



ABS Fault Codes

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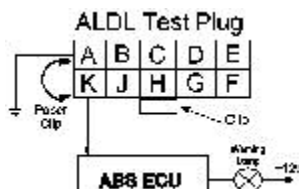


Figure 1
 ALDL Test Plug connections.

What are 'ABS fault codes'?

Fault codes are recognise problems or faulty sensors to the ABS (Anti-Lock Braking System) computer which is a ECU (Electronic Control Unit). The ABS ECU relies on the sensors on your car to ensure that at any given time, the road wheels do not lock up and hence skid. When a sensors goes wrong or there is a fault with the system, the ABS ECU sees this problem and logs the fault code within it's memory (NOTE: not ALL problems are logged, depends on what system your car has). Often the ABS warning light on the dash board may light up, indicating to you that there is a problem.

Do all ABS ECU's handle fault codes?

Admittedly we don't know if all ABS ECU's used in the Vauxhall range have the fault code logging facility or not. Usually, only injection engines have ABS since the technology wasn't about (much) when carburettors were used. However, the ABS system is independent of the engine, so its technically possible for a ABS computer to be present on any type of engine (i.e. someone's had an engine transplant).



Figure 2

On some models the ALDL plug can be found in the engine bay.

How do I know if I have a ABS problem?

When you first start the car, all the on board computers in the car do a quick self diagnostic check. The warning lights on your dash should light up a few seconds and then turn off. If all the lights are off, then the computer and sensors are reading OK.



Figure 3

In others some are beside the alarm siren and RON plug.

However if the ABS warning lamp is still on, then the ABS ECU has detected a fault. Also during your journey, the ABS warning light should never come on. If it does then the ABS ECU has recognised a fault somewhere. This gives you the opportunity to read the fault code(s) that have been logged.

How do I read the fault codes?

There are two common ways to do this. The first is to use a TECH1 reader which is an expensive bit of equipment. Some dealerships could charge you £50 just to connect it up to your car. The second option is FREE and YOU can do it....with a paper clip.



Figure 4

ABS warning lamp on the dash board.

The paper clip method flashes the ABS warning lamp on the dash, and you read the amount of flashes and pauses. The chart supplied in this article tells you what the fault code means. The paper clip is used to short out two pins in the ALDL connector (also know as 'diagnostics plug' or 'test connector'). These are commonly coloured blue and is located in the engine bay. Some newer models (i.e. Eco-tec engines) have the test connector inside the cabin.

Where is the ALDL connector on my car?

Some ALDL connectors are easier to find on some models, so you will have to remove some trim to locate it. The most common areas are in



Figure 5
The ALDL is a 10-pin connector.

the engine bay (usually sitting at the back or near the fuse box). Some are located in the car either by the hand brake console or sitting beside the passenger seat (under the bulge in the carpet). Consult your Haynes book or a Vauxhall dealer if you do not know the whereabouts of this unit. The owners manual doesn't usually show where the ALDL connector is located on your car.



Figure 6
Typical ABS ECU located in the engine bay.

General Notes:



Just before you start, make sure you note the following:

- If you don't have one, buy a Haynes manual for your car and have this in front of you if you find a fault and wish to investigate it.
- You'll need a paper clip and a pencil and paper to jot down the fault codes as they are flashed up.
- You do not need to start the engine but it doesn't hurt. Just switching on the electric's is enough (i.e. dash lights come on).
- If the paper clip is inserted in the wrong 2 pins, don't worry you won't damage anything. All that will happen is the fault codes will not be displayed.

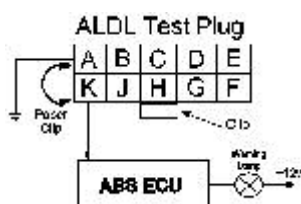
OK, got all the above? Then follow the steps below (remember to click on the pics for a bigger view):

Step 1



Open up the bonnet and look in the engine bay for a 10-pin blue connector with a blanking plug or plate. Disconnect it from the blanking plug.

Step 2



With the connector pointing towards you and the retaining clip at the bottom, short the two pins (A & K) on the left-hand side with the paper clip.

Step 3



Get in the car and switch on the electric's. The ABS light will begin to flash and pause a number of times, take note of these.

Once the wire link is in place and the electric's are on, the ABS warning lamp will begin to flash out the codes (wait for the initial boot up check that lights up all the warning lamps). Each fault code is repeated 3 times and then it moves onto the next one (if any). Once at the end of the logged fault code list, it will go to the beginning again, giving you plenty of time to note down the code (on each fault code shown, there will be a pause before it shows the next one). It will carry on like this for ever until you remove the key from the ignition. To clear the codes simply remove the battery leads for a

few seconds and reconnect.

For example, lets say there was a ABS warning lamp noted and the owner wanted to read what fault code(s) were logged. The owner has already put the wire link in place and switched on the ignition. A flash is indicated by an astrix (*) and a pause is shown as a dash (-).

*_** (1 flash, a pause and another 2 flashes = code 12)

*_** (12)

*_** (12)

****_* (41)

****_* (41)

****_* (41)

*_** (12)

*_** (12)

*_** (12)

*_** (12)

*_** (12)

*_** (12)

Owner then takes the key out of the ignition.

Lets go through what has happened. After switching on the ignition, the dash board lights up showing the self check, after that all the lights go out and the ABS warning light begins to flash the error code. The first code is 12 (one flash, a pause and then two flashes). This is repeated 3 times.

Code 12 at this moment means initiation of diagnosis. After that came code 41, which means 'Left Hand [near side] Front Speed Sensor (Resistance & Connections)', i.e. there is most likely a faulty sensor or a bad connection at its plug or wiring. After code 41 has been repeated 3 times it goes onto the next fault code (if any).

Before it does, it flashes a separator code which is code 12. It flashes this 3 times before going to the next fault code. The next code is code 12 again which means its finished showing the logged fault codes and has started back at the beginning. The owner can switch off the ignition. A healthy car should display a stream of code 12's.

ABS Fault Code Chart:



Over the years there have been many different models in the Vauxhall range and hence there are different ABS ECU systems. With each different system there could be different fault codes. Listed below are the common fault codes for ABS systems.

Note: The term LH stands for Left Hand with respect to you sitting in the car (near-side) and RH is for Right Hand (off-side). If you know more about other ABS systems or can correct anything below, please e-mail us at abs_codes@topbuzz.co.uk. Thank you.

Code:	ABS System	Item:	Fault:
12	Both	Initiation of diagnosis.	No fault
16	Both	LH Front Solenoid	Defective. Check Relay & Connections
17	Both	RH Front Solenoid	Defective. Check Relay & Connections
18	Both	Rear Solenoids	Defective. Check Relay & Connections
19	Both	Solenoids Relay Circuits, valve relay	Defective. Check operation of relays
25	Both	Faulty Sensor toothed Ring, gear	Incorrect gear. Check condition of the teeth on crown wheel/toothed ring.
28	Both	LH Rear Soleniod, valve.	Defective. Check Relay & Connections

29	Both	RH Rear Soleniod, valve.	Defective. Check Relay & Connections
31	5/TC	Engine Speed Signal	Absent
35	Both	Pump Motor, Relay Circuits	Defective
37	5/TC	Stop Lamp Switch	Interruption. Check Pedal Switch and Lamp
39	Both	LH Front Speed Sensor	Signal poor or absent. Check Air Gap & Operation
41	Both	LH Front Speed Sensor	Interruption. Check Resistance & Connections
42	Both	RH Front Speed Sensor	Signal poor or absent. Check Air Gap & Operation
43	Both	RH Front Speed Sensor	Interruption. Check Resistance & Connections
44	Both	LH Rear Speed Sensor	Signal poor or absent. Check Air Gap & Operation
45	Both	LH Rear Speed Sensor	Interruption. Check Resistance & Connections
46	Both	RH Rear Speed Sensor	Signal poor or absent. Check Air Gap & Operation
47	Both	RH Rear Speed Sensor	Interruption. Check Resistance & Connections
48	Both	System Supply Voltage	Voltage too low. Check Alternator & Battery
49	5/TC	System Supply Voltage	Voltage too high. Check Alternator & Battery
52	5/TC	ABS telltale	Short circuit/interruption
55	Both	Faulty ABS ECU	Defective. Check connections and power
65	5/TC	Traction control version coding	Not programmed
66	5/TC	Throttle valve aperture angle	Malfuction
67	5/TC	Engine torque reduction	Malfuction
68	5/TC	Resulting throttle valve aperture angle	Malfuction

Special thanks go to [CavWeb](#) and [Andy Kirwan](#) for the help and advice on the construction of this ABS fault code chart.



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