

Torque Watch® Gauge
Series 940

User Instructions

Item No.: 1103900 Rev. B

Waters



Series 940

When making measurements with the Series 940 Torque 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.

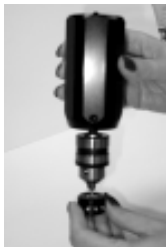


Figure 1

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

If the test piece is mounted and has a screw-driver slot, the easiest way to make a measurement is to insert a screw-driver bit in the

Torque Watch

the object has low friction bearings. In such a case, the weight of the test piece will have a minimal effect on the measurement.



Figure 2

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.

Removing the chuck and adding the 3/8" square socket drive adapter permits the Torque Watch to be used as a torque wrench. When used with the appropriate socket, fasteners, screws and bolts can be tightened accurately to any torque value within the range of the Torque Watch.

The 3/8" keyed chuck and the 3/8" square socket drive adapter are both installed by threading onto the shaft (3/8"-24threads).

The chuck or the 3/8" square socket drive adapter are removed from the shaft by rotating the chuck or adapter in a counter-

clockwise direction after the shaft has engaged the stop.

When securing the chuck or 3/8" adapter to the shaft, the tightening torque should be greater than 16 inch pounds but not over 25 inch pounds. This is to prevent loosening when testing torque at 200 oz. in. (On the Model 940-2, for 100 oz. in., torque should be greater than 8 inch pounds but not over 25 inch pounds).

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 940 Torque Watch permits torque measurements and adjustments to be made in both clockwise and counterclockwise directions.

The Series 940 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.

The Series 940 Torque Watches are provided with two handles which can be inserted into two holes located near the chuck end of the Torque Watch body. The handles increase the operator's grip radius, enabling the operator to apply full torque with less exertion than if the body alone is gripped. The handles are convenient when several successive measurements are to be taken.

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 Internationa l	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

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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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