

Check DTC Memory (function 02) and Erase DTC Memory (function 05)

- Connect VAS5051 tester or VAG1551 scan tool and select the control module for engine electronics using "address word" 01 ⇒ [Page 01-9](#).

Engine must run at idle for this.

Note:

If engine doesn't start, crank engine using starter for at least 5 seconds. Do not switch ignition off afterward under any circumstance.

Rapid data transfer HELP
Select function XX



When indicated on display:

- Press buttons -0- and -2- to select "Check DTC memory" and press -Q- button to confirm input.

No DTC recognized



When indicated on display:

- Press → button.

or

X DTC recognized



When indicated on display:

When printer is switched on, stored DTCs are shown in sequence and printed.

- Find printed DTCs in DTC table and repair ⇒ [Page 01-18](#) .

Important note:

- ◆ *If there are no DTCs in DTC memory, DTC memory should not be unnecessarily erased or else readiness code will be lost.*
- ◆ *If DTC memory was erased, readiness code must be re-generated ⇒ [Page 01-82](#) .*

- Press →button.

Rapid data transfer HELP
Select function XX



When indicated on display:

- Press buttons -0- and -5- to select "Erase DTC memory" and press -Q- button to confirm input.

Note:



When indicated on display:

Procedure was not followed exactly.


- *Check DTC memory.*

DTC memory will not be erased under the following conditions:

- ◆ *Ignition switched off after DTC memory was checked.*


Attention!
DTC Memory was not interrogated

◆ *A static malfunction was not repaired.*

Rapid data transfer 
DTC Memory is erased



When indicated on display:

- Press  button.
- Check DTC memory again after repair work and erase it if necessary.

Note:

This causes DTCs to be erased that were stored during repair of malfunction, e.g. because harness connectors were disconnected.

- If DTC memory was erased, readiness code must be re-generated ⇒ [Page 01-82](#) .

End Output

Rapid data transfer HELP
Select function XX



When indicated on display:

- Press buttons -0- and -6- to select "End output" and press -Q- button to confirm input.

Rapid data transfer HELP
Insert address word XX



When indicated on display:

- Switch off ignition and disconnect diagnostic cable.

Diagnostic Trouble Code (DTC) table

Notes:

- ◆ *When malfunctions occur in monitored sensors or components, Diagnostic Trouble Codes (DTCs) are stored in DTC memory with a description of the malfunction type.*
- ◆ *"E-Gas"-relevant malfunctions are also indicated in the instrument cluster by the warning lamp for Electronic Power Control ("EPC warning lamp"); Notes for E-gas system ⇒ [Page 24-134](#) .*
- ◆ *Malfunctions that worsen emissions are also indicated by an exhaust warning lamp (MIL for output DTM) that is also located in the instrument cluster. There are malfunctions that cause the exhaust warning lamp to light up immediately after recognition. Malfunctions can also occur that do not cause the exhaust MIL to light up immediately, but only if malfunction is recognized again after repeated engine starts.*
- ◆ *The DTC table is organized by the 5 digit code at left.*
- ◆ *If a stored DTC does not recur within the next 40 warm-up cycles, the DTC will be erased automatically.*
- ◆ *Malfunctions that occur only sporadically (temporary malfunctions) are identified by the letters "SP" (sporadic malfunction) on the VAG1551 scan tool display. The word sporadic means "appearing or occurring at irregular intervals, occasional".*
- ◆ *Do not immediately replace components that the VAG1551/VAS5051 suggests are faulty, instead: Check wire connections and harness connectors to these components according to wiring diagram. Also check Ground (GND) connections according to wiring diagram. This is particularly valid when malfunctions are displayed as "sporadically occurring" (SP).*

- ◆ *If the connector is disconnected from the ECM or the battery is disconnected, all adaptation values in the control module are erased. DTC memory content will remain intact however. If the engine is started after this, a rough, uneven idle can result. In this case, engine must be allowed to run at idle for a few minutes until adaptation procedure has been completed.*

- ◆ *After erasing DTC memory ⇒ [Page 01-15](#) readiness code must be re-generated ⇒ [Page 01-82](#) .*

01-19

DTC		DTC text	Corrective action
SAE	VAG		
P0101	16485	Mass Air Flow (MAF) sensor -G70- Implausible signal ¹⁾	- Check Mass Air Flow (MAF) sensor ⇒ Page 24-56
P0102	16486	Mass Air Flow (MAF) sensor -G70- Signal too small ¹⁾	
P0103	16487	Mass Air Flow (MAF) sensor -G70- Signal too large ¹⁾	
P0112	16496	Intake Air Temperature (IAT) sensor -G42- Signal too small ¹⁾	- Intake Air Temperature (IAT) sensor, checking ⇒ Page 28-14
P0113	16497	Intake Air Temperature (IAT) sensor -G42- Signal too large ¹⁾	
P0116	16500	Engine Coolant Temperature (ECT) sensor -G62- Implausible signal ¹⁾	- Engine Coolant Temperature (ECT) sensor, checking ⇒ Page 28-23
P0117	16501	Engine Coolant Temperature (ECT) sensor -G62- Signal too small ¹⁾	
P0118	16502	Engine Coolant Temperature (ECT) sensor -G62- Signal too large ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P0130	16514	Bank 1, sensor 1 Electrical malfunction in circuit ¹⁾	- Testing Oxygen Sensor (O2S) and oxygen sensor control before Three Way Catalytic Converter (TWC) ⇒ Page 24-76
P0131	16515	Bank 1, sensor 1 Voltage too low ¹⁾	
P0132	16516	Bank 1, sensor 1 Voltage too high ¹⁾	
P0133	16517	Bank1, Sensor 1 Signal too slow ¹⁾	
P0134	16518	Bank 1, sensor 1 No activity ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-21

DTC		DTC text	Corrective action
SAE	VAG		
P0136	16520	Bank1, Sensor 2 Electrical malfunction in circuit ¹⁾	- Testing Oxygen Sensor (O2S) and oxygen sensor control behind Three Way Catalytic Converter (TWC) ⇒ Page 24-97
P0137	16521	Bank1, Sensor 2 Voltage too low ¹⁾	
P0138	16522	Bank1, Sensor 2 Voltage too high ¹⁾	
P0139	16523	Bank1, Sensor 2 Signal too slow ¹⁾	
P0140	16524	Bank1, Sensor 2 No activity ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P0150	16534	Bank 2, sensor 1 Electrical malfunction in circuit ¹⁾	- Testing Oxygen Sensor (O2S) and oxygen sensor control before Three Way Catalytic Converter (TWC) ⇒ Page 24-76
P0151	16535	Bank 2, sensor 1 Voltage too low ¹⁾	
P0152	16536	Bank 2, sensor 1 Voltage too high ¹⁾	
P0153	16537	Bank 2, sensor 1 Signal too slow ¹⁾	
P0154	16538	Bank 2, sensor 1 No activity ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-23

DTC		DTC text	Corrective action
SAE	VAG		
P0156	16540	Bank 2, sensor 2 Electrical malfunction in circuit ¹⁾	- Testing Oxygen Sensor (O2S) and oxygen sensor control behind Three Way Catalytic Converter (TWC) ⇒ Page 24-97
P0157	16541	Bank 2, sensor 2 Voltage too low ¹⁾	
P0158	16542	Bank 2, sensor 2 Voltage too high ¹⁾	
P0159	16543	Bank 2, sensor 2 Signal too slow ¹⁾	
P0160	16544	Bank 2, sensor 2 No activity ¹⁾	
P0219	16603	Maximum engine speed exceeded	- Repair mechanical damage

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-24

DTC		DTC text	Corrective action
SAE	VAG		
P0300	16684	Combustion misfire detected ¹⁾	- Check fuel pressure ⇒ Page 24-30 - Test fuel injectors ⇒ Page 24-36
P0301	16685	Cyl. 1 combustion misfire detected ¹⁾	- Check spark plugs and ignition wires with connector
P0302	16686	Cyl. 2 combustion misfire detected ¹⁾	- Check ignition coils ⇒ Page 28-7
P0303	16687	Cyl. 3 combustion misfire detected ¹⁾	- Check ignition coils ⇒ Page 28-10
P0304	16688	Cyl. 4 combustion misfire detected ¹⁾	- Check misfire recognition ⇒ Page 28-52
P0305	16689	Cyl. 5 combustion misfire detected ¹⁾	- Fill fuel tank with fuel
P0306	16690	Cyl. 6 combustion misfire detected ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-25

DTC		DTC text	Corrective action
SAE	VAG		
P0321	16705	Engine Speed (RPM) sensor -G28- Implausible signal ¹⁾	- Check sender for fuel gauge ⇒ Page 28-19
P0322	16706	Engine Speed (RPM) sensor -G28- No signal ¹⁾	
P0327	16711	Knock Sensor (KS) 1 -G61- Signal too small	- Check knock sensor ⇒ Page 28-41
P0328	16712	Knock Sensor (KS) 1 -G61- Signal too large	
P0332	16716	Knock Sensor (KS) 2 -G66- Signal too small	
P0333	16717	Knock Sensor (KS) 2 -G66- Signal too large	
P0341	16725	Camshaft Position (CMP) sensor ⇒ -G40- Implausible signal ¹⁾	- Check Camshaft Position (CMP) sensor ⇒ Page 28-45
P0346	16730	Camshaft Position (CMP) sensor ⇒ -G163- Implausible signal ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P0420	16804	Catalytic converter system, bank 1, Not effective enough ¹⁾	- Generate readiness code ⇒ Page 01-82 . If the same malfunction is indicated again, replace primary catalytic converter, bank 1. ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Exhaust system components, removing and installing
P0421	16805	Primary catalytic converter, bank 1, Not effective enough ¹⁾	- Generate readiness code ⇒ Page 01-82 . If the same malfunction is indicated again, replace primary catalytic converter, bank 1. ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Exhaust system components, removing and installing

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

Important note:

The primary catalytic converters are located between the oxygen sensors of the appropriate cylinder bank. They are not immediately visible after vehicle is raised; they are the two, slightly smaller catalytic converters located closer to the engine.

01-27

DTC		DTC text	Corrective action
SAE	VAG		
P0430	16814	Catalytic converter system, bank 2, Not effective enough ¹⁾	- Generate readiness code ⇒ Page 01-82 . If the same malfunction is indicated again, replace primary catalytic converter, bank 2. ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Exhaust system components, removing and installing
P0431	16815	Primary catalytic converter, bank 2, Not effective enough ¹⁾	- Generate readiness code ⇒ Page 01-82 . If the same malfunction is indicated again, replace primary catalytic converter, bank 2. ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Exhaust system components, removing and installing

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

Important note:

The primary catalytic converters are located between the oxygen sensors of the appropriate cylinder bank. They are not immediately visible after vehicle is raised; they are the two, slightly smaller catalytic converters located closer to the engine.

01-28

DTC		DTC text	Corrective action
SAE	VAG		
P0441	16825	Tank ventilation system Throughput faulty 1)	- Check Evaporative Emission (EVAP) Canister Purge Regulator Valve, perform output Diagnostic Test Mode (DTM) ⇒ Page 01-56
P0442	16826	Tank ventilation system Small leak detected 1)	- Checking fuel supply and ventilation systems for leaks
P0455	16839	Tank ventilation system Large leak detected 1)	⇒ Repair Manual, Engine Mechanical, Repair Group 20; Evaporative Emissions (EVAP) System Diagnosis using KLI9210 EVAP Tester, test EVAP system.
P0456	16840	Tank ventilation system Pinhole leak detected 1)	⇒ Repair Manual, Engine Mechanical, Repair Group 20; EVAP canister system components, servicing; tank leak diagnostic, performing.

1) For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-29

DTC		DTC text	Corrective action
SAE	VAG		
P0501	16885	Vehicle speed signal Implausible signal ¹⁾	- Check vehicle speed signal ⇒ Page 24-168
P0506	16890	Idle control Engine speed below specified value ¹⁾	- Checking throttle valve control module ⇒ Page 24-141
P0507	16891	Idle control Engine speed above specified value ¹⁾	- Check hose setup (intake manifold change-over valve and Secondary Air Injection -AIR- solenoid valve); check intake system for leaks ⇒ Page 24-64
P0560	16944	Voltage supply Implausible signal	- Check voltage supply for control module ⇒ Page 28-30
P0562	16946	Voltage supply Voltage too low	
P0563	16947	Voltage supply Voltage too high	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P0571	16955	Brake light switch -F- Implausible signal	- Check brake light switch and brake pedal switch ⇒ Page 24-178
P0601	16985	Control module faulty ¹⁾	- replacing Engine Control Module (ECM) ⇒ Page 24-21
P0604	16988	Control module faulty ¹⁾	
P0605	16989	Control module faulty ¹⁾	
P1102	17510	Bank 1, sensor 1, heating circuit Short circuit to B+ ¹⁾	- Check oxygen sensor heating ⇒ Page 24-116
P1105	17513	Bank 2, sensor 1, heating circuit Short circuit to B+ ¹⁾	
P1107	17515	Bank 2, sensor 1, heating circuit Short circuit to B+ ¹⁾	
P1110	17518	Bank 2, sensor 2, heating circuit Short circuit to B+ ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-31

DTC		DTC text	Corrective action
SAE	VAG		
P1111	17519	Oxygen sensor control, bank 1 System too lean	- Check oxygen sensor control before catalytic converter ⇒ Page 24-76
P1112	17520	Oxygen sensor control, bank 1 System too rich	
P1113	17521	Bank 1, sensor 1 Internal resistance too large ¹⁾	- Next check signal wires for contact resistance ⇒ page ⇒ Page 24-90 ; if there are no contact resistances: Replace oxygen sensor
P1114	17522	Bank 2, sensor 1 Internal resistance too large ¹⁾	- Next check signal wires for contact resistance ⇒ page ⇒ Page 24-112 ; if there are no contact resistances: Replace oxygen sensor

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-32

DTC		DTC text	Corrective action
SAE	VAG		
P1115	17523	Bank 1, sensor 1, heating circuit Short circuit to Ground (GND) ¹⁾	- Check oxygen sensor heating ⇒ Page 24-116
P1116	17524	Bank 1, sensor 1, heating circuit Open circuit ¹⁾	
P1117	17525	Bank 2, sensor 1, heating circuit Short circuit to Ground (GND) ¹⁾	
P1118	17526	Bank 2, sensor 1, heating circuit Open circuit ¹⁾	
P1119	17527	Bank 2, sensor 1, heating circuit Short circuit to Ground (GND) ¹⁾	
P1120	17528	Bank 2, sensor 1, heating circuit Open circuit ¹⁾	
P1121	17529	Bank 2, sensor 2, heating circuit Short circuit to Ground (GND) ¹⁾	
P1122	17530	Bank 2, sensor 2, heating circuit	

	Open circuit ¹⁾	
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¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-33

DTC		DTC text	Corrective action
SAE	VAG		
P1127	17535	Bank 1, mixture adaptation (mult.) System too rich ¹⁾	- Road test vehicle (fuel in oil). - Check fuel system pressure ⇒ Page 24-30
P1128	17536	Bank 1, mixture adaptation (mult.) System too lean ¹⁾	- Check Mass Air Flow (MAF) sensor ⇒ Page 24-56 - Check intake system for proper seal ⇒ Page 24-64
P1129	17537	Bank 2, mixture adaptation (mult.) System too rich ¹⁾	- Check oxygen sensor before catalytic converter ⇒ Page 24-76
P1130	17538	Bank 2, mixture adaptation (mult.) System too lean ¹⁾	- Check oxygen sensor behind catalytic converter ⇒ Page 24-97 - Check fuel injectors ⇒ Page 24-36
P1131	17539	Bank 2, sensor 1 Internal resistance too large ¹⁾	- Next check signal wires for contact resistance => page ⇒ Page 24-91 ; if there are no contact resistances: Replace oxygen sensor

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

Note:

mult. = multiplicative, means that malfunction is valid across entire range of engine speed and engine load.

01-34

DTC		DTC text	Corrective action
SAE	VAG		
P1136	17544	Bank 1, mixture adaptation (add.) System too lean ¹⁾	- Road test vehicle (fuel in oil). - Check fuel system pressure ⇒ Page 24-30
P1137	17545	Bank 1, mixture adaptation (add.) System too rich ¹⁾	- Check Mass Air Flow (MAF) sensor ⇒ Page 24-56 - Check oxygen sensor before catalytic converter ⇒ Page 24-76
P1138	17546	Bank 2, mixture adaptation (add.) System too lean ¹⁾	- Check oxygen sensor behind catalytic converter ⇒ Page 24-97
P1139	17547	Bank 2, mixture adaptation (add.) System too rich ¹⁾	- Check Evaporative Emission (EVAP) Canister Purge Regulator Valve ⇒ Page 24-128
P1140	17548	Bank 2, sensor 2 Internal resistance too large ¹⁾	- Next check signal wires for contact resistance => page ⇒ Page 24-114 ; if there are no contact resistances: Replace oxygen sensor

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

Note:

add = additive, means that malfunction is only valid at closed throttle (idle).

01-35

DTC		DTC text	Corrective action
SAE	VAG		
P1141	17549	Load detection Implausible value	<ul style="list-style-type: none"> - Check to be sure the correct throttle valve control module is installed (part number) - Check Mass Air Flow (MAF) sensor ⇒ Page 24-56
P1142	17550	Load detection Limit not reached	
P1143	17551	Load detection Limit exceeded	
P1147	17555	Oxygen sensor control, bank 2 System too lean	<ul style="list-style-type: none"> - Check oxygen sensor adaptation values and regulation ⇒ Page 24-83
P1148	17556	Oxygen sensor control, bank 2 System too rich	

DTC		DTC text	Corrective action
SAE	VAG		
P1149	17557	Oxygen sensor control, bank 1 Unplausible control value	- Check oxygen sensor adaptation values and regulation ⇒ Page 24-83 - Check fuel system pressure ⇒ Page 24-30
P1150	17558	Oxygen sensor control, bank 2 Unplausible control value	- Check intake system for proper seal ⇒ Page 24-64
P1171	17579	Angle sensor -2- for throttle drive (power accelerator actuation) -G188- Implausible signal ²⁾³⁾	- Check angle sensor -1- for throttle drive ⇒ Page 24-148
P1172	17580	Angle sensor -2- for throttle drive (power accelerator actuation) -G188- Signal too small ^{2) 3)}	
P1173	17581	Angle sensor -2- for throttle drive (power accelerator actuation) -G188- Signal too large ^{2) 3)}	

²⁾ For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .

³⁾ For these malfunctions, ECM switches on the exhaust warning lamp in instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-37

DTC		DTC text	Corrective action
SAE	VAG		
P1176	17584	Bank 1, oxygen sensor correction behind catalytic converter Control limit reached ¹⁾	- Check oxygen sensor aging of oxygen sensor before catalytic converter ⇒ Page 24-93
P1177	17585	Bank 2, oxygen sensor correction behind catalytic converter Control limit reached ¹⁾	- Check oxygen sensor and oxygen sensor control behind catalytic converter ⇒ Page 24-97
P1213	17621	Cylinder 1 fuel injector -N30- Short circuit to B+ ¹⁾	- Check fuel injectors ⇒ Page 24-36
P1214	17622	Cylinder 2 fuel injector -N31- Short circuit to B+ ¹⁾	
P1215	17623	Cylinder 3 fuel injector -N32- Short circuit to B+ ¹⁾	
P1216	17624	Cylinder 4 fuel injector -N33- Short circuit to B+ ¹⁾	
P1217	17625	Cylinder 5 fuel injector -N83- Short circuit to B+ ¹⁾	
P1218	17626	Cylinder 6 fuel injector -N84- Short circuit to B+ ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P1225	17633	Cylinder 1 fuel injector -N30- Short circuit to Ground (GND) ¹⁾	- Check fuel injectors ⇒ Page 24-36
P1226	17634	Cylinder 2 fuel injector -N31- Short circuit to Ground (GND) ¹⁾	
P1227	17635	Cylinder 3 fuel injector -N32- Short circuit to Ground (GND) ¹⁾	
P1228	17636	Cylinder 4 fuel injector -N33- Short circuit to Ground (GND) ¹⁾	
P1229	17637	Cylinder 5 fuel injector -N83- Short circuit to Ground (GND) ¹⁾	
P1230	17638	Cylinder 6 fuel injector -N84- Short circuit to Ground (GND) ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P1237	17645	Cylinder 1 fuel injector -N30- Open circuit ¹⁾	- Check fuel injectors ⇒ Page 24-36
P1238	17646	Cylinder 2 fuel injector -N31- Open circuit ¹⁾	
P1239	17647	Cylinder 3 fuel injector -N32- Open circuit ¹⁾	
P1240	17648	Cylinder 4 fuel injector -N33- Open circuit ¹⁾	
P1241	17649	Cylinder 5 fuel injector -N83- Open circuit ¹⁾	
P1242	17650	Cylinder 6 fuel injector -N84- Open circuit ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P1250	17658	Fuel level too low ⁴⁾	<ul style="list-style-type: none"> - Fill fuel tank with fuel - Check wire connection between Engine Control Module (ECM) and instrument cluster according to wiring diagram - Check signal from sender for fuel gauge and fuel gauge <p>⇒ Repair Manual, Electrical Equipment, Repair Group 01, On Board Diagnostic (OBD) of instrument cluster; Read Measuring Value Block</p>
P1296	17704	Malfunction in cooling system ¹⁾	<ul style="list-style-type: none"> - Check coolant temperature sensor ⇒ Page 28-23 - Check coolant regulator <p>⇒ Repair Manual, Engine Mechanical, Repair Group 19; Cooling system components, removing and installing</p>

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

⁴⁾ The DTC "Fuel Level Too Low" is stored when there is/was too little fuel in fuel tank. The DTC is stored as a static malfunction and is not switched to sporadic even if fuel tank has been filled with fuel (e.g. by the customer) in the meantime. In this way, it can be determined that subsequent malfunctions were caused by lack of fuel, e.g. combustion misfires or oxygen control related malfunctions.

01-41

DTC		DTC text	Corrective action
SAE	VAG		
P1325	17733	Knock control, cyl. 1 Control limit reached	- Check knock control ⇒ Page 28-33
P1326	17734	Knock control, cyl. 2 Control limit reached	
P1327	17735	Knock control, cyl. 3 Control limit reached	
P1328	17736	Knock control, cyl. 4 Control limit reached	
P1329	17737	Knock control, cyl. 5 Control limit reached	
P1330	17738	Knock control, cyl. 6 Control limit reached	

01-42

DTC		DTC text	Corrective action
SAE	VAG		
P1335	17743	Engine torque monitoring 2 Control limit exceeded ^{2) 3)}	- Check hose setup - Check Intake Air Temperature (IAT) sensor ⇒ Page 28-14
P1336	17744	Engine torque monitoring Control limit exceeded	- Check Mass Air Flow (MAF) sensor ⇒ Page 24-56 - Check coolant temperature sensor ⇒ Page 28-23
P1337	17745	Bank 1, Camshaft Position (CMP) sensor - G163 Short circuit to Ground (GND) ¹⁾	- Check Camshaft Position (CMP) sensor ⇒ Page 28-45
P1338	17746	Bank 1, Camshaft Position (CMP) sensor - G163 Open circuit / short circuit to B+ ¹⁾	
P1340	17748	Camshaft Position (CMP) / crankshaft position sensor Incorrect allocation ¹⁾	- Check phase position of Camshaft Position (CMP) sensor ⇒ Page 28-50
P1347	17755	Bank 2 Camshaft Position (CMP) / crankshaft position sensor Incorrect allocation ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

- 2) For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .
- 3) For these malfunctions, the Engine Control Module (ECM) switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

DTC		DTC text	Corrective action
SAE	VAG		
P1386	17794	Control module faulty	- replacing Engine Control Module (ECM) ⇒ Page 24-21
P1387	17795	Control module faulty ¹⁾	
P1388	17796	Control module faulty ^{2) 3)}	
P1391	17799	Bank 2, Camshaft Position (CMP) sensor -G40 Short circuit to Ground (GND) ¹⁾	- Check Camshaft Position (CMP) sensor ⇒ Page 28-45
P1392	17800	Bank 2, Camshaft Position (CMP) sensor -G40 Open circuit / short circuit to B+ ¹⁾	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

²⁾ For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .

³⁾ For these malfunctions, the Engine Control Module (ECM) switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-44

DTC		DTC text	Corrective action
SAE	VAG		
P1393	17801	Ignition output 1 Electrical malfunction in circuit	- Check activation or wiring connection from Engine Control Module (ECM) to power output stage ⇒ Page 28-12
P1394	17802	Ignition output 2 Electrical malfunction in circuit	
P1395	17803	Ignition output 3 Electrical malfunction in circuit	
P1410	17818	EVAP canister purge regulator valve -N80- Short circuit to B+ ¹⁾	- Check Evaporative Emission (EVAP) Canister Purge Regulator Valve ⇒ Page 24-128
P1411	17819	Bank 2, Secondary Air Injection (AIR) system Throughput too low ¹⁾	- Check fuse for Secondary Air Injection (AIR) pump - Check vacuum hose setup - Check hose setup from pump to combination valve for Secondary Air Injection (AIR) ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

Note for DTC codes 17801, 17802, 17803:

The terms "ignition output 1", "ignition output 2" and "ignition output 3" refer to the outputs on the Engine Control Module (ECM), via which the Engine Control Module (ECM) activates the power output stages at the ignition coil.

01-45

DTC		DTC text	Corrective action
SAE	VAG		
P1414	17822	Bank 2, Secondary Air Injection (AIR) system Leak detected	- Check hose setup from pump to mechanical Secondary Air Injection (AIR) valve, cylinder bank 2 ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system
P1421	17829	Secondary Air Injection (AIR) solenoid valve -N112- Short circuit to Ground (GND) ¹⁾	- Check Secondary Air Injection (AIR) system ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system
P1422	17830	Secondary Air Injection (AIR) solenoid valve -N112- Short circuit to B+ ¹⁾	
P1423	17831	Bank 1, Secondary Air Injection (AIR) system Throughput too low ¹⁾	- Check fuse for Secondary Air Injection (AIR) pump - Check vacuum hose setup - Check hose setup from pump to combination valve for Secondary Air Injection (AIR) ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-46

DTC		DTC text	Corrective action
SAE	VAG		
P1424	17832	Bank 1, Secondary Air Injection (AIR) system Leak detected	- Check hose setup from pump to mechanical Secondary Air Injection (AIR) valve, cylinder bank 1 ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system
P1425	17833	EVAP canister purge regulator valve -N80- Short circuit to Ground (GND) ¹⁾	- Check Evaporative Emission (EVAP) Canister Purge Regulator Valve ⇒ Page 24-128
P1426	17834	EVAP canister purge regulator valve -N80- Open circuit ¹⁾	
P1432	17840	Secondary Air Injection (AIR) solenoid valve -N112- Open circuit ¹⁾	- Check Secondary Air Injection (AIR) system ⇒ Repair Manual, Engine Mechanical, Repair Group 26; Secondary Air Injection (AIR) system
P1433	17841	Secondary Air Injection (AIR) pump relay -J299- Open circuit ¹⁾	
P1434	17842	Secondary Air Injection (AIR) pump relay -J299- Short circuit to B+ ¹⁾	

P1435	17843	Secondary Air Injection (AIR) pump relay -J299- Short circuit to Ground (GND) ¹⁾
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¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-47

DTC		DTC text	Corrective action
SAE	VAG		
P1471	17879	Leak Detection Pump (LDP) tank ventilation system Short circuit to B+ ¹⁾	- Leak Detection Pump (LDP) Checking
P1472	17880	Leak Detection Pump (LDP) tank ventilation system Short circuit to Ground (GND) ¹⁾	⇒ Repair Manual, Engine Mechanical, Repair Group 20; EVAP canister system components, servicing; Leak Detection Pump (LDP) -V144-, checking.
P1473	17881	Leak Detection Pump (LDP) tank ventilation system Open circuit ¹⁾	
P1475	17883	Leak Detection Pump (LDP) tank ventilation system Malfunction / no signal ¹⁾	
P1476	17884	Leak Detection Pump (LDP) tank ventilation system Malfunction/vacuum pressure too low ¹⁾	- Check electrical wire connections to Leak Detection Pump according to wiring diagram

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-48

DTC		DTC text	Corrective action
SAE	VAG		
P1501	17909	Fuel Pump (FP) relay -J17- Short circuit to Ground (GND) ¹⁾	- Check Fuel Pump (FP) relay ⇒ Page 24-49
P1502	17910	Fuel Pump (FP) relay -J17- Short circuit to B+ ¹⁾	
P1512	17920	Intake manifold change-over valve -N156- Short circuit to B+ ¹⁾	- Check intake manifold change-over ⇒ Page 24-71
P1515	17923	Intake manifold change-over valve -N156- Short circuit to Ground (GND) ¹⁾	
P1516	17924	Intake manifold change-over valve -N156- Open circuit ¹⁾	
P1519	17927	Bank 1, camshaft adjustment Malfunction ¹⁾	⇒ Repair Manual, Engine Mechanical, Repair Group 15; Camshaft adjustment, checking; Function of camshaft adjustment, checking
P1522	17930	Bank 2, camshaft adjustment Malfunction ¹⁾	
P1523	17931	Crash signal from airbag control module	⇒ Repair Manual, Body-On Board Diagnostic (OBD), Repair Group 01; On Board Diagnostic (OBD) of airbag system

		Implausible signal ⁴⁾	
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1) For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

4) DTC is stored upon appropriate signal from airbag control module.

01-49

DTC		DTC text	Corrective action
SAE	VAG		
P1529	17937	Camshaft adjustment Short circuit to B+ ¹⁾	⇒ Repair Manual, Engine Mechanical, Repair Group 15; Camshaft adjustment, checking; Solenoid valve for camshaft adjustment, checking
P1530	17938	Camshaft adjustment Short circuit to Ground (GND) ¹⁾	
P1531	17939	Camshaft adjustment Open circuit ¹⁾	
P1539	17947	Clutch vacuum vent valve switch -F36- Implausible signal ¹⁾	- Check clutch pedal switch ⇒ Page 24-183
P1541	17908	Fuel Pump (FP) relay -J17- Open circuit ¹⁾	- Check Fuel Pump (FP) relay ⇒ Page 24-49
P1542	17950	Throttle Actuation Potentiometer -G187 Implausible signal ²⁾³⁾	- Check angle sensor -1- for throttle drive ⇒ Page 24-148
P1543	17951	Throttle Actuation Potentiometer -G187 Signal too small ^{2) 3)}	

P1544	17952	Throttle Actuation Potentiometer -G187- Signal too large ^{2) 3)}	
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- 1) For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .
- 2) For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .
- 3) For these malfunctions, the ECM switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-50

DTC		DTC text	Corrective action
SAE	VAG		
P1545	17953	Throttle valve control Malfunction ^{2) 3)}	- Check throttle valve control module ⇒ Page 24-141
P1558	17966	Throttle drive (power accelerator actuation) -G186- Electrical malfunction in circuit ^{2) 3)}	
P1559	17967	Throttle valve control module -J338- Malfunction in basic setting ^{1) 2)}	- Perform adaptation ⇒ Page 24-142
P1564	17972	Throttle valve control module -J338- Voltage too low during basic setting	- Charge battery, repeat basic setting
P1565	17973	Throttle valve control module -J338- Lower impact still not reached ^{2) 3)}	- Check throttle valve control module ⇒ Page 24-141
P1568	17976	Throttle valve control module -J338- Mechanical malfunction ^{2) 3)}	

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

²⁾ For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .

³⁾ For these malfunctions, the Engine Control Module (ECM) switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-51

DTC		DTC text	Corrective action
SAE	VAG		
P1569	17977	Cruise control switch -E45- Implausible signal	⇒ Repair Manual, Electrical Equipment, Repair Group 01; On Board Diagnostic (OBD) for cruise control system
P1570	17978	Engine Control Module (ECM) locked	- Adapt electronic immobilizer to Engine Control Module (ECM) ⇒ Repair Manual, Electrical Equipment, Repair Group 01, On Board Diagnostic (OBD) for immobilizer
P1579	17987	Throttle valve control module -J338- Adaptation not started	- Perform adaptation of throttle valve control module while maintaining test requirements ⇒ Page 24-142
P1602	18010	Voltage supply, terminal 30 Voltage too low	- Check voltage supply for control module ⇒ Page 28-30

DTC		DTC text	Corrective action
SAE	VAG		
P1603	18011	Control module faulty ¹⁾	- Replace Engine Control Module (ECM) ⇒ Page 24-21
P1604	18012	Control module faulty ^{2) 3)}	
P1606	18014	Rough terrain info/engine torque from ABS control module Electrical malfunction in circuit	- Check wire connection between Engine Control Module (ECM) and ABS control module (powertrain databus) ⇒ Page 24-192 ⇒ <i>Electrical Wiring Diagrams, Troubleshooting & Component Locations binder</i>
P1609	18017	Crash shut-off was triggered (Crash triggered) ⁵⁾	⇒ Repair Manual, Body-On Board Diagnostic (OBD), Repair Group 01; On Board Diagnostic (OBD) of airbag system - Erase DTC memory of the Engine Control Module (ECM) after output Diagnostic Test Mode (DTM) of the airbag system ⇒ Page 01-15

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

²⁾ For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .

³⁾ For these malfunctions, the Engine Control Module (ECM) switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

⁵⁾ DTC is stored upon appropriate signal from airbag control module, also during output Diagnostic Test Mode (DTM) of the airbag system.

DTC		DTC text	Corrective action
SAE	VAG		
P1386	17794	Control module faulty	- Replace Engine Control Module (ECM) ⇒ Page 24-21
P1612	18020	Engine Control Module (ECM) incorrectly coded ¹⁾	- Code Engine Control Module (ECM) ⇒ Page 01-71
P1624	18032	Request for warning lamp on active ⁷⁾	- Exhaust related malfunction of Transmission Control Module (TCM) - Check DTC memory of Transmission Control Module (TCM) ⇒ Repair Manual, Automatic Transmission On Board Diagnostic (OBD), Repair Group 01; On Board Diagnostic (OBD)
P1626	18034	Powertrain databus Missing message from Transmission Control Module (TCM) ¹⁾	- Check data transfer of Engine Control Module (ECM) and other CAN capable control modules ⇒ Page 24-192

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

⁷⁾ The Transmission Control Module (TCM) recognized a malfunction that worsens engine emissions. The Transmission Control Module (TCM) sends the DTC to the Engine Control Module (ECM), which then switches on the Malfunction Indicator Lamp (MIL). Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) . The message P1624 is simultaneously stored in the Engine Control Module (ECM) as evidence that the Malfunction Indicator Lamp (MIL) was not switched on due to an engine problem but rather a transmission problem.

01-54

DTC		DTC text	Corrective action
SAE	VAG		
P1630	18038	Throttle Position (TP) sensor -G79- Signal too small ^{2) 3)}	- Throttle Position (TP) sensor, checking ⇒ Page 24-154
P1631	18039	Throttle Position (TP) sensor -G79- Signal too large ^{2) 3)}	
P1633	18041	Sender -2- for accelerator pedal position -G185- Signal too small ^{2) 3)}	
P1634	18042	Sender -2- for accelerator pedal position -G185- Signal too large ^{2) 3)}	
P1639	18047	Throttle Position (TP) sensor -G79- and sender -2- for accelerator pedal position -G185- Implausible signal ²⁾³⁾	- Throttle Position (TP) sensor, checking ⇒ Page 24-154
P1640	18048	Control module faulty ¹⁾	- replacing Engine Control Module (ECM) ⇒ Page 24-21

¹⁾ For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

²⁾ For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .

3) For these malfunctions, the Engine Control Module (ECM) switches on the Malfunction Indicator Lamp (MIL) in the instrument cluster immediately after recognizing the malfunction. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

01-55

DTC		DTC text	Corrective action
SAE	VAG		
P1648	18056	Powertrain databus faulty	- Check Engine/ABS/Transmission control module ⇒ Page 24-192
P1649	18057	Powertrain databus Missing message from ABS control module	
P1682	18090	Powertrain databus Implausible message from ABS control module	- Check data transfer of Engine Control Module (ECM) and other CAN capable control modules ⇒ Page 24-192
P1853	18261	Powertrain databus Implausible message from ABS control module	- Check data transfer of Engine Control Module (ECM) and other CAN capable control modules ⇒ Page 24-192
P3262	16646	Exhaust bank 1/2 Oxygen sensors behind catalytic converter mixed up	- Check harness connectors

1) For these malfunctions, ECM does not switch on the Malfunction Indicator Lamp (MIL) unless malfunction is recognized again after another engine start. Meaning of Malfunction Indicator Lamp (MIL) ⇒ [Page 01-3](#) .

2) For these malfunctions, ECM switches on the EPC warning lamp in instrument cluster. Significance of EPC warning lamp ⇒ [Page 24-136](#) .