

Version V1.07
06.05.2012

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

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>
Move Objs to New Z	*	<i>Move multiple/single objects to new Z level (LMB/RMB)</i>
Move Pt on Obj to Z0	*	<i>Move point on object to World 0/Cplane 0 in Z (LMB/RMB)</i>
Align bottom to Z	*	<i>Moves object(s) vertically so thier lowest point is at specified Z level</i>
Align bottom to 0	*	<i>Moves object(s) vertically so thier 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" closed 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>
DPRfit 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 Srfs	<i>Make untrimmed quad surfaces from closed 4 sided polylines</i>
Conv Srfs to Quads	<i>Make untrimmed quad surfaces from trimmed surfaces if possible</i>
SimplifyPlanarSrfs	+ <i>Replace planar surfaces or polysurface faces with trimmed planes if possible</i>
Retrim Surfaces	+ <i>Untrim and retrim surfaces (to try to fix bad objects)</i>
Multiple Planar Srfs	<i>Make one planar surface from each selected closed planar curve</i>
Multiple UnrollSrfs	<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 selction of curves</i>
MultiSquarePipe	<i>Make sqaure pipes from a selction of curves</i>
MultiRectPipe	<i>Make rectangular pipes from a selction of curves</i>
Profile MultiPipe	<i>Make profile pipes from a selction 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</i>
Array Helical	<i>Arrays a set of objects along a helix (stair-like)</i>

Split/Trim

BoundaryTrim Crvs	* <i>Trims curves inside or outside a closed boundary</i>
Split All Curves	+ <i>Split all selected curves with each other</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 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

SelfFence	<i>Select objects by object type (lines, circles, etc.) - all self-explanatory except: Use a pre-existing curve fence to select objects</i>
-----------	---

Sel by Obj Property

Sel by Linetype	<i>Select objects by object property (length, area, etc.) 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 Srfs 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 planar curves and surfaces by Z level (or a range of Z levels) *RMB of above isolates the objects found, hiding the rest</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

<i>Slices objects, numbers slices, and prepares flat layouts for cutting</i>
--