

Special applications

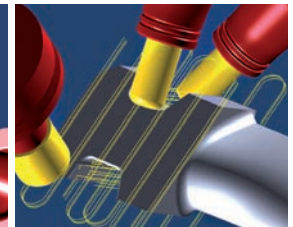
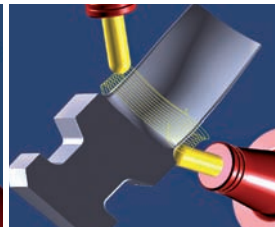
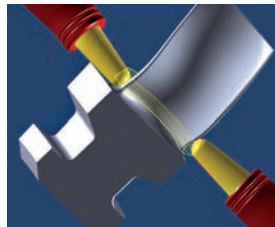
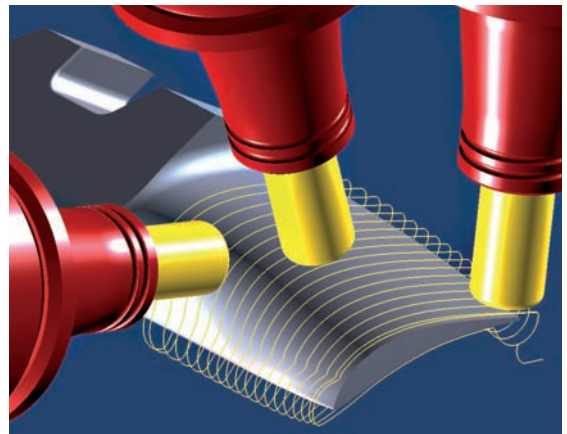
Geometries such as impellers, blisks, blades, tubes and tyres have special requirements that standard strategies cannot satisfy. For this reason, *hyperMILL*® offers user-friendly special applications that can be seamlessly integrated into the CAM system.

Blade package

The complete machining of blades is made possible by milling strategies optimised for blade machining, including strategies for the machining of hubs and the milling of special blade geometries. Automated functions ensure that programming is a simple and quick business, while high feedrates and the use of larger tools reduce production times.

The package includes the following strategies, which are designed specifically for blade machining:

- 3D blade roughing
- 5axis blade top milling
- 5axis blade swarf cutting
- 5axis blade point contact milling
- 5axis blade platform machining

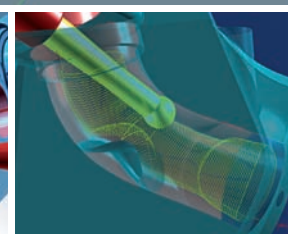
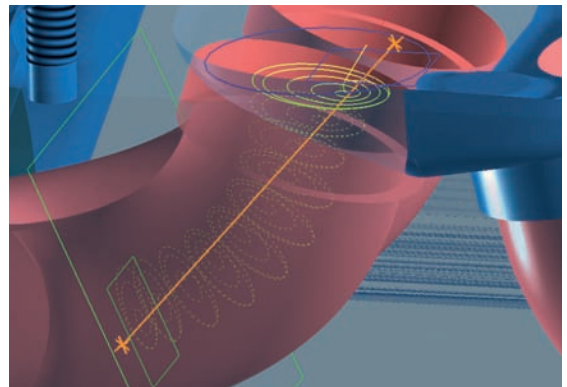


Tube package

With the *hyperMILL*® 5axis tube package even extremely undercut channels can be programmed with ease. The data model does not need to fulfill any special requirements, thus eliminating the need for time-consuming trimming, closing of gaps or surface reconstruction. Only one simple guide curve is defined. This enables the safe programming of continuous roughing, finishing and rest machining for tubes. Thanks to reliable collision avoidance and simulation, time-consuming machining tests are no longer necessary.

This package includes the following machining strategies:

- 5axis tube roughing
- 5axis tube finishing
- 5axis tube rest machining



Multiblade packages

These special applications simplify the programming and milling of impellers and blisks. Integrated automated functions reduce the number of required parameters to a minimum. The straightforward, graphics-based user interface is easy to learn. Moreover, reliable collision checking and collision avoidance ensure maximum process reliability at every stage of the machining process.

Multiblade standard bundle

With this package, all strategies required for machining impellers and blisks are easily defined. In addition to general applications such as roughing, hub finishing and blade finishing. The machining strategies also include more specialised applications.

This bundle includes the following machining strategies:

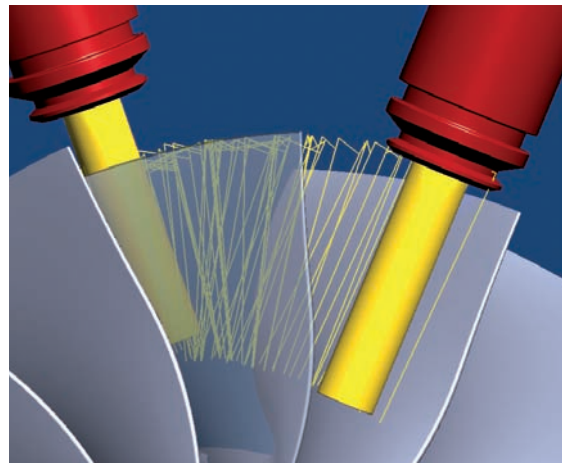
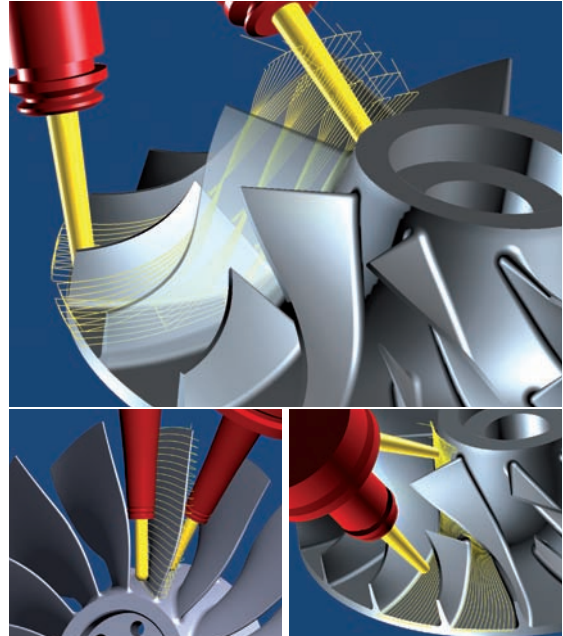
- 5axis multiblade roughing
- 5axis multiblade hub machining
- 5axis multiblade point contact milling
- 5axis multiblade flank milling (swarf cutting)
- 5axis multiblade fillet milling
- 5axis multiblade edge milling

Multiblade advanced roughing bundle

This bundle includes the plunge roughing strategy for highly efficient roughing. This strategy is called for when a horizontal feed is used and the job cannot be properly machined with long, slim tools.

This bundle includes the following machining strategies:

- 5axis multiblade plunge roughing
- 5axis rework machining



Tyre package

Whether using tyre moulds or models – the *hyperMILL*® tyre module enables highly efficient milling of tyre moulds. Automated features, milling strategies and special functions guarantee a simplified and efficient programming process, for example for sipes, stone ejection profiles and other details. Recurring machining sequences can be programmed far more quickly thanks to built-in feature technology. In addition, optimised milling paths considerably reduce the machining times.

The tyre package offers the following features:

The tyre clock describes the pattern of repeated tyre sections (itches). The CAM system uses this information to ensure efficient programming. The user assigns the numbers of the individual pitches to the machining programs for this purpose. Each pitch is programmed only once. Based on the pitch number, the newly created program is copied to the corresponding tyre mould segments. Complete segments are automatically generated in the process. Furthermore, the fully automated segment generation function adjusts the tool paths that extend beyond the segment boundary.

The tyre package expands the dialog boxes of all 2D, 3D and 5axis strategies by a parameter that allows the user to assign a pitch to each machining strategy.

