

BACKLIGHT TACH/HOUR METER

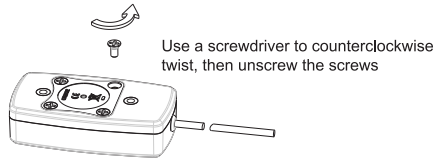
1 Notice

- 1 Please read the flowing notice carefully before using,install and operate the meter correctly.
- 2 Be sure to use the meter according to the user manual strictly.
- 3 Do not disassemble the meter and its accessories.
- 4 This meter is designed with waterproof. It can be used in rain but can not be used underwater.
- 5 Fierce vibration and strong knock to the meter may result in the breakdown of the meter.
- 6 Incorrect installation of battery cover at the back side will make the front panel of main unit fogged,condensed or watered.
- 7 As this meter has back light,power consumption will be large.When the battery is low,please replace the battery as soon as possible.The battery is CR2032.

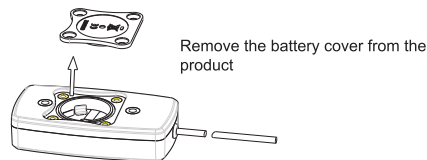
2 Installation of the battery

Notice: Former data will be remembered after replacing the battery.

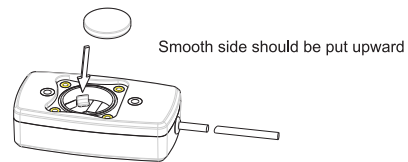
1 Unscrew the four screws in the cover



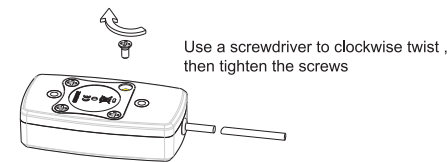
2 Open the battery cover



3 Put the battery inside



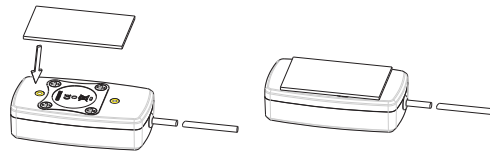
4 Close battery cover, and tighten the screws



3 Install product

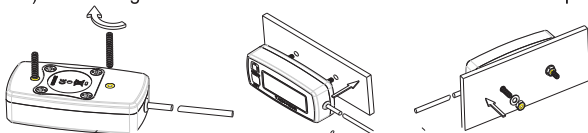
Notice: There are three ways, you can choose the one you needed.

- 1 When using double-sided tape, stick one side on the back of the hour meter, and stick another side on the machine.



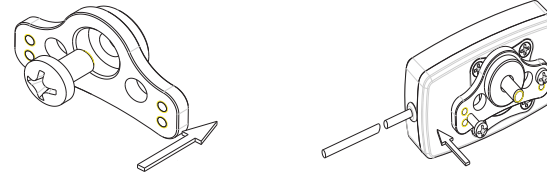
- 2 When using screws, proceed in the following order :

- a) Fasten the two M3 bolts on the hour meter ;
- b) Mount the bolts into the fixed plate holes ;
- c) Insert M3 gasket and fasten with M3 screw nut to the fixed plate.



Notice: The mounting plate is required matching holes, if you don't have, please drill corresponding holes in the mounting plate.

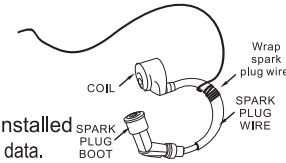
- 3 When using aluminum frame, proceed in the following order :
 - a) Fasten the aluminum frame with M6 screws into the mounting plate ;
 - b) Fasten the aluminum frame and hour meter with M3 screws.



Notice: This product does not include the aluminum frame

4 Install the product's wire to spark

Wrap around the other side of cable to the spark plug wire at least 5 cycles and fixed with zip ties



Notice: If the cable can not be installed firmly, will affect the accuracy of test data.

5 Product installation check

Starting the engine, RPM speed data is showing that means the product is installed correctly.

6 Product usage

1 Stroke setting

- 1 Press MENU six times at TOT no back light interface to enter into stroke setting interface. Default display of stroke interface is "1P1R".
- 2 Long press MENU at stroke interface until default stroke flashes to enter into stroke mode. Short press SET to choose.
- 3 Mode can be set: 1P1R \ 2P1R \ 3P1R \ 4P1R \ 6P1R \ 8P1R \ 3P2R \ 5P2R \ 1P2R.

2 Refresh rate setting

- 1 Press MENU seven times at TOT no back light interface to enter into refresh rate interface. The default refresh rate is "0.5".
- 2 Long press MENU at refresh rate interface until default refresh rate flashes to enter into setting mode. Short press SET to choosing.
- 3 Refresh rate can be set: 1.0 (refresh data every 1S) 0.5 (refresh data every 0.5S).

3 RPM display

- 1 The RPM displays on the meter is engine's current RPM.
- 2 When engine shut down, LCD enter into TOT interface from RPM interface automatically. It displays total working time.

4 MAX RPM

- 1 Press MENU five times at TOT no back light interface to enter into view MAX RPM interface. The MAX RPM displays on the meter is MAX RPM of current engine working.
- 2 Start engine again, MAX RPM of this time will replace last time.

5 RPM alert setting

- 1 Press MENU four times at TOT no back light interface to enter into RPM alert setting interface. The default data of RPM alert is 8500.
- 2 Long press MENU at RPM alert setting interface until default data flashes to enter into RPM alert setting mode. Short press SET to plus RPM alert value. Short press MENU to minus RPM alert value. RPM alert's setting range is 1000-20000.
- 3 When actual RPM is large than set RPM alert value, RPM alert icon will flash together with actual RPM. Flash way: Flash 5 times every 0.5S then stop 3S circularly.

6 Total hours TOT display

When engine shut down, LCD interface will be TOT interface, displays total working hours.

7 Back light display way and time

Press MENU or SET button once, back light will light. After 2S, it will be off automatically.

8 JOB Timer Display

- 1 Press MENU twice at TOT no back light interface, the LCD will display JOB time.
- 2 Long press MENU at JOB interface, JOB time will be reset to zero.

9 SVC service time display and setting way.

- ① Press MENU three times at TOT no back light interface, the LCD will display SVC. The working ways of SVC is countdown.
- ② Long press MENU at SVC interface, enter into SVC time setting mode. At this time, the screen will flash, short press MENU to minus time, and short press SET to plus time.
- ③ SVC default time is 20H. Setting range is 0-200H. After setting, the screen will automatically return to TOT interface. It means that SVC time set successfully. When reaches the setted SVC time, screen will flash to alert.
- ④ When SVC is flashing, press SET or MENU to close the alert.
- ⑤ When SVC alert closed, the meter will enter into the next alert cycle automatically. The time will be the same as last setting.
- ⑥ If SVC time is set to 0H, which means SVC function is closed.

10 Low power display

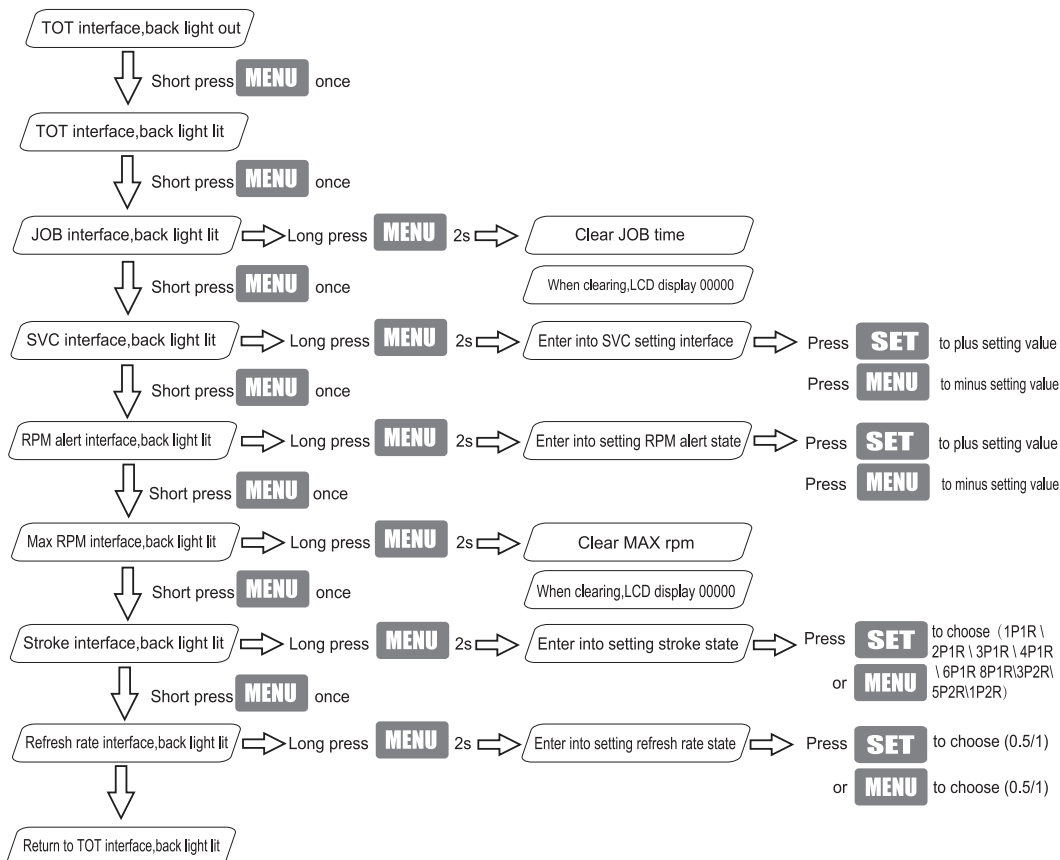
- ① Battery level display as below:



- ② When the battery is empty, it will flash to remind of changing battery. Former data will be record after replacing the battery.

- ⑪ When engine stop working and operate nothing in 10S at any interface, LCD will be automatically saved and return to TOT interface.

7 Operation map



8 Product parts list

- Tach/Meter----- 1
- Instruction Manual----- 1
- M3 Screw Bolt----- 2
- EVA sponge mat----- 1
- M3 hex nut----- 2
- Flat washer----- 2
- Zip ties-----2

9 Specifications

Total timing	99999h	Cable Length	1500mm
Timing accuracy	0.1h	Display Mode	22×44mm LCD
JOB timing	9999.9h	Visual window size	17.5×41.5mm
SVC setting range	0-200h	Battery type	CR2032 210mAh
RPM alert setting range	1000-20000RPM	Waterproof class	IP67
RPM Accuracy	10RPM	Meter Weight	81g
MAX RPM display	Record	Meter Outer Dimensions	69×37×17.6mm
Refresh rate	0.5s / 1.0s	Operation Temperature	-20°C ~ +70°C
Housing material	ABS	Operating Humidity	<+90%RH

10 Engine type & RPM mode setting

Setting mode	Engine type	Spark & Revolution	Measurable RPM range
1P1R	4stroke2cylinder; 2stroke1cylinder	1 spark per revolution	0---30000RPM
1P2R	4stroke 1cylinder	1 spark 2 revolution	0---30000RPM
2P1R	4stroke4cylinder; 2stroke2cylinder	2 spark per revolution	0---15000RPM
3P1R	4stroke6cylinder; 2stroke3cylinder	3 spark per revolution	0---10000RPM
4P1R	4stroke 8cylinder	4 spark per revolution	0---7500RPM
6P1R	4stroke 12cylinder	6 spark per revolution	0---5000RPM
8P1R	4stroke 16cylinder	8 spark per revolution	0---3750RPM
3P2R	4stroke 3cylinder	3 spark 2 revolution	0---20000RPM
5P2R	4stroke 5cylinder	5 spark 2 revolution	0---12000RPM

Notice:

A part of 4 stroke1 cylinder engine is special. When 1P2R's data is incorrect, please try to set 1P1R

11 Trouble Shooting

Problems	The possible reasons to the problems	Solutions
Display nothing	1. Battery empty. 2. Battery installed backwards.	1. Replace a new battery. 2. Be sure that the positive pole of the battery is facing the battery cap.
Time no change or not accurate after 6 minutes, or RPM is not accurate	1. Sensing line loose or Wrapped less cycles. 2. Wire may be damaged. 3. Stroke type setting is incorrect.	1. Tighten or wrap more cycles. 2. Repair or change cable. 3. Set the stroke type correctly.
Display no change	The meter crash	Re-install the battery
LCD not clear or LCD color changed	1. Wrong angle of the product. 2. Direct sunlight for a long time. 3. Low battery.	1. Adjust the angle. 2. Put the battery indicator in the shade. 3. Replace the battery.