

MaqueTools toolbar by Mitch Heynick

Make sure you have the correct version: Maquetools.rui is for Rhino V5; Maquetools.tb is for V4.

Note: These tools do not run on native Mac versions of Rhino

Group/Tool	Explanation (+ = New ; * = Updated)
Alignment	
Align Bottom to Point	<i>Aligns lowest point of an object to the Z-level of a picked point</i>
Match Object Z Level	<i>Moves object in Z to a picked point</i>
Object Point to New Z	<i>Move point on object to new Z Level (keyboard or pick)</i>
EquiCenter Objs X-Y	<i>Redistributes objects center to center evenly in world X and/or Y (uses bounding box)</i>
EquiSpace Objs X-Y	+ <i>Redistributes objects to have equal space between them in world X and/or Y</i>
Closest Dist btw Objs	<i>Iteratively finds the closest distance between 2 surface or polysurface objects</i>
Stack objects	<i>Stack objects in Z or along an axis</i>
Project Volumes	* <i>Projects volumes to surfaces or meshes (objects will touch or be embedded in surface)</i>
Align bottom to 0	* <i>Moves object(s) vertically so their lowest point is on world Z0 plane</i>
Import	
BatchImport	+ <i>Batch import 3DM, DXF, DWG, STEP, IGES, STL, Solidworks files</i>
Ascii Grid Import	+ <i>Import ASCII Grid files and create point cloud, mesh or surface</i>
<i>XYZ RGB Import</i>	+ <i>Import XYZ RGB color point files (V5 only! - Python script)</i>
Export	
Export STL	* <i>Export STL files with various presets for 3D printing</i>
BoundingBox	
Planar Minimum BB	<i>Tries to find the closest fit rectangle for a 2D (planar) object</i>
BoundingBox w/Size	<i>Creates a bounding box with on-screen dimensions as text dots</i>
Adjust BoundingBox	<i>Creates a bounding box with user adjustable dimensions in 3 axes</i>
Point Functions	
Ordered 3D Point Grid	<i>Generate ordered grid of points in XY or XYZ</i>
Random 3D Point Dist	<i>Generate a collection of randomly spaced points in 3D</i>
Offset Curves	
OffsetCrvs2SidesEnds	* <i>Offset multiple curves both sides with end choices</i>
OffsetClosedCrvsInOut	* <i>Offset multiple closed curves inside, outside or both</i>
ClosedCrvMultiOffset	<i>Offset one curve multiple times to the outside</i>
MultiBooleanOffset	* <i>Creates multiple combined offset outlines from a set of closed planar curves</i>
OffsetObject(s)Outline	* <i>Creates an offset outline of a 3D object</i>
OffsetPtsAlongCrv	+ <i>From a start point, creates individual (variable) distance offsets of the point along the curve</i>
Curve Tools	
Scale Circles	<i>Scales selected circles by a factor</i>
Replace Circle Dia	+ <i>Replaces circles of specified diameter with circles of new diameter</i>
Change Circle Dia	+ <i>Replaces all selected circles with circles of new diameter</i>
Force Crv Direction	<i>Makes all selected closed planar curves CW or CCW</i>
Insert PL in Curve	<i>Insert a polyline into a curve</i>
PL by Angle+Length	<i>Create a polyline by inputting successive lengths and relative polar coordinates</i>
UnrollPolyline	+ <i>"Unrolls" a polyline along the X axis</i>
PlanarizeCurve	* <i>Makes a "near planar" curve planar (best fit or active Cplane)</i>
DetectOverlaps	+ <i>Detect overlapping coplanar curves (does not fix anything!)</i>
Curve Repair	
Rem Short Crv Segs	<i>Removes segments of curves smaller than file tolerance</i>
DPRefit Polylines to Tol	<i>Douglas-Peucker refit polyline to tolerance algorithm</i>
Remove Xtra PL Pts	<i>Remove unnecessary polyline points (angle tolerance)</i>
Reduce Crv Pt Count	<i>Rebuild curves with less points (reduction factor)</i>
RebuildReduce PLines	<i>Fit smooth curves to polylines with reduced point count (reduction factor)</i>
Rebuild Crvs ByLength	<i>Rebuild multiple curves with a point count proportional to length</i>

Surf Functions

Make Quad Srf	<i>Make untrimmed quad surfaces from closed 4 sided polylines</i>
Conv Srf to Quads	<i>Make untrimmed quad surfaces from trimmed surfaces if possible</i>
SimplifyPlanarSrf	+ <i>Replace planar surfaces or polysurface faces with trimmed planes if possible</i>
PlanarizeSurface	+ <i>Makes a "near planar" surface planar (best fit or active Cplane)</i>
Retrim Surfaces	+ <i>Untrim and retrim surfaces (to try to fix bad objects)</i>
Multiple Planar Srf	<i>Make one planar surface from each selected closed planar curve</i>
Multiple UnrollSrf	<i>Unroll multiple surfaces or polysurfaces</i>
SrfFromPointGrid	+ <i>Creates a surface from an existing ordered rectangular grid of points (aligned with XY axes)</i>
RandomZGridAndSrf	+ <i>Creates a point grid and/or surface with ordered X and Y and random height Z points</i>

Curve Piping

MultiRoundPipe	<i>Make round pipes from a selection of curves</i>
MultiSquarePipe	<i>Make square pipes from a selection of curves</i>
MultiRectPipe	<i>Make rectangular pipes from a selection of curves</i>
Profile MultiPipe	<i>Make profile pipes from a selection of curves (choose profile on Z0 plane)</i>

Copy/Array

Circles at Points	<i>Creates a circle of user specified diameter at all selected points</i>
Spheres at Points	<i>Creates a sphere of user specified diameter at all selected points</i>
Copy Object to Points	<i>Copies one object from one picked point to a group of selected points</i>
Array Diagonal	* <i>Arrays a set of objects along an XY or XYZ diagonal (Active Cplane dependent)</i>
Array Helical	* <i>Arrays a set of objects along a helix (stair-like)(Active Cplane dependent)</i>
ArrayLinearDistribute	+ <i>Arrays (distributes) a set of objects along a line between two points</i>

Split/Trim

BoundaryTrim Crvs	* <i>Trims curves inside or outside a closed boundary</i>
Mutual Split All Objs	+ <i>Split all selected objects with each other (curves, surfaces, polysurfaces, no points or meshes)</i>

Transforms

MultiObj FlowCrv	<i>Flow one object from one base curve to multiple destination curves</i>
RemapObjs to World	<i>Remap objects from 3 points to world Z 0</i>
RemapPlanarObjsToW	<i>Remap planar objects from their object plane to world XY plane</i>
Comp/Exp Obj Spacing	* <i>Compress or expand the space between objects by scaling their distance from a given point</i> * <i>the above does not check for interferences produced by the scaling, objects may overlap</i>
Uniform Scale Objs Ctr	* <i>Scales objects uniformly in 3D about their bounding box center or centroid (LMB/RMB)</i>
NU Scale Objs Ctr	* <i>Scales objects non-uniformly in 3D about their bounding box center or centroid (LMB/RMB)</i>
Random Scale Objs Ctr	<i>Scales objects about their centers randomly in X, Y, and Z (with max and min in each axis)</i>
Random Rotate Objs Ctr	<i>Rotates objects about their centers randomly (with angle limitation)</i>

Sel by Object Type

Select objects by object type (lines, circles, etc.) - all self-explanatory except:

SelfFence Use a pre-existing curve fence to select objects

Sel by Obj Property

Select objects by object property (length, area, etc.)

Sel by Linetype	<i>Select curves by linetype</i>
Sel Crvs by Length	<i>Select curves by length criteria (greater than, less than, equal to, etc.)</i>
Sel Crvs by Area	* <i>Select closed planar curves by area (greater than, less than, equal to, etc.)</i>
Sel Arcs by Radius	* <i>Select arcs or circles by radius (greater than, less than, equal to, etc.)</i>
Sel Srf by Area	* <i>Select surfs or polysurfs by area (greater than, less than, equal to, etc.)</i>
Sel Meshes by Area	+ <i>Select meshes by area (greater than, less than, equal to, etc.)</i>
Sel Small Srf+PSrf	<i>Select surfaces or polysurfaces less than a certain size (area)</i>
Sel Small Meshes	+ <i>Select meshes less than a certain size (area)</i>
Sel by Z Level	<i>Selects (or isolates) planar curves and surfaces by Z level or a range of Z levels (LMB/RMB)</i>
SelConnectedObjs	+ <i>Selects all objects connected to a picked point (can be slow with vast numbers of objects)</i>
SelSelfIntersectCrvs	+ <i>Selects all self intersecting curves and puts points at intersections</i>

View and Display

ResetViewToTitle	+ <i>Resets a named view to the stored parameters</i>
UpdateNamedView	+ <i>Replaces stored named view with the current one</i>
SetBackgroundColor	<i>Sets all viewport backgrounds to preset grays or picked color</i>
GradientBackground	<i>Choose gradient background presets in current viewport using GradientView</i>

SliceNFlat

* *Slices objects, numbers slices, and prepares flat layouts for cutting*