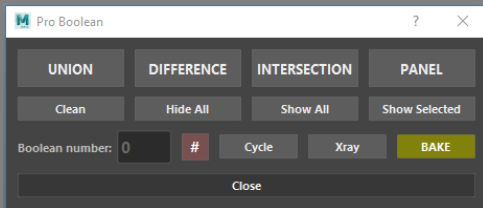


# PRO BOOLEAN

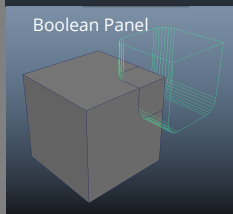
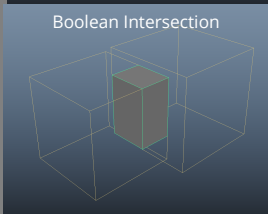
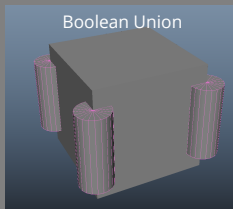
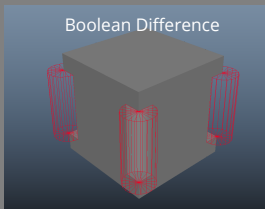


Pro Boolean is a tool that will help you create live boolean operations in Maya.

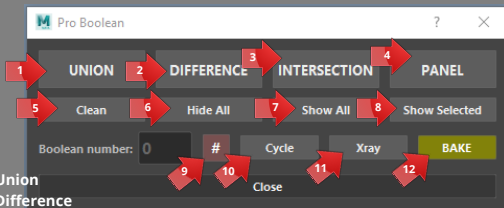
As a user you will have further control on placement and editing those booleans.

You will also be able to:

1. Generate multiple boolean operations of the same type at the same time.
2. Hide or Cycle through your boolean operations.
3. Change the type of boolean on the fly.
4. Query the number of booleans active on any given mesh.



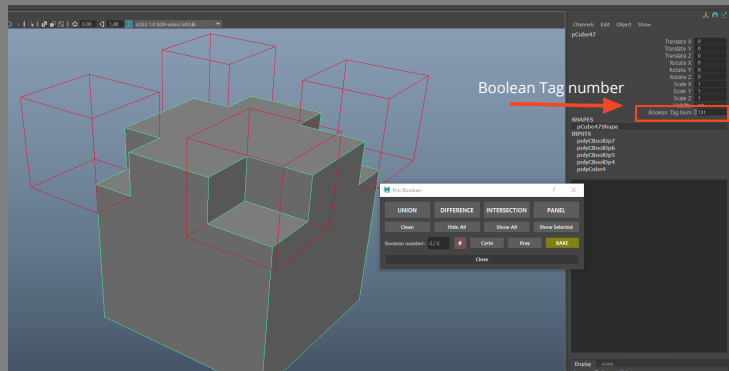
# BUTTONS OVERVIEW



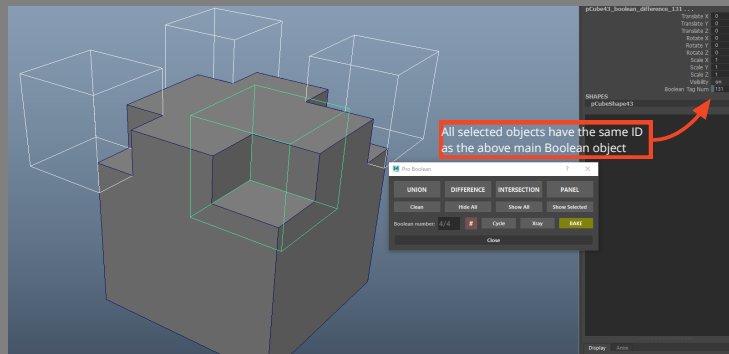
1. Boolean **Union**
2. Boolean **Difference**
3. Boolean **Intersection**
4. Boolean **Panel**: Default state of the button makes a copy of the main boolean mesh & boolean piece and performs a boolean intersection operation between those. Then the original pieces perform a boolean difference operation to cut the shape out from the original main boolean object, essentially it performs 2 boolean operations. **Ctrl + Click** to perform a different form of boolean panel which uses the boolean cutter as a boolean difference alongside with a polyExtrudeFace operation (use the Thickness input in the attribute editor to control the width of the Panel Cut).
5. **Clean** button:
  - a. **Click** to delete **Boolean Tag Num** attribute associated with a selected boolean mesh (More on the Boolean Tag Num on the next page) - When nothing selected clicking will do a clean up pass on the Pro\_Boolean\_Master folder.
  - b. **Ctrl + Click** - to reset give your meshes a new ID number (useful when you are copying a mesh that already has a Boolean Tag Number)
  - c. **Ctrl + Alt + Click** to toggle the visibility of a cutter between wireframe only and shaded (with no wireframe color) . Toggle works for as long as your cutter has a Boolean Tag Num attribute.
6. **Hide** all Boolean operations within your scene. (Hides only those that have a Boolean Tag Number ID attribute).
7. **Show** all Boolean operation within your scene. (Shows only those that have a Boolean Tag Number ID attribute).
8. **Show Selected** - Make a selection of a few boolean cutters, clicking on the button will hide all other boolean cutters in your scene apart from the ones you have selected. Ctrl + Click on the main Boolean object to show and select all booleans associated with that main Boolean object (This wont work if your main object has the default Boolean Panel applied to it - Use the secondary Boolean Panel feature (Ctrl + Click) for the selection to work properly).
9. **# Query** the number of Booleans on a selected object (Booleans need the Tag Num ID attribute for this to work). **Ctrl + Click** on this button to bring up the **HELP** window.
10. **Cycle** - If you have more than one boolean operations active on your main boolean object. This will hide all others and only show one that is associated with performing the boolean. Ctrl + Click to Cycle backwards. Shift click to cycle through the boolean operations (union, difference, intersection).
11. **Xray** - Switch to Xray mode to better see how the booleans affect the main Boolean object.
12. **Bake** - When you are finished with your Booleans click on the button to commit to the final result. Ctrl + Click to commit and also keep all boolean objects.

# BOOLEAN TAG ID NUM

With every boolean performed on a main object, that main object and all others boolean operations to follow that, will have a Boolean Tag Number attribute.

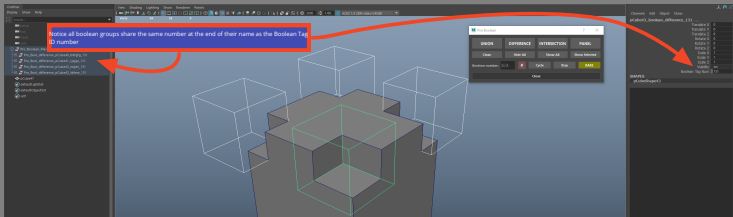


This is a unique number and is shared with all booleans that affect a main boolean object.

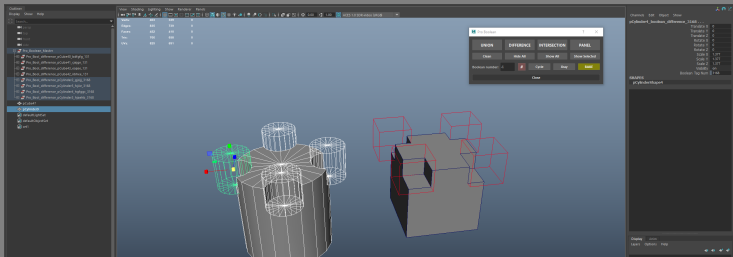


# BOOLEAN TAG ID NUM

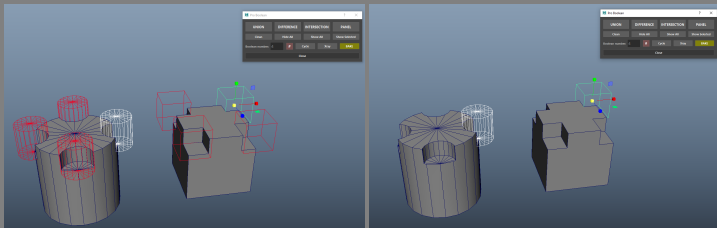
Upon creating a boolean operation there is a Pro\_Boolean\_Master folder created where all your booleans are located in.



This is an important step in the Pro Boolean process as it will allow the tool to query, hide, Show, Cycle and Bake main objects based on that ID number.



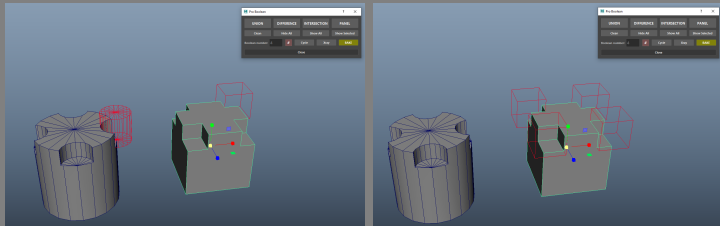
You can see the difference in numbers in the outliner between the 2 main Boolean objects. Watch what happens when I click on the Show Selected button.



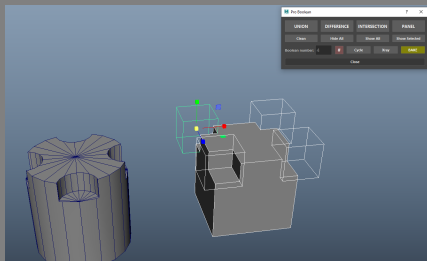
Because I selected the boolean cutters and not the main boolean, the tool hid all other boolean cutters apart from the ones selected.

# BOOLEAN TAG ID NUM

Lets see what happens when we select the main boolean object.



The tool hid all boolean cutters apart from the ones associated with the main boolean.



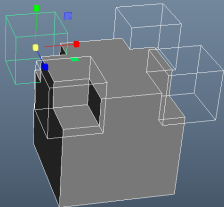
**CTRL + CLICK** on the **Show Selected** button would have also selected all boolean cutters

# BOOLEAN TAG ID NUM

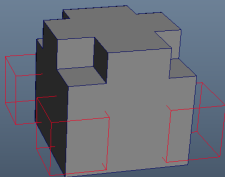
Note that if you delete your history on your main boolean object then you destroy any links to any boolean cutters.

This is similar to the alternative function of the BAKE button, but your cutters will be rendered in the viewport as only wireframe only objects.

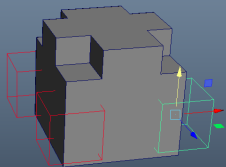
With history



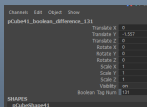
With history deleted



Live Booleans no longer working, boolean cutters showing only wireframe



Boolean Tag Num attribute still exists



Please note that, your Boolean Tag Num will still be present in the cutter objects.

To remove them simply select those meshes and click on the **Clean** button.

To automatically restore the wireframe of old cutters to shaded cubes (with no wireframe color), Ctrl + Alt + Click on the clean button.



For as long as these old cutters still have a Boolean Tag Attribute you will be able to toggle between the 2 states (color wireframe and non shaded, no wireframe color and shaded).

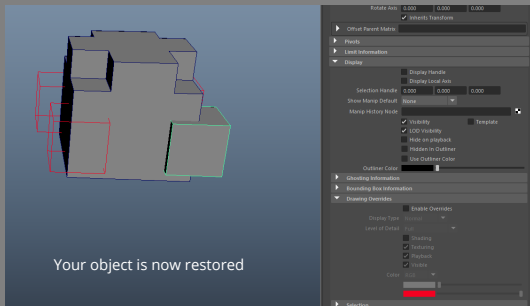
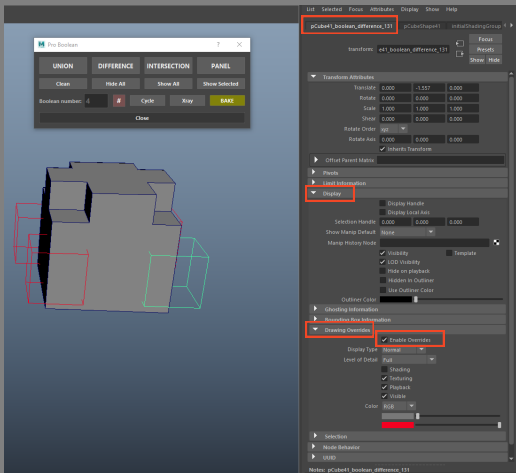
If you delete the attribute (by clicking on the Clean button) your old cutters will be shaded with no wireframe color (until they get a boolean Tag Num attribute again).

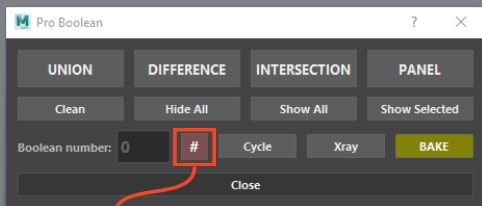
# BOOLEAN TAG ID NUM

To manually restore your old cutter objects to their default state (shaded with no wireframe color).

1. Select your object (only works for one object at a time).
2. Open the attribute Editor.
3. In the first tab Expand the display dropdown menu.
4. From there expand the Drawing Overrides dropdown menu and deselect the Enable Overrides checkbox.

Remember **Ctrl + Alt** the **Clean** button will perform all these steps.

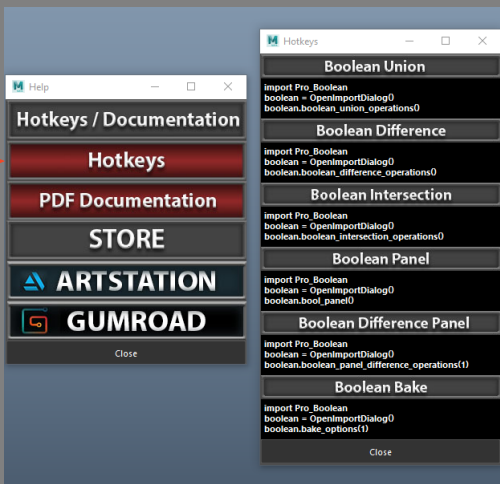




**Ctrl + Click** the # button to reveal the Hotkey / Documentation menu.

Click on the HotKeys Button to reveal all hotkeys.

Assign those to buttons on your keyboard for faster boolean operations!!!!



**Thank you for your support.**  
**For issues please leave a message on the Polycount thread.**