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MARLEYMAN'S SCENARIO CREATION TUTORIAL TS2013 FREIGHT OPERATIONS



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TS2013 Scenario Creation Tutorial | Marleyman

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Creating a Scenario for Railworks TS2013

Part Three

By

Marleyman

Key

Any handy tips will have this icon.



Any Cautionary notes or tools you should be careful with will have this icon.



You know you are doing well when you see this icon...



Text in this colour means you should be clicking on something or selecting something on screen.

Text in this colour means you should be typing something into a box on the screen.

I would recommend you run the included 30 min scenario before you do anything. That way you will know what you are about to build. You can also open the scenario in the editor to help you understand what I have done.

Part three includes Marshall Command, Add to Back, Add to Front, Trigger Events, Setting Fuel Level, Merge Instructions, Add Scenery and Infrastructure and other advanced features of the editor.

Install the scenario using the Utilities before progressing.



Class 47 loads 60ft containers onto FSSA wagons.

Introduction

This tutorial is for New Scenario Designers in Railworks TS2013 you should have already completed Tutorial One and Two and be comfortable with the knowledge in those tutorials. This tutorial will deal with Freight Operations available within some routes for TS2013. This tutorial uses the TS2013 East Coast Mainline (*RW2* and *TS2012 Newcastle to York as it was*) Route. The reason for using this route is because it has the facility to Load and Unload cargo and Fuel on the same route. The plan was to use Sherman Hill in order that new users of TS2013 would not need to buy a route to follow the tutorial. Unfortunately there is no option to load or unload cargo wagons on that route.

Stock Included with that East Coast Main Line from Newcastle to York via Durham and Darlington route:

- Class 55 'Deltic' diesel locomotive in BR Blue and BR Green liveries
- Class 47 diesel locomotive in BR Blue livery
- Class 43 HST high speed train in BR Blue/Grey

I will also be using BR Blue Mk1 and Mk2 coaches, these are not the Digital Traction (more recently Armstrong Powerhouse) MK1 and MK 2 coaches, they are the default Railworks 2 coaches. I do not know if these coaches are standard with a new purchase of TS2013.

Planning is everything, and even for this tutorial I have to plan ahead and sometimes work ahead and undo parts of the scenario to get things working the way I intended or the way that TS2013 dictates. The two are not mutually exclusive, it just seems that way sometimes. For that reasons your plan should be simple and flexible. Do not try to overcomplicate the player's role in the simulation in just one scenario, you may be able to accomplish a better balance of simulation of a real train driver's experience of a working day with fun and playability in two short scenarios rather than one long complicated one.

Especially with freight operations, some players love to wander from yard to yard marshalling the freight cars or passenger cars others prefer to drive the freight run due to the speed limits within yards. For that reason you could create two scenarios instead of one and give the player the choice to marshal the freight train or to drive the freight train to its destination. Of course some players will appreciate being able to follow on from one scenario to the other as if it was another part of the same day for a real driver.

This scenario will be limited by rolling stock for the route and the Kuju folder as I want to have this scenario work for as many users of TS 2013 as possible. For that reason it will not look great or have lots of prototypical liveries for the route. Also, due to the teaching aspect some railroad operations in this tutorial may not be realistic but they will be educational.

The first plan you should make is a map, even if you just write the Station Names down in list format in the direction of travel, it is a good guide that saves time looking at the 2D map on screen, especially for routes you know nothing about. Check the manual that comes with the route, some have 'proper' maps that you could print.

Since I have had to compile a map and a station list I have included it with this tutorial for your future reference. All stations are not included, just the mainline stations. There are quite a few branches that could be used for short scenarios but to keep it simple I have just listed the main line stops. I have also omitted the many yards and depots on the route, these are also great starting points for scenarios. Explore the route and plan ahead if you make any scenarios for this route.

Route Map

The station list running from York to Newcastle is as follows:

York
Thirk
Northalerton
Darlington
Durham
Chester Le St
Newcastle

There are also plenty yards on this route and I have included my route map both in this document and as a jpeg, in the download.

For this scenario we will be confined to the Newcastle Area:

Low Fell Siding
Newcastle
Gateshead
Tyne Yard

You should also consider other reference material before starting a scenario. Use the available TS2013 forums but do not limit yourself to that knowledge. There are plenty forums with current and ex railroad workers that are happy to reminisce about their past or talk about current operations on the railroads. If you are polite you can get some great story ideas from listening to them or just hanging out in their forums.

Wiki is ok but not to be taken as absolute fact. It will help with train consists and general routing.
Other questions to resolve before opening the editor:

What rolling stock should you use?

Are there passenger trains on the line?

Do you need a reskin?

Do you want to replicate a modern timetable?

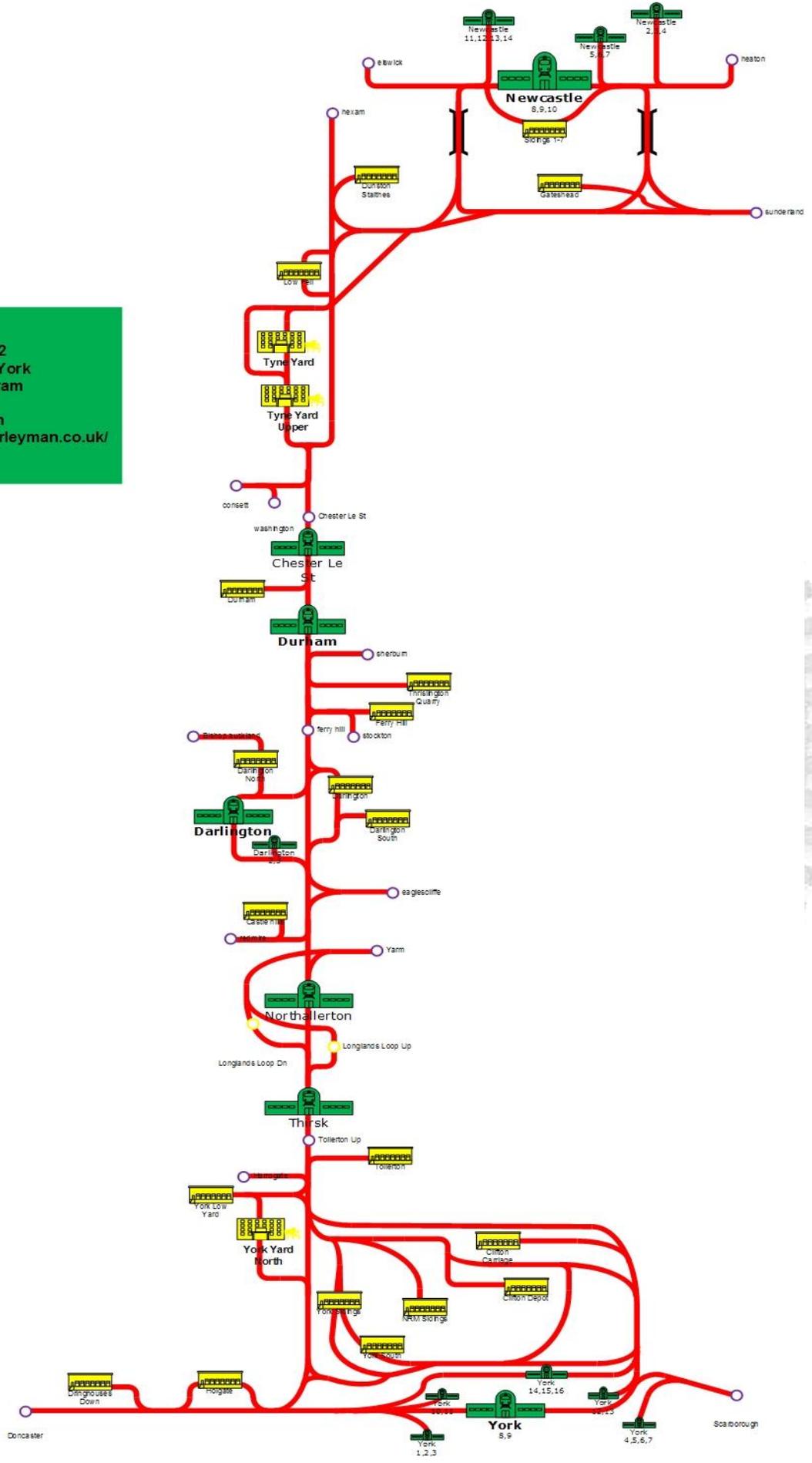
What do you want the player to actually do, drive fast, drive with caution, stick to a time table, amble along...?

Time of day/night, Weather, Season and duration should all be in your planning.

**Railworks 2
Newcastle to York
Station Diagram
By
Marleyman
<http://www.railworks.marleyman.co.uk/>**

KEY

-  Station
-  Local Station
-  Sub Platform
-  Yard
-  Storage
-  Portals



Scenario Plan

The plan for this scenario is to Marshal a freight train in a specific order and prepare a freight train in Newcastle Tyne Yard. We will load container flats then make a 'stop' in the Newcastle Station Sidings before proceeding to the Diesel Fuel point to refuel the loco. We will then set an easy shunting operation for the player to have them marshal three types of freight cargo in a specific order for this train. The premise being that cargo at the rear is required in Darlington and the rest of the cargo is for onward distribution in York or London.

Specifically we will start in Low Fell sidings and pick up four empty FSA flats which we will then load with 60 foot containers.

We will then move to Newcastle Sidings 4 for an inspection and then on to Tyne Yard 22 to drop the containers off. After we drop the loaded flats in Tyne Yard 22 we will pick up six HHA's and Six TTA tanks. However, we will require the player to Marshal all of these wagons so that the train is formed as :

Class47-TTA-TTA-TTA-TTA-TTA-TTA-FSA-FSA-FSA-FSA-HHA-HHA-HHA-HHA-HHA-HHA
on Tyne Yard 21.

Once the train has been Marshalled we will take the loco to the Diesel Fuel points for refuelling at Tyne Yard 31 then onto Tyne Yard 22 to complete the scenario.

This will require some back and forth shunting and drop offs that the player will have to work out for themselves in order to get the train formation correct before departure. We could use a number of 'Pick up and Drop' instructions, however, since I am using those in the scenario anyway I thought it better to show you the Marshall instruction too because it is quite powerful at letting the player decide how to complete the task whilst being very restrictive in forcing the player to comply exactly with the consist order you have predetermined in order to receive a 'task successful tick mark.'

Our scenario will then be complete having lasted about 30 mins. It will have some loading-unloading, a short drive and then a shunting puzzle. Not bad for a short scenario. You could then make a scenario to follow this one with the intent to proceed to Darlington South Junction 1 and drop off the HHA wagons.

The train could then proceed to Holgate Down Sidings for Doncaster or just into one of the many sidings in and around York. The train could also be instructed to unload the containers at York South 5 if you wish.

A 'stop at' instruction will be programmed at a designer inserted 'Stopping Point' that will allow use of that particular 'Track Infrastructure' asset and will also allow us to inspect the train or pickup a 'secondman' for the train. I am sure I will think of some good reason.

To ensure that the driver is not rushed to start the scenario, which we will not timetable the scenario.

During the scenario an automatic wheel slip and then emergency brake application will occur just to demonstrate how to add those to the scenario too. I really should have added those to tutorial two, I just forgot. We will also add some extra scenery just in case you did not know that was possible.

The start time will be early morning, the weather will be clear because the cloudy weather on this route looks awful, the Season will be Spring and the date will be Friday May 14th 1982. AI traffic will be present and provided by default stock for the route.

The drivers train for the scenario will be the default Class 47 and AI interest will be provided by the RSC Kuju folder which we will have to enable. I will make up three consists and save them, a BR Blue Grey Class 43 HST and a rake of MK1 passenger cars then a rake of MK2 passenger cars all for quick placements, as in tutorial 2 passenger operations these will be available from my consists tool within the browser toolbox. You may find a Class 43 BR Blue already there.

Your own scenarios should include a wider variety of stock. There is a chance that I will place non-standard assets and if I do that inadvertently then I apologise now for that. You can of course substitute any stock you don't have for stock you do have.

Load the Scenario **[MM] Marleyman's TS2013 Scenario Creation Tutorial Freight Ops Pt3 begin** included with this tutorial to build along with this document.

Load the Scenario **[MM] PLAY Marleyman's TS2013 Scenario Creation Tutorial Freight Ops Pt3 included** with this tutorial to play the completed scenario as I built it or to check just how I placed an object or set the AI rules.

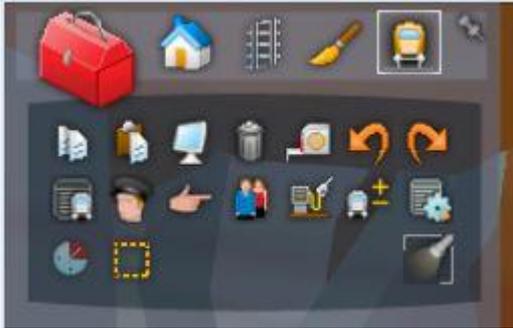
Before we proceed here is a reminder of all the tools and where to find them;



Editor Screen and Tool Boxes

The Scenario Editor has many boxes that are hidden from view to maximise the screen viewing area when editing scenarios. Now would be a good time to at least introduce you to the boxes and let you know their names and a short description of their uses. To Expand these boxes **hover your mouse pointer** over them.

1. The Tool Box



2. The Browser List



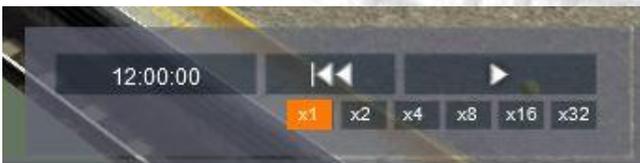
3. The Options Box



Note the PIN on some boxes to hold the box open.



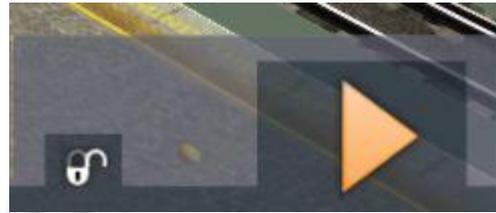
4. The Quick Time Player. Use with **EXTREME CAUTION** which I explained in Tutorial two.



5. The Navigation Box



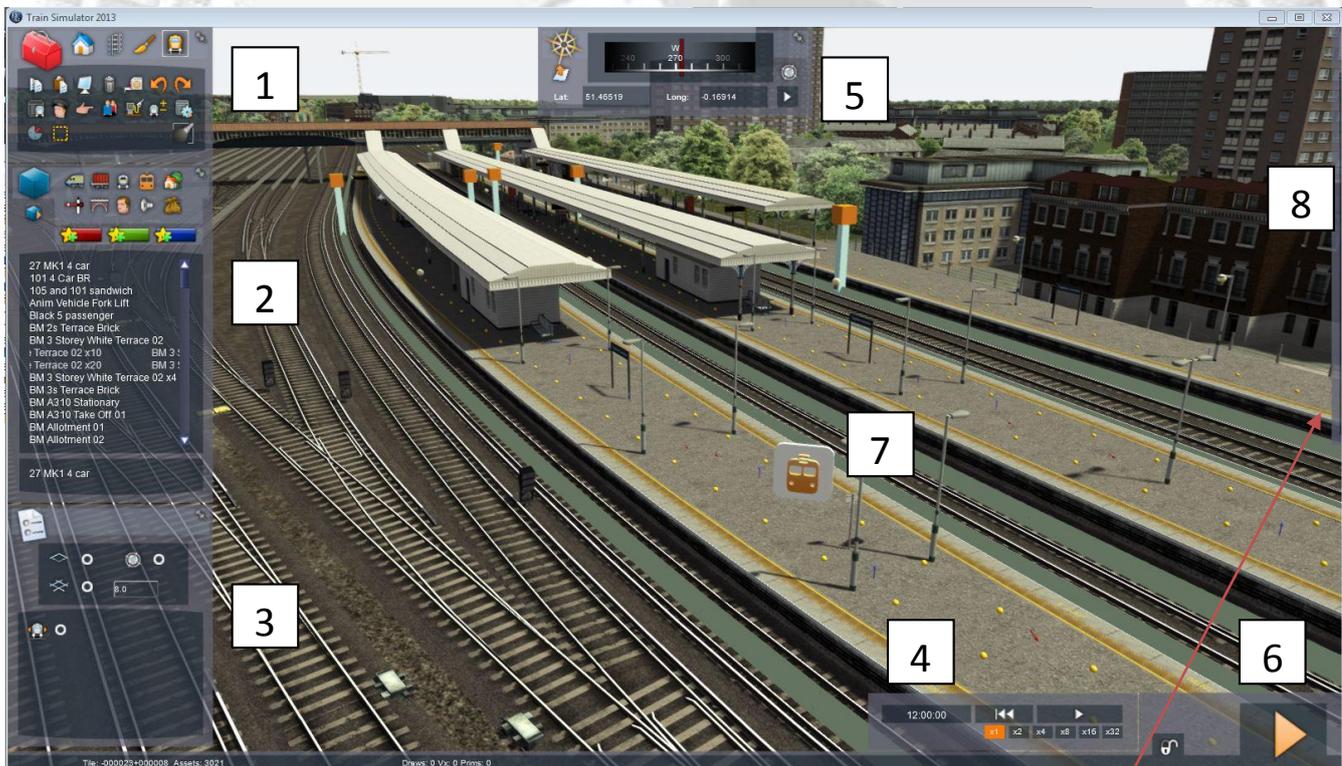
6. The Drive Box



7. Special Mention; the Scenario Marker



Here are all the tools on screen;



8. Selecting some tools within these boxes may cause another toolbox to appear on the right hand side of the screen and it may not be obvious to you at first. This screenshot has that box displayed on the right hand side. Not so easy to see here but I will let you know when to look for it.

All these tools can be Pinned to the Screen or Un-Pinned depending on your requirements. Just select the Pin at the top right of each tool box.

1. The **Tool Box**

Allows access to sub tools like Display, Consist Saver, Driver, Timetable view, passenger instructions. Also allows access to the World Editor so some care should be taken not to enter the World Route Editor.

2. The **Browser List**

One of your main tools, used to select the Object Set Filter (*Asset Providers*), add rolling stock and scenery items to your scenario

3. The **Options Box**

Used to select whole consists

4. The **Quick Time Player.**

Used to test run the scenario inside the editor. Warning this tool can destroy hours and hours of work in your scenario just with one errant click.



5. The **Navigation Box**

Can be used to instantly move around the 3D world instead of 'flying'.

6. The **Drive Box**

Used to enter the scenario in standard play mode.

7. Special Mention; the **Scenario Marker**

The details of your scenario, the weather and start time are stored here as well as the players initial start position.

8. **Hidden Properties**

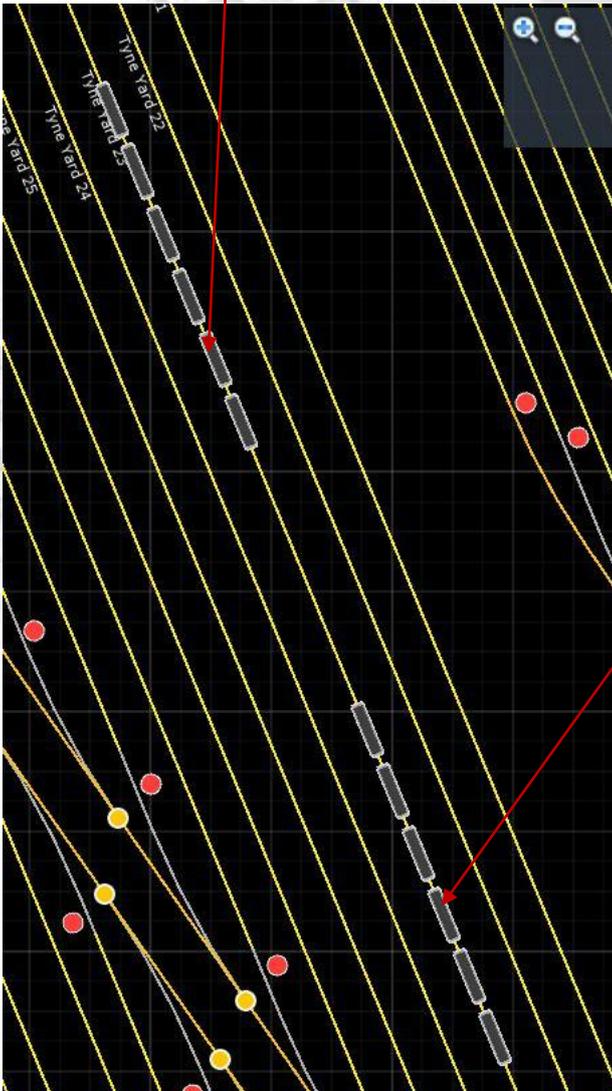
This toolbox on the right hand side will have different functions depending on which initial tool launches the Properties box here. It can display asset providers, scenario details, route markers, siding and platform clutter markers...

The Players Loco and other Assets

The scenario marker has already been placed in **Low Fell Yard** as has the Class 47 Loco for the player. What we need now are instructions for that Loco and some freight stock to interact with. First, give the loco a final destination of **Tyne Yard 22** and give the loco a **name** so you can identify it later.

Fly down to Tyne yard and place the other freight cars that you will be using in the scenario. I have placed six **TTA Tank wagons** and six **HHA Hoppers** onto Tyne Yard 23 paying attention to make sure that the HHA wagons are behind the TTA Tanks. Remember I want a train consist of:

Class47-TTA-TTA-TTA-TTA-TTA-TTA-FSA-FSA-FSA-FSA-HHA-HHA-HHA-HHA-HHA-HHA
On Tyne Yard 21.



We will have the player drop the FSA Flats onto Tyne Yard 22 and ask the player to form the train from the three sets of wagons now in Tyne Yard.

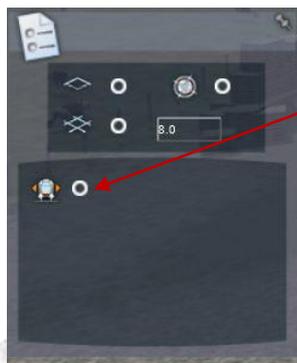
The player may have to shunt the tanks out of TY23 to another siding and drop them before s/he can shunt the HHA's onto TY21. The player then needs to pick up the FSA Flats and put them onto TY23 and then pick up the TTA Tanks again and put them into TY21 siding to complete the consist in the correct order.

There is more than one solution to the shunting problem and that is why we will use the 'Marshall Command'.

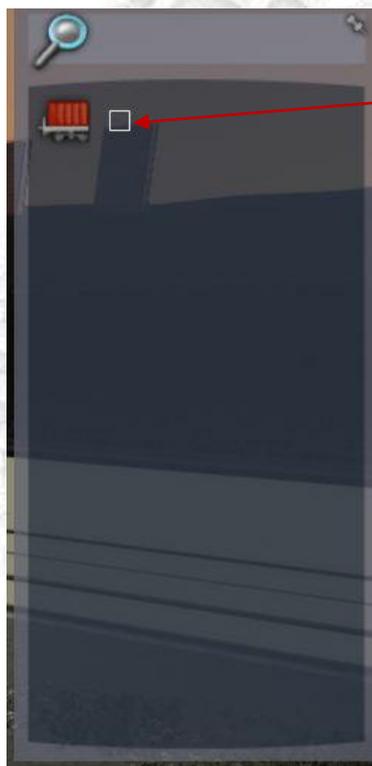
Use the 'Options' tool box, the bottom one, and place a check mark in the '**Consists Select**' circle so we can select all the HHA's at once in the 3D world..

Now double click on any one of the HHA's and watch for the properties box to pop out on the right hand side of the screen. We will use this box to 'pre load' these wagons with coal.

Use the 'Options' tool box, the bottom one, and place a check mark in the 'Consists Select' circle so we can select all the HHA's at once.



Now double click on any one of the HHA's and watch for the properties box to pop out on the right hand side of the screen. We will use this box to 'pre load' these wagons with coal.



Place a tick into the 'Pre-Load Cargo' box and all our HHA's will load with coal. You could select just one wagon at a time and load that. You could have a rake of FSA's for example and you may want some showing a container and others along the train to be empty. This tool allows you to do just that, load or unload cargo wagons but only if the asset provider has allowed for their wagons to show loaded and unloaded states. Not all do. Just experiment with assets as you by them.

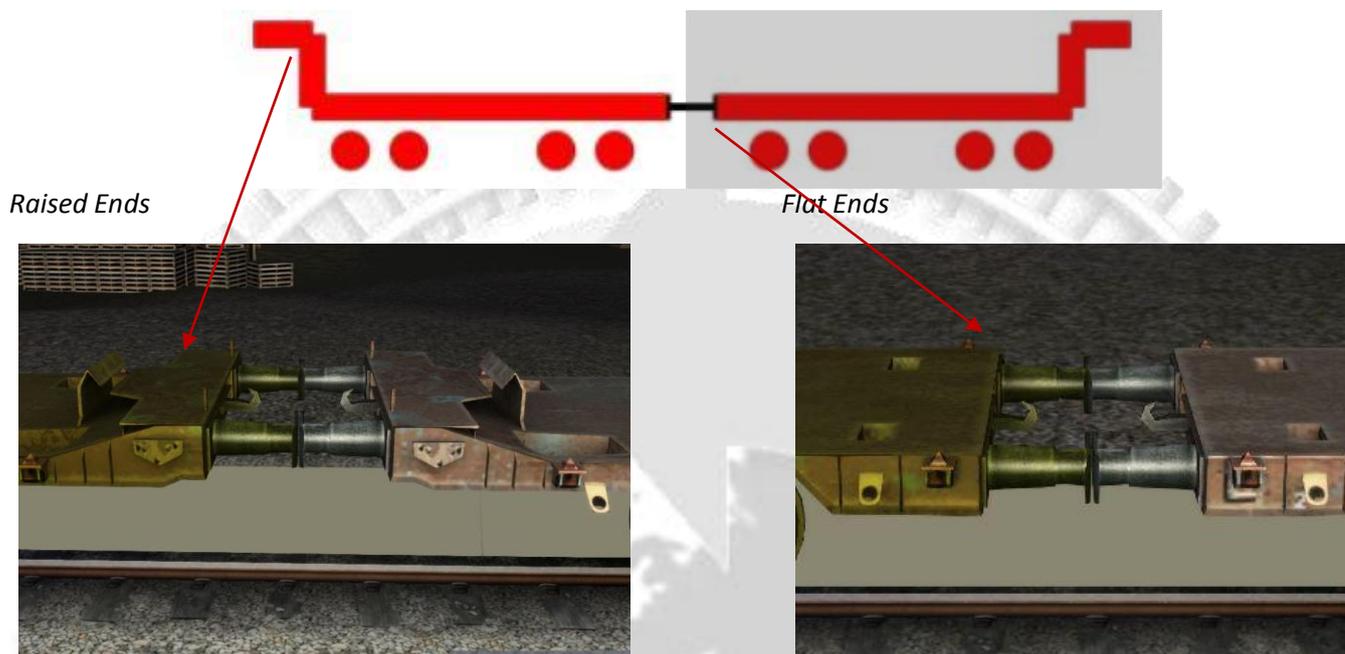


Here are our HHA's showing their Loaded and Unloaded State. We could do this with the FSA's and have them loaded but it is better to have the player load them during the scenario.

In some cases the actual Physics of the consist are affected depending upon the loaded state of the asset. Refer to the manual for each asset for information on this.

Fly back to Low Fell Siding and place four FSA's behind the Class 47 in Low Fell Siding 12 using the Rolling Stock tool within the editor Browser, do not couple them to the loco. When placing these cargo wagons pay attention to their formation. They are 'shaped' at either end and must be coupled correctly. It will not affect running if you do not, just another of those 'cosmetic realism' points you need to be aware of.

The wagons need to couple like this:



The crane in Low fell Siding will be used to load these wagons with the containers, you could pre-load them in the same way we loaded the HHA's. It is also worth noting that some routes have overhead Coal Loading points in yards and Coal unloading points on the track at power stations. This route has neither but it is worth mentioning the fact that you can load and unload coal on some routes.

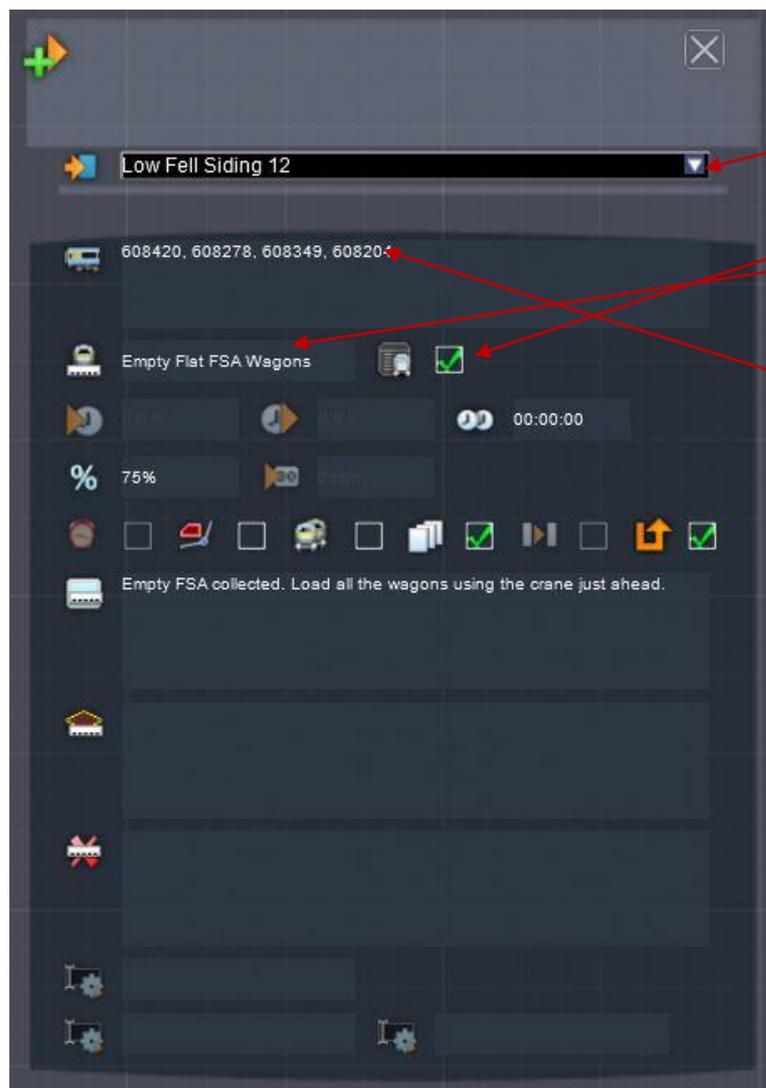
Player Train Instructions

Now that we have all the assets in play that the player will require for the scenario, it is time to put the instructions together that will produce a mixed freight train at the end of the scenario. Start by opening the timetable view and selecting the 'Trigger Instruction' instruction and give the player a brief message when the scenario starts to let them know they will be loading cargo here and then heading to Tyne Yard via Gateshead.

Good morning driver, couple up to and then load the four container flats behind you, then head out to Tyne Yard via Newcastle and Gateshead. There is no timetable to keep to and the line is not very busy.

The first instruction for this scenario then is to couple onto the empty FSA containers in the siding behind the loco. I have used this instruction in order to show the contrast later between this instruction and the Marshall instruction we will use at the end of the scenario.

Select 'Add to Back' instruction and open the instruction from the timetable view.



Set the destination as **Low Fell Siding 12**

Tick the **Rail Vehicles in Task List** box then,

Enter a name in the **Rail Vehicles Group Name**.
Empty Flat FSA Wagons

Click **Add Rail Vehicle** and select each of the **FSA wagons** in turn to add them to the instruction.

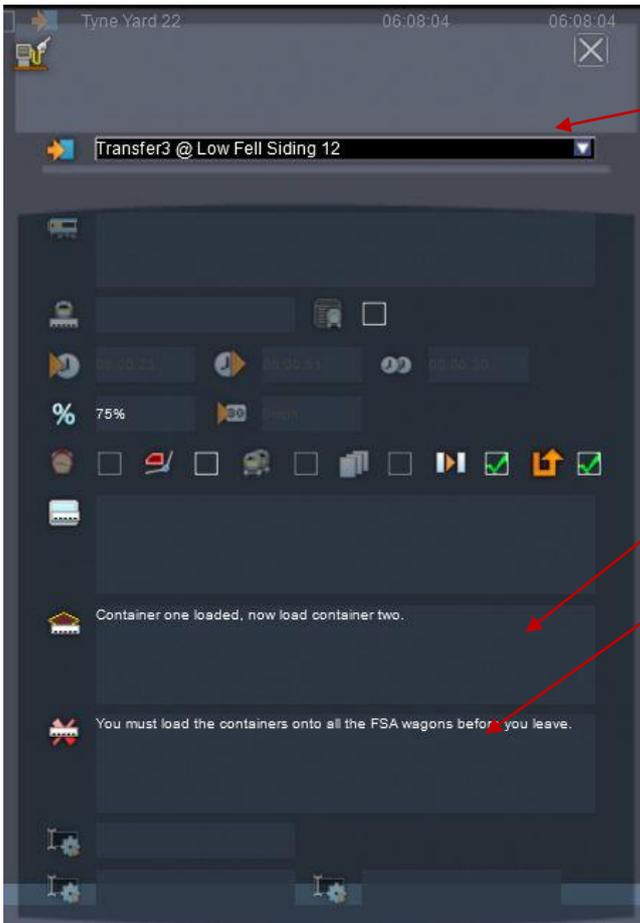
Add a message to say the instruction was successful.

You can then add a '**Pickup Freight or Fuel Instruction**' instruction.



When the instruction appears in the list, click on it to open it. It looks very much like the Passenger instruction from the previous tutorial however, it has limitations. You can set a Performance% but not a 'timetable'. In fact you really only need to set a destination for this instruction to occur and have an achievement message displayed when the player completes the instruction.

This instruction will let us load the wagons in the game using the 3D animated crane on the siding.



Here is the instruction box, just set **Transfer 3 @ Low Fell Siding 12** as the destination for this instruction to be completed at.

Now make three more instruction exactly the same to account for all four FSA wagons we want loaded. You could have twenty wagons and pre-load 15 if you like and have the player complete the loading, or make them load all 20...

On all four instruction add the achievement messages.

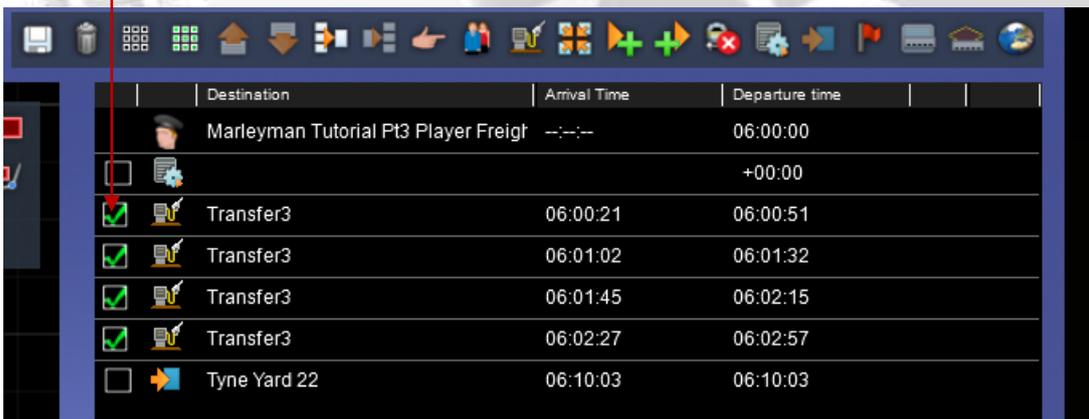
Containers loaded, head out to Gateshead via Newcastle.

You must load the containers onto all the FSA wagons before you leave.

I have set a failure message, I don't think anyone will ever see it but it is a good habit to keep. If you do not set the message in all four instructions then no message will be seen at all because we are going to merge these together.

We will now 'merge' these four instructions into one. We could add a successful message to each instruction and have that pop up each time the player loads a wagon. There is nothing wrong with that I just want to show you the *merge tool*.

Select all our instruction by placing a tick in their box and the Merge tool will highlight.



Click on the **Merge** tool and the instructions will be 'boxed' together. Remove the check marks.

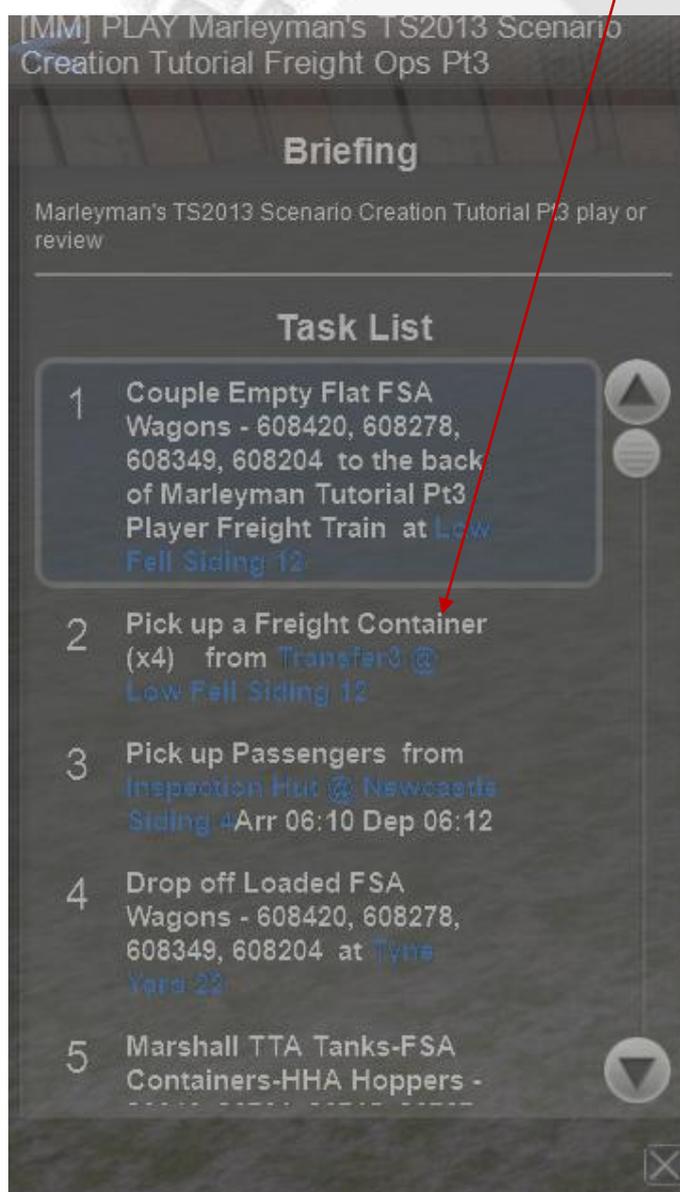
This makes our previously four instructions a single instruction of multiple sub-instructions. This merge tool is greyed out and unavailable if no instructions are selected or if multiple instructions of different types are selected. Merging instructions into one instruction with sub-instructions means that the success or failure of that instruction depends on completing all the sub-instructions.

Our four individual instructions for *pick up freight* would mean that each of those four instructions could be failed or succeeded and text could be given appropriately for each of these four instructions individually.

When they are merged into one instruction as *four sub-instructions* there will just be one case of success or failure, with text given appropriately. The player may succeed the “pick up freight” sub-instructions for containers one, two and three and fail to pick up freight on the fourth FSA, which will fail the entire instruction, at which point the failure text will be displayed. You can apply this to passenger instructions too.

What we are really doing here is treating the player with a bit more respect and not walking them through the scenario step by step with pop up messages saying do this, do that, well done you done that and this... ad nauseam.

For the player, in game, the instruction looks a lot simpler too, imagine having 10 load and 10 unload coal instructions in your scenario, that would make for quite a long list. The instruction looks like this in the Task Manager:



So, even in game there is the advantage of having less instructions taking up space in the task Manager which you may agree, looks neater.

F2 Save.

Adding Infrastructure and other assets

Objects, people and other items can be added to your scenario too, they will be packaged with your scenario in a scenery folder and can often make the scenario look better than *just another run* up the same line. These objects are placed from the Browser tool and are here:

Track Infrastructure-People/Animals/Vehicles-**Miscellaneous**-Buildings/Foliage



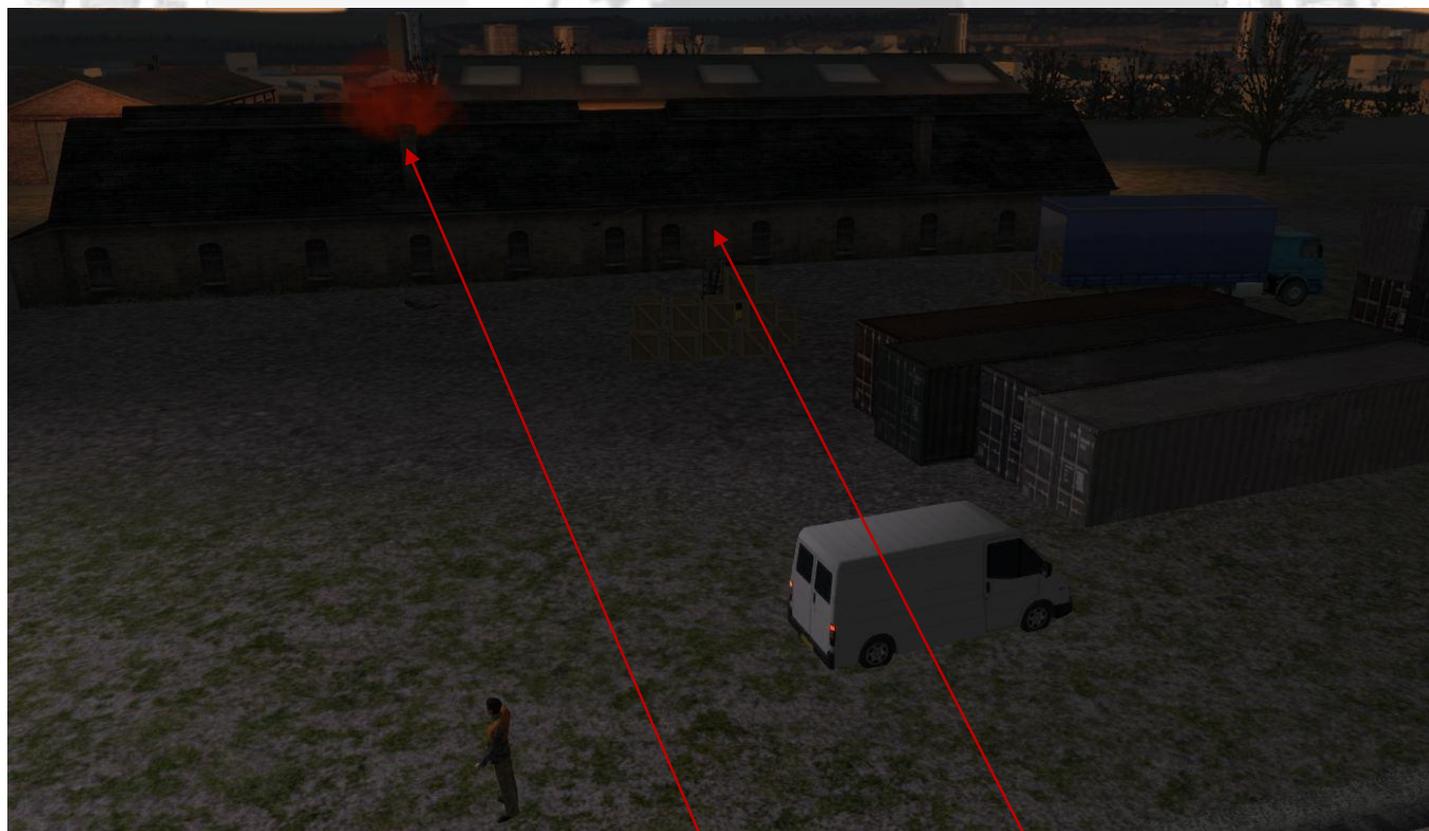
Click on each one to see the items you can place. Perhaps we could have a Crane Supervisor standing in front of the crane. Select a **Workman 70's Stand 01** from the **People/Animals/Vehicles** tool and place him in the world. Use the Gizmo to rotate him or position him on the ground if he is floating.

Perhaps he arrived in a **White Van**...

There could also be an Animated Fork Lift Truck loading a truck with boxes... **Anim Vehicle Fork Lift**

There may also be new warehouses...

Smoke, Fire, Trees, Bins, Container Stacks, Pallets, Houses, Dogs, Cats, Boats, Police Cars or even a Telephone Box.

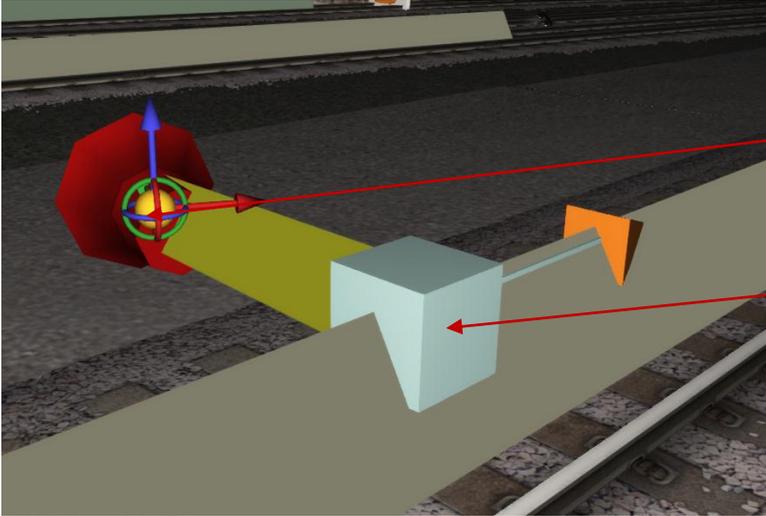


I have added everything in this screenshot, including the smoke coming out of the building (*two warehouse buildings joined together*) that was not there in the first place. So again, some imagination can help transform the look of your scenario so that it is going to stand out from the others and have the player thinking or wondering why your scenario was just that bit better than another on the same route.

Do not neglect the sidings either, remember to dress the set with other rolling stock assets too. Just like in tutorial 2, add some static rolling stock around the yards as you go. I will not be detailing all the dressing that I do as this was covered in tutorial two.

Train Path Instructions

Ok, enough dressing the set let's place a 'Stopping Point' from the 'Track Infrastructure' tools within the browser. For this, I have placed more scenery objects over at Newcastle Siding 4 (ok that was more dressing the set...). So, fly over to Newcastle Main Station and at the end of Newcastle Siding 4 place a **Stopping Point**.



These are quite 'fiddly' and although they place easily they sometimes disappear under the track. Grab the **Gizmo** and pull this cone shape up above the track. Double click on it to bring up the properties box and name it '**Inspection Hut**'.

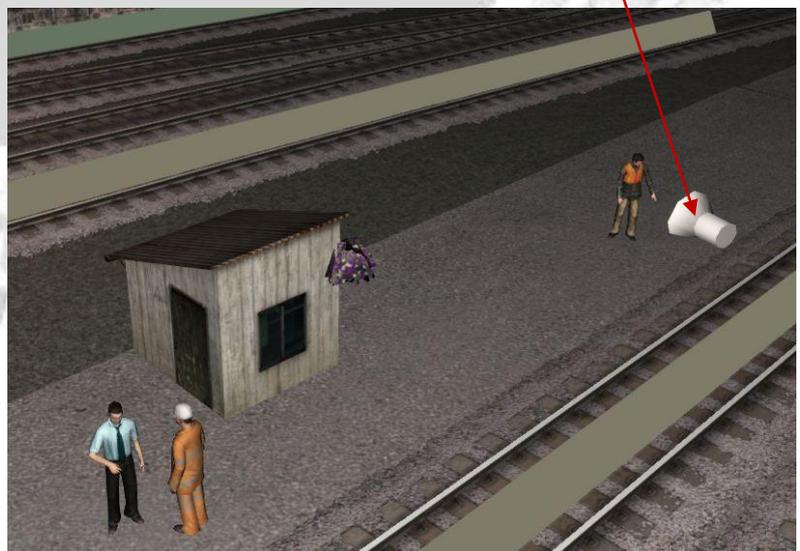
This cone does not need to be on the track, only the *square with the arrow* needs to be on the track. That is the actual marker.



Here is that properties box. Do not edit anything other than these two boxes.

You can only place these on previously set platform and siding markers, you can't add one on 'bare track'.

I chose to add a **hut** and some **High Visibility workers** and, is that their **boss** too? Also, a **hanging basket** :) *Stopping Point Marker is here.*



We will ask the player to stop here for a train inspection, perhaps there was some safety issue concerns this week and extra checks were being performed. Just more drama for the player to keep them from driving from A-B with nothing to do.

In game, the marker looks like this.



And this:



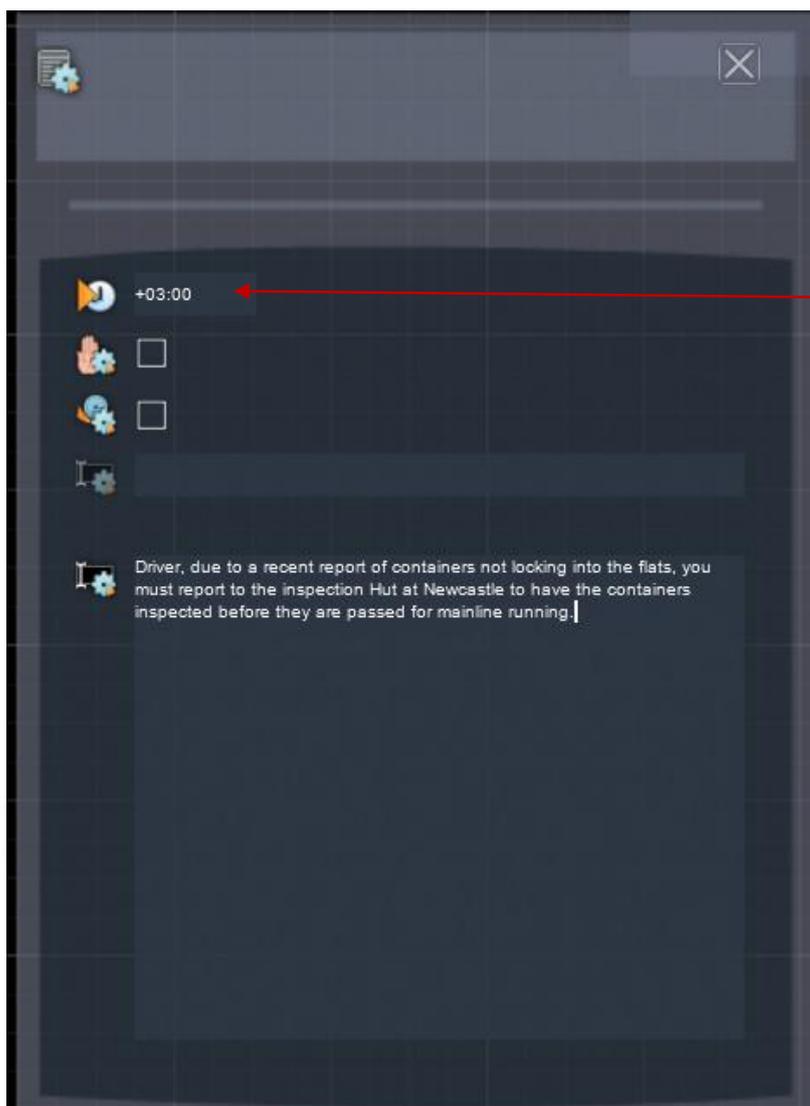
Now we need to add this stop to our instruction. This marker is now going to be in the list with the name we assigned, so select a **'Stop at Destination Instruction'** instruction from the timetable view.

Choose **'Inspection Hut @ Newcastle Siding 4'** as the destination for this instruction to occur and set the **Duration** to **01:30:00** and the successful message to: **'The train inspection is complete, all containers are safely locked down. Proceed to Tyne Yard 22.'** Set the unsuccessful message to: **'You must have the FSA container flats inspected at the inspection hut before going to Tyne Yard!'**

Set **performance** to **95%** to help us calculate AI timings later. The duration will vary and depending upon when the player gets here they may have to wait 2 mins if they are good or 30 seconds if they were a bit slower on the loading containers.

We can test the departure time and change that if required.

We should set a message for the player too, to tell them why they are stopping here, just to show you timed pop ups, we will set it to appear 3 mins after they complete loading of the containers. Add a 'Trigger Instruction' instruction to the list and **move it** above the Stop instruction we just added.



Add the following text:

Driver, due to a recent report of containers not locking into the flats, you must report to the inspection Hut at Newcastle to have the containers inspected before they are passed for mainline running.

Then set the Duration to **+03:00** to force this pop up to wait for 3 mins after the previous instruction completes, that is the loading of the containers, before this one activates.

Then, as the player is driving along this message will pop up and tell the player why they are stopping at the point designated in their task list.

F2 save, then exit and test run the scenario to check the messages.

Your train instructions should look like this:

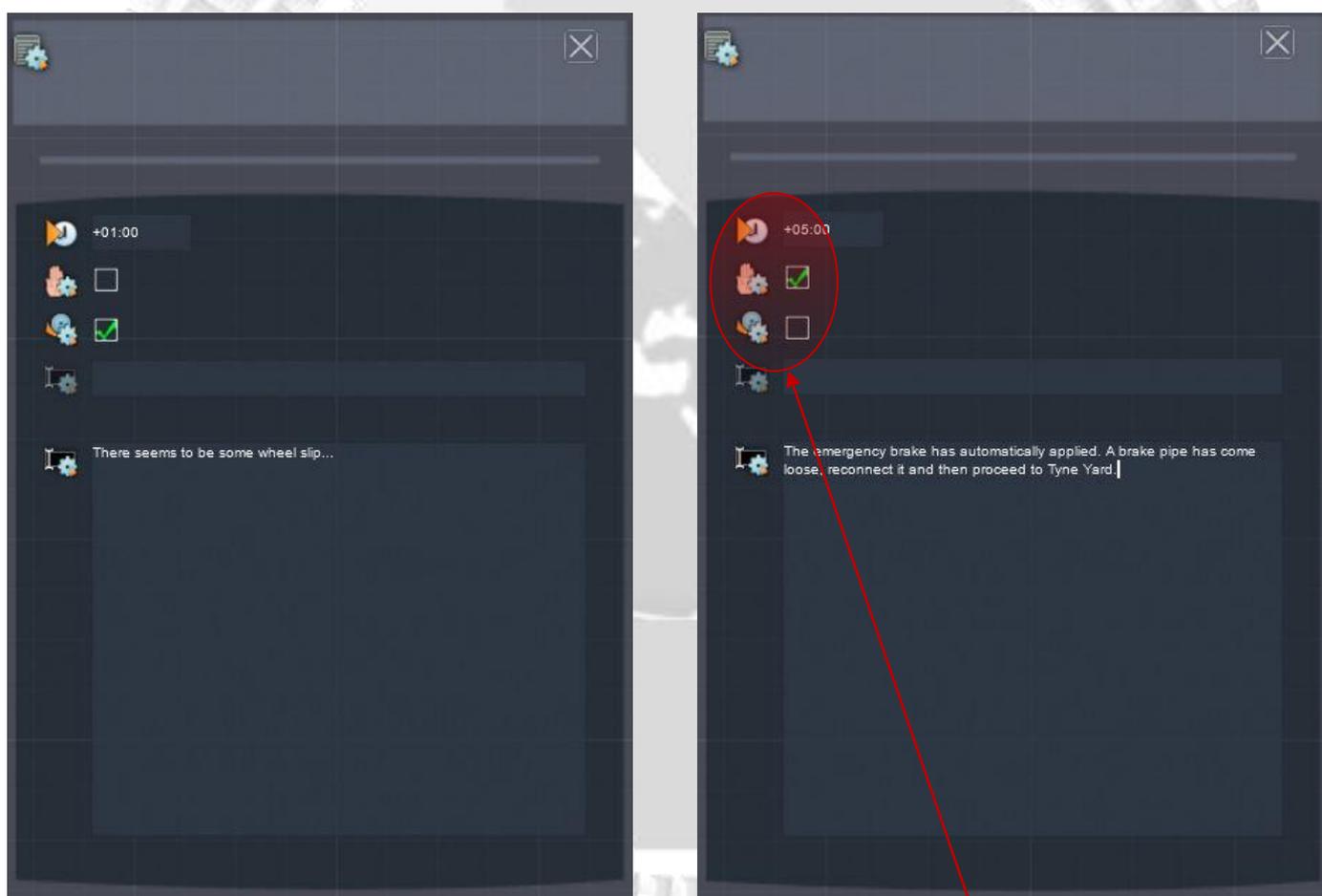
	Destination	Arrival Time	Departure time	
	Marleyman Tutorial Pt3 Player Freight	--:--	06:00:00	Welcome Note
<input type="checkbox"/>			+00:00	
<input type="checkbox"/>	Low Fell Siding 12	06:00:40	06:00:40	
<input type="checkbox"/>	Transfer3	06:01:02	06:01:32	
<input type="checkbox"/>	Transfer3	06:01:32	06:02:02	
<input type="checkbox"/>	Transfer3	06:02:02	06:02:32	
<input type="checkbox"/>	Transfer3	06:02:32	06:03:02	
<input type="checkbox"/>			+03:00	Inspection Note
<input type="checkbox"/>	Inspection Hut	06:08:48	06:10:18	

We now want to force the train over the other Tyne Bridge so set two waypoint instructions, **High Level Bridge 1** and **Newcastle S Jnc 2** then merge those two instructions. I do that because if you need to add anything above these instructions it is one less mouse click to skip up the list. Just another handy tip.

We can now add a bit more drama, but I want to time this to happen near or in Low Fell Yard, depending upon how the player drives, so as not to have the driver out of the train on the main line. I am going to have the AI force an emergency stop on the player. This is best used on Passenger Train scenarios to simulate a passenger pulling the Emergency Communication Cord to alert the driver to stop. I just overlooked it in the previous tutorial so here is how it is done.

I also want to make sure you understand how the chain of instructions work just in case to want to add a chain of messages for example. Add a **'Trigger Instruction'** instruction below the waypoint instructions.

Trigger Events

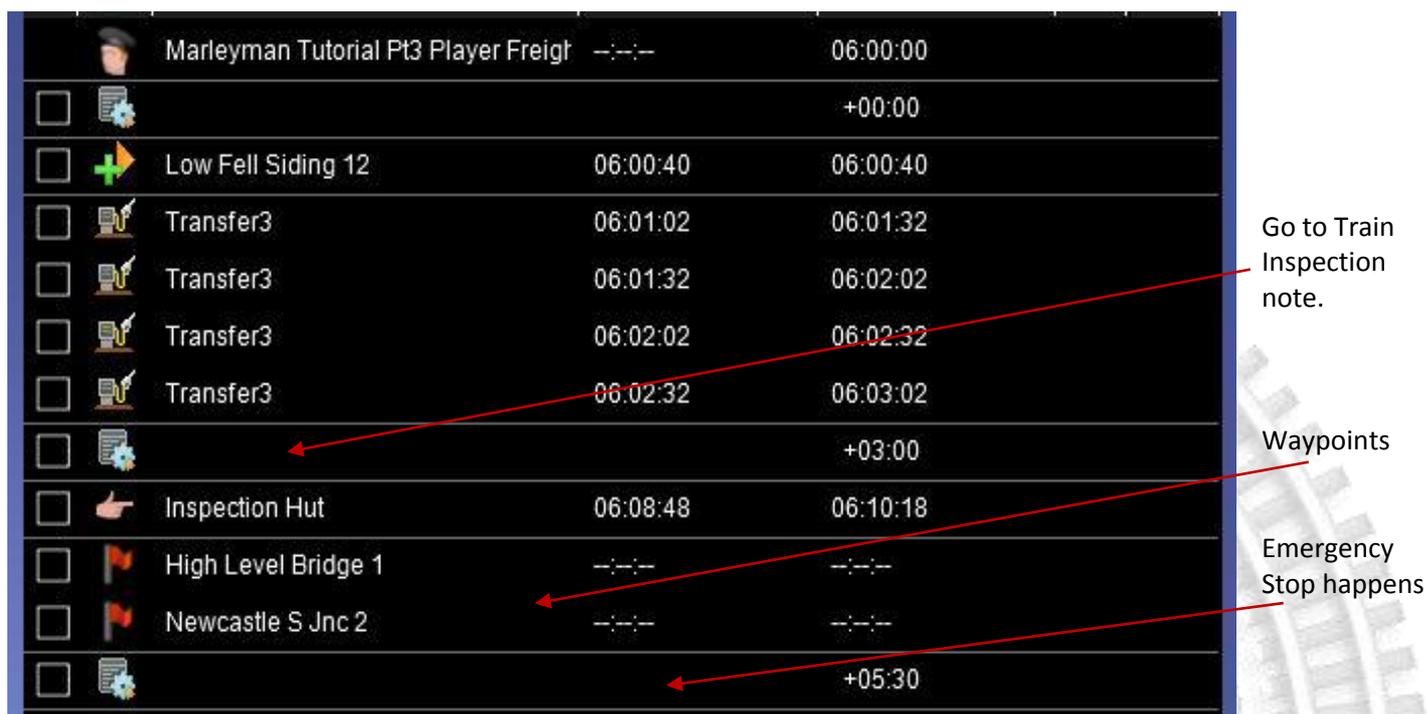


The 'trigger Instruction' instruction has three options for us to use. *Duration, Trigger Wheel Slip and Trigger Train Stop.* We will require trigger train stop. *I have tested the trigger wheel slip and whilst it does work, it does not 'disable' at all and leaved the train with 'wheel slip' for the duration of the scenario. So I have removed it from the scenario and mailed RSC to report that as a potential bug.*

When we test the scenario again we will need to note when the message pops up and then when we reach the crane in Low Fell Yard again. It is about there we should apply the emergency stop. Perhaps the brake pipe loosened and then disconnected shortly after that. For now, I am guessing 5 minutes.

Set the 'trigger Instruction' instruction Duration to +07:30 minutes. Set this (tick) for the Trigger Train Stop.

The train instruction list will now look like this.



<input type="checkbox"/>		Marleyman Tutorial Pt3 Player Freight	--:--	06:00:00
<input type="checkbox"/>				+00:00
<input type="checkbox"/>		Low Fell Siding 12	06:00:40	06:00:40
<input type="checkbox"/>		Transfer3	06:01:02	06:01:32
<input type="checkbox"/>		Transfer3	06:01:32	06:02:02
<input type="checkbox"/>		Transfer3	06:02:02	06:02:32
<input type="checkbox"/>		Transfer3	06:02:32	06:03:02
<input type="checkbox"/>				+03:00
<input type="checkbox"/>		Inspection Hut	06:08:48	06:10:18
<input type="checkbox"/>		High Level Bridge 1	--:--	--:--
<input type="checkbox"/>		Newcastle S Jnc 2	--:--	--:--
<input type="checkbox"/>				+05:30

Go to Train Inspection note.

Waypoints

Emergency Stop happens

The player will experience an emergency stop 5:30mins after passing the second waypoint and will have no way to prevent it, much like a SPAD Stop.

Add a note to the trigger Instruction; **The emergency brake has automatically applied. A brake pipe has come loose, reconnect it and then proceed to Tyne Yard.** Not realistic but good enough to let you see how this works.

This instruction will trigger 5min 30 seconds after the previous instruction, that being our train inspection, not the waypoint. All instructions are 'timed' after the previous instruction, so to send two messages to the player after departing a station, for example, you want to send them a pop up message 2 mins after leaving the station and then another 4 mins after leaving the station.

To accomplish that you would need to set the Duration on both messages to 2 min, (*in this case 'putting 2 +2 together really does make 4*). Do not time the second message to appear 4 mins after the station stop, TS2013 treats pop up messages as 'instructions' but not the waypoints.

Note: in the completed scenario the player train is held at Newcastle 'Inspection Point' by an AI train leaving the station so the times are increased to 7:30 after testing with AI traffic. If you test without that block, the stop will occur further up the track.

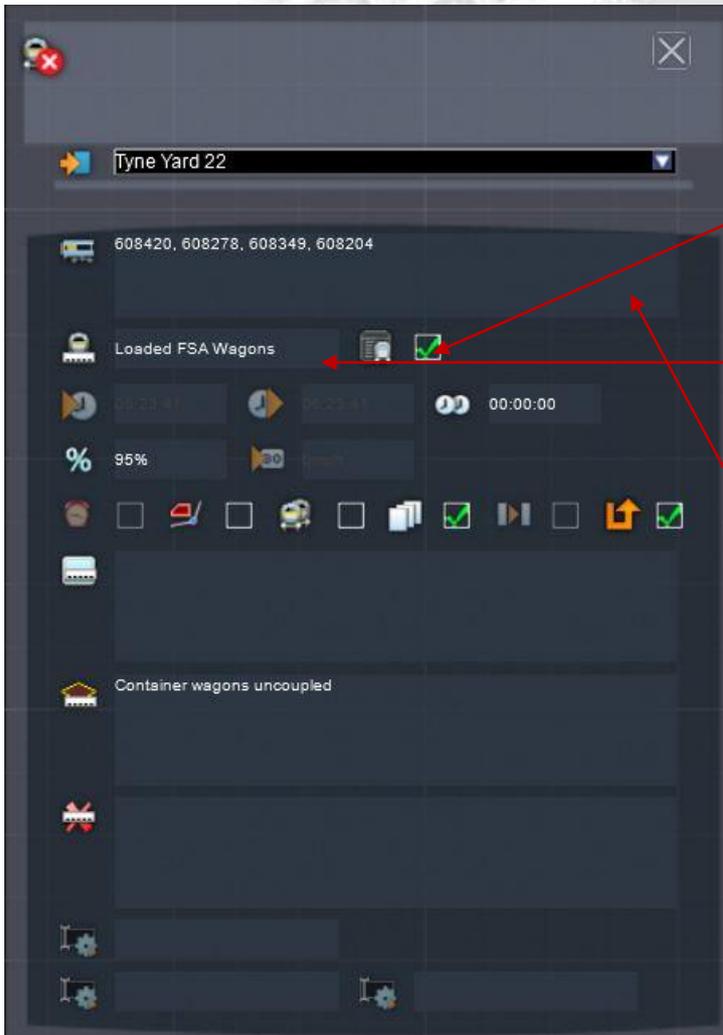
Add a 'stop at destination instruction' instruction for **Tyne Yard 22** after the emergency stop instruction with a note to say, **Prepare to Marshall the Tanks, FSA's and HHA's beside you onto Tyne Yard 21. First, drop the FSA's here.**

Marshall Instructions

The Marshall instruction tells the player to create a consist comprising specific rolling stock at a specified location, the wagons can be located in different sidings in the 3D world. How the player achieves this task is unimportant; it will probably involve shunting and coupling, but the instruction will only complete when all wagons are present at the destination. **This instruction will not complete with the player locomotive attached to the wagons.**

We are using the advanced Marshall instruction in this scenario that means the wagons in the location must also be arranged in a specific order before the instruction completes. I will explain in more detail shortly.

First though, we need to have our player drop off the FSA wagons in Tyne Yard 22. Select the **Drop Off** instruction from the timetable view and set the instruction like this.



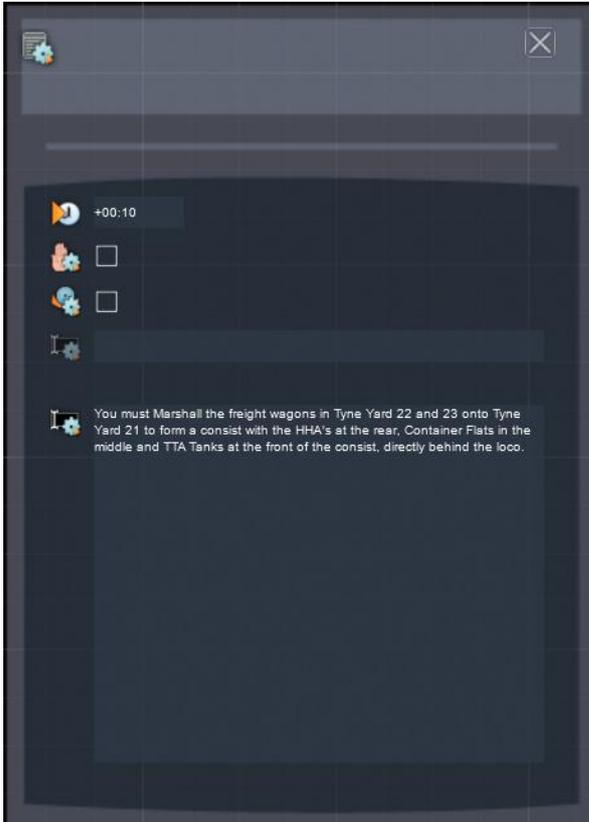
Tick the **Rail Vehicles in Task List** box

Then enter a name in the **Rail Vehicles Group Name**.
Loaded FSA Wagons

Click **Add Rail Vehicle** and select each of the **FSA wagons** in turn to add them to the instruction.

Set the **destination** as **Tyne Yard 22** and a message to appear when the player completes the task.

Fill in the achievement text.
Container wagons uncoupled.



Add a new 'Trigger Instruction' instruction to the list. This is the one that will inform or player that the consist of the train needs to be quite specific but it will not tell the player how to accomplish the task. That is to say, we will not be adding Pick Up and Drop off instructions for every step the player is required to do. They are free to do as they wish so long as the train ends up with HHA's at the rear, Container Flats in the middle and TTA Tanks at the front of the consist, directly behind the loco.

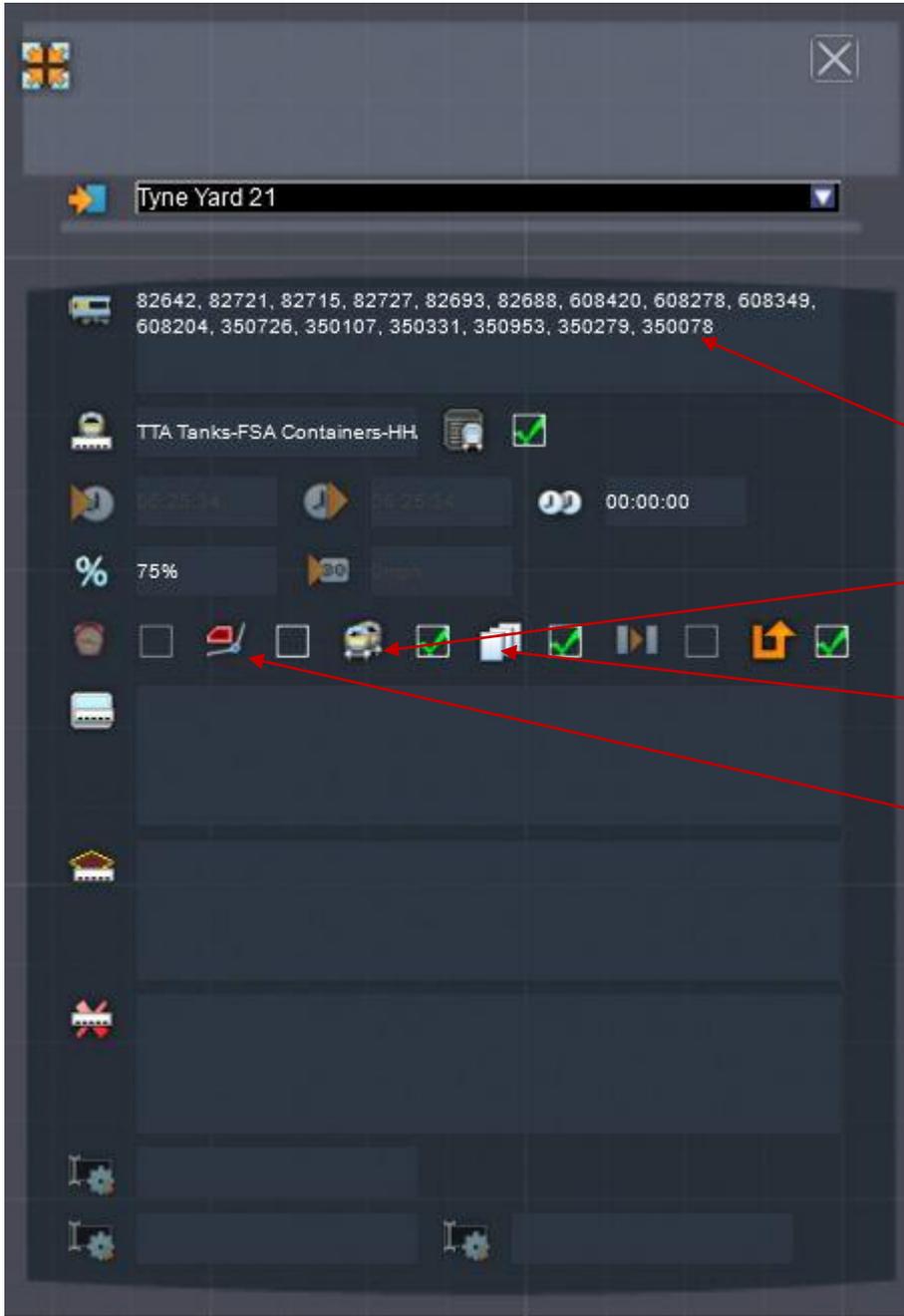
A message like this should be good enough.

You must Marshall all the freight wagons in Tyne Yard 22 and 23 onto Tyne Yard 21 to form a consist with the HHA's at the rear, Container Flats in the middle and TTA Tanks at the front of the consist. Then uncouple your loco.

Set that instruction to appear 00:00:10 after the player drops the container flats.

I have added the reminder to uncouple the loco because until that is done the Marshall instruction will not complete and some players may not realise that. Usually you would be giving a Drop Off instruction, well several pick up and drop off instructions to move the three sets of freight wagons to Tyne Yard 21, much the same as the one we used to drop the container flats in Tyne Yard 22 or to pick up the flats at the start of the scenario. It would then be obvious to the player that we want the loco uncoupled.

The Marshall instruction is different in that it expects the player to know that 'To Marshall' requires just the freight wagons, no loco, to be left in the destination. The Marshall instruction can be thought of as, in this case, three sets of pick up and drop off instructions in a single 'big' instruction.



The Marshall instruction is not complicated in itself however, since I want to restrict the order of the wagons it does seem a bit more complicated.

There are therefore two properties inside the instruction that I will use that perhaps many others would not be using but you need to be aware of their function and one I will not be selecting but will explain its use as this is after all a tutorial.

"Add Rail Vehicle" field.

Consist Order

and

Operation Order

Handle Off Path

The rest of the instruction is completed just like the 'add to back' (or add to front) instruction we started with. There are just a lot more wagon numbers involved and they absolutely must be entered in a specific order.

Complete the instruction as per the screenshot, with the **Rail vehicle Group Name TTA Tanks-FSA Containers-HHA Hoppers.**

Your wagon numbers will be different because you placed your own FSA wagons, the other wagons are as follows.

82642, 82721, 82715, 82727, 82693, 82688, fsa, fsa, fsa, fsa, 350726, 350107, 350331, 350953, 350279, 350078

And that is the order they need to be in. If you place more TTA tanks or HHA Hoppers in your scenario you may get an error stating 'duplicate rail vehicle numbers'. Find the Tanks or Hoppers that you placed and check the side of the vehicle for the duplicate numbers. Double click on the vehicle and change the 'Rail Vehicle Number' so that it corrects the error.

You may need to save and restart the editor to clear the error. Just another quirk of the editor.

As promised, a note or two about the advanced instructions we are going to use:

Consist Order

This is a toggled icon which affects 'Marshall', 'Add to Back' and 'Add to Front' instructions. When it is selected, the sequence in which the rolling stock is arranged is important and contributes towards the success or failure of the instruction.

When it is off, as it is by default, the order of the rolling stock of the train can be in any order. For example, a Marshall instruction has been created where three sets of wagons, just like ours, *TTA-FSA-HHA* displayed as (82642, 82721, 82715, 82727, 82693, 82688, 608420, 608278, 608349, 608204, 350726, 350107, 350331, 350953, 350279, 350078) in the "Add Rail Vehicle" field, must be marshalled at a location.

Without this option checked the instruction will complete if the wagons are brought to the location in any order, such as *HHA-TTA-FSA* or *TTA-FSA-HHA* or *FSA-HHA-TTA*. In fact you could have them in any old order you like not even grouped together as the sets of wagon type.

However, with this **Consist Order** option **checked** the order in which they appear in the "Add Rail Vehicle" field is the **only** order which will trigger a success; in this case not only Tanks, Container Flats then Hoppers, *TTA-FSA-HHA* but each wagon number must be in the position stated in the list.

Operation Order

This is a check box that is on by default. With the box checked, the order in which the player completes the consist operation instructions is important. When it is unchecked the instructions can be completed in any order.

There is another option here too that is worth mentioning.

Handle Off Path

If the 'Handle Off Path' box is selected, TS2013 calculates the best path for train based on all the values contained in the Scenario and expects the player to follow this path. You can see the path in the timetable view, in red. Any player Deviating from the calculated path will receive an error, which could cause the player to fail the Scenario, by which I mean the scenario will end. There is a countdown and a warning automatically generated warning the player that they have 'wandered off path' and should back track before their doom approaches.

Leaving the box unchecked (which you will do in most cases) means the path does not have to be adhered to, and no error will be given for leaving the path until the instruction is completed. This is useful if not essential in Scenarios where you want the player to leave the pre-calculated path, such as in yard activities like the *Marshal wagons* we are performing, where the player should be free to use any path through the yard as long as the instruction gets completed.

Back on Track

Add a '*trigger instruction*' instruction to the list after the Marshall instruction. This is just to get a message to the player about fuelling the loco. Set a duration of **00:00:10** and the message, **Stop at Tyne Yard 31 Diesel Fuel Pump and fill the loco with diesel.**

Our instruction list looks like this now.

Marleyman Tutorial Pt3 Player Freight		06:00:00
<input type="checkbox"/>		+00:00
<input type="checkbox"/>		Low Fell Siding 12 06:00:40 06:00:40
<input type="checkbox"/>		Transfer3 06:01:02 06:01:32
<input type="checkbox"/>		Transfer3 06:01:32 06:02:02
<input type="checkbox"/>		Transfer3 06:02:02 06:02:32
<input type="checkbox"/>		Transfer3 06:02:32 06:03:02
<input type="checkbox"/>		+03:00
<input type="checkbox"/>		Inspection Hut 06:08:48 06:10:18
<input type="checkbox"/>		High Level Bridge 1 ---:-- ---:--
<input type="checkbox"/>		Newcastle S Jnc 2 ---:-- ---:--
<input type="checkbox"/>		+07:30
<input type="checkbox"/>		Tyne Yard 22 06:25:26 06:25:46
<input type="checkbox"/>		Tyne Yard 22 06:25:46 06:25:46
<input type="checkbox"/>		Tyne Yard 21 06:27:34 06:27:34
<input type="checkbox"/>		+00:10



Add another instruction, '**Pickup Freight or Fuel instruction**' instruction and set that for '**Transfer4 @ Tyne Yard 31**'. Add a note to let the player know that after fuelling, s/he should go to Tyne Yard 22 to complete the scenario. **Fuelling completed, stable the loco on Tyne Yard 22** and **Fuel the loco before you stable the loco on Tyne Yard 22** should do it.

This instruction is not much use if the players train already has a full tank of fuel, which by default they all do, so let's empty that fuel now.

Double click on the Class 47 loco. Make sure the consist select tool is not active otherwise you will select the whole train. As usual, when we double click assets, a properties box will appear on the right hand side. The top of it has a **Diesel** tool that shows us this loco has 100% fuel in the tanks. Move the **slider to 10%**, note that you could change the loco number here if you had a specific Class 47 in mind for your scenario.



This is a similar properties box to the one you will see if you have a 'duplicate rail vehicle number' error and you will change this number here.

Ok, now when the player enters the train they will notice they are low on fuel. A mere 79.5 gallons. **F2** save.



Time for a test run (and tea) to make sure you have the Marshall instruction correct and to check some timings so you can place AI trains. I will not detail the AI train placements in this tutorial, you can add them to this scenario if you are building along or just make use of the tutorial notes only.

The final instruction to add is a **Stop at Destination Instruction** and will be a destination of **Tyne Yard 22** just add a scenario complete message and thank your audience for playing. **This scenario is now complete and the freight train is ready for the main line. Thanks for playing. Marleyman.**

NOTE: The refuel instruction does not seem to work on Tyne Yard 31 despite the fact that there is a 'Transfer' point listed in the destinations, and a fuel pump on the siding. I have no idea why that is but I do know the instructions are correct, so follow them and treat this as a TS2013 bug.

AI Trains can Pick up and Drop off Wagons

You can have the AI pick up and drop of freight too. There is just one really important point to make about this. **The assets that you are interacting with must be in place at the start of the scenario for the AI service to interact with them.** If they are not, you will get an AI collision if you try to have any service interact with them.

Let me elaborate now. If you have a Class 47 in Tyne Yard 1 and six HHA's in Tyne Yard 2, you can instruct the Class 47 to pick up those HHA's and drop them off anywhere that is a valid destination, even a destination marker you have placed in the scenario. Let us presume we drop those in Tyne Yard 3.

The service has an 'add to back' instruction to pick up the HHA's and a 'drop off' instruction for Tyne Yard 3 to drop the wagons and then a 'final destination' instruction of Tyne Yard 1 to complete that services instructions.

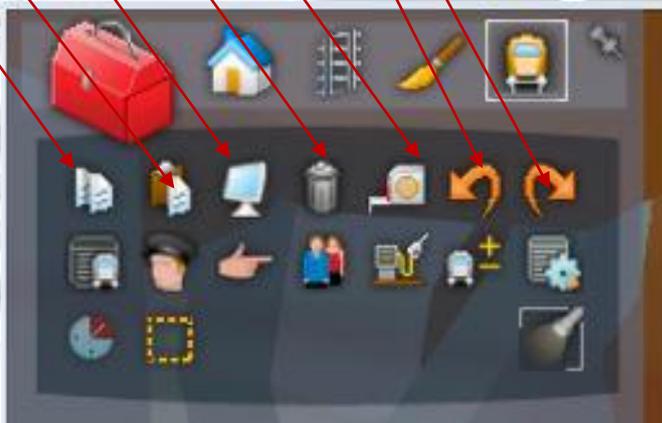
You could also have the train formed with the HHA's on the back and have it drive into the siding and drop the HHA's in the siding and then have the Loco proceed to another siding.

What you cannot then do is have that same service or any other service interact with those HHA's in Tyne Yard 3 again during the scenario. The reason is because they were not in Tyne Yard 3 when the scenario started. The instruction for the AI service to interact with any asset in the scenario is exactly the same as those we have used for the player train. So feel free to have locos pick up or drop off freight in a siding for added realism.

And Finally

Some parts of the editor are not explained yet so I will just document them here.

Copy, Paste, Display, Delete, Measure, Undo, Redo.



Most work as you would expect. Left click on an asset in the 3D world and select Copy to copy that asset then select paste to attach a copy of it to your mouse pointer and you can place it in the 3D world.

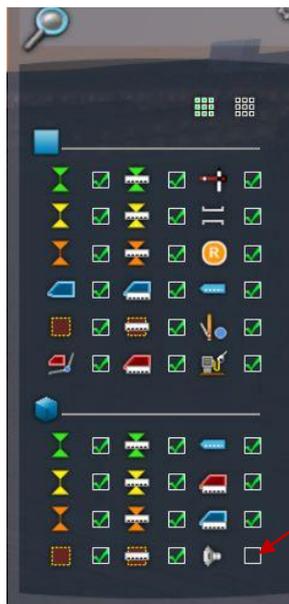
Delete will delete any asset you click on.

Undo and redo will delete or undelete any actions you have performed.

Note that there are also instructions identical to those found in the timetable view, these work just the same and are left over from the days before timetable view existed.

The measure tool will measure a distance between two points, just select the tool and then left click hold and drag the tool to measure a distance. I can't think why you want to in the scenario editor, but you can if you want.

The Display tool will open a properties box on the right of the screen



From here you can toggle all sorts of markers on or off, in view or out of view in the 3D world. The only one I really bother with is the 'Ambient Sound' domes.

From the Browser tool you can open the Assets Providers properties box to enable more rolling stock using the 'Object Set Filter'.



The filter is on the right hand side and has all the Asset Creators stock listed if you have any add ons.

Select the Kuju listing, again this is a left over from railsimulator days and is the default assets group.

Scroll the list to find other asset providers to add their stock to your scenarios. Every ones list will be different depending upon the Payware and freeware you have installed.

After selecting Kuju, tick the **RailSimulator** box. That will enable all default stock for the scenario.

Selecting, 'ticking' other providers will enable their assets to be selected for placement from the *Engines and Tenders* or *Rolling Stock* lists in the Browser tool box.



Quick Placement

The Red, Green and Blue oblongs with Stars on, these work as 'Quick Placement lists'. You RIGHT Click once, twice or three times on an asset in the *Engines and Tenders* or *Rolling Stock* lists and it will go into one of the Quick lists.



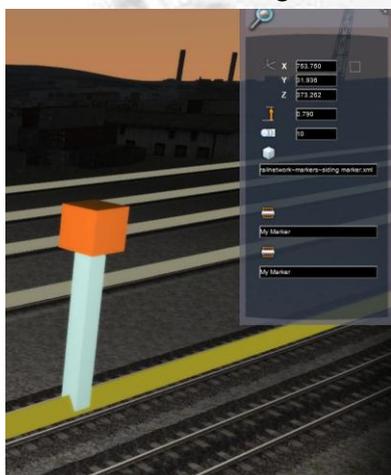
- Right Click the asset Once to add to the Red Quick List
- Right Click the asset Twice to add to the Green Quick List
- Right Click the asset Thrice to add to the Blue Quick List

Left click on one of the 'Quick List' Icons to display the appropriate list. I guess you could have a few Locos in Red, Passenger Carriages in Green and Freight Wagons in the Blue list. It just saves scrolling through the main list if you have a lot of rolling stock enabled for a scenario.

Right clicking the Quick List icon itself, brings up an option to delete the entire list. The list is only active for the scenario you are working with, not any new scenarios on the route.



Using the Infrastructure tool you can place your own Siding, Destination or Platform markers. Just select one from the list then Left Click and Drag on a stretch of track to add a marker.



Double Click on the Stem of the marker to name it in the same way you named the Stopping Point.

That pretty much concludes the tutorials or at least everything I know about the editor except there is no substitute for getting in there and using it and finding out what is happening and having fun when you do so.

Special Notes:

Make frequent backups. Make a pot of tea, Save often (F2), Exit and Save, play frequently to check all OK. You can have the AI run your train, very useful for scenario designers. To do this, do the following; Use the command line option; "-followaitrain" Then open your scenario and Ctrl+Click the Player Train at scenario beginning. You can also speed up time with CTRL+Shift+5 if you have set the Launch Option 'EnableAsyncKeys' (for five times faster ride).

There is also useful information at the RailWorks wiki

<http://www.railsimdownloads.com/wiki/tiki-index.php?page=Section+6+Scenario+Editor>

And in the Scenario section of the RailWorks Creator manual which you should read in conjunction with this.

This concludes Part three.

Thanks,

Marleyman



Version 2 - 29 Jan 2013

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Secrets;

Tea!

Purchase good quality tea. Proper British tea is made with black tea - loose or bags, it's up to you. You'll have to weigh the convenience of bags with the full-bodied taste that only loose tea can give you. But whatever you do, avoid the cheap, boxed bags from your local supermarket.

Get a good tea pot. This is an important step. Tea needs room to move around to develop the best taste and you just won't get that by making it in a cup. The type isn't that important. Brown Betty pots are a favourite but you'll do just as well with a stainless, clay or ceramic pot.

Use fresh water. Use Fresh Water, that bears repeating. Do not use the water already sitting in the kettle. Your tea will taste stale if you use re-boiled water. Pull fresh cold water into the kettle - preferably filtered to avoid any contaminants that might alter the taste of the tea

Boil the water. Hot water from the tap is just not enough. You need a good rolling boil to get the water at the right temperature to meet the tea. A good electric or stove-top kettle will help you with this.

Heat the pot. While your kettle is boiling, run some hot water into the tea pot and let it sit. "Warming the pot" helps to keep the boiling water at the right temperature to brew the tea and will keep your brewed tea hotter, longer.

Get the tea ready. Just before the water comes to a boil, pour the hot water out of the standing tea pot and add your tea. If you're using tea leaves, spoon in a teaspoon for every cup plus "one for the pot." You may want to use a tea ball to hold the loose tea and that's fine, just be aware that the tea may taste slightly different than if it was loose in the pot because it doesn't have as much room to unfurl in the tea ball and develop its full flavour. If you are using tea bags, add two or three to the pot, depending on your preference.

Add the boiling water to the tea. Notice that the instruction is to add the WATER to the TEA, never the other way around.

Leave the tea to steep. The tea needs time to unfurl its leaves and develop its flavour. This usually takes about five minutes but you can adjust that time up or down depending on your personal preference. Cover the tea pot with a tea cozy or tea towel to keep it warm.

Pour the tea. Purists would tell you that tea just doesn't taste right unless it's served in porcelain cups. There's no doubt that the tea does taste wonderful in porcelain but if delicate cups aren't your thing, any cup or mug will do. If you've used loose tea, rest a tea strainer on your cup to catch any leaves.

If you have used tea bags and don't plan on drinking the whole pot right away, remove the tea bags so the tea doesn't get too strong and bitter - same idea with a tea ball. If you have used leaves, it's best to serve the full pot right away or else the sitting leaves will make the tea bitter and undrinkable.

Add the extras. After the tea is poured you may add your milk and sugar. British tea is commonly served with milk but never cream. The fat content in cream is too rich for tea's delicate taste, so low-fat milk is the way to go. For some time, sugar in your tea was very popular but this seems to be going out of style. Honey is never served in traditional British tea. If you prefer your tea black, you might enjoy a slice of lemon.

For bardaghohio; enjoy your tea!