

APPENDIX OF QUESTIONS

Chapter 1: User Interface Questions

5

Startup Screen

What are some of the key components on the startup screen? 5

Selecting Objects

How can I quickly select everything in the drawing? 6

Is there a way to select by object color or type? 6

How can I add specific types to the current Select Mask? 7

Can I select an entire object by boxing just a portion of it? 7

How can I select one object when it's already part of a group? 7

Is it possible to select a specific face and change its color? 8

How can I move overlapped object end points? 8

Why does Select Chain sometimes fail with the Extrude Solid tool? 9

Modifying Objects

How can I Nudge Objects using the Arrow keys? 9

Is it possible to modify an object's selected points by an explicit xyz value? 10

How can I display the Inspector? 10

What are some of the features of the Inspector? 10

What does the Objects Properties tab do? 11

What does a blank field in the Object Properties dialog box mean? 11

*What does the * symbol mean in a dialog box?* 12

What can I type into a text field? 12

Is there another way to quickly delete objects? 13

The Gripper

How do I enable the Gripper? 13

What do each of the Gripper handles do? 13

How can I control the Gripper axis ? 14

What does the 'Object to Axis' option do? 14

What does the 'Axis to Object' option do? 15

How can I rotate a face with the Gripper? 15

How can I copy a feature with the Gripper? 16

WorkPlanes

<i>How can I see my current work plane orientation?</i>	16
<i>How do snaps work in reference to the WorkPlane?</i>	16
<i>Can I align the WorkPlane to a curve?</i>	16
<i>How can I change the WorkPlane?</i>	17

Snaps

<i>How can I lock my snaps to an specific axis?</i>	17
<i>Where can I adjust snap settings for LogiCursor?</i>	17
<i>Where can I change the snap filters?</i>	17
<i>How can I find the apparent Intersection of two lines?</i>	17
<i>Can I toggle snaps using a shortcut?</i>	18

Tool Palettes

<i>How do I tear away tool palettes?</i>	18
<i>How do I collapse tool palettes?</i>	19
<i>How can I control the orientation of my tool palettes?</i>	19
<i>Is there a way to neatly align tool palette edges?</i>	20
<i>After switching from two monitors to one, I've lost my tool palettes!</i>	20
<i>How can I display more colors in the Pen Palette?</i>	20

Preferences

<i>How do I save my Preferences as Defaults?</i>	21
<i>How can I make user defined layers and views present for new drawings?</i>	21
<i>Can I transfer my keyboard shortcuts to another machine?</i>	22
<i>How can I find out if a tool is assigned a shortcut?</i>	22
<i>How do I assign a function key to a shortcut?</i>	22
<i>Can I make the Main Tool Palette smaller?</i>	23
<i>How do I show the file paths under recently opened files?</i>	23
<i>How can I set up BackUp files?</i>	24
<i>How do I show the file paths under recently opened files?</i>	24
<i>Where are the BackUp files located?</i>	24

Layers

<i>When and how can I drag and drop layers?</i>	25
<i>Can I suspend the repaint update when turning on/off layers?</i>	25
<i>Is there a suggested technique for managing sketches used for solids?</i>	25

Performance

<i>Does resolution impact performance?</i>	25
<i>How do silhouette edges impact performance?</i>	26
<i>Does anti-alias impact performance?</i>	27
<i>Is it possible to reduce the disk space required by ViaCAD?</i>	27
<i>What does the spinning rainbow cursor on the Mac imply?</i>	27

Concept Explorer

<i>What is Concept Explorer?</i>	28
<i>How do I filter the objects that are displayed in the Feature Tree?</i>	28
<i>Can I minimize the size of Concept Explorer?</i>	28

Chapter 2: Drafting Questions

31

Text and Dimensions

<i>How do I set text attributes such as font size, style, and color?</i>	31
<i>How do I set the dimension font size?</i>	31
<i>Can I copy text and dimension attributes from one object to another?</i>	32
<i>How can I filter which attributes get copied with the Eye Dropper tool?</i>	32
<i>How can I align text of a dimension?</i>	32
<i>How can I change the measured Dimension Value?</i>	33
<i>How can I insert text in front or behind the dimension value?</i>	33
<i>How can I add multi-line text to a dimension?</i>	33
<i>How can I dimension a reflex angle?</i>	34
<i>What is a stacked dimension?</i>	34
<i>How can I control the draw order of text?</i>	35
<i>What does the 'Scale value with text size' check box do?</i>	35
<i>What objects can I use with the Smart Dimension tool?</i>	36
<i>Can I set Balloon dimension to calculate the width automatically tool?</i>	37

Curves

<i>How do I change the color of a curve to a custom color?</i>	37
<i>Is there a quick way to create construction lines?</i>	38
<i>Can I create an arc tangent to 3 curves?</i>	39
<i>Can I create an arc at a specific length?</i>	40
<i>How can I create a tangent Line?</i>	40
<i>How can I create a circle tangent with two curves and diameter Line?</i>	41
<i>How can I make a polyline from a collection of lines?</i>	41
<i>Can I delete a polyline segment?</i>	42
<i>Can I draw arcs and polylines in the same command?</i>	42

<i>How can I find the center of a rectangle?</i>	43
<i>How can I find the center of an arbitrary shape?</i>	44
<i>How can I control which curves are hatched?</i>	44
<i>How can I find the total length of a collection of curves?</i>	45
<i>How can I change the dash length of a dashed line?</i>	45
<i>How can I manipulate spline points using Arrow keys?</i>	46
<i>How can I manipulate spline points using the Gripper?</i>	46
<i>Which spline type should I use?</i>	47
<i>What are the point of interest for a Control Point spline?</i>	49
<i>How can I identify the degree of a curve?</i>	49
<i>What is geometric continuity?</i>	50
<i>How can I tell if my curve is smooth?</i>	50
<i>How can I smooth a curve?</i>	51
<i>How can I match the start of a spline to another curve?</i>	51
<i>Can I match a slope with G2 continuity?</i>	52
<i>What tool is used to relimit a curve?</i>	55
<i>What objects can I trim a curve to?</i>	55
<i>How can I extend the number of objects selected when trimming?</i>	55
<i>How can I extend a curve to a selected boundary?</i>	55
<i>Can I use the Trim tool to keep a selected curve section?</i>	56
Symbols	
<i>How can I insert a symbol?</i>	57
<i>How can I create custom symbols?</i>	57
BOMs	
<i>How can I apply custom attributes to objects?</i>	58
<i>How can I delete BOM attributes that I have applied?</i>	59
<i>Can I copy BOM attributes from one object to another?</i>	59
<i>Can I create a custom set of attributes?</i>	60
Draw Views	
<i>Can I create a new Hidden Line style to be used in draw views?</i>	60
<i>How can I add objects to a draw view?</i>	60
<i>Can I unfold a draw view?</i>	61
<i>Where did my model go after using the Model to Sheet tool?</i>	61
<i>How do I make a custom Model to Sheet template?</i>	61

Chapter 3: Surface Modeling Questions**65****Skinning and Lofting**

<i>What is skinning?</i>	65
<i>What is lofting?</i>	66
<i>What curve types can be used for skinning and lofting?</i>	66
<i>What is a ruled surface?</i>	66
<i>What are guide curves for a skinned surface?</i>	67
<i>Can I use more than one curve as a section in a Skin Surface?</i>	67
<i>Is it possible to make a Skin Surface go to a point?</i>	67
<i>How can I control the tangency of a Skin Surface?</i>	68
<i>Can I remove a curve from a Skin Surface?</i>	68
<i>What does the 'Arc Length V' Option do to a Skin Surface?</i>	69
<i>What does the 'Arc Length U' Option do to a Skin Surface?</i>	70
<i>What does the 'Closed Last Section' option do to a Skin Surface?</i>	70
<i>What does the 'Auto-Align Sections' option do to a Skin Surface?</i>	70
<i>What does the 'Minimize Twist' option do to a Skin Surface?</i>	71
<i>Can I loft between a surface and a curve?</i>	71
<i>What does the bulge factor control in a loft surface?</i>	72

Covering

<i>What is covering?</i>	72
<i>What is planar covering?</i>	73
<i>What is n-sided covering?</i>	73
<i>How can I cover with Guide Curves?</i>	73
<i>Can I use internal regions for a cover surface?</i>	74
<i>What is tangent covering?</i>	75
<i>What does it mean to fill with a tangent cover?</i>	75
<i>What does it mean to cap with a tangent cover?</i>	75
<i>What is the Bulge Factor in a Tangent Cover Surface?</i>	76
<i>How can I repair curves for covers?</i>	76

Net Surface

<i>What is a Net Surface?</i>	78
<i>What curve types can be used for a net surface?</i>	78
<i>Are the direction of the curves in a net surface important?</i>	78
<i>Do the curves in a net surface need to touch?</i>	78

Swept Surface

<i>Swept Surface?</i>	79
<i>What is the difference between sweep in place and sweep perp?</i>	80
<i>What does the 'Maintain Height' option do in a Two Rail Sweep?</i>	80

Surface Utilities

<i>How can I tell the direction or orientation of a surface?</i>	80
<i>Is it possible to repair a bad surface?</i>	81
<i>How can I visualize a degenerative surface?</i>	81
<i>Is it possible to repair a degenerative surface?</i>	82
<i>What is surface associativity?</i>	82
<i>How can I flip the rotation direction of a surface of revolution?</i>	83
<i>What controls the portion of a surface removed in a Boolean operation?</i>	83
<i>Can I do a Boolean operation between a surface and a solid?</i>	84
<i>Can I fix a gap between two surfaces?</i>	85
<i>How does a zebra plot indicate surface smoothness?</i>	85
<i>Can I project a curve by minimum distance to a surface?</i>	85
<i>How can I create equally spaced section cuts?</i>	86

Chapter 4: Solid Modeling Questions**89****Primitives**

<i>How can I make a truncated cone?</i>	89
<i>How can I make an elliptical cylinder?</i>	90
<i>How can I access the primitive control points?</i>	90

Solid From Profiles

<i>What does the Curves are not Planar dialog box?</i>	91
<i>How can I repair gaps in a profile?</i>	91
<i>How can I find overlapping curves?</i>	92
<i>Can I extrude a non-planar shape?</i>	92
<i>How can I sweep a 3D non-planar path?</i>	92
<i>How can I create multiple cutouts going the same direction in a single solid?</i>	93
<i>How can I make a pipe that overlaps?</i>	94

Feature Based Solids

<i>What is a feature based solid?</i>	94
<i>Is it possible to keep the core when shelling?</i>	95
<i>Is it possible to shell a model using multiple thicknesses?</i>	95

<i>How can I completely hollow a model?</i>	96
<i>Can I associate a hole center with a point entity?</i>	96
<i>What is the Project from Referenced Snap dialog box for holes?</i>	97
<i>What are the key definitions in entity bending?</i>	97
<i>How do you control which part of an object gets bent?</i>	98
<i>Can I bend parts that are not flat?</i>	99
<i>How does K-factor relate to the neutral plane?</i>	99
<i>How do I control the orientation of a part bent along a curve?</i>	99
<i>How can I minimize the stretching in the bend along curve tool?</i>	100
<i>What is edge based blending?</i>	101
<i>How do I specify a radius curve to use in blending?</i>	104
<i>How do I blend two bodies together?</i>	104
<i>How do you create the rounded edges of a bolt head top?</i>	104
<i>What is edge based chamfering?</i>	105
<i>Can I flip the orientation for a length/angle chamfer?</i>	109
<i>Can I chamfer over an existing feature?</i>	109
<i>How is the angle defined for a countersink hole?</i>	110
Direct Face Editing	
<i>What 2D shapes can be pushed or pulled into a solid?</i>	110
<i>Can I push or pull more than one face?</i>	111
<i>How can I defeature a model?</i>	111
<i>What is the reference face in the draft face tool?</i>	112
<i>Can I thicken an entire body?</i>	112
Solid Modeling Utilities	
<i>How can I convert facets to a solid?</i>	113
<i>What does the 'Change a Solid into Solid' option do?</i>	113
<i>What does the Closed Volumes Required option do?</i>	113
<i>How can I change twist continuity?</i>	114
<i>What does the start angle do in the twist tool?</i>	115
<i>How can I disable automatic part regen on surface updates?</i>	115
<i>Is there a way to view and modify my history?</i>	116
<i>How do I add a material to the Mass Properties dialog box?</i>	116
<i>Can I calculate the mass properties of an assembly?</i>	118

Chapter 5: Rendering and Display Questions

Object Display Resolution

<i>Why does a circle appear to be a collection of straight-line segments?</i>	119
<i>Why do prints appear to be a collection of straight-line segments?</i>	120
<i>How do I change an existing object's resolution?</i>	120
<i>Can I change the default resolution?</i>	120
<i>Can I customize curve resolution angles?</i>	120
<i>How can I display a faceted object beyond Super Fine resolution?</i>	121

Viewing Data

<i>How can I change the View Orientation?</i>	122
<i>How can I rotate, pan, and zoom the View?</i>	122
<i>How can I zoom at anytime using the keyboard?</i>	122
<i>How can I save a view and zoom configuration?</i>	123
<i>In addition to Shaded, what other display modes exist to view objects?</i>	123
<i>What is anti-aliasing?</i>	124
<i>In addition to Shaded, what other display modes exist to view objects?</i>	125
<i>How can I change the direction of an OpenGL textured material?</i>	125
<i>How is the draft angle analysis tool used?</i>	126

Chapter 6: Photo Realistic Rendering Questions

127

Applying Materials

<i>How can I apply a material to many objects?</i>	127
<i>How can I assign a material to an object within a group?</i>	128
<i>How can I render an object to match a specific material?</i>	128
<i>Can I render photo render curves, text, and dimensions?</i>	129

Adjusting Angles of Applied Materials

<i>What's the difference between a procedural and texture mapped material?</i>	129
<i>How can I adjust the angle of a wrapped image material?</i>	130
<i>How can I change the direction of a procedural material?</i>	131

Achieving Realistic Renderings

<i>What's a quick and easy way to improve the realism of an object?</i>	132
<i>How can I reduce the facet appearance in my rendered images?</i>	132
<i>How can I make a light source glow?</i>	133
<i>How can I make light project through designed objects?</i>	135
<i>How can I make a light cast a jpg image?</i>	135
<i>How can I make a clear glass material?</i>	136
<i>Within Edit Object>Material, what does 'is backdrop object' mean?</i>	137

Is there a way to tell which HDR background I currently have applied? 137

Can I change the Rapid Render settings? 138

Chapter 7: Sharing Data Questions

139

Surface & Solid Model Formats

What formats support surfaces and solids? 139

What is the best format to share 3D surfaces and solids? 140

What does ACIS stand for? 140

What applications are based on ACIS? 141

What is the best format for SolidWorks? 141

What is the best format for Inventor? 141

How can I confirm my exported STEP file is valid? 141

What happened to the 3D data in my DWG file? 142

Why do my DXF/DWG files appear scaled? 142

Why is my text font wrong exported to DWG? 143

Does IGES support text and dimensions? 143

When should I use the IGES format? 143

Why does my spline turn into a polyline in DXF/DWG? 143

Facet Based Formats

What formats are based on facets? 143

How do I create a STL file? 144

What parameters are available for creating STL files? 145

What are some of the manufacturing processes that use STL? 146

Can I change the facet edge color in the STL export command? 147

What facet format preserves surface normals? 148

How do I share data with the Electric Image Animation System? 148

What is the preferred format to export data to SketchUp? 148

What is the best format to import data from SketchUp? 149

Is it possible to shell a model made in SketchUp? 149

Can I export a quad mesh? 150

How can I reduce sliver facets when exporting? 150

Additional Formats

How can I import spline data from Excel? 151

How can I import point data from Excel? 152

How do I scale an export to Adobe Illustrator? 152

How can I import Vectors from Adobe Illustrator? 154

<i>How can I import text from Adobe Illustrator?</i>	154
More Data Sharing Tips	
<i>What extensions can be dragged and dropped?</i>	156
<i>How can I export a hidden line drawing to Illustrator?</i>	156
<i>How can I export a shaded drawings to Illustrator?</i>	157
<i>Can I read a ViaCAD V8 file into ViaCAD V7?</i>	157
<i>Can I read a ViaCAD Pro file into ViaCAD 2D/3D?</i>	158
<i>What file formats contain unit settings?</i>	158
<i>What formats read/write text and dimensions?</i>	158
<i>Is it possible to read airfoil data?</i>	159
<i>How can I import a surface grid?</i>	160
<i>Can I import a point cloud?</i>	161