

# Making an Accretion Disc

An accretion disc is a swirling vortex of matter falling toward a gravitation body like a black hole.

Begin by right clicking in your Hierarchy and selecting: **Space Graphics Toolkit** → **Accretion**

Or from the menu bar selecting: **GameObject** → **Space Graphics Toolkit** → **Accretion**

Your scene should now contain a new selected GameObject called “**Accretion**” with the **SgtAccretion** component.

If you click the “**Add Mesh**” button, the **SgtAccretionMesh** component will be added, and this will automatically generate the **SgtAccretion.Mesh** setting for you.

Next, you need to set the **SgtAccretion.MainTex** setting. The accretion example media comes with the “**Accretion\_Main**” texture, which you can use here. This should be a vertically seamless texture, where the left edge is the inner edge of the disc.

You now have a very basic accretion disc.

NOTE: The SGT accretion feature splits the disc into multiple segments (default = 8). This allows it to correctly depth sort against objects you want to place in the center (e.g. a planet). If it were a single GameObject then it wouldn't work in such a scenario, you can test this by setting the **SgtAccretion.Segments** and **SgtAccretionMesh.Segments** setting to 1, and you will see it renders incorrectly in some scenarios with an object placed in the center.

## Adding Detail

If you want matter to fall into the accretion disc, you need to enable the **SgtAccretion.Detail** setting. You can now set the **SgtAccretion.DetailTex** setting. The “**Accretion\_Detail**” texture that comes with SGT can be used here. This should be a seamless texture.

To make it fall into the disc you need to set the **SgtAccretion.DetailSpeed** setting (e.g. 1,1).

To make the matter fall in non-linearly, you can adjust the **SgtAccretion.DetailTwist** setting (e.g. 2).

To make the matter slow its rotation as it approaches the inner edge, you can adjust the **SgtAccretion.DetailTwistBias** setting (e.g. 1.5).

## My disc segments clip through objects in the center?

While the segment splitting improves depth sorting against objects in the center, it won't always fix it 100%. To improve this you can try increasing the **SgtAccretionMesh.BoundsShift** setting, or increasing the **Segments** in both components.