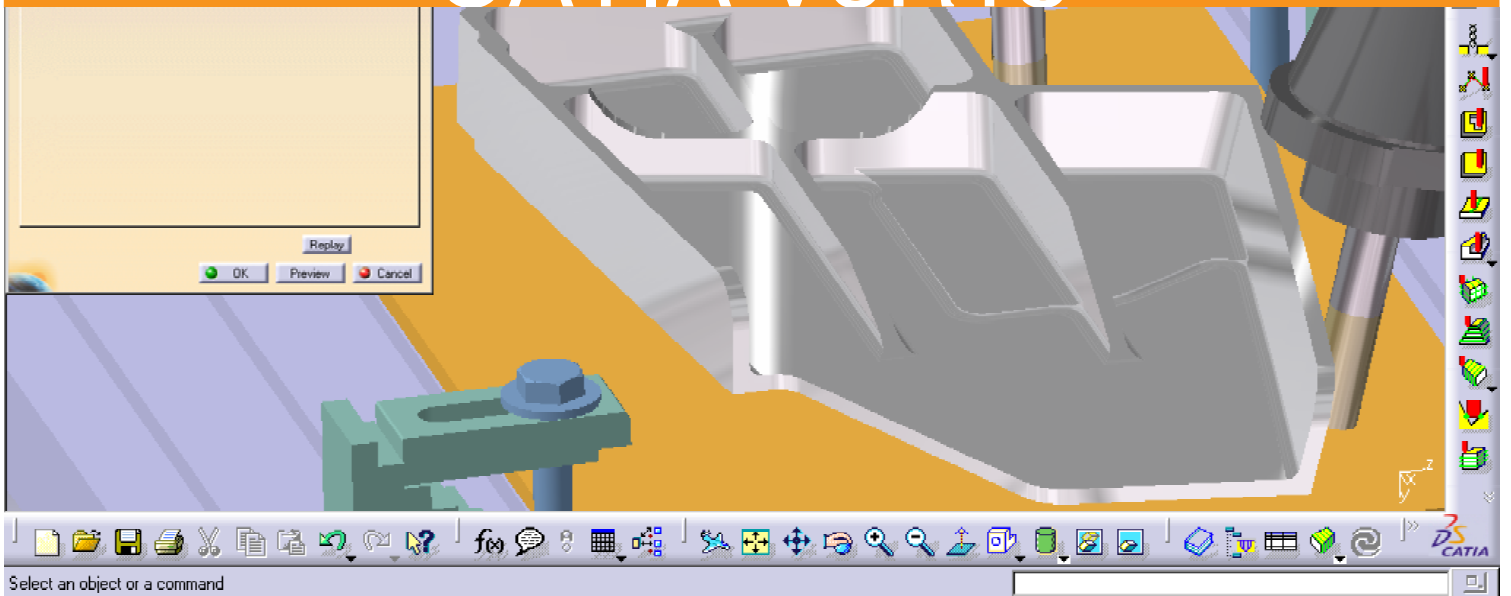


Machining

CATIA - Advanced Machining 2 (AMG)

CATIA V5R18





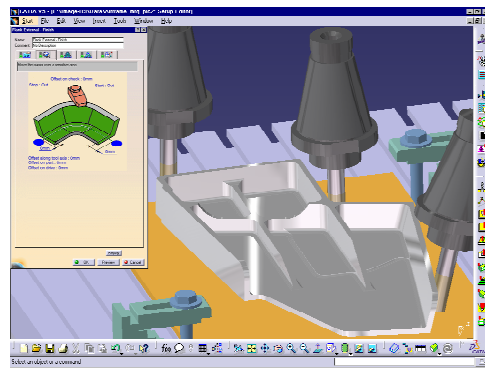
Machining

CATIA - Advanced Machining

Easily define NC programs dedicated to machining complex 3D parts within a single workbench including nearly all 2.5-axis to 5-axis machining technologies

Product overview

CATIA - Advanced Machining 2 (AMG) easily defines NC programs to machine complex 3D parts (i.e. for aerospace, hydraulics, and turbo machinery) within a single workbench. The product offers machining operations covering milling from 2.5-axis mode up to 5-axis mode as well as axial machining. In addition to the complete set of machining operations offered by other V5 Machining products like CATIA - Prismatic Machining 2 (PMG), CATIA - 3-Axis Surface Machining 2 (SMG) and CATIA - Multi-Axis Machining 2 (MMG) ; CATIA - Advanced Part Machining 2 introduces multi-axis flank contouring, 5-Axis Helix Machining for Turbo-machinery parts, and advanced multi-axis processes like the unmatched Multi-pocket strategies dedicated to Structural Part Machining.



Product Key Customers Benefits

Accurate tool path definition through a full set of 2.5 to 5 axis milling and drilling machining capabilities...

CATIA - Advanced Machining 2 (AMG) offers a full set of operations for the machining of complex 3D parts:

Product Highlights

- ❑ Accurate tool path definition through a full set of milling operations from 2.5-axis up to 5-axis and axial machining operations
- ❑ Flexible management of tools stored in file-based tool catalogs or in external tool databases
- ❑ High level of automation and standardization by capture and reuse of proven manufacturing know-how
- ❑ Tool path verification by material removal simulation and analysis of the in-process part
- ❑ Associativity with CATIA design parts for efficient change management
- ❑ Axial machining operations: 17 operations for hole-making, from standard drilling to complex boring and chamfering.
- ❑ 2.5-axis machining operations: multi-level pocketing, facing and contouring; point-to-point machining
- ❑ 3-axis surface machining operations: sweep roughing, roughing, sweeping, milling, spiral and pencil milling, and between-contours machining
- ❑ Multi-axis surface machining operations: sweeping, face-isoparam, machining and contouring
- ❑ Multi-axis flank contouring
- ❑ 5-Axis Helix Machining for

Turbo-machinery Parts

- ▣ Cavities Roughing dedicated to aerospace
- ▣ Structural part roughing

Quick tool path definition thanks to an intuitive user interface...

The user defines machining operations quickly using intuitive graphic dialog boxes. "Traffic lights" indicate if there are still parameters to be defined in order to complete the operation. Help icons assist the user for each parameter of the operation: when clicking on these help icons, an image describing the parameter pops up in the panel. Moreover, the user takes advantage of copy/paste facilities for organizing program using specification tree. Finally, tool changes and machine rotations are automatically generated and can be visualized in the machining operation definition panel.

Flexible management of tools and tool catalogs...

Tools can be stored into file-based tool catalogs and retrieved using simple or complex queries. Tool assemblies (tools and tool holders) are supported so that the user can define the characteristics of the tool visualization. Tools can also be retrieved from external tool databases (like CATIA Version 4 TDB or WALTER TDM databases).

Machining areas definition...

The final part can be split in several machining areas. Different offsets can be applied to each machining area, thus allowing the user to machine a final part with different local offsets.

Automated reworking...

Unmachined areas in roughing and finishing are detected automatically and can be reworked with different milling strategies.

Fast tool path update after modification...

The Instant Cycle Update? Technology allows a partial recomputation of the tool path. After parameter modification, recomputation is done only on the impacted part of the tool path. This avoids a full computation, thus saving substantial time.

Tool holder collision checking...

While detecting a possible collision between the part and the tool holder, the system creates a warning and a proposal for a proof tool path.

Automation and standardization...

The user can define and store machining processes for 2.5 axis milling or axial machining operations in CATIA catalogs, and apply them to part geometry or to design features. By this, the company know-how can be capitalized and reused for efficient programming. NC objects and attributes can be handled as knowledgeware objects in order to increase the level of automation and standardization.

Quick verification of tool path...

Tool path replay allows generation and verification of individual operations or the complete programs. Alternative machining strategies can be tested and collision-free trajectories can be obtained.

In-process part visualization and material removal simulation...

The user can visualize the in-process part and analyze remaining material, tool collision, etc. Furthermore, he can run a material removal simulation interactively or in batch-mode.

Seamless NC data generation...

CATIA NC process is extended from tool trajectory (APT source) to NC Data generation (ISO format) thanks to an integrated postprocessor execution engine and a library of standard Post Processor (PP) samples. Moreover, the system allows the execution of Post Processors built with CATIA Version 4 Post Processor Builder product.

Efficient change management...

Integrated in the PPR data model CATIA NC offers a high level of associativity product engineering, manufacturing processes and resources. Thus, CATIA allows an high efficiency in concurrent engineering and best support of design changes or design variants and a rapid creation of programs for families of parts.

ABOUT CATIA V5R18

CATIA is Dassault Systemes' PLM solution for digital product definition and simulation.

plm.3ds.com/CATIA

