

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.

The interface harness makes installation easy by eliminating the need to splice the distributor wires into the engine harness. Simply plug in the distributor, the ignition module and the car harness. The distributor is ready to install into the engine and comes preprogrammed with the stock factory settings. It is easy to customize the RPM limit, mechanical advance timing, vacuum advance and boost retard settings using a free app on your phone. On Turbo cars, a hose connection between the intake manifold and the distributor replaces the stock vacuum and turbo boost retard pot with a built in programmable sensor. This kit contains the distributor and interface harness. The ignition module and coil are sold separately.

Self diagnostic LEDs are located on the Gen 5 and Gen 6 Premium Perma-Tune modules. The green LED is a status indicator and the red LED is a strobe light that blinks with each spark the ignition module generates. These LEDs help with setting up the distributor and can be used for diagnosing the ignition system.

To view the programming tutorial go to www.123ignition.com/support/ or scan the QR code. The Tune+ app is available free from the App Store.



INSTALLATION INSTRUCTIONS

These instructions are for Porsche 911SC and US Turbo 930, CIS injected engines originally equipped with the six pin ignition module and counter clockwise rotation distributor. For Euro Turbo 930 engines originally equipped with the eight pin ignition module and clockwise rotation distributor, order the part number 930126 distributor. The distributors will be marked with an arrow pointing either left (clockwise) or right (counter clockwise) when viewed from the rotor end of the distributor.

1. Before you start the installation, locate the correct ignition timing specifications for your engine as specified by the factory engine manual. There are many different engine configurations within the family of 3.0 L Porsche engines so be sure to select the correct specifications for your car. You will need to download and install the Tune+ App on your phone, watch the programming tutorial and read the instructions to become familiar with using the App.

CAUTION: Setting the distributor to the wrong timing specifications for the engine can result in severe damage to the engine. Perma-Tune accepts no liability for damage to your engine.

2. Unplug the ignition module from the harness. Mark the distributor cap terminal that is connected to cylinder #1 and make a corresponding mark on the distributor housing, then remove the distributor cap from the distributor. Rotate the engine to TDC Cylinder 1 on the compression stroke of the piston and note the position of the rotor when the crankshaft TDC timing mark aligns with the timing pointer. The rotor should be pointing directly at the distributor cap cylinder #1 spark plug wire terminal mark that you made which should correspond to a scribe mark on the distributor housing rim indicating cylinder #1. If the rotor is not pointing at #1, continue rotating the crankshaft until the crankshaft TDC mark again aligns with the timing pointer with the rotor pointing to cylinder #1 terminal of the distributor cap.

WARNING: Failure to disconnect the ignition module from the harness may cause serious personal injury, death or damage to property.

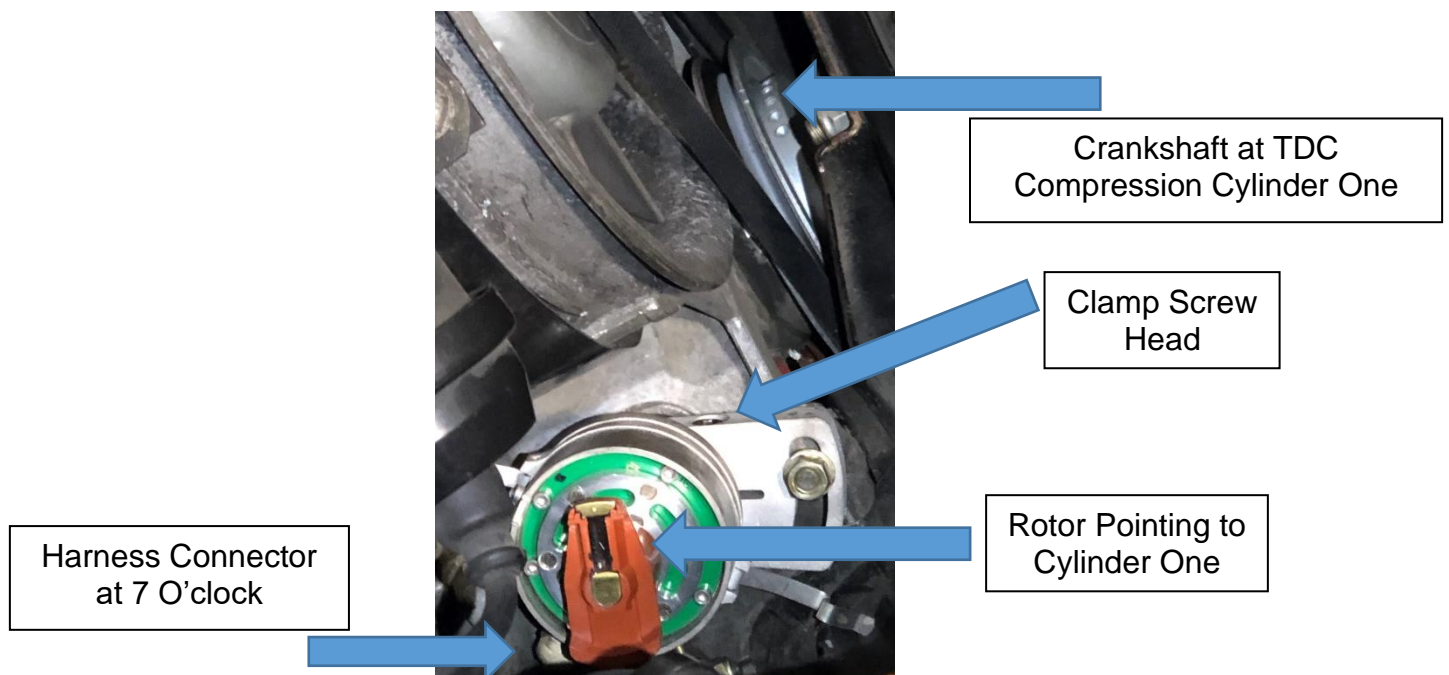
NOTE: On the 911SC and 911 Turbo US model, the distributor rotation will be counter clockwise (CCW).

3. Turn off the ignition key and disconnect the battery. Remove the old distributor from the engine. Tie back the green distributor signal wire, it is no longer used.

WARNING: Failure to disconnect the battery may cause serious personal injury, death and or damage to property.

NOTE: To prevent foreign objects from being accidentally dropped into the engine, block the hole with a shop rag.

4. Remove the distributor cap from the new distributor and place the new distributor into the engine block without engaging the drive gear. Position the hold down clamp, wire cable and hose nipple to a convenient location. The hold down clamp should be positioned against the distributor housing so that when the distributor is fully inserted into the engine, the engine hold down clamp stud is in the middle of the hold down clamp slot. The clamp should be installed onto the distributor with the Allen head screw facing inboard so that it can be tightened down later. Be sure the hold down clamp is firmly seated against the distributor housing. The wire harness connector will be at about the seven o'clock position. Refer to the picture.



CAUTION: Failure to seat the hold down clamp against the distributor housing may result in damage to the distributor and or crankshaft gear.

5. Disengage the distributor gear from the crankshaft and rotate the rotor in the distributor so that the rotor is pointing to slightly clock wise (CW) to the same direction of the old distributor when it was removed, then push the distributor all the way into the engine block engaging the drive gear. The rotor on the new distributor should then be pointing to the cylinder #1 of the new distributor cap. This cylinder position will probably be 180 Degrees from the cylinder #1 that is molded into the cap. If the distributor rotor is not pointing to the right position, repeat step 3 until it does. Install the hold down clamp nut and washers. The idle timing setting will be set by turning the distributor in the clamp and then the Allen head screw will be tightened.

NOTE: Failure to correctly engage the distributor to the crankshaft will result in a no start condition, premature wear of the distributor and rotor or poor engine performance.

6. Route the distributor wire harness to the ignition module keeping it away from the spark plug wires. Plug the six pin male connector of the harness into six pin female connector of the car harness. DO NOT plug in the ignition module yet. If your engine had only one vacuum hose

connected to the old distributor, connect it to the hose nipple on the Perma-Tune distributor. If your car had two hoses connected to the old distributor, connect the black hose to the nipple on the Perma-Tune distributor and cap off the red hose.

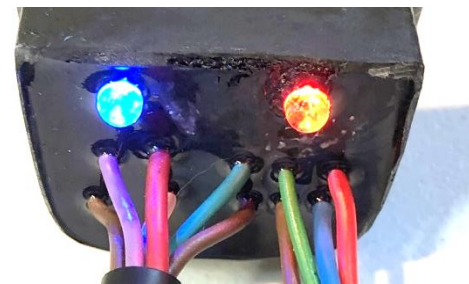
WARNING: Connecting the module before proceeding with the rest of the installation will result in the ignition coil becoming live during the next step which could result in serious personal injury, death and or damage to property.

7. Reconnect the battery and turn on the ignition power. The blue LED in the distributor Bluetooth window should light up. The blue LED on the distributor harness connector that plugs into the car harness should light up indicating that the distributor has power. Open the Tune+ App on your phone and connect the phone to the distributor using Bluetooth as demonstrated in the App tutorial. The default PIN is 1 2 3 4. When the App has successfully connected to the distributor, the blue light in the distributor Bluetooth window will go out. Program the distributor with the correct factory timing specifications for your engine.



NOTE: The Centrifugal curve in the App is calibrated for crankshaft degrees and crankshaft RPM data. If the factory specifications given are for distributor degrees and RPM, double those figures to enter them into the App Centrifugal curve.

NOTE: Refer to the chart in this document for the kPa conversion values you may need to adjust the MAP curve.



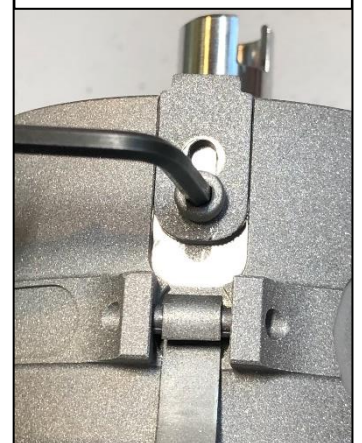
8. Remove the distributor cap and rotor in order to set the static engine timing. There is a green LED on the circuit board mounted underneath the magnet rotor that is visible through the slots in the magnet rotor. It is located on the circuit board to the left of the cap indexing slide. This LED will light up indicating when the ignition module will make a spark. Rotate the distributor body CW until the green LED **just** lights up. While doing so, also press the rotor in a CW direction in order to remove possible free play in the gear drive.
9. TURN OFF THE IGNITION SWITCH.

WARNING: Failure to turn off the ignition switch before proceeding to the next step may cause serious personal injury, death or damage to property.

Install the rotor and distributor cap that were provided with the Perma-Tune distributor. Transfer the spark plug wires from the old distributor cap to the new distributor cap. Note the position cylinder #1 from step 5. Plug in the ignition module to the harness six pin female connector. Clear the engine bay of tools or any foreign objects and keep yourself away from moving parts.

10. Turn the ignition switch to the run position. If your car is equipped with a Perma-Tune Gen 5 or Gen 6 Premium ignition module, the green LED status indicator on the module should flash one second on and one second off to indicate that the module is active and ready to run. The blue LED on the distributor harness connector that plugs into the car harness should light up indicating that the distributor has power. Start the engine and note the flashing red strobe LED of the ignition module as the starter is engaged. While the starter is turning, the red LED should flash with each spark generated by the ignition module. When the engine is idling, the LED will

Cap Index Slide for changing between Brown and Black Cap.

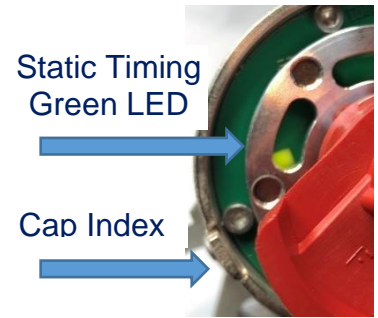


appear to glow dimly and get brighter as the engine RPM increases. While the engine is running, there should be no fluttering, flashes or interruptions visible in the red LED. The red LED on the distributor harness that plugs into the car harness operates the same way as the red LED in the Gen 5 and Gen 6 Premium modules.

WARNING: Failure to clear the engine bay of tools, foreign objects and or body parts may result in personal injury, death and or damage to property.

NOTE: If your old distributor cap will slot into the Perma-Tune distributor housing, you may need to shift the cap indexing slide on the distributor. Refer to the picture. Use a 2.5 mm Allen wrench to loosen the retaining bolt. Slide the tab up for a red cap and down for a black cap, then tighten the bolt.

NOTE: If you are using the Bosch ignition module, the red LED will illuminate dimly when the key power is on and then be bright when the engine starts. As the engine RPM increases, the red LED will appear to be dimmer.



11. Using an engine timing light, adjust the engine timing to the correct factory idle specifications by rotating the distributor in the hold down clamp and then tighten the bolt. The vacuum hose should not be connected and should be blocked.
12. Verify the mechanical advance function using your timing light. If so directed by the factory engine manual, reconnect the vacuum hose and verify the vacuum function using your timing light. Some engines require vacuum advance functions and others require turbo boost retard functions. The distributor timing functions should conform to the factory specifications for your car found in the factory engine manual. Adjust the timing functions using the Tune+ App on your phone to the factory specifications.
13. At this point the car can be test driven or put on a chassis dyno in order to fine tune the engine ignition timing parameters using the Tune+ App. It is a good idea to save a copy of the final distributor program for future reference.

PIN and Reset Function

If the blue LED is blinking, it means the Bluetooth module has lost its' configuration settings. The settings can be easily restored using the procedure below. If you have forgotten what you changed your PIN code to, this procedure will also restore the PIN code to the default setting of 1 2 3 4.

1. Close the App on all devices (very important).
2. Turn off the engine key.
3. Disconnect the distributor harness connector from the ignition module. Jumper pins 5 and 6 as shown in the picture.
4. Turn ON the ignition key. The blue LED on the side of the distributor will begin to flash in about 10 seconds.
5. After about 30 seconds, the blue LED will stay on indicating that the reset procedure is complete.
6. Turn OFF the ignition key, remove the jumper and plug the connector back into the ignition module.
7. Now the PIN code is reset to 1234, the Bluetooth is rebooted and the distributor is ready to function normally.



Conversion Chart Key

kPa = kilo Pascal, Absolute

"HG Gauge Vacuum

cmHG Gauge Vacuum

"HG A = inches Mercury, Absolute

PSIA = Pounds per Square Inch, Absolute

PSIG = Pounds per Square Inch Gauge pressure

kg/cm² Pressure

Bar A = Absolute Bar Pressure

Bar Boost = Gauge Pressure

kPa	" HGk	cmHG	"HG A	PSIA	PSIG	kg/cm ²	Bar A	Bar Boost
10	26.58	67.5	2.953	1.45				
20	23.62	60.0	5.90	2.9				
30	20.67	52.5	8.86	4.22				
40	17.72	45.0	11.81	5.8				
50	14.77	37.5	14.76	7.25				
60	11.81	30.0	17.72	8.7				
70	8.85	22.5	20.67	10.15				
80	5.9	15.0	23.62	11.6				
90	2.95	7.36	26.58	13.4				
100	Zero	Zero	29.53	14.5	Zero	Zero	1	Zero
110			32.48	15.95	1.45	.1	1.1	.1
120			35.44	17.4	2.9	.2	1.2	.2
130			38.39	18.85	4.35	.3	1.3	.3
140			41.34	20.3	5.8	.4	1.4	.4
150			44.29	21.75	7.25	.5	1.5	.5
160			47.25	23.2	8.70	.6	1.6	.6
170			50.20	24.65	10.15	.7	1.7	.7
180			53.15	26.1	11.6	.8	1.8	.8
190			26.10	27.55	13.05	.9	1.9	.9
200			59.06	29.00	14.5	1.0	2	1