

Appendix B

Feature Lists

ALPHACAM :Core

ACCORE – 3-axis CAM solution

General Machining

- Automatic Support Tags
- AutoStyles
- Common Line Cut
- Convert 3D Tool Path to Helical Arcs
- Create Part
- Define Holder
- Define Tool
- Edit Z Point by Point
- Insert Program Stop
- Machine Configuration 3-Axis
- Machining Styles
- Move Part on Machine
- Order Operations by Tool
- Oscillation
- Reverse Tool Path
- Sawing Extensions
- Set Pocketing Start Points
- Set Safe Area
- Set/Unset Open Elements
- Slow Down for Corners
- Support Tags
- Templates

General Machining (cont'd)

- Tool Directions
- Tool Entry / Leads
- User Defined Code
- Machine Configuration (Main Spindle) - **Turning**

2D Machining (2.5-Axis)

- 3D Engraving
- Drill/Tap Holes
- Facing
- Machine Holes
- Manual Toolpath
- Pocketing
- Rough Or Finish / Cut Shape
- Sawing
- Polishing - **Stone**
- Water Jet - Clear Area - **Stone**
- Water Jet - Cut Path - **Stone**
- Water Jet - Pierce/Cut Holes - **Stone**
- Open Pocket Using Boundary - **Milling**
- Thread Milling - **Milling**
- Trochoidal Rough/Finish - **Milling**
- C-Axis Machining – **Turning**
- Clear Area - **Profiling**
- Cut Path - **Profiling**

2D Machining (2.5-Axis) (cont'd)

- Pierce/Cut Holes - **Profiling**
- Clear Area - **Wire**
- Cut 2-Axis Shape - **Wire**
- Prepare Geometry for Cutting - **Wire**

3D Machining (3-Axis)

- Along Intersection
- Constant Cusp
- Drive Curves
- Flat Area Offset
- Helical Z
- Horizontal Z Contours
- Machine Along Spline/Polyline
- Machine Surface with Tool Side
- Parallel
- Parameter Lines
- Projected Contours
- Radial
- Rest Machining
- Spiral
- Z Contour Roughing
- Z Enhanced Undercuts
- Cut Surfaces/Solids with Disk - **Stone**
- Cut with Disk - **Stone**

ALPHACAM :Core (cont'd)

ACCORE – 3-axis CAM solution

2D Geometry

- Arc, Circle
- Bolt Hole Circle, Equi Spaced Holes Along Curve
- Construction Geometry
- Enclosing Geometry
- Enclosing Rectangle
- Fast Geometry
- Involute Gear
- Line, Rectangle
- Minimal 3D Bounding Box
- Ortho
- Parametric Sketcher
- Polygon, Ellipse, Slot
- Snap / Auto Snap
- Text

3D Geometry

- 3D Polyline
- Create Spline
- Edit 3D Polyline
- Edit 3D Spline

STL Utilities

- Chop STL Into Sections
- Convert STL Facets to 3D Polylines
- Create Enclosing Rectangle
- Delete STL Facets
- Extract 3D Edges
- Project Edges to Plane
- Reverse Face Colours
- Simplify STL

Edit Geometry

- 2D Transform
- Array
- Automatic Order
- Break
- Break at Distance
- Chamfer
- Copy
- Edit Geometry by Node
- Edit Text
- Edit/List Geometry
- Explode
- Extend

Edit Geometry (cont'd)

- Extend by Distance
- Fillet
- Geometry Queries
- Join
- Mirror
- Move
- Offset
- Order
- Repeat
- Rotate
- Scale
- Set Origin
- Skew
- Start Point
- Stretch
- Trim

ALPHACAM :Core (cont'd)

ACCORE – 3-axis CAM solution

Special Functions

- Auto Close Contours
- Common Line Removal
- Develop to Flat
- Join Parts with Bridge
- Link Adjacent Circles
- Points to Lines and Arcs
- Simplify Line Segments

Work Planes

- Cancel Work Planes
- XZ (2D) - **Turning**
- Developed Diameter - **Turning**

3D

- 3D Project (3-Axis)
- Digitise
- Wrap on To Surfaces/Solids (3-Axis)

Display Options

- Draw Faces in Layer Colour
- Draw Geometry Nodes
- Draw Geometry Rapids
- Draw Material and Fixtures as Solid
- Draw Solid As Wireframe
- Draw Surfaces in Layer Colour
- Draw Tool-Holder
- Draw Toolpath Rapids
- Draw Toolpath Rapids in White
- Ghost Tools
- Include Origin In Zoom All
- Material Cut
- Material Cut Through
- Render Feature Extracted Geometries
- Render Geometries with Z Level
- Show Breaks
- Show Modified Feed Rates
- Show Toolpath Arrows
- Show Tools
- Show Undercuts
- Use Operation Colours
- User Defined Code

xPositional multiplier

ACPOSI – Workplanes/3+2 axis multiplier

General Machining

- Automatic Rapids Manager
- Define Aggregate
- Define Multidrill Unit
- Machine Configuration 3+2-Axis
- Rotate Part on Machine
- Balanced Roughing / Finishing - **Turning**
- Define Turrets - **Turning**
- Insert Sync Point - **Turning**
- Machine Configuration (Back Spindle) - **Turning**
- Set / Rotate Work Area for Y-Axis - **Turning**

2D Machining (3+2-Axis)

- 3D Engraving
- Drill/Tap Holes
- Facing
- Machine Holes
- Manual Toolpath
- Pocketing
- Rough Or Finish / Cut Shape
- Sawing
- Set Element Saw Angle
- C-Axis Machining - **Turning**

2D Machining (3+2-Axis) (cont'd)

- Polishing - **Stone**
- Water Jet - Clear Area - **Stone**
- Water Jet - Cut Path - **Stone**
- Water Jet - Pierce/Cut Holes - **Stone**
- Open Pocket Using Boundary - **Milling**
- Thread Milling - **Milling**
- Trochoidal Rough/Finish - **Milling**
- Clear Area - **Profiling**
- Cut Path - **Profiling**
- Pierce/Cut Holes - **Profiling**
- Clear Area - **Wire**
- Cut 2-Axis Shape - **Wire**
- Prepare Geometry For Cutting - **Wire**

3D Machining (3+2-Axis)

- Along Intersection
- Constant Cusp
- Drive Curves
- Flat Area Offset
- Helical Z
- Horizontal Z Contours
- Machine Along Spline/Polyline

3D Machining (3+2-Axis) (cont'd)

- Machine Surface With Tool Side
- Parallel
- Parameter Lines
- Projected Contours
- Radial
- Rest Machining
- Spiral
- Z Contour Roughing
- Z Enhanced Undercuts
- C-Axis Machining - **Turning**
- Cut Surfaces/Solids with Disk - **Stone**
- Cut with Disk - **Stone**
- Conic Cuts - **Wire**

Edit Geometry

- Auto/2D/3D Geometry Editing Modes

Special Functions

- Fold/Unfold

xPositional multiplier (cont'd)

ACPOSI – Workplanes/3+2 axis multiplier

Surfaces

- 3D Surface Creation
- 3D Surface Editing

Work Planes

- 2 Lines for X and Y Axes
- As Current Plane, Different Origin
- Best Fit Plane Through Points
- By Line Element Vector
- By Name
- Cancel Work Plane
- Create 3D Work Plane
- Edit Work Plane
- Existing Geometry
- From Solid Model Face
- Make Local Axis Horizontal
- Normal to View
- Order Work Planes
- Parallel to Current Plane
- Perpendicular to Current Plane
- Reverse Current Plane
- Set Work Plane Origin
- Slice through Work Volume

Work Planes (cont'd)

- Work Plane Properties
- 2-Axis Turning Sub-Spindle - **Turning**

3D

- 3D Part Rotation
- 3D Project (Planes)
- Wrap Around Geometry
- Specify Panel - **Router**
- Set Sub-Spindle Shift - **Turning**

Views

- Normal to Work Plane
- Work Plane

xSimultaneous multiplier

ACSIMULTAN – Simultaneous/4 & 5 axis multiplier - includes Positional multiplier features plus...

General Machining

- 4/5 Toolpath Optimiser
- Automatic Support Tags on 5axis Toolpaths
- Edit 5 -Axis Tool Path
- Edit Tool Angle
- Machine Configuration 4/5-Axis
- Orientate Tool Perpendicular To Profile (Aggregates)
- Smooth 5 Axis Tool Path
- Tool Axis Conversion

3D Machining (4/5-Axis)

- Cut Between 2 Geometries
- Cylindrical Parallel
- Cylindrical Profiling
- Drive Curves
- Flat Area Offset
- Machine Along Spline/Polyline
- Machine Surface With Tool Side
- Parallel
- Parallel Shallow Slopes
- Parallel Steep Slopes
- Parameter Lines
- Projected Contours

3D Machining (4/5-Axis) (cont'd)

- Radial
- Spiral
- C-Axis Machining - **Turning**
- Cut Surfaces/Solids With Disk (Guide Curves) - **Stone**
- Cut with Disk (Normal to Profile) - **Stone**
- Cut 4-Axis Shapes - **Wire**

3D

- 3D Project (4/5-Axis)
- Wrap on To Surfaces/Solids (4/5-Axis)
- Wrap Around Geometries (Toolpaths)

Display Options

- Show Tool Angles

xSolids multiplier

ACSOLIDS – Solids multiplier

General Machining

- Define Solid Aggregate
- Define Solid Holder
- Define Solid Tooling
- Define Solid Multidrill Unit - **Router**
- Define Solid Turrets - **Turning**

2D Machining (2.5 & 3+2-Axis)

- Rough or Finish Solid Face Selection
- Drill / Machine Holes Solid Face Selection

3D Machining (3-Axis & 4/5-Axis)

- 3D Solid Body / Face Machining

Geometry Extraction

- 3D Edge Extraction
- Automatic Feature Extraction
- Contour Around Picked Faces
- Contour From Picked Edges
- Contour Through the Current Work Plane
- Drillable Hole Extraction
- Edge For Sawing
- Edges from Face Outlines

Geometry Extraction (cont'd)

- Extract Solid Body Outlines
- Hole Chamfer Extraction
- Profiles from extended Edges
- Projected Face Outlines to Plane
- Spun Outline Extraction
- Surfaces from Faces
- Z-Level Section

Edit Geometry

- Solid Body Queries
- Solid Face Queries

3D

- 3D Project to Solid
- 3D Wrap on to Solid
- Set Solid Material
- Wrap Around Geometry (Toolpath Selection)

CAD File Import/Export

- Export Solid CAD Files
- Input Solid CAD Files
- Save Solid Bodies to Files

xNesting multiplier

ACNEST – Nesting multiplier

- Aperture Nesting
- Area Estimate from Part or Sheet
- Best Sheet Utilisation
- Bridged Nesting
- Create/Edit Nest Lists
- Definable sheets with No-Nest Zones
- Display Nesting Information
- Kit Nesting
- Manual Nesting
- Nest from Parts Files
- Nesting from Nest Lists
- Nesting from Screen
- Nesting of Geometries
- Nesting of Tool Paths
- Nesting Zones
- Onion Skinning
- Quick Nest Geometries
- Roll Split Nesting
- Save Off-Cut to Sheet Database
- Suppress Drawing Of Duplicate Shets
- Sheet Database
- Use Part Name Identifiers on Sheet

xAutomation multiplier (Not available in Wire or Lathe Mode)

ACAUTOMATE – Automation multiplier

- 2D CAD Processing
- 3D Solids Processing (Solids Multiplier required)
- Cabinet Vision Materials Database Link
- Collision Checking
- CSV / Text file Import
- Custom Add-In Extensions
- Custom Output File Naming
- Custom Output Folder Naming
- Feature Extraction (Solids Multiplier required)
- Fittings
- Folder Watcher
- Geometry Queries
- Materials Database
- Multidrill
- Multiple Machine Output
- NC Output Configuration
- NC Output
- Nesting (Nesting required)
- Offcut Waste Management
- Ordering by Layers
- Ordering by Styles
- Ordering by Tool
- Parametric Part Processing
- Reports
- Run Custom Macro
- Solid Assemblies Processing (Solids Multiplier required)
- SQL Database Configuration
- Subcomponents

xConstraints multiplier

ACCONSTRAINT – Constraints/parametric drawing multiplier

- Angle
- Auto Constrain
- Coincident
- Concentric
- Constrain Work Plane
- Constrain Z Levels
- Delete All Constraints
- Delete All Variables
- Distance
- Drag
- Edit Variables
- Equal Distance
- Equal Length
- Fix
- Horizontal
- Import Variables
- Insert Constrained Drawing
- Length
- Midpoint
- New Equation
- New Parameter
- Parallel
- Perpendicular
- Radius
- Re-order Parameters/Equations
- Tangent
- Vertical
- View Constraints

xFixtures multiplier

ACFIXTURES – Fixtures multiplier

- Automatically Set Initial Positions
- Clamp Inserter
- Cut and Move (Saw/Disk)
- Define Clamps/Fixtures
- Edit Clamps/Fixtures
- Move Clamps/Fixtures
- Move Material
- Pop Up/Down Clamps
- Record Current Positions
- Set Initial Positions

xAPI multiplier

ACAPI – API multiplier

- Create New VBA Project
- Integrated VBA Editor
- Open VBA Post for Editing
- Open VBA Project for Editing
- Open VBA Project for Running

xRobotics multiplier

ACROBOT – Robotics multiplier

- Send to RoboDK