

Eure!Car Tech Blog highlights

The Eure!Tech Blog covers a number of problems that mechanics are facing on a daily basis. The Blog, which is updated on a regular basis, can be read at www.euretechblog.ie. Here is a sample of a few items posted recently.

Mondeo IV adaptive headlight fault

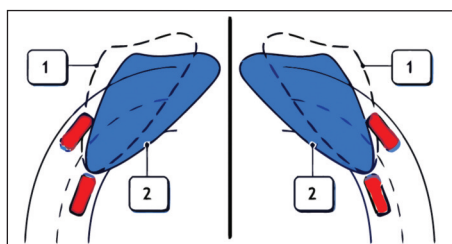
The Ford Mondeo IV has been produced since 2007, with the adaptive headlight system.

The adaptive headlight system (AFS) is operated by means of an automatic adjustment control for the dipped headlights which adjusts their position in accordance with the speed and steering of the vehicle under different circumstances.



This anomaly is caused by a calibration software fault in the headlight control module (HCM). After clearing the fault codes, reprogramme the HCM unit with the most up to date software.

To assure yourself that the incident has been resolved, check that the response of the adaptive headlight system (AFS) is correct, with no fault messages on the instrument panel display, and the headlights have changed their position.



1 - Headlamps with the AFS system
2 - Without the AFS system

The purpose of the system is to improve visibility and reduce risks due to possible dazzle that may occur while driving at night.

It should be remembered that the AFS system does not respond while the vehicle is stationary, the daytime running lights are on or reverse is selected.

If there is a fault in the AFS system function, a warning message will appear on the instrument panel display. If the fault is prolonged, the headlights will be adjusted to their central or dipped beam position permanently.

This fault affects only some Mondeo IVs manufactured from 2007 within a specific chassis number range.

The symptoms shown in this incident are:

- Malfunction message for the AFS system's front lights on the instrument panel display.
- The lights are positioned permanently in the centre.
- Code B1D68 is recorded (Left headlamp swivelling feedback sensor) or B1D69 (Right headlamp swivelling feedback sensor) in the headlight control module (HCM).

Peugeot 107, Citroën C1 and Toyota Aygo Power steering problem

The main symptom is a failure of the power steering that may occur frequently or sporadically. Possible codes that can occur are:

- C1552 - Power supply malfunction PIG - Internal circuit of power steering unit
- C1554 - Power steering failure - Power relay failure

Diagnostics

Access the power steering unit (EPS) by removing the top of the dashboard. The power steering unit is manufactured by Fujitsu and its part number is: 89650-0H010.

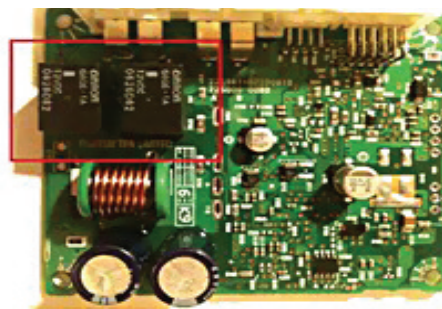
Check that there is direct battery supply between PIN 1 and 2 of the black 2-way connector (2V NR) of the power steering unit.

Check the earth, PIN 2 of the black 2-way



The EPS can be accessed by removing the top of the dash

connector (2V NR) of the power steering unit. Check for power after contact between PIN 1 and earth - white connector (12V BA) of the power steering unit. If there is no power, verify the operation and power of the power steering relay. Check relay activation between PIN 14 of the connector (18V BA). Also check the output voltage of the relay in pin 12 of the connector (18V BA).



These relays supply power to the power steering unit and the electric steering motor

In case of failure, replace the installation section and/or the defective connector.

Check the control cables of the power steering motor from the 2-way white connector (BA 2V) of the power steering unit, PIN 1 and 2.

If all these tests do not show a fault, proceed to remove the power steering unit to open it.

The printed circuit of the power steering unit has two relays (see image above). These two relays supply power to the power steering unit and the electric steering motor.

Remedy

Replace the two relays of the power steering unit named above. The reference of these is: OMRON G8QE-1A 12V DC

Note: After any intervention in the kinematic steering chain, the sensors of the steering torque should be calibrated using an appropriate diagnostic tool.