# CENTROID™

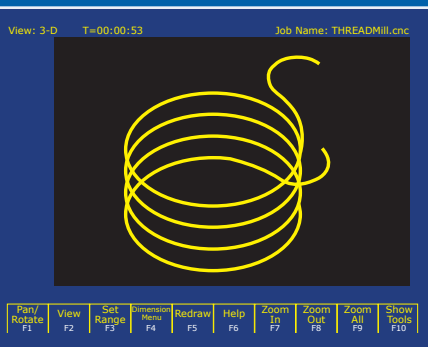
# M-400 CNC Control For Mills

- Long product Life Cycle backed by affordable replacement CNC parts, repair, upgrades and support
- User-Friendly, Rock Solid, Factory Supported, Updateable Centroid CNC software
- Proven, Reliable CNC Software and CNC Hardware designed to work together
- Dedicated, Centroid manufactured Closed Loop CNC Motion Control CPU

MADE IN USA

# So Easy, You'll Cut Parts The First Day!

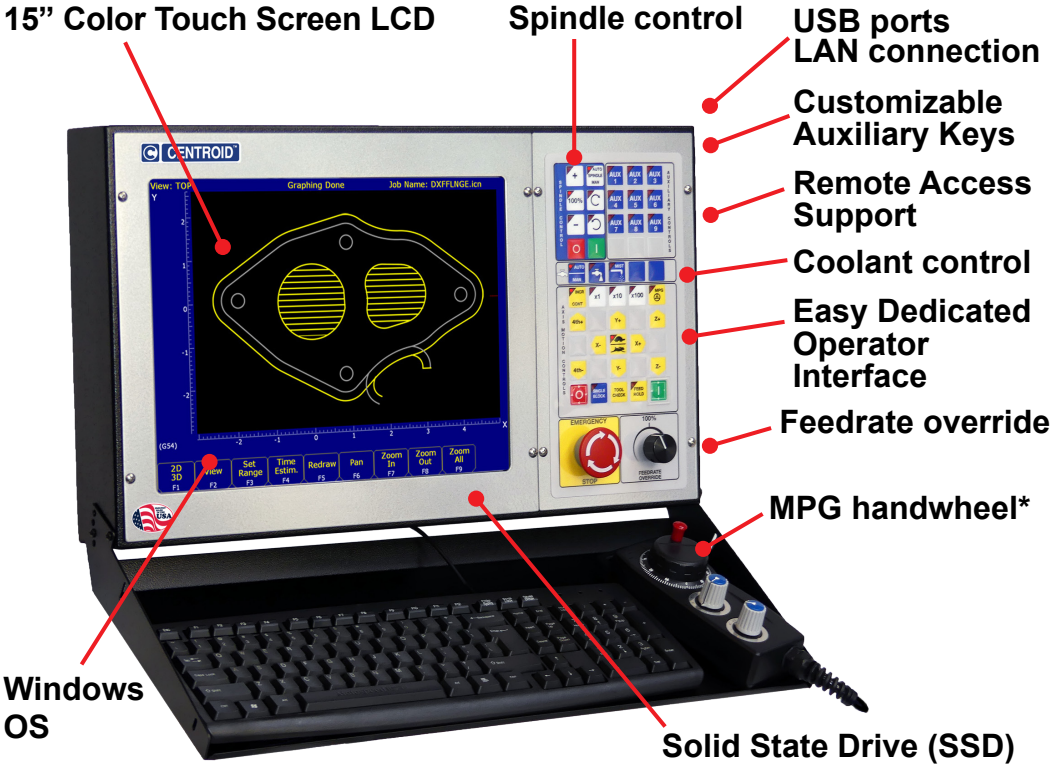
From print to part... in minutes!



Threadmilling

Easy file transfer w/ USB & LAN.

www.centroidcnc.com




## Do more with a CENTROID!

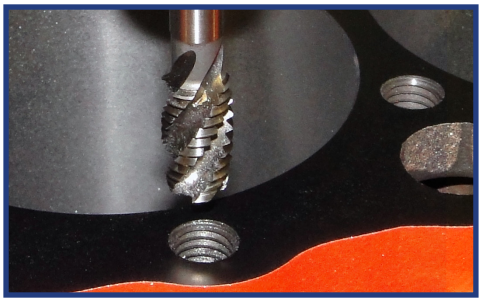
- Cut parts the first day with intuitive, straightforward CNC operation
- Increase profit and production with faster setups, easier programming, and reliable operation
- Expand your machining capabilities and compete on higher paying jobs with affordable options
- Windows OS: Connect easily to any computer system by using USB, LAN, or Internet Remote access

## Advanced features include:

- 4 axis with spindle control standard
- 5,6,7,8 axis simultaneous contouring optional
- DSP high block throughput & high-speed machining with 2000 line accel/decel lookahead
- Digital servo drives, AC or DC servo motors
- Standard Solid State Drive (SSD)
- Easy-to-use part and tool setup menus
- 15" touch screen LCD display
- 3D tool path graphics with runtime display
- Runs on industry standard G & M codes
- Compatible with popular CAD/CAM systems
- Remote Access support via internet connection
- Windows OS, easy networking & file transfers
- Custom UI Screens for special applications
- Run 3rd party software of your choice
- Subprograms, WCS and Macros
- Laser ballscrew mapping
- One button push for common machine tool functions

## Intercon conversational programming

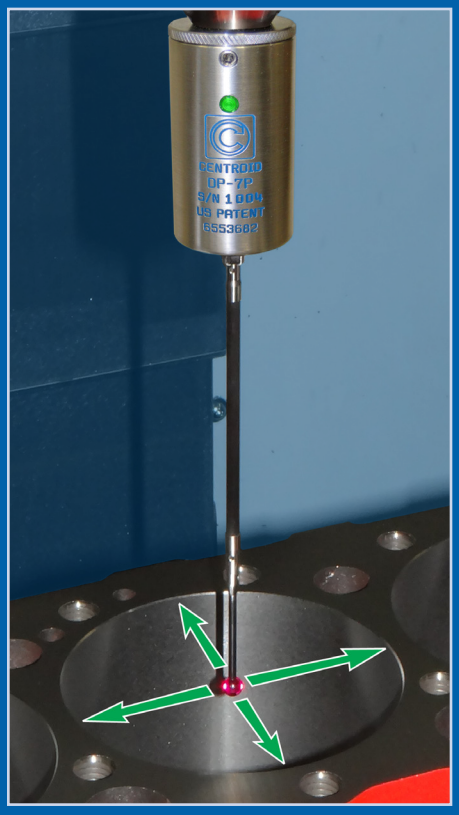
- Quickly create part programs right at the control
- Easy "fill in the blank" menus
- Graphical help menu with math assistance for missing dimensions
- Software automatically generates the G-code
- Check work instantly with 3D tool path graphics
- No knowledge of G-codes necessary
- Drilling cycles: Deep hole, Chip breaking, Regular
- Drill BHC, Drill array, Drill repeat
- Lines: end points and polar
- Pockets: rectangular, circular and irregular with auto-cleanout, island avoidance and finish passes
- Repeat whole parts, events, or a matrix of holes
- Mirror and rotate whole parts or one entity
- Threadmilling: inside, outside, left and right handed
- Arcs: EP & R, CP & A, CP & EP and 3-points
- Frames: inside and outside of rectangular, circular
- Teach mode
- Easy 4th axis programming
- 3D Print Additive canned cycles



## Rigid tapping*

- Perfect, repeatable threads each and every time
- Allows use of solid tool holders with your tap
- Special deep hole tapping cycle for large diameters and Threadmilling for diameters too large to tap

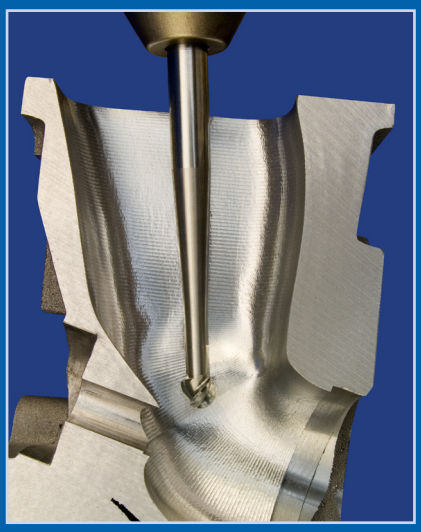
*optional




**Automatic Part Setup with CNC Probing Cycles***

## CNC Probing Cycles*

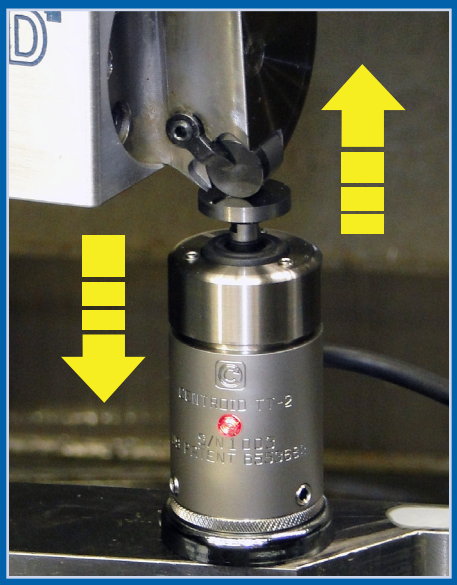
- Touch probe with Probing cycles offers accurate part and fixture setup with the push of a button
- Automatically set Part Zero position, quicker and more accurately than manual methods
- Finds edges, corners, bore centers, boss centers and fixture offsets & angles in seconds
- Automatic Coordinate System Rotation*, never manually tram a vise again
- Reset fixture locations automatically, never use a center finder again
- Much faster and more accurate than indicating by hand
- DP-4 Kinematic seat: all around high performance probe
- Specialized DP-7: Solid State design for long styli
- Reliable Plug and Play CNC Probing
- Easy menu driven fill-in-the-blank probing cycles



**Multi-Axis High Speed Machining**

## High Speed Machining

- DSP High-block throughput, combined with 2000 line accel and decel lookahead
- Fast, smooth cuts accomplished at highest possible speed while holding tight tolerances
- Run large CAD/CAM, Digitizing or Engraving programs with unlimited file size, no DNC necessary



**Automatic tool setter***

## CNC 2D and 3D Digitizing*

- Duplicate parts in 2D or 3D
- Easy menu-driven fill-in-the-blank digitizing cycles
- Perform grid, radial, contour & wall following digitizing
- Automatically generates G-code and Cloud Point Data
- Export data to most any CAD/CAM system for further editing and shape manipulation
- Autonomous cylinder head port & combustion digitizing
- Probe and Software designed to work together

**CNC Digitizing***

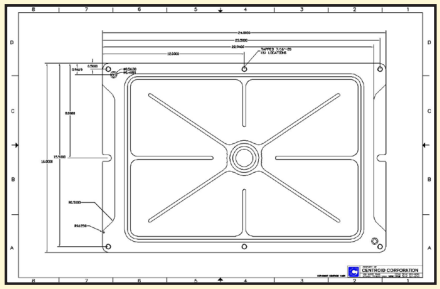
## Automatic tool setter*

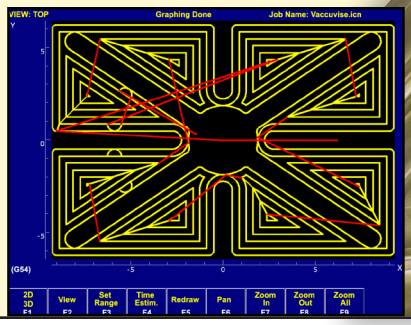
- Effortlessly measure tool heights
- Repeatable results for consistent part production
- Faster and more accurate than manual methods.
- Significantly reduce setup time
- One-touch operation sets tool heights within 0.0001" in seconds
- Menu-driven automatic tool measurement
- TT-1 conductive, TT-2 non-conductive probes

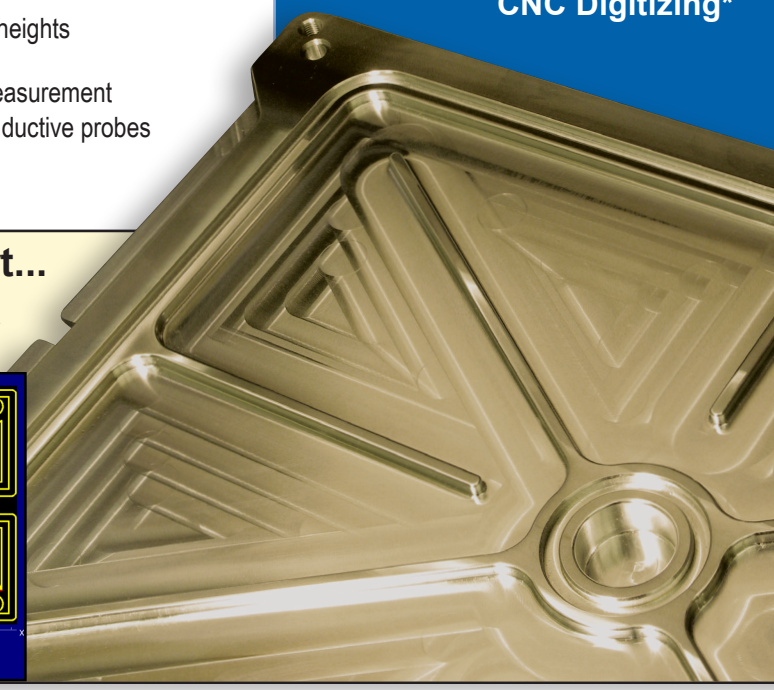
*optional

## From print... To part...

Built-in conversational programming for quick part creation without a CAD/CAM system or G&M-code knowledge.





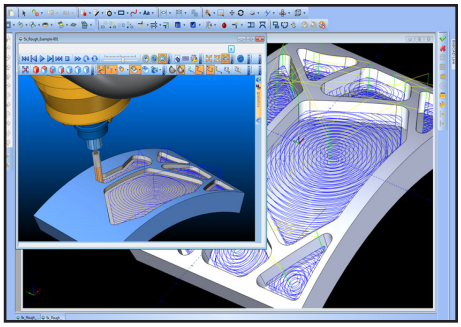



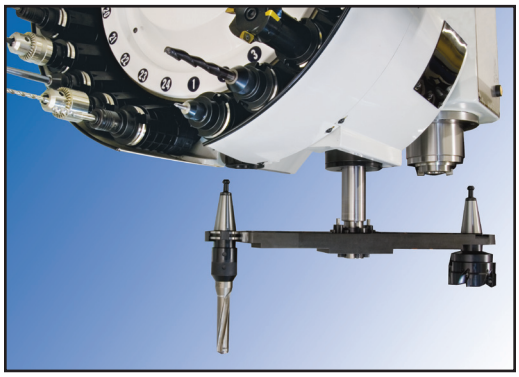
# M-400 Options

- Precision Rotary Tables
- 2D & 3D Digitizing Software
- Probing Cycles
- DP-4, DP-7 Digitizing Probe
- TT-1, TT-2 Automatic Tool Setter
- Conversational Engraving Software
- ATC control
- Extended Work Coordinate Systems
- Rigid Tapping
- Unlimited Part Program Size
- Coordinate System Rotation
- Axis Pairing
- MPG Handwheel
- Console Arm, Floor Stand
- Offline Conversational (for desktop or laptop PC)

## Run 3rd party software of your choice

- Install and operate most any CAD or CAD/CAM software directly on the Centroid CNC control
- Allows operator to use a CAD or CAD/CAM program to look up part dimensions, create and modify part programs
- Utilize CAD/CAM part machining simulation backplot and verification features directly at the control.
- Open CAD files directly on control via USB or LAN
- Run most any other windows compatible software or hardware: Skype, Teamviewer, G-code editors, Web-cams, Microphones, Speakers, Wireless devices, backup Hard Drives, etc.





## Smart automatic tool changer control*

- Carousel, Swingarm and Rack tool changers
- Control up to 200 tools
- Menu-driven tool changing w/o using G-code
- Random Access, Bidirectional
- Batch ATC Auto tool measure functionality

## OEM, Pro Install or DIY CNC control systems for new install or retrofits

Ready to run pre-wired closed loop CNC systems with AC or DC Servo motors up to 8 axes, preconfigured I/O and pre-wired machine tool accessory cables customized to any machine tool.

- Pre-engineered CNC control packages are available for: knee mills, bed mills, machining centers, boring mills, additive 3D printing, routers, and many other machine tools
- Common CNC control configurations are in stock and ready for immediate shipment
- Custom built to any machine tool specifications
- Retrofit upgrade kits for good machines with obsolete controls
- Ready-to-run CNC systems for new machine tools

DIY CNC control kits

Floor Stand

Arm Mount

## Designed to last with over 37 years of experience

- CENTROID designs and manufactures its own state-of-the-art CNC control components. This allows us to provide the industry's most affordable replacement CNC parts and CNC support long after the sale.
- Low CENTROID CNC control operating costs increase your bottom line.
- CENTROID is a U.S. owned and operated company with thousands of CNC controls in operation worldwide.

## Certified worldwide support

- Worldwide network of factory certified technicians provide fast and affordable CNC sales, training, service, installation and support.

**CENTROID**
159 Gates Road • Howard, PA 16841
Sales: (814) 353.9256 • Fax: (814) 353.9265
**www.centroidcnc.com**

**Distributor:**

*Applies to "D" version Export models:*
- "Numerical control" units have four axis simultaneous contouring
- CAD data input (DXF in) is by manual offline means

*optional

• US Patent 6,490,500
© Copyright 2008-2016 CENTROID 11-2-16 rev 15