

























# SplineForm Workshop Tools

	WIN	+ (Shift)	+ (Control)	+ (Alt)	+ (F2)	Double-Click on tool in toolbar		
Keyboard Shortcut	Tool	Description	MAC	+ (Shift)	+ (Command)	+ (Option)	+ (Control)	Double-Click on tool in toolbar
		<b>Arrow</b> Select curve or point. Click and drag for marquee selection	Constrain while dragging, Multiple Selection		<b>On Point:</b> Cycle through Plain, Corner, & Curve Point	Lasso marquee <b>On Curve:</b> Add Point <b>On Point:</b> Delete Point	<b>Drag Handle:</b> Change Curve point to Smooth point	—
		<b>Rotate</b> <sup>†</sup> Rotate Selection	Constrain rotation to 15° increments		<b>In Object View:</b> Rotate Object left/right	<b>In Object View:</b> Rotate Object toward & away	Toggle to Arrow tool <b>In Object View:</b> Toggle to Hand tool	—
		<b>Scale</b> <sup>†</sup> Scale Selection	Scale evenly, horizontally and vertically	—	—	—	Toggle to Arrow tool	—
		<b>Flip</b> <sup>†</sup> Flip Selection	Constrain rotation to 45° increments	—	—	—	Toggle to Arrow tool	—
		<b>Pen</b> * Creates Bezier lines	Constrains handles to 8 directions while dragging	—	—	<b>On Curve:</b> Add point <b>On Point:</b> Delete point	Toggle to Arrow tool	—
		<b>Pencil</b> * Creates freeform lines	Connect each clicked point with straight line	—	—	<b>On Curve:</b> Add point <b>On Point:</b> Delete point	Toggle to Arrow tool	—
		<b>Razor</b> Cuts Lines	Constrain rotation to 45° increments while dragging	—	—	—	Toggle to Arrow tool	—
		<b>Polygon</b> * Makes Polygon shapes	Makes Shape of equal height & width	Draw shape centered around origin	Toggle between drawing from corner or center	—	Toggle to Arrow tool	Open Shape preferences dialog box
		<b>Text</b> Types text	—	—	—	—	—	—
		<b>Magnifying Glass</b> Magnifies view	—	—	Zoom out	—	Toggle to Arrow tool	Reset zoom level and center origin in window
		<b>Space Bar</b> Toggle to hand tool	—	Toggle to Magnify tool (+)	+ (Control) (Win) + (Command) (Mac) Toggle to Magnify tool (-)	—	Toggle to Arrow tool	—

\* When drawing with the Pen or Pencil tool with no points selected, or when drawing with the Polygon tool, the Rails will be replaced if they are active; otherwise, the path will be replaced.

# Mesh Editor Tools

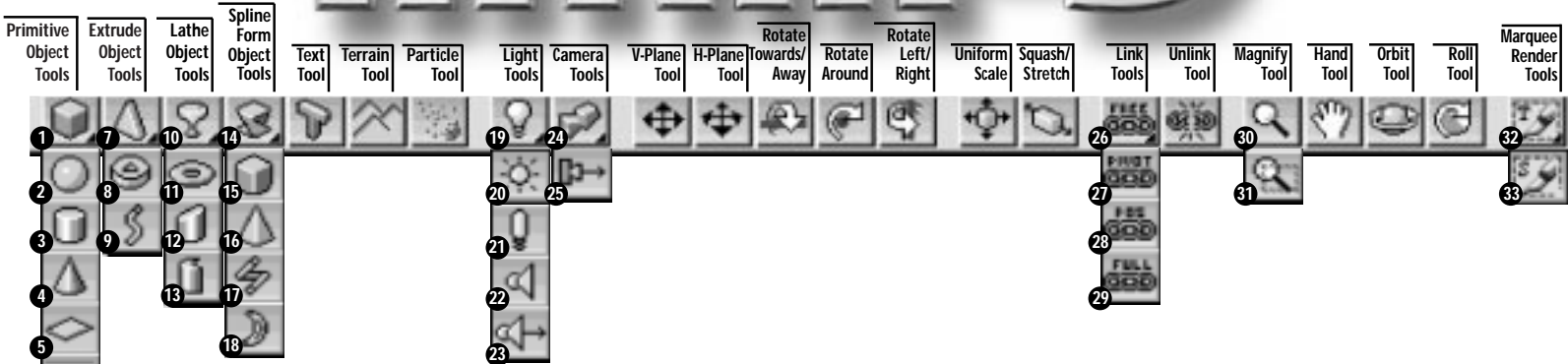
			WIN	+ (Shift)	+ (Control)	+ (Alt)	+ (F2)	Double-Click on tool in toolbar
Keyboard Shortcut	Tool	Description	MAC	+ (Shift)	+ (Command)	+ (Option)	+ (Control)	Double-Click on tool in toolbar
 	   	<b>Arrow</b> Select and move points. Move parallel to view	Constrain to left/right/up/down while dragging Multiple select	—	Lasso marquee to select	—	—	Open Magnetic Options dialog box
		Move parallel to working plane						
		Move perpendicular to working plane						
		Move perpendicular to object faces						
 	<b>Rotate<sup>†</sup></b>	—	—	—	Toggle to arrow	Open Magnetic Options dialog box		
 	<b>Scale<sup>†</sup></b>	—	—	—	Toggle to arrow	Open Magnetic Options dialog box		
 	      	<b>3D Deformations</b> Twist	—	—	—	Toggle to arrow	Open Deformations Options dialog box (specific to deformation type)	
		Bend						
		Taper						
		Shear						
		Bulge						
		Wave						
		Scale						
 	<b>3D Rotate</b>	Rotate around	Rotate left/right	Rotate forward/back	Toggle to arrow	—		
 	<b>Magnifying Glass</b>	—	—	Zoom out	Toggle to arrow	Return to default magnification		
 <b>Space Bar</b> Toggle to hand tool			—	Toggle to Magnify tool (+)	+ (Control) (Win) + (Command) (Mac) Toggle to Magnify tool (-)	Toggle to Arrow tool	—	

† These tools are used in two steps. First click to place the center of rotation or scale and then click and drag to scale or rotate.

## Quick Reference Card

# Infini-D

MetaCreations

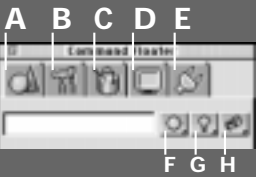


Primitive Tools	Extrude Tools	Lathe Tools	SplineForm Tools	Lights	Cameras	Link Tools	Zoom Tools	Rendering Tools
1. Cube 2. Sphere 3. Cylinder 4. Cone 5. Square 6. Infinite Plane	7. Triangular Prism 8. Prism w/ hole 9. Path Extrusion	10. Glass 11. Torus 12. Tapered Cylinder 13. Partial Lathe	14. Twisted 15. Lofted 16. Pyramid 17. Spiral 18. Banana	19. Point 20. Distant 21. Tube 22. Spot 23. Targeted Spot	24. Free Camera 25. Targeted Camera	26. Free 27. Pivot 28. Position 29. Full	30. Magnify 31. Marquee Magnify	32. Ray Trace Marquee 33. Phong Shade Marquee

		WIN	+ <span>(Shift)</span>	+ <span>(Control)</span>	+ <span>(Alt)</span>	+ <span>(F2)</span>	Double-Click on tool in toolbar	
Keyboard Shortcut	Tool	Description	MAC	+ <span>(Shift)</span>	+ <span>(Command)</span>	+ <span>(Option)</span>	+ <span>(Control)</span>	Double-Click on tool in toolbar
  2x		<b>V-Plane</b> Moves object up, down, left & right	Constrains movement to axis perpendicular to object's face	Object selection pop-up menu	Duplicate object while moving	Offset object from its centerpoint	—	
		<b>H-Plane</b> Moves object in, out, left & right						
  2x  3x		<b>Rotate Towards/Away</b> Rotates object towards or away in active window	Constrain rotation around axis perpendicular to object's face	Trackball rotation	Duplicate object while rotating	Toggle to V-plane tool	—	
		<b>Rotate Around</b> Rotates object around axis going into active window						
		<b>Rotate Left/Right</b> Rotates object left or right in active window						
  2x		<b>Uniform Scale</b> Scales the selected object in all directions	—	Object selection pop-up menu	Duplicate object while scaling	Toggle to V-plane tool	—	
		<b>Squash &amp; Stretch</b> Scales object in a single dimension	Scale all three dimension values equally	Object selection pop-up menu	Duplicate object while scaling	Toggle to V-plane tool	—	
		<b>Space Bar</b> toggle to hand tool	Constrains pan to vertical/ horizontal	<b>In Standard View:</b> toggle to Magnify tool (+)  <b>In Camera View:</b> Dolly in/out, Crane up/down	Pan in wireframe mode + <span>(Control)</span> (Win) + <span>(Command)</span> (Mac) toggle to Magnify tool (-)	—	—	

	WIN	+	+	+	+	Double-Click on tool in toolbar	
Keyboard Shortcut	MAC	+	+	+	+	Double-Click on tool in toolbar	
		<b>Link Tools</b> Links a child object to parent object	—	Object selection pop-up menu	—	Toggle to V-plane tool	—
2x		<b>Unlink</b> Unlinks a child object	—	Object selection pop-up menu	—	Toggle to V-plane tool	—
		<b>Magnifying Glass</b> Zooms in/out	—	—	Zoom in wireframe mode	Toggle to V-plane tool	Return to default magnifi- cation level
		<b>Marquee Magnifying Glass</b> Zooms in/out	—	—	Zoom out	Toggle to V-plane tool	Return to default magnifi- cation level
		<b>Hand (Navigation)</b> Pans the scene	Constrains to vertical or horizontal movement	<b>In Camera View:</b> Dolly in/out	Zoom in wireframe mode	Toggle to V-plane tool	<b>In Free Camera View:</b> Point camera at origin <b>In Standard View:</b> Return to default viewing position.
		<b>Orbit</b> Rotate around target	Constrain to up/down	Constrain to left/right	Orbit in wireframe mode	Toggle to V-plane tool	—
2x		<b>Roll</b> Bank left/right	—	—	Roll in wireframe mode	Toggle to V-plane tool	—
		<b>Marquee Render</b> Ray Traces the selected portion of the scene	Constrain Marquee to square	—	—	—	Render active window
		Phong shades the selected portion of the scene	—	—	—	—	—

Command Floater



The Command Floater functions as many palettes in one. The appearance of the rest of the floater is dependent on which tab you have selected and which object is selected.

- Command Tabs
- A - Object Tab  
B - Modifiers Tab  
C - Surfaces Tab  
D - Display Tab  
E - Filters Tab
- Selection Pop-Ups
- F - Selects objects  
G - Selects lights  
H - Selects cameras

A The information displayed in the object command floater depends on the type of object selected in the scene.



Primitive, Lathe, SplineForm, or Mesh Selected  
Controls visibility, shadow casting, boolean mode



Particle System Selected  
Controls emit duration, collisions, particle rendering style



Camera Selected  
Controls focal length, fog



Extruded Object Selected  
Adds bevel control to command floater



Terrain Selected  
Controls type & size of terrain



Text Selected  
Controls to edit text, spacing and bevel



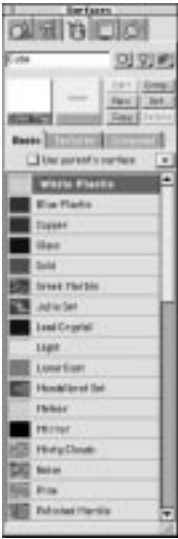
Light Selected  
Controls lights, intensity, shadows, lens flare, visible beams



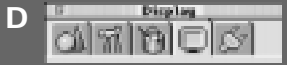
Constraints Selected  
Controls lock type & linking constraints



Deform Selected  
Controls parameters for object deformation



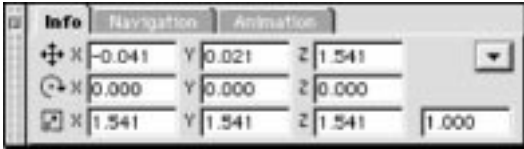
Surface Selected  
Controls applying and editing of surfaces



Display Selected  
Controls rendering quality, anti-aliasing and view settings per window



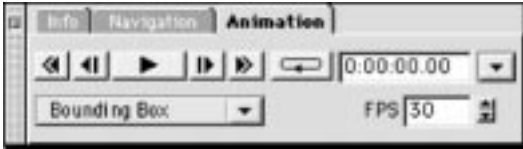
Filters Selected  
Applies & edits After Effects™ & Photoshop® Filters



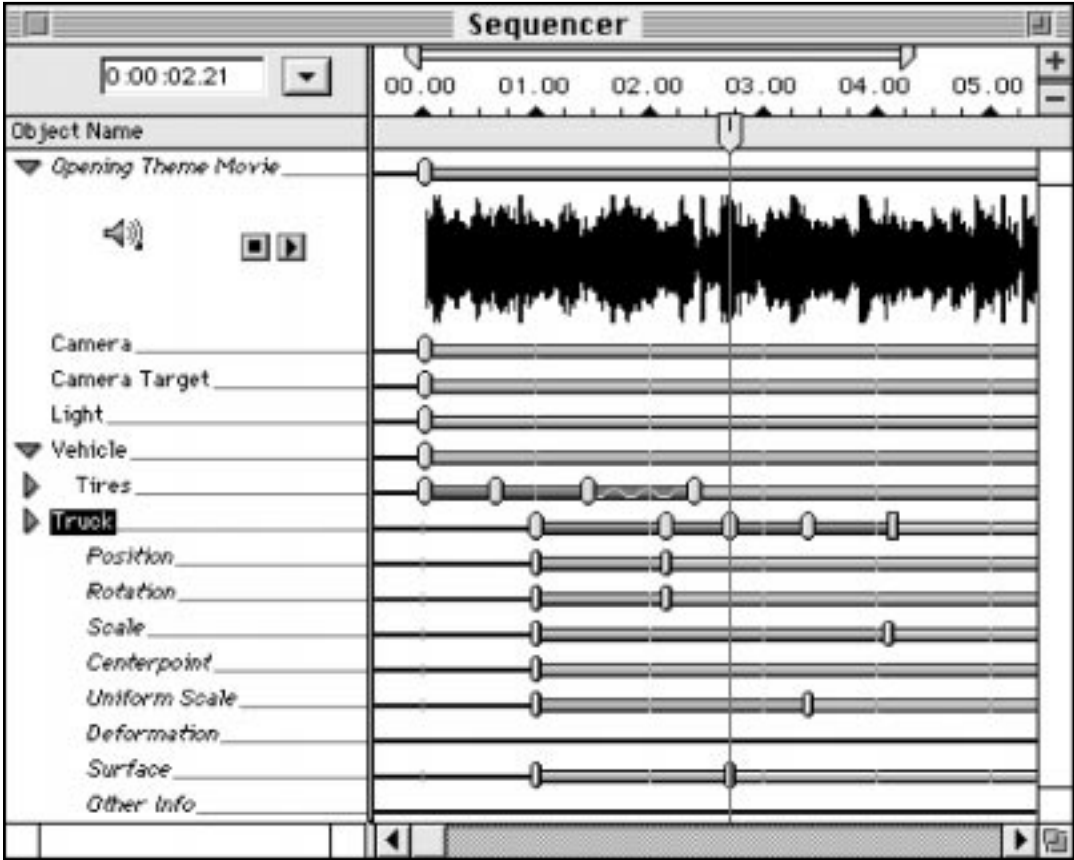
Information Floater - Set values for position, rotation, scale, and centerpoint offset



Navigation Floater - Pan, dolly, tilt, truck, crane, and roll controls for active window



Animation Floater - Controls to play, stop, and rewind, & other animation preview settings



Scale Eventmarks: Hold the COMMAND(Mac) or CONTROL(Win) key while dragging multiple eventmarks

Duplicate Eventmarks: Hold the OPTION(Mac) or ALT(Win) key while dragging eventmark(s)

Snap to Other Eventmarks: Hold the SHIFT key while dragging eventmarks, the Time Marker, or Punch In/Out markers

Snap to Timebar Increments: Hold the CONTROL(Mac) or F2(Win) key while dragging eventmarks, the Time Marker, or Punch In/Out markers

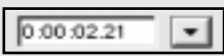
Show or Hide the Sub-Event Timelines: Double-click an object name in the sequencer

Select All of the Eventmarks for an Object: COMMAND (Mac)-double-click or CONTROL(Win)-double-click an object name. Eventmarks can also be selected by dragging a marquee around them with the Arrow tool or by holding the SHIFT key while clicking

Eventmark Info: Double-click on eventmark(s)

Linking Objects: Drag child object onto parent object

Unlinking Objects: Drag linked object between two other objects.



Scene Time Box: Enter values directly into the Time Box to move to that time



Plus Sign: Click to zoom in on the timebar



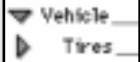
Minus Sign: Click to zoom out on the timebar



Punch In/Out Markers: Use the Punch In/Out Markers to animate a portion of the sequence



Scene Time Marker: The Scene Time Marker indicates the time in the sequence that the view windows reflect



Object Hierarchy Arrow: Click on arrow to show or hide an object's child objects



Audio Controls: Play & stop an imported audio track.



Linear Motion: A blue bar indicates linear motion



Spline Motion: A purple bar with a wavy line indicates spline-based motion



End Animation: A square eventmark indicates a "death" event



Sub-Event Bar: A pink bar indicates animation of a sub-event



Sub-Events: Object Attribute Timelines let you sequence motion for just one attribute of an object



Object List/Timeline Divider: Drag this bar to increase or decrease the space in the object list

Located at bottom of sequencer