

Some Of The Classroom Instruction AND Hands-On Topics Include:

- Differences and similarities between Swiss and conventional CNC lathes.
- Controller orientation - program select, edit page, prep page, offset page, and MC data.
- Bar feeder orientation - MC data setting, channel selection, pusher assembly and collet selection.
- Setting of supports, telescopic tube, and spindle liner selection OR omission.
- Manual jog/machine movement overview. All axis of machine explanation.
- Explanation/description/demo of main spindle collet, guide bushing, and sub spindle collet.
- Setting of collet chucking pressures and guide bushing tension setting.
- Proper selection and adjustment of ejector knockout.
- Gang tool slide. Loading tools, setting center (core), and proper "touch-off" procedure.
- In-depth explanation of preparation page and machine MC data.
- Left hand tool work shift overview. G50 work shift overview. (Live tools)
- Front working tools. Setting lengths, ("touch-off") of end working, or ID tools.
- Back working tools. Setting lengths, ("touch-off") of back end working tools with sub spindle.
- Overview of offset page and explanation of ABSOLUTE and INCREMENTAL offsets.
- Introduction into basic programming format. How the controller wants to see a program
- Layout of proper programming sequence
- Thorough explanation of machine specific "M" and "G" codes including but not limited to G76 threading overview, as well as milling, and G83 peck drilling.
- Grooving process, turning process, cutoff cycle overview.

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"CITC has identified the number one need in the growing northeast Ohio (NEO) biomedical manufacturing industry ... skilled high precision swiss-type machine operators. CITC's creation of a swiss-type machinist training program will help define NEO as a real player in the global medical and high precision manufacturing arenas. The swiss training module is a natural extension of the proven CITC conventional CNC training model."

- Marc Klecka, President - Concentric Corporation

CITC

Cleveland Industrial Training Center

1311 Brookpark Road, Cleveland, OH 44109

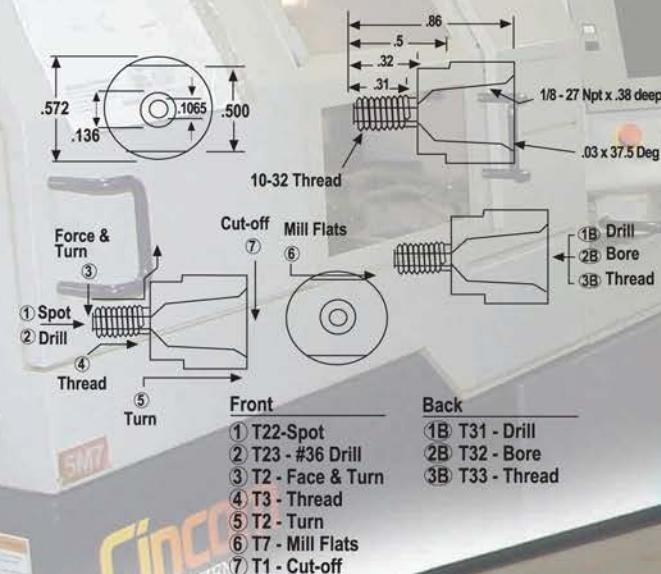
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CNC Swiss Technology

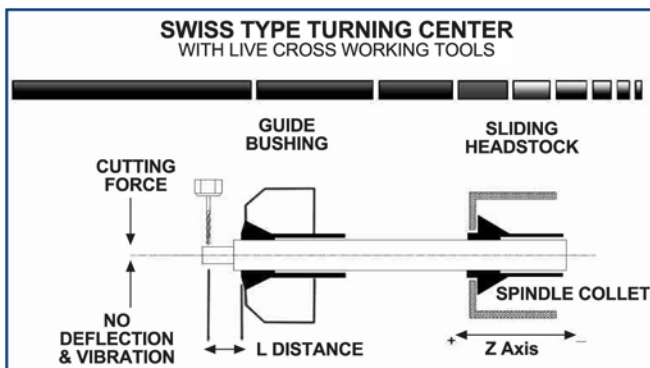


**Cleveland Industrial
Training Center**
CNC Training

CLEVELAND INDUSTRIAL TRAINING CENTER

What Is CNC Swiss Machine Technology?

CNC Swiss Machine Technology allows for the machining of very small parts with the same rigidity utilized with conventional CNC machines on larger parts. Because of a revolutionary design concept, CNC Swiss lathes are able to machine small diameters without the deflection of material or vibration often encountered on standard lathes.



This technology utilizes a guide bushing to support the work piece and a sliding headstock to ensure that tight tolerances and finishes are maintained.



Purpose Of The Program:

The purpose of the CNC Swiss Machine operations/set-ups program is to address the growing need for competent personnel for this technology. More and more machining companies are transitioning to these machines as they realize the long-term benefit over conventional CNC processes. The program provides both classroom instructions and hands-on experience throughout.

Students will have the opportunity to apply what they learned by doing actual hands-on set-ups on CNC Swiss machines and barfeed systems.

What Makes CITC Unique?

Since 1993, CITC has conducted quality training for the CNC manufacturing community in Northeast Ohio. The school is located at 1311 Brookpark Road in Cleveland. CITC shares this location with Borman Enterprises, a contract production machining facility which has been in business for over 30 years.

Conducting the training in an actual CNC manufacturing facility allows students and graduates access to state-of-the-art CNC machine tools, CAD/CAM systems, as well as quality control equipment and tooling. Easy access to expert instructors and Borman Enterprises' experienced staff provides CITC students a unique advantage found nowhere else.

PROGRAM SCHEDULE OPTIONS

Monday - Thursday
5:00 pm - 9:00 pm

Course Length - 5 Weeks - 80 Total Hours

ATTENTION COMPANY OWNERS:

An accelerated 36-hour, one-week version of the Swiss Ops/Set-Up program is available.

Monday - Thursday
8:00 am - 5:00 pm

Friday
8:00 am - Noon

