

# HYPERTECH® POWER PROGRAMMER III™



FOR GM VEHICLES WITH 4.3/4.8/5.3/6.0/8.1L VORTEC ENGINES

# STEP-BY-STEP INSTALLATION INSTRUCTIONS

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#### **IMPORTANT**

- The Power Programmer for 1999-2007\* 4.3/4.8/5.3/6.0/8.1L GM trucks and SUVs is legal for California pollution-controlled motor vehicles according to the CARB Executive Order process. In the interest of improved air quality, the California Air Resources Board (CARB) requires new vehicle and manufacturers of aftermarket parts to develop engine and emissions equipment that either reduce or maintain specific air pollutants affected by vehicle use. Both the California Vehicle Code (section 27156) and Federal Clean Air Act (administered by the Environmental Protection Agency) prohibit modifications that increase vehicle emissions. Aftermarket parts manufacturers, particularly in the high-performance segment, are required to obtain CARB approval in the form of executive Orders (E.O.s) for any product not qualifying as a direct replacement for an original equipment part. Hypertech includes meeting all E.O. requirements in its product development process. This guarantees that users of Hypertech "Power Tuning" products will meet certification requirements when registering, selling, or needing to pass various emissions tests or Inspection and Maintenance (I&M) programs administered by state or local enforcement agencies. Make sure that any emissions-related product you buy and install carries an E.O. number or is pending an E.O. Without this verification you are at risk, in potential violation of regulations and may incur unnecessary financial obligations during vehicle inspections or emissions tests. A CARB E.O. sticker is supplied. Keep this sticker in your vehicle or attach it inside the door jam as proof that the Power Programmer is street legal.
- Your vehicle's computer will not be programmed at the end of the
  programming menus until you select "PRESS 'Y' TO BEGIN
  PROGRAMMING" on page 19. Feel free to experiment with the
  programming choices without the fear of accidentally programming
  the wrong information into your vehicle's computer. You can make any
  choice that you want and change it again and again, without programming it into your vehicle's computer, until you are absolutely ready.
- · While the programmer is programming:
  - \* DO NOT leave the vehicle while programming is in process.
  - \* DO NOT program your vehicle without a fully charged battery. If after you have programmed your vehicle's computer with the Hypertech Power Programmer and you decide to change the tuning, It is recommended that you recharge your vehicle's <a href="mailto:battery">battery</a>. You may either drive the vehicle to charge the battery or use a battery charger. But either way, MAKE sure that the battery holds a full charge.
  - \* DO NOT disturb the cable while programming.
  - \* The <u>ONLY</u> time you may remove the programmer cable from the DLC safely is <u>PRIOR</u> to pressing 'Y' to program your entries. However, any programming choices you have made <u>WILL NOT</u> be saved. NOTE: It is <u>NOT</u> safe to unplug the programmer cable any time <u>AFTER</u> you have pressed 'Y' to program.
  - \* DO NOT turn the key off <u>UNLESS</u> instructed by the programmer.
  - \* DO NOT start the engine.

Any of these actions will interrupt the programming process. The programmer is designed to recover from these conditions, but they should be avoided.

# HYPERTECH POWER PROGRAMMER III INSTALLATION INSTRUCTIONS OVERVIEW

Congratulations! You are the owner of the Power Programmer III, the latest in high-performance tuning technology. Now you can optimize your engine's tuning, as well as adjust other vehicle parameters (see table of contents), all at the touch of a button.

Your vehicle has an onboard computer that controls the engine and transmission. Inside your vehicle's computer is a FLASH memory chip which contains the vehicle's programming. The programmer actually reprograms this FLASH computer chip, according to your specifications, with Hypertech's Power Tuning. This is the only way an individual can reprogram some 1994-1995 and all 1996 and newer vehicles sold in the United States.

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. Press the ▲ arrow on the programmer. It will then identify your vehicle and display a series of options on its screen. When completed, turn the key to OFF and disconnect the cable from the diagnostic connector. Now you're ready to *Feel the Power!* 

Hypertech's Power Tuning can be stored in only one (1) vehicle at a time. The Power Programmer can be reconnected to remove the Power Tuning and return the vehicle to the factory programming at any time. After you have performed this step, your vehicle will be in its stock configuration.

You may also reconnect your programmer at any time to change the programming. For example, if you have replaced your factory tires with different diameter tires, you will want to correct your speedometer, odometer, and automatic transmission shift points. Simply reconnect your programmer, answer the necessary option(s), and reprogram your vehicle. You do not have to return to stock first.

#### SECTION 1: ONSTAR EQUIPPED VEHICLES

If your GM vehicle is equipped with the OnStar system, you <u>MUST</u> temporarily disable the system <u>BEFORE</u> programming your vehicle with the Power Programmer III. Please follow the steps below to temporarily disable the OnStar system.

#### **Recommended Precautions**

The OnStar system by GM periodically communicates with the vehicle. This periodic communication with the vehicle has been known to disrupt the programming process. In order to prevent disruption of the programming process, it is recommended that the OnStar system be disabled while programming the vehicle. To temporarily disable your OnStar system in 4.8/5.3/6.0/8.1L GM vehicles, remove the fuse(s) associated with OnStar. Please refer to the fuse section of your owner's manual for instructions and locations of fuse(s). The fuse panel will be under the hood of the vehicle on the driver's side behind the battery. In most cases there will be one (1) fuse in that fuse panel the OnStar system relies on. See page 5 for an example. For 4.3L GM SUVs. follow the steps on page 6 to temporarily disable the OnStar system. When the OnStar system is successfully disabled, its indicator light on the dash or rearview mirror will be OFF. Be sure that this light is off when the key is in the ON position (engine not running) BEFORE programming the vehicle. This will ensure that there are no OnStar related problems.

### Recovery From OnStar Related Power Programmer Hang-up

If the programmer stops programming for an extended period of time, perform the following steps to recover and/or continue programming:

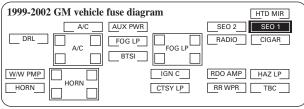
### \*\* Do Not Turn The Ignition Key Off \*\*

- 1. Disconnect the programmer from the vehicle.
- 2. Reconnect the programmer to the vehicle.
- 3. Press the START button on the programmer.

The programmer will resume communications with the vehicle where it left off. If the programmer fails to re-establish communications with the vehicle, repeat the procedure. If the programmer still fails to resume, disconnect the programmer and turn the vehicle off. Attempt to start your vehicle. If your vehicle fails to start, the vehicle computer may have been corrupted, and you will need to send your vehicle computer and programmer to Hypertech for repair. If the vehicle starts, you will need to return your programmer to Hypertech for re-initialization, no harm was done to the vehicle computer.



The fuse panel is located on the driver's side of the vehicle behind the vehicle battery. Lift off the cover to access the fuse block. You now can remove the fuse. To remove the fuse, hold the end of the fuse between your thumb and index finger and pull straight out. Make sure you remember to re-install the fuse in the proper location and re-install the fuse panel cover after programming your vehicle.



**For 1999-2002 vehicles**, the one (1) fuse that must be removed is as follows: (see highlighted fuse location above.)

<u>Location</u> <u>Description</u>

SEO1 Special Equipment Option, OnStar

For 2003-2007 vehicles\*, the one (1) fuse that must be removed is as follows: (see highlighted fuse location below.)

Location INFO Description OnStar

		e fuse diagram et entire fuse diagram)
A/C COMP  BTSI CRANI	RR WPR	RADIO SEO B1
W/s WASH	W/S WASH EAP	INFO RADIO AMP

NOTE: Owner's manual fuse diagram may vary from examples shown.

NOTE for 1999-2002 GM vehicles: If the previous step did <u>not</u> turn off the OnStar light on the dash, follow these steps to remove three (3) other OnStar related fuses:

The three (3) fuses that must be removed are as follows: (see highlighted fuse locations to the right.)

Location Description

SEO IGN Special Equipment Option, Ignition,

OnStar

RDO 1 Audio System,

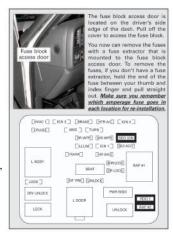
OnStar

RAP #2 Rear Power Windows,

Sunroof, Radio,

OnStar (

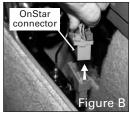
NOTE: Owner's manual fuse diagram may vary from example shown.



# Disabling OnStar in 4.3L GM SUVs

To temporarily disable the OnStar system in 4.3L GM SUVs, the plug to the OnStar computer must be disconnected. The OnStar computer is located in the back of the vehicle under the passenger's side rear interior cover (See Figure A). To remove the cover, release the clip and swing out. See Figure B. Squeeze the blue and grey tabs on the connector and pull up to temporarily disconnect the OnStar system in the vehicle.





### What To Do After Programming Your Vehicle

After the vehicle computer has been successfully programmed, reinstall the fuse(s) removed that are OnStar related to enable the system for 4.8/5.3/6.0/8.1L vehicles, making sure the proper amperage fuse is in each location and the fuse panel cover(s) are reinstalled. For 4.3L GM vehicles, plug the OnStar connector back to the original location and reinstall the interior cover.

#### SECTION 2: POWERSTAT INSTALLATION

#### For 1999-2007\* 4.8/5.3/6.0L GM vehicles

To complete your performance package, you may choose to use a low-temp thermostat. Replacing the factory thermostat with a Hypertech PowerStat will allow the engine to run cooler, increasing power, and reducing the engine's tendency to detonate.

#### Tools needed:

10mm socket, ratchet, and extension Slip joint pliers DEX-COOL anti-freeze coolant

- · WARNING: Never attempt to change a thermostat on a hot engine.
- · Serious injury can occur if the radiator cap is removed while the cooling system is hot.
- · The engine should always be cold when installing the Powerstat.

**NOTE:** After installing the PowerStat, if any coolant needs to be added to the vehicle, make sure vou put the same color coolant back into the vehicle. If your vehicle has orange coolant, replace with orange coolant. If green, replace with green.

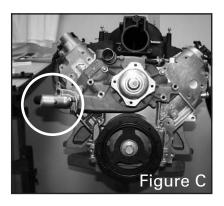
• For 4.3 & 8.1L vehicles, Hypertech recommends using the stock thermostat. For 1999-2007\* 4.8/5.3/6.0L vehicles. Hypertech recommends using the 180° PowerStat.

NOTE: The thermostat for 1999-2003 GM trucks/SUVs is a "housing" style thermostat. For 2004-2007\* GM vehicles, it is not a housing style thermostat. It is located on the front of the water pump assembly at the bottom edge of the passenger side cylinder head. (See Figure C)

#### Part #1015 - 180° PowerStat (1999-2003) Part #1028 - 180° PowerStat (2004-2007\*)

- 1. Make sure that the vehicle is parked on a level surface before installing the Hypertech PowerStat.
- Allow the vehicle coolant to cool.
- 3. Turn the surge tank cap counter-clockwise very slowly to remove the pressure from the cooling system. If you hear a hissing or spurting sound, stop and let the pressure bleed off. When the hissing or spurting sound goes away, finish removing the surge tank cap.
- 4. Open the radiator drain plug and drain the coolant from the vehicle.
- Remove the radiator hose from the stock thermostat.
- 6. Remove the two (2) 10mm bolts holding the stock thermostat to the engine. (You may want to use an extension on the socket wrench for easier access.)
- 7. Lift out the stock thermostat. Use a flathead screwdriver to gently pry, if necessary. Clean all the sealing surfaces.
- 8. Install the Hypertech PowerStat, making sure the O Ring is sealed properly. For ease of installation, you may want to apply a small amount of grease to the PowerStat to help retain the O Ring.

- 9. Reinstall the thermostat bolts and any hoses removed. Torque the bolts to 7 ft.-lbs.
- 10. Close the radiator drain plug.
- Fill the cooling system with the proper water/coolant mixture. Refer to the owners manual for the correct ratio. Pour the coolant into the surge tank.
- 12. Start the engine and let it idle for approximately one (1) minute.
- 13. Reinstall the surge tank cap.
- 14. Cycle the engine from idle to 3000 RPM in thirty (30) to forty (40) second intervals. This needs to be done until the engine coolant temperature reaches 210°F or 99°C.
- 15. When the cooling system is at the proper temperature, shut off the engine. Remove the surge tank cap as described in Step 3.
- 16. Leaving the surge tank cap off, start the engine and let it idle for one (1) minute. Then, fill the surge tank with the coolant mixture to 1/2" above the "Fill Cold" mark on the surge tank. Now reinstall the surge tank cap.
- 17. Repeat Step 14 once more, then shut off the engine.
- 18. Allow the vehicle coolant to cool, then remove the surge tank cap again as described in Step 3. Top off the coolant system to 1/2" above the "Fill Cold" mark on the surge tank, then tighten the surge tank cap.

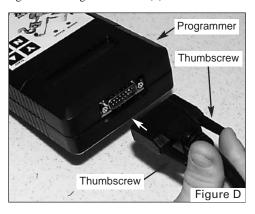


#### **IMPORTANT:**

NEVER MIX ORDINARY ANTI-FREEZE (GREEN) WITH DEX-COOL ANTI-FREEZE (ORANGE) OR YOU MAY DAMAGE THE COOLING SYSTEM

#### SECTION 3: PROGRAMMING INSTRUCTIONS

• Connect one (1) end of the provided cable to the programmer as in Figure D and tighten the two (2) thumbscrews.



 See Figure E. Locate the Data Link Connector (DLC) under the driver's side of the dash panel above the emergency brake.



- Plug the programmer cable into the DLC. Make sure the cable is plugged in completely to ensure a good connection.
- Set the parking brake to turn off the DRLs (Day-Light Running Lamps) and turn the ignition key to the RUN position, but do not start the engine.

#### IMPORTANT:

- -DO NOT leave the vehicle while programming is in process.
- -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.
  - -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 (see Section 1 for details).
  - DO NOT attempt programming while the vehicle is connected to a battery charger.

 Press the ▲ arrow on the programmer. The following displays should appear immediately on the LCD screen (where X.X.X.X is the version number):

HYPERTECH POWER PROGRAMMER

VERSION X.X.X.X

FOR XXXX GMC AND CHEVROLET TRUCKS

- If these screens do not appear, make sure that both ends of the cable are securely attached and press the ▲ arrow again.
- The programmer will show applications and copyright information. The programmer will then identify your vehicle and perform a self-test. A few seconds after the self-test is complete, the VIN number of the vehicle will be shown and a screen should appear with a description of your vehicle:

YOUR VEHICLE IS: XXXX CHEVROLET TRUCK/SUV X.XL

- If this screen does not appear, make sure that the key is in the RUN position with the engine NOT running.
- The programmer will display a series of options. For each option press the 'Y' button to make a change. Press the 'N' button to make no change and proceed to the next option. For some options, you will use the ▲ and ▼ arrows to point to a particular option. Pressing the 'Y' button will then lock in your selection. This screen will now appear:

CHECKING FOR DIAGNOSTIC TROUBLE CODES (DTCS)

 The Power Programmer is checking the vehicle for any Diagnostic Trouble Codes (DTCs). If no DTCs are found, this screen will appear:

NO DTCS REPORTED

 If no DTCs are found, the Power Programmer will then go to Step A (Engine Tuning). If any DTCs are found, this screen will appear:

"X" DTCS REPORTED

• "X" represents the number of DTCs found in the vehicle. This screen will now appear:

> VIEW DTCS = Y CLEAR DTCS = N

 Press 'Y' to view the DTC(s) found in the vehicle. Press 'N' to clear the DTC(s) without viewing them. If you press 'Y', these screens will appear:

> WRITE DOWN THE FOLLOWING DTCS AND REFER TO FACTORY MANUALS FOR EXPLANATION

> > DTC #1 --- PXXXX
> >
> > NFXT DTC = N

#### **IMPORTANT NOTE**

Hypertech, Inc. recommends proper diagnosis and repair of reported DTCs prior to programming. For Diagnostic Trouble Code (DTC) interpretations, refer to factory manuals, see your local parts dealer, or visit internet sites that provide this type of information. An example of such a website is:

www.bentleypublishers.com/tech/vw/vw.dtc.table.htm

• Press the 'N' button to view the next DTC (if any). Once you have viewed all the DTCs, this screen will appear:

NO MORE DTCS, TO VIEW AGAIN, PRESS Y
TO CONTINUE, PRESS N

• Press 'Y' to view the DTC(s) again. Press 'N' to continue. If you press 'N', this screen will appear:

DTCS MUST BE CLEARED BEFORE CHANGING PROGRAM. TO CLEAR DTCS PRESS Y

TO KEEP DTCS AND EXIT PROGRAM PRESS N

• Press 'N' to exit the program. This screen will appear:

TURNING POWER PROGRAMMER OFF

Press 'Y' for the Power Programmer to clear the DTC(s).
 These screens will now appear:

CLEARING DTCS

ALL DTCS HAVE BEEN CLEARED

• The Power Programmer has now successfully cleared the DTC(s) found in the vehicle computer. This screen will now appear:

TO ENTER POWER PROGRAMMER MODE, PRESS Y
TO EXIT PROGRAM, PRESS N

#### A. ENGINE TUNING

TO INSTALL HYPERTECH POWER TUNING, PRESS Y
TO KEEP FACTORY ENGINE TUNING, PRESS N

 Press the 'Y' button to install engine tuning. Press 'N' to keep the stock vehicle tuning.

USE UP/DOWN ARROWS TO CHOOSE FUEL OCTANE THAT WILL BE USED, THEN PRESS Y TO SELECT OR N TO EXIT.  $\ \ \, \_ \ \, OCTANE$ 

If you pressed the 'Y' button for engine tuning, use the ▲ and ▼ arrows to select between premium octane and regular octane engine tuning.

#### **B. REV LIMITER**

TO ADJUST ENGINE REV LIMITER, PRESS Y
TO KEEP STOCK ENGINE REV LIMIT, PRESS N

- Press 'N' to keep the stock engine rev limiter. Making this
  choice will skip to the next option.
- Press 'Y' to adjust the engine rev limiter to a value other than stock. The stock rev limiter may vary depending on year and engine size of the vehicle. Please refer to the owner's manual for the stock engine rev limiter.

USE UP/DOWN ARROWS TO ADJUST ENGINE REV LIMITER, THEN PRESS Y TO SELECT OR N TO EXIT.  $\_ \_ \_ RPM$ 

 Press the ▲ and ▼ arrows to increase or decrease the engine rev limiter. The rev limiter can be increased or decreased in 100 RPM increments. Press 'Y' to lock in the desired value.

NOTE: If you are changing your RPM "rev" limiter, you must also adjust your shift points accordingly (See chart below). Not doing so may result in damage to your engine or powertrain.

Rev Limit	<b>Shift Points</b>	Rev Limit	<b>Shift Points</b>
-500	-500	+100	+100 or lower
-400	-400 or lower	+200	+200 or lower
-300	-300 or lower	+300	+300 or lower
-200	-200 or lower	+400	+400 or lower
-100	-100 or lower	+500	+500 or lower
Stock	Stock or lower		

#### C. ELECTRIC COOLING FAN OPERATING RANGE

(AVAILABLE ONLY 2005 & NEWER 5.3L H.O. & 6.0L H.O.)

TO PROGRAM ENGINE COOLING FAN TEMPERATURE RANGE, PRESS Y TO LEAVE COOLING FAN TEMPERATURE UNALTERED, PRESS N

- Press 'N' if you do not wish to change the temperature at which the electric cooling fans turn on and turn off.
- Press 'Y' if you want to lower the temperature at which the electric cooling fans turn on and turn off, even with the stock thermostat. This screen will appear:

USE UP/DOWN ARROWS TO SELECT THERMOSTAT TEMP, THEN PRESS Y TO SELECT OR N TO EXIT.

 Use the ▲ and ▼ arrows to select between optimizing the cooling fan temperature settings for:

#### Stock 195° thermostat

Fan 1 on/off at: 209°F/200°F Fan 1 on/off at: 194°F/185°F Fan 2 on/off at: 219°F/210°F

#### 180° Hypertech PowerStat

Fan 2 on/off at: 204°F/195°F

#### D. TOP-SPEED LIMITER

TO ADJUST TOP SPEED LIMIT TO MATCH SPEED RATING OF HIGH-PERFORMANCE TIRES, PRESS Y TO KEEP STOCK TOP SPEED LIMIT, PRESS N

• Press the 'N' button to keep your vehicle's stock top-speed limiter and skip to the next option.

USE UP/DOWN ARROWS TO ADJUST TOP SPEED LIMIT, THEN PRESS Y TO SELECT OR N TO EXIT. -- MPH

• If you have installed factory-approved high-performance tires, press the 'Y' button to change your vehicle's top-speed limiter to match the speed rating of those tires. The speed rating or speed symbol will be found on the sidewall of your tires. Here are the corresponding symbols and maximum top-speed limits that can be programmed into your vehicle:

S - 110 MPH T - 116 MPH H - 128 MPH

#### E. TIRE SIZE

• For 2001 and newer GM vehicles, this screen will appear first:

IF YOUR VEHICLE IS EQUIPPED WITH TRACTION ASSIST, PRESS Y IF YOUR VEHICLE IS NOT EQUIPPED WITH TRACTION ASSIST, PRESS N

• For 1999-2000 GM vehicles, this screen will appear first:

IF TIRE HEIGHT HAS BEEN CHANGED FROM ORIGINAL, PRESS Y IF TIRE HEIGHT HAS NOT BEEN CHANGED, PRESS N

• If you Press 'Y', this screen will now appear:

USE UP/DOWN ARROWS TO CHOOSE CORRECT TIRE HEIGHT, THEN PRESS Y TO SELECT OR N TO EXIT. ----''

Use the ▲ and ▼ arrows will allow adjustments of 1/4" increments. Maximum and minimum tire height that can be adjusted depend on the year, make, and model of the vehicle. This feature will allow you to adjust your speedometer and shift points (for automatic transmissions) for the new tire height. Press the 'Y' button to lock in the desired value. At any time you may press 'N' to allow you to either try again or skip to the next option.

#### **HOW TO DETERMINE TIRE HEIGHT**

If you do not know your tire height, ask your tire dealer or measure a tire as follows:

- Place a chalk mark on the tire where it contacts the pavement and also mark the pavement. These marks should be at the center of the tire footprint pointing straight down to the pavement.
- Roll the vehicle in a straight line until the chalk mark makes one revolution and is pointing straight down at the pavement again. Mark the pavement again at this new spot.
- 3. Measure (in inches) the distance between the two (2) marks on the pavement. Divide the measurement by 3.1416. This will give you the tire height in inches.

IMPORTANT NOTE: If you have an 8.1L GM vehicle, the next option to be shown on the programmer screen after the tire size option will be transmission (Section G).

#### F. REAR GEAR RATIO

IF REAR AXLE RATIO HAS BEEN CHANGED FROM ORIGINAL, PRESS Y

IF REAR AXLE RATIO HAS NOT BEEN CHANGED, PRESS N

 Press 'N' if the rear gear ratio has not been changed from the factory installed gear. Making this choice will skip to the next option.

USE UP/DOWN ARROWS TO SELECT CORRECT REAR AXLE RATIO, THEN PRESS Y TO SELECT OR N TO EXIT.  $\_\_\_--\_.:1$ 

Press 'Y' if you have installed a rear gear with a ratio that
is different than the original factory gear. This choice will
recalibrate your speedometer/odometer readings and partthrottle shifting for automatic transmissions for the new gear
ratio. Press the ▲ and ▼ arrows to see all of the gear ratios
available for your vehicle.

Press 'Y' to lock in the gear ratio that you have installed.
 At any time you may press 'N' to allow you to either try again or skip to the next option.

#### **CAUTION!**

The speedometer and odometer will not be corrected accurately if you use one (1) of the following tire size/rear gear ratio combinations:

4.10 gear with a tire height smaller than 26 inches 4.56 gear with a tire height smaller than 29 inches

**NOTE:** For automatic transmissions, a selection of any of the available rear gear ratios will automatically set wide-open throttle shifts similar to original factory RPM settings for the new rear gear ratio.

#### G. TRANSMISSION

IF YOU HAVE AN ALLISON TRANSMISSION, PRESS Y

IF YOU DO NOT HAVE AN ALLISON TRANSMISSION, PRESS N

If your 8.1L vehicle is equipped with an Allison transmission, the programmer will not offer rear gear or transmission options. Press 'Y' and the programmer will skip to the Report. If your 8.1L vehicle is not equipped with an Allison transmission, press 'N' and the programmer will proceed to the rear gear ratio (Section F) options, then go into the shift points (Section H) and shift firmness (Section I) options.

IF YOU HAVE AN AUTOMATIC TRANSMISSION, PRESS Y
IF YOU HAVE A MANUAL TRANSMISSION, PRESS N

 If you have a 4.3/4.8/5.3/6.0L vehicle and press 'Y', the programmer will continue with the shift points and shift firmness options. If you press 'N', the programmer will skip to the Report.

#### H. TRANSMISSION SHIFT POINT RPM (AUTOMATICS ONLY)

Be sure to read and understand this entire section before attempting to reprogram your shift points.

The shift point option allows you to change the RPM at which your transmission shifts at wide-open throttle, to find the very best shift points for maximum acceleration. You can *try* optimizing the shift points using the seat-of-your-pants technique, but how will you know if your e.t.'s improved? The only accurate method for this optimization is at the track with timing slips as the measuring device.

In order to optimize the performance of any vehicle, consistent test results are necessary. If a vehicle varies plus or minus 1/10th of a second in the quarter-mile, run to run, with *no* changes, it is impossible to test any product (shift point, starting line RPM, etc.) that has the potential to gain 1/10th or 2/10ths of a second, because the gains or losses on any one (1) run could be due to inconsistency rather than the variable being tested.

Wheel-spin, if present, is the overwhelming cause of inconsistency. You *must* develop a starting-line technique that gives you the best repeatable elapsed times. Tires are the most important product you need to cure wheel-spin. For street-driven vehicles, we recommend D.O.T. approved street slicks as large as you can fit under the wheel wells of your vehicle. In any case, before testing shift points, arrive at the starting line technique that gives you the best repeatable results, with or without slicks.

Throw out *any* run with excessive wheel-spin, and try to get at least three (3) runs that repeat within 4 or 5 hundredths of a second. Then average them and **use this average value** (**not just your best run**) **for all testing comparisons**. Your best e.t.'s will occur when you leave as hard as you can without wheel-spin. Confirm this by practicing and observing the results.

And finally, a very important point for any and all highperformance testing: always test only one (1) variable at a time until it is optimized. For shift point optimization, this means test only one (1) shift point at a time until the best RPM is found, leaving all other shift points alone. Once the best 1-2 shift point is found, program it in and leave it. Then repeat the same optimization procedure for the 2-3 shift point.

It is not usually necessary to optimize the 3-4 shift point (unless the gearing in the vehicle causes the shift to occur during the 1/4-mile run) because it will occur at a speed so high that it is out of range, even on a race track. However, if gearing is causing either the 2-3 or the 3-4 shift to occur *just before the end of the 1/4-mile*, you should try raising the shift point enough to allow the vehicle to cross the finish line without making that last shift.

The highest shift point RPM you can use must always be less than the rev limit RPM. If you do hit the rev limit, the computer will shut the fuel off until RPM drops sufficiently, so let off the throttle and abort that test run. The rev limiter is there to protect your valve-train and the engine from damage. Even if you went quicker every time you raised the shift point RPM, stop at 100 RPM below the rev limit. That's the *most* RPM you can use safely for that shift point.

• This is the first screen you will see:

# TO ADJUST TRANSMISSION SHIFT POINTS, PRESS Y TO KEEP STOCK SHIFT POINTS, PRESS N

• If you press 'Y', you will see the following screen:

```
USE UP/DOWN ARROWS TO ADJUST SHIFT POINT. THEN PRESS Y TO SELECT OR N TO EXIT $ 1-2 Shift $ _ _ _ RPM
```

 Press the ▲ arrow once for 100 RPM, twice for 200 RPM, etc. and then press the 'Y' button to enter your 1-2 shift point choice. If you don't want to change the 1-2 shift point, enter a zero, and press 'Y'.

The automatic transmission shift point adjustment range is:

1-2 shift: +/-500 RPM (In approximately 100 RPM increments) 2-3 shift: +/-500 RPM (In approximately 100 RPM increments) 3-4 shift: +/-500 RPM (In approximately 100 RPM increments)

After downloading the 1-2 shift point you want to test, disconnect the programmer and make your test runs (At least three (3), but as many as needed to get three (3) good runs for averaging.). If you've seen a gain, continue moving in that direction until you begin to slow down or until you are within 100 RPM of the rev limiter. You can now review all of your test results, select the best 1-2 shift point for your vehicle, and program it in. If two (2) different shift points run the same average e.t.'s, use the lower RPM to save wear and tear on the vehicle. Repeat the same procedure for the 2-3 shift and the 3-4 shift.

NOTE: If you are changing your shift points, you <u>must</u>
<u>also</u> adjust your RPM "rev" limiter accordingly
(See chart below). Not doing so may result in
damage to your engine or powertrain.

Rev Limit	<b>Shift Points</b>	Rev Limit	<b>Shift Points</b>
-500	-500	+100	+100 or lower
-400	-400 or lower	+200	+200 or lower
-300	-300 or lower	+300	+300 or lower
-200	-200 or lower	+400	+400 or lower
-100	-100 or lower	+500	+500 or lower
Stock	Stock or lower		

#### I. TRANSMISSION SHIFT FIRMNESS (AUTOMATICS ONLY)

IF YOU HAVE INSTALLED AN AFTERMARKET SHIFT KIT, PRESS Y
TO CONTINUE. PRESS N

 Press 'Y' if you have installed an aftermarket shift kit into your automatic transmission. The shift kit has already firmed up your shifts. You do not want your programmer to make them even firmer because transmission damage may occur.

**NOTE:** Pressing 'Y' lets your programmer know that it is not to program shift firmness and you will skip to the Report.

• Press 'N' if you have not installed an aftermarket shift kit into your automatic transmission. Pressing 'N' will give you the following choice:

TO INCREASE TRANSMISSION SHIFT FIRMNESS, PRESS Y
TO KEEP STOCK SHIFT FIRMNESS, PRESS N

Press 'N' to keep the stock shift firmness. Press 'Y' to increase
the firmness of shifts. Firmer and quicker shifts reduce the loss
of power to friction as the clutch packs "lock-up" during shifts,
allowing more power to the rear wheels. If you pressed 'Y' for
firmer shifts, this screen will appear:

USE UP/DOWN ARROWS TO CHOOSE AMOUNT OF SHIFT FIRMNESS TO ADD, THEN PRESS Y TO SELECT OR N TO EXIT. %

You can select between 25%, 50%, 75%, and 100% for the degree to which you desire to enhance shifting firmness.
 100% indicates the maximum shift firmness increase allowable.
 It does not indicate 100% firmer! 75%, 50%, and 25% are percentages of the maximum shift firmness increase.

#### J. REPORT

 After your last choice has been made, this screen will appear and list all of your choices:

YOU HAVE CHOSEN

Watch the screen as your choices scroll by on the bottom line.
 Now these two (2) alternating screens will appear:

PRESS Y TO BEGIN
PROGRAMMING
PRESS N TO

CHANGE OPTIONS

If all choices are correct, press 'Y' to start programming.
 If you want to make a change to your choices, press the 'N' button to start over from the beginning.

#### K. PROGRAMMING

IMPORTANT NOTE: On certain applications, the dash message center may display random code information such as REDUCED ENGINE POWER. This is a NORMAL step during the programming process for certain applications.

• First, the programmer will read out your vehicle's stock program.

READING COMPUTER XX%

 When the programmer has finished this, it will wait a few seconds and then begin programming the changes into your vehicle.

WRITING COMPUTER XX%

- This display will show percentage completion while the programming is taking place. While the unit is programming, the following is EXTREMELY IMPORTANT:
  - \* DO NOT LEAVE THE VEHICLE WHILE PROGRAMMING IS IN PROCESS.
  - \* DO NOT DISTURB THE CABLE.
  - \* DO NOT TURN THE KEY OFF.
  - \* DO NOT START THE ENGINE.
  - \* IF THE UNIT STOPS PROGRAMMING OR IS INTERRUPTED, PLEASE MAKE A NOTE OF ANY MESSAGE(S) THAT APPEAR ON THE PROGRAMMER SCREEN. THIS WILL BE HELPFUL TO OUR TECHNICAL DEPARTMENT.

Any one of these actions will disturb the programming process.
 The programmer is designed to recover from these conditions, but they should be avoided.

IMPORTANT NOTE: If during the reading and/or programming stage, the Power Programmer does not show an increase in percentage for at least five (5) minutes, LEAVE THE KEY IN THE 'ON' POSITION and unplug the Power Programmer from the diagnostic port. Then, reinsert the cable into the diagnostic port and press the ▲ button. This will allow the programming to continue. If the problem continues, call Hypertech at 901-382-8888.

Programming is complete when the unit reaches 100%.
 (Programming takes approximately 1.5 to 2 minutes)
 The following screens will appear:

HYPERTECH POWER TUNING INSTALLED
TURN KEY OFF FOR 30 SECONDS
TO END, PRESS Y AND UNPLUG CABLE

- Turn the key off for thirty (30) seconds, press the 'Y' button, and unplug the programmer cable from the DLC under the dash panel.
- Start the engine and make sure the Service Engine Soon light on your instrument cluster goes out (If it stays on or flashes, Call Hypertech at 901-382-8888). Warm up the engine and make sure it is running smoothly.
- FOR ONSTAR EQUIPPED VEHICLES. For 4.8/5.3/6.0/8.1L vehicles, reinstall the OnStar fuse(s) back into the fuse panel(s), making sure the proper amperage fuse is in each location and the fuse panel cover(s) are reinstalled. For 4.3L vehicles, plug the OnStar connector back to the original location and reinstall the interior cover. (See Section 1 for details.)
- CHECK FOR DETONATION. Whether you have selected Power Tuning for premium (the highest octane rating available in your area) or regular octane gasoline, you need to check for detonation. This is a "pinging" sound heard during heavy throttle acceleration, indicating the presence of detonation. Make certain you are using gasoline intended for the Power Tuning you have installed. If any "pinging" sound is heard, you should immediately back off the throttle. To discuss, call Hypertech at 901-385-1888.

# SECTION 4: PROGRAMMING BACK TO STOCK OR CHANGING OPTIONS

After installing Hypertech Power Tuning, you may return your vehicle's computer to stock programming at any time. Follow these steps to return your vehicle to the stock tuning or change your option settings.

 Reconnect the programmer to the DLC. Next, turn the ignition key to run but do not start the engine. Press the ▲ arrow and wait for the programmer to identify your vehicle just as before. Since the programmer has programmed your vehicle's computer, this screen will appear:

HYPERTECH POWER
TUNING INSTALLED

• Then this screen will appear:

TO RETURN VEHICLE TO FACTORY SETTINGS, PRESS Y TO ACCESS POWER PROGRAMMER FEATURES, PRESS N

- Press 'Y' to return to the original factory program.
- Press 'N' to allow you to see the options in Section 3.
- If the 'Y' button is pressed, programming back to stock will begin. These screens will appear:

WRITING COMPUTER XX%
FACTORY PROGRAM
IS NOW INSTALLED
TURN KEY OFF
FOR 30 SECONDS
TO END, PRESS Y
AND UNPLUG CABLE

 Turn the key off for thirty (30) seconds, press the 'Y' button, and remove the cable as before. Your vehicle's computer will now be in a completely stock tuning configuration.

#### SECTION 5: TROUBLESHOOTING GUIDE

The programmer will notify you of incidents that are out of the ordinary. Here are some of the screens that may be encountered.

#### 1. LOSS OF COMMUNICATION

#### COMMUNICATION LOST: RETRYING

- This screen will appear if the programmer is unable to communicate with your vehicle's computer. If the problem is corrected, the programmer will automatically restart the programming process. Take these steps to correct the problem:
  - 1. Make sure that the ignition key is in the RUN position and that the engine is not running.
  - 2. Make sure that both ends of the cable are securely attached.
  - 3. Wait at least five (5) minutes for the programmer to re-establish communication and program the vehicle.
  - 4. If the three (3) steps above do not correct the problem, call Hypertech at 901-382-8888.

#### 2. CABLE REMOVED WHILE PROGRAMMING

 The programmer will lose power during programming if the cable is removed for any reason. If this happens, simply reconnect the cable and press the ▲ arrow. The programmer will identify your vehicle and then display:

PROGRAMMING WAS

## PROGRAMMING WILL CONTINUE NOW

 The programmer will then continue programming from where it was interrupted.

NOTE: If the programmer was interrupted during the Reading stage, programming will NOT be considered interrupted, and the programmer will proceed to Section 3 on page 10.

#### 3. ATTEMPTING TO PROGRAM A DIFFERENT VEHICLE

 If you attempt to program the computer in another vehicle without first programming the original vehicle back to stock, the following screen will appear:

CODE 91: PROGRAM YOUR VEHICLE BACK TO STOCK BEFORE
PROGRAMMING ANOTHER VEHICLE

#### 4. CALIBRATION NOT FOUND

 If your vehicle has a factory program that is not recognized by the programmer, it cannot continue. This screen will appear:

> CODE 6D: CAL NOT FOUND

 Call Hypertech at the provided phone number on the programmer screen. Please have your vehicle VIN number ready. The Hypertech technical staff will instruct you what to do.

#### 5. SOMEONE REPROGRAMS YOUR COMPUTER

- If a service facility reprograms your vehicle's computer with an update, your Hypertech Power Tuning will be erased.
   However, all you need to do is to reconnect the programmer and press the ▲ arrow.
- If the new vehicle computer calibration is identified by the programmer, the options in Section 3 will be shown. If the new vehicle computer calibration can not be identified by the programmer, this screen will appear:

CODE 6D: CAL NOT FOUND

 Call Hypertech at the provided phone number on the programmer screen. Please have your vehicle VIN number ready. The Hypertech technical staff will instruct you what to do.

#### 6. BLANK SCREEN

If the programmer does not turn on when the ▲ arrow is pressed, make sure that both ends of the cable are fully inserted. Press the ▲ arrow again. If the programmer still does not turn on, check for a blown fuse in the vehicle fuse panel for either the cigarette lighter or the accessory circuit. Replace with the proper amperage fuse. Call Hypertech at 901-382-8888, if this does not correct the problem.

#### IF YOU HAVE ANY PROBLEMS OR QUESTIONS, PLEASE CALL OUR TECHNICAL STAFF AT 901-382-8888

HOURS: 8AM - 5PM Central Time, Monday - Friday Hypertech, Inc. 3215 Appling Road Bartlett, TN. 38133-3999 Visit our website at www.hypertech.com or e-mail us at sales@hypertech.com

#### What To Do Before Taking Your Vehicle In For Service

If you take your vehicle to a dealer or mechanic for service, you must first remove the Hypertech Power Tuning and restore the stock programming. This is because diagnostic devices expect to find stock calibrations and will often overwrite the program if the latest calibration is not found in the computer memory. This will result in the loss of your Hypertech Power Tuning data. The Hypertech Power Programmer has an internal security system that allows its Power Tuning program to be installed in only one vehicle at a time. In order to maintain the most current calibrations for your vehicle, the Power Programmer is designed to allow you to restore the stock tuning before you take your vehicle in for service so that the service technician can upgrade your stock calibrations. After the service is complete, you can reinstall your Hypertech Power Tuning. If you have any questions related to service issues, please call Hypertech at 901-382-8888.

# PRODUCT WARRANTY

Factory Direct Limited Lifetime Warranty

All HYPERTECH Power Tuning Products\* are warranted against defects in materials or workmanship. Hypertech's liability under this warranty shall be limited to the prompt correction or replacement of any defective part of the product which HYPERTECH determines to be necessary. This Limited Lifetime Warranty is to the original purchaser for as long as he or she owns the vehicle on which the product is originally installed, providing all the information requested is furnished. You must retain a copy of your original sales invoice or receipt. Without proper documentation, a service fee will be applied. Resold units are NOT covered under this warranty.

<sup>\*</sup> Power Tuning products are Power Chips, Power Modules, Power Tuning Modules, HyperPACs, and Power Programmers.

#### SPECIALTY AUTO PARTS CONSUMER'S BILL OF RIGHTS

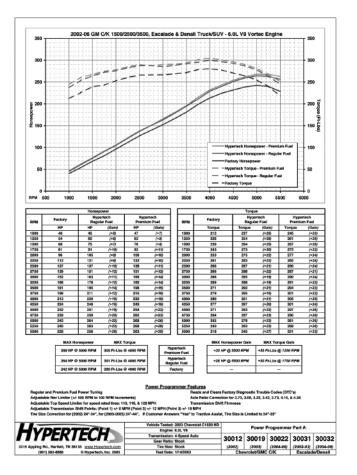
#### Your Rights To Personalize Your Vehicle

- Article 1: You have the **Right** to buy high-quality, reliable aftermarket performance and specialty parts, accessories, and styling options.
- Article 2: You have the **Right** to use high-quality aftermarket parts and know that your new vehicle warranty claims will be honored. In fact, your vehicle dealer may not reject a warranty claim simply because an aftermarket product is present. A warranty denial under such circumstances may be proper only if an aftermarket part caused the failure being claimed.
- Article 3: You have the **Right** to install and use emissions-legal aftermarket performance parts without incurring hassles and onerous procedures during state vehicle emissions inspections.
- Article 4: You have the **Right** to actively oppose any proposed (or existing) laws or regulations that will reduce your freedom to use aftermarket automotive parts and service or will curtail your ability to take part in the automotive hobbies of your choice.
- Article 5: You have the **Right** to patronize independent retail stores and shops for vehicle parts and service. The U.S. aftermarket offers the world's finest selection of performance and specialty parts, accessories, and styling options. These aftermarket products satisfy the most discriminating customers seeking personalized vehicles for today's lifestyle.

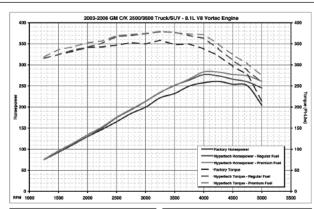
The Consumer's Bill Of Rights courtesy of Specialty Equipment Market Association (SEMA)

### **Typical Performance Gains**

NOTE: All dynamometer tests are performed under controlled conditions. Results may vary, depending on the specific vehicle, altitude, temperature, fuel used, and various other conditions that affect vehicle performance. Power gains shown are specific to the vehicle tested and representative of the average gains verified. For a color, printable power graph of your particular application, check out our website at www.hypertech.com.



### **Typical Performance Gains (Cont'd)**



RPM	Factory		Hypertech Regular Fuel		Hypertach Premium Fuel		RPM	
	HP	HP	(Galle)	HP	(Galv)	1		
	1250	76	76	(+0)	76	(+1)	1	1250
	1500	83	93	(+0)	96	(+3)	1	1590
	1760	111	112	(+0)	114	(+0)	1	1750
	2000	130	130	(+0)	134	(+4)	1	2000
	2260	147	161	(+6)	153	(+6)	1	2250
	2500	165	175	(+10)	176	(+11)	1	2500
	2760	185	194	(+9)	195	(+10)	1	2750
	3000	200	214	(+14)	214	(+14)	1	3000
	3250	222	234	(+12)	235	(+13)	1	3250
	3500	232	262	(+26)	251	(+19)	1	3530
	3750	250	264	(+14)	267	(+17)	1	3750
	4000	258	277	(+19)	263	(+25)	1	4990
	4250	261	274	(+13)	283	(+22)	1	4250
	4500	254	266	(+12)	277	(423)	1	4500

		Torqu			
RPM	Factory	Hypertech Regular Fuel		Hypertech Premium Fuel	
	Torque	Torque	(Gain)	Torque	(Galty)
1250	316	316	(+0)	319	(+2)
1590	325	325	(+0)	336	(+11)
1750	332	335	(+3)	343	(+11)
2000	341	342	(+1)	353	(+12)
2250	343	351	(+8)	367	(+14)
2500	347	367	(+20)	369	(+22)
2750	353	370	(+17)	372	(+19)
3000	350	374	(+24)	375	(+25)
3250	359	379	(+20)	380	(+21)
3500	348	378	(+30)	376	(+20)
3750	350	399	(+19)	373	(+23)
4990	338	363	(+25)	372	(+34)
4250	322	338	(+16)	349	(+27)
4500	297	311	(+14)	323	(+26)
4750	277	287	(+10)	363	(+26)
5000	214	258	(+44)	274	(+60)

MAX Horsepower	MAX Torque	
263 HP G 4000 RPM	380 Ft-Lbs @ 3250 RPM	
277 HP @ 4000 RPM	379 Ft-Lbs @ 3250 RPM	
261 HP @ 4250 RPM	359 Ft-Lbs @ 3250 RPM	

Hypertech	ı
Premium Fuel	ı
Hypertech	ı
Regular Fuel	ı
Factory	ı

MAX Horsepower Gain	MAX Torque Gain
+57 HP @ 5000 RPM	+60 FI-Lbs @ 5000 RPM
+41 HP @ 5000 RPM	+64 FI-Lbs @ 5000 RPM
-	-

<b>H</b> YPERTECH	Ē
3215 Appling Rd., Bartlett, TN 38133 www.Hypertech.com	П
(901) 385-1898 © Hypertech, Inc. 2004	Ξ
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Engine: 8.1L V8	Power Programmer Part #:	
Transmission: 4-Speed Auto	30019	30022
Gear Ratio: Stock	30019	30022
Tire Size: Stock	(2003)	(2004-2006)
Test Date: 10/25/2002	(2003)	

### **Hypertech Merchandise**

#### **T-Shirts**

Available in long or short sleeve, these T-shirts are high-quality, printed in full-color and display the Hypertech Power Tuning logo. Available in sizes ranging from Small to XXX-large.

#### **Polo Shirts**

These short-sleeve polo shirts available in blue, red, white, or black are high-quality 100% cotton and have a full-color Hypertech logo embroidered on the left chest. Available in sizes ranging from medium to XX-large.



T-Shirts	Part #	T-Shirts (cont'd)	Part #
Short Sleeve - Small	600	Long Sleeve - Medium	606
Short Sleeve - Medium	601	Long Sleeve - Large	607
Short Sleeve - Large	602	Long Sleeve - X-Large	608
Short Sleeve - X-Large	603	Long Sleeve - XX-Large	609
Short Sleeve - XX-Large	604	Long Sleeve - XXX-Large	610
Short Sleeve - XXX-Large	605	Polo Shirts (Order part# &	color)
Long Sleeve - Medium	606	Medium	638
Long Sleeve - Large	607		639
Long Sleeve - X-Large	608	Large X-Large	640
Long Sleeve - XX-Large	609	XX-Large	641
Long Sleeve - XXX-Large	610	AA-Laige	041

### **Baseball Caps**

Hypertech baseball caps are available in three styles and come with a full-color Hypertech logo embroidered on the front. All baseball caps are one-size-fits-all.

	Part #
Solid Navy Blue	633
Denim w/Khaki Bill	634
Khaki w/Navy Blue Bill	635



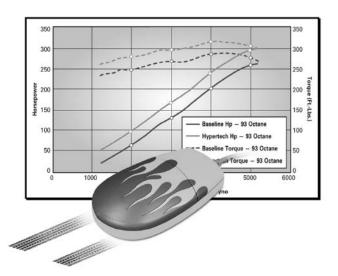
Enjoy your morning coffee with the Hypertech coffee mug, displaying the Hypertech logo and engine icon in full color on both sides - **Part #626**.





To Place An Order, Call Hypertech at 901-385-1888.

### <u>Notes</u>



# Make Tracks To Our Website

If you'd like to see how much horsepower and torque Hypertech Power Tuning™ can deliver for your car or truck, visit our website for the latest dyno charts for the most popular Dodge, Ford, & GM vehicles. If you don't find the dyno chart for your application listed on our website, please send us an email (sales@hypertech.com) for the horsepower and torque gains of your particular application.

www.hypertech.com

