

Jan 9, 2024

To The Press

C&G SYSTEMS INC.

Search for Similar Models Using Historical Data ~ AI Supports Designers' Thought Process~

In February, our company (President: Seiichi Shiota) will release "Ver9.1" the newest version of EXCESS-HYBRID II, the 2D/3D hybrid type CAD/CAM system for molds & dies.

With this version, we will equip the "Search Similar Body" function to search for product models with similar shapes from data stored in devices like personal computers. The function utilizes deep learning techniques to train AI (artificial intelligence) with data, enabling it to extract similar product data from specified product models or search criteria. The extracted product data is displayed in order of high similarity, allowing users to quickly identify products with similar shapes and high reusability. This significantly supports designers' thought processes such as estimating expected man-hours and planning work processes.

Furthermore, users can easily obtain information from the database, such as order details and performance data for similar-shaped components manufactured in the past, by utilizing the function in conjunction with the process management system "AIQ (/aik/)". This enables them to grasp real-time monitoring of machine operational status and process progress, thus systematizing production management and enhancing the overall efficiency of the entire manufacturing process.

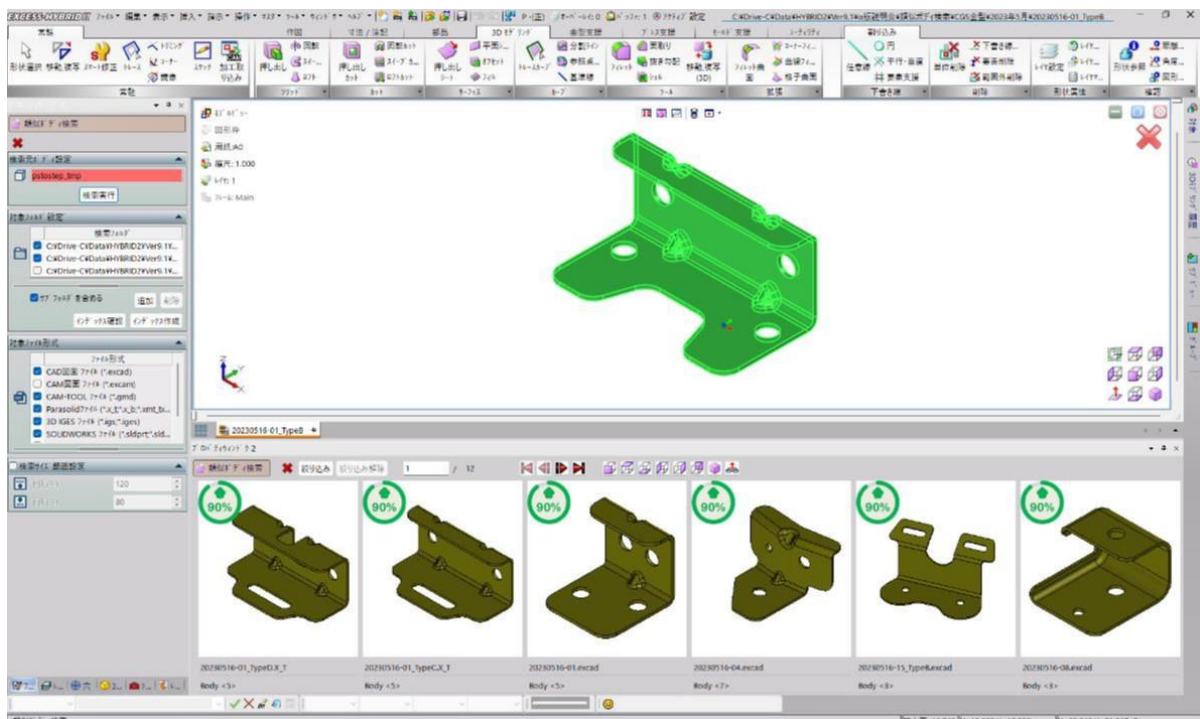


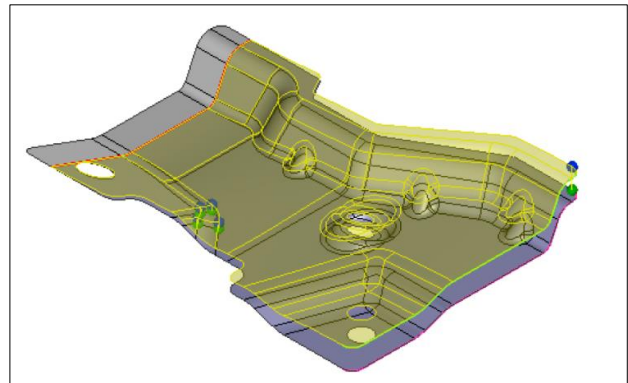
Image of Search Results by Search Similar Body

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■Free-Form Deformation Function

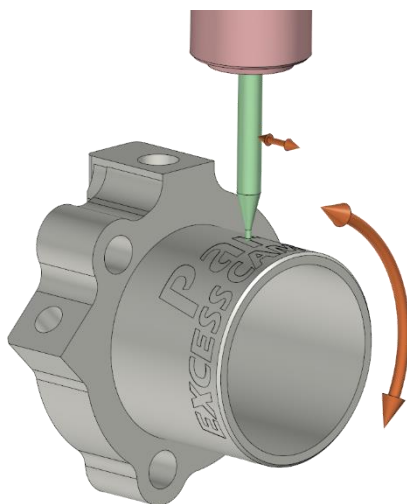
We will incorporate into this version the Free-Form Deformation Function (FFD) that utilizes the FFD method which smoothly deforms the shape by transforming a spline space lattice that covers the object. Compared to conventional methods, this method will reduce surface strain even with more extensive deformations.

On the design area, surface deformation can be easily performed in response to requests such as changing the distance from the inspection criteria surface by a few millimeters or when the product contour does not match the inspection jig. Complex punch, die, cavity, and core models can be modified in a short time, enabling a further improvement in design speed.

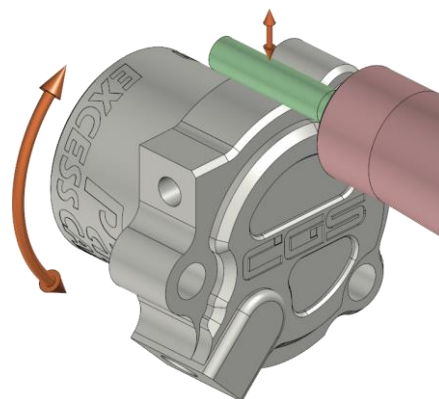


■NC Generation with Cylindrical Interpolation and Polar Coordinate Interpolation

We have incorporated functions for cylindrical interpolation and polar coordinate interpolation utilizing the turning axis of the machining tool. Cylindrical interpolation allows the creation of a path by wrapping a path created on a plane around the cylinder centered on the turning axis. Meanwhile polar coordinate interpolation enables the generation of NC data for hole drilling or milling, with one axis of movement (X, Y, Z) synchronized with the turning axis. This supports character engraving on cylindrical surfaces and pocket machining, as well as cutting processing on lathes with restricted Y-axis strokes.



Cylindrical Interpolation



Polar Coordinate Interpolation

Equipped with 31 New Functions

This version has been additionally equipped with 31 new overall functions within modules such as molding options, surface-modeling, and CAM.

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[Product Prices] (All prices below are in Japanese Yen)
¥600,000 - Minimum Module Configuration

*Taxes and the maintenance fees are not included.

*Prices depend on the module configuration.

[Company Information]

- Foundation : July 2, 2007 (*1)
- Capital : ¥500,000,000-
- Description of Business: Development/Sales/Support of CAD/CAM System for Mold & Die, and Production Management Systems

(*1) Our company is a CAD/CAM solution developer founded in 2010 as the result of a business integration and merger with Computer Engineering (founded in 1978) and Graphic Products (founded in 1981).

Note: All company and product names in this release are trademarks or registered trademarks of their respective companies.

Questions and Inquiries

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