

SPARK PLUG WIRES

Choice of spark plug wires is an important consideration when using an electronic ignition system. You must use carbon core resistor spark plug wires. Solid or Spiral wound wires will damage the ignition module and void the warranty!

SPARK PLUGS

You must use a resistor spark plug with electronic ignitions. Stock spark plugs are resistor type plugs and will work. Spark plug gap should be limited to as small as possible, while still maintaining performance.

A wide spark plug gap can cause the following problems: Hard cold starting, misfires during rich or lean fuel conditions, and reduction of upper rpm range.

Initial settings for spark plug gaps are: 0.028"-0.032"

Many things effect spark plug gap settings:

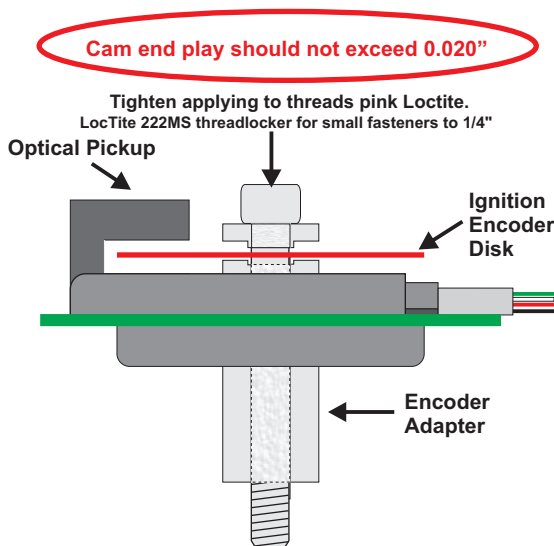
Compression Ratio: The higher the engine compression, the more voltage required to fire the plug, and the narrower the plug gap should be.

RPM: The higher the rpm's the less time the coil has to charge to break over voltage or complete saturation. A narrower spark plug gap will help high rpm stability.

Multi-Spark: To maintain a good secondary spark within a wider rpm range it is wise to run a narrower spark plug gap. It is better to precisely place two stable, consistent sparks than to fire one wider spark that may cause misfires in rich or lean conditions, or from any of the above reasons.

Encoder Installation and Cam end play

The encoder disk should be centered to in the optical pickup triggers. See encoder positioning in optical trigger pickup as indicated below as red line.



OWNERS MANUAL

All information contained in this owner manual is the property of P. A. Ignition Co., Inc. and cannot be duplicated in whole or in part by any means or disseminated or distributed without the prior written consent of P. A. Ignitions Co., Inc. The information in this manual has been carefully compiled and checked for accuracy and is believed to be correct. However, P. A. Ignition Co., accepts no responsibility for inaccuracies which may occur. All specifications in this manual are subject to change without notice.

Power Arc Ignitions Co., Inc.
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The following customer actions automatically voids the warranty.

- 1) Use of any other spark plug wires other than resistor type wires with at least 3,000 ohms of resistance.
- 2) Use of non-resistor spark plugs.
- 3) Drilling or cutting of any kind into the module
- 4) Incorrect wiring of the module.
- 5) Use of module on systems with defective charging systems.
- 6) Use of defective coils.
- 7) Directly shorting the coil output wires to +12 VDC.
- 8) Physical damage to the ignition.
- 9) Any other items covered in the warranty & instruction manual.

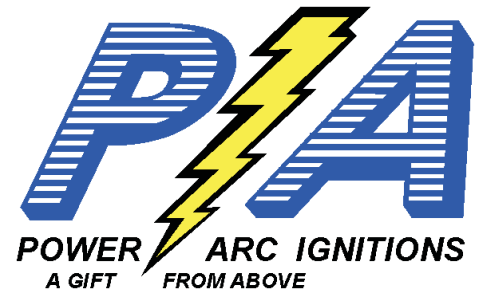
LIMITED WARRANTY

P. A. Ignition Co., Inc. warrants to the original retail purchaser of a Power Arc IDS ignition that it will, free of charge, repair or replace at its own option, the product if returned to P. A. Ignition Co., Inc. within 6 months after purchase and if found by P. A. Ignition Co., Inc. to be defective in material or workmanship. This warranty is not transferable by the purchaser and shall be voided: if alterations not authorized by P. A. Ignition Co., Inc. are made in the equipment or if the serial number or date of manufacture has been altered, defaced or removed. Nor does this warranty apply: if the equipment has been subjected to accident, misuse, improper hookup, damaged by flood, fire, or act of God, or has been used on circuits or voltages other than those indicated in its instruction manual. If the equipment is found to be defective in materials or workmanship the equipment will be returned and P. A. Ignition Co., Inc. will pay the return shipping (this does not include next day shipping, second day shipping, shipments outside of the continental U. S. A. or shipments outside of the U.S.A.). All warranty work outside of the U.S.A. must include prepayment of return shipping. Customs, duties or tariffs are not covered by this warranty. If the equipment is found to be defective but is due to customer misuse (as described in warranty) P. A. Ignition Co., Inc. will notify the customer and if the customer wants the defective equipment returned P. A. Ignition Co., Inc. will return the equipment C.O.D. freight. If the equipment is found to be in operational order when returned to the factory P. A. Ignition Co., Inc. will return the module with a \$30.00 service charge plus freight and C.O.D. Charges.

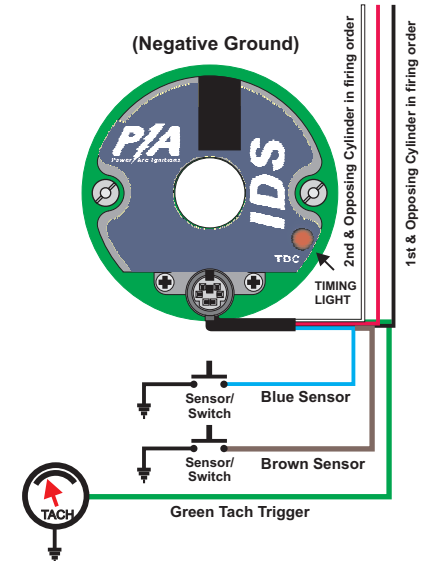
Any module returned under the warranty must include note of explanation of failure and be accompanied by a dated bill of sale.

P. A. Ignition Co., Inc. warranty obligations are limited to those set forth herein and no other obligations, expressed or implied, are assumed by P. A. Ignitions Co., Inc.

Some states do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may no apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



Power Arc IDS-CP2 for 4 Cylinder Engines Owner's Manual



Programmable Features

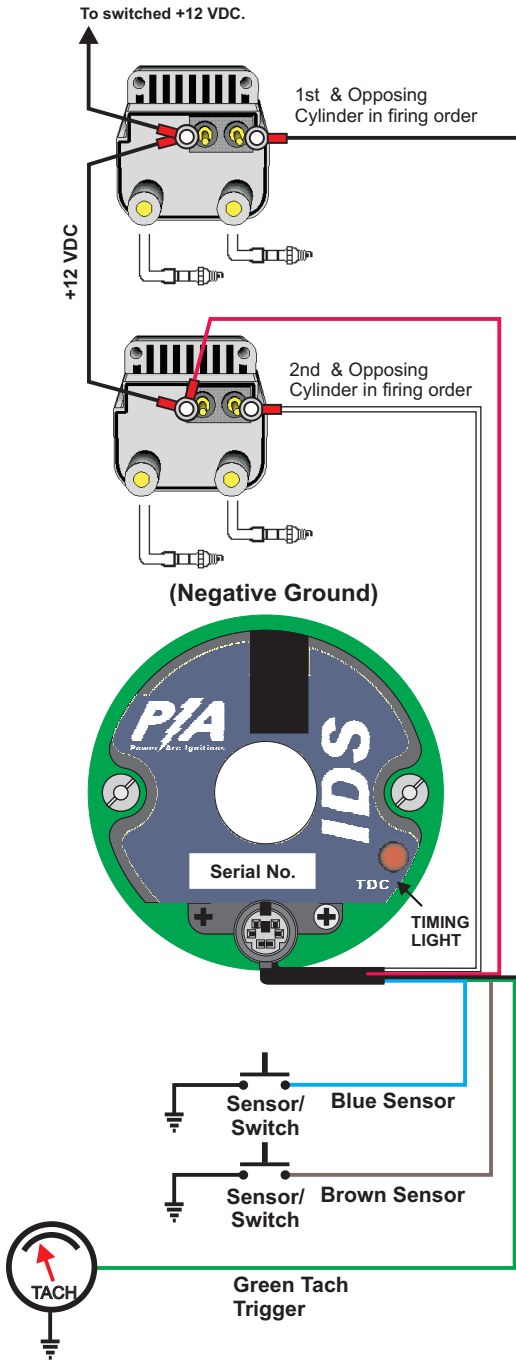
- Spark timing placement in 1° increments
- Placement of 1-3 Sparks/Compress Stroke
- 2 Digital sensor inputs
- 4 Independent Timing Curves
- Tach Output 1-8 Cylinder
- Coil Saturation Control (dwell)
- Precision Rev limiter
- Curve Fallback
- Reprogrammable via PLC Cable

Features

- Static Timing Light
- Stainless Steel Encoder
- Automatic Coil Shutoff

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PATENT #4,951,629 OTHER PATENTS PENDING

See Firing Order Examples at Right



INSTALLATION INSTRUCTIONS

WARNING: Do not touch coil output wires (White & Black) To +12. DO NOT USE SOLID OR SPIRAL WOUND SUPPRESSION SPARK PLUG WIRES, USE RESISTOR WIRES ONLY. FAILURE TO OBSERVE THESE PRECAUTIONS WILL DAMAGE IGN. & VOID THE WARRANTY.

1. Remove existing distributor and replace with IDS Distributor. Rotate to allow the module wires to exit in a desirable location and secure the distributor in place.
2. Insert IDS CP2 module into distributor and install the 2 supplied module lock down standoffs & tighten.
3. Center the Optical Encoder/Rotor on the distributor shaft centered on the step. Using screw/bolt and the supplied conical washer finger tighten the screw/bolt making sure the neoprene rubber is facing towards the Optical Encoder/Rotor.
4. Rotate the engine to TDC compression stroke of #1 cylinder (secure engine crank to avoid rotation).
5. With power on to the ignition module (make sure the coils are disconnected) rotate the rotor through the optical pickup in the direction of the engine rotation until the TDC LED light on the module just lights and tighten the adapter/rotor to 7-9 lbs. of torque securing the rotor in the TDC position. The TDC light should only light one time as it is being passed through the optical trigger.
6. Recheck top dead center timing mark to make sure the timing has not moved.
7. Hook the Black wire to the 1st & Opposing Cylinder in firing order & the White wire to the 2nd & Opposing Cylinder in firing order. See IDS Program Help files for additional wiring information. Make sure not to run wiring near high heat areas of the motorcycle, such as the exhaust system.
8. Hook 1 of the spark plug wires from the coil hooked to the black wire to the #1 cylinder spark plug and the other to the 180° opposing cylinder spark plug. Hook 1 of the spark plug wires from the coil hooked to the white wire to the 2nd cylinder in the firing order spark plug and the other to the 180° opposing cylinder spark plug.
9. Start the Engine.

It is recommended that you use a Vacuum Retard Switch if one was on your vehicle or you should add one if you have a high performance engine. The Vacuum Retard Switch should be hooked to 1 of the Sensor control wires programmed to appropriate timing curve.

See IDS Program Help files for programming of Ignition Module. PLC (Program Link Cable) must be removed for Ignition to operate.

Firing Order Examples

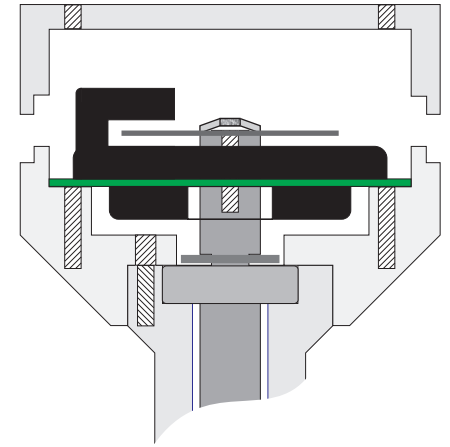
Firing Order 1-4-3-2

Coil Wire
 Black - Spark Plug wires go to Spark Plug 1 and 3
 White - Spark Plug wires go to Spark Plug 4 and 2

Firing Order 1-3-4-2

Coil Wire
 Black - Spark Plug wires go to Spark Plug 1 and 4
 White - Spark Plug wires go to Spark Plug 3 and 2

Power Arc IDS Distributor with appropriate stem for engine application.



With power on to the ignition module (make sure the coils are disconnected) rotate the Optical Encoder through the optical pickup in the direction of the engine rotation until the TDC LED light on the module just lights and tighten the adapter/rotor to 7-9 lbs. of torque securing the rotor in the TDC position. The TDC light should only light one time as it is being passed through the optical trigger. Recheck top dead center timing mark to make sure the timing has not moved.

