INSTALLATION INSTRUCTIONS

Flying Magnet Crank Trigger Kit With Hall Effect Pickup Sensor
General Wiring

ONLINE PRODUCT REGISTRATION: Register your MSD product online. Registering your product will help if there is ever a warranty issue with your product and helps the MSD R&D team create new products that you ask for! Go to www.msdperformance.com/registration.

These instructions cover the wiring and general installation tips of all the MSD Flying Magnet Crank Trigger Kits. For installation of the brackets and trigger wheel refer to the enclosed Installation Instructions for each specific kit.

SETTING THE AIR-GAP

The air-gap between the trigger wheel and the hall effect pickup is important to the operation of the crank trigger system, however its adjustment does not affect engine power or performance. The proper air-gap will result in a good trigger signal at cranking rpm through high rpm with no interference to the wheel. The optimum setting is generally between 0.040" – 0.080".

With the brackets and trigger wheel mounted (with the arrow on the wheel facing out) position the pickup within 0.040" – 0.080" from the wheel then tighten the locknut (Figure 1). Do not over tighten the locknut.

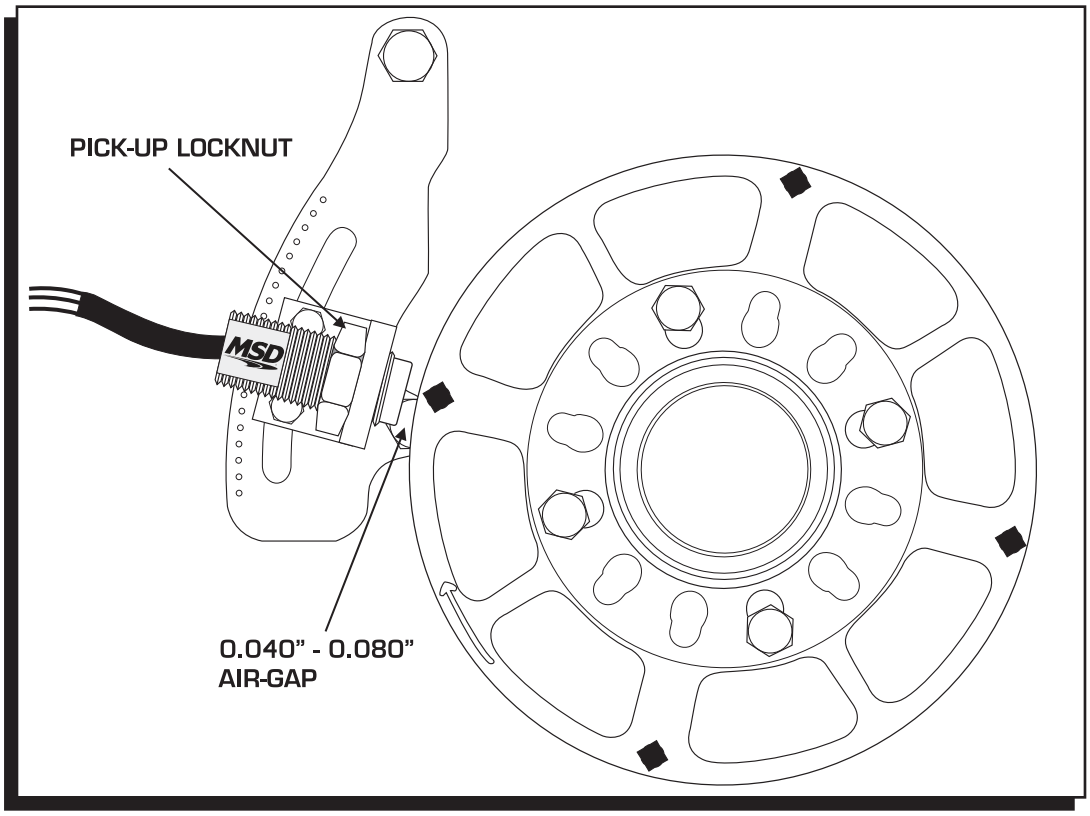


Figure 1 Setting the Air-Gap.

WIRING

The crank trigger pick up is a hall effect sensor, meaning it outputs a square wave signal, making it ideal for use with most electronic fuel injection systems. The sensor can operate from 5 to 20 volts. To wire the sensor, please review the following instructions.

- Set the correct air-gap between the crank wheel and sensor as previously mentioned, ensuring no physical contact will exist when engine is operating.
- The loose pins and seals included must be installed into existing harness, using proper tools to crimp the metripak 150 style pins. Using shielded wiring to connect the sensor is advised. (with drain wire grounded at ECU end) Insert the pins into the back of the provided harness, the TPA lock is installed after the wires are inserted.
- The following is the proper wiring for sensor: (Figure 3)

  Red wire - 5V to 16V clean switched power source, such as Pin B20 (”EST 12V Output”) on Holley EFI Systems. If using Holley EFI system see wiring diagrams for pin locations.

  Black wire - Sensor ground, connect this end to a “clean” ECU ground, such as Pin A14 (”IPU Ground”) on Holley EFI Systems.

  White wire - Sensor output, ECU crank signal, such as Pin A30 on Holley EFI Systems.
- If using Holley EFI it is recommended to set crank sensor type to “Digital Falling”.
- Never use solid core spark plug wires with a MSD Ignition system or crank trigger. A helically, or spiral wound suppression wire, such as MSD Heli-Core or 8.5 mm Super Conductor Wire must be used.
- Check timing, alter the ignition reference angles or crank sensor position after starting engine.

SETTING UP THE DISTRIBUTOR

If your distributor is equipped with a centrifugal advance assembly, it must be locked out by welding or bolting the advance mechanism. The distributor has nothing to do with the engine ignition timing when using a crank trigger system. Its function is to distribute the high voltage spark to the spark plugs. To achieve maximum performance from the ignition, the rotor should be properly phased to the distributor cap as explained in the supplied Tech Bulletin on Rotor Phasing.

TIMING THE IGNITION SYSTEM

The timing can be adjusted by sliding the pickup holder assembly up or down in the bracket slot. To retard the timing, move the pickup holder assembly in the direction that the crank trigger wheel rotates. To advance the timing, move the pickup holder assembly in the opposite direction of the trigger wheel rotation (Figure 2). Check the air-gap whenever the timing is changed.

Note: Do not attempt to adjust the timing while the engine is running.

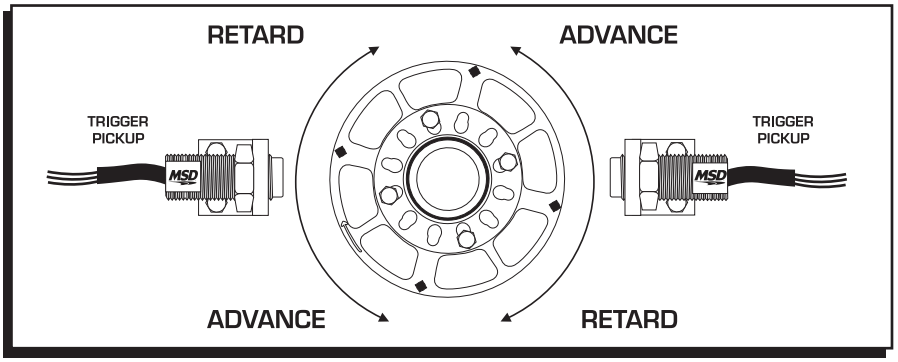
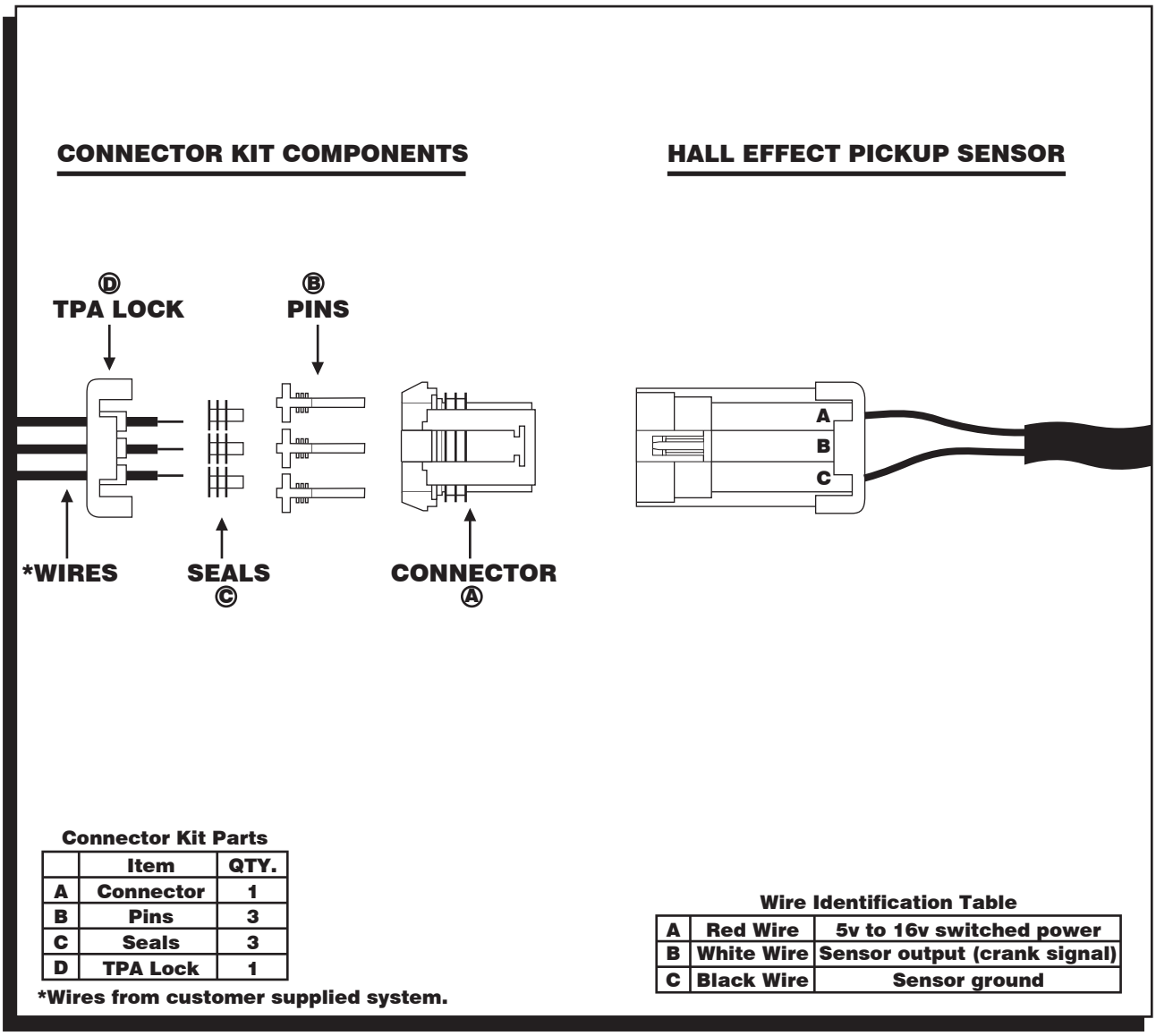


Figure 2 Adjusting the Timing.

WIRING DIAGRAM



Connector Kit Parts

	Item	QTY.
A	Connector	1
B	Pins	3
C	Seals	3
D	TPA Lock	1

*Wires from customer supplied system.

Wire Identification Table

A	Red Wire	5v to 16v switched power
B	White Wire	Sensor output (crank signal)
C	Black Wire	Sensor ground

Figure 3 Wiring the Pickup Sensor.

WIRING CONTINUED

As previously mentioned, the wiring of the senor will include crimping, and installing wires into the supplied components in the connector kit. A wire stripper and crimper are recommended for easy installation. A simple way to create the mating harness for the sensor is to push the wires through the seals first, then strip, and crimp them into the female pins. Once all three wires have the seals, and pins installed, push them into the connector. The tab on the bottom side of the pins will snap in place in the connector. When the pins and wires are in place, the seals can be pushed into the connector cavities to ensure and dirt and debris will not cause faulty connections. Lastly, the TPA lock can be snapped into the back part of the connector. As stated on the previous page, if using Holley EFI systems, consult their wiring diagram for pin identification according to your application.

INSTALLATION INSTRUCTIONS

TECH NOTES

Service

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

All returns must have a Return Material Authorization (RMA) number issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at 1 (888) MSD-7859 or visit our website at www.msdperformance.com/rma to automatically obtain a number and shipping information.

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 using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

Limited Warranty

MSD warrants this product to be free from defects in material and workmanship under its intended normal use*, when properly installed and purchased from an authorized MSD dealer, for a period of one year from the date of the original purchase. This warranty is void for any products purchased through auction websites. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD. Any item that is covered under this warranty will be returned free of charge using Ground shipping methods.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representation whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD 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. Any modifications to this item or if it is used on an application other than what MSD 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 will accept no liability for custom applications.

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