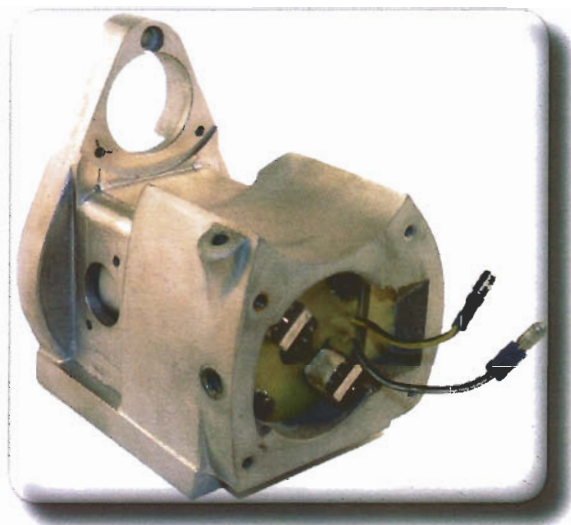


SRM's Electronic Ignition

Mag Kit 2



for Lucas MO1

BCS Part #331-35

Boyer Micropower MagDyno Conversion
Available from British Cycle Supply Company
<http://www.britcycle.com>

THE KIT COMPRISES OF:-

- MICRO-POWER ELECTRONIC IGNITION BOX
- DIGITAL IGNITION COIL, HT LEADS & PLUG CAPSRM ELECTRONIC
- ROTATING PICK UP UNIT (COMPLETE)
- BODY LOCKING SCREW
- 7.5 AMP FUSE & HOLDER & SWITCH CONNECTORS & SPARE CABLE

FITTING INSTRUCTIONS

REMOVE MAGNETO & HT LEAD & REMOVE DYNAMO

REMOVE ORIGINAL MAGNETO ARMATURE

First remove the magneto points cover then remove the pick up and earth brush.

Remove the points assembly by undoing the centre bolt.

Remove the 4 screws securing the front plate and remove the lock nut & fibre gear (see workshop manual).

Remove the end cap by taking out the corner screws.

The armature can be carefully removed.

Remove the outer bearing race from both the main magneto body

FIT THE SRM ROTATING PICK-UP UNIT

On the underneath of the main magneto housing there is a drain hole situated towards the drive end, this hole needs to be drilled out to take a 1/4" bolt (this bolt locks the SRM-rotating pick up unit into position) . Be careful to drill the hole straight (use a Pillar drill if you have one) then carefully tap a 1/4" BSF thread into the hole.

Thoroughly clean the inside of the magneto body. Use the 1/4"BSF Allen bolt provided.

Fit the woodruff keys from the magneto armature onto the Rotating pick up shaft.

The SRM rotating pick-up unit is then carefully slid in with the red dot to the 6 o'clock position. When the SRM rotating pick-up unit is in position the red dot will be seen through the modified drain hole. Fit the locating bolt (Locktite can be used on the thread of the locating bolt to ensure it stays secure).

Refit the gear plate, fibre gear, lock nut (use Locktite for extra security) & front plate.

Remove the advance/retard cable from the Magneto end cover and push the pick up cable through the hole, attach a red connector to each of the two cables. Do not fit the end cover at this point. (to allow you to set and adjust the timing).

Check the Magneto pinion is a good fit onto the taper of the SRM pick-up unit and check the nut runs free onto the threads. Do not fit the pinion until the engine has been set at Full advance and the SRM pick up unit has been set to the static timing position.

Fit the Magneto to the engine as usual.

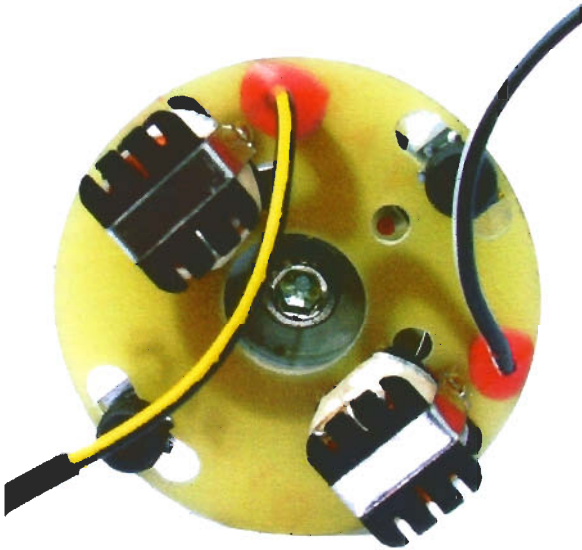
SET TIMING STATIC METHOD

THE TIMING IS SET IN THE FULLY ADVANCED POSITION.

SETTING THE SRM PICK-UP UNIT - CLOCKWISE ROTATION

For CLOCKWISE rotating magnetos (viewed from pick-up end) ie Magdyno type.

Look at the timing hole situated on the right hand side of the stator plate adjacent to the adjusting bolt. Turn the electronic magneto shaft until the red dot is seen in the centre of the window (as shown next page). The pick-up unit is now in the fully advanced position.

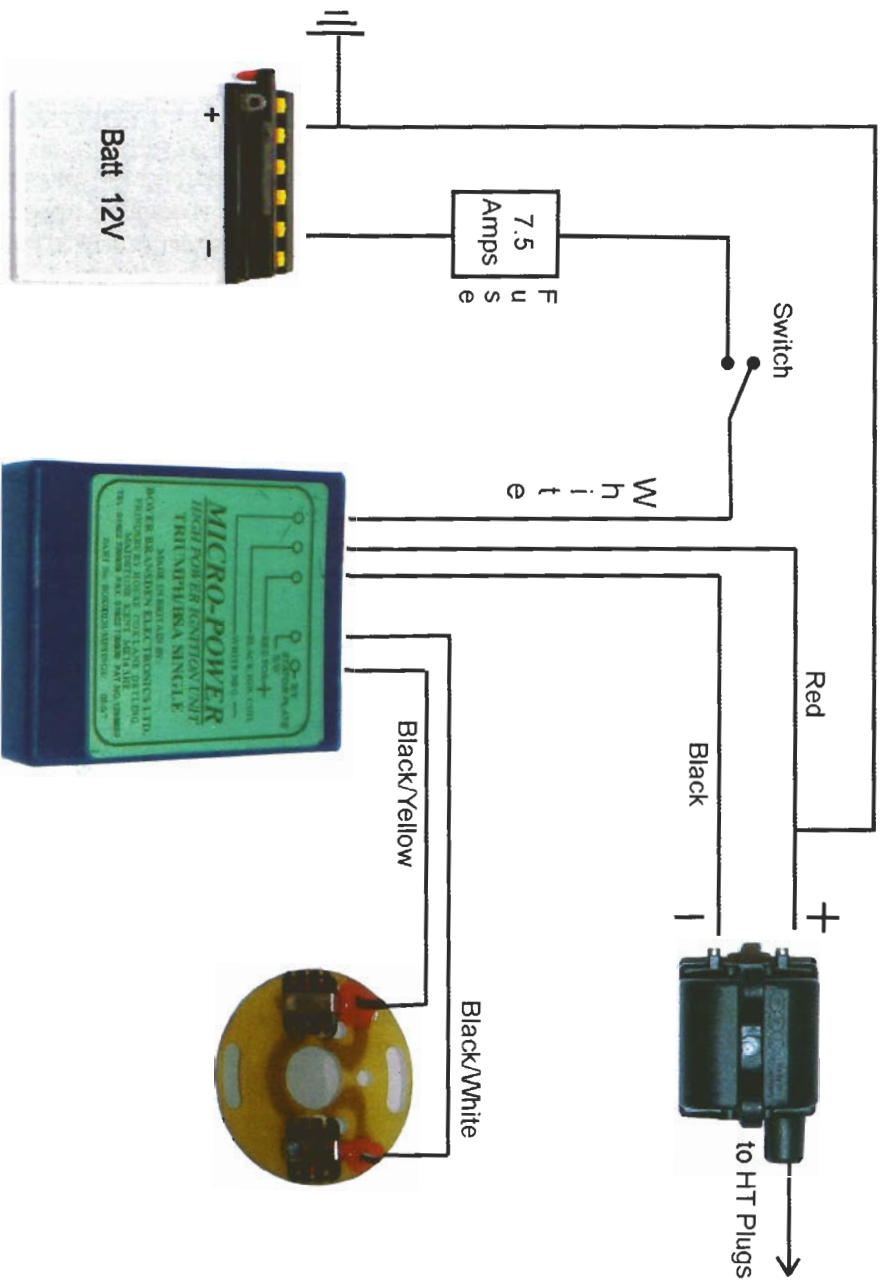


SET THE TIMING ON THE ENGINE to the fully advanced position.

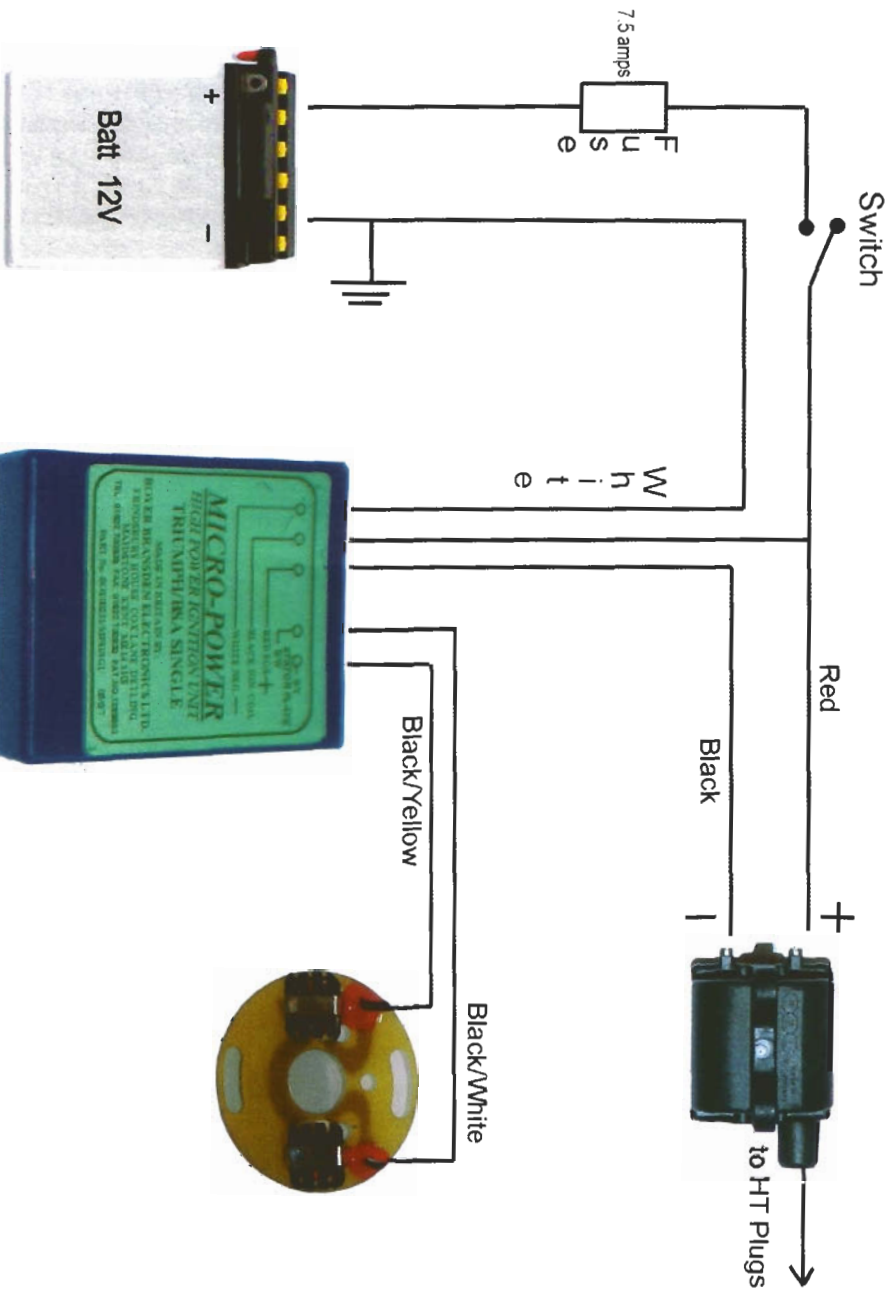
Using a degree disc or other method set the position of the piston to the advanced timing position on compression stroke. The fully advanced position of the engine will be found in the engine specification - If you are using UNLEADED PETROL then deduct 2 degrees from the fully advanced figure stated in the manual (as this figure is for 4 Star petrol)

With the Engine in the Fully advanced position and the red dot in the lower window, carefully fit the magneto pinion. (the allen bolt in the centre of the SRM pick up unit can be used to help stop any rotation as the pinion nut is tightened)

PLEASE NOTE:-Static timing will only give a rough starting point for timing the ignition. Accurate timing can be achieved using a DEGREE DISC(mounted on the crank) and a STROBE as used on modern motorcycles



Single Cylinder Wiring Diagram (Positive Earth)



Single Cylinder Wiring Diagram (Negative Earth)

FITTING THE ELECTRONIC COMPONENTS

Before the kit can be wired the main items will have to be securely fastened to the bike. Guide lines for fitting these items is given below - However the exact location can vary from one bike to another and from personal preference.

ELECTRONIC IGNITION BOX

This is to be situated close to the pick-up unit (such as in the tool box or under the seat). The unit should be mounted on a foam pad to help reduce vibration (the unit should not be completely covered). A cable tie can be used to hold the unit in place.

IGNITION COIL

The coil can be situated under the tank or under the seat. It should not be situated next to the ignition box or in a position where by the HT leads run next to the pick-up leads (high voltage pulses can falsely trigger the electronics).

IGNITION SWITCH

A switch will have to be fitted to activate the ignition system and to stop the engine! The fuse is a 7.5 AMP blade type (as used in modern cars)
A switch can be fitted to the back of the tool box, on the headlamp or on the handlebars.

NOTES ON WIRING

Connect the parts of the kit according the relevant wiring diagram ie POSITIVE or NEGATIVE earth.

The leads from the pick-up (inside the magneto body) are connected to the ignition box. Pay particular attention that the connections to the ignition box are correct.

Only a 5000ohm(5k) SUPPRESSED PLUG CAP is to be used. The spark plug is to be earthed whenever the ignition is 'live'.

This ignition system produces very high voltages. make sure the system is turned off when handling any part of the wiring.

The system operates from a 12 volt electrical system. It is very important that the voltage is maintained (If the voltage falls below 11.5v this may effect the ignition timing). Electrical systems powered by LUCAS 6v dynamos can be used on a 12v system (using a special convertor regulator available from SRM) or the dynamo can be rewound with 12 volt windings also available from SRM. Please call for details.

STARTING THE BIKE WITH THE ELECTRONIC IGNITION

Before starting the bike for the first time with the electronic ignition system fitted.

- Double check the wiring & connectors (poor connections will cause misfires or no spark).
- Check that you have a good earth to the frame.
- Check the battery is fully charged (if the voltage falls below 11.5volts the engine will misfire).

(a) SWITCH IGNITION ON

(b) START BIKE IN THE USUAL WAY.

(c) IF THE BIKE DOESN'T START STRAIGHT AWAY--COUNT 1,2,3 THEN TRY AGAIN

The delay in counting 1,2,3 gives the ignition unit time to discharge and reset. If you carry on kicking the bike over in quick succession it will "kick back" due to the ignition being advanced. (If you have an ammeter fitted you will be able to see the ignition reset as the current drops to zero).

(d) WARM BIKE UP - CHECK & ADJUST TIMING IF NECESSARY.

To adjust the ignition timing, switch the ignition off, slacken the 3/16" allen screws holding the pick-up plate in the end of the magneto. Turn the plate the required amount, please remember that moving the pick-up plate 1 degree is equivalent to 2 degrees on the crank. If you are still experiencing problems - Check for a spark at the plug & Check all wiring and connectors - then check the timing as below.

WARNING

THE IGNITION SYSTEM PRODUCES HIGH VOLTAGES--MAKE SURE THE POWER IS TURNED OFF BEFORE WORKING ON THE SYSTEM.

(e) ACCURATE IGNITION TIMING

In addition to a STROBE you will need the following items:

- Degree disc
- Piston stop;
- Special primary drive crank nut: available for B31/B33, GoldStar, M21.

These are available as Part No SRM TIMKIT1.

For accurate ignition timing the engine will need to be timed using a STROBE and DEGREE disc fitted to the end of the crank.

A PISTON STOP is used to accurately find TOP DEAD CENTRE with the degree disc.

The engine is then run and a strobe can be used to find the No of degrees before top dead centre when the engine fires on full advance.

This is the most accurate method of setting the ignition timing.

CHECK THE IGNITION TIMING is fully advanced with the engine speed at least 3000RPM

MOST OF THE PROBLEMS ARE CAUSED BY INCORRECT SETTING AND ADJUSTMENT OF THE IGNITION TIMING.

Terms & Conditions and Warranty

SRM Engineering warrants to the original purchaser that the SRM Ignition System Mag Kit 2 be free from defect in workmanship & parts under normal use for a period of 2 year from date of purchase.

Replacement parts are defined as item(s) not purchased as part of a complete ignition system. The SRM warranty extends to the original purchaser that these item(s) be free from defects in workmanship & parts under normal use for a period of one year from date of purchase.

Warranty

To make a claim under warranty, you must first contact SRM Engineering. If required, the product must be returned to SRM Engineering with a copy of your invoice. We would require a detailed description of the problem and why you believe there is a fault within the ignition system.

The Ignition system must be returned using a recorded mail service (paid for by customer). Upon receipt we will thoroughly test the returned items and repair or replace any it found to be faulty and covered by the warranty.

Liability

In no event shall SRM Engineering's liability related to the product exceed the purchase price actually paid for the product. Neither SRM Engineering nor its suppliers shall in any event be liable for any damages whatsoever arising out of or related to the use or inability to use the product, including but not limited to the direct, indirect, incidental or consequential damages.

This warranty will be void if the product or parts have been altered, damaged, abused or installed incorrectly. Your statutory rights are not affected.