

2004-2005 Cadillac CTS-V 1999-2002 Camaro/Firebird 1999-2004 Corvette 2004 Pontiac GTO with LS1 and LS6 Engines



# **JET Performance Products**

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# **GENERAL PREPARATION**

- 1. Turn OFF all power draining accessories; Radio, Cell Phone chargers, A/C, etc.
- Turn your headlights off when programming your vehicle for added safety against battery failure. See your owner's manual for vehicle specific information regarding your headlights.
- 3. Your vehicle may be equipped with daytime running lights and/or sensors that turn the headlights on automatically while the ignition is on. Please check your owner's manual for the proper procedure on temporarily disabling these lights to eliminate this extra drain on your battery during the programming process. This is sometimes done by pressing the "dome override" button two to four times or in the case of automatic headlights turning theheadlight switch to the left.
- 4. Some vehicles require disabling various communication systems prior to programming so that the process is not interrupted, please note if your vehicle is listed below and follow the specific instructions for it. If it is not listed please continue to Installation Instructions Overview.

#### SPECIAL INSTRUCTIONS FOR 1999-2004 CORVETTE: SEE PAGE 17 BEFORE PROCEEDING

# SPECIAL INSTRUCTIONS FOR 2004-UP CADILLAC CTS-V WITH ON STAR: SEE PAGE 20 BEFORE PROCEEDING

#### INSTALLATION INSTRUCTIONS OVERVIEW

Your vehicle has an onboard computer that controls the engine and transmission. The JET programmer reprograms your factory computer according to your specifications with JET Performance Products Tuning.

To reprogram your vehicle's computer, simply plug the programmer cable into the vehicle's diagnostic connector, located under the dash panel on the driver's side. Set the parking brake. Next, turn the ignition key to RUN but **do not start** the engine. It will then identify your vehicle and ask a series of questions on its LCD screen.

When completed, turn the key to OFF and disconnect the cable from the diagnostic connector. Now you're "Engineered for Power".

JET Performance Product's tuning can be stored in only one vehicle. When you install JET Performance Product's tuning program into your vehicle, the programmer reads and stores your vehicle's factory programming. You can use the Programmer to restore your stock programming if it should ever become necessary.

You may also reconnect your programmer at any time to modify the programming. Simply reconnect the JET Performance programmer, answer the necessary questions, and program your vehicle.

# PROGRAMMING INSTRUCTIONS

- Locate the Date Link Connector (DLC) under the driver's side of the dash panel.
- 2. Plug the Programmer cable into the DLC. Make sure the cable is plugged in completely to ensure a good connection.
- 3. Set the parking brake to turn off the DRLs (Daylight Running Lamps)

#### IMPORTANT:

- DO NOT LEAVE THE VEHICLE WHILE PROGRAMMING IS IN PROGRESS.
- MAKE SURE THE VEHICLE BATTERY IS FULLY CHARGED BEFORE PROGRAMMING.
- THE KEY MUST REMAIN IN THE RUN POSITION, WITHOUT THE ENGINE RUNNING, DURING THE ENTIRE PROGRAMMING PROCESS.
- IF THE VEHICLE HAS BEEN PROGRAMMED USING ANOTHER
  MANUFACTURERS PROGRAMMER, YOU MUST RETURN THE VEHICLE
  TO STOCK PROGRAMMING BEFORE USING THE JET PROGRAMMER.
- DO NOT DISTURB OR UNPLUG THE CABLE UNTIL THE PROGRAMMER INSTRUCTS YOU TO DO SO.
- DO NOT OPERATE ELECTRICAL ACCESSORIES (RADIO, WINDOWS, WIPERS, ETC.) WHILE PROGRAMMING.
- IF THE VEHICLE IS EQUIPPED WITH AN ONSTAR SYSTEM, MAKE SURE THE SYSTEM IS TEMPORARILY DISABLED.
- DO NOT ATTEMPT PROGRAMMING WHILE THE VEHICLE IS CONNECTED TO A BATTERY CHARGER.

4. The programmer will perform some self tests and then the following will appear on the screen:

### TURN IGNTN ON, PRESS ANY KEY

- Press Y to enter Programming Functions and continue with <u>step 6</u> UNLESS THE FOLLOWING MESSAGES APPEAR:
  - "NOT FOR THIS VEHICLE" If you get this message Call JET Customer Service
  - <u>"SOFTWARE NEEDS TO BE UPDATED"</u> If you get this message Call Jet Customer Service
  - <u>RESTORE FACTORY PROGRAMMING Y/N?</u> This message will appear after you have previously updated your vehicle with the JET Programmer, answer Y to this option to return your vehicle to its stock programming answer N to continue.

Press **N** to enter DTC Reader Functions (see page 8)

## **ENGINE TUNING**

6. Press Y to install JET EZ Programming (The JET EZ Programming option is engineered to give you the best performance with the easiest installation. By selecting this option the JET Performance Programmer will download the most up to date JET Performance tuning software to increase horsepower and torque based on your Stage One, Two or Three Tuning selection (See page 4 for a detailed explanation of each tuning selection). In addition, automatic transmission equipped vehicles will get improved shifting patterns and increased shift firmness. JET EZ Tuning is a great choice when you want more power without the need for custom tuning.)

Press **N** to enter **Custom Programming** Options (The Custom Programming option on the JET Performance Programmer allows the user to install JET Performance Engine tuning based on your Stage One, Two or Three selection (see page 4 for a detailed explanation of each tuning selection). In addition it allows the user to select custom changes such as shift points, shift firmness, rev limits, and speed limiters based on tire ratings. If you have changed the tires or gears on your vehicle and need to correct the speedometer because of the changes this is the program you will want to use.)

**Stage One Engine Tuning** is the best selection for most applications. This tuning will work excellent for stock vehicles as well as slightly modified applications with aftermarket air filter, air intakes, exhaust, etc.

**Stage Two Engine Tuning** is engineered for vehicles with an aftermarket air intake system, cat back exhaust system and a lower temperature thermostat than installed at the factory. The Stage Two tuning may cause detonation in vehicles even with these modifications installed depending on the quality of the fuel used, if detonation occurs using the Stage One Engine Tuning will achieve better results.

**Stage Three Engine Tuning** is *ONLY* for applications that have an aftermarket air intake system, cat back exhaust with headers and a 160 degree thermostat. The Stage Three Engine tuning WILL cause detonation and engine damage in a stock application and should not be used unless the above modifications are met.

 Use <u>Arrow keys</u> to scroll through the tuning options and press <u>Y</u> to select. Premium fuel must be used for your vehicle or detonation and engine damage may occur.

# **AUTOMATIC TRANS?Y/N**

Press Y if you have an automatic transmission; if you had previously selected JET EZ Programming, programming will begin immediately see <u>step 22</u>, if you are doing Custom Programming continue with <u>step 9</u>.

Press **N** if you have a manual transmission and please note the following; If you had previously selected **JET EZ** Programming, programming will begin see <u>step 22</u>, If you are doing Custom Programming continue with <u>step 11.5</u>

# **MODIFY SHIFT POINTS ? Y/N**

This allows you to change the Wide Open Throttle (WOT) shift points in your Automatic transmission for 1-2, 2-3 and 3-4 shift points. You can select to increase or decrease your shift points based on the mile per hour you want to raise or lower the shift points. NOTE: If you raise your shift points more than 1 or 2 MPH it may be necessary to raise the RPM Limiter also.

 Press Y to modify shift points and continue with step 10, Press N to leave shift points stock and continue with <u>step 11</u>. 10. Press Y to modify 1-2 shift, use <u>Arrow</u> keys to move mph up or down and press Y to select, do the same for 2-3, 3-4 shifts. Press N to leave stock.

## **MODIFY SHIFT FIRMNESS? Y/N**

11. Press Y to increase shift firmness, Press N to leave the shift firmness stock and continue with <u>step 12</u>.

#### **DISABLE CAGS ?Y/N**

This allows you to disable the 1-4 Skip Shift feature that is installed from the factory on some manual transmission applications.

11.5 Press Y to Disable, Press N to leave stock and continue with <u>step 12</u>. <u>NOTE:</u> <u>This option will only appear if you selected Manual transmission.</u>

# **MODIFY RPM LIMITER ? Y/N**

This allows you to change the Factory programmed RPM limiter in your vehicle by increasing the limit 100 RPM at a time up to the maximum change of 800 RPM. As noted in the shift point section it may be necessary to change this if you change the shift points.

- **12.** Press **Y** to modify RPM limiter and continue with <u>step 13</u>. Press **N** to leave RPM limits stock and continue with <u>step 14</u>.
- **13.** Press **Arrow** keys to select RPM limit change and press **Y**.

# **MODIFY SPEED LIMITER? Y/N**

This allows you to modify the factory speed limit that is programmed into your computer. Most vehicles have speed limiters based on the tires that are installed on the vehicle from the factory. Each tire has a speed rating that is indicated by a letter designation. For your safety and the safety of others never exceed the speed rating on your tires or the posted legal speed limit at any time. The user assumes any and all responsibility for modifying the speed limiter. In the case where a reduced speed limiter is required, JET has included the option to lower the speed limiter.

- **14.** Press **Y** to Modify Speed Limiter and continue with **step 15**. Press **N** to leave stock and continue to **step 16**.
- 15. Press Arrow Keys to modify speed limiter based on tire rating and press Y.

# **MODIFIED TIRE SIZE ? Y/N**

Use this selection to fix your speedometer and shift points if you changed your tire size. You can select from 24 to 30 inch tire sizes in half inch increments.

- Press Y to correct for tire size changes and continue with <u>step 17</u>. Press N for no changes and continue with <u>step 18</u>.
- 17. Press Arrow Keys to select correct tire size and press Y.

## **MODIFY GEAR RATIO? Y/N**

Use this selection if you have changed the gear ratio in the differential. The selections include both factory and aftermarket gear ratios that may or may not be available for your vehicle.

- Press Y to correct for gear ratio changes and continue with <u>step 19</u>. Press N for no changes and continue with <u>step 20</u>.
- 19. Press Arrow Keys to select correct gear ratio and press Y.

### **MODIFIED THERMOSTAT? Y/N**

This allows you to modify the Fan Turn On temperature based on the temperature of your thermostat. We have included selections for Stock, 195 Degree, 180 Degree and 160 Degree Thermostats.

- 20. Press Y to change fan Turn On temps for modified thermostat and continue to step 21, or Press N for no changes and continue to MODIFY CHOICES.
- 21. Press Arrow Keys to select correct thermostat temperature and press Y.

# **MODIFY CHOICES? Y/N**

This allows you to go back and modify any choices you have made before programming begins, if you select Y you will be returned to the beginning of the choices to change or confirm your selections. If you select N programming will begin.

22. Programming has begun, <u>do not disturb the cable, key position or operate</u> anything in the vehicle during the programming process.

NOTE: During programming, vehicles equipped with driver information centers will display various service messages - these are nothing to be concerned about and will go away when programming is complete.

- 23. When programming is complete, the Programmer will display Programming Complete, turn the ignition off and unplug the cable from the Data link connector (DLC).
- **24.** That's It! Programming is now complete. Please store your Jet Performance Programmer in a safe dry place in its original packaging, You will need the programmer in the future to return your vehicle to stock or modify your settings.
- **25.** If you had to previously disable your On Star system or install the JET/GM programming adaptor, reinstall the fuses that you removed to the correct locations and/or reinstall the factory connectors.
- 26. Start the vehicle and verify that the service engine light is NOT on. If your vehicle will not start, see below for details on what to do if your vehicle won't start after programming.
- 27. NOTE: Some vehicles may run poorly for the first few minutes after programming, poor idle quality will be the most noticeable issue. This will go away in a short period of time and is nothing to be concerned about.

# What To Do If Your Vehicle Won't Start After Programming

In some vehicles with the Vehicle Anti-Theft System (VATS), the programming process will set an error in the VATS module which will prevent vehicle from starting. To clear this error disconnect the ground (-) cable from your battery for one half hour. Then reconnect the ground cable to the battery and start the vehicle.

# JET DATA TROUBLE CODE READER INSTRUCTIONS

The JET Performance Programmer also functions as a Data Trouble Code (DTC) reader for GM OBDII equipped vehicles. This allows the user to read and clear any stored data trouble codes in the system.

We have included a list of DTC's so you will know what code is stored in your vehicle. (This list may or may not include all available codes for all vehicles. Check a factory repair manual for your vehicle.)

Please NOTE: The DTC reader included in the JET Performance Programmer is not designed to be a complete scan tool or a diagnostic device. It is included as a convenience only. The interpretation of these codes and there effects are best left to an experienced automotive technician. The JET technical department WILL NOT help you interpret or diagnose any codes, please see your local dealer or technician.

Connecting the JET Programmer DTC code reader:

- Locate the Data Link Connector (DLC) under the driver's side of the dash panel.
- 2. Plug the Programmer cable into the DLC. Make sure the cable is plugged in completely to ensure a good connection.
- 3. The programmer will perform some self tests and then the following will appear on the screen.

#### TURN IGNTN ON PRESS ANY KEY

Now turn the ignition key to the **RUN** position but **do not start** the vehicle and the following screen will appear:

#### Y PROGRAMMING

#### N DTC READER

4. Press N to continue to the DTC reader function of the JET Programmer and the following screen will appear:

#### **GET DTCS Y/N**

5. Press Y to continue and get DTC's or N to continue to the clear DTC's screen.

If you selected **Y** and there are any **DTC's** stored in the system they will be displayed in numerical order, use the arrow keys to scroll through any stored codes. If no **DTC's** are found the message on the screen will read **NO DTCS** stored. You can press any key to continue to the **CLEAR DTCS** screen.

Press N and the programmer will return to the starting screen..

6. If there are DTC's stored and you want to clear them continue to the CLEAR DTCS Y/N screen and select Y.

P0089 Fuel Pres Regulator Perf P00010 A Camshaft Pos Actuator Circuit Bank 1 P0011 A Camshaft Pos Timing - Over Advanced Bank 1 P0090 Fuel Pres Regulator Ctrl Circuit P0091 Fuel Pres Regulator Ctrl Circuit Lo P0012 A Camshaft Pos Timing - Over Retarded Bank 1 P0013 B Camshaft Pos Actuator Circuit Bank 1 P0092 Fuel Pres Regulator Ctrl Circuit Hi P0014 B Camshaft Pos Timing - Over Advanced Bank 1 P0093 Fuel Sys Leak Detected - Large Leak P0015 B Camshaft Pos Timinng - Oveer Retarded Bank 1 P0094 Fuel Svs Leak Detected - Small Leak P0020 A Camshaft Pos Actuator Circulit Bank 2 P0100 MAE Sensor Ckt. Insufficient Activity P0021 A Camshaft Pos Timing - Over Advanced Bank 2 P0101 Mass Air Flow (MAF) Sensor Performance P0102 Mass Air Flow (MAF) Sensor Circuit Low Frequency P0022 A Camshaft Pos Timing - Over Retarded Bank 2 P0023 B Camshaft Pos Actuator Circuit Bank 2 P0103 Mass Air Flow (MAF) Sensor Circuit High Frequency P0024 B Camshaft Pos Timing - Over Advanced Bank 2 P0104 Mass Air Flow Circuit Intermittent P0025 B Camshaft Pos Timing - Over Retarded Bank 2 P0105 MAP Sensor Circuit Insufficient Activity P0030 H02S Heater Control Circuit Bank 1 Sensor 1 P0106 Manifold Absolute Pressure (MAP) System Performance P0107 Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage P0031 H02S Heater Circuit Low Voltage Bank 1 Sensor 1 P0032 H02S Heater Circuit High Voltage Bank 1 Sensor 1 P0108 Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage P0109 Manifold Absolute Pressure Circuit Intermittent P0033 Turbo Charger Bypass Valve Ctrl Circuit P0034 Turbo Charger Bypass Valve Ctrl Circuit Lo P0110 Intake Air Temperature (IAT) Sensor Circuit P0035 Turbo Charger Bypass Valve Crl Circuit Hi P0111 Intake Air Temperature (IAT) Sensor Performance P0036 H02S Heater Control Circuit Bank 1 Sensor 2 P0112 Intake Air Temperature (IAT) Sensor Circuit Low Voltage P0037 H02S Heater Circuit Low Voltage Bank 1 Sensor 2 P0113 Intake Air Temperature (IAT) Sensor Circuit High Voltage P0038 H02S Heater Circuit High Voltage Bank 1 Sensor 2 P0114 Intake Air Temperature Circuit Intermittent P0042 H02S Heater Ctrl Circuit Bank 1 Sensor 3 P0115 Engine Coolant Temperature (ECT) Sensor Circuit P0043 H02S Heater Ctrol Circuit Lo Bank 1 Sensor 3 P0116 Engine Coolant Temperature (ECT) Sensor Performance P0044 H02S Heater Ctrllllll Circuit Hi Bank 1, Sensor 3 P0117 Engine Coolant Temperature (ECT) Sensor Circuit Low Voltage P0050 H02S Heater Circuit Bank 2 Sensor 1 P0118 Engine Coolant Temperature (ECT) Sensor Circuit High Voltage P0051 H02S Heater Circuit Low Voltage Bank 2 Sensor 1 P0119 Engine Coolant Temperature Circuit Intermittent P0052 H02S Heater Circuit High Voltage Bank 2 Sensor 1 P0120 TP System Performance P0056 H02S Heater Circuit Bank 2 Sensor 2 P0121 TP Sensor Circuit Insufficient Activity P0122 Throttle Position (TP) Sensor Circuit Low Voltage P0057 H02S Heater Circuit Low Voltage Bank 2 Sensor 2 P0058 H02S Heater Circuit High Voltage Bank 2 Sensor 2 P0123 Throttle Position (TP) Sensor Circuit High Voltage P0062 H02S Heater Ctrl Circuit Bank 2, Sensor 3 P0124 Throttle Position Sensor 1 Circuit Intermittent P0063 H02S Heater Ctrl Circuit Lo Bank 2 Sensor 3 P0125 Engine Coolant Temperature (ECT) Insufficient for Closed Loop Fuel Control P0064 H02S Heater Ctrl Circuit Hi Bank 2, Sensor 3 P0126 Insufficient ECT for Stable Operation P0127 Intake Air Temmmmmp Too Hi P0065 Air Assisted Injector Ctrl Range/Perf P0066 Air Assisted Injector Ctrl Circuit/Circuit Lo. P0128 Coolant Thermostat P0067 Air Assisted Injector Ctrl Circuit Hi P0130 H02S Circuit Closed Loop (CL) Performance Bank 1 Sensor 1 P0070 Ambient Air Temp Sensor Circuit P0131 H02S Circuit Low Voltage Bank 1 Sensor 1 P0071 Ambient Air Temp Sensor Range/Perf P0132 H02S Circuit High Voltage Bank 1 Sensor 1 P0072 Ambient Air Temp Sensor Circuit Lo Input P0133 H02S Slow Response Bank 1 Sensor 1 P0073 Ambient Air Temp Sensor Circuit Hi Input P0134 H02S Circuit Insufficient Activity Bank 1 Sensor 1 P0074 Ambient Air Temp Sensor Circuit Intermittent P0135 H02S Heater Performance Bank 1 Sensor 1 P0075 Intake Valve Ctrl Circuit Bank 1 P0136 H02S Circuit Bank 1 Sensor 2 P0076 Intake Valve Ctrl Circuit Lo Bank 1 P0137 H02S Circuit Low Voltage Bank 1 Sensor 2 P0077 Intake Valve Ctrl Circuit Hi Bank 1 P0138 H02S Circuit High Voltage Bank 1 Sensor 2 P0078 Exhaust Valve Ctrl Circuit Bank 1 P0139 H02S Slow Response Bank 1 Sensor 2 P0079 Exhaust Valve Ctrl Circuit Lo Bank 1 P0140 H02S Circuit Insufficient Activity Bank 1 Sensor 2 P0080 Exhause Valve Ctrl Circuit Hi Bank 1 P0141 H02S Heater Performance Bank 1 Sensor 2 P0081 Intake Valve Ctrl Circuit Bank 2 P0142 H02S Circuit Bank 1 Sensor 3 P0082 Intake Valve Ctrl Circuit Lo Bank 2 P0143 H02S Circuit Low Voltage Bank 1 Sensor 3 P0083 Intake Valve Ctrl Circuit Hi Bank 2 P0144 H02S Circuit High Voltage Bank 1 Sensor 3 P0084 Exhause Valve Ctrl Cijircuit Bank 2 P0145 H02S Circuit Bank 1 Sensor 2 Slow Response P0085 Exhaust Valve Ctrl Circuit Lo Bank 2 P0146 H02S Circuit Insufficient Activity Bank 1 Sensor 3 P0086 Exhaust Valve Ctrl Circuit Hi Bank 2 P0147 H02S Heater Performance Bank 1 Sensor 3 P0087 Fuel Rail/Svs Pres - Too Lo P0148 Fuel Delivery Error P0088 Fuel Rail/Sys Pres - Too Hi P0149 Fuel Timing Error

P0150 Oxy Sensor Circuit Bank 2, Sensor 1 P0211 Injector 11 Control Circuit P0212 Injector 12 Control Circuit P0151 Oxy Sensor Circuit Lo Voltage Bank 2, Sensor 1 P0152 Oxy Sensor Circuit Hi Voltage Bank 2, Sensor 1 P0213 Cold Start Injector 1 P0153 Oxy Sensor Circuit Slow Response Bank 2, Sensor 1 P0214 Cold Start Injector 2 P0215 Engine Shutoff Control Circuit P0154 Oxy Sensor Circuit No Activity Detected Bank 2, Sensor 1 P0155 Heated Oxy Sensor Heater Circuit Bank 2, Sensor 1111 P0216 Injection Timing Control Circuit P0156 Oxy Sensor Circuit Bank 2... Sensor P0217 Engine Overtemp Condition P0157 Oxy Sensor Circuit Lo Voltage Bank 2, Sensor 2 P0218 Transmission Fluid Overtemperature P0158 Oxy Sensor Circuiit Hi Voltage Bank 2, Sensor 2 P0219 Engine Overspeed Condition P0220 APP Sensor 2 Circuit P0159 Oxy Sensor Circuit Slow Response Bank 2, Sensor 2 P0160 Oxy Sensor Circuit No Activity Detected Bank 2, Sensor 2 P0221 APP Sensor 2 Circuit Performance P0161 Heated Oxy Sensor Heater Circuit Bank 2, Sensor 2 P0222 APP Sensor 2 Circuit Low Voltage P0162 Oxy Sensor Circcuit Bank 2, Sensor 3 P0223 APP Sensor 2 Circuit High Voltage P0163 Oxy Sensor Circuit Lo Voltage Bank 2, Sensor 3 P0224 Throttle Position Sensor 2 Intermittent P0164 Oxy Sensor Circuit Hi Voltage Bank 2, Sensor 3 P0225 APP Sensor 3 Circuit P0226 APP Sensor 3 Circuit Performance P0165 Oxy Sensor Circuit Slow Response Bank 2, Sensor 3 P0166 Oxy Sensor Circuit No Activity Detected Bank 2, Sensor 3 P0227 APP Sensor 3 Circuit Low Voltage P0228 APP Sensor 3 Circuit High Voltage P0167 Heated Oxy Sensor Heater Circuit Bank 2, Sensor 3 P0168 Eng Fuel Temp Hi P0229 Throttle Position Sensor 3 Intermittent P0230 Fuel Pump Relay Control Cir P0169 Incorrect Fuel Composition P0170 Fuel Trim Error Bank 1 P0231 Fuel Pump Feedback Circuit Low Voltage P0232 Fuel Pump Feedback Circuit High Voltage P0171 Fuel Trim System Lean Bank 1 P0233 Fuel Pump Secondary Circuit Intermittent P0172 Fuel Trim System Rich Bank 1 P0173 Fuel Trim Bank 2 P0234 TC Engine Overboost Condition P0174 Fuel Trim System Lean Bank 2 P0235 Turbocharger Boost Sensor 1 Circuit P0175 Fuel Trim System Rich Bank 2 P0236 TC Boost System P0237 TC Boost Sensor Circuit Low Voltage P0176 Fuel Composition Sensor Circuit P0177 Fuel Composition Sensor Circuit Performance P0238 TC Boost Sensor Circuit High Voltage P0178 Fuel Composition Sensor Circuit Low Voltage P0239 Turbocharger Boost Sensor 2 Circuit P0240 Turbocharger Boost Sensor 2 Performance P0179 Fuel Composition Sensor Circuit High Voltage P0180 Fuel Temperature Sensor 1 Circuit P0241 Turbocharger Boost Sensor 2 Circuit Low Voltage P0242 Turbocharger Boost Sensor 2 Circuit High Voltage P0181 Fuel Temp, Sensor 1 Circuit Performance P0243 Turbocharger Wastegate Solenoid 1 P0182 Fuel Temperature Sensor Circuit Low Voltage P0244 Turbocharger Wastegate Solenoid 1 Performance P0183 Fuel Temperature Sensor Circuit High Voltage P0245 Turbocharger Wastegate Solenoid 1 Low Voltage P0184 Fuel Temperature Sensor 1 Circuit Intermittent P0185 Fuel Temperature Sensor 2 Circuit P0246 Turbocharger Wastegate Solenoid 1 High Voltage P0186 Fuel Temp, Sensor 2 Circuit Performance P0247 Turbocharger Wastegate Solenoid 2 P0187 Fuel Temperature Sensor 2 Circuit Low Voltage P0248 Turbocharger Wastegate Solenoid 2 Performance P0188 Fuel Temperature Sensor 2 Circuit High Voltage P0249 Turbocharger Wastegate Solenoid 2 Low Voltage P0189 Fuel Temperature Sensor 2 Circuit Intermittent P0250 Turbocharger Wastegate Solenoid 2 High Voltage P0190 Fuel Rail Pressure Sensor Circuit P0251 Injection Pump Fuel Metering Control "A" Malfunction (Cam/Rotor/Injector) P0252 Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector) P0191 Fuel Rail Pressure Sensor Circuit Performance P0192 Fuel Rail Pressure Sensor Circuit Low Voltage P0253 Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector) P0193 Fuel Rail Pressure Sensor Circuit High Voltage P0254 Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector) P0255 Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector) P0194 Fuel Rail Pressure Sensor Circuit Intermittent P0195 Engine Oil Temperature Sensor P0256 Injection Pump Fuel Metering Control "B" Malfunction (Cam/Rotor/Injector) P0257 Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector) P0196 Engine Oil Temperature Sensor Performance P0258 Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector) P0197 Engine Oil Temperature Sensor Low Voltage P0198 Engine Oil Temperature Sensor High P0259 Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector) P0199 Engine Oil Temperature Sensor Intermittent P0260 Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector) P0261 Cylinder 1 Injector Circuit Low P0200 Injector Control Circuit P0262 Cylinder 1 Injector Circui P0201 Injector 1 Control Circuit P0263 Cylinder 1 Contribution/Balance Fault P0202 Injector 2 Control Circuit P0203 Injector 3 Control Circuit P0264 Cylinder 2 Injector Circuit Low P0265 Cylinder 2 Injector Circuit High P0204 Injector 4 Control Circuit P0205 Injector 5 Control Circuit P0266 Cylinder 2 Contribution/Balance Fault P0267 Cylinder 3 Injector Circuit Low P0206 Injector 6 Control Circuit P0268 Cylinder 3 Injector Circuit High P0207 Injector 7 Control Circuit P0208 Injector 8 Control Circuit P0269 Cylinder 3 Contribution/Balance Fault P0270 Cylinder 4 Injector Circuit Low P0209 Injector 9 Control Circuit P0210 Injector 10 Control Circuit

P0271 Cylinder 4 Injector Circuit High P0342 Camshaft Position Sensor Circuit Low Input P0272 Cylinder 4 Contribution/Balance Fault P0343 Camshaft Position Sensor Circuit High Input P0273 Cylinder 5 Injector Circuit Low P0344 Camshaft Position Sensor Circuit Intermittent P0350 Ignition Coil Primary/Secondary Circuit Malfunction P0274 Cylinder 5 Injector Circuit High P0275 Cylinder 5 Contribution/Balance Fault P0351 Ignition Coil 1 Control Circuit P0276 Cylinder 6 Injector Circuit Low P0352 Ignition Coil 2 Control Circuit P0277 Cylinder 6 Injector Circuit High P0353 Ignition Coil 3 Control Circuit P0278 Cylinder 6 Contribution/Balance Fault P0354 Ignition Coil 4 Control Circuit P0279 Cylinder 7 Injector Circuit Low P0355 Ignition Coil 5 Control Circuit P0280 Cylinder 7 Injector Circuit High P0356 Ignition Coil 6 Control Circuit P0281 Cylinder 7 Contribution/Balance Fault P0357 Ignition Coil 7 Control Circuit P0282 Cylinder 8 Injector Circuit Low P0358 Ignition Coil 8 Control Circuit P0283 Cylinder 8 Injector Circuit High P0359 Ignition Coil I Primary/Secondary Circuit Malfunction P0284 Cylinder 8 Contribution/Balance Fault P0360 Ignition Coil J Primary/Secondary Circuit Malfunction P0285 Cylinder 9 Injector Circuit Low P0361 Ignition Coil K Primary/Secondary Circuit Malfunction P0286 Cylinder 9 Injector Circuit High P0362 Ignition Coil L Primary/Secondary Circuit Malfunction P0287 Cylinder 9 Contribution/Balance Fault P0370 Timing Reference High Resolution Signal A Malfunction P0288 Cylinder 10 Injector Circuit Low P0371 IC 24X Reference CKT Too Many Pulses P0289 Cylinder 10 Injector Circuit High P0372 IC 24X Reference Circuit Missing Pulses P0290 Cylinder 10 Contribution/Balance Fault P0373 Timing Reference High Resolution Signal A Intermittent/Erratic Pulses P0291 Cylinder 11 Injector Circuit Low P0374 Timing Reference High Resolution Signal A No Pulses P0292 Cylinder 11 Injector Circuit High P0375 Timing Reference High Resolution Signal B Malfunction P0293 Cylinder 11 Contribution/Balance Fault P0376 Timing Reference High Resolution Signal B Too Many Pulses P0294 Cylinder 12 Injector Circuit Low P0377 Timing Reference High Resolution Signal B Too Few Pulses P0295 Cylinder 12 Injector Circuit High P0378 Timing Reference High Resolution Signal B Intermittent/Erratic Pulses P0296 Cylinder 12 Contribution/Range Fault P0379 Timing Reference High Resolution Signal B No Pulses P0300 Engine Misfire Detected P0380 Glow Plug/Heater Circuit "A" Malfunction P0301 Cylinder 1 Misfire Detected P0381 Glow Plug/Heater Indicator Circuit Malfunction P0302 Cylinder 2 Misfire Detected P0382 Exhaust Gas Recirculation Flow Malfunction P0303 Cylinder 3 Misfire Detected P0385 Crankshaft Position (CKP) Sensor B Circuit P0304 Cylinder 4 Misfire Detected P0386 Crankshaft Position (CKP) Sensor B Performance P0305 Cylinder 5 Misfire Detected P0387 Crankshaft Position Sensor B Circuit Low Input P0306 Cylinder 6 Misfire Detected P0388 Crankshaft Position Sensor B Circuit High Input P0307 Cylinder 7 Misfire Detected P0389 Crankshaft Position Sensor B Circuit Intermittent P0308 Cylinder 8 Misfire Detected P0400 Exhaust Gas Recirculation Flow Malfunction P0309 Cylinder 9 Misfire Detected P0401 Exhaust Gas Recirculation (EGR) Flow Insufficient P0311 Cylinder 11 Misfire Detected P0402 Exhaust Gas Recirculation Flow Excessive Detected P0312 Cylinder 12 Misfire Detected P0403 Exhaust Gas Recirculation (EGR) Solenoid Control Circuit P0320 Ignition/Distributor Engine Speed Input Circuit Malfunction P0404 Exhaust Gas Recirculation (EGR) Open Position Performance P0321 Ignition/Distributor Engine Speed Input Circuit Range/Performance P0405 Exhaust Gas Recirculation (EGR) Position Sensor Circuit Low Voltage P0322 IC Module 4X Reference CKT No Frequency P0406 Exhaust Gas Recirculation Sensor A Circuit High P0323 Ignition/Distributor Engine Speed Input Circuit Intermittent P0407 Exhaust Gas Recirculation Sensor B Circuit Low P0325 PCM Knock Sensor Circuit P0408 Exhaust Gas Recirculation Sensor B Circuit High P0326 Knock Sensor CKT Excessive Spark Retard P0410 Secondary Air Injection (AIR) System P0327 Knock Sensor Circuit Low Voltage P0411 Secondary Air Injection (AIR) System P0328 Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor) P0412 Secondary Air Injection (AIR) Solenoid Relay Control Circuit Bank 1 P0329 Knock Sensor 1 Circuit Intermittent (Bank 1 or Single Sensor) P0413 Secondary Air Injection System Switching Valve A Circuit Open P0330 Knock Sensor (KS) Circuit Bank 2 P0414 Secondary Air Injection System Switching Valve A Circuit Shorted P0331 Knock Sensor 2 Circuit Range/Performance (Bank 2) P0415 Secondary Air Injection System Switching Valve B Circuit Malfunction P0332 Knock Sensor 2 Circuit Low Input (Bank 2) P0416 Secondary Air Injection System Switching Valve B Circuit Open P0333 Knock Sensor 2 Circuit High Input (Bank 2) P0417 Secondary Air Injection System Switching Valve B Circuit Shorted P0334 Knock Sensor 2 Circuit Intermittent (Bank 2) P0418 Secondary Air Injection (AIR) Pump Relay Control Circuit Bank 1 P0335 CKP Sensor A Circuit Performance P0419 Secondary Air Injection (AIR) Pump Relay Control Circuit Bank 2 P0336 Crankshaft Position (CKP) Sensor A Performance P0420 Catalyst System Low Efficiency P0337 Crankshaft Position (CKP) Sensor Circuit Low Duty Cycle P0421 Warm Up Catalyst Efficiency Below Threshold (Bank 1) P0338 Crankshaft Position (CKP) Sensor Circuit High Duty Cycle P0422 Catalyst System Low Efficiency Bank 1 P0339 Crankshaft Position (CKP) Sensor Circuit Intermittent P0423 Heated Catalyst Efficiency Below Threshold (Bank 1) P0340 Camshaft Position (CMP) Sensor Circuit P0424 Heated Catalyst Temperature Below Threshold (Bank 1) P0341 Camshaft Position (CMP) Sensor Performance P0430 Catalyst System Low Efficiency Bank 2 P0431 Warm Up Catalyst Efficiency Below Threshold (Bank 2) P0432 Catalyst System Low Efficiency Bank 2

P0433 Heated Catalyst Efficiency Below Threshold (Bank 2) P0533 Air Conditioning (A/C) Refrigerant Pressure Sensor Circuit High Voltage P0434 Heated Catalyst Temperature Below Threshold (Bank 2) P0534 Air Conditioner Refrigerant Charge Loss P0550 Power Steering Pressure (PSP) Switch Circuit P0440 Evaporative Emission (EVAP) System P0441 Evaporative Emission Control System Incorrect Purge Flow P0551 Power Steering Pressure Sensor Circuit Range/Performance P0552 Power Steering Pressure Sensor Circuit Low Input P0442 Evaporative Emission (EVAP) System Small Leak Detected P0553 Power Steering Pressure Sensor Circuit High Input P0443 EVAP Purge Solenoid Valve 1 Control CKT P0444 Evaporative Emission Control System Purge Control Valve Circuit Open P0554 Power Steering Pressure Sensor Circuit Intermittent P0560 System Voltage P0445 Evaporative Emission Control System Purge Control Valve Circuit Shorted P0561 System Voltage Unstable P0446 EVAP Vent Solenoid Valve Control System P0562 System Voltage Low P0447 Evaporative Emission Control System Vent Control Circuit Open P0448 Evaporative Emission Control System Vent Control Circuit Shorted P0563 System Voltage High P0449 Evaporative Emission (EVAP) Vent Solenoid Control Circuit P0565 Cruise Control On Signal Malfunction P0450 Fuel Tank Pressure Sensor Circuit P0566 Cruise Control Off Signal Malfunction P0451 Evaporative Emission Control System Pressure Sensor Range/Performance P0567 Cruise Control Resume Signal Malfunction P0568 Cruise Control Set Signal Malfunction P0452 Fuel Tank Pressure Sensor Circuit Low Voltage P0569 Cruise Control Coast Signal Malfunction P0453 Fuel Tank Pressure Sensor Circuit High Voltage P0570 Cruise Control Accel Signal Malfunction P0454 Evaporative Emission Control System Pressure Sensor Intermittent P0571 Cruise Control Brake Switch Circuit P0455 Evaporative Emission (EVAP) System Leak Detected P0460 Fuel Level Sensor Circuit P0573 Cruise Control/Brake Switch A Circuit High P0574 Vehicle Speed Too High - Cruise Control Disabled P0461 Fuel Level Sensor Performance P0462 Fuel Level Sensor Circuit Low Voltage P0575 Cruise Control Related Malfunction P0576 Cruise Control Related Malfunction P0463 Fuel Level Sensor Circuit High Voltage P0576 Cruise Control Related Malfunction P0464 Fuel Level Sensor Circuit Intermittent P0465 Purge Flow Sensor Circuit Malfunction P0578 Cruise Control Related Malfunction P0466 Purge Flow Sensor Circuit Range/Performance P0579 Cruise Control Related Malfunction P0467 Purge Flow Sensor Circuit Low Input P0580 Cruise Control Related Malfunction P0600 Serial Communication Link Malfunction P0468 Purge Flow Sensor Circuit High Input P0601 Control Module Read Only Memory (ROM) P0469 Purge Flow Sensor Circuit Intermittent P0470 Exhaust Pressure Sensor Malfunction P0602 Control Module Not Programmed P0603 Control Module Long Term Memory Reset P0471 Exhaust Pressure Sensor Range/Performance P0604 Control Module Random Access Memory (RAM) P0472 Exhaust Pressure Sensor Low P0605 Control Module Programming Read Only Memory (ROM) P0473 Exhaust Pressure Sensor High P0474 Exhaust Pressure Sensor Intermittent P0606 Control Module Internal Performance P0608 Control Module VSS Output "A" Malfunction P0475 Exhaust Pressure Control Valve Malfunction P0476 Exhaust Pressure Control Valve Range/Performance P0609 Control Module VSS Output "B" Malfunction P0615 Starter Relay Control Circuit P0477 Exhaust Pressure Control Valve Low P0478 Exhaust Pressure Control Valve High P0620 Generator Control Circuit Malfunction P0479 Exhaust Pressure Control Valve Intermittent P0621 Generator L-Terminal Circuit P0480 Cooling Fan Relay 1 Control Circuit P0622 Generator F-Terminal Circuit P0650 Malfunction Indicator Lamp (MIL) Control Circuit P0481 Cooling Fan Relay 2 Control Circuit P0654 Engine RPM Output Circuit Malfunction P0482 Cooling Fan 3 Control Circuit Malfunction P0483 Cooling Fan Rationality Check Malfunction P0655 Engine Hot Lamp Output Control Circuit Malfucntion P0656 Fuel Level Output Circuit Malfunction P0484 Cooling Fan Circuit Over Current P0700 Transmission Control System Malfunction P0485 Cooling Fan Power/Ground Circuit Malfunction P0701 Transmission Control System Range/Performance P0500 Vehicle Speed Sensor (VSS) Circuit P0501 Vehicle Speed Sensor Range/Performance P0702 Transmission Control System Electrical P0703 Brake Switch Circuit Malfunction P0502 Vehicle Speed Sensor (VSS) Circuit Low Input P0704 Clutch Switch Input Circuit Malfunction P0503 Vehicle Speed Sensor (VSS) Circuit Intermittent P0705 Trans Range Switch Circuit P0505 Idle Control System Malfunction P0506 Idle Speed Low P0706 Trans Range Switch Performance P0707 Transmission Range Sensor Circuit Low Input P0507 Idle Speed High P0510 Closed Throttle Position Switch Malfunction P0708 Transmission Range Sensor Circuit High Input P0709 Transmission Range Sensor Circuit Intermittent P0512 Start Switch Circuit P0520 Engine Oil Pressure Sensor/Switch Circuit Malfunction P0710 Transmission Fluid Temperature Sensor Circuit Malfunction P0711 TFT Sensor Circuit Range/Performance P0521 Engine Oil Pressure Sensor/Switch Circuit Range/Performance P0712 Transmission Fluid Temperature (TFT) Sensor Circuit Low Input P0522 Engine Oil Pressure Sensor/Switch Circuit Low Voltage P0713 Transmission Fluid Temperature (TFT) Sensor Circuit High Input P0523 Engine Oil Pressure Sensor/Switch Circuit High Voltage P0714 Transmission Fluid Temperature Sensor Circuit Intermittent P0530 A/C Refrigerant Pressure Sensor Circuit Malfunction P0531 A/C Refrigerant Pressure Sensor Circuit Range/Performance P0715 Input/Turbine Speed Sensor Circuit Malfunction

P0532 Air Conditioning (A/C) Refrigerant Pressure Sensor Circuit Low Voltage

P0785 3-2 Shift Solenoid Circuit Flectrical P0716 Input Speed Sensor Circuit Intermittent P0786 Shift/Timing Solenoid Range/Performance P0717 Input Speed Sensor Circuit Low Input P0718 Input/Turbine Speed Sensor Circuit Intermittent P0787 Shift/Timing Solenoid Low P0788 Shift/Timing Solenoid High P0719 Brake Switch Circuit Low Input P0789 Shift/Timing Solenoid Intermittent P0720 Output Speed Sensor Circuit Malfunction P0721 Output Speed Sensor Range/Performance P0790 Normal/Performance Switch Circuit Malfunction P0801 Reverse Inhibit Control Circuit Malfunction P0722 Output Speed Sensor Circuit Low Input P0803 1-4 Upshift (Skip Shift) Solenoid Control Circuit Malfunction P0723 Output Speed Sensor Intermittent P0724 Brake Switch Circuit High Input P0804 1-4 Upshift (Skip Shift) Lamp Control Circuit Malfunction P0725 Engine Speed Input Circuit P1031 H02S Heater Current Monitor Control Circuit Banks 1 and 2 Sensor 1 P1032 H02S Heater Warm Up Control Circuit Banks 1 and 2 Sensor 1 P0726 Engine Speed Input Circuit Range/Performance P1105 Secondary Vacuum Sensor Circuit P0727 Engine Speed Circuit No Signal P0728 Engine Speed Input Circuit Intermittent P1106 Manifold Absolute Pressure (MAP) Sensor Circuit Intermittent High Voltage P1107 Manifold Absolute Pressure (MAP) Sensor Circuit Intermittent Low Voltage P0730 Incorrect Gear Ratio P1108 BARO to MAP Sensor Comparison Too High P0731 Incorrect 1st Gear Ratio P1109 Secondary Port Throttle System P0732 Incorrect 2nd Gear Ratio P0733 Incorrect 3rd Gear Ratio P1111 Intake Air Temperature (IAT) Sensor Circuit Intermittent High Voltage P1112 Intake Air Temperature (IAT) Sensor Circuit Intermittent Low Voltage P0734 Incorrect 4th Gear Ratio P1113 Intake Resonance Switchover Solenoid Control Circuit P0735 Gear 5 Incorrect ratio P0736 Reverse incorrect gear ratio P1114 Engine Coolant Temperature (ECT) Sensor Circuit Intermittent Low Voltage P1115 Engine Coolant Temperature (ECT) Sensor Circuit Intermittent High Voltage P0740 TCC Enable Solenoid Circuit Electrical P0741 TCC System Stuck Off P1116 FCT Signal Unstable or Intermittent P0742 TCC System Stuck On P1117 Engine Coolant Temp, Signal Out-Of-Range Low P1118 Engine Coolant Temp. Signal Out-Of-Range High P0743 TCC Enable Solenoid Circuit Flectrical P1119 ECT Signal Out-Of-Range With TFT Sensor P0744 Torque Converter Clutch Circuit Intermittent P0745 Pressure Control Solenoid Malfunction P1120 Throttle Position (TP) Sensor 1 Circuit P1121 Throttle Position (TP) Sensor Circuit Intermittent High Voltage P0746 Pressure Control Solenoid Performance or Stuck Off P0747 Pressure Control Solenoid Stuck On P1122 Throttle Position (TP) Sensor Circuit Intermittent Low Voltage P1125 APP System P0748 Pressure Control Solenoid Circuit Flectrical P0749 Pressure Control Solenoid Intermittent P1130 H02S Circuit Low Variance Bank 1 Sensor 1 P1131 HO2S Circuit Low Variance Bank 1 Sensor 2 P0750 Shift Solenoid A Malfunction P1132 H02S Circuit Low Variance Bank 2 Sensor 1 P0751 1-2 Shift Solenoid Valve Performance - No First or Fourth Gear P0752 1-2 Shift Solenoid Valve Performance - No Second or Third Gear P1133 HO2S Insufficient Switching Bank 1 Sensor 1 P0753 1-2 Shift Solenoid Circuit Flectrical P1134 H02S Transition Time Ratio Bank 1 Sensor 1 P0754 Shift Solenoid A Intermittent P1135 H02S Lean Mean Bank 1 Sensor 1 P1136 H02S Rich Mean Bank 1 Sensor 1 P0755 Shift Solenoid B Malfunction P0756 2-3 Shift Solenoid Valve Performance - No First or Second Gear P1137 H02S Bank 1 Sensor 2 Lean System or Low Voltage P1138 H02S Bank 1 Sensor 2 Rich or High Voltage P0757 2-3 Shift Solenoid Valve Performance - No Third or Fourth Gear P1139 H02S Insuff. Switching Bank 1 Sensor 2 P0758 2-3 Shift Solenoid Circuit Flectrical P1140 H02S Transition Time Ratio Bank 1 Sensor 2 P0759 Shift Solenoid B Intermittent P0760 Shift Solenoid C Malfunction P1141 H02S Heater Control Circuit Bank 1 Sensor 2 P0761 Shift Solenoid C Performance or Stuck Off P1143 HO2S Bank 1 Sensor 3 Lean System or Low Voltage P1144 H02S Bank 1 Sensor 3 Rich or High Voltage P0762 Shift Solenoid C Stuck On P0763 Shift Solenoid C Flectrical P1145 H02S Cross Counts Bank 1 Sensor 3 P0764 Shift Solenoid C Intermittent P1153 HO2S Insufficient Switching Bank 2 Sensor 1 P0765 Shift Solenoid D Malfunction P1154 H02S Transition Time Ratio Bank 2 Sensor 1 P0766 Shift Solenoid D Performance or Stuck Off P1155 H02S Lean Mean Bank 2 Sensor 1 P0767 Shift Solenoid D Stuck On P1156 H02S Rich Mean Bank 2 Sensor 1 P1157 H02S Bank 2 Sensor 2 Lean System or Lo P0768 Shift Solenoid D Flectrical P1158 H02S Bank 2 Sensor 2 Rich or High Voltage P0769 Shift Solenoid D Intermittent P0770 Shift Solenoid F Malfunction P1159 H02S Cross Counts Bank 2 Sensor 2 P0771 Shift Solenoid E Performance or Stuck Off P1161 H02S Heater Control Circuit Bank 2 Sensor 2 P1163 HO2S Bank 2 Sensor 3 Lean System or Low Voltage P0772 Shift Solenoid F Stuck On P1164 HO2S Bank 2 Sensor 3 Rich or High Voltage P0773 Shift Solenoid F Flectrical P1165 HO2S Cross Counts Bank 2 Sensor 3 P0774 Shift Solenoid F Intermittent P1170 Bank to Bank Fuel TrimOffset P0780 Shift Malfunction P1171 Fuel System Lean During Acceleration P0781 1-2 Shift Malfunction P1185 Engine Oil Temperature Circuit P0782 2-3 Shift Malfunction P1186 FOT Circuit Performance

P0783 3-4 Shift Malfunction P0784 4-5 Shift Malfunction P1187 EOT Sensor Ckt. Low Voltage P1336 Crankshaft Position (CKP) System Variation Not Learned P1188 EOT Sensor Ckt. High Voltage P1345 Crankshaft Position (CKP)-Camshaft Position (CMP) Correlation P1189 Engine Oil Pressure (FOP) Switch Circuit P1346 Intake Camshaft Position [CMP] Sensor System Performance P1190 Engine Vacuum Leak P1350 Ignition Control System P1191 Intake Air Duct Air Leak P1351 Ignition Coil Control Circuit High Voltage P1200 Injector Control Circuit P1352 IC Output High/Pulse Detected when GND\_Cyl. 2 P1201 (Alt. Fuel) Gas Mass Sensor Circuit Range/Performance P1353 IC Output High/Pulse Detected when GND Cvl. 3 P1202 (Alt. Fuel) Gas Mass Sensor Circuit Low Frequency P1354 IC Output High/Pulse Detected when GND Cyl. 4 P1203 (Alt. Fuel) Gas Mass Sensor Circuit High Frequency P1355 IC Output High/Pulse Detected when GND\_Cyl. 5 P1211 Mass Air Flow Circuit Intermittent High P1356 IC Output High/Pulse Detected when GND Cyl. 6 P1212 Mass Air Flow Circuit Intermittent Low P1357 IC Output High/Pulse Detected when GND\_Cyl. 7 P1214 Injection Pump Timing Offset P1358 IC Output High/Pulse Detected when GND Cvl. 8 P1215 Ground Fault Detection Indicated P1359 Ignition Coil Group 1 Control Circuit P1216 Fuel Solenoid Response Time Too Short P1360 Ignition Coil Group 2 Control Circuit P1217 Fuel Solenoid Response Time Too Long P1361 Ignition Coil Control Circuit Low Voltage P1362 IC Cylinder 2 Not Toggling After Enable P1218 Injection Pump Calibration Circuit P1219 Throttle Position Sensor Reference Voltage P1363 IC Cylinder 3 Not Toggling After Enable P1220 Throttle Position (TP) Sensor 2 Circuit P1364 IC Cylinder 4 Not Toggling After Enable P1221 Fuel Pump Secondary Circuit Low P1365 IC Cylinder 5 Not Toggling After Enable P1222 Injector Control Circuit Intermittent P1366 IC Cylinder 6 Not Toggling After Enable P1225 Injector Circuit Cylinder 2 Intermittent P1367 IC Cylinder 7 Not Toggling After Enable P1228 Injector Circuit Cylinder 3 Intermittent P1368 IC Cylinder 8 Not Toggling After Enable P1231 Injector Circuit Cylinder 4 Intermittent P1370 IC 4X Reference Circuit Too Many Pulses P1234 Injector Circuit Cylinder 5 Intermittent P1371 IC 4X Reference Circuit Too Few Pulses P1237 Injector Circuit Cylinder 6 Intermittent P1372 Crankshaft Position (CKP) Sensor A-B Correlation P1240 Injector Circuit Cylinder 7 Intermittent P1374 3X Reference Circuit P1243 Injector Circuit Cylinder 8 Intermittent P1375 IC 24X Reference Circuit High Voltage P1245 Intake Plenum Switchover Valve P1376 Ignition Ground Circuit P1250 Early Fuel Evaporation Heater Circuit P1377 IC Cam Pulse To 4X Reference Pulse P1257 Supercharger System Overboost P1380 Misfire Detected - Rough Road Data Not Available P1258 Engine Coolant Overtemperature - Protection Mode Active P1381 Misfire Detected - No Communication with Brake Control Module P1260 Last Test Failed Failed SCC FNTFR: More Info. P1390 Wheel Speed Sensor 1 - G - Sensor Circuit P1270 Accelerator Pedal Position Sensor A/D Converter Frror P1391 Wheel Speed Sensor 1 - G - Sensor Circuit Performance P1271 Accelerator Pedal Position (APP) Sensor 1-2 Correlation P1392 Wheel Speed Sensor 1 - G - Sensor Circuit Low Voltage P1272 Accelerator Pedal Position Sensor 2 P1393 Wheel Speed Sensor 1 - G - Sensor Circuit High Voltage P1273 "Accelerator Pedal Position Sensor 1 P1394 Wheel Speed Sensor 1 - G - Sensor Circuit Intermittent P1274 Injectors Wired Incorrectly P1395 Wheel Speed Sensor 2 - G - Sensor Circuit P1275 Accelerator Pedal Position (APP) Sensor 1 Circuit P1396 Wheel Speed Sensor 2 - G - Sensor Circuit Performance P1276 Accelerator Pedal Position Sensor 1 Circuit Performance P1397 Wheel Speed Sensor 2 - G - Sensor Circuit Low Voltage P1277 Accelerator Pedal Position Sensor 1 Circuit Low Voltage P1398 Wheel Speed Sensor 2 - G - Sensor Circuit High Voltage P1399 Wheel Speed Sensor 2 - G - Sensor Circuit Intermittent P1278 Accelerator Pedal Position Sensor 1 Circuit High Voltage P1280 Accelerator Pedal Position (APP) Sensor 2 Circuit P1403 Exhaust Gas Recirculation System Valve 1 P1281 Accelerator Pedal Position Sensor 2 Circuit Performance P1404 Exhaust Gas Recirculation (EGR) Closed Position Performance P1282 Accelerator Pedal Position Sensor 2 Circuit Low Voltage P1405 Exhaust Gas Recirculation System Valve 3 P1283 Accelerator Pedal Position Sensor 2 Circuit High Voltage P1406 EGR Valve Pintle Position Circuit P1285 Accelerator Pedal Position Sensor 3 Circuit P1407 EGR Air Intrusion in Exhaust Supply to EGR Valve P1286 Accelerator Pedal Position Sensor 3 Circuit Performance P1408 Intake Manifold Pressure Sensor Circuit P1287 Accelerator Pedal Position Sensor 3 Circuit Low Voltage P1409 EGR Vacuum System Leak P1288 Accelerator Pedal Position Sensor 3 Circuit High Voltage P1410 Fuel Tank Pressure System P1300 Ignitor Circuit P1415 Secondary Air Injection (AIR) System Bank 1 P1305 Ignition Coil 2 Primary Feedback Circuit P1416 Secondary Air Injection (AIR) System Bank 2 P1310 Ignition Coil 3 Primary Feedback Circuit P1418 Secondary Air Injection System Relay A Control Circuit High P1315 Ignition Coil 4 Primary Feedback Circuit P1420 Intake Air Low Pressure Switch Circuit Low Voltage P1320 IC 4X Reference Circuit Intermittent P1421 Intake Air Low Pressure Switch Circuit High Voltage P1423 Intake Air High Pressure Switch Circuit High Voltage P1321 Electronic Ignition System Fault Line P1322 El System or Ignition Control Extra or Missing P1431 Fuel Level Sensor 2 Circuit Performance P1323 IC 24X Reference Circuit Low Frequency P1432 Fuel Level Sensor 2 Circuit Low Voltage P1324 Crank RPM Too Low P1433 Fuel Level Sensor 2 Circuit High Voltage P1335 CKP Circuit P1441 Evaporative Emission (EVAP) System Flow During Non-Purge P1442 EVAP Vacuum Sw. High Voltage During Ign. On

P1450 Barometric Pressure Sensor Circuit P1567 Active Banking Control Active - Cruise Control Disabled P1451 Barometric Press, Sensor Performance P1568 Cruise Servo Stroke Greater than Commanded in Cruise P1460 Cooling Fan Control System P1569 Cruise Servo Stroke High While not in Cruise P1460 Misfire Detected With Low Fuel Level P1570 Traction Control Active - Cruise Control Disabled P1480 Cooling Fan 1 Control Circuit High P1571 Traction Control Torque Request Circuit P1483 Engine Cooling System Performance P1572 ASR Active Circuit Low Too Long P1500 Starter Signal Circuit P1573 PCM/FRTCM Serial Data Circuit P1501 Theft Deterrent System P1574 Stoplamp Switch Circuit P1501 Vehicle Speed Sensor Circuit Intermittent P1575 ExtendedTravel Brake Swith Circuit P1502 Theft Deterrent Fuel Enable Signal Not Received P1576 BBV Sensor Ckt. High Voltage P1503 Theft Deterrent Fuel Enable Signal Not Correct P1577 BBV Sensor Ckt, Low Voltage P1504 Vehicle Speed Output Circuit P1578 BBV Sensor Ckt. Low Vacuum P1508 Idle Speed Low - Idle Air Control (IAC) System Not Responding P1579 P/N to D/R at HighThrottle Angle - Power Reduction Mode Active P1509 Idle Speed High - Idle Air Control (IAC) System Not Responding P1580 Cruise Move Circuit Low Voltage P1510 Throttle Control System Performance - Throttle Limitation Active P1581 Cruise Move Circuit High Voltage P1511 Throttle Control System - Backup System Performance P1582 Cruise Direction Circuit Low Voltage P1514 Airflow to TP Sensor Correlation High P1583 Cruise Direction Circuit High Voltage P1515 Electronic Throttle System Throttle Position P1584 Cruise Control Disabled P1585 Cruise Control Inhibit Output Circuit P1516 Throttle Actuator Control (TAC) Module Throttle Actuator Position Performance P1586 Cruise Control Brake Switch 2 Circuit P1517 Flectronic Throttle Module P1518 Electronic Throttle Module to PCM Communication P1587 Cruise Control Clutch Control Circuit Low P1519 Throttle Actuator Control (TAC) Module Internal Circuit P1588 Cruise Control Clutch Control Circuit High P1520 Transmission Range Switch Circuit P1599 Engine Stall or Near Stall Detected P1521 Transmission Engaged at High Throttle Angle P1600 TCM Internal Watchdog Operation P1522 Park/Neutral to Drive/Reverse at High RPM P1601 Serial Comm. Problem with Device 1 P1523 Throttle Closed Position Performance P1602 Knock Sensor (KS) Module Performance P1524 Throttle Closed Position Performance P1603 Loss os SDM Serial Data P1525 Throttle Body ServiceRequired P1604 Loss of IPC Serial Data P1526 Minimum Throttle Position Not Learned P1605 Loss of HVAC Serial Data P1527 Transmission Range to Pressure Switch Correlation P1606 Serial Communication Problem with Device 6 P1528 Governor P1607 Serial Communication Problem with Device 7 P1608 Serial Communication Problem with Device 8 P1529 Heated Windshield Request Problem P1609 Loss of TCS Serial Data P1530 Throttle Actuator Control (TAC) Module Internal Circuit P1531 A/C Low Side Temperature Sensor Fault P1610 Loss of PZM Serial Data P1532 A/C Evaporator Temp. Sens. Ckt. Low Voltage P1611 Loss of CVRTD Serial Data P1533 A/C Evaporator Temp, Sens, Ckt, High Voltage P1612 Loss of IPM Serial Data P1534 A/C High Side Temp, Sensor Low Voltage P1613 Loss of DIM Serial Data P1535 A/C High Side Temperature Sensor Circuit P1614 Loss or RIM Serial Data P1536 Engine Coolant Overtemperature - Air Conditioning (A/C) Disabled P1615 Loss of VTD Serial Data P1537 A/C Request Circuit Low Voltage P1617 Fngine Oil Level Switch Circuit P1538 A/C Request Circuit High Voltage P1619 Engine Oil Life Monitor Reset Circuit P1539 A/C Clutch Status Circuit High Voltage P1620 Low Coolant Circuit P1540 Air Conditioning (A/C) Refrigerant Overpressure - Air Conditioning (A/C) Disabled P1621 Control Module Long Term Memory Performance P1541 A/C High Side Over Temperature P1622 Cylinder Select P1542 A/C System High Pressure High Temperature P1623 TransmissionTemp Pull-Up Resistor P1543 A/C System Performance P1624 Customer Snapshot Requested - Data Available P1544 A/C Refrigerant Condition Very Low P1625 TCM System Reset P1545 Air Conditioning (A/C) Clutch Relay Control Circuit P1626 Theft Deterrent Fuel Enable Signal Not Received P1546 A/C Clutch Status Circuit Low Voltage P1627 A/D Performance P1547 A/C System Performance Degraded P1628 ECT Pull-Up Resistor P1629 Theft Deterrent System - Cranking Signal

P1548 A/C Recirculation Circuit

P1554 Cruise Control Feedback Circuit P1555 Flectronic Variable Orifice Output

P1558 Cruise Control Servo Indicates Low P1559 Cruise Control Power Management Mode

P1560 Transaxle Not in Drive - Cruise Control Disabled

P1561 Cruise Vent Solenoid P1562 Cruise Vacuum Solenoid

P1563 Cruise Vehicle Speed/Set Speed Difference Too High P1564 Vehicle Acceleration Too High - Cruise Control Disabled

P1565 Cruise Servo Position Sensor

P1566 Engine RPM Too High - Cruise Control Disabled

P1630 Theft Deterrent Learn Mode Active

P1633 Ignition O Switch Circuit

P1634 Ignition 1 Switch Circuit

P1635 5 Volt Reference Circuit

P1637 Generator L - Terminal Circuit

P1636 PCM Stack Overrun

P1631 Theft Deterrent Start Enable Signal Not Correct

P1632 Theft Deterrent Fuel Disable Signal Received

P1638 Generator F-Terminal Circuit P1779 Engine Torque Delivered to TCM Signal P1639 5 Volt Reference 2 Circuit P1780 Park/Neutra Position (PNP) Switch Circuit P1640 Driver-1-Input High Voltage P1781 Engine Torque Signal Circuit P1641 Malfunction Indicator Lamp (MIL) Control Circuit P1790 Transmission Control Module Checksum P1642 Vehicle Speed Output Circuit P1791 Transmission Control Module Loop P1643 Engine Speed Output Circuit P1792 Transmission Control Module Reprogrammable Memory P1644 Traction Control Delivered Torque Output Circuit P1792 ECM to TCM Engine Coolant Signal P1645 Evaporative Emission (EVAP) Vent Solenoid Control Circuit P1793 Transmission Control Module Stack Overrun P1646 Evaporative Emission (EVAP) Vent Solenoid Control Circuit P1795 CAN Bus - Throttle Body Position P1647 Driver 1 Line 7 P1800 TCM Power Relay Control Circuit P1650 Control Module Output B Circuit P1801 Performance Selector Switch Failure P1651 Fan 1 Relay Control Circuit P1804 Ground Control Relay P1652 Powertrain Induced Chassis Pitch Output Circuit P1810 TFP Valve Position Switch Circuit P1653 Oil Level Lamp Control Circuit P1811 Maximum Adapt and Long Shift P1654 Cruise Control Inhibit Output Circuit P1812 Transmission Over Temperature Condition P1655 EVAP Purge Solenoid Control Circuit P1813 Torque Control P1656 Driver 2 Line6 P1814 Torque Converter Overstressed P1657 1-4 Upshift Solenoid Control Circuit P1815 Transmission Range Switch - Start in Wrong Range P1658 Starter Enable Relay Control Circuit P1816 TFP Valve Position Sw.-Park/Neu, With Drive Ratio P1660 Cooling Fan Control Circuits P1817 TFP Valve Position Sw.-Reverse With Drive Ratio P1661 MIL Control Circuit P1818 TFP Valve Position Sw.-Drive Without Drive Ratio P1662 Cruise Lamn Control Circuit P1819 Internal Mode Switch - No Start\Wrong Range P1663 Oil Life Lamp Control Circuit P1820 Internal Mode Swith Circuit A Low P1664 1-4 Upshift Lamp Control Circuit P1822 Internal Mode Switch Circuit B High P1665 Driver 3 Line 5 P1823 Internal Mode Switch Circuit P Low P1666 Driver 3 Line 6 P1825 Internal Mode Switch - Invalid Range P1667 Reverse Inhibit Solenoid Control Circuit P1826 Internall Mode Swith Circuit C - High P1669 ABS Unit Expected P1831 PC Solenoid Power Circuit - Low Voltage P1670 Driver 4 P1833 A/T Solenoids Power Circuit - Low Voltage P1671 Driverrrr 4 Line 1 P1835 Kick-Down Switch Circuit P1672 Low Engine Oil Level Lamp Control Circuit P1836 Kick-Down Switch Failed Open P1673 Engine Hot Lamp Control Circuit P1837 Kick-Down Switch Failed Short P1674 Tachometer Control Circuit P1842 1-2 Shift Solenoid Circuit Low Voltage P1675 EVAP Vent Solenoid Control Circuit P1843 1-2 Shift Solenoid Circuit High Voltage P1676 Driver 4 Line 6 P1844 Torque Reduction Signal Circuit Desired by TCM P1677 Driver 4 Line 7 P1845 2-3 Shift Solenoid Circuit Low Voltage P1680 Driver 5 P1847 2-3 Shift Solenoid Circuit High Voltage P1681 Driver 5 Line 1 P1850 Brake Band Apply Solenoid Circuit P1682 Driver 5 Line 2 P1851 Brake Band Apply Solenoid Performance P1683 Driver 5 Line 3 P1852 Brake Band Apply Solenoid Low Voltage P1684 Driver 5 Line 4 P1853 Brake Band Apply Solenoid High Voltage P1685 Driver 5 Line 5 P1860 TCC PWM Solenoid Circuit Flectrical P1686 Driver 5 Line 6 P1864 Torque Converter Clutch Circuit P1687 Driver 5 Line 7 P1868 Transmission Fluid Life P1689 Delivered Torque Circuit Fault P1870 Transmission Component Slipping P1690 ECM Loop Overrun P1871 Undefined Gear Ratio P1691 Coolant Gage Circuit Low Voltage P1873 TCC Stator Temp, Switch Circuit Low P1692 Coolant Gage Circuit High Voltage P1874 TCC Stator Temp. Switch Circuit High P1693 Tachometer Circuit Low Voltage P1875 4WD Low Switch Circuit Electrical P1694 Tachometer Circuit High Voltage P1884 TCC Enable/Shift Light Circuit P1886 Shift Timing Solenoid P1695 Remote Keyless Entry Circuit Low P1696 Remote Keyless Entry Voltage High P1887 TCC Release Switch Circuit P1700 Transmission Control Module (TCM) Requested MIL Illumination P1890 FCM Data Input Circuit P1701 Trans, MIL Request Circuit P1890 Throttle Position Signal Input P1891 Throttle Position Sensor PWM Signal Low P1705 P/N Signal Output Circuit P1740 Torque Reduction Signal Circuit P1892 Throttle Position Sensor PWM Signal High P1743 TP Signal from ECM P1893 Engine Torque Signal Low Voltage P1760 TCM Supply Voltage Interrupted P1894 Engine Torque Signal High Voltagge P1895 TCM to ECM Torque Reduction Circuit

# 1999-2004 CORVETTE SPECIAL INSTRUCTIONS JET PROGRAMMING ADAPTOR INSTALLATION INSTRUCTIONS

Programming a Corvette requires the use of a programming adaptor that is included with

the JET Programmer. (see photo 1)



Photo 1

The adaptor needs to be installed into a wiring harness connector so the JET Performance Programmer can communicate properly with the vehicle. The adaptor effectively disables the communications between the PCM and other computers in the vehicle during the programming process. This adaptor MUST be used anytime you are programming a Corvette.

# **INSTALLATION:**

1. Remove the passenger side floor mat. (see photo 2)



Photo 2

2. Locate the passenger kick panel as shown. (see photo 3)

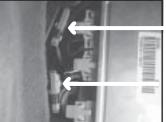


Photo 3

3. Lift the latches that retain the kick panel and pull it forward from the top of the panel.

**4.** Locate the two connectors located to the left nearest the center of the car.

(see photo 4)



CONNECTOR

Photo 4

CONNECTOR

5. Remove the caps from both of the connectors as shown. (The connectors may or may not have tape on them as shown. If so remove the tape). To unplug pull up on both sides of the connectors as shown. (see photos 5 & 6)



Photo 5



Photo 6

**6.** Plug the JET Programming adaptor into the bottom (lower) connector as shown. The side with the two pins goes to the bottom of the connector as shown. (see photo 7)



Photo 7

NOTE: If during the programming process you get an error message "No Communication" from the JET Programmer you will need to turn the ignition off and unplug the JET Programmer from the DLC connector. Remove the adaptor from the bottom connector and move it to the upper connector. The reason for this is that some vehicles have the connectors reversed from the factory. After reinstalling the adaptor, start the programming process over.

- 7. Go back to the start of the programming instructions and follow the step by step procedures for installing JET Performance tuning in your Corvette.
- **8.** After the programming is complete, follow the onscreen instructions on the JET Programmer. Unplug the programmer from the car.
- 9. Remove the programming adaptor from the harness and reinstall the two Caps that you removed previously. Make sure the caps are seated and snapped into place.
- **10.** Reinstall the kick panel and floor mat. **DO NOT lose the programming adaptor**. You will need it anytime you program your Corvette.

# DISABLING THE ON STAR/AUDIO SYSTEM IN 2004-2005 CADILLAC CTS-V APPLICATIONS

Programming a CTS-V that is equipped with the On Star System requires the removal of the **AUDIO** fuse.

The fuse needs to be removed during the programming process so the JET Performance Programmer can communicate properly with the vehicle. Removing the fuse effectively disables the communication system so there is no interference from the system during the programming process. This fuse **MUST** be removed anytime you are programming a CTS-V with On Star.

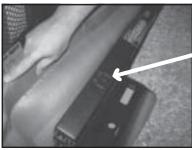
#### INSTALLATION:

 To gain access to the fuse panel in a CTS-V you must remove the rear seat cushion (see photo 1). To remove the seat, lift up on the front of the seat to release the front locks. Pull the seat forward and remove it from the vehicle.



**PHOTO 1** 

2. Locate the fuse panel as shown. It is located on the drivers side under the carpet (see photo 2).



FUSE PANEL COVER
PHOTO 2

3. Push the latches that retain the fuse panel cover and lift the cover off of the panel to gain access to the fuses (see photo 3).



**PHOTO 3** 

**4.** Locate the fuse labeled **AUDIO** in the fuse panel as shown (see photos 4 & 5).



**PHOTO 4** 



**PHOTO 5** 

- Remove the AUDIO fuse from the fuse panel and return to the start off the programming instructions and follow the step by step procedures for installing JET Performance tuning in your CTS-V.
- **6.** After the programming is complete, follow the onscreen instructions on the JET Programmer. Unplug the programmer from the car.
- 7. Reinstall the AUDIO fuse and the fuse panel cover.
- 8. Reinstall the rear seat making sure you guide the seatbelts through the slots in the cushion and align the rear locks and the front locks for the seat.



# WHAT TO DO BEFORE TAKING YOUR VEHICLE IN FOR SERVICE

If a problem occurs that may require you to take your vehicle to a mechanic or dealership for service, first remove the JET Program and program back to stock. If the problem goes away when you remove the JET Performance Product, call JET and we will troubleshoot the product. However, if returning to stock does *not* cure your problem, there is nothing wrong with your JET Performance Product and you will need to have your vehicle serviced.

**Anytime** a diagnostic machine is to be used, the vehicle must be back to stock. Diagnostic machines expect to find the original stock program and often cannot correctly analyze the problem if other devices are installed. Failure to reinstall your system back to stock can result in unnecessary and costly repairs not covered by JET. Before you have any work done on the vehicle that you feel may have been related to the JET Programmer, please call JET at 714-848-5515.

# **Limited Warranty**

JET Performance Products warrants Chips, Modules and Programmers to be free from defects in material and workmanship under normal use and if properly installed. This limited lifetime warranty is to the original purchaser for as long as he or she owns the vehicle on which the product was originally installed, provided all information requested is furnished. If found to be defective as mentioned above, it will be replaced or repaired at the sole discretion of JET if returned prepaid along with proof of date of purchase.

All other products and services performed by JET are warranted in defects in material and workmanship for a period of 6 months from date of purchase. This warranty is to the original purchaser for as long as he or she owns the vehicle on which the product was originally installed. Repair, Replacement, or Credit will be based on the date of purchase. Costs for labor are specifically excluded and are the sole responsibility of the purchaser.

This warranty does not apply to Custom Programming or any product incorrectly installed, modified by the purchaser, or to any product that has been subjected to misuse, negligence or accident.

To obtain warranty service and Return Authorization Number, contact our Customer Service Department at 714-848-5515 between 8 am and 5 pm Pacific Standard Time, Monday through Friday.

Defective Products may be brought or sent prepaid (with Return Number) to JET Performance Products, 17491 Apex Circle, Huntington Beach, CA 92647.

# Consumer Bill of Rights

The installation and use of the product does not void the new-vehicle warranty nor should it be cause for the vehicle to fail an emissions test. Notify the product manufacturer if either of these situations occur. If you are unable to adequately resolve either situation with the vehicle manufacturer, you may contact the Environmental Protection Agency (EPA) at 202-233-9040, if the vehicle manufacturer fails to honor emission-warranty claims, or the Federal Trade Commission (FTC) at 202-326-3128, if federal protection is denied.

www.jetchip.com

# **JET Performance Products**

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