Samwel SUPPLIES
MOTORCYCLEPARTS SADDLES & SADDLEBAGS

V-Tronic Engineering

Installation manual AutoAdvance Ignition

This manual covers both the early style and late style Automatic advance kits. These ignitions fit HD twin cylinder models from 1936 models up to 1965. This kit is produced by V-Tronic for distribution by Samwel Supplies. For questions and inquiries please contact your Dealer

Kit Contents:
- Ignition Module (rotored top)
- Ignition Rotor (2halves inc. screws)
- Inbus hex keys1.5mm & 2.5mm
- Mounting screws
- Wire loom
- 3x Flagterminal
- Rubber Grommet

Specifications:

Temperature range	: -20C <-> 80C
Operating Voltage	: 6 Volt and 12 Volt
Absolute voltage limit	: 4.5Vmin -16Vmax
Maximum RPM	: 9000 RPM
Coil resistance	: for 6 Volt systems - 1,0 Ohm minimum
Coil resistance	: for 12 Volt systems- 2,0 Ohm minimum

Installation

Step 1: Disconnect negative (ground) cable from the Battery
Step 2: Disconnect advance/ retard cable from timing base
PRO TIP: Leave the " timing band" in place during the entire procedure. It will later help you find correct timing
Step 3: Remove timing base from timer shaft and housing (see your manual for instructions)
- Remove points and condenser from baseplate
- Remove cirquit breaker stud or breaker to coil wire assembly from the timing base

Step 4: Remove circuit breaker wire from Ignition coil, and mark terminal on coil with piece of tape.

Step 5: Install the Electronic Ignition Module on the timing base.
- Feed all 3 wires through the hole where stud was previously. Use rubber grommet to protect wires
- Screw ignition to base with provided screws

Step 6: Solder supplied flagterminal to short black wire and attach under the Timerhousing to engine screw. This way of mounting provides a good grounding. Make sure that the wire has some slack
Step 7: Reinstall the timer base on the timer shaft housing as per original (or see manual)
- Feed the remaining 2 wires through the timer shaft housing hole

Step 8: 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.
- Cut your loom to length and install over the wires. Be sure to let the loom go into the housing a bit.
- Solder on flag terminals to remaining two wires

Step 9: Connecting your wires:
- Red wire to terminal on sparkcoil that has 6V or 12V. It should already have a wire going to your ignition switch
- Black wire goes to empty terminal on coil. If you did good in step 4, it is marked with a piece of tape

Step 10: Install the trigger rotor onto timer shaft. Fix by tightenig with the screw with supplied 1.5 hex key.
- Pro tip: Do not overtighten screw. Use drop of locktite instead
- Place the rotor so that the top is flush with the timershaft

Step 11: Check for clearance between trigger rotor and Electronic Ignition Module. Appropriate clearance is between 0,5mm and 1mm. Adjust by moving the ignition module (loosen screws that hold it to base)
Step 12: Advance cable can be removed or put in place again. Do however NOT use the manual retard function in combination with any auto advance curve. IF using the timingcable, use setting 0 on the modul

More information:

- Contact your closest dealer for purchase and installation.

- More information on: **www.samwelsupplies.com**
  - Information on many reproduction parts for WL,WLA, BT and other.
  - Dealer information for our reproduction parts
- More Technical info and clever electrical upgrades for your antique harley on www.v-tronic.com

More detailed installation instructions:

For a more complete instruction download the file from:.
http://www.v-tronic.com/downloads/

or use QR code:

Timing Instructions:

Step 1: Remove the spark plugs from the engine, to avoid unwanted ignition. Keep plugs connected to leads.
- Use service manual or handbook for timing instructions to your specific model

Step 2: Reconnect the negative (ground) cable to the battery.

Step 3: Switch main power to "on" position. The **RED LED** in the Electronic Ignition Module might already light up. If not, slowly kick to confirm the LED (and thus ignition module) works.

Step 4: Turn the engine with the crank untill front cilinder is on compression stroke.
- when front is on compression stroke, check through the timing hole untill the timing mark appears. Depending on your model, the mark has to be exactly centered, or slightly off. Refer to your manual.

Step 5: Turn the ignition base to the point where **RED LED** turns ON (this is, when you are rotating your base to the LEFT). Under normal operation this is where you will get a spark. You will not see a spark however, because the ignition automatically retards in low RPM

PRO TIP: This step is often where people manage to adjust the ignition 180 degrees into the wrong position. Make sure its set to the lobe of the FRONT cilinder. This is where the timing band tip in step 2 is handy. Just place ignition back in the same place, and you will have - more or less- the correct timing. Now you just need to fine tune!

Step 6: Repeat timing a few times to get it right, and finallytighten ignition base strap and anything that you loosened. You are now good to ride.

KICKSTART timing
- The kickstart setting is optional to improve your kickstarting experience.
- The top half of the rotor can be adjusted from 10 to 20 degrees to retard ignition.
- The kickstart setting is not critical. Just adjust untill you find what best suits you.

Two LEDS on your module will help you with the adjustment:
The **RED LED** is used for normal ignition timing when engine is NOT running.
While the engine **runs**, the **GREEN LED** and **RED LED** indicate you what the kickstart setting is you chose. The engine must run just above idle speed to activate the dual LEDs.

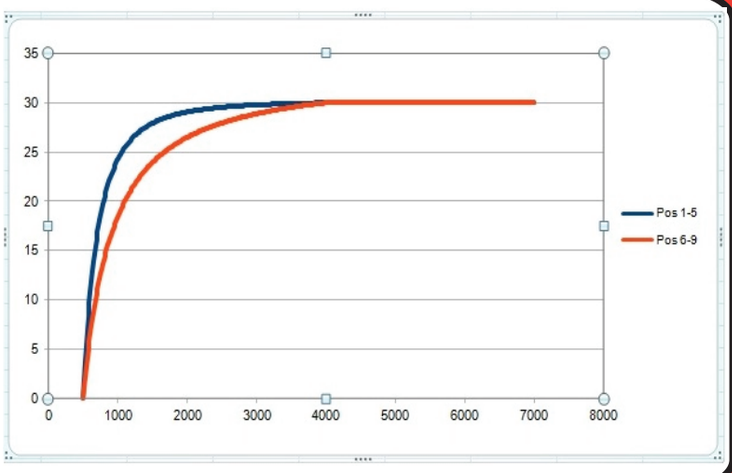
	Red LED	Green LED	Degrees of kickstart timing
All off	off	off	WRONG! Angle <10 degrees or >20 degrees
Red LED ON	ON	off	10 Degrees
Green LED ON	off	On	20 Degrees
RED+GREEN LED	On	On	15 Degrees

-The Rotor on top of ignition module can set the advancing curve trough the RPM range. 1 is most aggresive, 9 keeps engine retarded into the higher RPM ranges. for most motorcycles number 1 trough 4 should give a good ride, It does not change the kickstart setting

GENERAL INFORMATION

Advantages & Features:

- Spark 60% stronger compared to points
- Once set, timing is set " forever"
-Automatic advance/retard regulated by computer
- Tunable top to choose your best kickstart moment
- Colored LEDS to help find best setting
- Accurate timing even during acceleration/ deceleration
- Automatic coil shutdown when engine not running but power is on (saves battery AND coil)
- 9 advance Curves to choose
- Easy Timing (just like contactpoints)
- Setting 0 for carburator tuning
ignition sets to full advance. can be used for manual advance too
- Invisible modification when timing cover is installed
- Works 6 and 12V, so investment protected!



TROUBLESHOOTING

Common Problems:

- Often bikes have wrong model year ignition bases fitted. Always check before purchase if your ignition base correct for your bike year
- Our rotors are made to fit OEM ignition shafts. Some aftermarket shafts have a wider diameter. Sandpaper/ dremel and some patience is the only fix!
- Poor wiring can cause poor ignition performance. Check with a voltmeter between the ignition coil where red wire is connected and ground (negative of battery). Voltage must be 6 volt for a 6V system and 12 volt for a 12V system. With an Ohmmeter, check grounding of the timing base to the engine. Its the main cause of ignition problems.
- If you bought the wrong kit for your ignition type (early instead of late or vice versa), all it takes is to replace the rotor Your dealer can supply it.