Custom Shaders

If you want to use custom shaders with Destructible 2D then you need to make a few simple modifications.

Step 1 - Update your shader properties

In your shader's Property { ... } block, you need to add the following properties:

```
[PerRendererData] _AlphaTex ("Alpha Tex", 2D) = "white" {}

[PerRendererData] _AlphaScale ("Alpha Scale", Vector) = (1,1,0,0)

[PerRendererData] _AlphaOffset ("Alpha Offset", Vector) = (0,0,0,0)

[PerRendererData] _Sharpness ("Sharpness", Float) = 1.0
```

Step 2 - Update your variable declarations

In your shader's variable section (e.g. where you should have **sampler2D _MainTex;** or similar), add the following variables:

```
sampler2D _AlphaTex;

float2 _AlphaScale;

float2 _AlphaOffset;

float _Sharpness;
```

Step 3 - Update your fragment or surface function

Inside your fragment function, e.g. **fixed4 frag(v2f IN) : SV_Target { … }**

Or inside surface function, e.g. **void surf (Input IN, inout SurfaceOutput o) { … }**

You need to multiply your final alpha like this:

```
float2 alphaUV  = (i.texcoord - _AlphaOffset) * _AlphaScale;
float4 alphaTex = tex2D(_AlphaTex, alphaUV);
float2 clipUV   = abs(alphaUV - 0.5f);

alphaTex.a *= max(clipUV.x, clipUV.y) <= 0.5f ? 1.0f : 0.0f;

myFinalColour.a *= saturate(0.5f + (alphaTex.a - 0.5f) * _Sharpness);

return myFinalColour;
```

or like this:

```
float2 alphaUV  = (i.texcoord - _AlphaOffset) * _AlphaScale;
float4 alphaTex = tex2D(_AlphaTex, alphaUV);
float2 clipUV   = abs(alphaUV - 0.5f);

alphaTex.a *= max(clipUV.x, clipUV.y) <= 0.5f ? 1.0f : 0.0f;

o.Alpha *= saturate(0.5f + (alphaTex.a - 0.5f) * _Sharpness);
```

NOTE: Make sure this is done AFTER setting the initial alpha value, otherwise it will be overwritten.

NOTE: Make sure the UV variable (e.g. i.texcoord) is correct, as it may change depending on the shader.

Example:

```
void Frag(v2f i, out float4 o:COLOR0)
{
    float4 mainTex  = tex2D(_MainTex, i.texcoord);

    o.rgba = mainTex;

    float2 alphaUV  = (i.texcoord - _AlphaOffset) * _AlphaScale;
    float4 alphaTex = tex2D(_AlphaTex, alphaUV);
    float2 clipUV   = abs(alphaUV - 0.5f);

    alphaTex.a *= max(clipUV.x, clipUV.y) <= 0.5f ? 1.0f : 0.0f;

    o.a *= saturate(0.5f + (alphaTex.a - 0.5f) * _Sharpness);
}
```

Example:

```
void surf (Input IN, inout SurfaceOutput o) {
    fixed4 c = tex2D(_MainTex, IN.uv_MainTex) * _Color;
    o.Albedo = c.rgb;
    o.Alpha = c.a;

    float2 alphaUV  = (i.texcoord - _AlphaOffset) * _AlphaScale;
    float4 alphaTex = tex2D(_AlphaTex, alphaUV);
    float2 clipUV   = abs(alphaUV - 0.5f);

    alphaTex.a *= max(clipUV.x, clipUV.y) <= 0.5f ? 1.0f : 0.0f;

    o.Alpha *= saturate(0.5f + (alphaTex.a - 0.5f) * _Sharpness);
}
```