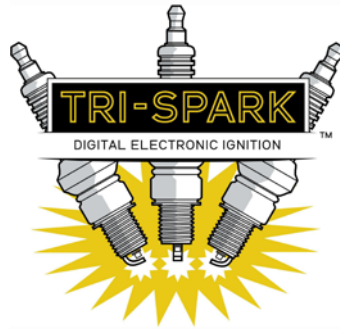


Tri-Spark Trouble Shooting Guide

Classic Twin – TRI-0005



Thank you for purchasing a Tri-Spark Classic Twin ignition system for your twin. Here at Tri-Spark we have an ongoing commitment to monitor and improve our methods wherever possible to achieve the highest standards for our products. Your comments, favourable or otherwise are always welcome and needed to assess our standards and methods.

Our goal is to provide you with the best possible product that will give you many miles of trouble free service at a reasonable cost. We have many satisfied customers in Australia, New Zealand, America, England and Europe.

For your own safety, we strongly recommend that you engage a qualified technician to install your new ignition system. The following information is provided as guidance to assist them in the installation and setup.



Classic Twin stator unit

General troubleshooting tips, installation notes, and cautions.

- Take care! Do not probe around the wiring with the power on. Disconnect the fuse before attempting any adjustments or disassembly.
- Do not attempt to test for spark by 'hot wiring' or 'sparking' the coils as this can damage the Tri-Spark ignition.

- Do not run the bike without all spark plugs connected as this can damage the Tri-Spark system. If you wish to run the engine without all plugs firing, such as for tuning the carburettors, connect and earth a spare plug outside of the engine.
- If the LED blinks continuously without the engine running, this is an indication of an overload or short-circuit in the coil drive output (black/white wire). Immediately disconnect power and have the bike inspected by a qualified motorcycle electrician.
- There are two versions of the Classic Twin system: clockwise (A) and counter-clockwise (B). These are identified by a marking on the mount flange and are NOT interchangeable. To ensure you have the correct system for your engine, observe the direction of rotor rotation when kicking over the engine.
- It is recommended that high tension lead suppressor caps be used with this system. Use 5k Ohm caps such as NGK LB05EP.
- Starting the engine: In order for the engine to run you need compression, fuel and spark.

If the engine does not run, you should double check the following:

- Spark plug leads (high tension leads) connected and tight
 - Earth connection to the frame is sound
 - Engine must also be earthed
 - Check that fuel is getting through to carburettors
 - Ensure that the battery is fully charged
 - Ensure that there is compression, there should be resistance felt on the kick start lever – pay particular attention to the valve clearances.
- If there seems to be an ignition problem, reinstall the rotor from the beginning of the installation procedure, this is the most common installation error and also the most easily corrected.
 - Always use the bolt provided to remove the rotor.
 - The red LED on the stator should go on and off as you turn over the engine. The LED should come on as the piston rises on the compression stroke.
 - Check that the outer face of the rotor is 2mm below the ledge that the stator mounts on.
 - Get someone else to double check the wiring.
 - Check for 12 volts reaching the stator unit.

The Tri-Spark Classic Twin has an LED installed as a trouble-shooting and tuning measure. There are a variety of ways in which it can be utilised and we will cover those below. If, after following these trouble-shooting tips, you are still experiencing ignition problems we highly recommend you consult a qualified motorcycle electrician as the issues are likely to be related to another area in the system.

- With the LED visible, very slowly kick over the engine. At each point of high resistance from the pedal (compression), the LED should illuminate. At all other points the LED should be dark.
- If the LED behaves in any other way ensure you have addressed in the points in the General Trouble-shooting section before contacting your Tri-Spark dealer. If the LED behaves as described, but there are still ignition problems, continue to the next tests.

To find a misfire issue, the spark plugs can be tested individually

- It is possible to check for spark from the plugs by having the plugs resting on the head, or similarly earthed position.
- Kick over the engine, both plugs should spark simultaneously, along with the LED illuminating.
- If the LED lights as it should but the plug does not spark, first ensure the plug body is earthed correctly. If there is still no spark, try installing a new plug, then try swapping the high tension leads.
- If either of these swaps corrects the problem, replace the offending part.
- If only one spark plug is firing it is unlikely that there is a fault with the stator unit. This would more likely indicate a fault with an ignition coil.
- If the LED blinks continuously without the engine running, this is an indication of an overload or short-circuit in the coil drive. Immediately disconnect power and have the bike inspected by a qualified motorcycle electrician.



Troubleshooting FAQ

Q: My engine's running badly - what should I do?

A: With the fuel we get now our older bikes often suffer with fouled spark plugs. Try a new set of plugs (really new - out of the box) before anything else. If the problem clears even temporarily it was probably due to fouled plugs.

Q: The engine runs but doesn't idle - is this the ignition?

A: The Tri-Spark system offers excellent idle stability but it will not tune the engine. A variable idle and stalling out are often indications of worn out carburettors.

Q: Why is Tri-spark truly a digital system?

A: Starting right from the stator unit inside the engine the signal is digital which gives excellent accuracy and stability to the timing. The timing is unaffected by external influences such as battery voltage and temperature.

Q: I have no knowledge of electronics or wiring - can I install an ignition system?

A: We recommend that you get expert help.

Q: What causes some of the most commonly reported faults?

A: Wiring faults are common with old bikes. Battery trouble too.

Common places to look for a fault are, the main fuse (melted, bent or dirty contacts), inside the headlight shell (particularly the nylon connector blocks), ignition switch, kill switch, wire chaffing (under fuel tank, inside the rear mudguard, behind side covers), wires melted on the exhaust, ignition coil connections and earth connections (frame and engine).

Q: How do I test for signals within the stator unit?

A: Apart from the power connections, all other signals are electronic pulses and should not be tested for with simple lamp testers and meters. Refer to the test procedure using the built in LED along with checking for sparks at the plugs to see if the system is functioning correctly.

Please note: the information in this document relates to the Tri-Spark Classic Twin system (p/n TRI-0005) only and should not be applied to any other product.