EZ-Mill Pro

**New 3D Surface Machining Work Step Wizard** – We have added a new 3D Surface Machining Wizard to the Machining menu. Beside many cycle related improvements, this new wizard now serves as the foundation for all 3D surface machining by combining all options under a new and simple-to-use dialog interface. It provides an easy to understand choice of methods and toolpath types which allow even inexperienced users to generate their first 3D toolpaths with a couple of clicks. For most parts you may only need three work steps from solid stock to finished work piece. Simply select the desired Roughing, Re-Roughing or Finishing operation from the list, select the toolpath type that fits best to your model and add tools from the tool library. Additional settings are set to appropriate default values by the wizard so you can verify and display the desired toolpath right away on the screen. At any time you can return to the wizard dialog to optimize settings until you’re satisfied with the results, while additional help graphics provide valuable information. This approach relies upon many years of experience combined with comprehensive research and user feedback. With just a few simple settings, any user, regardless of experience, can create a 3D machining work step utilizing EZ-CAM’s new surfacing strategies and create a complex toolpath. At the same time, the wizard does not keep experienced users from making use of the full range of toolpath options that are sometimes necessary to address specific machining requirements.

1. **Roughing**

The Roughing methods use a horizontal slicing strategy to create machining regions in which a conventional 2.5 axis toolpath is generated. The selected Cut surfaces are offset in 3D by the specified tool then sliced at each Z Step interval. Intersection boundaries resulting from cavities or depressions are treated as pocketing areas, and intersections resulting from protrusions as islands.

- **Pocketing** – Creates a 2.5 axis offset pocketing toolpath.
- **Parallel** – Creates a 2.5 axis linear toolpath along a specified angle.
- **Plunge** – Creates plunge-drilling moves to the underlying surface along a series of rows at a specified angle.
Re-Roughing

The Re-Roughing methods use a specified, previously created, reference Roughing work step to automatically calculate and create a 2D Rest Curve identifying the uncut regions remaining from the reference work step. A conventional 2.5-axis curve roughing work step is then created and assigned to the Rest Curve and toolpath generated inside each region at the roughing Z Step intervals.

- **Pocketing** – Creates a 2.5 axis offset pocketing toolpath.
- **Parallel** – Creates a 2.5 axis linear toolpath along a specified angle.

Finishing

The Finishing Methods use three distinct toolpath generation techniques as described below.

- **3D Equidistant** – Creates 3D toolpath consisting of a series of on-surface offset passes similar to a pocking style toolpath that propagate from the selected Cut surface edges. Each pass is positioned at a uniform distance from the adjacent pass, regardless of surface slope.

- **Constant Z** – Creates 2.5-axis contouring passes at successive Z levels. The selected Cut surfaces are offset in 3D by the specified tool and sliced at each Z Step interval.
- **Projection** – Creates 3D toolpath by generating a 2D pattern and segmenting it into polylines based on the specified tolerance, then projecting each point to the selected Cut surfaces using the tool shape.

- **Pocketing** – Creates a 2D offset pocketing pattern.

- **Parallel** – Creates a 2D linear pattern along a specified angle.

- **Radial** – Creates a 2D linear pattern between an outer boundary and inner boundary or point.

- **Longitudinal** – Creates a 2D pattern that follows an outer boundary while transitioning into an inner boundary or point.
**Finishing: New 3D Equidistant Step Over Finishing Strategy** – A powerful new surface finishing strategy called 3D Equidistant is now available. This toolpath type machines the surfaces using a series of on-surface offset passes similar to a pocking style toolpath that propagate from the selected surface edges. Unlike horizontal slicing or vertical projection surfacing techniques such as Constant Z Contouring and Pocket Projection, the 3D Equidistant strategy creates a pattern that results in a uniform step over, regardless of surface slope. This approach is ideally suited for high quality finishing operations, especially when part topology is a mixture of flat and vertical areas.

**Constant Z: Updated Toolpath Engine** – The Constant Z toolpath generation routines have been completely replaced with new technology. The new Constant Z provides reliable gap-free toolpath in both roughing and finishing applications. Roughing strategies now use a true 3D tool offset model to ensure uniform stock at any slice intersection. Constant Z Contouring now creates continuous toolpath around sharp corners and along the silhouette of undercut regions. These changes greatly improve Constant Z toolpath quality and reliability.

**Constant Z and Equidistant Finishing: New Step Over Options** – The Constant Z and Equidistant Finishing work steps created by the 3D Machining Wizard provide several Step Over options for linking between closed toolpath passes within a region.

- **Linear** – A direct on surface link. The tool moves directly from the endpoint of one pass to the start point of the next pass within the same region, while following the surface.

- **S-Link** – A tangential on surface link. The tool moves tangentially past the endpoint of one pass, then while moving toward the next pass within the same region, backtracks and moves tangentially into the start point.

- **Horizontal** – A two-step linear off surface link. If the start point of the next pass within the same region is lower than the end point of the previous pass, the tool moves in XY above the start then plunges in Z to the start point. If the start point of the next pass is higher than the endpoint of the previous pass, the sequence is reversed and the tool moves in Z first then XY.
Retract – A rapid-retract and plunge entry off-surface link. The tool retracts to the rapid plane at the endpoint of one pass then rapids in XY over the start of the next pass within the same region, then rapids in Z to the clear plane and plunges to the start point.

Spiral (Constant Z Only) – A tangential off surface link. The tool moves tangentially past the endpoint of one pass and follows an off surface spiral loop to move the tool down to the next pass within the same region and tangentially into the start point.

Open Surface (Constant Z Only) – A rapid-retract off surface link. This option is to be used only for cases where the selected cut surfaces result in open toolpath passes, for example an open pocket. By default the resulting open passes may contain pieces which are out of sequence, causing unnecessary retracts and re-entries within a pass. The Open Surface option will re-sequence the passes ensuring each depth pass is cut in one continuous motion.

New Vertical Ramp In/Out – A new vertical arc ramp style is available with the Equidistant Finishing strategy. Instead of a direct linear Z axis plunge move, this new option places an tangential arc plunge move to the start and/or end of the toolpath, with its orientation plane rotated so that the arc lies in a vertical plane. The angle of the arc is varied as needed to allow the tool to descend into the ramp-in arc and retract out of the ramp-out arc tangentially. If the defined ramp cannot be placed without gouging neighboring surfaces, the arc is limited and the remaining portion lifted to follow the surface. The vertical ramps are defined in the Ramp/Lead Options dialog box accessed from the Machining Wizard via the Plunge Options button. This new ramp style eliminates center cutting plunge moves directly into the finish surface, which can leave undesirable tooling marks.

Automatic Silhouette Restriction Boundary – The Pocketing, Zig-Zag, and Contouring cycles now use an automatically calculated silhouette curve restriction boundary when no Path Curve is provided and Cut surfaces are specified. When using the Zig-Zag Transverse and Longitudinal Direction options a secondary single point curve is also automatically calculated at the center of the selected Cut surfaces. This feature eliminates the need to manually create difficult to define boundaries in order to generate a toolpath pattern that exactly matches the selected surfaces.
**Finishing Work Step Surface Angle Slope Restriction** – Finishing work steps created by the new 3D Machining Wizard support a new Surface Angle slope restriction option. By specifying an angle range, machining can be limited to a specific area best suited for a particular strategy. For example a shallow range can be used for a Projection toolpath to limit machining to the generally horizontal areas, such as floors. A steep range can be used for a Constant Z toolpath to limit machining to the more vertical areas, such as walls. This feature eliminates the need to manually create check curves to limit machining areas and optimize machining strategies.

**Curve Creation: New Silhouette Boundary Curve** – A new Silhouette Boundary curve method has been added to the Curves menu. This command creates a 2-D silhouette curve from a selected set of surfaces. Curve loops are created for the outer boundary and any inner voids, and the curve is placed Z0 in the XY plane of the active coordinate system. This feature is useful for creating Path Curves to define or restrict the machining area of 3D surface machining work steps.
Surface Creation: Create Plane from Arc, Circle or Closed Curve – The Surface – Standard Surface – Plane from Arc/Circle command has been enhanced to also support creating a plane from single planar closed Curve. An additional thickness can be defined by setting a corresponding value to the “D” input field before selecting the desired geometry or curve entity.

Arc Geometry Surface from Arc Solid from Arc (+D)

Circle Geometry Surface from Circle Solid from Circle (+D)

Curve Entity Surface from Curve Solid from Curve (+D)
**EZ-Mill**

**Depth Defaults to Path Z Level** – A new automatic Depth behavior has been added to the Contouring, Pocketing, and Zig-Zag Cycles. When Z Depth is specified as 0.0 the work step will compute the toolpath using the Z level of the specified Path Curve, or Z Surface, whichever is lower. This feature eliminates the need to manually calculate a Depth based on the Z Surface and feature elevation. Curves created from surface boundaries can be used directly with assurance that the toolpath will be calculated using the correct depth.

![Depth Defaults to Path Z Level Diagram](image)

Depth of machining is automatically calculated based on the difference between defined Z-surface and the first Z position of the machined curve. As it is now also possible to select multiple curves to be machined in one work step via the Select Curves command (Icon), this option greatly reduces the amount of work steps necessary to machine parts with multiple profiles and pockets on different Z levels.

**Library Custom Tool Graphics** – Tools defined in a tool library can now have a custom tool graphic image associated with them. The profile of any library tool can be defined using a Curve with an ID the same as the Tool ID, and saved in a geometry file (.geo) named the same as the tool library in the same location as the library file. Tool profile curves must be defined starting at the tool tip center and oriented along the Y-axis. During 3D Preview verification, the custom tool shape will be displayed and used for material removal simulation. This feature allows tools such as chamfer mills and insert cutters to be modeled accurately during 3D solid simulation.

![Library Custom Tool Graphics Diagram](image)

- Curve profiles for T-shape and step drill tool
- Display of special shape tool in 3D simulation
Custom Tool Holder Graphics – A new Tool Holder pick list on the work step Tool Info tab allows custom tool holder graphics to be associated with a work step cutting tool. The tool holder profiles are defined using a Curve with an ID that describes the holder type, and are stored in a geometry file named toolholderinch.geo (inch) or toolholdermetric.geo (metric) in the EZCAM16 folder. Tool holder profile curves must be defined starting at the holder tip center and oriented along the Y-axis. During 3D Preview verification, the custom tool holder will be displayed and used for collision checking.

Library Tool Speeds and Feeds – The Tool Library now allows RPM and Feed parameters to be assigned to tools. When loading a tool from the library into the work step, the speed and feed parameters specified in the library are also loaded. If the RPM or Feed parameters are set to zero in the library, then only the tool definition is loaded, and the work step speeds and feeds remain unchanged. This feature saves time and improves efficiency by eliminating repetitive parameter input and ensuring proven speeds and feeds are used.

Contouring: Start From Point – The 2D Contouring cycle now allows a start point to be specified by including a Rapid link at the start of the Path Curve. When a start point is provided the tool plunges at the start point, then feeds to the beginning of the profile, or the Ramp entry if specified. This feature allows you to easily specify a safe entry position and avoid plunging into stock.
**Updated Thread Milling Assistant** – The Thread Milling Assistant has been updated to increase productivity and simplify its use. New fields to insert Feed and Speed values as well as a list box to define how cutter compensation is handled have been added. Additional settings for Cut Step and Stock Allowance now allow the definition of multiple passes.

**Pocketing & Zig-Zag: Step Over Percentage Input** – It is now possible to enter a machining cycle Step Over as a percent of Tool Diameter, for example 50%, instead of a distance. This new capability ensures the Step Over is suitable even when the Tool size is changed. By storing the Step Over as a percentage using the Save as Default option, work steps created in a new session will always default to an appropriate Step Over setting.

**New Z Finish Allowance Parameter** – The work step Z Data parameter set now includes a new Allowance field in the Contouring, Pocketing, and Zig-Zag Cycles. When a Z Allowance is specified the total Depth is reduced by the allowance amount. This feature eliminates the need to manually calculate the adjusted Depth, and is particularly useful when Depth is specified as 0.0 in order to default the Depth to the Path Curve level.

**New Lollipop Milling Tool Definition** – A new Lollipop tool Type has been added. The Lollipop tool is defined by a ball Diameter and tool Length. The shank diameter is defaulted to one-fourth the ball diameter. When using a Lollipop tool in a surface machining work step, the tool is treated as a ball tool, and will not machine into undercut areas. However 3D Preview will use the actual Lollipop tool definition for realistic material removal simulation.

**First Feed Available in Pocketing** – The work step First Feed parameter is now available for use in the Pocketing and Constant Z (Pocketing) cycles. The first toolpath pass is assigned the specified First Feed value. This feature allows tool load to be reduced during the initial slotting cut to minimize tool wear and reduce risk of breakage.
Core Improvements

Quick Verification and Posting of Stored Toolpath – EZ-CAM now stores previously computed toolpath data in the part program file (.3dp). When a previous job is loaded, toolpath verification, display, and posting will be in most cases almost instantaneous. Whether suspending job creation from one day to the next, or retrieving a repeat job in the future, there is no longer the need to re-compute toolpath if nothing has changed. This feature will save countless hours throughout the course of your daily programming.

3D Preview Simulation: Automatic Target Model Creation – When using the Stock & Optimization Setup - Create Uncut Solids option, the system requires a single faceted surface with an ID of “targetsrf”, which represents the final CAD model. Previously this faceted surface had to be created manually by making a copy of all the model surfaces and then using the Surfaces – Combine Surfaces command to create the single surface. Now when using the Create Uncut Solids option, if a “targetsrf” model has not been created by the user the system will create one automatically from the surfaces specified in the machining work steps, provided they collectively form a closed, non-self-intersecting body. This feature saves time by eliminating the many steps previously required to create the comparison CAD model.

3D Preview Simulation: Model Comparison Tolerance Display – When using the Stock & Optimization Setup - Create Uncut Solids option to compare the as-cut verification model to the original CAD model, cuts are now displayed using a color code where red represents remaining uncut stock, green in tolerance part surfaces, and yellow over cut part surfaces. After verification is completed the tolerance highlight is computed and displayed. If the verification model is reoriented or the screen redrawn the verification tolerance display can be recalled using the Machining menu Recall Part command. This feature provides direct visual confirmation that all material has been removed within tolerance, and calls attention to any problem areas that may require further machining or a different strategy.

3D Preview Simulation: Dynamic Viewing – The 3D Preview function has been updated and now allows access to all viewing commands during cut verification, including dynamic viewing (Rotation, Zoom-In/Out, Pan). This improvement allows the model to be reoriented at any time, making it possible to keep the tool visible no matter where it might be cutting.
3D Preview Simulation: Simulation Speed 0 = Single Step – The 3D Preview function has been enhanced to allow the cut verification to be changed on the fly from continuous to single step motion. When adjusting verification speed using the keyboard and a numeric speed setting, a speed of "0" will switch the verification into single step mode, allowing the tool to be advanced one move at a time using the Enter key. When the speed is set back to a value “1” through “9” the verification will continue at the specified rate.

File Open Image Preview – The File Open dialog box has been enhanced to include a file image preview window. Files saved from EZ-CAM v16 and later will display a corresponding image when selected in the file list. This feature saves time by allowing you to quickly graphically browse your EZ-CAM files to locate a specific file for which you no longer recall the name.

Copy/Paste Work Steps Between Sessions – The Copy and Paste Work Step functions in the Spreadsheet have been enhanced to allow work steps to be copied from one EZ-CAM session to another. This provides a convenient method to selectively reuse “proven” work step data when creating new jobs. A master part program file (.3dp) containing standardized machining work steps can be loaded into one session while another session is used to create a new job by selectively copying work steps from the master session into the new job. This feature can greatly improve productivity by eliminating repetitive work step creation, and ensure accuracy by reusing proven methods and parameters.
New Select Curves Command – A new Machining – Select Curves command allows multiple curves to be graphically selected and added to the current work step Curves Table. This improvement eliminates the difficulty of adding curves to the work step Curves Table when curves have not been assigned descriptive IDs. A corresponding icon is also available to be added to any of the toolbars for quick access of this function.

Invert Surface Selection – A new surface selection method has been implemented for the Select Cut Surfaces command. When picking work step cut surfaces it is now possible to invert the current surface selection set by clicking the mouse in the graphics window, away from model surfaces. All surfaces that are selected become deselected, and all that are deselected become selected. This feature is convenient for clearing selections when all surfaces are selected.

Check Surface Selection – Surfaces that are in the Cut Surface selection set are now automatically excluded from check surface selection. When the Select Check Surfaces command is active, any surfaces that are already in the Cut Surface set are blanked from display. This improvement eliminates confusion and ensures the same surface is not a member in both sets, which can cause toolpath calculation problems.

Current Work Step Toolpath Display Option – The View – Setup dialog box now includes a Show Toolpath pick list in place of the previous Blank Verify check box. The new pick list supports the previous behaviors with a choice of All, which displays the toolpaths for all work steps, and Blank Verify, which blanks all work steps after verification. A new Current W.S. choice blanks all work steps except the current. This option allows the current work step toolpath to be dynamically viewed without being erased, and each time a new work step is selected the corresponding toolpath is automatically displayed with Redraw.

Current Path and Curve Highlight – When the Path button is selected the current work step path curve and any specified check curves are now highlighted in red. Similarly, when the Curves button is select the current curve is also highlighted in red. This improvement provides graphic confirmation that the correct curves are specified.

Show Spreadsheet Default Height – The Show Spreadsheet command now automatically calculates the default spreadsheet height based on the number of work steps in the current program. This improvement ensures as many work steps are visible as possible without the need to manually adjust the list.

Now Windows Vista Compatible – Graphics display issues related to Windows Vista can now be resolved by choosing the new Soft Render option in the Special INI Settings dialog box available under the Help menu.
**New Worksheet Document** – A new Create Worksheet Document command in the Automation menu can be used to create a setup sheet for the current job containing a tool and work step list. The work step data is exported to Microsoft Word and a macro is used to create the document and format the data into tables. This feature allows shop floor documentation to be generated automatically with one simple command.

**New Function Key Command Customization** – It is now possible to tie automation application commands to any of the standard keyboard function keys. Multiple commands can be specified in sequence using a semicolon as a delimiter. The function key mapping is established in the EZCAM.INI file located in the WINDOWS folder. Following is an example of how the standard views and Redraw commands can be assigned.

```
[ML3D]
F1=ViewXY
F2=ViewXZ
F3=ViewYZ
F4=ViewIsometric
F5=ViewDraw
```

**New Optimize Curve Automation** – A new Optimize Curve command in the Automation menu can be used to simplify curves by fitting tangent arcs to polyline segments within a specified Chord and Angle Tolerance. For each curve that is fit, a new curve is created with the same ID and the suffix “optim”. This feature can greatly reduce output and improve surface finish when directly machining curves.
Check Point Z Level Copied to Clipboard – When the system is in idle mode and a point is picked, the Z value of the point is now copied to the system clipboard so it can be pasted into any EZ-CAM input field. This feature eliminates the need to note values to be used as input, and is particularly useful for setting work step Z data. A model Z elevation can be checked then pasted into fields such as Z Surface, Rapid, or Clear.

Check Distance/Angle/Radius Copied to Clipboard – The View – Check Distance, Angle, and Radius commands now copy the measured values to the system clipboard so they can be pasted into any EZ-CAM input field. This feature eliminates the need to note measured values to be used as input.

Discrimination Filters Default – The group selection discrimination options now retain their previously used settings. This improvement eliminates the need to reset the options each time when performing repetitive group operations.

Rhino v.4 Support – Data import interface has been updated to support latest Rhino release version 4. This also includes Rhino Layer and Color Support – Data imported into EZ-CAM from Rhino via File Open or the Edit – Paste from Rhino command now retains the Rhino layer and color assignments.

AutoCAD DXF/DWG Color Support – Data imported into EZ-CAM from DXF/DWG files now retains the original colors assigned in the authoring CAD system.

Recent File List Improvements – The most recently used file list in the File menu now supports ten file entries. When a file is selected from the list a new EZ-CAM session is automatically started and the selected file loaded. This improvement eliminates the need to restart a new session before selecting a file from the list, and prevents accidental file merging.
EZ-TURN

**New Sub-Spindle Coordinate System** – The new, automatically created, Sub-Spindle coordinate system makes it much easier to define machining operations on the backside of the part. Simply use the Stock Curve creation option, which is also new and below mentioned, to move the Sub-Spindle coordinate system to the desired location on the backside of the part, where the distance to the World coordinate system normally represents the final length. When defining a new machining operation for the backside, simply select the Sub-Spindle coordinate system as the machining coordinate system for the current work step. Please note that existing post processor might need to be updated in order to support front and backside operation on machines with double spindles.

**New Stock Creation Option** – A new stock curve creation command is now available under the help menu. When selected, it opens up a dialog that offers various options to define cylindrical, conical or custom (via coordinate table) stock profiles. Once closed, the system automatically creates a curve named “stockcrv” that is later used by 3D simulation to create a rotational solid body from the defined profile. In addition, it allows to move the new sub-spindle coordinate system to the backside of the part.
EZ-EDM

**XYUV Cycle: Optimized Profile Synchronization** – Up to version 15, both curve profiles of a 4-axis work step had to be synchronized using the Match XYUV Curves command. The big downside here was the fact that changing the curve profile or adding a new link required redoing of the complete sync process. Although this option is still available a new system has been introduced, synchronizing the upper and lower curves by connecting the desired curve points via geometry lines. This makes editing the synchronization much easier. Additional points can be inserted into the curves profiles at any time. Lines can then be added or removed as necessary until the desired result is achieved. Nowadays, many EZ-CAM users get their parts as 3D CAD files, making this a second and even more important reason for this new sync option. During surface import, EZ-EDM automatically creates the edge geometry; this being lines, arcs or circles running along all surface boundaries. This means, that in cases where the upper and lower curve profiles can be directly derived from the surface model, the synchronization lines do already exist.

Lines connect upper and lower curve profiles

Resulting synchronized toolpath

**XYUV Cycle: Simplified Start Point Selection 2** – The Start/End Curve command first requires the selection of a certain profile entity along the current curve, from where a perpendicular move is generated to the subsequently selected Start & End location. Now this is not always possible, especially with 3D curves where entity selection to ensure a perpendicular Lead-In/Out can be challenging or is not wanted at all. For this, EZ-EDM's behavior has been changed in a way that the system tries to stay perpendicular to the selected entity as long as possible. However, if the selected start location does not result in a perpendicular Lead-In/Out, the software generates a direct link between the start location and the closest point of the selected curve entity.

Start point perpendicular to arc

Start point on arc – non perpendicular
XYUV Cycle: Simplified Start Point Selection 1 – In previous versions of EZ-EDM, both curves (Upper & Lower) of a 4-axis work step needed to have a dedicated Start & End point (defined via Start/End Curve command). Especially with 3D curves, this task was sometimes difficult to achieve. Trying to select a profile entity that resulted in a perfect vertical alignment of these points on both curves was often impossible. So finally this need has been removed. With EZ-EDM v16 you only need to define a Start & End point on one of the curves (Upper or Lower), where selection is most convenient. The corresponding Start & End point on the opposite curve is automatically calculated by the system on toolpath verification.

XYUV Cycle: New Reparametrization of XYUV Toolpath – When upper and lower profile of a XYUV work step have same number of entities, EZ-EDM always tries to synchronize the toolpath by connecting the intersection points directly (Intersection 4 on upper to intersection 4 on Lower curve, etc.). The same rule applies to sections of a path between two synchronization elements (lines). Now there can be cases, where although same number of entities on upper and lower profile exist, the intersections may not be placed opposite of their counterparts as shown with intersection #2 in left graphic below. Especially along arc moves this will result in a twisted toolpath. With version 16, EZ-EDM uses the Blend Tolerance setting (see Setup Dialog from View menu) as a percentage value of the total path length. If no intersection is found within the given tolerance on the opposing curve, a new intersection is inserted internally for synchronization as shown in the right graphic.
XYUV Cycle: Multiple Passes & Reverse Cutting – The XYUV cycle has been updated to support multiple passes, cutting forth and back along the defined profile while automatically changing cutting conditions for each pass. In addition, the Auto Path options (Stop, Retract, Cut-Off, Revs Cut) are also supported in combination with their associated settings.

Contouring: Multiple Start/End Points on same Profile – The Start/End curve command has been updated to allow subsequent selection of multiple start & end points on the same curve. During machining, each section is regarded as a separate curve being handled individually as defined by the Auto Path setting.

Contouring: Updated Corner Filleting – A new option was added to the Corner option on the Cycle Data dialog for contouring work steps. “Fillet” will automatically insert a specified fillet radius into the toolpath on all non-tangential intersections of the machined profiles.

Contour Manager: Individual Stop Length – The Contour Manager, located in the Curve menu, has been updated to allow definition of a dedicated stop length for the current curve. If this setting is empty, EZ-EDM uses the global stop length defined in the machining work step. This way, it is now possible to define individual stop length for certain profiles, while other use the work step global setting.

Updated Punch & Die Assistants – Both Assistant received new dialogs to specify cutting conditions for each pass individually. Especially for Die, the dialog has received new wording to allow easier recognition of which conditions are assigned to Conic and Land passes. Another Die Type 7 for parts with two conics has also been added.