

What's New In Feature Based Machining In NX CAM

Oliver Sing
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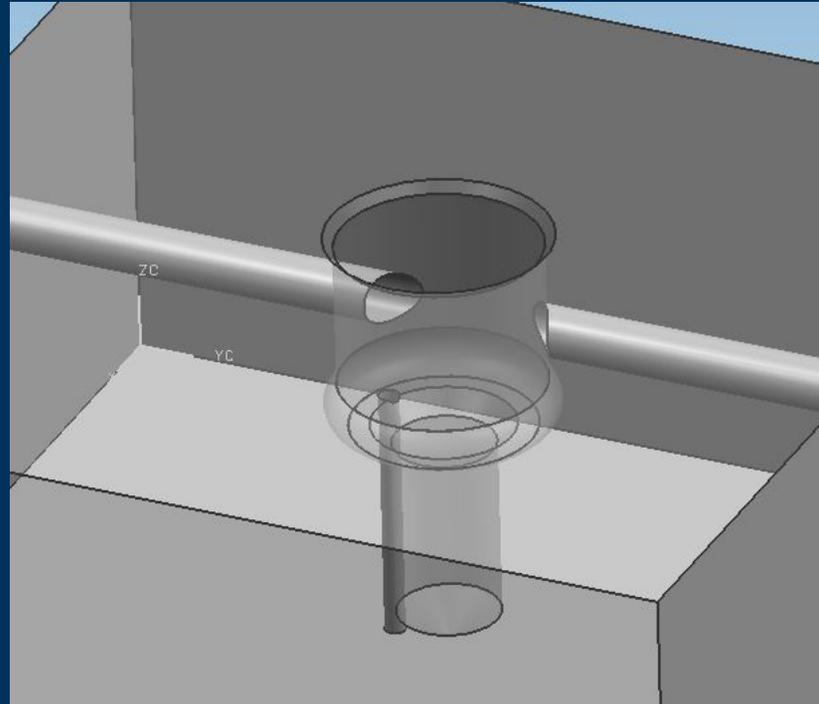
What's new in Feature Based Machining

Feature Recognizer Enhancements

- ▶ Open and Interrupted Holes (NX5 / MR)
- ▶ Torus (Blend) support (NX4.0.1)
- ▶ Language enhancements (NX4.0.1)
 - (Cone In /Cone Out, etc.)

```
ATOM CONE_IN
ATOM CONE_OUT
ATOM TORUS_CONVEX_IN
{
  DIA "blend radius"
  DEPTH "blend height"
}
```

Etc...





What's new in Feature Based Machining

Feature Manager / Holmaking

- ▶ Feature Navigator Implementation (NX5, NX4.0.2 via Environment Variable)
- ▶ Start / End Feature selection for tool path generation (NX4.0.2)
- ▶ UDE Support per Feature & Operation (NX4.0.2)
- ▶ Moves to Clearance Plane parallel to tool axis (NX4.0.2)
- ▶ Multiple Setup Support (NX5+)
- ▶ Compound Feature Support (Feature Combinations) (NX5+)

The screenshot displays the Manufacturing Feature Navigator interface. The main window shows a table with columns for Feature Name, Feature Type, Geometry Gr..., and Status. The selected feature is COUNTER_S... with a status of CAD. Below this, a Details panel shows a table of attributes and values:

Attribute	Value
Hole Diameter	25.0000000000
C-Sink Diameter	50.0000000000
Hole Depth	50.0000000000
C-Sink Angle	82.0000000000
Tip Angle	118.0000000000

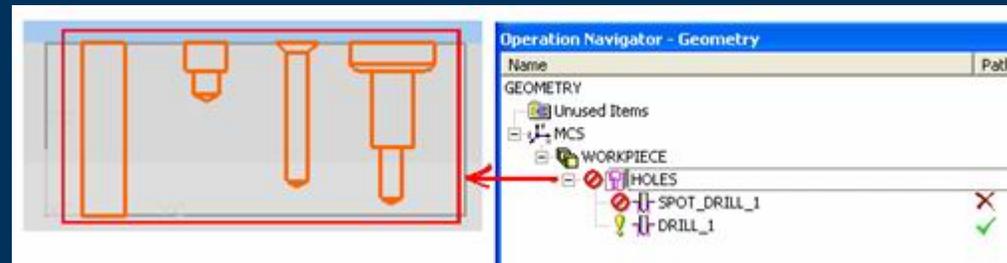
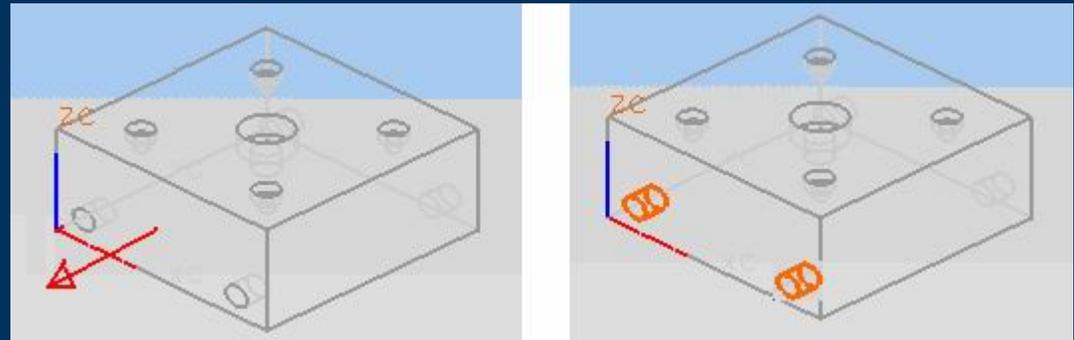
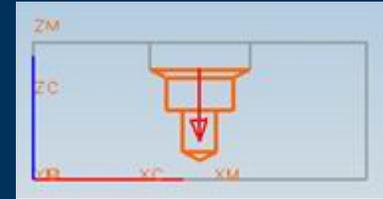
A context menu is open over the Details panel, offering options: Export to Browser, Export to Spreadsheet, and Properties... Below the Details panel is a Preview section showing a tree view of features: DEBOR, REAM, and BORE.



What's new in Feature Based Machining

Manual Holemaking (NX4.0.2 – NX5 MR)

- ▶ Geometry Selection)
 - Faces, Edges, Arcs and Points
 - All Holes on Face / Solid
 - By Vector
 - By Min Max Diameter/Depth
 - By Blind / Through
 - Recognizer powered hole detection
 - etc.





What's new in Feature Based Machining

- ▶ Process and data definition per Excel for FBM (NX4.0.1)
- ▶ Designed for PDW / MW Application
- ▶ Generic Template (Operation creation through KF) (NX4.0.1)

	A	B	C	D	E	F
1	PROCESS	CONDITION_RULE	CONDITION RULE DESCRIPTION AND COMMENTS	CONDITION_ITEMS	CONDITION_DATA	
2	1	FALSE	DIAMETER <= 12	FTR_NUM_PDW_HOLE_PUNCH_FIT_DIA	20	
3		TRUE	DIAMETER >= 5	FTR_NUM_PDW_HOLE_PUNCH_FIT_DEPTH	30	
4		TRUE	PART_MATERIAL = MAT0_00002 (Carbon Steel)	FEATURE_HEIGHT	UNKNOWN_CONDITION_ITEM	
5			TOOL AVAILABILITY CHECK = YES	SYS_PART_MATERIAL	MAT0_00002	
6				SYS_MACHINE	sim010101_001_mm	
7	2	TRUE	DIAMETER <= 25	PDW_COMPONENT_NAME	UNKNOWN_CONDITION_ITEM	
8		TRUE	DIAMETER >= 12.001		0	
9		TRUE	PART_MATERIAL = MAT0_00002 (Carbon Steel)			
10			TOOL AVAILABILITY CHECK = NO			

	A	B	C	D	E	F	G	
1	PROCESS	OPERATIONS	OPERATION_TYPE	OPERATION_DATA	TOOL_DATA	CYCLE_DATA	TOOL_AXIS	DEPTH
2	1	SPOT_DRILL	HOLE_MAKING	OP_SPOT_DRILL	TOOL_DATA_SPOT_DRILL	DRILL	SYS_DEF	ug_cam_spot_drill_standard()
3		HSS_DRILL	HOLE_MAKING	OP_HSS_DRILL	TOOL_QUERY_HSS_DRILL	CD_HSS_DRILL		MODEL
4								
5	2	SPOT_DRILL	HOLE_MAKING	OP_CENTER_DRILL	TOOL_DATA_SPOT_DRILL	DRILL		
6		HSS_DRILL	HOLE_MAKING	OP_HSS_DRILL	TOOL_QUERY_HSS_DRILL	CD_HSS_DRILL		MODEL
7		CHAMFER	HOLE_MAKING	OP_CSINK	TOOL_DATA_CSINK	DRILL_CSINK		ug_cam_chamfer_dia_percent
8								
9	3	SPOT_DRILL	HOLE_MAKING	OP_SPOT_DRILL	TOOL_DATA_SPOT_DRILL	DRILL		ug_cam_spot_drill_standard()
10		HSS_DRILL	HOLE_MAKING	OP_HSS_DRILL	TOOL_QUERY_HSS_DRILL	CD_HSS_DRILL		MODEL
11								
12	4	SPOT_DRILL	HOLE_MAKING	OP_CENTER_DRILL	TOOL_DATA_SPOT_DRILL	DRILL		
13		HSS_DRILL	HOLE_MAKING	OP_HSS_DRILL	TOOL_QUERY_HSS_DRILL	CD_HSS_DRILL		MODEL
14		CHAMFER	HOLE_MILL	OP_CHAMFER_MILL	ugt0201_110	-		MODEL



What's new in Feature Based Machining

- ▶ Feature/Process Teacher (NX5 +)
 - ▶ Help users to identify unknown features
 - ▶ Help users to define and reuse processes to machine features
- ▶ Optimization Enhancements (NX5 +)
- ▶ Integration of eMachining components into FBM (NX5 +)



Thank You
oliver.sing@ugs.com
www.ugs.com