

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 and supply

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

AccuSpark

Modern Ignition for Classic cars

DO NOT OPEN PACK
OR PROCEED UNDER ANY CIRCUMSTANCES
UNTIL YOU HAVE READ SECTION 1

By opening you will have been deemed to have accepted our terms of supply as set out on back page :

Make sure you have the correct kit for correct Polarity

Module packs once opened or distributors that have any signs of fitting will not be exchanged for the opposite polarity due to the certain risk of damage.

www.accuspark.co.uk

1 Pre-fit tests

Polarity:

Before fitting any electronic device you must be certain of the polarity of your vehicle and that you have purchased the correct kit.

- a. The polarity of the vehicle is determined by the terminal of the battery connected to Earth (the body)
- b. **Negative Earth** distributors and modules are supplied with red and black wires
- c. **Positive earth** distributors and modules are supplied with black and white wires and are supplied with a supplemental separate instruction sheet , if missing this is also available at <http://accuspark.co.uk/help.html> , **THEY ARE NOT INTERCHANGABLE.**

Important note for cars converted from positive to negative:

Under no circumstances go by the markings on the coil to establish the polarity of terminals, In the majority of positive to negative conversions that are using the original coil, the coil has failed to be turned around. This is fine with points but catastrophic for electronic ignition. You must **remove** the wires from the coil and test with a voltmeter or test bulb.

Note: If the wires are not removed , both sides of the coil will show the same polarity.

Charging System :

Once you have established you have the correct kit you need to check the electrical charging system is correctly charging , with the engine running the battery voltage should not exceed the stated maximum voltage in your workshop manual , generally this is 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.

Ballast or Non-Ballast?

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

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 voltmeter 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

Testing coil type

Remove all wires, set your voltmeter to Ohms.

A reading of around 1.5 ohms indicates a Ballast coil. Can be replaced with a AccuSpark blue coil

A reading of around 3 ohms indicates a Standard coil. Can be replaced with a AccuSpark red coil

Fig1a

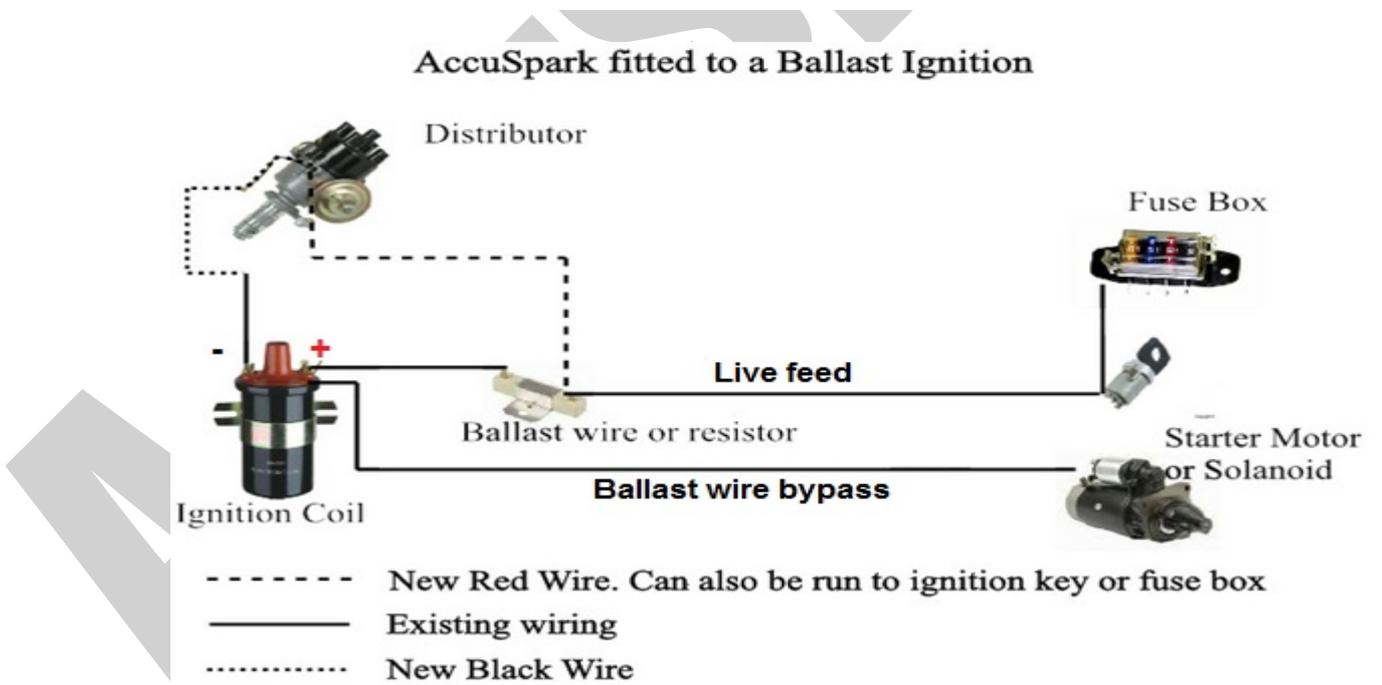
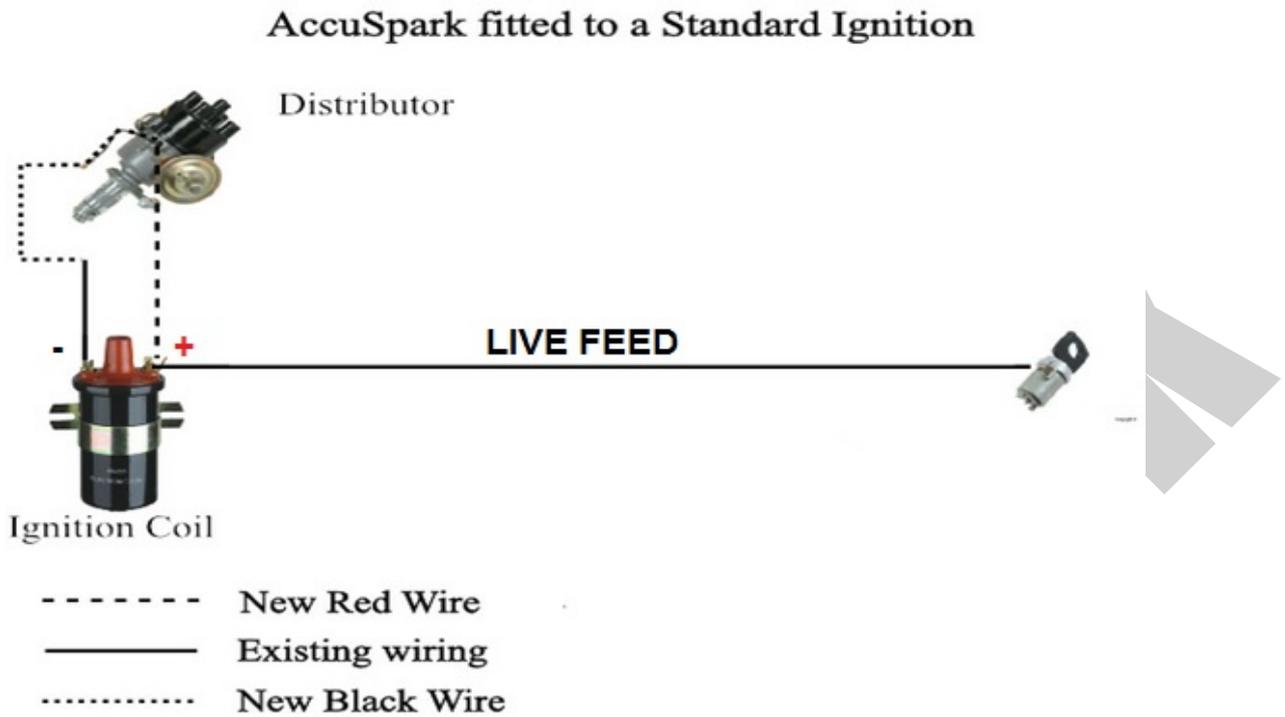


Fig1b

7. Testing Installation: NO Spark and car does not start and

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 and no sign of a spark

Unfortunately by far the most common fault when fitting electronic ignition is that the fitter has connected the module wires simply according to the markings on the coil i.e. red to positive (+) and black to negative (-) without actually checking with a volt meter, It is imperative that the wires are removed from the coil and the live wires confirmed whilst not connected to the coil. If the module has been wired in reverse, then the module has almost definitely been blown. There is only one correct way to wire a module, as detailed in the instructions, if an attempt has been made to wire different ways then the module has probably been blown , most people know what happens when they put a set of jump leads on a car battery the wrong way, the same applies to our electronic module.

Points ignitions will work with the coil the wrong way around Electronic ignition will NOT!

If, after fitting an electronic ignition system and trying to start, there appears to be no spark the following procedure should be followed.

The first thing is to carefully inspect every connection. Often over the years some terminals may have been on and off hundreds of times and often they can be seen to be hanging on by just a few strands. This may be OK for points but will not be sufficient for electronic ignition. Twisted together wires are most certainly not good enough to make good connections, it cannot be overstated that all connections new and old need to be secure.

Once all the connections are confirmed as good and the unit seems to be correctly wired then following procedure can be carried out

1. The first thing is to confirm you have a positive feed to the coil. Remove all the wires from the positive side of coil. With the ignition key turned off test all the wires with a voltmeter to ensure there is no current. Turn on the ignition and identify the wire that is now live. Put this wire on the positive side of coil (on some ballast ignitions this may be a double wire). Do not attach any other wires.
2. With the Ignition off disconnect ALL the wires from the negative side of coil. Make up a short jumper wire, around 10cm, and connect one end to the negative side of coil, the other will connect to earth later in the procedure.
3. Remove the coil HT lead from the distributor cap and be ready to hold the end approx. 2mm from a good earth on engine block.
4. Turn on ignition (do not crank over)
5. With the coil HT lead held near engine block, take your new jumper wire connected to the coil and touch to earth for 1 second then remove, as the wire is removed there should be a spark from the HT lead (This can be repeated as many times as required) If there is a spark the coil and wiring would appear to be correct and the fault is either in the Module, Cap or Rotor – If there is no spark there is a fault with the coil or there is an error in the wiring.
6. If there was a spark you can now test the module. The jumper should be removed from the negative terminal and discarded, then the black wire from the module reconnected to negative terminal on coil (on some installations the black wire from module may be connected via an existing wire in the loom , if this is the case reconnect this wire). On non-ballast systems the red module wire was connected to the coil it should now be reconnected to the positive terminal on the coil. (the red wire on ballast systems will be on an alternative 12-volt supply and will not have been touched). Leave any other wires for the moment as these will not be required to run the car and may be the cause of the problem.
7. With the coil HT lead held against earth have someone crank the engine, if there is a spark then there is no fault with the module and the issue is elsewhere. The cap and rotor need to be looked at.
8. If there is no spark one last check should be carried out. Ensure that there is a good earth between the module baseplate and the distributor body. If there is excessive heat sink white paste below module and/or there is a missing or poor earth strap in the distributor then this can be a point of failure.
9. contact your retailer for return Policy.

2. 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. Once the correct position is established open the sachet of white silicone heat sink and spread ½ the contents on the base of the module, keep the remainder. This helps dissipate the heat from the module. Paste will not be required for those kits supplied with a full replacement baseplate.
8. Fix Module to baseplate and fix using the screws removed from the points
9. If supplied, you can use the cable tie to secure the wires away from the centre of the distributor. Do not over tighten the cable tie, not all kits require this
10. Push the supplied trigger ring down onto the centre cam, this should be a snug fit, if loose some kits are supplied with -packing shims. Place this on first then push the trigger on. If nothing has been 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
There is also more than one version of this kit, If you have a replacement kit it may differ from the original kit.
Note: this is the only kit supplied with a green wire connector.
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.**

SPECIAL NOTE FOR DELCO 300 : Remove distributor. (before removing distributor it is always advisable to turn the engine timing marks to top dead centre and mark the position of the distributor body and rotor arm, in this way it can always be put back exactly as it came out) Remove the distributor cap, then using a small punch, knock the roll-pin below the drive gear at the bottom of the distributor drive shaft. Remove the gear, Remove the shim washer. You can now pull the main shaft upwards through the distributor body. Take the trigger ring with securing clip from the AccuSpark pack. With the metal prongs pointing upwards, push the trigger ring up the shaft so that it locates securely onto the cam section of the shaft
Remove the points and condenser, and fit the electronic module, **THIS DOES NOT FIT IN THE SAME POSITION AS THE POINTS** .Ensuring that the heatsink paste provided is applied to the underside of the module plate (the paste is necessary to help transfer excess heat from the module to the baseplate). The paste **MUST** be applied. Replace the shaft into the distributor body, Replace the washer.
Replace the drive gear. It should be noted that it may appear that when the drive gear is replaced that the holes no longer line up, this is because the shaft is slightly telescopic and is pushed up into the body of the distributor. Care should be taken when pushing the drive gear on, not to push the shaft up the distributor body at the same time.
Refit distributor

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. The distributor may have been supplied without a clamp or may differ from the original clamp then it may be necessary to use the existing clamp.

- 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. If once fitted the distributor position differs by 180 degrees to that of original, then the dog gear can be turned, remove the roll pin at bottom of shaft, remove and turn the dog gear, replace roll pin.
- 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
- c. If after fitting it is found that it is not possible to turn the distributor sufficiently to gain the correct adjustment, then all the leads should be removed the distributor turned 90 degrees (60 degrees for six cylinder cars) in the opposite direction than the direction that is required. The leads should be refitted in one position in the opposite direction.
- d. If it is found that the distributor is tight in the engine, it should be removed the rubber o ring removed and the shaft rubbed with some emery cloth or wet and dry paper.

4. Connecting AccuSpark:

Negative earth only see separate sheet for positive earth

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

Your Distributor will now have a red wire and a black wire, generally the wires are supplied sufficiently long with the correct connections, but due to the many variations of vehicle it may be necessary to lengthen the wires or change the terminals, standard auto wire should be used. 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 described in section a or b 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 connecting with 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, continue 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 set timing statically with a bulb, a strobe lamp must be used.

6. Car will not start.

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 this indicates the module is functioning and that the installation of distributor/kit fitment of cap , rotor , firing order need to be checked. If lead fails to spark go to step 3

3. 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, then 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 . Goto section 7

6a. Car was running and now will not start or runs poorly.

If the Vehicle develops a misfire when hot this could be the early signs of a failure and will need replacing . It may have been caused by one of the following.

- a. 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.
- b. The car has had a high-power booster pack, or the battery has been charged with high power charger without disconnection the battery.
- c. The car has had Mig/Tig or Arc welding without disconnecting the battery
- d. Heat sink paste has not been applied, meaning the module is unable to efficiently dissipate heat.
- e. An 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.
- f. Incorrectly matched coil and Ballast Resistor or wire will cause overheating of Module.