

DIAGNOSTIC FUNCTIONS OF THE ACE (DISCOVERY II)

All the diagnostic functions have to be performed with the Ignition turned on to the second step and the engine may be running or stopped.

FAULTS FUNCTIONS

The ACE ecu has the READ FAULTS and CLEAR FAULTS to read and clear the fault codes. We don't give any faults explanation or suggestions, in order to avoid giving wrong information to the user, we think in fact that the faults codes must be collocated in the context of the car which they come from.

SETTINGS FUNCTIONS

Not available

INPUTS FUNCTIONS

The ACE ecu has the READ INPUT function to read dynamically the parameters.
The parameters can be analogue-numeric or digital-ON/OFF.

Engine Speed (rpm)

Road Speed (Km/h)

Battery Voltage (V)

DCV1 Current (AMP) – Direction Control Valve 1 current

DCV2 Current (AMP) – Direction Control Valve 2 current

PCV Current (AMP) – Pressure Control Valve current

Pressure sensor (bar) – Pressure of the oil in the valve pack

Residual Pressure (bar) – The value should be 0bar with the car parked and the engine at idle speed; it can be higher, but not over 10bar.

System Pressure (bar) – This value is calculated by the ecu, so it is not related to a real sensor

Upper Lateral Accelerometer

Lower Lateral Accelerometer

After the calibration of the accelerometer (only in case of replacing) the difference between these two values should not be more than +/-0.02 when the car is parked, and +/-1.5 during the normal trip.

Ignition Switch – ON-OFF

Reverse Switch – REVERSE-NOT REVERSE

Main Relay – ON-OFF

Warning Lamp ON-OFF

OUTPUTS TESTS

These functions activate the corresponding outputs for a few seconds allowing you to check them.

Main Relay FORCED ON

Main Relay FORCED OFF

Warning Lamp

Dir. Control Valve 1

Dir. Control Valve 2

UTILITY FUNCTIONS

CALIBRATE ACCELEROMETER 1-2

This function allows to calibrate the accelerometer used by the ACE to manage the process of cornering enhancement.

SET CALIBRATED

This function sets the Calibrated flag. This flag is only an indication and it doesn't have any effect on the system.

SET TESTED

This function set the Test OK flag. This flag is only an indication and it doesn't have any effect on the system

OIL BLEEDING STEP 1-2-3

These functions allow to bleed the oil circuit in order to remove the air from the pipes. During this procedure the car may jerk violently from side to side, so we recommend to keep the doors closed and to have enough clear space on both sides of the car.

Bleeding procedure:

1. The vehicle have to be parked on a 4 post ramp with the handbrake on and in park or neutral.
2. Verify that the oil reservoir is to the maximum level and that the pump is active and it generate fluid's turbulence on the reservoir.
3. Turn off the engine, raise the car at working height and perform OIL BLEEDING STEP 1.
4. Disconnect both stabiliser links on the front axle only. Do not disconnect the stabiliser links on the rear axles. Free the nut that holds the silent block at the end of the roll bar.
5. Push the stabiliser link on the torsion bar side end up and pull the stabiliser link on the actuator side down simultaneously to bring the actuator to its maximum extension; make sure that no pipes or hoses become stretched.
6. For a better safety, lower the vehicle to ground height.
7. Stop the STEP 1 function if it is not yet terminated. Turn on the engine and perform the OIL BLEEDING STEP 2 (it will takes about 10 minutes) and keep the reservoir topped if the oil decrease its level. Once the function is terminated turn off the engine
8. perform OIL BLEEDING STEP 1 and raise the car at working height and reconnect the links of the front axels. Stop the STEP 1 function if it is not yet terminated.
9. Disconnect both stabiliser links on the rear axle only. Free the nut that holds the silent block at the end of the roll bar.
10. For a better safety, lower the vehicle to ground height.
11. Turn on the engine and perform the OIL BLEEDING STEP 2 (it will takes about 10 minutes) and keep the reservoir topped if the oil decrease its level. Once the function is terminated turn off the engine
12. Raise the car at working height and reconnect the links of the front axels. perform OIL BLEEDING STEP 3 for a few seconds
13. Lower the car and check the level of the oil again.