FeatureRECOGNITION

Delcam FEATURE CAM

Import Solid Model run Automatic Feature Recognition to generate Toolpaths - *JOB DONE*

Importing
With FeatureRECOGNITION, you can directly import 3D surface files (IGES, DXF), 3D solid files (ACIS SAT, Parasolid XMT), native SolidWorks (SLDPRT) files, SolidWorks Assemblies (with copy of SolidWorks), native Autodesk Inventor (IPT) files and Native SolidEdge (PAR) files. With the Direct CAD Model Transfer add-in, you can transfer SolidWorks and Autodesk Inventor models directly into FeatureCAM with a single click.

Recognising Features
All FeatureCAM products are designed to accelerate part programming, and give you the power to increase your productivity. FeatureRECOGNITION automates this further by providing an efficient solution for converting imported 3D CAD models to CNC parts.
When 3D models are imported into traditional CAM systems, tedious edge extraction tools must be used to remodel the part in order to generate toolpaths. With FeatureRECOGNITION, features are created directly from solid or surface files. This includes features from milled, turned, 4-axis indexing, and turn/mill parts.
ImportedsolidmodelFeaturesautomaticallyrecognizedToolpath sgeneratedFeatureRECOGNITION is included with FeatureMILL3D and is an optional module for FeatureMILL2.5D FeatureTURN, and FeatureTURN/MILL.

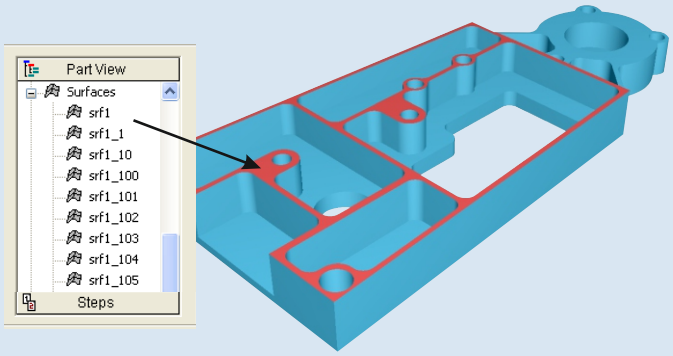
Automatic Feature Recognition (AFR)
Once a 3D solid model is imported, Automatic Feature Recognition allows you to program entire 2D parts with a single click. It even recognizes holes around indexed or turn/mill parts and holes that are partially cut away by another feature. It automatically recognizes turned features, bores and grooves from imported turned solids. It recognizes sides, bosses, and pockets from the New Feature Wizard. AFR's associativity compares the initial imported model to revised model imports and identifies any changes. In addition, imported solid files are monitored for changes. When you open the corresponding FeatureCAM (FM) file, you are alerted if there have been any changes made to the original CAD file. FeatureRECOGNITION also includes automatic hole recognition and suppression directly from SolidWorks and Autodesk Inventor files.

Interactive Feature Recognition
For more precise control, you can use Interactive Feature Recognition. It recognizes drafted features and extracts complex milling features directly from surface or solid models. You create features quickly and interactively without typing.

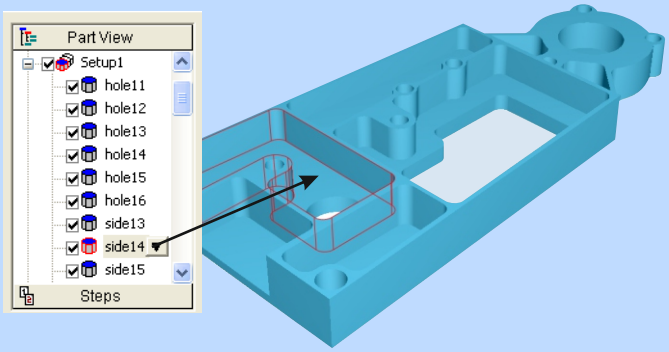
Customization
After FeatureRECOGNITION creates the features, you can modify it by adjusting its location and adding draft angles, edge breaks or bottom radii.

Efficient NC Code
Small linear segments represent the edges of many surface models, even if the original surfaces of the model were created from a combination of lines and arcs. Since FeatureRECOGNITION works with the surfaces, not the edges, the resulting milling features will contain the arcs with efficient G2 and G3 moves.

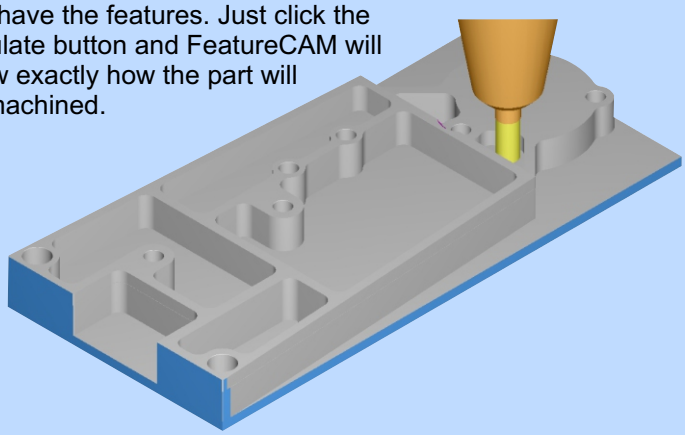
Step 1 - Import the model
When you import a 3D surface or solid model, you have nothing but 3D surfaces. By looking at the Part View list, you can see that there are no features or operations listed for the setup, but there are many surfaces. These surfaces have no manufacturing information. For parts created in most CAD systems the part will be made up of many small surfaces like the one highlighted below.



Step 2 - Identify the Features
FeatureRECOGNITION provides a step-by-step graphical interface for identifying features directly from the imported surfaces. This step is also called *feature recognition*. FeatureRECOGNITION helps you recognize holes (straight, counter-bored, counter-sink, counter-drill), slots, pockets, bosses, sides and patterns quickly and easily.



Step 3- Simulate Toolpaths
Since FeatureCAM is a feature-based system, generating toolpaths is easy once you have the features. Just click the simulate button and FeatureCAM will show exactly how the part will be machined.



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