CNC PROFILE SETUP

ADI TOOLS WITH ZOLLER MEASUREMENT

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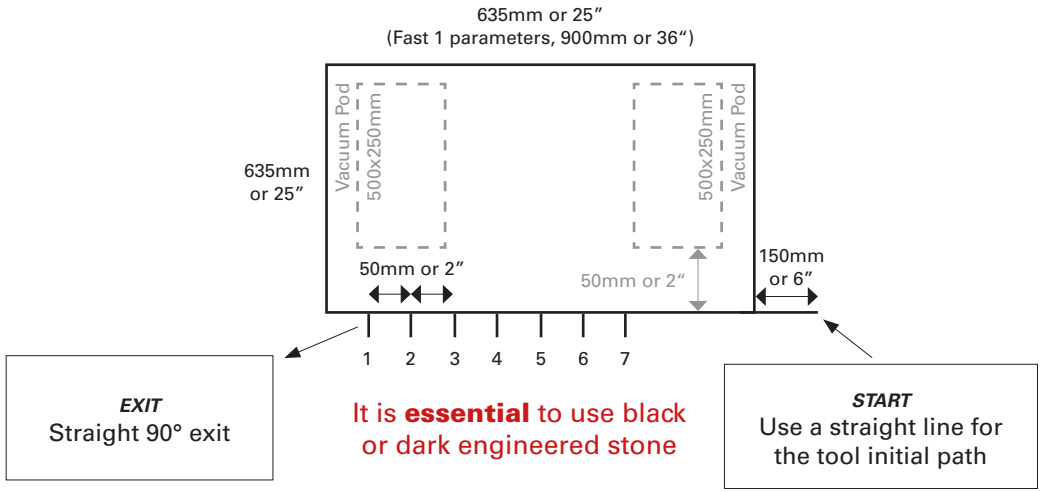
IMPORTANT

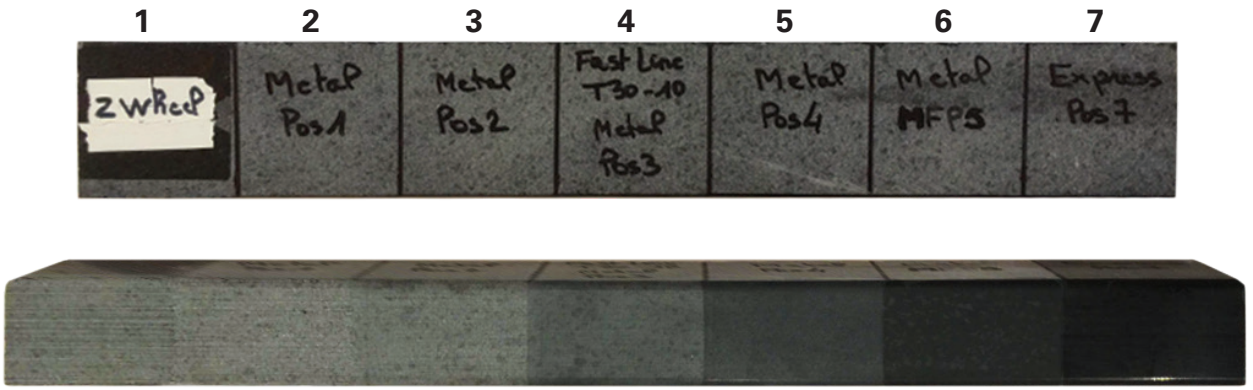
- Create a program with the dimensions in the picture beside.
- Stop each tool of the sequence at 50mm (2in) from each other.
- Visually check that the height (on the Z axis) is good by launching the program using the **LAST** metal position and stopping right before touching the stone.
- Use the same difference of value on every tool of the sequence.
  (ex.: MFP5 was 135mm long and the correct position in Z in 140mm; 5mm would be the offset to apply to all the positions)



MICROMETER

- Tool required to have pin point accuracy
- Used to set up CNC tools
- Save time and money
- Made in Japan

Stock No.	Description
128102	0-25 mm
128106	0-1 inch



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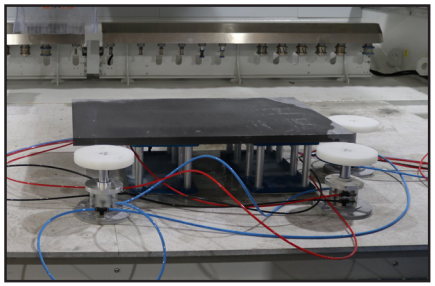
1

a.

When you receive your EZ Box:

- Check if everything is good
- Keep the box in a dry place
- Carefully read the documents provided and keep them.

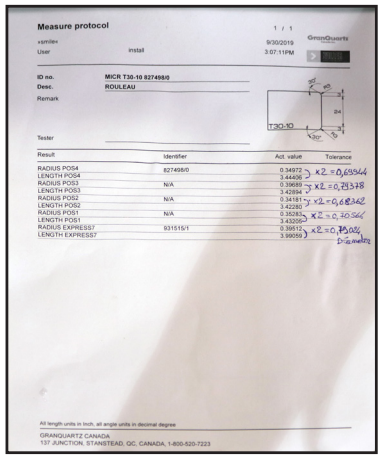
b.



Prepare your test piece:

- It is essential to use a black or dark quartz to clearly distinguish the different tool passes.
- The stone thickness has to be very close to 20, 30 or 40 mm to be able to perfectly center the tools.

2

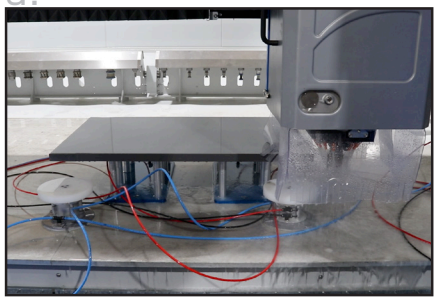


Enter the Zoller data:

- It is sometimes necessary to multiply the data (radius) by two to obtain the diameter. Some machines work with Diameters and some work with Radius.

3

a.



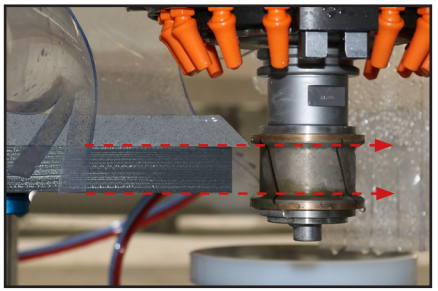
Start the program:

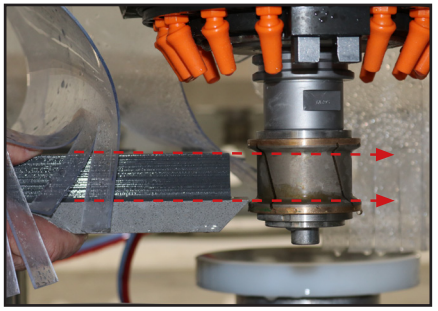
- Always start with the last metal position
- Stop right before touching the stone to control the offset on the Z axis

b.

Write down the current dimensions you have (axes x, y, z) or press the button to put everything at 0

c.





Adjusting the dimensions:

- Check if the tool is properly positioned with the stone
- If not, move it manually and very slowly to the desired position
- When the tool is in place look at the new value on the Z axis and calculate how much is your offset
- Then adjust the length of all the other tools in the sequence (same offset)

** Most of the time your offset will be the same everytime so keep this offset value preciously*

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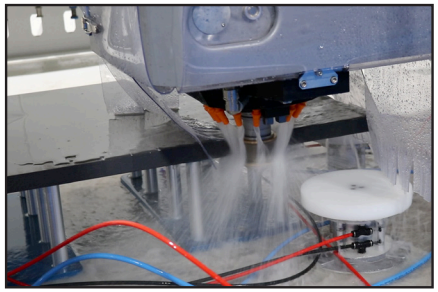
ADI TOOLS WITH ZOLLER MEASUREMENT

(SUITE)

4

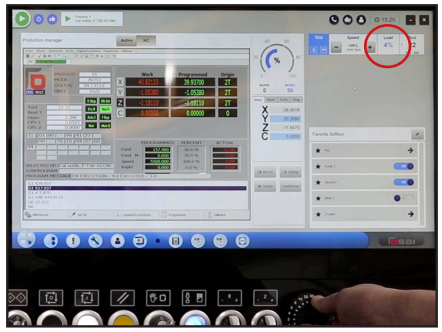
a.



Starting the program:

- Use the first tool in the sequence (Fingerbit, Pos 1 or Z30)

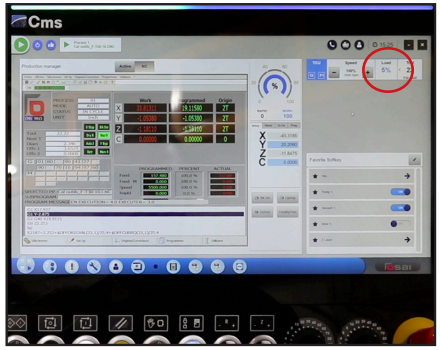
b.

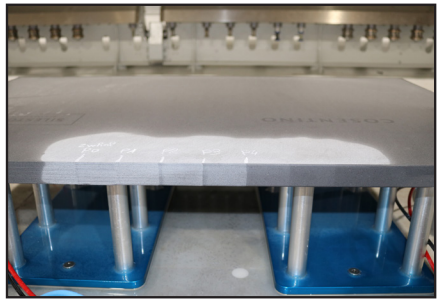


Before touching the stone:

- Slow down the feed rate for every position by 50%
- Control the load (Amperage or percentage of spindle load) and noise of the first 2 or 3 inches on the stone
- If everything looks good, increase the speed to 100%
- If your sequence stops the tools automatically 2" between each other, then let it run and control all the tools the same way you did for the first one

c.





Manually stopping the sequence:

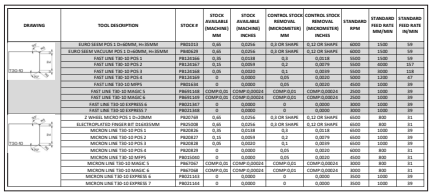
- If your sequence isn't programmed to automatically stop 2" between each tool, manually stop the machine at the desired 2" away and manually move tool away from the stone at a 90° angle very cautiously.

5

a.

b.

Refer to ANNEX 1 to see table (p.5)



Comparing the stock removals:

- Control the actual stock removal that you have on your test piece by using the Micrometer
- Write down the values and compare them to the ones in the table provided
- If the stock removal is not optimal, change the radius (or diameter) accordingly
- When all the metals are accurately adjusted, proceed to the next step

** It is essential to precisely adjust all the positions to achieve the best possible performance on life, polish quality and speed*

** The higher you go in the sequence, the more sensitive the tool is, so take your time to accurately set the proper stock removals on the last metal (Pos. 4 or MFP5).*

** The adjustment on diameter for the last metal shouldn't be much - if you need to adjust a big amount (lets say 0.5mm) something is off in the setup and you might end up with smaller pieces than intended.*

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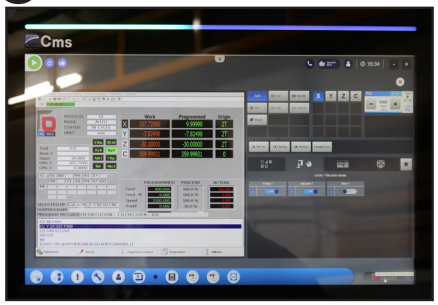
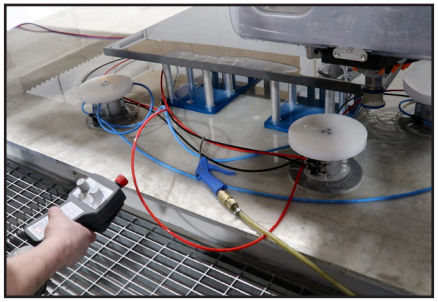
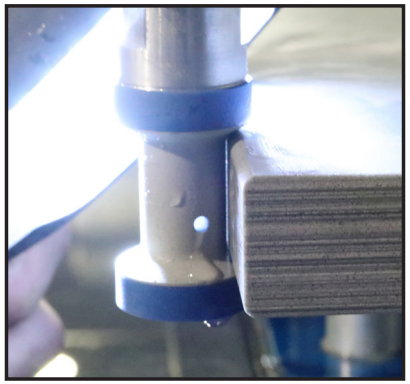
ADI TOOLS WITH ZOLLER MEASUREMENT

(SUITE)

6







Setting up the polishing wheels:

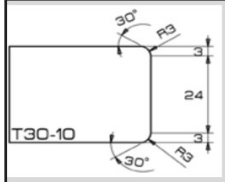
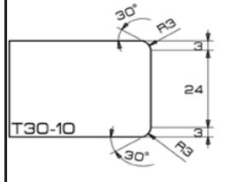
- Never start adjusting the polishers until the metal positions are perfectly adjusted.
- Stop the first polishing wheel right before it touches the piece
- Write down or reset the current value on all the axes (X,Y and Z)
- Check if the tool is properly aligned with the stone and adjust the height on Z axis if required
- Move forward cautiously in a straight line beside the stone and stop to check the distance or feel the pressure by turning the tool manually.
- Move the polisher forward and/or backwards incrementally to have the perfect pressure or distance with the stone. Calculate the difference between the new position and the start position and apply it to the radius or diameter in the tooling program.
- Restart the program with the dimension modifications you made and stop just before the polisher touches the stone to be sure that everything looks perfect.
- Once the automatic positioning is perfect, restart the program with a 50% feed and increase to 100% if everything is OK.
- If the quality of the polish is less than perfect, you can slightly increase the pressure by decreasing the radius by 0.025mm
- Repeat the previous steps to regulate the second polisher.
- If the shine doesn't seem that good but the pressure seems ok, run a full table with those parameters (light coloured so the job is still be good) - when the job is done, increase the pressure on the polisher by removing 0.025mm on the radius of the tool (0.05mm on the diameter) -This process will break in the polisher without damaging them.

ATTENTION

* *When setting up Express Microlines: No contact - you shouldn't feel any resistance when manually rotating the tool and you will be able to see a little bit of light between the stone and the polishing wheel (see the picture above) - the rubber tool expands due to centrifugal force*
* *When setting up Express Fastlines/ Toplines : Slight contact - you should feel very little resistance when manually rotating the tool but no light should be visible between the tool and the stone*
* *TOO MUCH PRESSURE CAN DESTROY THE TOOL, that's why we recommend moving .025mm at a time*
* *A good way to know if the pressure is good: look at the AMPs before the tool touches the stone and then look at it again when there's contact - the pressure applied should increase the current AMPs on the machine by only 0,1 or 0,2 to a maximum of 0,5 AMP or %.*

ANNEX 1

PARAMETERS

DRAWING	TOOL DESCRIPTION	STOCK #	STOCK AVAILABLE (MACHINE) MM	STOCK AVAILABLE (MACHINE) INCHES	STOCK REMOVAL (MICROMETER) MM	STOCK REMOVAL (MICROMETER) INCHE	STANDARD RPM	STANDARD FEED RATE MM/MIN	STANDARD FEED RATE IN/MIN
	EURO SEEM POS 1 D=60MM, H=35MM	PB01013	0,65	0,0256	0,3 OR SHAPE	0,12 OR SHAPE	6000	1500	59
	EURO SEEM VACUUM POS 1 D=60MM, H=35MM	PB40629	0,65	0,0256	0,3 OR SHAPE	0,12 OR SHAPE	6000	1500	59
	FAST LINE T30-10 POS 1	PB124166	0,35	0,0138	0,3	0,0118	5500	1500	59
	FAST LINE T30-10 POS 2	PB124167	0,15	0,0059	0,2	0,0079	5500	4000	157
	FAST LINE T30-10 POS 3	PB124168	0,05	0,0020	0,1	0,0039	5500	3000	118
	FAST LINE T30-10 POS 4	PB124169	0	0,0000	0,05	0,0020	5000	1200	47
	FAST LINE T30-10 MFP5	PB01634	0	0,0000	0,05	0,0020	4500	1000	39
	FAST LINE T30-10 MAGIC 5	PB691148	COMP:0,01	COMP:0,00024	COMP:0,01	COMP:0,00024	2500	1000	39
	FAST LINE T30-10 MAGIC 6	PB691149	COMP:0,01	COMP:0,00024	COMP:0,01	COMP:0,00024	2500	1000	39
	FAST LINE T30-10 EXPRESS 6	PB021347	0	0,0000	0	0,0000	3000	1000	39
	FAST LINE T30-10 EXPRESS 7	PB021348	0	0,0000	0	0,0000	3000	1000	39
	Z WHEEL MICRO POS 1 D=20MM	PB20769	0,65	0,0256	0,3 OR SHAPE	0,12 OR SHAPE	6500	800	31
	ELECTROPLATED FINGER BIT D16X35MM	PB25008	0,65	0,0256	0,3 OR SHAPE	0,12 OR SHAPE	6500	800	31
	MICRON LINE T30-10 POS 1	PB20826	0,35	0,0138	0,3	0,0118	6500	1000	39
	MICRON LINE T30-10 POS 2	PB20827	0,15	0,0059	0,2	0,0079	6500	1000	39
	MICRON LINE T30-10 POS 3	PB20828	0,05	0,0020	0,1	0,0039	6500	1000	39
	MICRON LINE T30-10 POS 4	PB20829	0	0,0000	0,05	0,0020	6000	800	31
	MICRON LINE T30-10 MFP5	PB015040	0	0,0000	0,05	0,0020	4500	800	31
	MICRON LINE T30-10 MAGIC 5	PB67067	COMP:0,01	COMP:0,00024	COMP:0,01	COMP:0,00024	3000	800	31
	MICRON LINE T30-10 MAGIC 6	PB67068	COMP:0,01	COMP:0,00024	COMP:0,01	COMP:0,00024	3000	800	31
	MICRON LINE T30-10 EXPRESS 6	PB021143	0	0,0000	0	0,0000	3500	1000	39
	MICRON LINE T30-10 EXPRESS 7	PB021144	0	0,0000	0	0,0000	3500	1000	39