MDX-500 Tutorial

How to Mill a Two Sided Part





Design part with posts using a CAD/CAM package and save as an .STL file format.

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Make sure that the MODELA software is setup for the MDX-500 Windows driver.

• The machine setting is located in MODELA Player software under [OPTION] [MACHINE].

Machines selection	×
MDX-15 (MODELA) MDX-20 (MODELA) MDX-3 (MODELA) MDX-500 (RML-1) PNC-2300 (CAMM-2)	Specifications Modeling area X 19.685 inch Y 12.992 inch Z 4.134 inch
PNC-300 (CAMM-3) PNC-3000 (CAMM-3)	Feed Rate XY : 0.5 - 85.0 mm/s Z : 0.5 - 85.0 mm/s
OK CANCEL	Spindle RPM range 3000 - 12000 rpm



Measure the Stock (example: 4 x 6 x 1.490)







- Secure the material to the bed using high tack double stick tape.
- Place a .125" tool in the MDX-500.





• Set Z zero by using the sensor mode located in sub-menu 10-Sensor mode on MDX-500.



• Set your XY Origin to the lower left of your material stock.





Time to do the Math





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• Select your material type and tool; then select Draft finish, but do not click [Start]. Proceed to the [Option] [Layout] menu as shown on the next page.





- Input the following LowerLeft X value [0.795"].
- Input the following LowerLeft Y value [0.484"].

🍗 Back Shell - MODELA Player :MDX-569 (RI	4L-1)
<u>File Edit View Option H</u> elp	
Layout	
<u>A</u> bstract ►	Layout / Surfacing
Customer Parameter	Abstract OFF Tool dia. 0.125 mm Material ChemicalWood (Soft)
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	Width 4.409
	Length 3.031
	LowerLeft X 0.795
	LowerLeft Y 0.484
	OK CANCEL Object Margin Surfacing Start



- Input [.528] in the Depth field located under Surfacing.
- Change Margin to .14 so your tool will not make contact with the side.
- Now Click [Start] to perform Surfacing.

Layout / Surfacing		×
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•		Width 4.409 Length 3.031
		LowerLeft X 0.795 LowerLeft Y 0.484 mm
OK CANCEL Object	Margin Surfacing	Start

• Surfacing is required to removed excess material to reach the center working area of our stock.





Top Draft Cut

- Change the [Margin] to [0].
- Change Surfacing Depth to [0] and [Click] [OK].

🍗 Back Shell - MODELA Player 🗄 MDX-500	RML-1)	
<u>File Edit View Option H</u> elp		
Layout		
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Customer <u>P</u> arameter Path <u>D</u> irection <u>M</u> achines	Abstract OFF Tool dia. 0.125 mm Material Modeling Wax	Layout Center org LowerLeft X 0.795 LowerLeft Y 0.484 Margin 0 mm Cursor 3 ↓ 2 14 mm Surfacing Depth 0 ↓ Automatic Width 4.69 Length 3.312 LowerLeft X 0.655 LowerLeft Y 0.344 mm



Top Draft Cut

- In Modela software, select [Tool path] to view your draft settings.
- Click [Start] to begin Draft pass.





Your Draft Cut is now complete.





• Proceed with Fine pass on your part by selecting the [Finish][Fine] in Modela software.





Drilling Index Holes for the Part Flip

- Reset your Z-Zero on the top surface of the block.
- In Layout/Surfacing Screen set margin to .3.

Layout / Surfacing				
Abstract OFF Tool dia. 0.125 mm Material Modeling Wax	Layout Center org			
	LowerLeft X 0.795 LowerLeft Y 0.484 Margin 3 mm			
	Sufacing Depth 0 Sutomatic			
	Length 3.031 LowerLeft X 0.795 LowerLeft Y 0.484			
OK CANCEL Object Margin Surfacing	mm Start			





Drilling the Index Holes

- Click on the bottom left corner of the blue square.
- The MDX-500 head will move to left corner and Z-O.
- Manually on the MDX-500 you will need to click[Spindle] and use the [Z-] to drill the pins holes.We recommend [-600].
- Repeat steps 3-5 on each corner.







Index Pin Mount

- After removing your part, mount a quarter inch board with double sided tape to the bed.
- Set a new Z-zero on the board and drill a new set of index holes just like the example on the prior page.







Set Up Part with the Same Holes

- Place pins in the drilled holes and flip the cut stock and press down.
- Use double-sided tape to secure part.
- You are now ready to surface the second side of the part.





Set New Z-Zero on the MDX-500

• Set Z-zero by using sensor mode located in sub-menu 10-(Sensor mode).





Flip Part in Modela Software

Select the direction

• To flip the part in Modela software, click the upside down elephant.

•Your part should appear on the screen upside down.



Surfacing Mode

- Proceed to the [Option] [Layout] menu in Modela software.
- Input the following LowerLeft X value [0.795"].
- Input the following LowerLeft Y value [0.484"] with a .14 margin.
- Input [.523] in the Depth field located under Surfacing.
- Now Click [Start] to perform Surfacing on second side.





Draft Mode

Reset draft in Modela software by the following

- Change the [Margin] to [0].
- Change Surfacing Depth to [0] and [Click] [OK].

Layout / Surfacing	×
Abstract OFF Tool dia, 0.125 mm Material Modeling Wax	Layout Center org
	LowerLeft × 0.795 LowerLeft y 0.484 Margin 0 mm Cursor 3 2 mm
•	Surfacing Depth ✓ Automatic Width 4.409 Length 3.031 LowerLeft X 0.795
OK CANCEL Object Margin Surfacing	Start



Bottom Draft Cut

- Select [Draft] and select next.
- You must reset your Z-zero on the new surface by using the sensor on the MDX-500 prior to starting your draft cut.





Send Draft Cut





Proceed with Fine Pass on Your Part by Selecting the [Finish][Fine] in Modela Software.





Finished Part







