

# Modifying an Alembic Procedural Using Operators



Operators used to change color of anvil within *Alembic Procedural*, add matte to apron and hide anvil (rollover image).

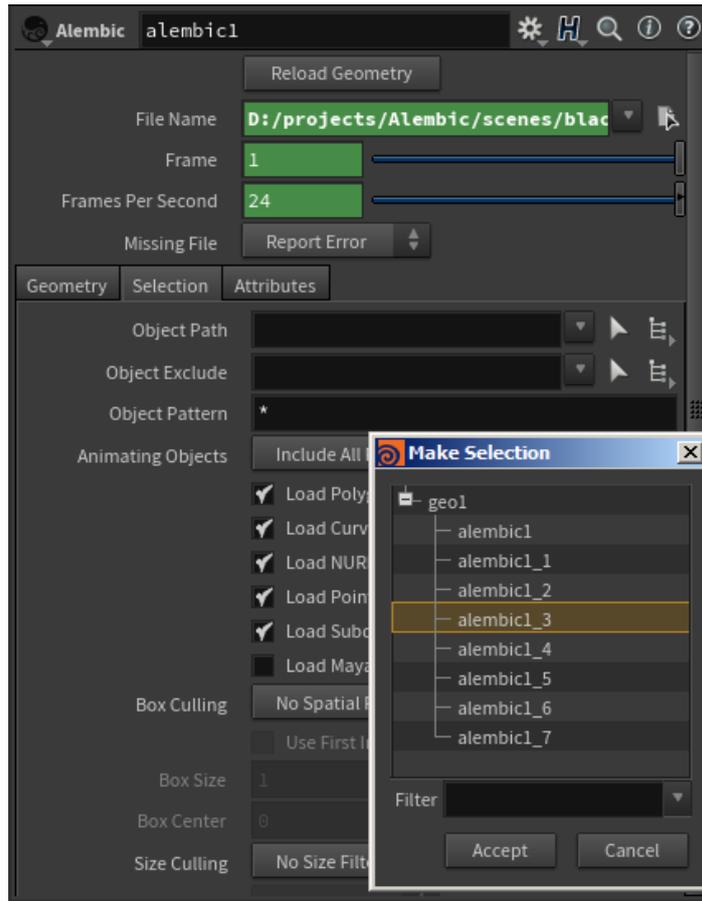
This tutorial covers how to apply *Operators* to modify the content of an “opaque” object, that is an Arnold alembic procedural. The Alembic file itself does not contain materials, and has no particular properties for the objects, and here is where *Operators* can be useful, for instance, to apply a given shader to a given subobject. Each sub-object is an actual shape node for the imported *Alembic*. With *Operators*, we can operate on the individual contents of the *Alembic* file.

In Arnold, there is a strong naming convention, like in a file system. The root level is /, every node in a hierarchy separated by its father by a / too. So, if you export this scene to a .ass file, you will read names such as /geol/alembic1, /geol/alembic1\_1 and so on for the imported alembic shapes, while you will have a single /Alembic001 node name for the **Arnold Alembic** node. This convention is very important because, again, the *Operators* selection is strongly based on the Arnold objects names.



Use the *Ignore Operators* flag in *Diagnostics > Feature Overrides* to check what the render looks like without any *Operators*.

**The scene file can be downloaded here.**



Alembic geo visible in the Alembic

### Hide the Anvil (Set Parameter)

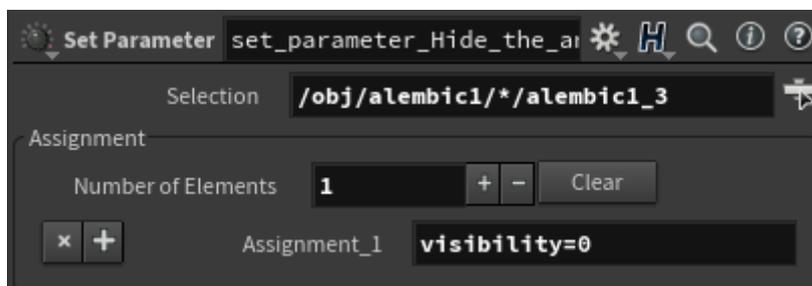
We can use a *Set Parameter* to hide the anvil of the imported alembic.

- Add the following expression:

```
visibility=0
```

- Under *Selection* add the following for the anvil geo:

```
/obj/alembic1/*/alembic1_3
```



### Assign Blue Shader to Anvil (Set Parameter)

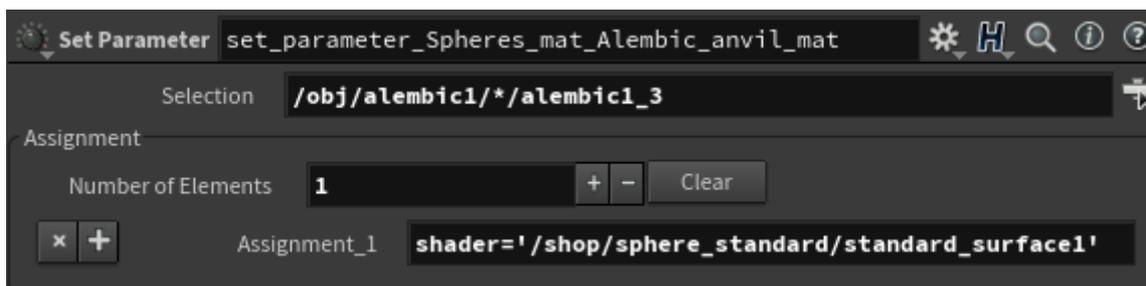
We can assign the spheres blue *Standard Surface* shader to the anvil in the Alembic using the following (note that the shaders are also named with a trailing slash):

- Under *expression* add the following:

```
shader="/sphere_standard"
```

- Under *selection* add the following for the anvil geo:

```
/obj/alembic1/*/alembic1_3
```



## Merge

We can use the *Merge* operator to group the two input nodes.

## Assign Matte to Apron (Set Parameter)

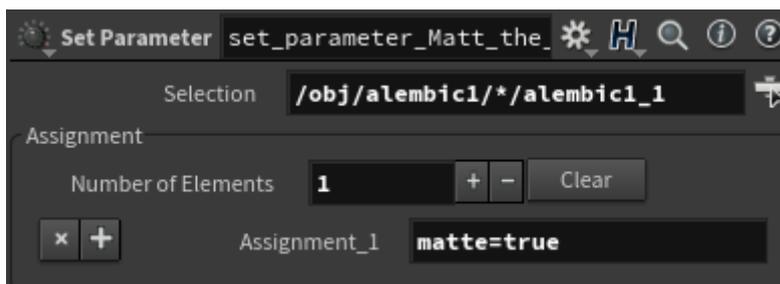
We can use a *Set Parameter* operator to turn the Arnold Alembic apron into a matte object.

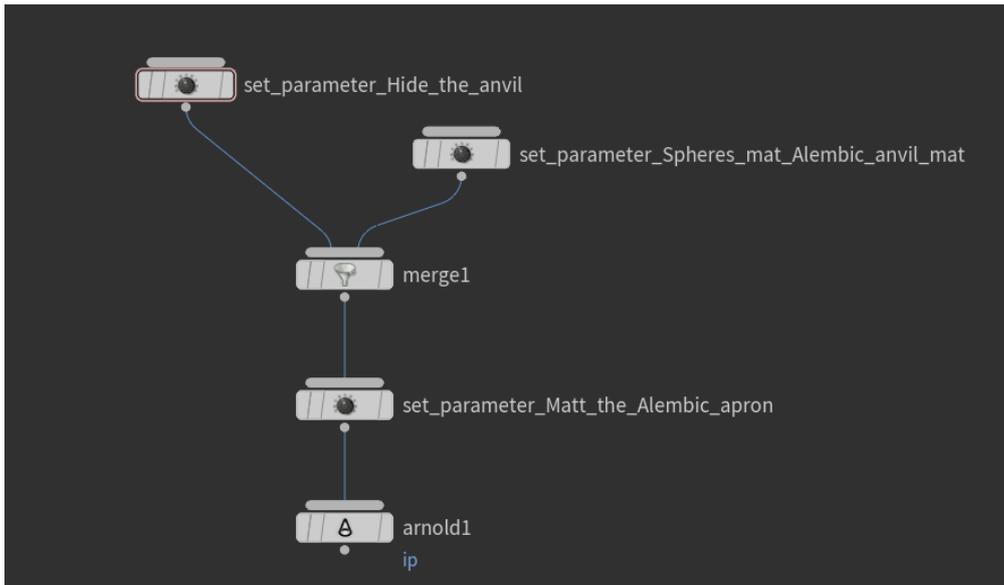
- Under *Expressions* add the following:

```
matte=true
```

- Under *Selection* add the following for the apron geo:

```
/obj/alembic1/*/alembic1_1
```





Final Operators -> Arnold ROP