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HYPERTECH® POWER PROGRAMMER III™



**2005-2007 MUSTANG GT/
1999-2004 MUSTANG GT/COBRA/BULLIT
2005-2007 4.0L V6**

STEP-BY-STEP INSTALLATION INSTRUCTIONS

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IMPORTANT

- The Power Programmer for the 4.0/4.6L Mustang is legal for sale or use on 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 “TO CONTINUE, PRESS ‘Y’”, on page 14. 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, 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 battery. 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 ONLY time you may remove the programmer cable from the DLC safely is PRIOR to pressing ‘Y’ to program your entries. However, any programming choices you have made WILL NOT be saved. NOTE: It is NOT safe to unplug the programmer cable any time AFTER you have pressed ‘Y’ to program.**
 - * **DO NOT turn the key off UNLESS instructed by the programmer.**
 - * **DO NOT start the engine.**

Any of these actions on the previous page will interrupt the programming process. The programmer is designed to recover from these actions, 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.

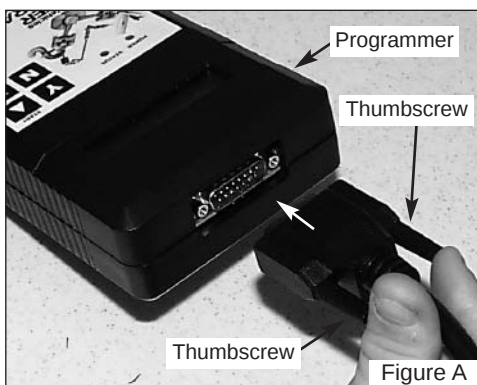
To reprogram your vehicle's computer, simply plug the programmer cable into the vehicle's diagnostic connector located under the dash panel on the driver's side. Set the parking brake. Next, turn the ignition key to RUN but do not start the engine. Press the ▲ arrow on the programmer. It will then identify 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.

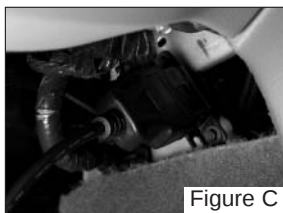
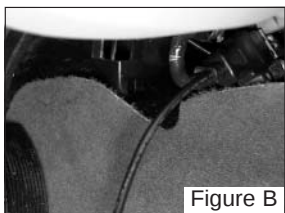
You may also reconnect your programmer at any time to change the programming. For example, if you have replaced your factory tires with different diameter tires, you will want to correct your speedometer, odometer, and automatic transmission shift points. Simply reconnect your programmer, answer the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

SECTION 1: PROGRAMMING INSTRUCTIONS

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



- See Figures B & C. Locate the Data Link Connector (DLC) under the driver's side of the dash panel.



- Plug the programmer cable into the DLC. Make sure the cable is plugged in completely to ensure a good connection.
- Set the parking brake 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.
- DO NOT OPERATE ELECTRICAL ACCESSORIES (RADIO, WINDOWS, WIPERS, ETC.), AND DISCONNECT ANYTHING PLUGGED INTO THE CIGARETTE LIGHTER OR ACCESSORY PLUGS UNDER THE DASH WHILE PROGRAMMING.
- DO NOT ATTEMPT PROGRAMMING WHILE THE VEHICLE IS CONNECTED TO A BATTERY CHARGER.

- Press the ▲ arrow on the programmer. The programmer will perform a system test. If the POWER and STATUS LEDs do not come on and the programmer does not perform the system test, make sure both ends of the cable are securely attached and press the the ▲ arrow again. These screens will now appear:

HYPERTECH
POWER PROGRAMMER

XXXX-XXXX FORD
XXXXXXXXXX

- Next, the programmer will show copyright information. Then, this screen should appear:

COMMUNICATING
WITH THE VEHICLE

- The programmer will check to see if any diagnostic trouble codes (DTCs) are found in the vehicle computer. This screen will now appear:

CHECKING FOR 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
NEXT DTC = 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
NEXT 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 refer to 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's computer. This screen will now appear:

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

- This screen shows if the VIN number is recognized as the VIN of the vehicle programmed.

- 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 selection. Pressing the ‘Y’ button will then lock in your selection. **ADJUSTABLE FEATURES AVAILABLE FOR YOUR PARTICULAR APPLICATION WILL BE DISPLAYED ON THE POWER PROGRAMMER SCREEN.**

A. ENGINE TUNING

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

For the 2005-2007 Mustang GT and 4.0L V6, this screen will now appear:

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. After selecting the octane of gasoline that will be used, this screen will appear for the 2005-2007 Mustang GT:

IF YOU HAVE INSTALLED AN AFTERMARKET COLD AIR KIT, PRESS Y.
IF THERE IS NO AFTERMARKET COLD AIR KIT, PRESS N.

- If you pressed the ‘Y’ button for having an aftermarket cold air kit installed on your vehicle, use the ▲ and ▼ arrows to scroll through the specific brands of cold air kits and select the cold air kit that is installed on your vehicle. Press ‘Y’ to lock in your selection or ‘N’ to exit. **IMPORTANT: Do not experiment with the tuning selections. Each is perfectly calibrated for each brand of cold air kit. Using the incorrect tuning for any particular cold air kit will result in reduced performance and could lean the engine resulting in higher EGT’s.**(See page 20 for more explanation on the importance of custom tuning for cold air kits, as well as dyno results).
- For the 1999-2004 Mustang GT/Cobra/Bullit, pressing the ‘Y’ button for Hypertech Power Tuning will install engine tuning based on premium octane gasoline. Press ‘N’ to keep the stock vehicle tuning. The next option for the 1999-2002 Mustang GT/Cobra/Bullit will be the rev limiter. However, the following screen will appear for the 2003-2004 Mustang Cobra after pressing ‘Y’ to install Hypertech Power Tuning:

IF AN AFTERMARKET SUPERCHARGER PULLEY HAS BEEN INSTALLED, PRESS Y
IF SUPERCHARGER PULLEY HAS NOT BEEN CHANGED FROM ORIGINAL, PRESS N

- If you press ‘N’ the next option to be displayed will be the rev limiter. If you press ‘Y’, the following screen will appear:

USE UP/DOWN ARROWS TO CHOOSE AFTERMARKET PULLEY DIAMETER
 THEN PRESS Y TO SELECT OR N TO EXIT

- Use the ▲ and ▼ arrows to choose engine tuning for three (3) different sizes of supercharger pulley. Choose the tuning program with the size of the supercharger pulley that is installed on your vehicle. Below are the available supercharger pulley tuning selections:

Factory 3.5-inch (8 psi)
 Aftermarket 3.0-inch (12 psi)
 Aftermarket 2.8-inch (14 psi)

B. REV LIMITER

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

- Press ‘N’ to keep the stock engine rev limit. Making this choice will skip to the next option.
- Press ‘Y’ to adjust the engine rev limit to a value other than stock. The stock rev limit may vary depending on year and engine size of the vehicle. Please refer to the owner’s manual for the stock engine rev limit. This screen will now appear:

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

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

NOTE: If your vehicle has an automatic transmission and you are changing your RPM “rev” limiter, you must also adjust your shift points accordingly (See chart below). Failure to do so may result in damage to your engine or powertrain.

<u>Rev Limit</u>	<u>Shift Points</u>	<u>Rev Limit</u>	<u>Shift Points</u>
-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 (2002-2007 Mustangs only)

TO CHANGE ENGINE COOLING FAN TEMPERATURE SETTINGS, PRESS Y
TO KEEP STOCK COOLING FAN TEMPERATURE SETTINGS, 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. A cooler combustion chamber will produce more power. By making this selection, you will now go to the next screen to pick the operating temperature range of the cooling fans. This screen will appear:

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

--_F

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

195° Stock Thermostat

Fan LOW on/off at: 209°F/200°F

Fan HI on/off at: 219°F/210°F

180° Hypertech PowerStat

Fan LOW on/off at: 194°F/184°F

Fan HI on/off at: 204°F/194°F

D. TOP-SPEED LIMITER

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

- Press the 'N' button to keep your vehicle's stock top-speed limiter and skip to the next option.
- 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. Pressing 'Y' will display this screen:

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

---_ MPH

- Use the ▲ and ▼ arrows to see the top-speed limits available for your vehicle. Press 'Y' to lock in your choice.

E. TIRE SIZE

IF TIRE HEIGHT HAS BEEN CHANGED FROM ORIGINAL, PRESS Y

IF TIRE HEIGHT HAS NOT BEEN CHANGED, PRESS N

- Press 'Y' if you have installed tires with an overall height that is different than the original factory tires. This feature will allow you to adjust your speedometer and part-throttle shifting (for automatic transmissions) for the new tire height. Pressing 'Y' will display this screen:

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

XX.XX IN

- Use the ▲ and ▼ arrows to adjust the tire height in 1/4" increments between 24" and 30". Press the 'Y' button to lock in the desired value.

HOW TO DETERMINE TIRE HEIGHT

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

1. 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.
2. 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.

F. REAR GEAR RATIO

IF REAR AXLE HAS BEEN CHANGED FROM ORIGINAL, PRESS Y

IF REAR AXLE RATIO HAS NOT BEEN CHANGED, PRESS N

- Press 'Y' if you have changed the rear gear ratio. Press 'N' if the vehicle's rear gear ratio has not been changed from stock. If you press 'Y', this screen will appear:

USE UP/DOWN ARROWS TO SELECT CORRECT REAR AXLE RATIO, THEN PRESS Y TO SELECT OR N TO EXIT

._._ :1

- Use the ▲ and ▼ arrows to see all of the gear ratios available for your vehicle. This choice will allow you to adjust your speedometer and part-throttle shifting (for automatic transmissions) for the new rear gear ratio. Then, press the 'Y' button to lock in the desired rear gear ratio. Pressing 'N' will skip to the next option.

G. TRANSMISSION

IF VEHICLE HAS AN AUTOMATIC TRANSMISSION, PRESS Y

IF VEHICLE HAS A MANUAL TRANSMISSION, PRESS N

- Press 'Y' if you have an automatic transmission or Press 'N' if you have a manual transmission.

H. TRANSMISSION SHIFT POINT RPM

Be sure to read and understand this entire section before attempting to re-program 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 or not? 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. This is because the gains or losses on any one (1) run could be due to inconsistency rather than the variable being tested. Therefore, before testing *anything*, make the vehicle consistent.

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 high-performance 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 RPMs drop 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

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)

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, choose "stock", and press 'Y'.

After downloading the 1-2 shift point you want to test, disconnect the programmer and make your test runs (perform at least three (3), or 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 limit. 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. Once optimized, repeat the same procedure for the 2-3 shift and the 3-4 shift.

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

<u>Rev Limit</u>	<u>Shift Points</u>	<u>Rev Limit</u>	<u>Shift Points</u>
-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
IF THERE IS NO AFTERMARKET SHIFT KIT INSTALLED, 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.**
- Press 'N' if you **HAVE NOT** installed an aftermarket shift kit into your automatic transmission. Pressing 'N' will give you the option of installing increased transmission shift firmness. This screen will now appear:

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

J. REPORT

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

YOU HAVE CHOSEN: TUNING: 93 OCTANE.....TO CONTINUE PRESS Y
TO CANCEL, PRESS N

PLEASE WAIT...

- Press 'Y' to continue with programming, Press 'N' to return to Step A (Engine Tuning).

K. READING

PLEASE TURN OFF IGNITION AND PRESS Y

PLEASE TURN
IGNITION BACK ON

- The programmer will now read the calibration of your vehicle's computer. This screen will appear:

READING COMPUTER
X%

NOTE: This Step may take up to twenty (20) minutes to complete.

L. PROGRAMMING

- This screen will now appear:

PLEASE TURN OFF IGNITION AND PRESS Y

- Next, this screen will appear:

PLEASE TURN
IGNITION BACK ON

- The programming will begin. This display will show percentage completion while the programming is taking place:

WRITING COMPUTER
X%

NOTE: Programming may take up to thirty (30) minutes to complete.

- 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.**
- Any one of these actions will disturb the programming process. The programmer is designed to recover from these actions, but they should be avoided.
- When programming reaches 100%, the following screens will appear:

PLEASE TURN OFF IGNITION AND PRESS Y

PLEASE WAIT...

PLEASE TURN KEY TO RUN POSITION, BUT DO NOT CRANK ENGINE
WHEN FINISHED, PRESS Y

- **NOTE:** If the vehicle is equipped with a factory-installed anti-theft system (PATS), the following screen will appear:

RESETTING PCM
X%

- Press ‘Y’ and the programmer will turn itself off. Turn the ignition key to OFF for at least ten (10) seconds. Remove the programmer cable from the DLC under the dash panel.
- Start the engine and make sure the Check Engine 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.
- **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 2: PROGRAMMING BACK TO STOCK OR CHANGING OPTIONS

You may return your vehicle's computer to the stock programming at any time after using your programmer. 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:

POWER PROGRAMMER
HAS BEEN USED

- The programmer will then check again for any diagnostic trouble codes in the vehicle's computer (see Section 2 on page 6). Then, this screen will appear:

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

- If you press 'Y', the programmer will return to Step A (Engine Tuning). If you press 'N', the following screen will appear:

RETURNING TO THE STOCK CALIBRATION TO CONTINUE, PRESS Y.
TO CANCEL, PRESS N

- If the 'Y' button is pressed, programming back to stock will begin. The screens shown will be just like those shown in Section E (Programming). After the programmer reaches 100%, press the 'Y' button to quit and remove the DLC cable as before. (**See NOTE on page 15.**)
- Your vehicle's computer will be in a completely stock tuning configuration.

SECTION 3: 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. CABLE REMOVED WHILE PROGRAMMING

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

POWER PROGRAMMER
HAS PROGRAMMED.

- The programmer will then check for any diagnostic trouble codes (DTCs), then ask if you wish to enter programming mode. If you enter programming mode, these screens will appear:

TURN IGNITION ON
AND PRESS Y.

PROGRAMMING WAS INTERRUPTED!
TO CONTINUE, PRESS Y.

RETURNING TO STOCK CALIBRATION. PRESS Y TO CONTINUE.
TO CANCEL, PRESS N.

PLEASE TURN OFF IGNITION AND PRESS Y.

PLEASE TURN THE
IGNITION BACK ON.

- The programmer will then program the vehicle back to stock. The following screen will appear:

WRITING COMPUTER

NOTE: If the programmer was interrupted during the Reading stage, programming will NOT be considered interrupted.

2. 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:

ERROR: 93
PRESS Y

- The VIN number of the vehicle does not match the VIN number that is stored in the programmer from the last vehicle programmed.

3. CALIBRATION NOT FOUND

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

ERROR: 6D
PRESS Y

- 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.

4. 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 reconnect the programmer and press the ▲ arrow. The following screen will appear:

**WARNING: HYPERTECH WARRANTY WILL BE VOIDED IF THIS POWER PROGRAMMER IS NOT BEING USED ON THE ORIGINAL VEHICLE IT WAS PURCHASED AND YOU PROCEED.
TO CONTINUE, PRESS Y.**

- If you press 'N', the programmer turns itself off. If you press 'Y', you get the following screen:

IF THE VEHICLE'S CALIBRATION HAS BEEN UPDATED BY A SERVICE FACILITY, PRESS Y
IF VEHICLE HAS NOT BEEN UPDATED, PRESS N

- Press 'Y' and the programmer will read the new calibration and then go through the programming options in Section 2.
- If the service facility does not load a VIN number into the calibration, after the programmer reads the calibration this screen will appear:

ERROR: 95
PRESS Y

- Call Hypertech at the provided phone number on the programmer screen. The programmer will need to be sent in to evaluate the new calibration of the vehicle.

5. 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

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)

Why Cold Air Kits Require Hypertech Power Tuning

Cold Air kits are very popular with Mustang owners, but many are reporting idle problems and less than expected power increases with some of the kits. Hypertech obtained 10 popular cold air kits, installed each, and tested to determine the problem. Although the designs of some of the kits are similar, we found that each still required its own custom tuning. **Here's why:** The Mass Air Flow (MAF) sensor installed in the air-intake system is "calibrated" for the stock air intake to deliver the desired amount of fuel and spark advance for that air-flow, under all driving conditions.

Each of the cold air intake designs changed the size and shape of the passages leaving the air-cleaner and entering the MAF sensor. Both of these changes alter the number and velocity of air molecules flowing over the MAF sensor. At identical or even higher mass air-flow as with the stock air flow system, most of the higher-flowing cold air kits were reporting reduced air flow.

Fuel calibrations were being affected, from idle to wide open throttle, leaning out the engine, reducing performance, sometimes causing drivability problems, and (as we discovered) causing higher exhaust gas temperatures (sometimes significantly).

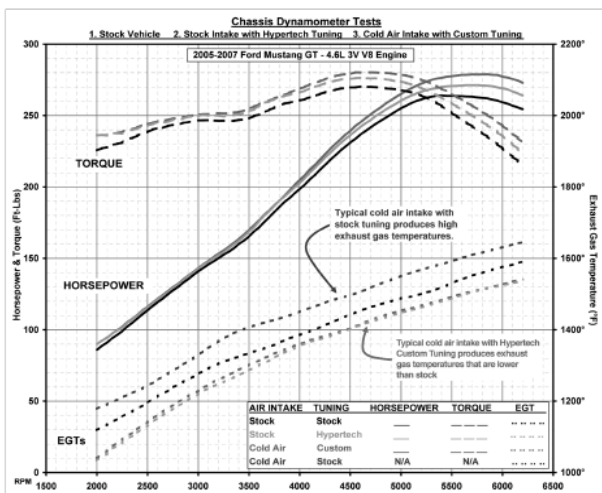
Once we optimized the fuel and spark curves for each different kit, they all produced very good power gains compared to the stock air-flow system. **On average, a cold air intake system with proper tuning provides an additional 19 horsepower over stock**, with EGT's even lower than the stock intake with stock tuning (See next page for dyno results).





Bob Glidden, 10 Time NHRA Pro Stock World Champion, says this about the cold air kit and Hypertech tuning...

“The car’s incredible, and with only a cold air kit and Hypertech tuning, we went 13.51 at almost 103 mph! I’m impressed.”



Horsepower (HP)					Torque (Ft-Lbs)					Exhaust Gas Temperature (°F)				
Intake Tuning	Stock	Stock	Stock	Cold Air Custom	Intake Tuning	Stock	Stock	Cold Air Custom	Intake Tuning	Stock	Stock	Stock	Cold Air Custom	Cold Air Custom
RPM	HP	HP	(Gain)	HP (Gain)	RPM	TQ	TQ	(Gain)	TQ (Gain)	RPM	°F	°F (Deer.)	°F (Deer.)	°F (Deer.)
2000	86	90	(+4)	90 (+4)	2000	226	236	(+10)	236 (+10)	2000	1119	1034 (-85)	1040 (-79)	
2500	114	116	(+2)	116 (+2)	2500	239	243	(+4)	244 (+5)	2500	1196	1132 (-64)	1142 (-54)	
3000	141	143	(+2)	143 (+2)	3000	247	250	(+3)	251 (+4)	3000	1277	1225 (-52)	1228 (-48)	
3500	165	169	(+4)	170 (+5)	3500	248	253	(+5)	255 (+7)	3500	1354	1287 (-67)	1302 (-52)	
4000	199	203	(+4)	205 (+6)	4000	261	266	(+5)	269 (+8)	4000	1389	1306 (-83)	1360 (-28)	
4500	231	236	(+5)	239 (+6)	4500	270	276	(+6)	279 (+9)	4500	1443	1402 (-41)	1404 (-39)	
5000	255	261	(+6)	265 (+10)	5000	268	274	(+6)	279 (+11)	5000	1488	1448 (-40)	1454 (-34)	
5500	264	271	(+7)	278 (+14)	5500	252	259	(+7)	265 (+13)	5500	1531	1488 (-43)	1492 (-39)	
6000	259	269	(+10)	277 (+18)	6000	227	236	(+9)	243 (+16)	6000	1576	1525 (-51)	1527 (-49)	
6500	247	254	(+7)	262 (+15)	6500	230	236	(+6)	242 (+12)	6500	1613	1561 (-52)	1565 (-48)	

HORSEPOWER PEAKS

TORQUE PEAKS

EGT PEAKS

Custom Tuning and Cold Air Intake	Maximum Gain	Maximum Measured	Maximum Gain	Maximum Measured	Maximum Decrease	Maximum Measured
Custom Tuning and Cold Air Intake	+13 HP @ 6150 RPM	279 HP @ 5550 RPM	+10 Ft-Lbs @ 6150 RPM	280 Ft-Lbs @ 4550 RPM	-109°F @ 1250 RPM	1585°F @ 6500 RPM
Hypertech and Stock Air Intake	+10 HP @ 6050 RPM	271 HP @ 5550 RPM	+12 Ft-Lbs @ 1850 RPM	276 Ft-Lbs @ 4600 RPM	-114°F @ 1250 RPM	1581°F @ 6500 RPM
Stock Vehicle	---	264 HP @ 5400 RPM	---	270 Ft-Lbs @ 4600 RPM	---	1613°F @ 6500 RPM

HYPERTECH

3215 Apple Rd., Bartlett, TN 38133 www.hypertech.com
(901) 382-8888 © Hypertech, Inc. 2006

Vehicle Tested: 2005 Ford Mustang GT

Engine: 4.6L 3V V8

Transmission: 5-Speed Automatic

Gear Ratio: 3.31:1

Tire Size: 235/15R17

Test Date: 2/7/2006

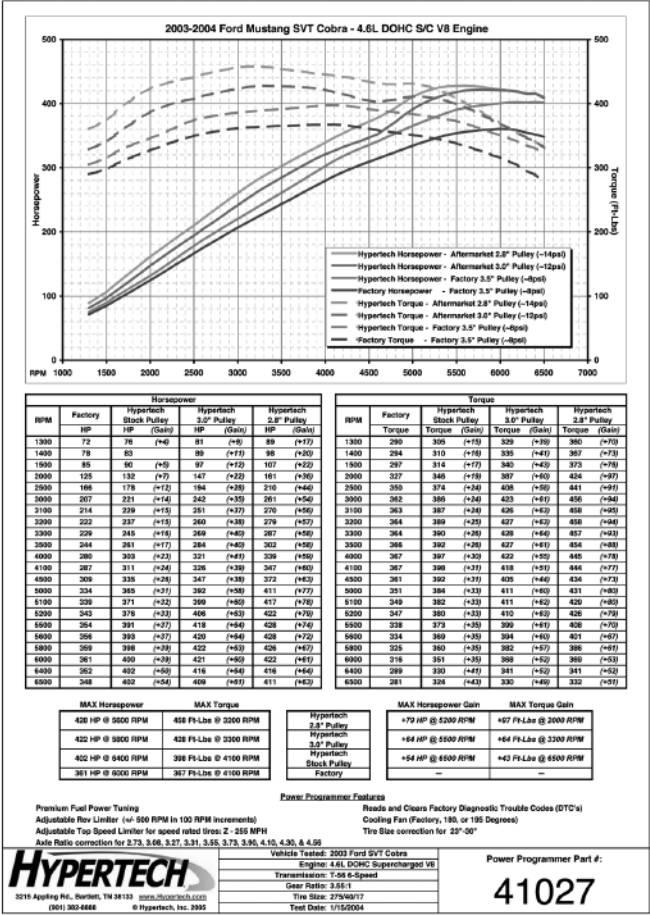
Hypertech Part Numbers

Power Programmer

HyperFAC

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)



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.

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 stock 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

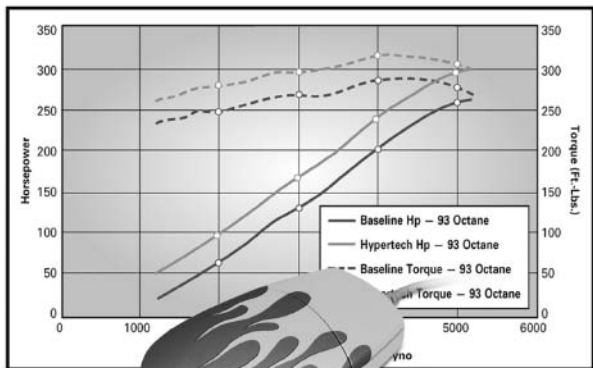
Factory Direct Limited Lifetime Warranty

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.**

* Power Tuning products are Power Chips, Power Modules, Power Tuning Modules, HyperPACs, and Power Programmers.

Notes

Notes



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

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