OS Shader: Simple Fire (URP)

A Game-Ready Asset by **Occa Software**

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Introduction

OS Shader: Simple Fire (URP) is an easy-to-use, artist-friendly, and feature-rich shader and VFX package that enables you to achieve highly stylized or realistic fire, smoke, sparks, and heat distortion effects.

This package includes a Fire Shader, a Particle Shader for Smoke and Sparks, and a Heat Distortion Shader. It also includes a re-usable Subgraph that enables you to sample Flipbooks more easily. We designed these from the ground-up in Shadergraph so that you can easily take even more control over the artistic direction of your project.

Compatible only with the **Universal Render Pipeline**.

Includes

- Prefabs
    - Heat Distortion Particle System
    - Smoke Particle System
    - Sparks Particle System
    - Volumetric Fire
    - Oscillating Spot Light
    - Fire with Light, Sparks, Smoke, and Heat Distortion
- Shader Graphs
    - Heat Distortion Shader
    - Fire Shader
    - Particle Shader
    - Sample Flipbook Subgraph
- Scripts
    - Volumetric Fire with Optional Billboard Support
    - Oscillating Light Brightness
- Meshes

    - Quad with Pivot at Bottom (Used as the base Mesh for the Fire Shader)
- Materials
    - Distortion Material
    - Fire Material
    - Smoke Material
    - Sparks Material
- Textures
    - Alpha Mask for Heat Distortion
    - Fire Noise
    - Smoke Noise
    - Sparks Flipbook

Features

1. **Plug-and-play:** Drag and drop the complete prefab into your scene with limited set-up - just enable the Opaque and Depth Textures in your scene to use the Heat Distortion Shader.
2. **Extendable Code Free:** Artists welcome! All Shaders included in this pack are provided in Shadergraph, making it easy to extend and enhance the shader to your needs without coding.
3. **Art Assets Included:** Programmers welcome, too! This pack includes all you need to get up-and-running without diving into Photoshop or Substance to fiddle with textures.
4. **Volumetric, Procedural Fire:** Easily create “thick”, fully dynamic fires with density and ramping size as you reach the edges of the fire.
5. **Depth-masked Heat Distortion:** Unlike other Heat Distortion shaders, we mask out objects in front of the camera using depth and vertex tests so that we don’t distort objects in front of the hot zone.
6. **Complete Control:** Easily tweak tons of parameters for each part of the full fire effect, including things like… Heat Distortion amount, Colors, Toon- or realistic-styling, Textures, Transparency, Flipbook speed, width, and height, Alpha clip thresholds, Smooth or Instant Flipbook Transitions, and more.

Using this in a project?
I'd love to feature your work using this Shader on my Twitter @occasoftware. Just reach out :)

Support
Reach out me at occasoftware@gmail.com or on Twitter @occasoftware for any support including questions, bug reports, feedback, etc.

How to Use

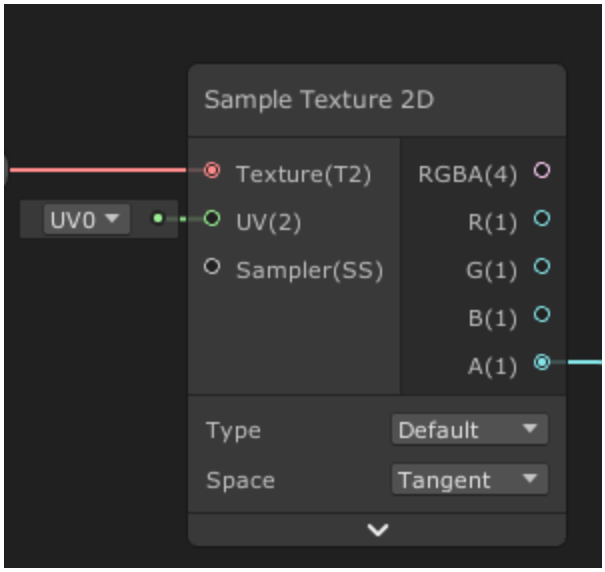
1. Import the Unity Package
2. Confirm that you are using Universal Render Pipeline

3. Open your “UniversalRP-HighQuality”, “UniversalRP-MediumQuality”, and “UniversalRP-LowQuality” renderers, then **enable Depth Texture and Opaque Texture, and set Opaque Downsampling to “None”**.
    a. (If you are using an alternative settings preset then ensure the Depth and Opaque Textures are configured correctly there instead)
4. Drag-and-drop the “**Fire with Light, Sparks, Smoke, and Distortion**” Prefab into your scene

Additional Notes

Texture Channels
All Textures are sampled from the **Alpha Channel ONLY**.

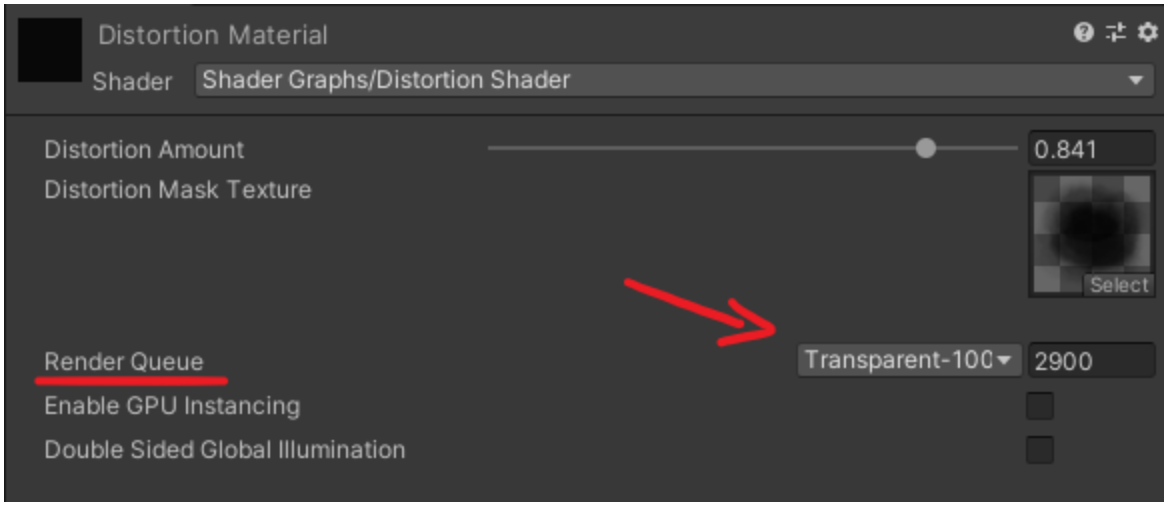
If you replace one of the provided Textures with a new Texture, make sure that the image data is stored in the Alpha Channel.

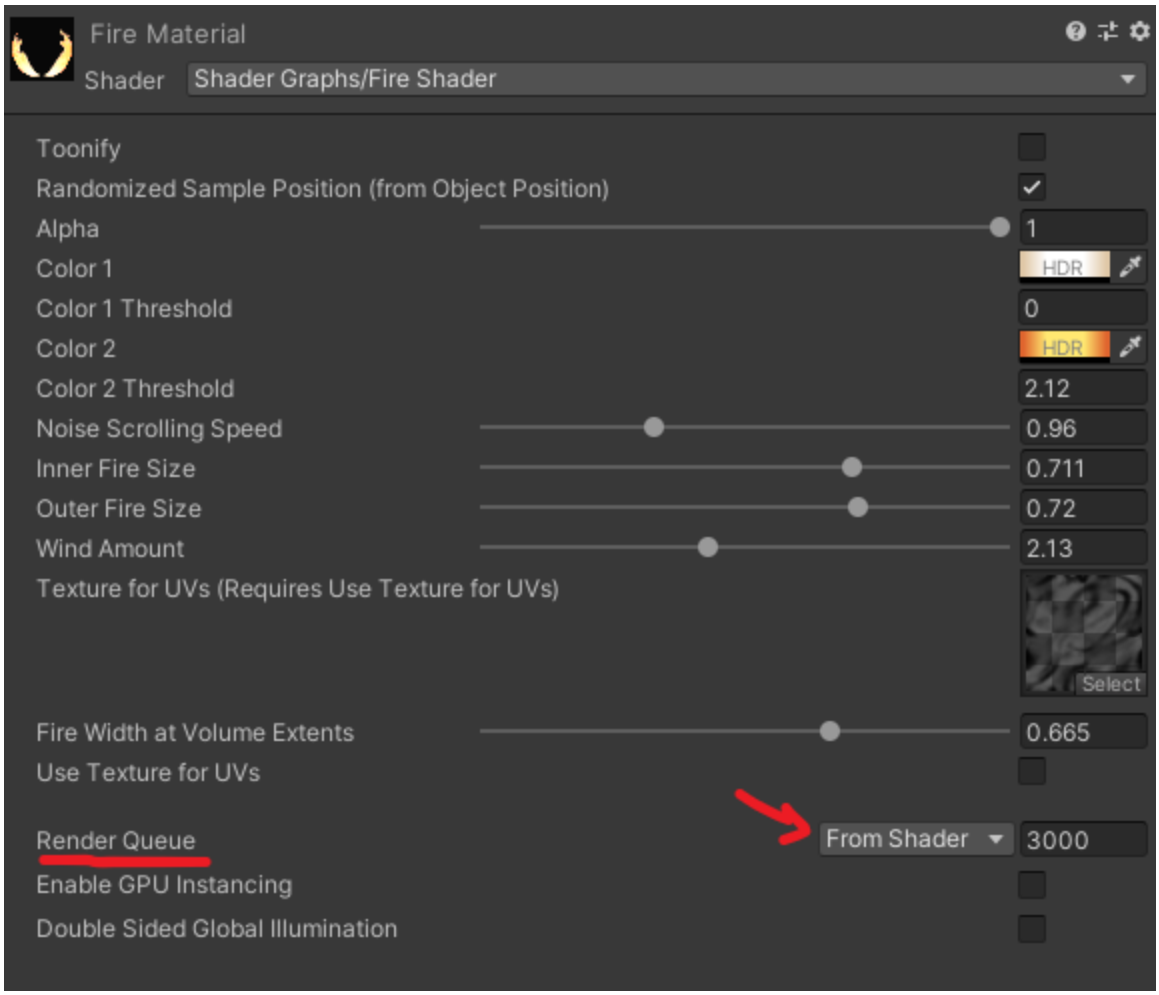


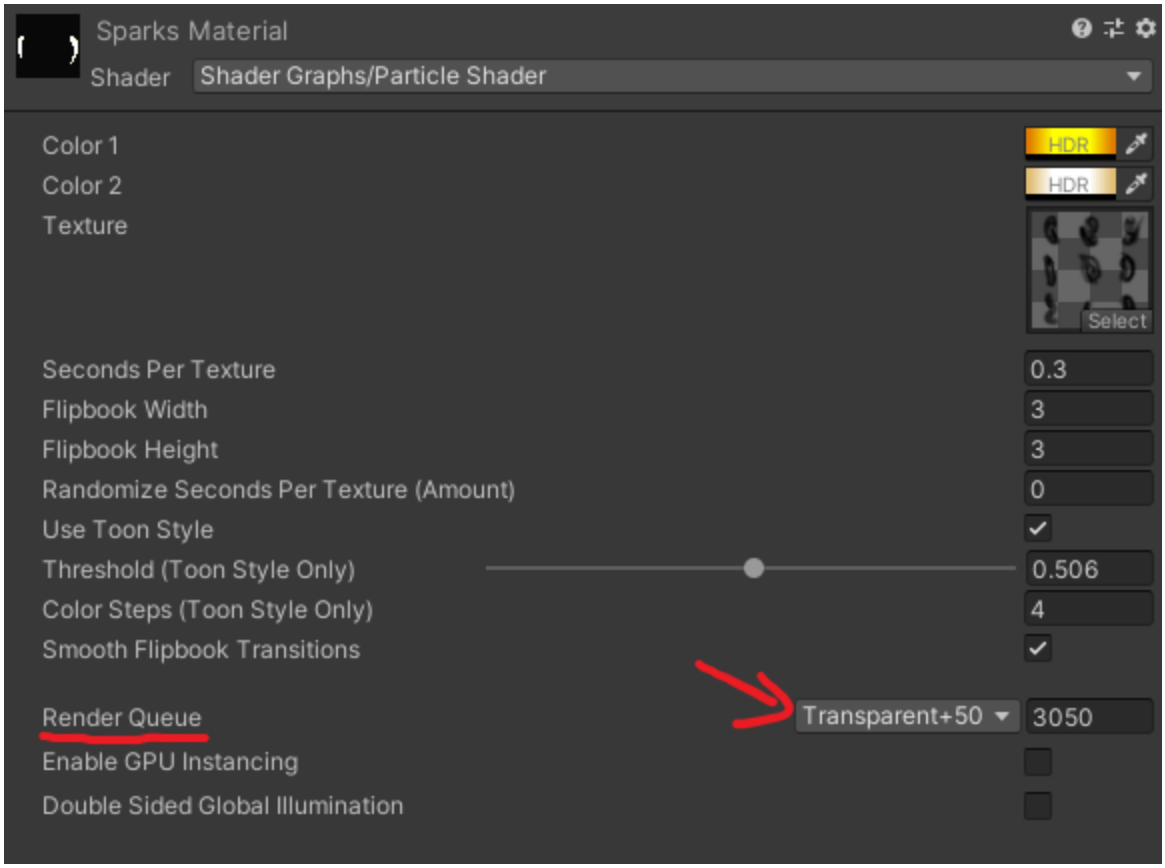
Render Queue
The Render Queue is very important for the VFX to render correctly. Since we are using transparent materials and opaque textures, we need to tell Unity the order in which these materials should be rendered so that we don’t accidentally overlap in the wrong way.

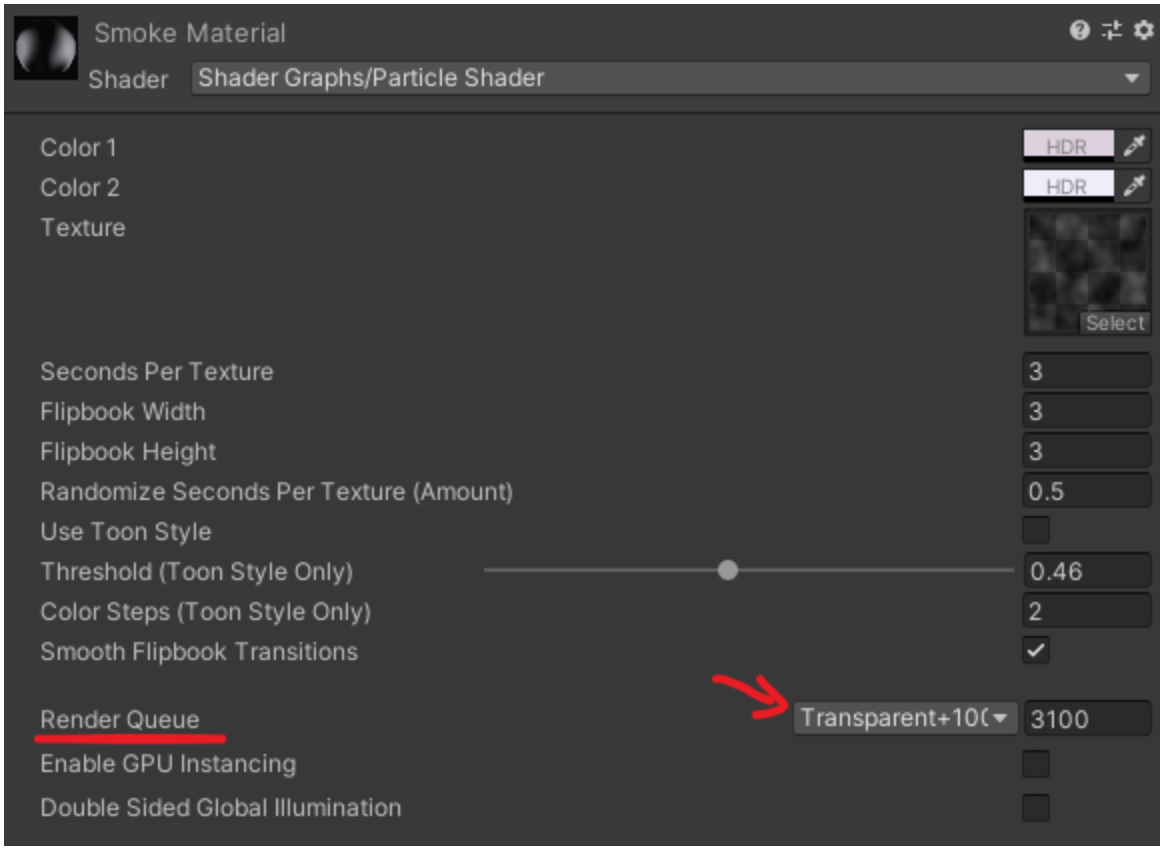
The materials are already set up with the “correct” Render Queue order. When you are creating a new Material, you should COPY the existing Material so that you retain the Render Queue order.

Here’s the order below for each Material for reference.


Distortion Material
Shader
Shader Graphs/Distortion Shader
Distortion Amount
0.841
Distortion Mask Texture
Select
Render Queue
Transparent-100
2900
Enable GPU Instancing
Double Sided Global Illumination


Fire Material
Shader
Shader Graphs/Fire Shader
Toonify
Randomized Sample Position (from Object Position)
Alpha
1
Color 1
HDR
Color 1 Threshold
0
Color 2
HDR
Color 2 Threshold
2.12
Noise Scrolling Speed
0.96
Inner Fire Size
0.711
Outer Fire Size
0.72
Wind Amount
2.13
Texture for UVs (Requires Use Texture for UVs)
Select
Fire Width at Volume Extents
0.665
Use Texture for UVs
Render Queue
From Shader
3000
Enable GPU Instancing
Double Sided Global Illumination


Sparks Material
Shader
Shader Graphs/Particle Shader
Color 1
HDR
Color 2
HDR
Texture
Select
Seconds Per Texture
0.3
Flipbook Width
3
Flipbook Height
3
Randomize Seconds Per Texture (Amount)
0
Use Toon Style
Threshold (Toon Style Only)
0.506
Color Steps (Toon Style Only)
4
Smooth Flipbook Transitions
Render Queue
Transparent+50
3050
Enable GPU Instancing
Double Sided Global Illumination


Smoke Material
Shader
Shader Graphs/Particle Shader
Color 1
HDR
Color 2
HDR
Texture
Select
Seconds Per Texture
3
Flipbook Width
3
Flipbook Height
3
Randomize Seconds Per Texture (Amount)
0.5
Use Toon Style
Threshold (Toon Style Only)
0.46
Color Steps (Toon Style Only)
2
Smooth Flipbook Transitions
Render Queue
Transparent+10(
3100
Enable GPU Instancing
Double Sided Global Illumination