X3 ECONOMIZER USER GUIDE

PART NUMBER 3030

IMPORTANT NOTES

STOP Check all electronic systems and turn them off if applicable. This includes fuel pumps, fans, stereo systems and etc. Make sure the ignition key is turned OFF.

Plug the device into the OBD-II port and wait for the main menu screen to appear. The default menu screen is "Program Vehicle". If you are using the device for custom tuning, you will need to read the vehicle strategy first through the "DTC Data Functions" main menu screen.

The Jog Wheel will allow you to scroll through the different main menu screens and the select keys will select different sub menus. Refer to the next page for more information on device navigation.

NOTE: SCT does not recommend using this device with any other tuning module or device that modifies the vehicle PCM parameters, increases horsepower, torque or modifies transmission characteristics.
Before taking your vehicle to a dealer service department for any type of service or warranty work, you should first return the vehicle back to the stock configuration.

Standard vehicle systems and functions

Fuel Pump, Fans, Stereo/CD/DVD - It is always a good idea to turn off any vehicle systems or functions that may become active during the flash tuning process. You may want to locate the vehicle's fuse box and remove the fuses for the fuel pump, cooling fans, and other functions that may operate without the vehicle running. Since the vehicle must have the key in the on position during the flash tuning operation, anything that draws power when the key is on, may run the battery low on charge.

GENERAL INFORMATION

The X3 Economizer is pre-programmed for use on the following vehicles:
- **1996—2007 V-8 Mustangs and Cobras**
- **2007—2008 Shelby GT500 Mustang**
- **1994—2007 V-6 Mustangs**
- **2003—2007 F-Series 6.0L Diesel Trucks**
- **1999—2003 F-Series 7.3L Diesel Trucks**
- **1997—2003 F-Series 4.6L / 5.4L Gas Trucks**
- **2004—2006 F-Series 4.2L / 4.6L / 5.4L / 6.8L Gas Trucks**
- **1999—2004 Focus SVT / Zetec**
- **2003—2004 Mercury Marauder**
- **1999—2004 Crown Victoria**
- **2005—2008 Crown Victoria**
- **2002—2005 Thunderbird**
- **2000—2006 Lincoln LS w/ V-8**
- **1996—1999 Taurus SHO**
- **1999—2005 Excursion Diesel / Gas**
- **1996—2006 Explorer 4.0L / 4.6L / 5.0L**
- **1997—2006 Expedition 4.6L / 5.4L**
- **1999—2008 Econoline Series Vans 4.2L / 4.6L / 5.4L / 6.8L Gas Trucks**

Available Gasoline Tunes: Fuel Economy Only.

Available diesel tunes: Fuel Economy Only.

Note: Not all options are available for all vehicles.

X3 Economizer VIN locks to a single vehicle. You cannot use the device to tune a new or different vehicle, until you have returned the original vehicle back to stock, which will unlock the device. You can only change vehicles 5 times before the unit is permanently locked.

CABLES & CONNECTIONS

OBD-II Connection & Cable

The OBD-II cable is designed to interface between the X3 Economizer and the vehicle PCM. The cable uses a proprietary connection for the vehicle's OBD-II port, which can be found under the dash on the driver's side of the vehicle (see diagram below). The port may be abeled as a diagnostic port with a cap covering the pin connector, which you will need to remove. You will use this cable to program the vehicle, datalog from the vehicle PCM and view parameters in real-time.
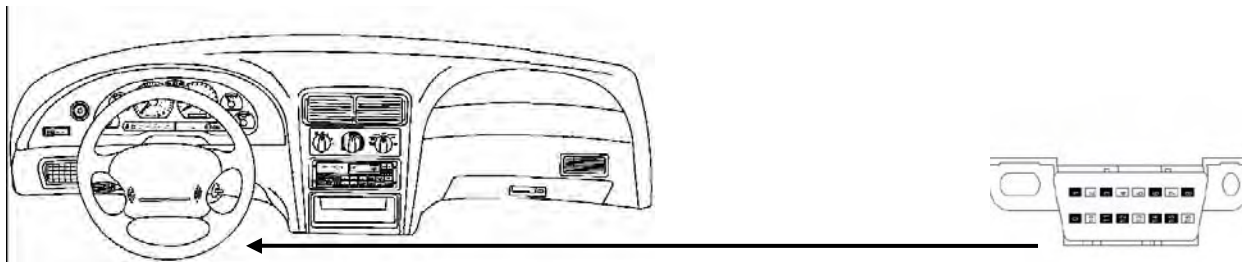
USB Connection & Cable

The USB cable is designed to interface between the X3 Economizer and a Windows-based laptop or PC. You will use this cable to update the X3 Economizer with new firmware or software, and to download datalog files stored in the device memory.

USB Port

Bottom of X3 Power Flash
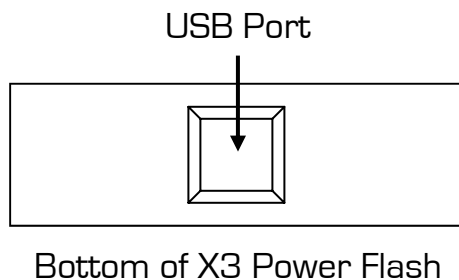
DEVICE NAVIGATION

To navigate through the device main menus and sub-menus use the; arrow, cancel and select keys. See Image Below.
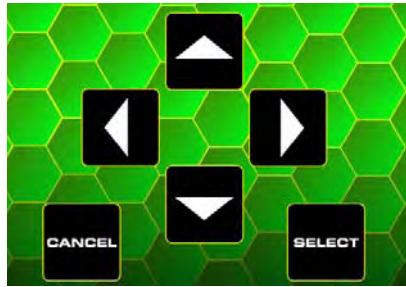

Device Main Menu Navigation

To scroll through the main menu screens, use the arrow up & down keys. The active main menu will be highlighted with a black bar over the menu text. The enter the main menu, press the select key once the menu you want to enter is highlighted. See Example Below.
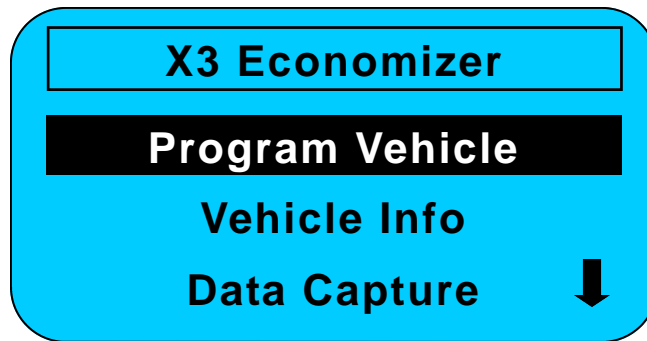
Device Menu Keys

There are six main keys on the X3 Economizer keypad. The arrow up & down keys are the primary keys you will use to scroll through the main menu and sub-menu options. The arrow left & right keys will be used within the sub-menu screens to view multiple options or other features. The select key enters or selects individual menus or sub-menus, and selects option choices. The cancel key will de-select or cancel operations in the sub-menus and also allows you to go back to the last screen viewed.

Up Arrow

Left Arrow

Right Arrow

Cancel

Select

Down Arrow
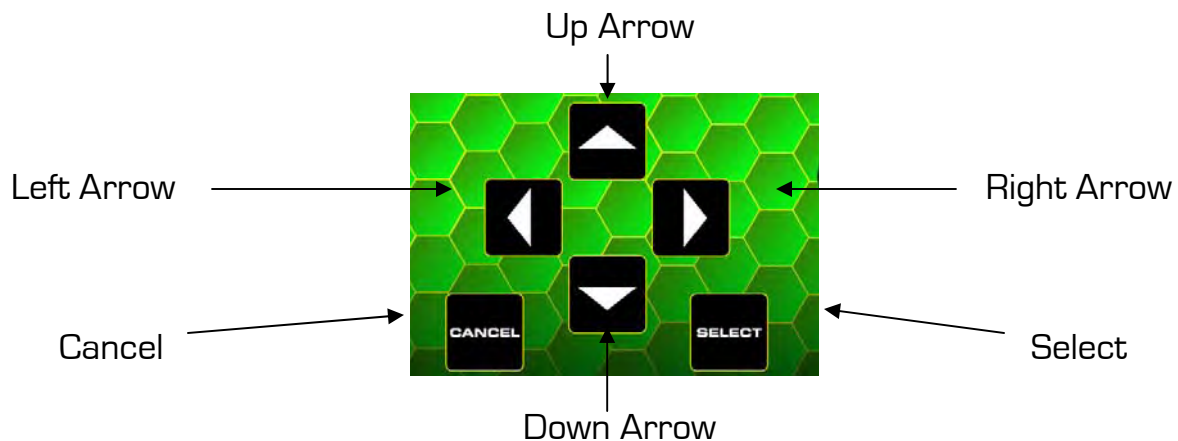
PROGRAM VEHICLE MENU

Programming Your Vehicle

This menu allows you to program the vehicle using one of the pre-loaded flash tuning files. This menu option will also allow you to adjust the User Adjustable Options on the tuning files.

Flashing Your Vehicle With Pre-Loaded Files

Note: Be sure NOT to remove or unplug the OBD-II cable or turn the ignition key to the off position during this process. You will be prompted to program the vehicle with the pre-loaded tuning file after the stock program has been successfully uploaded. The upload and download status will appear on-screen during each process.

Plug the X3 Economizer into the vehicle's OBD-II port. Leave the ignition key in the OFF position and select the Program Vehicle menu option to begin. Once you select the main menu option, the Program Vehicle sub-menu will appear on the screen.

X3 Economizer
Program Vehicle
Vehicle Info
Data Capture ⬇
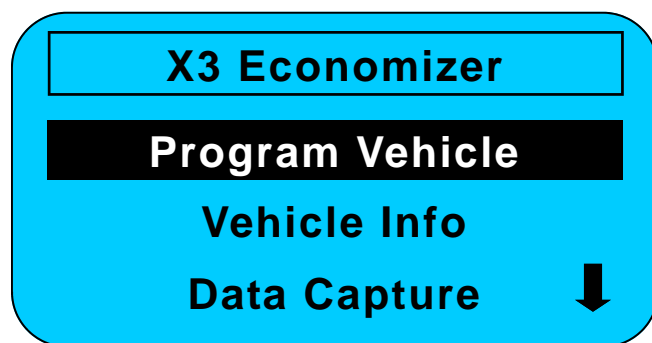
When the Program Vehicle sub-menu appears, use the arrow up & down keys to navigate to the menu option you want. The Install Tune option will be the default menu option. To program using the pre-loaded tune file, press the select key and you will enter the Install Tune sub-menu.

Program Vehicle
Install Tune
Return To Stock ⬇
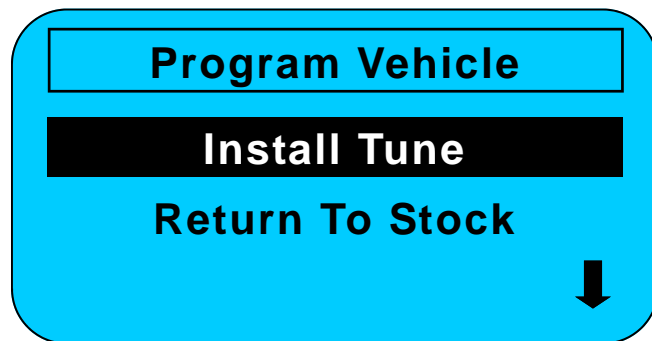
When the Install Tune sub-menu appears, scroll to the type of tune you want to load. The pre-loaded tune option is the default menu option. Press the select key and you will be prompted to turn the key ON, which will start the tuning process.

Tune Type
Pre-Programmed ⬇
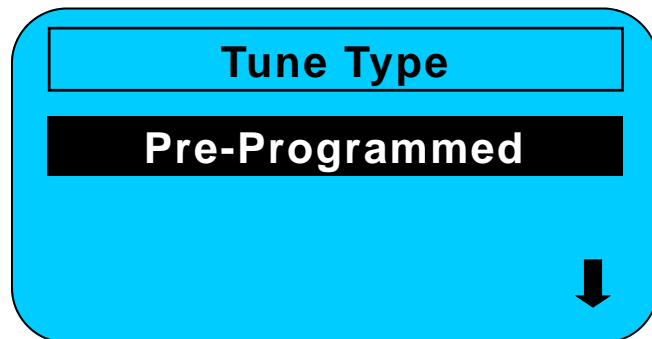
You will be prompted to turn the ignition key on and off multiple times as part of the tuning process. DO NOT unplug the OBD-II cable at any point during this process.
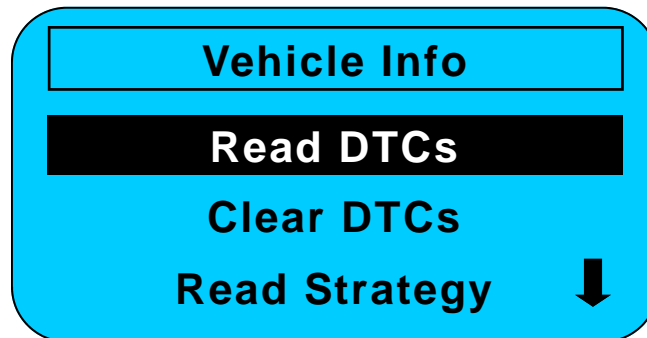
VEHICLE INFO MENU

This menu allows you to read and clear diagnostic trouble codes found in the vehicle PCM. If a "check engine" light or "service engine soon" light appears on your dash, you can check and clear the codes, which should reset the PCM and remove the lights.

```
┌──────────────────────────────┐
│  ┌────────────────────────┐  │
│  │     X3 Economizer      │  │
│  └────────────────────────┘  │
│      Program Vehicle         │
│  ████████████████████████    │
│  ███  Vehicle Info  ██████   │
│  ████████████████████████    │
│       Dealer Info       ⬇    │
└──────────────────────────────┘
```

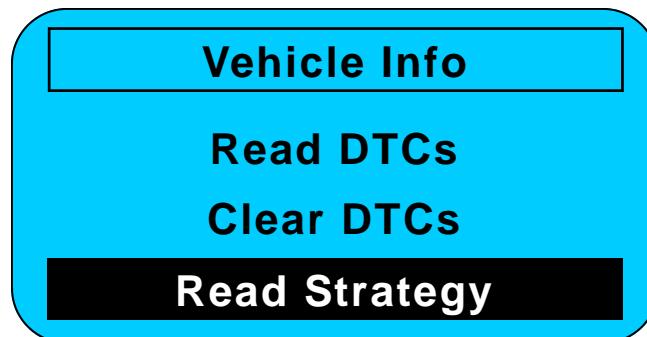## *Reading & Clearing Diagnostic Trouble Codes*

To read diagnostic trouble codes, select the read DTC's sub-menu. The device will read the vehicle PCM and display a list of trouble codes. Make a note of each code displayed and consult the guide at the back of this manual for additional information on each individual code. For more details on specific DTC codes, consult the SCT web site or the SCT tech support line.

To clear diagnostic trouble codes, select the clear DTC's sub-menu. The device will clear the vehicle PCM, which should reset the PCM and remove any check engine or service engine lights.

```
┌──────────────────────────────┐
│  ┌────────────────────────┐  │
│  │     Vehicle Info       │  │
│  └────────────────────────┘  │
│  ████████████████████████    │
│  ███    Read DTCs    █████   │
│  ████████████████████████    │
│        Clear DTCs            │
│     Read Strategy      ⬇     │
└──────────────────────────────┘
```
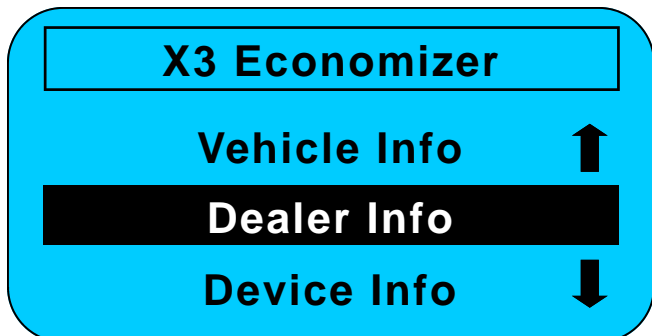
Read Vehicle Strategy

To read the vehicle strategy for tech support, select the read strategy sub-menu. You will be prompted to turn the ignition key ON and the device will automatically read the vehicle strategy. Make a note of the strategy once it appears and keep for your records.

```
┌──────────────────────────────┐
│  ┌────────────────────────┐  │
│  │     Vehicle Info       │  │
│  └────────────────────────┘  │
│        Read DTCs            │
│        Clear DTCs           │
│  ████████████████████████    │
│  ███  Read Strategy  █████   │
│  ████████████████████████    │
└──────────────────────────────┘
```
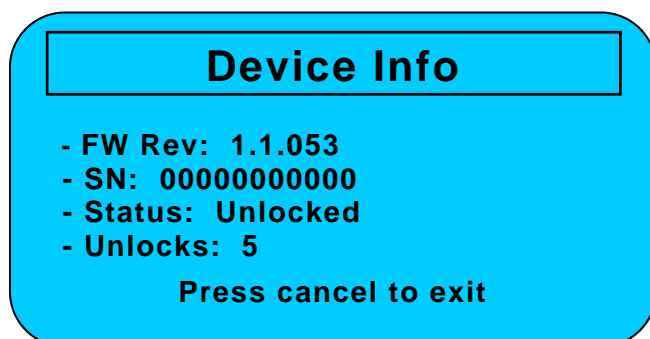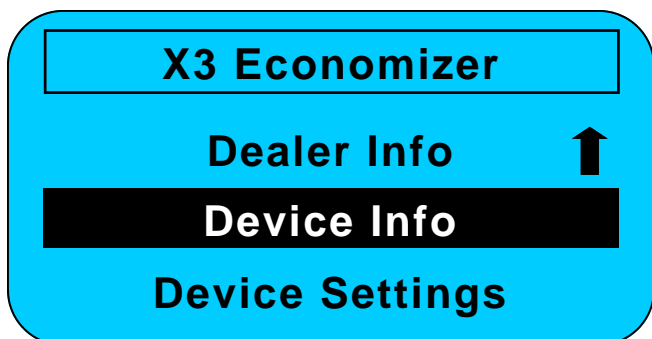
DEALER / DEVICE INFORMATION MENU

Dealer Information Menu

This menu allows you to view the dealer and device information. The default dealer information is SCT product name and web address.

| X3 Economizer	Dealer Info
Vehicle Info ↑	SCT X3 Economizer
Dealer Info	www.sctflash.com
Device Info ↓	Press cancel to exit

Device Information Menu

This menu allows you to view the firmware revision number, serial number, device status (locked / Unlocked), and the number of unlocks left (5 maximum).

X3 Economizer	Device Info
Dealer Info ↑	- FW Rev: 1.1.053
Device Info	- SN: 00000000000
Device Settings	- Status: Unlocked
	- Unlocks: 5
	Press cancel to exit

Device Settings Menu

This menu allows you to view and adjust the contrast and turn the backlight ON / OFF. Use the arrow up and down keys to modify the contrast. The select and cancel keys will allow you to save or exit the device settings.

X3 Economizer	Device Settings
Dealer Info ↑	LCD Contrast
Device Info	LCD Backlight
Device Settings	
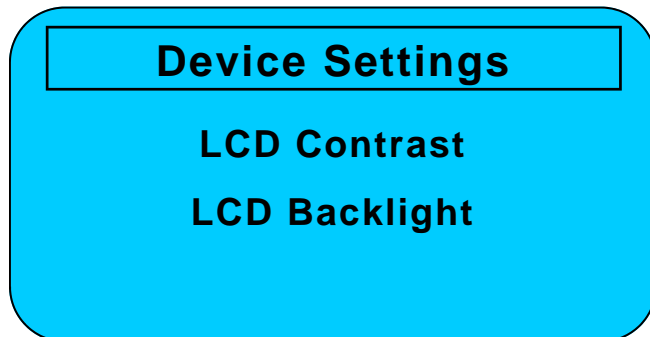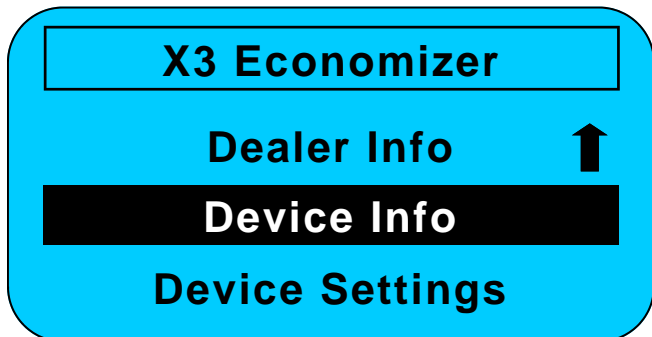
DTC DIAGNOSTIC TROUBLE CODES

Some of the More Common DTC Codes

P0100 Mass or Volume Air Flow Circuit Malfunction
P0109 Intake Air Temperature Circuit Malfunction
P0114 Intake Air Temperature Circuit Intermittent
P0115 Engine Coolant Temperature Circuit Malfunction
P0120 Throttle/Pedal Position Sensor/Switch A Circuit Malfunction
P0125 Insufficient Coolant Temperature for Closed Loop Fuel Control
P0170 Fuel Trim Malfunction (Bank 1)
P0171 System too Lean (Bank 1)
P0172 System too Rich (Bank 1)
P0173 Fuel Trim Malfunction (Bank 2)
P0174 System too Lean (Bank 2)
P0175 System too Rich (Bank 2)
P0190 Fuel Rail Pressure Sensor Circuit Malfunction
P0195 Engine Oil Temperature Sensor Malfunction
P0200 Injector Circuit Malfunction
P0213 Cold Start Injector 1 Malfunction
P0214 Cold Start Injector 2 Malfunction
P0217 Engine Overtemp Condition
P0218 Transmission Over Temperature Condition
P0219 Engine Overspeed Condition
P0230 Fuel Pump Primary Circuit Malfunction
P0300 Random/Multiple Cylinder Misfire Detected
P0320 Ignition/Distributor Engine Speed Input Circuit Malfunction
P0325 Knock Sensor 1 Circuit Malfunction (Bank I or Single Sensor)
P0335 Crankshaft Position Sensor A Circuit Malfunction
P0340 Camshaft Position Sensor Circuit Malfunction
P0350 Ignition Coil Primary/Secondary Circuit Malfunction
P0382 Exhaust Gas Recirculation Flow Malfunction
P0410 Secondary Air Injection System Malfunction
P0420 Catalyst System Efficiency Below Threshold (Bank 1)
P0440 Evaporative Emission Control System Malfunction
P0480 Cooling Fan I Control Circuit Malfunction
P0484 Cooling Fan Circuit Over Current
P0485 Cooling Fan Power/Ground Circuit Malfunction
P0500 Vehicle Speed Sensor Malfunction
P0501 Vehicle Speed Sensor Range/Performance
P0505 Idle Control System Malfunction
P0506 Idle Control System RPM Lower Than Expected
P0507 Idle Control System RPM Higher Than Expected
P0510 Closed Throttle Position Switch Malfunction
P0550 Power Steering Pressure Sensor Circuit Malfunction
P0560 System Voltage Malfunction
P0561 System Voltage Unstable

DTC DIAGNOSTIC TROUBLE CODES

P0562 System Voltage Low
P0563 System Voltage High
P0606 PCM Processor Fault
P0700 Transmission Control System Malfunction
P0701 Transmission Control System Range/Performance
P0702 Transmission Control System Electrical
P0705 Transmission Range Sensor Circuit malfunction (PRNDL Input)
P0710 Transmission Fluid Temperature Sensor Circuit Malfunction
P0712 Transmission Fluid Temperature Sensor Circuit Low Input
P0713 Transmission Fluid Temperature Sensor Circuit High Input
P0720 Output Speed Sensor Circuit Malfunction
P0723 Output Speed Sensor Intermittent
P0730 Incorrect Gear Ratio
P0731 Gear 1 Incorrect ratio
P0732 Gear 2 Incorrect ratio
P0733 Gear 3 Incorrect ratio
P0734 Gear 4 Incorrect ratio
P0735 Gear 5 Incorrect ratio
P0736 Reverse incorrect gear ratio
P0740 Torque Converter Clutch Circuit Malfunction
P0745 Pressure Control Solenoid Malfunction
P0750 Shift Solenoid A Malfunction
P0755 Shift Solenoid B Malfunction
P0760 Shift Solenoid C Malfunction
P0765 Shift Solenoid D Malfunction

FREQUENTLY ASKED QUESTIONS

Q: Do I need to remove my aftermarket performance chip from the PCM before tuning the vehicle?

A: You must remove all chips from the PCM prior to starting the tuning process.

Q: Can the vehicle be tuned while the engine is running?

A: NO - This can cause severe damage to the vehicle and PCM.

Q: Can I use a lower octane fuel than what the tuning file is designed to run?

A: NO - You must use the same octane fuel that the vehicle is tuned for. Failure to use the proper octane fuel can result in severe engine damage.

Q: Is it necessary to disconnect the battery after tuning the vehicle?

A: On 1994 - 1997 vehicles, you must disconnect the battery cable for 10 seconds or more to reset the PCM's adaptive memory.

1999 - 2005 Diesel-powered Ford Excursion

When flash tuning the diesel-powered Ford Excursion, you will be required to reset the PATS system. The following procedure is critical. Be sure to start the procedure with the key completely out of the ignition.

1) Remove the key from the ignition.
2) Insert key into the ignition.
3) Turn key to the on position - Do NOT start the vehicle.
4) Look at the theft light on the dash. The light should be blinking rapidly (3 blinks per second).
5) After 30 - 45 seconds, the theft light will blink slowly or go out altogether.
6) Turn the ignition key off and remove it from the ignition - Do NOT start the vehicle.
7) Wait 10 seconds and insert the key into the ignition.
8) Turn key to the on position - Do NOT start the vehicle.
9) Look at the theft light on the dash. The theft light should be blinking slowly (1 blink per second) - Once the wait to start light goes out and the glow plugs are warm, start the vehicle.