VARIOUS

#T0013

Make: Various

Model: Various

Subject: Hall sensor testing

Hall sensors are a type of switch to earth, with the output changing as the chopper wheel vanes move in and out of the slot. The signal duty cycle (percentage low as compared to high) will be reasonably even, (approx 50%) unless a special chopper wheel is used eg: EA MPI. Most hall sensors have the three following wire colours:

- Red - Supply for the hall sensor it could be 5 volts or approximately 12 volts, depending on the system, often marked as '+'.
- Green - Usually the switching signal to ignition module or the ECM unit. (Often marked as 'O')
- Black - Ground or earth, often marked as '-'.

Testing for no spark (in vehicle):-

1. Check for power (red wire)
2. Check for ground (black wire)
3. Check to see that the voltage fluctuates as the chopper wheel passes through the slot. If the voltage remains high then the hall sensor is faulty. If the voltage remains low, then first check that there is a good 'pull up' voltage available to the sensor from the ignition key on and measure voltage on the signal wire. Remember the hall sensor is only a switch to ground.

Testing for no spark (distributor out of vehicle):

1. Connect the correct power supply to red wire.
2. Connect ground to black wire
3. Connect an LED test light to the green wire (note: an LED test light is recommended because of its low current draw) connect the other end of the test light to +12 volts.
4. As the chopper wheel passes through the hall sensor the LED will flash on and off if the hall sensor is working.

Intermittent Faults:

Injectronics suggests when testing for intermittent problems, engine stumble or miss always use a scope to determine that the hall sensor is switching 'Cleanly' to ground with no erratic switching patterns. As always, all testing should be done to manufacturer's specification.