

**Lucas**



# LUCAS QUALITY INSIDE EVERY BOX

NEW AND IMPROVED IN-HOUSE TEST FACILITY  
NOW IN OPERATION AT LUCAS ELECTRICAL



## Air Mass Meter Testing

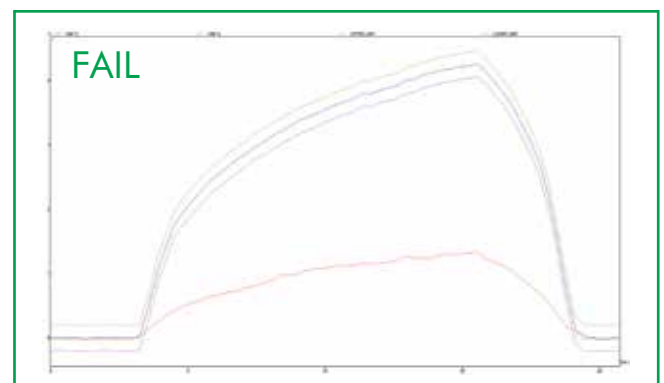
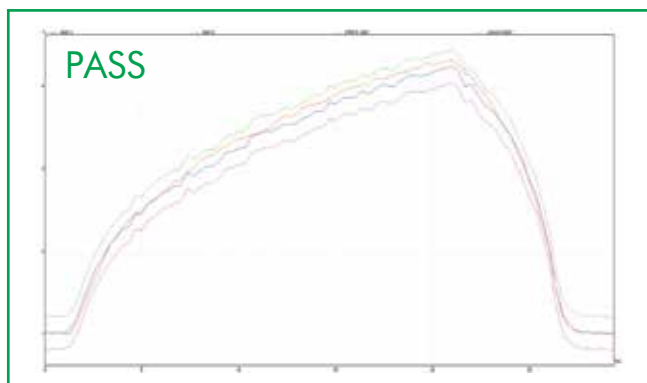
The new and improved in-house test facility at Lucas Electrical will ensure that customers continue to receive the renowned high quality products and customer service that has become synonymous with the Lucas brand. The facility includes test equipment for engine management products including, ignition coils, air mass meters, crankshaft sensors, EGR valves and fuel pumps.

### **New and Improved Air Mass meter Test Machine**

All Lucas Air Mass Meters are tested in-house using our new and improved AMM test machine. Air is blown through the sensors to replicate the RPM range of a vehicle. Both digital and analogue AMMs undergo specific testing and then compared to Original Equipment standards to ensure the highest quality.

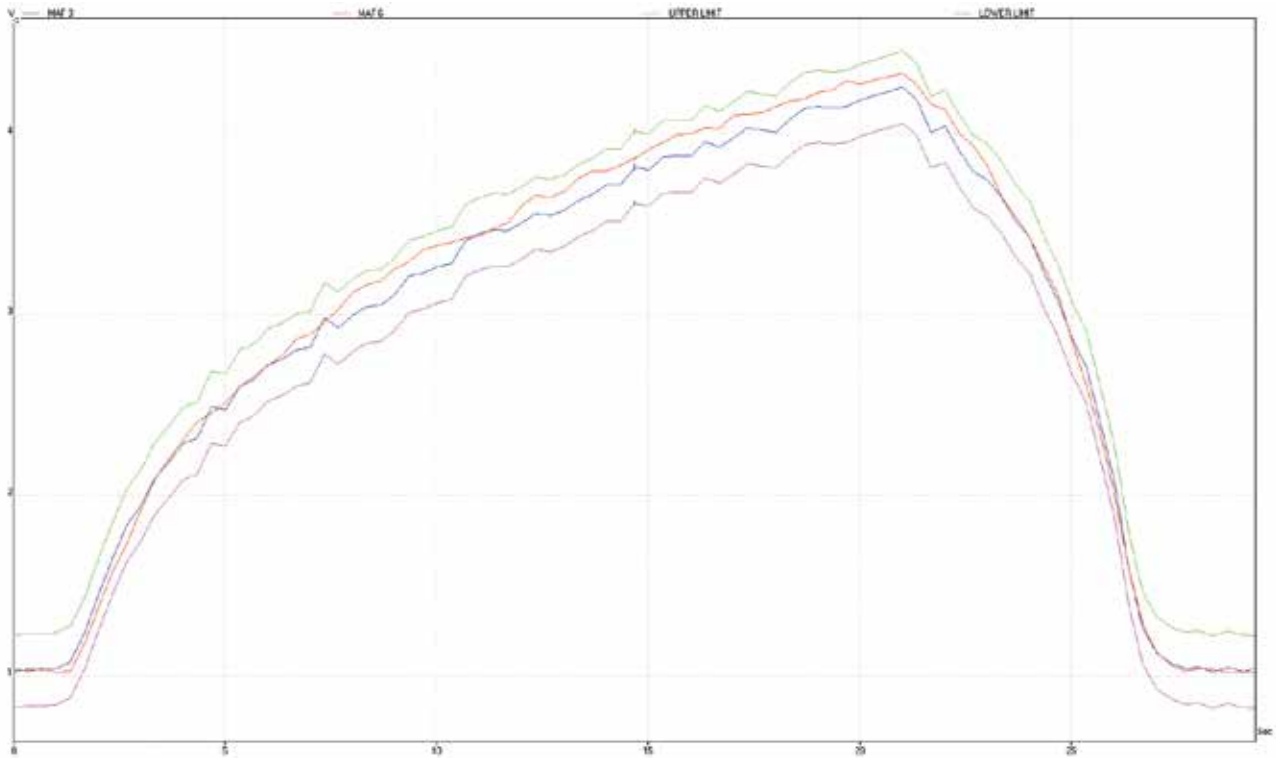
### **Analysing AMM Test Results:**

Below are typical examples of AMM test results showing a pass and a fail.

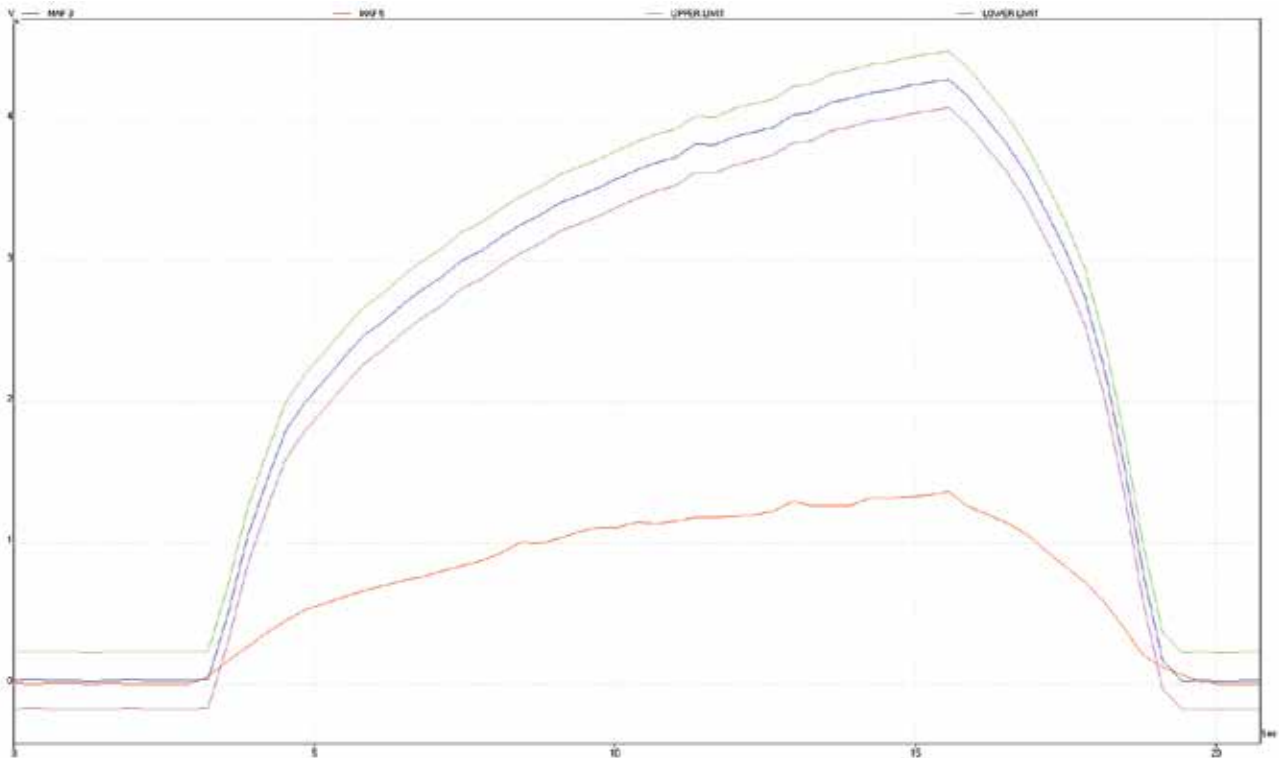


## Air Mass Meter Test Results

Pass



Fail





## Air Mass Meter Fitting Advice

### Common Symptoms of a faulty Air Mass Meter

Common symptoms include erratic engine operation, reduced performance, increased fuel consumption, stalling, hesitation, and rough idle.

### Change the Air Filter

It is highly recommended to change the air filter before replacing the AMM.

Dirty, sub standard or worn out air filters can contaminate the element of the sensor and cause it to fail.

The Air Filter should be changed every 15,000 miles to ensure efficiency and durability of the Air Mass Meter.

### Correct Mounting Direction

Most Air Mass Meters have an arrow on the outer case to indicate the correct direction of airflow through the AMM to the engine. Ensure the arrow points in the correct direction when mounting.

### Allow the ECU to Reset

In most cases the ECU does not have to be manually reset but it may take some time for the ECU to recalibrate and reset the error code. This can take around 60 miles depending on the vehicle. If a manual reset is required please follow manufacturers instructions.

### Other Possible Causes of Air Mass Meter Error Messages

A non faulty Air Mass Meter may still cause an error message due problems elsewhere in the vehicle including:

#### Faulty EGR Valves

#### Blockages in air intake filters

#### Leaking induction hoses

#### Faulty tank ventilation valves

A Fault Code Reader and/or ECU Diagnostic Equipment is required to correctly diagnose and rectify Air Mass Meter related issues.



## Engine Management Testing



### Lucas Ignition

Coils are tested for continuity and spark at three vital points during manufacture. Samples from batches are then picked to undergo further tests, such as shock, thermal and vibration tests. The new Lucas in-house test facility then provides further diagnostic and fault finding support.



### Crankshaft Sensors

Both hall effect and inductive camshaft and crankshaft sensors are tested in-house, providing fault finding and diagnostic support. The sensors are held in the machine at a set distance from the variable speed spinning cam wheel. The signal shape and frequency is then analysed and any potential faults are identified.



### EGR Valves

EGR Valves may also undergo testing within the Lucas in-house facility. A voltage is applied to the EGR input and increased to actuate the valve. The valve opens and the feedback position voltage is checked against OE specification. Valve actuation is also tested for smooth transition between open and closed.