Honeywell

Torque Watch® Gauge
Series 651

User Instructions

Item No.: 1103800 Rev. C

Waters

Series 651

When making measurements with the Series 651Torque Watch Gauge, it is important to make certain that the weight of the Torque Watch or the test piece being measured do not effect the measurement. If binding force is applied either to the Torque Watch or test piece, erroneous readings may result.

When the test piece being measured is small and unmounted, place the test piece in the Torque Watch chuck, hold the Torque Watch vertically with one hand and turn the test piece with the other hand. See Figure 1.

Figure 1.

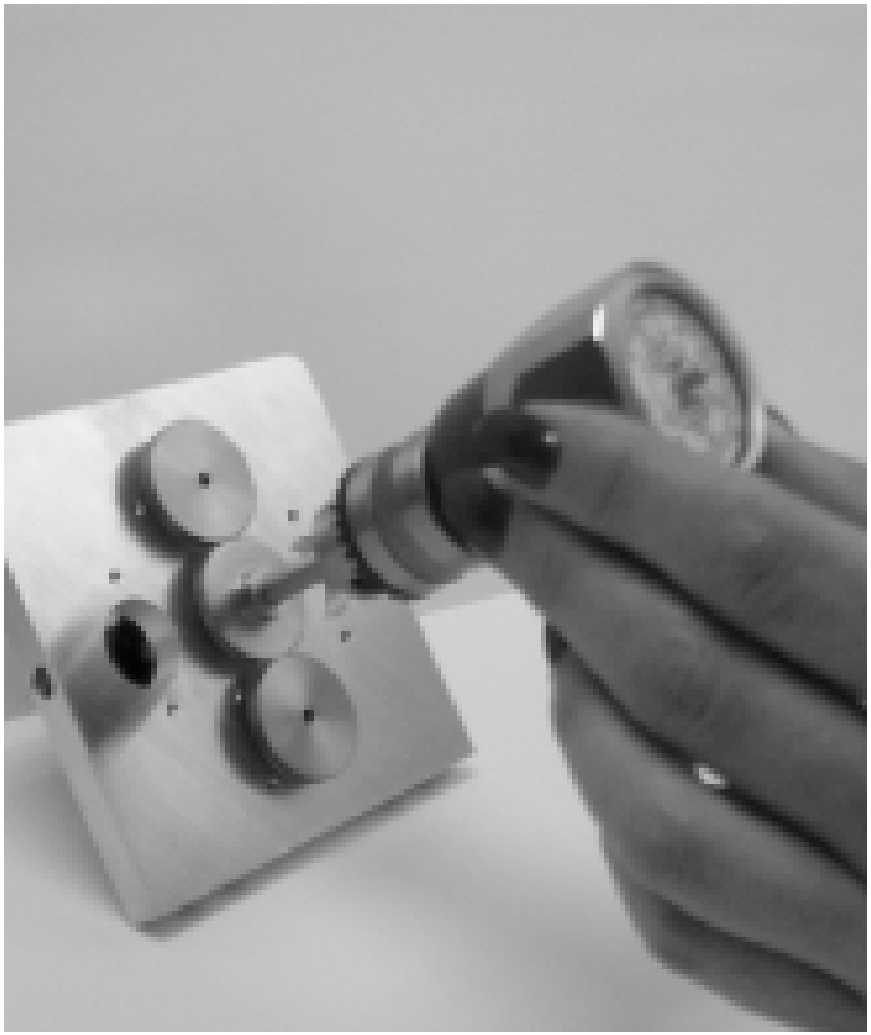

Figure 2.

If the test piece is mounted and has a screwdriver slot, the easiest way to make a measurement is to insert a screwdriver bit in the Torque Watch chuck. The Torque Watch can then be applied to the shaft of the test piece without the application of unwanted force. See Figure 2.

Large and unmounted objects can usually be measured by applying the Torque Watch directly to the shaft of the test piece, especially if the object has low friction bear-ings. In such a case, the weight of the test piece will have a minimal effect on the measurement.

When used with the appropriate screwdriver bit or socket and driver adaptor, small screws and bolts can be tightened accurately to any torque value within the range of the Torque Watch.

Starting torque is measured by turning the test piece or the Torque Watch until a maximum reading is obtained, after which the reading is typically lower.

Stainless steel pins are employed as stops, permitting overloads of two times the normal range without damage to the Torque Watch.

The bidirectional feature of the 651 Torque Watch permits torque measurements and adjustments to be made in both clockwise and counterclockwise directions.

The Series 651 Torque Watch is equipped with a Memory Needle which can save considerable inspecting time on production lines. Because of its inherent accuracy it can also be used in laboratory calibration applications.

The Memory Needle can be defined as a maximum reading pointer or a tolerance indicating pointer, and is used in the following manner:

- As a tolerance indicating pointer: adjust the knurled knob located in the center of the watch crystal, setting the Memory Needle to the desired torque value.
- As a maximum reading pointer: position the Memory Needle below the expected torque range, then measure the torque of the desired test piece as indicated in Figure 1. The final location of the Memory Needle will indicate the highest torque measured.

UNITS CONVERSION

	Multiply	By	To Obtain
English To English	Ounce Inches	6.25×10^{-2}	Pound Inches
	Ounce Inches	5.21×10^{-3}	Pound Feet
	Pound Inches	16	Ounce Inches
	Pound Feet	192	Ounce Inches
English To Metric	Ounce Inches	72	Gram Centimeters
	Pound Inches	1152	Gram Centimeters
	Ounce Inches	720	Gram Millimeters
	Pound Inches	11520	Gram Millimeters
Metric To Metric	Gram Centimeters	10	Gram Millimeters
	Gram Millimeters	0.1	Gram Centimeters
	Gram Centimeter	10^{-3}	Kg-cm
	Kg Centimeter	10^{3}	gm-cm
Metric To English	Gram Centimeters	1.389×10^{-2}	Ounce Inches
	Gram Centimeters	8.681×10^{-4}	Pound Inches
	Gram Millimeters	1.389×10^{-3}	Ounce Inches
	Gram Millimeters	8.681×10^{-5}	Pound Inches
System International	Ounce Inches	7.06×10^{-3}	Newton-Meters
	Gram Centimeters	9.81×10^{-5}	Newton-Meters
	Newton-Meters	141.6	Ounce Inches
	Newton-Meters	10197	Gram Centimeters

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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