



Part #3000/3050/3300/3350

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PLEASE READ BEFORE USING PROGRAMMER!

The installation process is very easy and should not take long for programming and installation to be accomplished. To avoid problems with installation, observe the following recommendations:

- **It is very important in the programming process that the vehicle's battery is fully charged and there is no drain on the battery. DO NOT program with a battery charger connected to the vehicle.**
- **Close and keep all doors shut. (This eliminates interior lights and alarms from sounding.) If it's hot, roll the window(s) down BEFORE programming the vehicle.**
- **TURN OFF all electrical accessories (radio, heater/AC blower, wipers, etc.) that will power up when the key is in the "Run" position. Do not operate any electrical accessories during the programming process.**
- **Vehicles equipped with OnStar, satellite radio, remote starter, and/or aftermarket speakers/amplifiers MUST have the fuse/fuses removed in order to disable those devices prior to and during the programming process. (Refer to the vehicle owner's manual for location of radio, remote start, and amp fuses.)**
- **Unplug all accessories from cigarette lighter or any other auxiliary power port on the vehicle BEFORE programming (cell phone chargers, GPS, etc.)**
- **Disconnect any mobile devices from the entertainment system BEFORE programming (Bluetooth, USB chargers, smart phones, etc.)**
- **Daytime running lights should be disabled before programming. See vehicle owner's manual for information on how to turn off.**

After inspection of the vehicle and removal of the fuse(s) that operate any accessory packages, continue with the installation of the programmer.

Once the programmer cable has been connected to the vehicle's diagnostic port and to the programmer, DO NOT remove or disturb the cable during the ENTIRE programming process. Only remove the cable from the diagnostic port when the installation is complete.

DO NOT leave the vehicle unattended during programming. The programmer screen will display instructions for you to follow i.e., turning the key to the On position (but NOT starting the engine), and you will be asked to select certain engine tuning and vehicle adjustment features.

During the installation and programming if an error should occur, an error code and/or message will be displayed on the programmer screen, along with a phone number. Write down the error code or message and contact the Hypertech tech support department on the provided telephone number from 8am-5pm, Central Time, Monday-Friday. Have the part number and serial number of the Spectrum programmer, and your vehicle's 17 digit VIN # ready when you call.

Most programming errors are caused by electrical interruptions. Please see Section 3 with more information for troubleshooting programming problems.

SECTION 1: PROGRAMMING INSTRUCTIONS

Set the parking brake. Connect the end of the provided cable with the 8 pin HDMI connector into the matching HDMI connector in the Spectrum programmer.



Locate the diagnostic port under the driver's side of the dash. Plug the other end of the programmer cable into the vehicles diagnostic port connector



Make sure the cable is plugged in completely to ensure a good connection. **DO NOT disturb the cable once it is connected to the diagnostic port.** The programmer will power up and display the startup screen.

SECTION 1: PROGRAMMING INSTRUCTIONS (continued)

Turn the key to the Run position and then select “OK” using the middle bottom button on the programmer. The Run position is the last key click before the engine will start. **DO NOT START THE ENGINE AT ANY TIME DURING THE PROGRAMMING PROCESS!** You should hear your seat belt chime and warning light on the instrument panel when the key is in this position. For vehicles with keyless ignition/push button start vehicles, press the ignition button until it cycles to the Start/Run mode. The programmer will then read out the VIN number, and after a few seconds, display the Main Menu.



1-1 : MAIN MENU

Use the left and right buttons at the bottom of the screen to scroll through the menu options. Press the middle button to ‘Select’ an option. Press the left button to go ‘Back’ to the last menu screen.

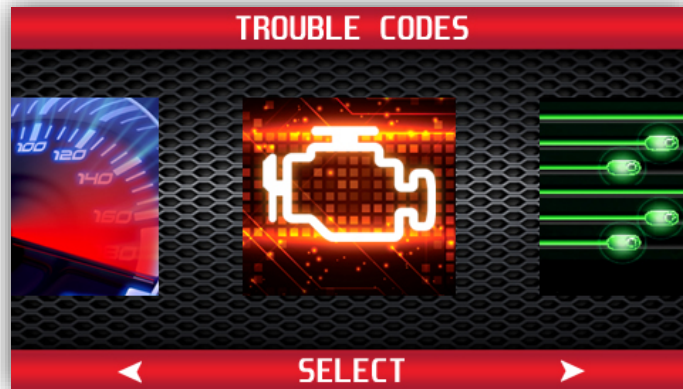
- **TUNING (All Vehicles):**
This is the main option in the programmer. It has selections for the Hypertech Power Tuning, and other adjustable features.



1-1: MAIN MENU (continued)

- **DTC's (All Vehicles):**

This option checks for Diagnostic Trouble Codes (DTCs). Any DTCs displayed must be cleared before programming can proceed.



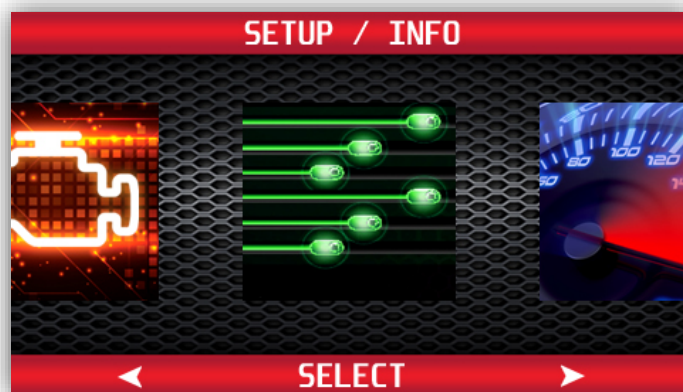
- **QUICK COMMANDS (Some Vehicles):**

This option has selections for adjustable features that do not require programming.



- **SETUP INFO (All Vehicles):**

This option displays various information about the programmer and your vehicle. It also allows adjustments to the display screen.



1-2 : TUNING MENU

Press 'Select' to enter the Tuning menu from the Main Menu.



The programmer will display 4 tuning options:

PRESET TUNING – Select a previously saved tune for installation.

CUSTOM TUNING – Select all Power Tuning and adjustable features available for the vehicle.

PREVIOUS TUNING – Select a tune you have just used.

UNINSTALL TUNING – Select to reprogram all options back to factory stock settings.



1-2: TUNING MENU (continued)

When using the programmer for the first time, select the **CUSTOM TUNING** option.

- **CUSTOM TUNING**

Use the buttons to the right of the screen to highlight **Customize Tune**. Press the 'Select' button to display the **Tuning Menu**.



NOTE: Some adjustable features listed below are NOT available for all applications. The year, make, model, and engine of the vehicle will determine the available features. During the installation, only the available adjustable features for that particular vehicle application will appear on the programmer screen. Screens for each of the features may vary slightly from those shown.

To find the exact programming options available for your vehicle, go to www.Hypertech.com, and select your year/make/model & engine at the top of the page.

- **ENGINE TUNING (All Vehicles)**

Use the buttons to the right of the screen to highlight **Engine Tuning**. Press the 'Select' button to install optimized engine tuning.

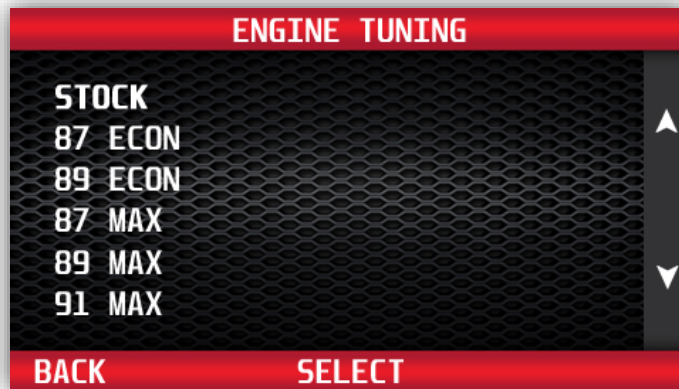


1-2: TUNING MENU (continued)

- **Gas Vehicles:**

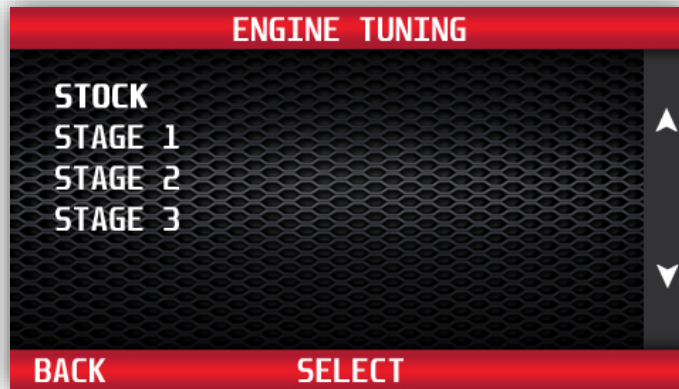
Use the buttons to the right of the screen to highlight the tuning option for the octane rating being used.

Choose the tune that corresponds to the octane fuel you typically use for optimized performance and economy. For vehicles with an “ECON” option, these tunes are developed to optimize power at factory boost levels, while “MAX” tunes are optimized for maximum power for that octane and do typically increase boost above factory settings.



Press ‘Select’ to save the chosen tune. By selecting ‘Stock’, the programmer will install any additional features selected, but keep the stock engine tuning. For more information on Gas Engine Tuning options, see Programmer Features explanation in Section 4.

- **Diesel Vehicles:**



Use the buttons to the right of the screen to highlight your choice of tunes; Stage 1, Stage 2, or Stage 3. Press ‘Select’ to save the chosen tune.

By selecting ‘Stock’, the programmer will install any additional features selected, but keep the stock engine tuning. For more information on Diesel Engine Tuning options, see Programmer Features explanation in Section 4.

1-2: TUNING MENU (continued)

- **REV LIMITER** (Gas Engines Only)



Use the buttons to the right of the screen to highlight Rev Limiter. Press the 'Select' button to adjust the engine rev limiter, in 100 RPM increments.

Use the buttons to the right of the screen to scroll up or down and highlight the value to increase or decrease the engine rev limiter. Press 'Select' to save the chosen value.



For more information on Engine Rev Limiter option, see Programming Feature explanation in Section 4.

- **TOP SPEED** (Most Vehicles)

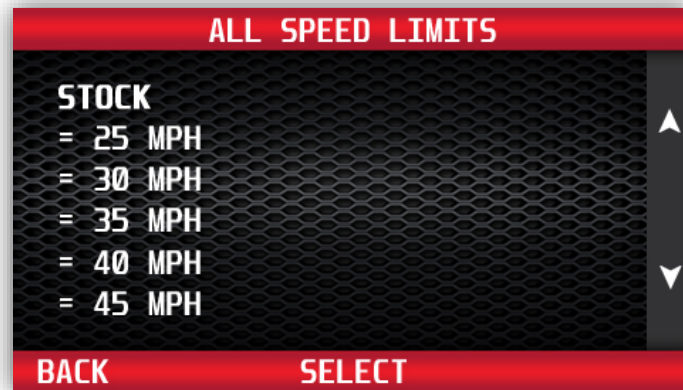


1-2: TUNING MENU (continued)

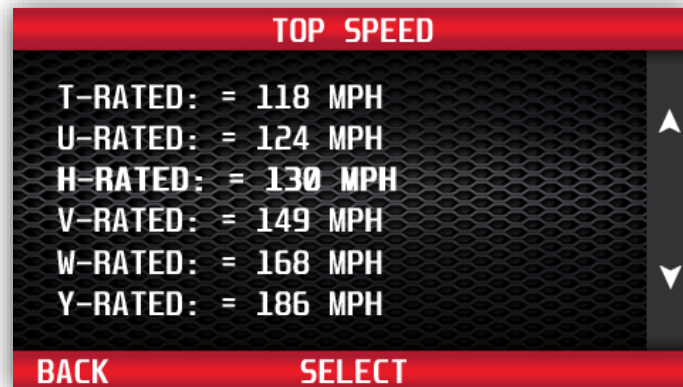
Use the buttons to the right of the screen to highlight Top Speed. Press the 'Select' button to adjust the top speed limiter.

Use the buttons to the right of the screen to scroll up or down and highlight the desired MPH. Press 'Select' to save the chosen value.

Some applications allow the top speed limiter to be lowered from the factory setting. On vehicles with this option, the initial top speed settings that appear on the programmer will LOWER the top speed from 25 to 75 MPH. Selecting one of these options will keep the vehicle from exceeding the selected speed.



To raise the top speed limiter, highlight and select the speed that matches the speed rating of your tires.



Note: Raising the top speed limiter is not recommended for vehicles equipped with load rated tires. Serious damage or injuries could occur. For more information on the Top Speed Limiter option, see Programming Features explanation in Section 4.

1-2: TUNING MENU (continued)

- **TIRE SIZE** (Most Vehicles)



Use the buttons to the right of the screen to highlight Tire Size. Press the 'Select' button to adjust the speedometer for non-stock tire size.

Use the buttons to the right of the screen to scroll up or down, and highlight the desired tire size, in ¼ inch increments. Press 'Select' to save the chosen value. If you are unsure of the new tire size, you can measure the actual new tire on your vehicle from the top of the tread, centerline, to the pavement surface with a tape measure and select the closest value shown on the Spectrum programmer



Note: Only select this feature if the vehicle has a different size tire than what was installed from the factory. For more information, see Programming Features explanation in Section 4.

1-2: TUNING MENU (continued)

- **GEAR RATIO** (Most Vehicles)

Use the buttons to the right of the screen to highlight Gear Ratio. Press the 'Select' button to calibrate the speedometer if a non-stock rear gear ratio has been installed.



Use the buttons to the right of the screen to scroll up or down and highlight the desired ratio. Press 'Select' to save the chosen value.



For more information on Gear Ratio option, see Programming Features explanation in Section 4.

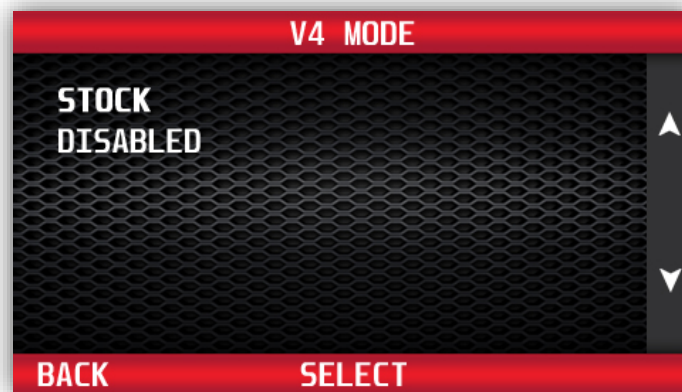
1-2: TUNING MENU (continued)

- **V4 Mode (Some Vehicles)**

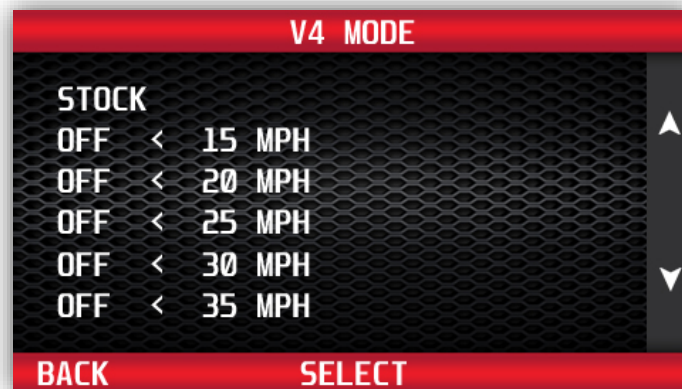
Use the buttons to the right of the screen to highlight V4 Mode. This option disables the Active Fuel Management (AFM) system.



To completely disable the V4 Mode, use the buttons to the right of the screen to scroll down, and highlight Disabled. Press the 'Select' button to save this option.



To adjust the minimum speed that the V4 Mode turns off, use the buttons to the right of the screen to scroll up or down, and highlight the desired speed. Press the 'Select' button to save this option.



For more information on this option, see Programming Features explanation in Section 4.

1-2: TUNING MENU (continued)

- **SHIFT POINTS** (Most Automatic Transmission Equipped Gas Vehicles)
Use the buttons to the right of the screen to highlight Shift Points. Press the ‘Select’ button to change the RPM at which the transmission shifts at wide open throttle.



To adjust the shift points in all gears the same, select ALL from the Shift Points menu.
To adjust the shift points for each gear change separately, select PER GEAR from the Shift Points menu.



- **ALL SHIFT POINTS** (Most Automatic Transmission Equipped Gas Vehicles)
Use the buttons to the right of the screen to scroll up or down and highlight the value to increase or decrease the shift points, in 100 RPM increments. Press ‘Select’ to save the chosen value.



Press the ‘Back’ button to go back to the Tuning Menu.

1-2: TUNING MENU (continued)

- **PER GEAR SHIFT POINTS** (Most Automatic Transmission Equipped Gas Vehicles)
Use the buttons to the right of the screen to scroll up or down and highlight the gear change to adjust.



Press the 'Select' button, then use the buttons to the right of the screen to scroll up or down and highlight the value to increase or decrease the shift points. Press Select to save the chosen value.



Press the 'Back' button to go back to the Gear Shift menu. Repeat the procedure above for each gear change. Once you have made the desired changes for each gear, press the 'Back' button to return to the Tuning Menu. For more information on Shift Points options, see Programming Features explanation in section 4.

1-2: TUNING MENU (continued)

- **SHIFT FIRMNESS** (Most Automatic Transmission Equipped Gas Vehicles)



Use the buttons to the right of the screen to highlight Shift Firmness. Press the 'Select' button to adjust the firmness at which the transmission shifts.

Some vehicles have only one pre-determined setting for shift firmness and will not have a selectable adjustment. If your vehicle has this setting, the programmer will display a Yes or No option. Highlight the desired choice, and press 'Select'. Some vehicles have the option to select between STOCK, TOW, STREET, SPORT, PERFORMANCE or TRACK for the level in which to enhance shifting firmness. Depending on type of vehicle. Some vehicles have the option to select between 25%, 50%, 75%, and 100%.

To adjust the shift firmness in all gears the same, select ALL from the Shift firmness menu. To adjust the shift firmness for each gear change separately (if available), select PER GEAR from the Shift firmness menu.



- **ALL SHIFT FIRMNESS** (Most Automatic Transmission Equipped Gas Vehicles)
Use the buttons to the right of the screen to scroll up or down and highlight the percentage to increase or decrease the shift firmness. Press Select to save the chosen value.

1-2: TUNING MENU (continued)

- **PER GEAR SHIFT FIRMNESS** (Some Automatic Transmission Equipped Gas Vehicles)
Use the buttons to the right of the screen to scroll up or down and highlight the gear change to adjust.



Press the 'Select' button, then use the buttons to the right of the screen to scroll up or down and highlight the mode to increase or decrease the shift firmness. Press 'Select' to save the chosen value.

Press the 'Back' button to go back to the Gear Shift menu. Repeat the procedure above for each gear change. Once you have made the desired changes for each gear, press the 'Back' button to return to the Tuning Menu. For more information on Shift Firmness option, see Programming Features explanation in Section 4.

- **COLD AIR INTAKE** (Some Vehicles)
This feature will only be listed if your vehicle requires a custom tune when using an aftermarket cold air intake. Use the buttons to the right of the screen to highlight Cold Air Intake. Press the 'Select' button to install custom tuning for a specific aftermarket air intake.



1-2: TUNING MENU (continued)

Use the buttons to the right of the screen to highlight the cold air intake installed on your vehicle. Select the Stock air intake if you have not installed an aftermarket air intake. Press 'Select' to save the chosen tune.



For more information on this option, see Programming Features explanation in Section 4.

- **THROTTLE RESPONSE** (Some Electronically Controlled Throttle Vehicles)
This feature is available to some vehicles which allow for customizing the throttle sensitivity.

Some vehicles allow for adjustment to the throttle response per driving mode, so you can adjust the throttle responsiveness independently per driving mode.



1-2: TUNING MENU (continued)

Highlight the desired choice using the buttons to the right of the screen, and press 'Select'. Select between the level in which to enhance throttle response. Depending on type of vehicle.



For more information on this option, see Programming Features explanation in Section 4.

- **TORQUE CONVERTER SLIP** (Some Vehicles)

Some vehicles allow for adjustment to the torque converter slip parameters, so you can adjust the calibrated amount of slip allowed with the torque converter clutch during lock-up.

Highlight the desired choice using the buttons to the right of the screen, and press 'Select'. Select between STOCK, STREET, ECONOMY, or TRACK for the level of allowed slip you would like



For more information on this option, see Programming Features explanation in Section 4.

1-2: TUNING MENU (continued)

- **SHIFT RESPONSE (Some Vehicles)**

Some vehicles allow for adjustment to the transmission's upshift and downshift responsiveness.

Highlight the desired choice, and press 'Select'. Select between HYPER-ECONOMY, ECONOMY, STOCK, TOW, STREET, SPORT, PERFORMANCE or TRACK for the level in which to enhance throttle response. Depending on type of vehicle.



For more information on this option, see Programming Features explanation

- **FAN TEMP (Some Vehicles)**



Use the buttons to the right of the screen to highlight Fan Temp. Press the 'Select' button to adjust the temperature that the electric cooling fans turn on and off.

1-2: TUNING MENU (continued)

- **FAN TEMP (Some Vehicles) continued**

Use the buttons to the right of the screen to scroll up or down and highlight the temperature to turn on the cooling fan. Press 'Select' to save the chosen value.



For more information on this option, see Programming Features explanation in Section 4.

- **0-60 RESTRICTION (Some Vehicles)**

Use the buttons to the right of the screen to highlight 0-60 Restriction.



Use the buttons to the right of the screen to scroll down and highlight Disable, and Press 'Select'.



For more information on 0-60 Restriction option, see Programming Features explanation in Section 4.

1-3 : SELECTION REVIEW & PROGRAMMING

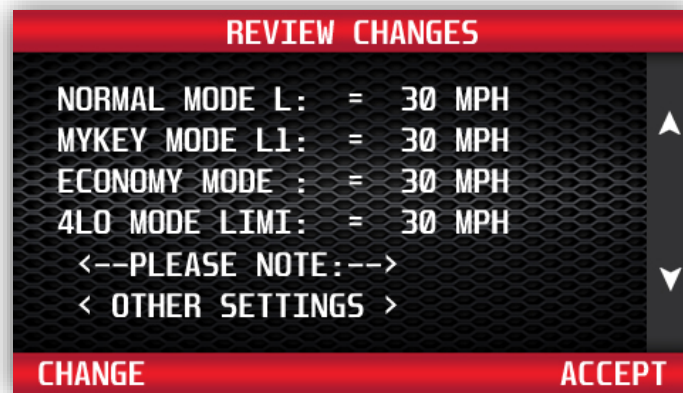
The Tuning Menu will display each option that you selected to change. Once you have completed your selections from the Tuning Menu, the programmer is now ready to flash the vehicle's computer.



Press the Accept, then 'Flash' button to continue.

- **REVIEW CHANGES**

The next screen displays all of the Tuning Options for your vehicle, and the options selected. Use the buttons to the right of the screen to scroll up or down and review your selections.



To accept all tuning options, press 'Accept' to begin the programming process. To make changes to any option, select 'Change'.

1-3: SELECTION REVIEW & PROGRAMMING (continued)

- **PROGRAMMING**

Follow all of the messages on the programmer screen during the entire programming process for the vehicle. The programmer will prompt you to turn the key to the 'RUN' and 'OFF' position during this process. When turning the key to the 'RUN' position, it is important to make sure that you turn the key to the most forward position possible WITHOUT starting the vehicle.

IMPORTANT NOTE:

While the unit is programming, the following is **EXTREMELY IMPORTANT: DO NOT** leave the vehicle while programming is in process. **DO NOT** unplug or disturb the cable or turn the key off (unless instructed to by the programmer). **DO NOT START THE VEHICLE AT ANY TIME WHILE THE PROGRAMMER IS CONNECTED!** If the unit stops programming or is interrupted, please make a note of any message(s) that appear on the programmer screen and call the provided tech service line.

IMPORTANT NOTE:

On certain applications, the instrument panel message center may light up, and random code information such as REDUCED ENGINE POWER, and other warning lights may display. This is a **NORMAL** step during the programming process for certain applications. and should be ignored until programming has been completed.

- **DIAGNOSTIC TROUBLE CODES (DTC'S)**

Prior to starting the programming process, the programmer will check for any Diagnostic Trouble Codes (DTC's). If any DTC's are present, the programmer will display them. You can review the DTC's before clearing.



1-3: SELECTION REVIEW & PROGRAMMING (continued)

If the vehicle has any DTC's, the programmer will display the number of DTC's reported from the vehicle's computer. You can review the DTC's by pressing the 'Show' button. Before the programming process can begin, all DTC's must be cleared. To clear any DTC's, press the 'Clear' button. For more information on this feature, see the DTC section. Once the DTC's are cleared, the programmer will proceed to Reading Vehicle.



If the vehicle has no DTCs, the programmer will proceed immediately to Reading Vehicle mode.



○ **READING THE FACTORY CALIBRATION(S)**

Once the programmer has completed the diagnostic Trouble Codes routine, it will proceed to the Reading Vehicle mode. Continue to follow the messages on the screen. You may be prompted to turn the key to the 'RUN' and 'OFF' position during this process.



1-3: SELECTION REVIEW & PROGRAMMING (continued)

○ **WRITING THE HYPERTECH CALIBRATION(S)**

Once the programmer has completed the reading process, it will proceed to the Writing Vehicle mode. Continue to follow the messages on the screen. You may be prompted to turn the key to the 'RUN' and 'OFF' position during this process.



After the programmer has successfully programmed the vehicle, follow the instructions on the screen until you see the Successful screen.



○ **DISCONNECT THE PROGRAMMER**

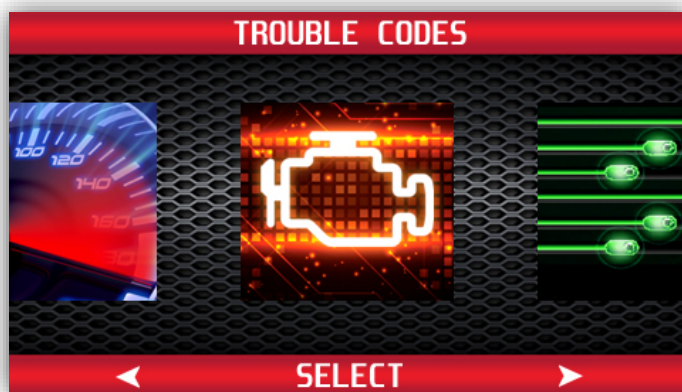
Once the programmer has completed the Writing and Verification process it will display that it can be disconnected or restarted. It is now safe to unplug the programmer from the vehicle and start the engine. Make sure the "Check Engine" light on the instrument cluster goes out (If it stays on or flashes, read out the DTC's, and contact Hypertech tech support). Warm up the engine and make sure it is running smoothly.

FOR ONSTAR, SATELLITE RADIO, or AFTERMARKET ELECTRONICS EQUIPPED VEHICLES:

Plug any connector(s) back into the original location and reinstall any fuses, panels, and/or other interior components that were removed prior to programming.

1-4 : DTC MENU

From the Main Menu, press the left or right arrow buttons to scroll for the DTC menu. Press 'Select' to enter the DTC menu from the Main Menu.



The programmer will immediately begin reading out the DTC's from the vehicle's computer.

If no DTC's are present, the programmer will display the following message.



1-4: DTC MENU (continued)

If the vehicle has any DTC's, the programmer will display all DTC's, and the total number of DTC's reported from the vehicle's computer. To clear all DTC's, press the 'Clear' button. To see a definition of each DTC, press the 'More' button.



Use the buttons to the right of the screen to scroll up or down and review each DTC. The programmer will display a description of the DTC.



Once you have reviewed each DTC, you can clear them by selecting 'Clear'.

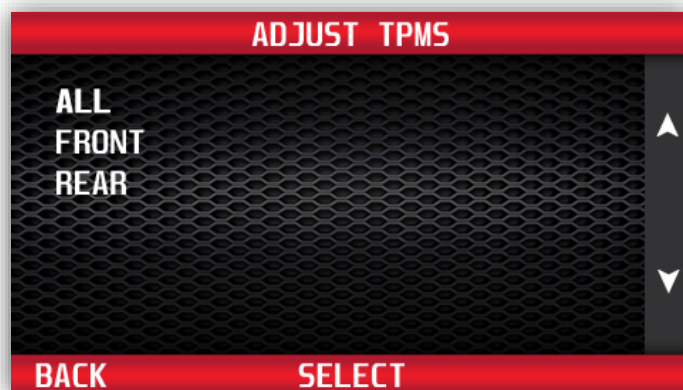
1-5: QUICK COMMANDS



From the Main Menu, press the left or right arrow buttons to scroll for the Quick Commands menu. Press 'Select' to enter Quick Commands menu from the Main Menu.

The programmer will display the following menu.

- **TPMS ADJUST** (Most Vehicles)
This feature allows instant adjustment of the minimum pressure for tire pressure monitor sensor (TPMS) alarm. Select 'Adjust' to display the Adjust TPMS menu. Use the buttons to the right of the screen to scroll up or down and highlight the wheels to adjust. Press the 'Select' button to adjust the TPMS alarm minimum pressure.



1-5: QUICK COMMANDS (continued)

Use the buttons to the right to raise or lower the minimum tire pressure to activate the TPMS alarm. Select 'Flash' to program the change.



TPMS ENABLE (Most Vehicles)

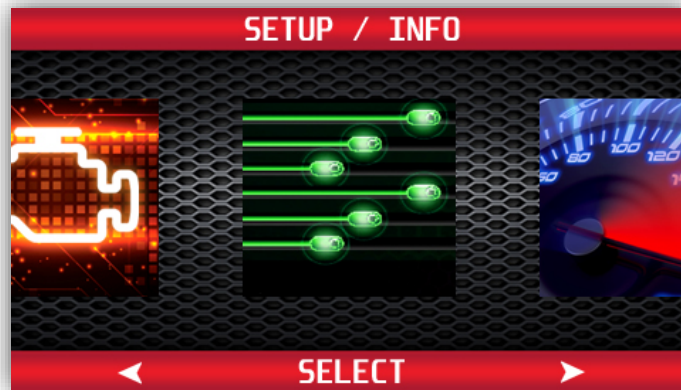


Press the button on the bottom to fully enable or disable the TPMS alarm.

For more information on the TPMS option, see Programming Features explanation in Section 4.

1-5: SETUP/INFO

From the Main Menu, press the left or right arrow buttons to scroll for the Setup/Info menu. Press 'Select' to enter the Setup/Info menu from the Main Menu.



1-6: SETUP/INFO

- **DEVICE INFO**

Use the buttons to the right of the screen to highlight Device Info. Press the 'Select' button to display the Device Info menu.



Use the buttons to the right of the screen to scroll up or down and review the device info.



1-6: SETUP/INFO (continued)

- VEHICLE INFO



Use the buttons to the right of the screen to highlight Vehicle Info. Press the 'Select' button to display the Vehicle Info menu.

The Vehicle Info menu displays the VIN number of the vehicle that the programmer was last connected to, and the current status of the programmer.



- SETTINGS

Select 'Settings' to view the current options that are programmed in the vehicle. Select 'Back' button to return to the previous menu. Use the buttons to the right of the screen to highlight Settings. Press the 'Select' button to display the Settings menu.



1-6: SETUP/INFO (continued)

- **BRIGHTNESS**

Use the buttons to the right of the screen to highlight the setting to adjust. Press the 'Select' button to display the selected setting.



Use the buttons to the right of the screen to adjust the brightness of the display screen, from 1 to 10. Press the 'Back' button to return to the previous menu.



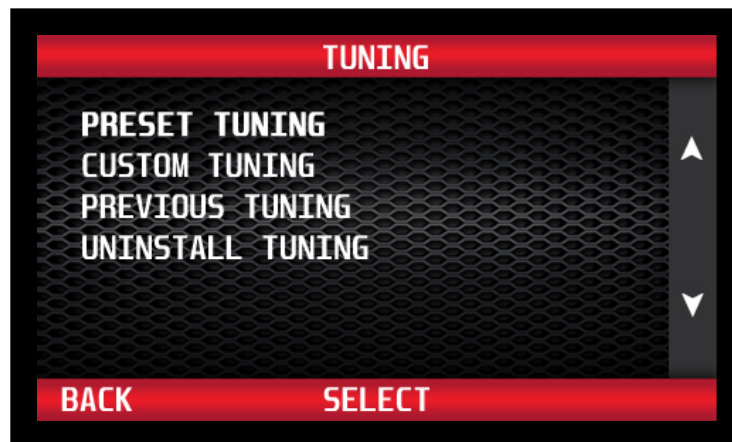
SECTION 2: PROGRAMMING VEHICLE BACK TO STOCK, CHANGING TUNING OPTIONS, AND SELECTING PRESET TUNES

Reconnect the programmer to the vehicle as in Section 1 and follow the messages on the screen until the Main Menu appears. Select the Tuning option from the Main Menu.



- **PRESET TUNE**

To flash a previously saved tune, use the buttons to the right of the screen to highlight Preset Tune. Press the 'Select' button to bring up a list of preset tunes.



Use the buttons to the right of the screen to highlight a Preset Tune, and press ‘Select’.
Use the buttons to the right of the screen to review the Preset Tune options.

2: TUNING – PRESETS / CUSTOMIZE / BACK-TO-STOCK (continued)

- **CUSTOMIZE TUNING OPTIONS**

To change tuning options, select Custom Tune from the Tuning menu.

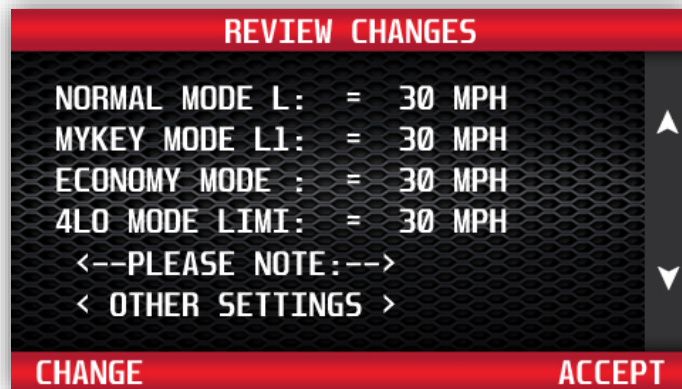


The Tuning Menu will display the previous programming session. To make changes, follow the Tuning instructions from Section 1.

Note: All tuning options default to ‘Stock’ settings, regardless of what tuning options are currently programmed in the vehicle. You will need to select each option again, even if you aren’t making a change from the current setting.

Select ‘Change’ to make changes to the tuning options.

Select ‘Accept’ to continue with programming.



2: TUNING – CHANGING / PRESETS / BACK-TO-STOCK (continued)

- **UNINSTALL TUNING (BACK TO STOCK)**

To return the vehicle completely to factory stock settings, select ‘Uninstall Tuning’ from the Tuning menu. Follow the Programming instructions from Section 1.



SECTION 3: TECHNICAL INFORMATION & TROUBLESHOOTING

3-1 : What To Do Before Taking The Vehicle In For Service

- **Return Vehicle To The Stock Programming.**

When the vehicle is taken to a dealership or repair shop for any service, the vehicle’s computer must be returned to the original stock calibrations, prior to taking the vehicle in for service. To do this, follow the Back To Stock instructions in Section 2. This allows the original factory calibrations to be transferred from their stored location in the programmer and reinstalled into the vehicle’s computer. This process returns the computer to factory stock and resets the programmer to allow the user to reprogram the vehicle AFTER repairs or service.

- **Why Is It Necessary To Return To The Stock Tuning?**

The reason that this should be done is because the factory diagnostic equipment will only recognize factory calibration information. If that information is not stored it will automatically update the vehicle’s computer to the original calibrations or to the most recent updated version, erasing the optimized tuning and other adjustable features that were installed by the programmer.

- **Reprogramming The Vehicle After Service Or Repair**

After the vehicle has been serviced or repaired, you may retune your vehicle. If the factory has reprogrammed the vehicle with a calibration that is new and not recognized by the programmer, the programmer will display a “Update Required” message. If this occurs, the user will be instructed on how to update the programmer. This is a safety feature of the programmer. We do not want to rewrite any information if it is different from the calibrations currently stored in the vehicle. Following the instructions will allow the vehicle to have the latest and most current performance calibration that will match the updated factory version. Call the tech service line that appears on the screen for instructions on how to update the

programmer. Due to the factory update of the computer, the programmer will have to be upgraded to match the new calibrations that have been installed in the vehicle's computer. There is no charge for calibration updates.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

3-2 : TROUBLESHOOTING GUIDE

- **VEHICLE NOT SUPPORTED**

The following message is displayed when the programmer does not recognize the vehicle, along with an error code: **“THIS VEHICLE IS NOT SUPPORTED FOR PROGRAMMING; CALL HYPERTECH AT (800) 532-3351”**; Code 0137, Code 027B, Code 0300

Verify that the vehicle year/make/model/engine shows to be supported with the programmer part number. The part number is located on the label on the back of the programmer, and on the end of the box. If the vehicle is supported, the programmer may need to be updated to the latest revision to work on your vehicle. See Section 5 for instructions on how to update your tuner.

- **LOSS OF COMMUNICATION**

The following message will appear if the programmer is unable to communicate with the vehicle's computer. **“AN ERROR OCCURRED DURING VEHICLE PROGRAMMING; CALL HYPERTECH (800) 532-335”**

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 before restarting the programming process.
4. If the three (3) steps above do not correct the problem, call Hypertech tech service line on the phone number that appears on the programmer screen.

- **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 follow the messages on the programmer.

- **ATTEMPTING TO PROGRAM A DIFFERENT VEHICLE**

Code 0125: VIN Mismatch will appear if attempting to program the computer in another vehicle without first programming the last vehicle it was used on back to stock. Return the previous vehicle back to stock, following the Back To Stock procedure in Section 2.

- **UPDATE REQUIRED**

There are several instances where an update may be required to use the programmer. The following codes require an update. The programmer will display a message that it needs to be updated. The programmer can be updated via the internet using the Hypertech Tuner Update Software, and the supplied USB cable. See Section 5 for instructions on how to update your tuner.

Code 01C8: Stock calibrations not supported in programmer

Code 0128: Needs preloaded tune (2011 – up GM Duramax diesels, 2020 - up Polaris UTVs, etc.)

- **BLANK SCREEN**

If the programmer does not power up, make sure that both ends of the cable are fully inserted. 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.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

3-3: Tuning Features & Options

- **GAS ENGINE TUNING**

This option installs the Hypertech Power Tuning, based on the octane of fuel your vehicle is using. Hypertech Power Tuning is a rigorous procedure that maximizes performance by optimizing the engine's air/fuel ratio and spark timing. Hypertech Power Tuning doesn't just focus on the power you'll gain at wide-open throttle. The engine performance under normal driving is also optimized. This means that there is no need to switch between a performance, economy, or tow tune.

- **OCTANE LEVELS**

Regular Fuel = 87 octane minimum, Premium Fuel = 91 octane minimum

- **PERFORMANCE**

Hypertech's full spectrum tuning optimizes the power curve point-by-point, at all RPM's and throttle positions. This tuning method takes hundreds of dyno pulls for each vehicle and further testing is done at the track and on the street to ensure maximum horsepower, torque, and throttle response for just off idle to wide-open throttle, while maintaining safe engine and drivetrain parameters.

Higher compression ratio engines and engines with superchargers or turbo chargers were designed to use only premium octane, so only one (1) Power Tuning program for premium octane is provided for most vehicles. But, if your car or truck came from the factory capable of using more economical regular octane, then two (2) optimized tuning programs are provided: one for premium, and the other for regular. In most cases, Hypertech's exclusive Power Tuning for regular octane provides excellent power gains, almost as much power as premium octane. If you are using premium octane, and you want all-out, maximum power, then select premium octane Power Tuning.

Some vehicles come with the option for (2) premium tunes, one for 91 octane, and one for 93 octane. On these particular vehicles, there was enough measurable gain from 91 to 93 to offer both options.

- **FUEL ECONOMY**

Hypertech engine tuning is more efficient, and the added torque during normal driving gives an even better throttle response. With the engine creating more torque, you use less throttle to maintain cruising speeds, which can lead to better fuel economy. With the optimization focused on the specific fuel octane for each tune, you should see fuel mileage increases with all octane levels.

- **TOWING**

All Hypertech tunes are optimized for towing. The Max Energy tuning is the only tuning on the market that doesn't have to offer limited power tunes for fuel economy or towing levels. Our tuning is safe for hauling and towing the maximum weight designated by the vehicle's manufacturer. We focus on efficiency rather than a certain power output, so there are no towing restrictions other than the vehicle manufacturer's maximum allowed capacity.

- **E-85/FLEX FUEL VEHICLES**

We recommend premium octane tuning for vehicles that are factory equipped to use E-85 fuel. The improved engine tuning will increase the part-throttle efficiency and wide-open throttle performance

compared to the factory tuning.

Warning: Do not attempt to use the Hypertech premium fuel tunes with any fuel less than 91 octane. This could result in severe engine damage.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

- **DIESEL ENGINE TUNING**

The Max Energy Spectrum offers three (3) stages of Power Tuning for diesels. Even the highest power level, Stage 3, maintains safe EGT's while towing the maximum weight specified by the vehicle's manufacturer. Our Stage 3 tuning offers the most powerful tune that maintains engine, turbo, and fuel system efficiency without disregarding the integrity of other powertrain components. The Stage 2 and Stage 1 tuning offers the same level of efficiency at more moderate power levels, which allows you to choose the tuning level that fits your driving style. For instance, there may be times when you don't want or need maximum power, like when the streets are icy or wet.

- **TOWING**

All Hypertech tunes are optimized for towing. The Max Energy tuning is the only tuning on the market that doesn't have to offer reduced power tunes for fuel economy or towing levels. Our tuning is safe for hauling and towing the maximum weight designated by the vehicle's manufacturer. We focus on efficiency rather than a certain power output, so there are no towing restrictions other than the vehicle manufacturer's maximum allowed capacity.

The Stage 3 tune is safe to tow up to the vehicle's maximum Gross Combined Weight Rating (GCWR). If you are exceeding the vehicle's GCWR, we recommend using the Stage 2 or Stage 1 tune.

- **PERFORMANCE**

The Stage 3 tune is the most powerful tune available in the Max Energy Spectrum. Go to Hypertech.com and look up your vehicle to see the power gains for your specific vehicle. We make hundreds of dyno runs to optimize every point over the entire RPM band while ensuring EGT's remain in a safe range, and keeping soot and smoke levels to a minimum.

- **FUEL ECONOMY**

Fuel economy can vary based on driving conditions, vehicle loads, and driver habits. Most users that tow heavy loads, 8,000 lbs or more, report that they get the best fuel economy using Stage 3. By utilizing the maximum power, the vehicle uses less fuel to accelerate and maintain cruising speeds without the torque converter un-locking, and the transmission downshifting to a lower gear. Most users that do not tow, or sometimes tow light loads, report they get the best fuel mileage using either Stage 1 or Stage 2. The best way to determine the tune that will give you the best fuel economy is to try each setting.

- **TRANSMISSION TUNING**

- **Allison Transmissions (2001-2007 LB7, LLY, LBZ):** The Allison transmission and controller on the LB7, LLY, and LBZ GM diesel trucks is a very complicated piece of technology. The controller is constantly monitoring the transmission performance and adjusts the operating pressures in small increments to ensure the longevity of the transmission. The additional power of the Hypertech tuning may cause the transmission to slip while the controller relearns the new torque output of the Hypertech tune. The shifting will return to normal after several miles of normal driving. This may also occur when changing between different stages of Hypertech tuning.
- **Allison Transmissions (2007-2015 LMM, LML):** Each stage of Hypertech tuning for the LMM and LML GM diesel trucks also adjusts the Allison transmission calibration with the necessary parameter

changes to handle the additional power. This results in a noticeable improvement in shifting feel and drivability that matches the increase in power rather than relying on the transmission controller to slowly adjust the settings.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

- **TRANSMISSION TUNING** (continued)
 - **Ford Automatic Transmissions (2006-2015 5R100/5R110W/6R140):** Each stage of Hypertech tuning for the Ford auto trans diesel trucks also adjusts the transmission calibration with the necessary parameter changes to handle the additional power. This results in a noticeable improvement in shifting feel and drivability that matches the increase in power, while protecting the transmission against excessive slippage.

- **DIESEL PARTICULATE FILTER (DPF)**

None of the Stages of Hypertech tuning will increase exhaust soot and therefore does not increase the frequency of regenerations. Hypertech's tunes are designed to work with all the factory emissions equipment in place. Disabling or removing the DPF is illegal and enforced with hefty EPA fines.

- **AFTERMARKET PARTS** (Gas and Diesels)

Hypertech tuning works well with popular bolt-on aftermarket parts. If you install an aftermarket air intake or exhaust system, Hypertech's Power Tuning will automatically adjust the engine control parameters to take advantage of the fact that the engine is less restrictive. Any significant power adders, like superchargers, turbochargers, nitrous, etc, would definitely require a custom tune. For reference, any racing parts that would set a DTC with the stock tune would also set the same DTC with the Hypertech tunes.

- **COLD AIR INTAKE TUNING** (Gas and Diesels)

Some vehicles require a custom tune when installing an aftermarket cold air intake. This is necessary to correct the mass air flow (MAF) sensor readings and to take advantage of the increased airflow. Aftermarket air intakes change the air velocity and the volume of air passing over the MAF sensor, due to the shape and size of the ducting around the sensor, and even the type of air filter used. This can cause errors in the ECU calculations for the quantity of air entering the engine. By correcting these errors, it ensures that the Hypertech tuning will function properly with the air intake installed and optimize the engine performance with this modification.

- **REV LIMITER**

This option raises or lowers the maximum RPM limiter of the engine. The key to faster acceleration is to use more of your engine's horsepower. The Max Energy Spectrum lets you adjust your engine's rpm limiter to improve performance and driving fun. The stock computer is programmed to shut down the engine when it reaches the redline. But if you have modified your vehicle to increase its high-speed performance, more rpm means more power. When you shift gears at the stock rpm limit, the engine falls back to below the peak of its horsepower curve. When you extend the engine's rpm range with the Max Energy Spectrum, your engine has more power available after gear changes. And by keeping the engine in the "sweet spot" of its power curve, you can increase the average horsepower that accelerates the vehicle.

- **TOP SPEED**

This feature lets you electronically raise your vehicle's top speed limiter to match the speed rating of factory – approved high-performance tires, or lower the top-speed limiter from 25 to 75 MPH.

The maximum speed of many vehicles is governed by the onboard computer. The computer is programmed to shut down the engine when the vehicle exceeds the speed rating of the original equipment tires. If you

have installed tires with a higher speed rating for off-highway competition in sanctioned events, your vehicle may be able to achieve a higher top-speed. A tire's maximum safe speed under perfect conditions is marked on its sidewall. Codes for popular high-performance tires are: T=118 mph, U=124 mph, H=130 mph, V=149 mph, Z=149+ mph. This feature may only be used with Factory approved speed rated tires.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

- **TOP SPEED (continued)**

The option to lower the top speed limiter is available to restrict the driver to a maximum speed limit. Some examples of the use of this feature are to limit the speed of inexperienced drivers, valet parking, or fleet vehicle management. The top speed can be limited from 25 MPH to 75 in 5 MPH increments.

NOTE: Always obey Federal Traffic Laws. Do not raise the vehicle top speed limiter above the speed rating of the tires installed on the vehicle. Raising the vehicle top speed limiter above the speed rating of the tires installed on the vehicle may lead to a serious or fatal accident.

- **TIRE SIZE**

This feature recalibrates the speedometer, and the part throttle shifting for auto transmissions (some vehicles), if non-stock tires have been installed on the vehicle. This option is adjustable in ¼ inch increments. It is critical to measure the actual tire height. This is the total diameter of the wheel and tire together, as measured distance from the ground to the top of the tire, at the centerline of the wheel. Make sure the tires have proper air pressure. Compare your settings to a GPS and adjust the height up or down as needed to dial in the exact calibration.

Another method of measuring the tire diameter:

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.

- **GEAR RATIO**

This feature will recalibrate the speedometer readings, and part-throttle shifting for automatic transmissions (some vehicles), if an aftermarket gear is installed. Go to www.Hypertech.com, and look up your vehicle information to determine the list of gear ratios supported for your vehicle.

- **SHIFT POINTS (Auto Transmission Only)**

This feature allows adjustment of the wide-open throttle shift RPM for each gear. This adjustment is typically in 100 RPM increments. This setting does not affect part throttle shifting. To determine the factory shift point in each gear, accelerate the throttle wide open while in Drive, and hold it until the transmission shifts. Note the RPM when the gear change occurs.

These settings are totally subjective, and based on user feel, or by the time slip at the track.

For shift point optimizing, test only one (1) shift point at a time until the best RPM shift point is found for each. The shift point adjustment range is +/-500 RPM in approximately 100 RPM increments for each of the shift points for the vehicle. If changes are made to the shift points, the rev limiter must also be adjusted by the same amount. Not doing so may result in damage to the engine or powertrain.

- **SHIFT FIRMNESS (Automatic Transmission Only)**

This feature electronically increases the automatic transmission line pressure for firmer shifts, reducing clutch slippage and transmission oil temperatures, and prolonging transmission life. These settings are totally subjective and based on user feel.

3: TECHNICAL INFORMATION & TROUBLESHOOTING (continued)

- **SHIFT RESPONSE** (Automatic Transmission Only)
This feature tailors the transmission upshift and downshift response time to fit your driving style/needs and conditions better. Options range from HYPER-MILEAGE, MILEAGE, STOCK, TOW, STREET, SPORT, PERFORMANCE, OR TRACK. The HYPER-MILEAGE option is designed for improved fuel economy and is the least aggressive setting. It produces upshifts at lower speeds, and requires much more throttle input to generate a downshift. The most aggressive TRACK option produces upshifts at higher speeds, and requires much less throttle input to generate a downshift.
- **TCC SLIP** (Automatic Transmission Only)
This feature electronically adjusts the allowed torque converter clutch slip during full lock-up. The transmission controller algorithms use this parameter to reduce engine and drivetrain vibrations at the expense of power and efficiency. Adjustable options range from STREET, ECONOMY, or TRACK. The STREET setting is the least aggressive setting and offers the best balance of less slip while still reducing powertrain vibrations. ECONOMY/TRACK options are the most aggressive and focus on ultimate power and efficiency while accepting some powertrain vibration.
- **FAN TEMP**
This feature allows adjustment of the temperatures of the vehicle's electric cooling fans to match a lower temperature thermostat. The fan will turn on when the engine reaches the programmed temperature. Note this feature will not control the actual engine temperature. It only controls when the fan turns on and off.
- **V4 MODE**
This feature allows adjustment or removal of the V4/V8 mode in certain GM and Chrysler/Dodge vehicles.

The Active Fuel Management (AFM) is GM's system for disabling multiple cylinders while driving at light loads. The Multi-Displacement System (MDS) is the Chrysler/Dodge version. Although this system is very advanced, there is some minor sacrifice in the drivability when the AFM/MDS is active, or during the transition to 4-cylinder and 8-cylinder modes. Because of this, some customers may desire the ability to disable the AFM/MDS system altogether. Hypertech has included the ability to disable this system as an option in the Max Energy Spectrum. Rather than simply disabling the AFM/MDS system though, Hypertech did spend the time to fully develop improved engine tuning in V4 and V8 modes to improve the drivability of the vehicle.

- **0-60 RESTRICTION**
Even though you "floor" the vehicle's accelerator pedal, the factory programming contains a wide-open throttle (W.O.T.) restriction which slowly opens the throttle to W.O.T. for smooth, no wheel-spin acceleration. With the Hypertech Max Energy Spectrum, this feature allows you to remove the W.O.T. restriction for immediate, maximum throttle response and power, with quicker acceleration. You may have to practice your "starts" to control wheel – spin with stock tires, but with wider rear tires, or at a "sticky" racetrack, you will definitely get quicker acceleration and elapsed times.

We tune the throttle response on all vehicles with the Hypertech Engine Tuning, but this feature is available for select vehicles, as a separate option, that have severe restrictions in throttle control that can affect the day to day drivability characteristics of the vehicle.

SECTION 4: UPDATING YOUR PROGRAMMER

The Max Energy Spectrum may need to be updated if support for the vehicle was added after the manufacture date of the programmer, or if the vehicle has a calibration that is not supported by the programmer. Follow the steps below to update your programmer.

1. Install the Tuner Update Software.

The Tuner Update Software can be installed on any Windows based PC from the same CD that these instructions are located, or it can be downloaded from the Hypertech website at the link below. Note: The Tuner Update Software is not compatible on Apple/MAC operating systems.

<http://www.webservice99.com/downloads/tunerupdateapplication/V2/Current/UpdateInstallV2.exe>

2. Connect the programmer to the PC with the supplied USB cable.

3. Open the Tuner Update Application software from the PC.

Once the update software is installed, there will be a shortcut installed on your desktop. Double click the shortcut to start the program.

Click the ‘Update Tuner’ button and follow the instructions on the screen.

SECTION 5: PRODUCT WARRANTY & CONTACT INFO

5-1: Factory Direct Limited 1 Year Warranty

PRODUCT WARRANTY Factory Direct Limited 1 Year Warranty... Effective January 1, 2020 replaces and supersedes previous product warranty policy.

Hypertech products are warranted against defects in materials or workmanship for one year from the date of purchase. 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 1 Year Warranty is to the original purchaser 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. Third Party Resellers and Resold units are NOT covered under this warranty.

Note: The Max Energy Spectrum is designed to use on only one vehicle at a time. In order to use the programmer on another vehicle, the vehicle it is currently being used on must be returned to stock by following the Back To Stock procedure in Section 2. Once the programmer has been returned to stock, it can then be used on another vehicle, if that vehicle is supported by the programmer.

The Max Energy Spectrum is limited for use on a maximum of three (3) vehicles. Each time the programmer is connected to a vehicle, the VIN number is stored in the programmer memory. Once the programmer has a third VIN number stored, it will no longer be able to be reused on another vehicle. Warranty coverage is only for the original purchaser, and on the original vehicle the programmer was used on. After the third VIN Number there will be a service fee applied to reset the unit.

Additional licenses for new vehicles can be purchased from Hypertech. To order, call our Tech Department at 901-382-8888, or email techsupport@hypertech.com, with the serial number off of the programmer.

SECTION 5: PRODUCT WARRANTY & CONTACT INFO (continued)

5-2: Emissions Legality Statement

All applications supported in the **Max Energy Spectrum California Edition, part #3050**, are covered under CARB EO #'s D-260-33, D-260-34, and D-260-35 (see website for details), making it legal for sale or use in all 50 States, including 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. This includes meeting all E.O. requirements in its product development process. This guarantees that users of this product 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. To verify if your vehicle application is 50 – State emission legal, go to www.Hypertech.com, and look up by vehicle year/make/model.

5-3: Contact Info

Tech Department 901-382-8888 Phone

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techsupport@hypertech.com

Office Hours: Monday-Friday, 8AM-5PM Central Time

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