GoYKV1UjBJeHhIOFlOSzQ

2 Your first passenger scenario

2.1 Overview

Creating a passenger services scenario requires a number of steps to execute:

1. Create a new scenario. In this step you will learn how to open the scenario editor and how you can create a new – not yet functional, but consistent – scenario.
2. Set the scenario properties. The next step is to set the scenario properties, like weather, time of day, season and a few others. You probably will like to revisit this step later when you nearly finished the scenario for a last update.
3. Add some rolling stock to the scenario. Now the real fun starts. You can select rolling stock now and build a player consist.
4. Add a driver instruction to the player consist. In order to identify the player consist you need to add a driver instruction. This is used to give the player consist a name and it also adds a service class, which determines the priority of the consist relative to other consists.
5. Add a final destination. Decide where you want to go and add the final destination to the player consist.
6. Add intermediate stops. You probably would like to include some intermediate steps. In this step you can do so.
7. Test the scenario. As a last step you need to test the scenario. In most cases, you will repeat steps 3, 4, 6 and 7 several times till you are happy with the result.

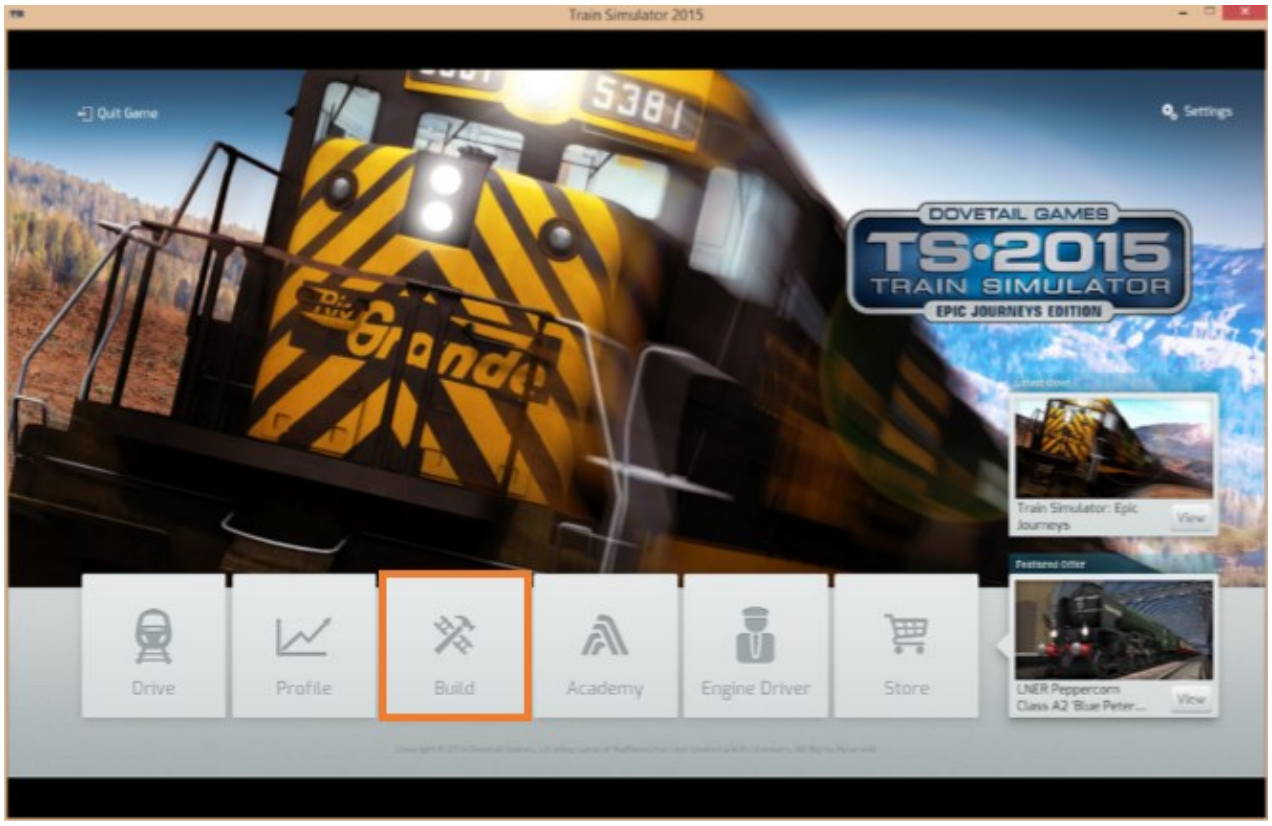

Figure 1. The Trainsimulator Main screen Build button

In this chapter you will be guided through all these steps one by one. Don't worry if you miss some topics. This is only the first step of your career as a scenario creator.

2.2 Create a new scenario

In order to create a new scenario, you first press the Build button in the Main menu (see Figure 1). This opens a screen with two tabs. The left tabs, is for the route editor, the middle tab is for the scenario editor, the right tab is what you need if you want to publish your scenario is Steam Workshop. So, choose the middle tab (see Figure 2).

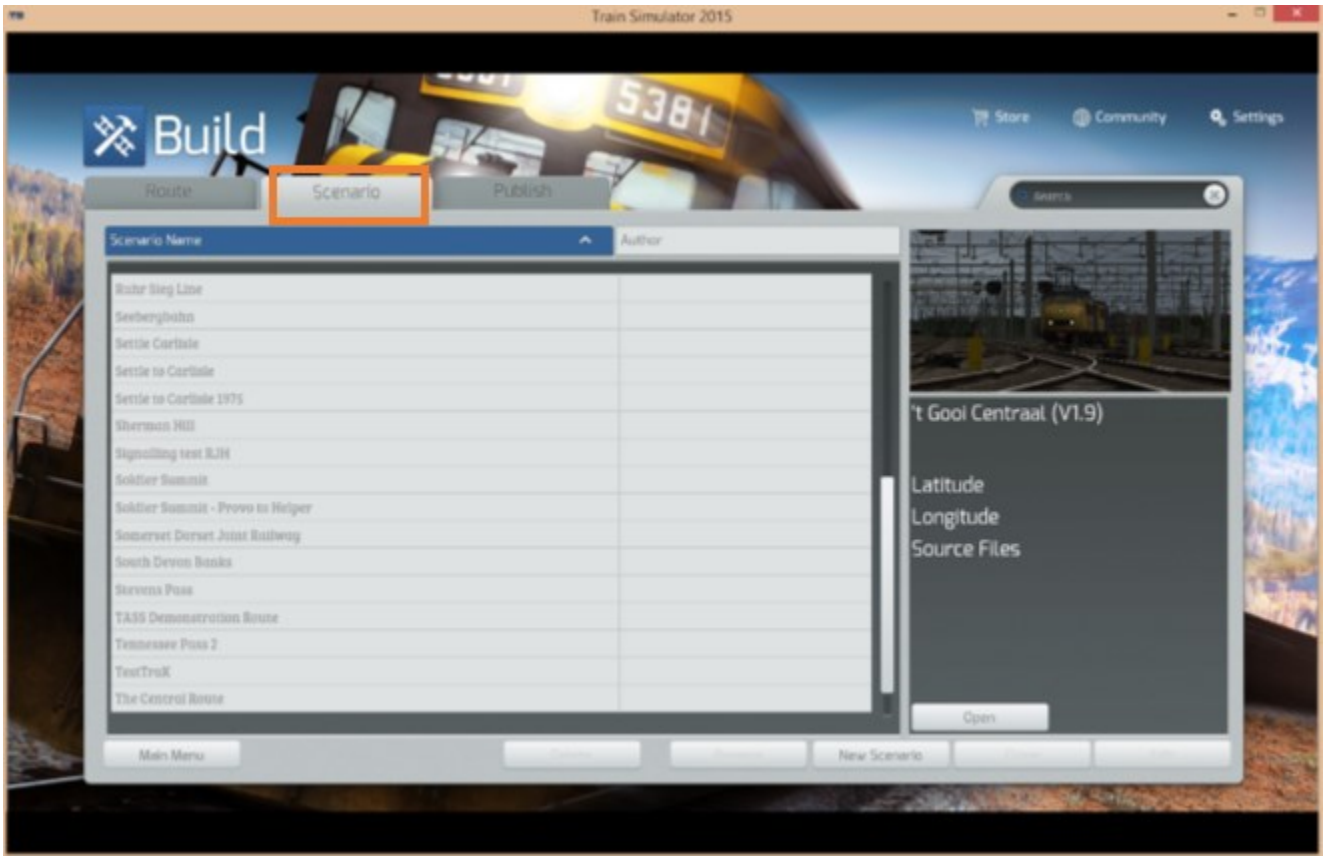

Figure 2. The scenario edit build tab.

When you open this tab, you see the routes in alphabetical order. The top route is "opened" to reveal all available scenarios for this route. You can scroll through the list, and select the route for which you want to create a new scenario. For our example, scroll down and select the "Somerset Dorset Joint Railway". Please note that this is a payware route you eventually need to purchase at Steam in order to see it in the list.

Now you see the "New Scenario" button is enabled. If you click the button, a form appears (see Figure 3). In this form you need to

1. Type the title of the scenario in the field called "name" here. The contents of this field will be used as the scenario title. You can change it later, if you like.
2. Select one of the available scenario types. For the moment 'Standard scenario" is OK. Later you will be able to create other types of scenarios as well.

3. You need to select a start location from the list. For this tutorial, use “Wincanton”. If you do not know a route very well, it can be a bit hard to find a suitable location in this way. Later you will learn another way to create a new scenario, which allows you to fly over the map and select a start location. For this moment, this method is much easier to execute.

See also the screenshot in Figure 3

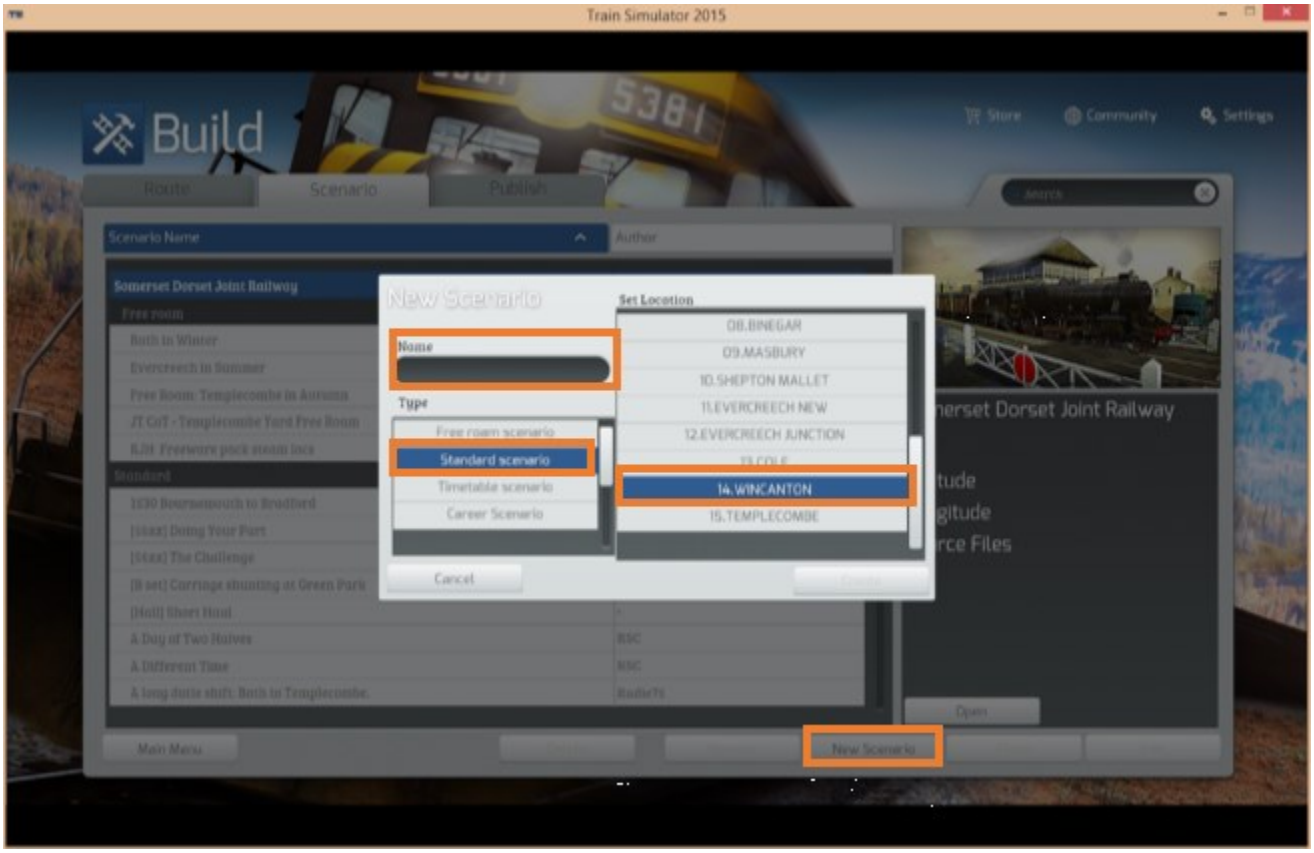

Figure 3. Create a new scenario entry.

Once you completed the form, press OK and you are in the 3D scenario editor. This 3D editor provides you a 3D world view of the route, with additional information for scenario creation.

2.3 Complete the Scenario Properties

Figure 4. The scenario marker contains the scenario properties

In Figure 4 you see the screen when you open the new scenario in the scenario editor. The white block with the orange engine is the **scenario marker**. The scenario marker represents the **scenario properties**. When you ***double left click*** on the scenario marker, it opens a fly out on the right side of the screen, showing the scenario properties.

Be careful here. If you ***double left click*** on the scenario marker for another scenario, your scenario will be closed and another scenario will be opened. Later you will see how to use this to create a new scenario easily from an existing scenario.

Tip: if you press the ***F6 button***, balloons will be shown with all marker names, including the scenario markers.

If you want, you can relocate the scenario marker using the object editor at the bottom of the screen. You can choose between two sets of actions, the first is to rotate the marker, the second is to move it to another location. Use the buttons in the orange square to choose between them. It will ask some training to get used to this part of the interface, so be patient!

Now, you can edit the scenario properties. In Figure 5 you see the lay-out, with numbers that refer to the description. It is important to complete at least the **Scenario Title** (nr. 1), and the **Start Time** (nr. 6). The Scenario Title is important for you to find the scenario back later. The start time is the time base for all consists. Changing it later has severe impact on the scenario and is not recommended, so think about this. You can change the other items at a later time if you want.

Figure 5. Completed example for the scenario properties

Nr	Topic	Comment
1	Scenario title	The title of the scenario as it will appear in the scenario list of the Drive menu.
2	Scenario description	Use this as a teaser to seduce the user to play your scenario. The text will be displayed at the bottom half of the Drive menu screens.

3	Driver instruction	The instruction that appears at the top of the Driver instructions list. It is shown when you press F1 during gameplay. You can leave this empty if you want. I'll show you later an alternative.
4	Scenario author name	You can put your name here. Unfortunately it is no longer shown in the Drive menu. In the scenario edit menu it is still used. It is also used when you publish your scenario as a workshop scenario. I recommend to always complete this field. It makes it easier to find out if you are the author of the scenario.
5	Start location	Not used, probably once intended as a key for selecting scenarios. I normally complete this field, you never know ...
6	Date	Not very relevant. You might think this influences sunrise and sunset, but these times are set based on the season only.
7	Rating	You can indicate here how hard it is to complete a scenario. You can use numbers 1 to 3. I am not aware of rules of thumb that make sense.
8	Duration	The duration of the scenario in minutes. I normally write a first estimate immediately, but you may want to revise this when the scenario is completed.
9	Start time	The start time of the scenario, using the 24 hours format. You should avoid changing the start time afterwards, because changing it will NOT affect the start times of the consists automatically.
10	Weather	Choose a weather pattern here from the list. Normally you have plenty patters available. In Part II of this guide you will learn how to create your own patterns.
11	Season	Select one of the seasons. You can change it afterwards. It will not affect the weather, so you can allow snowfall in summer ...
12	Loco class	The loco type of the player loco. This may help to select scenarios. Currently it is not used, but little trouble to complete.
13	Controls and cab	The left buttons allow you to enforce simple controls or expert controls and override the user preferences. This is useful for engines that do not support simple controls well. You also can enforce the user to start inside the cab (equivalent to the "1" key on the keyboard)

I have suggestion for you for the rating:

Rating	mnemonics	Description
1	Easy	Straight forward ride, using an engine without additional complexity (e.g. de virtual Railroad (vR) models are fairly complex to drive). The JustTrain Voyager is also in the category difficult. Simple shunting actions. Time tables a relaxed or absent and easy to accomplish. Red signals are announced Short consists, up to 20 vans
2	Medium	Steam engines Timetables Unexpected red signals or intermediate stops. Complex shunting operations Steep downhill grades with trains up to 40 vans
3	Hard	Complex engines Tight timetables, requiring very accurate driving

	Marshalling Shunting in large yards or with long consists Steam engines on steep grades, needing optimal balance between Reverser and Regulator Steep grades with very long consists, 40 vans or more Complex shunting puzzles

Figure 6. Save your changes!

Once you completed the scenario properties, I suggest you save the scenario. You can do this by pressing the ***F2 button*** and confirm your choice (Figure 6).

2.4 Navigating through the world

Before we continue placing consists, you need to be able to fly through the 3D Trainsimulator world in order to move to other locations. It may take some time to learn this. Keep trying!

There are four ways to go to other locations:

1. Use a preset destinations list. This is the easy way but not very accurate and you normally need to combine it with the third method.
2. Use the 2D map to select a destination.
3. Fly through the 3D world using the keyboard.

4. Type co-ordinates in the compass to select a destination. This method may be useful if you get error messages showing game co-ordinates.

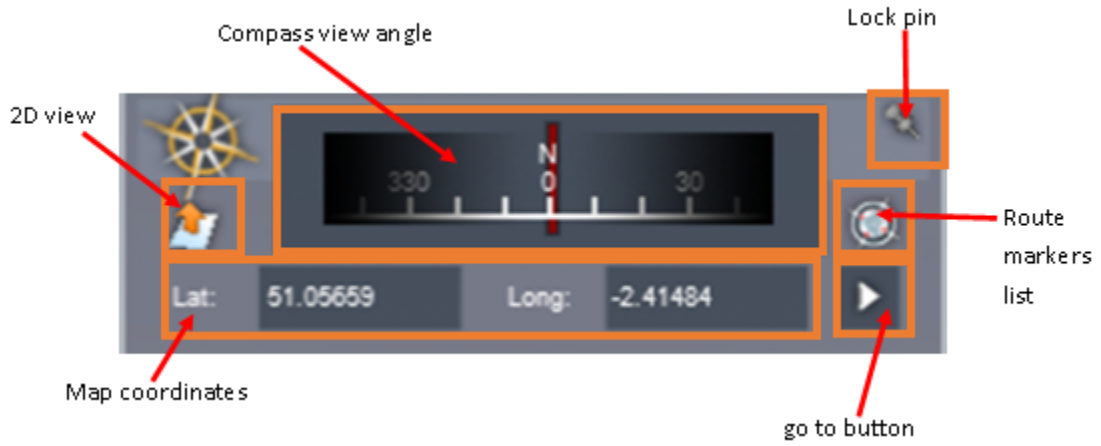

Figure 7. The compass window

In the Scenario editor, you see the **compass window** in the middle upper side of the screen (Figure 7). The compass window has a number of functions:

The **compass view angle** shows you in which direction you are looking. This can be very useful if you fly to another location and lose your orientation.

The **2D view button** will open the 2D view (same as key 9).

In the **map coordinates** section you can enter directly lat and long coordinates. Normally you obtain them from error messages and this helps to fly to the location.

The **go to button** makes you fly directly to the location shown in lat/long.

The **lock pin** locks the compass window, so it will always be visible. De fault is lock is on, so pressing this button will hide most of the compass window.

The **Route markers list** button shows a new window with a list of specific locations along the route, the **Route Marker List**.

2.4.1 Use the Preset Destinations list

For this method, you need to perform three steps:

1. Press on the compass the Route Marker list button. This will show a fly out on the right side of the screen (see Figure 8).
2. Select one of the locations in this list. Note that you can see the lat/long value change.
3. Press the go to button to fly to the location.

This method has some problems:

1. Route Markers must be defined by the route builder. Therefore not all routes will have Route Markers.
2. Some routes show route markers that belong to other routes (no idea what happens if try to fly to them)
3. You do not always end where you want to be, so you still need to know how to fly.

Therefore the other methods are needed as well.

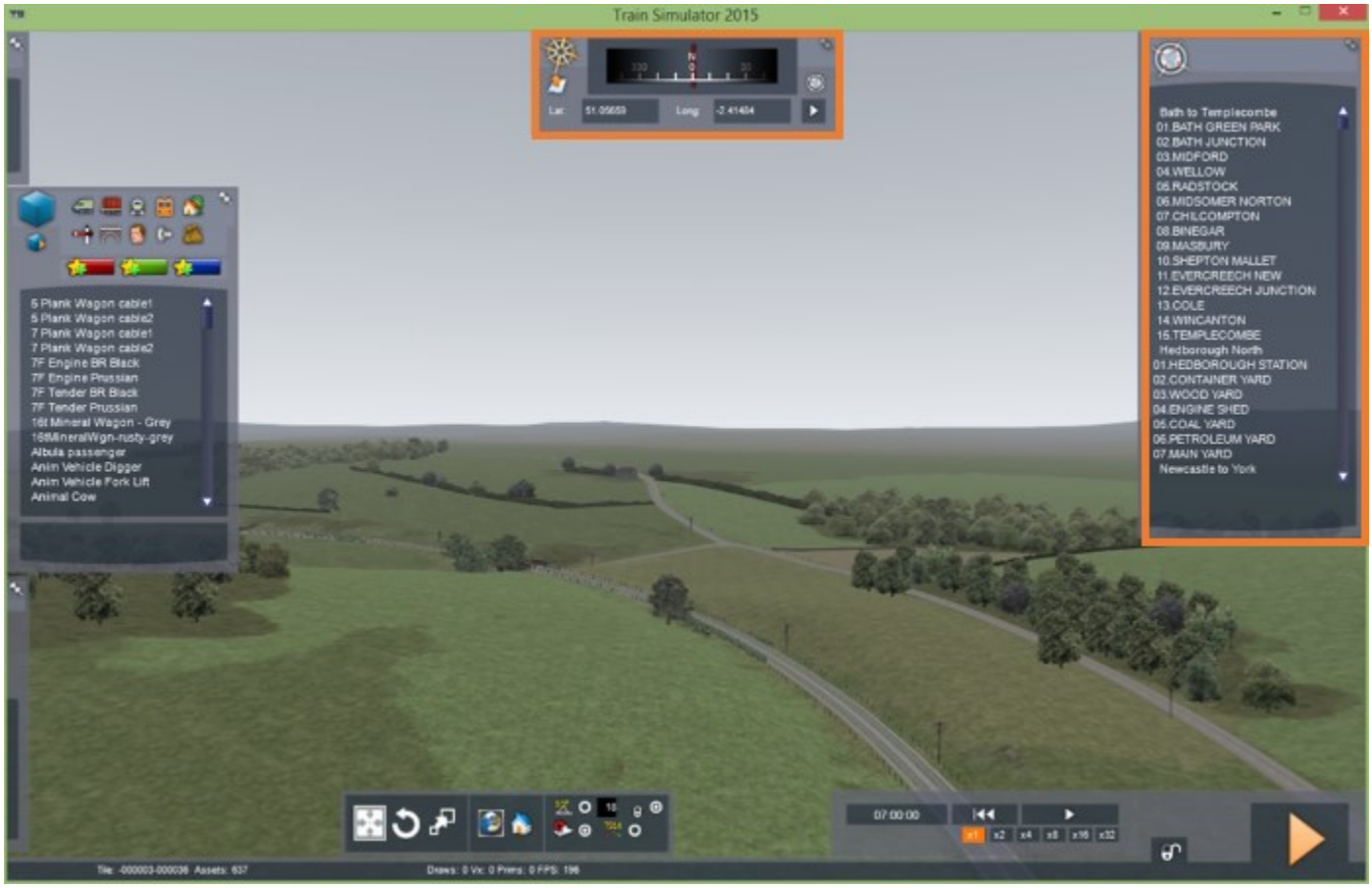

Figure 8. The Route Marker List

2.4.2 Fly in 3D

You can use the arrow keys to fly over the landscape in the 3D world and position the “camera”:

- ***Up arrow***: fly forward
- ***Down arrow***: fly backward
- ***Left arrow***: turn left
- ***Right arrow***: turn right
- If you combine the ***arrow keys*** with the ***SHIFT key***, they will speed up the movement.
- If you press the ***CTRL key*** together with the ***arrow keys***, you can move up or down in altitude.
- If you press the ***right mouse button***, you van pivot the view, which simply means the you change the moving direction of the camera.

Sometimes it may be hard to find your way in the world. I normally try to follow the tracks, which of course does not work if there are large tunnels. The next method can be very handy in this case.

2.4.3 Use the 2D map

Figure 9. The 2D world map.

The 2D map (Figure 9) shows you a map with just all tracks in the route and the markers and marker names. You can open the 2D map in the editor using key 9 or the 2D map button in the compass.

Then, move the mouse pointer to the location where you want to go, press ***CTRL+ the left mouse button***.

You will see the map shift a little. Now you can press the go to button on the compass, leave the 2D map by pressing ***key 9*** again and presto! You fly to the desired location.

Sometime , especially if the landscape is not flat, you will end deep under earth (see Figure 10). By pressing ***CTRL+ up arrow key*** you can navigate to the surface again.

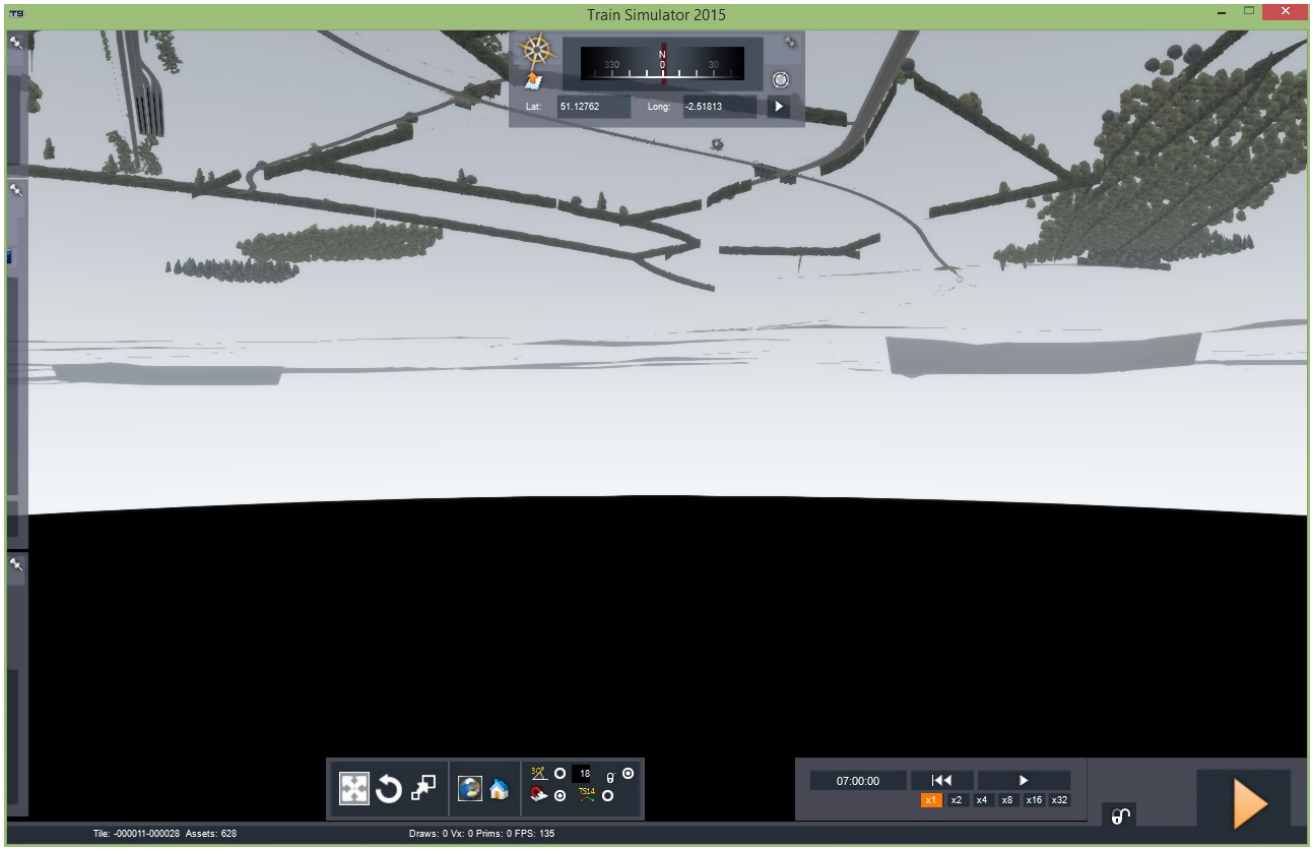

Figure 10. Sometimes you end under earth ....

2.5 Place rolling stock

Now you can start placing some rolling stock. In this first scenario, we only will place a player consist.

In the scenario editor, on the left side you can show three fly out forms. For placing rolling stock, you need the middle one (see Figure 11) If not done so, use the lock pin to make sure it will remain visible.

Figure 11. 3D world showing Wincanton. Here you will create the player consist.

In Figure 12 you see the various elements in this form explained. You can use the various buttons in the **item categories area** to retrieve a list of rolling stock or scenery items that are available for this scenario. Later, in chapter 4, you will learn how to add other DLCs to this list, but for the moment we will select just one of the available items.

1. You need to select the button showing an engine to get a list of available engine.
2. Then select one of the engines in the list (in Figure 12 I selected the Class 47 BR blue).
3. You can see the selected item in the bottom part of the form.
4. Now you drag the item to the track in Wincanton. You see that if you approach the track it will snap to the track. If you release the mouse button too far away from the track, the engine will not be put into the game and it will disappear again.

Figure 12. Select an engine (for instance a class 47).

It may need a bit practice before you can do this. Once the engine is on the track you can click on it with the left mouse click and drag it forward or backward on track. You also can pick it up and put it at another place. This is a bit hard, because you need to keep the left mouse button pressed and in between use the cursor keys to move in the 3D world. So, this likely only works over short distances and needs some practice.

If you click on a rolling stock item or on a consist, you see a big two sided arrow above the consist. If you click on this arrow, the item is turned 180°. Please try this a few times to get used to it.

Maybe this is a good moment to save your work again.

Now we need to add some carriages. Three will do, because of the length of the platform.

Select in the item categories the container van symbol. Now you should see all available wagons, both passenger and freight wagons. I suggest you select some MK1 coaches. The procedure is the same as for an engine, but you can drag them gently over the track till you hear the click from the coupling.

You must be careful here. If you happen to place the coach over the engine or over another coach, the scenario editor will accept this, but when you try to play the scenario, you will get an AI collision. Fortunately you can prevent this error. For this purpose you need the third fly out form on the left side of the screen. This is marked with the orange rectangle in Figure 13.

Figure 13. A major step forward, the consist is created.

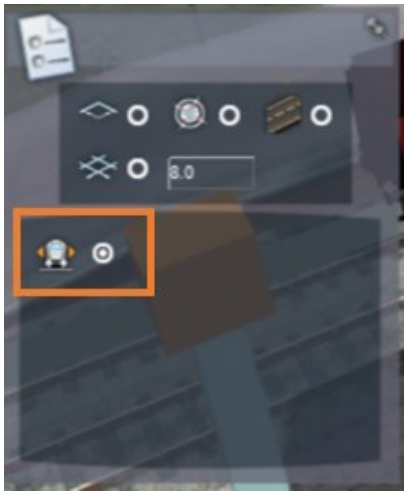

Figure 14. Use the radio button to select the whole consist and not just a single van.

If you click the radio button as shown in In Figure 14 you can toggle between selecting a single rolling stock item or a whole consist. Now you can pick up the whole consist at once and move it a bit. If one or more coaches are not properly coupled, you will notice that these coaches will not be included in your selection. Fortunately you can easily connect those coaches now. This step also helps to solve problems with misplaced rolling stock items, e.g. you can pick up the whole consist and place it at another track.

We are done now with the placement of rolling stock. Time to make it move, but before we continue another useful check must be performed.

Figure 15. Use the Screen tool to make markers visible

You need to make sure the symbols and markers you need to access are visible in the 3D and in the 2D view of the editor and during playing the scenario. To do so, use the Screen button (see Figure 15) in the toolbox, which causes a fly out form to appear on the right side of the screen (Figure 16). In this screen you can switch on or off things like markers, sound sources, switches etcetera. I normally set all options to on except for the 3D ambient sounds, which you don't need to see normally and are very disturbing.

Figure 16. Make sure your 2D/3D settings are correct.

2.6 Add a driver

Now we have a consist on a track and want to make it moveable. Therefor we need to add a ***Driver Instruction***. In the Toolbox, select the driver icon (Figure 17) and then click on the engine. As a result, two things should happen:

1. You see the driver instruction symbol floating above the engine (Figure 18).
2. On the right side of the screen, you see a fly out form showing toe additional information you need to provide for the driver instruction (Figure 19). Note: you may need to double click on the Driver Instruction symbol in the 3D view to see the fly out.

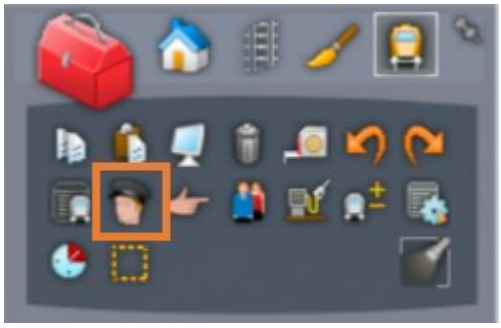

Figure 17. The toolbox contains the driver icon.

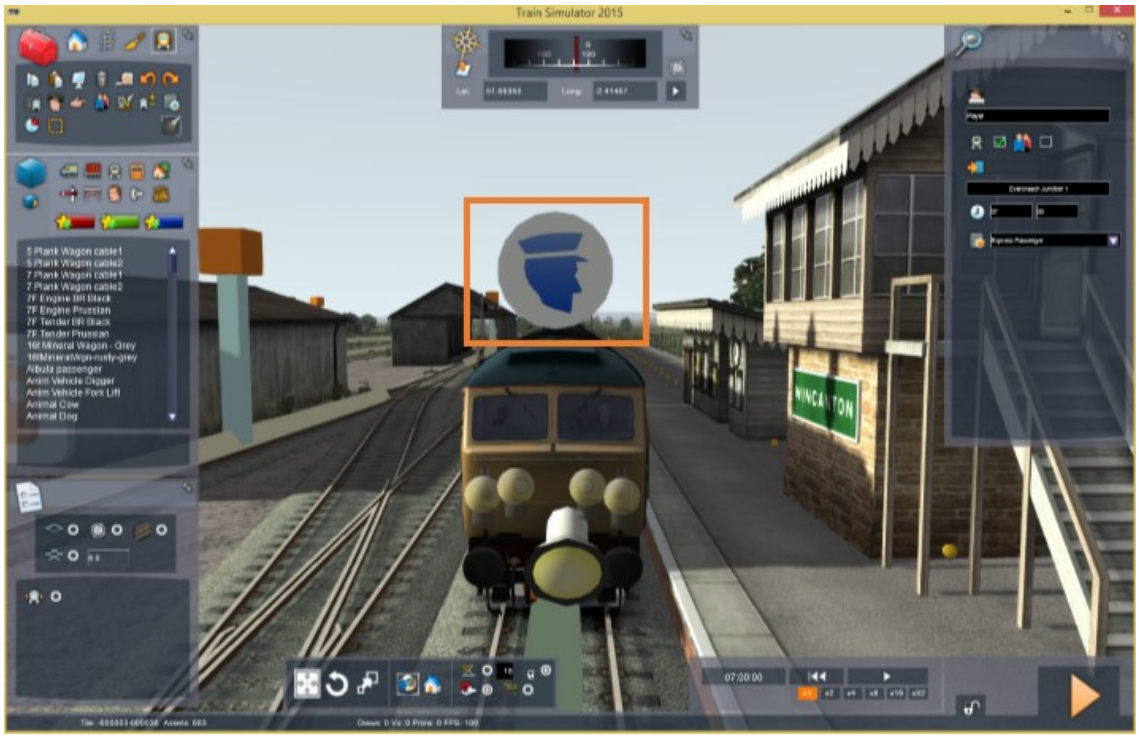

Figure 18. Driver Instruction floating above the engine.

Figure 19. Driver instruction form

In the driver instruction form you ***must*** set the **player consist check mark** in the second orange marked box. By doing this, you tell Trainsimulator that this engine is player controlled. The default is that the engine is controlled by the simulator. If you forget, you may see the train starting off right away as soon as you start the simulation in driving mode.

Note that it is a useless to try using an Electric engine on a non-electrified track. Trainsimulator will show an error message if you try add a path on non-electric track for an electric engine.

Additionally you can set the in game name for the player train and the **service class**. The **service class** is important for two purposes:

- It tells the simulator if the train is a passenger train or a freight train. Freight trains don't pick up passengers.
- It determines the priority of the train during simulation. It is very important to set the priority correctly. In chapter 4 you will learn to select the proper service class. For the moment, select Express Passenger from the list.

We are done now in the 3D view and continue to complete the scenario in the **timetable view**.

2.7 The timetable view

The 3D scenario editor allows you to add all necessary instructions to a scenario, but it is much easier to use the Timetable view. You can access the Timetable view by selecting the icon in the toolbox (see Figure 20). Except for the driver instruction, you can add all instructions using the timetable view.

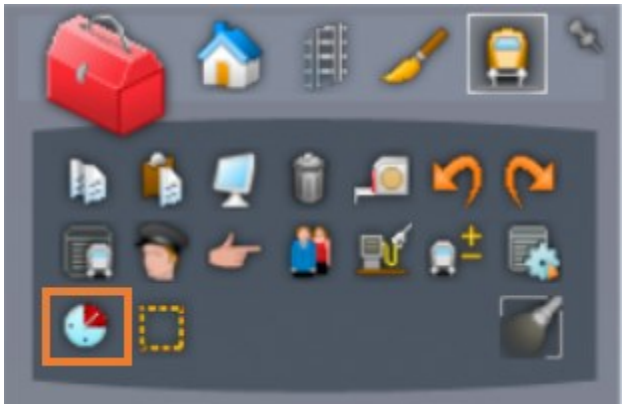

Figure 20. The timetable view icon.

The timetable view is a form that appears on top of the 3D word view. In the left part, you see a world map, showing all rolling stock you created in the 3D scenario editor. At the upper side you can select the consist for which you would like to add instructions. The right side shows all instructions added in a table form, with on top icons for all available instructions. In **Fout! Verwijzingsbron niet gevonden.** you see an overview.

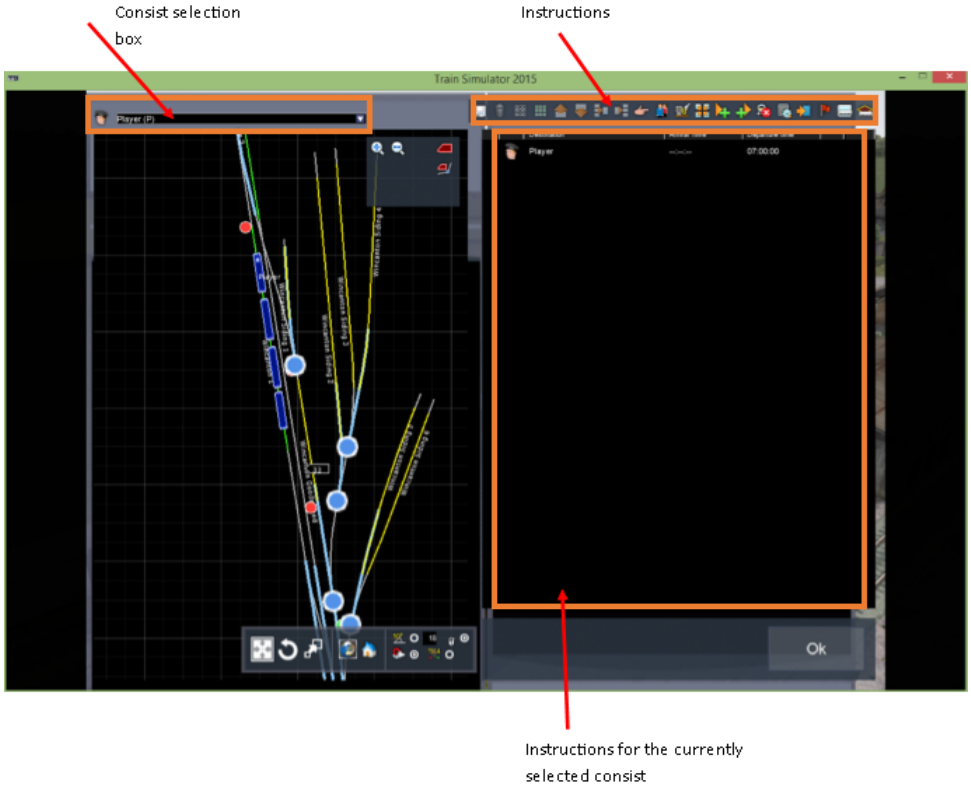

Figure 21. Overview of the timetable view

Warning. The ***OK button*** in the Timetable view does NOT save your scenario progress. Use the ***F2 button*** or the diskette icon to save the scenario progress in the timetable view.

Note that the player consist is marked with the character P in braces, e.g. Player(P). There always is exactly one consist that can be the player consist. If no consist in the list has the (P) mark, you forgot to set the Player consist. You can simply change the player consist by setting the check mark for another consist.

Because we created in our tutorial scenario only one consist, it is not necessary to select one. In the instructions part, you see the Driver instruction, the start time of the scenario and the name of the consist.

Warning: If you remove the name of the consist, you cannot find it back in the consist list.

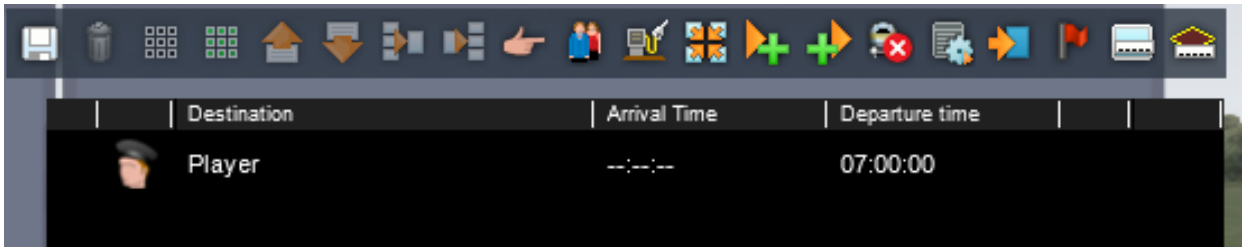

Figure 22. The Player consist as it appears now in the instructions list of the timetable view.

2.8 Add a final destination

The next step is to determine the final destination for our player consist. There are two ways to proceed.

1. In many cases the easiest method is to add a **Final Destination Instruction**. This is, because it gives you an overview of the path selected by the dispatcher software immediately. You can drive the scenario immediately and verify if the path is what you intend it to be.
2. Because the dispatcher uses preprogramed paths, sometimes it cannot find a path. In this case it may be easier to build the path by adding instructions one by one and add the final destination as the last instruction.

The final destinations instruction has some weird behaviour. You will learn more about this in chapter 2.10. For the moment, remember that for each consist it is good practice to add a final destination. When the **player consist** executes the final destination instruction, the scenario will end.

To add a final destination click on the **final destination icon** (Figure 23) in the timetable view.

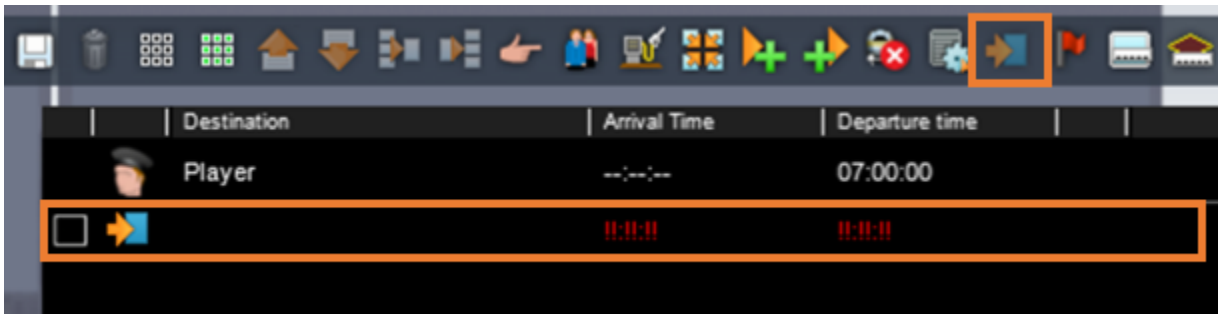

Figure 23. Just added a final destination

You now see that the final destination instruction is added to the instructions list. You also see that it shows red coloured exclamation marks. This indicates something is wrong with the path he consist needs. Your scenario will not run. To solve the problem, you need to set to which **marke**r the consist must ride. A marker is a piece of track with a name, serving as a possible destination for a consist. Trainsimulator distinguishes several types of markers:

1. Orange lines, designating a **Destination marker**. This is simply a place where a train can go to.
2. Yellow lines are meant to designate a **Siding marker**. As far as I know, the behaviour is very similar to a destination marker.
3. Green lines represent **Platform markers**. You can pick up and drop off passengers here, provided there also is a platform. (This is a strange rules making life complicated for a scenario creator, probably due to somebody at DTG who wanted to make the game more perfect that desirable ...)
4. **Portals**, the purple circles you see on the map. They behave like a destination marker, but AI trains will disappear and move out of the game as soon as the reach them. This makes it more easy to add extra AI traffic and may improve system performance. For player consists the portal behaves like a destination marker.
5. **Stopping points** represent a specific point at a marker where train should stop. They will be covered in part II of the scenario authors guide.
6. **Fuelling point** and **pick up/drop off freight** are special markers, covered in chapter 6.

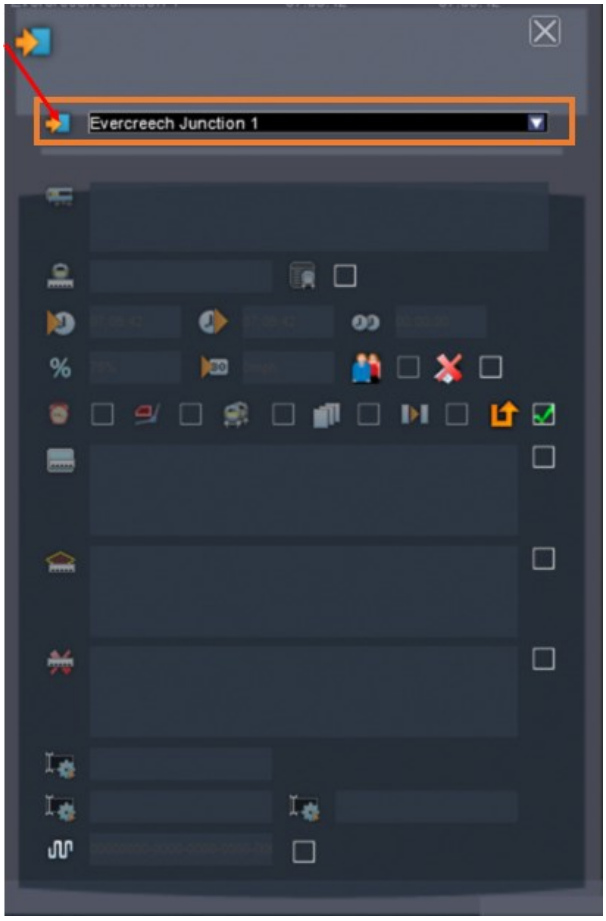

Figure 24. Form to complete the final destination instruction

If you click in the instructions list on the final destination instruction, a form will be opened, showing the parameters of the final destination instruction (Figure 24).

Though there are quite a number of items shown in the form, only one item is relevant, the orange marked **destination marker**. You can select any type of marker shown, only portals will have a different function for AI trains. You can select a destination from the drop down list, but it is easier to do this:

1. Click with the mouse on **Destination marker icon** at the left side of the drop down (see the red arrow in Figure 24).
2. Then use the 2D map on the left to move to location where you want to send the train, in this case Evercreech Junction 1. You can use the mouse to navigate through the space. The scroll wheel allows you to zoom. Use the ***ctrl+click*** to centre the map under the mouse cursor.
3. Now ***left click*** on the marker. If everything works well, the destination appears in the drop down box.

Note: Unfortunately, this is not always working. Sometimes you must repeat this procedure several times before it works.

You can reset the map to focus on the current consist, by clicking on the follow train icon. There also is a follow path icon, that allows you to view the complete path set for the consist (Figure 26).

Figure 26. Follow train and follow path icons in the map of the 2D editor view.

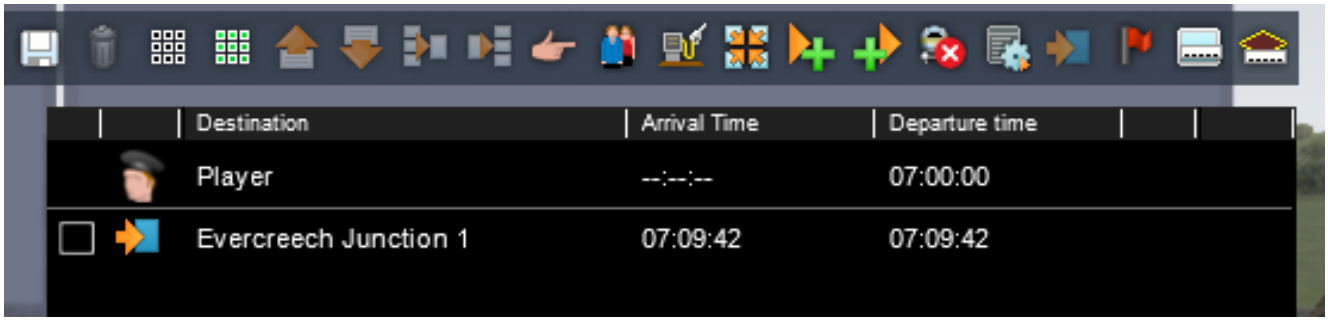

Figure 25. Instruction list after a final destination is added properly.

The instructions list now should look like shown in Figure 25. You see the final destination is visible and the dispatch function has estimated the scenario timing. In this case it learns you that the scenario duration is about 10 minutes.

Once you have done this, save the scenario again (***F2 key***) and you can give it a first try. I recommend doing this as a review on what you have done till now and in order to better understand what all these steps actually do for you.

2.9 Review the path created by Trainsimulator

It is a good idea to review the path set. To do so, use the 2D map in the time table view, click on the Follow path icon (Figure 26). If you do so, the whole path is visible (Figure 27), but too small to see the details. Now you can select the starting point and check if the consist uses the correct track. Note that you must have an acceptable final destination, if the dispatcher cannot calculate a path, nothing will be shown.

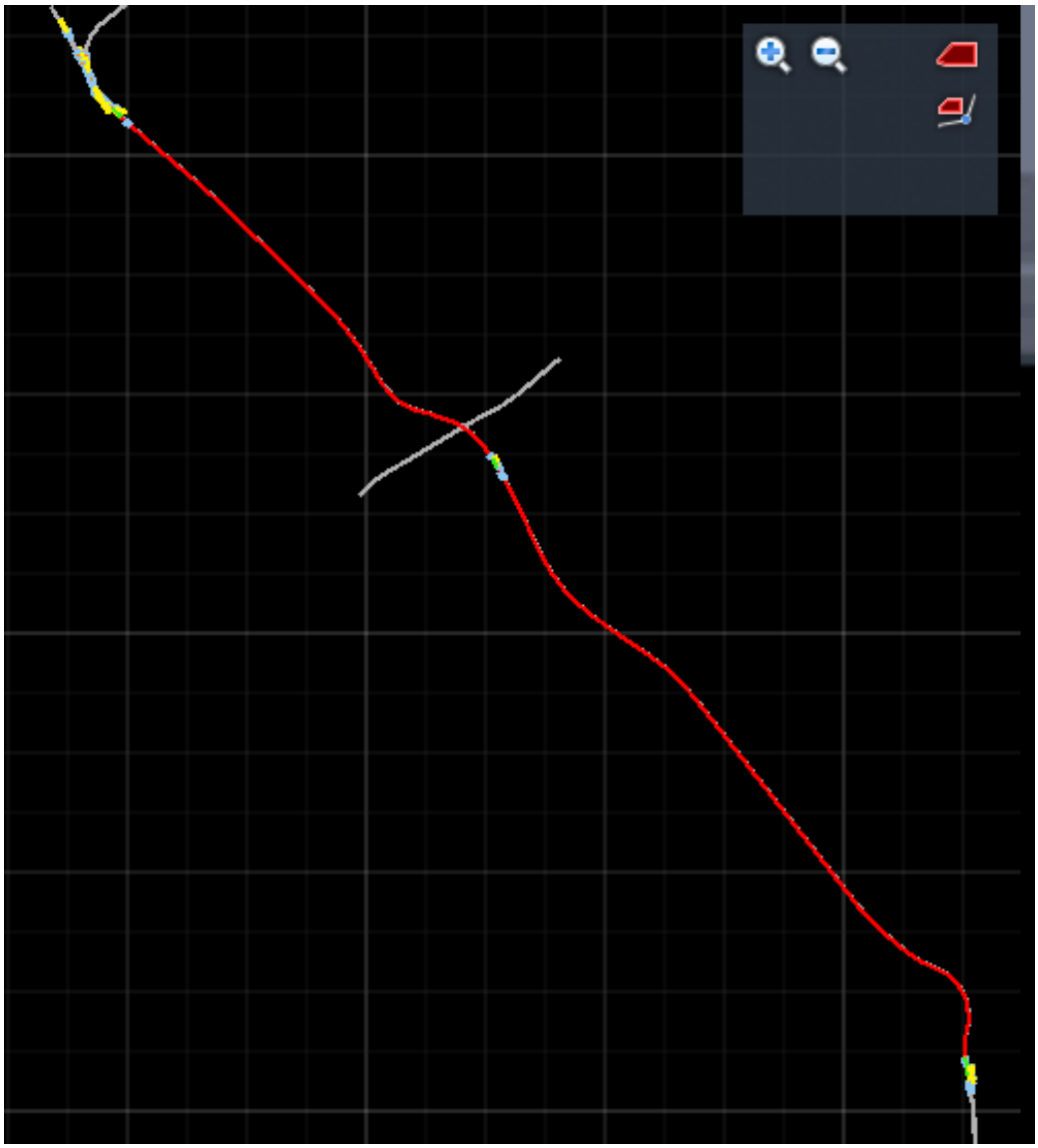

Figure 27. Follow path makes the whole path visible.

Several things may go wrong. If you set a the consist service class as a freight train (see 2.6), maybe your passenger train will not pass a platform marker. Sometimes routes contain errors, placing you at the wrong track. Sometimes a path will lead you over a siding, instead of a through track. You can correct most of these problems by adding additional waypoints. It is even possible to add markers in a scenario, but that is an advanced topic and will be covered in Part II.

2.10 Add intermediate stops

To finish the first scenario, you may want to add an intermediate stop in Cole and a pick up/drop off passengers in Evercreech. In the map you can easily locate Cole by moving the mouse along the path created for you. You

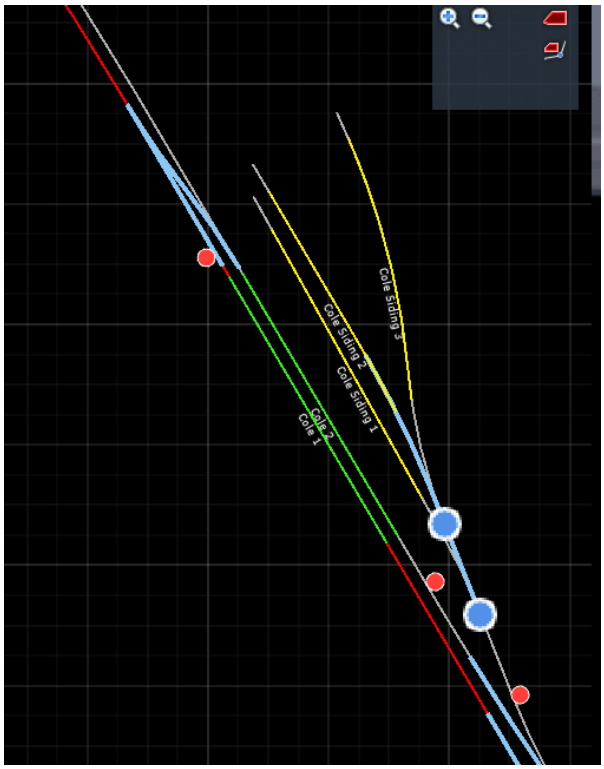

Figure 28. Cole 1 is already on the player consist path

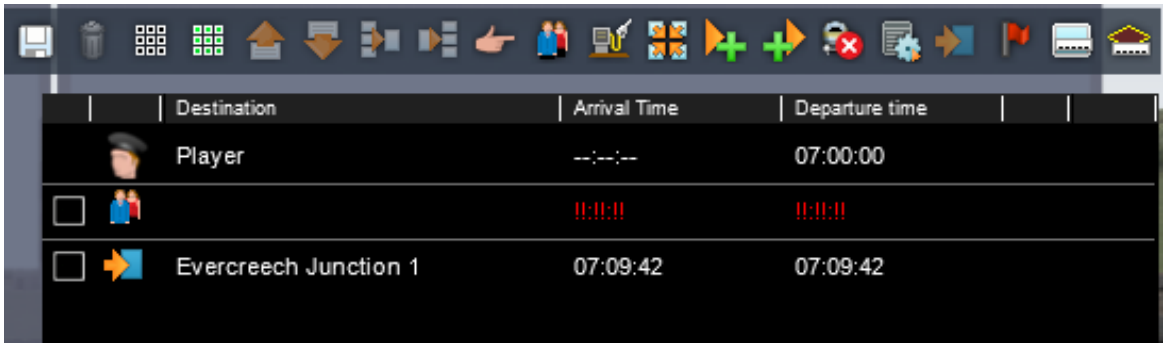

Figure 29. Just added the pick up passengers instruction.

see that Cole 1 is already on the path. Select in the time table view the **pickup/drop off passenger icon**  . In Figure 29 you see the instruction is added just before the final destination. You also see that your path is no longer valid, because you did not yet tell where to pick up the passengers. As with the final destination we added before, click on the pickup passenger icon in the instructions list. This opens the form as shown in Figure 30.

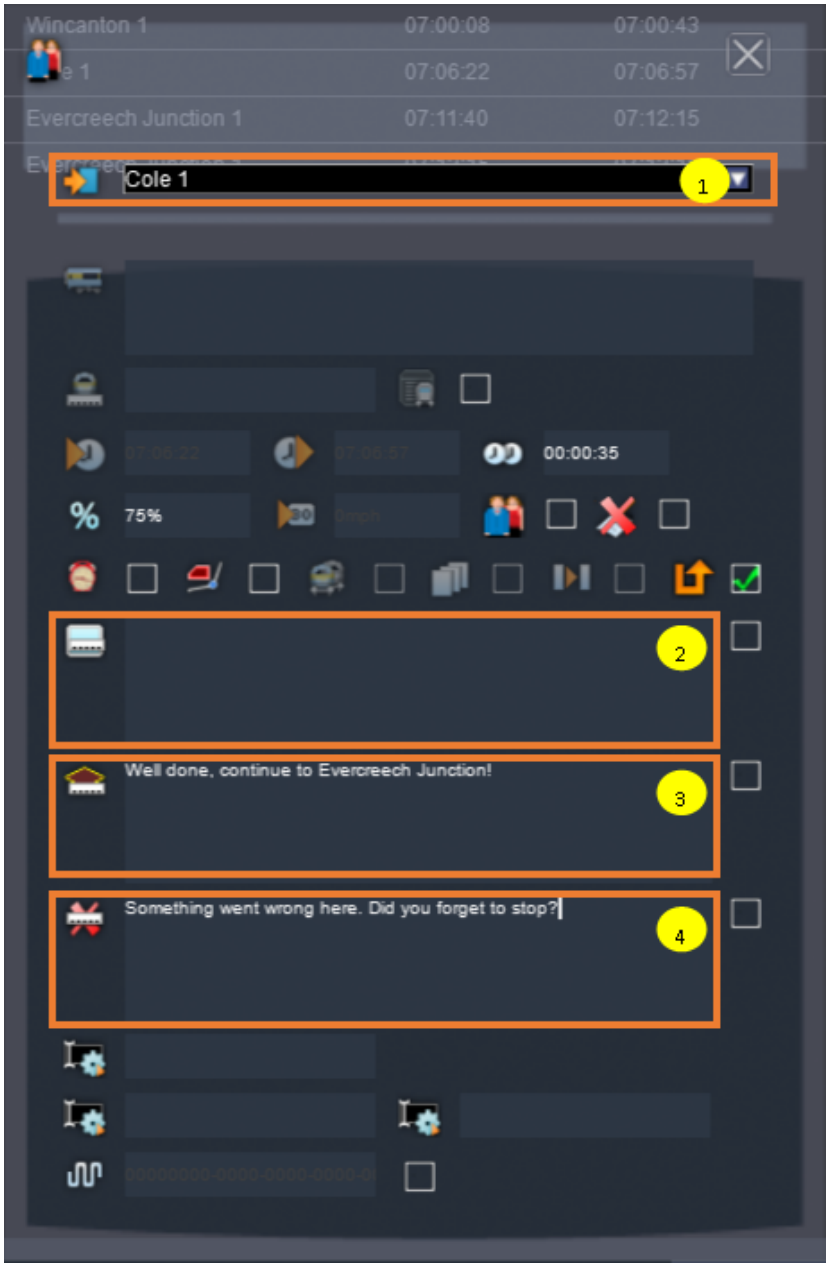

Figure 30. Passenger pick up instruction form

You already know how to select the destination marker (nr 1). You can optionally add text in the box nr 3, which is shown if you make a successful stop and in box nr 4, which is shown if you fail to stop or do not pick up passengers. Box nr 2 is meant if you do not care about the instruction result. You cannot use 2 in combination with 3 or 4. In this case only the success or fail message will be shown.

All message will show the text “Instruction complete” in the upper left corner if the instruction is completed successfully, or “Failed” if you did not complete the instruction.

In the same way, add a pick up instruction at Evercreech Junction 1. If you do so, the complete instruction list should look like Figure 31. There is one important remark to make. The textbox you add to the last instruction will be shown when the scenario ends. So, if the marker for the last instruction does not match with the final destination, the text will not be shown immediately. E.g. if you remove in this scenario the pick up instruction in

Evercreech, the “Well done, continue to Evercreech Junction!” will appear when you finish the scenario. So, always add an instruction at the same marker as the final destination.

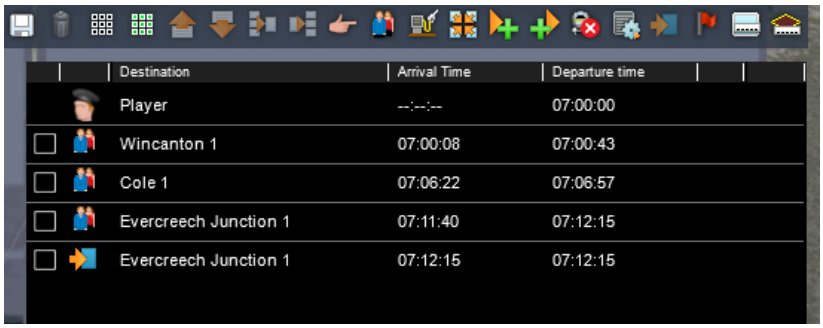

Figure 31. All instructions completed

2.11 Managing instructions in the timetable view

New instructions always will be inserted just before the final destination instruction. If you want to add an instruction in a different order, you can move it up or down, using these simple steps (Figure 32):

1. Left click at the check box to the left of the instruction you want to move.(1)
2. You will see now the up (2) and down (3) arrow are selectable. Use the arrows to move the instruction.
3. Deselect the instruction you moved (1) or (5).

You only can move one instruction at a time.

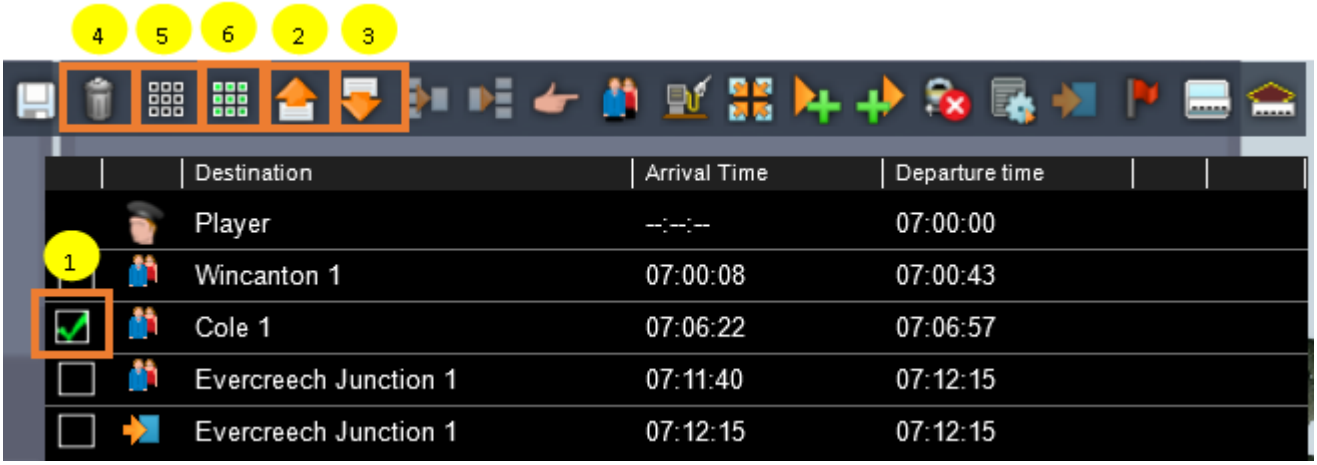

Figure 32. Managing instructions

You also can delete one or more instructions:

- Select one or more instructions (1) or (6).
- Press the garbage bin icon (2)

You can use the select all instructions icon (6) to select all instructions at once or deselect all instructions icon (5) to deselect all instructions.

2.12 Test it

That's all. Now you can test the scenario by playing it. Press the orange triangle button in the lower right corner. This will ask you to save the scenario and start the scenario. When playing, check the instructions in the work order ***F1 key***).

Note: The only way to exit the scenario editor is to use this button. It is not possible to save the scenario and return to the menu system. When you played the scenario, you end in the drive menu. This all is a bit clumsy, hopefully this will be corrected on a good day. If you run Trainsimulator in Windowed mode, you can use the Windows cancel button to close Trainsimulator.

Note: Sometimes initial signal states and switches are not set correct when you start a scenario directly from the editor. If you experience this problem, quit the scenario play (**CTRL+Q**) and restart it from the Drive menu of Trainsimulator.

Figure 33. The orange triangle will cause the scenario to start.

Figure 34. It works. You see the instructions in the work order (*F1 key*)

3 Your first freight scenario

3.1 Overview

In this chapter, the tutorial will continue. It is assumed that you are familiar with the contents of chapter 2. In this chapter we will create a **freight scenario**. You will learn a new method to create a scenario marker, and some new instruction types will be covered. Also, it is a good opportunity to try all things you learned in chapter 2 again.

You can find the scenario in steam workshop under the name RJH Tutorial 2 for the Somerset Dorset Joint Railway route.

The scenario runs from Evercreech yard to a siding in Chilcompon. You will climb and descent the steep Shepton Mallet grade (2%) and you need to reverse into the yard at Chilcompton backward form a downhill grade. This makes the scenario hard to play. Even though easy to make, it is interesting to play.

3.2 Create the scenario

In chapter 2 you learned to create a scenario using the new scenario button. This has the disadvantage that the scenario markers will be at exactly the same place, making it hard to keep them apart. Also it will have impact on the location where you will enter the game in a freeroam scenario. The third disadvantage is that you are

Figure 35. Create a new scenario by placing a scenario marker

dependent on the availability of route markers. Therefore, another method is used for this scenario. You go to the scenario editor and open the RJH Tutorial 1 scenario (or any other scenario in the same route):

1. Using one of the methods described in chapter 2.4, you move to Evercreech Junction Marshalling Siding 6.
2. Select in the item selection box the Scenario marker tab (nr 1)
3. Select the standard scenario marker (nr 2). It will be attached to the mouse cursor right away. Place it near the junction of Evercreech Junction Marshalling Siding 6.
4. Do NOT save the current scenario.
5. You will see, a new scenario is opened in the scenario editor. Complete the scenario properties. Make sure to select one of the freight classes for the service class.

The result may look like Figure 36.

Figure 36. A new scenario is created. The scenario marker is just below the tree on the left

Place now a consist at the siding. I suggest to use the BR55 engine and 10-12 HAA hoppers. Also you should add a driver instruction. It may be a bit more difficult to get all stock at the correct place. Take some time for practice here.

3.3 Loading the train

You see the hoppers are empty. Because it is more fun to use loaded hoppers, a load will be added here.

You can load the whole train by setting the selection method to consist mode first (see Figure 14 in case you need).

Then you select a van. If you do this right (may need some trial and error), you can open a fly out on the right side of the screen. It shows one single checkbox. Check the box, and all vans will be loaded (Figure 37). I f you have not select consist mode for selections, you can load or unload vans one by one.

Figure 37. Loading all vans, by setting the checkbox in the orange square

3.4 Add a trigger instruction

Now switch to the time table view after saving the results achieved until now. The first step is of course to a add a final destination instruction. In chapter 2.8 you can review this. Select Chilcompton siding 3 as the final destination. It is about 12 miles in the direction of Bath.

Because we are in a yard and the driver must set some switches manually, a **trigger instruction** will be added to inform the player about this.

Select the trigger instruction in the Time Table View (1) and add the text you like to show in the form (2). This will make a **message box** to pop up. It may be convenient to add a short delay, before you show the message box. The trigger instruction allows to set such a delay (3).

Note: it is possible but not recommended to set long delays. You also must take care not show many trigger instructions shortly one after another, because the player must have enough time to read the instruction.

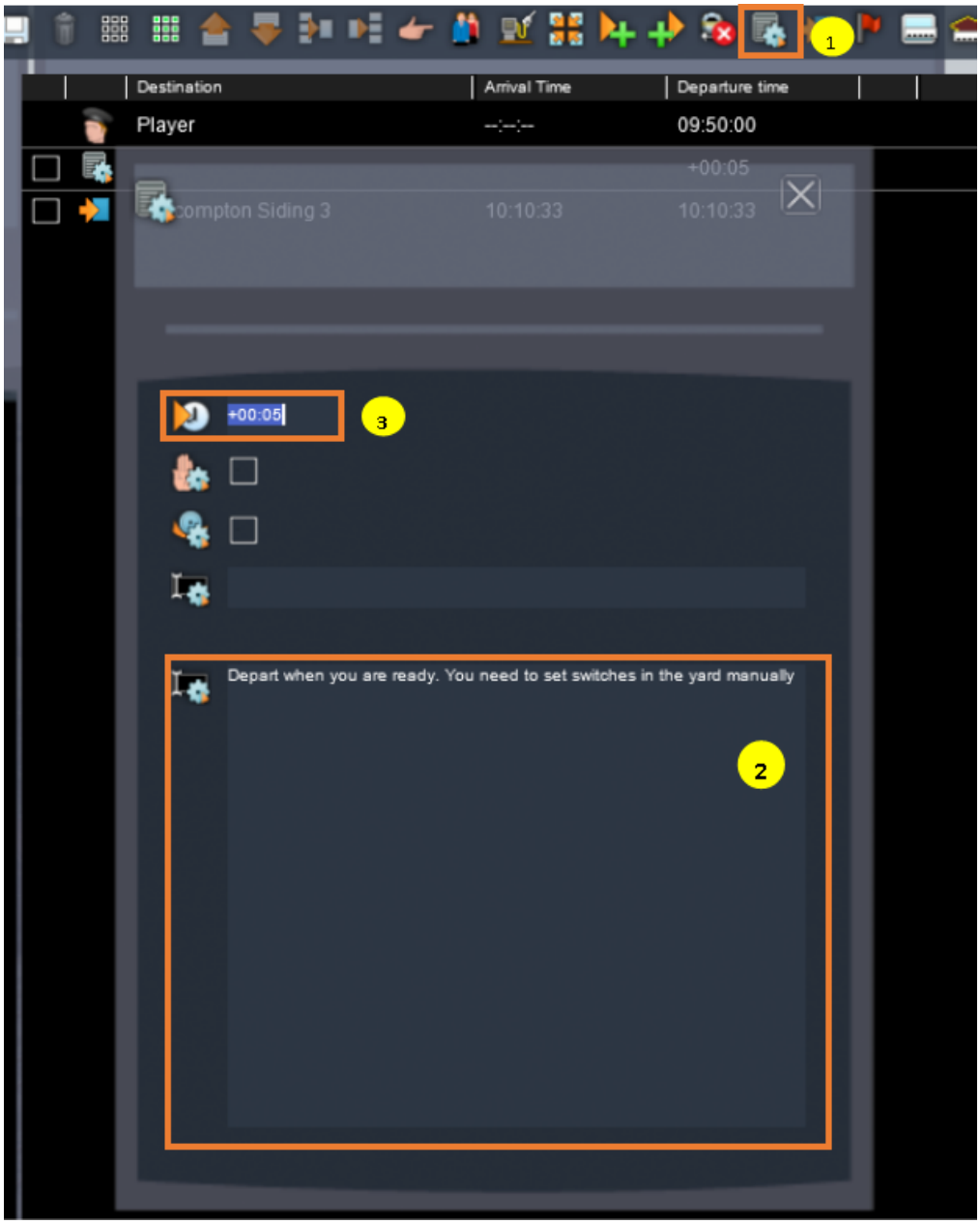

Figure 38. Adding a trigger instruction

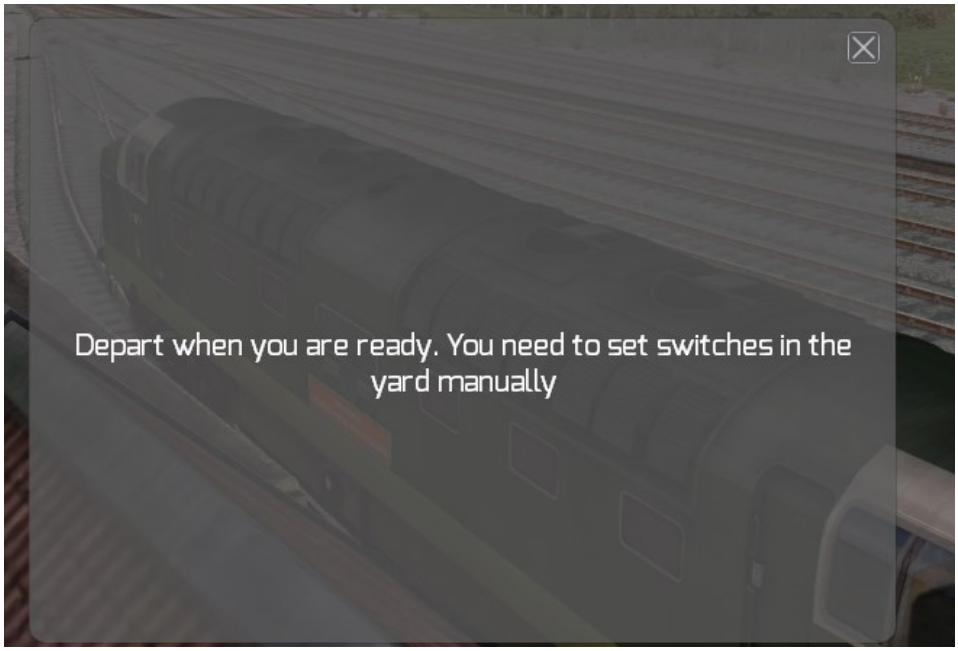

Figure 39. The resulting message box created in the trigger instruction

3.5 Stop and go via instructions

Especially for long freight runs, you may want to specify intermediate waypoints. Trainsimulator supports two types of waypoints, behaving differently.

The **Stop at instruction** basically requires to stop at a specific siding. This instruction also can be used as a **Go via instruction**, by specifying a required minimum speed.

The **waypoint instruction** is just guidance for the dispatcher. It is not required to pass, but waypoints are shown in the HUD. Waypoint instructions are NOT shown in the **Workorder** (***F1 key***). So they also may serve the purpose to show the driver the present location.

We will now add a Go via instruction first (Figure 40).

1. Select Stop At instruction from the Time table view menu (1).
2. Set the destination marker for the instruction, in the tutorial use Shepton Mallet (Charlton Road) 1 (2)
3. Now set the minimum speed to 1 mph (3). This causes the Stop At instruction to behave as a Go Via instruction. You do NOT need to stop here, but you are required to enter the Marker with a minimum speed of 1 mph. You also can set a higher speed. The problem is that this minimum speed is not shown in the Workorder, so if you do so, take care to inform the user.

If you want to require the consist to stop, make sure to set the minimum speed to 0 (3).

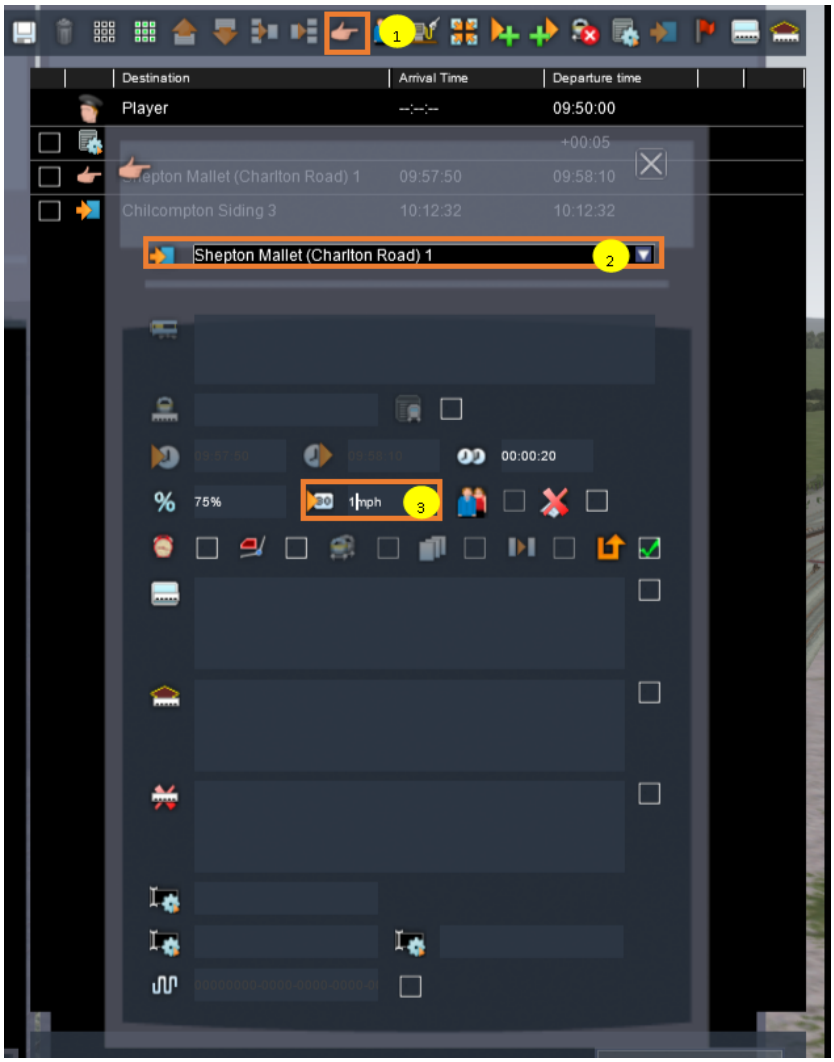

Figure 40. Adding a Stop At Instruction (Go Via variant)

In order to demonstrate the difference with a Waypoint instruction, a Waypoint instruction will be added as well. It is almost similar (Figure 41).

You need to select the Waypoint icon (a red flag) and add a destination. All other fields are disabled.

Finally, you need to add two more Stop At instructions. One at the Chilcompton platform, as a reverse point where the train must stop to reverse to the siding and of course another one at the final destination Chilcompton siding 3. If you did all correctly, the complete instructions list should look like the one in Figure 42. Note that in the instructions list you cannot distinguish a Stop At from a Go Via instruction. Sometimes you see people forget to set the minimum speed, ending up with illogical stop instructions.

You also see the waypoints do not possess timing information from the dispatcher. So you cannot use it for timing the scenario.

3.6 Testing the scenario

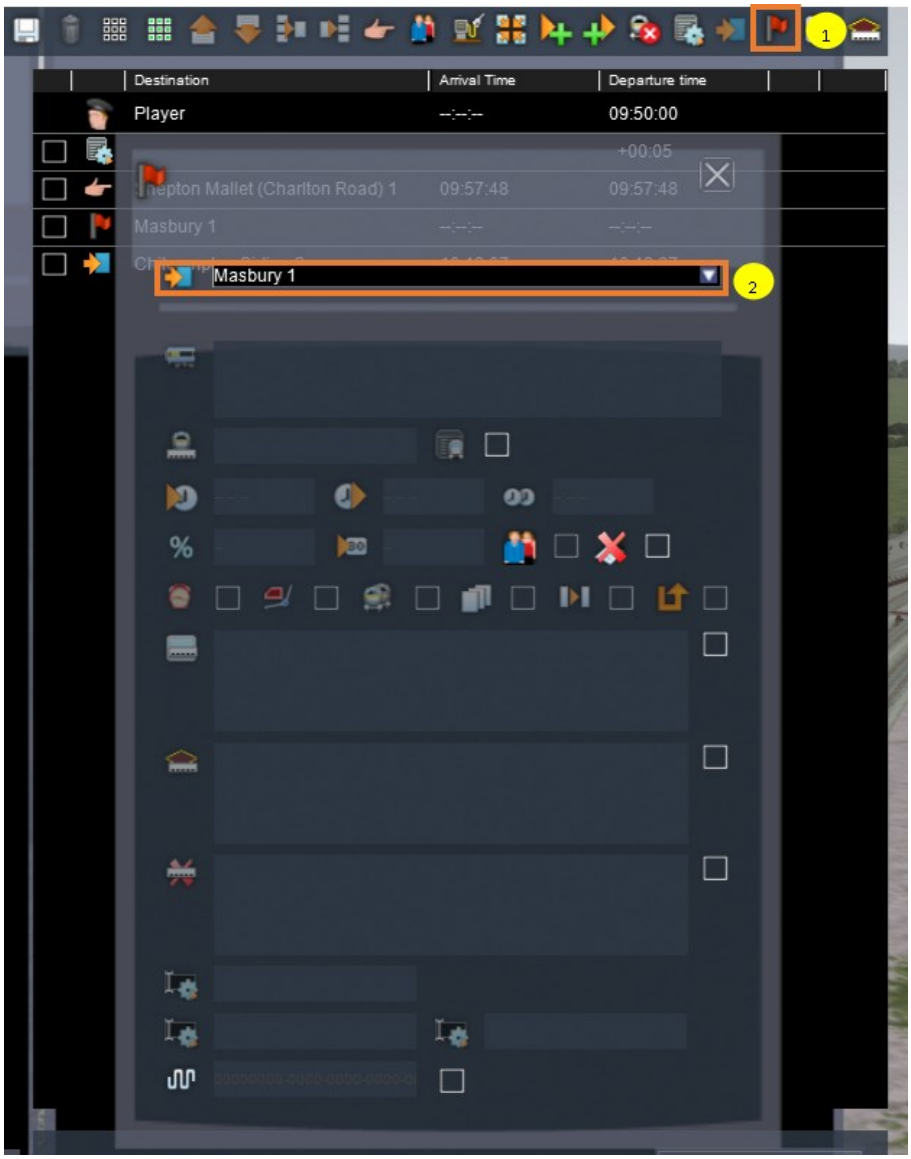

Figure 41. Adding a Waypoint

	Destination	Arrival Time	Departure time
	Player	--:--:--	09:50:00
☐			+00:05
☐	Shepton Mallet (Charlton Road) 1	09:57:48	09:57:48
☐	Masbury 1	--:--:--	--:--:--
☐	Chilcompton 1	10:10:28	10:10:48
☐	Chilcompton Siding 3	10:13:03	10:13:23
☐	Chilcompton Siding 3	10:13:23	10:13:23

Figure 42. The instructions list, when all instructions are added.

Let us try to play the scenario now and review what happens. A good step is to open the work order (F1 button) and review it. See Figure 43. You see the Go Via instruction and two stop at instructions, which is correct. You also notice that the trigger instruction is NOT in the work order, the same holds for the Waypoint instruction. These have no effect on the success or failure of the scenario.

Figure 43. The work order for the new scenario

When we start playing, you will see that in the HUD the Waypoint is visible. Apart from guidance for the dispatcher, waypoints are useful for the player to find out the location.

Now play the scenario and discover that 30 minutes for total time seems OK, but also you may note it is hard to avoid wheel slip and reversing into the siding also may cause some trouble, which makes the scenario more interesting.

4 More rolling stock needed

To increase variety in your scenario, you probably will want to add some additional rolling stock. For practical purposes, I created a clone of the scenario RJH Tutorial 2 before continuing. You can download the sample scenario as RJH Tutorial 3. Cloning a scenario can be done in the Build menu of Trainsimulator and will be covered into more detail in Part II of the Scenario Authors guide.

If all available rolling stock would be visible in the scenario editor, it would no longer be workable. Also it would cause performance penalties on game play. Therefore, you must register all assets you like to use, before you continue. To do so, click on the **blue cube** with the **orange arrow** (see Figure 44).

Figure 44. The blue cube opens the provider list.

This button will open a fly out on the right side of the screen, showing the Provider List. The Provider List is a list with all content providers. Each provider can have one or more asset packs. You can find the providers in the Assets folder in the Railworks folder. In **Figure 45** an example is provided. In this example you see for instance the MichaelWhiteley folder. In the MichaelWhiteley folder, you can see several different products, e.g. LMS3F. In the Provider List you must select a provider first and the a product. Note the provider list may look different depending on the assets you possess.

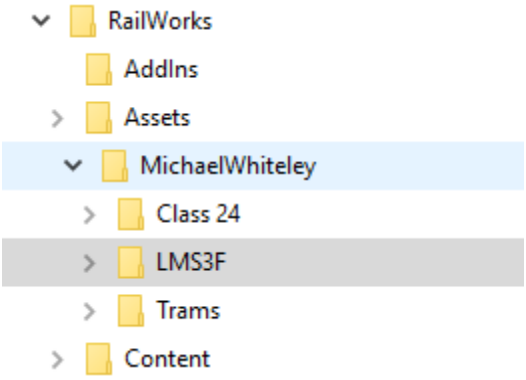

Figure 45 Example Folder structure for the Provider List.

Figure 46. Example selecting the LMS Jinty pack.

For the example, I would like to select the LMS Jinty pack (payware, available from steam), to add some steam to the scenario. In this case I discovered the Jinty pack comes from provider **MichaelWhitely**, while the pack is abbreviated by **LMS3F**.

As shown, you need to select the “engine” icon and the “eye” icon both to make the Jinty models available (see **Figure 46**). It can be quite difficult to find out the correct provider name and product name. There are several methods to try getting this information:

1. Check the manual for the rolling stock you want to use. The manual sometimes has a section “Using xx in a scenario” which explains you what to do. (I hope you know already that most manuals will reside in the folder ...\manuals\EN), where ... is the folder where you installed trainsimulator).
2. You can perform a search using windows explorer to find out possible provider/product names.
3. You can use RWTools to analyse an existing scenario that uses the rolling stock (RWTools will be covered in Part II of this manual in more detail, note RWTools is donation ware and not endorsed by DTG. RWTools is available at http://www.rstools.info/downloads.html).

Once you have done this, you should see the new stock added to your rolling stock fly out menus (see **Figure 47** and **Figure 48**.

In the next chapter we will add some Jinties to our freight scenario.

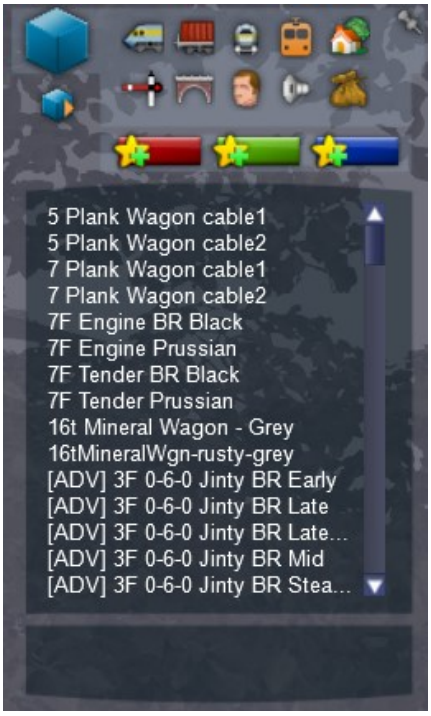

Figure 47. New engines added to engine list.

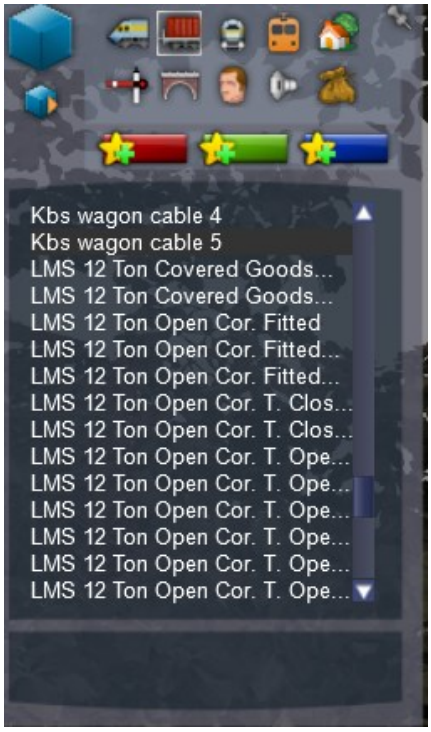

Figure 48. New wagons added to the vans list.

5 Adding more trains

Let us now use the new rolling stock to add additional traffic to our scenario, starting with some static items.

5.1 Add static consists

Once you understand the previous chapters, it is easy to add rolling stock to populate yard. Just pick them up as instructed and put them on track. There is only one important rule:

You should never block the path of a moving train. So let us add some stock to Evercreech junction yard. In the tutorial scenario I will use the Jinty pack, but feel free to make other choices. See Figure 49. Not I used the standard version of the Jinty. Advanced models may not work properly for dispatcher controlled trains.

Figure 49. Added some stock in Evercreech Junction

5.2 Add moving trains

Consist that are not controlled by the player are called AI-trains or KI-trains in Trainsimulator lingo. Their path and time schedule are completely determined in advance, so they will only respond to signalling but otherwise there is no way to influence them during gameplay.

Adding static consists is nice, moving trains add a lot to the fun of playing scenarios.

In principle it works the same as adding a single consist as you learned in chapter 2. The only difference is that you should NOT set the player check as you did for the player consist (see Figure 19). So, just find suitable locations to place the stock on track.

A few rules apply:

1. You should make sure the AI trains clear at some time the player path. If you do not so, an error message will occur (path blocked by ...).
2. You should avoid that two AI trains have the same final destination, except for a portal. This will result into an AI collision and terminate the simulation.
3. Generally, you should avoid that two trains have a final destination in the same signal block. The first train entering the block will set the signals to red and thus prevent other trains to enter the destination area. It is nog a problem to make two trains start in the same block, though a warning will be given. In this case you are responsible to make sure no collisions will occur. E.g. if you put two trains on the same track heading for the same direction, make sure the first train departs first, and the second one waits long enough to allow the first train to leave the block.

Having said this, let's try. First I will add a passenger train, departing from Chilcompton and going to Everchreech Junction (see Figure 50).

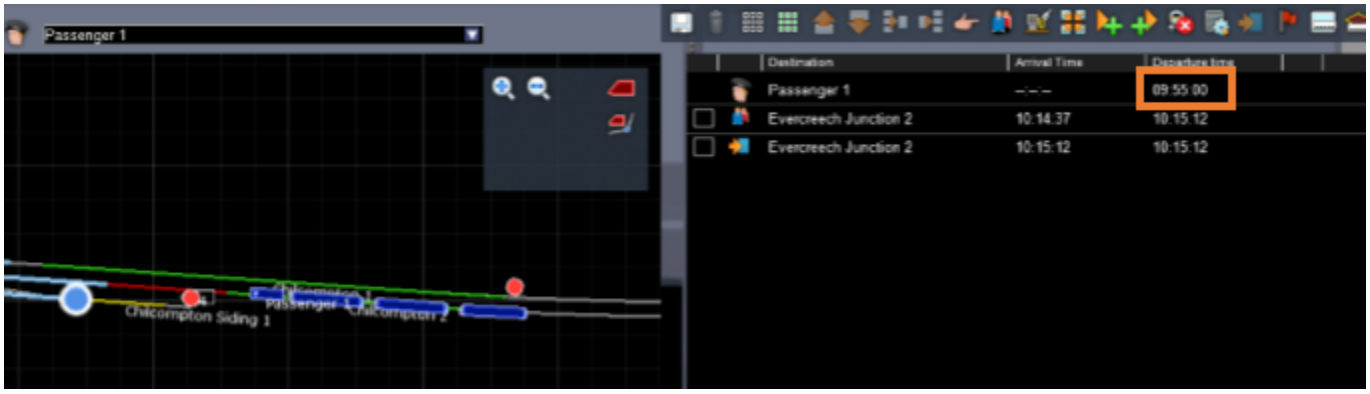

Figure 50. Added an AI passenger train departing from Chilcompton

In the driver instruction you can set the start time for the train. I set it here 6 minutes after the start moment of the scenario. This makes the player train meeting this train a bit later during gameplay. (To be honest, originally I used a five minutes time gap, but I discovered during testing that the trains would meet in the only tunnel, so I added one more minute).

There is a second technique you can apply. For most instructions you can set the **performance**. Performance indicates the assumed average speed relative to the allowed line speed. For player engines you can use this to set the time schedule for timetabled scenarios. For AI trains you can use it to slow the AI trains a bit down or speed them up. I often use this to slow down the AI train a bit when departing. I select a performance of 60-65% which gives a far more realistic acceleration. In Figure 51 you can see where to do this in the Timetable view.

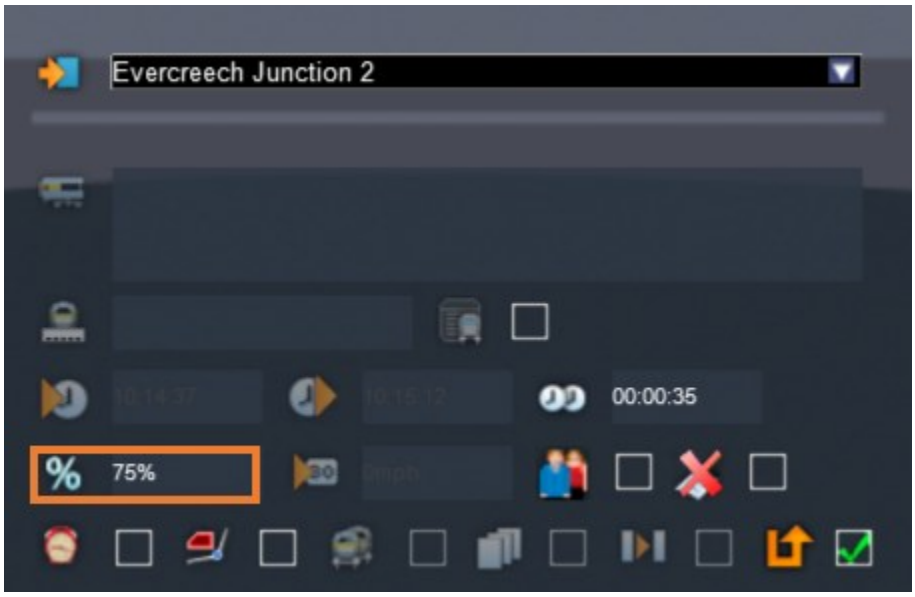

Figure 51. Setting the performance

I like to add a second moving AI train to demonstrate another technique. In Binegar I added a shunting Jinty. If you review the instructions list, you can see that it moves around in the yard, stopping, move back again and then forward again. I also set the performance to 50% to make it real slow. The idea is that from the passing player train, you see a moving shunting train. Because it is hard to predict when the play will actually pass Binegar, I created some additional duration for the shunter. See Figure 52 for details. Of course, you still need to know when you must start the shunter. You can do this by driving the scenario and write down when the player train passes the location. I did it a different way. I just added a **Go Via instruction** at Binegar for the player train. Later you can remove this instruction if you like.

5.3 Using portals

You must always avoid **AI collisions** in your scenarios. A useful trick is to make AI trains end in a **portal**. A portal is a destination, but if it is the final destination for an AI train, it will make the whole train disappear from the gameplay. Therefore you can send more than one AI train to the same portal.

Figure 52. Adding a shunting consist as AI train.

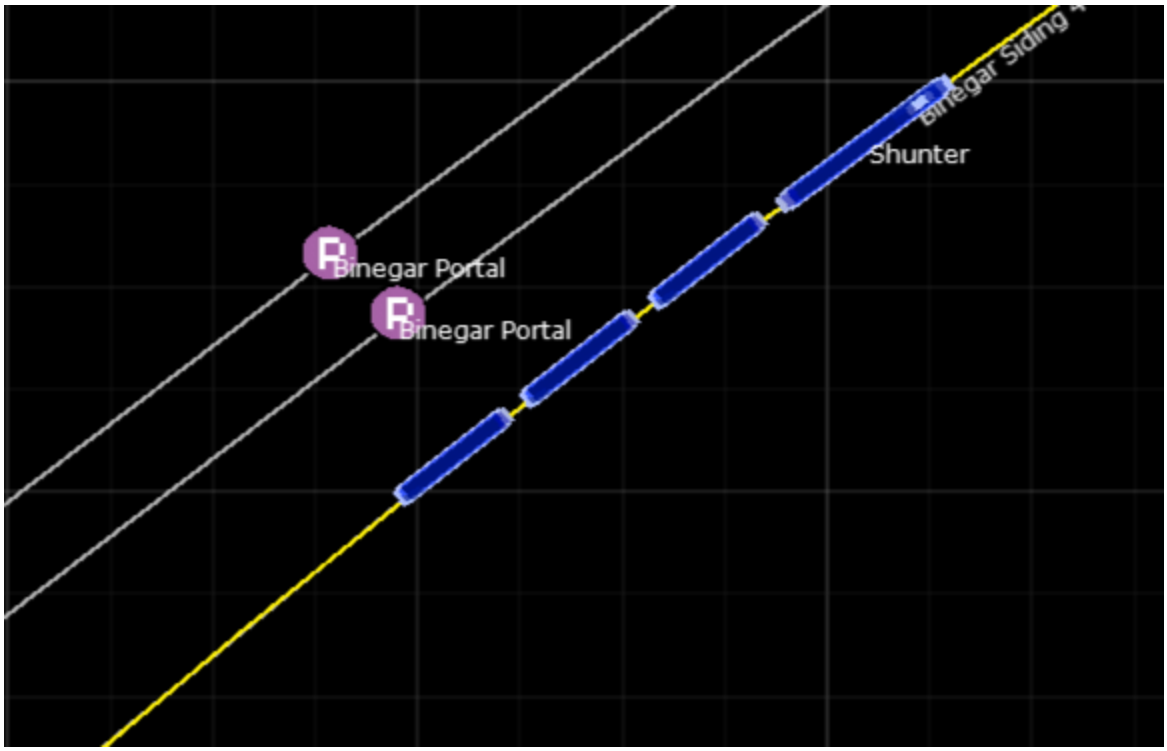

Figure 53. Portals

In Figure 53 you see a portal is displayed in the 2D maps as a violet circle with the character “P” written inside it. In this example I did not use portals.

5.4 Precedence rules using the service class

If you add AI trains, you will want better control over the priorities when the paths of two trains mix. You need to determine the priority of a consist at the time you create a scenario. Unfortunately it is not possible to change it during game play.

The priority is set in the driver instruction **service class** field. In order, I assume priorities are arranged as follows:

Priority	Description	Class
1	Special	Passenger or Freight
2	International	Passenger
3	Express passenger	Passenger
4	Stopping passenger	Passenger
5	High speed freight	Freight
6	Standard Freight	Freight
7	Low speed freight	Freight
8	Other freight	Freight
9	Empty stock	Freight
10	Light Engine	Freight

I’m not 100% sure, because this is nowhere documented. Let me know if I am wrong.

I assume also that service class **Special** applies to both Passenger and Freight services (I did not check this). Some people claim you should avoid using the Special service class. Maybe the mixed use of passenger and freight causes problems, because the path is set depending of the type of service class. You should NOT try to set a passenger service as a freight service class, this will prevent execution of passenger pickup instructions.

Otherwise, do not bother too much about the names. You can assign service class **International** to a local passenger service if you need to raise the priority. Unfortunately in Trainsimulator two different concepts are mixed into one single parameter. Freight or Passenger should be separated from the priority. This is an item for the wish list ....

One particular application is to let a faster train overtake another train. For this case you must make sure the train with the highest service class follows exactly the same path as the train you want to overtake. So, it is generally not a good idea to let it pop up from another branch. It may cause to block the other train at the wrong place

5.5 Testing again

This is a good moment to do some more testing. You can do a rough test directly in the scenario editor. See Figure 54 for a reference. You can use the play button (nr 1) to “play” the scenario. Use the buttons indicated by 2 to speed up during play. Normally I use the 2D view to monitor game behaviour.

Warning: always do a save game first and **NEVER** try to save afterwards before doing a rewind (nr 3). If you save without a rewind, your scenario will be saved with the actual train positions and it will screw up your work! You cannot repair this once it happened.

This testing method is nice for quick trouble shooting, but it is very limited. Speeds are not realistic, no coupling/uncoupling is done etcetera.

Figure 54. Controls for testing inside the editor.

6 Shunting

6.1 Introduction

In this chapter you will learn how to add shunting instructions to your scenarios. In order to do so, I created a new demo scenario, RJH Tutorial 4, which you can download at steam workshop. This scenario requires the Seebergbahn, which is available for free in steam workshop (search for [WS] Seebergbahn). The route only requires the European Asset pack. It's fictional and not very new but it is still worth playing. To be honest, if I had thought about it in time I would have based the whole guide on this route. The switch is needed because the Somerset Dorset Joint railway route does not have any loading facilities, which is one of the features I want to show you.

The steps needed for this scenario are:

1. Place some rolling stock in Seeberg
2. Pick up fuel for the engine
3. Learn some essentials about consist numbering
4. Pick up two sets of waggons
5. Drive them down to the harbour
6. Load all waggons using pick up freight instructions
7. Marshall the train to another track. (You will see in due course what marshalling is)

6.2 Place some rolling stock

First, you need to place some rolling stock. You fly to Seeberg railway station. There you need to place a BR294

engine at track Seeberg Yard 7. Place 4 Kbs container waggons at track Seeberg yard 4 and 4 others at Seeberg Yard track 3.On the 2D map the result should look as shown in Figure 55.

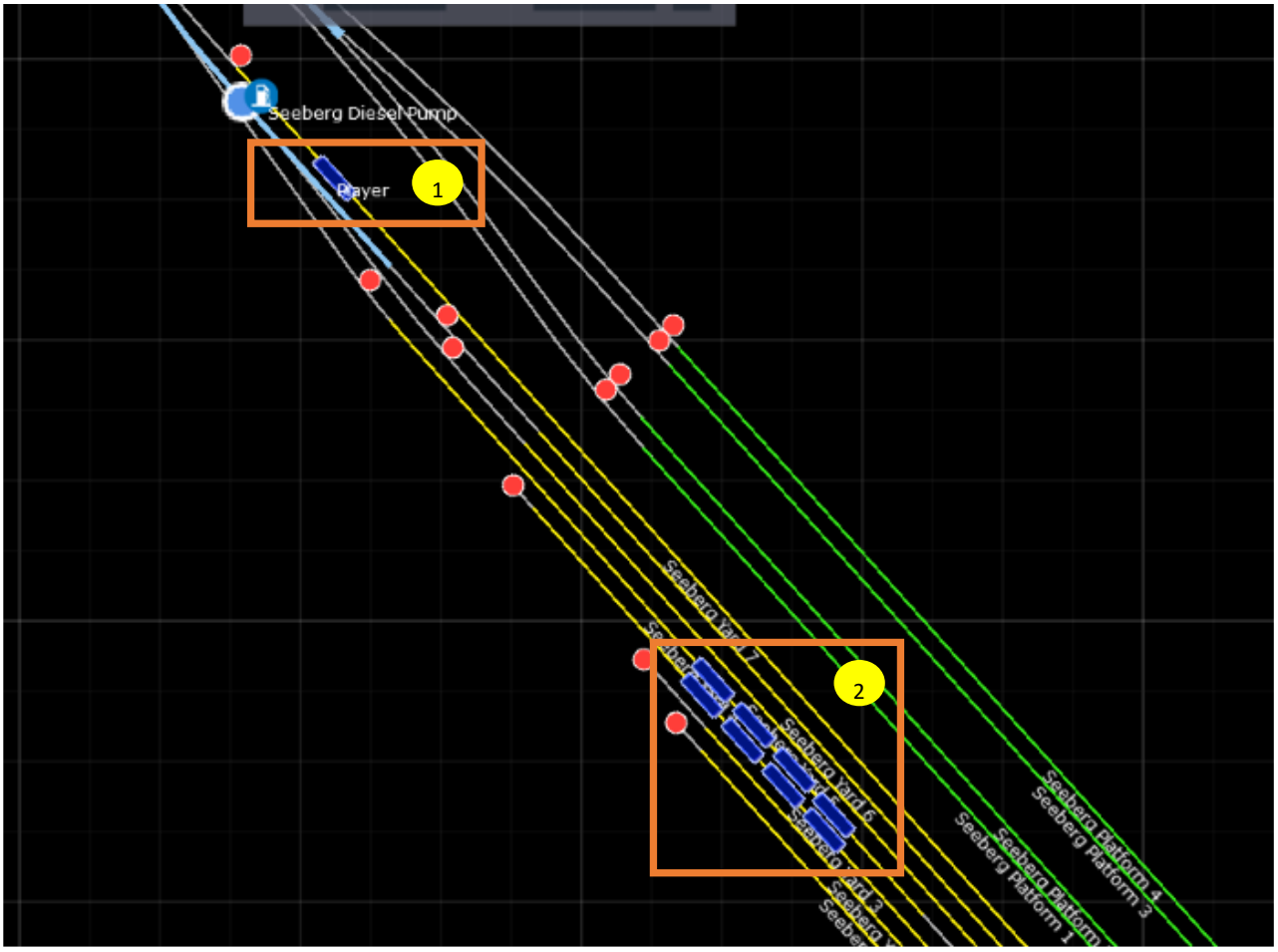

Figure 55. Consist placement for RJH Tutorial 4 scenario

6.3 Coal, water and diesel

For the engine, the default fuel level is 100%. For 99% of the scenarios, this avoids the need for refuelling. You can set the fuel level lower, which means that the fuel tanks are not completely filled. If you double click on the

Figure 56. Setting the fuel level

engine, you can set the fuel level (1) but also the engine number (2), see Figure 56.

Note: for the fuel level a slider is shown, but you cannot drag the orange slider to the desired position. Just click at the spot that represents the desired fuel level.

Note: for steam engines with a separate tender, you need to select the tender to adjust the coal and water levels.

The first instruction we will add is a refuel instruction for the engine. So:

Add a driver instruction, and mark the BR294 as player engine.

Add a pick up freight/fuel instruction. In the Timetable view you can select the pickup freight/fuel instruction as shown in Figure 57:

1. Select the pickup fuel instruction
2. Select in the dialog the select marker button for the diesel tank

3. Set the correct diesel tank, either by selecting it from the marker list or by pointing at the marker in the 2D map (Figure 58).
4. Optionally, you can add a message to display when this instruction is completed. This works similar to the stop at/pick up passengers instructions discussed in chapter 2.10

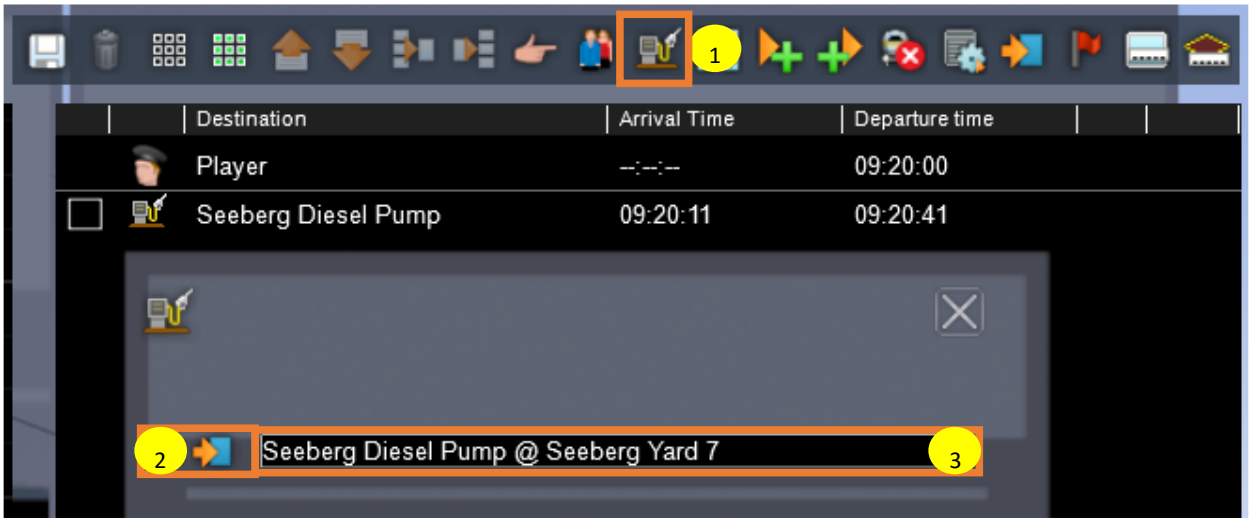

Figure 57. Add a pick up fuel instruction

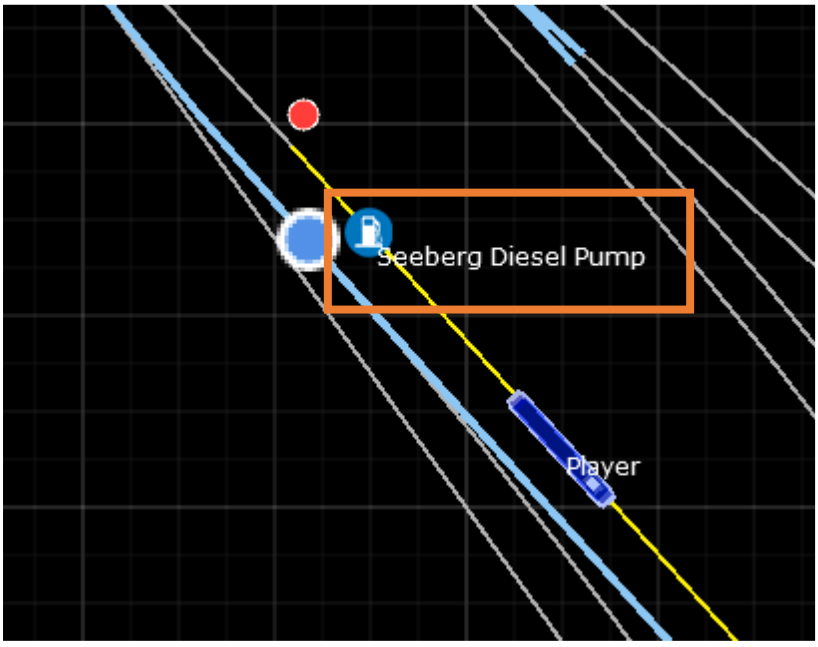

Figure 58. Fuel point at the 2D map

If you want to test this part of the scenario, you can add a final destination and test the scenario till this point.

6.4 Rolling stock numbering

Before we continue, there is something important you need to know.

Each piece of rolling stock has a number. Generally these numbers are unique for a scenario, but sometimes this goes wrong. If the number is NOT unique, the simulator cannot determine if you coupled to the correct van. These conflicts will be reported in the scenario editor. The solution is to assign another number tot the van manually.

How can you do this? Locate the van with the duplicated number. In the 3D scenario view you can make them visible by pressing the ***F6 key*** (makes all marker names visible) and then the ***F7 key***, which makes the consist numbers visible. It will show only the numbers of consist that are part of the scenario play.

Figure 59. F6 and F7 make wagon numbers visible

As you can see, the vans at track 4 show their number, the vans at track 3 don't. If you see a wagon at track 4, not showing a number, probably there is a duplicate. You can either give the wagon another number (afterwards you need to adapt the list of vans to couple), or locate the other van involved in the conflict. Sometimes this is easy, but it can be hard to find it.

Adapting the number is easy. Double click at the wagon in the 3D editor. You will see the number in the fly out form at the right of the screen. See Figure 60.

Figure 60. Changing the wagon number

6.5 Coupling and uncoupling

We will now add coupling instructions for the wagons on yard 4 and yard 3. This is straightforward, but note there are two different instructions. One for coupling to the back of the train and the other one for coupling to the front of the train. Back and front refer to the front or back of the engine, but it does NOT take into account the driving direction.

For complex scenarios, you need to think carefully about what is the front. If you do it wrong, the instruction will fail. Having said this, here we go for our simple scenario (see Figure 61).

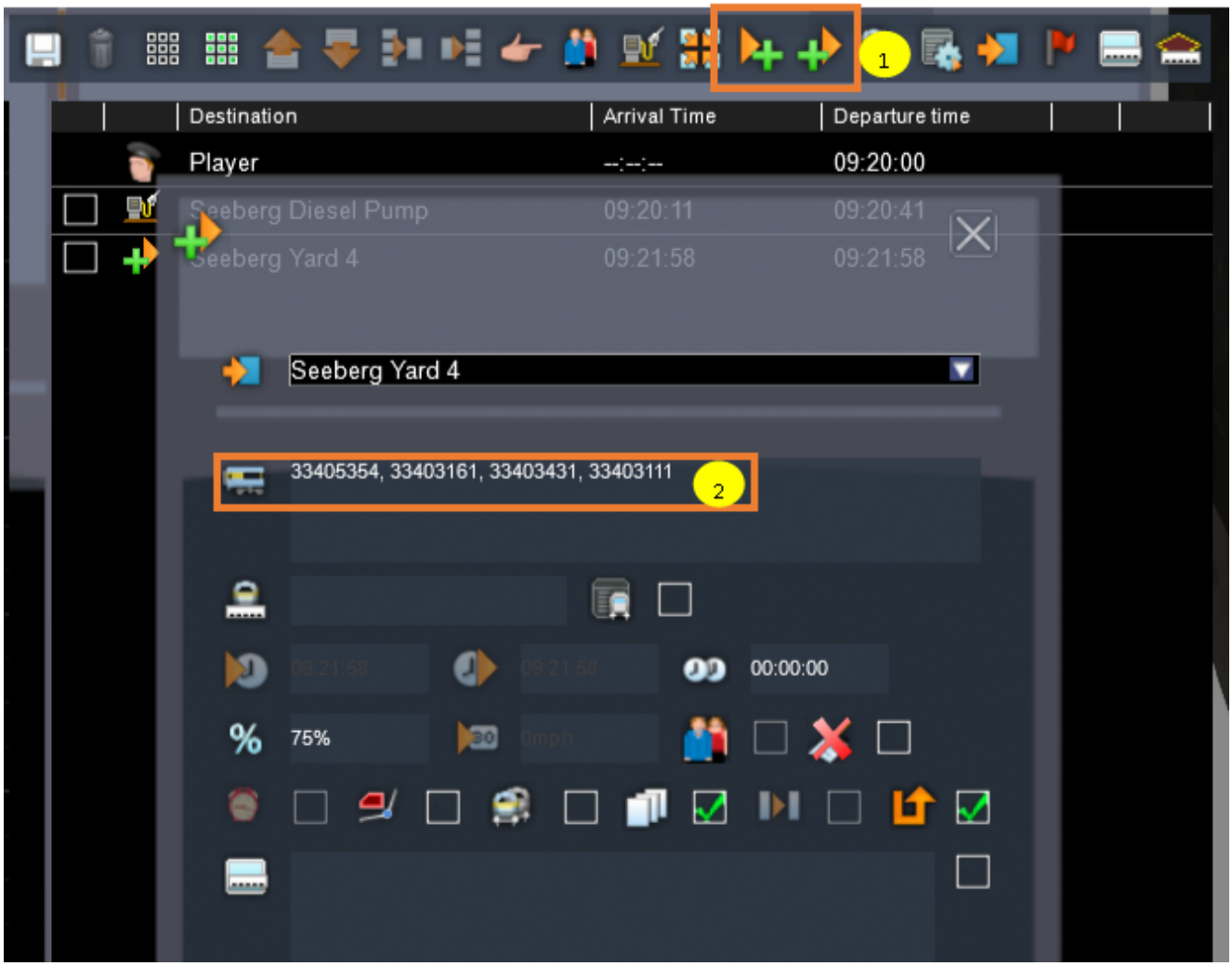

Figure 61. Coupling wagons

At nr 1 you see the instruction icons to select. At nr 2 you need to select the engine symbol. Then in the timetable view the wagon numbers will be visible. By pressing shift and clicking at one of the wagons, you will select them all. If you NOT press shift, only one wagon at a time will be selected. You also can use ***CTRL+C*** to copy and ***CTRL+V*** to paste selected wagons into couple or decouple instructions, or just type the wagon numbers manually. Trainsimulator will allow to couple wagons as well if their numbers are not entered in the instruction.

We repeat this for the wagons at track 3 and finally add a stop at instruction for track Seeberg Docks Siding 2. The resulting instruction list should look like Figure 62 now.

Figure 62. After all coupling instructions are added

6.6 Load or unload freight

The last instruction added tells the driver to go to the docks. There we want to load the containers. We use the same instruction we saw earlier to pick up fuel. The annoying thing is that unlike the couple instructions, there is no such thing as simply adding a list of wagons that should be loaded. You need to add an instruction for each wagon to load, specifying the loader. This is a deficiency in the design of the game. So you need good counting and here we go:

Figure 63. Added 8 loading instructions

If you play the scenario, each loading instruction will appear as a separate instruction in the workorder. This not really what we want to see. Fortunately there is a trick. We can merge instructions in the workorder to a single instruction (Figure 65). In order to do so, put check marks to the left of each loading instruction (nr 1). Then

select the **merge** instruction icon (2). Finally you need to deselect all involved instructions (nr 3). As you can see the horizontal separation lines have disappeared in the instructions list, which tell you all these instructions will show up as a single instruction. In Figure 65 you see what it looks like in the workorder.

Figure 64. Combined pick up freight instructions in the timetable view

Marshalling

Marshalling instructions require the driver to find out for himself how to complete a task, that requires placement of a set of engines and/or vans at a specific marker.

The next instruction we add is a marshalling instruction, which orders to marshall all wagons at Seeberg Docks Siding 1 Figure 66). In the instruction, the engine is not included. This means you need to uncouple the engine in order to make the marshalling instruction succeed. As you see you need to specify the marker and the wagons included in the instruction. Optionally, you can provide text for a message box.

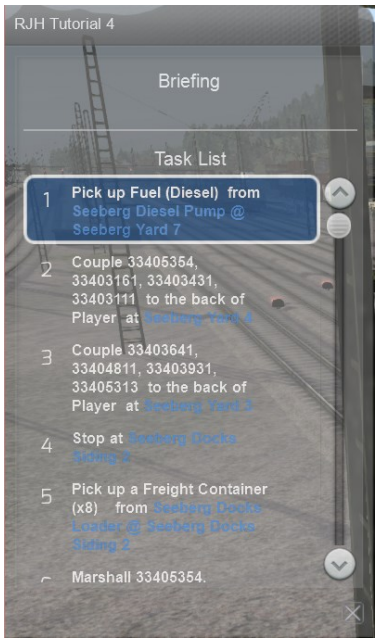

Figure 65. Combining instructions in the workorder (5th item)

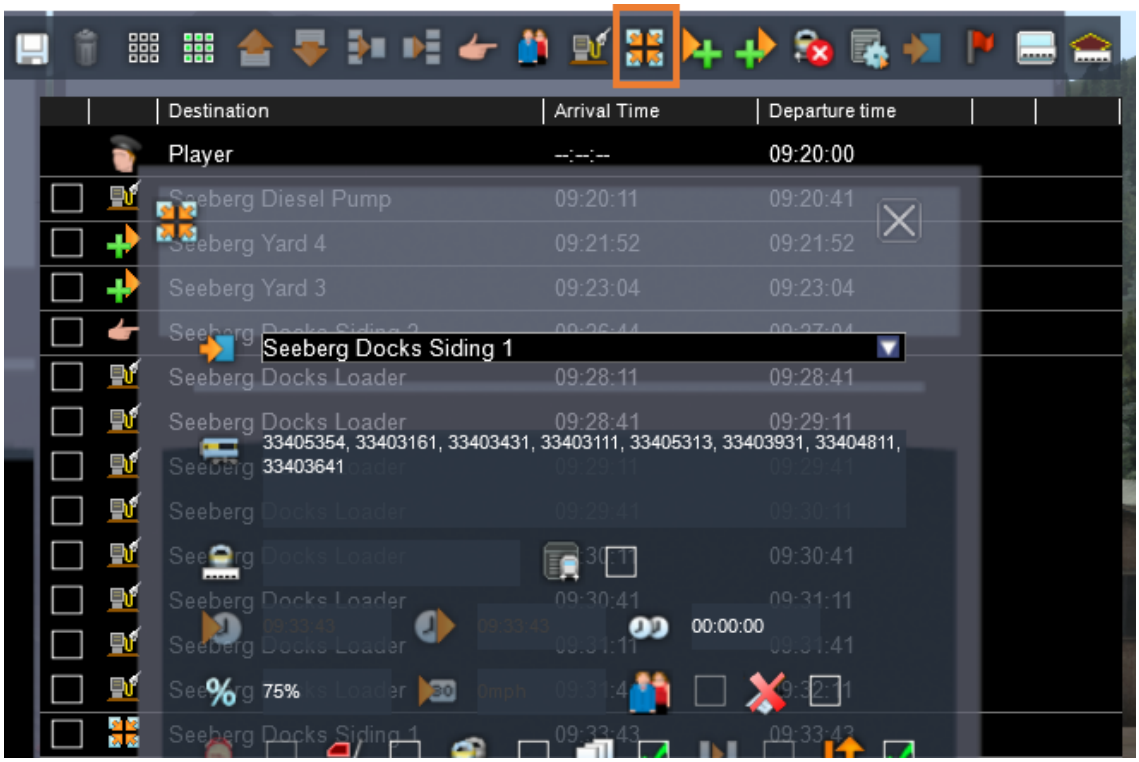

Figure 66. Marshalling

Be aware that for marshalling to work well, you need a to be able to set all switches manually. If one or more switches are set automatically, the player can reach a situation where she cannot reach the tracks needed anymore.

6.7 Running round

The next instruction, we want to include is an order to run the engine round and couple it to the other side of the train again. Because all switches can be set manually, it is sufficient to provide a coupling instruction. In this case you need to couple the train to the front.

I will not show all steps here, but leave it as an exercise.

6.8 Drive back to Seeberg and uncouple

There is one instruction, not yet demonstrated. This is the uncouple instruction. In Figure 67 is shown where to find the instruction icon. It is very similar to the coupling and marshalling instruction.

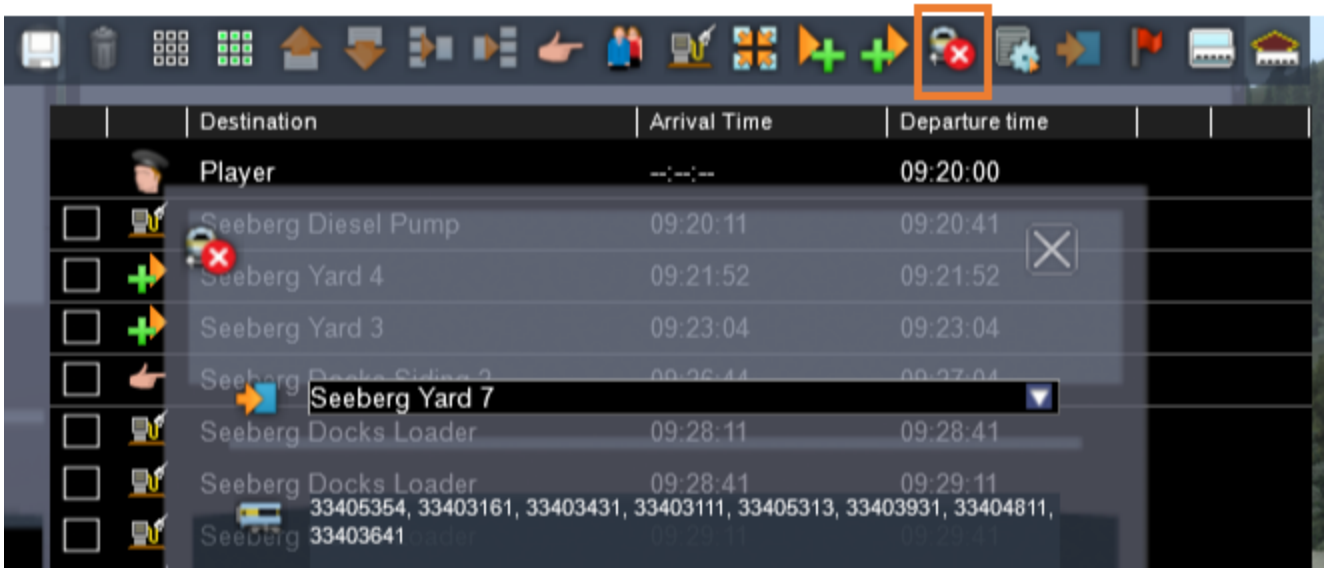

Figure 67. Uncoupling the train

6.9 Test the scenario

This completes the scenario. The complete instructions list may look like as show in Figure 68. Now you should test it and eventually you can add some more traffic or static consists to make the scenario more attractive.

	Player	--:--:--	09:20:00
☐	Seeberg Diesel Pump	09:20:11	09:20:41
☐	Seeberg Yard 4	09:21:52	09:21:52
☐	Seeberg Yard 3	09:23:04	09:23:04
☐	Seeberg Docks Siding 2	09:26:44	09:27:04
☐	Seeberg Docks Loader	09:28:11	09:28:41
☐	Seeberg Docks Loader	09:28:41	09:29:11
☐	Seeberg Docks Loader	09:29:11	09:29:41
☐	Seeberg Docks Loader	09:29:41	09:30:11
☐	Seeberg Docks Loader	09:30:11	09:30:41
☐	Seeberg Docks Loader	09:30:41	09:31:11
☐	Seeberg Docks Loader	09:31:11	09:31:41
☐	Seeberg Docks Loader	09:31:41	09:32:11
☐	Seeberg Docks Siding 1	09:33:43	09:33:43
☐	Seeberg Docks Siding 1	09:34:26	09:34:26
☐	Seeberg Yard 7	09:38:11	09:38:11
☐	Seeberg Yard 7	09:38:11	09:38:11

Figure 68. Completed scenario design

7 Free roam scenarios

A **freeroam scenario** is a scenario that allows you maximum freedom to explore a route or gain experience in driving specific trains. The use of freeroam has largely been superseded by **quickdrive scenarios**, but because it is really easy to create a freeroam scenario it still has its use for quick testing purposes. It also may be useful for routes without signalling.

You create a freeroam scenario using following steps:

1. Create a new scenario, using a freeroam scenario marker.
2. Select the providers you like to use.
3. Create one or more consists.
4. Give at least one of the consists a driver instruction
5. Save and start. Now you can select one of the consists having a driver instruction and start driving.

That's all. You learned all techniques in this guide. I created a tutorial scenario called RJH Tutorial 5 for the Seebergbahn. You can consult this to see what it looks like in practice.

Freeroam scenarios have some disadvantages that are solved in quickdrive:

1. You cannot have AI traffic
2. Youi need to set all switches manually

Quickdrive will be covered in part II of the scenario authors guide.

8 Trouble shooting

Unfortunately, there is no guarantee that any of the procedures I explained in the past chapters will actually work. Routes may have errors, preventing you from choosing a specific path. Sometimes signals don't work properly, platforms may not allow to open doors from passenger coaches or you simply get the message "unknown error", which is not very helpful.

In this chapter I will describe a number of common problems and possible solutions.

Issue	Solutions
Broken consist	Sometimes it is enough to open the editor again, save it and restart the game. A likely beginners problem is that you placed rolling stock badly, where the items overlap each other. Try to find the location where you placed the rolling stock and move the stock a bit. You will know if this helps by trying.
AI collision	AI collisions may be caused by overlapping rolling stock. Another cause is a n AI train that reaches its final destination, but blocks the route for another AI train. AI is really stupid in Trainsimulator. It doesn't really interact with the world during gameplay and will not notice another train is blocking a route.
Locked junction	This means another train with higher priority has reserved a path that prevents you from setting an junction (switch). A solution can be to decrease the service class of the other train, or increase the service class of the player train. The service class steers priorities quite rough, so you if you choose them wrong you may have to wait an hour for a red signal.
Path blocked by ...	The path for one or more trains is blocked, because there is some train on the path that does not move (or Trainsimulator thinks it does not move). Solution is to make sure the offending train gets out of the way. I always take care to let an AI train end in a portal or at a siding, but never on the main track.
Electrification or bidirectionality	Path problem because Trainsimulator requires our to drive electric trains only at electrified paths. Also in Trainsimulator a route designer can decide a route to be one way, e.g. on double track routes. If this happens, I usually remove all intermediate points and see if I can reach the final destination. If that does not work, I let the train end at a location nearby and try to locate the problem. In part II you will learn some additional useful techniques to solve these problems. Sometimes it's just caused by a bug the AI dispatch functions. There's nothing you can do about it.
Doors do not open	The pick up passengers instruction does not work if you set the service class to one of the "freight" types. It also requires the presence of both a platform and a (green) platform marker. If the platform is somehow split up into parts, only the doors at one part will open. Usually this is a bug caused by route builders. It also may help to select DTG and product Academy in the scenario or route builder.

Unknown error ...	Sometimes the scenario editor does not know what exactly is wrong. Sometimes it helps to just save the scenario and open it again in the editor. In other cases, nothing seems to work. Sometimes you can solve a problem by removing some consist from the scenario, save, open the editor again and place the deleted rolling stock again in the scenario.
Instructions texts and consist names are not visible	This may happen if you play trainsimulator with a localised language, e.g. German. Due to a bug, players using another language set, may not see the texts. The only thing you can do to resolve this, is to edit the data files, which is an advanced topic, covered in part II.
Player train starts driving automatically	This happens if you forget to set the player consist check mark.
Scenario mixed up, consists are standing at the end of the scenario	Throw your scenario away and start again. You forgot to rewind after testing inside the scenario editor.
Signal states not as expected	This may happen if you start a scenario directly from the editor. Quit the scenario and try again. If that does not help, it may be a bug in the route. You can't do anything, may try TAB and inform the player.
Frequent crashes of the game, very strange behaviour	Something is corrupt in the game. What helps in many cases is to verify the game cache. You can find this option in the game options in steam. It may take quite long.

9 Glossary

Term	Explanation
AI collision	A crash because rolling stock is to close or placed wrong in the game.
Asset	Generic term for an object used in the game.
Broken consist	A consist that is not placed correctly on track. May occur after a route or rolling stock update.
Career scenario	Scenario that rewords or punishes the player with point and medals.
Compass window	Shows location co-ordinates in the scenario editor. Allows to move to other locations.
Consist	Set of coupled rolling stock.
Coupling instruction	Instruction to couple a train to a set of vans.
Destination marker	A marker that can serve as a destination for consists.
Driver instruction	Instruction to set the consist name, service class and player consist checkbox.
Final destination	The marker where the scenario will be terminated.
Final destination instruction	Instruction to set the final destination.
Follow path	Function to make the whole path for a consist visible at the 2D screen.
Follow train	Locate a consist at the 2D map.
Freeroam scenario	Scenario in which you are completely free on where to go. You can jump to other trains and should set all switches manually.
Go via instruction	Instruction that requires a consist to pass a specific marker with a given minimum speed.
HUD	Heads Up Display. A display function on screen as an alternative interface for the simulated engine controls.
Marker	A named location on a route.
Marshalling instruction	Instruction that requires the player to assemble a consist at a specific marker.
Pick up passengers instruction	Instruction that requires the player to stop at a specific platform marker and to open the doors to pick up passengers.
Platform marker	A marker that can serve as a destination for consist and that allows to pick up passengers.
Portal	A destination marker that causes AI trains to vanish.
Provider	A company or person providing assets for Trainsimulator.
Quickdrive scenario	Scenario with randomized AI, selectable player consist and a fixed route.
Route marker	A marker that defines a location in a route.
Scenario marker	A marker that determines the scenario properties.
Service class	A game setting that sets the priority and type (freight or passenger) of a consist.
Siding markers	A marker that can serve as a destination for consists.
Standard scenario	Scenario just for driving, originally did not support timetable requirements. Now allows to set timetables as well.
Stop at instruction	Instruction that requires a consist to stop at a specific marker.
Timetable view	A form in the scenario editor that allows to specify instructions in an easy way.

Trigger instruction	Instruction meant to invoke additional actions. In this manual only to show a message box.
Uncouple instruction	Instruction that requires the player to drop off a set of vans at a specific location.
Waypoint	An instruction for the dispatcher that it is recommended to create a path along a specific marker.
Workorder	The complete set of instructions as shown in the game.

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