

# TRAINZ™ CONTENT CREATION PROCEDURES

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## INTRODUCTION

Welcome to the Content Creation Procedures document.

This document is designed to be read by persons intending to create 3<sup>rd</sup> party content for Trainz or those persons who are interested in a 'behind the scenes' view of how content is created.

The purpose of this document is to detail the way in which 3<sup>rd</sup> party content should be designed and built to be compatible with SP3 and future versions of Trainz. You will find during your reading of this document that a number of the features and requirements outlined do not apply to SP3 because some of them apply to future versions of Trainz. We ask all content creators to make a concerted effort to follow the procedures in this document as much as possible. Doing so will reduce the work needed in the future and will help us make sure that future versions of Trainz have a much greater chance of working with your content.

Finally, after much consideration, we have decided to make this document a formal procedures document as opposed to a guidelines document. Given the importance of creating content that is standardized we feel that the best way to accomplish this is for all content to be created to a common set of criteria. We ask that all content creators adopt the procedures outlined in this document without delay. For its part, Auran will make every effort to support content that is created to the procedures outlined in this document in future versions of Trainz.

You will find some sample config files attached within the zip file where this document was extracted. These are referred to in the 'interiors' and the 'mosignal' sections of this document.

## OVERVIEW

Creating new content for Trainz is a five-step process. Not all steps are required, but a minimum of 3 are usually required.

### 1: Research (Mandatory)

The research step involves finding out all the relevant information that you can about the item you wish to create. Research usually covers the accumulation of data about the content in question. It may be performance figures, taking photos or even a visit in person to see the object you wish to create.

### 2: Create a .PM or .IM file (Optional)

A .PM file is a Progressive Mesh file. PM is an acronym that stands for Progressive Mesh. An .IM file is an Indexed Mesh. These files are created by '3D Studio Max' or 'Gmax' using an Auran Jet plug in. Any file that has the .PM extension is a Progressive Mesh file, similarly any file with the .IM extension is a Indexed Mesh file.

Gmax is a program created by Discreet. It's a game-specific version of their very popular '3D Studio Max' program. Gmax ships with the retail version of Trainz and is available for free download from the Discreet site ([available here](#)). In order to use Gmax with Trainz you will also need to download the Trainz 'Content Creation Pack' ([available here](#)) from the Auran website. This pack installs into Gmax and will enable you to export content directly into the .PM or IM file formats that Trainz uses.

So what is Gmax? Gmax is a 3D creation program that enables you to make things such as locomotives, items of rolling stock or scenery and trackside accessories. It is quite a complex program, and you can expect quite a steep learning curve should you decide to dive in and learn it. However, on the plus side, the benefits are well worth it, and if you take the time to learn it well, you will certainly be able to create some masterpieces.

### 3: Create textures (Optional)

Creating textures for your creations is a very important part of the content creation process. Making good textures is one of the hardest things to do; but they can be the difference between a good-looking model and a great looking model.

Textures are created for Trainz using any 3<sup>rd</sup> party program that supports the creation of 2D art, like Adobe Photoshop or Paint Shop Pro. If you're on a budget I'd suggest Paint Shop Pro. The latest version retails for just US\$109 boxed and it is a great program. Photoshop is arguably a more powerful program, but it's equally more expensive.

#### 4: Create a configuration file (Mandatory)

Each and every item of content for Trainz has what's called a configuration file (config.txt). This file is a human-readable text file that resides in the directory along with its corresponding item of content. Depending on what the item of content is will determine the necessary contents of the text file, but it will always contain a description and a KUID (A KUID is defined a little later in this document).

Items of content created for Trainz are always assigned to a group of content called a KIND. A KIND is a type of content that has particular properties that Trainz recognizes. For example one type of KIND is a TRACK. Trainz understands that items of content that belong to a group of this KIND are able to be used to run locomotives and rolling stock over it. Other KINDs are listed further below in this document.

#### 5: Upload your new content to the Auran Download Station (Mandatory)

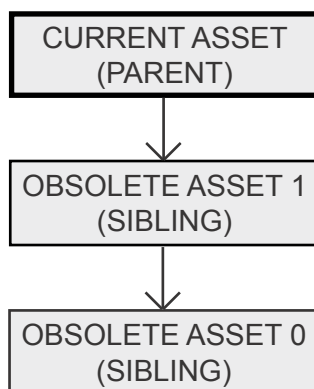
Auran has produced a product called 'Content Dispatcher' (The latest version is 2.0 and will be available very shortly) which is a stand alone application that content creators use to package their creations prior to uploading them to Auran.

Content Dispatcher is a very useful application in that it automatically performs error checking and simplifies the preparing your content for upload.

Put simply, Content Dispatcher understands the way Trainz works and as such it is able to watch for a number of common mistakes that you may make in preparing your content for distribution. It can also spot certain types of errors within the config.txt file; and hence we strongly recommend its use in preparing your content.

Since the Auran Download Station expects the uploads that it receives to have been processed by the Content Dispatcher, using any other utility may mean that the contents of your upload pack may be incorrectly identified and processed. The Content Dispatcher program embeds information into the upload package that is required by the Auran Download Station. Not using Content Dispatcher will almost certainly cause this process to fail and your content will not be easy to locate or may be missing vital 'parental' information.

The term 'parental' is a general term used to describe the asset's heirarchy - much like a family tree. See the following example:



*Side note: 'Parental' information is a concept new to Trainz but we're sure you'll see just how useful it can be. As a content creator you may, from time to time, wish to make changes to content that you've already created and uploaded. Perhaps you made a loco shed and you've improved its look with a better 3D model and textures. Either way, you want to upload the new shed to Auran. The problem is that hundreds, maybe thousands of people have already downloaded your older shed and many hundreds of users have made layouts that included your old shed as well. How then do users know that you have a new shed available and how do users downloading the layouts using your shed know to get the new shed and not the old one?...*

*The answer lies in Parental information and the 'obsoletes' field in the contents config.txt file is the key to this. The obsoletes field is seen by the Auran Download Station when it receives an upload package from you. When it sees this entry, it causes your package to be processed in a special way. The obsoletes field tells the Download Station the 'old' KUID that your 'new' loco shed is replacing. The relevant entries in the config.txt file might look like this.*

```
kuid <KUID:1234:5678>
obsolete-table {
    0 <KUID:1234:5677>
}
```

This entry would tell the DS that your new loco shed (KUID 1234:5678) replaces your older shed (KUID1234:5677). Upon seeing this the DS does the following. It deletes your old loco shed but retains the index that pointed to it. It then updates that index such that it now points to your new loco shed. It then files your new shed and creates an index for it. So what has this accomplished? Well for one, when someone now comes to the DS and searches for KUID 1234:5677 (Your old shed) the DS will respond 'KUID 1234:5677 has been superceded by KUID 1234:5678' and then display the new shed for download. If they search for the new shed directly then it will be displayed. This parental information can go on indefinitely. In other words you can replace your older items over and over with new ones; and if you use the obsoletes fields, all will be well.

Perhaps the best example of the use of the obsoletes field is with layouts. Continuing the above example, a user downloads a map in which your old loco shed was used. Because they don't have your old shed they will receive the 'Update Content' report listing the old shed as missing content and providing a URL for them to locate it. Of course when they click on the link to search for your shed, the DS sees that the old shed has been replaced and promptly displays the new one for download, all without the user ever knowing anything about your content or how many revisions of it you've made!

*Side note: You may be wondering why it is that you only need to perform steps 1, 4 and 5 to make a new item of content. Surely you would need to either make a new model or re-texture an old one, right? Well you can in fact make a new item of content just by creating a new configuration file and then using a 3D model and a set of textures that have already been created. An example of this would be making a new locomotive with slightly different performance characteristics. In this case all that's required is to do the research, make a new configuration file that references the already created 3D model and textures and then upload it.*

By using the Content Dispatcher you package the content you've created into a parcel and then uploaded it to Auran's Download Station.

## WHAT IS A KUID?

A KUID is a serial number that is allocated to all content created for Trainz and can be thought of much like a bar code. A KUID takes the form of two numbers each separated by a colon; for example, 98765:43210 would be a KUID. As you can see, there are two numbers, one to the left and the other to the right of the colon.

## USER ID

The number to the left of the colon in a KUID is the USER ID of the content creator. This is the same number you will have entered into Trainz when you told it your USER ID and the same number that you got from the Planet Auran 'YOUR USER ID' selection. In fact, every member of the Trainz community who is a member of Planet Auran gets a USER ID. Now, you may be wondering why you need a USER ID if you don't intend to create any content for Trainz (like a new locomotive for example). Well, if you intend to make a layout at some point in time and you'd like to share that layout with your friends or other community members, then you are in fact a content creator.

## CONTENT ID

The number to the right of the colon in a KUID is the CONTENT ID. This is a number that the content creator assigns to each of their creations to uniquely identify them. The only circumstances where you would not assign a KUID to one of your creations is in the case of a saved layout, or when exporting from Trainz Paintshed. In these circumstances, number allocation will be done for you automatically with a number starting at 100,000 and going up from there. Numbers below 100,000 therefore are designed to be used by those members of the community who make other items of content (not made by Surveyor or Trainz Paintshed). In that case they can specify the number they use and there are guidelines governing the use and allocation of these numbers later in this document.

*Side note: In case you're wondering, two individual content creators can use the same CONTENT ID for their creations and Trainz will still be able to uniquely identify them since each CONTENT ID is preceded (To the left of the colon) by a USER ID. In other words 1:1 is seen differently from 2:1 by Trainz.*

## CONFIG.TXT

Each item of content that you create is required to have a config.txt file. This file is a simple text file that is used to describe the item of content to Trainz. The contents of a typical config file may look like this:

Blue text indicates Required tags

Green text indicates Optional tags.

```
kuid <KUID:1234:5678>
kuid-table {
    0 <KUID:1234:6000>
    1 <KUID:1234:6001>
    2 <KUID:1234:6002>
}
obsolete-table {
    0 <KUID:1234:5676>
    1 <KUID:1234:5677>
}
username "My locomotive"
description "This is an example Asset.
Note that you can have multiple lines but no double
quote characters in here."
region Australia
trainz-build 1.3
kind engine
category-class AD
category-region-0 US
category-region-1 UK
category-region-2 AU
category-region-3 NZ
category-era-0 1960s
category-era-1 1970s
author "Greg Lane"
organisation "Trainz Thingz"
contact-email "helpdesk@auran.com"
contact-website "<http://www.auran.com>"
```

*(kuid-table must be included where the config references additional KUIDs, such as a bogey, or a pantograph. The Download Station performs a search, and those found are added to the download pack)*

*kuid* Unique ID of this asset. Any subsequent versions of this asset MUST have a different KUID. The KUID contains basic creator information.

*kuid-table* A list of KUIDs required for this asset to function correctly.

*obsolete-table* A history of this asset. Each KUID listed is a previous version of this asset. If there are no previous versions display as follows:

```
obsolete-table {
}
```

*username* The human-readable *English* name of this asset.

*description* The human-readable multi-line *English* description of this asset.

*region* The country region to which this asset belongs. This should be one of the Auran-supplied region names

*trainz-build* The **Trainz** build number for which this asset was created.

*kind* The asset kind. Must be one of the Auran-supplied asset kinds.

*category-class* The class code for this asset. Classes are unique per *kind* of asset but may not be across all assets

*category-region-0* A list of REGION codes or REGION GROUP codes, starting at category-region-0 and progressing category-region-1, etc. with one code per tag

*category-era-0* A list of ERA codes, starting at category-era-0 and progressing category-era-1, etc. with one code per tag.



## KIND (Config variables)

### kind engine

File location - \Trainz\Engines\

Locomotive performance parameters...

Config.txt :

```
kuid <KUID:-1:42004202>
kind engine
rem F7 Generic Engine
flowsize {
trainbrakepipe 170000
epreservoirpipe 0.1
no3pipe 0.1
no4pipe 0.1
auxreservoirvent 0.1
auxreservoir_no3 0.1
auxreservoir_trainbrakepipe 0.1
autobrakecylindervent 0.1
auxreservoir_autobrakecylinder 0.1
equaliser_mainreservoir 0.06
equaliservent 0.06
equaliserventhandleoff 0.1
equaliserventemergency 0.1
no3pipevent 1.5
no3pipe_mainreservoir 0.1
compressor 10
trainbrakepipe_reservoir 1
trainbrakepipevent 0.06
no3pipe_autobrakecylinder 0.1
epreservoirpipe_autobrakecylinder 0.1
mainreservoir_ep 0.1
vacuumbrakepipe 0.1
vacuumbrakepipereleasevent 0.1
vacuumbrakepipevent 0.1
vacuumbrakereservoir_vacuumbrakepipe 0.1
vacuumbrakecylinder_vacuumbrakepipe 0.1
highspeedexhauster_vacuumbrakepipe 0.1
}
volume {
scale 1
trainbrakepipe 0.2
epreservoirpipe 0.2
no3pipe 0.2
no4pipe 0.2
auxreservoir 0.0384678
autobrakecylinder 0.00969387
vacuumbrakepipe 0
vacuumbrakereservoir 0
vacuumbrakecylinder 0
mainreservoir 0.9
equaliser 0.5
independantbrakecylinder 0.0103239
}
pressure
```

```

{
scale 1
compressor 0.00946941
mainreservoir 0.00946941
highspeedexhauster 0
brakepipe 0.00665741
brakeinitial 0.00609501
brakefull 0.00504051
indbrakefull 0.00504051
trainbrakepipe_start 0.00504051
epreservoirpipe_start 0
no3pipe_start 0
no4pipe_start 0
auxreservoir_start 0.00504051
autobrakecylinder_start 0.00507566
vacuumbrakepipe_start 0
vacuumbrakereservoir_start 0
vacuumbrakecylinder_start 0
mainreservoir_start 0.00806341
equaliser_start 0.00504051
independantbrakecylinder_start 0.00507566
}
mass {
scale 1
fuel 6.2156e+006
}
motor {
resistance 1.7
adhesion 2.5
maxvoltage 600
maxspeed 40
brakeratio 55000
    max-accel 3500
    max-decel 9000
axle-count 4
surface-area 80
moving-friction-coefficient .03
air-drag-coefficient .00017
}
region Australia
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class
category-region-0
category-era-0

```

*kind* – asset type

*rem* – comment used to display engine name

**flowsize** – rate of flow through pipes, generally leave these settings.

*trainbrakepipe* 170000  
*epreservoirpipe* 0.1  
*no3pipe* 0.1  
*no4pipe* 0.1  
*auxreservoirvent* 0.1  
*auxreservoir\_no3* 0.1  
*auxreservoir\_trainbrakepipe* 0.1  
*autobrakecylindervent* 0.1  
*auxreservoir\_autobrakecylinder* 0.1  
*equaliser\_mainreservoir* 0.06  
*equaliservent* 0.06  
*equaliserventhandleoff* 0.1  
*equaliserventemergency* 0.1  
*no3pipevent* 1.5  
*no3pipe\_mainreservoir* 0.1  
*compressor* 10  
*trainbrakepipe\_reservoir* 1  
*trainbrakepipevent* 0.06  
*no3pipe\_autobrakecylinder* 0.1  
*epreservoirpipe\_autobrakecylinder* 0.1  
*mainreservoir\_ep* 0.1  
*vacuumbrakepipe* 0.1  
*vacuumbrakepipereleasevent* 0.1  
*vacuumbrakepipevent* 0.1  
*vacuumbrakereservoir\_vacuumbrakepipe* 0.1  
*vacuumbrakecylinder\_vacuumbrakepipe* 0.1  
*highspeedexhauster\_vacuumbrakepipe* 0.1

**volume** – size of pipes and appliances

*scale* 1

*trainbrakepipe* ..... 0.2

brake pipe volume

*epreservoirpipe* .....0.2

For electro pneumatic braking - not currently in use, generally leave this setting

*no3pipe* ..... 0.2

Independent brake pipe

*no4pipe* .....0.2

Bail pipe - not currently in use, generally leave this setting

*Auxreservoir* .....0.0384678

Auxiliary reservoir volume.

*Autobrakecylinder* ..... 0.00969387

Brake cylinder volume.

*vacuumbrakepipe* .....0  
*vacuumbrakereservoir*..... 0  
*vacuumbrakecylinder*..... 0

For vacuum braking - not currently in use, generally leave this setting

*mainreservoir* .....0.9

Main reservoir volume.

*equaliser* .....0.5

Equalising reservoir volume

*independantbrakecylinder*.....0.0103239

Loco brake cylinder volume

**pressure** - brake system pressures.

*scale 1*

multiplies pressure by given value, generally leave this setting.

*Compressor*.....0.00946941 (120psi expressed in grams/m<sup>3</sup>)

compressor maximum pressure.

*mainreservoir*.....0.00946941

main reservoir maximum pressure

*highspeedexhauster* .....0

For vacuum braking - not currently in use, generally leave this setting

*brakepipe* .....0.00665741 (80psi expressed in grams/m<sup>3</sup>)

brake pipe pressure when fully charged

*brakeinitial*.....0.00609501 (72psi expressed in grams/m<sup>3</sup>)

brake pipe pressure after initial service reduction (for self lapping brakes)

*brakefull* .....0.00504051 (57psi expressed in grams/m<sup>3</sup>)

Brake pipe pressure after full service reduction (for self lapping brakes)

*indbrakefull* .....0.00504051

Brake cylinder pressure for independant brake service.

*trainbrakepipe\_start* .....0.00504051

Brake pipe pressure on loading the game.

*epreservoirpipe\_start* .....0

For electro pneumatic braking - not currently in use, generally leave this setting

*no3pipe\_start* .....0

*no4pipe\_start* .....0

Generally leave these settings.

*auxreservoir\_start*.....0.00504051

Auxiliary reservoir pressure on loading the game.

*autobrakecylinder\_start* .....0.00504051

Train brake cylinder pressure on loading the game.

*vacuumbrakepipe\_start* .....0

*vacuumbrakereservoir\_start* ..... 0

*vacuumbrakecylinder\_start* .....0

For vacuum braking - not currently in use, generally leave this setting

*mainreservoir\_start* .....0.00806341 (100psi expressed in grams/m<sup>3</sup>)

Main Reservoir pressure on loading the game.

*equaliser\_start* .....0.00504051

Equalising Reservoir pressure on loading the game.

*independantbrakecylinder\_start* .....0.00504051

Locomotive brake cylinder pressure on loading the game.

## **mass**

### **scale 1**

multiplies fuel mass by given value, not currently in use, generally leave this setting.

*fuel* .....6.2156e+006

fuel level, not currently in use, generally leave this setting.

## **motor**

*resistance*.....1.7

power figure for DCC, higher resistance value=less power

*adhesion* .....2.5

adhesion parameter, higher value=greater adhesion

*maxvoltage* .....600

generally leave this setting

*maxspeed* .....40

maximum speed for DCC, expressed in metres per second.

*Brakeratio*..... 55000

brake force for pressure reduction

*max-accel*.....3500

*max-decel*.....9000

parameters for DCC acceleration & deceleration.

*axle-count*.....4

Resistance – axle count

*surface-area* .....80

Resistance – surface area

*moving-friction-coefficient*.....0 .03

Resistance – moving friction

*air-drag-coefficient*.....0.00017

Resistance – air drag

## Equalisation of Pressures

There is a point at which no further brake pipe pressure reduction will result in increased braking effort, this is known as full application or equalisation of pressures.

Imagine you made a 26 psi reduction when operating a loco with a 90psi brake pipe. 90psi in the train pipe minus 26psi reduction equals 64 psi in the pipe. Due to the 2.5:1 ratio of auxiliary reservoir volume to brake cylinder volume, the 26 psi reduction puts 64 psi into the brake cylinder.

As the pressure in the reservoir and the pressure in the cylinder is now equal, no more air will flow into the brake cylinder; and making a further reduction in brake pipe pressure will have no effect on braking.

Equalisation occurs at different pressures, depending on the train pipe feed pressure.

100 psi pipe (e.g. the UK locos - 7 bar) equalisation at 71 psi.

90 psi pipe (e.g. the US locos) equalisation at 64 psi.

72 psi pipe (e.g. French & Queensland locos) equalisation at 49 psi.

The easiest way to set your custom content to the desired brake pipe feed pressure is to copy the entire **pressure** section from the config of a loco that uses the pressure you desire.

\*Note: Converting PSI to Grams /m cubed...

e.g. 90psi... (90+14.7).0000703

104.7 x .0000703=.00736041

The next section of the config deals with power settings for CABIN mode control.

### ***throttle-power***

For each throttle position a curve can be edited which describes performance. Following are some example settings for notch 8.

```
8 {  
    0      300  
    10     300  
    36     150  
    40     20  
}
```

Notch 8 is announced at the start of the block.

In the left column is speed in m/s, you can enter as many points on the curve as you like.

In the right column is power.

Looking at these figures...

between 0 & 10 m/s in notch 8, the loco will deliver up to 300 kN.

between 10 & 36 m/s in notch 8, tractive effort will roll off to 150kN.

between 36 & 40 m/s in notch 8, tractive effort will roll off to 20kN.

The ability to set up different relative power settings at different notches allows for greater diversity in performance from one loco to the next; and even allows for more obvious changes in output such as loco transitions.

***dynamic-brake***

Dynamic brake can now also be configured per locomotive. The curves for each throttle position are described in the same way as for throttle power.

Following is an example of a notch 8 dynamic-brake setting...

```
8 {  
    1.33    0  
    5      200  
    10     170  
    36     150  
    40      0  
}
```

The settings above result in a dynamic brake strength for notch 8 that should be largely ineffective below 3mph. You can see that power is not delivered at speeds below 1.33 m/s.



**kind bogey**

File location - \World\custom\bogeys\

This is a bogey.

Referenced by the *bogey* tag in a traincar config.txt

Config.txt:

```
kuid <KUID:###:#####>
kind bogey
animdist 2.1
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class AC
category-region-0 AT
category-era-0 1980s
```

*animdist* - The distance travelled in meters by the bogeys in 1 second (30 frames) of animation. Leave this tag out if the bogey is not animated. Bogey animations are called "anim.kin".

**kind traincar**

File location - \World\custom\trains\

This is a locomotive or car item.

Config.txt:

```
kuid <KUID:###:#####>
kind traincar
origin AUT
name OBB 1044
company OBB
mass 84000
bogey <KUID:###:#####>
pantograph <KUID:###:#####>
interior <KUID:###:#####>
engine 1
fonts 2
running-numbers {
  rn-0 #104420
  rn-1 #104427
  rn-2 #104430
  rn-3 #104452
}
enginespec <KUID:-1:42004207>
enginesound <KUID:-1:42003002>
hornsound <KUID:-1:42003101>
smoke0
{
  attachment      a.steam.l
  mode             anim
  color            255,255,255,150

  start           0
  period          0.4
  rate            2
  velocity        1
  lifetime        2
  minsize         0.05
  maxsize         1
}
description " "
kuid-table {
  0 <KUID:###:#####>
  1 <KUID:###:#####>
  2 <KUID:###:#####>
}
obsolete-table {
}
username "My locomotive"
trainz-build 1.3
category-class AC
category-region-0 AT
category-era-0 1980s
light_color 255,255,255
ditch_color 255,200,200
```

*origin* - The Country Abbreviation

*company* - The Locomotive or car owner

*mass* - Mass in kilograms

*bogey* - The bogey kuid number (default for a.bog0 and a.bog1)

*bogey-1* The bogey kuid number for a.bog1 (Used only if different to a.bog0)

*bogey-r* and *bogey-1-r* Used instead of 'bogey' and bogey-1. The bogey will have reversed orientation. Note: This will cause bogey animation to play in reverse.

*pantograph* -The pantograph kuid number inserted at a.pant0, a.pant1, etc. Use this tag only when needed.

*interior* - Kuid number of the required interior. Inserted at a.cabfront. Use this tag only when needed eg Locomotive's.

*engine* – States type of traincar. 1 if a Loco, 0 if a car

*fonts* – Indicates how many types of numbering fonts used.

E.g. 0 = no fonts used

1 = one font

Digit textures (*digit\_1.tga* to *digit\_6.tga*) replaced automatically with alphanumeric textures (*alphanumeric\_0* to *alphanumeric\_9*) as numbers are changed in 'My Collection'.

2 = two fonts

Digit textures (*digit\_1a.tga* to *digit\_6a.tga* and *digit\_1b.tga* to *digit\_6b.tga*) replaced automatically with alphanumeric textures (*alphanumeric\_0a* to *alphanumeric\_9a* and *alphanumeric\_0b* to *alphanumeric\_9b*) as numbers are changed in 'My Collection'.

*running-numbers* – The default numbers viewed before being changed in 'My Collection'. Generally Auran uses 4 variations of numbers (up to 6 digits each). Note: This tag not required if *fonts 0* is used.

*enginespec* – The engine kuid number. This specifies the driver physics boundaries for the traincar. Located in \Trainz\Engines\

**WARNING: ALTERING *ENGINESPEC* FIGURES MAY RESULT IN UNDESIRE EFFECTS IN PERFORMANCE AND BEHAVIOR OF YOUR TRAINS. (MAKE BACK-UP COPIES OF YOUR ENGINE CONFIG FILES!!)**

*enginesound* - The kuid number for the traincar's sound. Custom sounds to be located in \world\custom\enginesound\ *Refer: Enginesound*

*hornsound* -The kuid number for the traincar horn sound. Custom horn sounds to be located in \world\custom\hornsound\ *Refer: Hornsound*

*smoke0* – Sets boundaries for smoke, steam, vapor and similar effects. *Refer: Smoke Effects*

*description* “ “ - Description of model for 'My Collection' information

*light\_color* - headlight colour

*ditch\_color* - ditch light colour

## kind enginesound

File location - \World\custom\enginesound\

This is the traincar sound.

Referenced by the *enginesound* tag in a traincar config.txt

Config.txt:

```
kuid <KUID:###:#####>
kind enginesound
obsolete-table {
}
username ""
description " "
trainz-build 1.3
category-class AC
category-region-0 AT
category-era-0 1980s
```

Sound .wav files to be located in the same subfolder as the enginesound config.txt.

down 2 - 1.wav	up 1 - 2.wav	idle 1.wav	start 1-1.wav
down 3 - 2.wav	up 2 - 3.wav	idle 2.wav	stop 1-1.wav
down 4 - 3.wav	up 3 - 4.wav	idle 3.wav	
down 5 - 4.wav	up 4 - 5.wav	idle 4.wav	
down 6 - 5.wav	up 5 - 6.wav	idle 5.wav	
down 7 - 6.wav	up 6 - 7.wav	idle 6.wav	
down 8 - 7.wav	up 7 - 8.wav	idle 7.wav	
		idle 8.wav	

**kind hornsound**

File location - \World\custom\*hornsound*

This is the traincar horn sound.

Referenced by the *hornsound* tag in a traincar config.txt

Config.txt:

```
kuid <KUID:###:#####>
kind hornsound
obsolete-table {
}
username ""
description ""
trainz-build 1.3
category-class
category-region-0
category-era-0
```

Sound .wav files to be located in the same subfolder as the hornsound config.txt.

horn.wav

idle.wav

**kind interior**

File location - world\custom\Interiors\

This is the traincar interior.

Referenced by the *interior* tag in a traincar config.txt

Config.txt:

```
kuid <KUID:####:#####>
kind interior
mesh interiormesh.pm  (main .pm file)
camera 0.8, 0.91, 0.4
attachment {
```

*(Refer to additional interior config files provided in .zip file as different loco types have different requirements)*

```
}
obsolete-table {
}
username ""
description ""
trainz-build 1.3
category-class AC
category-region-0 AT
category-era-0 1980s
```

*mesh* - .pm model file

*camera* - Camera position relative to a.cabfront (0,0,0 = left/right, front/back, up/down)

*attachment* - Start of attachments section. Specifies additional meshes and types inserted at specified attachment points within the main .pm model.

### Interior Attachment Types:

*pantograph\_lever* – Pantograph lever/switch. For raising and lowering pantographs on electric locos.

*horn* – Horn

*independantbrake\_lever* Independent (Loco) brake lever

*reverser\_lever* – Reverser lever

*throttle\_lever* – Throttle / power handle

*trainbrake\_lever* - Train brake lever - self lapping

*trainbrakelap\_lever* - Train brake lever with lap position.

*dynamicbrake\_lever* – For selecting dynamic brake

*bplocomain\_needle* – Main reservoir pressure needle

*bploco\_equalizer* – Equalising reservoir pressure needle

*bptrainbrakepipe\_needle* – Brake pipe pressure needle

*bptrainbrakecylinder\_needle* – Brake cylinder pressure needle

*speedo\_needle* – Speedometer needle

*ampmeter\_needle* – Power meter needle

*flow\_needle* - Flow gauge needle

*windows* – Textured mesh with low opacity (semi-transparent) to give impression of reflection. This mesh has the same 3D origin point as the main .pm model, therefore does not require an attachment point

*wheelslip\_light* – A warning light mesh that is only visible when the locomotive loses traction. This mesh has the same 3D origin point as the main .pm model, therefore does not require an attachment point

*switch0*, *switch1* etc - Switches

*light\_switch* – Light switch

You can also attach miscellaneous meshes to attachment points. They have no current function in Trainz but they look pretty groovy ☺

E.g. a swivel chair

```
swivel_chair {
    kind lever
    mesh chair.pm
    att a.chair1
    limits 0, 8
    angles 6.8, -6.8
}
```

#### Interior Attachment variables:

Kinds: *lever*              Lever's, switches, dials etc

*needle*                  Needles

*pullrope*               Pullrope horn as in the F7

*light*                    Wheelslip light

*mesh* - .pm file inserted

*att* – Attachment point where mesh is inserted. If no attachment point is specified the mesh will be inserted at a.cabfront (the same insertion point as main mesh)

*limits* - Mathematical boundaries Trainz uses determine the objects function. These values vary as different objects use different mathematical units. Generally use the default values used in the config files provided.

*angles* - Rotational boundaries in *radians* relative to its attachment point.

*notches* - The position of notches within the angle boundaries. These are represented as decimal points between and including 0 and 1.

*notchheight* - The size of the notches specified.

*radius* – the notch position relative to the attachment point.

*mousespeed* – This controls the use of the mouse on screen. Use this to adjust the push/pull functioning of levers and dials for example.

*opacity* – Used for the window mesh to give transparency (and the impression of reflectivity).

## kind pantograph

File location - \World\custom\pant\

These are the animated mechanisms on the roof of electric locomotives that conduct to an electric catenary (wires) above.

Referenced by the *pantograph* tag in a traincar config.txt

Config.txt:

```
kuid <KUID:####:#####>
kind pantograph
obsolete-table {
}
username ""
description " "
trainz-build 1.3
category-class AL
category-region-0 US
category-era-0 1960s
```



## kind water

File location - world\custom\environment\

Config.txt

```
kuid <KUID:###:#####>
kind water
region Britain
normal Water1
reflection Water1_R
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class EW
category-region-0 UK
category-era-0
```

*region* – surveyor region.

*normal* – name of image for water texture, file should be 128 x 128 x 24bit tga.

*reflection* – name of image file for reflection, file should be 128 x 128 pixel x 256 color bitmap.

## kind environment

File location - world\custom\ environment\

```
kuid <KUID:###:#####>
kind environment
region Britain
normal mediumclouds
storm mediumClouds_Storm
night mediumClouds_Night
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class ES
category-region-0 UK
category-era-0
```

*region* – surveyor region.

*normal* – name of image file for normal sky, file should be 256 x 256 pixel 24bit tga file.

*storm* – name of image file for stormy sky, file should be 256 x 256 pixel 24bit tga file.

*night* – name of image file for night sky, file should be 256 x 256 pixel 24bit tga file.

## kind map

File location - world\custom\maps\

The config.txt for maps are automatically generated by Trainz Surveyor. You can add a soundscript to the config if desired such as the example below. Refer [Soundscripts](#)

Config.txt :

```
kind map
kuid <KUID:###:#####>
soundscript {
    morning {
        ambient 1
        value-range 1, 0.1
        volume 0.3
        sound {
            ctry_day_1.wav
        }
    }
    night {
        ambient 1
        value-range 0, 0.9
        volume 0.3
        sound {
            night_loop.wav
        }
    }
}
username Britain
workingscale 0
workingunits 0
water <KUID:-1:8009>
region Britain
```

## **kind groundtexture**

File location - world\custom\ground\

Config.txt :

```
kuid <KUID:###:#####>
kind groundtexture
region Britain
rgb 112, 115, 59
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class GL
category-region-0 UK
category-era-0
```

*region* – surveyor region.

*rgb* – color to be used in minimaps

## kind scenery

File location - world\custom\scenery\

Config.txt :

```
kuid <KUID:###:#####>
kind scenery
region Britain
type Foliage
light 1
nightmode home
night Custom_Object_Nightwindows
autoanimation 1
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class FS
category-region-0 UK
category-era-0
```

*region* – surveyor region.

*type* – surveyor type.

*light* – sets lighting to be used for object to be ambient or directional. 0 sets ambient lighting and object is light by general light value, 1 sets directional light which is affected by the position of the sun.

*nightmode* – optional *home*, *lamp* or *constant*. *Home* switches on night effect at dusk and off sometime during the night. *Lamp* switches the night effect on from dusk to dawn. *Constant* lights are on day and night.

*night* – name of object to be shown for night effect, stored in subfolder. Refer [Scenery objects with lights at night](#)

*autoanimation* – 1 = on, 0 = off

**kind track - Rails**

File location - world\custom\track\

This is used for creating rails.

Config.txt :

```
kuid <KUID:###:#####>
kind track
region Britain
type Rails
rgb 255,200,0
length 4
istrack 1
width 4
chunky_mesh mstand_tex
chunky_info 0, 2, 1.2, 0.2, 0.85, 0.3, 0.7
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TR
category-region-0 UK
category-era-0
```

*type* – surveyor type.

*region* – surveyor region.

*rgb* – color used for display in mini map

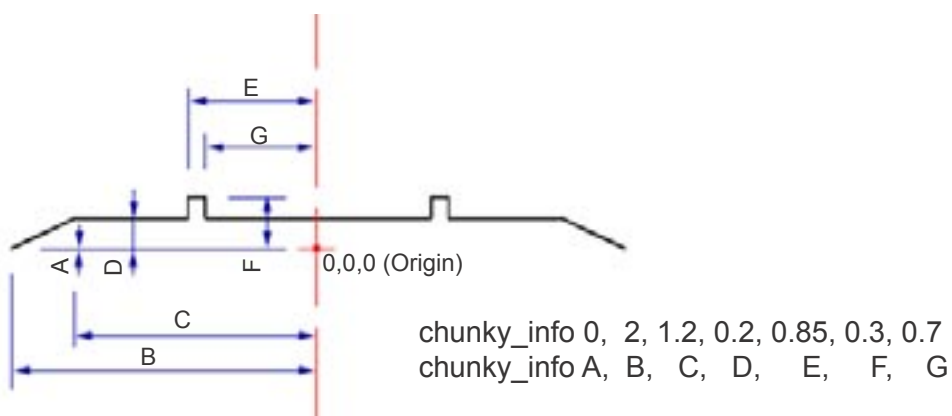
*length* – length of track piece

*istrack* – sets whether the track is a rail for trains or not. 1 is for rail track, 0 is not rail.

*width* – width of track in meters

*chunky\_mesh* – name of texture to apply to rail

*chunky\_info* – these values (in metres) define the shape of the mesh created for the track. See drawing below:



**kind track** – Road

File location - world\custom\track\

This is used for creating roads.

config.txt:

```
kuid <KUID:####:####>
kind track
region Australia
length 5
grounded 0.4
istrack 0
width 7.9
bendy 1
isroad 1
carrate 55
uncached_alphas 1
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class SR
category-region-0 AU
category-era-0
```

*length* – length of track segment in meters

*grounded* – height in meters for the road to be offset from terrain

*istrack* – 0 = is not train tracks

*width* – width of track mesh in meters.

*bendy* – switches how track is bent on corners, set as 1 allows the mesh to be deformed as the spline is bend around corners.

*isroad* – specifies track is a road with cars, set to 1 for cars to appear on road.

*carrate* – Defines traffic density on road (minimim seconds between each car generated). 0 = No traffic. Number must be greater than 3.

*uncached\_alphas* – this is used in certain situations to improve alpha sorting. This should only be set to 1 for tracks that use an alpha texture and are always placed flat near the ground (and are not used on bridges or turntables).

**kind bridge** – *Bridge*

File location - world\custom\track\ or world\custom\splines\

This kind is used for creating road and rail bridge.

Config.txt :

```
kuid <KUID:###:#####>
kind bridge
type Bridges
region Britain
length 20
bridgetrack <KUID:-1:100395>
trackoffsets -2.5,2.5
height -8
rgb 200,100,0
casts_shadows 1
istrack 1
initiator dark_stone_arch_2t_start
terminator dark_stone_arch_2t_end
endlength 40
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TB
category-region-0 UK
category-era-0
```

*type* – surveyor type – eg. bridge, tunnel or rail.

*region* – surveyor region.

*length* – length in meters of each bridge piece

*bridgetrack* – kuid for the type of rail or road used on bridge.

*trackoffsets* – distance in meters the rail/s are attached to the center of the bridge spline. Any number of tracks can be attached to the spline, only splines with the same track offsets can be connected together.

*height* – height from the track level to the base of the bridge supports, should be negative for bridges.

*rgb* – color used for display in mini map

*casts\_shadows* – defines whether or not the shadows are cast – 1 = shadows on, 0 = shadows off. If shadows are on there needs to be a *bridge\_shadow.im* model in a subfolder for the bridge and the initiator and terminator segments (if they are used).

*istrack* – 1 = is a rail bridge, 0 = road bridge.

*Initiator* - name of model to use at start of bridge, placed in subfolder with same name.

*terminator* - name of model to use at end of bridge, placed in subfolder with same name.

*endlength* – length in meters of the initiator and terminator models.



**kind bridge** – Tunnel

File location - world\custom\track\ or world\custom\splines\

This kind is used for creating road and rail tunnels.

Config.txt :

```
kuid <KUID:###:#####>
kind bridge
type Tunnels
region Australia
length 20
bridgetrack <KUID:###:#####>
trackoffsets -4.5, 4.5
height 8
rgb 180, 180, 180
istrack 1
initiator oz_tunnel_start
terminator oz_tunnel_end
endlength 20
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TB
category-region-0 AU
category-era-0
```

*type* – surveyor type – eg. bridge, tunnel or rail.

*region* – surveyor region.

*length* – length in meters of each bridge piece

*bridgetrack* – kuid for the type of rail or road used on bridge.

*trackoffsets* – distance in meters the rail/s are attached to the center of the bridge spline. Any number of tracks can be attached to the spline, only splines with the same track offsets can be connected together.

*height* – the height value for tunnels should be positive and greater than the height of the ceiling of the tunnel, but less than the height of the tunnel entrance structure.

*rgb* – color used for display in mini map

*istrack* – 1 = is a rail bridge, 0 = road bridge.

*Initiator* - name of model to use at start of bridge, placed in subfolder with same name.

*terminator* - name of model to use at end of bridge, placed in subfolder with same name.

*endlength* – length in meters of the initiator and terminator models.

**kind bridge** – Double Track

File location - world\custom\track\

This kind can also be configured to create splines that can be used for placing two or more tracks using the *trackoffsets* tag.

Config.txt :

```
kuid <KUID:###:#####>
kind bridge
type Rails
region Australia
length 20
bridgetrack <KUID:-1:100396>
trackoffsets -2.5,2.5
height 0
rgb 255,200,0
istrack 1
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TB
category-region-0 UK
category-era-0
```

*type* – surveyor type – eg. bridge, tunnel or rail.

*region* – surveyor region.

*length* – length in meters of each bridge piece

*bridgetrack* – kuid for the type of rail used on bridge.

*trackoffsets* – distance in meters the rail/s are attached to the center of the bridge spline. Any number of tracks can be attached to the spline, only splines with the same track offsets can be connected together.

*height* – 0 is used for double tracks.

*rgb* – color used for display in mini map

*istrack* – 1 = is a rail bridge.

## kind mospeedboard

File location - world\custom\trackside\

This is a speed limit sign.

Config.txt:

```
kuid <KUID:####:#####>
kind mospeedboard
trackside -2.5
speedlimit 5.56
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class WS
category-region-0 UK
category-era-0
```

*trackside* - this is a value that is the distance in meters the object is placed relative to the center of the track. Negative values will put the object on the left side of the track, and positive values will appear on the right.

*Speedlimit* - this value is the maximum speed allowed in meters per seconds.

To convert miles per hour to meters per second multiply by a conversion factor of 0.447. For example 10mph is 4.47 m/s.

To convert kilometers per hour to meters per second multiply by a conversion factor of 0.278. For example 10kph is 2.78m/s.

**kind mosignal**

File location - world\custom\trackside\

Refer to config files attached within ZIP file.

Config.txt

```
kuid <KUID:####:#####>
kind mosignal
light 1
trackside -2.7
function TrackSignal
region Britain
name "02"
fontsize 0.07
fontcolor 255,255,255
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class WA
category-region-0 UK
category-era-0
```

*region* – surveyor region.

*light* – sets lighting to be used for object to be ambient or directional. 0 sets ambient lighting and object is light by general light value, 1 sets directional light which is affected by the position of the sun.

*trackside* – origin offset from track center expressed in metres.

*function* - Must be set to TrackSignal

*name* – default number board entry

*fontsize* 0.07 – font size for number boards

*fontcolor* 255,255,255 – font colour for number boards

**signals**

The next section of the config explains which aspects the signal is capable of displaying, and also which light points are activated when each state is displayed. The supported aspects are configured by reference number as follows...

- 0 STOP
- 1 STOP THEN PROCEED
- 2 CAUTION AND LEFT DIVERGE
- 3 CAUTION AND RIGHT DIVERGE
- 4 CAUTION
- 5 PROCEED AND LEFT DIVERGE
- 6 PROCEED AND RIGHT DIVERGE
- 7 ADVANCED CAUTION
- 8 PROCEED

The following two aspects are only used for scenarios....

9 SLOW

10 MEDIUM SPEED

The aspect section of the config.txt is arranged as follows.....

```
signals
{
0 {                               (dont forget the 'space' between the number and bracket)
    light 7
}
2 {
    light 6,0,1,2,3,4
}
4 {
    light 6
}
}
```

Looking at the example above, under the heading 'signals' we see the states the signal is capable of displaying in the left column. From this extract we can see that this signal is capable of displaying aspects 0, 2 & 4.

When aspect 0 (stop) is displayed, light point 7 is activated.

When aspect 2 (caution left) is displayed, light points 6,0,1,2,3,4 are activated

When aspect 4 (caution) is displayed, light point 6 is activated.

### **lights**

Each light point needs to have a corona associated with it. Coronas are stored in each signal object's directory alongside it's textures. Examples have been packaged within the zip file this document was located.

```
lights
{
0 {                               (dont forget the 'space' between the number and bracket)
    corona corona_white.tga
}
1 {
    corona corona_white.tga
}
2 {
    corona corona_white.tga
}
3 {
    corona corona_white.tga
}
4 {
    corona corona_white.tga
}
5 {
    corona corona_green.tga
}
6 {
    corona corona_yellow.tga
}
}
```

```
7 {  
    corona corona_red.tga  
}  
8 {  
    corona corona_white.tga  
}  
  
9 {  
    corona corona_white.tga  
}  
}
```

Looking at the example above, under the heading 'lights' we see the light points that are attached to the 3D model. This model has 10 of them, they are named a.light0 to a.light9.

*From the signals section we know that when aspect 0 (stop) is displayed, light point 7 is activated.*

Looking at the extract above...

When light point 7 is activated, it displays corona red.

*When aspect 2 (caution left) is displayed, light points 6,0,1,2,3,4 are activated*

When light point 6 is activated, it displays corona\_yellow.

When light points 0 – 4 are activated, each displays corona\_white.

Signal placement is very important for correct operation of the system. There are some rules to consider while signalling your map which if not observed may cause problems with getting the correct aspects to display.

There are also various departures from prototypical operation which should be considered when designing new signalling, and also when installing it into a map.

Please refer to the SP3 Signalling document for further details. Default location: \Trainz\Docs

## kind mojunction

File location - world\custom\trackside\

This is used for creating junction control levers.

Config.txt :

```
kuid <KUID:###:#####>
kind mojunction
region Australia
trackside 2
light 1
mode0 lever1
mode1 lever2
soundscript
{
    toggle
    {
        trigger toggle
        distance 5, 100
        nostartdelay 1
        repeat-delay 1
        sound
        {
            points.wav
        }
    }
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class WX
category-region-0 AU
category-era-0
```

*region* – surveyor region.

*trackside* - this is a value that is the distance in meters the object is placed relative to the center of the track. Negative values will put the object on the left side of the track, and positive values will appear on the right.

*light* – sets lighting to be used for object to be ambient or directional. 0 sets ambient lighting and object is light by general light value, 1 sets directional light which is affected by the position of the sun.

*mode0* – the model name, located in subfolder, of the initial junction. Example refers to a file lever1\lever1.im

*mode1* – the model name, located in subfolder, of the switched junction. Example refers to a file lever2\lever2.im

*soundscript* – soundscripts for mojunction objects can be activated with toggle trigger message as in example. Refer to Soundscripts section (page 46)

## kind moturntable

File location - world\custom\scenery\

This is a turntable object.

Config.txt :

```
kuid <KUID:###:#####>
kind turntable
region Australia
type Trackside
light 1
mode0 oz_turntable2
mode1 oz_turntable2_spinner
angle 0,165,180,345
track <KUID:-1:100966>
snapmode 2
dighole 3,3
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TR
category-region-0 AU
category-era-0
```

*type* – surveyor type.

*region* – surveyor region.

*light* – sets lighting to be used for object to be ambient or directional. 0 sets ambient lighting and object is light by general light value, 1 sets directional light which is affected by the position of the sun.

*mode0* – the name of the main turntable object, model located in subfolder. Example refers to oz\_turntable2\ oz\_turntable2.im

*mode1* – name of the rotating turntable part, model located in subfolder. Example refers to oz\_turntable2\_spinner \ oz\_turntable2\_spinner.im

*angle* – specifies the angles at which the turntable stops.

*track* – kuid for track to be attached to turntable

*snapmode* – specifies the alignment of the turntable to the surveyor grid. 1 = origin snaps to grid (use for removing even dighole values), 2 = origin snaps to the center of a grid square (use for odd dighole values)

*dighole* – specifies the number of grid segments (length, width) to be removed from the surveyor grid to accommodate the turntable pit.



## kind mocrossing

File location - world\custom\scenery\

This is a level crossing.

Config.txt :

```
kuid <KUID:###:#####>
kind mocrossing
region Australia
type Trackside
track <KUID:-1:100396>
road <KUID:-1:100409>
mode0 level_crossing_1track
kuid-table {
    0 <KUID:###:#####>
    1 <KUID:###:#####>
}
obsolete-table {
}
username " "
description " "
trainz-build 1.3
category-class TR
category-region-0 AU
category-era-0
```

*type* – surveyor type.

*region* – surveyor region.

*track* – kuid for track to be used on crossing.

*road* – kuid for road to be used on crossing.

*mode0* – name of the model for the crossing object, stored in subfolder of same name. Example refers to level\_crossing\_1track\ level\_crossing\_1track.im

**kind activity**

File location - world\custom\scenarios\

Config.txt :

```

kind activity
kuid <KUID:-14:160>
username Highland Valley (DCC)

scriptlibrary SP3S1DCC
scriptclass SP3S1DCC

driver-settings
{
  autopilotmode 0
  startingtime 0.4
  timerate 1
  deraillevel 0
  showhelp 0
  controlmethod 0
  weather 3
  changeability 1
}

kuid-table
{
  highland_valley      <KUID:-12:132>

  f7_sfred              <KUID:-1:1>
  atsf_chair            <KUID:-1:100160>
  atsf_pullman_pine     <KUID:-1:100163>
  atsf_baggage          <KUID:-1:100159>
  cflow_fert            <KUID:-1:100012>
  prr_fm_tuscan         <KUID:-1:100017>
  40ft_boxcar           <KUID:-1:100085>
  pdhc_babyruth         <KUID:-1:100066>
  4bhopper_il           <KUID:-1:100929>
  50ft_boxcar           <KUID:-1:100086>
  gatx_pennsalt         <KUID:-1:100092>
  60ft_boxcar           <KUID:-1:100087>
  sd40_2_santafe        <KUID:-1:100871>
  4bhopper_il_coal_full <KUID:-1:101224>
  foundry_car           <KUID:-1:101220>
}

```

description "Take contol of the morning passenger service to Highland Valley stopping at all stations and return to Greenwood. Bad weather is forecast so drive with care.

Service : Highland Valley Passenger  
 Train No. : 7528  
 Consist : F7A + 5 cars  
 Weight in Tow : 300t  
 Total Length : 490"

*username* – name of scenario displayed in trainz

scriptlibrary – the name of the .gsl (compiled script) library on disk, without the “.gsl” extension.

scriptclass – the name of the scenario class within the script file.

driver-settings{} – specify the settings of this scenario, similar to Driver’s ‘settings’ screen. Allows you to set the weather, control method (0 – dcc, 1 – cabin controlled) etc.

autopilotmode	0=off
	1=on
startingtime	0..1 (0.5=midday)
timerate	1=real-time
deraillevel	0=none
	1=arcade
	2=realistic
showhelp	0=off
	1=on
controlmethod	0=dcc
	1=cabin
weather	0=clear
	1=cloudy
	2=drizzle
	3=rain
	4=stormy
	5=light snow
	6=medium snow
changeability	7=heavy snow
	0=none
	1=periodic
	2=extreme

kuid-table{} – a list of named assets used in the scenario. Scripts refer to assets (eg trains) by the names in this table.

**CONTENT ID RANGE GUIDELINES**

KUID Syntax: kuid <KUID:xxxxx:yyyyyy>  
The xxxxx is your USER ID.  
The yyyyyy is the CONTENT ID.

*Sidenote: Always use a new Content ID for each new item of content. For each new version of content make sure you use a new Content ID and make use of the obsoletes field of the config.txt file.*

1 to 9999 Locomotives (We would suggest using the locomotives road number if possible)

10000-14999 Passenger cars  
15000-19999 Freight cars

20000-20999 Routes (Only use these numbers if for some reason you wish to over-ride the Trainz assigned number (for distribution for example). Trainz automatically assigns a content ID above 100000 for routes)

21000-21999 Textures

22000-22999 Foliage

23000-23999 Signposts (Other than train signalling)  
24000-24999 Signalling

25000-25999 Buildings residential  
26000-26999 Buildings commercial  
27000-27999 Buildings industrial  
28000-28999 Buildings railroad

29000-29999 Transportation land (This includes only those objects that actually move)  
30000-30999 Transportation sea (Same as above)  
31000-31999 Transportation air (Same as above)

32000-32999 Bridges  
33000-33999 Tunnels

35000-35999 People  
36000-36999 Animals

37000-37999 Splines (including roads, powerlines etc)  
38000-38999 Rails

39000-39999 Buildings civil (Police, Fire, Hospital, Schools, Library)  
40000-40999 Buildings military

41000-49999 Reserved (Do not use this range, it is reserved for future use)

50000-50999 Bogies/Trucks  
51000-52999 Enginespec  
53000-53999 Enginesound  
54000-54999 Hornsound  
55000-56999 Interior  
57000-57999 Pants (Pantographs)

58000-58999 Public Fun Places (Stadiums, Racetracks, Amusement Parks, Public Monuments, Circus)

60000-99999 Anything else (Use at your discretion for objects that do not fit into the other categories)  
100000- Numbers in this range are auto allocated by Trainz. Do not manually allocate any numbers in this range.

## THE DO'S AND DON'TS OF CONTENT CREATION

### DO!

...make use of Auran Content Dispatcher (CD) to package and upload your content to Auran's Download Station. The CD forms an integral part of future versions of Trainz and bypassing it's use may render your content unusable once Trainz is able to natively interrogate the Download Station (DS).

...make sure that each and every version of your content is packaged and uploaded to the DS. In other words if you make refinements to your creation, send each new version to the DS.

...make sure that you use a new KUID for each version of your content. Even if you make minor refinements, every time an item of content is uploaded to the DS you must give it a new KUID.

...make sure that for each new version of content you create that you include a reference to the older version by using the 'obsoletes' keyword in the content config.txt file. This is required as people with older versions of your content need to be able to locate the new version of it. This keyword is used by the DS to index content so that the 'auto download' systems of Trainz will work. If you omit this keyword you will inhibit this function and make it a lot harder, or even impossible, for people to locate a new version of your content.

### DON'T!

...extract data from Auran's .JA files. This process is totally unsupported and content that references extracted files will almost certainly not work in future version of Trainz.

...create or use 3<sup>rd</sup> party utilities that alter any content files directly. If you are doing so in order to make a small change to a file to fix a problem, your best approach is to pack and upload a new version to the DS.

## DIRECTORY STRUCTURES

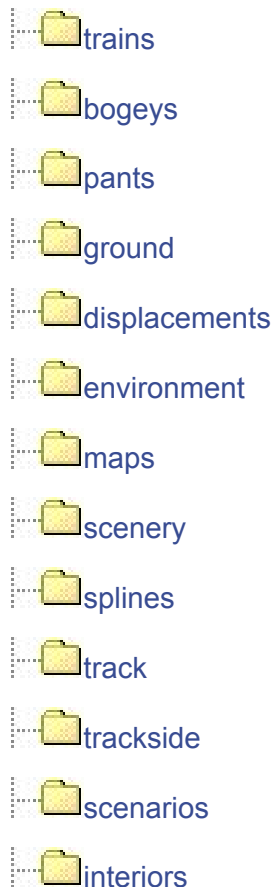
The 'custom content' directory structures in SP3 are different from those in previous versions of Trainz. This is in order to facilitate a 'clean' changeover from pre SP3 content to post SP3 content. By keeping the directory structures isolated we intend to be able to maintain the content in their distinct areas and allow a future version of Trainz to remove the pre SP3 directory structures, thereby completing the upgrade process.

**In order for this process to work correctly it is therefore very important that no pre-SP3 content is manually moved into the new SP3 directory structures.**

We do however realise that content creators need to test their own masterpieces in SP3 before packaging with Content Dispatcher takes place. Only in this instance should there be any manual transfer.

The default location for all SP3 custom content is:

C:\Program Files\Auran\Trainz\World\custom\



## Trains:

### 3D Studio MAX™ and Gmax™ Modeling Guidelines: Download [Source files](#) from the [Trainz Website](#)

The purpose of this section is to assist the production and installation of custom *Trainz*™ assets. We are assuming that third party developers have a sound knowledge of 3DS Max™ or Gmax™ and therefore only give references to model requirements, rather than a modeling tutorial

## Polygon limits:

Train **body** polygon recommendations (excluding bogies) = 3500-6000 polygons. Less is better ☺

The front end of the train body should be on the LHS when displayed in the RIGHT viewport.

Train body **shadow** polygon recommendations = 1000 polygons or less modeled to the same basic shape and 3D space as the body. No attachments are required within the shadow file.

Attachment points: (MAX & GMAX: 'Create' tab, 'Helpers', 'Point')

To maintain correct alignment, attachment points should be created in the TOP viewport.

These are 'points' in 3D space giving information on various aspects of the train as follows:

#### a.limfront

- marks the front of the train, used for coupling
- should be roughly the same distance from origin as a.limback
- bogeys can be further forward than a.limfront if desired
- determines the forward headlight position
- height above origin (or Z) = 0.89m (2' 10.8")

#### a.limback

- marks the rear of the train, used for coupling
- see a.limfront
- height above origin (or Z) = 0.89m (2' 10.8")

#### a.bog0

- front bogey attachment
- used for positioning the train on the track
- positioned at absolute centre of front bogey

#### a.bog1

- rear bogey attachment
- used for positioning the train on the track
- positioned at absolute centre of rear bogey

#### a.bog\* (2, 3, etc)

- any other bogey attachments

#### a.exhaust\* (0, 1, etc..)

- smoke generator attachments (where needed)

#### a.light\* (0, 1, etc..)

- light "corona" attachments

#### a.ditch\* (0, 1, etc..)

- ditch light "corona" attachments

#### a.cabfront

- attachment point for the front cabin of a loco
- located at the centre of cabin

#### a.pant\* (0, 1, etc..)

- attachment point for pantographs (where needed)

#### a.driver\* (0, 1, etc..)

- attachment point for driver mesh (for future versions of Trainz)

Carriage cars need only a.limfront, a.limback, a.bog0, and a.bog1

### Train textures:

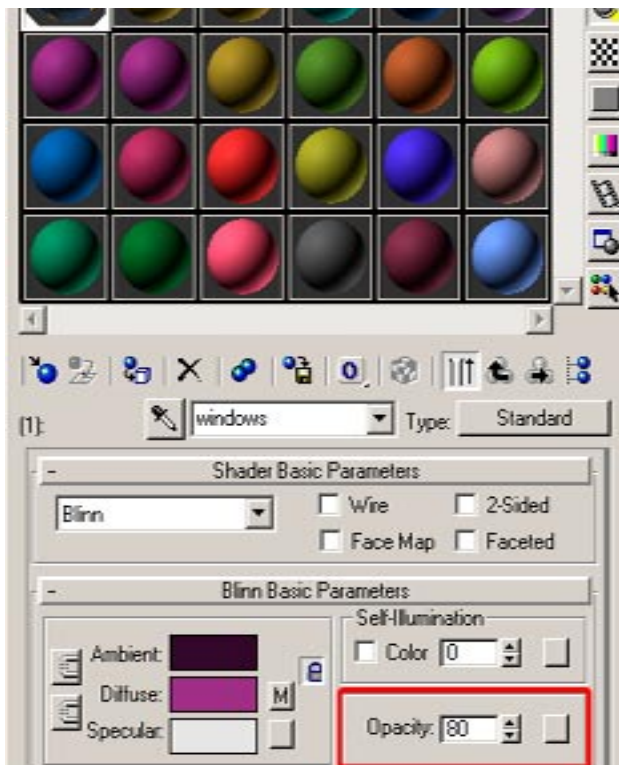
The materials are of *Multi/Sub-Object* type (one M/SO only per model) and we have used *UVW Map* and *Unwrap UVW* for texture allocation. Textures *must* be of following pixel dimensions: 8, 16, 32, 64, 128, 256, and 512 pixels. Maximum ratio = 1:8 e.g. 64x512

Diffuse Maps: In many cases a single 512x512 16-bit .TGA file is sufficient to texture a locomotive. Occasionally an extra texture (say 128x256) can be added.

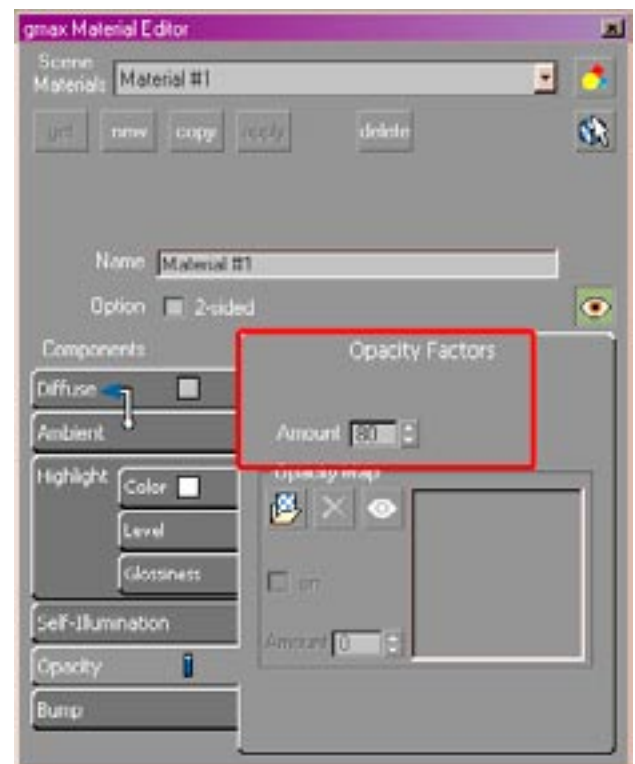
Reflection maps are supported (16 bit colour .bmp). We generally set train body reflection amounts (in MAX) to 10 and windows to 25. Opacity Maps (8 bit greyscale .bmp) are also supported to the same dimensions as the diffuse map.

*Reflection and Opacity maps must not be used together with-in the same texture. Reflection and Opacity maps must not be used on digits.*

Window opacity is derived from the material opacity setting



3D Studio MAX



G MAX



**Locomotive numbering:**

Dynamic locomotive numbering for custom content (using alpha-numbers) are now supported in SP3.

Digits are modeled as 6 individual rectangular polygons offset from the face of the Loco body (about 5mm). Digit polygons must be texture mapped using the correct texture naming and alpha-number naming conventions as follows:

If *one* font type used:

Digit textures (*digit\_1.tga to digit\_6.tga*) are replaced automatically with alphanumeric textures (*alphanumeric\_0 to alphanumeric\_9*) as numbers are changed in 'My Collection'.

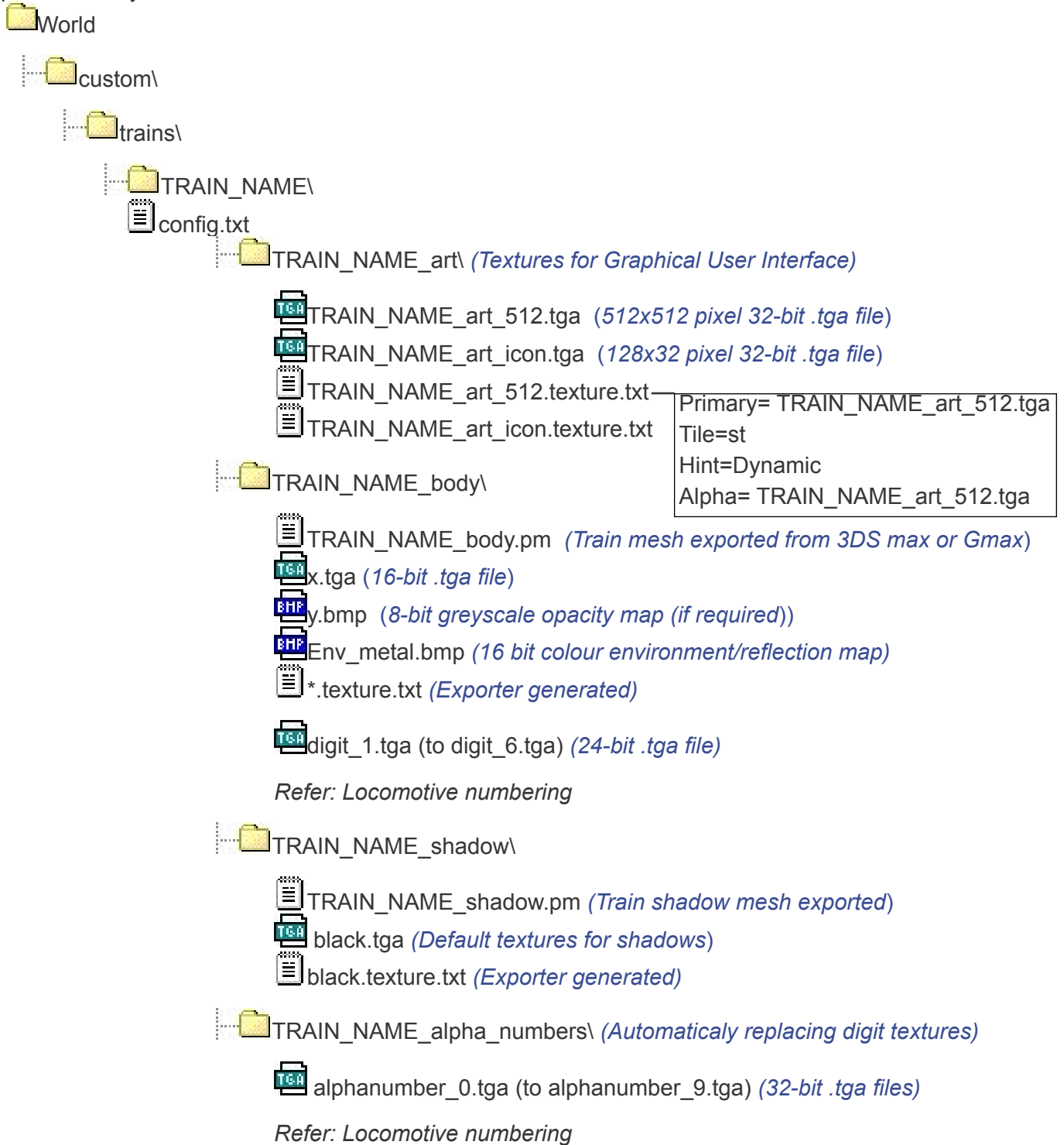
If *two or more* font type used:

Digit textures (*digit\_1a.tga to digit\_6a.tga and digit\_1b.tga to digit\_6b.tga etc*) are replaced automatically with alphanumeric textures (*alphanumeric\_0a to alphanumeric\_9a and alphanumeric\_0b to alphanumeric\_9b*) as numbers are changed in 'My Collection'.

Refer to [Source files](#) for configuration of Loco numbering digit's

## Directory Structure & Naming Conventions:

Typical directory structure for custom Trains should be:



## Bogeys:

**3D Studio MAX™ and Gmax™ Modeling Guidelines:** Download [Source files](#) from the *Trainz Website*

### Polygon limits:

Train **bogey** polygon recommendations = <2000 polygons per truck. Less is better ☺

Train bogey **shadow** polygon recommendations = <100 polygons per truck.

Carriage **bogey** polygon recommendations = <300 polygons per truck. Less is better ☺

Carriage bogey **shadow** polygon recommendations = <100 polygons per truck.

The absolute centre of bogeys should be located at World origin point (0,0,0)

Attachment points:

### a.ground\* (0, 1, etc..)

- slightly offset at the base of each wheel
- determines the wheel spark position

### Bogey textures:

The materials are of *Multi/Sub-Object* type (one M/SO only per model) and we have used *UVW Map* and *Unwrap UVW* for texture allocation.

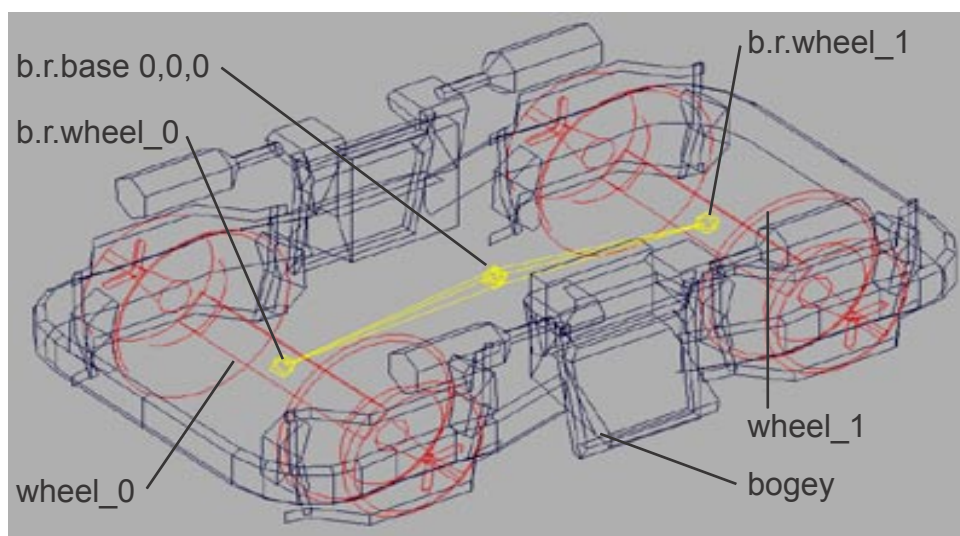
Diffuse Maps: Generally a single 128x128 16-bit .TGA file is sufficient to texture a bogey. Additional maps (e.g. for springs) are also used.

Opacity Maps (8 bit greyscale .bmp) are supported to the same dimensions as the diffuse map. Used regularly for carriage bogey sides. Reflection maps are supported but generally not used on bogey models.

### Exporting Models:

As per 'Modeling Trains' section. Remember naming conventions and to type in the file extension under *file name* (e.g. TRAIN\_NAME\_bogey.pm)

### Model configuration (animated bogey):



### Typical Hierarchal Sub-tree

```

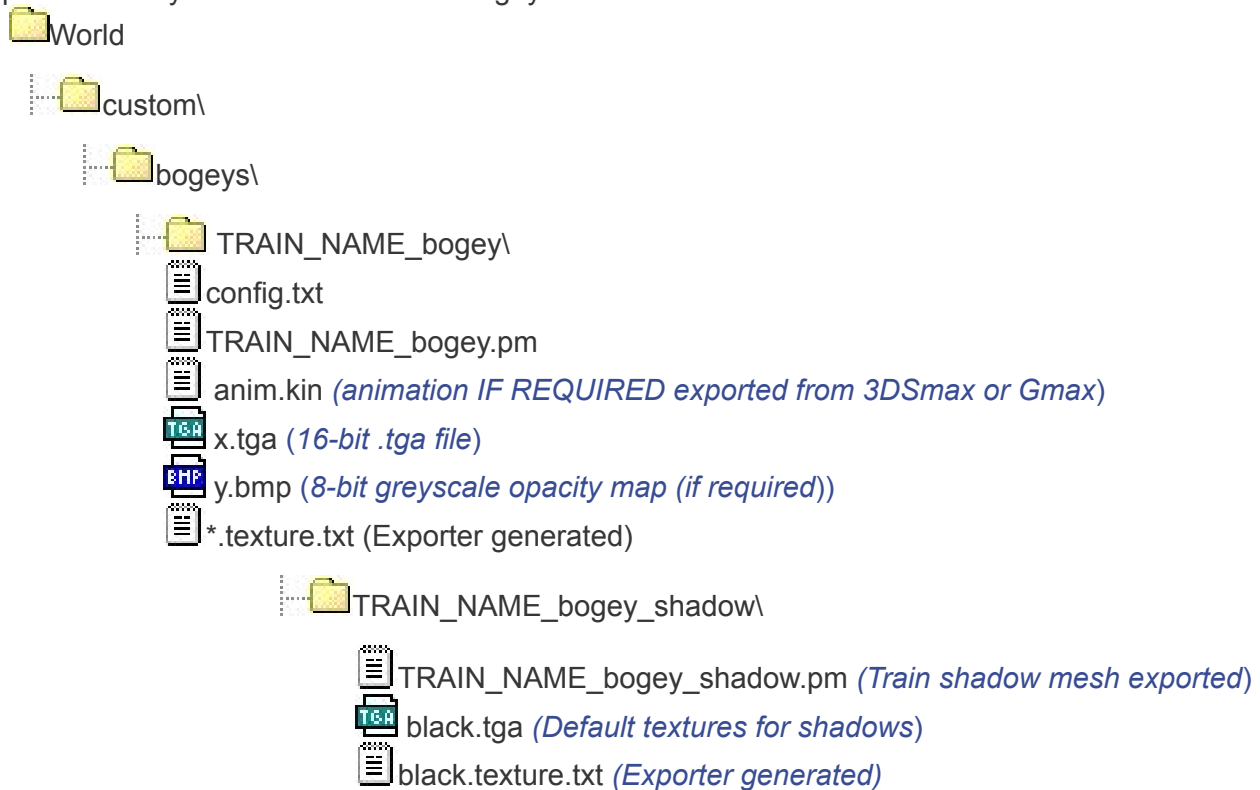
b.r.base
  b.r.wheel0
    wheel_0
  b.r.wheel1
    wheel_1
  bogey
  
```

In this example, the bogey will be inserted into the Train model attachment point (e.g. a.bog0) at b.r.base (or 0,0,0). b.r.wheel0, and b.r.wheel1 (bones) were animated to turn 360° over 32 frames. Refer [kind bogey](#)

Bones must have the b.r.\* naming convention for Trainz to recognise them.

## Directory Structure & Naming Conventions:

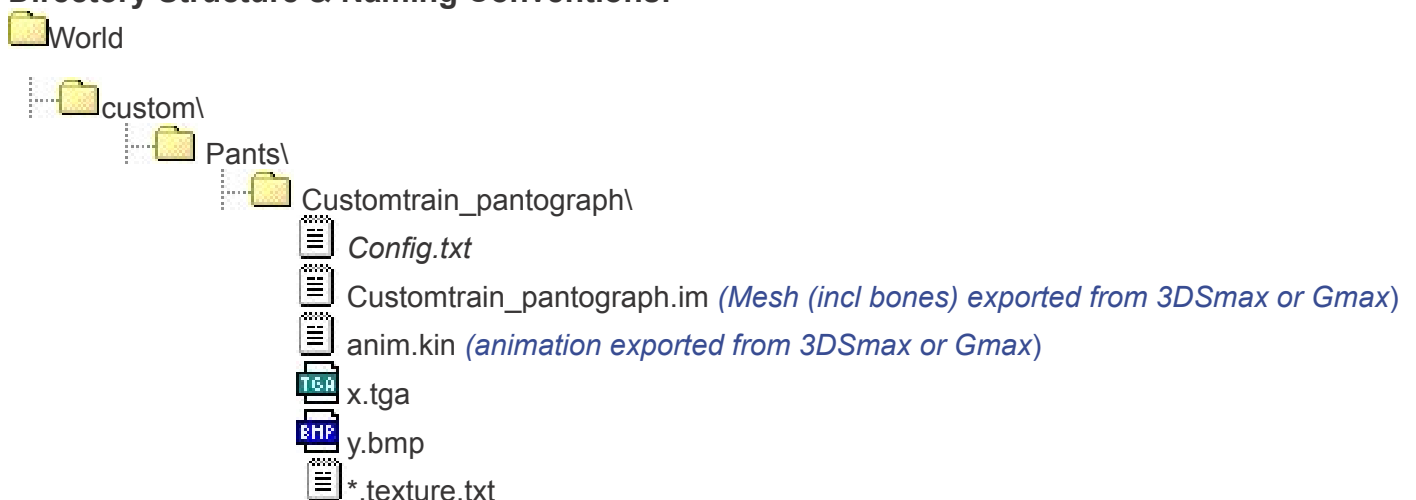
Typical directory structure for custom Bogeys should be:



## Pantographs (Pants) *Download [Source files](#) from the Trainz Website*

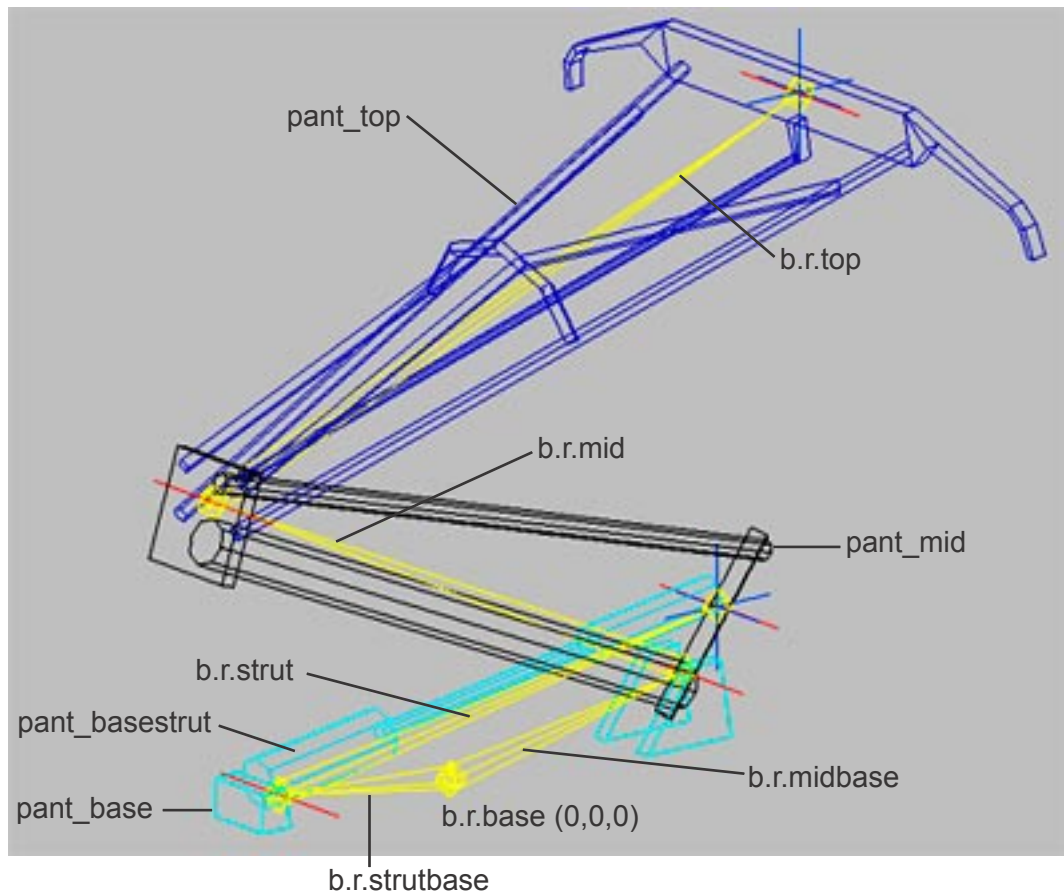
Pantographs are the animated mechanisms on the roof of electric locomotives that conduct to an electric catenary (wires) above.

## Directory Structure & Naming Conventions:



## Model configuration:

Typical model configuration: (based on the bb15000 pantograph)



In this example, the Pantograph will be inserted into the Train model attachment point (a.pant0) at b.r.base (or 0,0,0).

Generally Pantograph animations should take place over 16 frames only. Bones must have the b.r.\* naming convention for Trainz to recognise them. Refer to the [Source files](#) from the Trainz Website for a working example.

## Typical Hierarchal Sub-tree

```

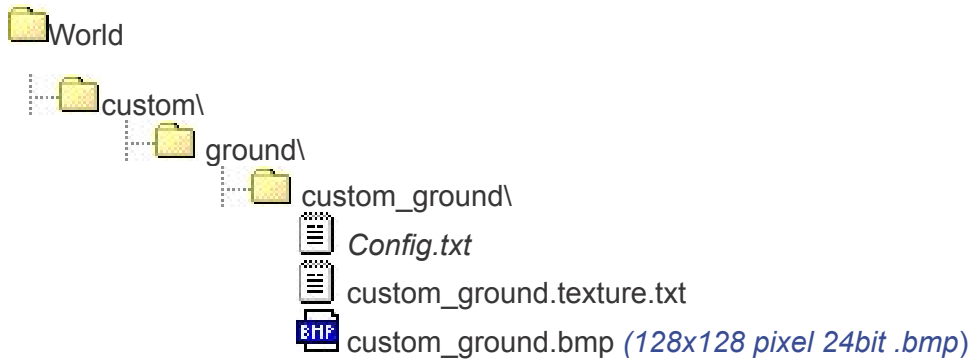
b.r.base
  b.r.midbase
    b.r.mid
      b.r.top
        pant_top
      pant_mid
    b.r.strutbase
      b.r.strut
        pant_basestrut
      pant_base

```

## Ground

Download [Source files](#) from the *Trainz Website*

Typical directory structure for a custom ground texture should be:

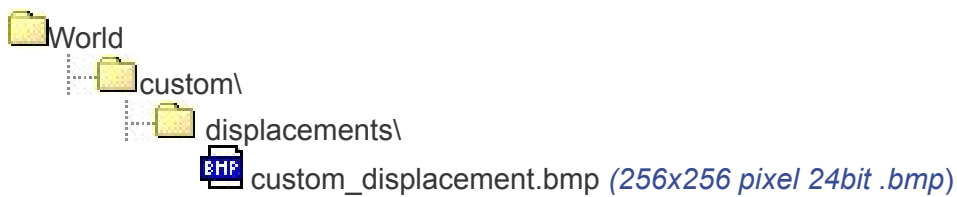


## Displacements

Download [Source files](#) from the *Trainz Website*

Displacement maps can be used to adjust the height and shape of an area of terrain.

Typical directory structure for a custom ground texture should be:



Note: Displacement maps do not require a config.txt file.

## Environment

Download [Source files](#) from the Trainz Website

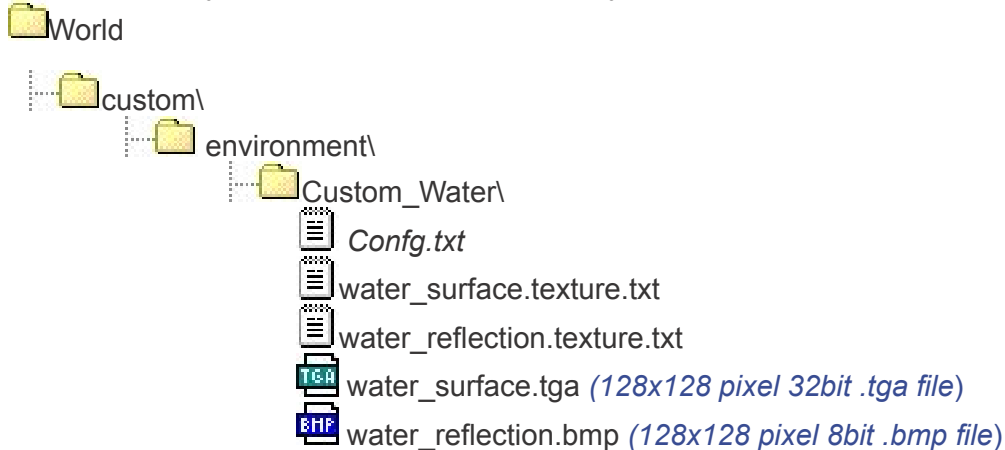
The Environment folder accommodates the use of different types of sky and water in Trainz™.

## Water

Download [Source files](#) from the Trainz Website

Custom water is based on a two image files, one for the surface texture and the other for the reflection.

Typical directory structure for a custom water type should be:

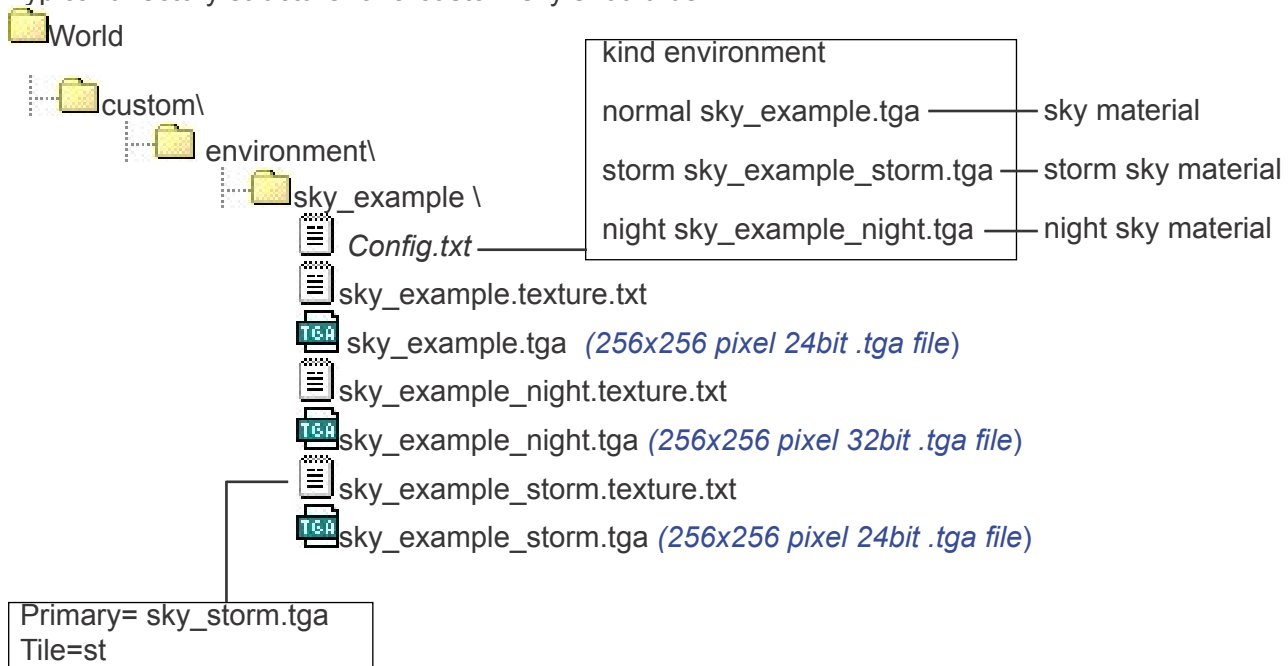


## Sky

Download [Source files](#) from the Trainz Website

Sky is generated from three source images.

Typical directory structure for a custom sky should be:

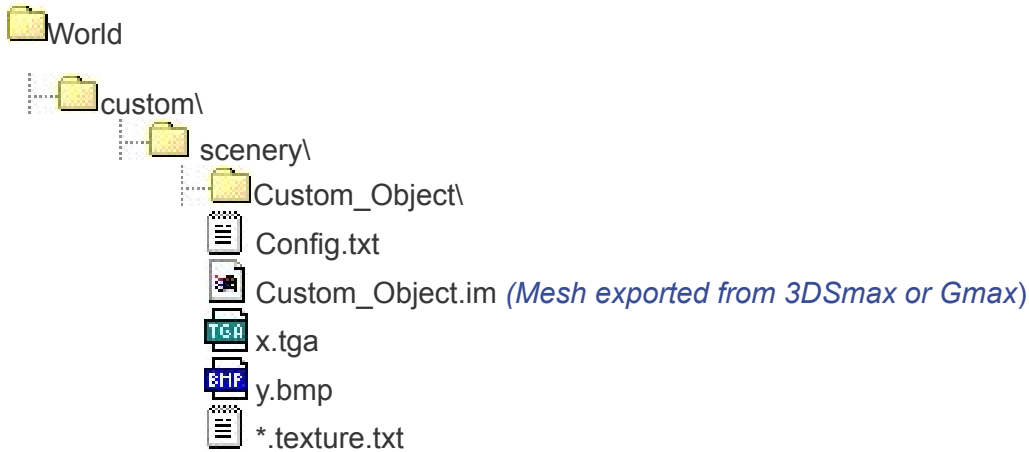


## Scenery

Download [Source files](#) from the *Trainz Website*

Scenery objects can vary greatly in size and appearance. It is recommended to keep the models as simple as is reasonable regarding texture and polygon usage.

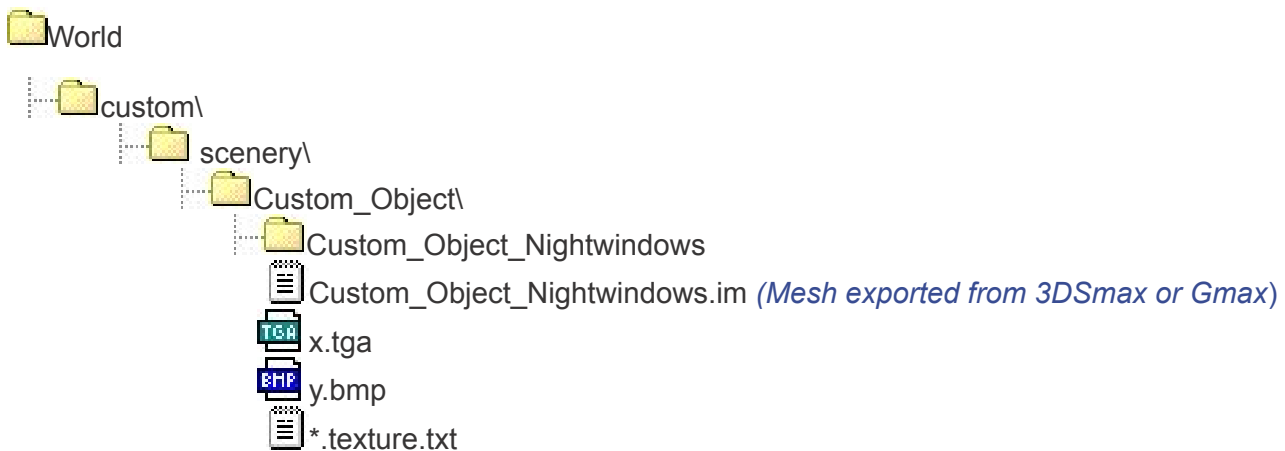
Typical directory structure for a custom scenery object should be:



### Scenery objects with lights at night

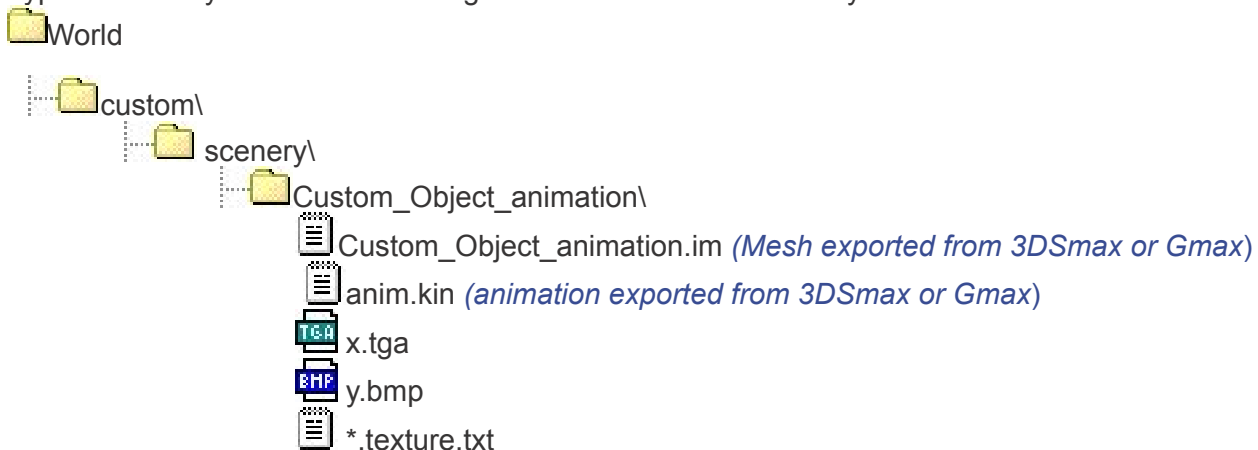
Objects just as buildings or signs can be made to appear to be have lights on at night. A model that contains only the lit areas of the object can be exported into a subdirectory.

Typical directory structure for adding night light effect to custom scenery should be:



### Scenery objects with animation

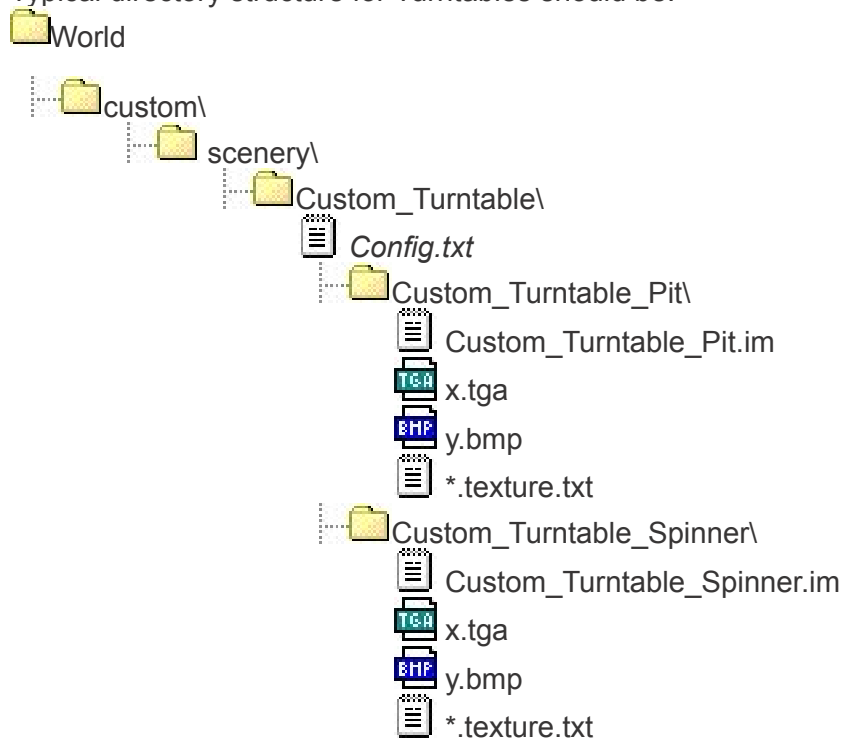
Typical directory structure for adding animation to custom scenery should be:





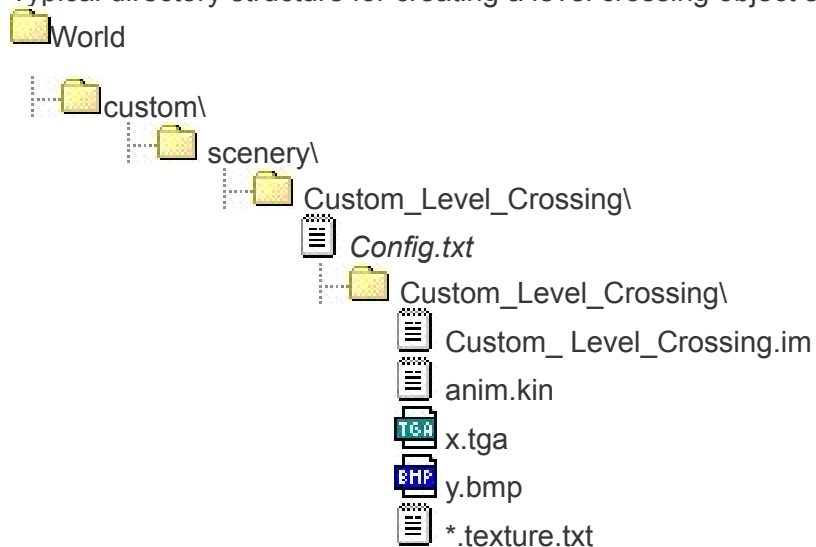
## Special Scenery Objects - Turntables

Typical directory structure for Turntables should be:



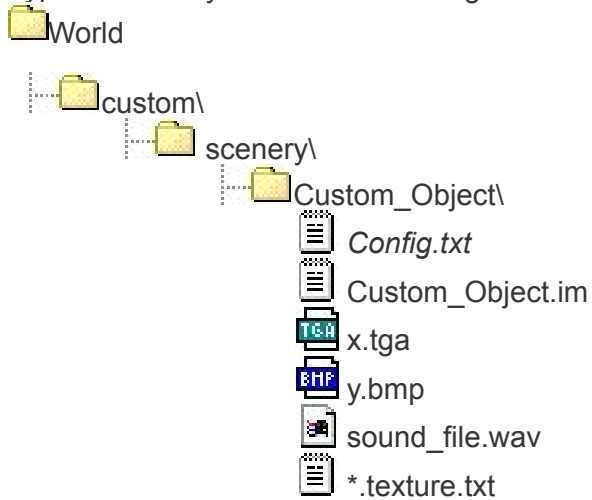
## Special Scenery Objects – Level Crossings

Typical directory structure for creating a level crossing object should be:



## Scenery Objects with sounds

Typical directory structure for adding sounds to custom scenery should be:

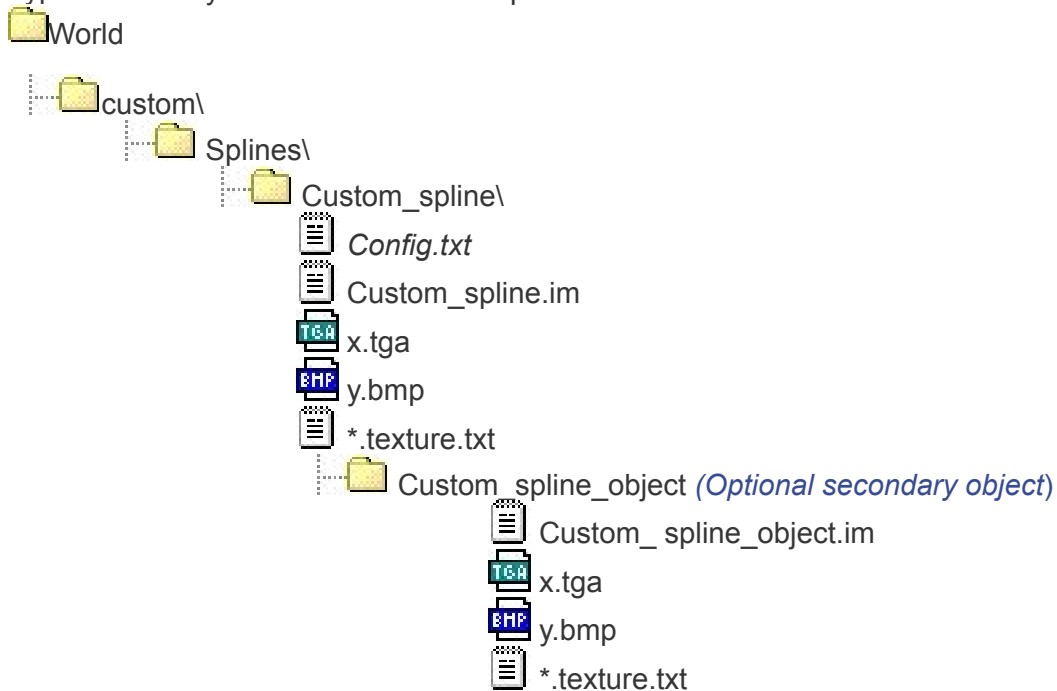


## Splines

Download [Source files](#) from the Trainz Website

Splines are a useful way of making things like fences and roads in Trainz™.

Typical directory structure for custom splines should be:



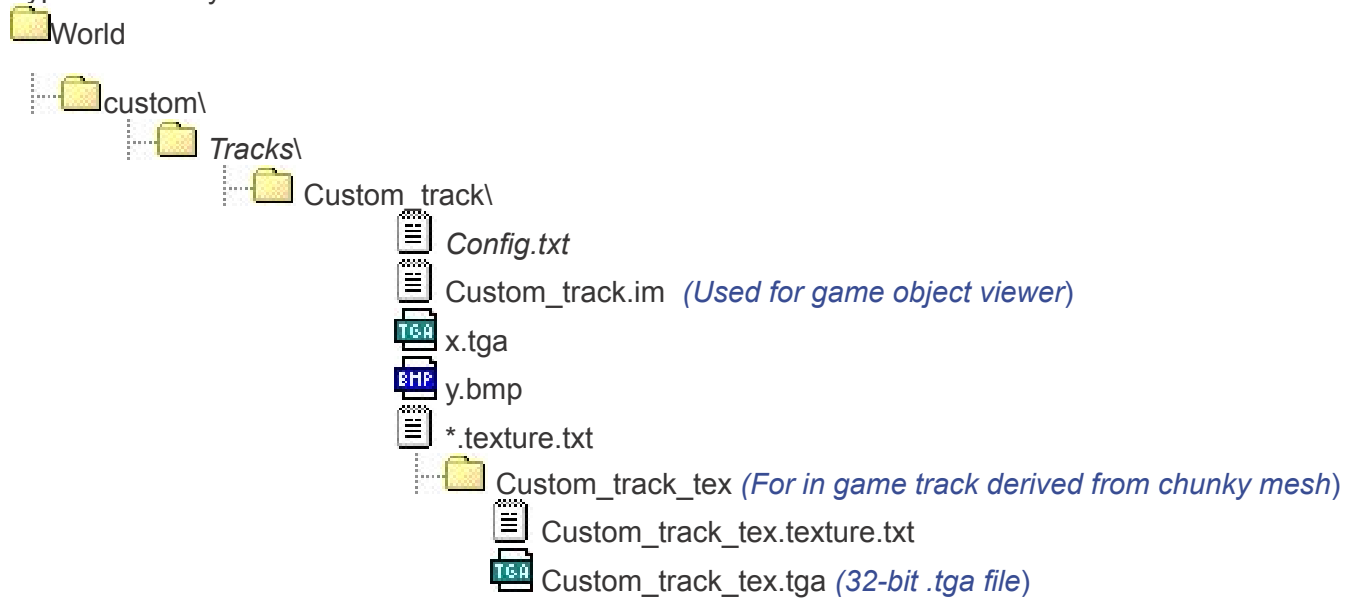
## Track

Download [Source files](#) from the Trainz Website

Track folder is used for rails, bridges and tunnels.

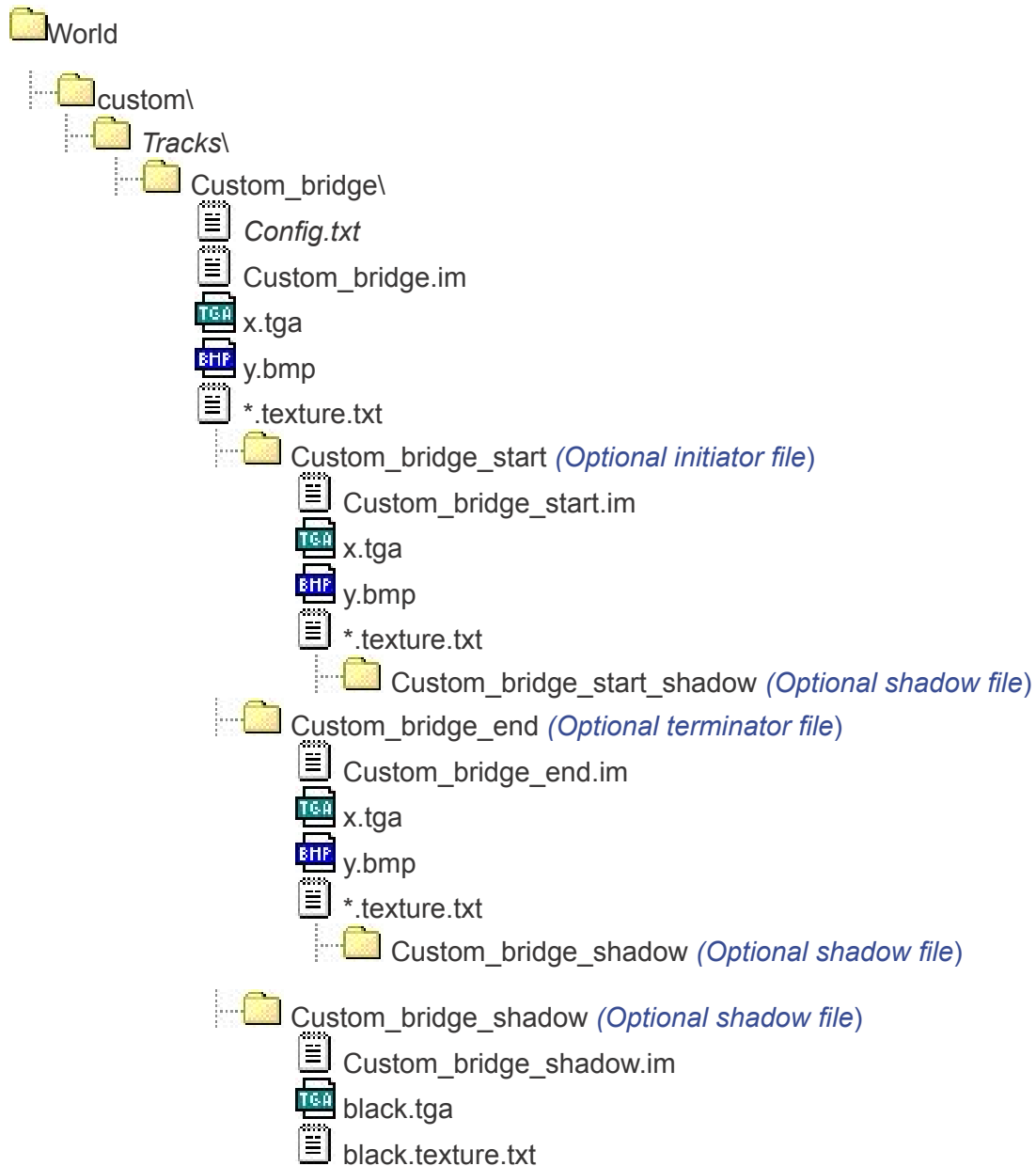
## Rails

Typical directory structure for custom track rails should be:



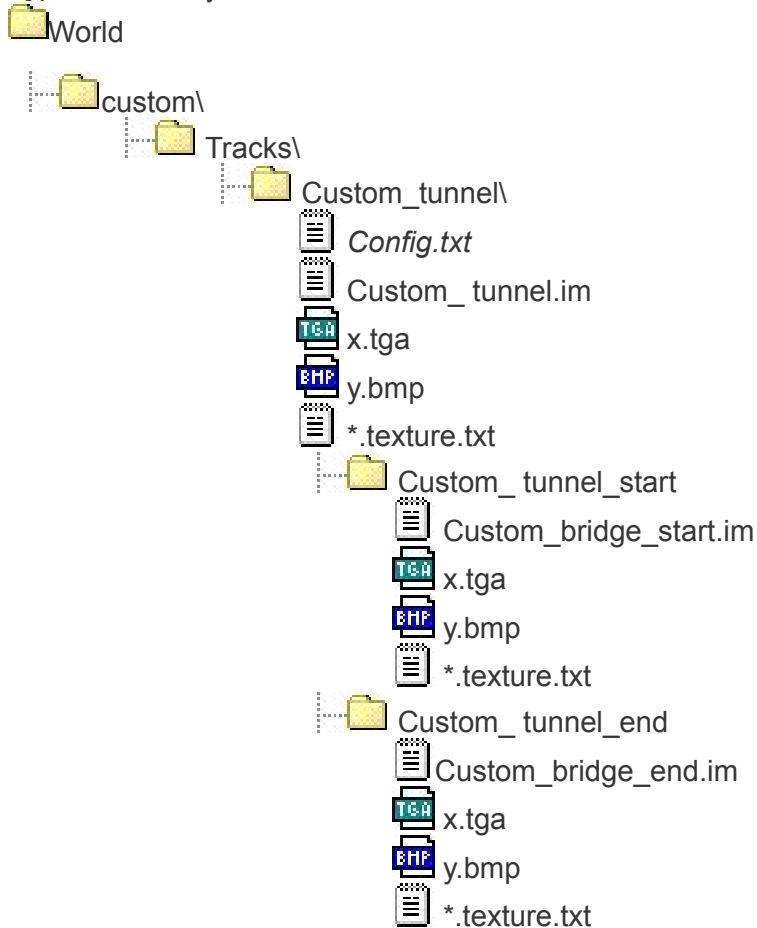
## Bridges

Typical directory structure for custom bridges should be:



## Tunnels

Typical directory structure for custom tunnel should be:

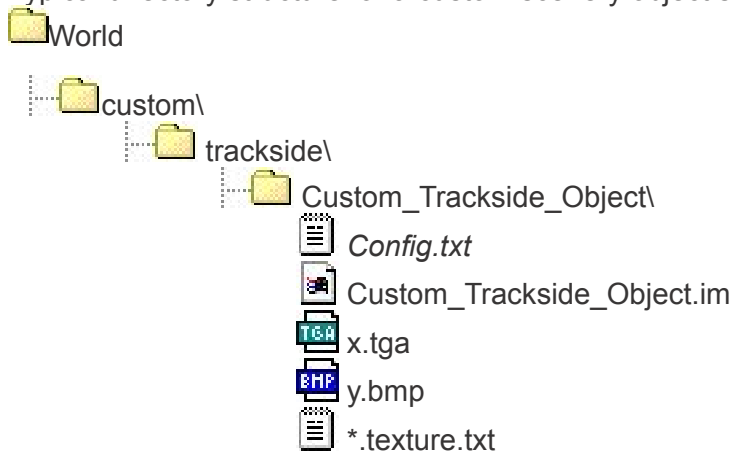


## Trackside

Download [Source files](#) from the Trainz Website

Trackside is used for special scenery objects that can be placed on or near the track, such as signals and speed limit signs.

Typical directory structure for a custom scenery object should be:



## SOUND SCRIPTS

Soundscripts give ambient or directional sounds to objects. They cannot be used on track, bridge or spline objects. Wav files should be located within the same directory as the config.txt file.

Config.txt : (MOJUNCTION)

```
kuid <KUID:###:#####>
kind mojunction
region Australia
trackside 2
light 1
mode0 lever1
mode1 lever2
soundscript
{
    toggle{
        trigger toggle
        distance 5, 100
        nostartdelay 1
        repeat-delay 1
        sound
        {
            points.wav
        }
    }
}
```

Config.txt : (THUNDERBOX)

```
kuid <KUID:###:#####>
region Australia
light 1
kind scenery
type Residential

soundscript
{
    dayloop {
        repeat-delay 15,50
        distance 5, 50
        sound
        {
            strain_1.wav
        }
    }
}
```

Config.txt: (MAP)

```
kind map
kuid <KUID:###:#####>
soundscript {
    morning {
        ambient 1
        value-range 1, 0.1
        volume 0.3
        sound {
            ctry_day_1.wav
        }
    }
    night {
        ambient 1
        value-range 0, 0.9
        volume 0.3
        sound {
            night_loop.wav
        }
    }
}
username Britain
workingscale 0
workingunits 0
water <KUID:-1:8009>
region Britain
```

Config.txt : (PEOPLE CROWD)

```
kind scenery
region Australia
kuid <KUID:###:#####>
type People

soundscript
{
    daysingle {
        repeat-delay 0
        distance 3,150
        sound
        {
            crowd_1.wav
        }
    }
}
```

**repeat-delay**

1 or 2 numbers (min, max, in sec)  
time to delay between the end of the sound playing, and playing it again  
randomised between (min .. max)  
default min = 0  
default max = min

**attachment**

attachment point on the object to attach the sound to.  
default: origin of parent object  
not used for ambient sounds

**distance**

2 numbers (meters)  
1st number = the distance at which the sound is played at 100%  
2nd number = the cut-off distance. doesn't affect the volume of the sound  
default: 50m, 150m

**sound**

list of .wav files to play (randomly picked)

**volume**

gain of the sound  
default 1.0 = 100%

**ambient**

0 or 1, default 0  
ambient sounds have no 3d "position" and may be stereo  
non-ambient (positional) sounds are positioned on the object and must be mono

**value-range**

2 numbers, currently used only for day/night sound effects.  
midnight is 0.5, midday = 0.0 or 1.0  
where the numbers are not the same, this sets the start and end times for the sound to play  
default 0,0 (off)

**trigger**

currently used only for levers. the sound doesn't play until the trigger message happens

**nostartdelay**

0 or 1, default 0  
if not set, the sound will have a short delay before playing, this stops flanging  
(flanging = really nasty sound caused when several copies of the same sound are played at once)

**dayloop, daysingle, morning, night, toggle**

These have no function in Trainz and have only been put in for user reference. Note: Single word only. Do not use a space.

## SMOKE EFFECTS

### Introduction

*Trainz version 1.3 (Service Pack 3) gives you the ability to add customizable smoke, steam, vapor and similar effects to your custom trains and scenery objects. For simplicity, this document will refer to this set of effects as simply smoke effects.*

*It is assumed the reader is already familiar with creating and exporting models from either 3D Studio Max or GMax.*

### Method

*Smoke effects are added to custom trains and scenery objects in two steps:*

- 1. Add attachment points to the original model.*
- 2. Add smoke tags to the object's config.txt file.*

### Adding Attachment Points

*Attachment points are added to the original model using 3D Studio Max or GMax wherever a smoke effect is desired. See figures 1 and 2 below to locate the Insert Point tool. After a point is inserted, it must be given a name with a prefix of 'a.' to identify it as an attachment point, e.g. a.smoke, a.steam, a.safety, a.mist, etc. The attachment point should also be rotated so that its Y axis is pointing in the direction that smoke particles will be emitted. (Ensure Axis Tripod is checked to see the point's orientation.) When finished, save and export the model as per normal.*



Fig 1. 3DS Max Insert Point



Fig 2. GMax Insert Point



## Adding Smoke Tags

Smoke blocks are added to an object's `config.txt` file to describe each smoke effect that will be created on the object. Smoke blocks are named `smoke#` (where # is a number) and are sequentially numbered starting at 0. See Example 2 for an example.

Smoke blocks have two sections: main and sequence properties. Main properties describe the attributes that do not change based on the mode's key. Sequence properties describe a set of one or more phases/periods in the smoke emission sequence.

A smoke block has the following format:

```
smoke#
{
  mode          time | speed | anim | timeofday
  attachment    <name of attachment point>
  color         <red>, <green>, <blue>, <opacity>
  accel         <x>, <y>, <z>
  loop          <n>

  start         <n> [, <n>] ...
  period        <n> [, <n>] ...
  rate          <n> [, <n>] ...
  velocity       <n> [, <n>] ...
  lifetime       <n> [, <n>] ...
  minsize       <n> [, <n>] ...
  maxsize       <n> [, <n>] ...
}
```

**Notation:** '#' is a number, '[' ] means optional, '...' indicates a variable number of parameters, '|' means or.

Where:

<name of attachment point> is the name of an attachment point in the model. eg `a.smoke`, `a.steam`, `a.chimney` etc

<red>, <green>, <blue> are numbers from 0 to 255 describing the intensity of that color component.

<opacity> is a number from 0 to 255 describing the effect's initial opacity / transparency.

<x>, <y>, <z> are vector components pointing in the direction of the sum of all forces affecting this smoke effect. Essentially, <z> describes gravity, and <x>, <y> describe the force of wind.

<n> is a decimal number.

## Main properties:

**mode** Describes the mode or type of this smoke effect. This affects how **start** and **period** are interpreted. Default is **time**. In all modes, **period** can be set to -1 (default) to imply the phase is active until the next phase begins.

If set to **time**, **start** is a set of time values in seconds after the creation of this effect's parent object when this phase of the effect will start. **period** is the duration of time this effect will remain active. Scenery objects currently only support **time** mode.

If set to **speed**, **start** is a speed in meters per second (m/s) and **period** is not used. (Note: 1 m/s = 3.6 km/hr.) All other sequence attributes (rate, velocity, lifetime, minsize, maxsize) are interpolated so there are smooth transitions between phases. See smoke3 in Example 2 for an example.

If set to **anim**, **start** is a value from 0.0 to 1.0 which describes the start time into the object's animation cycle. **period** is a value from 0.0 to 1.0 that describes the duration over which the effect is active. **start** + **period** must not exceed 1.0.

If set to **timeofday**, **start** is a value from 0.0 to 1.0 which describes the time of day when this effect will start. Values range as follow:  
0 - midnight, 0.25 - 6am, 0.5 - midday, 0.75 6pm, 1.0 - midnight.

**color** The color of the smoke effect. eg '150,150,150,255' for dark smoke; '255,255, 255,150' for steam; '150,150,255,255' for water. Default is '255,255,255,255'.

**accel** Acceleration. A vector pointing in the direction of the sum of all forces affecting this smoke effect. Essentially, **<z>** describes gravity, and **<x>**, **<y>** describe the force of wind. Default is 0,0,0.

**loop** Time in seconds to loop the smoke sequence. Only valid if **mode** is set to **time**.

**Sequence properties:**

*The following properties can be set to a single value or a set of values for multiple phases of the smoke effect. Please note that phases must not overlap as only one phase can be active at any one time. If a property has a set of values, it must be the same length as **start**. If a single value is given then it will be used for all phases of the effect. See Example 1 for an example of using multiple phases.*

**start, period**      See **mode**.

**rate**      *The rate of emission in particles per second for modes **time**, **speed**, and **timeofday**, or the number of particles to emit over the animation period for **anim** mode. Default is 4.*

**velocity**      *The initial speed of emitted smoke particles. Default is 1.*

**lifetime**      *Time in seconds that smoke particles exist for. Default is 3.*

**minsize**      *Start size of smoke particles. Default is 0.*

**maxsize**      *End size of smoke particles. Default is 3.*

*In general, it is better to use a low emission rate with large particles (ie min/max size) than using a high emission rate with small particles to reduce the impact on frame rate. Smoke effects can be quite stunning but are best used in moderation.*

*Try experimenting with the different values to get a feel of how they affect the smoke effects. Many different types of effects other than smoke are possible with only a little imagination, e.g. waterfalls, mist, toxic green clouds, fire by using a few effects at the same position to simulate the smoke and flames etc.*

## Example 1 - Smoke from a factory's chimney

*Using a model of a factory with a chimney, an attachment point called 'a.smoke' is placed at the top of the chimney with it's Y axis pointing up. The factory is then exported as an indexed mesh (.im file type) to the Trainz\world\custom\scenery\factory folder and the model's art assets are copied to the same location. The following config.txt file will cause smoke to come out of the factory's chimney between 6am and midday and 3pm and 6pm. Please note the given KUID is invalid and should not be used in your own custom context.*

### [begin config.txt]

```
kuid          <KUID:-15:123456>
region        Custom
kind          scenery
type          Industrial
light         1
```

```
smoke0
{
  attachment   "a.smoke"
  mode         timeofday
  color        150,150,150,250
  accel        1,0.3,0

  start        0.25, 0.5
  period       0.25, 0.125
  rate         8
  velocity     3
  lifetime     5
  minsize      0.5
  maxsize      2
}
```

### [end config.txt]

## Example 2 - Steam Train

An animated steam train model that requires four smoke points may be set up as follow:

- dark smoke from the main chimney stack that is dependant on the trains velocity (a.smoke, Y pointing up),
- a constant steam trail from a small safety pipe on top (a.steam.safety, Y pointing up),
- 2 steam trails on each side of the train that alternately expel steam keyed to the animation of the trains wheels (a.steam.l, a.steam.r, Y pointing outwards).

The model is exported as a progressive mesh (.pm file type) to 'Trainz\world\custom\trains\steam\_train\steam\_train\_body' folder and the model's art assets are copied to the same location. Please see the custom content creation guide for more information on creating your own custom trains. The following config.txt file in the parent folder will generate the desired smoke effects. Please note the given KUID is also invalid and should not be used in your own context. For example purposes, the settings of an F7 train have been used.

### [begin config.txt]

```
kuid          <KUID:-15:123456>
kind          traincar
bogey         0
engine        1
name          Steam Train
mass          100000

enginespec    <KUID:-1:42004202>
enginesound   <KUID:-12:2100>
hornsound     <KUID:-1:42003101>
interior      101202

smoke0
{
  attachment  a.steam.l
  mode         anim
  color        255,255,255,150

  start        0
  period       0.4
  rate         2
  velocity     1
  lifetime     2
  minsize      0.05
  maxsize      1
}

smoke1
{
  attachment  a.steam.r
  mode         anim
  color        255,255,255,150

  start        0.5
  period       0.4
  rate         2
  velocity     1
  lifetime     2
  minsize      0.05
  maxsize      1
}
```

```
smoke2
{
  attachment    a.steam.safety
  mode          time
  color         255,255,255,150

  rate          2
  velocity      1
  lifetime      2
  minsize       0.05
  maxsize       1
}

smoke3
{
  attachment    a.smoke0
  mode          speed
  color         100,100,100,200

  start         0,10,20,30
  rate          3,5,7,9
  velocity      3,4,5,5
  lifetime      4,3,2.5,2
  minsize       0.3
  maxsize       2
}
```

**[end config.txt]**

## REGION CODES

Region codes are a single or multiple line code that is included in the config.txt file. The codes added here will be used in future versions of Trainz as a sort and selection criteria. For content that exists in multiple areas, list each area on a separate line.

For example, a locomotive that was available in the United States and Canada would be specified as follows:

```
category-region-0 US
category-region-1 CA
```

The first region code specified must be category-region-0. Subsequent entries increase this code by one for each entry, so the next entry would be category-region-1 and so on.

*Side note: Do not skip a code! For example specifying your regions as category-region-0 US and then category-region-2 CA would result in the second region code being missed or unread!*

The region codes that are recognized by Trainz are as follows:

AD Andorra	CH Switzerland	GP Guadeloupe (Fr.)
AE United Arab Emirates	CI Ivory Coast	GQ Equatorial Guinea
AF Afghanistan	CK Cook Islands	GF Guyana (Fr.)
AG Antigua and Barbuda	CL Chile	GM Gambia
AI Anguilla	CM Cameroon	GN Guinea
AL Albania	CN China	GR Greece
AM Armenia	CO Colombia	GT Guatemala
AN Netherland Antilles	CR Costa Rica	GU Guam (US)
AO Angola	CS Czechoslovakia	GW Guinea Bissau
AQ Antarctica	CU Cuba	GY Guyana
AR Argentina	CV Cape Verde	HK Hong Kong
AS American Samoa	CX Christmas Island	HM Heard & McDonald Isl.
AT Austria	CY Cyprus	HN Honduras
AU Australia	CZ Czech Republic	HR Croatia
AW Aruba	DE Germany	HT Haiti
AZ Azerbaidjan	DJ Djibouti	HU Hungary
BA Bosnia-Herzegovina	DK Denmark	ID Indonesia
BB Barbados	DM Dominica	IE Ireland
BD Bangladesh	DO Dominican Republic	IL Israel
BE Belgium	DZ Algeria	IN India
BF Burkina Faso	EC Ecuador	IO British Indian O. Terr.
BG Bulgaria	EE Estonia	IQ Iraq
BH Bahrain	EG Egypt	IR Iran
BI Burundi	EH Western Sahara	IS Iceland
BJ Benin	ES Spain	IT Italy
BM Bermuda	ET Ethiopia	JM Jamaica
BN Brunei Darussalam	FI Finland	JO Jordan
BO Bolivia	FJ Fiji	JP Japan
BR Brazil	FK Falkland Isl.(Malvinas)	KE Kenya
BS Bahamas	FM Micronesia	KG Kirgistan Ex-USSR
BT Buthan	FO Faroe Islands	KH Cambodia
BV Bouvet Island	FR France	KI Kiribati
BW Botswana	GA Gabon	KM Comoros
BY Belarus	GB Great Britain	KN St.Kitts Nevis Anguilla
BZ Belize	GD Grenada	KP Korea (North)
CA Canada	GE Georgia	KR Korea (South)
CC Cocos (Keeling) Isl.	GH Ghana	KW Kuwait
CF Central African Rep.	GI Gibraltar	KY Cayman Islands
CG Congo	GL Greenland	KZ Kazakhstan

LA	Laos	SA	Saudi Arabia
LB	Lebanon	SB	Solomon Islands
LC	Saint Lucia	SC	Seychelles
LI	Liechtenstein	SD	Sudan
LK	Sri Lanka	SE	Sweden
LR	Liberia	SG	Singapore
LS	Lesotho	SH	St. Helena
LT	Lithuania	SI	Slovenia
LU	Luxembourg	SJ	Svalbard & Jan Mayen Is
LV	Latvia	SK	Slovak Republic
LY	Libya	SL	Sierra Leone
MA	Morocco	SM	San Marino
MC	Monaco	SN	Senegal
MD	Moldavia Ex-USSR	SO	Somalia
MG	Madagascar	SR	Suriname
MH	Marshall Islands	ST	St. Tome and Principe
ML	Mali	SU	Soviet Union
MM	Myanmar	SV	El Salvador
MN	Mongolia	SY	Syria
MO	Macau	SZ	Swaziland
MP	Northern Mariana Isl.	TC	Turks & Caicos Islands
MQ	Martinique (Fr.)	TD	Chad
MR	Mauritania	TF	French Southern Terr.
MS	Montserrat	TG	Togo
MT	Malta	TH	Thailand
MU	Mauritius	TJ	Tadjikistan Ex-USSR
MV	Maldives	TK	Tokelau
MW	Malawi	TL	East Timor
MX	Mexico	TM	Turkmenistan Ex-USSR
MY	Malaysia	TN	Tunisia
MZ	Mozambique	TO	Tonga
NA	Namibia	TR	Turkey
NC	New Caledonia (Fr.)	TT	Trinidad & Tobago
NE	Niger	TV	Tuvalu
NF	Norfolk Island	TW	Taiwan
NG	Nigeria	TZ	Tanzania
NI	Nicaragua	UA	Ukraine
NL	Netherlands	UG	Uganda
NO	Norway	UK	United Kingdom
NP	Nepal	UM	US Minor outlying Isl.
NR	Nauru	US	United States
NT	Neutral Zone	UY	Uruguay
NU	Niue	UZ	Uzbekistan Ex-USSR
NZ	New Zealand	VA	Vatican City State
OM	Oman	VC	St. Vincent & Grenadines
PA	Panama	VE	Venezuela
PE	Peru	VG	Virgin Islands (British)
PF	Polynesia (Fr.)	VI	Virgin Islands (US)
PG	Papua New Guinea	VN	Vietnam
PH	Philippines	VU	Vanuatu
PK	Pakistan	WF	Wallis & Futuna Islands
PL	Poland	WS	Samoa
PM	St. Pierre & Miquelon	YE	Yemen
PN	Pitcairn	YU	Yugoslavia
PT	Portugal	ZA	South Africa
PR	Puerto Rico (US)	ZM	Zambia
PW	Palau	ZR	Zaire
PY	Paraguay	ZW	Zimbabwe
QA	Qatar		
RE	Reunion (Fr.)		
RO	Romania		
RU	Russian Federation Ex-USSR		
RW	Rwanda		



## ERA CODES

Era codes are a single or multiple line code that is included in the config.txt file. The codes added here will be used in future versions of Trainz as a sort and selection criteria. For content that exists in multiple eras list each era on a separate line.

For example, a locomotive that was available in the 1960s and 1970s would be specified as follows:

```
category-era-0 1960s  
category-era-1 1970s
```

The first era code specified must be category-era-0. Subsequent entries increase this code by one for each entry, so the next entry would be category-era-1 and so on.

*Side note: Do not skip a code! For example specifying your eras as category-era-0 1960s and then category-era-2 1970s would result in the second era code being missed or unread!*

The era codes that are recognized by Trainz are as follows:

```
1800s  
1810s  
1820s  
1830s  
1840s  
1850s  
1860s  
1870s  
1880s  
1890s  
1900s  
1910s  
1920s  
1930s  
1940s  
1950s  
1960s  
1970s  
1980s  
1990s  
2000s  
2010s
```

## CATEGORY CLASS

Trainz Loco and Car Classifications are codes that are added to the config.txt file of locos and rolling stock only. They represent a standardized system for referring to the various types of locos and rolling stock. Future version of Trainz will make use of the codes so adding them to any locos and rolling stock you create is advisable. The Category Classes are:

Class "A"	Motive Power
Class "B"	Buildings and Structures
Class "C"	Cabeese
Class "D"	Defence
Class "E"	Environment
Class "F"	Foliage
Class "G"	Ground
Class "L"	Light Rail & Monorail
Class "M"	Maintenance Of Way
Class "O"	Organism
Class "P"	Passenger & Mail Cars
Class "R"	Railcars & Multiple Unit Sets
Class "S"	Splines
Class "T"	Track
Class "V"	Vehicles
Class "W"	Wayside
Class "X"	Freight Cars
Class "Y"	Maps and Scenarios
Class "Z"	Train Parts

Where possible, use the Subcategories below when specifying the Category Class

Each Category Class may have many subcategories as listed below. Please choose the most appropriate Category Class for your item.

The Category Class is listed in the config.txt file of each item of content as follows:

category-class xxx (Where xxx is the Category Class)

Selecting a correct Category Class is important since future versions of Trainz will allow users to use the Category Class as a sort and selection criteria inside My Collection and in Drivers Consist selection screen.

### **A MOTIVE POWER**

AA	Electric Multi-current
AC	AC Electric
AD	DC Electric
AE	Experimental or Special
AG	Gas Turbine
AH	Diesel Hydraulic
AL	Diesel & Diesel Electric
AM	Mammal
AS	Steam Loco & Tender
AT	Steam Tank

**B BUILDINGS & STRUCTURES**

BC Commercial  
BI Industrial  
BH Home & Residential  
BR Railway  
BS Special (I.e. military)  
BT Traffic & Streetscape  
BU Utility (incl. Civil buildings)

**C CABEESE**

CB Brake van  
CC Caboose

**D DEFENCE**

DA Military motive power  
DE Military experimental & special vehicles  
DP Military equipment - lab & personnel vehicles  
DX Military equipment - freight

**E ENVIRONMENT**

ES Sky  
EW Water

**F FOLIAGE**

FC Cactii  
FF Flowers  
FO Orchards & Crops  
FS Shrub  
FT Trees

**G GROUND**

GA Arid  
GL Lush  
GS Seasonal

**L LIGHT RAIL & MONORAIL**

LS articulated train sets  
LT trolleys, trams & streetcars  
LM monorail vehicles

**M MAINTENANCE of WAY**

MA	Camp vehicles
MB	Ballast cars
MC	Cranes/lifting
MD	Diagnostic vehicles (e.g. dynamometer)
ME	Instructional vehicles
MF	Fire vehicles
MI	Inspection vehicles
MT	Track vehicles (e.g. tamper)
MP	Snow ploughs
MS	Section cars (e.g. fairmont)
MX	Freight equipment (for MoW traffic)
MW	Weed spray

**O ORGANISM**

OA	Animal Kingdom
OH	Human

**P PASSENGER & MAIL CARS**

PA	Suburban/short haul (no W.C.)
PB	Baggage cars
PC	Coach/chair cars
PD	Dome cars
PH	Bar/cafeteria cars
PL	Lounge cars
PM	Mail cars
PO	Observation cars
PP	Power cars
PR	Buffet/dining/restaurant cars
PS	Sleeping cars
PU	Special cars (e.g. Gaming Cars)
PV	Private cars
PX	Composite passenger cars

**R RAILCARS & MULTIPLE UNIT SETS**

RA	AC electric
RC	DC electric
RD	Diesel & diesel electric
RH	Diesel hydraulic
RP	Petrol
RS	Steam

**S SPLINES**

SF	Fences
SR	Roads
SP	Platforms
SS	Structure
SV	Vegetation

**T TRACK**

TB Bridge  
TR Rails  
TT Tunnel

**V VEHICLES**

VA Air  
VL Land  
VS Sea

**W WAYSIDE**

WA Signalling  
WS Trackside signage  
WX Accessories

**X FREIGHT CARS****XA Auto transporter**

XAA Open sides  
XAB Auto box car

**XB Box car/covered van**

XBD Dangerous goods  
XBG General service  
XBI Insulated

**XF Flat**

XFA articulated  
XFC Intermodal  
XFD depressed center  
XFH heavy duty  
XFM general service

**XG Gondola/open wagon**

XGB Bottom dumping  
XGC Combination bottom/end/side dumping  
XGE End dumping  
XGR Rotary dumping  
XGS Side dumping  
XGT Covered

**XH Hopper**

XHB Bottom dumping  
XHC Combination bottom/end/side dumping  
XHE End dumping  
XHR Rotary dumping  
XHS Side dumping  
XHT Covered

**XI Foundry**

XIB Bottle/torpedo cars

XIT Tipper/slag cars

**XL Livestock**

XLA Single deck

XLC Multiple deck and convertible

XLH Horse box

**XR Refrigerated**

XRI Ice chilled

XRM Mechanically chilled

**XS Special**

XSN Novelty

XSU Unclassified

**XT Tanker**

XTA Domeless

XTS Single dome

XTM Multiple dome

**XV Ventilated car/louvred van**

XVG General service

XVP Produce service

**Y MAPS & SCENARIOS**

YM Map

YS Scenario

**Z TRAIN PARTS**

ZB Bogie/Truck

ZE Enginespec

ZH Hornsound

ZI Interior

ZP Pantographs

ZS Enginesound

## TRAINZSCRIPT TUTORIAL

### Introduction

Welcome to the first TrainzScript tutorial. TrainzScript is the scripting language developed for Auran Trainz. This document will teach you how to create a very simple scenario - it does not aim to teach you how to program, or teach you programming concepts. TrainzScript may be used from Version 1 Service Pack 3 onward to create scenario content. If you do not understand programming concepts, you may need to read further tutorials before trying to create Scenarios for Trainz. We will be releasing a user-friendly interface for compiling powerful scripts in a later version.

Please take the time to follow the steps of this document from start to finish. The tutorial is presented in an informal (non text book) manner. More help can be found by visiting the Scenarios forum at <http://www.auran.com/trainz/forum/default.htm>

### Where do I find TrainzScript

TrainzScript is a scripting language used to drive the scenarios. Each scenario will have one or more TrainzScript files (.gs) located in its directory in the **World\Custom\Scenarios** folder. The supporting TrainzScript files are found in the **\Scripts** folder. The script files in this folder give you all of the supported functions required to control Trainz. Over time, you will learn most of the functions provided in these files. The TrainzScript compiler (gsc.exe) is located in the **\Bin** folder.

Go to the bin folder in your dos prompt, and run the compiler with the -d flag as follows.

```
gsc -d > reference.txt
```

This will copy the TrainzScript documentation to the file reference.txt. Consult this document as a reference manual for the TrainzScript language.

## Creating A Scenario

Lets create our very first scenario. This will teach you how to use the TrainzScript compiler and guide you through the process required to make a simple scenario that just loads a map.

1. Launch Trainz, and create a new map in Surveyor. Lay a small track loop, and place a track mark named "START" somewhere on your track. Make sure you name the track mark using UPPERCASE, as all named object in TrainzScript are case-sensitive. Place a lever somewhere on the track so we have something for the camera to focus on. Save your map and call it "Tutorial1".
2. Before exiting out of Surveyor, select the "Export Scenario TSO" from the Trainz Main Menu, and type in "Tutorial1".
3. Quit out of Trainz go to your **Trainz\World** folder. Locate the config.txt file in the folder **World\Custom\Maps\Tutorial1**.
4. Open the config.txt file of your Tutorial1map. It should look something like the following.

```
kuid <KUID:-2:2023211879>
kind map
username Tutorial1
workingscale 0
workingunits 0
water <KUID:-1:110015>
region Australia
```

Note the KUID for your new layout. In this case, it is `-2:2023211879`.

5. Now go to the **World\Custom\Scenarios\Tutorial1** folder and open the config.txt file of your Tutorial1 Scenario. It should look something like the following.

```
kind activity
username Tutorial1
scriptlibrary Tutorial1
scriptclass MyTutorial1
kuid <KUID:-2:2023211880>
kuid-table {
tutorial1 <KUID:-2:2023211879>
}
description "Tutorial1"
```



A few notes on this. The kuid-table is a name-KUID translation table used by the scenario. All objects loaded by the scenario must be entered in this table. The scenario will reference the KUID by name, which is case-sensitive. For example, when the script loads the map, it will reference it by the name "Tutorial1", which will be looked up in the kuid-table, and found as KUID -2:2023211879. Trains and rolling stock etc are referenced in the same manner. You will also notice that the scenario has its own unique KUID. The description text is displayed in the scenario selection screen.

6. Next, we will begin editing the TrainzScript file. Open the Tutorial1.gs file with your desired programming editor. This file is created from the template.gst in the **scripts\** folder when you export the TSO. The syntax of the following script is explained in the compiler documentation, but if you have a read through it, it is pretty self-explanatory. The file looks like this.

```
include "trainz.gs"

//
// class MyTutorial1
// brief This is the scenario class. Modify this class with
// your own gameplay.
//
game class MyTutorial1 isclass Scenario
{
    Train myConsist;
    bool scenarioDone = false;

    //
    // Load will be called by Trainz to load the scenario map, and when the user presses Ctrl-L
    // param data is the save game data if loading a saved game.
    //
    bool Load(string data)
    {
        if(data and data.size())
        {
            Interface.Load(data);
        }

        // load the map
        if(!World.LoadMap(World.FindKUID("Tutorial1")))
        {
            Interface.Log("Error loading scenario map");
            return false;
        }

        return true;
    }

    //
    // Save will be called by Trainz when the user presses Ctrl-S.
    // return the save game string, such that load will be able to restor the save game
    // from the last save check point.
```

```
//
string Save()
{
    return Interface.Save();
}

//
// TrainDerailed will be called by Trainz when a train derails
//
void TrainDerailed(int trainId)
{
    if(!scenarioDone)
    {
        World.EndScenario(10);
        scenarioDone = true;
    }
}

//
// TrainCollided will be called by Trainz when a train collides
//
void TrainCollided(int trainId)
{
    if(!scenarioDone)
    {
        World.EndScenario(10);
        scenarioDone = true;
    }
}

//
// TrainSpeedingFine() is called by Trainz every second your trains speed exceeds the floating limit
//
void TrainSpeedingFine()
{
    //Interface.AdjustScore(-10);
}

//
// TrainBadCouple() is called by Trainz when vehicles couple greater than 8KPH.
//
void TrainBadCouple(int vehicleId)
{
    //Interface.AdjustScore(-200);
}

//
//
// main thread
// brief main is executed automatically after Load() is called.  edit
```

```
// main to contain your scenarios gameplay.
//
//

thread void main(void)
{
    // Start the monitor thread to monitor speeding, derailing etc.
    Monitor();

    //
    // create consist specs
    //

    //
    // create consists
    //

    //
    // gameplay
    //

    scenarioDone = true;
}
};
```

7. The final step is to compile the scenario. Copy the ***makescript.bat*** file from ***Scripts\Docs*** folder into your ***World\Custom\Scenarios\Tutorial1*** folder. Run this batch file and make sure no errors are reported (consult the forum for assistance). Notice that this batch file uses the TrainzScript compiler (gsc) to create the Tutorial1.gsl file.
8. You are now ready to launch your very first scenario. The scenario should load your Tutorial1 map. You will notice that the camera is focused on the junction we placed on the map. Had we not placed that junction, the map would not be visible, as Trainz has nowhere to focus the camera.

You have now successfully created your very first scenario. Study the Highland Valley scenarios and the script .gs files for further TrainzScript information. Scripting questions may also be asked on the forums.

Good luck, and we hope you will enjoy your scripting efforts.

## TRAINZ DOWNLOAD STATION

The Trainz Dowload Station has undertaken a complete overhaul following the release of Trainz SP3. All content upoaded to the download Station must first be packaged using 'Trainz Content Dispatcher' available on the Trainz [Content Creation](#) Page.

### Upload Checks

Below is the list of checks made during the approval of Custom Content uploaded to the Upload Station via a user's Planet Auran Profile.

#### Step 1. Upload Process (User)

To access the upload page, a user is required to be registered with Planet Auran and be logged in. When logged in, a user can access the upload page via the 'Your Content' option found on the left hand side menu. On this page, the user will find an 'Upload New Content' button and a list of any other approved custom content the user has uploaded. Clicking on the Upload button will take the user to an upload screen, where they will select the file for upload, check the disclaimer and submit the form.\

##### Checks

- *Username*  
*The user is required to be logged in to upload any Custom Content. Once uploaded, the user's User ID is then associated with that upload.*
- *File extension*  
*The uploaded file is checked for the '.cdp' extention.*
- *File size*  
*The maximum file size that can be uploaded is 5mb. This may be revised in the future.*

#### Step 2. Extraction Process (Automated)

This process is run nightly. It extracts all new uploads, that have been submitted for processing.

##### Checks

- *Valid Archive file*

### Step 3. Process Content (Automated)

This process is run nightly after Step 2.

This process, individually examines each content item that has been extracted in Step 2. If an error is found in an item, an error report is created, sent to the user and the file is removed. The whole pack is examined for errors prior to the error report being sent, therefore, the report will detail all errors in the pack.

*Checks (If a user's content fails any of these checks, the content will be removed and the user notified)*

- *Checks file/s were extracted successfully*
- *Compares the number of files extracted in Step 2 to the number processed in this step.*
- *Ensures that the User ID of the content belongs to the user uploading the content*
- *If content was uploaded via a Group member, it checks that the User ID belongs to that Group.*
- *Checks that the KUID is a valid*
- *Checks that the KUID of custom content doesn't already exist in the Download Station*
- *Checks name for: Minimum length of (4) and swear words*
- *Checks Description for: swear words*
- *If updating content, it checks that the content being updated is the latest version and not a previous version.*

#### *Other Checks*

- *Checks the Region / Country codes are valid*
- *Checks the Eras are valid*
- *Checks Description for: Maximum length of (255), if over 255 description is concatenated.*
- *Checks name for: Maximum length of (64), if over 64 name is concatenated.*

If the file a user uploads contains multi-files, each file will be added to the Download Station separately, and a Pick List will be created for the pack of content.

### Step 4. Approval Process (Auran Staff)

This is a visual confirmation of the content. The user will receive email to indicate if the content has been approved or declined. If it is approved, the content will be available approx. 1 hour after the email is sent.

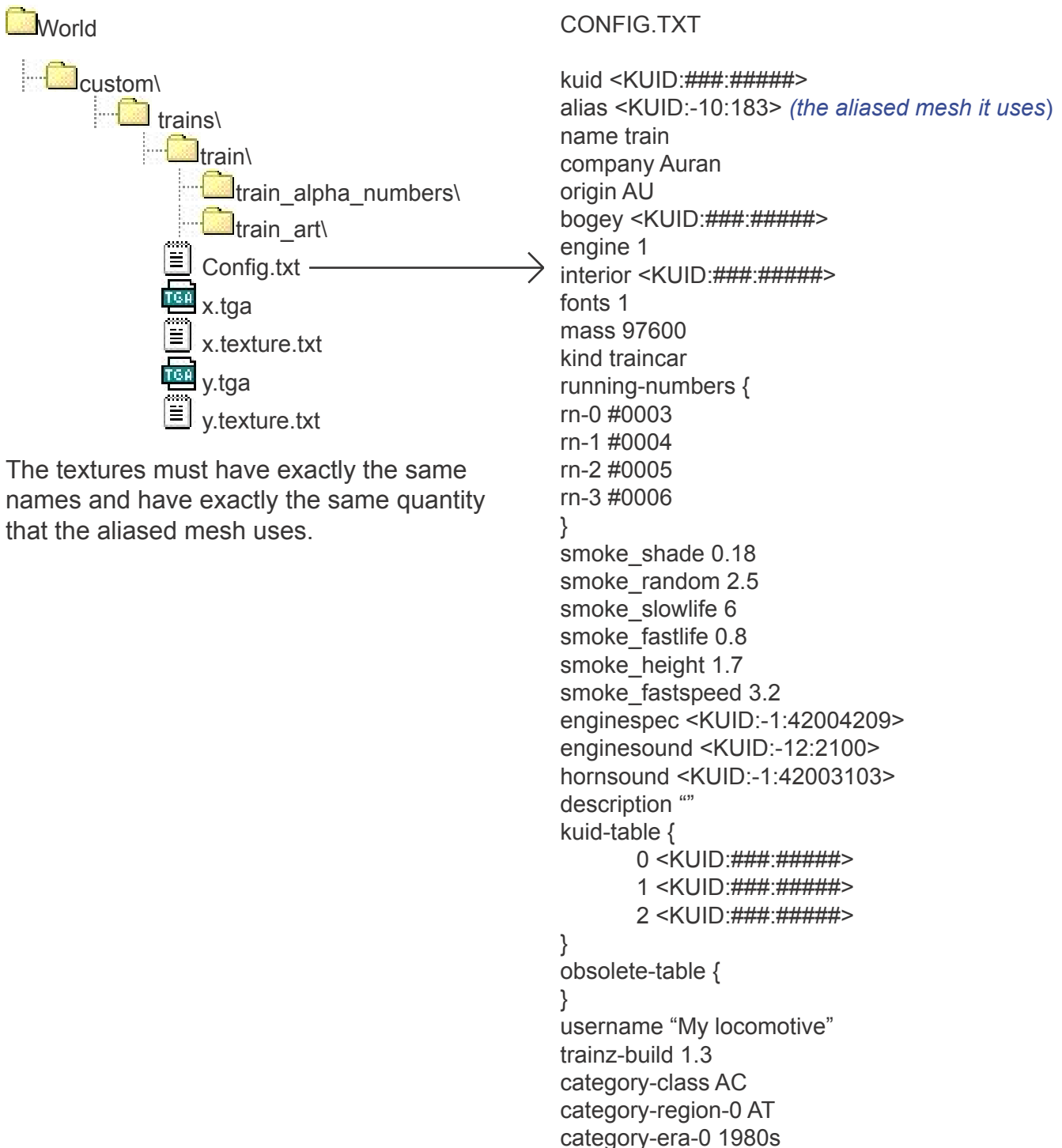
*Checks (failing these checks will not always fail the upload)*

- *Name and Description: If it is appropriate, it will be approved*
- *Image visually acceptable*
- *Category Selected*

## ALIASING

Trainz SP3 can now reference archived mesh assets for use with custom textures. This process is done by aliasing the KUID of the archived mesh.

A typical structure of an aliased train could be as follows:



The textures must have exactly the same names and have exactly the same quantity that the aliased mesh uses.

## TRAINZ CONTENT FOUNDRY

This program will be available from the Trainz website from August 1, 2002.

This program generally has two functions:

1        Trainz Content Foundry can be used to set up the config.txt file and the default directory structure for any type of scenery object. Template meshes and default textures are put in place - ready for substitution with custom meshes and textures.

2        It can also be used to set up aliasing to *Trainz Paintshed V1.3* meshes. It sets up the config.txt file, extracts the required textures from the Paintshed archive. You can then edit the textures at will using a 2d graphics program (such as Photoshop or Paintshop Pro).

**Note:** You need to purchase Trainz Paintshed (or upgrade to Trainz Paintshed V1.3 if you have version 1) to be able to use this feature.

Visit the [Trainz Online Shop](#) for further information on Trainz Paintshed.

## AURAN KUID LIST (SP3)

These tables are to be used for reference when aliasing archived Auran content.

<KUID:-1:100752>	trains/	1044_obb
<KUID:-1:100754>	trains/	2100QR_yel
<KUID:-1:100085>	trains/	40ft_Boxcar
<KUID:-1:100929>	trains/	4bhopper_il
<KUID:-1:101224>	trains/	4bhopper_il_coal_full
<KUID:-1:100086>	trains/	50ft_Boxcar
<KUID:-1:100087>	trains/	60ft_boxcar
<KUID:-1:100023>	trains/	6e1_bb_blue
<KUID:-1:100024>	trains/	6e1_bb_red
<KUID:-1:100143>	trains/	AlcoFA1_Erie
<KUID:-1:100144>	trains/	AlcoFA1_Lehigh
<KUID:-1:100145>	trains/	AlcoFA1_rock
<KUID:-1:100150>	trains/	AlcoFPA4_CN_stripes
<KUID:-1:100153>	trains/	Alco_FA1_Mroongrey
<KUID:-1:101242>	trains/	arl
<KUID:-1:100159>	trains/	atsf_baggage
<KUID:-1:100160>	trains/	atsf_chair
<KUID:-1:100161>	trains/	atsf_diner
<KUID:-1:100162>	trains/	atsf_dome
<KUID:-1:100163>	trains/	atsf_pullman_pine
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<KUID:-1:100004>	trains/	bb_ns1600
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<KUID:-1:100877>	trains/	box_po
<KUID:-1:101246>	trains/	brj
<KUID:-1:101425>	trains/	centenary
<KUID:-1:100012>	trains/	cflow_fert
<KUID:-1:100090>	trains/	Class37_Blue
<KUID:-1:100758>	trains/	Class37_yel_apron
<KUID:-1:100039>	trains/	Class43_original
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<KUID:-1:100030>	trains/	class_55_br_grn_yel
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<KUID:-1:100048>	trains/	Container_flat_au
<KUID:-1:100043>	trains/	cupola_caboose_B_Ohio
<KUID:-1:100046>	trains/	cupola_caboose_NYC
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<KUID:-1:101248>	trains/	df
<KUID:-1:100861>	trains/	dl500_candy
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<KUID:-1:100778>	trains/	dl500_sar



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<KUID:-1:101032>	trains/	Erz3d
<KUID:-1:101254>	trains/	Erz3d_full
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<KUID:-1:100121>	trains/	f7_cpmulti
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<KUID:-1:101051>	trains/	obb_first
<KUID:-1:101216>	trains/	Os_freightcar
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<KUID:-1:100816>	trains/	overland_second
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<KUID:-1:100299>	splines/	oz_shearer_fence
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<KUID:-1:100456>	splines/	road_oz_dirt
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<KUID:-1:100253>	scenery/	horse_72p_3
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<KUID:-1:100260>	scenery/	house_oz_3
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**AURAN TRAINZ PAINTSHED (Ver 1.3 - Bogeys)**

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100010	Paintshed Bogey	nohab_bogey
100079	Paintshed Bogey	Class50_Blue_bogey
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**AURAN TRAINZ PAINTSHED (Ver 1.3 - Interiors)**

100181	Paintshed Interior	sw
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