## Application

The ForceCheck pull-force gage measures the clamping force of power drawbars on machining centers.

## Retention Knobs

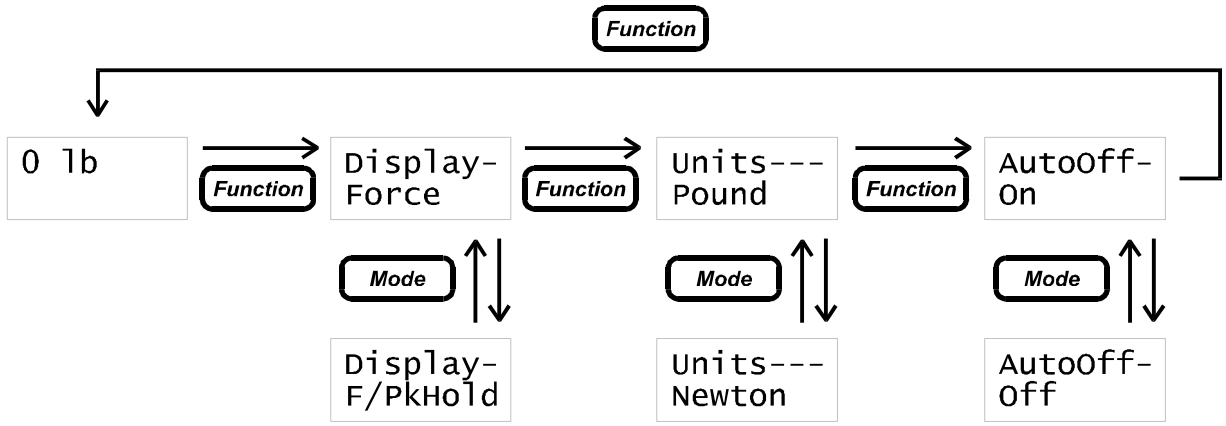
For proper measurement of pull-force on standard taper machines, the correct retention knob for the machine must be used with the force-sensing bar. We recommend always using the same retention knob for measuring clamping force.

## Basic Operating Instructions

1. Connect the supplied cable to the readout unit and force sensing bar.
2. Press the ***On / Off*** button to turn the gage on. The display will briefly show “ForceChk” and the installed software version.
3. Press the ***Zero*** button. The display should then read zero lbs or N.
4. Just as any other tool is clamped, insert and clamp the force-sensing bar in the machine spindle.
5. After the force-sensing bar is clamped in the spindle, the clamping force is shown on the readout.
6. To increase accuracy, take three to four measurements, rotating the force-sensing bar approximately 90º for each measurement. Fluctuations between readings are frequently the result of variations in the settling of springs in the drawbar and friction.
7. When finished, press the ***On / Off*** button again to turn the unit off. The display will briefly show “Goodbye” and then go blank.

### Other Functions

The ForceCheck readout has several options that can be selected using the ***Function*** and ***Mode*** buttons as shown in this diagram:




**Force:** displays only the force on the top line of the display.

**F/PkHold:** displays the force on the top display line, and the highest force read on the bottom line. This peak value can be reset with the zero button when the force sensing bar is unclamped.

**Pound:** display clamping force in pounds.

**Newton:** display clamping force in Newtons.

**AutoOff On/Off:** With AutoOff on, the readout will automatically turn itself off after approximately 1 minute of inactivity.

*Note: the On/Off and Zero buttons do not function when in a menu. Also, the display will be reset to 0 force if settings are changed while taking a measurement.*

ForceCheck™
109 North Main Street · Rockford, IL 61101 USA
Tel. 815 962-5600 · Fax 815 962-4600
www.force-check.com · info@force-check.com

### Battery

The readout unit has a removable battery; any standard 9V battery can be used.

### Calibration

To ensure accuracy within design specifications, as is with any other measuring instrument, periodic calibration by the manufacturer is strongly recommended. Additionally, the software in the readout should be updated to the latest revision.

### Conversion Factors

1 N [Newton] = 0.102 Kp;
10 kN = 10,000 N = 1,020 Kp  1,020 Kp ~ 1 Metric Ton
1 N = 0.22482 lbs.

### Available Taper Standards

- ANSI B 5.50 / "CAT" Steep Taper (30-60)
- DIN 69871 Steep Taper (30-60)
- JIS B 6339 (BT/MAS) Steep Taper (30-60)
- ISO Steep Taper (10-25)
- DIN 2080 Steep Taper (also used for some Cincinnati Milacron tapers)
- DIN 69893 / ISO/DIS 12164-1 HSK taper (HSK 25-160)
- KM, Capto®, and other special tapers
- Custom types available for most force measurement applications

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