What’s New in GibbsCAM 14

Simplify Sophisticated Machine Programming

GibbsCAM® helps simplify complexity. Easily program, simulate, and control any CNC machine—from the simplest 3-axis machine to the most sophisticated multi-task machine. Its single, intuitive user interface (UI), unique UKM (universal kinematic machine) architecture, and proven track record support current and future challenges. GibbsCAM 14 includes new capabilities and enhancements to facilitate manufacturing process automation and support adoption of next-generation manufacturing technologies.

Probing

The new GibbsCAM Probing option helps streamline your manufacturing process and enhance automation. It includes definitions for probing tools (ball, disk, cylinder, 2D Form, and 3D Form), simulation support, a framework for probing operations, and built-in probing cycles for on-machine setup and in-process measurement.

Wire EDM

GibbsCAM 14 incorporates a new Wire EDM option, based on Camtek’s OPTICAM proven high-end solution. That includes comprehensive feature recognition and solids machining capabilities; toolpath rendering and simulation; a detailed technology database; and post processors for all major wire electrical discharge machines.

Future-Ready Kinematics

GibbsCAM 14 includes new kinematics support for U-axis turning and swappable heads.

- **U-axis**: In addition to interpolation turning, eccentric turning, and elliptical turning, GibbsCAM 14 includes new U-axis turning support. The U-axis is an alternate X-axis where a live milling tool spins the cutting edge of a turning-type insert as a kind of super-boring-bar. Use U-axis turning to machine very precise, variable-radius bores and faces on a bulky or heavy part that would be hard to machine on a lathe.

- **Swappable heads**: GibbsCAM 14 supports swappable heads. Detach and park entire heads and attach a different head. Common on very large machines like twin-column or gantry mills, some machine manufacturers call these automatic attachment changers or automatic head changers.
3D Material Only

GibbsCAM 14 automatically reduces the amount of air cutting, especially in complex part operations like 3+2 or 5-axis cutting, milling/turning, hybrid machining, and multi-spindle multi-task machining (MTM). Reduced air cutting saves time and money, which directly leads to reduced part costs.

Hybrid Manufacturing

GibbsCAM 14 supports multi-task machines as part of a process workflow that includes both additive and subtractive manufacturing. New additive processes calculate the number of cladding layers required using your machine's supported cladding heads. Processes present the specific technology data that are applicable to the selected head including laser and cladding parameters. A single post processor creates all your CNC code, which eliminates the need to copy and splice or use multiple part programs.

- **Hybrid machining** combines additive operations with subtractive operations (milling, turning, and broaching) in a single part for true hybrid machining. Automatically interweave additive and subtractive operations to maintain precise control over the size, shape, and surface condition of part features.
- **Deposition additive multi-axis surfacing** supports true constant offset deposition on 3D surfaces using 5-axis machines. It includes the same tilting, clearance, and collision avoidance technology used in 5-axis milling.

Usability and Workflow Enhancements

GibbsCAM 14 includes comprehensive UI and workflow enhancements for efficient programming and a better programming experience.

- **Programming automation:** Program parts in fewer steps by using Process Comments and Combinatorial Coolants.
- **User experience:** Easily modify 2D parts with enhanced dimensioning and sketching features.
- **Tooling support:** Quickly and easily create and use tool block libraries with the enhanced Intermediate Tooling feature. Save time and effort during tool setup with parametric turning tool holders and new automatic options for ANSI letter-gauge drills.

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