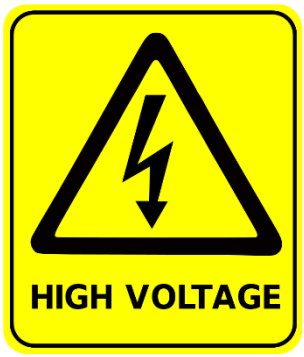


WARNING: HIGH VOLTAGE!

DISCONNECT THE BATTERY BEFORE INSTALLING OR SERVICING ANY IGNITION SYSTEMS COMPONENTS.

Failure to follow these instructions and the vehicle owners' handbook and shop manual could result in serious personal injury, death and or damage to property. This part is designed to be installed by a mechanic that is familiar with European automobiles and safety standards.

SERVICE NOTES

WARNING

High Voltage may be present at the ignition coil primary AND/OR secondary circuit. Serious personal injury, death and or damage to property could result if these instructions are ignored. Do not connect a dwell meter or test light to the coil primary terminals. Disconnect the battery, at the negative terminal first, before working on the car. Do not connect 12 volts to the coil. Do not use a test light or jumper wire on the Perma-Tune, tachometer or ignition coil. Make sure the relay panel ground cable, engine ground cable and battery negative cable connections are not defective.

CAUTION

To avoid potential damage to your new ignition box and voiding your warranty, we recommend that you replace the ignition coil when the ignition box is replaced. Use only the Perma-Tune coil part number SC010 or the German made OE coil. Do not use the "made in Brazil" coil with the Perma-Tune module or damage may result to your new module. Do not use the "blaster" high turns ratio coils or your spark plug wires, distributor cap and or rotor may be damaged.

The Model 911906 is the sixth generation version of the original Perma-Tune ignition system co designed by Ferdinand Porsche and Theodore Sturm in the late 1960's. The original Perma-Tune "blue box" was made in Newport Beach, California and was installed at the Porsche factory on the 1974 Porsche 911. The new Gen 6 Perma-Tune has a zinc die cast housing that has been chemically treated to make it look like an original part to the car. The internal components are all new parts and are of the very latest American Perma-Tune design and manufacture. This ignition module is intended for use on cars that are judged on originality and functionality and will provide increased ignition performance over the original ignition module. This Perma-Tune is ready to plug in to the 911engine harness and bolt up to the existing mounting position.

Installation Instructions

1. Remove the old ignition module from the car according to the shop manual for this car. Perform a bench check of the original ignition unit according to the manufacturers' specifications. Perform any maintenance procedure needed, if the bench check procedure indicates so, to prevent damaging the new ignition module upon its installation and voiding your warranty. Always replace the ignition module and ignition coil together. **NOTE: On some cars, the relay panel where the ignition box is located must be unbolted from the car so that the nuts can be retained while the bolts for the ignition box are unscrewed. One of the screws for the relay panel mounting also holds the braided ground strap that provides the ground for the relay panel. This ground strap can be easy to forget to hook back up because when it is removed from the relay panel it will fall forward between the fuel filter and fuel accumulator where it cannot be seen. It is extremely important that this ground strap be reconnected when the relay panel is bolted back to the car. Failure to reconnect this ground strap will result in electrical problems related to the relays and fuses located on the relay panel and may result in damage to the your new ignition box.**

2. Perform the distributor breaker points resistive test and mechanical wear tests as instructed in the Porsche 911 shop manual. If the tests indicate a fault or excessive wear exists, repair the distributor before you plug in your new Perma-Tune. If the distributor and electrical connections are OK, bolt up and plug in your new Perma-Tune.
Note: We recommend that the distributor rotor end play not exceed 0.015" (0.4 mm). Excessive end play may damage the brass distributor drive gear on the crankshaft. If you need a new distributor, see our website for the 911MF126 digital distributor for carbureted and mechanically injected engines and the 911CF126 digital distributor for CIS injected engines.

3. Reconnect the battery, start the engine and verify ignition timing with a strobe light according to the shop manual and engine bay placards for this car.
Note: Some brands of dial back timing lights may not be compatible with Perma-Tune ignitions.

GENERAL TECHNICAL INFORMATION

Beware of misdiagnosis: Do not troubleshoot the vehicle by swapping components, you may damage the parts or the donor vehicle in the process. If the car does not run with the Perma-Tune module but does run with another brand of ignition module, one or more of the Perma-Tune module overload protectors may have tripped. Refer to the "Onboard Diagnostics" section of this document for more information.

If the connector does not match that of the car, you have the wrong model Perma-Tune box for that car. In either case contact Perma-Tune for assistance with exchanges. The dealer you purchased your Perma-Tune from is not authorized to issue warranty replacement or exchange units. Please contact the factory for exchange, technical and warranty assistance.

If your alternator light glows slightly at idle, your vehicle may have ground faults. Refer to the Blue RPM Indicator Light section of this document for more information and refer to the factory shop manual for ground point locations.

For best performance, the spark plug gap can be increased to .065 and copper core, unshielded copper spark plug wire can be used without causing radio noise problems.

If you are having tachometer problems, refer to the Red RPM Indicator Light section of this document. Check the 14 pin connector located at the rear of the relay panel for carbon tracking and corrosion, especially between pins 12 and 14.

If you are having intermittent ignition problems, refer to the Red RPM Indicator Light section of this document. You may remove any radio noise suppressers or condensers that may be attached to the ignition module or distributor. They are not needed by the Perma-Tune module and may cause intermittent ignition problems.

If you have an ignition miss fire, refer to the Red RPM Indicator section of this document. Check spark plug wires, spark plug connectors (resistor type in the spark plug well), and distributor cap for corrosion and carbon tracking. Check the rotor for shorts, defective resistor and/or defective rotor RPM limiter components. Check fuel for water contamination; check fuel pump pressure and fuel injection settings.

The 911SC906 Perma-Tune module RPM limit is preset to 8,000 RPM. Refer to the Perma-Tune distributor installation instructions on how to change this setting.

Unlike the stock ignition systems, Perma-Tune ignitions make no audible sounds when the ignition switch is on. The Gen 6 Perma-Tune makes no heat of its own under normal operating conditions. The aluminum fins on the housing are for aesthetic appeal only.

Onboard Diagnostics

The Gen 6 Perma-Tune makes diagnostics easier by providing onboard diagnostics. The Perma-Tune runs diagnoses programs automatically that are displayed by two colored LED function lights viewable from the connector of the Perma-Tune. These LED lights assist the mechanic in diagnosing your ignition system. There are two PTC Self Resetting fuses that assist in troubleshooting while protecting your Perma-Tune from damage.

Blue Power Indicator Light

The blue LED indicates that the module is powered up and ready to operate. If the engine alternator is defective or if the engine ground is defective the blue LED will appear to flicker. Other power wiring faults are indicated by a dim blue LED or changes in the LED brightness.

Red RPM Indicator Light

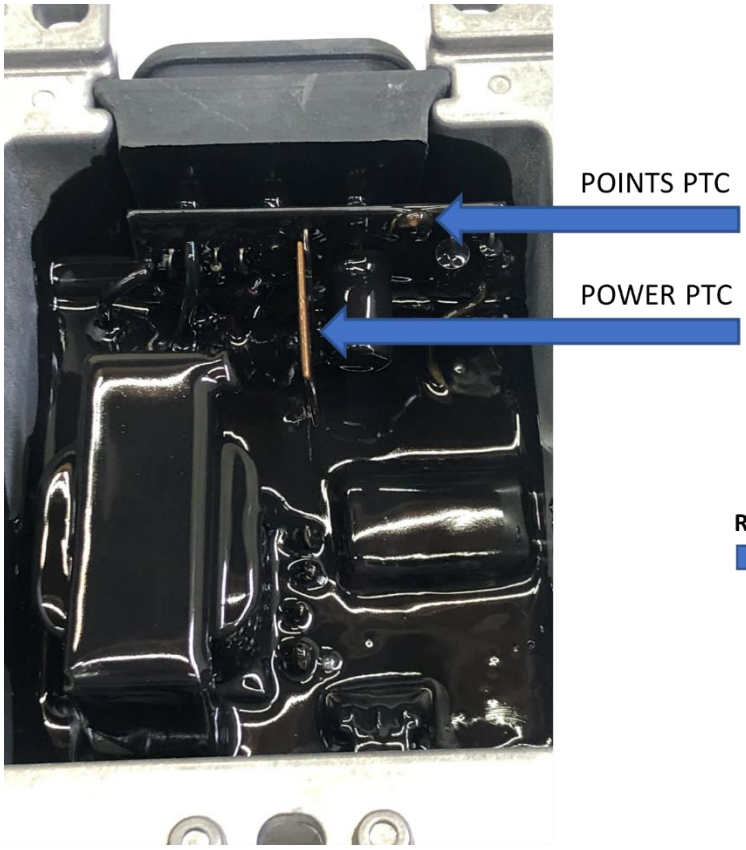
The red LED is a strobe light. It is useful for performing engine diagnostics as it indicates when the Gen 6 is receiving a trigger signal. Just like a timing light, when viewing the red LED under normal conditions, the light will appear to be flashing during cranking of the engine, it will appear dimly lit when the engine is running at low RPM and will appear brighter as the RPM increases. While the engine is running, an ignition miss fire will cause the LED to flicker. If the engine does not run and the red LED remains illuminated while the engine is cranked, then there is a short circuit to ground in the harness wiring or the points are defective and are holding the ignition module signal to ground. In this case the points overload protector may trip. Refer to the Points Overload Protector section of this document for more information. If the engine does not run and the red LED does not illuminate while the engine is cranked, then the wiring to the points is an open circuit or the points are defective and are not making and breaking the ignition module signal to ground.

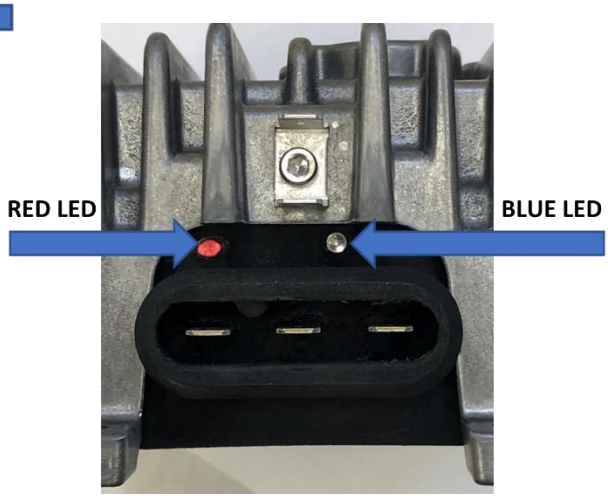
PTC Sensor Self Resetting Overload Protectors

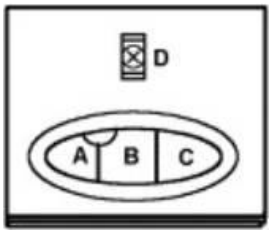
There are two components on the circuit board behind the connector that are self-resetting “fuses” that protect your Perma-Tune and car from harmful wring problems in the car harness. They are called Protective Thermal Components (PTC) sensors that indicate problems by getting hot. Under normal conditions they will be no warmer than their surroundings. We recommend that you use an infrared thermometer to read them as they will become hot to the touch when tripped.

Power Overload Protector: This is a thermistor type, self-resetting “fuse” that will cut off power to the ignition system in case of a power overload without effecting the rest of the ignition circuit. There are several conditions that could cause this PTC to trip but the most common one is if reverse DC power has been accidentally applied to the vehicle battery. Once the fault has been corrected, the PTC will automatically reset itself allowing your Perma-Tune to continue functioning without being damaged. You can tell when the PTC has tripped by its temperature. When the PTC has initially tripped it will be very hot to the touch. After it trips it will stay off but remain slightly warmer than ambient temperatures as long as the circuit fault and power are still present. When the power to the circuit is cut or when the wiring fault is corrected, the PTC cools down to ambient temperatures and will automatically resume operation.

Points Overload Protector: This is a thermistor type, self-resetting “fuse” that will prevent damage to your Perma-Tune in case the ignition module wiring harness has shorted to ground. Once the wiring fault on the car has been corrected, the PTC will automatically reset itself allowing your Perma-Tune to continue functioning without being damaged. When the PTC has initially tripped it will be very hot to the touch. After it trips it will stay off and cool down to ambient temperatures. Whenever the ignition key is cycled, and, if required, the wiring on the car is corrected, the PTC will self-reset.







WIRING CONNECTIONS

No rewiring of the vehicle is required. The connector pin outs below are provided for trouble shooting and wiring restoration purposes. Note: The diagram here is of the ignition module as viewed sitting on the work bench.

A = + or 15 or terminal A, the coil hot primary terminal. Note: the coil - or 1 or B terminal should be connected to ground at the coil mounting bracket. On mechanically injected cars, this is also where the tachometer isolator is connected. Note: this is ONLY connected to the tachometer isolator on the MECHANICAL injection 911 cars.

B = Power from ignition switch.

C = Distributor breaker points. On carbureted and CIS injection cars, this is also where the tachometer is connected.

D = Ground.

Bench Check

The only bench check that can be done is between pins A and D. It should read 3,700 Ohms plus or minus 100 Ohms. Any other reading indicates that the Perma-Tune has been damaged by a defective ignition coil. The Perma-Tune laboratory can test your module, coil and distributor, contact us for more information.

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