25000

DIGITAL TACHOMETER

Shimpo

< DT-107 >

Instruction Manual

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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.

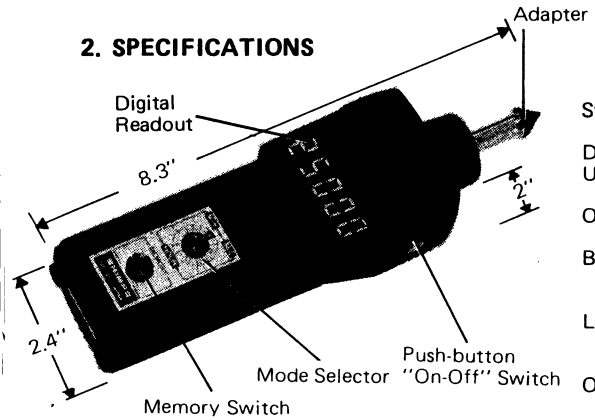
Return the damaged unit to SHIMPO America Corp. prepaid with a written explanation of the problem. Any unauthorized attempt at servicing any SHIMPO product will void this warranty.

1. GENERAL

SHIMPO DT-107 is a battery operated, handheld, computer-circuitry-controlled, contact type tachometer. It incorporates 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" (10mm) high LED with floating decimal point
Memory System	Last reading displayed for 10 seconds and can be recalled within 4 minute period. Four intermediate readings, maximum and minimum readings stored in memory automatically and retained for 4 minutes ... or four intermediate readings can be stored by selection.
System Control	Single-chip C-MOS microcomputer
Detection	Optical coupler, 60 pulses/rev.
Update Gate Time	Typically 1 second
Over-range Indicator	Decimals appear between 3 numbers
Batteries, Included	Size: 4 1.5V AA Life: averages 8 hours continuous use
Low Voltage Indicator	"B" display
Operating Temperature	32° to 113°F (0 ~ 45°C)
Construction	Die-cast aluminum housing
Weight	1 pound (450 grams)
Dimensions. in Inches	8.3" Long, 2.4" Wide, 2" High
Accessories Included	2 Cone Adapters 1 Funnel Adapter 1 Master Linear Speed Measuring Wheel (12"circumference) 1-3½" 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	±0.001 ±0.01
RPH (rev./hour)	6–99996	±6

F: Feet	Single Range	Accuracy
FPM (feet/min.)	0.1–999.9 900–25000	±0.1 ±1
FPS (feet/sec.)	0.001–9.999 9.00–416.66	±0.001 ±0.01
FPH (feet/hour)	6–99996	±6

Y: Yards	Single Range	Accuracy
YPM (yards/min.)	0.1–999.9 900–8333	±0.1 ±1
YPS (yards/sec.)	0.001–9.999 9.00–139.88	±0.001 ±0.01
YPH (yards/hour)	2–99998	±2

I: Inches	Single Range	Accuracy
IPM (inches/min.)	1–99996	±1
IPS (inches/sec.)	0.1–999.9 900–5000	±0.1 ±1
I_3PH (in.x10^3/hour)	0.1–999.9 900–18000	±0.1 ±1

M: Meters	Single Range	Accuracy
mPM (meters/min.)	0.1–999.9 900–7620	±0.1 ±1
cm/S (centimeters/sec.)	0.1–999.9 900–12700	±0.1 ±1
mPH (meters/hour)	1–99999	±1

M: Miles	Single Range	Accuracy
MPH (miles/hour)	0.001–9.999 9.99–284.09	±0.001 ±0.01

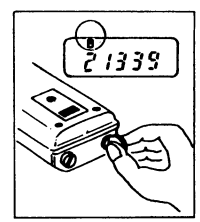
Caution: Although tachometer alone can cover above ranges, master wheel has absolute speed limitation of 2,000 FPM for safety reasons.

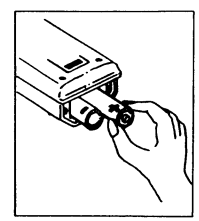
SURFACE SPEED METRIC CONVERSION

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

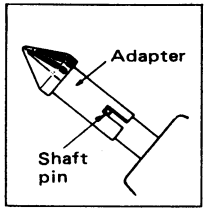
Low battery voltage is indicated by a "B" readout display. Loosen end cover screws and replace batteries. Please note polarity as reversing polarity will cause unit to show no display.

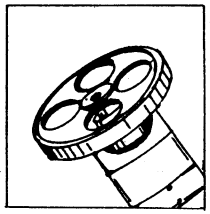




5. OPERATING PROCEDURE

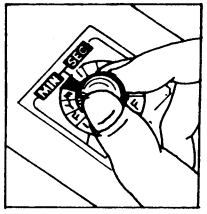
1.

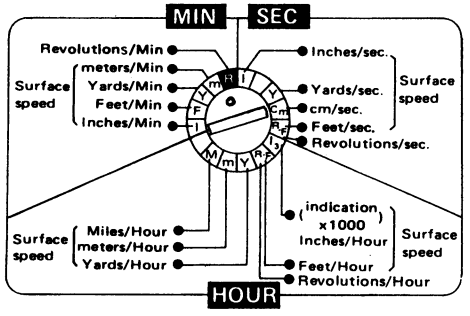




Place adapter or wheel on shaft (as above).

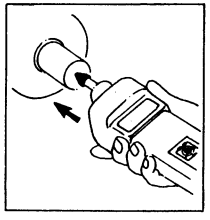
2. white dot

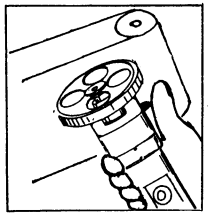




Turn mode selector so white dot is at desired measuring unit.

3.





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 release of power switch, last reading will be displayed for a period of 10 seconds. Readings will be automatically stored in memory for 4 minutes following release of memory or power switch. This 4-minute retention may be extended any number of additional 4-minute periods by re-pressing memory switch.

6. MEMORY RECALL INSTRUCTIONS

A. Automatic Memory

The following are automatically stored in memory for 4 minutes following release of memory switch.

Last 4 intermidiate Readings
Maximum Reading
Minimum Reading

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

1st Press:	Last reading	1	21343
2nd Press:	Next to last reading	2	21338
3rd Press:	3rd to last reading	3	21340
4th Press:	4th to last reading	4	21339
5th Press:	Maximum reading		21345
6th Press:	Minimum reading		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. An "M" will blink at display (see fig.1). Up to 4 selections can be stored. (Each blink of "M" represents 1 memory storage).

1st Press:	4th selection	1	M 21343
2nd Press:	3rd selection	2	M 21339
3rd Press:	2nd selection	3	M 21340
4th Press:	1st selection	4	M 21339
5th Press:	Maximum reading		21345
6th Press:	Minimum reading		21338

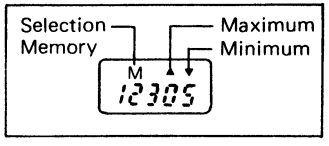


Fig.1

Note: All memory data will be erased if on—off switch is pressed or after 4 minutes after automatic shut-off has occurred.