

## RAILWORKS 2

### Creating a Scenario for Railworks 2 Part Three By

*Marleyman*

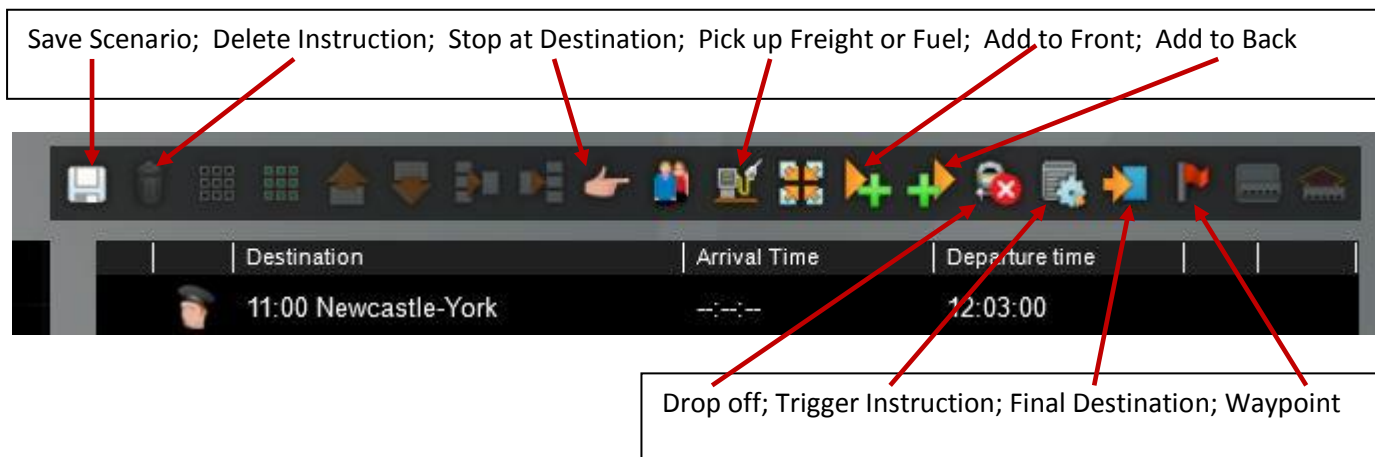


*Class 66 Hauling a Heavy Load of Fuel from my 'Dump the Pumps Pt2' Scenario for Newcastle to York.*

This tutorial is for New Scenario Designers in Railworks 2 (RW2) and will walk you through creating instructions for you driver to pick up and drop of rolling stock for the Newcastle to York Route using a Class 47 'Spoon' Diesel Locomotive (Class 47 BR Blue) and the Mk1 FK/SK/BG Coaches.

This tutorial will deal with more complex instructions for your scenario and will introduce some great tools for communicating with the player during the scenario using the pop up messages. These can and should be used to create more atmosphere or tension into your scenarios. I used this a lot in my 'Dump the Pumps Pt2' Scenario to build a story around the player in what was otherwise just a 'long run' scenario.

We will be using the Timetable View Tools a lot more this time around. So here is a quick review and introduction to some of the tools.



I have included two scenario files this time for this tutorial. 'RW2 Scenario Tutorial Pt3a' is the one you should open to begin this tutorial. In this I have dressed the set to begin with just to save you some time and you know how to add rolling stock to the scenario and how to add the Driver to the Engine...

'RW2 Scenario Tutorial Pt3b' is the tutorial when it is complete, the one I will actually be working on during this. It is just a clone of 'a' to start with.

The Class 47 is in Gateshead Sidings at the start and a 'failed' 47 passenger train is sat over in Newcastle Station Platform 10 Approach. The plan being to recover the train, drop the failed 47 at Low Fell Siding and then carry on down to Chester Le Street with the Passengers.

Let's get started, first we are going to Empty the Fuel from our Class 47 and then make an instruction for the Driver to Fill Up. Open the '**RW2 Scenario Tutorial Pt3a**' using the RW2 Editor, you will be staring at the Smiley face of the Scenario Marker right in front of our class 47155. Zoom out and up to get a good view of the Engine then double click on the Engine. The familiar properties box will pop out from the right hand side of the screen; it may need coaxing out with your mouse... It looks like this;



You can see here the current fuel loaded in this engine.

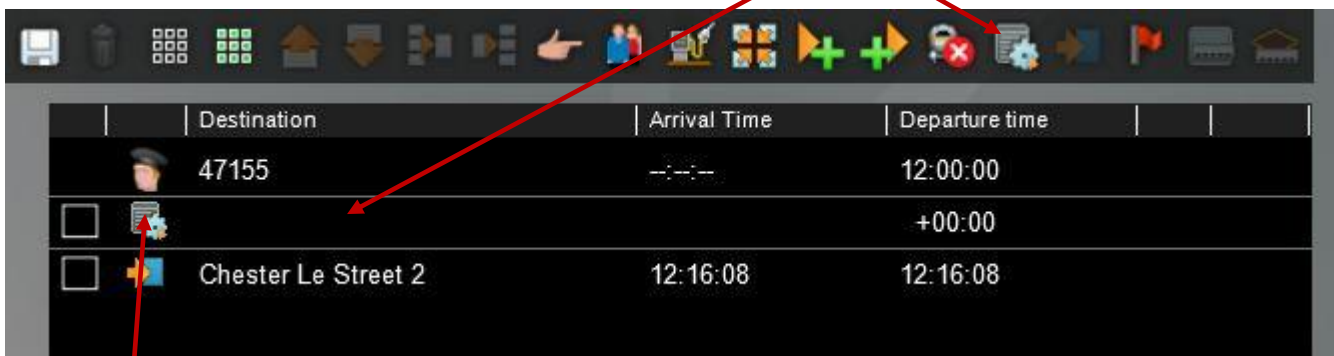
The Slider controls how much fuel will be in this engine when the scenario starts. This is true for Steam Engines too. Except; you would double click on the Tender.

Move the slider down to 10% and then left click in the main window to close the Engine Properties box. The fuel is now set at 10%.



Easy, now we need to add an instruction to the Driver to fill up, oh, first though we better add a welcome message to the instructions, it is always good practice to add a short message at the start, just to get the player oriented.

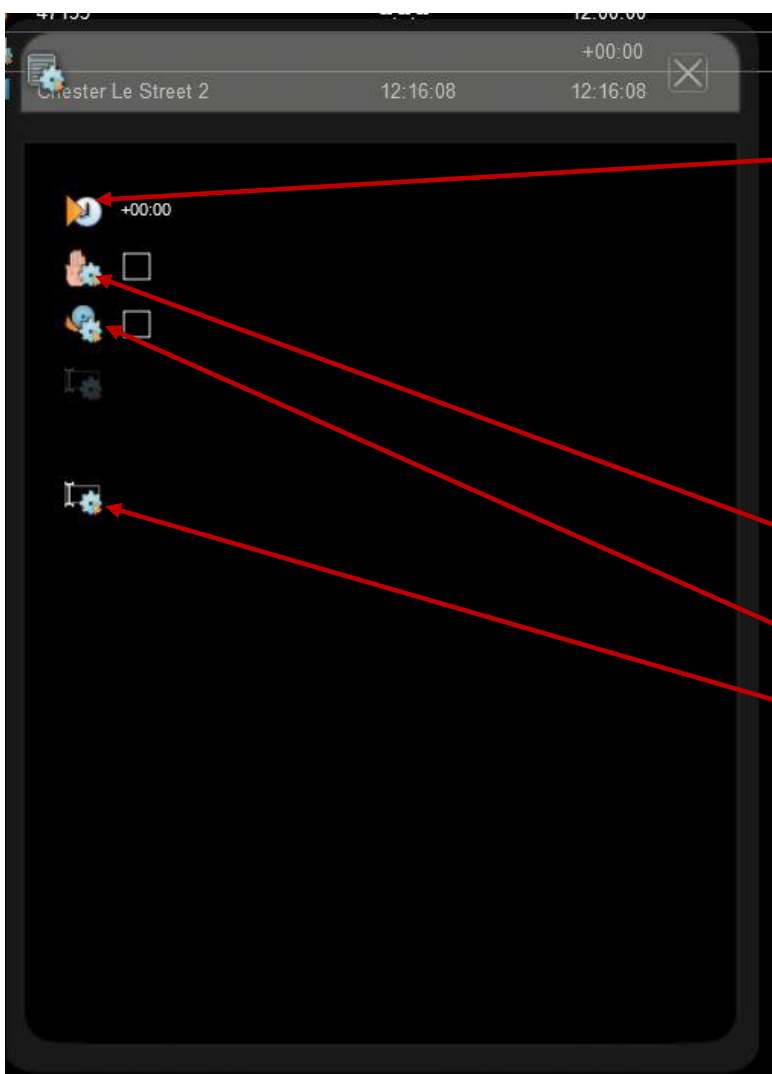
Select the Timetabled View from the Tool Box Tab, the Icon that looks like a Pie Chart. You will notice that I have already added the Final Destination Instruction, had to do that or the Scenario would fail before we started. If you click on the Trigger Instruction Tool, it will add an empty instruction to the list. We can use this to welcome our driver. Here is the Empty Instruction in our list.



	Destination	Arrival Time	Departure time
	47155	--:--	12:00:00
<input type="checkbox"/>			+00:00
<input type="checkbox"/>	Chester Le Street 2	12:16:08	12:16:08

Now click on the instruction so that we can edit it.

The Instruction Editor will open



The following options are available to us;

**Duration;** this tells the instruction when to 'fire' if set to +00:00 then it will fire zero seconds after the previous instruction in the list of Train Instructions. Our first instruction is effectively the 'Start Time' of the scenario so if we leave this time at 00:00 the instruction, in this case a Pop Up Message, will be displayed at the beginning of the scenario.

**Train Stop;** The train will perform an emergency stop

**Wheel Slip;** will induce wheel slip

**Trigger Message;** A pop up message will be displayed.

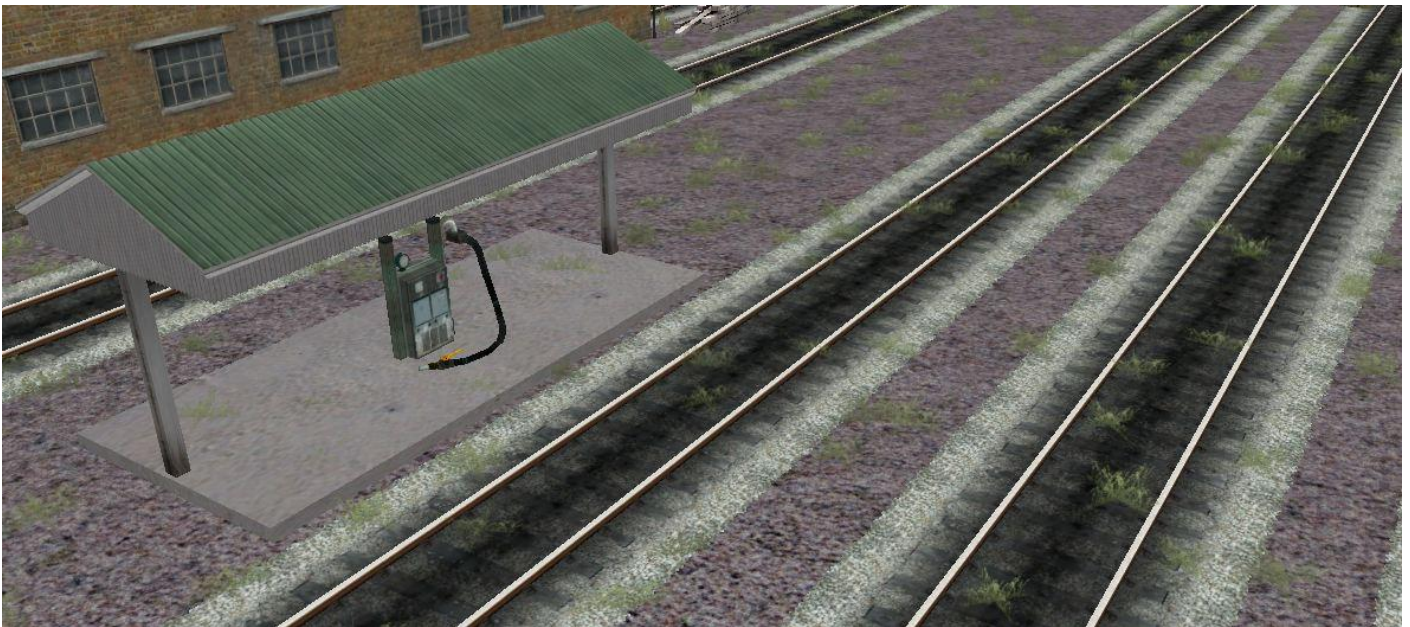


We want to trigger a message so type a message into the message window suitable for your scenario.

*I have gone with 'Hello Driver, there is a failed 47 passenger train over on Platform 10. You have been tasked with the recovery of the Failed Engine and the onward journey to Chester Le St. First though you will have to fill up with fuel for the journey. Time is of the essence, clear the failed 47 before the Edinburgh to London Kings Cross Intercity 125 Approaches at 12:10.'* I chose this wording because I want to add a Time tabled Instruction to this tutorial to place pressure on the player. And to teach you how to add Time tabled Stops.

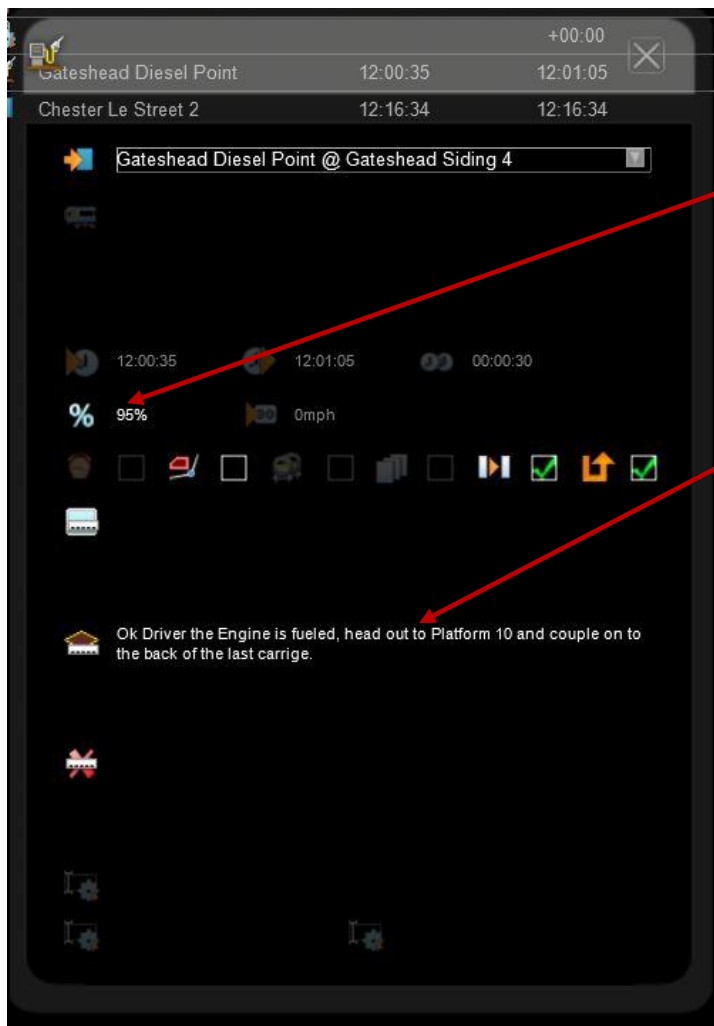
## **F2 Save**

Now we need another instruction, Pick up Fuel. This instruction is not difficult but the position of the Engine is. Look at the fuel pump, there is a hose lying on the ground. This denotes which side the Engine must approach the Fuel Transfer Point so if there happens to be track sidings both sides make sure you choose the correct siding for the instruction or the player will not be able to complete the instruction.



Click on the Pickup Fuel or Freight Instruction and set the drop down to Gateshead Diesel Point @ Gateshead Siding 4 despite the fact that the map on the left only says Gateshead Diesel Point. The instruction is shown on the next page. However remember to set the Performance % to 95% so that the AI calculates all our times as if the Engine was running at 95% of permitted line speed. Crucial now that we are going to add a target time to our instruction list that the player must achieve to be successful.

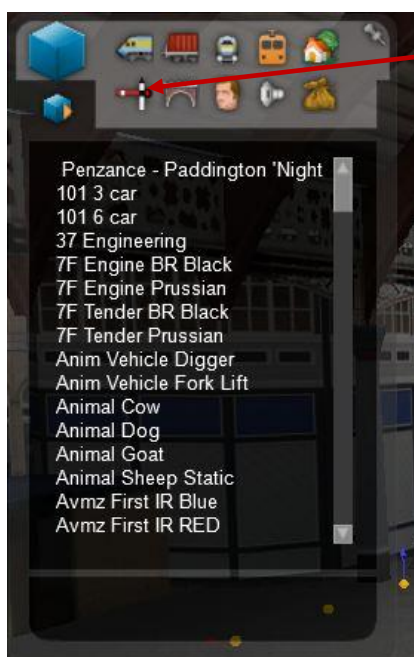
Also, add in an Achievement Successful Text to pop after fuelling you could also reference the next instruction too to save the player hitting F1 so often, it helps with the realism.

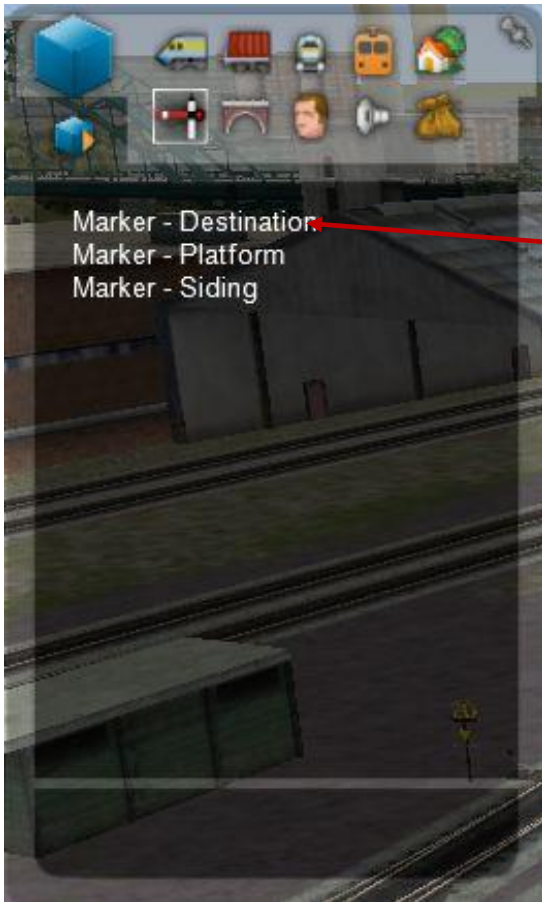


Remember to always set this to 95% whenever it is possible to set this.

And add a message for completed instructions. There isn't much to keep our Driver engaged in the scenario so use all the tools provided.

For this Scenario we are going to add our own markers, this enables us to place the failed 47 wherever we like on the railroad and also allows us a chance to both guide our player over the route we want them to follow and to feed information to the player that will help them complete the scenario without too much fuss. Markers are added from the Browser Tab on the left using the Track Infrastructure tool.





The Track Infrastructure Tool looks like this.

You want to click on the Marker-Destination option.

Before you do that, make sure the Display is set to show markers using the Display Tool from your Tool Box Tab.

Set the properties like this one.

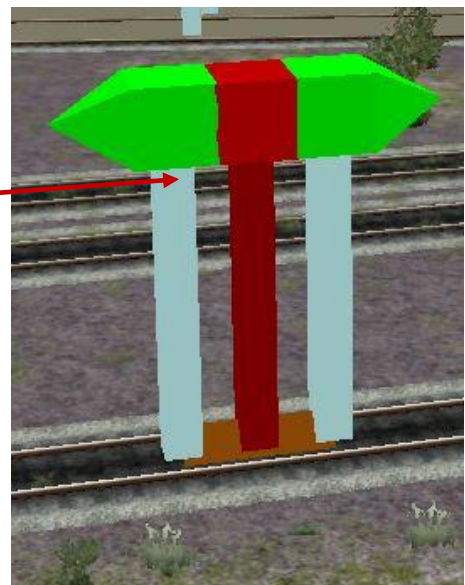


Ok, select that Marker-Destination again and a Marker will be attached to your mouse and look like this.



At the other end off the Line that your Engine is now on, there is a thingy, one of those bollard things... Well over there at the end of that track is where you need to place this marker. It will look like this when placed.

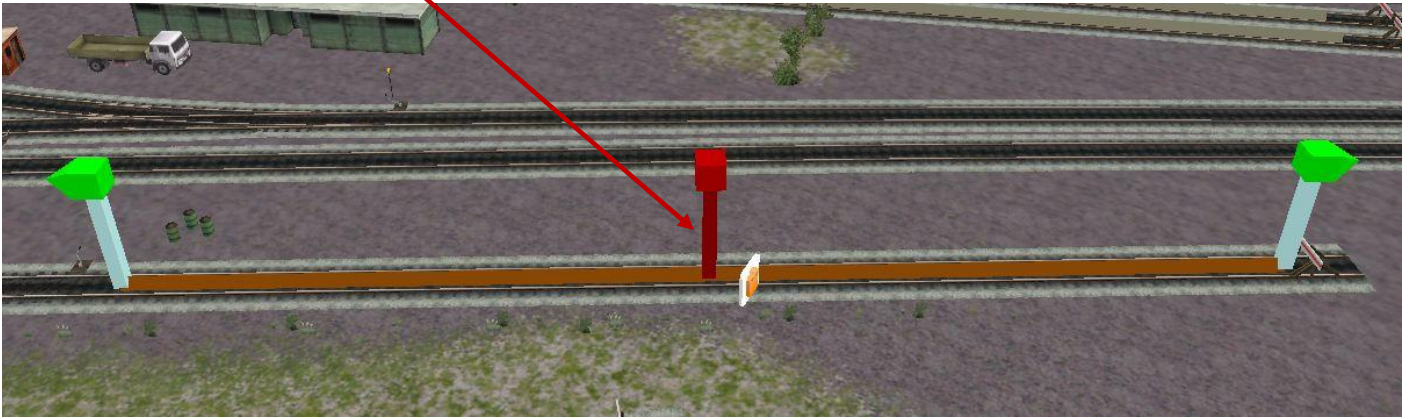
Use the Green Arrow Heads to pull the marker out at both ends. It does not need to stretch past the junction switch. See the image on the next page.



The marker will also require a unique name so that we can reference instructions off the marker using the Timetable View.



To name your marker double click on the Centre Stem of the marker. Not the head.



The Marker Properties box allows you to change the Marker Name and the Internal name. To be honest I don't know the difference so I just change both to be the same. ☺

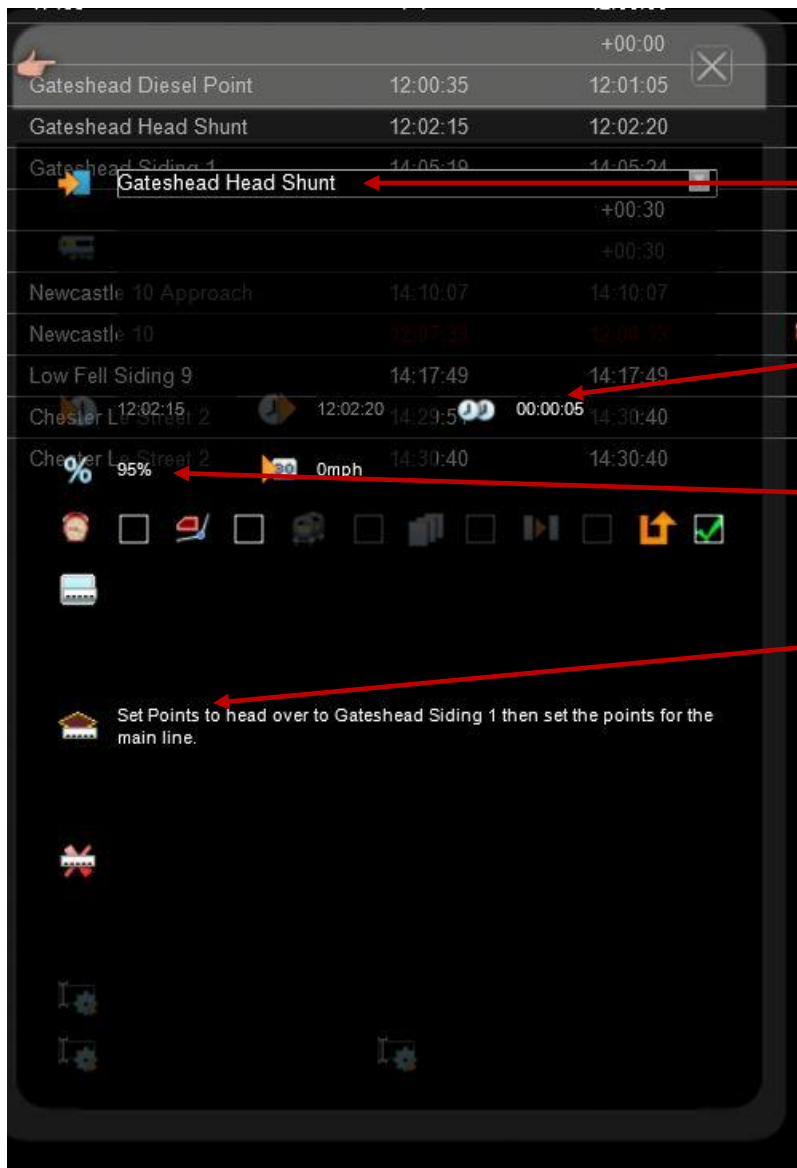
For this exercise I have named them Gateshead Head Shunt.

Close the Marker Properties box by left clicking in the 3D window.

Your marker is now set and can be seen on screen and in the Drop Down List of locations in the Train Instruction Properties box as a location much like any other location that you can send a Train to and can be used for that purpose now.

The reason we have added this marker is to give our player some feedback on where s/he is meant to be going next. This is especially useful in the larger yards like York where it is easy to get lost even with the 2d map.

Add an empty Stop at Destination Instruction to the Train Queue. Open the instruction and I will show you some neat tools in there...



Here is our instruction Properties box as I completed it.

Here is our Marker in the Set Destination menu

I have set the Stop time to five seconds using the Duration Tool. This is set up for HH:MM:SS. You can set stops for any time.

Performance set to 95%

And a pop up message is set to display when this instruction to stop at this location has been completed.

The message is a reminder to 'Set Points to head over to Gateshead Siding 1 then set the points for the main line.'

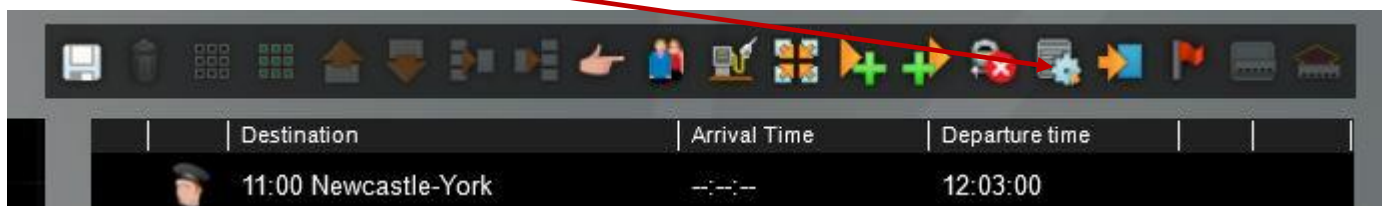
This informs the player that s/he will be best going into Gateshead Siding 1 next in order to get onto the main line and means they don't need to press F1 to remind themselves where to go next.

The next instruction is to Stop At Gateshead Siding 1. Again I set the duration to five seconds and I have added a message reminding the player that they will be going over the bridge in reverse.

'Ok Driver set the points for the main line. Once on the main line Stop. Then Head out over the bridge in Reverse via Newcastle South Jct 1 and then Newcastle West Jct 3a.' No screenshot, just repeat everything from the previous instruction and change the destination and message.

The next instruction though is another one I like to use. It is a Timed Pop Up Message. Remember I mentioned that instructions follow on from each other in a strict manner. Well this is how it works.

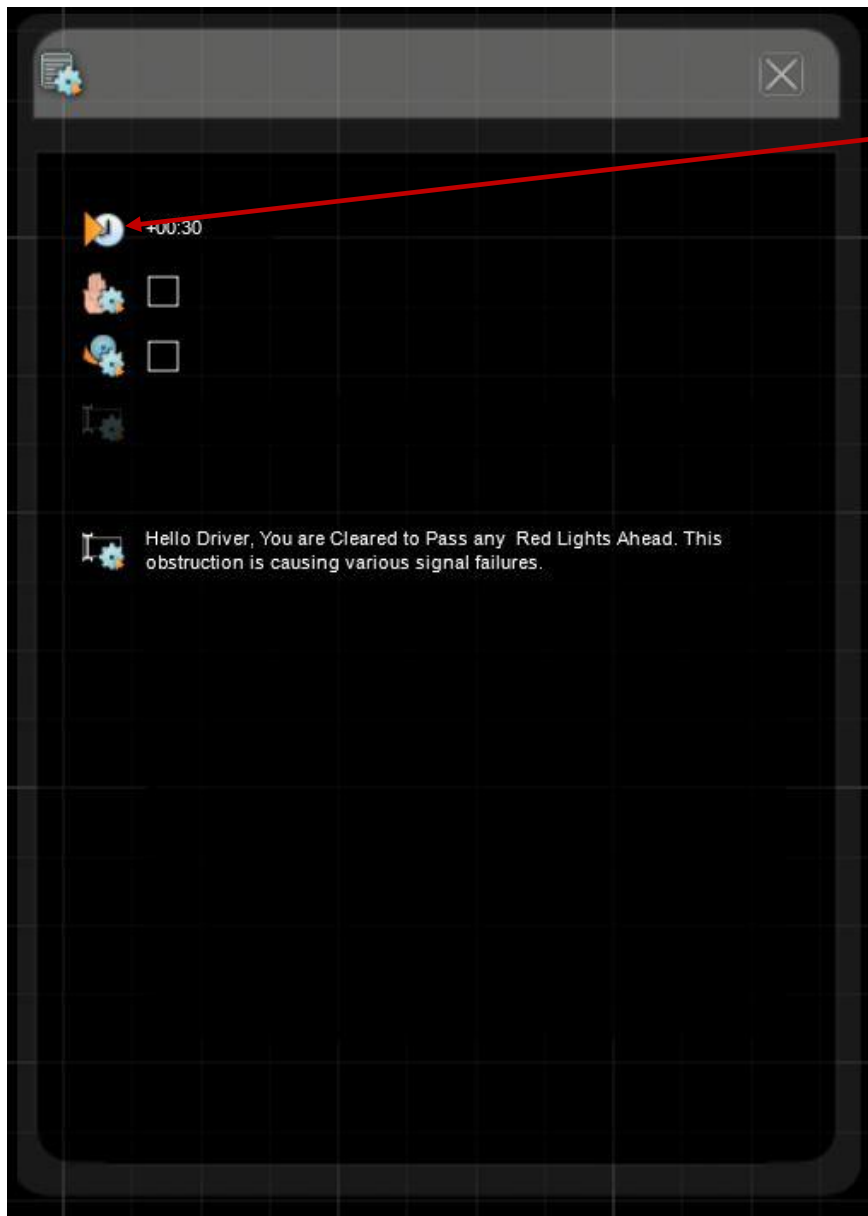
Select the Trigger Instruction Tool to insert an empty instruction into the queue.



We are going to add a message that will pop up 30 seconds after the player completes the 'Stop At Gateshead Siding 1' instruction. Click on the instruction to edit it.



The Instruction Properties box opens.



We are mostly concerned with the Duration Tool. This neat little tool allows you to set how long **After** the previous instruction the game should wait before performing this instruction.

I mentioned this at the top of the tutorial. Now we can use it. During this scenario some of the Signal Lights will be stuck at Red. Not being a route builder I have no idea why. Using TAB has no effect in front of them and passing them has no effect either.

So, we can pretend that the Signal Controller got on the Radio to our Driver and told him that the Failed 47 was causing Signal Faults. Great for us, adds to the atmosphere and tension. So a short message like *'Hello Driver, You are Cleared to Pass any Red Lights Ahead. This obstruction is causing various signal failures.'* That is all we need to say.

Set the duration to +00:30 and close the instruction.

Now, just to demonstrate the flow of these instructions add another one directly below the one we just created. Set the duration to +00:30 and inform the Driver *'After you recover the Failed 47 and its consist obey All light Signals.'* These instructions could be five minutes apart or more provided no other instruction interferes before the next occurs.

## Very Important to Understand this.

For example, Station A to B is a journey time of 20 mins. Say you want 3 messages sent to the driver because you are a terrible Nag... You set message 1's duration to +05:00. Great it pops up 5 mins after s/he leaves the station. Message 2 you want sent 10 mins after leaving the station so you set that instructions duration to +10:00 and message 3 you set to +15:00.

When you run the scenario you get nagged as planned 5mins after leaving the station, however the next message will not appear for a further 10 mins (a total of 15 mins after leaving the station) and the 3<sup>rd</sup> message will appear 30 mins after you left the station! Not 15 mins later like you planned.

**Each Duration is timed from the previous instruction and the pop up message is classed as an instruction. You would need to set the Duration on each of your 3 instructions to +05:00, thus totalling the 15 mins you planned to deliver you messages in.**

**F2 save.** Go make some tea and come back and read that again.

Ok, now we need to make a new marker for our scenario. This class 47 has failed in the middle of the track causing total mayhem at the station and we are going to place the train beyond any of the in game markers (platforms) so we need to add our own, again. Fly over to the Monument just outside the Station. I left the Class 47 lying around there somewhere... Go find that you will need it in a moment.

In the mean time use the Browser Tab on the left and select the Track Infrastructure tool again and then select the Marker-Destination option again and place a marker here, near the Monument. Place it on the Third Track In. That is important so we don't have to adjust the Train Route to much. Stretch the marker out then name it 'Newcastle 10 Approach'.





Using the Option Tab (below) check the 'consists select' tool so we can pick up the full Class 47 Consist. Place the Class 47 over the marker you just created.



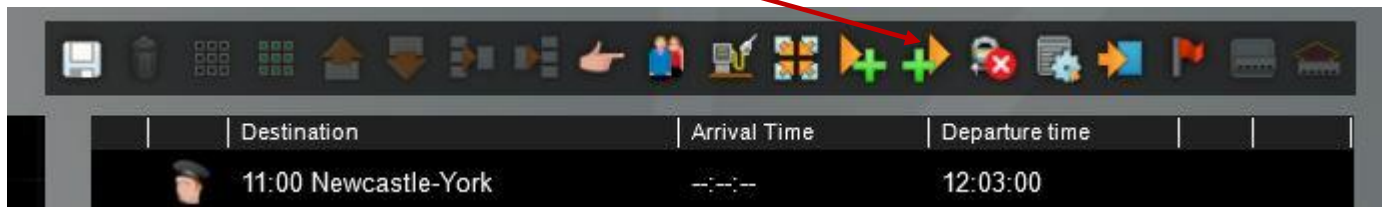
Here is our Class 47 in place, mucking up half of the North East Rail Traffic!



Now for our next instruction. This one is to instruct the driver to Couple onto the Back of this failed Class 47 consist and haul it the heck out of there.



For this instruction we need to use the Add to Back instruction tool



And we need to reference this instruction to the Newcastle 10 Approach marker we just made and placed our train on. Here is the full instruction.

A screenshot of the instruction editor window. Red arrows point from text boxes on the right to specific elements in the editor:

- Arrow 1 points to the destination dropdown menu, which is set to 'Newcastle 10 Approach'.
- Arrow 2 points to the 'Add Rail Vehicle' button, which shows the number '24112'.
- Arrow 3 points to the 'Performance' checkbox, which is checked.
- Arrow 4 points to the 'Operation Order' checkbox, which is checked.
- Arrow 5 points to the 'Achievement Text Successful' checkbox, which is checked.
- Arrow 6 points to the 'Achievement Text Successful' checkbox, which is checked.
- Arrow 7 points to the 'We will use both these in a moment...' checkbox, which is checked.

Set Destination; Our Newcastle 10 Approach will be in the Drop down list and we must use that location.

**Add Rail Vehicle.**

Performance.

Operation Order. With the box checked, the order in which the player completes the (pickup/drop off) consist operation instructions is important. When it is unchecked the instructions can be completed in any order.

Achievement Text Successful.

Achievement Text Successful.

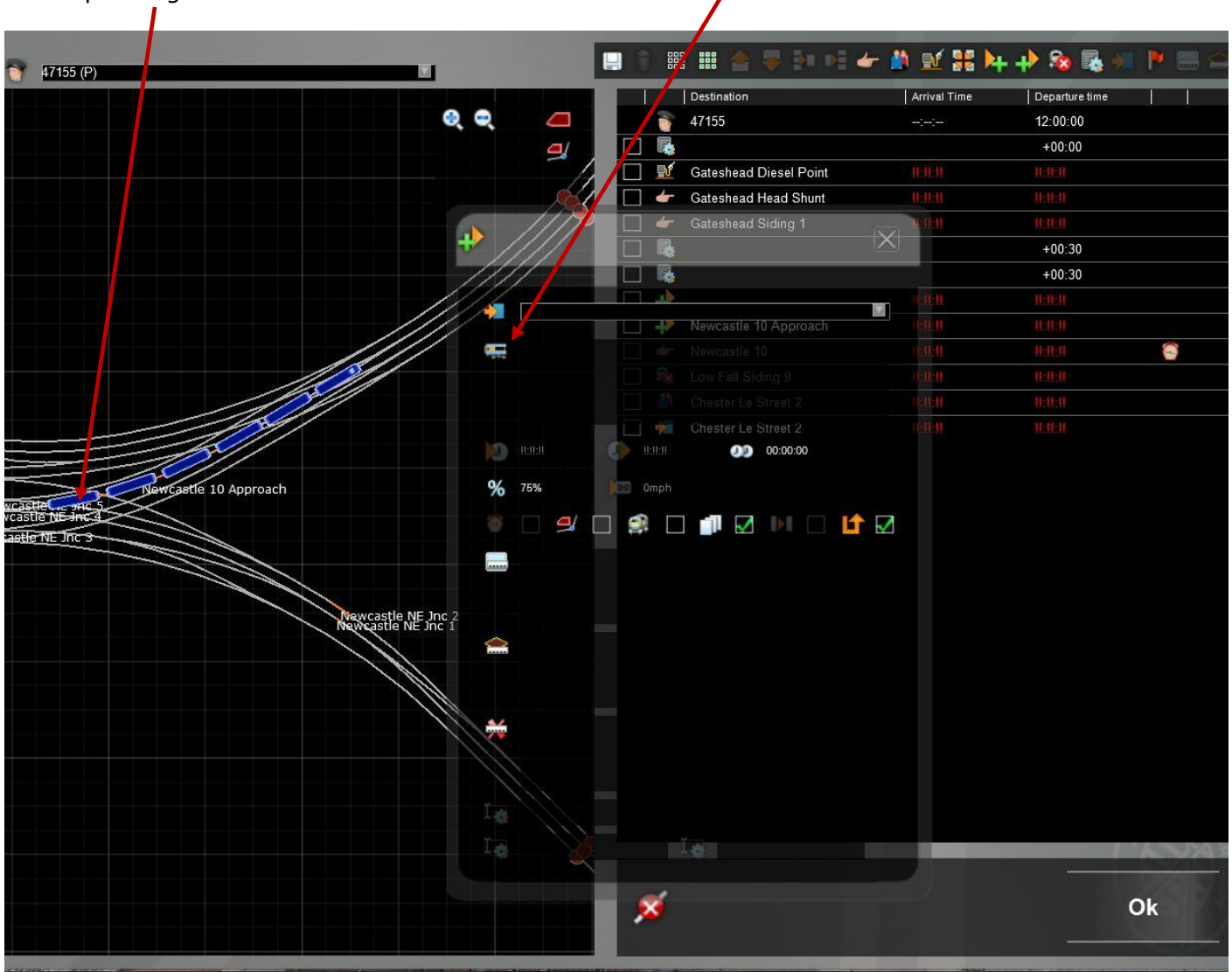
We will use both these in a moment...

Excellent, Lets get this obstruction on the move then. Head out to Low Fell Yard via Newcastle 10. Stop at Newcastle 10 to let the Engineers check everything is safe first though.

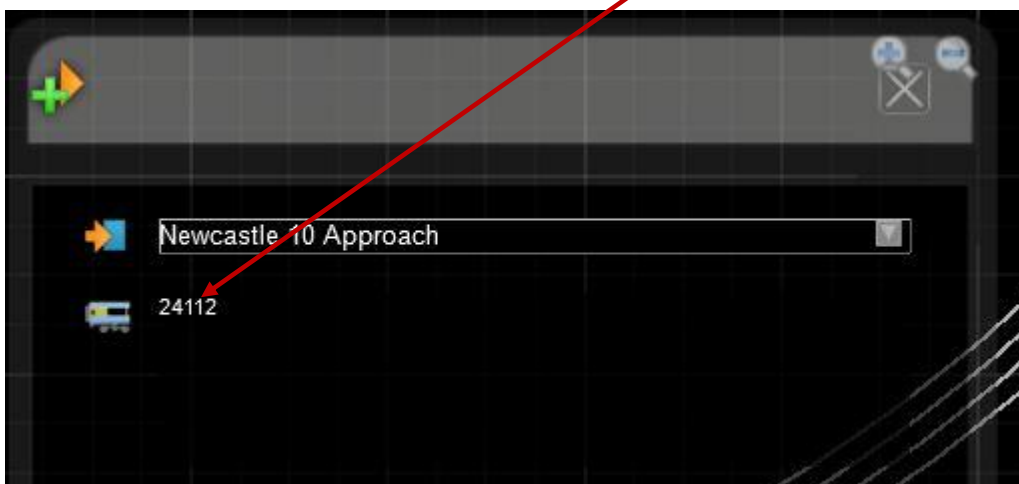
The most important part of this instruction is the Add Rail Vehicle. This is where we designate exactly what has to be coupled to the Rear of our Engine. If we had used the Add to Front instruction then the game would expect us to couple up using the front of our engine. Adding a Rail Vehicle to the list is done in the following manner.

Zoom in on the Failed 47; you need to be able to see the last passenger coach in the 2d map window on the left.

Open the Add to Back Instruction and click on the Add Rail Vehicle Tool. After clicking on that Left click on the passenger car.



When you click on the passenger car the passenger car number will be displayed in the box next to the Add Rail Vehicle Tool.



For this scenario we do not need to add any more vehicles to the list because the class 47 is all one consist. However, if you were moving freight wagons around a yard and you want several wagons picked up you can add multiple wagons to this instruction just by selecting each one to add to the list. You must click on the Add Rail Vehicle Tool for each and every single wagon though. Or Ctrl Click Several one after the other.

Complete the instruction properties as shown in the image 2 pages back. Add the following text, or similar to the Achievement Successful dialog box.

*'Excellent, let's get this obstruction on the move then. Head out to Low Fell Yard via Newcastle 10. Stop at Newcastle 10 to let the Engineers check everything is safe first though.'* I say that because now we are going to add a Time Critical Instruction and deliberately set it up to fail in the first place. Not fail as an instruction but make it almost impossible to meet the deadline so that you can run the scenario and see how you can mock your Driver...

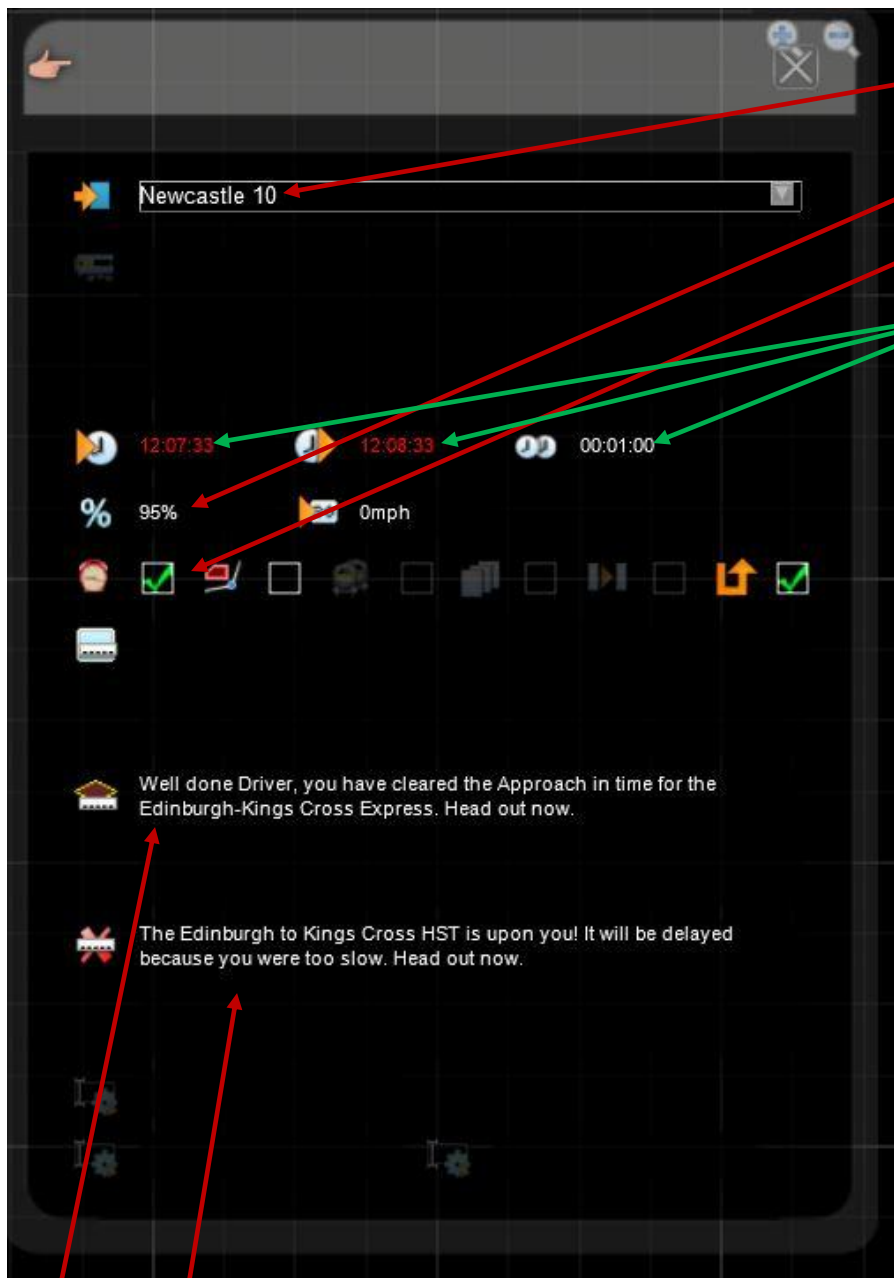
Add a Stop at Destination Instruction to our queue and open that for editing.

Our instruction will **Timetabled**. So when driving the Engine the Player will now have to get to Platform 10 by the time we dictate here or s/he will fail this instruction. If you remember at the beginning of the scenario we advised the Driver *'Time is of the essence, clear the failed 47 before the Edinburgh to London Kings Cross Intercity 125 Approaches at 12:10'* this just means that the players train has to stop at Platform 10 with the Failed 47 coupled to the back of 47155 by the time we specify in the next instruction.

If you were doing a Long run with half a dozen stops you could timetable them all. I used this in the A1 v's A1 scenario to have the player keep to the original and historical times of the actual run made by the A1 Tornado during a Top Gear Program for TV.

See the instruction properties on the net page.





Set the Destination to Newcastle 10.

Set Performance to 95%

**Tick the Arrival Time Box.**

When you tick that box the Arrival, Departure and Duration time tools all become active.

If you set the Arrival time to 12:12:00 it will be displayed in white.

That is because the AI believes that it is achievable.

Our Performance % now makes more sense. The AI is calculating ALL times in the scenario based upon what % we are setting (expecting) any given train to use. Now we can set our Arrival time more accurately than if we left the % at 75%. Trust me, if we did that and then started to play the scenario the time would be wrong because us humans drive at max line speed all the time, give or take 5%. Hence, settings of 95%.

Ok, for now set the Arrival time to 12:07:33 (seconds are not too much of a worry here). The plan being we can't get to Platform 10 with the failed 47 in time. Now we need to add two sets of text. One for those players that meet our deadline and one to mock those that can't meet our deadline.

Success Text

*'Well done Driver, you have cleared the Approach in time for the Edinburgh-Kings Cross Express. Head out now.'*

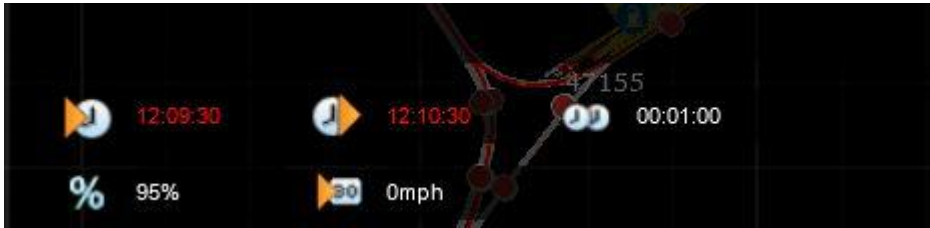
Failure Text

*'The Edinburgh to Kings Cross HST is upon you! It will be delayed because you were too slow. Head out now.'*

**F2 Save**, more tea...?

Select play and test the result. You should reach Platform 10 around 12:10 and get the failure message. Haha!

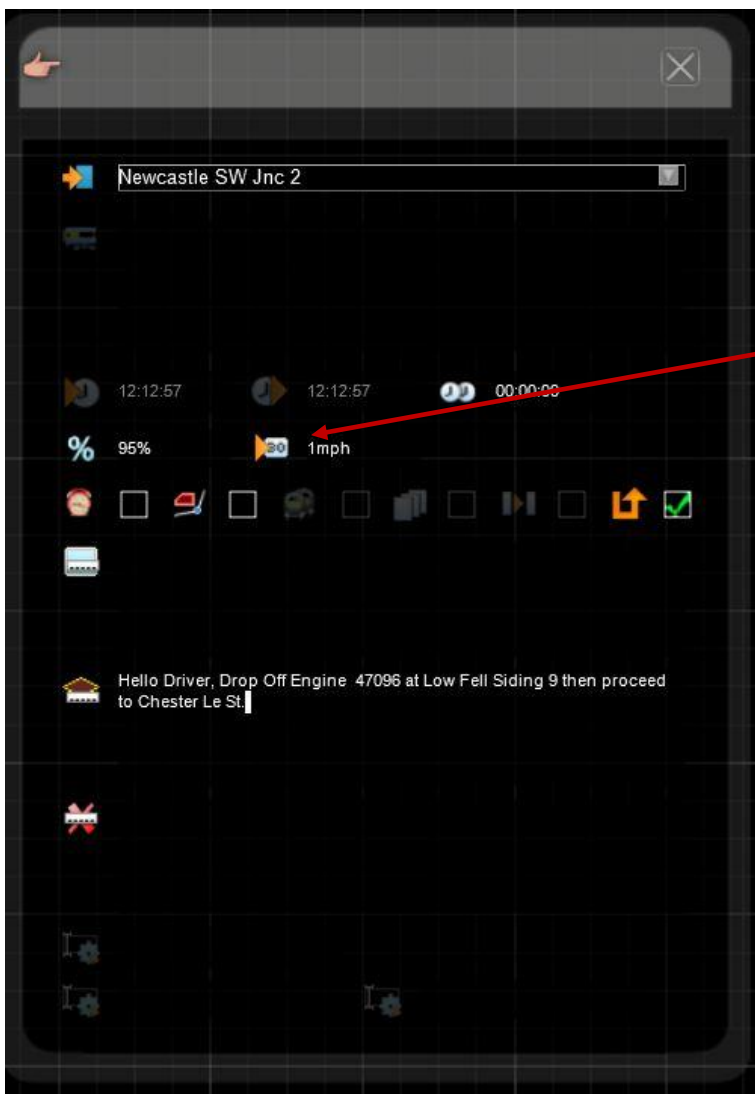
Now back in the editor, open the instruction again and set the Arrival time to 12:09:30 which is quite strict. Delete the Departure time and then in the Duration set that to 00:01:00. The departure time will now reset to 12:10:30. That is because we have dictated that this train is Stopped on platform 10 for 1 minute. This is just to add to the realism and to reinforce the message we gave the Driver earlier about letting the engineers check all is safe with the failed 47 before we haul it down to Low Fell to drop it off.



During that 1 minute you could have other train activity in the station, we won't be adding any AI trains today though, we have enough to do already and this is only a 30 min scenario!

Our next instruction is just for demonstration too. It is a Go Via instruction and is useful to divert the Train Path whilst making the Player aware of what is happening. We could use a Way point but that will not show up in the instructions for the driver. We will add one of those later. For now, add another Stop at Destination Instruction.

Open the instruction for editing and in the destination select 'Newcastle SW Jnc 2'



The crucial difference between this instruction and a stop instruction is setting the speed.

This is a Stop Instruction with one main edit and that is **here**. The Speed Tool.

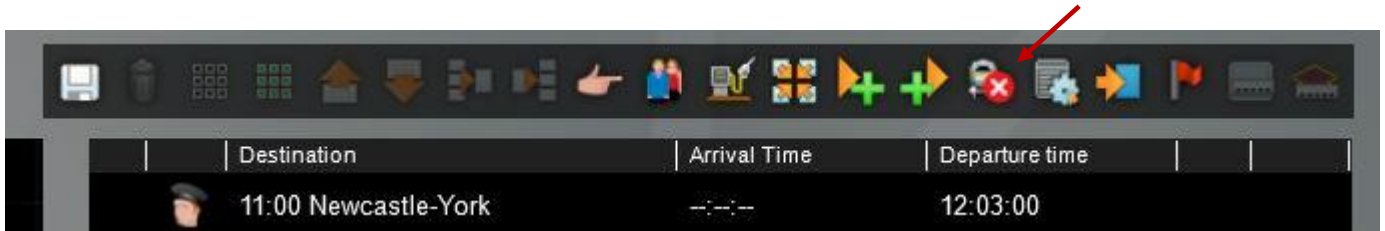
Set the speed to 1mph and the instruction is no longer Stop here it is Go Via Here.

The value entered (1mph) is the MINIMUM Speed the player must pass this point at in order to complete this instruction. If we set that to 50mph and the player passed at 40mph that would be a failed instruction. We want them to just go via here at 'Line Speed' so 1 mph is the minimum to insist the train does not stop.

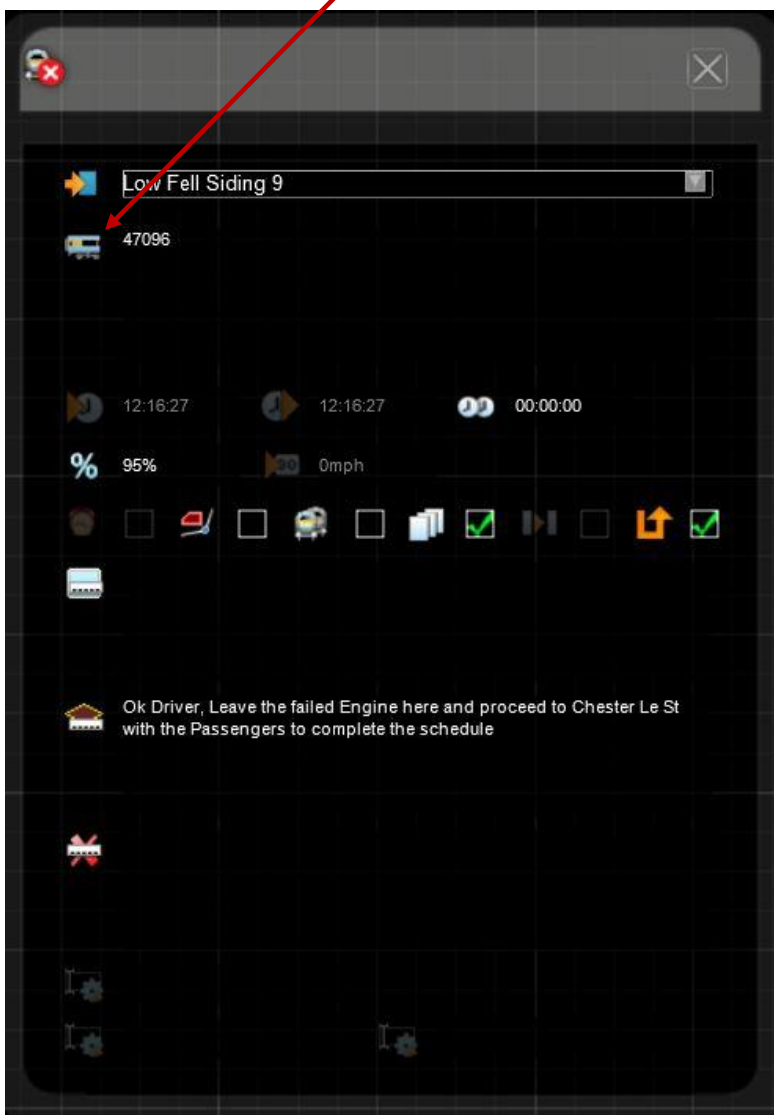
You can then of course set a pop up message for Success or failure depending upon how you use this instruction. It could be set half way up Beattock Summit for a Steam Train hauling a heavy load to see if the player can control the speed of the train and keep it high going up the climb.

I have added a reminder that the Driver has to drop off the Failed Engine 47096 at Low Fell Siding. This message will pop up as the train passes this junction.

Onto our next instruction, dropping off the failed class 47 Engine using the Drop Off Tool.



Add an empty Drop Off instruction to the list and open that for editing. Select Low Fell Siding 9 as the destination. Then use the Add Rail Vehicle Tool that we used to couple up to the 47 earlier except this time zoom in and select the Class 47 (47096) as the Stock we want to drop off. The instruction looks like this.



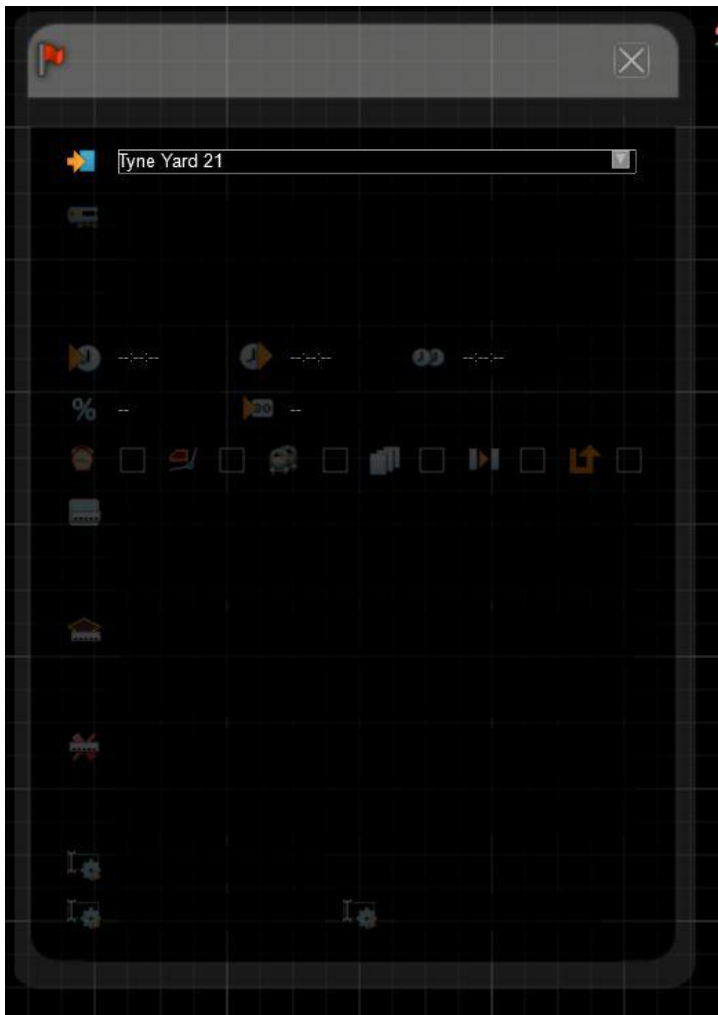
Again, add a message to keep the player engaged; *Ok Driver, Leave the failed Engine here and proceed to Chester Le St with the Passengers to complete the schedule.*



I promised you a Waypoint, so here it is. At the moment your Train Path is probably through the Right side of Tyne Yard and Tyne Yard Upper then through Tyne Gate 02. Well if you want a more scenic route without the Go Via being displayed to the player, use the Waypoint tool.



Add a Waypoint instruction to the queue now and open it for editing. It looks similar to the Stop at destination tool however you can only enter a destination. All other options are disabled. So, select Tyne Yard 21 from the destinations list and you will see the AI calculates a new path for our train, right through the middle of the yard. Lovely if you have took the time to add lots of static rolling stock!



Just one instruction left. Add a Stop at destination instruction and select Chester Le Street 2 as the destination. Remember as this is the last instruction before the Final Destination you may want to thank you player and inform them that the scenario is ending.

If all went to plan your instructions list will look like this;



	Destination	Arrival Time	Departure time
<input type="checkbox"/>	47155	--:--	12:00:00
<input type="checkbox"/>			+00:00
<input type="checkbox"/>	Gateshead Diesel Point	12:00:35	12:01:05
<input type="checkbox"/>	Gateshead Head Shunt	12:02:18	12:02:23
<input type="checkbox"/>	Gateshead Siding 1	12:03:49	12:03:54
<input type="checkbox"/>			+00:30
<input type="checkbox"/>			+00:30
<input type="checkbox"/>	Newcastle 10 Approach	12:08:37	12:08:37
<input type="checkbox"/>	Newcastle 10	12:09:30	12:10:30
<input type="checkbox"/>	Newcastle SW Jnc 2	12:12:57	12:12:57
<input type="checkbox"/>	Low Fell Siding 9	12:16:27	12:16:27
<input type="checkbox"/>	Tyne Yard 21	--:--	--:--
<input type="checkbox"/>	Chester Le Street 2	12:28:29	12:29:18
<input type="checkbox"/>	Chester Le Street 2	12:29:18	12:29:18

**Press F2 to save**, select ok at the bottom of the screen and then select the big orange 'play' arrow at the bottom right of the editor screen. You can now play this scenario.

#### 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 (for five time's faster ride).

On the initial Railworks screen (the 1 with the adverts on), where you load the game from click on Setting and then put a check in the box next to 'EnableAsyncKeys'. You can then use CTRL+SHIFT plus keys 1, 2, 3, 4 or 5 to run the game at 1x to 5x speed.

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,

Kenny M.







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!