

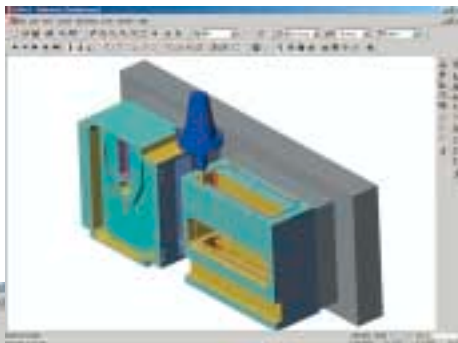


## Roughing and Pocketing

ESPRIT's comprehensive Pocket Machining cycle handles straight wall pockets, tapered pockets, and through or blind pockets. Whether they are simple squares, or pockets with complex boundaries and a large number of multi-level islands and bosses, you'll have the power you need to automatically rough and finish cut them in one simple step.

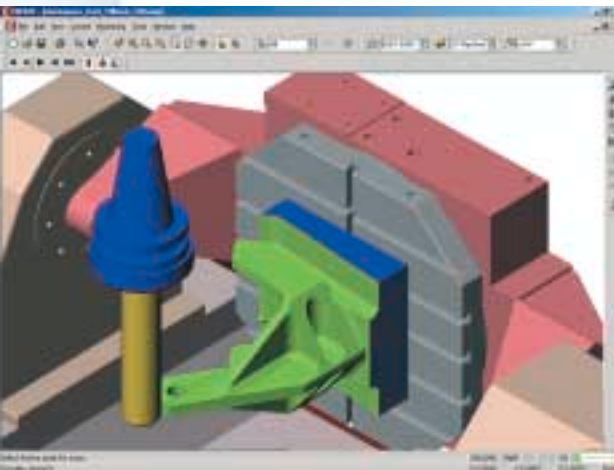
The pocketing cycle supports concentric outside-in and inside-out cutting with a constant overlap, bi-

directional zigzag, and one way zigzag movements. Never again worry about depths and heights for your islands or pockets. ESPRIT reads this information from the part's features and automatically creates all the necessary tool movements.



## Drilling and Hole Making

Choose between ESPRIT's machining cycles, your machine tool's canned cycles, or use a combination of both. You have the freedom of choice. Drilling, peck drilling, boring, tapping, and up to thirteen other point-to-point machining cycles are available. Use one simple



## Knowledge Based Machining (KBM)

Simply put, KBM is about automating the process of creating tool path. ESPRIT learns from you, the expert. It records how you cut the part, and then replays the process the next time the same situation occurs. You retain complete control while repetitive steps are eliminated.

### KBM Project Manager

An essential tool to easily organize your work, the Project Manager helps you sort out what you are cutting, how you're cutting it, and which cutting tools you are using.

Within the "Feature Tab" your work piece is divided into machinable features such as holes, slots, and pockets. For each feature you'll have a list of cutting operations. Add, change, or remove any machining cycle at any time.

An "Operation Tab" provides a sequential list of cutting operations as they appear in the G-code. Organize and optimize your program using simple

Windows drag and drop techniques. The "Tool Tab" manages your cutting tools, and provides access to your tooling libraries.

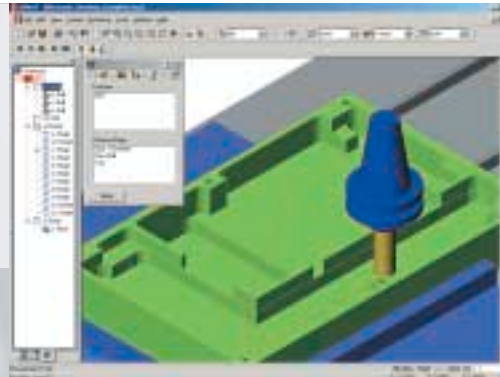
### KBM Property Browser

The Property Browser gives you control over all the machining conditions. More importantly, the Property Browser eliminates repetitive editing of your tool path by allowing you to select and change any number of conditions for any number of cutting operations in one simple step. For example, change the stock allowance on three separate pockets and one contour in a single easy step.

step in the Process Manager to cut complex holes that require multiple cycles and several tools. As an example: spot drill with chamfer, through drill, counter bore, and ream a set of holes, all in one easy step. ESPRIT will automatically generate optimized tool path minimizing the cycle time.

## Universal Post Processing

ESPRIT will output G-code for virtually any CNC machine thanks to its Universal Post Processing system. ESPRIT's extensive post processor library contains posts for a large number of the more popular machine tools and the entire library is available to you on the product CD. You also have the power of the post processor generator to create a new post from scratch or just as easily modify one of the existing posts from the library to suit your individual preferences. In either case you have complete control over the format of your G-code, and you have the ability to create an unlimited number of post processors.



## KBM Process Manager

A process is any number of machining cycles combined together. For example, a standard process for creating a pocket might be: rough the pocket with a concentric climb cut, change the tool, finish cut the walls using a contouring cycle, and lastly finish cut the bottom of the pocket using a zigzag style pocket cycle. Processes are saved in the Process Manager database for future use, where they can be easily applied to any number of features on any part.

## FreeForm 3D Surface and Solid Machining

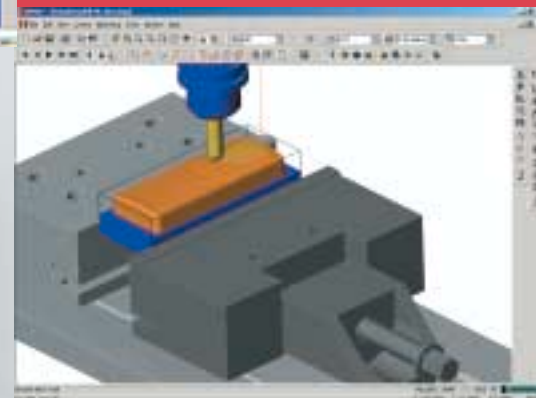
SolidMill FreeForm uses the ESPRIT solid machining engine to cut complex 3D freeform shapes. Specifically designed to handle the most challenging requirements of the mold, die, and tool making markets, ESPRIT provides you with a powerful set of tools and a large selection of machining cycles for roughing, semi-finishing, finishing, and re-machining.

### FreeForm Roughing

The FreeForm 3D Roughing cycle rough machines any complex 3D shape from any shape stock. Similar to the SolidMill Traditional Pocketing cycles, this 3D machining cycle performs zigzag and offset style rough machining on even the most complex set of 3D surfaces.

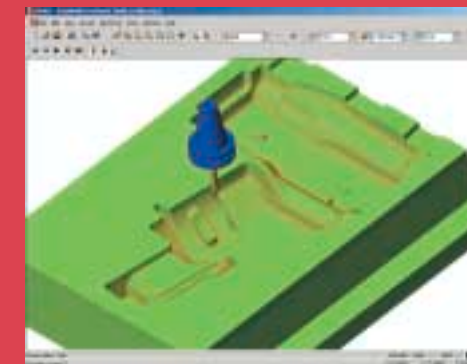
### FreeForm Finishing

With the choice of seven different semi-finishing and finishing cycles you can easily create all the tool path necessary to machine your part. Use one cycle for your entire part, or optimize your machining by defining containment boundaries. Machine different zones of your part using the cycle and cutting style most appropriate.



## Z-Level Machining

This cycle identifies near vertical and near horizontal areas and allows the operator to choose different cutting strategies for each area. Z-Level Machining offers both roughing and finishing options using one or two tools in a single cycle. It is an excellent cycle for HSM, providing very smooth, continuous tool path.

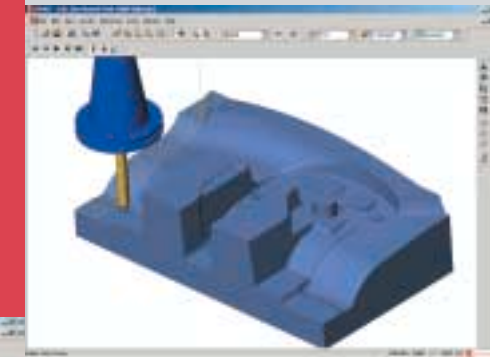


## Rest Material Re-Machining

Re-machining of uncut areas of your part is automated through the Rest Material cycle. Select a cutter and ESPRIT will automatically remove all possible remaining material using any one of a number of cutting styles. Choose from Pencil Tracing, Lace Cutting, Parallel Flowline, and Spiral movements. This maximizes part quality and minimizes bench work.

## High Speed Machining

Every ESPRIT machining cycle includes a number of HSM options to insure the creation of smooth, continuous movements while maintaining constant loads on the cutting tools. Whether it's High Speed Machining to cut hardened materials, minimize cycle times, or both, ESPRIT supplies the tools to get the results you need. Choose from sharp corner smoothing, loop style bridge movements, ramp and helical entry into material, spiral style cutting with constant overlaps, tangency entry, constant Z-Level cutting, and many more. Included within the Universal Post Processor is HSM optimization for NURBS and Spline curve G-code output.



## Simulation and Verification

ESPRIT's Solid Simulation and Verification assures your NC programs are of the absolute highest quality by simulating the machining cycles along with the entire machining environment, including stock material, fixtures and clamps, in dynamic solid shaded graphics. Using ESPRIT's built-in part inspection tool you can easily compare the original "as-designed" part to your "as-machined" work piece to assure part accuracy. The realistic images let you see the part as if you were holding it in your hand.

## Production Milling with 5-axis Machines

ESPRIT SolidMill Production adds 5-axis machining capability to all ESPRIT machining cycles. Use multiple work shifts with local or global coordinate systems to machine any face of a part, using any ESPRIT machining cycle. ESPRIT's 5-axis indexing supports any combination of rotary tables and tilting heads to orient the part, followed by a 3-axis machining operation using one or more of the ESPRIT cycles. Three new machining cycles are available in this package: Rotary Wrap Contour Milling, Wrap Pocketing, and Wrap Drilling. With these cycles one of the standard 3-axis movements (X, Y, or Z) is converted into a rotary "B" axis movement, thereby "wrapping" the profile around a rotary axis.