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MONARCH INSTRUMENT

Instruction Manual



**Pocket Tach 99
(PT99)
Non-Contact Tachometer**

SAFEGUARDS AND PRECAUTIONS



WARNING - This product emits a visible beam of red LED light. Avoid exposure. The use of optical viewing aids (binoculars, for example) may increase the ocular hazard. (This is not a laser product.)

CAUTION - The red LED beam should not be intentionally aimed at people or animals.



Read and follow all instructions in this manual carefully, and retain this manual for future reference.

Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated.

This instrument is not user serviceable. For technical assistance, contact the sales organization from which you purchased the product.

Monarch Instrument's Limited Warranty applies. See www.monarchinstrument.com for details.

Warranty Registration and Extended Warranty coverage available online at www.monarchinstrument.com.

8.0 OPTIONS / ACCESSORIES

T-5	Reflective Tape, 5 foot [1.5 m] roll, ½ inch [13 mm] wide
CC-10	Padded Nylon Carrying Case
CC-11	Latching Carrying Case for Pocket Tach and accessories
CAL-N.I.S.T.	N.I.S.T. Traceable Certificate of Calibration

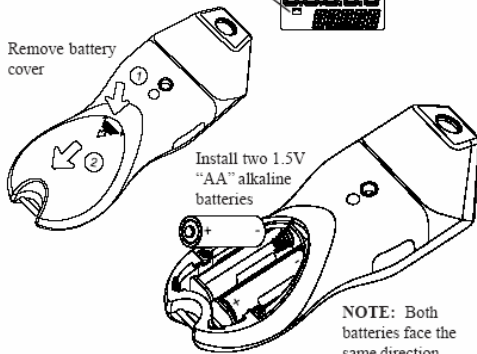
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6.0 BATTERIES

When displayed, replace batteries.



Remove battery cover



Install two 1.5V "AA" alkaline batteries

NOTE: Both batteries face the same direction.

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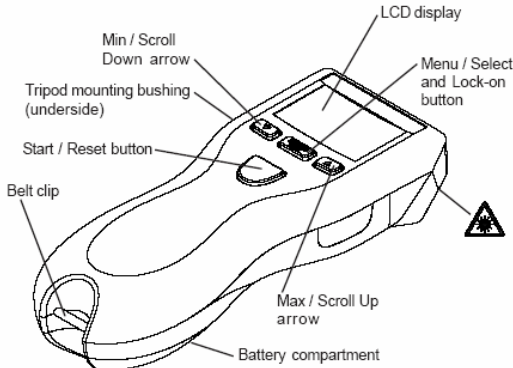
7.0 CLEANING

To clean the instrument, wipe with a damp cloth using mild soapy solution.

1.0 OVERVIEW

The Pocket Tach 99 is a hand-held precision optical tachometer designed to make non-contact measurements of rotational speeds from 5 to 99,999 RPM at a distance of up to 36 inches (91.44 cm) from a reflective target and at an angle of up to 30° off perpendicular. The unit has the ability to recall maximum and minimum values. The unit can be tripod mounted and locked on for continuous measurements.

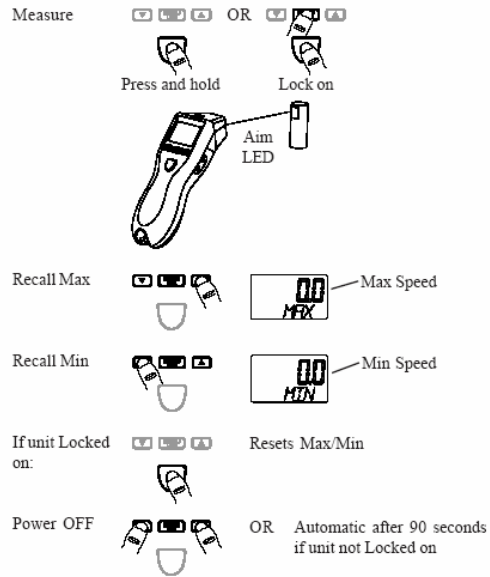
2.0 FEATURE LOCATIONS



CAUTION - Red LED light emitted from this aperture. (This is not a laser product.)

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5.3 Operation



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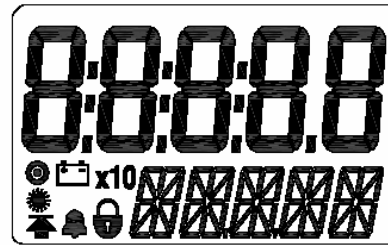
5.2 Setup

1. Turn Power ON
- 1a. To toggle Lock On/ Off Press and Hold Locked On
2. Enter Setup (decimal place selection) NONE, 1, 2 or 3
3. Select decimal places OR Repeat until desired decimal places displayed
4. Save and exit - Ready to measure RPM displayed with selected number of decimal places

Unit will remember these settings (including lock on/off) even if turned off and back on.

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
3.0 LCD DISPLAY SYMBOLS



- On Target indicator. Blinks on whenever there is an input signal. Will appear to be solid on at higher frequencies.
- Low Battery icon. Indicates that the batteries are low and need to be replaced.
- Times Ten icon. Indicates that the value shown is ten times that which is displayed.
- LED Indicator. Red LED is on when this indicator is illuminated.
- Lock icon. Indicates that the unit is "Locked" on and making continuous measurements (Lock-on mode).

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4.0 PT99 SPECIFICATIONS

Speed Range:	5 to 99,999 RPM
Accuracy:	±0.01% of reading or ±1 digit
Resolution:	0.001 RPM to 1 RPM
Operating Range:	36" (91.44 cm) up to 30 degrees off perpendicular
Display:	5 Digits, 5 Alpha-numeric LCD
Light Source:	Red LED
Batteries:	2 "AA" 1.5 V  (DC) alkaline included (Note: Batteries are NOT rechargeable)
Battery Life:	60 hours continuous typical with provided batteries
Dimensions:	6.92" (17.58 cm) H x 2.4" (6.10 cm) W x 1.6" (4.06 cm) D
Weight:	approx. 7 oz. (210 g)

This product is designed to be safe for indoor use under the following conditions (per IEC61010-1).

Installation Category II per IEC 664

Pollution Degree Level II per IEC 664

Temperature: 40 °F to 105 °F (5 °C to 40 °C)

Humidity: Maximum relative humidity of 80% for temperatures up to 88 °F (31 °C) decreasing linearly to 50% relative humidity at 100 °F (40 °C). Humidity non-condensing.

Specifications subject to change without notice.

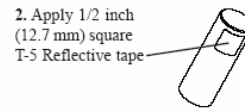
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5.0 NON-CONTACT MEASUREMENTS

5.1 Preparation for Measurement

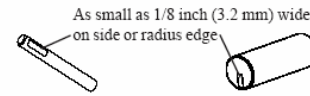


1. Clean Shaft



2. Apply 1/2 inch (12.7 mm) square T-5 Reflective tape

For Small Shafts:



As small as 1/8 inch (3.2 mm) wide on side or radius edge

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