



## Programa CAD Unigraphics CAM – 7

Projecto Fim Curso 03-04 JOF

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## CAM

É possível realizar trajectórias actuando sobre superfícies, contornos, etc.

Este programa dispõe de uma aplicação de CAM, extensa, mas da qual só serão referidas as opções mais comuns na fabricação de MOLDES.

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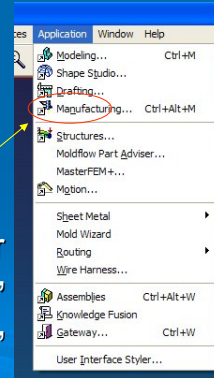
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# MANUFACTURING

A activação desta aplicação pode ser obtida por:



Barra de botões



Menu Superior  
“Application”  
“Manufacturing”

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# MANUFACTURING - MILL

Vamos estudar algumas das opções para fresadora que pode envolver operações tais como:

- > Cavidade
- > Macho
- > Facejamento
- > Furações
- > ...
- > Desbastes, Acabamentos, estratégias, etc.

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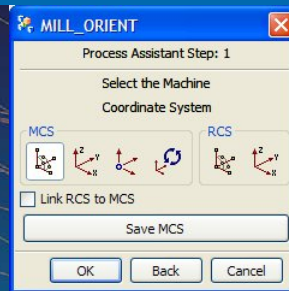
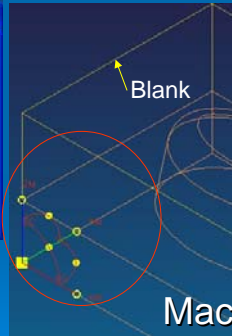
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# MANUFACTURING-MILL

No início é preciso caracterizar:



Classe de Operações

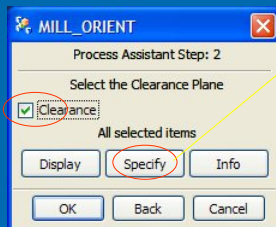


Machine and Reference Coordinate Systems

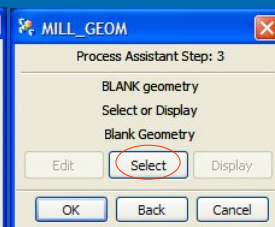
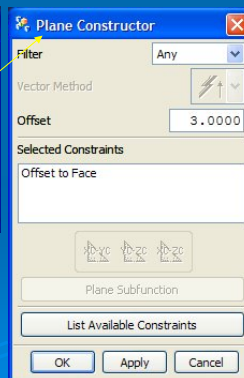
Reference C. System é coincidente com WCS

# MANUFACTURING-MILL

No início é preciso caracterizar:



Plano de movimento livre de contacto



Caracterizar o bloco de antes de maquinar

# MANUFACTURING-MILL

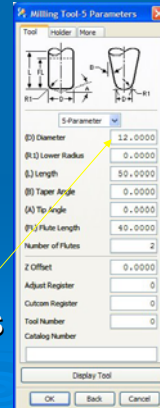
## Caracterizar Ferramenta



Se não há numa tabela é necessário criá-la

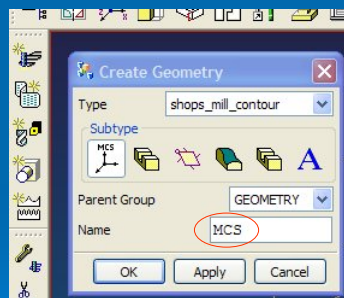


Tipo e dimensões



# MANUFACTURING-MILL

## Caracterizar Geometria

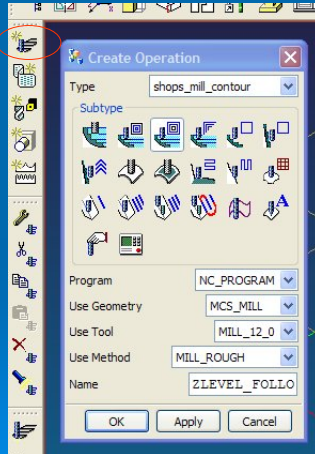


- Mill Coordinate Syst.
- Mill Geometry
- Mill Boundary
- Mill Area
- Workpiece
- Mill Text

Se uma geometria for utilizada diversas vezes, pode ser associada a um nome

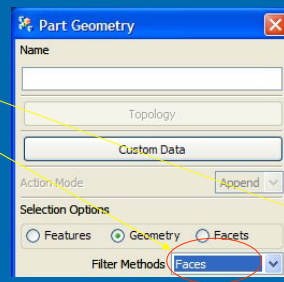
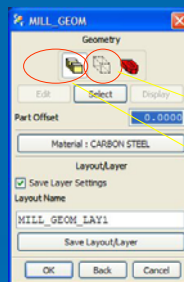
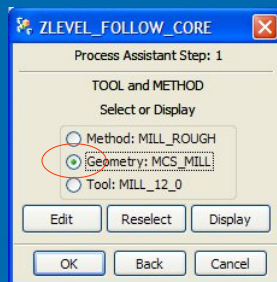
# MANUFACTURING-MILL

## Create Operation



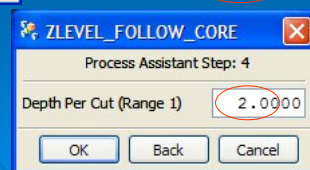
- >Cavity\_Mill
- >ZLevel\_Follow\_Cavity
- >ZLevel\_Follow\_Core
- >Corner\_Rough
- >ZLevel\_Profile
- >ZLevel\_Profile\_Steep
- >ZLevel\_Corner
- >Fixed\_Contour
- >Contour\_Area\_Non\_Steep
- >Contour\_Area\_Dir\_Steep
- >Contour\_Surface\_Area
- >Flowcut\_Single
- >Flowcut\_Multiple
- >Flowcut\_Ref\_Tool
- >Flowcut\_Smooth
- >ZLevel\_Profile
- >Profile\_3D
- >Mill\_User
- >Mill\_Control

# MANUFACTURING-MILL

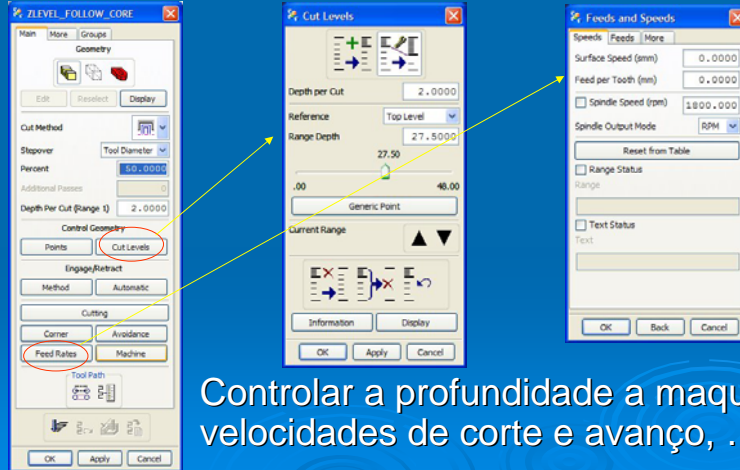


Body

Definir geometria a maquinar, bloco inicial e incremento de profundidade

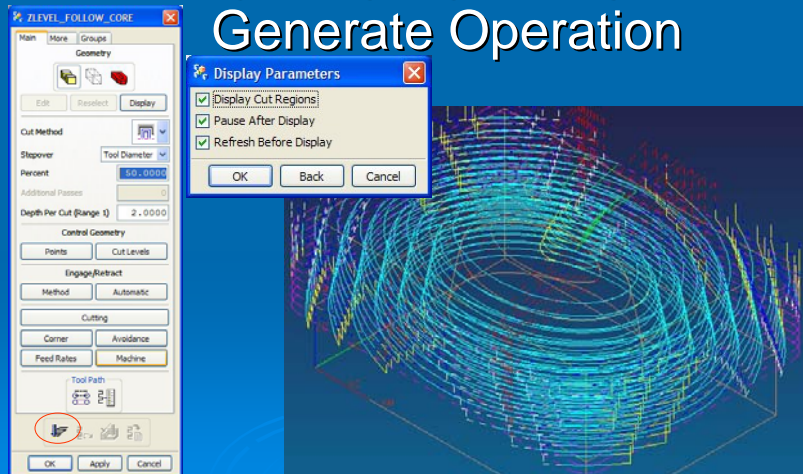


# MANUFACTURING-MILL

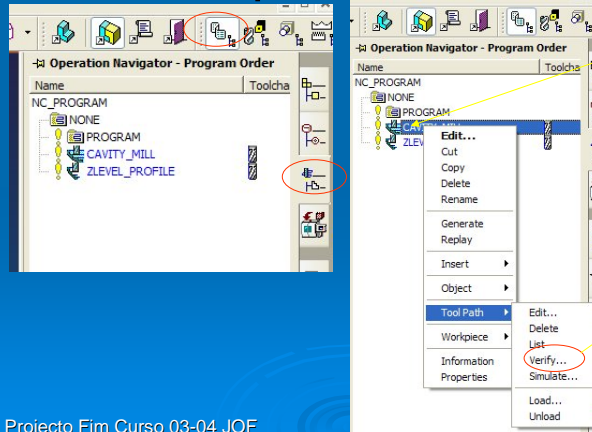


Controlar a profundidade a maquinar, velocidades de corte e avanço, ...

# MANUFACTURING-MILL Generate Operation



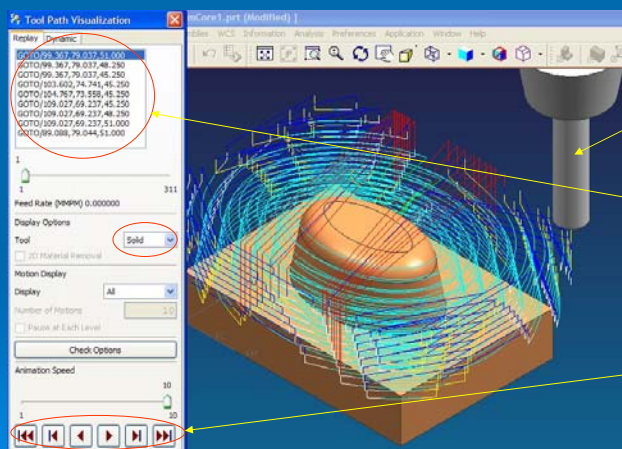
# MANUFACTURING-MILL Operation Navigator



Botão direito do rato

Ver "slide" seguinte

# MANUFACTURING-MILL Verify



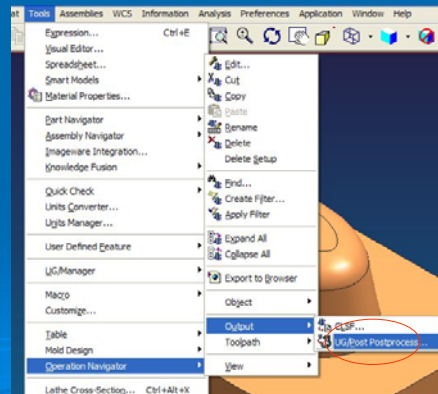
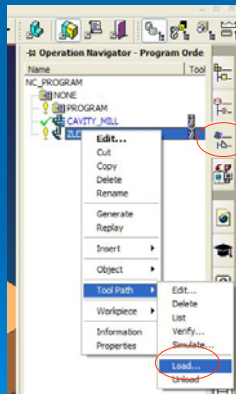
Verify

Ferramenta + Suporte

Visualização do programa CNC em APT

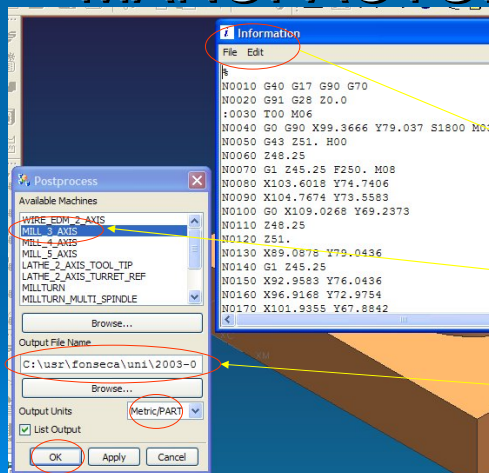
Controlo da simulação

# MANUFACTURING-MILL Post Processor



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# MANUFACTURING-MILL Post Processor



A janela de um editor é aberta com o ficheiro obtido

Seleccionar pós-processor

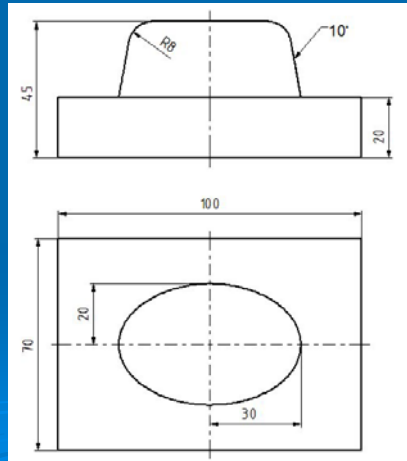
Definir o nome para o ficheiro (extensão **ptp**)

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# MANUFACTURING-MILL

## Exercício 1 Macho

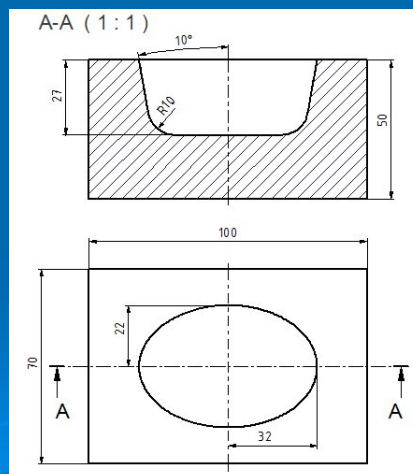


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# MANUFACTURING-MILL

## Exercício 2 Cavidade



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