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› Yooreal Digital Tach Hour Meter and Temperature Gauge (Model HM035A TS002) User Manual

YOOREAL HM035A TS002

Yooreal Digital Tach Hour Meter and Temperature Gauge (Model HM035A TS002) User Manual

Comprehensive instructions for installation, operation, and maintenance.

1. INTRODUCTION

This manual provides detailed instructions for the Yooreal Digital Tach Hour Meter and Temperature Gauge, model HM035A TS002. This device is designed to monitor engine RPM, total operating hours (TOT), partial job hours (JOB), and engine temperature for various small engines, including those found in scooters, mini bikes, motorcycles, lawn tractors, generators, and dump trucks.



Image 1.1: Yooreal Digital Tach Hour Meter and Temperature Gauge (Model HM035A TS002).

2. PRODUCT FEATURES

- **Engine Temperature Monitoring:** Measures engine temperature from -20°C to $+300^{\circ}\text{C}$ (-4°F to $+572^{\circ}\text{F}$). Temperature units are switchable ($^{\circ}\text{C}/^{\circ}\text{F}$). Includes over-temperature alert and max temperature reset. The temperature sensor aperture is $\phi 14\text{mm}$ (0.55 inches).
- **Multi-function Hour Meters:** Tracks total operating hours (TOT) and partial job hours (JOB) from 0-99999 H with 0.1/1H accuracy. JOB timer can be reset. Allows setting an initial value for TOT.
- **Tachometer:** Monitors engine RPM from 0-25000 RPM. Features 9 programmable engine firing patterns for accurate readings. Includes max RPM reset and overspeed alert.
- **Maintenance Reminder (SVC):** Selectable reminder interval from 5-1000H or OFF.
- **Multi-screen Display:** Simultaneously displays clock, RPM, timer, and temperature.
- **Backlight Display:** Settable backlight modes (Auto/ON/OFF).
- **Power:** Replaceable CR2032 battery with long endurance.

- **Durability:** Waterproof rate IP67.
- **User Shutdown:** Allows manual power off.

YOOREAL®

HOUR METER | BATTERY INDICATOR | MULTIFUNCTION HOUR METER | DAY TIMERS

YOOREAL HAS HARDWORKING TECHNICIANS AND PROFESSIONAL AND ENTHUSIASTIC AFTER-SALES TEAM, COMMITTED TO THE DEVELOPMENT AND MANUFACTURING OF HOUR METERS, BATTERY INDICATORS, MULTI-FUNCTION METERS, DAY TIMERS FOR THE GARDEN MACHINERY INDUSTRY, OUTDOOR POWER VEHICLE EQUIPMENT, TRANSPORTATION VEHICLES.

Image 2.1: Overview of display functions including Total Hours (TOT), RPM, and Temperature.



Image 2.2: Display modes for Job Timer (JOB) and Service Reminder (SVC).



Image 2.3: The meter is waterproof with an IP67 rating, suitable for various outdoor applications.

3. PACKAGE CONTENTS

The following items are included in your package:

- Yooreal Digital Tach Hour Meter (Product) x1
- User Manual x1
- TS002 Probe Sensor x1
- CR2032 Battery x1
- 3M Velcro x1
- Screwdriver x1
- Bolts x2
- Nuts x4
- Flat Washers x2
- Cable Ties x2
- Cut-out Sticker x1
- Yooreal Color Box x1



Image 3.1: All components included in the Yooreal HM035A TS002 package.

4. INSTALLATION

4.1 Mounting the Meter

The meter offers two primary installation methods: velcro and screw mounting.

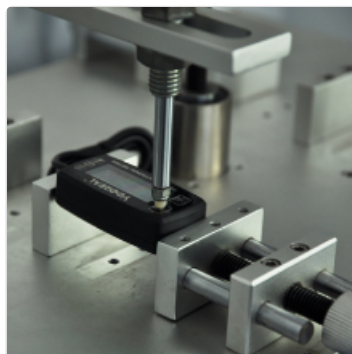


Image 4.1: Velcro installation for easy attachment and removal.



Image 4.2: Screw installation for a more permanent fixture.

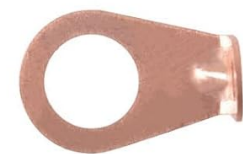
Choose the method that best suits your application. Ensure the mounting surface is clean and dry for optimal adhesion with velcro, or use the provided screws, nuts, and washers for secure attachment.

4.2 Wiring for Tachometer and Temperature Sensor

The tachometer function operates by wrapping the signal wire around the spark plug wire. The temperature sensor connects directly to the engine.

EASY TO INSTALL

Engine firing patterns	Engine type	Spark plug firing and engine rotate laps	RPM Capacity
1P1R	4 stroke 2 cylinder	1 spark per revolution	0 - 25000
	2 stroke 1 cylinder		
1P2R	4 stroke 1 cylinder	1 spark 2 revolution	0 - 25000
2P1R	4 stroke 4 cylinder	2 spark per revolution	0 - 12500
	2 stroke 2 cylinder		
3P1R	4 stroke 6 cylinder	3 spark per revolution	0 - 8000
	2 stroke 3 cylinder		
3P2R	4 stroke 3 cylinder	3 spark 2 revolution	0 - 16000
4P1R	4 stroke 8 cylinder	4 spark per revolution	0 - 6250
5P2R	4 stroke 5 cylinder	5 spark 2 revolution	0 - 10000
6P1R	4 stroke 12 cylinder	6 spark per revolution	0 - 4000
	6 stroke 2 cylinder		
8P1R	4 stroke 16 cylinder	8 spark per revolution	0 - 3120



Temp sensor aperture
(ϕ 14mm (0.55inches)

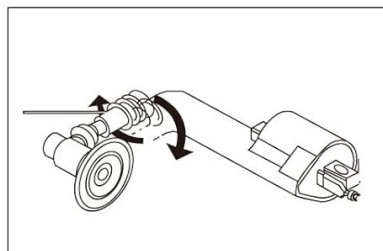
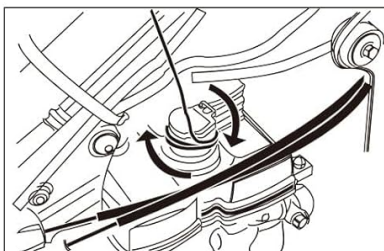


Image 4.3: Illustration of tachometer signal wire wrapping and temperature sensor placement.

1. **Tachometer Wiring:** Wrap the signal wire (typically black) around the spark plug wire of your engine. The number of wraps can affect sensitivity; typically 5-7 wraps are sufficient. Secure with cable ties.
2. **Temperature Sensor Installation:** The TS002 probe sensor should be installed in a location that accurately measures engine temperature. The sensor has a $\phi 14\text{mm}$ (0.55 inches) aperture. Ensure a secure connection.

4.3 Engine Firing Pattern Settings

To ensure accurate RPM readings, configure the meter according to your engine's firing pattern. Refer to the table below:



Image 4.4: Table of engine firing patterns and corresponding RPM capacities.

Use the 'M' (Mode) button to navigate to the RPM setting mode and 'S' (Set) button to select the appropriate firing pattern (e.g., 1P1R for 4-stroke 1-cylinder, 2-stroke 1-cylinder).

5. OPERATING INSTRUCTIONS

The Yooreal meter features 'M' (Mode) and 'S' (Set) buttons for navigation and configuration.

5.1 Display Modes

Press the 'M' button to cycle through different display modes:

- **TOT (Total Hours):** Displays the total accumulated engine operating hours (0-99999 H). This value cannot be reset.
- **JOB (Job Timer):** Displays the partial operating hours for a specific task (0-99999 H). This can be reset for individual jobs like oil changes.
- **RPM (Revolutions Per Minute):** Displays real-time engine RPM (0-25000 RPM) when the engine is running.
- **Temperature:** Displays the current engine temperature (-20°C to +300°C / -4°F to +572°F).
- **SVC (Service Reminder):** Displays the countdown to the next scheduled maintenance.

5.2 Setting Parameters

To enter setting mode, press and hold the 'M' button for a few seconds. Use 'M' to navigate through settings and 'S' to adjust values.

- **Initial TOT Value:** You can set an initial total hour value if replacing an old meter.
- **Reset JOB Timer:** In JOB mode, press and hold 'S' to reset the job timer to zero.
- **RPM Range Selection:** Select the appropriate RPM measurement range (r1, r2, r3, r4) based on your engine type for optimal accuracy. The default is r1 (0-25000 RPM).

- **Temperature Unit Switch:** Switch between Celsius (°C) and Fahrenheit (°F) by pressing 'S' in temperature display mode.
- **Backlight Settings:** Choose between Auto (backlight activates with engine vibration), ON (always on), or OFF (always off).
- **Overspeed Alert:** Set a maximum RPM threshold. If exceeded, an alert will display.
- **Over-temperature Alert:** Set a maximum temperature threshold. If exceeded, an alert will display.
- **Max RPM/Temp Reset:** In RPM or Temperature display mode, you can reset the recorded maximum values.



Image 5.1: The meter's backlight display and visual warnings for overspeed and over-temperature.



Image 5.2: Table detailing RPM range selections for tachometer accuracy.

6. MAINTENANCE

6.1 Battery Replacement

The meter is powered by a replaceable CR2032 lithium metal battery. When the battery indicator shows low power, replace the battery to ensure continuous operation.

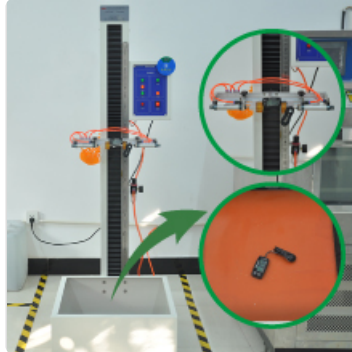


Image 6.1: Illustration of how to replace the CR2032 battery.

To replace the battery:

1. Locate the battery compartment on the back of the meter.
2. Use a small screwdriver to open the compartment.
3. Remove the old CR2032 battery.
4. Insert a new CR2032 battery with the positive (+) side facing up.
5. Close the battery compartment securely.

6.2 Service Reminder (SVC)

The SVC function allows you to set a maintenance reminder. Once the set hours are reached, the meter will display a service alert.

- To set the SVC interval, navigate to the SVC setting mode using the 'M' button.
- Use the 'S' button to adjust the desired maintenance interval (5-1000 hours) or turn it OFF.
- Once the interval is set, the meter will count down the hours. When it reaches zero, the SVC alert will activate.

7. TROUBLESHOOTING

• Display Not Working:

- Check if the CR2032 battery is installed correctly and has sufficient charge. Replace if necessary.
- Ensure the meter is not in user shutdown mode. Press 'M' or 'S' to reactivate.

• Inaccurate RPM Readings:

- Verify the signal wire is securely wrapped around the spark plug wire (5-7 wraps recommended).
- Confirm the correct engine firing pattern is selected in the settings (e.g., 1P1R, 2P1R).
- Ensure the RPM range selection (r1, r2, r3, r4) is appropriate for your engine.

- **Temperature Readings Incorrect:**

- Check if the temperature sensor is properly installed and making good contact with the engine.
- Ensure the sensor wire is not damaged.

- **Overspeed/Over-temperature Alert at Idle:**

- Review the set thresholds for overspeed and over-temperature. They might be set too low.

8. SPECIFICATIONS

Feature	Specification
Product Dimensions	2.76 x 1.46 x 0.71 inches (70 x 37 x 18 mm)
Item Weight	3.84 ounces (109 Grams)
Model Number	RL-HM035A
Batteries	1 Lithium Metal battery (CR2032) required (included)
Material	Acrylonitrile Butadiene Styrene (ABS)
Temperature Sensor Range	-20°C to +300°C (-4°F to +572°F)
RPM Range	0-25000 RPM
Hour Meter Range	0-99999 H
Waterproof Rating	IP67

2 FIXED METHOD

velcro installation ▶



screw installation ▶



REPLACEABLE BATTERY



Image 8.1: Detailed dimensions of the Yooreal Digital Tach Hour Meter.

9. SAFETY INFORMATION

WARNING: Button Battery Ingestion Hazard

This product contains a button or coin cell battery. A button or coin cell battery can cause severe internal chemical burns if swallowed, leading to serious injury or death. Keep new and used batteries out of reach of children. Seek immediate medical attention if a battery is suspected to have been swallowed or placed inside any part of the body.



10. WARRANTY AND SUPPORT

Yooreal provides a 2-year technical support and after-sales service for this product. This includes free replacement or return for product problems within the warranty period.

For any issues or concerns, please contact Yooreal customer service through the Amazon Platform. The Yooreal Care Team is available 24/7 to assist you.

- **After-sales Service:** Even if the Amazon return window has closed, Yooreal offers 2 years of after-sales service.
- **Contact:** Reach out to the seller via the Amazon Platform for professional online services.