

AccuSpark

Modern Ignition for Classic cars

Fitting and Information Guide For

Modules

Distributors

coils

Tools

www.accuspark.co.uk

1 Before fitting

AccuSpark Distributors

AccuSpark electronic ignition kit. NOTE: All kits are supplied negative earth unless a Positive Earth kit has been specifically ordered. This will be accompanied by additional instructions

Ensure your electrics are Negative earth, the – terminal of the battery should be connected to the car body. **DO NOT PROCEED IF YOUR CAR IS POSITIVE EARTH, see note above**

If your car has been positive earth and been converted ensure your coil has been correctly fitted.

The negative side of the coil should be connected to the distributor.

Check the charging system; with the engine running the battery voltage should not exceed approx. 14.5 Volts. Excessive over-charging will cause too much voltage to flow through the module this will cause excessive heat and lead to failure.

Before fitting your AccuSpark it should be noted what type of coil is fitted Both 12 Volt (3ohm) and ballast (1.5ohm) coils are suitable. Electronic and coils of less than 1.4 Ohms of resistance are not suitable and will invalidate any warranty.

Prior to fitting the module it is imperative that the coil is checked for correct wiring especially if the car has been converted from positive earth. It should be noted that the negative side of the coil is connected to the distributor and 12 volt feed is connected to the positive

Testing for a ballast resistor or wire

If the type of ignition system is unknown it can be tested as below

Look for a Ballast Resistor (a ceramic block with a terminal at each end) if none is visible you may have a ballast wire inside the loom. To test for it proceed as follows:

1. Check voltage of battery with volt meter and make a note
2. Remove the wires from the negative side of the coil (negative earth cars)
3. Connect a temporary wire from the negative terminal of the coil to earth
4. Turn ignition on (nothing else switched on)
5. Now check the voltage on the coil, put red probe on + side of coil and the - probe to earth
6. If the reading is less than 80% of battery voltage there is probably a resistor in the system. If it is more than 80% you probably have a standard system
7. Remove the temporary wire and reconnect wires.

If your reading is less than 80% you should use a ballast coil, or our AccuSpark Blue

If your reading is more than 80% you should use a non-ballast coil, or our AccuSpark Red

2. Testing coil type and suitable replacement

Remove all wires, set your volt meter to Ohms.

A reading of around 1.5 ohms indicates a Ballast coil, replace with AccuSpark Blue coil

A reading of around 3 ohms indicates a Standard coil replace with AccuSpark Red coil

Fitting AccuSpark module to existing Distributor

See special notes at end of paragraph relating to specific kits before proceeding.

1. If access is poor and removal is necessary first remove distributor as in next section (fitting new Distributor)
2. Disconnect low tension lead from side of distributor (this will be connected to the module later)
3. Remove distributor cap
4. Remove Rotor
5. Remove Points and condenser, these will no longer be needed, keep screws
6. Establish correct position of module, **on many kits this is not the same as the points** and often the condenser fixing point is used.
7. Open the sachet of white silicone heat sink and spread $\frac{1}{2}$ the contents on the base of the module, keep the remainder if required at a later date. This helps dissipate the heat from the module. Paste will not be required for those kits supplied ready fitted to a baseplate.
8. Fix Module to baseplate and fix using the screws removed from the points
9. Use the supplied cable tie to secure the wires away from the centre of the distributor.
10. Push the supplied trigger ring down onto the centre cam, this should be a snug fit, if loose some kits are supplied with a packing piece. Place this on first then push the trigger on. If nothing supplied wrap a small piece of tape around centre cam and the push trigger wheel on. If it appears to be too tight, the inside surface can be scraped with a Stanley or craft knife. The Rotor can be used to help push the trigger down squarely. When fitted the gap between the trigger and Module is not critical but the two should not touch
12. Refit rotor
13. Refit cap
- 14 Proceed to connecting your AccuSpark Section 4

Special Notes

1. **Lucas 23:** On the Lucas 23D kit it will be necessary to remove two small lugs from the base plate in order to allow the baseplate to fit flush
2. **Lucas 45D:** some kits are supplied with a trigger and a combined trigger and rotor, if provided use the one with the best fit. Do not use both
3. **Lucas 48D4 and 59D4:** The small locating post for the blue self-cleaning points should be removed, or the baseplate replaced if one has been provided.
4. **Motorcraft/Fomoco:** Some distributors may require the cutting of a small slot in the base plate to allow the wires to exit
5. **Fiat, Lucas DK and 18d2 kits come fitted to a complete Distributor baseplate and do not require any paste.**

3 Fitting a new AccuSpark Distributor.

Turn engine to TDC with rotor pointing to number one HT lead. Mark the position. Loosen the clamp and remove distributor. When fitting new distributor it may be necessary on some models to use the existing clamp. Insert Distributor.

- a. Distributors with an offset keyway can only be inserted in 1 position. Once inserted if the position of the rotor differs from original this should be treated as number 1 and the cap and leads should be fitted accordingly.
- b. Distributors with a gear can be fitted in any position. It should be inserted attempting to position the rotor to the same position as the old unit. Once fitted the rotor will be pointing to number one , fit cap and leads accordingly

4. Connecting AccuSpark

Existing distributor with AccuSpark Module /Full new AccuSpark Distributor

It is recommended that any radio suppressors are removed before fitting.

Your Distributor will now have a Red wire and a Black or Blue wire, it may be necessary to lengthen the red wire on some models, standard auto wire can be used and we would recommend 1.5 mm/15-amp wire as being suitable, good quality crimps or solder should be used

1. Connect the black wire to the existing low tension wire running to the negative side of the coil.
2. Connect the red wire to a 12 volt source as below
 - a. Standard ignitions: Connect to positive terminal on coil. See fig 1a
 - b. Ballast ignitions: Connect to the 12 Volt side of the resistor or wire (DO NOT CONNECT TO COIL). See fig 1b
if the position of the resistor or wire is unknown connect to ignition key or the live side of the fuse box (not through a fuse). see fig 1b

NOTE: If unsure of your ignition type connect as b.

Special Note CDI Ignitions:

AccuSpark is compatible with CDI units such as MSD 6AL

Follow instructions and connect black wire to CDI as if connecting points low tension wire. The red

wire should be connected to the same switched power source as CDI unit.
The Red wire should not be connected to the coil under any circumstances.

5 Starting the car

Attempt to start car, in most cases the car will start. In some cases the distributor will have to be turned a few degrees in each direction until car starts and best idle can be achieved. Then the engine can be timed with a strobe.

PLEASE NOTE: It is not possible to accurately set timing statically, a strobe lamp must be used.

6 Trouble shooting and test Guide

Note: If at any point the module has been incorrectly fitted and the polarity reversed the module will no longer function.

Engine will not Start

Ensure the rotor has been refitted and the centre brush in the cap is OK

Ensure that the baseplate earth wire is in good condition.

1. Crank engine to start car. If the car makes attempt to start i.e. misfires or appears to jam, then the ignition timing will need adjustment. Rotate the Distributor until car starts.

If the car makes no attempt to start proceed to step 2

2. Remove the centre lead from distributor cap, have someone crank the engine while holding the end of lead near engine block (use insulated pliers to avoid shock) if lead sparks then re-check installation of distributor/kit fitment of cap , rotor , firing order. If lead fails to spark go to step 3

3. (mainly Lucas 45D type) Remove the cap and rotor , In some cases it is possible for the trigger and module to be misaligned, it is possible that the trigger may be too low, raise the height of the trigger by 2mm **DO-NOT** refit rotor or cap , repeat test 2 . If lead sparks then it will be necessary to fit an o ring under trigger or supply a different rotor. (contact AccuSpark for assistance).

If no spark go to step 4

4. Replace cap and Rotor , refit plug lead , connect the red wire of module to the positive terminal of battery , also connect the + side of coil direct to battery , If car starts or makes attempt to start , check all installation . If car fails to show any sign of starting, contact your retailer for return Policy

Car was running and now won't start or runs poorly

If the Vehicle develops a misfire when hot this could be the early signs of a failure this is normally caused by the following.

1. Car is overcharging (more than 14.5 Volts) causing the module to fail. Excessive voltage will cause extra Voltage to run through the module, this will create extra heat and early failure.
2. Heat sink paste has not been applied, meaning the module is unable to efficiently dissipate heat
3. Incorrect coil with too low a resistance or an electronic coil has been fitted. Coils with a resistance of less than 1.5 will allow too much current to flow and cause excessive heat.
4. Incorrectly matched coil and Ballast Resistor or wire will cause overheating of Module.

7 AccuSpark Timing lamps.

Timing should normally be carried out at approx. 800 revs with the vacuum disconnected.

All AccuSpark timing lamps come with simple connections

Connect Red clamp to a positive power source, battery or Fuse box etc.

Connect Black clamp to negative terminal on battery or earth

Connect the inductive pick up on to Number 1 spark plug lead, with the arrow pointing the spark plug.

H8000

Pull trigger and point lamp beam at timing marks, read scale from engine.

P8000

Pull trigger and point beam at timing marks, align timing mark on pulley with TDC mark on engine with adjusting knob, when marks are aligned read timing from scale on timing light.

SP8000

Select angle and 2 or 4 CYL on timing light. P8000 Pull trigger and point beam at timing marks, align timing mark on pulley with TDC mark on engine with up and down buttons, when marks are aligned read timing from scale on timing light.

In addition the SP8000 has a rev counter feature: with the engine running select rev counter feature with the left-hand buttons

Ignition timing guide

As a general rule, the more advance on an engine without causing detonation (engine knock) the more power it will produce.

Average timing settings are around 6 – 14 degrees BTDC at 800 revs.

The Distributor should be advanced until the best fastest idle can be achieved within this range.

Then the total advance should be checked at around 4000-5000 revs this should be typically be around 30-40 BTDC.

If when test driven there are any rattling sounds (pinking or detonation) from the engine the ignition should be retarded until this stop.

If engine runs on ignition timing should also be retarded.

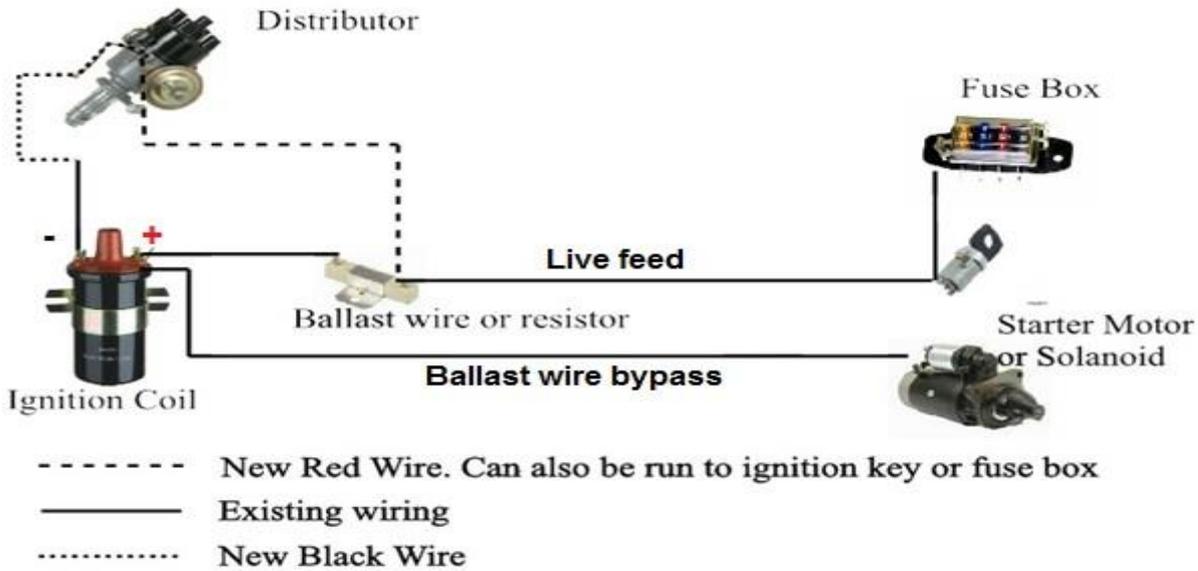
Fig1a

AccuSpark fitted to a Standard Ignition



Fig1b

AccuSpark fitted to a Ballast Ignition



AccuSpark Return Note

DO NOT RETURN WITH REFERENCE TO PHONE CALLS OR EMAILS UNLESS DETAILS ARE ENCLOSED

We deal with dozens of calls and enquiries each day

YOU MUST ENSURE THAT ANY ITEMS RETURNED ARE CLEANED OF SILICONE PASTE, GREASE ETC. WE WILL NO LONGER HANDLE ITEMS THAT HAVEN'T BEEN CLEANED. THESE WILL BE RETURNED TO THE SENDER UNTESTED. THANK YOU.

This page **MUST** be completed in full and enclosed with returned items, we **cannot** process returns without this information.

Name.....

Address.....

Post Code..... Email Address.....

Daytime Phone Number..... Date of original purchase.....

Was the item purchased through (please circle appropriate option):

a) eBay b) Over the phone c) Via our website d) Show E) Shop sale

Invoice Number/eBay item number.....

Description of item returned

Reason for return.....

Description of fault (if faulty)

Date.....

Copy of invoice/eBay sales invoice to be enclosed.

Return to: AccuSpark Ignition Systems Ltd, Unit 2 Lantern Commercial Centre, London Road, Flamstead, St. Albans, Hertfordshire, AL3 8HG

Terms of Warranty

AccuSpark warrants to the original Purchaser that its products shall be free from defects in material and workmanship for a period of 12 months, from the day of purchase.

If within the warranty period AccuSpark finds, after inspection, that the product or any component thereof is defective, AccuSpark will, at its option, repair such product or component or replace them with identical or similar parts PROVIDED that within such period the Purchaser delivers the defective product or component to us with this form completed in full, AND has installed and used the product in a normal and proper manner consistent with our printed instructions. The foregoing limited warranty is exclusive and in lieu of all other warranties, whether express or implied, including any implied warranty or merchantability or fitness for a particular purpose. The furnishing of a repair or replacement components shall constitute the sole remedy of purchaser and the sole liability of AccuSpark whether on warranty, contract or for negligence, and in no event will AccuSpark be liable for money damages whether direct or consequential.