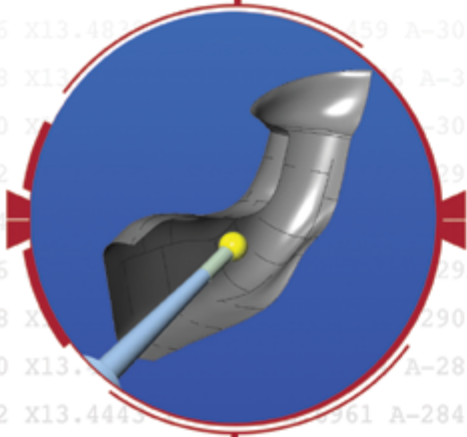


# Mastercam X<sup>6</sup>

## Port Expert



### Specialized Multiaxis Programming for Precision Head Porting

Mastercam Port Expert creates accurate, efficient engine cylinder head porting toolpaths on port surface or solid data. It minimizes unnecessary motion at the machine, which results in a highly efficient toolpath with superior finish quality. It can also be used for any tube type work that is similar in design to a port. Port Expert uses a tapered lollipop tool, and has collision checks for the entire tool (shank, arbor, and holder).

#### Cutting Options

There are multiple cutting options available with Port Expert. You can cut only the top; cut only the bottom; or specify how much stock to leave on the entire port.

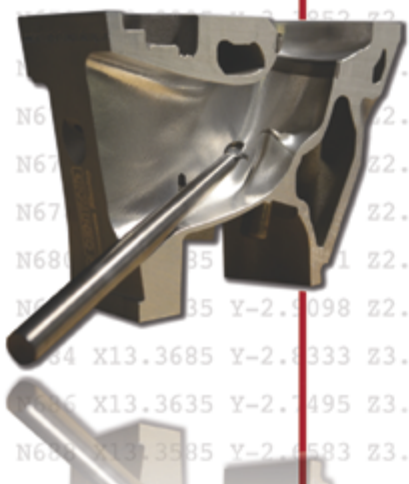
#### Toolpaths

The Port Expert toolpaths use 3-axis machining as far into the port as possible, and then convert automatically to 5-axis motion with minimum tilt. This leaves no fishtails or inefficient reverse moves, and smoothly transitions where the toolpaths meet at the middle of the port.

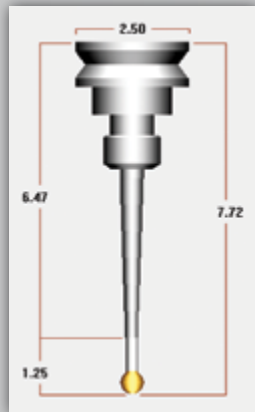
#### Additional Features and Benefits:

- Port Expert provides both roughing and finishing toolpaths to make ports from castings or billets.
- Geometry can be made of multiple surfaces that are stitched together since Port Expert supports unlimited surfaces.
- Automatically calculates optimal tilt angles so there is no need to split the surface or create tool axis control splines.
- Mastercam's simulation proceeds step-by-step through the toolpath, even showing the motion used in transition at the middle of the port.
- Generates 5-axis code that can run any CNC machine.
- Simplifies the programming of complex port shapes.
- Greatly decrease programming time.

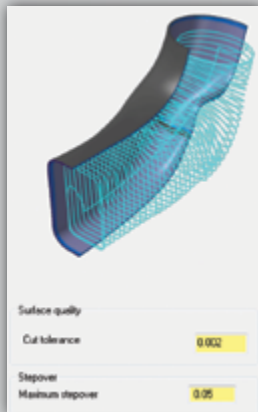
[www.mastercammill.com/portexpert](http://www.mastercammill.com/portexpert)



## The Port Expert Process



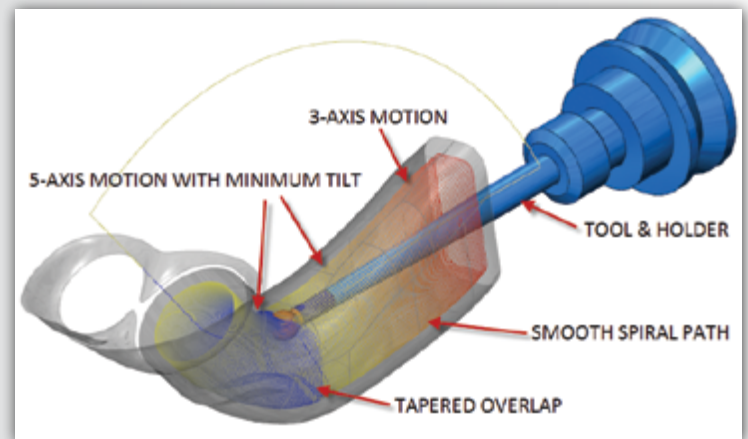
Choose or define your tool shape.



Select the port surface(s) and cut pattern.



Set clearances for any part of the tool or holder.



Define your part features and let Mastercam go to work for you!

*"Port Export not only cuts my programming time way down, but it also reduces the machining motion and the wear and tear on my tools. I was able to put a toolpath on my first port in about 10 minutes. I'm quite impressed to say the least."*

- Tom Hemphill  
Hemphill Racing Engines

Note: Mastercam Port Expert is a Mastercam Add-On that must be purchased separately. It runs on Mastercam Mill Level 3, Mastercam for SolidWorks® 3D, or Router Pro. Mastercam Multiaxis is not required for Mastercam Port Expert.

**Mastercam**  
cnc software, inc.

671 Old Post Road Tolland, CT 06084 USA  
(800) 228-2877 • (860) 875-5006 • Fax (860) 872-1565  
www.mastercam.com • mcinfo@mastercam.com



Mastercam® is a registered trademarks of CNC Software, Inc. ©Copyright 1983-2012. All rights reserved.  
SolidWorks is a registered trademark of DS SolidWorks Corporation.  
All other trademarks are property of their respective owners.