RAILWORKS

A beginners guide to RailWorks. Version 1.0

The guide is written so that a player with no knowledge of simulators can get to the stage where they can drive one of the supplied locomotives (or one which they have downloaded and installed) with a selection of supplied (or downloaded) coaches/wagons from any starting location on the selected route.

I have written this guide as a series of ' exercises ' each one introducing new features of the simulator, to gradually build up the players experience, though by using the index it is possible to get details of a particular function.

I have concentrated on steam locomotives, look at your RailWorks manual for the slight differences required when driving Diesel or Electric engines.

It is necessary for the player to be able to access the internet to download documentation, up-dates and new locomotives, coaches and wagons. It is assumed that the player will be conversant with Windows Xp or Vista, know how to download and save files from the internet, to extract the files from a '.zip file ' and to run files that need to be installed.

Due to the size of some of the files to be downloaded a broadband connection is really required. (Some downloads are in excess of 400Mb) An email address will be required to obtain the registration passwords which are needed to download files from many sources.

This guide should be used in conjunction with the **RailWorks QuickStart Guide**, **Keyboard and Signal Guide** the **Driver Manual** and the **Creator Manual**. If a boxed copy of RailWorks has been obtained they should have come with that. If the program has been downloaded via **Steam** then these guides will have to be downloaded also.

Sections

**Section 1. Installing program and gathering information**

Installation of RailWorks.

Railworks automatically downloads into the same drive as Steam so make sure that there is sufficient space on your hard drive. A Railworks installation with a couple of extra routes complete with the scenery and rolling stock required could come to about 8GB. If any modifications to the basic program are to be carried out then the entire C:\Program Files\Steam\SteamApps\common\railworks folder should be backed up thus requiring another 8GB.

(**For Vista users**. I have had so many problems installing and running train simulator programs when running as a Standard User and having User Control Account (UAC) on, that I now install and run train simulation programs from an Administrator Account and I have UAC off . Not ideal but it works)

Starting the Simulator.

Having installed RailWorks go to the desktop and click on the newly created shortcut to RailWorks. The following window will open.
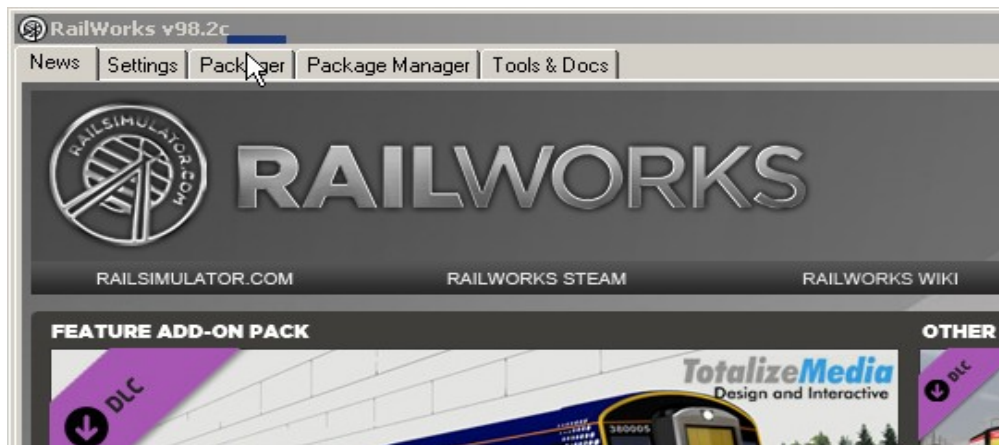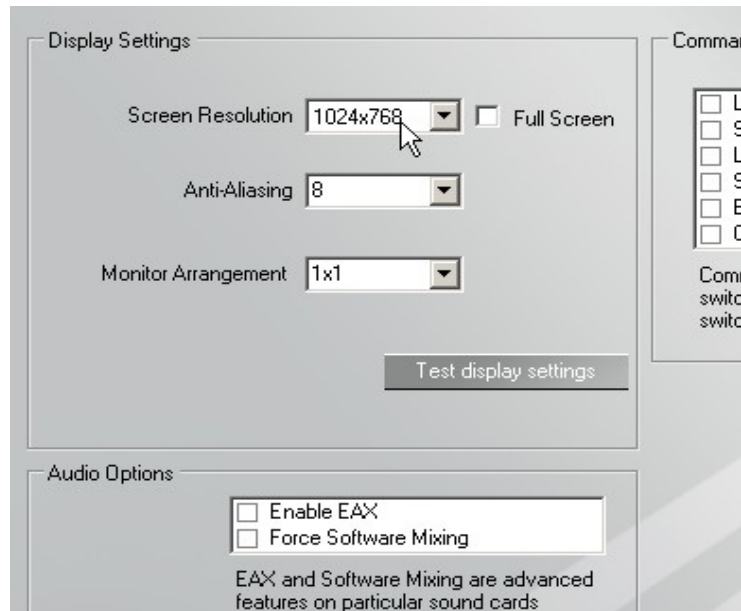

Checking the version.

The RailWorks version is shown at the top left of the above window

Setting Initial Options.


Click on **Settings**

I suggest running RailWorks in a window. This will enable you to go from simulator to instruction manuals more easily. Click on the ' **Full Screen** ' box to remove the tick.

Select what you think will be a suitable window size for your display .(this can easily be changed later if the resolution selected is not satisfactory)

My native screen resolution is 1440 x 900 so I am running with a 1024x768 window.

Leave the rest as above and then click on **Test**. The program will check that the entered options are OK. If they are not, information will be given as to the problem and a change can be made. This is usually due to the screen resolution selected not being supported or suitable.

Downloading Manuals.
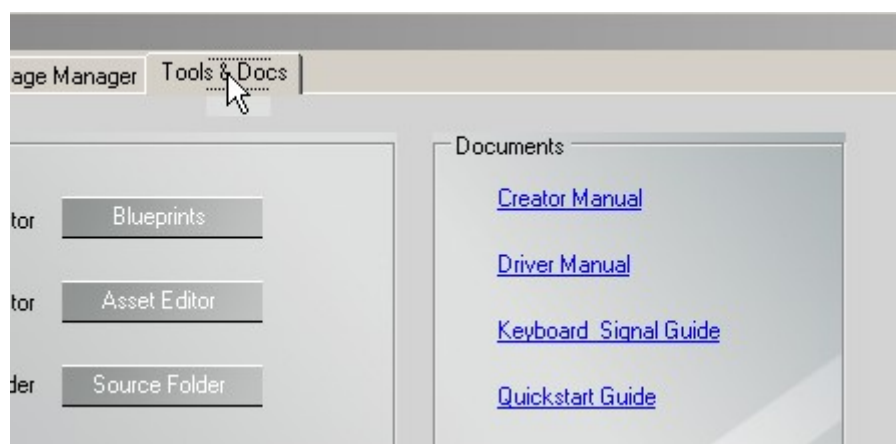
Now click on Tools and Docs. The manuals supplied with this simulator can be downloaded here if required. All four manuals will be required at some point in this guide. They are all .pdf files and require Adobe Reader or equivalent to open.

Sources of information.

RailWorks WIKI contains a comprehensive set of FAQ's and some very advanced information for developers.

The developers of RailWorks have a site http://www.railsimulator.com/ which contains useful information, blogs and also a link to Tutorial Movies (http://railsimulator.blip.tv/.) which are largely for developers

Steam also supports many forums. The main one for RailWorks can be found at http://forums.steampowered.com/forums/forumdisplay.php?f=619

There are many RailWorks sites across the world

Many of them can be found listed at http://www.railserve.com/Computers/Rail_Simulator/ Though many will be listed for Rail Simulator most will have a RailWorks section as well. Due to the speed with which RailWorks is expanding this site is out of date as I write.

Being based in the UK I tend to use the following forums

UK TrainSim Forum.

Go to http://forums.uktrainsim.com/. The **RailWorks** sub-sections **Help for Beginners** and **General RW discussion** are most useful for this quide

It is not necessary to be logged in to read these forum articles though you will need to be registered and logged in if you wish to submit a posting.

RW-TrainSim.

Go to http://www.rw-trainsim.co.uk and navigate to the forums . You will need to register before you can view the forums.

Both of the above sites have extensive download sections for which you will need to be registered.

Preparing the program.

As this guide is an update from the one I wrote for Rail Simulator I am having to provide a similar starting scenario to the one I used in that guide.. The scenario, **Evercreech Free Play** is included in the zip file that this guide came in.
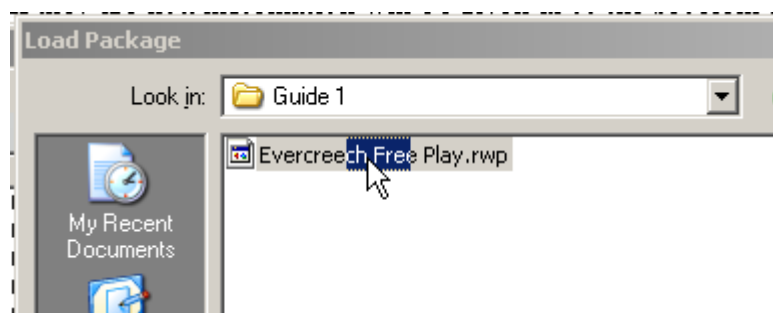
To install this scenario click on **Package Manager**

On the window that opens click on Install.

Locate where the zip file was unzipped and select Evercreech Free Play.rwp

Click on **Open** and the scenario file will be loaded.

This method is used for installing all .rwp and .rpk files which contain routes, scenario's, rolling stock and scenery.

Now click on **Start** and the main program will start to load.

You will now see the advantage of having the program running is a window. It is easy to go from the program to this guide and back again. If the simulator window is not showing completely, drag the window to the top of the screen. The picture below shows the ' Front end menu ' in the program window
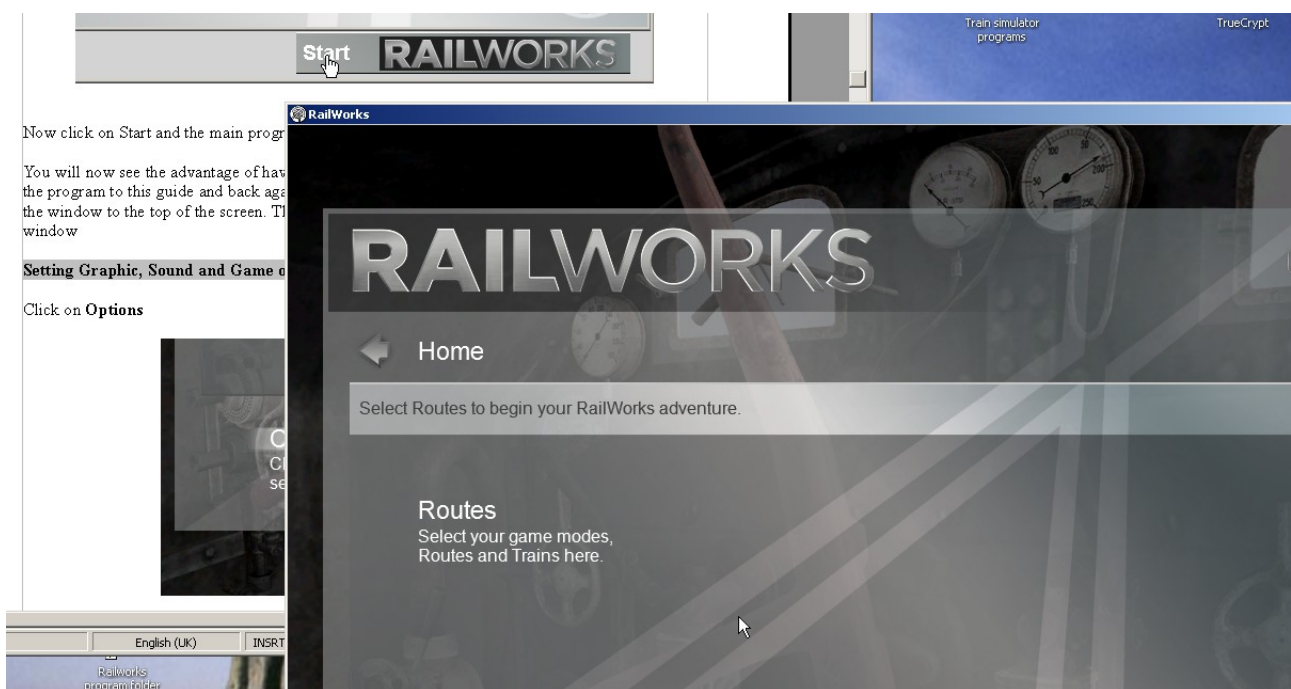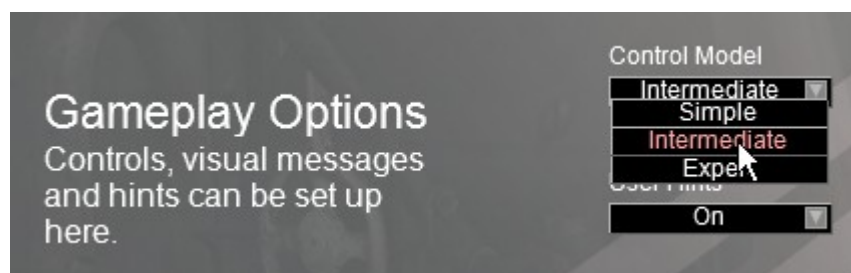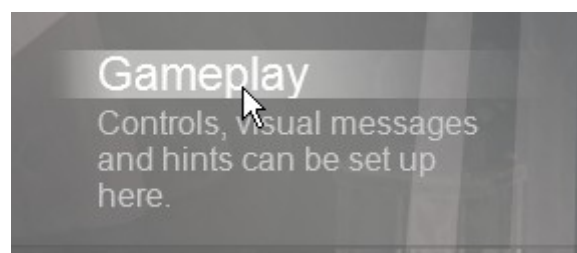
Setting Graphic, Sound and Game options.

Click on **Options**
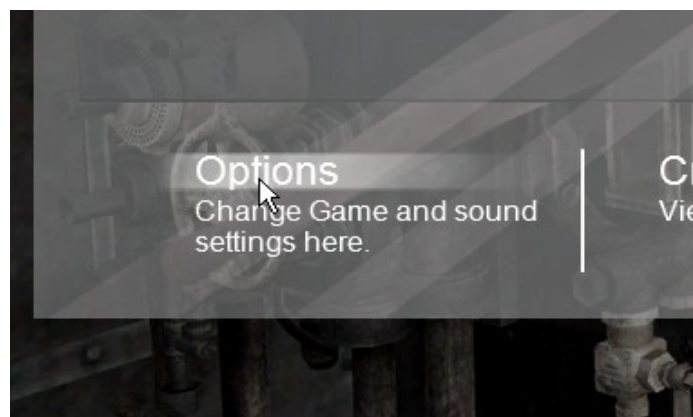
Do not change any of the setting under **Graphical Detail** or **Sound Options** at this time. The program will have set the default settings based on the performance of your computer. These setting can be adjusted later if required.

Click on **Gameplay**

and then in **Gameplay Options** set **Control Model** to ' **Intermediate** '.

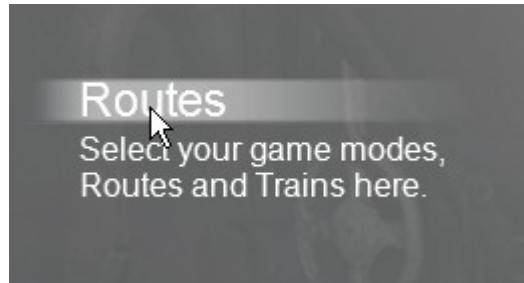Set **Automatic Coupling** to **ON**.

Leave all other settings at the default setting. Click on **OK** at the bottom right hand corner of this window.

Click on **YES** when asked if you wish to save changes.
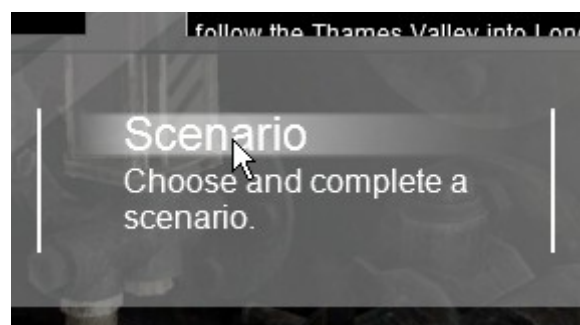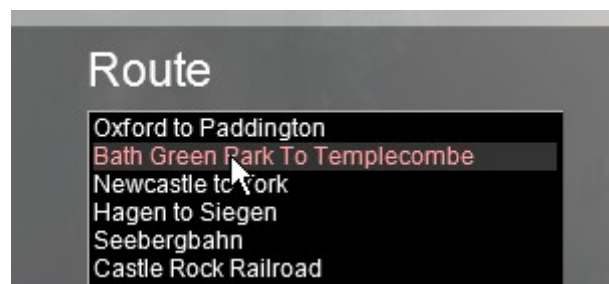Click on the arrow to the left of **Home>Options**

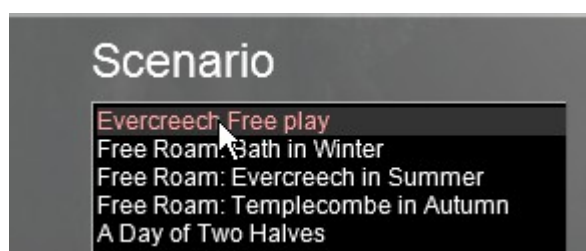**Selecting Routes**

Now select **Routes**

For this guide the **Bath Green Park to Templecombe** route will be used.

Click on **Bath Green to Templecombe** then on **Scenario**

Chose the scenario **Evercreech Free Play**. This is the scenario that was installed earlier.
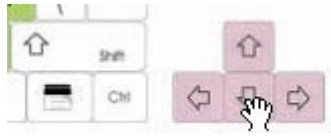
The scenario will now load and you should see the following.

Section 2.   Driving a Locomotive.

Controlling the Camera position.

The location and direction of the 'camera ' is controlled by the cluster of four arrow keys on the keyboard, together with the **CTRL** and **SHIFT** keys.

For the above view of the trains

Right arrow   Pan Right
Left arrow   Pan left
Up arrow   Pan in
Down arrow   Pan out
CTRL+Up arrow   Pan up
CTRL+Down arrow   Pan down

Use of the **SHIFT** key in addition to the above increases the rate at which the camera moves. Use this key with care as it is easy to loose position.

In addition, the camera can also be moved by moving the **mouse** while holding the **right mouse button** down.

Because no locomotive has yet been selected the camera is free to move without any restrictions.

As this station area (**Evercreech**) will be used frequently in this guide take some time to explore this station and sidings area using these controls.

The only labels of use now are those giving the names of the station, platforms and sidings

 Toggle labels.

 The labels showing can be toggled ON/OFF by use of the **f6** function key. Leave the labels ON.

Driving the Steam Locomotive

Read the **Driving a Locomotive** section of the **RailWorks Drivers manual** for an explanation of **Steam Locomotive** driving. Also in this section are details of driving **Diesel** and **Electric Locomotives.**

If you want further details on driving and braking a steam locomotive read the tutorials ' Firing Steam Engines ' and ' Vacuum Brakes on Steam ' by Will Cook for the Microsoft Train Simulator. These can be found on the UKTrainSim web site home page, http://www.uktrainsim.com/, left hand side, under Tutorials. Though for MSTS, most information in the tutorials applies to RailWorks steam locomotives.

Move the camera back to the locomotives as shown above. Left click on the locomotive F7 2-8-0 numbered 53802 (with the wagons and guards van behind). This selects that locomotive to be the driven locomotive. The camera should now be positioned alongside the tender. It is probably best to pan away from the train by using the **Down Arrow** so as to get a better view of the track ahead.

Having selected the locomotive, the camera is locked to the locomotive, moving with the locomotive.

Views

The complete list of Views is given in the **Reference Leaflet**. The only ones to be used at the moment are

Key 1   Cab View. Once inside the cab the camera can be moved about freely using the above controls.

Key 2   External view 1. Probably the best view when learning to drive the train. Cab
                   views and looking out of the cab can come later when more experienced

The locomotive **can** be driven using the controls seen in the **Cab View** but for the beginner it is much easier to use the keyboard..

Full details about these are given in the **Driver Manual** under **Driving a Locomotive**. The only keys to be used at the moment are given below
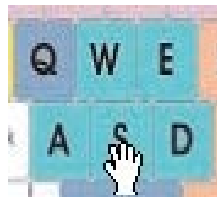
Key A   Regulator. Increase. Speed up. (**A**ccelerate, analogous to increase throttle)
Key D   Regulator. Decrease. Slow down. (**D**ecelerate, analogous to decreasing throttle)
Key W   Increase Reverser (somewhat analogous to the gearbox going to a lower gear)
Key S   Decrease Reverser (analogous to going to a higher gear)

Key :;   Decrease train braking
Key @ ,   Increase train braking

To see the current settings of the Reverser, Regulator, Brake and Speed, press **F5** to display the **Technical Head Up Display (HUD).** Press the **F5** key again. A second section of the HUD is displayed. Keep these on the screen at all times while you are practising driving.

We are now going to get the train moving and then to stop it.

Controlling the **Reverser**, **Regulator** and **Brake** is very important and one of the most difficult things to do for a beginner

Press the **:;** key to remove the braking. Watch the train **Brake pipe pressure** on the second section of the **HUD**.

Initially with the brakes fully applied the pressure reading will be 0.0 Inches Hg. With the **:;** key held pressed down this value will increase to 21 Inches Hg at which point the brakes are fully released.

Watch the Train Brake in the first section of the **HUD** as the brakes are released
100% -31% Apply,   29%-21% Self Lap,   9%-6% Running,   4%-0% Released. These represent positions of the brake handle in the Driving cab for this locomotive as I write this guide and may not apply exactly if modifications to the locomotive physics are made.

Note that the **Brake pipe pressure** does not start to increase until the **Train Brake** shows **Released** then it increases slowly.

If, when the Brake pipe pressure has reached a particular value, say 3 Inches Hg, the **Train Brake** is put into the **Running** or **Self Lap** positions the **Brake pipe pressure** will be held at that value.

By now the train will probably have started to move forward as it is on a down slope. Don't worry, it will stop at the bottom of the slope.

Press the **@** key to apply the brake. Hold it down until the **Train Brake** shows **32% Apply** then release.

Watch the **Brake pipe pressure** decrease slowly. After a while the **Brake pipe pressure** will show **0.0 inches Hg** and the brake will be fully applied. If the **@** key is held down longer so that the **Train Brake** shows **100% Apply** the brakes will be applied faster. (use this only for an emergency)

Now fully release the brakes using the **:;** key **Train Brake** should be showing **Released**, **Brake pipe pressure** 21.0 inches Hg.

Press key **W** until **Reverser HUD** shows 100%.

Press key **A** until train starts to move. Do not apply too much regulator until the train has stated to move as the wheels may slip.

Gradually reduce the reverser setting to about 15% by pressing key **S** . Reduce the regulator by pressing key **D**. Control the speed using the A and D keys. Allow the locomotive to run a short distance. If the locomotive gets hidden by buildings or trees keep it in camera view by moving the mouse with the right button held down.

Bring the locomotive to a stop by reducing the **Regulator** to 0% (key **D**) and applying the brakes (key **@**) until **Train Brake** shows **32% Apply**. When **Brake pipe pressure** reaches 15 inches press key **: ;** until **Train brake** is either **Self lap** or **Running**. Increase the **Reverser** to 50% (precautionary measure in case you have to increase the regulator).

You should see the train speed reducing. If the train is not stopping fast enough then press **@** and reduce **Brake pipe pressure** further (say 10 inches) then go to **Self lap**. If the train is stopping too quickly open the Regulator slightly but keep the brake at the same setting.

Juggling of the three controls, Reverser, Regulator and Brake is necessary to stop the train at a precise position. It is better to undershoot a stopping position as you can move forward by the use of the **Reverser** and the **Regulator** or by taking the brakes off entirely.

When stopped, reverse the locomotive by pressing the **S** key until **Reverser** showing -100% in **HUD**. Remove brake using **; :** key. Press key **A** until train starts to move**.**

The locomotive should now move backwards. As the locomotive speeds up gradually reduce the **Reverser** setting to -15% by pressing key **W.** Reduce the **Regulator** to 15% by pressing key **D**. By adjusting the Regulator with keys A and D try to keep the speed at 20 mph. Start applying the brakes when entering the station. Bring the locomotive to a stop, next to the other train, as above.

You must start applying the brake some way from the desired stopping position. A locomotive takes quite a distance to stop One with rolling stock even longer. It is unlikely that you have stopped where you wanted. Stopping a train at a precise position is one of the hardest things to do in the simulator.

Practice the above operations until you have the ability to control speed and stopping position as they will be needed in the next section.

Screenshots.

Should you wish to record your progress, press the appropriate keys for your computer to take a screenshot. (One computer I have requires ALT+PrintScreen to be pressed , the other computer requires the keys fn+prt sc to be pressed.) The picture taken is stored on the clipboard and can be looked at by pasting into any program you have that will display pictures. If you are using Vista there is a Snipping tool at C:\Windows\System32\Snippingtool.exe.which allows you to select the section of the window you wish. For the pictures in this guide I used ScreenHunter now version 5.1 Free.

Frame rate. (fps)

While the train is moving press **SHIFT+z**. In the top right corner of the window is the current **frames per second (fps)rate**. A frame rate of 30 fps or more generally gives a good smooth action. With a lower rate the picture can appear jerky. If the screen is jerky try lowering the graphics settings in the **Graphical Details options**.

Popout panels.

While practising have a look at the two popout panels that are accessible from this screen.

At the top of the screen the bottom of a popout panel can be seen
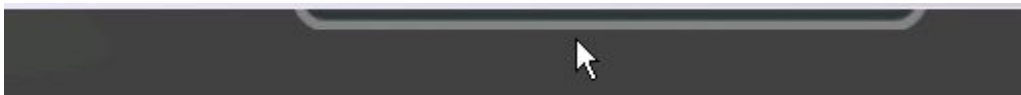
Move the mouse pointer over this and the **Navigation Panel** pops out.

This shows the current location of the camera and the direction it is pointing. This panel will normally disappear once the cursor has been moved away but it can be ' **pinned** ' into the open position by clicking on the pin at the top right hand corner of this panel. All the popout panels can be pinned into the open position in this way.
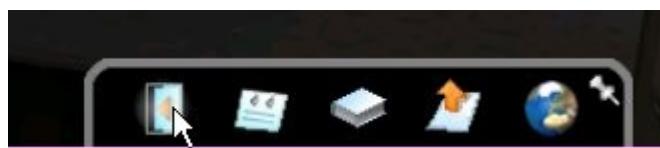

If the symbol just above Lat: is clicked it opens a **2D map** of the route. This map will be used in the next section.
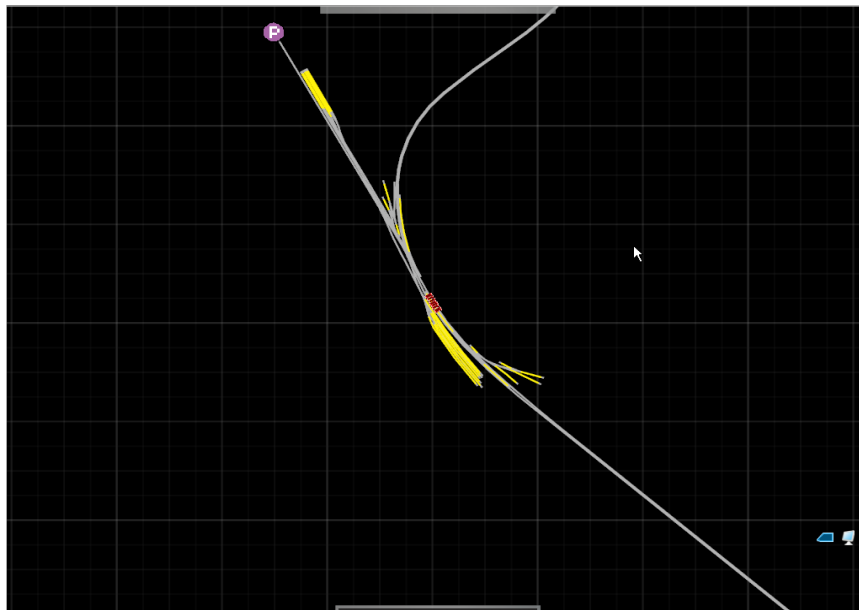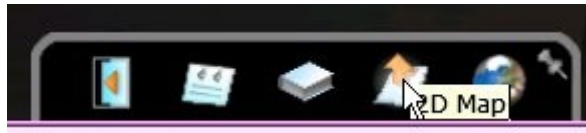

If you have opened the map close it by pressing the 9 key or right clicking on the map.

At the bottom of this screen is another popout panel, the **Main Toolbar.**

If the left hand icon is clicked the current scenario can be terminated.

The **2D map** can also be accessed from this panel by clicking on the forth icon.

The other icons will be used later.

Quitting current Route.

A quick way to terminate the program is to press **CTRL+Q**

Section 3.   **Simple shunting.**

2D Map

Having perfected control of the locomotive and being able to stop on a sixpence !!! you are now ready to explore some of the other tracks and sidings. For this you will need to use the **2D map**.

To be able to follow the instructions below it is best to restart the route so the program is back to its default status.. Click on the left icon in the bottom popout panel (the **Main Toolbar**) to Quit. Click on **YES** and on the next screen click on **Play** again. Now select same route and scenario**.**

Once the program has loaded select the **Black 5** locomotive number 45440 (with the single Guards van attached.) by clicking on it.
Use either of the popout panels to open the **2D map**. The **2D** map can also be toggled by pressing **9**.

When it first opens it may be no more than a squiggly line on the other hand it may be a detailed map

If the icon in the bottom right hand corner is blue then the centre of the map is locked to the train position. If the icon is red then it is not locked to the train location.

Click on the icon if necessary to change it to blue. This will centre the map on the position of the selected locomotive.
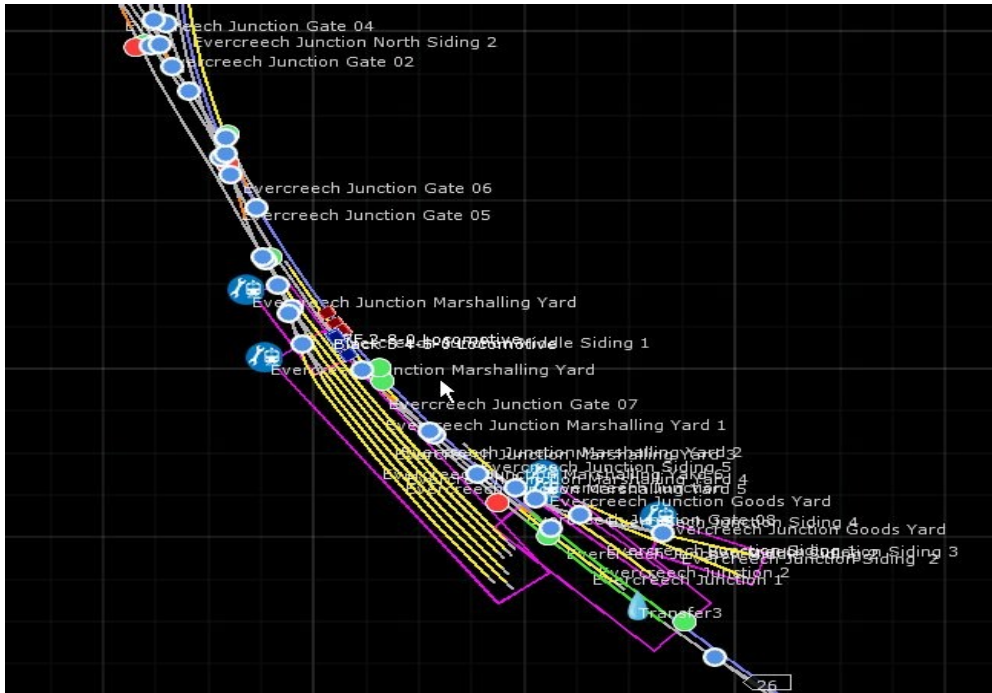
Rotate the mouse wheel until individual tracks can be seen as above

Now change the icon to red by clicking on it and the map will no longer be locked to the train position. The map can be moved by holding down the right button on the mouse and dragging the mouse. By using the scroll wheel and dragging the map with the mouse the whole of the route can be seen. Play around with these controls as it will be necessary to use this map frequently to set points when free roaming.

At the moment the map at Evercreech is looking rather congested. Click on the **Display icon** at the far bottom right of the window.
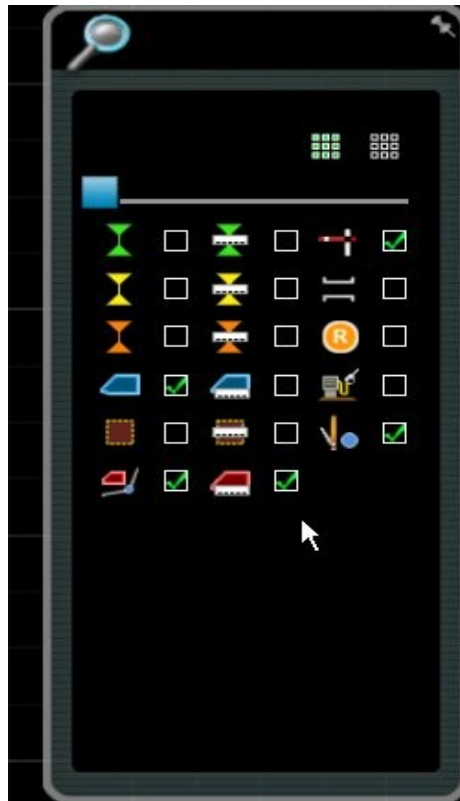
A popout panel appears at the right side of the screen.

The two small square icons at the top right of the screen clear all ticks or fill all boxes with ticks. Hovering over each of the lower icons gives the details about what is to be shown on the map if the adjacent box is ticked. Click on the extreme top right square icon to clear all ticks. The map should now only show the tracks.
Now click boxes so that ticks are in the boxes shown above. The display should now be
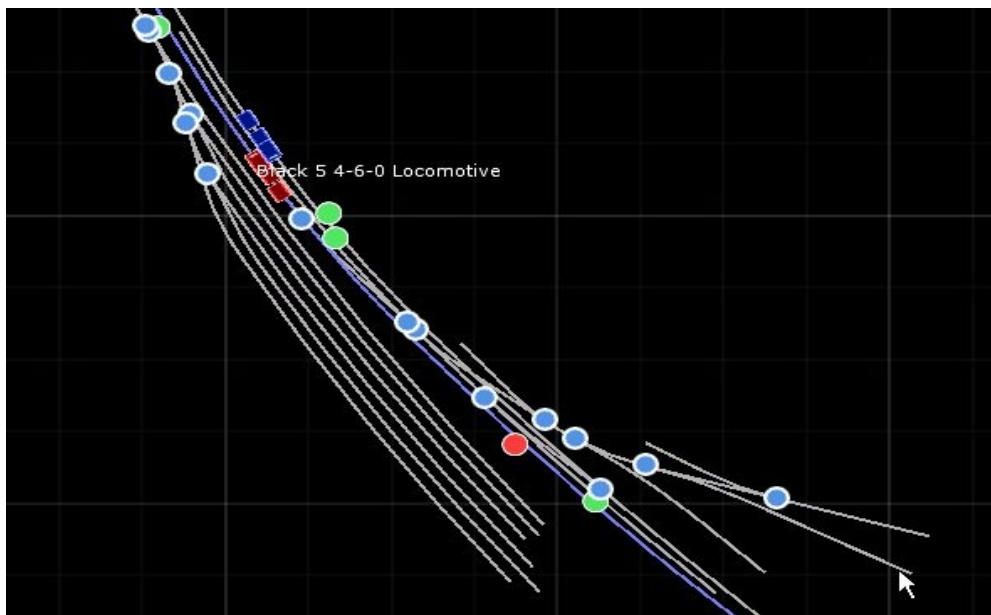
This will give adequate information for the next part of this guide.

The red train is the active train. The blue train is a non driven train.
The green and red dots are the location of signals and their current status.

The blue dots indicate manual points which can be changed from this window (and in other ways, see later) and are used for setting a route.
The thin light blue line is the path set for the driven train to follow.

Point control using 2D map

You are going to shunt the train to the goods shed which is located where the arrow is on the above map. The blue line shows the route the train will currently take.

At the moment the blue line on your map should go through the station. The points have to be changed.

 Shift+Click on the blue circle next to the train. Having clicked on this the blue line position next to the point should have changed. Click on the next blue circle even though it controls a trailing point. If you zoom right in using the scroll wheel you will see that the blue line continues to the next point. Carry on clicking on the blue circles until the whole route to the goods shed has been covered. Your map should look like the one below.

Right click on the map (or press **9**) and you will return to the train.

Shunting.

As this train is to be reversed to the goods shed move the camera position to get a better view. Now reverse the train to the goods shed.

(It has been reported that when running a low spec computer the goods shed is not displayed due to the graphics setting being reduced. This has only been reported a couple of times so hopefully you will see the goods shed.)

Press key **;:** until **Train Brake** released. When **Brake pipe pressure** reaches 15 inches set **Train Brake** to **Running** or **Self Lap**. Set **Reverser** to -100%. Very slowly open the **Regulator** until the train starts to move. Use A and D keys to control speed to about 10 mph until the point next to goods shed then reduce speed to about 5mph. Stop with the brake van partly in the goods shed.

Take it slowly. It is quite difficult to start with. You may need several attempts to stop with the brake van partly in the goods shed with the locomotive outside. (this position helps later when re-coupling) Go backward and forward until you have stopped at this position if you have to.

As you get more experience you will be able to go faster.

Moving Camera position along train.

Try pressing **CTRL+left arrow.** This moves the focus of the camera one vehicle to the rear of the train. **CTRL+Right arrow** moves the camera focus one vehicle to the front of the train. Multiple pressing will move the camera focus to the end of the train if there are a number of vehicles.

Emergency stop.

If you are in danger of crashing into the buffers press the ' **backspace** ' key. This sets the regulator to zero and the brake to fully on and stops the train fairly quickly. See the action of this on the **HUD**.

Having finally got the brake van into the goods shed we will uncouple it, do a bit more shunting and point changing.

Use of Drivers guide.

Press **f3**. The panel that is now showing is the **Driver Guide.**
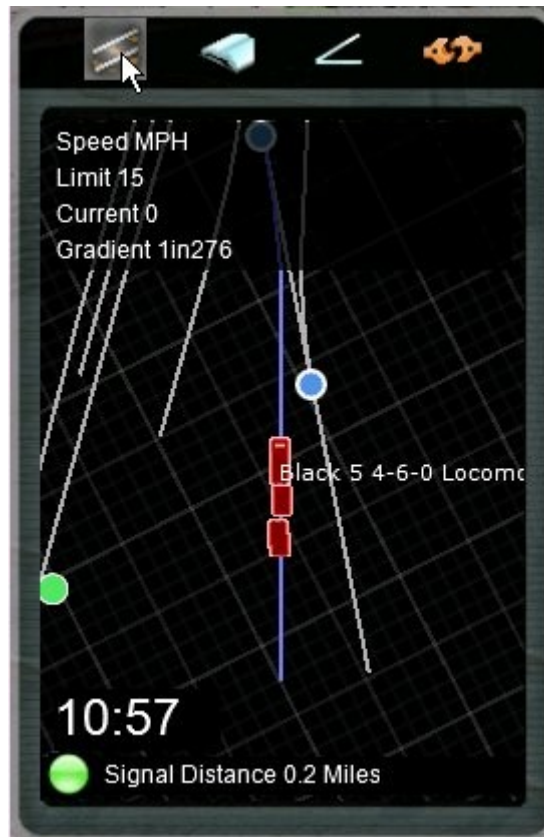
There are 4 views available, selected by clicking on one of the four icons at the top. The current screen is obtained when the extreme left icon is clicked on.

In its current view it is showing a small section of the **2D map**. It shows the current train speed, the speed limit for the track the train is currently using, the gradient of the track and the distance to the next signal and the state of that signal..

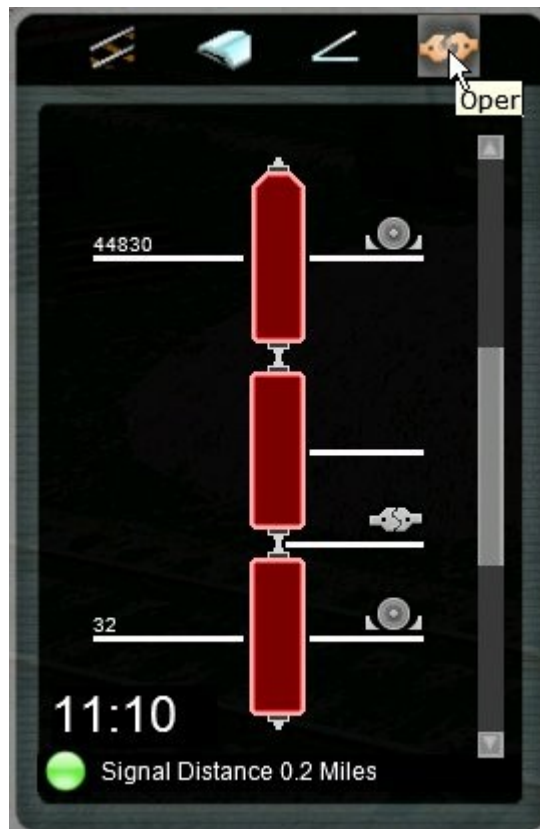This is the panel when the second icon has been clicked on.

This is the panel when the third icon has been clicked. It shows the gradient of the track in front of, and behind, the train. Useful when driving forward and also when the train is to be parked.
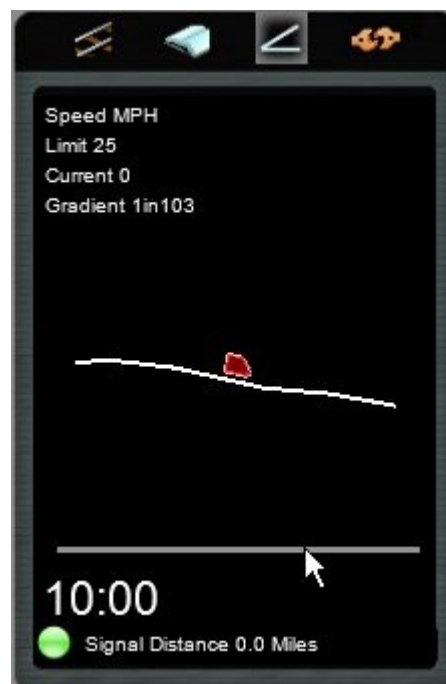
This is the panel when the right most icon is clicked on. This is what we want for the next part our shunting exercise.


The vehicles in the train are shown in red in the centre of the panel.

The numbers on the left side are the locomotive (44830) and guards van (32) numbers. These correspond to what can be seen on the pictorial view when **f6** and then **f7** pressed and rolling stock **captions are** displayed.

On the right of the vehicles are symbols for brakes (the round icons) and the coupler.

Uncoupling.

Click on the guard van brake symbol (to stop it running away on the slope) and then click on the coupler
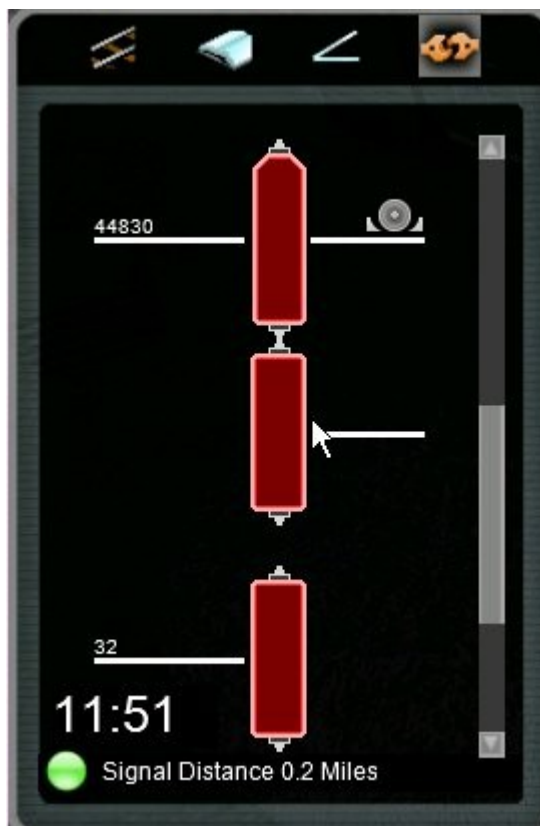
The panel should now look like this with the brake van uncoupled.

Having spent some time to get to this position it might be time for a break.

Saving current position.

If f2 is pressed the current position is saved so that you can return to this position in the future. Unfortunately each subsequent save overwrites the previous one.

Press **f2** to save this position. You have the option to carry on and save again later but for now quit the scenario and go to the Home window.

Re-loading saved position.

To return to the saved scenario select Routes then select the route (for now **Bath Green to Templecombe**). Now click on Scenario, then select the scenario you wish to continue (**Evercreech Free Play** Scenario), then **Continue**. You should now soon be back to where you were before you saved.

Point control using point lever.

Now slowly move the locomotive forward away from the goods shed and stop it when it has just passed the first point.

Disconnect the camera from the locomotive by pressing **8** then zoom into the point at the tender end of the loco.

Click anywhere on the base of this point lever. Watch the lever and point blades move allowing the train to reverse into the siding next to the goods shed.

If the Drivers Guide (press **f3**) had been showing you would have seen the direction of the blue line (showing route) change. Try it.

Press **2** to lock the camera to the locomotive again.

Reverse the train into this siding and stop near the buffers. Press **f2** and save this position in case of problems. Now move the train forward and stop again just passed the first point.

Point control using keyboard.

With the train close to the point and the **Drivers Guide** showing press **SHIFT+G**. If the camera is close to the point you will see the point moving. The blue line in the **Drivers Guide** will change direction.

Pressing **G** changes the point in front of the train.
Pressing **SHIFT+G** changes the point at the rear of the train.

Point control using Drivers Guide.

The points can also be changed by clicking on the blue circle just below the train while holding **SHIFT** down, the same as the full **2D map**.
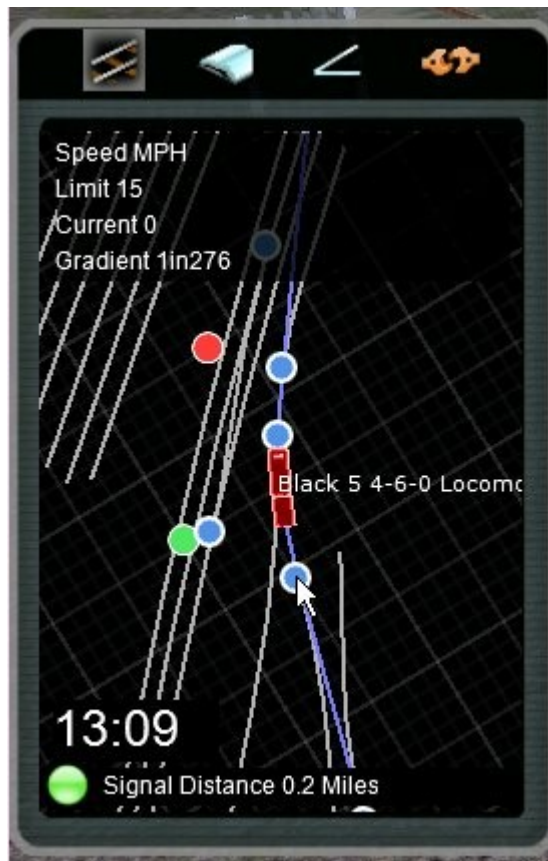
Set the point so that the train will reverse back to the goods shed.

Now slowly drive the locomotive backward and stop it just short of the brake van.

Re-coupling.

In a short while you will be coupling the locomotive back to the brake van. To do this easily you may wish to use additional views of the buffers. While the locomotive is stationary Press **6**

You should now be looking at the front buffer of the loco.

CTRL+Left Arrow will show the buffers at the tender end (with the buffers of the van)
CTRL+Right Arrow returns to the front buffers.
Left Arrow shows a side view of the buffers
Right Arrow shows the other side view
Up Arrow zooms out
Down Arrow zooms in

Try all the views given above to see which of then you like for the coupling operation. My preference is to use the standard view obtained by pressing **2** as I am able to see the locomotive approaching the brake van. I then zoom in (**Up Arrow**) as the locomotive gets close to the brake van while moving the camera using the mouse with the right button held down

In the **GamePlay Options menu** coupling of two vehicles was set to be **Automatic**. The two vehicles will automatically couple when their buffers touch.

Click on the right hand icon at the top of the **Drivers Guide**. This will display the locomotive and tender.

Move the loco back **very** slowly. As the buffers of the loco and the brake van touch you will see the van appear coupled on the Drivers Guide. Stop the loco.

Release the brake on the brake van. Now drive away. Go as far as you like as this is the end of this exercise. Quit when you like.

Manual coupling.

If **Automatic Coupling** had not been selected in the **Gameplay Options** then **Manual** coupling would be used. Once the buffers of the two vehicle to be coupled were in close contact then coupling would be carried out manually by pressing **CTRL+SHIFT+C** .

Section 4.   Playing a simple Scenario.

Your first scenario.

You now have most of the tools to carry out a simple scenario. The next exercise is to drive a train from **Templecombe** to **Evercreech Junction**. You will be required to observe signals on the way as other trains (AI trains) will be present controlled by the program. You need to control the speed so as not to exceed the track limit but you have to try to arrive at the stations on time. You should stop at each station on the way to allow passengers to get off and on.

To start select the **Bath Green to Templecombe** route. Click on **Scenario** and then select the ' **Swift and Delightful** ' scenario. Press **Play**. You will now see the **Assignment Tasks**. Scroll through these. Note the time that you should depart from Templecombe.

Displaying Scenario Assignments.

Click on the central icon and you will see the arrival and departure times that you should try to achieve for each station.
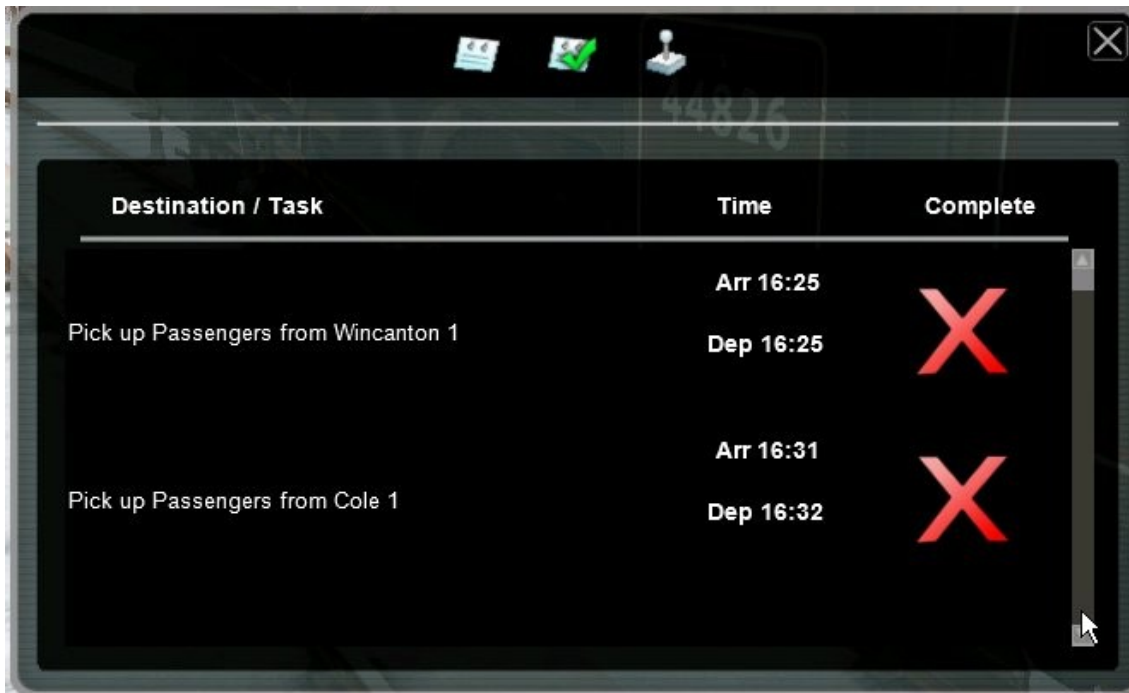
Scroll down to see the complete list. Exit this window.
This window can be shown at any time when playing by pressing **f1**.

Views.

Now check out the various views that are available.

Press **1**   Cab view. You can move about the cab using all the normal camera controls.
2   Front view of train.
3   Rear view of train
4   Several external views of the train
5   Camera now inside coach. Normal camera controls operate.
6   Overhead view of buffers
7   Birds eye view of train (currently in station)
8   Camera is disconnected from train. Try using **8** after selecting one of the other views
       For instance pressing **5** then **8** gives views of passengers inside coach. Try moving
       about with the camera controls. To lock the camera once again to the locomotive
       press **2.**

Signals.

Before starting this scenario look at the **UK Historic (Semaphore) Signalling** details on in the
RailWorks Keyboard and Signal Guide. Though you will see examples of these signals on this
route I believe all of them will be in your favour in this scenario. However for some scenarios,
particularly those with AI trains, you will encounter signals against you, which you must obey. We
will deal with signals set against you when shunting later.

Starting Scenario.

There are a lot of new things to observe and control so it is advisable to regularly press **f2** to save the current position. If a mistake is made like going through a signal or excessively exceeding the speed limit then you can get back to the saved position and have another try.

Pausing the program.

It is also possible to pause the program so that you can look at the information on the screen at your leisure.
On one of my computers I have to press the **Pause/Break** key, on the other I have to press both a key marked **fn** and the **Pause** key.

Display the **Drivers Guide** by pressing **f3**.

Set the Reverser to 100%. Set the Regulator to 50% or more as you are starting on a slope. Release the brake (0% in **HUD**)

As the train picks up speed reduce the Reverser setting gradually but not so much that the train slows down.

In the **Drivers Guide** (**f3**) note that there is a signal showing green and its distance is given.

Note that the track speed limit is 30 mph. Your current speed is shown just below the Limit speed.
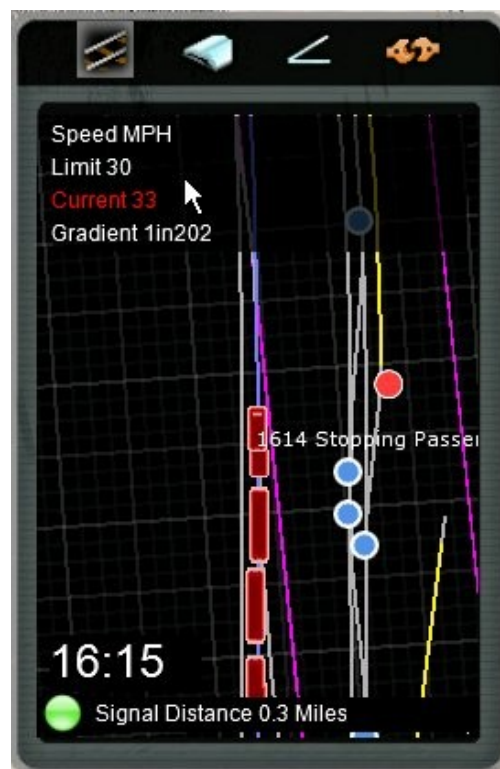
If you exceed the speed limit your speed will be shown in Red as above. Juggle with the Reverser and the Regulator to keep close to this limit but not exceed it.

In the picture above the Gradient is shown as 1 in 202. Clicking in the third icon at the top will show that the train is going downhill at this point. It may be necessary to reduce the regulator to 0% and to slightly apply the brakes to prevent exceeding the speed limit.

As you progress along the track note that the speed limit changes to 70 mph.

As the train travels along the track the gradient changes. The gradient in the **Drivers Guide** section showing the **2D map** does not appear to indicate if the train is going up or down so keep on clicking on the gradient icon. Only the gradient in front of the train is shown. If the train is going up it will need the reverser and regulator to be increased to maintain speed. If is going down it may need the brake applied.

Once you get a reasonable way from Templecombe there is a long section without any signals so you can experiment with various views and other features.

Head out of window view.

 During this section try pressing **SHIFT+2** . This is the ' Head out of Window ' view. By using the four arrow keys forward and backward views can be obtained.

Horn.

There are occasion when a horn would be sounded. For instance when crossing a level crossing , approaching a station, going into a tunnel etc.

Press **SPACEBAR** to sound the horn.

As you travel to the first station click on the second icon from the left in the Drivers Guide

This gives useful details as can be seen above. This can be used to decide when to brake for coming speed limits or stations. As the train takes some distance to slow down or stop you should start to reduce speed when quite a way from a reduced speed limit or station.

Stopping at Wincanton.

With the snow covering the platform it is difficult to see where to stop. Aim to stop with the locomotive just past the passenger bridge. If you overshoot, back up (I will permit this as it is your first attempt at stopping at a platform)

Unloading and Loading passengers.

When stopped with all the carriages by the platform press **T.** You will see the doors opening and passengers getting in and out of the carriages. The doors only open if the carraiges are correctly located in the platform. (occasionally I find I have to press **T** more than once)

Loading and unloading freight.

Though not needed in this scenario, loading of freight, coal, water is carried out in the same way as loading passengers. Stop the vehicle to be loaded/unloaded by the loading/unloading position and press **T** for loading.
Press **SHIFT+T** for unloading.

Once the doors have closed and the departure time has arrived, start driving to the next station.

You should notice that there is a steep up gradient in part of this section so reverser and regulator need to be set to high values.

Once again you are on a long section without any signal.

Time to have a look around.

Disconnect the camera from the train by pressing **8** and have a look about using all the camera controls.

Press **2** to once again lock the camera to the train.

Don't forget to control the speed of the train as you go on a long down gradient.

Try pressing **4**. Go back to normal by pressing **2**.

The end of the next platform is easier to see. Stop and unload. Continue to Evercreech. The platform here is on an up gradient so you have to drive, not coast, to the platform. Unload.

You have finished. Well done. You are ready to take on some of the other scenarios provided.

Section 5.   Creating a simple Scenario.

New Free Play Scenario.

So far we have relied on the included **Free Play** scenario with its limited range of vehicles and locomotives and restricted to the Evercreech region. Now we will start to make use of the included **Editor** to create additional **Free Play** scenarios with a larger range of locomotives and rail vehicles which will start at different locations.

For your first scenario you will be making a scenario based at the **Evercreech Marshalling yard**.

My version of the scenario that is to be created is in the zip file with this guide

If you wish to see it, install this scenario (Evercreech_Marshalling_Yard_2.rpk) as given in Page 4

RailWorks Creator Manual.

First look at the **RailWorks Creator manual**
Read the section **Creating and Editing Scenarios**

Make a full backup of all the RailWorks files as it is easy to cause problems when using the Editor. I have very often had to restore the scenario files. The default folder containing these files is C:\Program Files\Steam\SteamApps\common\railworks

Select the **Bath Green to Templecombe** route and then the **Evercreech Free Play** scenario that you installed earlier. Press **Play**.

Opening Editor.

Once the route has loaded click on the **World Sphere** at the right hand end of the **Main Menu**. You can also open it by pressing **CTRL+E**
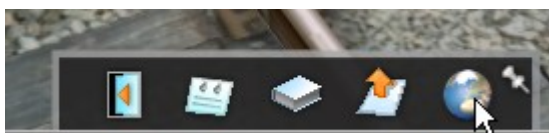
The window opens showing the **Free Roam Marker.**

If you move the camera round (same controls) you will see that the screen is rather cluttered.
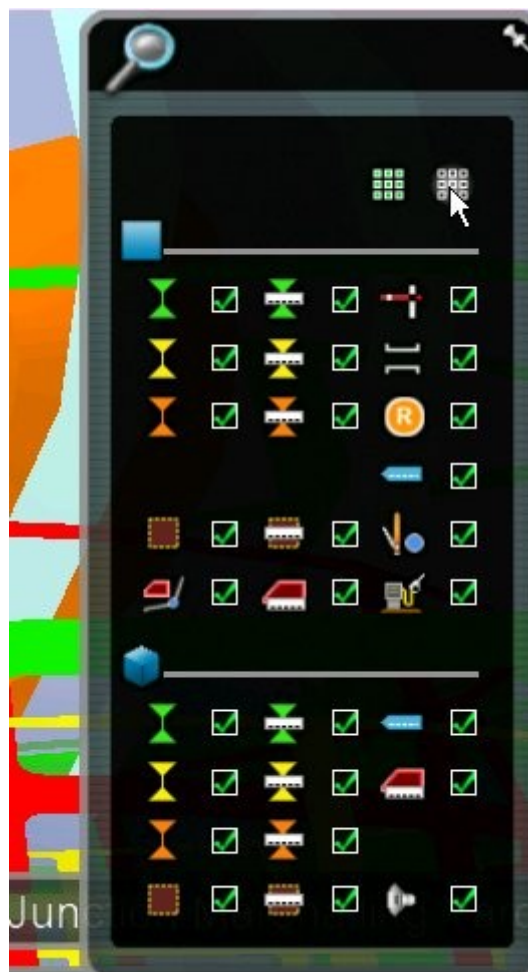

We don't need any of this so in the **Main Editor Menu** (a popout) in the top left of this screen, click on the **Display** icon
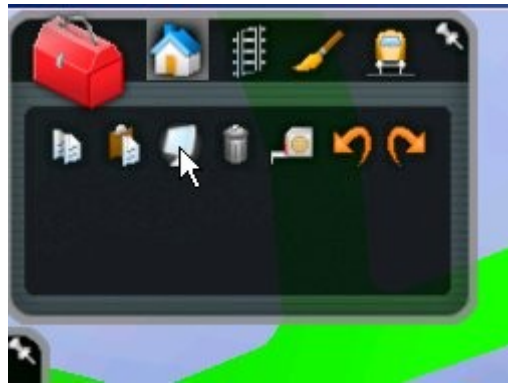
Click the top right hand icon of the new popout panel that appears at the top right of the screen

This removes all the ticks and clears the screen. Pause the mouse pointer on each of the icons in this panel to see what can be displayed. None are relevant at the moment.

All you see now should be the **Free Roam Marker.**

In the bottom right hand corner of the window is a padlock symbol. Click on this to open it.

Read warning and click on OK.

On the top left hand popout panel click on the **Scenario** icon (train) This is not available if the padlock is closed.

Click on YES in the next two windows that appear

Move the camera so that you have a good view of the centre of the marshalling yard.
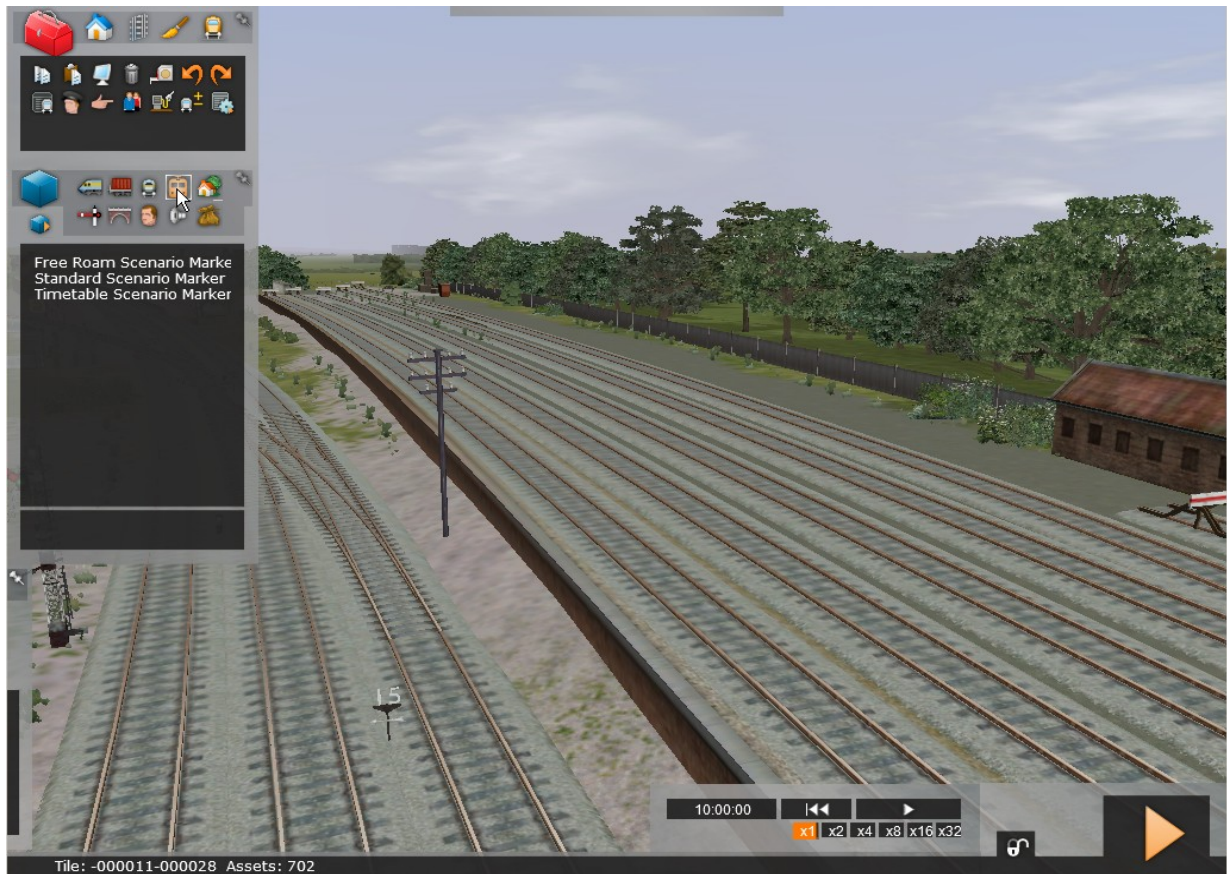
In the centre left popout panel (**Object Selection Menu**) click on the **Scenario Markers** icon

Placing a Free Roam Marker

Click on ' **Free Roam Scenario Marker** '.

Move the mouse so that the pointer is near centre of the yard. **Left click** should put a marker at this position. You will be asked to **Save** the current scenario. Answer **No.**

Then right click so that you don't position another marker. (Once added there seems to be no way they can be removed)

When the scenario starts, the camera will be close to the marker.
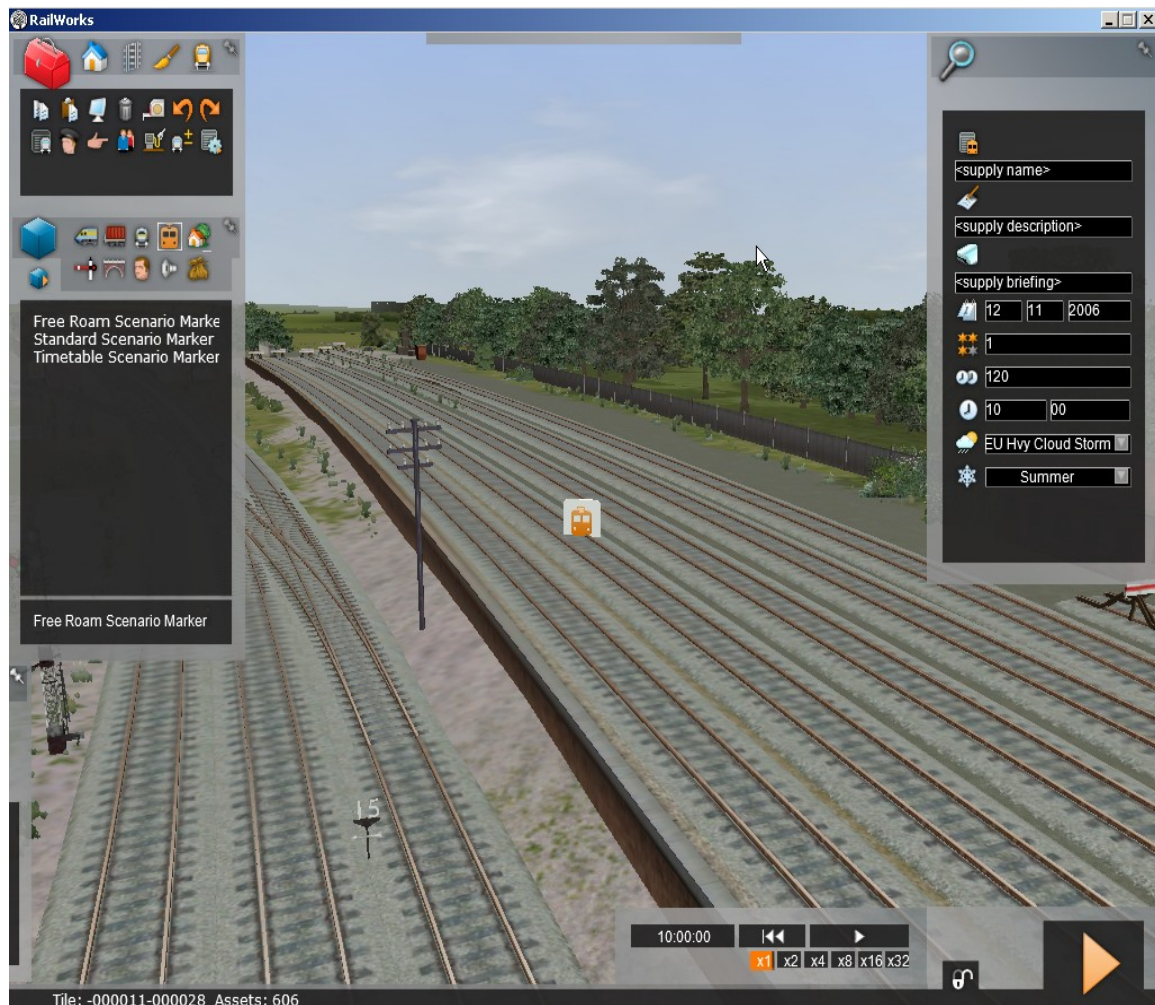
A new popout panel should have appeared on the right side This is the **Properties Tab** (If this has not appeared double click on the **Free Roam Scenario M**arker. Several attempts may be needed as a device called a Gizmo often appears..)

Edit details of the scenario in this panel (example above).
The top entry is the name of this **Scenario**. This is displayed in the scenario list.
The next entry is the description of the **Scenario** that is displayed when selecting the scenario.
The third entry is the briefing that is given.
The next entry is the fictitious date of the scenario
The next entries are the degree of difficulty, the expected duration, the fictitious start time, the weather (there are several options you can choose from) and lastly the time of year.

Now click on screen to the left of this popout panel. The panel should disappear and details should be stored.

Double left click on the marker and you will see the means of moving the marker (the Gizmo).
Using the pointer on the arrows you can drag the position of the marker with the mouse. It is probably advantageous to raise the marker using the blue arrow to give a better initial camera view.
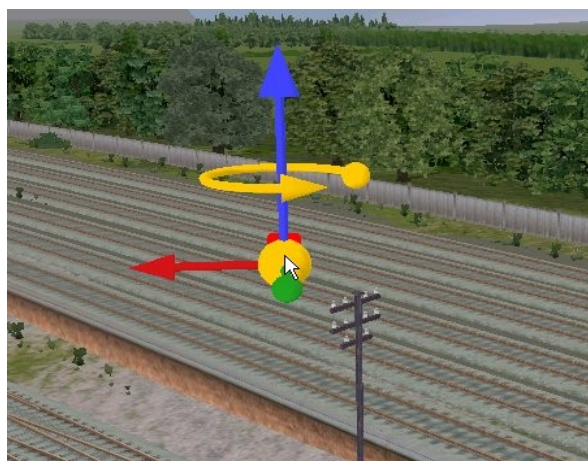
Lock the padlock and the exit the **Editor** by clicking on the arrow at the bottom right. Click Yes when asked to save changes.

Have look around . You will see that you have a completely clear track. To check that the Scenario has been saved correctly, Quit, go to Home page and go Routes etc. When you get to Scenarios you should see the new Scenario of ' Evercreech Marshalling Yard '. Click on this. When loaded you should now have a view of the marshalling yard. If the camera position is not satisfactory it can be moved from within the **Editor** later.

Check the Free Play Scenario that you used as template. If this has been damaged or altered in any way while you were trying to create the new scenario then you will need to restore the Free Play scenario from the backup you have created.

Restore Scenario.

The scenarios are stored in the railworks\contents\routes\???????\scenario folder. If you look at this you will see that the routes are given file names such as 76b3a3f0-c9b0-48f2-9eff-1af9b00166d6 which make it difficult to locate a route and restore a single scenario.

The program **RW_Tools** can identify each route and scenario in an understandable form. This is only one of the many features of this program. From this you can see which scenario to restore or a complete route,
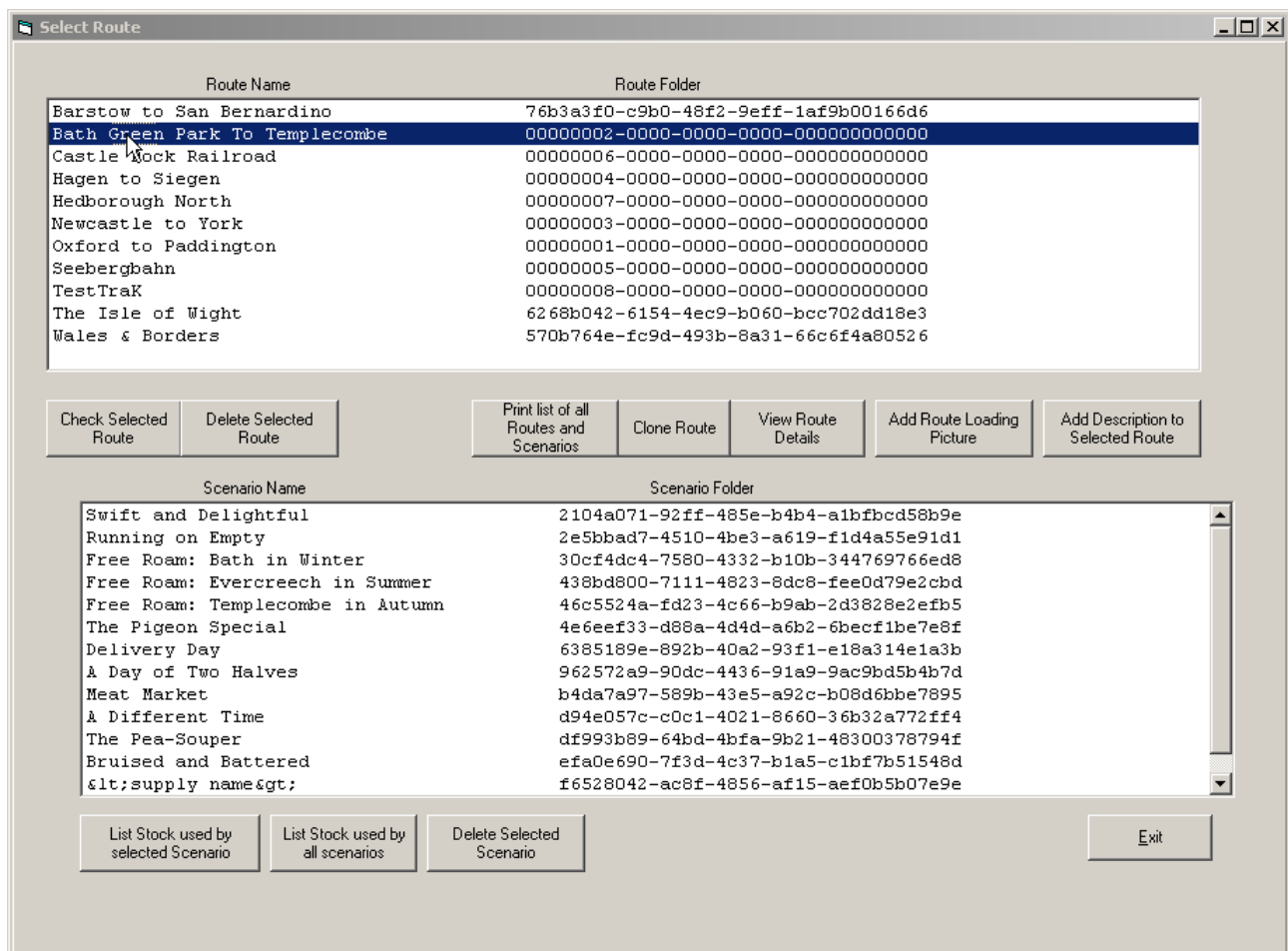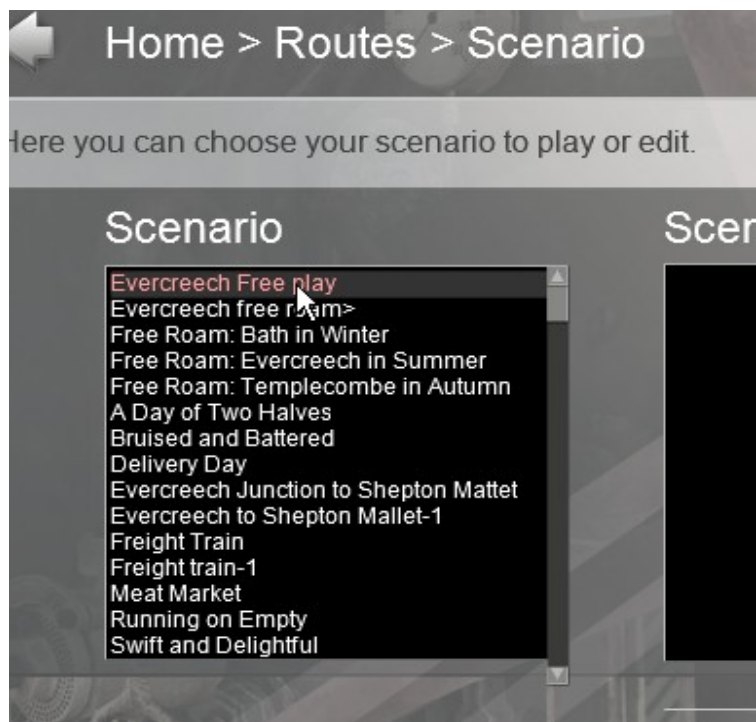
Though this program is no longer free it is almost impossible to carry out any development work or modifications without its help. For me it is a Must Have program and costs no more that a locomotive from Steam.

It can be found at http://www.rstools.info/index.html

Deleting Scenario.

I you wish to get rid of the scenario you have just created (or others) go to

Left click on the Scenario to be deleted . Press the ' delete ' key and respond to next screen.

Adding locomotives to Scenario.

Open the **Editor** for the Scenario where stock is to be added.

Open the padlock.

Open the **Scenario** window in the **Main Editor Panel**
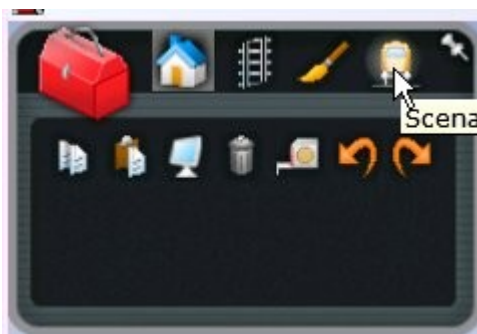
Click on the ' **Engine and Tenders** ' icon in the ' **Object Selection Menu** '. This menu give a list of all the **Assets** that can be added to the scenario.
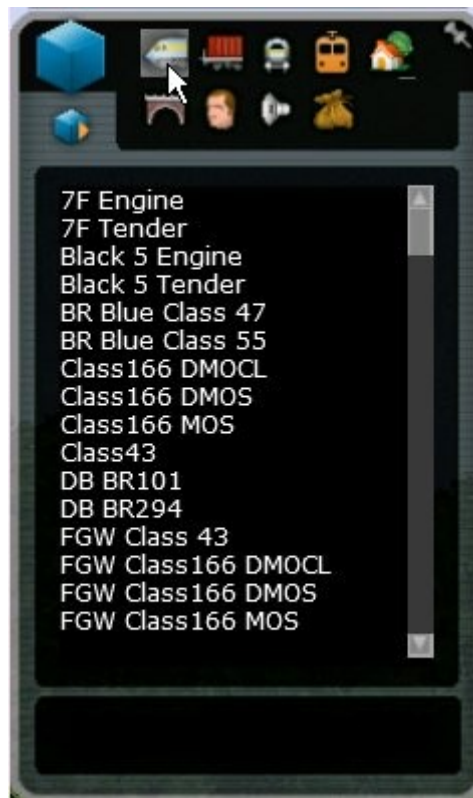
Move the camera so that it is just past the **Free Play Marker** and looking towards the points.

Left click and hold down on the 7F Engine in the **Objects Selection Menu**. Drag the pointer across the track with the left button held down. The engine will snap to tracks as the pointer is moved across them. Place the engine on the right most track of the marshalling yard.

Release the left button then **Left Click** to place the locomotive then **Right Click** as you don't want to place another engine. You want the engine facing the points and it is probably facing the wrong way. Left click on the engine and a yellow symbol will appear above the engine. Click on that to turn the engine round.
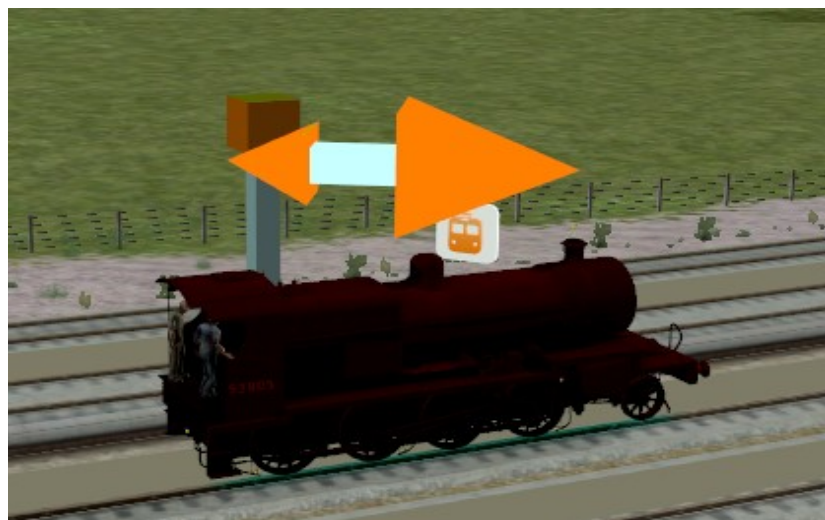

Left click on the track to clear the symbol.

Now click on the 7F tender in the **Objects Selection Menu** and move that near to the rear of the engine. Place it on the track and turn it round if necessary. Move the pointer over the tender. Press and hold the left mouse button. Slight movement of the mouse will move the tender. Move it towards the back of the engine. As the tender gets close to the engine it will snap to it. This is best seen if the camera is moved to give a side view.

Removing incorrectly placed assets.

You wish to remove anything you have placed click on it to select it (change of colour) and then press Delete.

Engine Driver.

The engine now needs a driver. Click on the **Driver** icon on the **Main Editor Panel**.
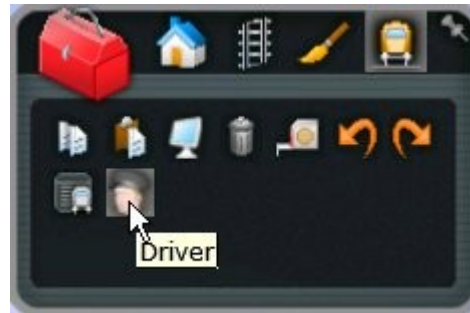
Click on the locomotive and a blue driver symbol should appear above the locomotive.

Click on the Driver symbol and the **Drivers Properties** popout window should appear at the right hand side.

This can be left as it is for this Free Roam Scenario.

Look in the **Creating and Editing Scenarios** section of the **Creator Manual** for details of the drivers properties.

Adding stock to Scenario.

To add some rolling stock, click on the **Rolling Stock** icon in the **Object Selection Menu**.
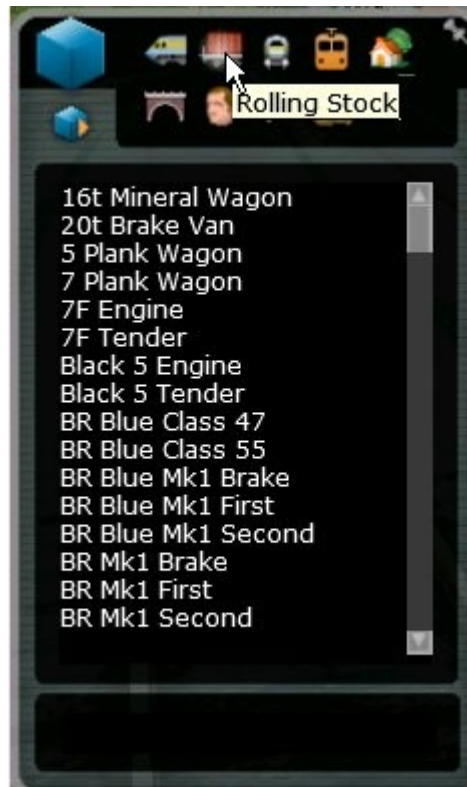
Now add some wagons and a brake van as you added the engine.

    Exit Editor using Drive arrow bottom right. Respond Yes to save changes to Scenario.

Left click on the locomotive and you are ready to start shunting.

To make the scene more realistic additional rolling stock can be added. A train coming from the branch line could be added etc.

Moving to a new location on the route.

So far all the Free Play has been in the Evercreech region We are now going to **Free Play** in a new place.

You can either start a new scenario or modify a scenario you have created. I suggest doing the later for now. Open the scenario you have just created.

There are several ways to find where you would like to start a new Free Play session.

a. You could drive a train and explore the entire route. That would take a long time but could be interesting.

b. A quicker way to explore the route is to open the **2D Map**

Using the scroll wheel and dragging the mouse with the right mouse button held down it is possible to explore all the track in the route. Don't forget that by clicking on the icon in the bottom right of this screen

a new popout panel appears at the far right where you can select the detail that is displayed on the map

c. If in the Navigation popout panel you click on the Route Markers icon a new popout panel (**GPS**) appears to the right of the screen
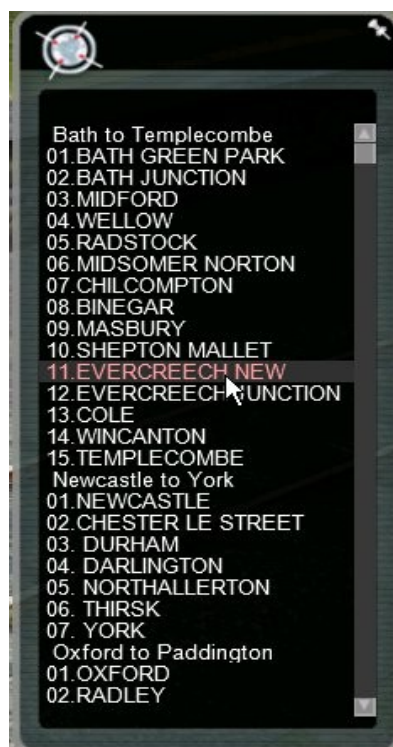
Clicking on any of the names in this route will change the Latitude and Longitude values in the **Navigation** panel.

Clicking on the **GO** icon (bottom Right) will move the camera to that location. Once there it can be explored using all the camera controls. Note that the camera appears to stay at the same height above sea level during the move to the new location. If the original location is low then the camera can be below ground level at the new location. Raise the camera height at the original location before moving or use **CTRL+Up Arrow** if you appear to be below ground level when you are at the new location.

d. When at the starting location of Evercreech use the camera controls to zoom up to give a birds eye view. (**CTRL+ Up Arrow**). Now press the **Up Arrow**. Control the forward movement using the mouse with the right button held down. If you want to move faster use **SHIFT+Up Arrow**.

Adding rolling stock at a new location.

Having selected the location where you wish to add engines and rolling stock open the **Editor**.

In the **Navigation** panel click on the **Route Markers** icon. In the **Destination** popout panel click on your selected destination. Click on **GO** in the **Navigation** panel.

Note that the camera appears to stay at the same height above sea level during the move to the new location. If the original location is low then the camera can be below ground level at the new location. Raise the camera height at the original location before moving.

You are now at your selected destination and can add engines and rolling stock as you have done previously. Don't forget the driver for the engines if you wish them to be driven.

Rolling stock added at Shepton Mallet. Close the **Editor** and you can start playing.

The next time you open this Scenario you will still be at **Evercreech Marshalling Yard.** Select your new starting point from the **Navigation** and **GPS popout panels**.

My version of the scenario that has just been created **Evercreech Marshalling Yard 2.rwp** will have been downloaded in the Zip file with this guide.

If you wish to see my version, install scenario, **Evercreech Marshalling Yard 2.rwp** , using the **Package Manager** as given in **Section 1**

Section 6.   Installing new locomotives and rolling stock.

There is now a significant quantity of locomotives and rolling stock available as Payware. The most obvious source is from Steam but there are several other producers of Payware some of which also have freeware products.

There is also a significant quantity of Freeware products including many excellent routes and scenery required for those routes. These are generally available from the same sites as support RailWorks Forums

All recent products produced for RailWorks will come as a .rwp file though that file may be contained in a .zip file with other files.

Many of the products (but not all) produced for Rail Simulator can also be used in RailWorks. Those that came packaged as a .rpk can also be installed using the Package Manager but others are more difficult and will not be covered here. Details of how to install these are generally given within the zip file downloaded.

RailWorks must be closed while installing new assets.

Most assets produced for RailWorks (obtained as .rwp files) can be installed easily using the Package Manager, as was used to install the Scenario's (see Section 1)

Suppose that the Isle of Wight route from RailWorks has just been installed. This route contains a lot of assets that are used in many other routes.

Once installed run program and open the **Editor** in one of the **Bath Green Park to Templecombe** route. Open Padlock. In the **Main Editor Menu** select **Scenarios.**

In ' **Objects selection menu** ' click on the small blue cube labelled ' **Object Set Filter** ' A new popout panel will appear on the right side of the main RailWorks window..

Double click on the small arrow and a list of asset suppliers (Authors) drops down.
Scroll down to locate the new 'asset provider' then click on it. In this example I have selected
RSDL who provide the Isle of Wight route

Click in the box to get the green tick.

All the assets in the IOW route are available for use in the current route.. If this box had not been
ticked the assets, though loaded would not have been available for this route.

 Any further assets added from this supplier will not have to go through this procedure.

In the **Main Editor Menu** click on **Scenario**. In the ' **Objects selection Menu** ' click on ' **Engines and Tenders** ' icon. Look in the list and the 0-4-0ST Invincible locomotive from the IOW route is present.

When in a route only those assets from authors whose box is ticked are available for that route

Additional Commands.

There are a few command which have not been needed in these exercises and which I have rarely used. By now you should be able to find details of these operations using the manuals and the forums. The extra commands for diesel and electric engines can also be found in the Reference Manual.

One function I have had to use but could not find a way to include it in this guide is **turntable operation**.

Operating a Turntable.

Move the locomotive very slowly towards the turntable. Stop it a short distance from the turntable. Rotate the turntable by pressing **G** or **SHIFT +G.** These cause the turntable to rotate in different directions. Each press moves the turntable to the next track position. The turntable should be turned to line up with your locomotive. Move the locomotive onto the turntable very slowly until it is fully on the turntable. Any of the locomotive outside of the turntable will stop it rotating even if the wheels are fully on the turntable.
Once on the turntable press **G** or **SHIFT+G** until lined up with your desired exit track. Move away slowly.

Next Guide.

My next guide will make more use of the Editor

In that guide you will use the editor to create scenarios containing passenger trains which load and unload passengers, all while AI trains are running.

Section 8

Index