

MSD **IGNITION** **INSTALLATION INSTRUCTIONS**

Honda CR 125/250R **PN 15-05-2605/PN KT4201**

Note: The MSD Enhancer Ignition, PN KT4201, for the Honda CR 125 or CR 250R motorcycle is designed as a complete system. No part may be substituted with the stock ignition system.

Parts Included:

- 1 - MSD Enhancer Control Unit, PN 15-05-2605/PN 4201
- 1 - MSD Single Tower Pro CD Coil, PN 30-00-3005/PN 42921
- 1 - MSD 8.5mm Super Conductor Spark Plug Wire
- 1 - Parts Bag
- 1 - 24" Black 18 gauge wire
- 1 - MSD NiCad Battery Pack, PN 00-00-2625/PN 4381

Recommended Battery Chargers:

1. MSD Nicad Fast Charger, PN 4385, 12 DCV (Approx. 1 Hour).
2. Use 4 Nicad 7.2 charge from your local hobby store (Approx. 7 Hours).

TECHNICAL INFORMATION

The following explains some technical aspects of the Enhancer Ignition.

Battery: The battery is necessary to the operation of the Enhancer in two regards.

- The battery supplies voltage to the complex timing feature of the Enhancer.
- The Enhancer has a built in boost circuit that amplifies the spark energy at low rpm where the stock magneto is insufficient.

The MSD NiCad Battery pack, PN 4381, must be charged with the recommended battery charger or an MSD Fast Charger, PN 4385. The battery should be completely discharged before recharging. If a 7.2 Battery Charger is used, the recommended time for charging is seven hours. With the MSD Fast Charger the battery only needs to charge for one hour.

Note: No fast charger besides the MSD Fast Charger may be used to charge the MSD NiCad Battery. Damage to the battery will occur.

Timing: The Enhancer Ignition allows the user to adjust the ignition timing curve to optimize engine power output. This is done by rotating the potentiometer shaft located on the back of the ignition. Clockwise rotation retards the timing while counterclockwise advances the timing (Figure 1).

Coil: The MSD Enhancer Ignition System includes a special Pro CD Coil. This coil has an extremely low primary resistance and a high turns ratio to produce maximum spark energy. The Pro CD Coil is encapsulated in a Rynite compound that is impervious to contaminants and vibration.

Note: Do not use the stock coil with the Enhancer Ignition.

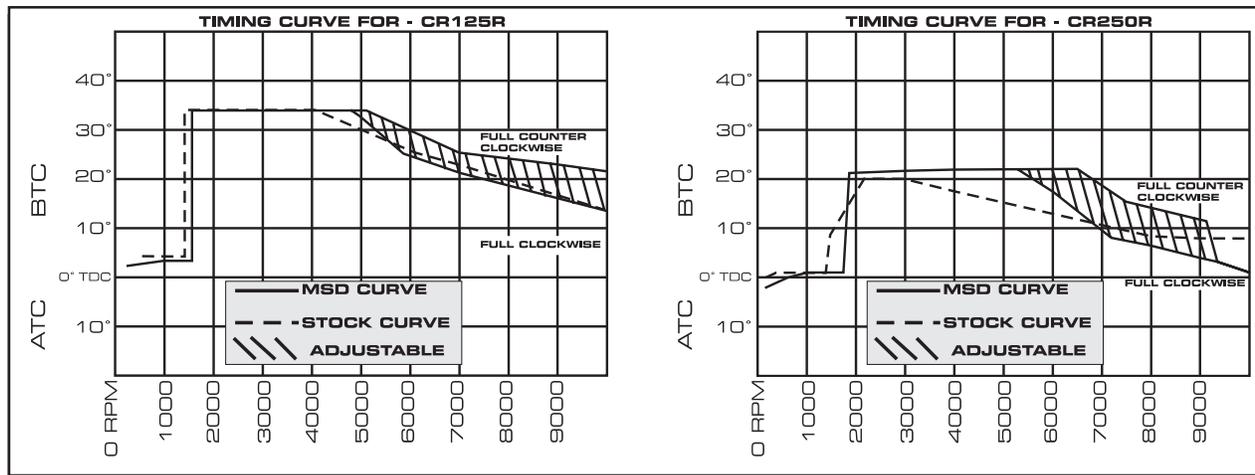


Figure 1 Adjusting the Ignition Timing Curve.

Spark Plug Wire: The MSD 8.5mm Super Conductor Wire has low resistance (40-50 ohms per foot) for high voltage carrying capabilities yet retains the ability to suppress RF noise the equivalent to 1500 ohm wire.

Note: The MSD Enhancer must be used with a helically wound, suppression spark plug wire.

MOUNTING

The MSD Ignition can be mounted anywhere on the motorcycle provided it is away from direct engine heat sources. It is also recommended that if you mount the unit to the front triple clamps that you attach the black ground wire to the frame and not the triple clamps. Bolting the unit to the frame is recommended but not required.

WARNING: Do not drill any holes in the frame as this will weaken its strength.

WIRING

Figure 2 shows how to wire the Enhancer Ignition. The functions of the wires are:

Brown - Connects to coil Negative (-) wire.

Orange - Connects to coil Positive (+) wire.

Purple - Connects to factory * Blue wire from the magneto.

Red - Connects to factory * White wire from the magneto.

Green - Connects to factory Green/White wire from the pickup coil.

Blue - Connects to factory Blue/Yellow * wire from the pickup coil.

Black With Ring Lug - Connects to Ground on the frame.

White - Connects to Handle Bar Kill Switch.

Black - Connects to other side of Handle Bar Kill Switch.

Black & Red Connector - Connects to an MSD PN 4381 Nicad Battery Pack.

* On some older models these wires may be a different color or have different color wires coming from the magneto. In this case, the MSD wires connect the following way:

Purple - Connects to factory Red coming from the magneto.

Red - Connects to factory White wire coming from the magneto.

Blue - Connects to the Blue wire from the pickup coil (run with Green/White wire).

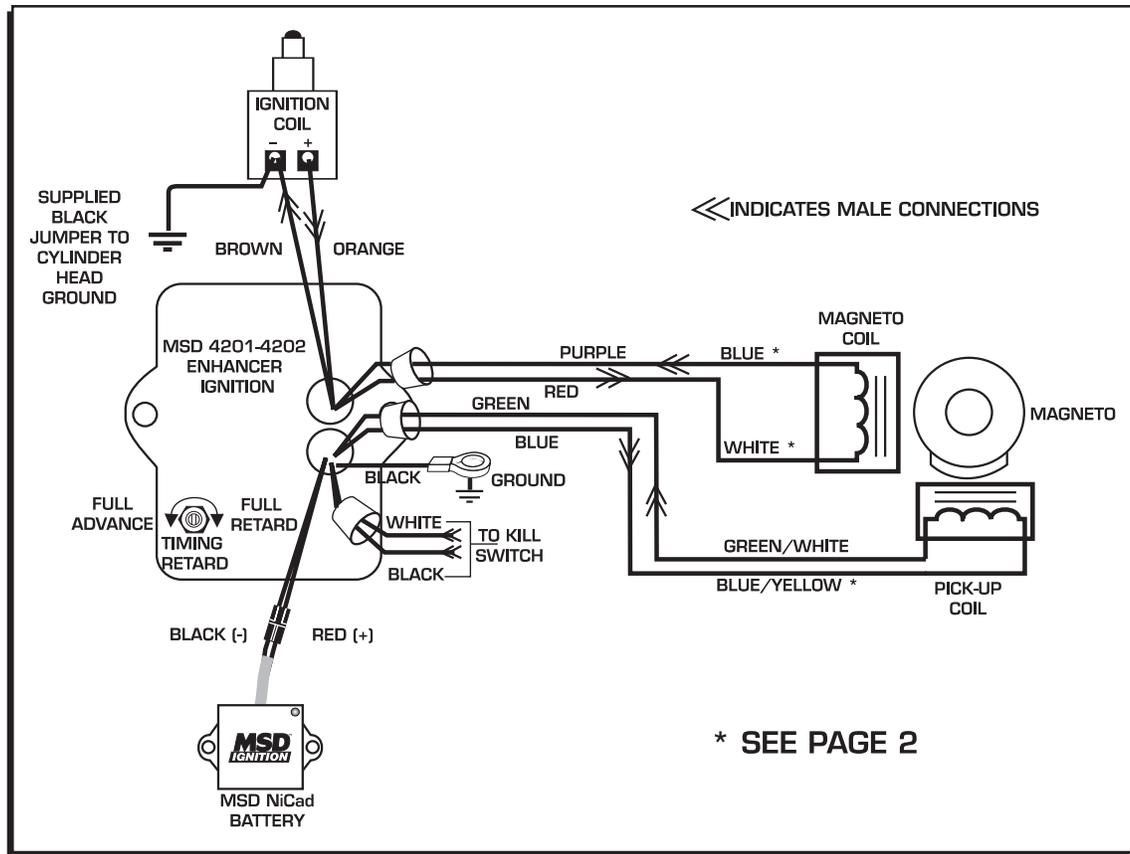


Figure 2 Wiring the Enhancer Ignition.

COIL

It is recommended that a second ground wire (18 gauge BLACK wire supplied) be run from the negative side of the coil (BROWN wire) to the engine cylinder head. This will assure a good path for the spark to follow (Figure 2).

INSPECTION

Before starting the engine the trigger pickup air gap must be checked. The correct gap when running the MSD Enhancer Ignition is .018" - .020". This is to assure that the correct signal is being sent to the Enhancer Ignition. If the air gap needs to be adjusted, see the Service Manual.

Make sure that the spark plug wire is attached to the spark plug and the coil. Also be sure the spark plug wire is a helical style wire.

Note: Do not fire the ignition system without the spark plug wire attached and the spark plug grounded. Damage may occur to the ignition.

It is recommended to run at least one heat range colder spark plug than with the stock system. For example: NGK B8ES will be replaced with a B9ES plug. The recommended gap is 0.032" - 0.036". It is not required to run resistor plugs with the MSD Ignition. You will also be able to increase the low and main carburetor jet sizes. We recommend starting with two sizes larger.



INSTALLATION INSTRUCTIONS

TIMING

Every engine combination is different therefore we are unable to give you an exact timing setting for every application. As you adjust the timing, make small adjustments, then take a test ride with each change to see if the performance is improved. Only perform short test runs until you are comfortable with the performance. Check the spark plug after every run to determine engine performance. If there are tiny particles of aluminum on the porcelain then detonation is occurring and the timing must be retarded or serious engine damage may result.

- It is recommended to start with the stock stator plate in the factory position and rotating the adjustable potentiometer shaft to the full clockwise position. There is a total of 8° of total adjustment (Figure 1). (Referenced at 9000 rpm)
- The 125 engine will run about 1° more retarded than the stock ignition with the potentiometer in the full clockwise position and 7° advanced over the stock timing curve with the potentiometer in the full counterclockwise position (Figure 1). (Referenced at 9000 rpm)
- The 250 engine will run about 5° more retarded than the stock timing curve with the potentiometer shaft in the full clockwise position and 3° advanced over the stock timing with the potentiometer in the full counterclockwise position (Figure1).

Service

In case of malfunction, this component will be repaired free of charge according to the terms of the warranty. When returning components for service, Proof of Purchase must be supplied for warranty verification. After the warranty period has expired, repair service is charged based on a minimum and maximum charge.

Send the unit prepaid with proof of purchase to the attention of: **Customer Service Department, MSD Powersports, 1490 Henry Brennan Dr., El Paso Texas 79936.**

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle.

The repaired unit will be returned as soon as possible after receipt, COD/Cashiers Check for any charges. For more information, call the MSD Powersports Customer Service Line **(915) 858-3365**. MSD Powersports technicians are available from 8:00 a.m. to 5:00 p.m. Monday - Friday (Mountain Time).

Limited Warranty

MSD Powersports warrants this product to be free from defects in material and workmanship under its intended normal use* and if properly installed, for a period of one year from the date of original purchase. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD Powersports. Any item that is covered under this warranty will be returned free of charge through standard shipping methods. If faster service is required the customer has the option of paying for this service.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD Powersports. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD Powersports or its suppliers be liable for special or consequential damages.

*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD Powersports. Any modifications to this item or if it is used on an application other than what MSD Powersports markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD Powersports will accept no liability for custom applications.