

# DURAMAX

## DPF-R 4.0 INSTALLATIONS

### INSTRUCTIONS



Plug the module into the diagnostic port. The diagnostic port is under the dash, below and to the left of the steering column.

The device will power up automatically.

Follow the voice prompts. Navigate the menu with the "YES" and "NO" buttons.

Power/function (green) light will flash when it is communicating.

Warning (red) light will be on while writing to the ECU. DO NOT UNPLUG WHILE THE RED LIGHT IS ON

If you are using with a chip/programmer it is recommended that you install the DPF-R first.

**EXHAUST NOTES:** Exhaust sensors need to be connected to the truck wiring harness. Exhaust sensors do not need to go back into the pipe.

#### DPF-R 4.0 DISCLAIMER

THIS IS A HIGH PERFORMANCE PRODUCT. USE AT YOUR OWN RISK. Do not use this Product until you (the "Buyer") have carefully read this Disclaimer. The installation of this Product indicates that you have read and understand, and accept all of the terms of, this Disclaimer.

•Gear Box Z Inc., their affiliates, distributors, dealers, et al. (hereafter referred to as the "Seller") shall not be responsible for the Product's proper installation, use

and service. Rather, the Buyer shall look solely to the installer who installs the Product for any service and support needed by the Buyer with respect thereto, as well as any damage that may be done to vehicle components as a result of modifications made by the installer.

- The Buyer is responsible to fully understand the capability and limitations of his/her vehicle according to manufacturer specifications, warnings and instructions and agrees to hold the Seller harmless from any damage resulting from failure to adhere to such specifications, warnings and/or instructions. The Buyer is also responsible to obey all applicable federal, state, and local laws, statutes, and ordinances when operating his/her vehicle, and the Buyer agrees to hold Seller harmless from any violation thereof.

- The Seller's Limited Warranty for this Product is the Buyer's exclusive warranty and is in lieu of all other warranties, express or implied, except as may be required by applicable law. Without limiting the generality of the foregoing, the Seller shall not be liable for any breach of any other written or oral warranties given to the Buyer by any third party(ies) such as those (if any) given to the Buyer by dealers or distributors of the Product.

- Consult your vehicle warranty before using this Product. Under no circumstances will the Seller be liable for the voidance of the Buyer's vehicle warranty. Rather, the Buyer assumes all risk and responsibility if an automotive manufacturer and/or dealer void the Buyer's vehicle warranty due to use of this Product.

- This product modifies the programming on the truck's computer. **WARNING:** If the download fails for any reason the truck may be rendered unusable until a recovery can be done on the ECU. BY USING THIS PRODUCT YOU AGREE THAT YOU UNDERSTAND AND TAKE RESPONSIBILITY FOR THIS RISK.

- Operate your vehicle at all times in a safe manner. Regardless of any capability, feature or function of the Seller's Products, the Buyer understands and acknowledges that it is the Buyer's sole responsibility to ensure that (A) the motor vehicle is operated in a safe and legal manner, (B) the motor vehicle is not driven faster than the lower of the speed limit or the speed rating of the tires on the vehicle in which the Seller's product is installed, and (C) the maximum RPM or speed rating of the engine is not exceeded while operating the motor vehicle. In no case will the Seller be held liable, and the Buyer assumes all risk and responsibility, for any property damage, personal injury and/or death that may occur in the event the Buyer operates the vehicle in an unsafe manner, violates the law or exceeds the above mentioned limits. Please check your local, state and federal laws to determine if you are within your rights to modify your vehicle's exhaust. The Seller makes no representation or warranty, express or implied that the use of its Products will comply with local, state, or Federal emission levels, noise levels or safety standards. The Buyer assumes all responsibility for such use and compliance.

SELLER IS NOT LIABLE FOR AND HEREBY EXCLUDES ANY AND ALL INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES RELATING TO THE PRODUCTS COVERED BY THIS DISCLAIMER. The Seller's Limited Warranty for this Product gives you specific legal rights, and you may also have other rights which may vary from state to state. Pertinent state law shall control for what Period of time following the sale a consumer may seek a remedy under the implied warranty of merchantability or fitness for a particular purpose. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitations or exclusions may not apply to you.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS DISCLAIMER, THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN FOURTEEN (14) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND.

#### EMERGENCY RECOVERY DISCLAIMER

The Special Recovery function of this product is intended only as an emergency use in case something goes wrong during programming of the ECU (ie power failure, accidental unplugging of the programmer, etc.) This function should only be used as a last resort. This function should not be used to recover or troubleshoot another truck. This function is not guaranteed to work, and may not apply the same

firmware as was originally on the truck. The Special Recovery function of this product is not intended to be used to troubleshoot or diagnose problems. Under no circumstances will the Seller be liable for any damages or expenses incurred by reason of the use of this product. USE OF THE SPECIAL RECOVERY FUNCTION OF THIS PRODUCT INDICATES THE USER UNDERSTANDS AND AGREES WITH THIS EMERGENCY RECOVERY DISCLAIMER AND THE DPF-R 4.0 DISCLAIMER.



## DPF-R 4.0 DIAGNOSTICS INSTRUCTIONS

THIS FUNCTION IS FOR THE CONVENIENCE OF THE OWNER AND IS NOT INTENDED TO TAKE THE PLACE OF A QUALIFIED TECHNICIAN.

Plug the module into the diagnostic port. The diagnostic port is under the dash, below and to the left of the steering column.

The device will power up automatically.

Follow the voice prompts. Navigate the menu with the "YES" and "NO" buttons.

Navigate to "Diagnostics and emergency recovery" menu.

Press "YES" when asked if you would like to read diagnostic codes. When the product is finished reading codes it will ask if you want to read them again. Press "NO" to move on to the code clearing menu.

Press "YES" or "NO" to clear or leave trouble codes.

Press "NO" to skip the emergency recovery and you will be prompted to unplug the device.

- P000A Stored in ECM Fault memory
- P0087 Fuel Rail/System Pressure – Too Low
- P0088 Fuel Rail/System Pressure – Too High
- P0089 Fuel Pressure Regulator 1 Performance
- P008F Engine Coolant Temperature/Fuel Temperature Correlation
- P0090 Fuel Pressure Regulator 1 Control Circuit
- P0091 Fuel Pressure Regulator 1 Control Circuit Low
- P0092 Fuel Pressure Regulator 1 Control Circuit High
- P0100 Mass or Volume Air Flow Circuit
- P0101 Mass or Volume Air Flow Circuit Range/Performance
- P0102 Mass or Volume Air Flow Circuit Low Input
- P0103 Mass or Volume Air Flow Circuit High Input
- P0104 Mass or Volume Air Flow Circuit Intermittent
- P0105 Manifold Absolute Pressure/Barometric Pressure Circuit
- P0106 Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance
- P0107 Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
- P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input
- P0109 Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent
- P0110 Intake Air Temperature Sensor 1 Circuit
- P0111 Intake Air Temperature Sensor 1 Circuit Range/Performance
- P0112 Intake Air Temperature Sensor 1 Circuit Low
- P0113 Intake Air Temperature Sensor 1 Circuit High
- P0114 Intake Air Temperature Sensor 1 Circuit Intermittent
- P0115 Engine Coolant Temperature Circuit
- P0116 Engine Coolant Temperature Circuit Range/Performance
- P0117 Engine Coolant Temperature Circuit Low
- P0118 Engine Coolant Temperature Circuit High
- P0119 Engine Coolant Temperature Circuit Intermittent
- P0120 Throttle/Pedal Position Sensor/Switch A Circuit
- P0121 Throttle/Pedal Position Sensor/Switch A Circuit Range/Performance
- P0122 Throttle/Pedal Position Sensor/Switch A Circuit Low
- P0123 Throttle/Pedal Position Sensor/Switch A Circuit High
- P0124 Throttle/Pedal Position Sensor/Switch A Circuit Intermittent
- P0127 Intake Air Temperature Too High
- P0128 Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)
- P0129 Barometric Pressure Too Low
- P0168 Fuel Temperature Too High
- P0190 Fuel Rail Pressure Sensor Circuit
- P0191 Fuel Rail Pressure Sensor Circuit Range/Performance
- P0192 Fuel Rail Pressure Sensor Circuit Low
- P0193 Fuel Rail Pressure Sensor Circuit High
- P0194 Fuel Rail Pressure Sensor Circuit Intermittent
- P0195 Engine Oil Temperature Sensor
- P0196 Engine Oil Temperature Sensor Range/Performance
- P0197 Engine Oil Temperature Sensor Low
- P0198 Engine Oil Temperature Sensor High
- P0199 Engine Oil Temperature Sensor Intermittent
- P0200 Injector Circuit/Open
- P0201 Injector Circuit/Open – Cylinder 1
- P0202 Injector Circuit/Open – Cylinder 2
- P0203 Injector Circuit/Open – Cylinder 3
- P0204 Injector Circuit/Open – Cylinder 4
- P0205 Injector Circuit/Open – Cylinder 5
- P0206 Injector Circuit/Open – Cylinder 6
- P0207 Injector Circuit/Open – Cylinder 7
- P0208 Injector Circuit/Open – Cylinder 8
- P0209 Injector Circuit/Open – Cylinder 9P0217 Engine Coolant Over Temperature Condition
- P0218 Transmission Fluid Over Temperature Condition
- P0219 Engine Overspeed Condition
- P0220 Throttle/Pedal Position Sensor/Switch B Circuit
- P0221 Throttle/Pedal Position Sensor/Switch B Circuit Range/Performance
- P0222 Throttle/Pedal Position Sensor/Switch B Circuit Low
- P0223 Throttle/Pedal Position Sensor/Switch B Circuit High
- P0224 Throttle/Pedal Position Sensor/Switch B Circuit Intermittent
- P0225 Throttle/Pedal Position Sensor/Switch C Circuit
- P0226 Throttle/Pedal Position Sensor/Switch C Circuit Range/Performance
- P0227 Throttle/Pedal Position Sensor/Switch C Circuit Low
- P0228 Throttle/Pedal Position Sensor/Switch C Circuit High
- P0229 Throttle/Pedal Position Sensor/Switch C Circuit Intermittent
- P0234 Turbo/Super Charger Overboost Condition
- P0261 Cylinder 1 Injector Circuit Low
- P0262 Cylinder 1 Injector Circuit High
- P0263 Cylinder 1 Contribution/Balance
- P0264 Cylinder 2 Injector Circuit Low
- P0265 Cylinder 2 Injector Circuit High
- P0266 Cylinder 2 Contribution/Balance
- P0267 Cylinder 3 Injector Circuit Low
- P0268 Cylinder 3 Injector Circuit High
- P0269 Cylinder 3 Contribution/Balance
- P0270 Cylinder 4 Injector Circuit Low
- P0271 Cylinder 4 Injector Circuit High
- P0272 Cylinder 4 Contribution/Balance

P0273	Cylinder 5 Injector Circuit Low	P042E	Exhaust Gas Recirculation (EGR) Control Stuck Open
P0274	Cylinder 5 Injector Circuit High	P042F	Exhaust Gas Recirculation (EGR) Control Stuck Closed
P0275	Cylinder 5 Contribution/Balance	P0430	Catalyst System Efficiency Below Threshold
P0276	Cylinder 6 Injector Circuit Low	P0431	Warm Up Catalyst Efficiency Below Threshold
P0277	Cylinder 6 Injector Circuit High	P0432	Main Catalyst Efficiency Below Threshold
P0278	Cylinder 6 Contribution/Balance	P0470	Exhaust Pressure Sensor
P0279	Cylinder 7 Injector Circuit Low	P0471	Exhaust Pressure Sensor Range/Performance
P0280	Cylinder 7 Injector Circuit High	P0472	Exhaust Pressure Sensor Low
P0281	Cylinder 7 Contribution/Balance	P0473	Exhaust Pressure Sensor High
P0282	Cylinder 8 Injector Circuit Low	P0474	Exhaust Pressure Sensor Intermittent
P0283	Cylinder 8 Injector Circuit High	P0500	Vehicle Speed Sensor A
P0284	Cylinder 8 Contribution/Balance	P0501	Vehicle Speed Sensor A Range/Performance
P0297	Vehicle Overspeed Condition	P0502	Vehicle Speed Sensor A Circuit Low Input
P0298	Engine Oil Over Temperature	P0503	Vehicle Speed Sensor A Intermittent/Error/High
P0299	Turbo/Super Charger Underboost	P0504	Brake Switch A/B Correlation
P02CC	Cylinder 1 Fuel Injector Offset Learning at Minimum Limit	P0510	Closed Throttle Position Switch
P02CD	Cylinder 1 Fuel Injector Offset Learning at Maximum Limit	P0512	Starter Request Circuit
P02CE	Cylinder 2 Fuel Injector Offset Learning at Minimum Limit	P0513	Incorrect Immobilizer Key
P02CF	Cylinder 2 Fuel Injector Offset Learning at Maximum Limit	P0520	Engine Oil Pressure Sensor/Switch Circuit
P02D0	Cylinder 3 Fuel Injector Offset Learning at Minimum Limit	P0521	Engine Oil Pressure Sensor/Switch Range/Performance
P02D1	Cylinder 3 Fuel Injector Offset Learning at Maximum Limit	P0522	Engine Oil Pressure Sensor/Switch Low Voltage
P02D2	Cylinder 4 Fuel Injector Offset Learning at Minimum Limit	P0523	Engine Oil Pressure Sensor/Switch High Voltage
P02D3	Cylinder 4 Fuel Injector Offset Learning at Maximum Limit	P0524	Engine Oil Pressure Too Low
P02D4	Cylinder 5 Fuel Injector Offset Learning at Minimum Limit	P0525	Cruise Control Servo Control Circuit Range/Performance
P02D5	Cylinder 5 Fuel Injector Offset Learning at Maximum Limit	P0530	A/C Refrigerant Pressure Sensor A Circuit
P02D6	Cylinder 6 Fuel Injector Offset Learning at Minimum Limit	P0531	A/C Refrigerant Pressure Sensor A Circuit Range/Performance
P02D7	Cylinder 6 Fuel Injector Offset Learning at Maximum Limit	P0532	A/C Refrigerant Pressure Sensor A Circuit Low
P02D8	Cylinder 7 Fuel Injector Offset Learning at Minimum Limit	P0533	A/C Refrigerant Pressure Sensor A Circuit High
P02D9	Cylinder 7 Fuel Injector Offset Learning at Maximum Limit	P0534	Air Conditioner Refrigerant Charge Loss
P02DA	Cylinder 8 Fuel Injector Offset Learning at Minimum Limit	P0535	A/C Evaporator Temperature Sensor Circuit
P02DB	Cylinder 8 Fuel Injector Offset Learning at Maximum Limit	P0536	A/C Evaporator Temperature Sensor Circuit Range/Performance
P0300	Random/Multiple Cylinder Misfire Detected	P0537	A/C Evaporator Temperature Sensor Circuit Low
P0301	Cylinder 1 Misfire Detected	P0538	A/C Evaporator Temperature Sensor Circuit High
P0302	Cylinder 2 Misfire Detected	P0539	A/C Evaporator Temperature Sensor Circuit Intermittent
P0303	Cylinder 3 Misfire Detected	P0540	Intake Air Heater A Circuit
P0304	Cylinder 4 Misfire Detected	P0541	Intake Air Heater A Circuit Low
P0305	Cylinder 5 Misfire Detected	P0542	Intake Air Heater A Circuit High
P0306	Cylinder 6 Misfire Detected	P0543	Intake Air Heater A Circuit Open
P0307	Cylinder 7 Misfire Detected	P0544	Exhaust Gas Temperature Sensor Circuit
P0308	Cylinder 8 Misfire Detected	P0545	Exhaust Gas Temperature Sensor Circuit Low
P0309	Cylinder 9 Misfire Detected	P0546	Exhaust Gas Temperature Sensor Circuit High
P0310	Cylinder 10 Misfire Detected	P0547	Exhaust Gas Temperature Sensor Circuit
P0311	Cylinder 11 Misfire Detected	P0548	Exhaust Gas Temperature Sensor Circuit Low
P0312	Cylinder 12 Misfire Detected	P0549	Exhaust Gas Temperature Sensor Circuit High
P0313	Misfire Detected with Low Fuel	P0560	System Voltage
P0314	Single Cylinder Misfire (Cylinder not Specified)	P0561	System Voltage Unstable
P0315	Crankshaft Position System Variation Not Learned	P0562	System Voltage Low
P0316	Engine Misfire Detected on Startup (First 1000 Revolutions)	P0563	System Voltage High
P0380	Glow Plug/Heater Circuit A	P0564	Cruise Control Multi-Function Input A Circuit
P0381	Glow Plug/Heater Indicator Circuit	P0565	Cruise Control On Signal
P0382	Glow Plug/Heater Circuit B	P0566	Cruise Control Off Signal
P0383	Reserved by SAE J2012	P0567	Cruise Control Resume Signal
P0384	Reserved by SAE J2012	P0568	Cruise Control Set Signal
P0385	Crankshaft Position Sensor B Circuit	P0569	Cruise Control Coast Signal
P0386	Crankshaft Position Sensor B Circuit Range/Performance	P0570	Cruise Control Accelerate Signal
P0387	Crankshaft Position Sensor B Circuit Low	P0571	Brake Switch A Circuit
P0388	Crankshaft Position Sensor B Circuit High	P0572	Brake Switch A Circuit Low
P0389	Crankshaft Position Sensor B Circuit Intermittent	P0573	Brake Switch A Circuit High
P0390	Camshaft Position Sensor B Circuit	P0601	Internal Control Module Memory Check Sum Error
P0391	Camshaft Position Sensor B Circuit Range/Performance	P0602	Control Module Programming Error
P0392	Camshaft Position Sensor B Circuit Low	P0603	Internal Control Module Keep Alive Memory (KAM) Error
P0393	Camshaft Position Sensor B Circuit High	P0604	Internal Control Module Random Access Memory (RAM) Error
P0394	Camshaft Position Sensor B Circuit Intermittent	P0605	Internal Control Module Read Only Memory (ROM) Error
P0400	Exhaust Gas Recirculation Flow	P0606	ECM/PCM Processor
P0401	Exhaust Gas Recirculation Flow Insufficient Detected	P0607	Control Module Performance
P0402	Exhaust Gas Recirculation Flow Excessive Detected	P0608	Control Module VSS Output A
P0403	Exhaust Gas Recirculation Control Circuit	P0609	Control Module VSS Output B
P0404	Exhaust Gas Recirculation Control Circuit Range/Performance	P060B	Internal Control Module A/D Processing Performance
P0405	Exhaust Gas Recirculation Sensor A Circuit Low	P060C	Internal Control Module Main Processor Performance
P0406	Exhaust Gas Recirculation Sensor A Circuit High	P060D	Internal Control Module Accelerator Pedal Position Performance
P0407	Exhaust Gas Recirculation Sensor B Circuit Low	P0610	Control Module Vehicle Options Error
P0408	Exhaust Gas Recirculation Sensor B Circuit High	P0611	Fuel Injector Control Module Performance
P0409	Exhaust Gas Recirculation Sensor A Circuit	P0612	Fuel Injector Control Module Relay Control
P040B	Exhaust Gas Recirculation Temperature (EGRT) Sensor A Circuit Range/Performance	P0613	TCM Processor
P040C	Exhaust Gas Recirculation Temperature (EGRT) Sensor A Circuit Low	P0614	ECM / TCM Incompatible
P040D	Exhaust Gas Recirculation Temperature (EGRT) Sensor A Circuit High	P0615	Starter Relay Circuit
P041B	Exhaust Gas Recirculation Temperature (EGRT) Sensor B Circuit Range/Performance	P0616	Starter Relay Circuit Low
P041C	Exhaust Gas Recirculation Temperature (EGRT) Sensor B Circuit Low	P0617	Starter Relay Circuit High
P041D	Exhaust Gas Recirculation Temperature (EGRT) Sensor B Circuit High	P0618	Alternative Fuel Control Module KAM Error
P0425	Catalyst Temperature Sensor	P0619	Alternative Fuel Control Module RAM/ROM Error
P0426	Catalyst Temperature Sensor Range/Performance	P061B	Internal Control Module Torque Calculation Performance
P0427	Catalyst Temperature Sensor Low	P061C	Internal Control Module Engine RPM Performance
P0428	Catalyst Temperature Sensor High	P0620	Generator Control Circuit
P0429	Catalyst Heater Control Circuit	P0621	Generator Lamp/L Terminal Circuit

P0622	Generator Field/F Terminal Circuit	P2065	Fuel Level Sensor B Circuit
P0623	Generator Lamp Control Circuit	P2066	Fuel Level Sensor B Performance
P0624	Fuel Cap Lamp Control Circuit	P2067	Fuel Level Sensor B Circuit Low
P0625	Generator Field/F Terminal Circuit Low	P2068	Fuel Level Sensor B Circuit High
P0626	Generator Field/F Terminal Circuit High	P2069	Fuel Level Sensor B Circuit Intermittent
P0627	Fuel Pump A Control Circuit /Open	P2080	Exhaust Gas Temperature Sensor Circuit Range/Performance
P0628	Fuel Pump A Control Circuit Low	P2081	Exhaust Gas Temperature Sensor Circuit Intermittent
P0629	Fuel Pump A Control Circuit High	P2082	Exhaust Gas Temperature Sensor Circuit Range/Performance
P0630	VIN Not Programmed or Incompatible – ECM/PCM	P2083	Exhaust Gas Temperature Sensor Circuit Intermittent
P0631	VIN Not Programmed or Incompatible – TCM	P2084	Exhaust Gas Temperature Sensor Circuit Range/Performance
P0632	Odometer Not Programmed – ECM/PCM	P2085	Exhaust Gas Temperature Sensor Circuit Intermittent
P0633	Immobilizer Key Not Programmed – ECM/PCM	P2086	Exhaust Gas Temperature Sensor Circuit Range/Performance
P0634	PCM/ECM/TCM Internal Temperature Too High	P2087	Exhaust Gas Temperature Sensor Circuit Intermittent
P0640	Intake Air Heater Control Circuit	P20E2	Exhaust Gas Temperature Sensor 1/2 Correlation Bank 1
P0645	A/C Clutch Relay Control Circuit	P20E3	Exhaust Gas Temperature Sensor 1/3 Correlation Bank 1
P0646	A/C Clutch Relay Control Circuit Low	P20E4	Exhaust Gas Temperature Sensor 2/3 Correlation Bank 1
P0647	A/C Clutch Relay Control Circuit High	P2146	Fuel Injector Group A Supply Voltage Circuit/Open
P0648	Immobilizer Lamp Control Circuit	P2147	Fuel Injector Group A Supply Voltage Circuit Low
P0649	Speed Control Lamp Control Circuit	P2148	Fuel Injector Group A Supply Voltage Circuit High
P0650	Malfunction Indicator Lamp (MIL) Control Circuit	P2149	Fuel Injector Group B Supply Voltage Circuit/Open
P0651	Sensor Reference Voltage B Circuit/Open	P2150	Fuel Injector Group B Supply Voltage Circuit Low
P0652	Sensor Reference Voltage B Circuit Low	P2151	Fuel Injector Group B Supply Voltage Circuit High
P0653	Sensor Reference Voltage B Circuit High	P2152	Fuel Injector Group C Supply Voltage Circuit/Open
P0654	Engine RPM Output Circuit	P2153	Fuel Injector Group C Supply Voltage Circuit Low
P0655	Engine Hot Lamp Output Control Circuit	P2154	Fuel Injector Group C Supply Voltage Circuit High
P0656	Fuel Level Output Circuit	P2155	Fuel Injector Group D Supply Voltage Circuit/Open
P0666	PCM/ECM/TCM Internal Temperature Sensor Circuit	P2156	Fuel Injector Group D Supply Voltage Circuit Low
P0667	PCM/ECM/TCM Internal Temperature Sensor Range/Performance	P2157	Fuel Injector Group D Supply Voltage Circuit High
P0668	PCM/ECM/TCM Internal Temperature Sensor Circuit Low	P2158	Vehicle Speed Sensor B
P0669	PCM/ECM/TCM Internal Temperature Sensor Circuit High	P2159	Vehicle Speed Sensor B Range/Performance
P0670	Glow Plug Module Control Circuit	P2160	Vehicle Speed Sensor B Circuit Low
P0671	Cylinder 1 Glow Plug Circuit	P2161	Vehicle Speed Sensor B Intermittent/Erratic
P0672	Cylinder 2 Glow Plug Circuit	P2162	Vehicle Speed Sensor A / B Correlation
P0673	Cylinder 3 Glow Plug Circuit	P2163	Throttle/Pedal Position Sensor A Maximum Stop Performance
P0674	Cylinder 4 Glow Plug Circuit	P2164	Throttle/Pedal Position Sensor B Maximum Stop Performance
P0675	Cylinder 5 Glow Plug Circuit	P2165	Throttle/Pedal Position Sensor C Maximum Stop Performance
P0676	Cylinder 6 Glow Plug Circuit	P2166	Throttle/Pedal Position Sensor D Maximum Stop Performance
P0677	Cylinder 7 Glow Plug Circuit	P2167	Throttle/Pedal Position Sensor E Maximum Stop Performance
P0678	Cylinder 8 Glow Plug Circuit	P2168	Throttle/Pedal Position Sensor F Maximum Stop Performance
P0683	Glow Plug Control Module to PCM Communication Circuit	P2181	Cooling System Performance
P0684	Glow Plug Control Module to PCM Communication Circuit Range/Performance	P2182	Engine Coolant Temperature Sensor 2 Circuit
P0685	ECM/PCM Power Relay Control Circuit /Open	P2183	Engine Coolant Temperature Sensor 2 Circuit Range/Performance
P0686	ECM/PCM Power Relay Control Circuit Low	P2184	Engine Coolant Temperature Sensor 2 Circuit Low
P0687	ECM/PCM Power Relay Control Circuit High	P2185	Engine Coolant Temperature Sensor 2 Circuit High
P0688	ECM/PCM Power Relay Sense Circuit /Open	P2186	Engine Coolant Temperature Sensor 2 Circuit Intermittent/Erratic
P0689	ECM/PCM Power Relay Sense Circuit Low	P2199	Intake Air Temperature Sensor 1 / 2 Correlation
P0690	ECM/PCM Power Relay Sense Circuit High	P2200	NOx Sensor Circuit
P1000	OBD-II Monitor Testing Incomplete	P2201	NOx Sensor Circuit Range/Performance
P1001	KOER Test Cannot Be Completed	P2202	NOx Sensor Circuit Low Input
P1039	Vehicle Speed Signal Missing or Improper	P2203	NOx Sensor Circuit High Input
P1051	Brake Switch Signal Missing or Improper	P2204	NOx Sensor Circuit Intermittent Input
P1100	Mass Air Flow Sensor Intermittent	P2205	NOx Sensor Heater Control Circuit/Open
P1101	Mass Air Flow Sensor out of Self-Test Range	P2206	NOx Sensor Heater Control Circuit Low
P1102	Mass Air Flow Sensor In Range But Lower Than Expected	P2207	NOx Sensor Heater Control Circuit High
P1103	Mass Air Flow Sensor In Range But Higher Than Expected	P2208	NOx Sensor Heater Sense Circuit
P1111	System Pass	P2209	NOx Sensor Heater Sense Circuit Range/Performance
P1112	Intake Air Temperature Sensor Intermittent	P2210	NOx Sensor Heater Sense Circuit Low Input
P1114	Intake Air Temperature 2 Circuit Low Input	P2211	NOx Sensor Heater Sense Circuit High Input
P1115	Intake Air Temperature 2 Circuit High Input	P2212	NOx Sensor Heater Sense Circuit Intermittent
P1116	Engine Coolant Temperature Sensor is out of Self-Test Range	P2213	NOx Sensor Circuit
P1117	Engine Coolant Temperature Sensor Intermittent	P2214	NOx Sensor Circuit Range/Performance
P1120	Throttle Position Sensor out of range	P2215	NOx Sensor Circuit Low Input
P1121	Throttle Position Sensor Inconsistent with Mass Air Flow Sensor	P2216	NOx Sensor Circuit High Input
P1124	Throttle Position Sensor out of Self-Test Range	P2217	NOx Sensor Circuit Intermittent Input
P1125	Throttle Position Sensor Intermittent	P2218	NOx Sensor Heater Control Circuit/Open
P1168	FRP Sensor In Range But Low	P2219	NOx Sensor Heater Control Circuit Low
P1169	FRP Sensor In Range But High	P2220	NOx Sensor Heater Control Circuit High
P117B	Exhaust Gas Temperature Sensor Correlation – Bank 1	P2221	NOx Sensor Heater Sense Circuit
P117F	Fuel Pressure Regulator Control Exceeded Learning Limits	P2222	NOx Sensor Heater Sense Circuit Range/Performance
P1180	Fuel Delivery System Low	P2223	NOx Sensor Heater Sense Circuit Low
P1181	Fuel Delivery System High	P2224	NOx Sensor Heater Sense Circuit High
P1183	EOT Sensor Circuit Malfunction	P2225	NOx Sensor Heater Sense Circuit Intermittent
P1184	EOT Sensor Out Of Range	P2226	Barometric Pressure Circuit
P1192	Inlet Air Temp. Circuit Low	P2227	Barometric Pressure Circuit Range/Performance
P1193	Inlet Air Temp. Circuit High	P2228	Barometric Pressure Circuit Low
P120F	Fuel Pressure Regulator Excessive Variation	P2229	Barometric Pressure Circuit High
P1220	Series Throttle Control fault	P2230	Barometric Pressure Circuit Intermittent
P1224	Throttle Position Sensor B out of Self-Test Range	P2261	Turbo/Super Charger Bypass Valve – Mechanical
P2031	Exhaust Gas Temperature Sensor Circuit	P2262	Turbo Boost Pressure Not Detected – Mechanical
P2032	Exhaust Gas Temperature Sensor Circuit Low	P2263	Turbo/Super Charger Boost System Performance
P2033	Exhaust Gas Temperature Sensor Circuit High	P2264	Water in Fuel Sensor Circuit
P2034	Exhaust Gas Temperature Sensor Circuit	P2265	Water in Fuel Sensor Circuit Range/Performance
P2035	Exhaust Gas Temperature Sensor Circuit Low	P2266	Water in Fuel Sensor Circuit Low
P2036	Exhaust Gas Temperature Sensor Circuit High	P2267	Water in Fuel Sensor Circuit High

P2268	Water in Fuel Sensor Circuit Intermittent	P2530	Ignition Switch Run Position Circuit
P2269	Water in Fuel Condition	P2531	Ignition Switch Run Position Circuit Low
P2270	O2 Sensor Signal Stuck Lean	P2532	Ignition Switch Run Position Circuit High
P2271	O2 Sensor Signal Stuck Rich	P2533	Ignition Switch Run/Start Position Circuit
P2272	O2 Sensor Signal Stuck Lean	P2534	Ignition Switch Run/Start Position Circuit Low
P2273	O2 Sensor Signal Stuck Rich	P2535	Ignition Switch Run/Start Position Circuit High
P2274	O2 Sensor Signal Stuck Lean	P2536	Ignition Switch Accessory Position Circuit
P2275	O2 Sensor Signal Stuck Rich	P2537	Ignition Switch Accessory Position Circuit Low
P2276	O2 Sensor Signal Stuck Lean	P2538	Ignition Switch Accessory Position Circuit High
P2277	O2 Sensor Signal Stuck Rich	P2539	Low Pressure Fuel System Sensor Circuit
P2278	O2 Sensor Signals Swapped Bank 1 Sensor 3 / Bank 2 Sensor 3	P2540	Low Pressure Fuel System Sensor Circuit Range/Performance
P2279	Intake Air System Leak	P2541	Low Pressure Fuel System Sensor Circuit Low
P2280	Air Flow Restriction / Air Leak Between Air Filter and MAF	P2542	Low Pressure Fuel System Sensor Circuit High
P2281	Air Leak Between MAF and Throttle Body	P2543	Low Pressure Fuel System Sensor Circuit Intermittent
P2282	Air Leak Between Throttle Body and Intake Valves	P2544	Torque Management Request Input Signal A
P2283	Injector Control Pressure Sensor Circuit	P2545	Torque Management Request Input Signal A Range/Performance
P2284	Injector Control Pressure Sensor Circuit Range/Performance	P2546	Torque Management Request Input Signal A Low
P2285	Injector Control Pressure Sensor Circuit Low	P2547	Torque Management Request Input Signal A High
P2286	Injector Control Pressure Sensor Circuit High	P2548	Torque Management Request Input Signal B
P2287	Injector Control Pressure Sensor Circuit Intermittent	P2549	Torque Management Request Input Signal B Range/Performance
P2288	Injector Control Pressure Too High	P2550	Torque Management Request Input Signal B Low
P2289	Injector Control Pressure Too High – Engine Off	P2551	Torque Management Request Input Signal B High
P2290	Injector Control Pressure Too Low	P2552	Throttle/Fuel Inhibit Circuit
P2291	Injector Control Pressure Too Low – Engine Cranking	P2553	Throttle/Fuel Inhibit Circuit Range/Performance
P2292	Injector Control Pressure Erratic	P2554	Throttle/Fuel Inhibit Circuit Low
P2293	Fuel Pressure Regulator 2 Performance	P2555	Throttle/Fuel Inhibit Circuit High
P2294	Fuel Pressure Regulator 2 Control Circuit	P2556	Engine Coolant Level Sensor/Switch Circuit
P2295	Fuel Pressure Regulator 2 Control Circuit Low	P2557	Engine Coolant Level Sensor/Switch Circuit Range/Performance
P2296	Fuel Pressure Regulator 2 Control Circuit High	P2558	Engine Coolant Level Sensor/Switch Circuit Low
P2299	Brake Pedal Position / Accelerator Pedal Position Incompatible	P2559	Engine Coolant Level Sensor/Switch Circuit High
P2413	Exhaust Gas Recirculation System Performance	P2560	Engine Coolant Level Low
P2425	Exhaust Gas Recirculation Cooling Valve Control Circuit/Open	P2561	A/C Control Module Requested MIL Illumination
P2426	Exhaust Gas Recirculation Cooling Valve Control Circuit Low	P2562	Turbocharger Boost Control Position Sensor Circuit
P2427	Exhaust Gas Recirculation Cooling Valve Control Circuit High	P2563	Turbocharger Boost Control Position Sensor Circuit Range/Performance
P2428	Exhaust Gas Temperature Too High	P2564	Turbocharger Boost Control Position Sensor Circuit Low
P2429	Exhaust Gas Temperature Too High	P2565	Turbocharger Boost Control Position Sensor Circuit High
P242A	Exhaust Gas Temperature Sensor Circuit Bank 1 sens 3	P2566	Turbocharger Boost Control Position Sensor Circuit Intermittent
P242B	Exhaust Gas Temperature Sensor Circuit performance Bank 1 sens 3	P2577	Direct Ozone Reduction Catalyst Efficiency Below Threshold
P242C	Exhaust Gas Temperature Sensor Circuit low Bank 1 sens 3	P2604	Intake Air Heater A Circuit Range/Performance
P242D	Exhaust Gas Temperature Sensor Circuit high Bank 1 sens 3	P2605	Intake Air Heater A Circuit/Open
P242E	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic Bank 1 Sensor 3	P2606	Intake Air Heater B Circuit Range/Performance
P242F	Diesel Particulate Filter Ash accumulation	P2607	Intake Air Heater B Circuit Low
P244A	Diesel Particulate Filter Differential Pressure Low	P2608	Intake Air Heater B Circuit High
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P244C	Exhaust Gas temperature too Low for regeneration	P2610	ECM/PCM Internal Engine Off Timer Performance
P244D	Exhaust Gas Temperature too High for regeneration	P2611	A/C Refrigerant Distribution Valve Control Circuit/Open
P244E	Exhaust Gas temp too low for regeneration Bank 2	P2612	A/C Refrigerant Distribution Valve Control Circuit Low
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P2454	Diesel Particulate Filter Pressure Sensor A circuit Low	P2614	Camshaft Position Signal Output Circuit/Open
P2455	Diesel Particulate Filter Pressure Sensor A circuit High	P2615	Camshaft Position Signal Output Circuit Low
P2456	Diesel Particulate Filter Pressure Sensor Intermittent	P2616	Camshaft Position Signal Output Circuit High
P2457	Exhaust Gas Recirculation cooling system Performance	P2617	Crankshaft Position Signal Output Circuit/Open
P2458	Particulate filter Regeneration Duration	P2618	Crankshaft Position Signal Output Circuit Low
P2459	Particulate Filter Regeneration Frequency	P2619	Crankshaft Position Signal Output Circuit High
P245A	EGR Cooler Bypass Control Circuit Low	P2620	Throttle Position Output Circuit/Open
P245B	EGR Cooler Bypass Circuit Range/Performance	P2621	Throttle Position Output Circuit Low
P245C	EGR Cooler Bypass Circuit High	P2622	Throttle Position Output Circuit High
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P245F	Diesel Particulate filter Sensor B Range/Performance	P2624	Injector Control Pressure Regulator Circuit Low
P2500	Generator Lamp/L-Terminal Circuit Low	P2625	Injector Control Pressure Regulator Circuit High
P2501	Generator Lamp/L-Terminal Circuit High	P2665	Fuel Shutoff Valve B Control Circuit/Open
P2502	Charging System Voltage	P2666	Fuel Shutoff Valve B Control Circuit Low
P2503	Charging System Voltage Low	P2667	Fuel Shutoff Valve B Control Circuit High
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P2505	ECM/PCM Power Input Signal	P2669	Actuator Supply Voltage B Circuit /Open
P2506	ECM/PCM Power Input Signal Range/Performance	P2670	Actuator Supply Voltage B Circuit Low
P2507	ECM/PCM Power Input Signal Low	P2671	Actuator Supply Voltage B Circuit High
P2508	ECM/PCM Power Input Signal High		
P2509	ECM/PCM Power Input Signal Intermittent		
P2510	ECM/PCM Power Relay Sense Circuit Range/Performance		
P2511	ECM/PCM Power Relay Sense Circuit Intermittent		
P2512	Event Data Recorder Request Circuit/ Open		
P2513	Event Data Recorder Request Circuit Low		
P2514	Event Data Recorder Request Circuit High		
P2515	A/C Refrigerant Pressure Sensor B Circuit		
P2516	A/C Refrigerant Pressure Sensor B Circuit Range/Performance		
P2517	A/C Refrigerant Pressure Sensor B Circuit Low		
P2518	A/C Refrigerant Pressure Sensor B Circuit High		
P2519	A/C Request A Circuit		
P2520	A/C Request A Circuit Low		
P2521	A/C Request A Circuit High		
P2522	A/C Request B Circuit		
P2523	A/C Request B Circuit Low		
P2524	A/C Request B Circuit High		

# VOICE PROMPT

## MENU FLOW CHART

