



< DT-105 >

Instruction Manual

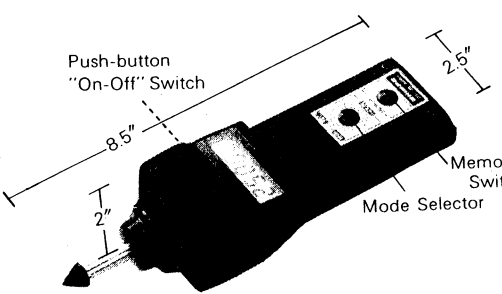
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1. GENERAL

SHIMPO DT-105 is a battery operated, handheld, computer-circuitry-controlled, contact type tachometer. It incorporates the latest micro-computer technology to provide:

- **MULTI-MODE CAPACITY**
To measure RPM, FPM, YPM, MPM, etc. without special accessories.
- **LARGEST MEMORY CAPACITY**
- **WIDE SPEED RANGE WITH AUTOMATIC FLOATING DECIMAL**
- **C-MOS SINGLE CHIP MICRO COMPUTER—HIGH RELIABILITY AND LOW MAINTENANCE**
- **RUGGED CONSTRUCTION—ALUMINUM DIE CAST HOUSING**

2. SPECIFICATIONS



Shaft Diameter — 0.28" (7mm)

Display 5 digit 0.36" (9mm) high LCD with floating decimal point

Memory System Last reading displayed for 2 minutes after instrument removal. Four intermediate readings, last, maximum and minimum readings stored in

IMPORTANT

All SHIMPO products are warranted against defects in material and workmanship. SHIMPO America Corp. shall replace or repair any part proven to be defective within one year after the date of purchase.

Return the damaged unit to SHIMPO America Corp. prepaid with a written explanation of the problem. Any unauthorized attempt at servicing any SHIMPO product will void this warranty.

memory automatically or by selection.

System Single-chip C-MOS micro-computer

Detection Optical coupler, 60 pulses/rev.

Update Gate Typically 1 second

Time

Over-range Decimals appear between all numbers

Indicator

Batteries, Size: 4 1.5V AA

Included Life: average 40 hours continuous use

Low Voltage Indicator "B" flashing display

Operating Temperature 32° to 113°F (0~45°C)

Construction Diecast aluminum housing

Weight 1 pound (450 grams)

Dimensions, 8.5" Long, 2.5" Wide, 2" High

in Inches

Accessories 2 Cone Adapters

Included 1 Funnel Adapter

1 Master Linear Speed Measuring Wheel (6" circumference)

3" Extension Shaft

Carrying Case

Operating Instructions

Warranty 1 year

3. RANGE & ACCURACY

Using master wheel and proper mode selector, the following industrial unit measurements will be achieved:

R: Revolutions	Single Range	Accuracy
RPM (rev./min.)	0.1–999.9 900–25000	±0.1 ±1
RPS (rev./sec.)	0.001–9.999 9.00–416.66	±0.002 ±0.02
RPH (rev./hour)	6–99996	±6

Y: Yards	Single Range	Accuracy
YPM (yards/min.)	0.01–99.99 90.0–4166.6	±0.02 ±0.2
YPS (yards/sec.)	0.0002–0.9999 0.900–65.535	±0.0003 ±0.003
YPH (yards/hour)	1–99999	±1

M: Meters	Single Range	Accuracy
mPM (meters/min.)	0.01–99.99 90.0–3810.0	±0.02 ±0.2
cm/S (centi-meters/sec.)	0.02–99.99 90.0–6349.9	±0.03 ±0.3
mPH (meters/hour)	1–99999	±1

F: Feet	Single Range	Accuracy
FPM (feet/min.)	0.1–999.9 900–12500	±0.1 ±1
FPS (feet/sec.)	0.001–9.999 9.00–208.33	±0.001 ±0.01
FPH (feet/hour)	3–99999	±3

I: Inches	Single Range	Accuracy
IPM (inches/min.)	1–99999	±1
IPS (inches/sec.)	0.01–99.99 90.0–2500.0	±0.01 ±0.1
I ₃ PH (in. x 10 ³ /hour)	0.03–99.99 90.0–6353.5	±0.04 ±0.4

M: Miles	Single Range	Accuracy
MPH (miles/hour)	0.001–9.999 9.99–142.04	±0.001 ±0.01

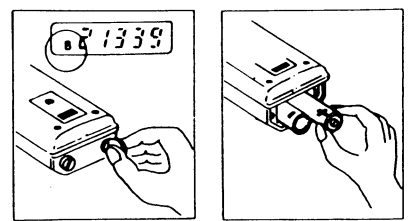
Caution: Although tachometer alone can cover above ranges, master wheel absolute speed limitation of 5,000 FPM for safety reasons.

SURFACE SPEED METRIC CONVERSION

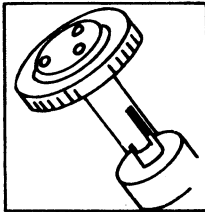
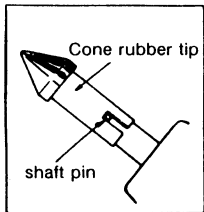
Conversions such as YPM to MPM or MPM to YPM may be obtained on memory reading only by turning from one mode to another.

4. BATTERY REPLACEMENT

Low battery voltage is indicated by a flashing "B" readout display. Loosen end cover screws and replace batteries. Please note polarity as reversing polarity will cause unit to show no display.

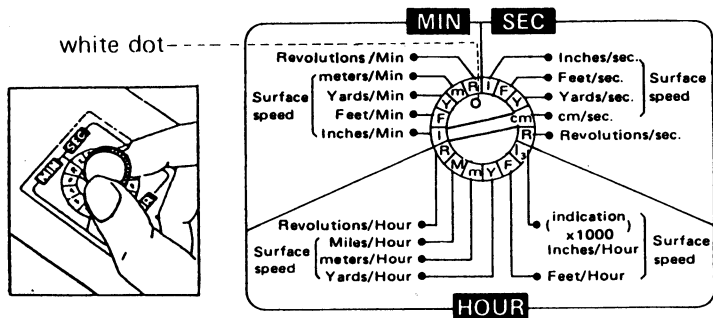


OPERATING PROCEDURE

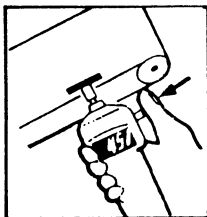
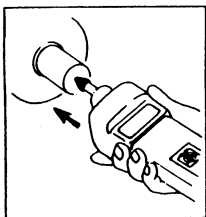


Caution: Do not attach linear speed wheel on extension shaft. The wheel may be slipped off during measuring.

Place adapter or wheel on shaft (as above).



Turn mode selector so white dot is at desired measuring unit.



After attaching adapter or wheel, bring it into contact with rotating object or moving surface to be measured. Apply only enough pressure to eliminate slip.

4. Press and hold on-off switch on. Display will be updated in approximately 1 second intervals.

5. On-Off switch must be released prior to removal of tachometer from rotating object.

6. After removal, unit will display last reading. This reading will remain in the display for a period of 2 minutes after release of power switch. This 2-minute retention may be extended any number of additional 2-minute periods by re-pressing memory switch.

6. MEMORY RECALL INSTRUCTIONS

A. Automatic Memory

The following are automatically stored in memory for 2 minutes following release of memory switch.

Last 4 intermediate Readings

Maximum Reading

Minimum Reading

These readings will be displayed in the following order when memory switch is pressed:

1st Press: Last reading	<input type="text" value="1"/>	▷	<input type="text" value="21343"/>
2nd Press: Next to last reading	<input type="text" value="2"/>	▷	<input type="text" value="21338"/>
3rd Press: 3rd to last reading	<input type="text" value="3"/>	▷	<input type="text" value="21340"/>
4th Press: 4th to last reading	<input type="text" value="4"/>	▷	<input type="text" value="21339"/>
5th Press: Maximum reading			<input type="text" value="21345<sup>*</sup>"/>
6th Press: Minimum reading			<input type="text" value="21338."/>

To fill all memory spaces, unit must be run for about 5 seconds. If any of above memory readings are missing, unit needs longer operation.

B. Selection Memory

This mode is designed for laboratory use only and not applicable for general application.

Press memory switch briefly as reading you wish stored appears on display. A dot will blink at end of display (see fig.1). Up to 4 selections can be stored. (Each blink of dot represents 1 memory storage).

1st Press: 4th selection	<input type="text" value="1"/>	▷	<input type="text" value="21343."/>
2nd Press: 3rd selection	<input type="text" value="2"/>	▷	<input type="text" value="21338."/>
3rd Press: 2nd selection	<input type="text" value="3"/>	▷	<input type="text" value="21340."/>
4th Press: 1st selection	<input type="text" value="4"/>	▷	<input type="text" value="21339."/>
5th Press: Maximum reading			<input type="text" value="21345<sup>*</sup>"/>
6th Press: Minimum reading			<input type="text" value="21338."/>

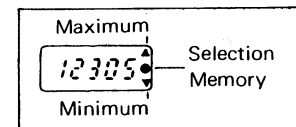


Fig. 1

Note: All memory data will be erased if on-off switch is pressed or if automatic shut-off has occurred.