Specialized Multiaxis Programming for Multibladed Parts

One of the more complex 5-axis challenges is generating toolpaths for impellers, fans, turbine blades, blisks, and other bladed parts widely used in power generation, energy transfer, and propulsion. Blade Expert is a powerful, easy-to-use, custom application designed to generate efficient, smooth, and gouge-free toolpaths for these complex parts. It minimizes unnecessary motion at the machine, delivering a highly efficient toolpath with superior finish quality.

Self-Contained Processing

Multiblade parts come in many configurations, but Blade Expert’s common-sense operation process turns these machining challenges into reliable solutions:

- Remove the material from between the blades.
- Finish the blades/splitters.
- Finish the floor.
- Finish the fillets.

Key Features

- Precise, efficient, and smooth cut pattern.
- Supports straight, bull, and ball nose cutters.
- Automatic stock model awareness eliminates air cuts.
- Automatic tool axis control for safe toolpaths.
- Accurate tool tip control for seamless blending and transformation.

Additional Features and Benefits

The interface follows the well-established Mastercam standard used by all other multiaxis toolpaths, ensuring a short learning curve.

The Blade Expert Process

**STEP 1**
Choose or define your tool.

**STEP 2**
Select the operation you would like to perform:

- Rough between blades.
- Finish the blades and splitters.
- Finish the floor.
- Finish the fillets.

**STEP 3**
Define your part features, and let Mastercam go to work.

Note: Mastercam Blade Expert is a Mastercam product that must be purchased separately. It runs on Mastercam Mill 3D, Mastercam Router 3D, Mastercam for SOLIDWORKS® Mill 3D and Mastercam for SOLIDWORKS® Router 3D. Mastercam Multiaxis is not required for Mastercam Blade Expert.
“Precision turbines and fans are tricky to manufacture. We added Blade Expert to our shop’s ‘toolbox’ because it gives us complete control and doesn't require a lot of training. It definitely keeps us ahead.”

Simon Griffiths-Hughes, 5-Axis Manager, FGP Precision Engineering
Weymouth, Dorset, England

Mastercam Blade Expert comes with unparalleled support from the World’s #1 CAD/CAM community. For more information, visit Mastercam.com/BladeExpert.

To gain the benefits of Blade Expert, contact your local Mastercam Reseller at Mastercam.com/Resellers.