



CHAMPION BRANDS  
1001 GOLDEN DRIVE  
CLINTON, MO 64735  
1-800-821-5693  
[www.championbrands.com](http://www.championbrands.com)  
[www.championsusechampion.com](http://www.championsusechampion.com)

# TECHNICAL BULLETIN

## Ford Powerstroke Diagnostic Trouble Codes

*On-Board-Diagnostic (OBD) trouble codes are one way your vehicle communicates with a mechanic. Every diesel vehicle built since 1996 has an OBD II computer system that monitors and identifies issues. In particular, it looks for issues that may result in harmful and polluting emissions from exhaust gases. When this system identifies an issue it turns on the check engine light and records an OBD II code.*

*OBD II codes are accessed by plugging a code reader into the vehicle's OBD II port. These codes provide a mechanic with information about the system and the conditions under which the issue was first identified. However, they can't provide a clear-cut solution to the actual cause of the problem - only clues for where to look.*

*The diagnostic codes that are required by law on all OBD II systems are standardized and all vehicle manufacturers use the same common code list. This means the misfire code P0300 represents the same failure on a GM/GMC Duramax, Ford Powerstroke, or Dodge Cummins.*

### **OBD-II Check Engine Light Trouble Codes for Ford Powerstroke below:**

P1111 System Pass (No DTCs Available)

P0107 BARO Circuit Low Input

P0108 BARO Circuit High Input

P0112 IAT Sensor Circuit Low Input

P0113 IAT Sensor Circuit High Input

P0122 Accelerator Pedal Sensor Circuit Low Input

P0123 Accelerator Pedal Sensor Circuit High Input

P0197 EOT Sensor Circuit Low Input

P0198 EOT Sensor Circuit High Input

P0220 Throttle Switch B Circuit Malfunction

P0221 Throttle Switch B Circuit Performance

P0230 Fuel Pump Relay Driver Fail

P0231 Fuel Pump Relay Driver Circuit Failure

P0232 Fuel Pump Relay Driver Failed Off

P0236 Turbo Boost Sensor A Circuit Performance

P0237 Turbo Boost Sensor A Circuit Low Input

P0238 Turbo Boost Sensor A Circuit High Input

P0261 Injector Circuit Low - Cylinder 1

P0262 Injector Circuit High - Cylinder 1

P0263 Cylinder 1 Contribution/Balance Fault

P0264 Injector Circuit Low - Cylinder 2

P0265 Injector Circuit High - Cylinder 2

P0266 Cylinder 2 Contribution/Balance Fault

P0267 Injector Circuit Low - Cylinder 3

P0268 Injector Circuit High - Cylinder 3

P0269 Cylinder 3 Contribution/Balance Fault

P0270 Injector Circuit Low - Cylinder 4

P0271 Injector Circuit High - Cylinder 4

P0272 Cylinder 4 Contribution/Balance Fault

P0273 Injector Circuit Low - Cylinder 5

P0274 Injector Circuit High - Cylinder 5

P0275 Cylinder 5 Contribution/Balance Fault

P0276 Injector Circuit Low - Cylinder 6

P0277 Injector Circuit High - Cylinder 6

P0278 Cylinder 6 Contribution/Balance Fault

P0279 Injector Circuit Low - Cylinder 7

P0280 Injector Circuit High - Cylinder 7

P0281 Cylinder 7 Contribution/Balance Fault

P0282 Injector Circuit Low - Cylinder 8

P0283 Injector Circuit High - Cylinder 8

P0284 Cylinder 8 Contribution/Balance Fault

P0301 Fault Cylinder A-Misfire? Detected (CYL 1)

P0302 Fault Cylinder B-Misfire? Detected (CYL2)

P0303 Fault Cylinder D-Misfire? Detected (CYL 3)

P0304 Fault Cylinder E-Misfire? Detected (CYL 4)

P0305 Fault Cylinder F-Misfire? Detected (CYL5)

P0306 Fault Cylinder G-Misfire? Detected (CYL 6)

P0307 Fault Cylinder C-Misfire? Detected (CYL 7)

P0308 Fault Cylinder H-Misfire? Detected (CYL 8)

P0340 CMP Sensor Circuit Malfunction

P0341 CMP Sensor Circuit Performance

P0344 CMP Sensor Circuit Intermittent

P0360 Glow Plug Circuit Malfunction

P0381 Glow Plug Indicator Circuit Malfunction

P0460 Fuel Tank Level Indicator Circuit Malfunction

P0470 Exhaust Back Pressure Sensor Circuit Malfunction

P0471 Exhaust Back Pressure Sensor Circuit Performance

P0472 Exhaust Back Pressure Sensor Circuit Low Input

P0473 Exhaust Back Pressure Sensor Circuit High Input

P0476 Exhaust Pressure Control Valve Maffunction

P0476 Exhaust Pressure Control Valve Performance

P0478 Exhaust Pressure Control Valve High Input

P0500 Vehicle Speed Sensor (VSS) Malfunction

P0503 Vehicle Speed Sensor Noisy

P0541 Manifold Intake Air Heater

P0542 Manifold Intake Air Heater

P0560 System Voltage Malfunction

P0662 System Voltage Low

P0563 System Voltage High

P0666 Cruise 'On' Signal Malfunction

P0566 Cruise 'Off' Signal Malfunction

P0667 Cruise 'Resume' Signal Malfunction

P0668 Cruise 'Set' Signal Malfunction

P0669 Cruise 'Coast' Signal Malfunction

P0571 Brake Svdтч A Circuit Malfunction

P0603 Internal Control Module KAM Error

P0605 Internal Control Module ROM Error

P0606 PCM Processor Fault

P0640 Manifold Intake Air Heater

P0670 Glow plug control circuit malfunction

P0671 Glow plug #1 circuit failure

P0672 Glow plug #2 circuit failure

P0673 Glow plug #3 circuit failure

P0674 Glow plug #4 circuit failure

P0675 Glow plug #5 circuit failure

P0676 Glow plug #6 circuit failure

P0677 Glow plug #7 circuit failure

P0678 Glow plug #8 circuit failure

P0683 Glow plug diagnostic signal communication fault

P0703 Brake Switch B Circuit Malfunction

P0704 Clutch Pedal Position Switch Input Circuit Malfunction

P0705 TR Sensor Circuit Malfunction

P0707 TR Sensor Circuit Low Input

P0708 TR Sensor Circuit High Input

P0712 Transmission Fluid Temp. Sensor CKT Low Input

P0713 Transmission Fluid Temp. Sensor CKT High Input

P0715 TSS Sensor Circuit Malfunction Fault

P0717 TSS Intermittent Failure

P0718 Noisy TSS

P0720 OSS Sensor Circuit Malfunction

P0721 Noisy OSS

P0722 OSS Intermittent Failure

P0732 Gear Two Ratio Error

P0733 Gear Three Ratio Error

P0741 TCC Circuit Performance

P0743 Torque Converter Clutch System Electrical Failure

P0750 Shift Solenoid 1 Malfunction

P0755 Shift Solenoid B Malfunction

P0781 1-2 Shift Malfunction

P0782 2-3 Shift Malfunction

P0783 3-4 Shift Malfunction

P1000 OBD 11 Monitor Checks Not Complete. More Driving Required

P1105 Dual Alternator Upper Fault (Monitor)

P1106 Dual Alternator Lower Fault (Control)

P1107 Dual Alternator Lower Circuit Malfunction (Control)

P1108 Dual Alternator BATT Lamp Circuit Malfunction

P1118 Manifold Air Temperature Sensor Low Input

P1119 Manifold Air Temperature Sensor High Input

P1139 Water in Fuel Indicator Circuit Malfunction

P1140 Water in Fuel Condition

P1184 Engine Oil Temp Sensor Circuit Performance

P1209 Injection Control System Pressure Peak Fault

P1210 Injection Control Pressure Above Expected Level

P1211 ICP Not Controllable - Pressure Above/Below Desired

P1212 ICP Voltage Not at Expected Level

P1218 CID Stuck High

P1219 CID Stuck Low

P1247 Turbo Boost Pressure Low

P1248 Turbo Boost Pressure Not Detected

P1249 Wastagate Fail Steady State Test

P1250 Electronic Passive Anti-Theft? System

P1261 High to Low Side Short - Cylinder 1

P1262 High to Low Side Short - Cylinder 2

P1263 High to Low Side Short - Cylinder 3

P1264 High to Low Side Short - Cylinder 4

P1265 High to Low Side Short - Cylinder 5

P1266 High to Low Side Short - Cylinder 6

P1267 High to Low Side Short - Cylinder 7

P1268 High to Low Side Short - Cylinder 8

P1 High to Low Side Open - Cylinder 1

P2 High to Low Side Open - Cylinder 2

P3 High to Low Side Open - Cylinder 3

P4 High to Low Side Open - Cylinder 4

P5 High to Low Side Open - Cylinder 5

P6 High to Low Side Open - Cylinder 6

P7 High to Low Side Open - Cylinder 7

P8 High to Low Side Open - Cylinder 8

P1280 ICP Circuit Out of Range Low

P1281 ICP Circuit Out of Range High

P1282 Excessive ICP

P1263 IPR Circuit Failure

P1284 ICP Failure - Aborts KOER or CCT Test

P1291 High Side No. 1 (Right) Short to GND or B+

P1292 High Side No. 2 (Left) Short to GND or B+

P1293 High Side Open Bank No. 1 (Right)

P1294 High Side Open Bank No. 2 (Left)

P1295 Multiple Faults on Bank No. 1 (Right)

P1296 Multiple Faults on Bank No. 2 (Left)

P1297 High Sides Shorted Together

P1298 IDM Failure

P1316 Injector Circuit/IDM Codes Detected

P1391 Glow Plug Circuit Low Input Bank No. 1(Right)

P1393 Glow Plug Circuit Low Input Bank No. 2 (Left)

P1395 Glow Plug Monitor Fault Bank No. 1

P1396 Glow Plug Monitor Fault Bank No. 2

P1397 SYstem Voltage Out of Self Test Range

P1464 A/C On During KOER or CCT Test

P1501 VSS Out Of Self Test Range

P1502 Invalid Self Test - APCM Functioning

P1531 Invalid Test -Accelerator Pedal Movement

P1536 Parking Brake Applied Failure

P1662 IDM EN Circuit Failure



P1663 FDCS Circuit Failure

P1667 CID Circuit Failure

P1668 PCM -IDM Diagnostic Communication Error

P1670 EF Feedback Signal Not Detected

P1690 Wastegate Control Valve Malfunction

P1702 TRS Sensor Intermittent Circuit Malfunction

P1704 Digital TRS Failed to Transition State

P1705 TR Sensor out of Self Test Range

P1711 TFT Sensor Out of Self Test Range

P1713 TFT Stuck in Range Low-Below? 50°F

P1714 Shift Solenoid A Inductive Signature Malfunction

P1715 Shift Solenoid B Inductive Signature Malfunction

P1718 TFT Stuck in Range High-Above? 250°F

P1728 Transmission Slip Error

P1729 4x4L Switch Error

P1744 Torque Converter Clutch System Performance

P1746 EPC Solenoid Open Circuit

P1747 EPC Solenoid Short Circuit

P1754 CCS (Solenoid) Circuit Malfunction

P1760 EPC Solenoid Short Intermittent

P1780 TCS Circuit Out of self Test Range

P1781 4x4L Circuit Out of Self Test Range

P1783 Transmission Overtemperature Condition

