- Check with a voltmeter at the ignition coil terminal where the black wire is connected. The voltmeter must swing (while turning the kick starter) between 1-6Volts for a 6 Volt system or 1-12 for a 12 Volt system.
- Make sure the Electronic Ignition Module(blue module) has a proper ground to the timing base by connecting the short wire under screw number 1. Or for later Manufactured(black Modules) Check for proper grounding of the timer to motor bolts.
- Be sure the engine makes proper grounding to the frame and battery.
- Check if battery is fully charged. The module operates from a starting voltage of 4,5 Volts.
- Check ignition coil and spark plugs

Warnings

- **Do not leave main switch on for a long time while the engine is not running. The Electronic Ignition Module might become overheated, including the ignition coil.**
- **Do not electrically weld on the bike while the Electronic Ignition Module is installed**
- **Do not reverse polarity of the battery or the connection wires of the Electronic Ignition Module.**
- **Be very sure the electrical installation of the bike is in good condition.**
- **Never connect a battery charger to the electrical system with the ignition module installed. Many chargers generate a high Voltage spike while connecting or disconnecting the clamps, which can damage the ignition module. Always disconnect the battery from the wiring circuit before charging.**

Specifications:

Temperature range : -20C <-> 80C
Operating Voltage : 4,5 Volt and 16 Volt
Maximum RPM : 9000 RPM
Coil resistance : for 6 Volt systems
1,0 Ohm **absolute minimum**
Coil resistance : for 12 Volt systems
2,0 Ohm **absolute minimum**

Advantages:

Better starting, no moving points, so no maintenance
Works on 6Volt and 12Volt systems (investment protected)
Accurate timing, even at high RPM
Simple installation
Conversion not visible from the outside
Timing LED for easy timing procedure

Fast installing procedure for experienced classic Harley mechanics:
Remove old points/condenser /wire terminal and wire to coil
Install Electronic ignition instead of points and place rotor on shaft.
mount the short black wire under the timer to motor bolts, lead the three long wires through terminal hole and connect red wire to positive coil terminal and black wire to negative coil terminal
Adjust timing as per H-D instruction for the model required.
When the red led indicator turns OFF, you have a spark.
START THE BIKE…..
Recheck timing after 500 miles, when correct timing will be correct probably forever, if not recheck again after 500 miles.
www.v-tronic.com

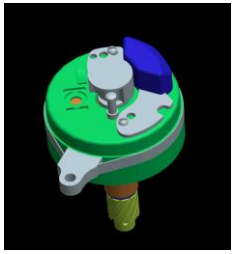
Installation instructions
Electronic Ignition Module (MIG1)

1936-1946 ignition base 1947 all models

One has to check the ignition timing base model fitted on the bike. Some bikes have a wrong model ignition system mounted in respect to the year. This can be very confusing. Especially in the year 1947 where the timing base changed.

Kit for 1936-47 is sold with order number 0156900 for '36-47
Kit for 1948-64 is sold with order number 0156903 for '48-64

Separate rotor only 0156904 for '36-47(No stamp or "E" for Early)
Separate rotor only 0156905 for '48-64 (***the rotor has a -2- stamped at the bottom of the rotor; or "L " for Late***)



The module replaces the Condenser and Breaker Points.
It is designed to work on 6Volt and 12Volt battery powered systems.
DUE TO SHORT OPENING TIME SPARK IS 60% IMPROVED
No moving parts; timing is set "forever"

The kit consists of the following items:

- Electronic Ignition Module with mounting flange
- 75 cm wire loom
- Trigger rotor
- 2x Flag terminals
- Installation instructions
- Hex key 2mm(5/64)
- ***Colors can differ per series; blue; black and grey

Please read the installation instructions before mounting the kit!

Step 1: Switch main dashboard switch to "off" position (Ignition& light switch)

Step 2: Disconnect negative (ground) cable from the Battery
Step 3: Remove the Condenser and Breaker points from the circuit breaker timing base.
Step 4: Disconnect advance/ retard cable from timing base
Step 5: Remove timing base from timer shaft and housing (see your manual for instructions)
Step 6: Remove circuit breaker wire stud or circuit breaker to coil wire assembly from timing base
Step 7: Remove circuit breaker wire from Ignition coil, and mark terminal on coil with piece of tape.
Step 8: Install the Electronic Ignition Module on the timing base. Mount this short black wire to one on the timer base screws by keeping some slack in this wire so the timing base can turn free. Solder the flag terminal to this short black wire and mount it under the timer to motor bolt. This way of mounting provides a much better grounding.
Do ***NOT*** use the screws (number 1 or 2 screws from picture below) from the timing base!!!!
Step 9:Now ***three*** wires pass this hole via the rubber grommet.

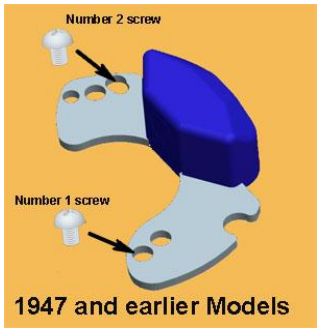


Figure 1

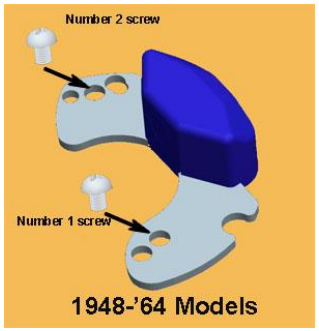


Figure 2

Step 10: Reinstall the timer base on the timer shaft housing, and keep some slack in the wires before protruding the hole in the timer shaft housing, and secure with ground spring and cover retainer. Reconnect the advance/retard cable to the timer base.
Step 11: Route the two long wires to the ignition coil. Check in the HD service manual for a proper route to the ignition coil. (Keep away from hot surfaces like exhaust systems). Cut the wires to the exact length necessary for mounting.
Step 12: Determine the exact length of the wire loom. Keep in mind that one end of the loom enters the timer shaft housing by 1cm. Cut the loom to the proper length.
Step 13: Insert both wires in the loom. Strip both wire ends and solder the two flag terminals on the wires.
Step 14: Connect the red wire to the ignition coil, on the terminal where the 6 or 12 volt is supplied to. This terminal has at minimum one wire connected which runs to the main switch.
Step 15: Connect the black wire to the ignition coil on the terminal which is empty, and has piece of tape on it. (Old place where the circuit breaker wire was connected to)
Step 16: Install the trigger rotor on the timer shaft cam, and tighten the hex screw by using the hex key tool. Do not over tighten the screw!
Step 17: Check for clearance between trigger rotor and Electronic Ignition Module. Appropriate clearance is between **0,5mm and 1,5mm**. Minor adjustments can be made by unlocking the two screws and slightly shift/move the Electronic Ignition Module. Check if the rotor moves free.

Timing instructions:
Remove the spark plugs from the engine, but keep them connected to the spark coil cables and engine ground. This enables normal operation of the spark, and prevents unwanted engine firing on compression stroke.
See service manual or handbook for timing instructions of your model

Step 18: Reconnect the negative (ground) cable to the battery.
Step 19: Switch main power to "on" position. The red light in the Electronic Ignition Module might already light up. If not, turn the kick starter slowly.
The red light is **on** while charging (closed points)the Ignition coil, facing solid metal of the trigger rotor. The light goes **off** (open points) when the end of the solid surface of the trigger rotor passes the centre of the Electronic Ignition Module. At that point a spark is generated by the coil.

Check for the Flywheel timing mark of your model
It is important that the timing is set for the compression stroke of the front cylinder, and the ignition is fully advanced by turning the handlebar ignition control.
Turn the engine in the direction it normally runs, by cranking the kick starter, until the front cylinder is on compression stroke. Continue to turn it slowly until the flywheel timing mark indicates the ignition must fire. The position of the timing mark in the inspection hole depends on the model you have. (Sidevalves: mark in center, OHV: in right position of hole)
At this timing mark position the red light must turn "**off**", thus generating a spark. Adjust the timing moment by releasing the timing stud (1947-1964) or adjusting band of the timing base (1936-1946), and rotate the timing base until light goes "**off**".
Repeat and check timing procedure several times, until accurate timing is achieved and tight band or timing stud.
Do not move the flywheel back and forwards, since the endplay of the gears prevent accurate timing.
START THE ENGINE

What if it is not working?
All Electronic Ignition Modules are fully tested.

- Check with a voltmeter between the ignition coil terminal where the red wire is connected, and ground. This terminal must have a voltage of 6 Volt for a 6 Volt system, or 12 Volt for a 12 Volt system. Lower voltages indicate low battery or a voltage drop in the wiring system or main switch.
- Check if the timing base has a good grounding. Avoid rust, paint and a worn out timing base. By placing a voltmeter on the timing base and the crankcase, a voltage drop can be measured in case grounding fails. Re-check ground spring and cover retainer.