

# rFactor 2 Track Creation Cheat Sheet



## RealRoad

Instance

- Name: RaceSurface prefix
- Deformable, HATTarget and CollTarget

Material

- Name: TDF prefix (e.g. road, asph, rdcp, ...)
- Name: \_WET suffix
- Reflection Mapper: REFLECTEDENV

Vertex Color

- Unavailable (used by RealRoad technology)

## Shadows

Set Shadow Out Distance for optimization

Types

- Object: only renders the casted shadow
- Caster: preferred type for solid objects
- Textured Caster: fences, vegetation (slower!)

Shadow Groups: additive A (1|Max) to D (8|Low)

SunBlocker Object, prevents glitches when sun is below horizon

## Vegetation and Crowds

Bump Spec Map T1 Stamp Vertex / Stamp Normal (Treelines)

Material

- Chroma; check Blend Pixels with XPAA OFF

Vertex Color

- Alpha: 99.9999
- Exporting Vertex Alpha requires Vertex Color to be set to \*a\* value – even (255,255,255)

Set up Screen-Aligned Quads in Exporter

Check triangulation on test export before distribution

Object Scale 100% – Reset Transform

## Terrain (Multi Layer grass/dirt)

Instance

- HATTarget and CollTarget (drivable areas)

Material

- Name: TDF prefix (e.g. gras, grvl, ...)

Vertex Color

- Black: Zero state (T1)
- Green: Mix in T2
- Red: Mix in T3
- Blue: Blend T4.A
- Alpha: Greyscale shading

## Reflection Maps

RefMap0 – car reflections

- include terrain, barriers, buildings, and vegetation

ReflectedEnv – wet surface reflections

- aim to include barriers, key buildings and structures

Static## – non-movable CubeMap reflections

- automatically contains everything within LOD distance of specified coordinates

Include at least one instance in RefMap0 and ReflectedEnv

## Animations

Always animate at world zero (0,0,0)

Root Bone at (0,0,0) with 0.01 weight for all vertices

Always export .anm at (0,0,0) and time index 0

Exports bones only, do not include the mesh

Select skinned mesh as Root Bone

Group skinned mesh and bones for distribution

Export ungrouped distributed meshes with Fix Bone Names

## VisGroups

Most common

- A: Removed from High detail and lower (1)
- B: Removed from Medium detail and lower (2)
- C: Removed from Low detail (4)
- F: Removed from RearView mirror (32)
- G: Removed from Practice (64)
- H: Removed from Qualifying (128)
- I: Removed from Race (256)

Numbers are added up in the SCN Instance

Example: VisGroups C (4) and F (32) = 36

## Marshals

Instance Names

- CornerWorker\_### (unbroken sequence)
- DigiFlag\_### (match CornerWorker ###)
- StarterWorker\_### (unbroken sequence)
- PitOfficial\_### (unbroken sequence)

Distribute as group including bones

Export ungrouped distributed meshes with Fix Bone Names

## Night Lighting

Omni

- Name: Nightlight##
- Lights Omni-tagged objects
- Object receives light from 20 closest omni lights

Glow object

- Name: NightLight##Glow

## Start Lights

Instance

- Name: StartLight

GDB

- NumStartingLights = number of lights + 1

Material

- Name: rdlt.a, b, c, d, e for five lights
- Animation Data
  - Name: rdlt.dds
  - Frames: 2
  - Sequence example for two lights (brackets!)
    - rdlt.a: (0,1,1,0)
    - rdlt.b: (0,0,1,0)

## NoRain Zones

Object in 3D space where rain particles are not rendered

- Box Primitive with placeholder material: 1 SubMat

Instance

- Name: NoRainZone\_##
- No Render
- Export with gMotor Normals

## Albedo Map

Diffuse reflectivity of material surface

Absolutely vital for correct HDR output

Basic simplified rule of thumb

- Albedo Map = Diffuse Map @ neutral, overcast sky

Extensive information

- AlbedoMap on Wiki

## Pit Lights

Instance

- Name: PitLightOut and/or PitLightIn

Material

- Name: rdpitla, grpitla, ylopitla
- Animation Data
  - Name: rdlt.dds, grlt.dds, ylolt.dds
  - Frames: 2
  - Sequence – don't forget (brackets)
    - rdpitla: (0,0,1)
    - grpitla: (1,1,0)
    - ylopitla: (0,1,0)

## SunBlocker

Object

- Low poly hemisphere facing down
- Connect to edges of terrain/skybox

Instance

- Shadow Object
- Shadow Groups A+B+C+D = (15)

## gMotor Viewer Keyboard Shortcuts

**U**: Toggle shadows

**G**: Toggle ground tracking

**S**: Cycle performance information

**C**: Cycle anisotropic levels

**O**: Toggle outlines

**W**: Toggle wireframe front face / all

**Ctrl + T**: Toggle Transparency Anti-Aliasing (XPAA)

**Ctrl + +**: Increase Vertical FOV

**Ctrl + -**: Decrease Virtual FOV

**Alt + W**: Hide/Show Tweak Bar interface

**Alt + R**: Toggle Reflection Maps

- Use **T** and **Shift + T** to cycle

## Timing Lines

Instance

- Names
  - XSector1, XSector2, XFinish
  - XPitOut, XPitIn
- No Render
- CollTarget
- Response
  - Sectors: VEHICLE,TIMING
  - Pit: VEHICLE,PITSTOP

Oriented in such a way that cars 'collide' with the polygon

## Typical Object Workflow (3ds Max)

Export

- Detach Smoothing Groups to Elements (MaxScript on Wiki)
- Export with gMotor Normals
- Tweak Albedo, Normal and Specular Maps and ...
- ... check/tweak material values in gJED/Viewer

Optimization

- Atlas textures that share similar material values
- Batch objects that use share submaterials
- Set LOD Out and Shadow Out Distances
- Set VisGroups and Shadow Groups