



WorkNC[®]

G3





THIRD GENERATION WORKNC : NEW EASY-TO-USE

WorkNC G3 stands for 'third generation' and signifies the arrival of the software's third completely new user interface along with expanded and enhanced functionality.

Famed for its easy and quick programming, WorkNC enables considerable time savings compared to many other CAM systems. The new graphic user interface features a single, optimized graphics environment and improved ergonomics allowing toolpaths to be programmed even faster than before.



New toolbar icons

WorkNC G3's new toolbar icons have been specially designed to enable experienced users to use the interface faster and to guide new users through the software.

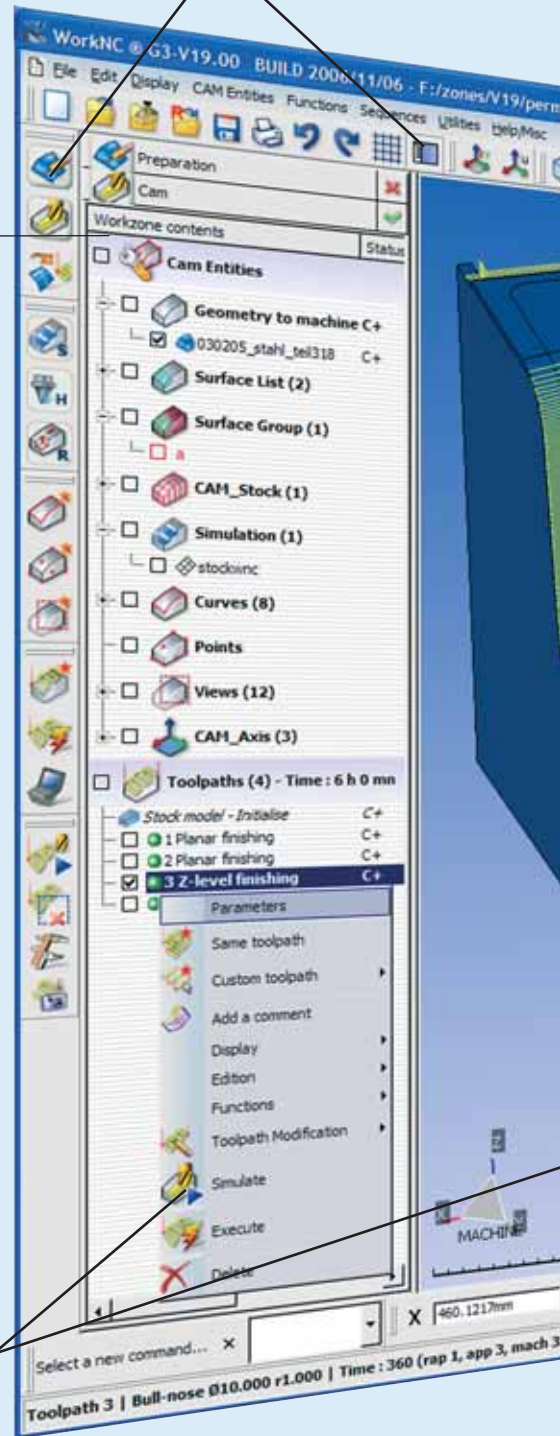
Workzone Manager

The Workzone Manager is at the heart of the new interface. It neatly brings together and efficiently manages all the entities required for machining.

Experienced WorkNC users will quickly find themselves at home with Workzone Manager. It retains the basic menu functions of previous versions, but also has a number of enhancements. This makes the software more interactive and users more productive

Key features :

- Complete interactivity between Workzone Manager entities and the graphic display area
- Update in real time



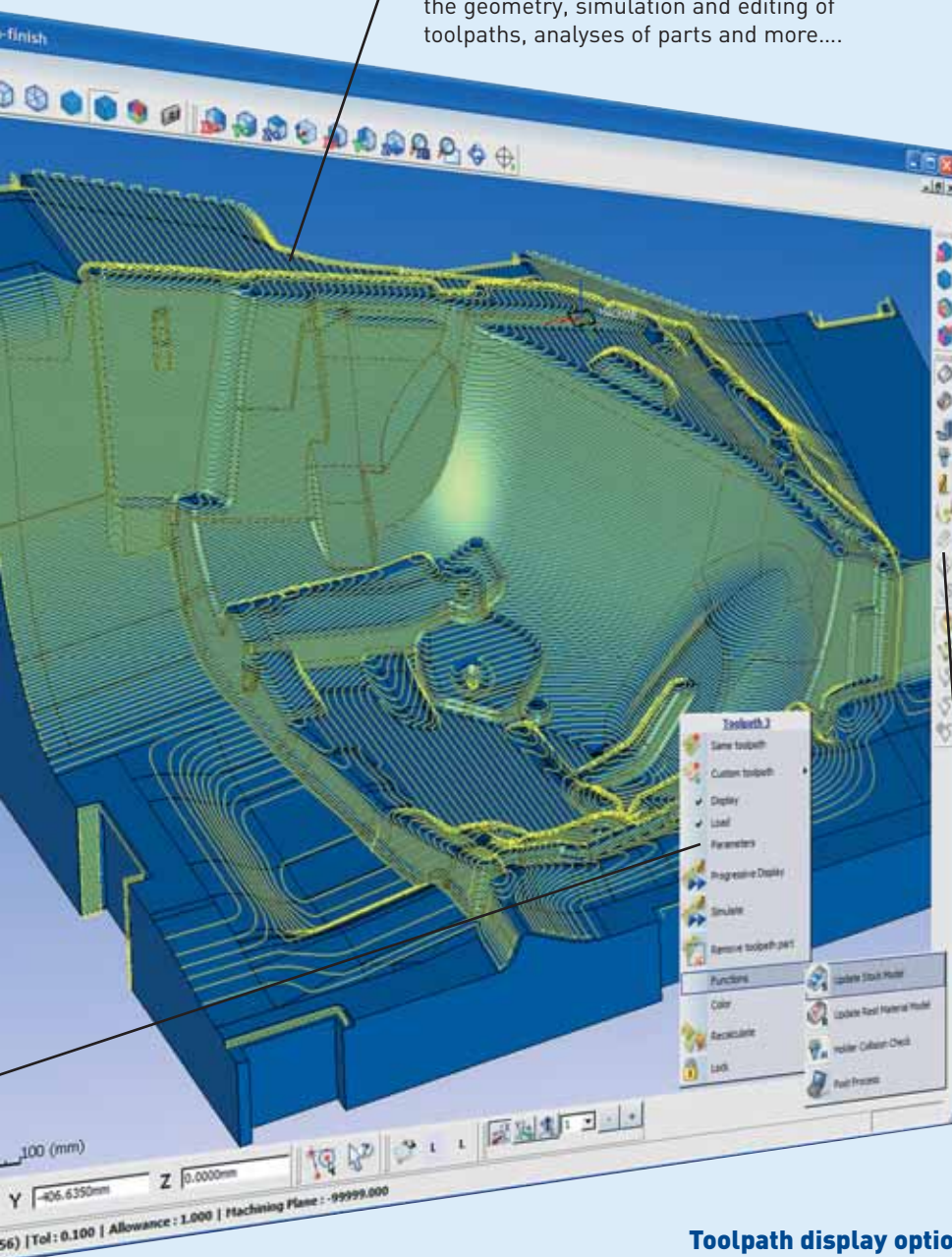
Context menus:

Context menus, from both the Workzone Manager as well as the graphics display area, provide direct access to other functions at a click of a mouse.

SINGLE INTEGRATED INTERFACE

Graphics Display Area

WorkNC G3 features a large graphics area enabling high quality display and complete interaction with the parts to be machined. Functions in this area include visualization of the geometry, simulation and editing of toolpaths, analyses of parts and more....



Toolpath display options

A specific toolbar provides fast access to a range of toolpath display options ensuring they are found quickly and utilised fully.

Another toolbar enables users to work directly on the visibility of tools, tool holders and machine tools or on their various display options (transparent, wire, etc)

SECURE & INTERACTIVE MANAGEMENT OF WORKZONES

The Workzone Manager has been designed to optimize workzone management and, above all, to make machining processes even more secure.

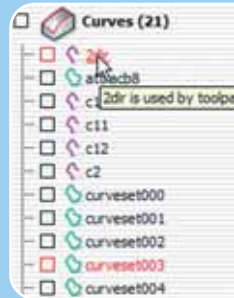
The Workzone Manager's intelligent functionality allows users to instantly identify the use of CAM entities in the different toolpaths and it even enables real time control in the case of CAM entities having been modified or deleted.

WorkNC G3 enables users to work faster and smarter by allowing complete interactivity between the model to be machined in the graphic interface and the toolpaths and their parameters.

Programming time, of prime importance to all users, has been significantly cut.

Key features:

- Complete interaction between model, toolpaths and parameters,
- Graphic CAM entity selection during toolpath programming,
- On-the-fly CAM entity creation during toolpath programming.



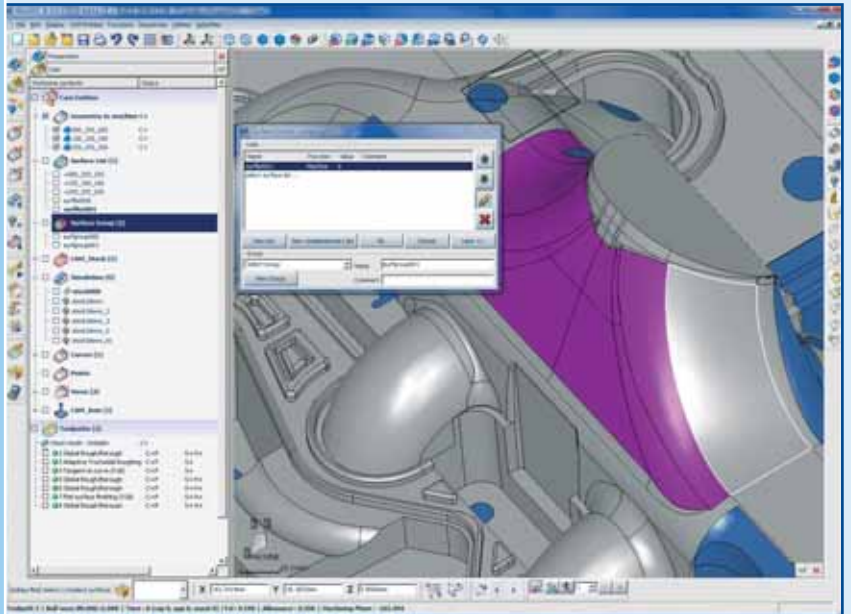


PRODUCTIVITY DRIVEN USABILITY

OPTIMIZED, VERSATILE CAM FUNCTIONS

WorkNC G3 is the consolidation and optimization of CAD/CAM functions which have been tried and tested by thousands of WorkNC users. These functions are now easy to deploy from within a new single graphic user interface.

This new version is the result of intensive development work and real machining experience. Its aim is to deliver significant productivity gains, in both programming as well as machining times, whilst staying true to WorkNC's 'ease-of-use' philosophy.



Direct surfaces selection

Benefiting from the new integrated interface, the selection surfaces function is now even easier to use:

- Interactive during programming
- Surfaces highlighted on the model from the Workzone Manager

Assistant for Creating Curves for Machining

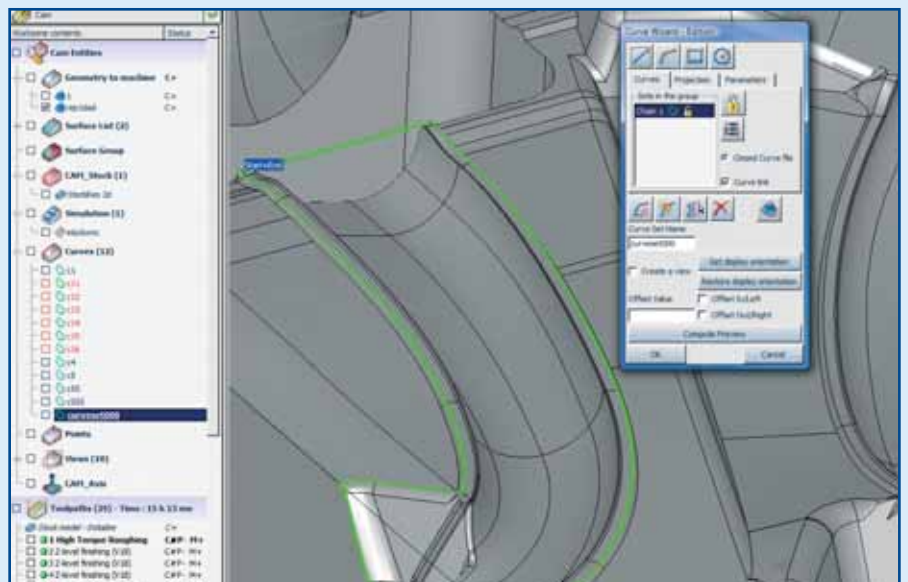
A unique and simple dialog box has been created for generating machining curves. It benefits from intelligent context sensitive operation and comes with numerous options.

Direct Creation of toolpaths

The new version offers users multiple means of accessing the toolpath creation functions

CAM Entity Management

The various CAM entity creation functions (Views, Axis Systems), can now be directly and quickly accessed from the Workzone Manager.



ENHANCEMENTS

ENHANCED VISUALIZATION, SIMULATION AND EDITING

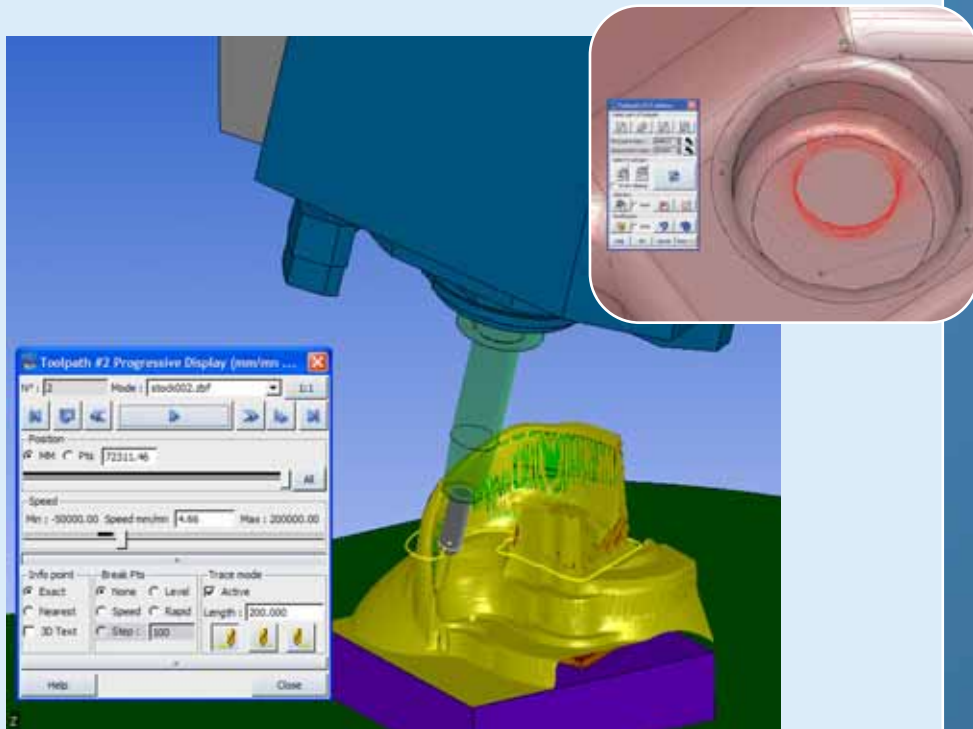
Toolpath simulation functions have been significantly enhanced in WorkNC G3.

A single dialog box makes the use of the simulation function both easy and efficient.

The real time display of the exact position of the cutter at any point along the toolpath ensures the toolpaths can be carefully checked before machining.

Toolpath editing functions are of prime importance in WorkNC. They allow the user to make last minute changes to toolpaths and should therefore be as user friendly as possible.

WorkNC G3 therefore now offers smart, simple functionality which automatically adapts according to the options selected (Zones, Passes, Levels, Polygons). It is intuitive to use and made secure by real time controls of modifications.



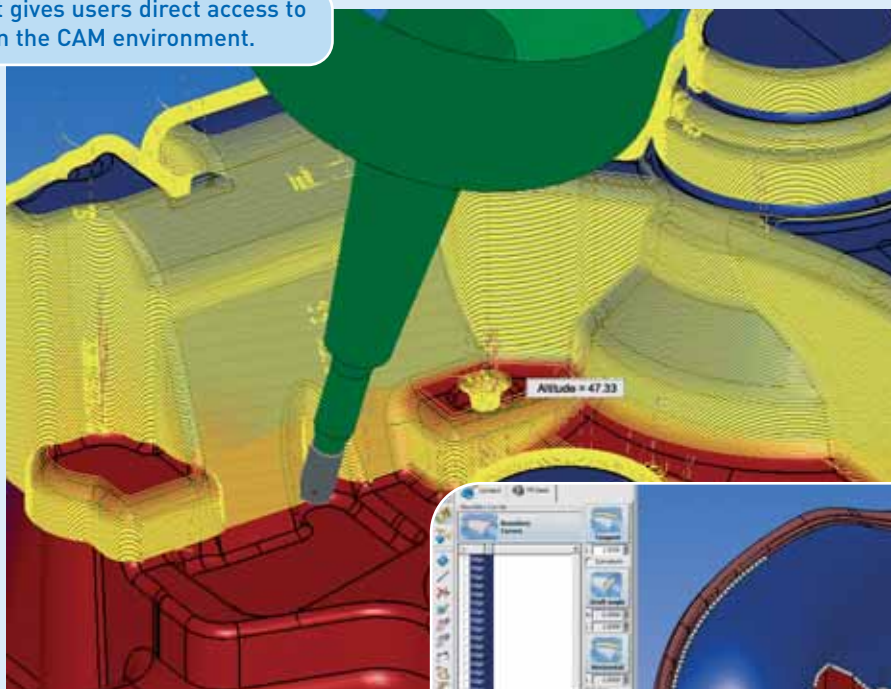
THE POWER OF A SINGLE CAD/CAM ENVIRONMENT

WorkNC G3's single CAD/CAM environment gives users direct access to CAD analysis and modeling functions within the CAM environment.

In WorkNC G3 the analysis functions are instantly applied to the part to be machined, with or without toolpath display, and give the user the information and dimensions (curvatures, drafts, altitudes, etc.) he needs to make the best decisions regarding machining strategy.

It is also possible to quickly plug holes, or to create additional geometries required for machining, directly on the CAM model. The main CAD functions are reached from simplified toolbars which can be customized with the user's most commonly used functions.

The secure WorkNC G3 environment enables full checks to be carried out before new geometries are added to the machining program. These new geometries are easy to identify in semi transparency on the CAM model and require formal validation from the user. This functionality guarantees the reliability which users naturally expect



from WorkNC, ensuring that the model to be machined does not pick up parasite geometries.

WORKNC G3.V19 NEW AND ENHANCED FUNCTIONS



WorkNC G3.V19 not only offers all the benefits of its new single interface but also brings with it numerous new and optimized toolpaths and associated applications, all of which have been extensively tested.

NEW AND ENHANCED 2, 3, AND 3+2 MACHINING STRATEGIES

Global roughing and re-roughing

WorkNC G3.V19 introduces a single, unique toolpath using the stock model for multi-purpose roughing or re-roughing. This roughing toolpath optimizes the features available in the V18 High Torque Roughing toolpath, building on the advantages and reliability of this powerful toolpath.

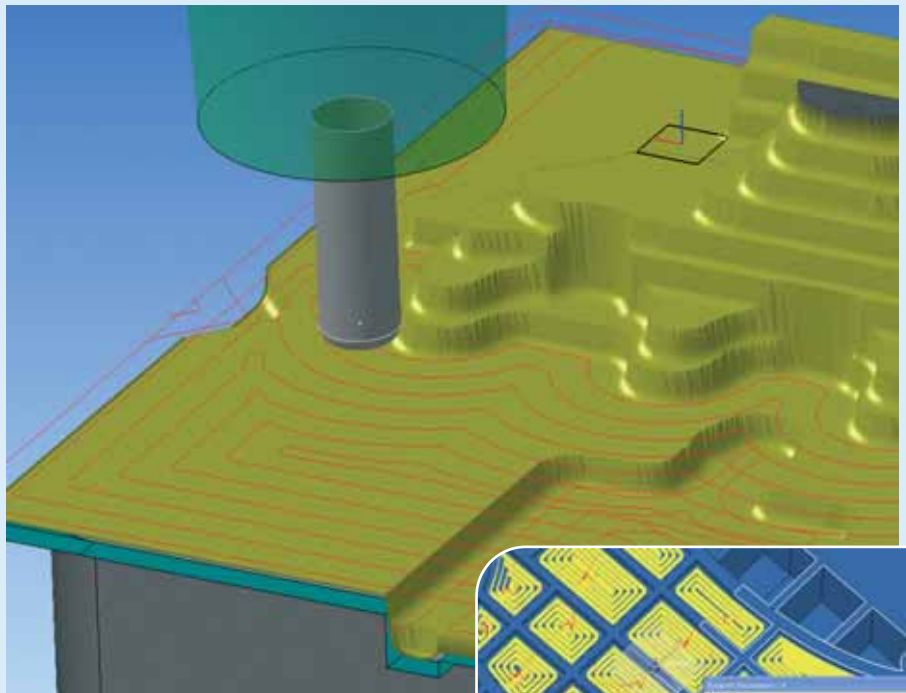
The new toolpath, favors climb machining and fluid progressive trajectories whenever possible applying corner smoothing with large radii. During machining tests, the reduced number of retracts and integration of flat surface machining resulted in significantly shorter machining times.

V19 finishing

NEW Z-LEVEL FINISHING :

WorkNC G3.V19 marks the introduction of a new Z-Level finishing toolpath with a strategy designed for HSM which favors increasingly smooth trajectories and radial stepovers to prevent cutter shock loading. New, automatic lead-in strategies adapted to the topology of the part, ensure that there is no marking of parts.

This toolpath also uses fewer retracts, thereby reducing unnecessary movements.



FINISHING TOOLPATH QUALITY :

Particular attention has been paid to improving the quality of WorkNC finishing toolpaths. These toolpaths are now based on a more precise, optimized points distribution method which improves machine dynamics and reduces vibrations to deliver improved

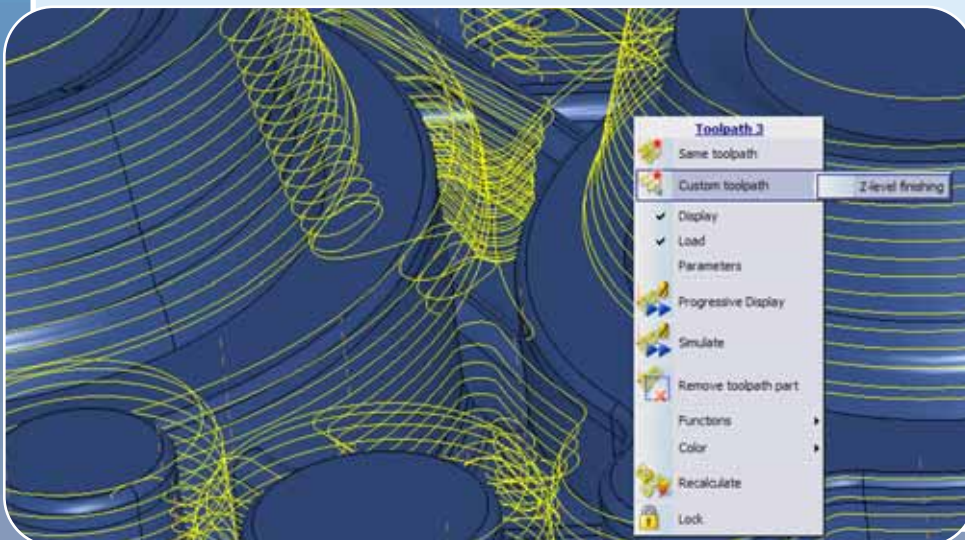


surface finish quality. Machining times have also been cut significantly thanks to new optimization parameters.

2 ½ axis toolpaths

Trochoidal movements are now available in 2 ½ axis toolpaths. These new options reduce machining times considerably and prolong tool service life when they are fully engaged.

New advanced Z movement management.



NEW AND IMPROVED 5-AXIS MACHINING STRATEGIES

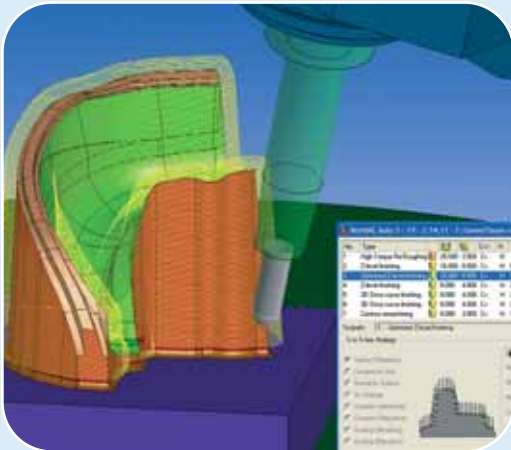
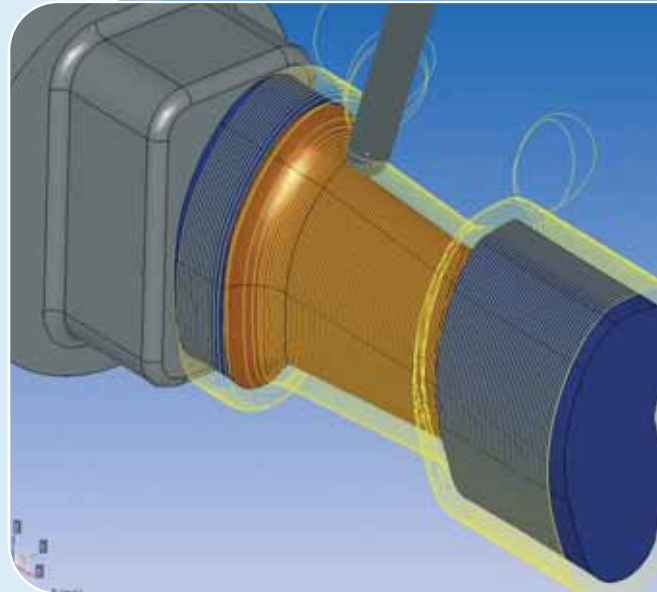
Within the 5-axis module, a large number of simultaneous 5-axis toolpaths featuring a simplified 'parametering menu' makes 5-axis programming look more familiar to 3-axis WorkNC users.

Auto 5 – Automatic 5-axis machining

- Pre-visualization of conversion parameters
- A new automatic toolpath conversion strategy for 4-axis machining.
- Ability to edit an Auto 5 (3 to 5-axis) toolpath

New simultaneous 5-axis application specific toolpath

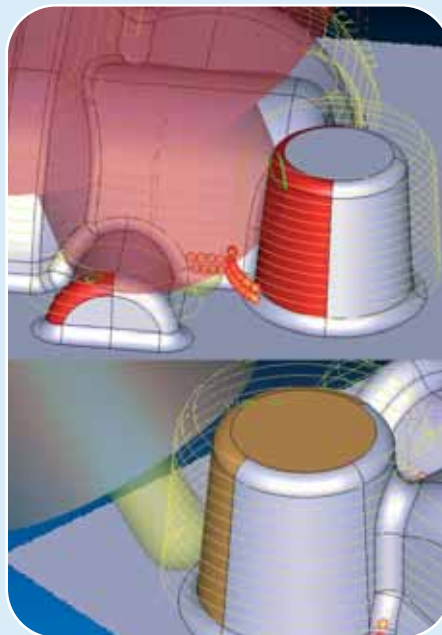
- 4-Axis Blade Toolpaths : WorkNC G3.V19 introduces a set of 3 new simultaneous 4-axis toolpaths for roughing, re-roughing and finishing blades. These highly dynamic spiral toolpaths are optimized for batch production requirements.
- 5-Axis Perpendicular to Surface Toolpath : This new 5-axis toolpath enables the machining of several surfaces between two guide curves and has been designed to machine steeply curved parts which need to be machined from one piece, such as bumpers...



IMPROVED COLLISION CHECKING

WorkNC G3.V19 uses a powerful new algorithm which boosts collision control processing capacity. This has resulted in calculation times which are up to 6 times faster without incremental IT equipment requirements.

Collision display is optimized with real time visualization of collisions and proximities. Proximity visualization is a new and extremely practical addition enabling users to fine tune verifications before machining the job.



The new version also includes

- Flat Surface Finishing in ZigZag, Spiral and One Way modes along with lead-in and lead-out optimization due to new rest material management.
- Tangency extension on Optimized Finishing toolpath
- Plunge Roughing following a guide curve
- Optimized Plunge Roughing to remove a maximum amount of stock material.
- Stock saved before each update
- Lead-ins / Lead-outs modifications without toolpath recalculation
- New stock dimensioning
- New parameters for machining.
- Enhancements in remachining accuracy
- 4-Axis Spiral Profile
- Auto 5 interface integration
- User defined start angle for '5 to machine'

WORKNC G3.V19 NEW & ENHANCED FUNCTIONS

NEW AND IMPROVED APPLICATION SPECIFIC CAD FUNCTIONS

3D comparison

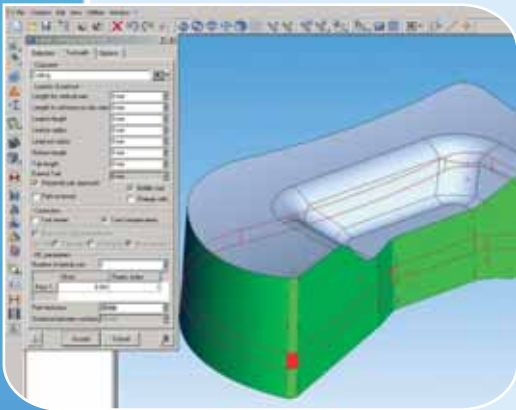
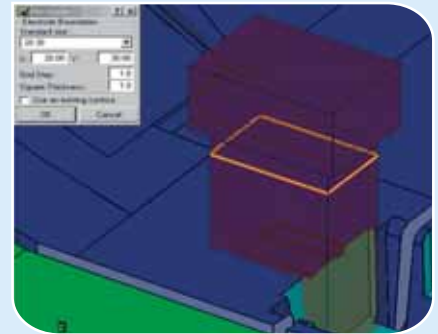
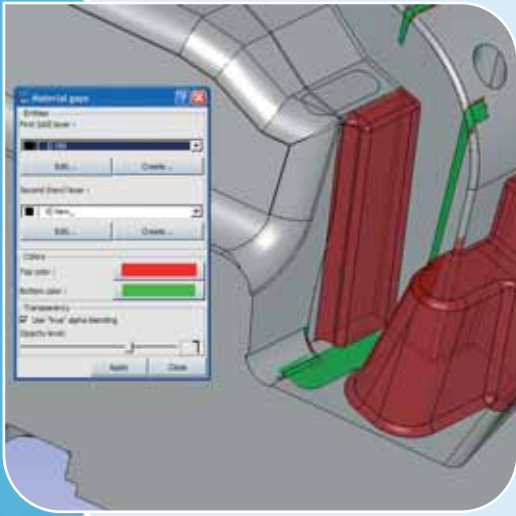
The risk of user error is virtually eliminated with WorkNC G3.V19's new 3D comparison function which enables the user to directly visualize the differences between two models in 3D. The differences are clearly highlighted by specific colors, enabling added sections to be easily distinguished from removed ones.

Electrodes

A new electrodes creation mode, using predefined and customizable parameters, brings with it significant reductions in preparation times whilst the previsualization functions enables the user to check the programming results.

Solid modeler

Improvements have been made to the solid modeling kernel which take into account complex calculations for the generation of 3D fillets, drafts, structural bodies or geometry offsets.



2/4 AXIS WIRE EDM

WorkNC G3.V19 includes new 4-axis wire erosion toolpaths based on the designation of 3D curves (direct surface edges picking) or by the direct selection of surfaces to be cut.

The new version also includes :

- The 'Pack & Go' workzone archiver tool
- Tool Holder library : visualization of new tool types (disk, lollipop, etc) and assembly management
- New customization functions for WorkNC's automatic workshop documentation
- New functions for surfaces simplification (Shrink)

