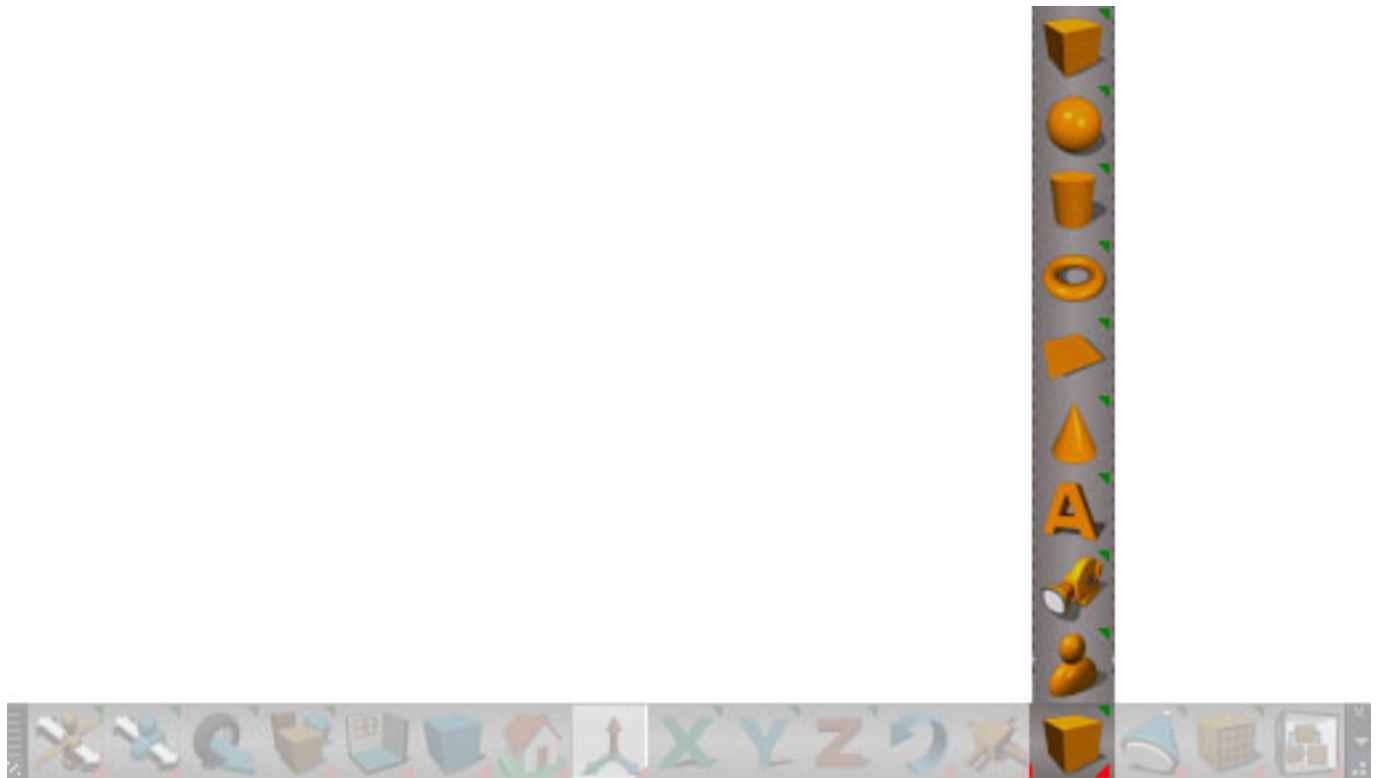
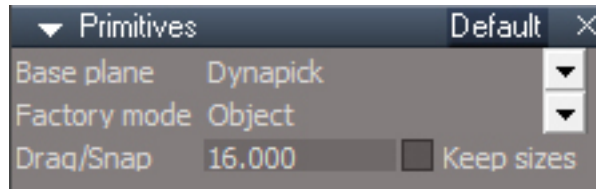


Text tool missing from original manual

Primitives missing from original manual







## RMB panels

Default - primitive tool preferences panel

### Base plane

**Dynapick** - will create primitives aligned to and touching the face of a preexisting object, if no object is below the cursor it will behave the same as Ground

**Ground** - create primitive on the ground plane, isometric view create on the perpendicular plane of the view

**Screen** - will create primitives aligned with the view and located behind the view mirrored relative to the object location under the cursor. *Looks like a bug, should be centered on the object, not behind the view.* Move object in local space along it's z axis to reposition. If no object is under the cursor behaves the same as Ground.

### Factory mode

**Add** - boolean add to the selected item

**Cut** - boolean cut the selected item, lines need to be visible to see the result

**Intersect** - boolean intersection

**Merge** - boolean merge

**Object** - create a new stand alone primitive object

**Sibling** - create a grouped relationship with the selected item as children of the same group object

**Subtract** - boolean subtraction

**Union** - boolean union

Cameras and lights only have Object and Sibling modes.

For boolean modes may need to set the primitive preferences before drawing or clicking to create the next instance.

Boolean modes may be unstable - got some crashes

Text primitive with cut can be slow and unstable.

TODO: Link to the boolean tools.

## Drag/Snap

**Keep sizes** - will remember and for single click creation will use the last size that a primitive is created while the tool is active. Dropping the tool will reset to the default size. When unchecked will use the size parameters from the individual primitive preferences panels.

\* For adding torus, sphere, cylinder, cone there are 2 modes.

- o Diameter – define diameter for base, by ldrag, rdgar defines height.
- o Radius - define center + radius for base, by ldrag, rdgar defines height.

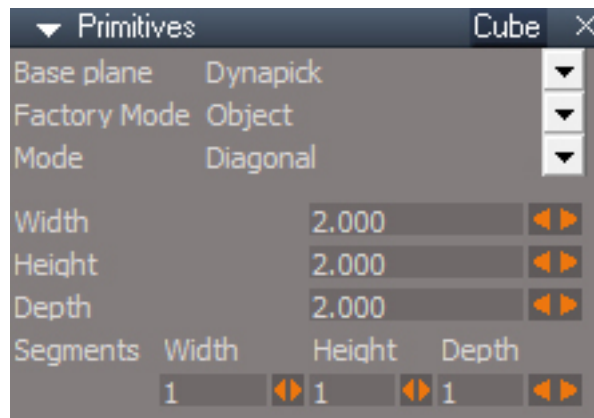
\* Adding a cube. There are 3 modes how to add a cube.

- o Diagonal – this is Modeler way. LClick to define first corner, drag and rclick do define second corner.
- o Edges – define cube by defining two edges. First click & drag defines bottom X edge. Second click&drag defines Z edge.
- o Points – cube is created after adding 4 points. (you can either click or drag to use xy or z movements).

## RMB - primitive preferences panels



### Cube Primitive



Mode

**Diagonal** - define base plane by LDrag, RDrag to define the height

**Edges** - define first edge by LDrag, release the button and move mouse to finish defining the base then RDrag to define the height or LClick to use the current height

**Points** - LClick define first point of the edge, LClick to define the last point of the edge, LClick to define the base, LClick to define the height

**Width** - size in the local X direction

**Height** - size in the local Z direction

**Depth** - size in the local Y direction

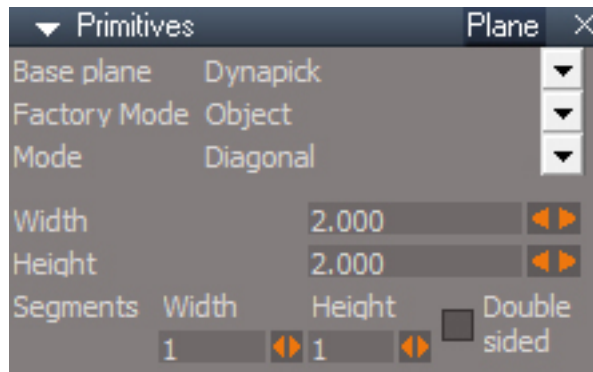
**Width Segments** - number of edges in the X direction

**Height Segments** - number of edges in the Z direction

**Depth Segments** - number of edges in the Y direction



## Plane Primitive



### Mode

**Diagonal** – LDrag to define first corner and the opposing corner of the plane.

**Edges** – define first edge by LDrag, LClick to finish the plane

**Points** – LClick 3 times to define 3 corners of the plane

**Width** - size in the local X direction

**Height** - size in the local Y direction

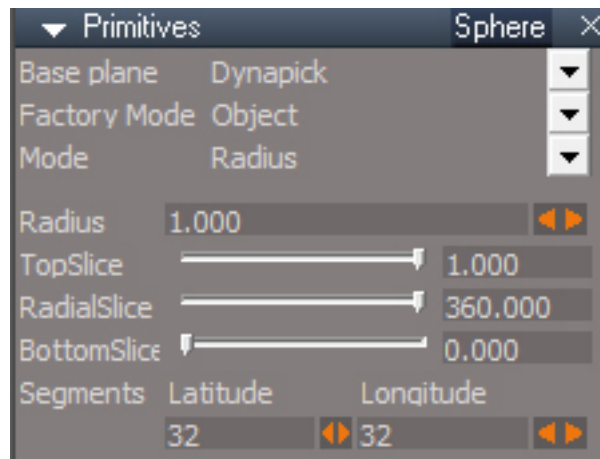
**Width Segments** - number of edges in the X direction

**Height Segments** - number of edges in the Y direction

**Double sided** - number of edges in the Y direction



## Sphere Primitive



Mode

**Diameter** – define diameter for base by LDrag or RDrag defines height.

**Radius** - define center + radius for base by LDrag or RDrag defines height.

**Radius** - size of the sphere as measured from its center

**TopSlice** - percentage of the top portion to keep after slicing 1.0=100%=keep all of the top

**RadialSlice** - number of degrees in the radial direction

**BottomSlice** - percentage of the bottom portion be sliced 0=0%=no slice

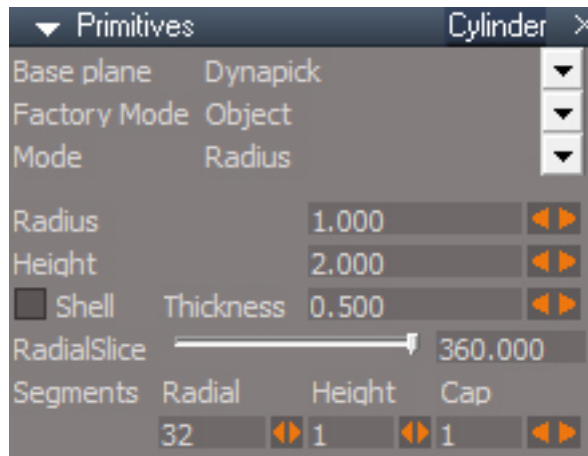
**Latitude Segments** - number of edges in the radial direction

**Longitude Segments** - number of edges in the axial direction



## Cylinder Primitive

\* For adding torus, sphere, cylinder, cone there are 2 modes.  
 o Diameter – define diameter for base, by ldrag, rdgar defines height.  
 o Radius - define center + radius for base, by ldrag, rdgar defines height.



Mode

**Diameter** – define diameter for base by LDrag, RDrag defines height.

**Radius** - define center + radius for base by LDrag, RDrag defines height.

When switching between LDrag and RDrag do not release the held button until after the switch.

**Radius** - size of the circle cross section as measured from its center

**Height** - height

**Shell** -

**Thickness** - shell thickness

**RadialSlice** - number of degrees in the radial direction

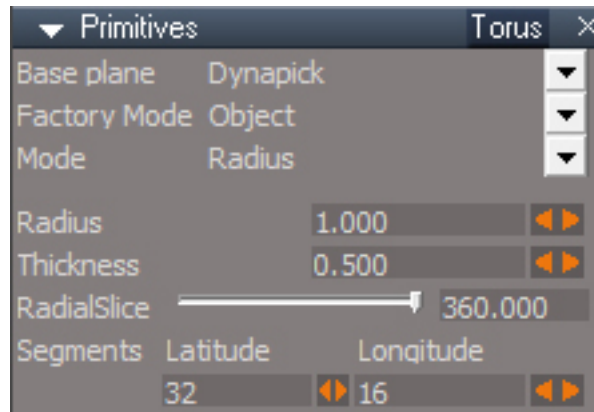
**Radial Segments** - number of edges in the radial direction

**Height Segments** - number of edges in the local Z direction

**Cap Segments** - number of edges at the top and bottom of the mesh, the first edge is invisible



## Torus Primitive



Mode

**Diameter** – define diameter for base by LDrag

**Radius** - define center + radius for base by LDrag

RDrag does not work for the Torus primitive.

**Radius** - size of the torus as measured from its center, not measured to the center of the cross section

**Thickness** - diameter of the circular cross section of the torus

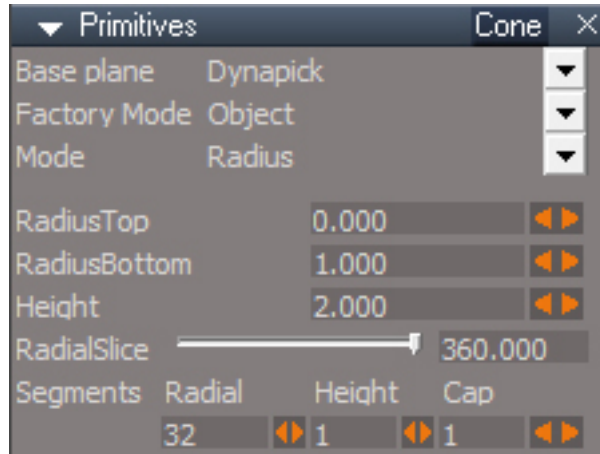
**RadialSlice** - number of degrees in the axial direction

**Latitude Segments** - number of edges around the major axis

**Longitude Segments** - number of edges around the minor axis or cross section



## Cone Primitive



Mode

**Diameter** – define diameter for base by LDrag, RDrag defines height.

**Radius** - define center + radius for base by LDrag, RDrag defines height.

When switching between LDrag and RDrag do not release the held button until after the switch.

**RadiusTop** - size of the circle cross section at the top

**RadiusBottom** - size of the circle cross section at the bottom

**Height** - height

**RadialSlice** - number of degrees in the radial direction

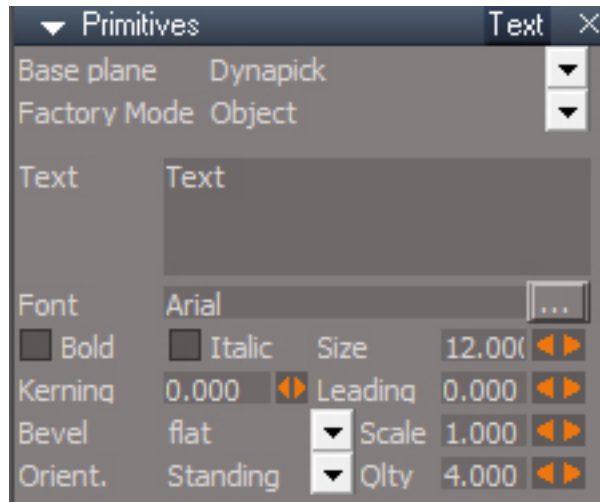
**Radial Segments** - number of edges in the radial direction

**Height Segments** - number of edges in the local Z direction

**Cap Segments** - number of edges at the bottom of the mesh, the first edge is invisible



## Text Primitive



LDrag to control orientation about the local Z axis, RDrag to scale along the local Z axis.

**Text** -

**Font** -

**Bold** -

**Italic** -

**Size** - width/height of a character where a value of 4 translates to about 1 meter for TrueType fonts

**Kerning** - adjust spacing between letters

**Leading** - adjust spacing between lines of text

**Bevel** - type of bevel, base has no bevel and 2D has zero thickness

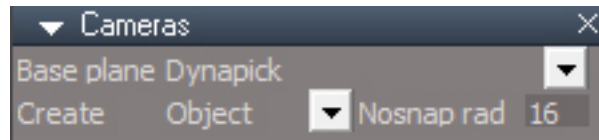
**Scale** - bevel scale, positive values effect the bevel and negative values effect the base(more or less)

**Orient** - **Lying** against the base plane or **Standing** up on it

**Qlty** - controls the number of vertices used to create the text

The thickness of the text depends on the bevel type.

Large values for Qlty will reduce the characters smoothing. Values of the form "X.1" like 4.1, 5.1, 6.1 seem to work best in producing the shape defined by the chosen font.

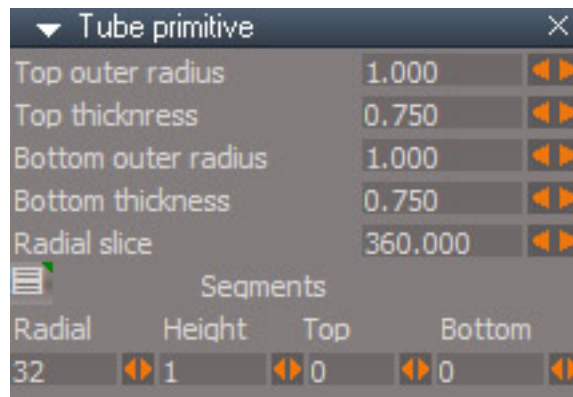


- \* Primitive employs extensive snapping.
- \* You can specify height directly by snapping to other objects during rdrag. Primitive base can be precisely aligned by constraining movement to 1D and aligning with other objects like in rdrag mode. Constraining can be done either by locking axes or locking to edges / faces.
- \* You can specify edge endpoint (diagonal, radius...) in plane mode directly by snapping to other objects by holding ALT key.
- \* ALT key can be used to force snapping even if cursor is in nosnap range defined by added primitive and nosnap radius found in tool preferences panel.
- \* To finish primitive tool, rclick in player view.
- \* To access primitive preferences panel, rclick on appropriate tool button. To access primitive tool preferences panel, rclick on any primitive tool and change preferences panel aspect to default.

## New for the Unofficial Updates



### Tube Primitive



**Top outer radius** - size of the circle cross section at the top

**Top thickness** - top inner radius, not true thickness

**Bottom outer radius** - size of the circle cross section at the bottom

**Bottom thickness** - bottom inner radius, not true thickness

**Radial slice** - number of degrees in the radial direction

Blank Button - LClick open Keying panel and select the internal primitive node, RClick select the full mesh object

**Radial Segments** - number of edges in the radial direction

**Height Segments** - number of edges in the local Z direction

**Top Segments** - number of edges at the top of the mesh

**Bottom Segments** - number of edges at the bottom of the mesh

If the thickness value is greater than the radius value then the outer radius will be pushed out by the thickness.



**Gear Primitive** - makes a star shaped mesh



**Height** - size local Z direction

**Inner Radius** - size of the central hub

**Longitude** - number of gear teeth or star points

**Outer Radius** - length of the teeth

Blank Button - LClick open Keying panel and select the internal primitive node, RClick select the full mesh object

**Flatten** - flattens the mesh and fixes the normals - do not use if animating the gear attributes