

# OPPAMA

## INSTRUCTION MANUAL

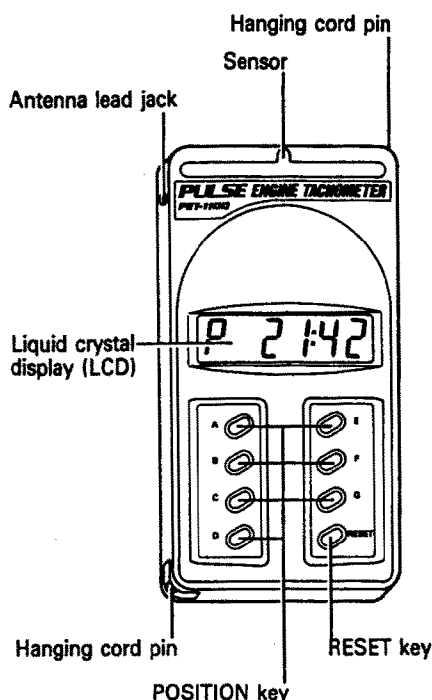
### PULSE ENGINE TACHOMETER PET-1100

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The PET-1100 is a pulse-activated tachometer: It detects and counts electric pulses produced at the time of ignition of gasoline engines, and processes the detected signals into rpm readings according to the type of engines being monitored. This unit is capable of monitoring rpm of 11 types of gasoline engines that are shown in the Position Table.



## NAME OF PARTS



## POSITION TABLE

Key	Position No. (on LCD)	Monitorable Engines		Monitorable RPM Range
		Strokes	Cylinders	
A	P 21:42	2	1	100 ~ 19000
		4	2	
B	P :43	4	3	100 ~ 13000
C	P 22:44	2	2	100 ~ 9500
		4	4	
D	P 23:46	2	3	100 ~ 6500
		4	6	
E	P :41	4	1	100 ~ 19980
F	P :45	4	5	100 ~ 7000
G	P 24:48	2	4	100 ~ 4800
		4	8	

## SPECIFICATIONS

Monitorable Engines	2-stroke 1-to 4-cylinder
	4-stroke 1-to 6-, and 8-cylinder
RPM Display Interval	0.5 sec
Accuracy	±10rpm (±20rpm for 4-str 1-cyl)
Battery	Lithium (CR2032) × 1 ea.
Battery Life	Approx. 20000 hrs
Ambient Temperature	-10°C ~ +60°C
Storage Temperature	-20°C ~ +60°C
Dimensions (L×W×H)	120×62×13 mm
Weight	74 g
Accessories	Antenna lead with clip - 1 ea. Hanging cord - 1 ea. Instruction Manual - 1 ea.

## HOW TO USE

### (1) Non-Contact Method (Fig. 1)

- Select the POSITION number applicable to the engine to be monitored, referring to the Position Table.
- Depress the alphabetical key corresponding to the POSITION number selected in 1 above. This will turn ON the unit, with the LCD showing the selected POSITION number.
- With the engine running, hold the unit so that the sensor end is at an appropriate distance (1 cm ~ 50 cm) from the active ignition cable (or one a multiple-cylinder engine, from the spot where all the ignition cables are clustered). "Appropriate monitoring distance" varies with the signal strength and the type of engines being monitored; it is established when the rpm readings appearing on the LCD have become stabilized within a  $\pm 10 \sim \pm 15\%$  rpm range. The engine's rpm readings will continue to appear at 0.5 sec intervals as long as the unit is held at the proper monitoring distance. (CAUTION: Do not allow the unit to touch any active ignition cable, or the unit's failure may result.)
- Move the unit away from the running engine, or stop the engine, and POSITION number will appear on the LCD. The unit will automatically turn OFF in one minute thereafter.

### (2) Antenna Lead Method (Fig. 2)

- Attach the antenna lead to the unit as illustrated.
- Get the unit ready for use, following Steps (1) 1 ~ 2.
- Connect the antenna lead to the ignition cable, using the clip, as shown. On a multi-cylinder engine, attach the antenna lead clip to one of the ignition cables where all of them are clustered.
- Start the engine, and its rpm readings will appear on the LCD at 0.5 sec intervals.
- Remove the antenna lead clip from the ignition cable, or stop the engine, and the POSITION number will appear on the LCD. The unit will automatically turn OFF in one minute thereafter.

Fig. 1

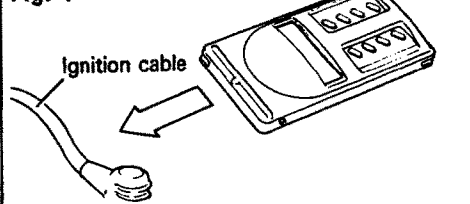
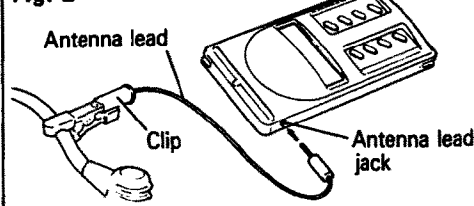


Fig. 2



## NOTES AND CAUTIONS

- Some engines employ "double spark" ignition method where the number of sparks per revolution is double that of the ordinary engines. Since rpm readings are given based on the count of spark-generated electric pulses, this means that the rpm readings displayed represent two times the actual, correct readings. To obtain direct rpm readings on a double-spark ignition engine, select the POSITION number by doubling the number of cylinders of the engine: For example, the POSITION number to select for a double-spark ignition, 2-stroke 1-cylinder, or 4-stroke 2-cylinder engine should be **P 22:44** instead of **P 21:42**.
- Very rarely, strange figures or symbols happen to appear on the LCD. This condition does not represent the unit's failure. If this has occurred, depress RESET key: the figures **8888:88** will temporarily appear and then POSITION number **P 21:42** will follow, indicating that the unit is in normal working condition.
- When the antenna lead is used, be sure to keep it free from contact with metallic surfaces to avoid possible errors in rpm readings.
- Keep this unit away from strong physical shocks.
- Never touch the inside circuit to prevent any unnecessary trouble or malfunction.
- Battery replacement is a very remote necessity under normal use. However, if necessary, remove six small screws from the back of the unit, remove the back panel, and replace the battery with a new one.