## **Utils**

When you select two shapes, you get a number of other functions. On the top right of the screen, from left to right is Commenting, Show All Objects, Group, Separate, Align, Mirror, and Cruise.



Group and separate turns two shapes into one and vice versa. If they are both solid or both holes they merge together. If one is solid and one is a hole, the hole cuts into the solid.

Align can be used to line up the shapes to either merge or position correctly.

Mirror just mirrors what you currently select

Cruise lets you move shapes into different planes that you can put down with the workplane tool.

## **Viewing**

Scroll to zoom.

Hold right click and drag to spin view.

Hold shift+right click or hold down scroll wheel (middle click) to pan view (slide your camera around)

## **Tips**

Before making any shape break it down in one of these three ways to figure out how you should make it:

- Combine a few shapes (Addition)
- Subtract shapes from each other (Subtraction)
- Deform another shape to make what you want (Modification)

Press D to send any shape from above or below the work-plane to rest on the work-plane!





## MOVING OBJECT(S) **OBJECT SETTINGS ←////**/**/** Move along X/Y axis Transparency toggle Ctrl + **▼** / **↑** Turn object(s) into Holes Move along Z axis Shift + ← / ♠ / ♦ / → s ×10 Nudge along X/Y axis Turn object(s) into Solids + Shift + **\psi** / **\phi** Ctrl + L ×10 Nudge along Z axis Lock or Unlock object(s) **Hide** object(s) **KEYBOARD + MOUSE SHORTCUTS** Show all hidden object(s) Shift + H Duplicate dragged object(s) + Drag left mouse button Shift **TOOLS AND COMMANDS** Select multiple object(s) Left mouse button Shift (Hold while rotating) 45° rotation Copy object(s) Ctrl + C Scale in one direction Alt Hold side handle Paste object(s) Ctrl + V Scale in two directions Alt + Hold corner handle Ctrl + D Duplicate object(s) in place. Uniform scale Shift + Hold corner handle Delete object(s) Del Shift + Corner handle Uniform scale in all directions Ctrl + Z **Undo** action(s) Uniform scale in all directions Shift + Top handle Ctrl + Y Redo action(s) Ctrl + Shift + Z **Redo** action(s) **VIEWING DESIGNS** ouse or a mouse pad) Group object(s) Ctrl + G Right mouse button Orbit the view Ctrl + Shift + G Un-group object(s) Ctrl + Left mouse button Orbit the view Align object(s) Shift + Right mouse button Pan the view М Flip/Mirror objects(s) Ctrl + Shift + left button Pan the view Select all object(s) Ctrl + A Zoom the view in or out Mouse scroll wheel Place a Ruler R ( shift toggle midpoint/center) ٠ Zoom-in Place a Workplane W (press shift to flip direction) Zoom-out Drop object(s) to workplane D Fit selected object(s) into view



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