# Probing System SOP

How to Calibrate a Haas CNC.

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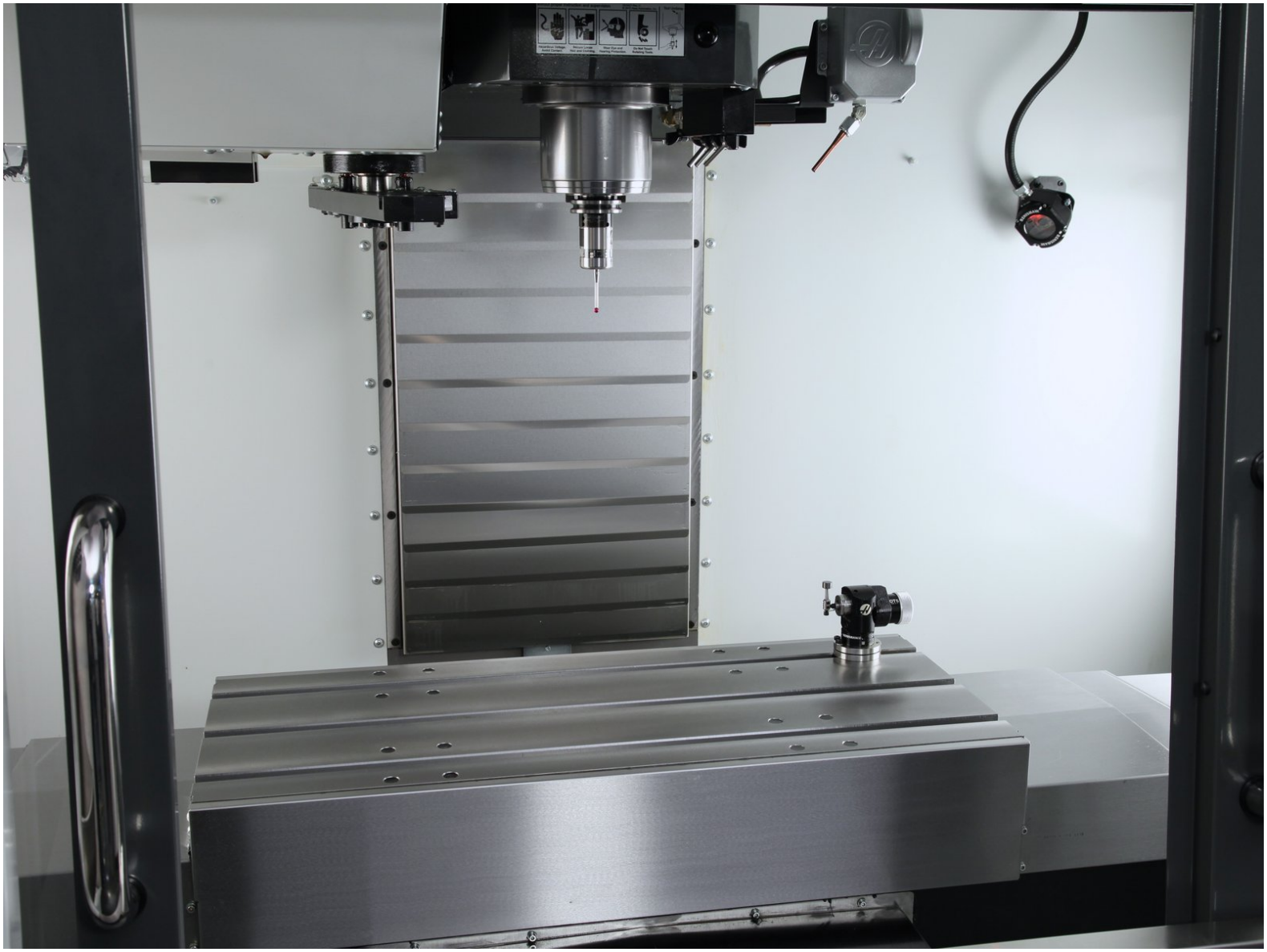


# INTRODUCTION

## Qualifications:

- Level 1 Safety Training
- CNC Operation Training

## PPE:

Please make sure you have the following PPE:

- Gloves
- Helmet
- Safety Glasses

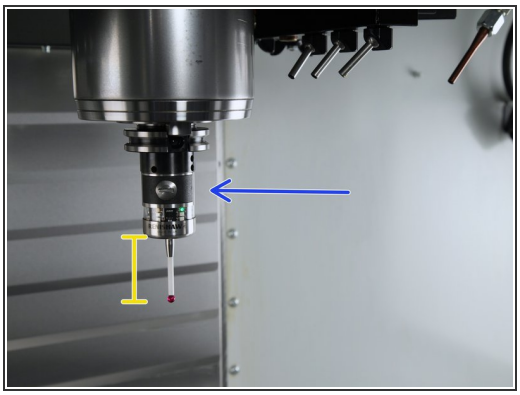
## TOOLS:

- Allen Wrench (1)
*A/R*
- WIPS Calibration Software Test (1)
*Steps 11, 15, 17, and 24*
- Micrometer (1)
*Steps 16 and 22*
- Machinist's Scale (2)
*Accuracy of 1/16 inch or 1.5 mm, Step 21*
- 3/8” Drive Extension (1)
- Punch (Center) (1)
**3-Hole Type**
- Sandpaper Sheets (1)
**Coarse**
*Step 3*
- Fabric Tape - Inches (2)
*Step 3*

## PARTS:

- Spindle - Sold by Dozuki (1)
*Steps 1, 5, 11, 13, and 14*
- Test Indicator (1)
*Steps 4, 5, 12, 13, and 14*
- Magnetic Base (1)
*Steps 4 and 5*
- Calibration Bar (1)
*Steps 4, 11, 16, 17, 20 and 21*
- Ring Gauge - US (1)
- Work Probe (5)
*Steps 3, 5, and 21*
- Punch-Down Tools (1)
- Wire Cutters (1)
- Rivet Gun MP-4V (1)
- FMMT495TA (1.23)
*Step 2*

## Step 1 — Verify Probe is Functioning Properly




- Check that the probe system and connections to the equipment are each functioning correctly.
  - Parts Required for this Step: **12133**, **13131**, **43121**, **48382**, **28392**, **28210**.

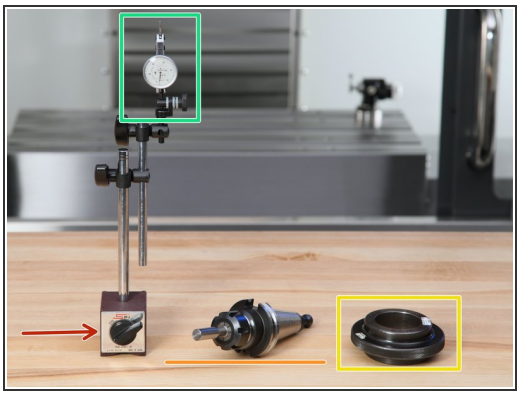
    ⚠ **Reminder:** Make sure to remove the **spindle** before starting the process.
- Prior to beginning this procedure check to see if the fuse is dead. If the fuse is dead go here.

  *Note:* View the Ring Gauge item page for more detailed part information.
- Refer to the Wiring Diagram prior to starting step 4.

## Step 2


- In MDI, enter: **M59 P1134**.
- Hold the Work Probe within range of the **OMI**. Press and Hold **CYCLE START**.
- Gently depress the stylus, the control pendant will beep indicating the probe is activated.
- View MSDS here
- Contact Supervisor is there is a problem

## Step 3 — Calibration Tools:



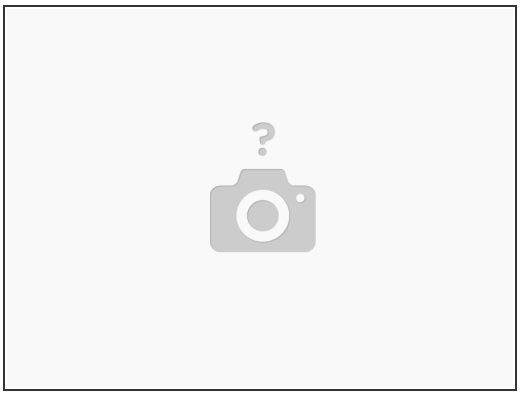

- Test Indicator accurate to 0.0005" or 0.013 mm
- Magnetic Base to mount the Indicator
- Calibration Bar , generally consisting of a 1/2" or 12 mm gauge pin clamped in a collet style toolholder.
- Ring Gauge typcally with a 2.000" or 50.000 mm bore.

**Note:** an accurately bored hole in a part or fixture can also be used in place of the Ring Gauge.

## Step 4

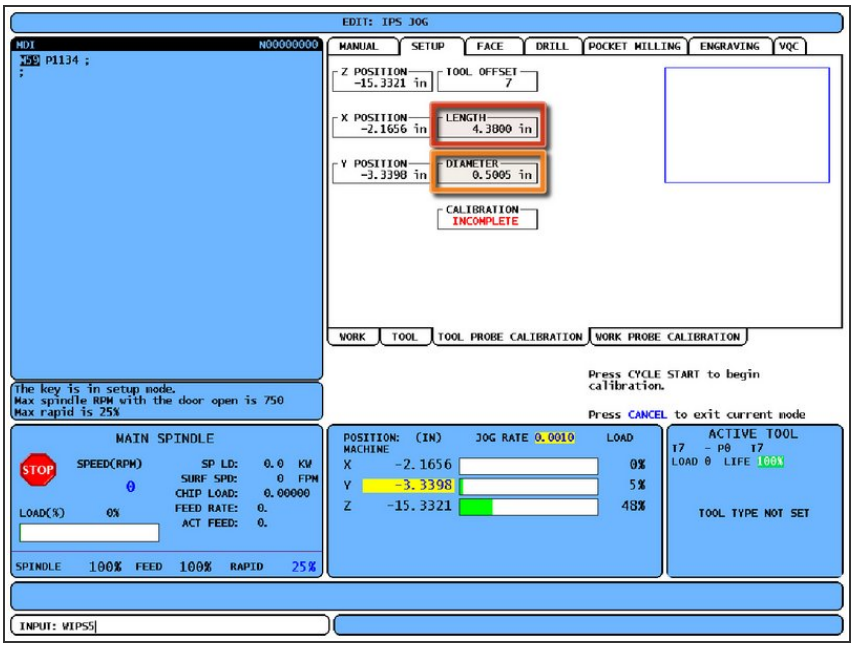
- Rotate the probe by hand to check runout.
- If runout exceeds 0.0005" or 0.013 mm, adjustment is required.
- Enter the runout reading.

## Step 5



⚠ Please be aware of Quality Alert associated with the next step. View Quality Alert.

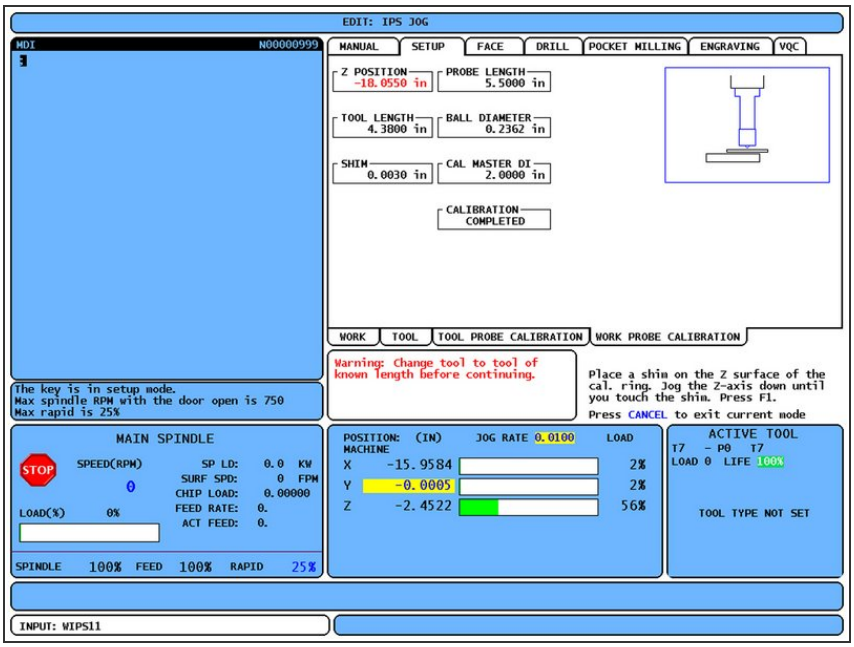
## Step 6




- Now enter the Spindle length. Use the value you wrote down in Step 1.
- Next, enter the runout reading previously noted in Step 4.

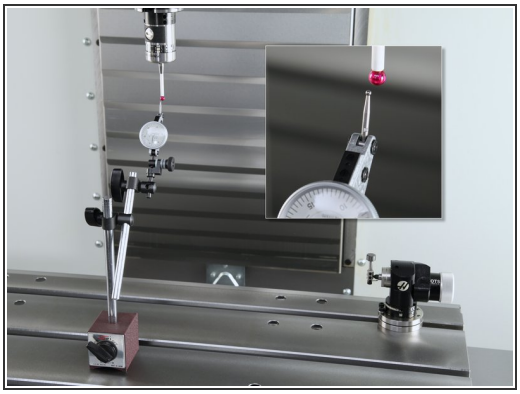
⚠ WARNING: THIS MUST BE A DIAMETER AND NOT A RADIUS MEASUREMENT.

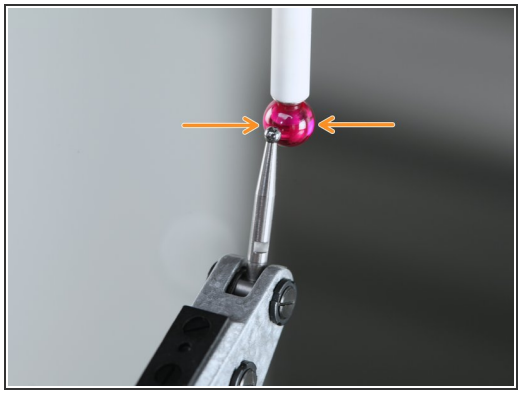
## Step 7




- This completes the calibration routine and the status box will display **COMPLETED**.
- With the Work Probe runout set within specification and both Probes calibrated, the machine is ready to measure tools and work pieces using the **WIPS** probing routines.
- Please complete [invalid guide link]

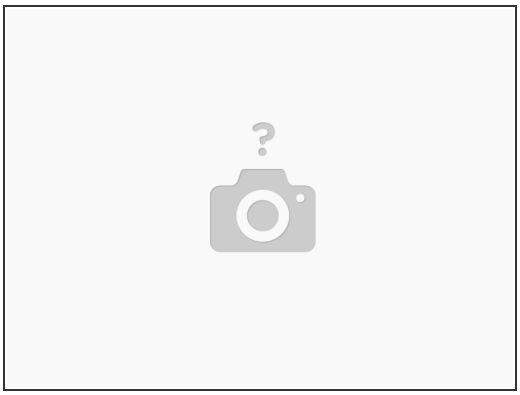
## Step 8 — Adjust stylus runout





- Insert the Work Probe into the spindle.
- Place the magnetic base on the table and align the indicator tip to the probe's stylus.
- Jog the axes in 0.001 inch increments until the indicator touches the stylus.
- With the indicator tip set against the stylus press **E-STOP**, so the probe isn't accidentally ejected during adjustment.

### Step 9 — Test Results



Record calibration test results.

# Data Capture

## Step 1

Serial Number

Verify probe and machine are working

Test Result (Choose one)

- Pass
- Fail

Measurement of Spindle (Choose one)

- 1/5"
- 1/4"
- 1/3"
- 1/2"

## Step 2

## Step 3

- [ ] Verify required tools.

## Step 4

Runout Reading

## Step 5

- [ ] I have read the Quality Alert.

## Step 6

Spindle Length

Runout Reading

## Step 9

Result (Choose one)

- [ ] Pass
- [ ] Fail

Observed Issues and Error Codes

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