

## TachMatch Instructions

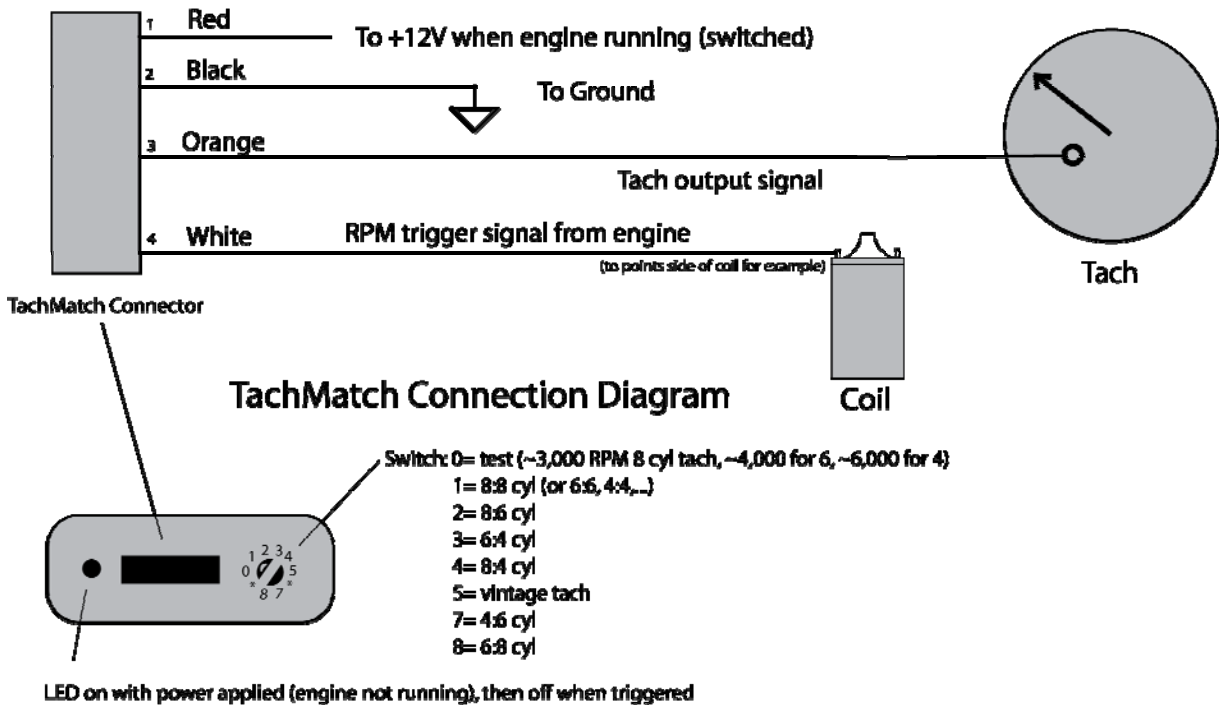
Thank you for your purchase of the TachMatch Model TM01 from TechnoVersions LLC. The TachMatch has been designed to:

- accept various tachometer input signals (e.g., coil, MSD, HEI),
- conversion of the signal from the engine to match a tachometer expecting a different number of cylinders, and
- output to tachometers driven by a voltage signal or a current signal.

There are only four wires to connect, and a switch to set before your TachMatch will be making your vehicle's tachometer accurately reflect the RPMs of the engine.

Included with your TachMatch is the main electronics module, a wiring harness, and four mounting screws.

### QuickStart Overview



### Mounting the TachMatch

The first installation step is to physically mount the TachMatch. It should be mounted either inside the car (best), or if in the engine compartment, away from hot items such the exhaust and

radiator, and in a position away from dirt and water. The wires are 36" long, so ideally it should be mounted within 36" of a +12V source, the tachometer input signal, and the tachometer. It should not be mounted next to sources of electrical noise, such as spark plug wires. Provide room for cooling air around the TachMatch as it generates heat when used with current-mode tachometers.

It is shipped with four #8 stainless-steel sheet-metal screws for mounting. The mounting hole pattern for the TachMatch is 1.75" by 3.9". The pilot hole-size for #8 screws in most materials is .125" diameter (1/8"). The holes in the TachMatch will accept up to a #10 screw.

## Wiring the TachMatch

There are only four wires for the TachMatch module:

Pin	Wire Color	Use	Connection
1	Red	Switched +12 V	This is power to the TachMatch. It should be connected to a source of +12V when the vehicle ignition switch is turned on, and with no voltage if the vehicle is turned off. It only requires a few mA of current so can be added to most power circuits without changing the existing fuse of the circuit.
2	Black	Ground	This wire has a ring terminal (#10) that can be placed under one of the TachMatch mounting screws if it is installed on a well grounded surface. Otherwise connect it to a good chassis ground. The ground wire is important for the TachMatch to work properly.
3	Orange	Tach output	This is the wire that connects to the tachometer. There are two general types of tachometer drive signals: voltage or current. The voltage driven tach takes an active voltage signal from TachMatch to make it work. A current driven tachometer sends voltage to TachMatch, and TachMatch modulates the amount of current going through the wire. TachMatch is designed to drive either type of tachometer with the same orange wire.
4	White	Tach trigger input	This wire tells the TachMatch how fast the motor is turning. It can be connected to one of several types of inputs. <ul style="list-style-type: none"> <li>(1) If you are using an HEI distributor, it is connected to the Tach output on the distributor.</li> <li>(2) If you are using a standard points-style ignition, it should be connected to the terminal on the coil that goes to the points.</li> <li>(3) If you are using a multiple-spark or boosted ignition such as an MSD unit – DO NOT connect the TachMatch to the coil. It will not work because of the multiple spark signals, and is likely to damage the TachMatch because of the high voltages present. For these types of ignition systems, connect to their tachometer output signal. On the MSD 6, this is the white wire.</li> </ul>

Install the wiring so that it is away from sources of electrical interference, such as spark plug wires.

## Setting the Cylinder Switch

At the connector end of the TachMatch, you will see a rotary switch and a small LED. The switch has a small pointer (a black triangle). It begins with position 0 when the arrow is pointing directly towards the connector. The settings increase as you turn the switch clockwise. For example, if you are looking at the end of the TachMatch as it sits on its brackets on a flat surface, position zero is 9 o'clock, position one is 10 o'clock, two is about 11:30, three is about 1:00 o'clock, and so on. You will feel the switch click into a detent as it reaches each position.

Set the switch as follows:

Switch Setting	Ratio	Engine has this many cylinders	Tach expects this many cylinders
0	Test mode	N/A	N/A
1	1:1	2/4/6/8	same
2	8:6	8	6
3	6:4	6	4
4	8:4	8	4
5	Analog vintage tach*	N/A	N/A
7	4:6	4	6
8	6:8	6	8

This picture shows the switch in position 2, which is for an eight cylinder motor with a six cylinder tachometer:



\* Vintage Tach - this can be used with some older tachometers with analog sending units. See info on TechnoVersions website, or send email.

## Completing the Installation

Once TachMatch has been mounted, wired, and the internal switch set, it is almost ready for use. To complete the installation plug the wiring harness into the TachMatch, noting that it must be plugged in with the proper polarity. The rib on the side of the connector and the squared corners will be towards the top of the TachMatch unit. The corners that are angled (chamfered) will be towards the flanges on the TachMatch unit. Plug it in tightly.

You should now be able to fire up the engine and see your tach work properly!

## In case of Problems

If the tachometer does not work correctly, recheck your connections to ensure that they are correct and securely fastened. If it still doesn't work, TachMatch has provisions to help find out what the problem is. Try the following debugging steps:

1. With the ignition turned on, but without the engine running, you should see the TachMatch LED turned on and showing steady red. If it is not, the problem may be from no 12V coming into the red wire, improper ground connection, or the TachMatch unit is faulty. This LED should light even if the tachometer input and output wires (white and orange) are not connected.
2. With the ignition turned on and the rotary switch set to the "0" (test) position, your tachometer should indicate an RPM. If your tach is calibrated for an eight cylinder motor it should read 3,000 RPM, if for a six cylinder 4,000 RPM, and for a four cylinder 6,000 RPM. If your tachometer is not active, it may be due to incorrect wiring, or possibly the TachMatch is not compatible with your tachometer. If your tachometer is current-driven (an indication of this is that it was originally connected to the +12V side of the coil rather than to the points side), a wire should take +12V to the tach, through a looped sensor of some sort, and then to the TachMatch. When you are done with this test, set the rotary switch back to the position necessary for your number of cylinders and tachometer configuration.
3. Start the motor. The red LED should go off while the motor is running. It turns off each time it senses an input pulse, so at low RPMs you will see it as a flashing LED and at high RPMs it will appear to be steadily off. If the LED stays on steady when the motor is running, TachMatch is not receiving a trigger signal from the engine. Recheck the connection to the coil, distributor or tachometer output.

Note: If your tachometer reads a steady RPM regardless of whether the engine is running, the rotary switch may not be fully engaged into one of its settings or in a position that isn't used, leaving it in test mode. Try moving the switch until you feel it "click" into the position's detent.

After going through these steps, if you are not able to make your TachMatch unit work properly, please contact us via email at [TachMatch@aol.com](mailto:TachMatch@aol.com) for support.

## **Return Policy**

If a TachMatch unit does not work properly in your application, and is not damaged, TechnoVersions will allow return for full refund of purchase cost, exclusive of any shipping charges. Claim for such must occur within 30 days of product shipment from TechnoVersions. Ship the unit back to TechnoVersions along with a completed *Repair/Return/Feedback Form* and proof of purchase (showing purchase date). TechnoVersions will remit the refund via US Mail or Credit Card refund (at TechnoVersions discretion) within 10 working days of product receipt.

## **Limited Warranty**

TechnoVersions LLC provides a limited warranty for TachMatch. If a unit should fail within 180 days from time of shipment from TechnoVersions, it can be returned for repair or replacement at TechnoVersions discretion. Products subject to abuse (as determined by TechnoVersions) are excluded from this limited warranty. TechnoVersions LLC makes no other claims as to suitability and excludes any indirect or consequential damages. Exclusive remedy is limited to product replacement or repair. Cost of shipping the product to TechnoVersions is at the customer's expense, but the replacement/repaired TachMatch will be shipped to customer via USPS or UPS ground at TechnoVersions expense. Include completed *Repair/Return/Feedback Form* with product and proof of purchase showing purchase date.

<b>TachMatch Repair/Return/Feedback Form</b>		
Customer Info	Name	
	Address	
	City / State / Zip	
	eMail	
	Phone	
Application	Engine Make/Type/Yr	
	Ignition Make/Type	
	Vehicle Type/ Make/Yr	
Problem Description or Feedback		
Does LED come on when ignition is turned on (engine not running)?		Yes ___ No ___
Does LED go out when engine is running?		Yes ___ No ___
Does tach work with TachMatch in test position?		Yes ___ No ___
Requested Action	Return ___ Repair___ Feedback ___ Other _____	
Return To	Name	TechnoVersions LLC
	Address	7921 Wade Road
	City / State / Zip	Arlington, WA 98223
	eMail	TachMatch@aol.com

(Model TM-01 Instructions – Rev 2/2011)