

Isometric Tilemap Auto Collider Documentation

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Intro

Isometric Tilemap Auto Collider is used for generating correct colliders for every* isometric tilemap regardless of level count. **Just drag and drop "IsometricTilemapAutoCollider.cs" to any game object and choose the settings.**

If you want procedurally generated tilemaps(which also handles colliders & decorations), check out my other asset, "Procedural Isometric Map Generator" at [Unity asset store](#).

*There are very very few cases where the generated colliders won't be correct, like if there is a lower level's cliff behind the stair(examples are in "FAQ & Caveats" section). These small issues are because I don't want to create more collider types(currently 58+). If you find a bug other than the ones in the examples, please report it with a screenshot so I can fix it right away.

Collider Set

Collider set is the set of colliders used when generating collider tiles.

You can create a collider set from "Create>Isometric Tilemap Auto Collider>Collider Set" which can be accessed by right clicking the project folder or going to the "Assets" menu.

You generally won't need to create a new collider set unless you are using vastly abnormal tiles like spiral stairs or a tilemap that doesn't use 1 by 1 tiles*. For example if you want spiral stairs, you need to create duplicate of the default collider set's sprite; then change all the occurrences of flat stair colliders. These sprites include stairs, stairs bottom side only, stairs top side only, cliffs with stair cutouts(there are multiple of these) for each stair. In my honest opinion it is not worth adding spiral stairs or even using custom colliders; just use flat stairs.

*The default collider set is made for 64x64 tiles. If you are using something else that is 1 by 1 like 32x32 or 128x128 you can adjust the pixels per unit of the sprite and use it.

Settings

Grid

The grid which has the tilemaps.

Level Detection Mode

Level detection mode for tilemaps. Since some tilemaps are for higher levels, you need to tell the script how to determine the levels.

Tilemap Sorting Order In Layer

This option determines the level of each tilemap by checking its "Order in Layer" at the "Tilemap Renderer" component of the tilemap.

The lowest sorting order of tilemaps must be 0 if you are using non-raised tiles for the ground level.

The lowest sorting order of tilemaps must be 1 if you are using raised tiles for the ground level. This will give a warning in editor and development builds unless the "Debug" setting is turned off or there is an empty tilemap with sorting order as 0.


Higher Levels At Bottom Of Hierarchy

Assumes higher level tilemaps are at the bottom of hierarchy.

Higher Levels At Bottom Of Hierarchy Skip One

Assumes higher level tilemaps are at the bottom of hierarchy. Discards every second tilemap. This is especially useful if you have things like detail tilemaps which don't change the terrain of the map.

Additional Inset Amount



Additional inset amount insets the map to create more colliders on the borders of the map. This is especially useful when you have something like an ability that can possibly move your characters out of the map borders.

Tilemap Collider Layer Name

Type the layer name of the tilemap collider if you want the layer of the tilemap to be different from the “Default” layer.

Stair Sprites

If you have stairs/elevation in your tilemaps you should assign these. Leave it empty if you don't have that specific stair/elevation type.

Unexposed Settings

These are settings unexposed by the editor that you can change for your preferences.

Colliders & Composite Collider

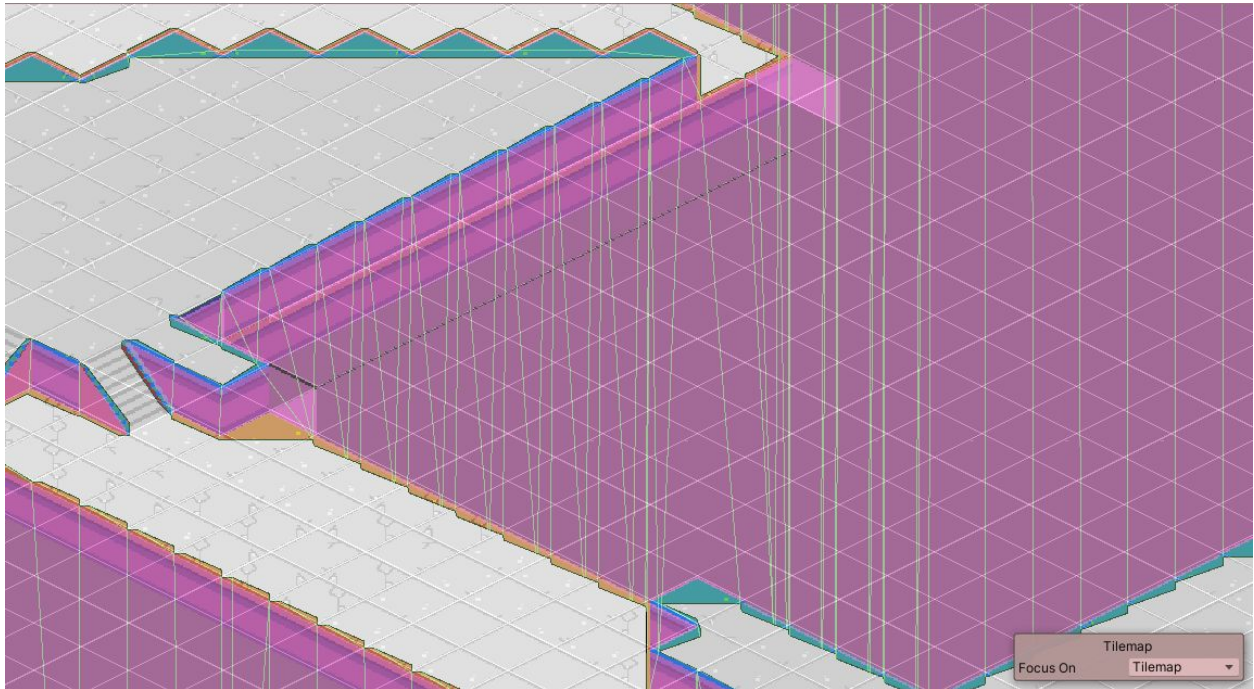
Colliders are set with 0 extrusion factor and set to use a composite collider. You can change this from the “CreateColliderTilemap” function if you want to.

Composite collider uses polygons geometry type to prevent characters etc. getting stuck in the collider. Composite collider also has the minimum possible vertex distance and 0 offset distance to give the most precise colliders. These settings generate more polygons which means it is slower.

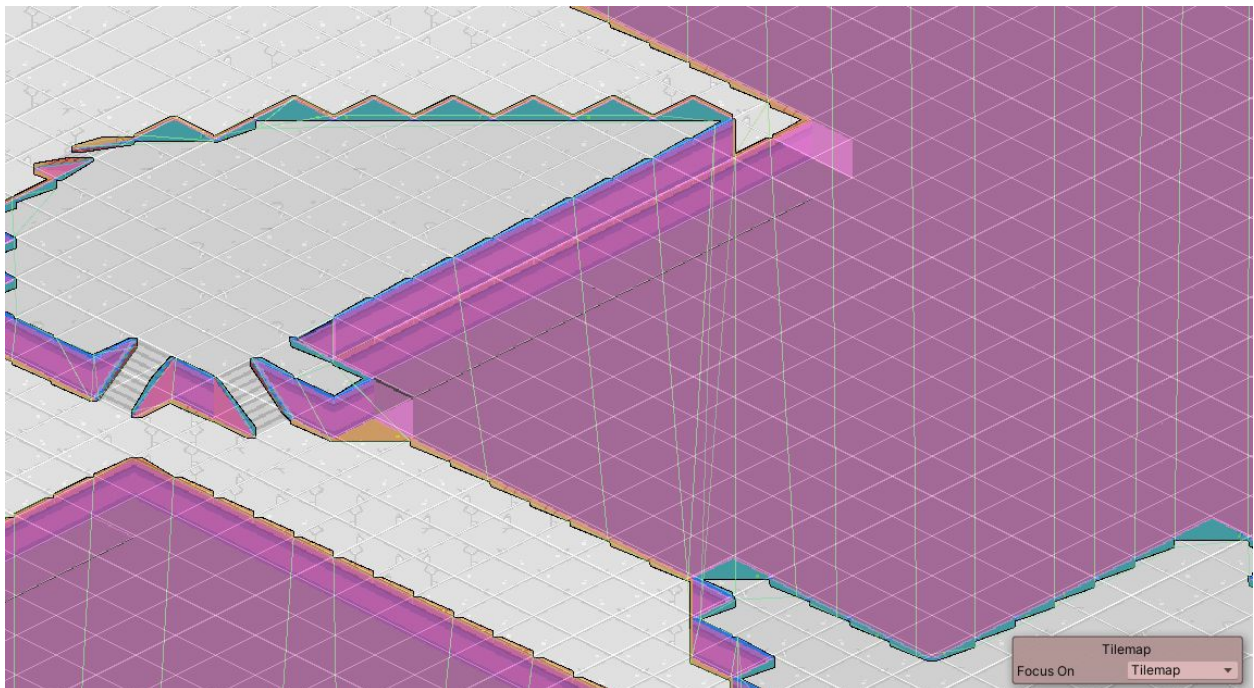
If you want to make the colliders more performant, you can increase vertex distance. Doing this will cause the colliders to be less precise!

In my opinion you shouldn't really fiddle with these settings unless you are getting bad performance because of tilemap colliders. Generally speaking you won't get bad performance because these colliders are 2D and even big tilemaps won't cause bad performance.

You can view tilemap collider by adding a tilemap renderer to the collider object and setting the sorting layer to foreground. Additionally you can select Tilemap from the “Focus On” drop down menu and select the collider object from the hierarchy to see the green lines. You can also check the shape count under the info panel in the composite collider component. Higher shape count is more precise but less performant.



Tilemap collider polygons(green lines) with default collider settings

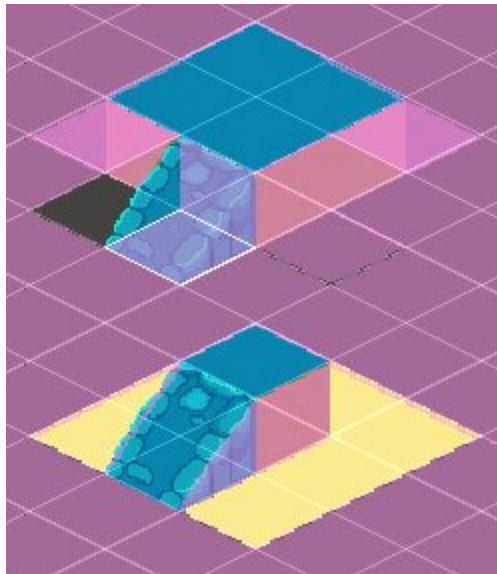


Tilemap collider polygons(green lines) with 0.5 vertex distance

FAQ & Caveats

Colliders Around Stairs Are Not Correct

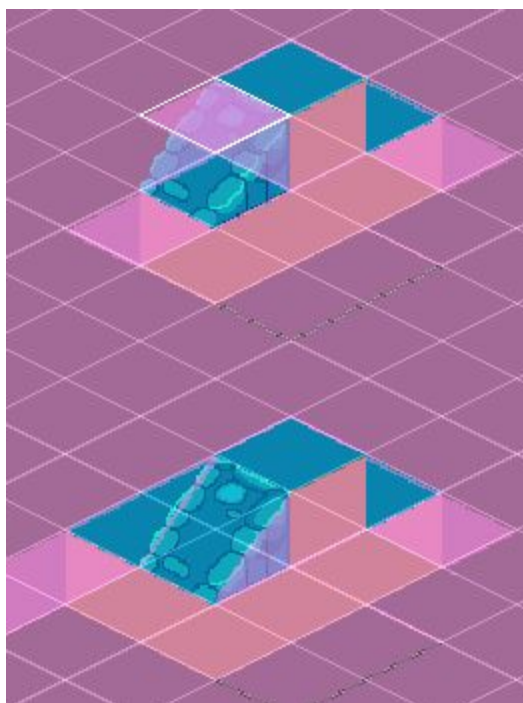
Make sure the stair is at the upper tilemap! Other reasons include:



There is no tile at the ground level at the position with white borders for the upper example.

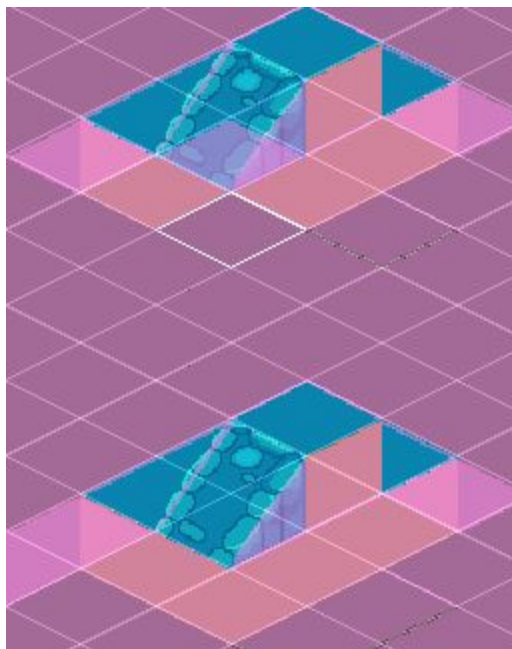
Lower example is correct.

PS: If you are having issues with "stairs towards bottom" or "stairs towards left" make sure there is a tile below the stair and right in front of the stair.



There is no tile at the first level at the position with white borders and/or at the position left of the white border for the upper example.

Lower example is correct.



There is no tile at the first level at the position with white borders.

Lower example is correct.

Colliders Are Not Correct For Ground Level

If you are using raised tiles for ground level you need to add an empty tilemap to be the ground level.

Colliders Are Not Correct For Upper Levels

If you are using "Tilemap Sorting Order In Layer" for level detection, make sure "order in layer" is the same as the level of that tilemap for each tilemap.

I Can't See The Colliders When I Press Play

Tilemap renderer component of the collider tilemap is removed when in play mode for performance and to not disrupt the gameplay.

The Generated Colliders Are Not 100% Accurate

This has nothing to do with this asset. Collider Generation is done by Unity using the collider sprites and they are not 100% accurate. For more detail check out the "Collider & Composite Collider" section under "Unexposed Settings" header.

Do I Have To Press "Build Colliders" Button Every Time I Enter Play Mode?

No. Colliders are auto generated when you enter play mode.

Unity Freezes When I Delete Collider Tilemap

This is a weird bug that can happen if the collider tilemap is really big. In any case, remove the “Tilemap Collider 2D” component first, then delete the game object containing the “Tilemap Collider 2D” component. Deleting the game object containing the “Tilemap Collider 2D” in code is fast.

Contact

You can email goblinsinteractive@gmail.com if you need support, want to report bugs or if you want me to add a feature.

Note that while I will respond to your emails within 24hours, I can't promise to add massive new features just for you. There is no harm done by asking, you don't have to be shy :)

Check out [my website](#) for the latest news.