

910-82020

DIGITAL READOUT TELLTALE TACHOMETERS

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Description The TELTAC II is an LCD digital readout tachometer with a memory "telltale" reading. It can be used with most engines and ignitions including magnetos and battery powered systems. Tach turns on automatically when engine is started and reads RPM in hundreds while the engine is operating from 500 to over 12,000 RPM on V/8 engines and to 15,000 RPM on smaller engines. After the engine is stopped, highest RPM attained is shown for 30 minutes. Tach is reset 1 minute after engine is stopped, after which the highest RPM reading will be replaced if engine is restarted. Unit is powered by a 9 volt alkaline battery which can last hundreds of hours.

Mounting Tach should be securely mounted in cockpit but should not interfere with driver, steering or other controls. Four 10-24 NC tapped holes are provided on the back of the unit to attach to dash or mounting brackets. Mounting brackets for Dzus button or hose clamp attachment are supplied. A template is provided to lay out brackets or mounting holes. Cable receptacle requires a 1" hole to clear retaining nut. **Do not loosen plastic nut or mount to it. Do not use cover screws for mounting.**

Programming Tach is adjustable to suit most all racing applications. Refer to the chart (back side of this sheet) to determine which setting is used for your application. Tach is usually supplied with the C setting, for V/8 magnetos, or 4 cylinder distributors. To program tach, remove four cover screws, cover, and battery if tach is operating. At the top of the circuit board above the readout are a series of pins and a blue jumper. The jumper is placed over the vertical pair of pins corresponding to the letters A through F printed to the left of the pins. To change setting, pull out jumper with needle-nose pliers and install in desired location. Install battery, **CHECK O-RING PLACEMENT**, and install cover.

Wiring Tach cable connects to the receptacle on rear of tach and is retained by rotating the wingnut until it "clicks". Refer to the chart to determine whether your application requires the isolator and where to connect the white wire. **The isolator MUST be used with magnetos** and is recommended for applications where connection is made to a coil and a cable short could cause ignition failure. The isolator **MUST NOT** be used with battery-powered MSD or Electromotive D.I.S. ignitions which provide an isolated tach signal. The disconnect terminal on the white wire can be used to connect to the tach outlet of battery-powered MSD or D.I.S. ignitions, or plugged into the isolator. White wire can be shortened or extended if necessary.

Black wire should be securely bolted to frame, torque plate or other good ground. **It should not be extended and should not connect to other ground wires, switch, coil, or ignition unit.** Pop rivets are not recommended. If the car frame or panels have been painted or anodized, be sure coating is removed from all system grounding points.

Important ALL WIRING TO TACH, SWITCH, MAGNETO, COIL, IGNITION SYSTEM, TRIGGER, OR CAR BATTERY MUST BE SEPARATED FROM PLUG WIRES AND HIGH VOLTAGE COIL WIRE! This reduces the electrical interference from the spark plugs that might cause erratic operation or memory loss.

Maintenance The tach is built to be waterproof if seals are intact, and unit is properly assembled. Use of contact cleaners, harsh chemicals or high-pressure spray, and exposure to fuels, fluids, or temperature extremes may degrade panel adhesive and seals. Removing tach during car washing is always safest. Front window and overlay are scratch resistant, but dirt should be rinsed away with mild soap and water or window spray to avoid marring the finish.

Tach and cable connector should be checked periodically for signs of moisture. Be sure cable connector is dry before reassembly. Allowing moisture to remain inside the tach will fade and destroy the readout and corrode the circuit board and battery connector. If the window clouds or other signs of moisture are noticed, remove cover and **disconnect battery**. Dry tach thoroughly with a fan or mild heat source. Check O-ring. Be sure plastic nut on connector is snug.

Tach will show "LO BAT" in upper-left corner of display when the battery is getting low. If the battery has not been damaged by vibration, impact or heat, and connections are secure, it can last hundred of hours, and may last many hours after the LO BAT warning first shows. Battery replacement can be done while maintaining the car and usually need not be done at a race, allowing for careful cleaning and inspection of the tach. **Always use an alkaline battery.** Duracell has superior snap connectors and is recommended. Cheap batteries may leak and destroy the tach. Check battery connector for corrosion. Remove used battery if unit is left idle for long periods.

ALWAYS CHECK O-RING PLACEMENT AND CONDITION BEFORE INSTALLING COVER.

O-ring is a standard -042 size.

Use this chart to determine proper jumper setting and connection for your application:

Application	(+) Pulse/ Revolution	Isolator	White Wire Connection	Jumper Setting
V/8 Engine with Magneto (Includes Vertex w/ internal or external coil, Mallory, MSD Magneto. V/4 Engine w/ V/8 Vertex internal coil mag requires special unit.	2 (See note 1)	YES	Switch, kill switch wire, coil, points terminal on magneto (See Note 2)	 A B C D E F
6 Cylinder Engine with Magneto (all types; inline, V/6 odd or even fire)	1.5 (See note 1)	YES	Switch, kill switch wire, coil, points terminal on magneto (See Note 2)	 A B C D E F
4 Cylinder Engine with Magneto (includes Vertex, 4 lobe Mallory, Fairbanks type). V/4 and Mallory w/ 8 lobe points can use V/8 magneto setting (C)	1 (See note 1)	YES	Switch, kill switch wire, coil, points terminal on magneto (See Note 2)	 A B C D E F
V/8 Engine with Distributor; HEI; points or magnetic trigger with amplifier, igniter (most stock-type systems)	4	Optional	(-) Coil terminal; tach terminal on HEI	 A B C D E F
V/8 Engine with MSD; Electromotive D.I.S. (battery-powered systems with tach output)	4	NO	Tach outlet of ignition unit (See Note 3)	
6 Cylinder Engine with Distributor; HEI; points or magnetic trigger with amplifier, igniter, etc. (inline, V/6 odd or even fire)	3	Optional	(-) Coil terminal; tach terminal on HEI	 A B C D E F
6 Cylinder Engine with MSD; D.I.S. (inline; even-fire) Odd-fire V/6 with MSD requires special unit.	3	NO	Tach outlet of ignition unit (See Note 3)	
4 Cylinder Engine with Distributor; points or magnetic trigger with amplifier, igniter (most stock-type systems)	2	Optional	(-) Coil terminal	 A B C D E F
4 Cylinder Engine with MSD; Electromotive D.I.S. (battery-powered systems with tach output) EFI ignition requires special unit.	2	NO	Tach outlet of ignition unit (See Note 3)	
4 Cylinder Motorcycle Engine (2 coils with 2 plugs per coil) (See Note 4)	1	Optional	(-) Coil terminal on 1 coil (wire that is <u>not</u> common to both coils) (See Note 4)	 A B C D E F

Note 1: Note that the setting is different for magnetos and distributor ignitions for the same number of cylinders. This is because magnetos produce both positive and negative pulses and only the positive ones are read. Thus a V/8 four stroke engine with a distributor would produce 4 pulses per revolution, while a magneto on the same motor would produce only 2 positive pulses per rev.

Note 2: Connection of white wire through isolator to ungrounded kill switch terminal is preferred. Connection to ungrounded (+) coil terminal or to points terminal on magneto are other possibilities. On Mallory or MSD magnetos, connection is made to switch or coil terminal connected to orange wire. On MSD magneto be sure wire colors in 2 pin plug halves match each other.

Note 3: Be sure ignition unit and negative battery wires are grounded directly to chassis. Ungrounded operation may cause spark to complete circuit through tachometer or cause sparks inside the car. Use of 2 MSD's with changeover switch requires a 10K 1 watt resistor between black and white wire for operation from both MSD's. Special harness available on request.

Note 4: Do not connect to tach wire on Honda ignition system, connect to (-) terminal on 1 coil. If a 4 cylinder motorcycle engine is used with MSD ignition, tach can be connected to tach outlet of MSD (C setting; no isolator).

Accuracy The TEL TAC II uses digital calculation and a quartz timebase to determine RPM. Other than the jumper setting, there are no calibration adjustments. Loose connections, bad grounding, dirty or poorly adjusted points, and bad plugs or plug wires can cause faulty readings. Weak valve springs, motor problems, and driving styles can all dramatically affect the RPM attained.

Error Codes Unit may flash an error code after the engine is stopped along with the RPM reading (reading may not be correct).

E 1 This indicates the unit did not follow it's normal sequence and had to restart itself. This code may rarely appear if motor is started at the exact instant the tach was shutting off—reading would still be OK.

E 2 This indicates the memory was corrupted
Both these problems could be caused by interference from plug wires, bad wiring or grounding, loose battery snaps, or a defective battery. Relocate tach, ground connection, or wiring away from ignition components. Check continuity and insulation on plug wires. Test or replace battery and inspect connector snaps. Be sure tach is dry inside. Unplug tach and check continuity from outer (ground) connector pin to a case screw with ohmmeter (ground connection is made through left circuit board mounting screw).

E 3 This indicates the programming jumper is not connected or was moved while tach was in operation. Check jumper (wiggle in and out to restore connection).

Error codes will continue to show until tach turns itself off or battery is disconnected for a few seconds.