AD07.16-P-4000C

Common rail diesel injection (CDI) diagnosis, fault memory

17.6.03

ENGINE 648.961 in MODEL 211.026 fault codes from P0100 up to P2038

| ⚠ Danger! | Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fire, sparks, open flames or smoking allowed. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel. | <u>AS47.00-Z-0001-01A</u> |
|------------|--|---|--|
| | Connect STAR DIAGNOSIS and read out fault memory | | AD00.00-P-2000-04A |
| 4 | Fuses and voltage supply OK | i The on-board power supply voltage must be at least 11 to 14 V. | |
| GF | Common rail diesel injection (CDI), location of components | on engine side | <u>GF07.16-P-0001-01IE</u> |
| GF | | on vehicle side | <u>GF07.16-P-0001-01IF</u> |
| i | | The following fault code descriptions are valid for EU 3 up to (USA) and EU 4. | |
| Fault code | Fault code designation | Types of fault | Fault code description |
| P0100 | Hot film MAF sensor, fault code description, diagnosis, CDI | The air mass is to low or too high | AD07.16-P-4000-01C |
| P0105 | Pressure sensor, fault code description, diagnosis, CDI | The signal voltage is too low or too high The atmospheric pressure between the charge pressure sensor and CDI control unit is implausible | AD07.16-P-4000-02C AD07.16-P-4000- 02CAA |
| P0110 | Charge air temperature sensor, fault code description, diagnosis, CDI | The signal voltage is too low or too high | AD07.16-P-4000-62C |
| P0115 | Coolant temperature sensor, fault code description, diagnosis, CDI | The signal voltage is too low or too high | AD07.16-P-4000-04C |
| P0180 | Fuel temperature sensor, fault code | The signal voltage is too low or too high | AD07.16-P-4000-53C |

| | description, diagnosis, CDI | | |
|----------------------------------|---|--|--|
| P0190 | Rail pressure sensor, fault code description, diagnosis, CDI | The signal voltage is too low or too high | AD07.16-P-4000-05C |
| P0201 P0202 | Fuel injectors, fault code description, diagnosis, CDI | Cylinder 1 to cylinder 6 Short circuit to positive | AD07.16-P-4000-22C |
| P0203 P0204 P0205 P0206 | | Short circuit to each other General error | <u>AD07.16-P-4000-22C</u> <u>AD07.16-P-4000-</u> <u>22CAA</u> <u>AD07.16-P-4000-</u> 22CAB |
| P0300 | Misfiring, fault code description, diagnosis, CDI | Number of misfires on a number of cylinder too high | AD07.16-P-4000-49CA |
| P0500 | Driving speed signal, fault code description, diagnosis, CDI | Implausible wheel speed | AD07.16-P-4000-54C |
| P0600 | CAN bus, fault code description, diagnosis, CDI | CAN signal faulty | AD07.16-P-4000-07C |
| P1105 | Barometric pressure sensor (internal), fault code description, diagnosis, CDI | The signal voltage is too low or too high The atmospheric pressure between the CDI control unit and charge pressure sensor is implausible | AD07.16-P-4000-10C AD07.16-P-4000- 10CAA |
| P1222 | Pedal value sensor (sensor 1), fault code description, diagnosis, CDI | The signal voltage is too low or too high Plausibility of sensors 1/2 | AD07.16-P-4000-16C AD07.16-P-4000- 16CAA |
| P1234 | Pedal value sensor (sensor 2), fault code description, diagnosis, CDI | The signal voltage is too low or too high Plausibility of sensors 2/1 | AD07.16-P-4000-17C AD07.16-P-4000- 17CAA |
| P1480 | Pre-glow check, fault code description, diagnosis, CDI | CAN defective | AD07.16-P-4000-24C |
| P1610 | Actuation of holding relay, fault code description, diagnosis, CDI | Relay switching off too early or too late | AD07.16-P-4000-28C |
| P1611 | Sensor supply, fault code description, | Sensor supply voltage 1 | |

| | diagnosis, CDI | Value too small or too large | AD07.16-P-4000-58C |
|-------|---|---|--|
| P1612 | Voltage of terminal 15, fault code description, diagnosis, CDI | No signal | AD07.16-P-4000-29C |
| P1615 | CDI control unit supply voltage, fault code description, diagnosis, CDI | Value too small or too large | AD07.16-P-4000-31C |
| P1617 | CDI control unit EEPROM or incorrect coding, fault code description, diagnosis, CDI | An error occurred during the last write or read operation | AD07.16-P-4000-32C |
| | | An error occurred during the last read operation | AD07.16-P-4000- 32CAA |
| | | An error occurred during the last write operation | <u>AD07.16-P-4000-</u> 32CAB |
| | | The preset values were used | <u>320AD</u> |
| | | | AD07.16-P-4000- 32CAC |
| P1636 | Electric suction-type fan (engine / A/C), fault code description, | Short circuit to positive | AD07.16-P-4000-35C |
| | diagnosis, CDI | Short circuit to ground | AD07.16-P-4000- 35CAA |
| | | Signal line interrupted | AD07.16-P-4000- |
| | | Thermal overload of CDI control unit | <u>35CAB</u> |
| | | | AD07.16-P-4000- 35CAC |
| P1664 | Heater booster, fault code description, diagnosis, CDI | Short circuit to positive | AD07.16-P-4000-45C |
| | | Short circuit to ground | <u>AD07.16-P-4000-</u> 45CAA |
| | | Signal line interrupted | AD07.16-P-4000- |
| | | Thermal overload of CDI control unit | <u>45CAB</u> |
| | | | <u>AD07.16-P-4000-</u> <u>45CAC</u> |
| P2008 | Rail pressure sensor, fault code | Offset test | |

| | description, diagnosis, CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-05CA |
|-------|--|--|--|
| 92009 | Fuel filter water level sensor, fault code description, diagnosis, CDI | Water level sensor in fuel filter defect USA Water in the fuel filter USA | AD07.16-P-4000-57C AD07.16-P-4000- 57CAA |
| P2013 | Outside air temperature sensor, fault code description, diagnosis, CDI | The signal voltage is too low or too high CAN signal faulty | AD07.16-P-4000-55C AD07.16-P-4000- 55CAA |
| P2014 | Oil sensor, fault code description, diagnosis, CDI | The limit value was fallen short of or exceeded Oil temperature is implausible Plausibility | AD07.16-P-4000-14C AD07.16-P-4000- 14CAA AD07.16-P-4000- 14CAB |
| P2015 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | The rail pressure is too low | <u>AD07.16-P-4000-60C</u> |
| P2016 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | The rail pressure is too high | AD07.16-P-4000-60CA |
| P2017 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | The rail pressure is too low | AD07.16-P-4000-60CB |
| P2018 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | The rail pressure is too high | AD07.16-P-4000-60CC |
| P2019 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | The rail pressure is too low | AD07.16-P-4000-61C |
| P2021 | Rail pressure monitoring, pressure regulator valve, fault code | The rail pressure is too low | AD07.16-P-4000-61CB |

| | description, diagnosis, CDI | | |
|-------|---|--|---|
| E2029 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | The rail pressure is too high | AD07.16-P-4000-61CC |
| P2024 | Intake air temperature sensor, fault code description, diagnosis CDI | The signal voltage is too low or too high | AD07.16-P-4000-03C |
| P2025 | Pressure sensor, intake air, fault code description, diagnosis, CDI | The signal voltage is too low or too high The atmospheric pressure between the pressure sensor downstream of air cleaner and CDI control unit is implausible | AD07.16-P-4000-63C AD07.16-P-4000- 63CAA |
| P2026 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Short circuit to positive Short circuit to ground Open circuit | AD07.16-P-4000-64C AD07.16-P-4000- 64CAA AD07.16-P-4000- 64CAB |
| P2028 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Pump current Short circuit to positive Short circuit to ground Open circuit | AD07.16-P-4000-64CA AD07.16-P-4000- 64CAC AD07.16-P-4000- 64CAD |
| P2030 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Short circuit to positive Short circuit to ground Open circuit | AD07.16-P-4000-64CB AD07.16-P-4000- 64CBA AD07.16-P-4000- 64CBB |
| P2032 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Voltage is too high Voltage is too low | AD07.16-P-4000-64CC AD07.16-P-4000- 64CCA |

| P2034 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Calibration of O2-sensor Value too low or too high | AD07.16-P-4000-64CD |
|-------|---|---|---------------------|
| P2036 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Calibration of internal resistance Value too low or too high | AD07.16-P-4000-64CE |
| P2038 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | The internal resistance is too low or too high | AD07.16-P-4000-64CF |

AD07.16-P-4000CA

Common rail diesel injection (CDI) diagnosis, fault memory

30.7.03

ENGINE 648.961 in MODEL 211.026 fault codes from P2040 up to P2153

| ⚠ Danger! | Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fire, sparks, open flames or smoking allowed. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel. | <u>AS47.00-Z-0001-01A</u> |
|------------|--|---|---|
| | Connect STAR DIAGNOSIS and read out fault memory | | AD00.00-P-2000-04A |
| 4 | Fuses and voltage supply OK | i The on-board power supply voltage must be at least 11 to 14 V. | |
| li≆°GF | Common rail diesel injection (CDI), location of components | on engine side | <u>GF07.16-P-0001-01IE</u> |
| GF | | on vehicle side | <u>GF07.16-P-0001-01IF</u> |
| i | | The following fault code descriptions are valid for EU 3 up to ^(USA) and EU 4. | |
| Fault code | Fault code designation | Types of fault | Fault code description |
| P2040 | Oil sensor, fault code description, diagnosis, CDI | Oil level Value is above the limit Invalid value Plausibility | AD07.16-P-4000-14CA AD07.16-P-4000- 14CAC AD07.16-P-4000- 14CAD |
| P2041 | Oil sensor, fault code description, diagnosis, CDI | Oil quality Value is above the limit Invalid value | <u>AD07.16-P-4000-14CB</u> <u>AD07.16-P-4000-</u> |

| | | Implausible value | <u>14CBA</u> AD07.16-P-4000- <u>14CBB</u> |
|-------|--|--|--|
| P2042 | Oil sensor, fault code description, diagnosis, CDI | Water in oil The water content is too high | AD07.16-P-4000-14CC |
| P2043 | Camshaft Hall sensor, fault code description, diagnosis, CDI | No signal Signal faulty | AD07.16-P-4000-66C AD07.16-P-4000- 66CAA |
| P2045 | Crankshaft position sensor, fault code description, diagnosis, CDI | No signal Signal faulty | AD07.16-P-4000-19C AD07.16-P-4000- 19CAA |
| P2041 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | The rail pressure is too low | AD07.16-P-4000-60CD |
| P2051 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | The maximum rail pressure was exceeded | AD07.16-P-4000-61CD |
| P2052 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | The measured pressure is implausible in relation to the power consumption of the pressure regulator valve | AD07.16-P-4000-61CE |
| P2051 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Signal faulty | AD07.16-P-4000-64CH |
| P2059 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | The signal voltage is too high | AD07.16-P-4000-64CI |
| P2061 | Oil sensor, fault code description, diagnosis, CDI | Signal faulty | AD07.16-P-4000-14CD |
| P2062 | Oil sensor, fault code description, diagnosis, CDI | Error in pulse monitoring of first cycle Error in pulse monitoring of synchronization pause Error in pulse monitoring of on/off ratio | AD07.16-P-4000-14CE AD07.16-P-4000- 14CEA AD07.16-P-4000- |

| | | | <u>14CEB</u> |
|-------|---|--|--|
| P2063 | Intake air temperature sensor, fault code description, diagnosis CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-03CB |
| P2065 | Hot film MAF sensor, fault code description, diagnosis, CDI | The supply voltage is too low or too high | AD07.16-P-4000-01CF |
| P2066 | Hot film MAF sensor, fault code description, diagnosis, CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-01CG |
| | | Implausible value | AD07.16-P-4000- 01CGA |
| P2067 | Hot film MAF sensor, fault code description, diagnosis, CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-01CH |
| | | Short circuit/discontinuity | <u>AD07.16-P-4000-</u> <u>01CHA</u> |
| P2068 | Hot film MAF sensor, fault code description, diagnosis, CDI | Duty cycle of the reference signal is too small or too large | AD07.16-P-4000-01CC |
| | | Short circuit/discontinuity | AD07.16-P-4000- 01CCA |
| P2071 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Plausibility | AD07.16-P-4000-64CJ |
| P2013 | O2-sensor upstream of the catalytic converter, fault code description, | Value is below limit | AD07.16-P-4000-64CK |
| | diagnosis, CDI | Plausibility | <u>AD07.16-P-4000-</u> <u>64CKA</u> |
| P2076 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Pump current Value is below limit | AD07.16-P-4000-64CG |
| P2078 | Pressure differential sensor (TWC), fault code description, diagnosis, CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-56C |
| | | Plausibility of circuit 15 ON | <u>AD07.16-P-4000-</u> <u>56CAA</u> |
| P2080 | Pressure differential sensor (TWC), fault code description, diagnosis, CDI | Signal implausible | AD07.16-P-4000-56CA |
| P2081 | Pressure differential sensor (TWC), fault code description, diagnosis, CDI | Plausibility | AD07.16-P-4000- 56CBA |

| P2082 | Pressure differential sensor (TWC), fault code description, diagnosis, CDI | Plausibility error due to defective hose lines | AD07.16-P-4000-56CC |
|--|--|--|--|
| P2083 | Pressure differential sensor (TWC), fault code description, diagnosis, CDI | Plausibility error due to blocked pressure sensor | AD07.16-P-4000-56CD |
| P2087 | Air filter fouling, fault code description, diagnosis, CDI | The air cleaner is dirty | AD07.16-P-4000-68C |
| P2088 | Intake air temperature sensor, fault code description, diagnosis CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-03CA |
| P2089 | Exhaust back pressure sensor, fault code description, diagnosis, CDI | The voltage is too low or too high Plausibility | AD07.16-P-4000-69C AD07.16-P-4000- 69CAA |
| P2100 | Fuel pump (FP), fault code description, diagnosis, CDI | Short circuit to positive Short circuit to ground Signal line interrupted Thermal overload of CDI control unit | AD07.16-P-4000-70C AD07.16-P-4000- 70CAA AD07.16-P-4000- 70CAB AD07.16-P-4000- 70CAC |
| P2104 | Starter control, fault code description, diagnosis, CDI | Short circuit to positive | AD07.16-P-4000-18C |
| P2113 P2114 P2115 P2116 P2116 P2118 | Misfiring, fault code description, diagnosis, CDI | Cylinder 1 to cylinder 6 The number of misfires is too high | AD07.16-P-4000-49C |
| P2122 | Engine shutoff path, fault code description, diagnosis, CDI | CDI control unit has detected a defective control loop Voltage monitoring/overvoltage Voltage monitoring/undervoltage | AD07.16-P-4000-71C AD07.16-P-4000- 71CAA AD07.16-P-4000- |

| | | | <u>71CAB</u> |
|--|--|--|--|
| P2133 P2134 P2135 P2136 P2137 P2138 | Glow plug failure, fault code description, diagnosis, CDI | Glow plug 1 to glow plug 6 Defective Short circuit Open circuit Excess temperature | AD07.16-P-4000- 25CAC AD07.16-P-4000-25C AD07.16-P-4000- 25CAA AD07.16-P-4000- 25CAB |
| P2139 | Injection valve bank, fault code description, diagnosis, CDI | Injection valve bank 1 Signal interrupted | AD07.16-P-4000-72CB |
| P2140 | Injection valve bank, fault code description, diagnosis, CDI | Injection valve bank 2 Signal interrupted | AD07.16-P-4000-72CC |
| P2141 P2142 P2143 P2144 P2145 P2146 | Fuel injectors, fault code description, diagnosis, CDI | Cylinders 1 to 6 Signal line interrupted | AD07.16-P-4000-22CA |
| P2152 | Starter control, fault code description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-18CA |
| P2153 | Starter control, fault code description, diagnosis, CDI | Signal line interrupted Thermal overload of CDI control unit | AD07.16-P-4000-18CB AD07.16-P-4000- 18CBA |

AD07.16-P-4000CB

Common rail diesel injection (CDI) diagnosis, fault memory

30.7.03

ENGINE 648.961 in MODEL 211.026 fault codes from P2194 up to P2244

| ⚠ Danger! | Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fire, sparks, open flames or smoking allowed. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel. | <u>AS47.00-Z-0001-01A</u> |
|------------|--|---|--|
| | Connect STAR DIAGNOSIS and read out fault memory | | AD00.00-P-2000-04A |
| | Fuses and voltage supply OK | i The on-board power supply voltage must be at least 11 to 14 V. | |
| GF | Common rail diesel injection (CDI), location of components | on engine side | <u>GF07.16-P-0001-01IE</u> |
| GF | | on vehicle side | <u>GF07.16-P-0001-01IF</u> |
| i | | The following fault code descriptions are valid for EU 3 up to $\stackrel{(USA)}{(USA)}$ and EU 4. | |
| Fault code | Fault code designation | Types of fault | Fault code description |
| P2194 | Intake port shutoff, fault code description, diagnosis CDI | The intake port flap is jamming | AD07.16-P-4000-12C |
| P2195 | O2-sensor upstream of the catalytic converter, fault code description, diagnosis, CDI | Heater Short circuit to positive Short circuit to ground Signal line interrupted | <u>AD07.16-P-4000-64CM</u> <u>AD07.16-P-4000-</u> <u>64CMA</u> |

| P2197 | Quantity control valve, fault code description, diagnosis, CDI | Signal line interrupted | AD07.16-P-4000-74CA |
|-------|--|--|--|
| | | Thermal overload of CDI control unit | AD07.16-P-4000- 74CAB |
| P2198 | Quantity control valve, fault code description, diagnosis, CDI | Short circuit to positive | AD07.16-P-4000-74CB |
| P2199 | Quantity control valve, fault code description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-74CC |
| P2201 | CAN bus, fault code description, diagnosis, CDI | CAN message from EIS control unit missing or faulty | AD07.16-P-4000-07CA |
| P2203 | CAN bus, fault code description, diagnosis, CDI | External quantity control by DTR control unit | |
| | | Toggle error | AD07.16-P-4000-07CB |
| | | Parity error | <u>AD07.16-P-4000-</u> <u>07CBA</u> |
| | | Torque error | AD07.16-P-4000- |
| | | Plausibility | <u>07CBB</u> |
| | | | AD07.16-P-4000- 07CBC |
| P2204 | CAN bus, fault code description, diagnosis, CDI | External quantity control by DTR control unit | |
| | | Toggle error | AD07.16-P-4000-07CC |
| | | Parity error | <u>AD07.16-P-4000-</u> 07CCA |
| | | Torque error Plausibility | <u>AD07.16-P-4000-</u> <u>07CCB</u> |
| | | | AD07.16-P-4000- 07CCC |
| P2209 | CAN bus, fault code description, diagnosis, CDI | CAN message from ESP control unit and BAS missing or incorrect | |
| | | Timeout | AD07.16-P-4000-07CE |

| P2210 | CAN bus, fault code description, diagnosis, CDI | CAN message from ESM control unit missing or incorrect | |
|--|--|--|---------------------------|
| | | Timeout | AD07.16-P-4000-07CF |
| P2211 | CAN bus, fault code description, diagnosis, CDI | CAN message from ETC control unit missing or incorrect | |
| | | Timeout | AD07.16-P-4000-07CG |
| P2213 | CAN bus, fault code description, diagnosis, CDI | CAN message from SCM control unit missing or incorrect | |
| | | Timeout | AD07.16-P-4000-07CH |
| P2214 | CAN bus, fault code description, | CAN signal faulty | |
| | diagnosis, CDI | Timeout | AD07.16-P-4000-07CI |
| P2217 P2218 P2219 P2220 P2221 P2222 P2222 P2222 P22225 P22230 P2229 P2230 P2231 P2232 | Control unit for hydropneumatic transmission, fault code description, diagnosis, CDI | Electronic transmission control fault 0 up to 15 | <u>AD07.16-P-4000-08C</u> |
| EE559 | Control unit for hydropneumatic transmission, fault code description, diagnosis, CDI | Engine emergency off signal from ETC control unit Turn off engine | AD07.16-P-4000-08CA |

| P2234 | External quantity control, Electronic Stability Program, fault code description, diagnosis, CDI | Quantity control is physically implausible | AD07.16-P-4000-77C |
|-------|---|--|--|
| P2235 | External quantity control, electronic transmission control, fault code description, Diagnosis, CDI | Quantity control is physically implausible | AD07.16-P-4000-75C |
| P2236 | CAN bus, fault code description, diagnosis, CDI | CAN message from DTR control unit missing or incorrect | |
| | | Toggle error | AD07.16-P-4000-07CL |
| | | Parity error | <u>AD07.16-P-4000-</u> 07CLA |
| | | Torque error | AD07.16-P-4000- |
| | | Plausibility | <u>07CLB</u> |
| | | | AD07.16-P-4000- 07CLC |
| P2239 | Traction systems CAN communication failure, fault code description, diagnosis, CDI | CAN message from control unit, traction system hydraulic unit missing or incorrect | |
| | | Toggle error | AD07.16-P-4000-15CA |
| | | Parity error | <u>AD07.16-P-4000-</u> <u>15CAA</u> |
| P2240 | CAN bus, fault code description, diagnosis, CDI | CAN message from control unit, steering angle sensor, missing or | |
| | | incorrect | AD07.16-P-4000-07CO |
| | | Parity error | |
| P2241 | Traction systems CAN communication failure, fault code description, diagnosis, CDI | CAN message from control unit, traction system hydraulic unit missing or incorrect | |
| | | Timeout | AD07.16-P-4000-15CB |
| P2242 | Traction systems CAN communication failure, fault code description, diagnosis, CDI | CAN message from control unit, traction system hydraulic unit missing or incorrect | |

| | | Plausibility Parity error | AD07.16-P-4000-15CC AD07.16-P-4000- 15CCA |
|-------|---|--|---|
| P2243 | CAN bus, fault code description, diagnosis, CDI | CAN message from central gateway control unit missing or incorrect Timeout | AD07.16-P-4000-07CR |
| P2244 | CAN bus, fault code description, diagnosis, CDI | CAN message from control unit, instrument cluster missing or incorrect Timeout | AD07.16-P-4000-07CS |

AD07.16-P-4000CC

Common rail diesel injection (CDI) diagnosis, fault memory

30.7.03

ENGINE 648.961 in MODEL 211.026 fault codes from P2245 up to P2366

| ⚠ Danger! | Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fire, sparks, open flames or smoking allowed. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel. | <u>AS47.00-Z-0001-01A</u> |
|------------|--|---|----------------------------|
| | Connect STAR DIAGNOSIS and read out fault memory | | AD00.00-P-2000-04A |
| ▼ | Fuses and voltage supply OK | i The on-board power supply voltage must be at least 11 to 14 V. | |
| GF | Common rail diesel injection (CDI), location of components | on engine side | <u>GF07.16-P-0001-01IE</u> |
| GF | | on vehicle side | GF07.16-P-0001-01IF |
| i | | The following fault code descriptions are valid for EU 3 up to ^(USA) and EU 4. | |
| Fault code | Fault code designation | Types of fault | Fault code description |
| P2245 | Data line, fault code description, diagnosis, CDI | Brake control message from alternator | |
| | | Communication fault | AD07.16-P-4000-78C |

| | | | <u>79CAC</u> |
|-------|---|--|---------------------------------|
| P2247 | Data line, fault code description, diagnosis, CDI | Brake control bus driver | |
| | | Short circuit to positive | AD07.16-P-4000-78CA |
| | | Short circuit to ground or open circuit | AD07.16-P-4000- |
| | | Thermal overload of CDI control unit | 78CAA |
| | | | AD07.16-P-4000- 78CAB |
| P2248 | Data line, fault code description, diagnosis, CDI | Alternator fault over brake control | |
| | diagnosis, CDI | Alternator is defect | AD07.16-P-4000-78CB |
| P2249 | Data line, fault code description, diagnosis, CDI | Alternator fault over brake control | |
| | | Alternator mechanically defect | AD07.16-P-4000-78CC |
| P2254 | CAN bus, fault code description, diagnosis, CDI | CAN message from central gateway control unit missing or incorrect | |
| | | Timeout | AD07.16-P-4000-07CT |
| P2251 | Data line, fault code description, diagnosis, CDI | Glow time control unit fault over brake control | |
| | | Relay is defect | AD07.16-P-4000-26CD |
| | | No supply voltage or a very low one | AD07.16-P-4000- 26CDA |
| | | Glow time control unit defect | |
| | | Current too large | AD07.16-P-4000- 26CDB |
| | | | AD07.16-P-4000- 26CDC |
| P2258 | CAN bus, fault code description, diagnosis, CDI | No CAN message from ETC control unit | |
| | | Transmission fault | AD07.16-P-4000-07CN |
| | | No signal | <u>AD07.16-P-4000-</u> 07CNA |
| | | | |

| 80ES9 | Sensor supply, fault code description, diagnosis, CDI | Sensor supply voltage 2 | |
|-------|---|---|---------------------------------|
| | | The signal voltage is too low or too high | AD07.16-P-4000-58CA |
| P2319 | Analog/digital converter, fault code description, diagnosis, CDI | The limit value was fallen short of or exceeded | AD07.16-P-4000-80C |
| | | Test pulse error | AD07.16-P-4000- 80CAA |
| | | Consequential fault | AD07.16-P-4000- 80CAB |
| 15554 | Control unit, fault code description, diagnosis, CDI | Plausibility watchdog: program run fault | AD07.16-P-4000-82CN |
| E2529 | Control unit, fault code description, diagnosis, CDI | (SPI) error | AD07.16-P-4000-82CO |
| P2325 | Control unit, fault code description, diagnosis, CDI | Injector monitor module | |
| | diagnosis, CDI | Internal parity error | AD07.16-P-4000-82CA |
| | | Internal program error | <u>AD07.16-P-4000-</u> 82CAD |
| | | YSEL checking faulty | |
| | | Timeout error for at least one cylinder | AD07.16-P-4000- 82CAE |
| | | | AD07.16-P-4000- 82CAF |
| P2329 | Control unit, fault code description, diagnosis, CDI | (SPI) error Communication with module CJ940 | AD07.16-P-4000-82CB |
| P2332 | Sensor supply, fault code description, | Sensor supply voltage 3 | |
| | diagnosis, CDI | The signal voltage is too low or too high | AD07.16-P-4000-58CB |
| EEE59 | Ground speed for cruise control, fault code description, diagnosis, CDI | Wheel speed implausible | AD07.16-P-4000-84C |
| P2339 | Variant coding, fault code description, | EEPROM: checksum error | AD07.16-P-4000-86C |
| | diagnosis, CDI | Checksum for data faulty | AD07.16-P-4000- 86CAA |
| l | I | I | l |

| | | Invalid data record selection | AD07.16-P-4000- 86CAB |
|-------|---|--|---|
| | | | AD07.16-P-4000- 86CAC |
| D7659 | Control unit, fault code description, diagnosis, CDI | Quantity correction Plausibility | AD07.16-P-4000-82CC |
| P2343 | Trust monitoring, fault code description, diagnosis, CDI | Rpm calculation in deceleration mode | AD07.16-P-4000-81CA |
| P2347 | CDI control unit EEPROM or incorrect coding, fault code description, diagnosis, CDI | MT has been coded as AT AT has been coded as MT Fault when writing the EEPROM No CAN reception during coding | AD07.16-P-4000-32CB AD07.16-P-4000- 32CBA AD07.16-P-4000- 32CBB AD07.16-P-4000- 32CBC |
| P2350 | Control unit, fault code description, diagnosis, CDI | The voltage supply is too large | AD07.16-P-4000-82CE |
| P2351 | Control unit, fault code description, diagnosis, CDI | The voltage supply is too small | AD07.16-P-4000-82CF |
| P2352 | Number of injection, fault code description, diagnosis, CDI | Limited number of injections due to excessively high volumetric efficiency Limited number of injections due to excessively low injection quantity Limited number of injections due to incorrect software Limited number of injections due to the internal temperature of the control unit | AD07.16-P-4000-87C AD07.16-P-4000- 87CAA AD07.16-P-4000- 87CAB AD07.16-P-4000- 87CAC |
| P2353 | Control unit, fault code description, | Module for oxygen sensor | AD07.16-P-4000-82CG |

| | diagnosis, CDI | Plausibility | |
|-------|---|--|---|
| P2355 | Exhaust gas recirculation control, fault code description, diagnosis, CDI | The air mass is too large | <u>AD07.16-P-4000-</u> <u>88CAA</u> |
| P2356 | Control unit, fault code description, diagnosis, CDI | Recovery error | AD07.16-P-4000-82CI |
| P2357 | Control unit, fault code description, diagnosis, CDI | Recovery error | AD07.16-P-4000-82CJ |
| P2358 | Control unit, fault code description, diagnosis, CDI | Recovery error | AD07.16-P-4000-82CK |
| P2359 | Boost pressure control, fault code description, diagnosis, CDI | Too low boost pressure Boost pressure too high | AD07.16-P-4000-23C AD07.16-P-4000- 23CAA |
| P2364 | Control unit, fault code description, diagnosis, CDI | Control unit programming Control unit memory is defective Code or data faulty Compatibility error between code and data General error | <u>AD07.16-P-4000-82CT</u> <u>AD07.16-P-4000-</u> <u>82CTA</u> <u>AD07.16-P-4000-</u> <u>82CTB</u> <u>AD07.16-P-4000-</u> 82CTC |
| P2366 | Control unit, fault code description, diagnosis, CDI | SPI-module upstream of TWC: supply voltage too low | AD07.16-P-4000-82CL |

AD07.16-P-4000CD

Common rail diesel injection (CDI) diagnosis, fault memory

30.7.03

ENGINE 648.961 in MODEL 211.026 fault codes from P2500 up to P2670

| ⚠ Danger! | Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fire, sparks, open flames or smoking allowed. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel. | <u>AS47.00-Z-0001-01A</u> |
|------------|--|---|---|
| | Connect STAR DIAGNOSIS and read out fault memory | | AD00.00-P-2000-04A |
| 4 | Fuses and voltage supply OK | i The on-board power supply voltage must be at least 11 to 14 V. | |
| GF | Common rail diesel injection (CDI), location of components | on engine side | GF07.16-P-0001-01IE |
| GF | | on vehicle side | <u>GF07.16-P-0001-01IF</u> |
| i | | The following fault code descriptions are valid for EU 3 up to $\stackrel{(USA)}{=}$ and EU 4. | |
| Fault code | Fault code designation | Types of fault | Fault code description |
| P2500 | Pressure regulator valve, fault code description, diagnosis, CDI | Signal line interrupted Thermal overload of CDI control unit | AD07.16-P-4000-13CB AD07.16-P-4000-13CBA |
| P2501 | Pressure regulator valve, fault code description, diagnosis, CDI | Short circuit to positive | AD07.16-P-4000-13CC |
| P2502 | Pressure regulator valve, fault code description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-13CD |
| P2509 | Heater booster, fault code description, diagnosis, CDI | Positioner announces a fault | AD07.16-P-4000-45CAD |
| P2510 | Charge pressure positioner, fault code description, diagnosis, CDI | Positioner announces a fault Positioner announces fault Y | AD07.16-P-4000-89C AD07.16-P-4000-89CAA |

| P2511 | Exhaust gas recirculation positioner, fault code description, diagnosis, CDI | Positioner announces a fault | AD07.16-P-4000-47C |
|-------|--|---|----------------------|
| P2512 | Throttle valve actuator, fault code description, diagnosis, CDI | Positioner announces a fault | AD07.16-P-4000-90C |
| | | Positioner announces fault Y | AD07.16-P-4000-90CAA |
| P2513 | Intake port shutoff, fault code description, diagnosis, CDI | Positioner announces a fault | AD07.16-P-4000-12CA |
| | | Positioner announces fault Y | AD07.16-P-4000-12CAA |
| P2514 | Crankcase, ventilation heater, fault | Short circuit to positive | AD07.16-P-4000-91C |
| | code description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-91CAA |
| | | Signal line interrupted | AD07.16-P-4000-91CAB |
| | | Excess temperature in engine control unit | AD01.10-F-4000-91CAB |
| | | | AD07.16-P-4000-91CAC |
| P2518 | Electric suction-type fan (engine / A/C), fault code description, | Positioner announces a fault | AD07.16-P-4000-35CA |
| | diagnosis, CDI | Positioner announces fault Y | AD07.16-P-4000-35CAD |
| P2521 | Starter control, fault code description, diagnosis, CDI | Start attempt without starter actuation | AD07.16-P-4000-18CC |
| P2526 | Charge pressure positioner, fault code description, diagnosis, CDI | Short circuit to positive | AD07.16-P-4000-89CA |
| | | Short circuit to ground | AD07.16-P-4000-89CAB |
| | | Signal line interrupted | |
| | | Thermal overload of CDI control unit | AD07.16-P-4000-89CAC |
| | | | AD07.16-P-4000-89CAD |
| P2527 | Exhaust gas recirculation positioner, fault code description, diagnosis, | Short circuit to positive | AD07.16-P-4000-47CA |
| | CDI | Short circuit to ground | AD07.16-P-4000-47CAB |
| | | Signal line interrupted | AD07.16-P-4000-47CAC |

| | | Thermal overload of CDI control unit | |
|-------|--|---|---|
| | | | AD07.16-P-4000-47CAD |
| P2529 | Throttle valve actuator, fault code | Short circuit to positive | AD07.16-P-4000-90CA |
| | description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-90CAB |
| | | Signal line interrupted | |
| | | Thermal overload of CDI control unit | AD07.16-P-4000-90CAC |
| | | | AD07.16-P-4000-90CAD |
| P2530 | Intake port shutoff, fault code | Short circuit to positive | AD07.16-P-4000-12CB |
| | description, diagnosis CDI | Short circuit to ground | AD07.16-P-4000-12CBA |
| | | Signal line interrupted | |
| | | Excess temperature in engine control | AD07.16-P-4000-12CBB |
| | | unit | AD07.16-P-4000-12CBC |
| P2537 | Glow output stage, fault code | Short circuit to positive | AD07.16-P-4000-26C |
| | description, diagnosis, CDI | Short circuit to ground | AD07.16-P-4000-26CAA |
| | | Diagnosis error | |
| P2538 | Glow output stage, fault code | Glow time control unit defect | AD07.16-P-4000-26CAB AD07.16-P-4000-26CA |
| | description, diagnosis, CDI | Communication fault | |
| | | | AD07.16-P-4000-26CAC |
| | | Excess temperature | AD07.16-P-4000-26CAD |
| P2607 | Exhaust gas temperature sensor upstream of TWC, fault code description, diagnosis, CDI | Excessive variation between actual and specified temperatures | AD07.16-P-4000-52CB |
| P2608 | Exhaust gas temperature sensor downstream of TWC, fault code description, diagnosis, CDI | Excessive variation between actual and specified temperatures | AD07.16-P-4000-51CB |

| P2616 | Exhaust back pressure sensor, fault code description, diagnosis, CDI | The air mass is too small | AD07.16-P-4000-69CAB |
|-------|--|--|---------------------------|
| P2617 | Exhaust gas recirculation control, fault code description, Diagnosis, | The air mass is too small | AD07.16-P-4000-88CA |
| | CDI | The air mass is too large | AD07.16-P-4000-88CAB |
| P2625 | Fuel temperature sensor, fault code description, diagnosis, CDI | Plausibility | AD07.16-P-4000-53CA |
| P2632 | Monitoring of turbocharger, fault code description, diagnosis, CDI | The pressure difference between exhaust back pressure sensor and differential pressure sensor upstream and downstream of the turbocharger is implausible | <u>AD07.16-P-4000-97C</u> |
| P2634 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | Rail pressure deviation due to air forming in the system when the fuel tank is run empty | AD07.16-P-4000-60CE |
| P2635 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | Rail pressure deviation too high compared with fuel flow rate Air forming in the system when the fuel tank is run empty | AD07.16-P-4000-60CF |
| P2636 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | Rail pressure too low due to air forming in the system when the fuel tank is run empty | AD07.16-P-4000-60CG |
| P2631 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | Rail pressure deviation due to air forming in the system when the fuel tank is run empty | AD07.16-P-4000-61CG |
| 85938 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | Rail pressure deviation due to air forming in the system when the fuel tank is run empty | AD07.16-P-4000-61CH |
| P2639 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | Rail pressure too low due to air forming in the system when the fuel tank is run empty | AD07.16-P-4000-61CI |
| P2640 | Rail pressure monitoring, pressure regulator valve, fault code description, diagnosis, CDI | The measured pressure is implausible in relation to the power consumption of the pressure regulator valve | AD07.16-P-4000-61CJ |
| P2641 | Exhaust back pressure sensor, fault code description, diagnosis, CDI | Plausibility | AD07.16-P-4000-69CB |

| P2643 | Rail pressure monitoring, quantity control valve, fault code description, diagnosis, CDI | Specified value of quantity control valve implausible during deceleration when the fuel tank is run empty | <u>AD07.16-P-4000-60CH</u> |
|-------|--|---|----------------------------|
| P2670 | | Check outside air temperature sensor and intake air temperature sensor Plausibility | AD07.16-P-4000-55CB |