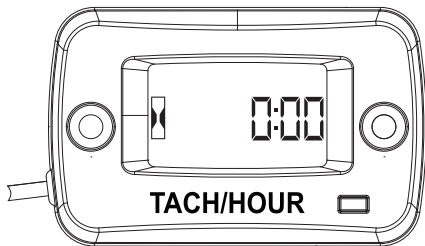
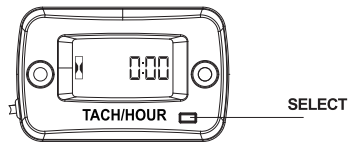


OPERATING INSTRUCTION

Self Powered Digital Tach / Maintenance / Hour Meter

Part No. HR-8062-2











Product Accessories List	-----	①
Product Installation	-----	①
Product Operation	-----	③
Specifications	-----	⑨
Dimension	-----	⑩

Please read and understand the following notices carefully, and correctly install and operate the product before using.



1. Please make sure to refer to the installation instructions in the Operating Instructions to avoid damage caused by installation errors
2. The product included the battery inside and can not be replaced, do not disassemble or replace the battery by yourself.
3. Do not pull the wiring when using it to prevent falling off or poor contact happened.
4. Please install the product in a proper location to avoid the possibility of this product being hit and prevent damage to the product.
5. The product has certain waterproof function, but cannot be used in deep water or soaked in rain for a long time
6. Please use the product at the specified temperature, high temperature environment may cause damage to the product.

Product Accessories List

1 product*1 	2 double-sided tape*1 	3 paper card*1 
4 user manual*1 	5 cable tie*2 	6 screws*2 

Product Installation

This product can be directly installed with double-sided tape or screwed, the installation method is as follows:

1. Double-sided tape installation:



a) Clean properly the surfaces. Note: Make sure the surface is flat and the oil is clean enough.



b) Stick the double-sided tape on the back of the product. Note: before pasting the double-sided tape, please make sure the back of the product is clean and tidy, without moisture or grease.



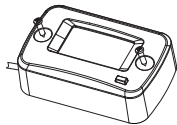
c) Remove protection from double-sided tape. Note: when removing the double-sided tape protector, make sure that the double-sided tape is not exposed to water or oil on both sides.



d) Fix the tach hour meter in a proper position. Note: before pasting the double-sided tape, please confirm that the pasted place is clean and tidy, no moisture or oil.

Proper position requirement: no moisture, no grease, is a plane, no violent vibration, and the temperature not exceed 125F.

2. Screw installation:



- The design allows for surface mount.
- Choose a location where the pick-up wire (included) will reach the meter to the spark plug
- Install with screws as the below diagram

Note: proper position requirement: no moisture, no grease, is a plane, no violent vibration, and the temperature not exceed 125F. Do not drill into gas tank, engine crankcase or oil reservoir frames.

3. Signal wire installation

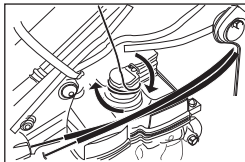
A Signal wire connection: wrap the signal wire around the spark plug, wrap it 4 to 5 turns, and fasten it with a cable tie to ensure it is effectively fixed and will not loosen. **(If the connection is not strong, the tachometer will get insufficient signal, then the RPM and Hour values will be inaccurate.)**



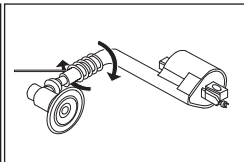
- For traditional ignition modes, wrap signal wire 4 to 5 turns tightly around the engine spark plug wire
- For "pencil coil" ignition, wrap signal wire around the plastic coil above the spark plug.

c) The spark plug signal generated by different engine types has the difference of strength and weakness. By adjusting the turns of winding, the appropriate adjustment can be made to improve the accuracy of the rpm and timing data. This is a skill that different degree spark plug signal that allows the induction wire to acquire.

Under normal condition, if the rpm is a little low, you can increase the winding turns, if the rpm is a little high, you can reduce the winding turns. For example, wrap 6-10 turns, if the rpm is a little high, you can reduce the winding turns. For example, wrap 2-4 turns, if the rpm is a little low, you can increase the winding turns.



4 stroke installation, wrap pick-up wire around head of coil.



2 stroke installation, wrap pick-up wire around spark plug lead.

B The test after the connection: start the engine, the LCD of the tachometer displayed the rpm or timing, which means the connection is correct. If the timing data is inaccurate, please refer to clause A to adjust the turns of the winding.

Product Operation

1. Hours Mode and RPM Mode



Hours Mode



RPM Mode

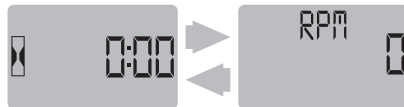
a) The function of this product distinguishes between the time mode and the RPM mode. These two modes are called separately and the functions they contain can only be displayed under the corresponding mode.

b) Hours Mode contains: hours, JOB1, JOB2, Alert(Clean Air Filter), Alert(CHG Oil), SVC

c) RPM Mode contains: RPM, 2 RPM, Firing Patterns

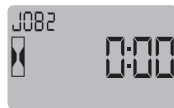
2. The choice of the Hours Mode and RPM Mode

Press and hold the button at "Hours" interface under Hours Mode or at "RPM" interface under RPM Mode, can switch between the 2 modes.



3. The function usage under Hours Mode

Hours Mode contains : hours, JOB1, JOB2, Alert(Clean Air Filter), Alert(CHG Oil), SVC

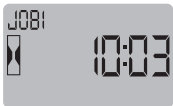


1) **Hours**----Total hours of operation.



- a) This is always displayed when under Hours Mode
- b) Total hours can not reset
- c) The total hours max value is 999999; When the total hours range is 0.0-9999H59Min, the timing accuracy is 1Min; When the total hours range is 10000.0-99999.9H, the timing accuracy is 0.1H; When the total hours range is 100000-999999H, the timing accuracy is 1H.
- d) When the total hours exceeds 999999 hours, the timing will restart from 0.

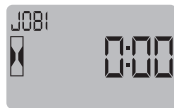
2) **JOB1**----Hours of operation since the timer was reset



Press and hold the button for 3S



a) To view “JOB1” time: press the button once at “Hours” interface.



b) To reset “JOB1” time: press and hold the button until display shows 0000:00, then release the button, the “JOB1” display will reset to “0:00”, and you will begin to record the next job interval.

3) **JOB2**----Hours of operation since the timer was reset

“JOB2” is the same operation as the “JOB1”.

4) **Clean Air Filter (Alert)**----Hours of Alert “Clean Air Filter” since the timer was reset .Note: timing is countdown.

To view “Clean Air Filter” time: press the button 3 times at “Hours” interface

To program "Clean Air Filter" timer:



Press the button 3 times



a) Press the button 3 times until display shows "CLEAN AIR FILTER" icon and "0:00" icon flashing alternately.

b) Press and hold the button until display shows "AIR FILTER" icon and "0:00" flashing, release and press the button to set the required time value

c) Stop at correct alert "clean air filter" time value for your engine

d) Wait for 5 seconds and display will return to "Hours" (total hours)

When the "clean air filter" time is reached, the icon "CLEAN AIR FILTER NOW" will flashing continuously on the display screen, the reminder time is 1 minute, press the button to close the reminder, the next clean air filter time starts timing

5) **CHG OIL (Alert)**—Hours of Alert "CHG OIL" since the timer was reset. Note: timing is countdown.

To view "CHG OIL" time: press the button 4 times at "Hours" interface.

To program "CHG OIL" timer:



Press the button 4 times



a) Press the button 4 times until display shows "CHG OIL" icon and "0:00" icon flashing alternately.

b) Press and hold the button until display shows "CHG" icon and "0:00" flashing, release and press the button to set the required time value

c) Stop at correct alert "CHG OIL" time value for your engine.

d) Wait for 5 seconds and display will return to "Hours" (total hours).

When the "oil change" time is reached, the icon "CHG OIL" will flashing continuously on the display screen, the reminder time is 1 minute, press the button to close the reminder, the next oil change time starts timing

6) **SVC**---- Maintenance interval time. Note: timing is countdown.

To view “SVC” time: press the button 5 times at “Hours” interface

To program “SVC” timer:



Press the button 5 times



a) Press the button 5 times until display shows “SVC” icon and maintenance interval time.

b) Press and hold the button until display shows “SVC” icon and maintenance interval time starts flashing

c) Press the button until you get desired hours, release the button, the LCD will flash for 5 seconds and return to “Hours” (total hours).

When the maintenance interval time is reached, the icon "SVC" will flashing continuously on the display screen, the reminder time is 1 minute, press the button to close the reminder, the next maintenance interval time starts timing

4. The function usage under RPM Mode

RPM Mode contains: RPM, 2 RPM, Firing Patterns



Programming the correct engine firing patterns before using the RPM Mode function.

1) **Programmable firing patterns**----Determined the amount of pluses(sparks) per engine revolution

This product provides 9 programmable firing patterns, which can be selected according to the corresponding relationship in the table below.

Engine firing patterns	Engine type	Spark plug firing and engine rotate laps	RPM Capacity
1P1R	4 stroke 2 cylinder	1 spark per revolution	30000
	2 stroke 1 cylinder		
2P1R	4 stroke 4 cylinder	2 spark per revolution	15000
	2 stroke 2 cylinder		
3P1R	4 stroke 6 cylinder	3 spark per revolution	10000
	2 stroke 3 cylinder		

3P2R	4 stroke 3 cylinder	3 spark 2 revolution	20000
4P1R	4 stroke 8 cylinder	4 spark per revolution	7500
5P2R	4 stroke 5 cylinder	5 spark 2 revolution	12000
6P1R	4 stroke 12 cylinder	6 spark per revolution	5000
8P1R	4 stroke 16 cylinder	8 spark per revolution	3750
1P2R	4 stroke 1 cylinder	1 spark 2 revolution	30000

Note: some 4 stroke 1 cylinder engine is 1P1R, the setting is the same way as the 2 stroke 1 cylinder engine.

TO set the tachometer (Spark plug firing revolution):



Press the button twice

a) Press the button twice at RPM interface until display shows "1P1R" icon

b) Press and hold the button until "1P1R" start flashing, release and press the button to toggle through all engine firing patterns setting.



c) Stop at correct firing pattern setting for your engine

d) Wait for 5 seconds and display will return to display shows "RPM 0" (Tachometer is now ready to use)

Note: if the obtained RPM is not accurate, for example, the RPM is half of the actual RPM, you can adjust it by programming the firing patterns.

2) RPM----Typical rpm display during operation of the engine

Under RPM Mode, when the tach hour meter detect the engine spark plug signal for more than 1s continuously, the LCD will display the current RPM of the engine.

a) The RPM will be refreshed every 0.5s.

b) The rpm can be programmed for different pulses per revolution;

Different programming setting will get different RPM; Please follow the instructions in section 1 to programming setting for accurate programming.



3) **2 RPM**----Display the maximum RPM recorded during the last period of operation.



Press the button once



a) To view MAX RPM: press the button once at "RPM" interface and display the "2 RPM".

b) To reset MAX RPM: press and hold the button until display shows "2 RPM" and "000000", release the button, 2 RPM is reset.

5.Other

About extending product life

To extend the life of your product, you can apply it as follows:

a) Avoid product are always in a very humid environment—there is a risk of moisture intruding inside the product, causing the product to consume more electricity;

b) Avoid product that are always in a high temperature environment (exceed 125F) — high temperature environment has the risk of increasing the discharge rate of the internal battery CR2450.

c) Minimize the frequency of button operations—continuous button operation, function switching, the power consumption will increase

About product battery life

There are several cases about the service life of the battery (this is the theoretical calculation, the actual battery life is related to the applicable conditions):

a) If you use 8 hours per day: the battery life is about 6 years.

b) If you use 24 hours per day: the battery life is about 4 years.

Specifications

Timing range 0-999999H

Timing accuracy 1MIN/0.1H/1H

RPM range 0-30000RPM

MAX RPM range 0-30000RPM

RPM accuracy 10RPM

RPM refresh 0.5S

Firing Patterns

1P1R 2P1R 3P1R 3P2R
4P1R 5P2R 6P1R 8P1R
1P2R

CLEAN FILTER ALERT
TIMER setting range

0-1000H

CHG OIL ALERT
TIMER setting range

0-1000H

SVC TIMER setting range

0-1000H

Display mode

LCD

Display window
size(visible)

27x16mm

Product size

57x36x17.3mm

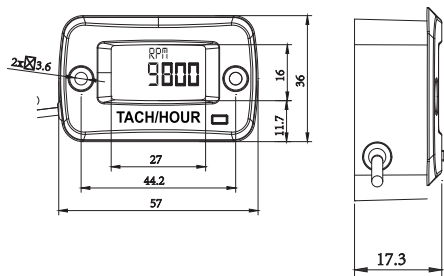
Battery type

CR2450 540mAh

Waterproof

IP68

Dimension



Unit:mm

