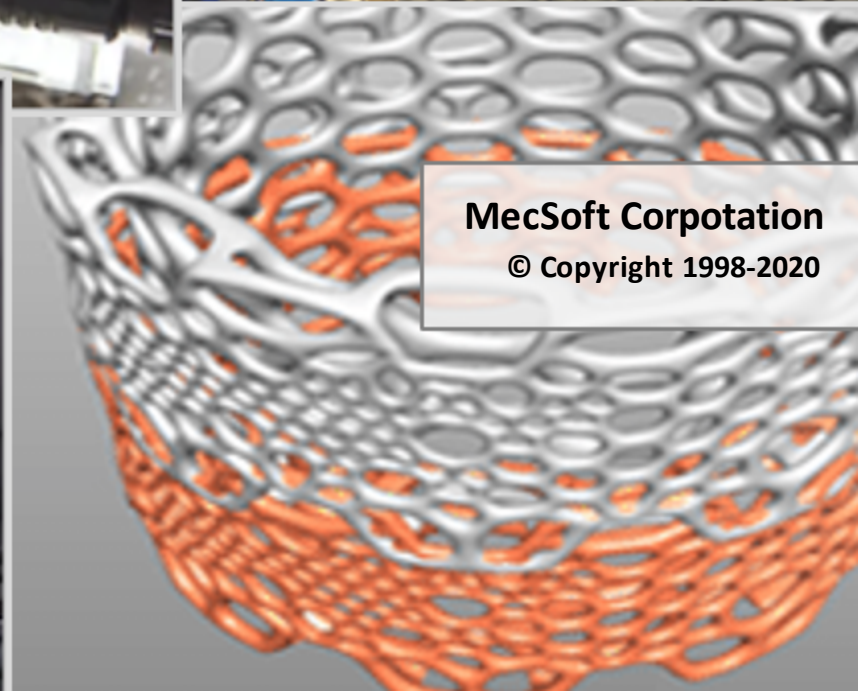


MecSoft

# CAMJam Training with MecSoft CAM

March 2021



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## READ THIS FIRST!

[CAMJam](#) is your access to all of the training videos and print media guides produced by the MecSoft technical support staff. You will find videos of both current and previous product versions of MecSoft's CAM plug-ins, links to MecSoft Print Media archive as well as bonus guides and tutorials only available to you as an AMS subscriber! The following topics explain what is included in this CAMJam release.



### Use the Index!

Use the [Index](#) at the end of this [CAMJam PDF](#) guide! It is over 10 pages long and will help you find the exact location in videos to watch to get your questions answered.



### CAMJam PDF Document Version Number

The [CAMJam PDF](#) file publication [Date](#), [Time](#) and [Title](#) will serve as the unique [Version Number](#) of this document. Updates to this document occur on a regular basis.

[Document Version Number:](#)

**3/24/2021.9:25 AM.CAMJam with MecSoft CAM**



### IMPORTANT NOTE!



It is important to understand as you browse and watch these training videos and guides that MecSoft's CAM plug-ins operate near identically across each PC CAD platform we support!

For example, watching a tutorial of how to program toolpaths in [RhinoCAM](#) can be applied directly to performing the same toolpaths in [VisualCAD/CAM](#), [VisualCAM for SolidWorks](#) or [AlibreCAM](#)!



### Video Information

Each video has its own topic in this document. Listed under the video topic you will find the following information:

1. **Video Title, CAMJam # & Description**
2. **Link to the full video**
3. **Plug-in Platform** - [VisualCAD/CAM](#), [RhinoCAM](#), [VisualCAM for SolidWorks](#) and [AlibreCAM](#). This icon  indicates which platform is shown in the video. This icon  indicates which platforms the video can also be applied to.
4. **Parts Illustrated** - The 2D or 3D part used in the video is shown here. Many of the source part files are available and included in the /File Archive folder of the download archive. [Over 150 individual parts are included](#)<sup>123</sup>. Note that some parts may not be available.

5. **In-Video Topic Links** - These links go directly to the location in the video where the topic is discussed.



### More Learning Options

In the [More Learning Options](#) section you will find even more ways to learn about MecSoft CAM. Make sure to visit the following sections:

- [User Spotlights](#)<sup>113</sup>
- [Case Study Learning](#)<sup>113</sup>



### Part File Archive

In the [Part File Archive](#)<sup>123</sup> section you will find images of each part file included in CAMJam. These are the 2D and 3D part files in neutral file formats that you can open in any CAD system.

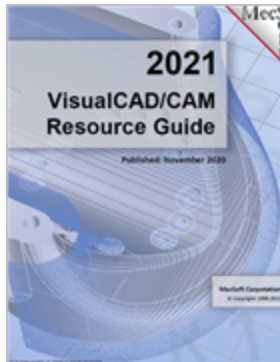
## New 2021 Resource Guides!

Download these PDF Guides for a list of the available 2020 resources.

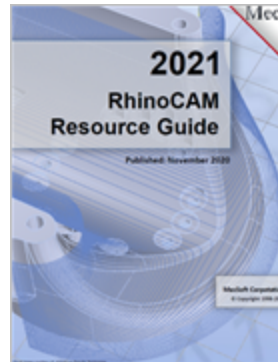
### The 2021 Resource Guide!

*18 Pages*

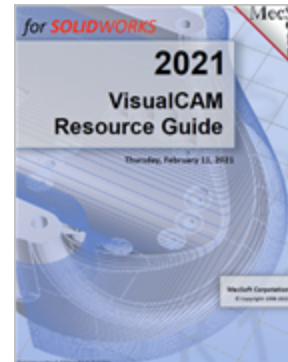
Lists PDF downloads and Online resources including [Quick Start Guides](#), [Reference Guides](#), [Exercise Guides](#), [Tutorials](#) and More.



[VisualCAD/CAM 2021](#)



[RhinoCAM 2021](#)



[VisualCAM 2021  
for SOLIDWORKS](#)



## MecSoft Tech Blog

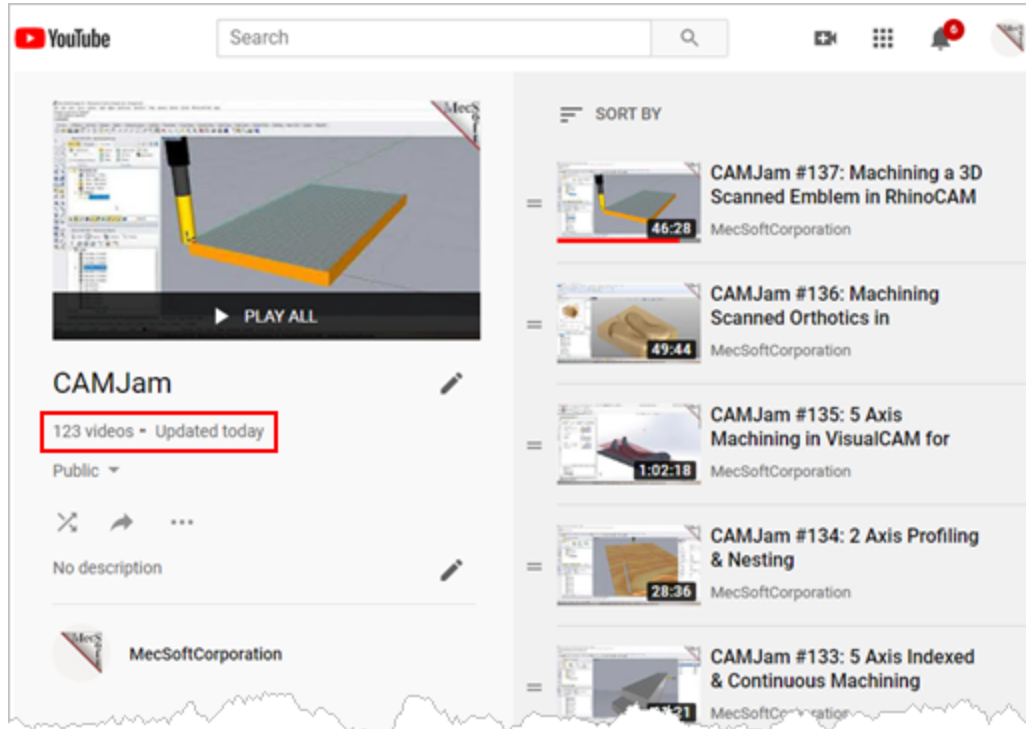
Here is a list of tutorial blog posts from the MecSoft Tech Blog:

- [Machining Mother-of-Pearl Inlays](#)
- [Tutorial: Using MecSoft's G-Code Editor \(Part 2\)](#)
- [Tutorial: Using MecSoft's Profile-NEST](#)
- [Tutorial: Using MecSoft's G-Code Editor \(Part 1\)](#)
- [Tutorial: How to Automate Onshape Configurations using VisualCAMc](#)
- [Machining the 6-Sided Elevator Bearing Block](#)
- [Knowledge Base Automation in VisualCAMc for Onshape](#)
- [Cutting Thermoform Molds with RhinoCAM](#)
- [Hole Machining in 2 & 3 Axis CAM Part 4: Output Control](#)
- [Hole Machining in 2 & 3 Axis CAM Part 3: Automation](#)
- [Hole Machining in 2 & 3 Axis CAM Part 2: Cutting Parameters](#)
- [Hole Machining in 2 & 3 Axis CAM Part 1: Geometry Selections](#)
- [How to Control the Cut Side and Start Point?](#)
- [Machine a Multi-Sided Part in VisualCAMc for Onshape \(Part 2\)](#)
- [Machine a Multi-Sided Part in VisualCAMc for Onshape \(Part 1\)](#)
- [Machining a Thermoplastic Heater Block in 2½ Axis using VisualMILL](#)
- [Machining a Mold's Parting Lines](#)
- [XY Instancing of Toolpaths in AlibreCAM](#)
- [Machining Accuracy with AlibreCAM at Granberg International](#)
- [Thermoformed Packaging Molds at The Warren Group](#)
- [Automatic Feature-Machining \(AFM\) Walk Through](#)
- [Automatic Feature Detection \(AFD\) Walk-Through](#)
- [Best Practices in 2½ Axis Machining](#)
- [Part Region Heights in 2-1/2 Axis Machining](#)
- [Best Practices in 3 Axis Machining](#)
- [Understanding Climb vs. Conventional Milling](#)
- [Understanding Cut Levels in 2½ Axis Machining](#)
- [How to Customize Materials Data for Feeds & Speeds Computation](#)
- [The Milling Feeds & Speeds Calculator](#)
- [2-Sided \(Flip\) Machining Explored](#)
- [Bridges & Tabs Explored](#)
- [Techniques for Machining Ring Jewelry](#)
- [Techniques for Machining Simple Pendant Jewelry](#)
- [CAM Coordinate Systems Explored](#)
- [Optimize Machining Time Estimates!](#)
- [How to Increase Tool Path Accuracy](#)
- [Using RhinoCAM's Explode Cabinet Utility at Insight Exhibits, LLC](#)
- [What is Surface Feature Machining?](#)
- [The Trinket Box by Bernie Solo. Base – Part 2 of 2](#)
- [What is Feature Detection Machining](#)
- [The Trinket Box by Bernie Solo. Lid – Part 1 of 2](#)

- [How to Detect & Correct Tool Holder Collisions in MecSoft CAM!](#)
- [Feed Rates Explained – Extend the Life of Your CNC Tools and Machines](#)
- [How to Edit Your Onshape Parts Associatively With VisualCAMc](#)
- [The Anatomy of a RhinoCAM Part](#)

## FULL CAMJam Playlist (120+ Videos)

Choose from the completed [CAMJam Playlist](#) that includes all videos from previous CAMJam versions:



CAMJam Playlist (120+ Videos)

## What's New in 2021

### 5.1 CAMJam 171: VisualCAD/CAM 2021

#### Video Description

In this video learn about all of the new features in VisualCAD/CAM 2021 and RhinoCAM 2021. Refer to the topic video links listed below.

[Click here to watch the full video.](#)

[Read the VisualCAD/CAM What's New Document Here!](#)

[Read the RhinoCAM What's New Document Here!](#)

VisualCAD/CAM



RhinoCAM



VC/SolidWorks

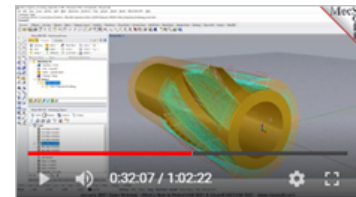
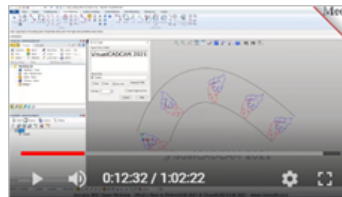
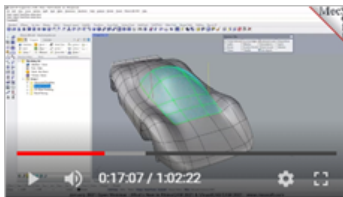


AlibreCAM



#### Parts Illustrated

The source files shown in this video [can be downloaded here.](#)



#### In-Video Topic Links

[VisualCAD 2021](#)

[Curve Boolean](#)

[Transform Array Along Path](#)

[Text Command](#)

[RhinoCAM 2021](#)

[RhinoCAM 7 Sub-D Models](#)

[Mill Module](#)

[2 Axis Milling](#)

[2 Axis Face Top](#)

[Engraving Bridges & Tabs](#)

[3 Axis Milling](#)

[Adaptive Roughing](#)

[Cut Transfer in HS Machining](#)

[HFinish Start Points](#)

[Multi-Axis](#)

[4 Axis Proj Pocketing Cut Levels](#)

[4 Axis Rotary Instancing](#)

[4 Axis Drive Surface Machining](#)

[Usability Enhancements](#)

[MOp Information](#)

[Hole Selection](#)

[Fixtures](#)

[Post Processor](#)

[Simulation](#)

[Backplot](#)

[Diagnostics Tab](#)

[TURN](#)

[G-CODE Editor](#)

[Profile-NEST](#)

## What's New in 2020

### 6.1 VisualCAD/CAM 2020

#### Video Description

In this video learn about all of the new features in VisualCAD/CAM 2020 and RhinoCAM 2020. Refer to the topic video links listed below.

[Click here to watch the full video.](#)

[Read the VisualCAD/CAM What's New Document Here!](#)

[Read the RhinoCAM What's New Document Here!](#)

VisualCAD/CAM



RhinoCAM



VC/SolidWorks

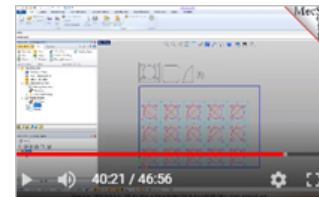
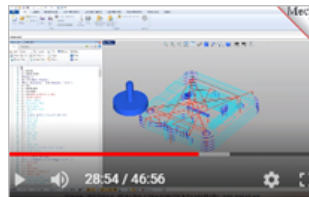
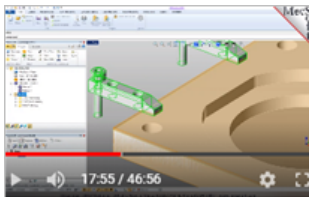


AlibreCAM



#### Parts Illustrated

The source files shown in this video [can be downloaded here.](#)



#### In-Video Topic Links

[VisualCAD 2020](#)

[Analyze Solid Geometry](#)

[G-Code Editor](#)

[Background Images](#)

[CAM 2020](#)

[Profile-NEST](#)

[Curve Offset Corner Options](#)

[2 Axis Enhancements](#)

[MILL-TURN](#)

[Fillet with 0 radius](#)

[3 Axis Enhancements](#)

[Dynamic Dimensioning in Analysis](#)

[Machining Fixtures](#)

## Must Watch Bonus Videos

### 7.1 Using Selections in Machining (#101)

#### Video Description

In this video we discuss all of the selection techniques for defining Control Geometry in 2 and 3 axis machining. Refer to the topic links listed below.

[Click here to watch the full video.](#)

Industry: Various

VisualCAD/CAM



RhinoCAM



VC/SolidWorks

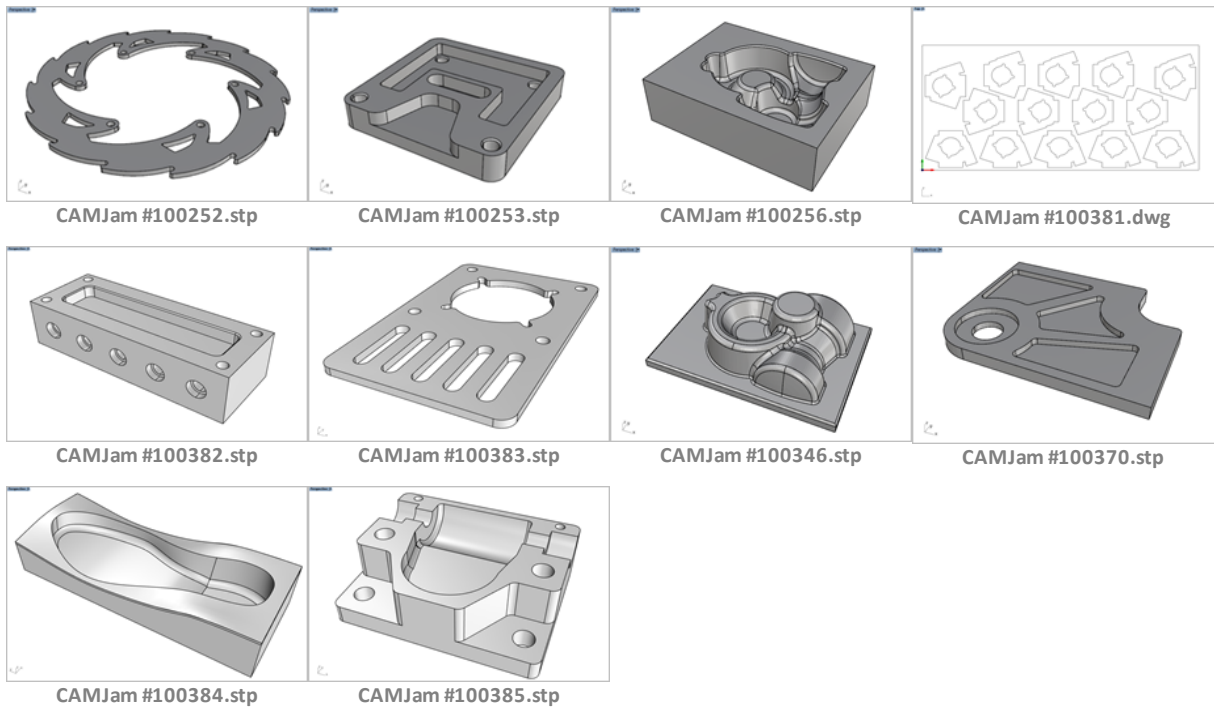


AlibreCAM



#### Parts Illustrated

The following archive files are illustrated in this video. [See files archive](#)<sup>D123</sup>.



#### In-Video Topic Links

[Selecting Regions for Machining](#) [How to Deselect](#)

[Definition of regions](#)

[Curve Extraction Tools in VisualCAM](#)

[Selecting Start Points](#)

[Deselect a chain element](#)

[Selecting Avoid Regions](#)

[Silhouette Curve Selection in SOLIDWORKS](#)

[Tips for using Predefined Regions](#)

[Extracting Flat Area Regions](#)

[Selecting Control Geometry](#)

[Extracting Curves from a Model in Rhino](#)

[Extracting Curves in SOLIDWORKS](#)

[Extracting Face Edges in VisualCAM](#)

[Selecting a Chain of Edges in VisualCAM](#)

[Chain select edges in Rhino](#)

[Controlling cut start points in profiling](#)

[Changing the Start Point in Rhino](#)

[Changing the start point in VisualCAM](#)

[Select Surface Boundaries in VisualCAM](#)

[Selecting Surface Edge Regions in RhinoCAM](#)

[Flat Area Regions](#)

[Using Bridges & Tabs](#)

[Cloning Predefined Regions](#)

[Regions from Feature Detection](#)

[Surface Regions in 3 Axis Machining](#)

[Surface Boundaries in 3 Axis](#)

[Curve Regions in 3 Axis](#)

## 7.2 Best Practices in 2½ Axis (#035)

### Video Description

In this video we discuss the Best Practices to use in 3 Axis machining. CAD geometry and file types are explored as well as other machining practices. Refer to the topic links listed below.

[Click here to watch the full video.](#)

Industry: Various

VisualCAD/CAM



VC/SolidWorks



RhinoCAM

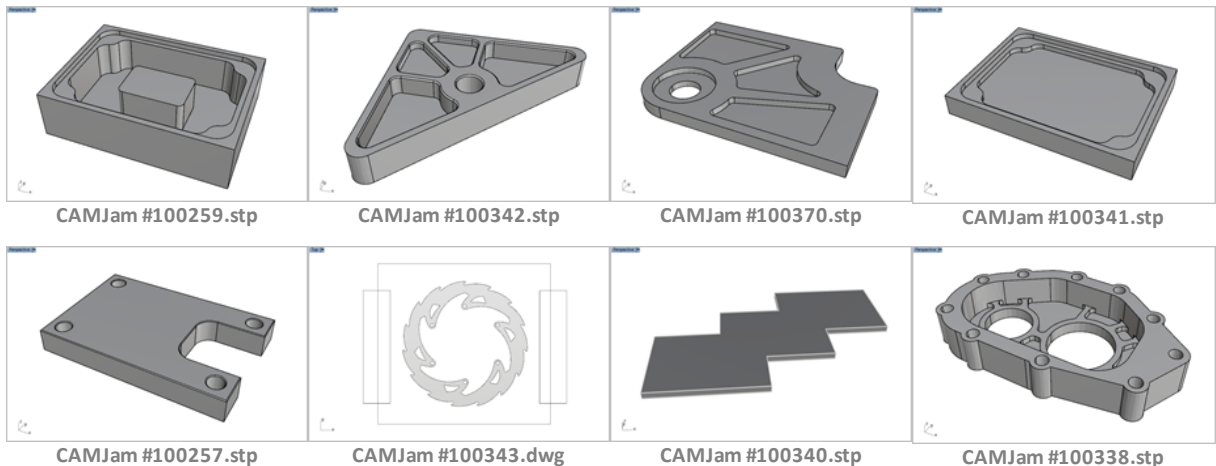


AlibreCAM



### Parts Illustrated

The following archive files are illustrated in this video. [See files archive](#)<sup>123</sup>.



### In-Video Topic Links



- |   |   |  |
|---|---|--|
| <a href="#">CAD Geometry Types</a>                          | <a href="#">Location of Cut Geometry, 3D, Using Pick Top</a>            | <a href="#">Using Feedrate Optimization To Avoid Plunging between Cut Levels</a> |
| <a href="#">CAD File Formats</a>                            | <a href="#">Location of Cut Geometry, in 2D</a>                         |  |
| <a href="#">Machining Tolerances</a>                        | <a href="#">Tool Geometry Compensation</a>                              | <a href="#">Reduce Feedrate at Sharp Corners</a>                                 |
| <a href="#">Stock to Leave</a>                              | <a href="#">Pocketing with Tapered Tools</a>                            | <a href="#">Using 2x Facing</a>  |
| <a href="#">Cut Levels &amp; Machining Regions</a>          | <a href="#">Machining Regions</a>                                       | <a href="#">Using 2x Pocketing</a>   |
| <a href="#">Machining Islands</a>                           | <a href="#">Avoid Regions</a>   | <a href="#">Using 2x Profiling</a>   |
| <a href="#">Use 3D Model to Detect Depth</a>                | <a href="#">Displaying the Toolpath Editor &amp; Toolpath in Levels</a> | <a href="#">Using Bridges &amp; Tabs</a>   |
| <a href="#">Location of Cut Geometry, 3D, At Top/Bottom</a> |   |  |

### 7.3 Best Practices in 3 Axis (#036)

#### Video Description

In this video we discuss the Best Practices to use in 3 Axis machining. CAD geometry and file types are explored as well as other machining practices. Refer to the topic links listed below.

[Click here to watch the full video.](#)

Industry: Various

VisualCAD/CAM



RhinoCAM



VC/SolidWorks

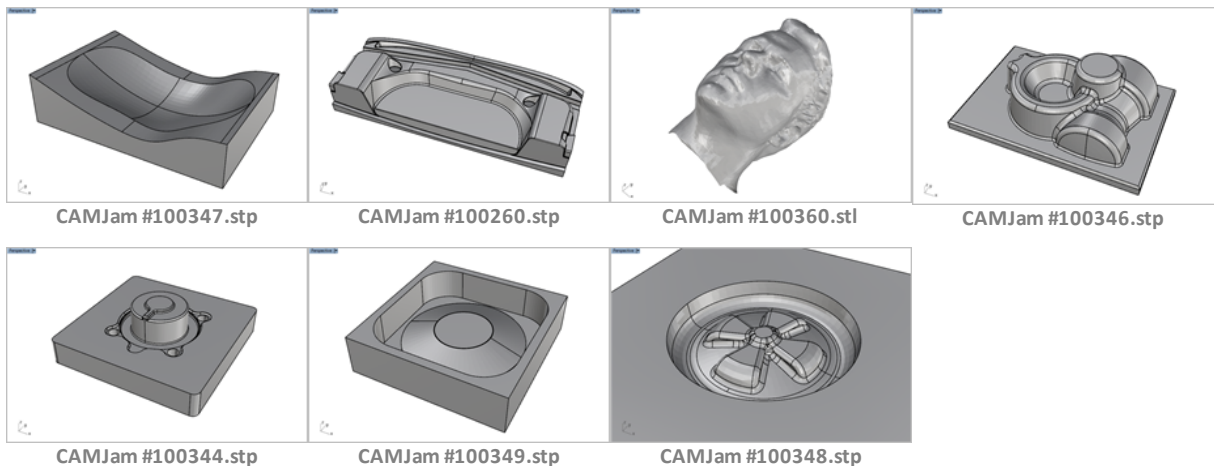


AlibreCAM



#### Parts Illustrated

The following archive files are illustrated in this video. [See files archive](#)<sup>D123</sup>.



#### In-Video Topic Links

[CAD Geometry Types](#)

[General Machining Strategies](#)

[CAD File Formats](#)

[Using Roughing Operations](#)

[Geometry Types & CAD Formats Demonstrated](#)

[Finishing Areas that are near Horizontal](#)

[The Effects of Machining Tolerances](#)

[Finishing Areas that are near Vertical](#)

[The Role of Stock to Leave](#)

[Finishing Areas that are Radial](#)

[Controlling Surface Finish](#)

## 7.4 CAM Coordinate Systems (#027)

### Video Description

In this short video we discuss the definition of CAM Coordinate Systems.

[Click here to watch the full video.](#)

Industry: Metal Fab

VisualCAD/CAM



RhinoCAM



VC/SolidWorks

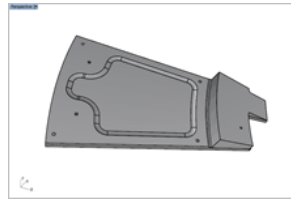
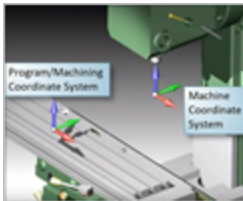


AlibreCAM

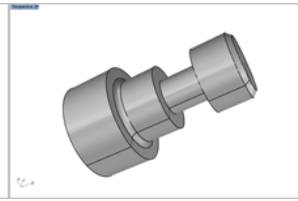


### Parts Illustrated

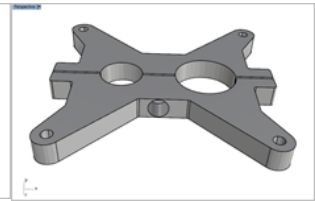
The following archive files are illustrated in this video. [See files archive](#)<sup>123</sup>.



CAMJam #100371.stp



CAMJam #100372.stl



CAMJam #100373.stp

### In-Video Topic Links

[CAM Coordinate Systems Defined](#)

[MILL Coordinate Systems \(RhinoCAM\)](#)

## 7.5 All about Cutting Tools (#077)

### Video Description

In this video we discuss almost everything you would want

VisualCAD/CAM

RhinoCAM

- Toolpath
    - Instancing 52
    - Tolerances 52
  - Toolpath Editor 20
  - Toolpath Instancing 43, 52
  - Toolpath Management
    - Suppress/Unsuppress 117
    - Toggle Hidden 117
  - Tools
    - Automatic Tool Changers 46
    - Collisions (listed in Toolpath Viewer) 53, 67
    - Collisions (Simulating) 53, 67
    - Create a Cutting Tool 46, 104
    - Create a Cutting Tool List 46
    - Create a Tap Tool 54
    - Define a Drill Tool 53, 67
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    - Libraries 53, 67
    - Load the Default Tool Library 53, 67
    - Load Tool Library 46
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  - Toolss
    - Analyze Holder Collisions 119
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    - Defining Avoid Regions 24, 94
    - Defining the Cut Direction 24, 94
    - Drill 92
    - Estimate Machining Time 91
    - Groove 92
    - Groove Finishing 24, 94
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