



ENGINE MANAGEMENT SYSTEM - V8

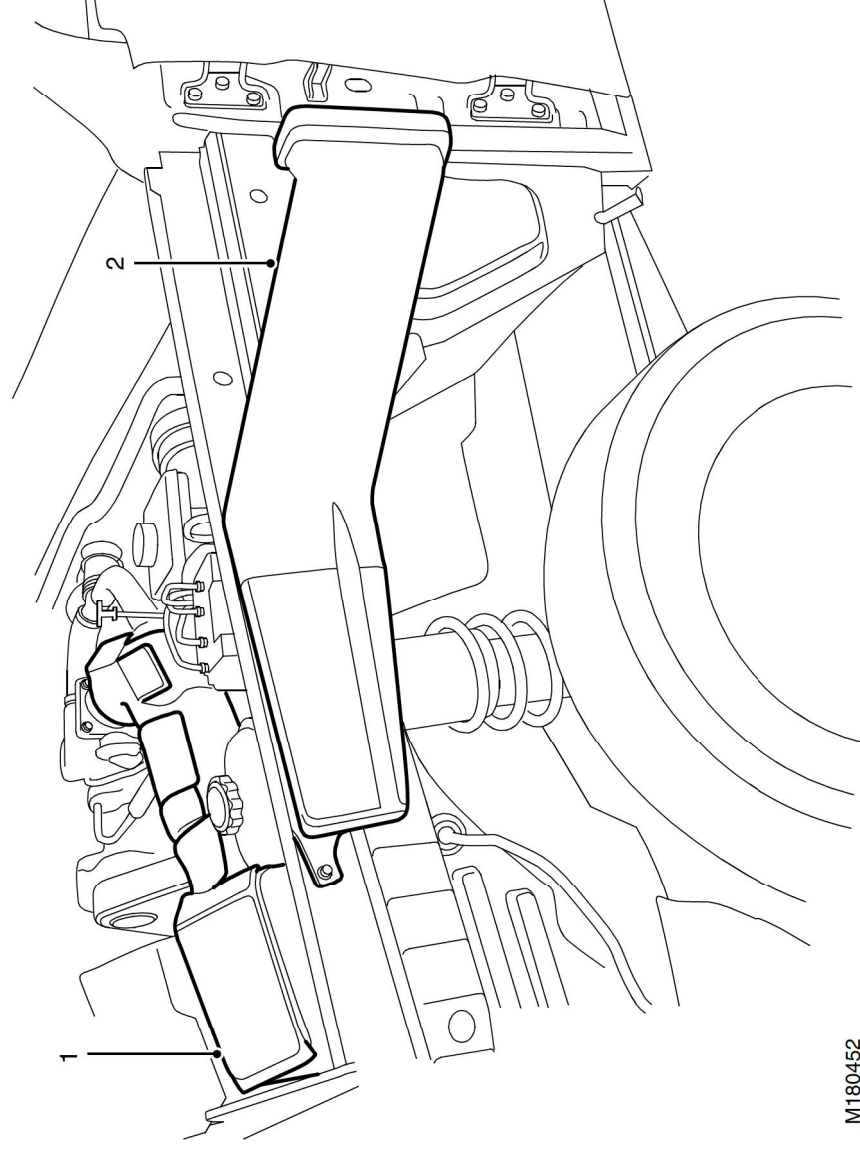
There are two types of IAT sensor diagnostic checks:

- The IAT sensor signal is less than the minimum threshold – the engine has to have been running for longer than 180 seconds, and idle speed control must have been operational for longer than 10 seconds. No fuel cut off is active. The IAT sensor signal must be less than -35°C (-31°F) for longer than 200 ms.
- The IAT sensor signal is greater than the maximum threshold – the ECM has to be powered up (engine does not need to be running), and the signal must be greater than 140°C (284°F) for longer than 200 ms.

If the IAT sensor fails the following fault codes will be produced and can be retrieved by TestBook:

P code	J2012 description	Land Rover description
P0112	Intake air temperature circuit low input	Intake air temperature signal less than minimum threshold, after time for exhaust to warm up
P0113	Intake air temperature circuit high input	Intake air temperature signal greater than maximum threshold

Air intake duct – Gulf models from 2000MY



1 Heat reflective insulation

2 Supplementary air intake duct

The density of the intake air is partly dependent on altitude and temperature. Hot air has a lower density than cold air; consequently in hot climates, the low air density can result in low power due to low volumetric efficiency.

In order to improve engine performance, Gulf specification models from 2000MY have a secondary air intake duct which is located under the front left inner wing of the vehicle. Cooler air from the side of the vehicle is routed through the duct to the air cleaner, where it combines with air entering via the front grille.

In addition to the secondary air duct, the vehicles are fitted with a larger front grille and have larger cooling and condenser fans.

The MAF/IAT sensor, air cleaner and air cleaner duct are encased in insulation bags to help keep the intake air cool and so increase the mass of air entering the engine intake manifold.

The air cleaner includes a cyclone filter and also a dump valve in the bottom of the unit. Sand and dust particles which are carried into the air cleaner with the air flow are automatically expelled via the dump valve.