Pike's Flashing Ditch Lights & Vigilance Alarm System Manual

Pikesproducts.com proudly introduces a Dash9 enhancement package for the Railworks ™ Dash9 DLC available from Steam. This product is not related to or endorsed by Valve or Railsimulator.com and is an independent product. The end user accepts full responsibility for downloading and installing this product as no warranty is implied.

This package when installed correctly will replace the standard Dash9 Ditch Lights and Headlights with flashing Ditch Lights on the Railworks ™ Dash9 DLC. You must have a purchased copy of this product from the Steam online store and have it installed.

Item #5: Pikes Dash9 Flashing Ditch Lights Pack includes the 3D object, all materials and this manual.

Item #6: Pikes Ditch/Vigilance Install Pack 1 includes updated materials, scripts and installation files for Pikes NS and CSX repaints, Items #1 - #5 on the Products Page at pikesproducts.com and listed in Table #1 below.

Item #7: Pikes Ditch/Vigilance Install Pack 2 includes updated materials and installation files for the items listed in Table #2 below.

Neither of the installation packages will update the default engines from the DLC. This includes the 4 default engines:

1. DASH9-44CW BNSF
2. DASH9-44CW BNSF Clean
3. DASH9-44CW Warbonnet
4. DASH9-44CW Warbonnet CLEAN

These items are protected by Railworks ™ and may not be redistributed using the packager. You will have to update the default engines using the instructions provided later in this document.

NS_S2	NS_S3	CSX_BC
CSX_BC_Dirty	CSX_YN3	*NS_Dash9_Series2
*NS_Dash9_Series3		

Table 1 PikesDash9DitchVigilance file list

ATSF	ATSF-BNSF	BNSF-H1
BNSF-H2	BNSF-NL1	BNSF-NL2
BNSF-RW	CN	SP-8100
SP-8101	SP-8108	SP-8110
SP-8118	UP-9565	UP-9571
UP-9578	UP-9595	UP-9599
UP-9600	UP-9612	UP-9646
UP-9650	UP-9656	UP-9660
UP-SP-9615	UP-SP-9617	UP-SP-9647
UP-SP-9651		

Table 2 BonusDash9DitchVigilance file list

*These engines are located in folders at the same level as the Dash9 folder.

STANDARD RWP INSTALLATION:

BACK UP YOUR DASH9PACK01 FILES BEFORE INSTALLING THESE PACKAGES.

Upon downloading the product you will have a "rwp" file that matches the name of the product with all spacing removed. Simply save this "rwp" file to a temporary location on your hard drive.

NOTE: Install the items in numerical order: Item #5, Item #6 and then Item #7

Start up your Railworks ™ program and click on the "Package Manager" tab. On the far right side of the screen click on the "Install" button. This will bring up a window where you can select the correct directory where you placed the rwp files listed above for your package. You need to install each file separately. You may receive a warning about overwriting existing files. Click the "ok" button to continue. This will install all the needed files into the correct directories for all the engines listed above. As a final step I suggest you also run the Clear Cache option before running the game.

AFTER THE INSTALL:

After installing Item#6, Item#7 or both, you will need to replace the 2 default lighting textures with the one's provided in the #5 package. These are located in the Assets\RSC\Dash9Pack01\RailVehicles\Diesel \Pikes_Ditch_Vigilance \Engine\textures folder. Copy both these files into the Assets\RSC\Dash9Pack01\RailVehicles\Diesel\Dash9\Default\Engine\Textures folder manually or run the Replace Textures.bat file located in the Assets\RSC\Dash9Pack01\RailVehicles\Diesel \Pikes_Ditch_Vigilance folder. This will cause the 4 default engines to not have light glows but allows for proper functioning of the flashing ditch lights on all the other engines. This is due to the fact that the "warbonnet" and "clean" models use the lighting textures from the default engine rather than using their own. If you do not do this step, some models will have a faint glow when the ditch lights flash rather than being completely off.

THE DITCHLIGHTS:

The flashing ditch lights are activated by pressing the "Bell" key or "B" key on the keyboard when the headlights are on. As long as the bell is ringing the lights will flash, provided you do not turn off the bell or change the headlight setting. If you have the lights set to level 3 (ground effects) then you will also see ground effects for the flashing ditch lights. These are not visible from inside of the cab and are only visible from the outside views.

Here are a few warnings about the lights and how they interact with the game. I want you to completely understand how the lights work before you purchase them. This may change in future releases of Railworks and I will do my best to update this product in a timely manner.

At the start of the scenario each engine that has a driver icon assigned to it is initialized using a set of instructions called scripts along with whatever the game itself does. If there is no driver assigned to the

train, no initialization takes place. The supplied lighting requires that there be an initialization process, so they cannot be used on trains without drivers. This is odd since a train with no driver, when attached to a train with a driver, does get initialized at the beginning of the scenario. Railworks also has some built-in coding that tries to control engine lights.

In my installation packs I have made 3 types of engines:

1. The Driver engine (indicated by x2, x3 or no indicator) With lights, drivers in cab
2. The Driverless engine (indicated by x0 or ND) With lights, no drivers in cab
3. The Static engine (indicated by xStatic or Static) No lights, no drivers.

All running trains, AI or Player should have 1 Driver engine with a Driver Icon.

You may use as many driverless engines as you want in your consist. Even though there are no drivers, you may use the CTRL +/- keys to move to these engines and take over them. Make sure you turn off the lights on the engine you are leaving first. This will allow for headlight and ditch light control on the new engine.

A static engine in a consist will use the game defaults for lighting. Use Static engines for parked engines that do not need drivers.

THE VIGILANCE ALARM:

The Vigilance alarm is active only in EXPERT MODE and when any of the following conditions are met:

The Train is moving.

The Reverser is not in neutral.

The Train Brake is less than 75%

When stopping, come to a complete stop, move the reverser to the neutral (0) position and set the train brake to 75% or higher. This will deactivate the alarm while you are stopped and these are the standard settings when entering a cab for the first time.

The Vigilance alarm system is installed to allow you to operate your train under normal conditions without much interference. It is designed as a failsafe in case the driver becomes incapacitated. It is speed sensitive so during slow movements (below 20 MPH) the system allows up to 60 seconds of inactivity before it will sound. As your speed increases this inactivity time decreases to a minimum of 20 seconds between alarms. At slow speeds, once the alarm sounds you have 8 seconds to respond before the system will automatically apply the emergency brakes. As your speed increased this response time is shortened to 5 seconds. If you fail to respond in the allotted time, the system will apply the emergency brakes and you will be unable to resume control until the train has come to a complete stop and the system resets.

Movement of following controls resets the vigilance timer:

Throttle

Train Brake

Reverser

Horn

Once the alarm sounds the only way to reset it is by hitting the Alert Reset (Q Key). The normal controls will not reset the timer once the alarm sounds. Hitting the Alert Reset when the alarm is not sounding will not reset the timer. The Alert Reset is ONLY used to reset AFTER the alarm has sounded and is the ONLY way to reset the timer after the alarm sounds.

How to temporarily disable the Vigilance system while driving (out of cab views):

If you will be operating your train from outside the cab, the Vigilance Alarm is not audible and you will not receive any audible warning. If you have the visual warnings turned on then you will see a visual warning on the screen when the alarm is activated. To operate for an extended period outside of the cab when you have visual warnings turned off, you must set the Loco Brake to 2%. This will disable the vigilance alarm system. When you return to the cab mode of operations, simply set the Loco Brake back to zero. Anything below 2% or above 2% will not disable the alarm. This is low enough that it will cause minimal effect on the engine's pulling power.

Remember, this system only works in Expert mode so you may also set your driving level to intermediate mode or simple mode on the "gameplay" options screen and the vigilance system will never be active.

THE BATCH FILES – INSTALLING AND ADJUSTING BELL & FLASHING SETTINGS

Inside the Assets\RSC\Dash9Pack01\RailVehicles\Diesel\ Pikes_Ditch_Vigilance folder are 3 batch files. The Install batch file is used to assist you with installing the package into new engine folders as they become available. The Replace Textures batch file replaces the lighting textures for the default engine with new textures used by the ditch lights model.

The third file is called Bell Flash Setup.

The installation default is for the horn/whistle to activate the bell and for the ditch lights to flash when the bell is activated. Some people may not want the bell to sound with the horn or the ditch lights to flash. Running this batch file, allows you to select an engine folder and then choose to have the horn activate the bell and the lights to flash or not for that particular engine. You may decide that all the SP engines for example should not have the bell activated by the horn. You would simply run this batch file, enter SP-8100 for the folder name and then choose the correct options. Just repeat this procedure with a different folder name for another engine.

INSTALLING ON OTHER DASH9 REPAINTS:

NOTE: The following instructions apply only to engine models that exist inside the Dash9 folder. For example: the Dash9\NS_S2 or Dash9\Default engines. **THERE IS NO WAY FOR ME TO KNOW IF YOUR FILES HAVE BEEN EDITED IS SOME UNUSUAL WAY. FOLLOW THESE INSTRUCTIONS AT YOUR OWN RISK. THEY SHOULD WORK FOR DASH 9 REPAINTS THAT WERE MADE USING THE STANDARD DEFAULT DASH 9.**

Do not attempt to do this unless you are familiar with working with the bin files and converting them to xml or editing them with RW-Tools.

While you may think that this should work for other models, understand that these are specifically designed for the Dash9 and are not supported for any other model, no matter how similar in appearance it may be. The following are the steps required to get this to work for other versions of repaints or the default models. Just understand the default models will be overwritten during any game update or verification of game files.

You will need to be familiar with the file structure and have an XML editor such as notepad or better yet, RW Tools.

The first step is to backup any engines you will be updating to the new scripts and lights.

Inside your Dash9Pack01/Railvehicles/Diesel directory you should see the following directories:

Dash9 - (This is where the default and most repaint folders exist)/

Headlight_Views – This is where the files are that control the ground effects and cabview effects for the headlight glows. These were included in the free repaints listed above.

NS_Dash9_Series3 – These files were part of the original free Pike's NS Dash 9 version 2.

NS_Dash9_Series2 - These files were part of the original free Pike's NS Dash 9 version 1 & 2.

Pikes_Ditch_Vigilance – These files were created when you installed Item #5 and are base files used by the engines when edited and also includes templates.

Pikes_Ditch_Lights – These are the actual ditch light files and textures installed by Item #5.

After you have made a backup copy of the existing engine folder, open the Pikes_Ditch_Vigilance folder. Inside this folder is a batch file called Install.bat that you may run. It will ask you the name of the engine folder you would like to install the update to and it will then check to see if that folder exists. If it does, it will copy the required texture files and scripts into the engine's folder. If it does not exist it will warn you and give you the option to try again.

Once the files are copied you will need to make some edits. These edits will update the engine to use the free headlight cab and ground views, the free scripted exhaust system, the purchased ditch lights and the vigilance system.

In my example I will be using an engine called "Default_Clean" for the engine name. The batch file above will copy all the files I need into the *Default_Clean* folder. Our first step is to edit the engine bin file for the base engine which normally is the driven engine. Go into the *Default_Clean* folder and then open the engine folder. Inside the engine folder will be the engine's bin files. There may be multiple bin files for your repaint as some who supply repaints make non-driver versions or versions with 2 or 3 drivers. To work correctly all the driver versions of the bin files need to be edited. You will also need to edit the non-driver versions of the engines and create static engines.

In my example we have 2 engine files we need to edit and 1 to create for the static engines. The first is called Dash9x2.bin which is an engine with 2 drivers. The second file is called Dash9x0.bin which is an engine with no drivers. Before doing any editing, make a copy of the Dash9x0.bin and rename it to Dash9xStatic.bin so we have all 3 files ready to go.

First we will edit the Dash9x2.bin file.

Open this file in RW _Tools or convert it into XML and edit it in notepad. I will be using notepad.

Open the Find box in notepad, we will be leaving it open so do not click the X or Cancel the box.

THE ENGINE BIN FILES:

1. At the very top of the file, 5 lines down is the name of the file you are working on. If you are working with a file that existed you should not need to change anything here. If you are editing a file you renamed, like our Dash9xStatic.bin file, you need to change the name here to match the file name. In our example we would change the name from Dash9x0 to Dash9xStatic.
2. 5 lines further down is the English Name for the object as it will appear is the asset list. If this is a renamed file edit this line so that the new name makes sense. In my example we would change the Default_Cleanx0 to read Default_CleanxStatic.
3. Using the Find feature find the word "headlights" by typing headlights into the Find what: box and hitting the Find Next button. This will take to the section of the document we need to edit.
4. Under the line where "headlights" is highlighted are 6 lines of text. The DefaultValue, MinimumValue, MaximumValue, BriefDescription, DetailDescription and ApplyToConsist.
    a. DefaultValue should be **1.0000** for Driver engines and **0.0000** for Driverless and Static engines. Be careful in your editing, only change the values between the > < arrows.
    b. MaximumValue change to **3.0000**
    c. ApplyToConsist should be **eFalse** instead of eTrue
5. In the Find What Box type /NumberofNotches. Change the value on this line to be 4.0000
6. In the find what box type Exhaust, click the Find Next Button 1 time.
7. The line above the highlighted Exhaust word is the beginning of the Exhaust section and begins with <cEntityContainerBlueprint-sChild d:id="81970008"> (the id= number may be different).

Place the cursor at the beginning of this line (the far left of notepad so you include all the spacing). An easy way to do this is to place your cursor at the end of the line above the line you want and use the right arrow key.

8. Without moving the cursor, use the scroll bar, scroll down in notepad and find the line </Children>. It will not be far from where you are currently looking as there should only be the exhaust section here (approx 35 lines of text). Holding down the shift key, use the mouse to place the cursor at the end of the line above the line </Children>. DO NOT INCLUDE THE </Children > line. This should highlight the entire Exhaust section.
9. Delete the highlighted section. This will leave you with your cursor on a blank line. This is good. Leave notepad open and go to the next step.
10. Using windows explorer make your way to the Dash9Pack01 assets folder and then open the Railvehicles folder, then the Diesel folder, then the Pikes_Ditch_Vigilance Folder.
11. Now open the Templates folders and then open the correct file (choice a or b below) for the engine type by right-clicking and selecting open or open with notepad if that is an option. This should open in notepad.
    a. For Driver and Driverless engines use the DriverEngineBinTemplate.txt file.
    b. For Static engines use the StaticEngineBinTemplate.txt file.
12. Hold down the Control key and then press the "a" key to select all the text.
13. Hold down the Control key and then press the "c" key to copy all the text then close the notepad window for this file.
14. Return back to the notepad window where we were editing the engine.bin file by clicking the window outline or by clicking on the window name in the task bar. Do not click inside the window to activate it as this will move your cursor. Close the find box if it is open. Your cursor should be on the blank line we created earlier. If not, you can use the find option and look for </Children>. The blank line should be above this line.
15. Hold down the Control key and press the "v" key. This will insert the text we just copied into this notepad window.
16. Save the notepad file but do not close the window or exit notepad.
17. Scroll all the way to the top of the document and click the cursor on the top line.
18. Select the Find option from the Edit menu.
19. In the Find What box type "ScriptDriven" and press the find now button.
20. On this line look for the word eFalse and change it to read eTrue.
21. In the Find What box type \Simulation and press the find now button.
22. Change the words \Dash9\Default\ on this line to read \Pikes_Ditch_Vigilance\
23. In the Find What Box type Dash9EngineScript and click the find now button.
24. This line needs to point to the directory of the engine you are editing. Usually this is going to point to the default folder but we need to change it from the default. Change the words \Dash9\Default\ on this line to read \Dash\(foldername)\ In my example this would be \Dash9\Default_Clean\. This is the same name you supplied when you ran the install.bat file to install the files into the directory.
25. Scroll all the way to the top of the document and click the cursor on the top line.

26. Select the Find option from the Edit menu.
27. In the Find What box type "/ControlValues" and press the find now button.
28. Place your cursor at the end of the line above the line that is currently highlighted.
29. Press the enter key to add a line and move the cursor to the beginning of that blank line.
30. Using windows explorer make your way to the Dash9Pack01 assets folder and then open the Railvehicles folder, then the Diesel folder, then the Pikes_Ditch_Vigilance folder.
31. Now open the Templates folders and then open EngineControlTemplate.txt file by selecting open or open with notepad if that is an option. This should open in notepad.
32. Hold down the Control key and then press the "a" key to select all the text.
33. Hold down the Control key and then press the "c" key to copy all the text then close the notepad window for this file.
34. Return back to the notepad window where we were editing the engine.bin file by clicking the window outline or by clicking on the window name in the task bar. Do not click inside the window to activate it as this will move your cursor. Close the find box if it is open. Your cursor should be on the blank line already.
35. Hold down the Control key and press the "v" key. This will insert the text we just copied into this notepad window.
36. Close and save the notepad file.
37. Convert the xml back to a bin file using Serz or by whatever method you choose.

That is all the editing you need to do for each file type. Run the Clear Cache option. If everything went well, you should have some new engines listed in the drop down list. Select one of the driver engines and place is in the game. You should immediately see the ground textures appear in front of the engine. Add a driver and select play. The ground effects should disappear, and the headlights and ditch lights should be on. Once you click on the engine, the headlights will turn off and be under your control. All items should work, horn, lights, bell. If not, something went wrong with the editing and I would reload the original files and try again.

FAQ:

Q: When placing an engine in the game, the lights are all illuminated in edit mode. Is this right?

A: Yes, in edit mode all lights are turned on. Once you go into play mode the lights will function according to the scripting and engine type/driver icon placement.

Q: In play mode the Engine lights are on for parked trains.

A: In play mode, all driver and AI trains should be given a driver icon. To place a static engine, use the "Static" version of the engine. You should also use an ND or "zero" engine for all helpers in your consist so that the lights remain off or at minimal levels.

Q: In play mode the AI engines headlamps and ditch lights are on.

A: In play mode all lights are turned on. The default head lights are controlled by game code that I cannot access or control. For this reason the lights are always on.

Q: Is there any way to turn off the Vigilance System?

A: You may temporarily disable the Vigilance System by setting the engine brake to 2% or by changing your game mode to something other than Expert Mode.

Q: The vigilance alarm never goes off.

A: The vigilance system only works in Expert mode so make sure you have your settings set correctly.

Q: The lights are not aligned properly with the engine.

A: This usually indicates a problem with the engine's bin file. Re-check all the edits to make sure that no mistakes were made in the edits. Another thing that causes this is if the engine requires you to copy drivers or other graphics files (geopcdx) files and they have not been copied correctly or the asset is not turned on. For example, on the ATSF/BNSF models there is a Dash9x3 version that has 3 drivers. This third driver is not part of the RSC package and is stored in the Kuju/Railsimulator folder. In your assets drop-down list, the RailSimulator checkbox must be checked for the Dash9x3 models to work correctly.