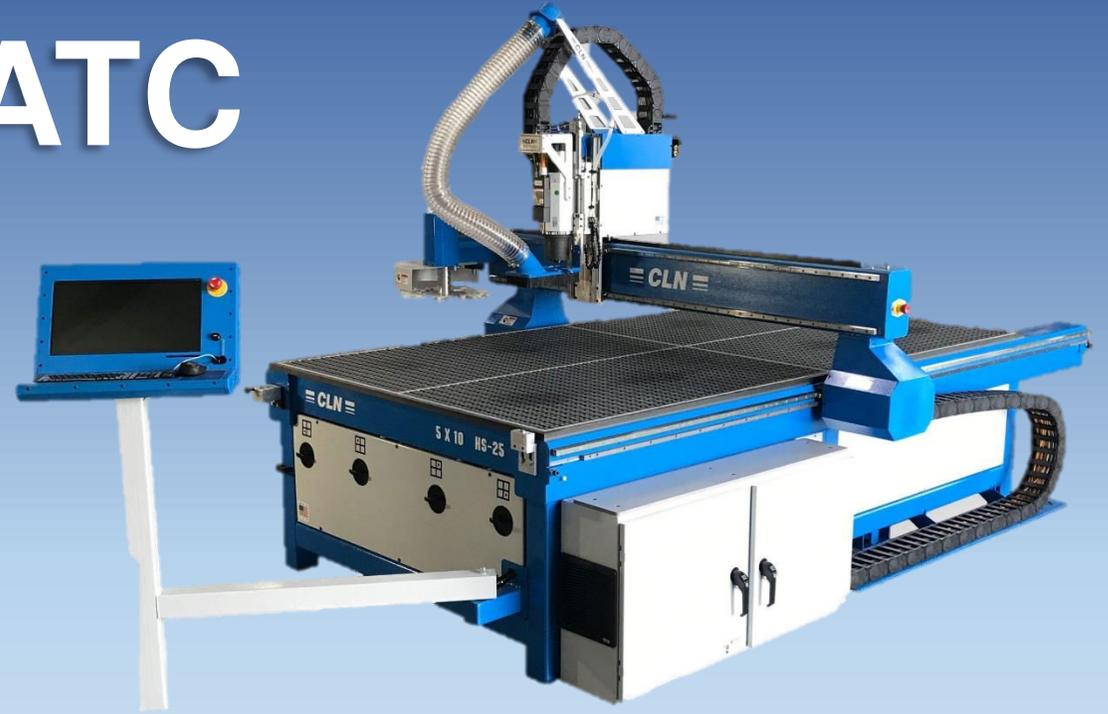




of South Florida, Inc.

High Performance | Tight Tolerances | Clean Cuts

Calibrating The ATC



Calibrating The ATC



Manufacturers of CNC Equipment

www.CLNofSouthFlorida.com



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Important

Make sure you read and fully understand this manual before operating your automated machine. Failure to do so will put yourself and others in harm and will void the warranty of this equipment.

Safety

Your Responsibilities:

- As an operator of the CLN machine, you are responsible to follow all safety procedures. Any person who operates or does any maintenance on this machine must be aware of all safety procedures.

Safety Precautions:

- Do not wear any loose-fitting clothing such as scarves or hanging jewelry.
- Do not put hands in or on any moving parts at any time.
- Do not operate machinery while under the influence of alcohol, drugs or any other substance that may impair or alter your judgment.
- Always wear gloves when handling sharp materials.
- Always wear eye and hearing protection when operating equipment.
- Do not operate the machine without all the covers in place.
- Keep hands, head and body out of the way of moving parts.
- When performing maintenance work on the machine always unplug the incoming electric power and disconnect the compressed air supply. Make sure the air is completely drained out of the system.
- Be sure to stay clear of moving parts when turning on the air supply, the tools may unexpectedly move during the initial connection.
- Never leave the machine unattended.
- Completely power down when not in use.



Servicing the Machine:

- When servicing the machine, you must first disconnect the electricity, disconnect the compressed air line and completely drain the air out of the system. **If you do not disconnect the electric power and the compressed air line and drain the system, you will put yourself at serious risk of causing permanent damage to yourself or death.**

Guidelines:

- Always follow the safety rules. Under no circumstance should equipment be used for anything other than what it is designed for. Any person who operates or does maintenance on this equipment should be aware of all safety and operating procedures. It is extremely important that this equipment is handled with care! Distractions such as horseplay, carelessness, loud noises and sudden movements can result in unsafe conditions, therefore, should be always avoided when operating equipment.

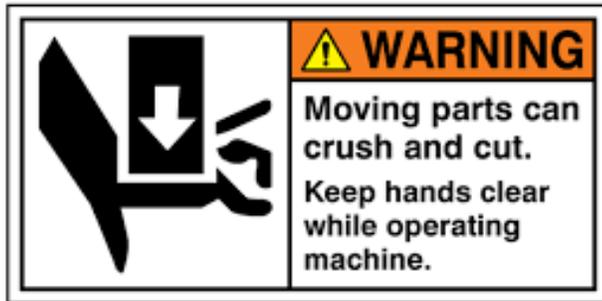
Environmental Considerations:

- **Climate Control**
 - The machine should be in a climate-controlled area and NOT exposed to extreme temperatures and or weather.
 - There are components on the machine that are susceptible to corrosion and should NOT be exposed to any water based lubricant fluid or humidity.
- **Clean Working Conditions**
 - Your machine should be located in a clean environment.
 - Keep your machine and work area free of dirt and debris.
- **Lighting**
 - Your machine should be operated in a well lighted area.

Caution Labels:



Danger Stay clear sticker: Means that the machine moves automatically and will move without warning and cause serious damage to anyone that puts any of there body parts in the area.



Warning sticker: Means that the area around the sticker moves automatically and will move without warning and cause serious damage to anyone that puts any of there body parts in the area.



Danger Hazardous Voltage sticker: Means that the area around the sticker can cause an electrical shock to anyone that puts any of there body parts in the area.



Emergency Stop:

This machine is equipped with 2 emergency stops one located at the front of the machine and the other located next to the monitor. Pressing it will halt all motion on the machine as well as bleeding all the compressed air from the machine's pneumatic cylinders. The machines computer and monitor are the only two components that will remain on with the emergency stop pressed.

Calibrating the ATC:

- Calibrating the ATC is necessary so that the spindle knows where the tool holders are in the tool forks. Calibrating may be necessary if a spindle, tool changer or positioning sensor has been replaced.
- If you have a Tool calibration probe port. You can use the tool calibration probe. If you don't have the tool calibration port. You'll have to adjust the positions manually.
- The spindle probe is only lent out to customers if needed and is expected to be returned to CLN

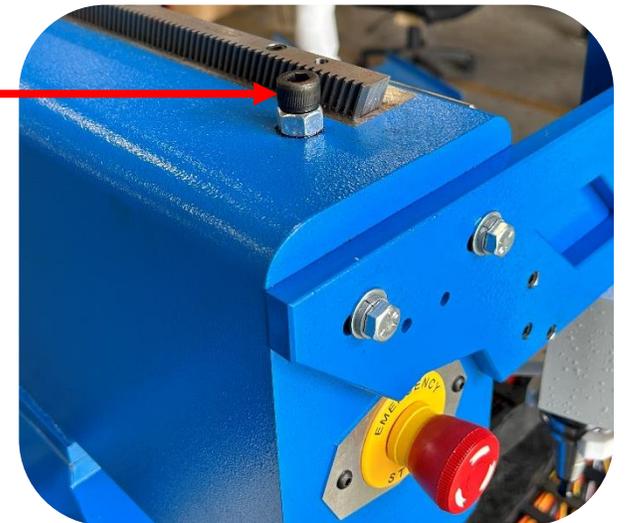
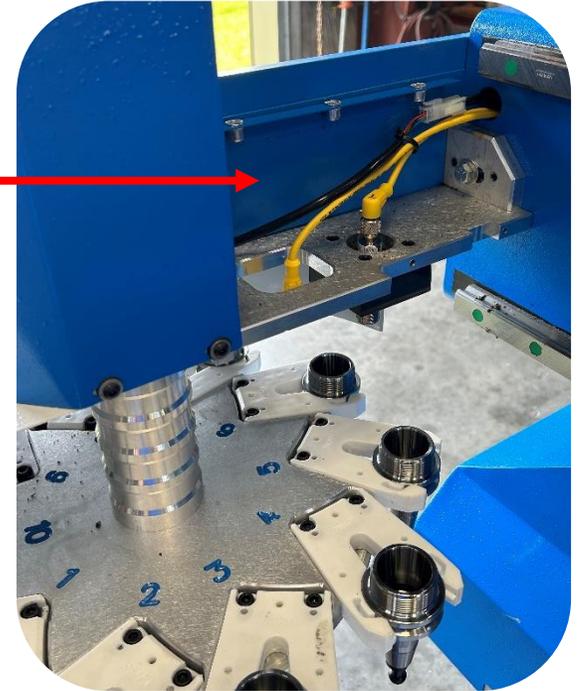
We highly recommend that you click on the link below and watch the video on this step.
[How To Calibrate The ATC](#)



Calibrating the ATC:

Carousel Tool Changer

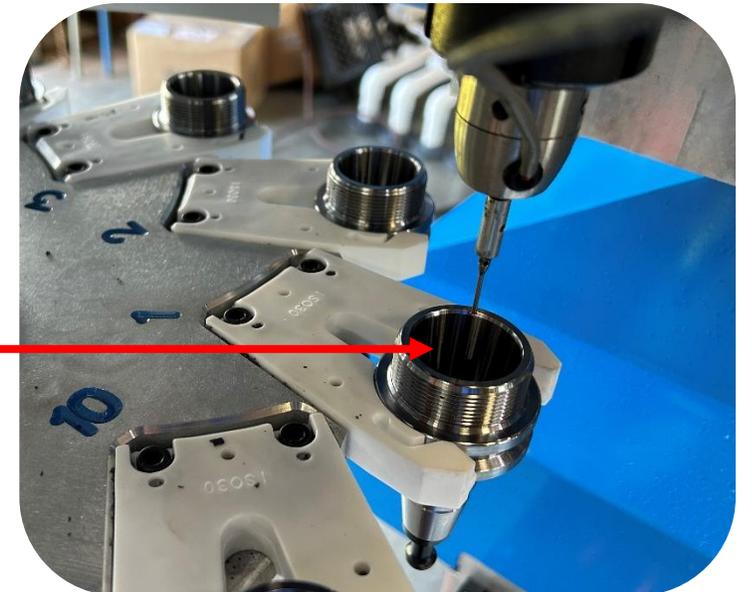
- To calibrate the carousel tool changer with the probe. Remove all of the collet nuts and install all of the tool holders upside down in the carousel. Keep track of the nuts because they are balance to each tool holder.
- Remove the ATC wire cover.
- On some older machines you may have to remove the stop bolt located on the left side of the gantry.



Calibrating the ATC Continued:

Carousel Tool Changer

- Locate the tool calibration port, it will be in the Z energy track. Plug the probe into the port and insert the probe in the spindle.
- Jog the probe over to tool position 1, lower it down to about 1/2" above the upside down tool holder. Try to get it as close to the center of the tool holder as possible.
- Click on calibrate ATC and follow the instructions on the screen.
- The probe will come down inside the tool holder and the carousel will rotate back and fourth, so that the probe can locate the center of the tool holder. Then it will repeat for every tool in the carousel.
- Next it will touch off the fork to find the height of the fork.
- When the calibration sequence is finished, remove the probe from the spindle, and put all of the tools back in the carousel.



Calibrating the ATC:

Rack Tool Changer

- To calibrate the rack tool changer with the probe. Install all of the tool holders upside down in the rack. Keep track of the nuts because they are balance to each tool holder.
- Locate the tool calibration port, it will be in the Z energy track. Plug the probe into the port and insert the probe in the spindle. 
- Jog the probe over to tool position 1, lower it down to about 1/2" above the top of the tool holder. Try to get it as close to the center of the tool holder as possible. 
- Click on calibrate ATC and follow the instructions on the screen.
- The probe will come down and touch the top of the tool holder to find the top of the tool, then it will touch all 4 sides of the tool holder to find the center of the tool holder. Then it will repeat for every tool in the rack.
- When the calibration sequence is finished, remove the probe from the spindle, and put all of the tools back in the carousel. 

