Reference	SSM72113
Models	Range Rover / L405 (000000 → 110440) Range Rover Sport / L494 (000000 → 000002)
Title	Diagnosis of PCM DTC P007B-00 Diagnostic (14-15MY 3.0L SC & 5.0L SC)
Category	Engine
Last modified	30-Mar-2015 00:00:00
Symptom	499000 Basic Engine
Attachments	11P007B images.pdf

Content

Issue:
P007B-00 is being set in the PCM causing the check engine light (MIL) to be displayed.

Cause:
There are currently 3 known potential causes under investigation: The charge air coolant pump, a PCM logic concern and/or sensor defect.

Action:
NOTE: DTC P007B-00 is named: "Charge Air Cooler Temperature Sensor Circuit Range/Performance"
The sensor which this DTC relates to in TOPIx is the 'Manifold Absolute Pressure and Temperature (MAPT) sensor.

It is not to be confused with the 'Charged Air Temperature sensor'.

Details of the different sensors can be found in the following section of TOPIx under the 'Description and Operation' heading:
303-14B: Electronic Engine Controls - V6 S/C 3.0L Petrol

Follow the checklist items as recommended by the DTC actions found in the workshop manual or through SDD. In addition to the recommended actions, also check 'Charge air coolant pump' operation during and after engine start. Take care to listen for the pump running over the engine noise.

The location of the pump is shown in the following section of TOPIx under the 'Description and Operation' heading of:
303-03D: Supercharger Cooling - V6 S/C 3.0L Petrol

If an issue is identified during the above checks complete the repair as necessary and report your findings via EPQR.

If there is no issue identified during the above, please raise a TA and prepare results for the following checks to add to the TA:

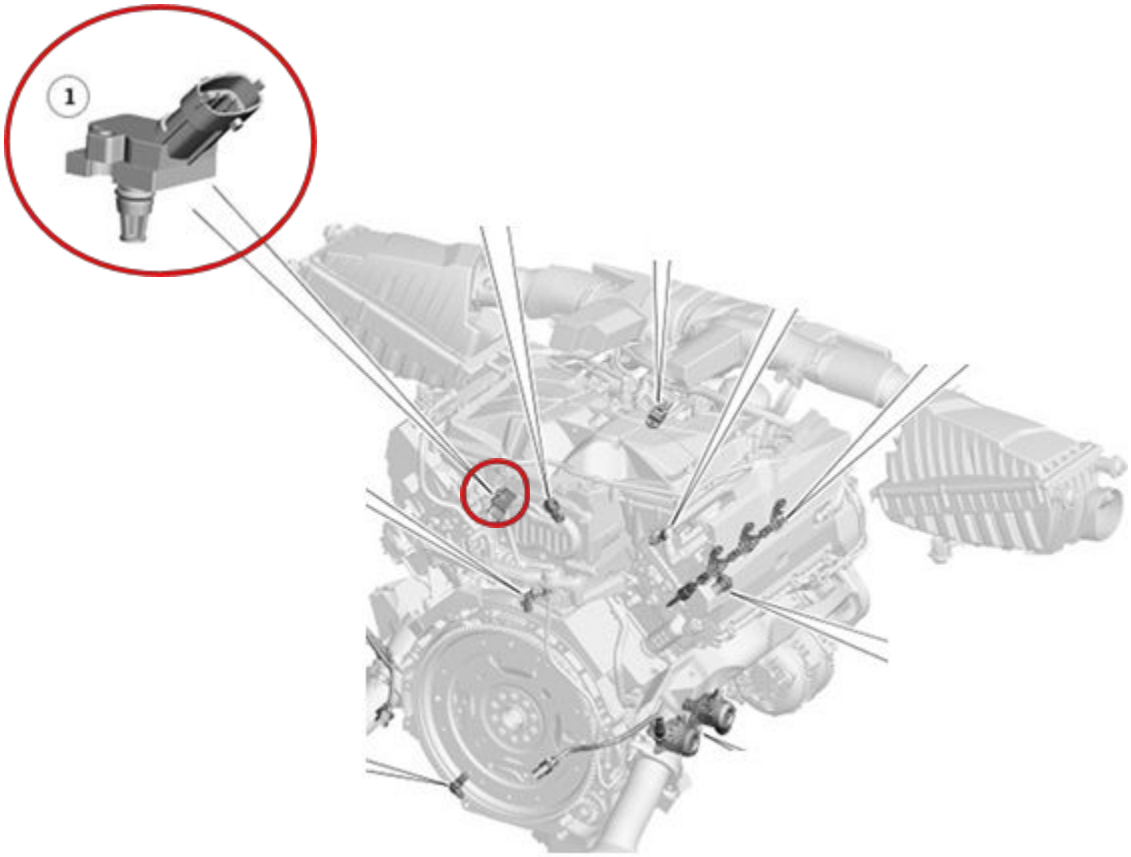
- Check the wiring connector from relay to pump for damage to the connector housings or terminals
- Check for short to ground or short to battery feed
- Note the results from the check of 'Charge air coolant pump' operation during and after engine start
- Check the label for the 'Charge air coolant pump'. Image of pump and required label information can be found in file attachment. Record if part number is shown as 'EX53'

For any repair attempt made, please follow the replication / validation drive cycle below:

- Start drive from between 40°C and 60°C (104°F and 140°F) coolant 1 (ECT1)
- Light steady gas pedal inputs up to 30MPH / 50KPH, hold for a minimum of 5 seconds
- Lift off gas pedal for 1 second and tip back in
- Repeat 3 times
- Directly after the above is done, come down to speed of 5MPH / 8KPH for a minimum of 5 seconds (no gas), tip in for 3 seconds
- Repeat 3 times
- Check for DTC's.

P007B-00	Charge Air Cooler Temperature Sensor Circuit Range/Performance (Bank 1) - No sub type information	NOTE: Circuit reference I_A_BTS • Connector is disconnected, connector pin is backed out, connector pin corrosion • Manifold absolute pressure and temperature sensor circuit, short circuit to ground, short circuit to power, open circuit, high resistance • Manifold absolute pressure and temperature sensor failure	• Inspect connectors for signs of water ingress, and pins for damage and/or corrosion • Refer to electrical circuit diagrams and check the manifold absolute pressure and temperature sensor circuit for short circuit to ground, short circuit to power, open circuit, high resistance • Check and install a new manifold absolute pressure and temperature sensor as required

P007B-00 =TMAP or Charged Air Cooler Temperature sensor.



CAC Pump

Image of CAC pump and location of part number stamp. None EX53 parts may have stamps that can be seen on the side of the pump, as shown in the image below.

Remove undertray and CAC pump can be seen.