

FreeForm® Modeling™ & Modeling Plus™ v9.1 Quick Reference Card

Hotkey Shortcuts



G = "Grab" the model to move and rotate freely
H = Translate and zoom the model without changing the rotation
J = Rotate the model with haptic detents along the major screen axes



Standard Views

F2 = Front view
F3 = Right view
F4 = Left view
F5 = Top view

Side Views

F6 = Right of main view
F7 = Top of main view
F8 = Left of main view
F9 = Bottom of main view
F10 = Hide Side Views

Ctrl + G = Grab and move the model to change which parts of the model are within the touchable area



Hardest ←-----→ Softest

Clay Hardness - Adjust the resistance of the clay. Hardness of 1 is like rock, 0 butter.

- **+** +/- = Decrease or increase the size of the sculpting tool

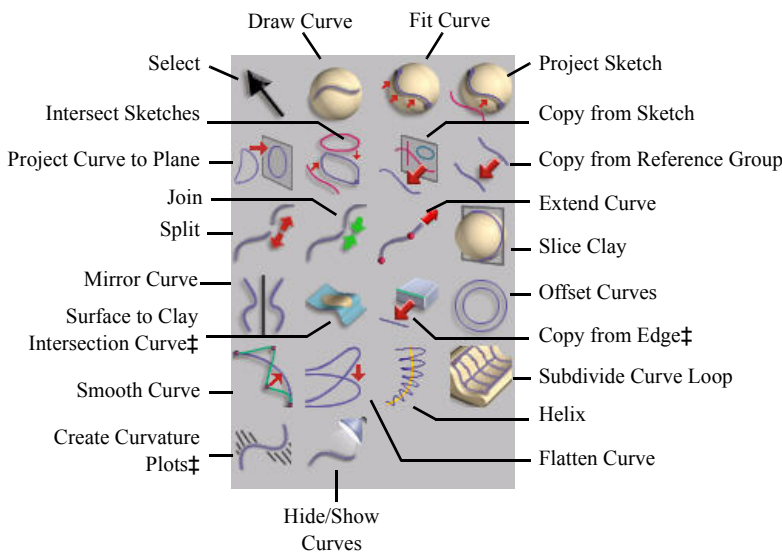
F1 = Invoke the online Help

P = Equivalent to pressing the PHANTOM stylus switch

SPACE = Invoke the Favorites menu

FreeForm Modeling Commands

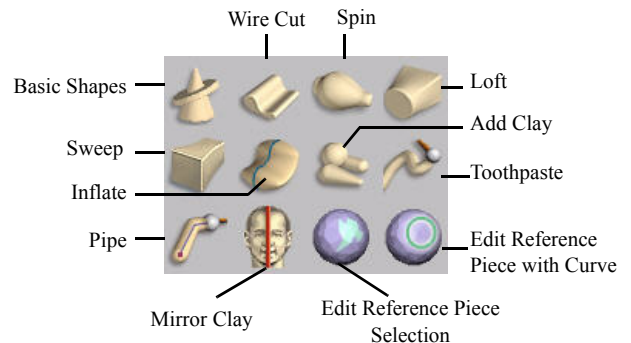
Curves - Use to create and edit 3D curves that can be used to add detail to models.



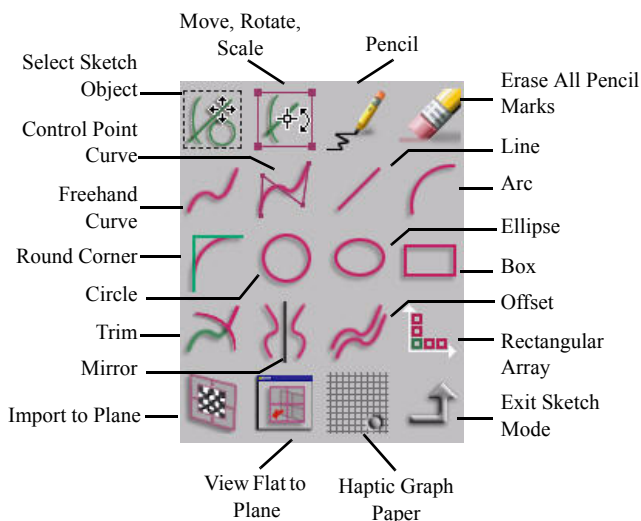
Planes - Use to create and edit planes.



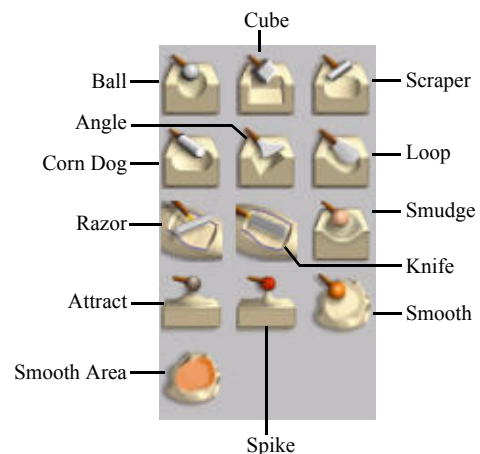
Construct Clay - Use to quickly and easily rough-out models.



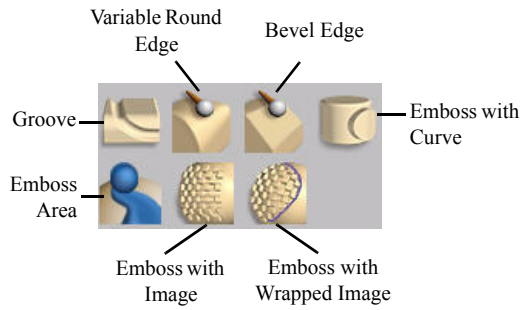
Sketch - Use to sketch on flat 2D drawing planes.



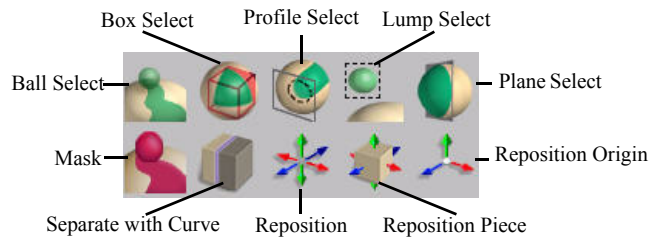
Sculpt Clay - Use to modify, refine, and add design details to models.



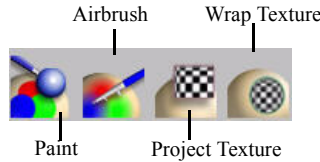
Detail Clay - Use to modify, refine and add design details to a model.



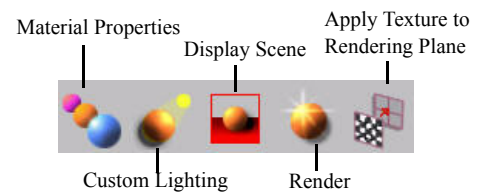
Select/Move Clay - Use to select, move, scale models or parts of models.



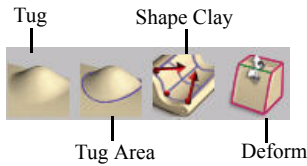
Paint Clay - Use to apply paint to a model.



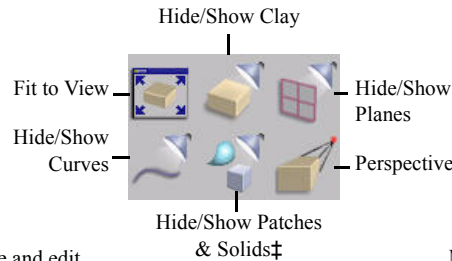
Rendering - Use to manipulate all of the object material and lighting properties to create photo-realistic renderings.



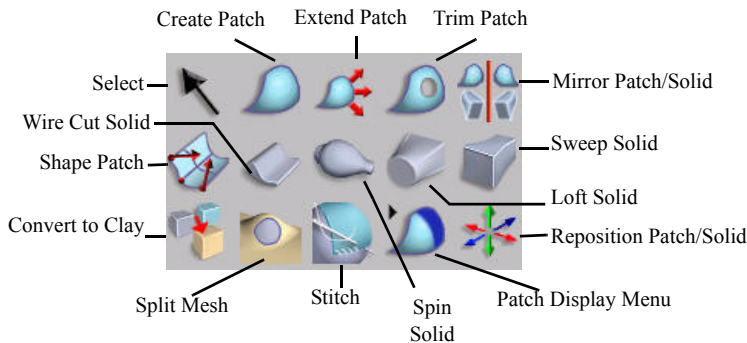
Deform Clay - Use to push and pull an area of a model.



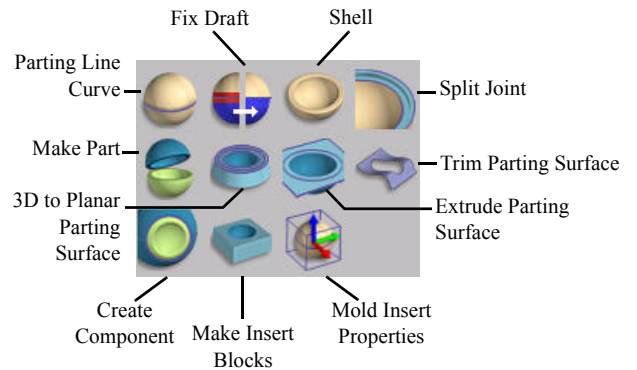
Utilities - Use to change your view.



Patches/Solids‡ - Use to create and edit surfaces and solids.



Mold‡ - Use to prepare model pieces and create tooling for molding.



Key Concepts to Remember

Work from Coarse to Fine

When creating new models from scratch, it is best to first create a rough shape using a coarse clay setting such as “Rough Shape” or “Refine Shape”. Then, use the “Change Clay Coarseness” command for more fine-grained clay settings, such as “Add Detail,” as you refine the model.

Let Haptics Guide You to Create 3D Curves

To trace a surface that is concave, run the tool along the outside of the model. To trace a surface that is convex, run the tool along the inside of the model.

Sculpt from Inside or Outside

When sculpting you can work on the outside or inside of the model. Keep in mind that the control of the tool may differ and that sometimes it is more effective to work from inside the model.

Read the Status Bar

The status bar, located under the dynabar, contains embedded help. Sometimes it will describe what a tool does or prompt you for the next step in using a particular tool.

Pay Attention to Dynabars

Many commands have controls that are specific only to them. The bottom toolbar will change dynamically and present the controls for that tool.



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