



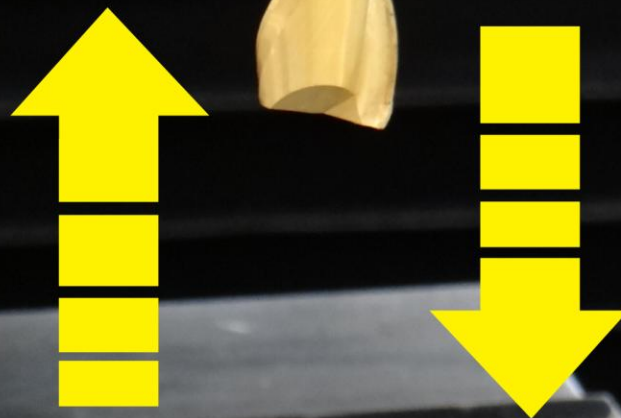
# CENTROID™

## TT-1 CNC Tool Touch Probe

### TT-1 : CNC Tool Set

- Set Tool Lengths automatically
- Ultra accurate conductive design
- Save time setting tools, increase accuracy
- Magnetic base or hard mount
- Works w/ CENTROID & most other CNC's
- Easy to use, manual or automatic.
- Designed for milling applications: Knee mills, Bed mills, Machining centers and Routers
- In process tool length reset for worn out or broken tools
- Requires conductive tools and spindle
- Cable detection
- Serviceable unit

Set up your tools in a quarter of the time it would normally take. If you often machine short-run parts and are always setting up and tearing down for a new job, the TT-1 Auto tool set will save you time while more accurately setting your tool height offsets. Save time when you have to replace a dull tool with a new one in the middle of a job. The TT-1 is completely automatic. Press "measure" and the tool will automatically touch off the TT-1 and set the tool height offset in the tool library. Works with CENTROID CNC controls and most any other CNC or DRO with a probe input.



**Lower cost**  
**Find and record**  
**tool height**

### TT-1 Specifications

Probing directions	Z -
Unidirectional repeatability	0.00004" (1 um)
Stylus Diameter	.5" (12.72mm)
Probe Body Dia. / Height	Dia. = 2" (50.9mm) Height 2" (50.9mm)
TT-1 part/order number	#10220



### CENTROID

Purchase direct from Machines in Motion, Inc.  
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**CENTROID™**

**TT-2 CNC Tool Touch Probe**

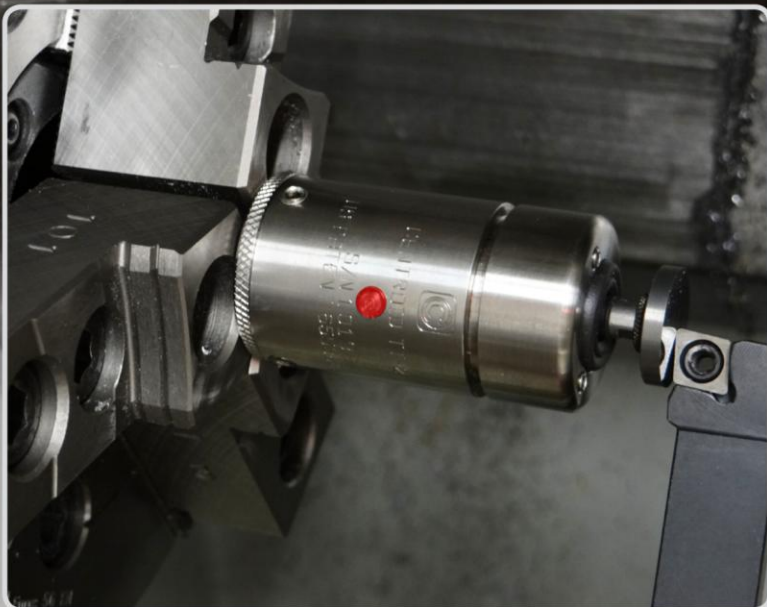
**TT-2 : CNC Tool Touch Probe**

- Set Tool Lengths automatically
- Ultra accurate non-conductive kinematic design
- Save time, increase accuracy
- Magnetic base or hard mounts (T-nut or Shank)
- Works w/ CENTROID & most other CNC's
- Easy to achieve high precision measurements
- Designed for milling and lathe applications: Knee mills, Bed mills, Machining centers and Routers, Lathes and Turning centers
- In process tool reset for worn out or broken tools
- Set Z part zero positions
- Auto cable detection

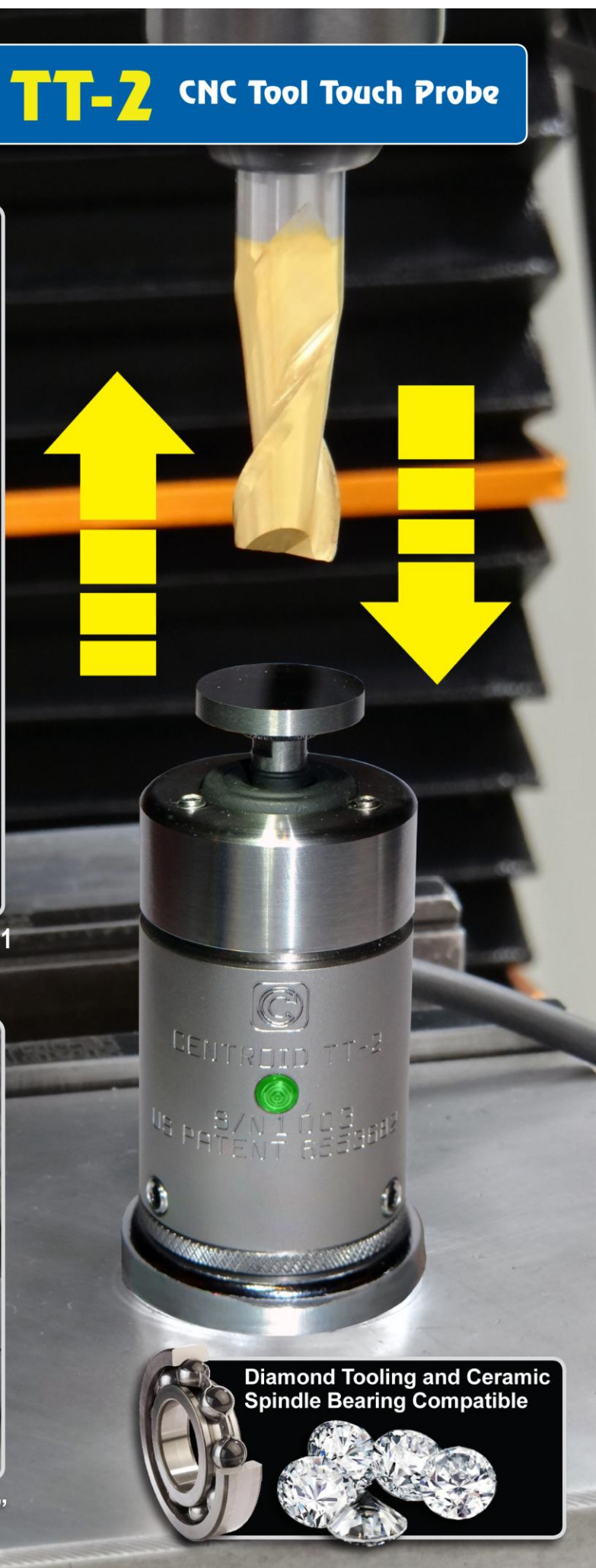
Works with all types of tooling and spindles, including non conductive diamond tooling & ceramic spindle bearings. The TT-2 is the best and most accurate way to setup tools. Save time, increase accuracy and increase machine tool efficiency. Perfect for both job shops and production shops. Works with both manual tool change and ATC equipped machine tools. Much faster, more accurate and repeatable than measuring by hand. The TT-2 is completely automatic. With a CENTROID CNC, Press "auto measure" and the tool will automatically touch off the TT-2 and set the tool height offset in the tool library. Works with CENTROID CNC controls and most any other CNC's or DRO's with a probe input and probing software.

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For use with Milling Machines, Lathes and Routers



Unidirectional repeatability = .00004"  
( 1 micro meter )



**Diamond Tooling and Ceramic Spindle Bearing Compatible**





### TT-2 CNC Tool Touch Probe Specifications

Probing directions	X +/- , Y +/- , Z -
Unidirectional repeatability	0.00004" (1 μm) 2 sigma at 1 ipm
Mounting Orientation	Any
Probe Height	2.97" (75mm) nominal
Probe Body Diameter	1.25" (31.8mm)
Mounting Options	Magnetic (stock), 1/2" Shank, or Bolt
Mounting shank diameter	0.5" (12.7mm)
Carbide Touch off surface mount thread	4-48
Over travel limit angle (X,Y)	10 degrees from vertical
Deflection travel limit -Z	0.15" inch max (3.8mm)
Minimum "heavy" trigger force * (Z)	50 oz. at center of disc
Minimum "heavy" trigger force * (X,Y)	16-22 oz. direction dependent
LED status indicator	Green = Ready, Red = Triggered
Supply voltage	10-30VDC 50MA
Output	Switch (FET drain), 30VDC 50MA N/O or N/C selectable
U.S Patent #	6553682



The **TT-2** kit is supplied with a heavy duty external probe cable, and tools for probe body alignment and tip removal and a internal control cable for connections inside the CNC control when required. Two optional mounting methods are available separately. The TT-2 comes standard with a magnetic base which can be swapped out for a 1/2" -13 Bolt base (part #12829 \$60) or a Straight 1/2" shank mount (part #10970 \$35) . The Stylus (touch off surface) can easily be customized for special applications as it is mounted with standard 4-48 threads. \* Three trigger force levels are available. As shipped trigger force is considered "Heavy" which is excellent for all types of everyday machining applications. Two lighter trip forces (Medium and Light) are available special order for use with small delicate tooling like PC board drill bits and small endmills that require a light trigger force. The TT-2 installation manual is available for download on our website.



Mounting options



**CENTROID**

Technician available to answer your questions  
714 528-7061 sales@machinesinmotion.com