

Fault code	EOBD / ISO Description	Component / System Description	Meaningful Description and Quick Check
P0312	Cylinder 12 Misfire Detected	A common method of detecting misfires is to monitor the signal from engine speed sensor to check crankshaft acceleration / speed during each power stroke; this provides an indication of the power / torque contribution provided by the cylinder (compared to the other cylinders). Any fault with the cylinder, including mechanical faults, fuelling, ignition (petrol engines) or other faults affecting combustion, will affect the power / torque produced by the cylinder. Misfires can also be detected by the oxygen / lambda sensor, due to high oxygen content (unburned oxygen) in the exhaust gas. Also note that there is reference to manufacturers monitoring the strength of exhaust pressure pulses (which will be weak if a misfire exists); a weak pressure pulse is then linked to an individual cylinder by using cylinder identification sensors (cam shaft sensor etc).	The fault code indicates that the contribution from the identified cylinder is different when compared to other cylinders (likely to be a lower contribution but, in some circumstances the contribution could be higher). If the system monitors exhaust pressure pulses, it could have detected a weaker pulse for a specific cylinder). Check ignition (petrol engines), check fuelling and injection timing (as applicable) and check condition of injectors (leaking / dribbling injectors, injector, spray pattern etc). Also check mechanical condition of the cylinder (compression etc), and check for any other aspect of the engine operation that could affect just one cylinder (air leaks etc). It is also possible that there could be an engine position / speed sensor related fault (if necessary, Refer to list of sensor / actuator checks on page 19).
P0313	Misfire Detected With Low Fuel	A common method of detecting misfires is to monitor the signal from engine speed sensor to check crankshaft acceleration / speed during each power stroke; this provides an indication of the power / torque contribution provided by the cylinder (compared to the other cylinders). Also refer to Fault code P0300 and P0312 for additional information relating to misfire detection.	The fault code indicates that there is a random misfire but it is not identifiable to specific cylinders. It is likely that the fault is causing erratic fluctuations of the crankshaft speed (or affecting other monitoring processes), which are not consistent to any one cylinder or group of cylinders. The fault could be related to any aspect of the engine operation including: fuelling, ignition (petrol engines), air leaks, mechanical condition etc, but the control unit has also identified that the fuel level is low. Check fuel level and add fuel if required. Clear fault code. If the same fault is re-activated, check fuel level sensor system (refer to fault code P0461 for additional information).
P0314	Single Cylinder Misfire (Cylinder not Specified)	A common method of detecting misfires is to monitor the signal from engine speed sensor to check crankshaft acceleration / speed during each power stroke; this provides an indication of the power / torque contribution provided by the cylinder (compared to the other cylinders). Also refer to Fault code P0300 and P0312 for additional information relating to misfire detection.	The fault code indicates that the contribution from the identified cylinder is different when compared to other cylinders (likely to be a lower contribution but, in some circumstances the contribution could be higher). If the system monitors exhaust pressure pulses, it could have detected a weaker pulse for a specific cylinder). Check ignition (petrol engines), check fuelling and injection timing (as applicable) and check condition of injectors (leaking / dribbling injectors, injector, spray pattern etc). Also check mechanical condition of the cylinder (compression etc), and check for any other aspect of the engine operation that could affect just one cylinder (air leaks etc). It is also possible that there could be an engine position / speed sensor related fault (if necessary, Refer to list of sensor / actuator checks on page 19).
P0315	Crankshaft Position System Variation Not Learned	The "crankshaft position system" refers to the system used to detect the position / speed of the crankshaft. Note that some systems (usually Diesel engines) could use the signal from the camshaft sensor or the fuel pump position / speed sensor.	The control unit is not fully recognising the crankshaft positions sensor / signal; this is likely to be caused by the fitting of a new sensor or control unit (control unit programme / software could also have been corrupted or erased). It may be necessary to perform a re-initialisation of the control unit (especially if new components have been fitted) refer to vehicle specific information to identify the process. If it is suspected that the sensor is faulty, Refer to list of sensor / actuator checks on page 19.
P0316	Engine Misfire Detected on Start-up (First 1000 Revolutions)	A common method of detecting misfires is to monitor the signal from engine speed sensor to check crankshaft acceleration / speed during each power stroke; this provides an indication of the power / torque contribution provided by the cylinder (compared to the other cylinders). Also refer to Fault code P0300 and P0312 for additional information relating to misfire detection.	The fault code indicates that there is a misfire (on unidentified cylinder or cylinders) immediately after engine start. It is likely that the fault is causing erratic fluctuations of the crankshaft speed, which are not consistent to any one cylinder or group of cylinders. The fault could be related to any aspect of the engine operation but it is likely to be specific to a function or controls on immediate post start conditions e.g. post start glow plug control, lack of fuel enrichment, ignition systems problem (spark plugs etc). Carry out checks on all engine systems including: fuelling, ignition (petrol engines), air leaks, mechanical condition etc. Also check (as applicable) for faults with variable valve timing, EGR and other emission control systems. It is also possible that there could be an engine position / speed sensor related fault (if necessary, Refer to list of sensor / actuator checks on page 19).
P0317	Rough Road Hardware Not Present	Road sensors (usually accelerometers) indicate rough terrain conditions; the sensor information can be used for transmission control and for engine control. The engine speed can fluctuate rapidly when a vehicle passes over rough terrain, which can be regarded as an engine related fault e.g. misfire or reduced cylinder performance because of sudden change in engine speed. If the rough road sensor indicates rough conditions, the engine speed fluctuations will be ignored. Note that some vehicles use the signal from a wheel speed sensor (ABS sensor) to indicate rough conditions (wheel speed will rapidly change when a bump or dip is encountered).	The fault code indicates that a rough road sensor is not fitted or cannot be detected by the control unit; this can occur if the sensor or control unit has been changed and the control unit is not recognising the rough road sensor; it may be necessary to re-initialise the control unit (refer to vehicle specific information). It is possible that a sensor has been changed and not connected correctly to the system / control unit or, it is also possible that a replacement control unit cannot detect the sensor, because the vehicle is not fitted with a sensor and the control unit is configured incorrectly for the vehicle.
P0318	Rough Road Sensor "A" Signal Circuit	Road sensors (usually accelerometers) indicate rough terrain conditions; the sensor information can be used for transmission control and for engine control. The engine speed can fluctuate rapidly when a vehicle passes over rough terrain, which can be regarded as an engine related fault e.g. misfire or reduced cylinder performance because of sudden change in engine speed. If the rough road sensor indicates rough conditions, the engine speed fluctuations will be ignored. Note that some vehicles use the signal from a wheel speed sensor (ABS sensor) to indicate rough conditions (wheel speed will rapidly change when a bump or dip is encountered).	Identify the type of sensor system used on the vehicle e.g. a separate sensor such as an accelerometer or, whether a wheel speed sensor is used. The voltage, frequency or value of the sensor signal is incorrect (undefined fault). Sensor voltage / signal could be: out of normal operating range, constant value, non-existent, corrupt. Possible fault in the sensor or wiring e.g. short / open circuits, circuit resistance, incorrect sensor resistance or, fault with the reference / operating voltage; interference from other circuits can also affect sensor signals. If a wheel speed sensor is used, Refer to list of sensor / actuator checks on page 19. If a separate sensor is used, it may be necessary to refer to vehicle specific information to identify specific test procedures.

NOTE 1. Check for other fault codes that could provide additional information.

NOTE 3. If a fault cannot be located, it is also possible that the control unit is at fault.

NOTE 2. Communication between control units can pass via a CAN-Bus system; refer to Page 51 for CAN-Bus checks.

NOTE 4. Refer to Page 53 for list of pages that show the ISO standard for component locations e.g. Sensor A - Bank 1.