```
public class CollisionPlacer : MonoBehaviour, ICollisionHandler, IAutoPlacer
Component that helps to place object on collision point or by raycast to ground.

        private LayerMask mask
        Raycast mask.


        private float autoPlaceMaxDistance
        Raycast max distance

        public void CollisionEnter(Collision collision)
        ICollisionHandler.CollisionEnter implementation. Places at average point from
        collision contacts.


        public void AutoPlace()
        IAutoPlacer.AutoPlace implementation. Places at raycast hit point with direction
        Vector3.down.

public class ParticleGroupEmitter : MonoBehaviour
Particle group emitter component.

        private ParticleSystem[] particleSystems
        Particle systems array.

        private RendererFade[] fadeRenderers
        Particle systems array that can be faded.

        private float fadeDuration = 0.5f;
        Particle systems fade duration.

        private int countMultiplier
        Particle count multiplier.

        private bool emissionEnabled = false
        Is emission enabled by default.

        public float SimulationSpeed
        Simulation speed of particle systems.

        public void EnableEmission(bool enabled)
        Enables or disables emission.

        public void Show()
        Show particle systems by fading.

        public void Fade()
        Fades particle systems.

        public void ClearParticles()
        Clear particle systems.

        public void Emit(int count)
        Emits particles from particleSystems array with count multiplier.
        count - count multiplier
```

```
public class ParticleGroupPlayer : MonoBehaviour
Particle group player component

       private ParticleSystem[] particleSystems
       Particle systems array.

       public void Play()
       Plays particle systems from particleSystems array.


       public void Stop()
       Stops particle systems from particleSystems array.

public class SimpleDecal : MonoBehaviour, IDecal
Simple decal component.

       private bool canRotate
       Determines decal can be rotated or not.

       public bool CanRotate
       Determines decal can be rotated or not.
```

Knife/Distortion
Shader creates warp distortion by normal of space.

Texture2D _NormalMap – first normal map for distortion.
Texture2D _NormalMap2 – second normal map for distortion.
Float _DistortionAmount – amount of distortion by first normal map.
Float _DistortionAmount2 – amount of distortion by second normal map.
Texture2D _AlphaMask – mask of distortion amount (red channel only).
Float _TwoNormals – enables second normal map from inspector. Keyword _TWONORMALS_ON.
Vector _DistortionSpeed – speed of uv animation of first normal map.
Vector _DistortionSpeed2 – speed of uv animation of second normal map.
Float _Debug – disables distortion and shows alpha mask. Keyword _DEBUG_ON
Float _ScreenSpaceUV – determines how normal maps will be sampled (in uv space or in screen space). Keyword _SCREENSPACEUV_ON
Float _Tiling1 – tiling of first normal map.
Float _Tiling2 – tiling of second normal map.

Knife/Fire PBR
Shader is for creating fire effect with particles (Lit).
Shader requires Custom Vertex Streams in particle system. You should add Custom1.xy (TEXCOORD0.zw).
Custom.x – rotation of particle (used to eliminate noise rotation).
Custom.y – noise softness multiplier.

Texture2D _Noise – noise texture to create fire gradient.
Texture2D _Alpha – alpha mask texture (red channel only)
Color _Color0 – gradient first color.
Color _Color1 – gradient second color.
Float _Opacity – opacity multiplier of particle.
Float _NoiseSoftness – softness of noise gradient.
Vector _NoiseSpeed – speed of noise uv animation.
Float _DepthFade – smooth depth intersection distance.
Float _Rotation – rotation of uv coordinates.
Vector _Offset – offset of uv coordinates.
Float _AlphaSoftness – softness of alpha mask.

Knife/Fire
Shader is for creating fire effect with particles (Unlit).
Shader requires Custom Vertex Streams in particle system. You should add Custom1.xy (TEXCOORD0.zw).
Custom.x – rotation of particle (used to eliminate noise rotation).
Custom.y – noise softness multiplier.

Texture2D _Noise – noise texture to create fire gradient.
Texture2D _Alpha – alpha mask texture (red channel only)
Color _Color0 – gradient first color.
Color _Color1 – gradient second color.
Float _Opacity – opacity multiplier of particle.
Float _NoiseSoftness – softness of noise gradient.
Vector _NoiseSpeed – speed of noise uv animation.
Float _DepthFade – soft depth intersection distance.
Float _Rotation – rotation of uv coordinates.
Vector _Offset – offset of uv coordinates.
Float _AlphaSoftness – softness of alpha mask.

Knife/Particle Channel Packed

Shader for particle texture sheet animation that packed into 4 channels of texture.
For example, if 1 channel has 4 rows and 8 columns, so total animation frames count is 4x8x4=128.
Shader requires Custom Vertex Streams in particle system.

Custom.x (TEXCOORD0.z) – current frame number.

Custom.y (TEXCOORD0.w) – emission multiplier or subtrahend (Emission dissolve)

Rotation (TEXCOORD1.x) – rotation of particle (used to eliminating of emission texture rotation, optional by EliminateEmissionRotation).

StableRandom.x (TEXCOORD1.y) – random offset for emission texture (optional by EliminateEmissionRotation).

Float _Rows – rows count in channel.

Float _Columns – columns count in channel.

Color _Color – color of particle.

Texture2D _MainTex – texture sheet.

Float _MainTexSmoothstep – enables smoothstep function for main tex values. Keyword _MAINTEXSMOOTHSTEP_ON.

Float _MainSoftnessMin – minimum value for smoothstep function for MainTex.

Float _MainSoftnessMax – maximum value for smoothstep function for MainTex.

Float _AlphaSoftness – softness of frame sample.

Float _DepthSoftness – soft depth intersections distance.

Float _AlphaDissolve – alpha will be dissolved by VertexColor alpha values. Keyword _ALPHADISSOLVE_ON.

Color _Emission – emission color.

Float _EmissionDissolve – emission will be dissolved by Custom.y value. Keyword _EMISSIONDISSOLVE_ON.

Texture2D _EmissionTex – emission dissolve texture (used only when _EmissionDissolve enabled).

Float _EmissionSoftness1 – minimum value for smoothstep function for Emission texture.

Float _EmissionSoftness2 – maximum value for smoothstep function for Emission texture.

Float _FinalAlphaSmoothstep – enables final alpha smoothstep function. Keyword _FINALALPHASMOOTHSTEP_ON.

Float _FinalAlphaSmoothstepMin – minimum value for smoothstep function for final alpha.

Float _FinalAlphaSmoothstepMax – maximum value for smoothstep function for final alpha.

Float _EmissionAlpha – when enabled alpha will affect to emission. Keyword _EMISSIONALPHA_ON.

Float _FinalEmissionSmoothstep – enables final emission smoothstep function. Keyword _FINALEMISSIONSMOOTHSTEP_ON.

Float _FinalEmisionSmoothstepMin – minimum value for smoothstep function for final emission.

Float _FinalEmissionSmoothstepMax – maximum value for smoothstep function for final emission.

Float _NormalMapEnabled – enables normal map texture sheet. Keyword _NORMALMAPENABLED_ON.

Texture2D _NormalMap – normal map texture sheet. We can’t pack normal map to 4 channels, because normal value requires vector3. So normal map sheet should be whole. For example, if main texture sheet has 4 rows and 4 columns and 4 channels (64 frames), so normal map should have 8 rows and 8 columns.

Float _NormalScale – normal scale.

Float _AlphaEmissionDissolveSub – enables emission dissolve alpha factor. Keyword _ALPHAEMISSIONDISSOLVESUB_ON.

Float _EmissionSubValue – factor how much alpha will affect on emission dissolve (enabled EmissionAlpha and AlphaEmissionDissolveSub required).
Vector _EmissionSpeed – speed of emission uv animation.
Float _EliminateEmissionRotation – enables emission texture rotation eliminating. Keyword _ELIMINATEEMISSIONROTATION_ON.
Float _CullMode – face culling mode.

Knife/Particle Channel Packed Unlit

Shader for particle texture sheet animation that packed into 4 channels of texture. For example, if 1 channel has 4 rows and 8 columns, so total animation frames count is 4x8x4=128.
Shader requires Custom Vertex Streams in particle system.
Custom.x (TEXCOORD0.z) – current frame number.
Custom.y (TEXCOORD0.w) – emission multiplier or subtrahend (Emission dissolve)

Float _Rows – rows count in channel.
Float _Columns – columns count in channel.
Color _Color – color of particle.
Texture2D _MainTex – texture sheet.
Float _MainTexSmoothstep – enables smoothstep function for main tex values. Keyword _MAINTEXSMOOTHSTEP_ON.
Float _MainSoftnessMin – minimum value for smoothstep function for MainTex.
Float _MainSoftnessMax – maximum value for smoothstep function for MainTex.
Float _AlphaSoftness – softness of frame sample.
Float _DepthSoftness – soft depth intersections distance.
Float _AlphaDissolve – alpha will be dissolved by VertexColor alpha values. Keyword _ALPHADISSOLVE_ON.
Color _Emission – emission color.
Float _EmissionDissolve – emission will be dissolved by Custom.y value. Keyword _EMISSIONDISSOLVE_ON.
Texture2D _EmissionTex – emission dissolve texture (used only when _EmissionDissolve enabled).
Vector _EmissionSpeed – speed of emission uv animation.

Float _EmissionSoftness1 – minimum value for smoothstep function for Emission texture.
Float _EmissionSoftness2 – maximum value for smoothstep function for Emission texture.
Float _FinalAlphaSmoothstep – enables final alpha smoothstep function. Keyword _FINALALPHASMOOTHSTEP_ON.
Float _FinalAlphaSmoothstepMin – minimum value for smoothstep function for final alpha.
Float _FinalAlphaSmoothstepMax – maximum value for smoothstep function for final alpha.
Float _EmissionAlpha – when enabled alpha will affect to emission. Keyword _EMISSIONALPHA_ON.
Float _FinalEmissionSmoothstep – enables final emission smoothstep function. Keyword _FINALEMISSIONSMOOTHSTEP_ON.
Float _FinalEmisionSmoothstepMin – minimum value for smoothstep function for final emission.
Float _FinalEmissionSmoothstepMax – maximum value for smoothstep function for final emission.
Float _AlphaEmissionDissolveSub – enables emission dissolve alpha factor. Keyword _ALPHAEMISSIONDISSOLVESUB_ON.

Float _EmissionSubValue – factor how much alpha will affect on emission dissolve (enabled EmissionAlpha and AlphaEmissionDissolveSub required).

Knife/Particle Specular (and Knife/Particle Specular Transparent)
Shader represents simple PBR shader for particles.

Color _Color – main color.
Texture2D _MainTex – albedo texture.
Float _Cutout – cutout value (only for **Knife/Particle Specular**).
Texture2D _NormalMap – normal map texture.
Float _NormalScale – scale of normals.
Texture2D _Specular – specular map texture.
Float _Smoothness – smoothness multiplier.
Color _SpecularColor – additive specular color.

Knife/Displacement Noise
Simple unlit shader with 3d noise generator for spherical seamless displacement.

Color _Color – main color.
Float _NoiseSpeed – speed of noise animation.
Float _NoiseScale – size of noise.
Float _DisplacementAmount – maximum vertex normal displacement.

Knife/Dissolve Noise
Simple unlit shader with dissolve slider.

Color _Color – main color.
Float _Dissolve – dissolve amount.
Float _DissolveSoftnessMin – smoothstep min.
Float _DissolveSoftnessMax – smoothstep max.

Knife/Fresnel
Simple unlit surface shader with Fresnel alpha masking and seamless spherical multi displacement.

Color _Color – main color.
Float _FresnelScale[1, 2] – intensity of Fresnel effect.
Float _FresnelPower[1, 2] – hardness of Fresnel effect.
Float _DisplacementAmount – maximum vertex normal displacement.
Float _NoiseSpeed[1, 2, 3] – speed of noise animation.
Float _NoiseScale[1, 2, 3] – size of noise.
Float _NoiseAmount[1, 2, 3] – amount of noise.

Knife/Heat Decal
Simple PBR Specular surface shader with emission intensity slider.

Texture2D _Albedo, _NormalMap, _Specular, _Emissive – regular PBR textures.
Color _Color – main color.
Float _NormalScale – intensity of normal map.
Float _Smoothness – smoothness multiplier.
Color _EmissiveColor – color of emission.
Float _EmissiveIntensity – intensity of emission.

Knife/Laser
Simple unlit shader with per-pixel uv fade.

Color _Color – main color.
Float _FadeMin – smoothstep fade min.
Float _FadeMax – smoothstep fade max.

Knife/Lightning
Complex unlit shader for lightning effect.

Color _Color – main color.
Float _NoiseScale – main noise scale.
Float _SecondNoiseScale – second noise scale.
Float _MainOffset – main noise maximum displacement.
Float _SecondOffset – second noise maximum displacement.
Float _ShowFraction – slider for showing animation, hides or shows mesh by U or V coordinate.
Float _FinalOffset – final maximum displacement factor.
Float _FinalSecondOffset – final second noise maximum displacement factor.
Float _FinalArc – final arc displacement factor.
Float _FinalMainOffset – final main noise maximum displacement factor.
Float _Thickness – thickness of mesh along Z Axis.
Float _FinalThickness – final thickness factor.
Float _SecondNoiseSpeed – animation speed of second noise.
Float _MainNoiseSpeed – animation speed of main noise.
Float _FinalAlpha – final alpha factor.
Float _Arc – maximum arc displacement.
Float _Random – value for randomization of effects.
Float _ShowFractionMode – U or V coordinate may be used for alpha fading.
Float _InvertUV – invert U or V coordinate.
Float _ZWrite – enables Z writing.
Float _UVAlphaGradient – alpha fading by UV gradient.
Float _ThicknessNoiseSpeed – animation speed of thickness noise.
Float _ThicknessNoiseScale – scale of thickness noise.
Float _ThicknessNoiseAmount – amount of thickness noise.
Texture2D _ThicknessTexture – texture of thickness (sampled by V coordinate).

Knife/Melt Particle
Simple unlit shader with dissolve that controller by particle (TEXCOORD0.z).

Color _Color – main color.
Texture2D _Alpha – alpha mask (red channel).

Knife/Toxic
Complex PBR Specular surface shader used for toxic puddles, should be replaced by shader for Decals System.

Texture2D Base Color, Normal Map, Specular, Emission – regular PBR textures.
Texture2D Dissolved, Dissolved Normal Map, Dissolved Specular – regular PBR textures that will be showed by dissolve animation.
Color _Color – main color.
Float _NormalScale – intensity of normal map.
Float _Smoothness – smoothness factor.
Float _Blend – blends main PBR texture set with dissolved PBR texture set.
Float _DissolvedNormalScale – intensity of dissolved normal map.
Float _DissolvedSmoothness – dissolved smoothness factor.
Float _DissolvedHardness – hardess of dissolve gradient.
Float _Emissive – emission intensity factor.
Float _DepthFadeDistance – depth fade distance.
Float _ShowFraction – shows mesh by gradient from center.
Float _ShowFraction[Min, Max] – min and max of smoothstep of gradient.
Int _Columns – columns count of texture variant in texture atlas.
Int _Rows – rows count of texture variant in texture atlas.
Float _Random – randomizating value.

Knife/Toxic Ball
Unlit shader for liquid toxic ball.

Color _ColorDark – inner color of Fresnel gradient.
Color _ColorBright – outer color of Fresnel gradient.
Float _IntensityBright – outer color intensity.
Float _NormalSpeed[1, 2] – animation speed of noised normals.
Float _NormalScale[1, 2] – intensity of noised normals.
Float _FresnelScale – scale of Fresnel effect.
Float _FresnelPower – power of Fresnel effect.
TextureCUBE – fake reflections cubemap.
Float _ReflectionIntensity – intensity of fake reflections.
Float _DisplacementNoiseSpeed1 – animation speed of displacement noise.
Float _DisplacementNoiseScale1 – scale of displacement noise.
Float _ParticleSizeFactor – TEXCOORD0.z from particle system used as size factor.
Float _Displacement – displacement amount.
Float _UseParticleSize – enables particle size factor.

Knife/Toxic Sphere
Unlit shader for liquid toxic explosion.

Color _Color – main color.
Float _EmissionIntensity – main color intensity.
Texture2D _Mask – alpha mask (used red channel).
Float _Dissolve – dissolve slider.
Float _MaskHardness[Min, Max] – min and max of smoothstep of dissolve gradient.