Injectronics

Remanufactured Automotive Electronics Components

TECHNICAL BULLETIN

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Make: Jaguar

Model: Various

Subject: Opus ignition

The Jag (Lucas opus) ignition module outputs an A/C sine wave with a frequency of approximately 580 kHz on the yellow wire going to the distributor. The peak to peak voltage can be measured with a C.R.O and it does not matter if the distributor is connected or not. In*jec*tronics suggests, always check the resistor block, terminals and module earths first. Also check the distributor pick up air gap.

Faulty ignition modules may exhibit the following:

a. No voltages / wave form on yellow wire.
b. 12v constant, no wave form on yellow wire.
c. Not enough peak to peak voltage on yellow wire.
d. Red wire had a noisy wave form (should be clean).
e. Red wire signal to weak (not enough peak to peak voltage).

The black wire going to the distributor is ground and should be zero volts.

The red wire is the signal back to the module from the distributor to trigger it. Depending on whether the poles in the dizzy wheel align with the head of the sensor, the dizzy will pass through a reduced signal that is coming from the yellow wire back out to the red wire. i.e. when pole is perfectly aligned with the head of the sensor the red wire will have greater than 2.5v peak to peak AC but will have the same frequency as the yellow wire (approx 580 KHz). As the pole moves away the red wire signal amplitude reduces to approx 0.5 volts until the next pole starts coming up. The signal volts peak to peak cannot be measured with a multimeter; you need a C.R.O. to measure the peak to peak voltage. The trigger point is approx 2.5 volts peak to peak. If the air gap is too big, then the amplitude on the red wire will not be great enough to trigger the module.

To test module:

1. Check with a C.R.O that a 580 kHz AC waveform with a peak to peak voltage of 25 - 35 volts is evident on the yellow wire.
2. With the distributor disconnected, check that there is no signal on the red wire. Reconnect and check with a C.R.O that this waveform (reduced in amplitude) can be seen on the red wire when the pole is aligned in the dizzy. The peak to peak may be up to approx 3.5 peak to peak (check that the air gap is not too big if the signal is too small)
3. If you disconnect the distributor and then apply a jump wire from the yellow wire and flick this on the red wire you will get a spark from the module. If you have the pickup removed from the distributor but connected to the module you can trigger by passing a magnet over the pickup.