NX CAM 2.5 Axis Milling Add-On

Benefits

- Volume-based milling automates programming of prismatic parts
- Automated hole making capability speeds common processes
- Solids-based cutting machines complex shapes intelligently
- HSM support maximizes machine tool investments
- Easily program multiple parts and multiple stage fixtures

Summary

The NX™ CAM 2.5 Axis Milling Add-On provides the essential milling and drilling capabilities that are part of virtually every milling implementation.

Flexible machining coordinate system (MCS)

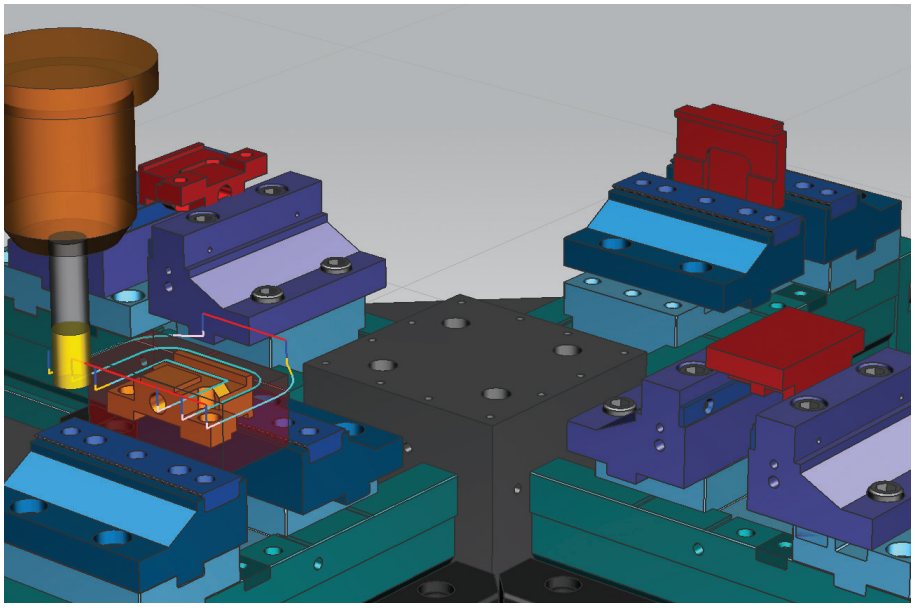
With NX CAM, you can make holes and planar cuts anywhere on the part, using any valid tool axis. These 2.5-axis cuts can be performed by 3+2 positional machines in any orientation.

Multi-stage machining and in-process workpieces

Efficient production of machinery components requires the ability to machine components in several stations, tracking the in-process workpiece (IPW) all along the way so that motion is efficient and air cuts are eliminated. Blank models follow the part from one station to the next, representing the uncut material for the most efficient cuts.

Multiple part programming

NX CAM delivers powerful, streamlined multi-part machining. It speeds the development of various tombstone and fixture configurations, distributing tool paths to as many components as required. Complete machining sequences and tool paths developed for



Multi-stage machining tracks in-process material from station to station.

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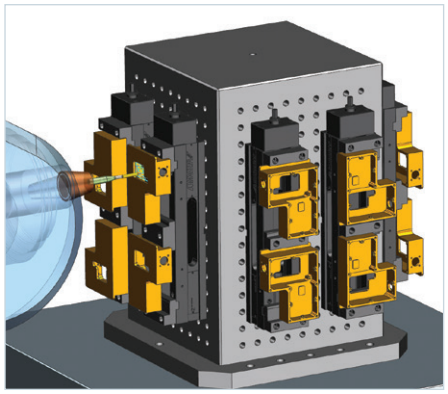
Features

- Hole making
- Face milling
- Boundary cutting
- Generalized roughing
- Z-level finishing

one workpiece can be immediately distributed to the other workpieces in other positions and orientations.

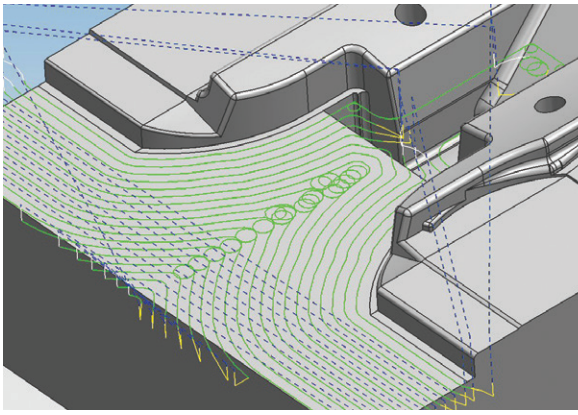


Machine multiple parts easily by distributing tool paths to your different workpieces

Hole making
Extensive hole making functions are provided for spot drill, drill, ream bore and tap. You can use deep drill, peck drill and special boring cycles. User-defined cycles provide any needed hole making capability. Efficient traverses minimize lifts while accounting for all part and fixture geometry. Special multi-axis filtering automatically switches MCS for non-parallel hole selections.

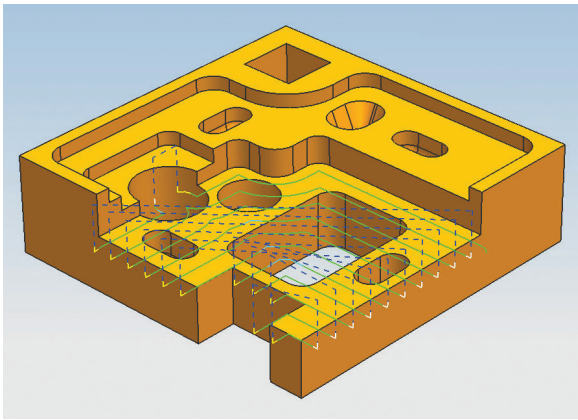
Feature-based automation
You can take advantage of automatic feature processing that comes standard with NX. Feature recognition, process application and tool selection functions automate hole making for common classes of holes. Custom process development is separately available.

Volume based 2.5 D milling
Solids-based face milling automatically respects part and fixture boundaries while efficiently clearing faces. Cutting volumes are quickly identified based on floor and wall selections. These floors and walls in combination with the in-process work piece (blank stock) result in volumetric cut regions.



Boundary cutting
You can trace boundaries the traditional way with either edges or wireframe elements. You can individually specify offsets, compensation, etc. for boundary elements. These boundaries serve as the basis for either single-trace cuts or area clearing patterns.

Generic motion control
You can build step-by-step tool motion with interactive drag handles and chain together cut traces with the most efficient transitions.

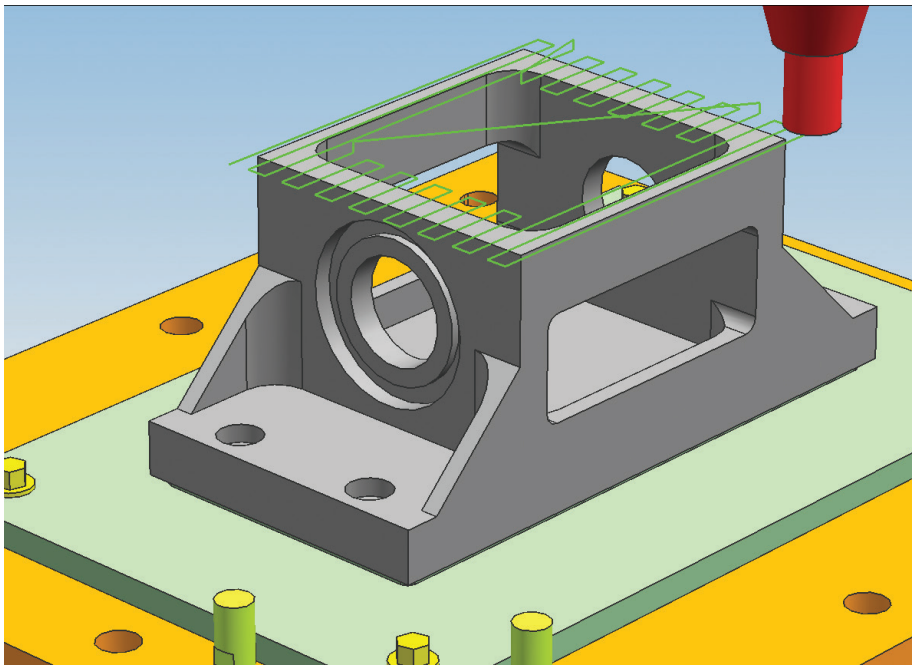


Probing cycles
NX CAM performs on-machine probing with the included Renishaw probing cycles for single-tip probes. You can measure faces, holes and bosses.

Generalized roughing
NX CAM roughs any generalized 3D shape with intelligent multi-level volume removal patterns and automatically cuts levels corresponding to horizontal faces. Area clearing patterns include zig, zig-zag, part offsets, blank offsets and trochoidal.

High-speed machining (HSM)
NX CAM provides specialized HSM patterns for either boundary or solids based roughing. You can keep your tool path smooth with corner treatments, stepovers, engages and retracts for the highest possible feed rates. You can optimize spindle speeds, feed rates and engagement depths for maximum safe material removal with the included cutting parameter library. Trochoidal loops protect tools from excessive engagement. When complete corners are required, feed rates automatically reduce to account for heavier local tool loads.

Z-level finishing
You can create z-level or waterline finishing passes on complex 3D geometry. Suitable for relatively steep areas, these cuts provide zig and zig-zag options with smooth engages, retracts and stepovers.



Rest machining
For re-roughing, NX CAM cuts only the areas uncut by previous roughing operations. You can use smaller tools only as needed for corner cleanout and use longer tools only as needed for deep reaches.

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