Contents

Colorify calculation modes

Colorify shaders come in 2 main varieties: real-time and baked recolor mask.

Real-time shaders perform color range calculations each frame, and can be used for dynamic effects, but they are more performance-heavy and mobile versions of these shaders do not support hue filtering.

Baked mask shaders use recolor masks that need to be baked in editor. These shaders can’t change color ranges at runtime (but they CAN change colors), but they’re much faster and can provide precise filtering even on mobile devices. Also, you can edit generated mask with any image editor.

Colorify recolor modes

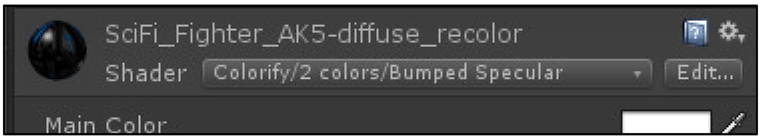
By default Colorify uses rgb-recolor mode, which changes color of your designated areas while taking into account RGB variations of underlying texture. This preserve subtle variations of hue, but can cause problems when recoloring very bright areas into black, or when your recolor hue interval is too big.

In these cases, Colorify Standard PBS shaders include luminosity recolor mode. This mode only accessible with masked calculation mode, and it will make hue of recolored area unified. It will give you much more consistent results, but will remove any hue variations in recolored area.

How to use Colorify (real-time versions of shaders):

Read this even if you want to use baked recolor masks mode.

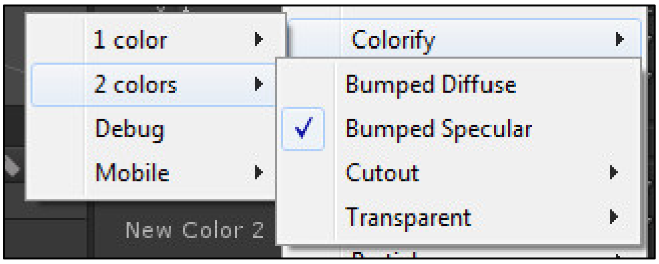
1) Select material you need to repaint



SciFi_Fighter_AK5-diffuse_recolor

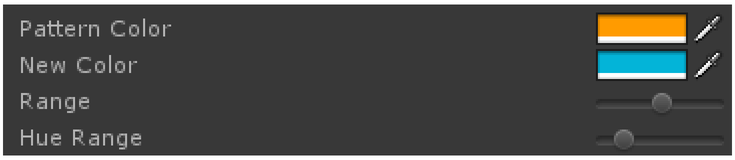
Shader Colorify/2 colors/Bumped Specular

2) Choose shader from “Colorify/Real-time” subfolder. Colorify shaders come in 3 varieties: “1 color”, “2 colors” and “Mobile”. 1 color and 2 colors are shader model 3.0 shaders that allow you to repaint 1 or 2 color ranges on your texture. 2 colors shaders are slower, so try to use 1 color where it’s possible. Mobile shaders are shader model 2.0 shaders that use simplified algorithms.



Note: If you’re using Unity 5 standard shader variant, you can choose 1 or 2 colors, real-time or masked version by choosing shader parameters.

3) Choose “Pattern color” in the material window. This color and colors close to it will be repainted.



4) Choose “New color”. This color will be painted instead of “Pattern color”.

5) Set up range and Hue range variables that will define how large of color range will be repainted.

Range defines color range in RGB space, so the lesser range, the lesser variance in overall color will be allowed (including brightness).

Hue range defines variations in hue only. It’s used to truncate undesirable recoloring of pixels close enough in RGB range to the pattern color. Be warned that grey colors also have hue value that’s usually undetectable to the eye. Use “dropper” color picker to see what hue it really have.

NOTE: Mobile real-time shaders don’t support hue range truncation.

For examples of usage of range and hue range, see example scene.

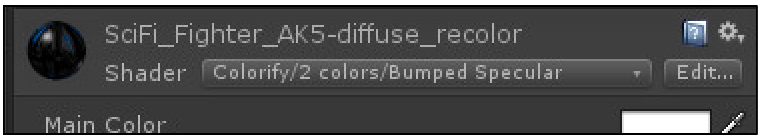
6) If you use 2 colors versions of shaders, repeat the process for second set of parameters.

HINT #1:
If your texture have predominantly white(or grey) color you need to repaint, set main color to a slight shade of one of the rgb colors (100% red, green or blue) to shift hue of the white-grey parts to one hue value.

HINT #2:
Texture compression can alter hue values of grey areas in a “blocky” way. If that’s the case with your texture, try widening hue range or, if you can afford it performance-wise, switching texture to truecolor.

How to use Colorify (mask versions & result baking):

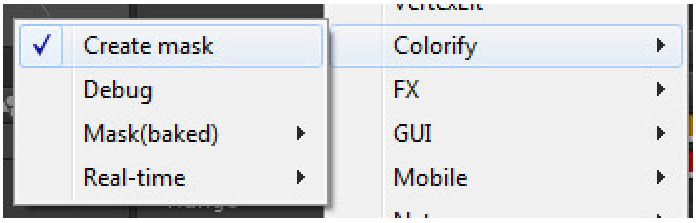
1) Select material you need to repaint

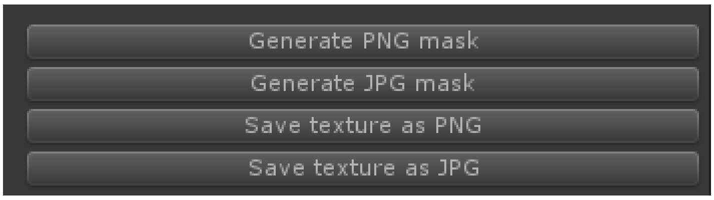


SciFi_Fighter_AK5-diffuse_recolor

Shader Colorify/2 colors/Bumped Specular

2) First you need to bake recolor mask. Choose “Colorify/Create mask” shader and set up your colors and ranges the same way as in real-time shaders. When you’re satisfied with recolor options, press either “Generate PNG mask” or “Generate JPG mask”. You can also save resulting recolored texture here by using “Save texture” buttons.





3) Choose specific shader from “Colorify/Mask(baked)” folder or one of Colorify standard shaders. Your generated mask will already be put in “Recolor mask” texture slot, but you can put any texture in it. Note that these shaders don’t need range and hue range parameters (since mask contains all info about color ranges), but they still need original color values to correctly perform recoloring. Please don’t change “Patter color” values after mask generation unless you know what you’re doing.

Recolor mask format:

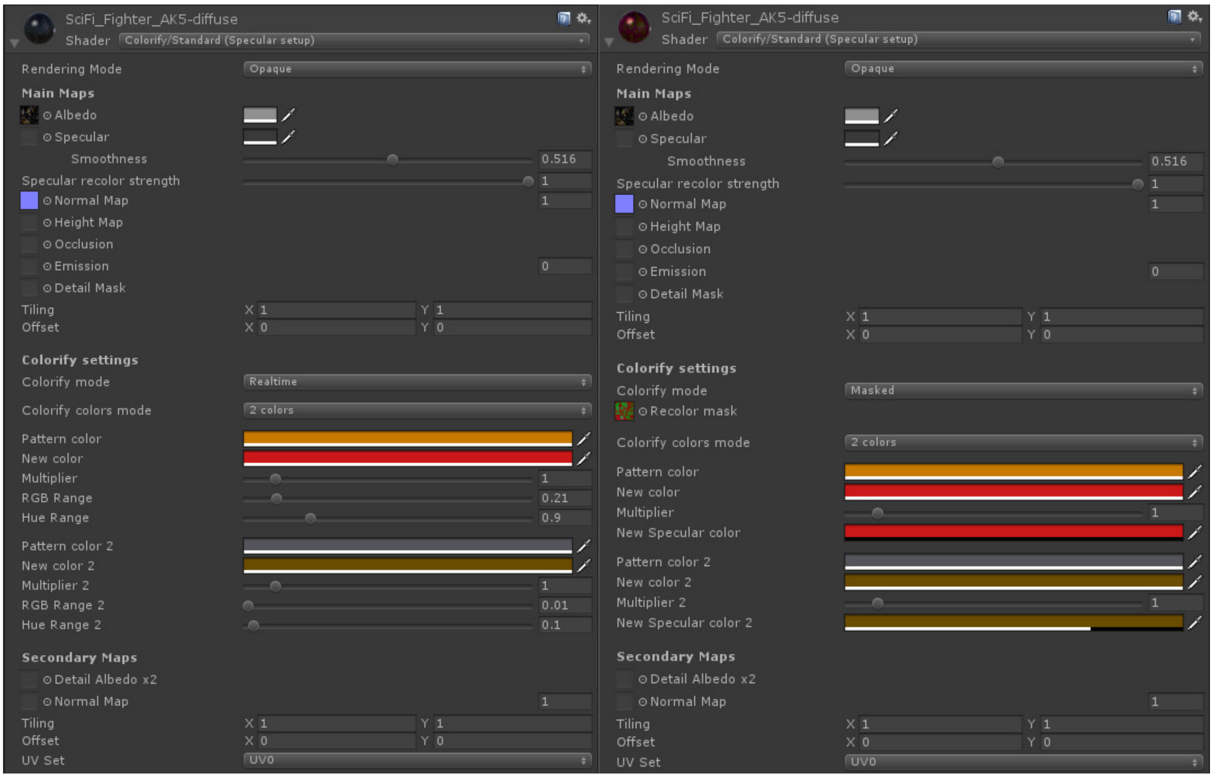
Recolor mask uses red and green channels to store info about recolor coefficients - red channel for color #1 and green channel for color #2. Blue channel contains overall luminosity of the texture and is used in luminosity recolor mode.

Standard PBS shaders.

Colorify include Unity 5 PBS shaders and provide additional inspector for those shaders.

There’s 2 more shaders included alongside usual metallic and specular variations: metallic backside shader that will render backside with correct normal (cull back), and specular shader with cull turned off that will render both front and back of your objects, although back normals will be incorrect.

Colorify Standard PBS shader inspector:



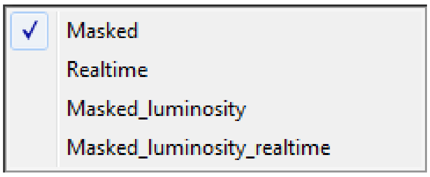
SciFi_Fighter_AK5-diffuse
Shader Colorify/Standard (Specular setup)

Rendering Mode	Opaque
Main Maps	
Albedo	
Specular	
Smoothness	0.516
Specular recolor strength	1
Normal Map	1
Height Map	
Occlusion	
Emission	0
Detail Mask	
Tiling	X 1 Y 1
Offset	X 0 Y 0
Colorify settings	
Colorify mode	Realtime
Colorify colors mode	2 colors
Pattern color	
New color	
Multiplier	1
RGB Range	0.21
Hue Range	0.9
Pattern color 2	
New color 2	
Multiplier 2	1
RGB Range 2	0.01
Hue Range 2	0.1
Secondary Maps	
Detail Albedo x2	
Normal Map	1
Tiling	X 1 Y 1
Offset	X 0 Y 0
UV Set	UV0

SciFi_Fighter_AK5-diffuse
Shader Colorify/Standard (Specular setup)

Rendering Mode	Opaque
Main Maps	
Albedo	
Specular	
Smoothness	0.516
Specular recolor strength	1
Normal Map	1
Height Map	
Occlusion	
Emission	0
Detail Mask	
Tiling	X 1 Y 1
Offset	X 0 Y 0
Colorify settings	
Colorify mode	Masked
Recolor mask	
Colorify colors mode	2 colors
Pattern color	
New color	
Multiplier	1
New Specular color	
Pattern color 2	
New color 2	
Multiplier 2	1
New Specular color 2	
Secondary Maps	
Detail Albedo x2	
Normal Map	1
Tiling	X 1 Y 1
Offset	X 0 Y 0
UV Set	UV0

Modes:



Masked_luminosity_realtime mode will use mask for color coefficients, but will calculate luminosity of main texture in realtime. Use this mode if you manually modified recolor mask and changed blue channel of it, or when your albedo texture is changing in realtime.

Color **Multiplier** can be used for manipulating resulting color. It’s useful when using luminosity recolor mode with very dark or very bright underlying texture.

Specular recolor strength allows you to change specular color and smoothness of recolored areas. **New specular color** alpha is used as smoothness.

Usage for dynamic recoloring in your code:

You can change your material parameters during runtime by using **Material.SetFloat** and **Material.SetColor.**

More info available at Unity Script Reference:

http://docs.unity3d.com/ScriptReference/Material.SetFloat.html

http://docs.unity3d.com/ScriptReference/Material.SetColor.html

List of parameter names and ranges:

Parameter	Internal name for scripting purposes	Range	Default value
Pattern Color	_PatCol	Color	white
New Color	_NewColor	Color	white
Range	_Range	0.0 – 2.0	0.01
HueRange	_HueRange	0.0 – 4.0	0.1
Pattern Color 2	_PatCol2	Color	white
New Color 2	_NewColor2	Color	white
Range 2	_Range2	0.0 – 2.0	0.01
HueRange 2	_HueRange2	0.0 – 4.0	0.1

Unity 5 PBS only:

Specular recolor strength	_ColorifySpecStrength	0.0 – 1.0	0.3
New Specular color	_NewSpecularColor	Color	white
New Specular color 2	_NewSpecularColor2	Color	white
Multiplier	_ColorifyMultiplier	0.0 – 10.0	1
Multiplier 2	_ColorifyMultiplier2	0.0 – 10.0	1

Using Blit to recolor into RenderTexture.

Starting from version 1.7, Colorify supports recoloring textures into RenderTextures during runtime, enabling you to use Colorify recoloring with any shaders dynamically.

You need to use static ColorifyToTexture class to use that functionality. It contains ColorfyTexture method that performs recoloring.

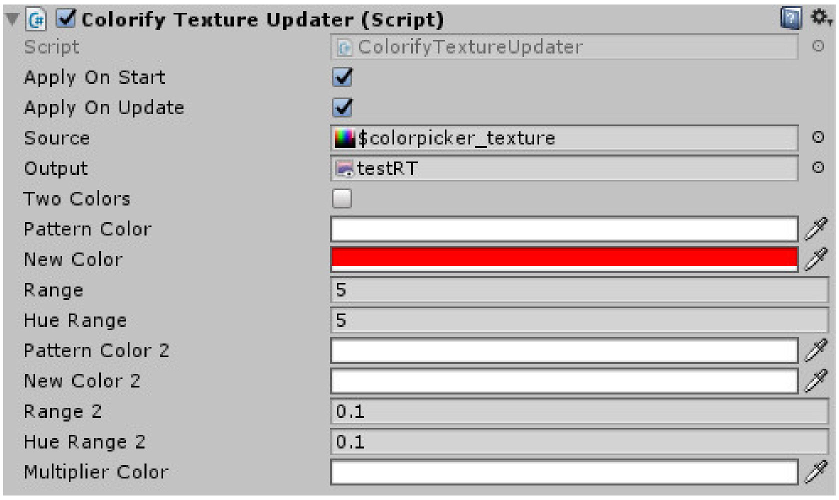
Example of usage (sourceTexture is Texture2D and outputRenderTexture is RenderTexture):

```
        parameters = new ColorifyToTexture.ColorifyParameters();
        parameters.twoColors = false;
       parameters.patternColor = Color.Green;
       parameters.newColor = Color.Red;
       parameters.range = 0.5f;
       parameters.hueRange = 0.4f;

       parameters.multiplierColor = multiplierColor;

       ColorifyToTexture.ColorifyTexture(sourceTexture,outputRenderTextu
re,parameters);
```

There's also ColorifyTextureUpdater MonoBehaviour class that can be dropped onto your GameObject – it will call ColorifyTexture with parameters provided.



☑ Colorify Texture Updater (Script)

Script	ColorifyTextureUpdater
Apply On Start	☑
Apply On Update	☑
Source	$colorpicker_texture
Output	testRT
Two Colors	□
Pattern Color	⬜
New Color	🟥
Range	5
Hue Range	5
Pattern Color 2	⬜
New Color 2	⬜
Range 2	0.1
Hue Range 2	0.1
Multiplier Color	⬜

Contact info

Please send all your questions, suggestions and bug reports to:

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