

## SPARK PLUG WIRES

Choice of spark plug wires is an important consideration when using an electronic ignition system. Use ONLY Resistor (CARBON CORE) or Approved Spiral Wound Spark Plug Wires & Resistor Spark Plugs. Solid or Spiral unapproved 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:

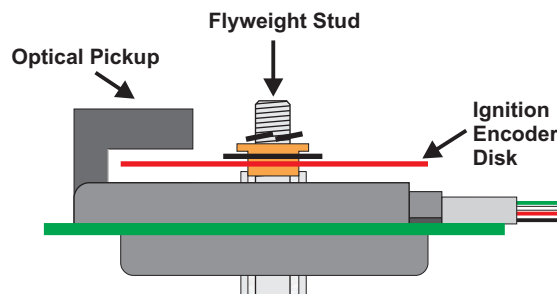
**Compression Ratio:** The higher the engine compression, the more voltage required to fire the plug, and the narrower the plug gap should be.

**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.

**Use ONLY Resistor (CARBON CORE) or Approved Spiral Wound Spark Plug Wires & Resistor Spark Plugs.**

**IF THIS IS NOT DONE IT WILL DAMAGE THE IGNITION MODULE OR COIL.**



**Extra washers may be included for shimming the Encoder Disk outward. Place on encoder standoff if Encoder Disk is too close to Optical Pickup.**

## 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.**  
2518 N.E. 102 Ave.  
Ankeny, IA 50021  
(515) 964-7608

### 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.

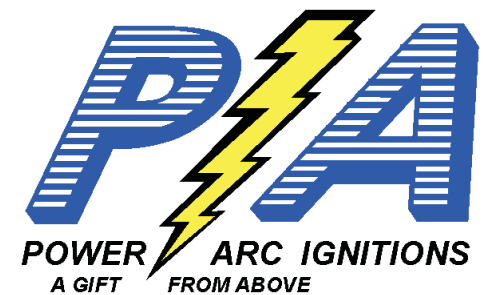
## LIMITED WARRANTY

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.

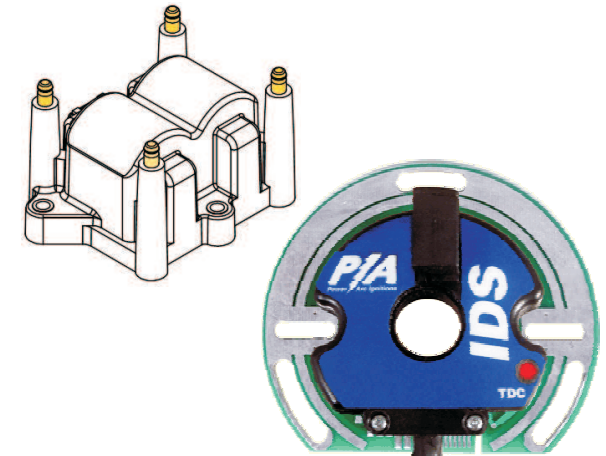
**Any module returned under the warranty must include note of explanation of failure and be accompanied by a dated bill of sale.**

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 not 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-C2 & CP2  
Honda CB 750 SOHC  
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
  - Electronic Tach Output
  - Coil Saturation Control (dwell)
  - Precision Rev limiter
  - Curve Fallback
  - Pre-programmed
  - Precision Voltage Reference
- Features**
- Static Timing Light
  - Stainless Steel Encoder
  - Automatic Coil Shutoff

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<http://www.powerarc.com>  
PATENT #4,951,629 OTHER PATENTS PENDING

## 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.**

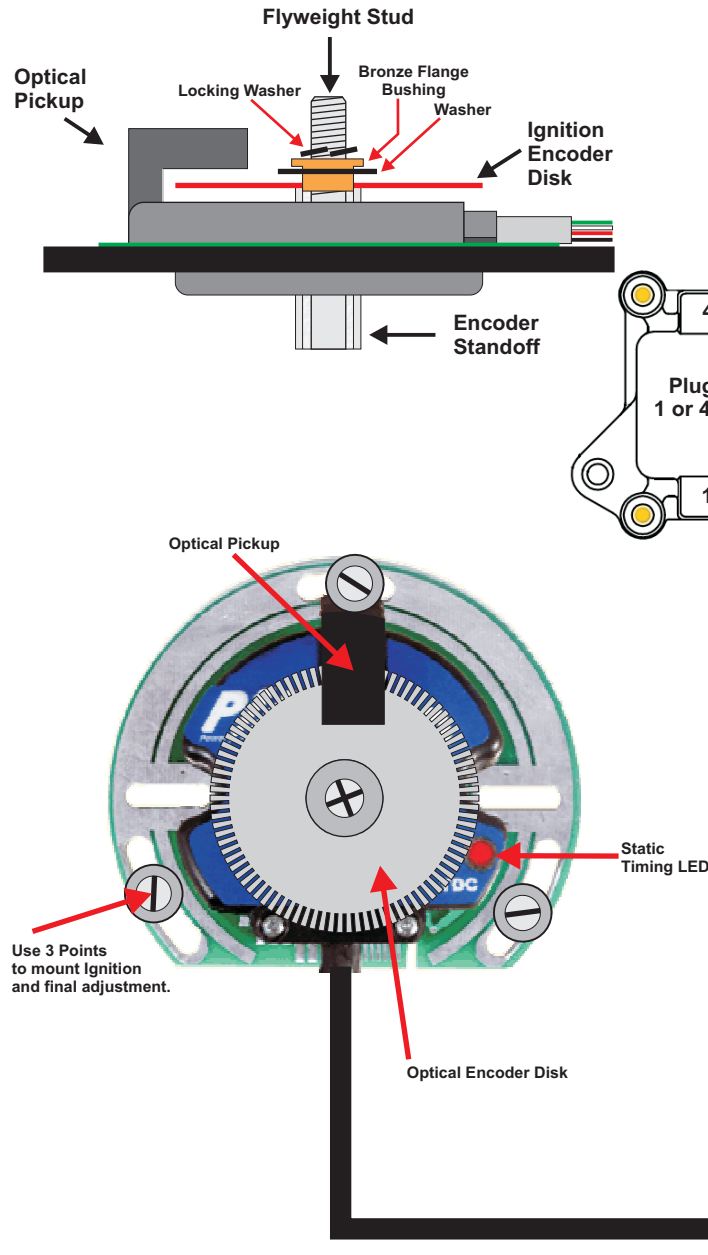
1. Apply parking brake and put the transmission in neutral.
2. Mount the coil in a location that accommodates proper routing of the spark plug wires and that is within reach of the ignition module wiring harness. Route the spark plug wires to the appropriate cylinders. Spark Plug wires may have to be altered to fit depending upon mounting location of the coil.
3. Remove the existing Ignition points plate weights and replace it with the IDS CP-2 Ignition.
4. Hook the +12 VDC Red wire of Harness to the +12 VDC ignition/kill switched supply. Do not hook connector to coil.
7. Insert the encoder standoff through the center hole of the ignition to end of crank shaft. Set the Encoder Disk centered on the Standoff. Put the locking washer and flat washer on the bronze flange bushing and push thru the Encoder Disk. Thread and lightly tighten flywheel stud nut to Encoder Disk assembly.
6. Rotate the engine to the 0° (TDC) of number 1 cylinder. Secure the engine crank to avoid rotation.
7. Disconnect all spark plug wires from spark plugs. Apply power to the ignition module and rotate the optical encoder disk through the optical pickup in the opposite direction the engine rotates when running. When the TDC LED light on the module lights stop rotating the optical encoder disk. The TDC LED light should be visible once every 360° rotation of the wheel. Tighten the encoder wheel screw securing the wheel in the TDC position. Fine adjustments may be made by rotating the slotted Ignition Key should Encoder disk rotate when tightening.
8. Recheck the 0° (TDC) to make sure the timing has not moved.
9. Turn power off to the Ignition module and attach the connector to the ignition Coil.
10. Hook the Spark plug wires up to cylinders as per labeled on the coil. (See Coil Wiring Chart)
11. Start the Engine.

It is recommended that you use a vacuum retard switch if one was on your vehicle. Adding a vacuum retard switch will enhance the performance of your engine. The #1 sensor control wire is programmed to work with a normally open (N.O.) with low vacuum retard switch & #2 switch Ungrounded. Note: this may not apply if the module has been re-programmed.

**MAY NOT BE LEGAL FOR INSTALLATION ON POLLUTION CONTROLLED VEHICLES**

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

**Encoder (rotor) Installation and Crank end play**  
Crank end play should not exceed 0.020". The encoder disk should be fall within the constraints of the optical pickup triggers. See encoder positioning in optical trigger pickup as indicated below as red line. Encoder must not strike pickups should the crank move.

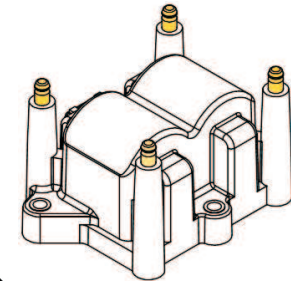


## Coil Wiring Chart

Hook the Spark plug wires to cylinders as per labeled on the coil.

Coil tower labeled #1 goes to cylinder #1  
Coil tower labeled #2 goes to cylinder #2  
Coil tower labeled #3 goes to cylinder #3  
Coil tower labeled #4 goes to cylinder #4

For best Spark plug wire routing, spark plug wires 1 and 4 may be reversed 4 to #1 cylinder and 1 to #4 cylinder. The same being true for spark plug wires 2 and 3, may be reversed 2 to #3 cylinder and 3 to #2 cylinder.



Attach +12 VDC From Kill Switch to Red wire of Harness

2 Sensor Wires may be Grounded or Ungrounded to switch timing curves, between 4 timing curves.

Progression from most to least advance	
Blue Sensor 1	Brown Sensor 2
Grounded	Grounded
Grounded	UnGrounded
UnGrounded	Grounded
UnGrounded	UnGrounded

**Normal Stock Application**  
**Ground Blue and Brown Wires**  
Higher Compression or lower octane fuels may require less advance. This can be achieved by ungrounding the appropriate Sensor wires or the addition of a VOES, vacuum switch.

