

PREDATOR™

FORD F-SERIES

DIABLOSPORT™

**TUNABLE
PERFORMANCE
PROGRAMMER**



User Manual

Please visit us at www.diablosport.com for all your tuning needs

REV. July-24-2004



DiabloSport, LLC.

***Predator Satisfaction Guarantee/
Return Policy***

If in the first 30 days from the date of purchase you are not satisfied with the Predator results in your vehicle, simply ***re-install the Original Backup back into your vehicle***, return the Predator to the reseller, and pending examination of the tool by DiabloSport, you will receive a refund from your reseller.

Under no circumstances will DiabloSport accept the return of a Predator that didn't re-install the Original Backup back into your vehicle.

PREDATOR  ***TM***

End User License Agreement, Warranty and Disclaimer

THIS END USER LICENSE AGREEMENT (the "Agreement") is an agreement between you, as the purchaser (the "Purchaser") of either the Diablo Module (the "Module") or the ToolRama hand-held computer unit (the "Unit"), and , DiabloSport, LLC or ToolRama, LLC (collectively, "ToolRama"), as the manufacturer of the Product. The Product and the Unit shall be referred to collectively herein as the "Product."

1. Acknowledgment And Acceptance Of Agreement. If you do not agree to the terms and conditions of this Agreement, do not use the Product. Instead, promptly contact the distributor from which you purchased the Product in writing, requesting a refund of the purchase price. Any use of the Product by you will constitute your agreement to the terms and conditions contained herein.

2. Grant Of License. The parties hereto acknowledge that ToolRama is granting a non-transferable restricted license to Purchaser to use the Product for the sole purpose of installation in Purchaser's vehicle. ToolRama shall retain all title, ownership rights and intellectual property rights in and to the Product. Purchaser agrees that Purchaser shall not, directly or indirectly, modify, translate, reverse engineer, decompile, disassemble, or create derivative works based on the Product. Purchaser further agrees not to permit any third parties to modify, translate, reverse engineer, decompile, disassemble, or create derivative works based on the Product. **3. Disclaimer.** The Product is being sold with no warranties of any kind, express or implied. The Product is not endorsed by the manufacturer of your vehicle and there is no affiliation between ToolRama and the manufacturer of your vehicle. Installation of the Product in your vehicle or use of the Product with your vehicle may limit or void your rights under any warranty provided by the manufacturer of your vehicle, and ToolRama assumes no responsibility in such event. Any warranty not provided herein, and any remedy which, but for this provision, might arise by implication or operation of law, is hereby excluded and disclaimed. The implied warranties of merchantability and of fitness for any particular purpose herein are expressly disclaimed. **4. No Liability For Damages, Injuries Or Incidental, Special Or Consequential Damages.** Under no circumstances shall ToolRama, Inc., DiabloSport, LLC or ToolRama, LLC, or any other party related to ToolRama, be liable to Purchaser or any other person for any damage to Purchaser's vehicle, loss of use of Purchaser's vehicle, or for personal injuries suffered by any person, or for any incidental, special or consequential damages, whether arising out of negligence, breach of warranty, breach of contract, or otherwise. ToolRama's liability for any damages, loss and/or claims associated with the Product shall be limited to the price of the Product paid by purchaser. Purchaser hereby releases ToolRama from all liability, claims and damages associated with the Products, with the sole

exception of ToolRama's liability for the refund of the purchase price of the Product to Purchaser in the event that a court of competent jurisdiction determines the Purchaser suffered damages directly resulting from the malfunction of the Product. **5. Warranty.** Notwithstanding the provisions of the End User License Agreement, DiabloSport warrants the Product to be free from all defects in material and workmanship for the life of the Product. This limited warranty applies only to the original Purchaser of the Product. This limited warranty does not cover damage caused by modification, alteration, repair or service of the Product by anyone other than DiabloSport, physical abuse, misuse, use in a manner contrary to the instructions, which accompany the Product, or any damage caused by acts of God. Contacting your Distributor or Dealer may make claims for repair service or replacement of the Product pursuant to this limited warranty. The Chip will either be repaired or replaced, at the option of DiabloSport, at no cost to Purchaser, if the defective Product is covered by this limited warranty. DiabloSport's liability pursuant to this limited warranty and for any damages, loss and/or claims associated with the Product shall be limited to the price of the Product paid by Purchaser, or, at DiabloSport's option, repair or replacement of the Product. **6. State Law.** Some states do not allow limitations of implied warranties, or the exclusion or limitation of incidental, special or consequential damages, so the above limitations may not apply to you. In such states, liability shall be limited to the greatest extent permitted by applicable law.

7. Governing Law & Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida, and venue for any legal proceeding or action at law arising out of or construing this Agreement shall lie in the state or federal courts of Orange County, Florida, and the parties specifically waive any other venue.

DISCLAIMER We have no affiliation with any vehicle manufacturer. DiabloSport products are not legal for sale or use on any pollution controlled motor vehicles. Legal in California only for racing vehicles which may never be used upon a public highway.





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Attention Customers:

Visit our web site **www.diabloSPORT.com** for the latest updates.

Important Note when adjusting fuel and timing.

Timing and fuel adjustments must be made with caution as improper adjustments can cause severe engine damage.

DiabloSport recommends that you adjust the fuel and timing parameter in small increments and monitor for too lean/rich condition and spark detonation (pinging). Fuel mixture can be monitored on a dyno with a/f monitoring or with a wideband O2 system.

Timing and spark detonation can be monitored by audible knock or in Predator by observing timing; a good sign of detonation is if the timing starts to decrease rapidly.

DiabloSport will not be held responsible for vehicles with modified parameters since we are not present to monitor the adjusted parameters. We recommend that this should be left untouched by inexperienced users.

*Before installing
the Performance Tune*

PREDATOR

OBD II Diagnostic Port Location

Please read through the manual before installing any tune into your vehicle - failure to follow proper instructions can result in a damaged or disabled ECU (Engine Control Unit).

*User **must** ensure that the original Ford Factory Tune is in the vehicle's ECU before installing the DiabloSport tune. (Ford dealer re-flashes are the same as Factory Tune).*

Serious engine damage can occur if the Predator tune is installed over a non-factory/aftermarket performance tune.

Very important!

Do not perform any operations on Predator (except live data diagnostics) while vehicle is running. The vehicle must be parked and engine OFF.

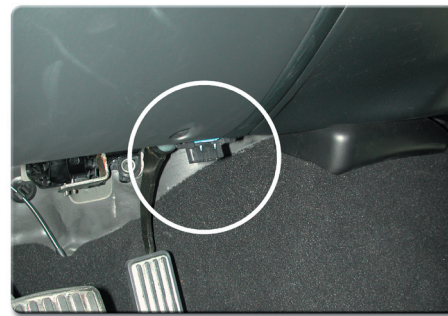
OBD-II Port Location

Driver side under dash.



F-250, F-350 and Excursion

Driver side under dash.



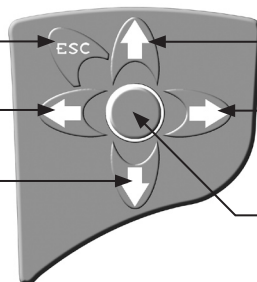
Display and Keypad Description



ESC Key: Jump back to previous menu or jump to top of menu selection.

Left arrow: Set gauge value left

Down arrow: Scroll down the menu



Up arrow: Scroll up the menu

Right arrow: Set gauge value right

Enter Key: Select the highlighted item

Preparing the Vehicle for Tune Installation

- Always have all the doors closed while installing the DiabloSport Performance Tune, and keep them closed until the process is complete.
- Do not activate any electrical accessories while installing the DiabloSport Performance Tune. Ensure that there are no electronic add on parts* wired or plugged into the vehicle that can cause a substantial voltage drop when activated during installation of the DiabloSport Performance Tune.
Please contact DiabloSport if you are uncertain about devices that are on your vehicle.
- Certain cellular phones or radio equipment might also cause interference. Please remove or turn such devices off.
- Do not try to install any tune on a vehicle with a low battery voltage - charge your battery if necessary.
- Unless instructed, never turn the ignition key OFF while the Predator is plugged into diagnostic port.
- Do not unplug the Predator while it is installing the DiabloSport Performance Tune or the Original Backup.

***Important Note:**

All electronic aftermarket add-on parts:

- tach
- shift light
- gauges
- electrical fans
- audio/video equip.
- trailer/ tow accy.

Can create a potential power draw.

Any change in voltage during Flash programming procedures WILL interrupt the writing process.

Please disconnect or disable any such add on part.

*In the event of such an occurrence, unplug the tool, wait 5 seconds and then plug it back in. The tool will recognize that a interrupted writing error has occurred and will automatically install the original back up. The vehicle is now in its original state.
Please attempt to locate the voltage draw before Predator is used again.*

Please feel free to contact DiabloSport directly at any time with questions related to this process. 561-908-0040

IT IS NOT NECESSARY TO CONTACT THE VEHICLE MANUFACTURER SHOULD SUCH ERRORS OCCUR. ALL AND ANY COSTS RELATED TO SUCH ACTIONS ARE NOT THE RESPONSIBILITY OF DIABLOSPORT OR ITS DEALERS.

*Installing
the Performance Tune*

PREDATOR™

Installing the Performance Tune

The Predator contains a predefined DiabloSport tune, that has been thoroughly tested and approved by DiabloSport. You have a choice of either installing the DiabloSport Tune “as-is” into your vehicle, or customizing it to your personal taste.

Both cases are described in the following sections.

Before you install any tune into your vehicle, when you use the Predator for the first time, it will read the Original Factory Tune out of your vehicle and permanently store it in its memory. This process takes a minute or two. For safety reasons, there is no way to overwrite this backup memory and therefore the Predator becomes ‘married’ to, and only to, your vehicle until original backup is restored.

If there is ever a need to send the Predator back to DiabloSport, for any reason, the Factory Tune must be put back into your vehicle, as described in the section ‘Putting-back the Original Factory Backup’, otherwise your Predator will not be accepted back by the reseller. To find out, which tune was last written to your vehicle, see the section ‘Predator Options / Show Last Tune Written’.

About DiabloSport Performance Tunes

Diablo Tune: Designed to add power and torque for a stock to mildly modified vehicle.

Original Backup: Restore the original Factory Backup and reset the tool for use on another vehicle.

NOTE: WHEN CHANGING HP TUNES, THERE IS NO NEED TO RESTORE FACTORY TUNE BEFORE INSTALLING A NEW(DIFFERENT) HP TUNE. YOU WILL BE PROMPTED TO RESET PARAMETERS PRESS YES OR NO AS YOU DESIRE.

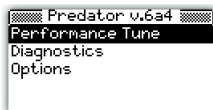
***Premium grade unleaded fuel must be used for all PREDATOR applications; AMOCO, MOBIL, SUNOCO fuels are recommended.**

NOTE: For vehicles running in areas where only 91 octane is available (ex. CA & AZ)

We recommend that you monitor your vehicle for detonation (Pinging), which is common when using lower quality fuels. If detonation occurs please go and “Modify Tune” and adjust the “Spark Advance” to 10% retard in both ranges and if necessary go even higher in the % retard to eliminate the detonation.

Installing the Tune for the First Time

The very first time the Predator is used on a vehicle it will automatically create a backup of the original factory tune.



The original factory tune can not be erased until it is restored back into vehicle, whenever the original factory tune is installed back into vehicle the Predator will automatically reset itself so it can be used on other vehicles or the same vehicle again.

1) Backing up original tune

- A) Press "Performance Tune" and follow prompts on screen
- B) Select Diablo Tune.

Diablo Tune: Designed to add power and torque for a stock to mildly modified vehicle.

PREMIUM FUEL IS REQUIRED, when adjusting fuel to lean or spark to advance

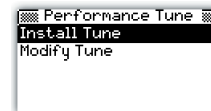
Original Backup = This will restore the Original backup (once the backup has been completed)

- C) Follow the prompts on the screen, (the backup will only occur once, the very first time the Predator is used on vehicle).

(The Original Factory Tune will be permanently stored in the Predator. For safety reasons, there is no way to delete this tune and therefore the Predator becomes 'married' to, and only to, your vehicle. The procedure of restoring your vehicle back to it's original stock tune is described in the section 'Putting-back the Original Factory Backup').

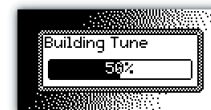
2) Installing Performance Tune

- A) Once backup is completed and the key is cycled, you will be asked to install or modify the tune selected in the previous section. Select "install" to install tune as is or select "modify tune" to adjust parameters.



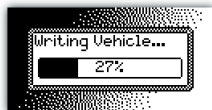
See Modify Parameter section for instructions how to navigate and definitions.

Once you press "install Tune" follow prompts on screen and allow a few minutes to program ECU.



Modifying Parameters

During programming do not touch any buttons or open and close doors, the theft light will blink rapidly and on some vehicles the electric fans will come on during programming.



Once programming is 100% complete make sure you follow the prompts, (cycle the key, etc) and you are finished.

AVAILABLE PARAMETERS

Axle Ratio

Axle Ratio
Tire revs per mile
Traction

Idle RPM

Drive
Neutral

WOT Fuel

Fuel table 2k-4k
Fuel table 4k-7k

RPM Shift Points

Shift Point rpm 1-2
Shift Point rpm 2-3
Shift Point rpm 3-4

Shift Pressure

Shift Firmness 1-2
Shift Firmness 2-3
Shift Firmness 3-4

Spark Advance

Spark advance 2k-4k
Spark advance 4k-7k

Tire Size

Tire Revs per Mile

OBDII

EGR Switch
O2 Sensor Config.
OBDII MIL
OBDII Test
Heater bank 1 downstream
Heater bank 2 downstream

Rev & Speed Limits

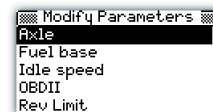
Speed Limiter Off MPH
Speed Limiter On MPH
Rev Limit drive
Rev Limit neutral

Torque Modulation

Torque Mod. 1-2 Shift
Torque Mod. 2-3 Shift
Torque Mod. 3-4 Shift

Modify Parameter Section

To adjust parameters, select parameter group, then select specific parameter, adjust parameter as desired then press enter button and follow prompts.



Once desired parameters have been modified, press "ESC" to exit out of the Modify Parameters section, then press "ESC" again to bring the "Install Tune" or "Modify Tune" menu on screen. Select "Install Tune", the tune with the modified parameters will now be installed into vehicle.

NOTE If tune is not installed at the prompt the adjusted parameters will not be lost, they will be saved, just not installed in the vehicle.

To reset parameters, simply press "Reset Parameters" button.

When switching from Performance Tune to Custom tune you will be prompted to keep or discard adjusted parameters.

Modifying Parameters

Axle

Axle Ratio = Adjust for different axle ratio to correct speedometer, note, numbers are in one decimal, ex. 3.5 this is the same as 3.55 and for 3.73, select 3.7, 4.10 select 4.1 etc.



Idle Speed

Drive = Idle speed when in gear

Neutral = Idle speed when in neutral, use this for manual transmission equipped vehicles.

NOTE: When adjusting fan settings, keep the factory spread of the on and off values. We recommend that you lower / raise all on / off settings by the same value

Fuel Base

Fuel Table 2k-4k / 4k-7k = WOT fuel table, adjusts fuel at wide open throttle only, Predator allows for a 15% increase (Leaner / removing fuel) and a 40% decrease (Richer / adding fuel) in two separate ranges, one from 2000rpm to 4000rpm and the other from 4000rpm to 7000rpm (or wherever red limit occurs).

NOTE: This adjustment should only be done with proper monitoring devices, such as air/fuel meter.

NOTE: The negative and positive scales displayed in the predator reflects values added to a fuel table, not actual fuel being removed or added, that is why the - (negative) value adds fuel as it make the values smaller, and smaller values equal more fuel in a fuel tuning table.

OBDII

EGR = Turn EGR on/off, ONLY USE WHEN REMOVING THE EGR

To Set OBD-II setting for no rear O2's -Turn all of the following parameters to "OFF" position: **OBD-II MIL / OBD-II Test Heater bank 1 downstream / Heater bank 2 downstream O2 Sensor Config.**

O2 Config = Turn this off for no rear O2 sensors, this tells PCM that no rear O2 sensors exist, the heater 1 and 2 have to be turned off as well.

NOTE: OBD-II adjustments are to be done on off-road vehicles only! Not for street use, off-road vehicles only.

Rev & Speed Limits

Rev Limit drive = Rev limit when in gear

Rev Limit neutral = Rev limit when in neutral, use this for manual transmission equipped vehicles.

Speed Limiter=Turn both of these Limiters to OFF to set speed limit to 170mph. *Only do this if your tires are rated for this speed!*

Spark Advance

Spark Advance 2k-4k / 4k-7k = WOT timing adjustment; adjusts timing at wide open throttle only. Predator allows for a 10% increase (advance) and a 40% decrease (retard) in two separate ranges, one from 2000rpm to 4000rpm and the other from 4000rpm to 7000rpm (or wherever red limit occurs).

Modifying Parameters

Torque Modulation:

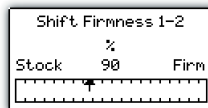
This will adjust the amount of torque available during a shift, Setting it to 1 will allow 100% of the torque to be used during the shift, thus yielding a firmer shift.

RPM Shift Point

RPM Shift Point= Adjust the WOT shift point by RPM for each shift.

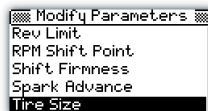
Shift Firmness

Shift Firmness= Adjust the WOT shift pressure for each shift, this allows for a firmer shift under wide open throttle.



Tire Size

Tire revs per mile = To properly calculate the revs per mile you will have to measure your rim and tires diameter (in inches) and put it into this formula: 20168 divided by tire diameter = revs per mile Ex. 20168 / 26 = 775



To setup DiabloSport performance tune for 87 octane.

The default DiabloSport performance tune is setup for running on premium fuel, but it can be modified via adjustable parameters for 87 octane.

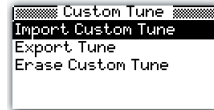
To do this go into the adjustable parameters section, go into Spark Advance and retard the timing 15% in both rpm ranges (2-4 and 4-7), this will reduce timing so vehicle will be able to run on 87 octane.

Please note that every vehicle and condition that it is ran under varies and it might not be necessary to retard timing the full 15% and some vehicles might need more than 15%.

One test you can do is to fill the vehicle up with mid grade (89 octane) and see if the vehicle detonates, if no detonation is present you should only have to retard 5% in both rpm ranges for 87 octane fuel.

Export/Import Custom Tunes

Custom Tunes



The custom tune menu is for heavily modified vehicles that require additional adjustments beyond the capability of the programmer.

This option should be handled by dealers only, as they must transfer the original tune from Predator to PC and send it to Diablosport for modifications.

Please visit <http://www.diablosport.com/Downloads.php> for more information and software downloads

Hardware required:

12VDC 1.0A Power supply

DB-9 9-pin Serial Cable Extension (radio shack part no: 26.117B)

NOTE: Before uploading the tune to PC the following step must be done. This step is not necessary for original backup to be uploaded.

When doing tunes for Predator you can either start with the predator tune or you can use the original backup. If you want to use the original backup step 1 and 2 are not necessary as long as the Predator has done a backup of original tune which it does before installing the performance tune.

Exporting tune from Predator to PC:

(Step 1 and 2 are not necessary if you want to use the original backup as long as the Predator has done the original backup)

- 1) With the tune installed in vehicle, go to "Options".
- 2) Go into "Troubleshooting" and select "Read Extra Tune" the Predator will now save the tune that is in the vehicle so it can be uploaded to PC.

Go to PC and connect Predator up to power supply and serial cable.

- 3) On Predator, go to "options" then "custom tune" then select "export custom tune"
- 4) Select either "Original Backup" or "Extra Tune" (ensure that you read extra tune before transferring extra tune to PC)
Allow a few seconds for the predator to process, the following screen will prompt you to start Xmodem, leave the Predator and go to PC now.
- 5) In software, click "Get File", enter a file name and select proper folder to save the file in and click "ok"
- 6) On the following screen, before pressing "OK" click the enter button on Predator then click "OK" in software.
- 7) You will see a progress bar in the bottom left corner indication bytes transferred, once complete you can load file into software and work with it.

Export/Import Custom Tunes

Importing Custom Tune:

Once tune has been modified and saved you can upload it into Predator.

Go to PC and connect Predator up to power supply and serial cable.

1) On Predator, go to "options" then "custom tune" then select "import custom tune"

Click "YES" on the following screen, you want to overwrite extra tune.

2) Then, in software, click "send file" ,select the file and click "ok"

3) Once transferred, the Predator will process the tune and ensure that it is correct.

4) Plug Predator into vehicle and instead of the normal tunes you will now have "Custom Tune" there instead. Select Custom Tune and install or modify/install the tune as usual.

*Re-installing
the Original Backup*

PREDATOR™

Re-installing the Original Backup

There are two occasions when one needs to re-install the Original Factory Tune back into the vehicle:

- Going to the dealer for vehicle maintenance or repair
- Returning the Predator for a refund

To restore Original Backup go to Performance Tune and then select Original Backup. This will restore the original backup and reset the tool so it can be used on other vehicles.

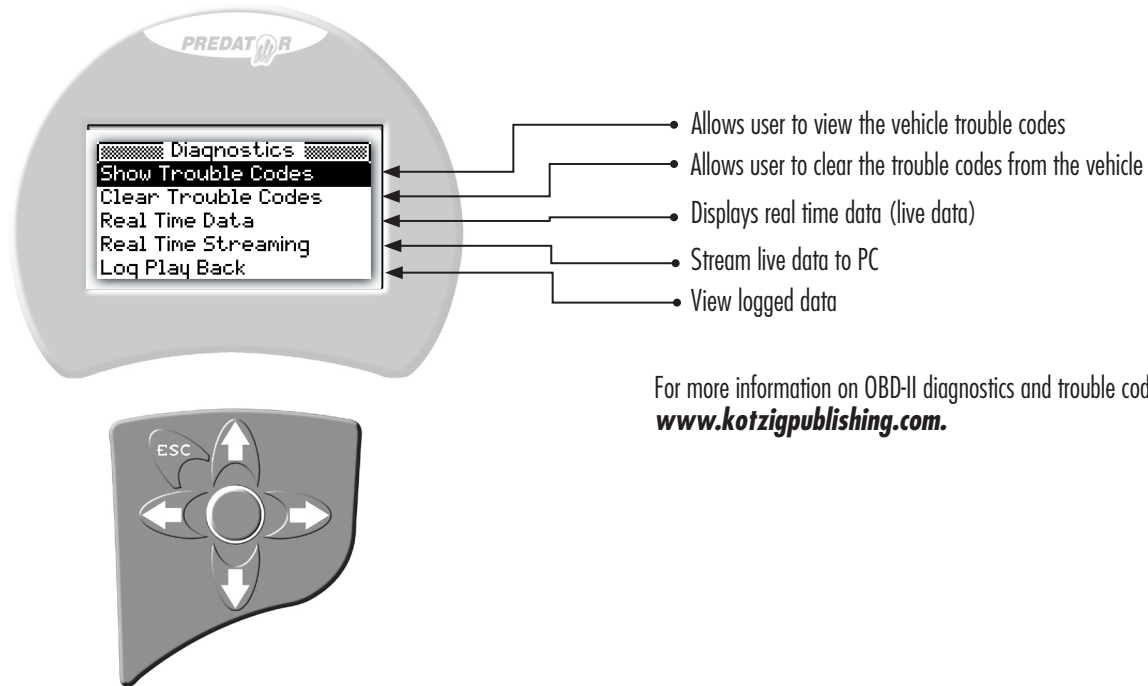
The Predator starts to write the Original Factory Tune back into your vehicle. A progress bar will indicate the status of writing. Follow all instructions on the Predator screen - the whole process will take about 1 minute.

*Vehicle diagnostics
&
Predator options*

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Vehicle Diagnostics

Select the "Diagnostics" item from the main menu of the Predator, then press the Enter key.



For more information on OBD-II diagnostics and trouble codes, please visit www.kotzignpublishing.com.

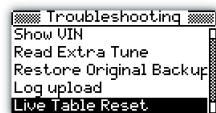
Vehicle Diagnostics

Diagnostic Section

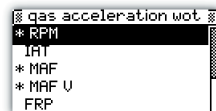
Show Trouble Codes = Display any current trouble codes

Clear Trouble Codes = Delete any current trouble codes

Real Time Data = View real time data, this section is set up in groups of parameters to view.



NOTE: When switching tool from one vehicle to another vehicle you must go into the options menu and press live table reset



Each group (when selected) allows user to show specific values or all values in the group, to see specific values choose "Show Select" then based on what sample rate you would like choose "Slow" or "Fast" the next screen will show all parameters available, highlight and press the enter button next to value you would like to display, once completed press "ESC" button.

You will now be asked if you wish to data log (record data) or just view the parameters without data log.

Data Logging

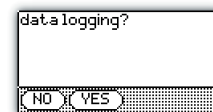
All live data groups can be data logged.

When specifying parameters to view you will be asked to choose "Slow" or "Fast" rate.

Fast rate will sample the values at a higher rate and will be able to log data for about 45min, the more parameters you select the lower the granularity for values will be, we recommend no more than 8 for best sample rate.

Slow rate will sample at a slower rate and will be able to log data for about 1hr 30min, when choosing to view all values the default rate is slow.

Once the proper sample rate is selected, the next screen will ask "DATALOG" yes or no, select "YES" and the data logging will start.



To stop data logging, press the "ESC" button.

Log Playback

To view the logged values, go back to main diagnostic menu and select "Log Play Back".

Top right hand corner will display the total time data logged

Top left hand will display elapsed time.

Top Center will display progress bar and mode of view.

Vehicle Diagnostics

To start viewing data press the enter button, to pause press enter button.

While paused you can use the left and right arrow keys to move forward or backward in the log file, once desired point is reach press enter key to start displaying values from that specific point.

To exit out of the data log press the "ESC" button.

Log Upload to PC.

You can also upload the log file into PC and view it with our live streaming data viewer.

To upload the log file to pc you must have the data view software to upload and to view the data.

Real Time Streaming

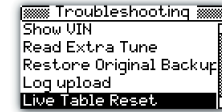
This option allows you to stream live data directly to your PC into the data view software.

Set up the software on your PC and ensure that you have the right COM port enabled then press "Real Time Streaming" button to view the values.

To obtain a copy of our data viewer, please visit

<http://www.diablosport.com/Downloads.php> for more information and software downloads.

Live Data Groups



Gas Acceleration wot = Contains parameters that are commonly viewed during dyno tuning and wide open throttle runs.

Gas Drivability = Contains parameters that are commonly viewed during drivability testing and monitoring.

Gas Fuel = Fuel related parameters

Gas Ignition = Ignition related parameters

Gas Speed Control = Vehicle speed related parameters

Gas Trans = Transmission related parameters

Real Time Streaming = View real time data on PC

Log Play Back = View logged data

Live Data Parameter Definitions

IGNITION CONTROL

Acronym	Definition
KS1	KNOCK SENS IN BANK 1-
KS2	KNOCK SENS IN BANK 2-
MILF	MALF INDICATE LMP OUT FAULT DET
MIL	MALF IND LMP
OCTADJ	OCTANE ADJ CTRL-OPEN TO RETARD
PIP	PROFILE IGN PICKUP
RDEF	REAR WINDOW ELECTRIC DEFROST IN
SPRKADV	DESIRED IGN SPARK TIMING
ECT	ENG COOLANT TEMP
ECT V	A/C BLOWER MOTOR OUTPUT SPEED 2
MISF	ENG MISFIRE STATUS
RPM	ENG RPM
VPWR	VEH PWR VOLT
VREF	VEH REF VOLT
PERDEL1	CYL 1 CHANGE ROTATIONAL VEL
PERDEL2	CYL 2 CHANGE ROTATIONAL VEL
PERDEL3	CYL 3 CHANGE ROTATIONAL VEL
PERDEL4	CYL 4 CHANGE ROTATIONAL VEL
PERDEL5	CYL 5 CHANGE ROTATIONAL VEL
PERDEL6	CYL 6 CHANGE ROTATIONAL VEL
PERDEL7	CYL 7 CHANGE ROTATIONAL VEL
PERDEL8	CYL 8 CHANGE ROTATIONAL VEL
OCTADJS	SOFTWARE OCTANE ADJUST
MFFRPM	ENGINE RPM AT TIME OF MISFIRE

Acronym

MFFLOAD	ENGINE LOAD AT TIME OF MISFIRE
MFFVS	VEHICLE SPEED AT TIME OF MISFIRE
MFFIAT	INTAKE AIR TEMP AT TIME OF MISFIRE
MFFSOAK	ENGINE-OFF SOAK TIME AT TIME OF MISFIRE
MFFRNTM	ENGINE RUNNING TIME AT TIME OF MISFIRE
MFFTP	THROTTLE POSITION AT TIME OF MISFIRE
MFFTCNT	# OF DRIVE CYCLES AT TIME OF MISFIRE
MFFPNP	IN DRIVE AT TIME OF MISFIRE
RPMDS	DESIRED IDLE RPM

SPEED CONTROL

CANCEL	NO PID DEFN
COAST	NO PID DEFN
RESUME	NO PID DEFN
SCCS_F	NO PID DEFN
SC_F	NO PID DEFN
SC_HW_F	NO PID DEFN
SCINT_F	NO PID DEFN
SC_NONE	NO PID DEFN
SC_OFF	NO PID DEFN
SC_ON	NO PID DEFN
SET/ACL	NO PID DEFN
SCCS	SPD CTRL SW
SCCS	SPD CTRL SW
VPWR	VEH PWR VOLT

Live Data Parameter Definitions

Acronym	Definition
CRUISE	VEH SPD CTRL STATUS
REVERSE	TRANS REV SW IN
TRANS CONTROL	
AP	NO PID DEFN
APPS1	NO PID DEFN
APPS2	NO PID DEFN
APPS3	NO PID DEFN
BARO_V	NO PID DEFN
CCL_ON	NO PID DEFN
CFCIL	NO PID DEFN
CFCILF	NO PID DEFN
CKPLWP	NO PID DEFN
CPP/TCS	NO PID DEFN
PBA_SW	NO PID DEFN
PCA	NO PID DEFN
PCB	NO PID DEFN
PCC	NO PID DEFN
RPS	NO PID DEFN
SW4X4L	NO PID DEFN
TCASE	NO PID DEFN
TIREREV	NO PID DEFN
BARO	BARO PRES SENS
BARO_P	BARO PRES SENS
BPP/BOO	BRK PEDAL POS/BRK SW ON/OFF

Acronym	Definition
LOAD	CALC ENG LOAD
TSS	CALC TURBINE SPD
CPP/PNP	CLUTCH PEDAL POS/PARK NTRL POS SW
CCS	COAST CLUTCH SOL 3/2 TIMING PRES
CCS	COAST CLUTCH SOL PRES
CCSA	COAST CLUTCH SOL PRIMARY CKT MONITOR
CCSF	COAST CLUTCH SOL-FAULT
GEAR	COMMANDED GEAR(USE IN DRIVE)
CHT	CYL HEAD TEMP(DEGREES)
CHT V	CYL HEAD TEMP(VOLT)
EPC V	ELECT PRES CONT TRANS SHIFT-VOLTS
EPC	ELECTRONIC PRES CONT TRANS SHIFT CMD
EPC	ELECTRONIC PRES CONT TRANS SHIFT CMD
ECT	ENG COOLANT TEMP
ECT V	A/C BLOWER MOTOR OUTPUT SPEED 2
RPM	ENG RPM
MILF	MALF INDICATE LMP OUT FAULT DET
MIL	MALF IND LMP
MAF	MASS AIR FLOW RATE
MAF V	MASS AIR FLOW SENS VOLT
ODS	"OVERDRIVE DRUM SPD(GEAR=1,3,4)"
O2S11	O2 SENS BANK 1 UPSTREAM
O2S21	O2 SENS BANK 2 UPSTREAM
TR FREQ	TRANSMISSION RANGE FREQUENCY
PTO	PWR TAKE-OFF STATUS

Live Data Parameter Definitions

Acronym	Definition	Acronym	Definition
TR DC	TRANSMISSION RANGE DUTY CYCLE	TCILF	TRANS CTRL IND LMP OUT FAULT
4X4L	REQUESTED 4X4 IN	TCIL	TRANS CTRL IND LMP STATUS
SS1A	SHIFT SOL 1 PRIMARY CKT MONITOR HIGH	TR V	TRANS RANGE SENS-ANALOG
SS2A	SHIFT SOL 2 PRIMARY CKT MONITOR HIGH	TR D	TRANS RANGE SENS-DIGITAL
SS3A	SHIFT SOL 3 PRIMARY CKT MONITOR HIGH	TR	TRANS RANGE SENS INDICATED GEAR POS
SS1	SHIFT SOL 1 COMMANDED ON	TR	TRANS RANGE SENS INDICATED GEAR POS
SSA	SHIFT SOL 1 COMMANDED ON	TAR_LRN	TRANSAXLE RATIO LEARNED
SS1F	SHIFT SOL 1 OUT FAULT DET	TCS	TRANS CTRL SW
SS2	SHIFT SOL 2 COMMANDED ON	TFT	TRANS FLUID TEMP
SSB	SHIFT SOL 2 COMMANDED ON	TFT	TRANS FLUID TEMP
SS2F	SHIFT SOL 2 OUT FAULT DET	TFT V	TRANS FLUID TEMP-VOLT
SS3	SHIFT SOL 3 COMMANDED ON	OSS	TRANS OUT SHAFT SPD
SSC	SHIFT SOL 3 COMMANDED ON	OSS_SRC	TRANS OUT SHAFT SPD
SS3F	SHIFT SOL 3 OUT FAULT DET	TRANRAT	TRANS RATIO
SS4	SHIFT SOL 4 COMMANDED DUTY CYCLE	TSS/ISS	TURBINE/IN SPD SENS
SSD	SHIFT SOL 4 COMMANDED DUTY CYCLE	VPWR	VEH PWR VOLT
TCCRAT	TCC RATIO(TSS/ENG RPM)	VREF	VEH REF VOLT
TP V	THROT POS BEFORE FMEM SUB	VSS	VEH SPEED SENS
TP MODE	THROT POS MODE	SS4	SHIFT SOL 4 COMMANDED ON
TCCF	TORQ CONV CLUTCH OUT FAULT DET	EPC	ELECTRONIC PRES CTRL SOL B
TCCA	TORQ CONV CLUTCH OUT MONITOR	EPCDC	ELECTRONIC PRES CTRL SOL A
TCCA	TORQ CONV CLUTCH PRIMARY CKT MONITOR	PSB	INJECTOR CTRL PSI DESIRED
TCC	TORQ CONV CLUTCH SOL DUTY CYCLE COMD	PSC	EGR DESIRED POSITION
TCCMACT	TORQ CONV MOD ACTUAL	PCE_F	MISFIRE COUNT CYL #5 (LOW WORD)
TCCMCMD	TORQ CONV MOD COMMANDED	PCF_F	MISFIRE COUNT CYL #6 (LOW WORD)

Live Data Parameter Definitions

Acronym	Definition	Acronym	Definition
PCG_F	MISFIRE COUNT CYL #7 (LOW WORD)	EGR_TPV	NO PID DEFN
PCD	MISFIRE COUNT CYL #8 (LOW WORD)	PBA_SW	NO PID DEFN
PCE	MISFIRE COUNT CYL #1 (HIGH BYTE)	TIREREV	NO PID DEFN
PCF	MISFIRE COUNT CYL #2 (HIGH BYTE)	BARO	BARO PRES SENS
PCG	MISFIRE COUNT CYL #3 (HIGH BYTE)	LOAD	CALC ENG LOAD
SSE	SHIFT SOL 5 COMMANDED ON	DPFEGR	DIFFE PRES FEEDBK EXHAUST GAS RECIRC
GEARTOP	HIGHEST GEAR PERMITTED	ECT	ENG COOLANT TEMP
OSCGEAR	COMMANDED GEAR BY OSC	ECT V	A/C BLOWER MOTOR OUTPUT SPEED 2
OSCTCC	TORQUE CONVERTER BY OSC	EFTA V	ENG FUEL TEMP BANK 1-VOLT
TCSS	TRANS CASE SPD SENSOR	EFTB	ENG FUEL TEMP BANK 2
CPP_SRC	CLUTCH PEDAL POSITION	EFTB V	ENG FUEL TEMP BANK 2-VOLT
TR_SRC	"TRANSMISSION RNGE SENSOR, NO FMEM"	MISF	ENG MISFIRE STATUS
TSS_SRC	"TURBINE SHAFT SPD, NO FMEM"	RPM	ENG RPM
TCS_FLG	TRANSMISSION CNTRL SW FLAG	EGR	EXHAUST GAS RECIRC SENS IN
PC1_F	PRES CNTRL FLT	EGRVP	EXHAUST GAS RECIRC VALV POS
PC2_F	PRES CNTRL FLT	LOOP	FEEDBACK FUEL CTRL STATUS
PC3_F	PRES CNTRL FLT	FF	FLEX FUEL SENS-FREQ
RPMDSD	DESIRED IDLE RPM	FFFM	FLEX FUEL SENS ON/OFF
ISS_SRC	INT SHAFT SPD	CAS_GND	FP GND/SIG RET DIFF
FUEL CONTROL		FLI	FUEL LVL IN
AP	NO PID DEFN	FLI V	FUEL LVL IN-VOLT
APPS1	NO PID DEFN	FPA	FUEL PUMP CTRL PRIMARY CKT MON
APPS2	NO PID DEFN	FP	FUEL PUMP DUTY CYCLE
APPS3	NO PID DEFN	FP M	FUEL PUMP MONITOR DUTY CYCLE
		FPM	FUEL PUMP MONITOR ON/OFF

Live Data Parameter Definitions

Acronym	Definition
FPF	FUEL PUMP OUT FAULT DETECTED
FRP	FUEL RAIL PRES SENS
FRP V	FUEL RAIL PRES SENS-VOLT
FSVF	FUEL SOL FAULT DETECTED
FSV	FUEL SOL VALV
FSVM	FUEL SOL VALV-MONITOR
FTP V	FUEL TANK PRES-VOLT
FTP	FUEL TANK PRES PURGE MONITOR
INJ1F	INJ 1 OUT FAULT DETECTED
INJ10F	INJ 10 OUT FAULT DETECTED
INJ2F	INJ 2 OUT FAULT DETECTED
INJ3F	INJ 3 OUT FAULT DETECTED
INJ4F	INJ 4 OUT FAULT DETECTED
INJ5F	INJ 5 OUT FAULT DETECTED
INJ6F	INJ 6 OUT FAULT DETECTED
INJ7F	INJ 7 OUT FAULT DETECTED
INJ8F	INJ 8 OUT FAULT DETECTED
INJ9F	INJ 9 OUT FAULT DETECTED
ICP	INJ CTRL PRES
FUELPW1	INJ PULSE WIDTH-BANK ONE
FUELPW2	INJ PULSE WIDTH-BANK TWO
FUELPW	INJ PULSE WIDTH-SINGLE BANK ENG
IAT	INTAKE AIR TEMP
IAT V	INTAKE AIR TEMP-VOLT
LONGFT1	LONG TERM FUEL TRIM-BANK 1

Acronym	Definition
LONGFT2	LONG TERM FUEL TRIM-BANK 2
LFPF	LOW SPD FUEL PUMP FAULT DETECTED
TPREL	LOWEST IDLE THROT POS
MILF	MALF INDICATE LMP OUT FAULT DET
MIL	MALF IND LMP
MAP	MANIFOLD ABSOLUTE PRES
MGP	MANIFOLD GAUGE PRES
MAF	MASS AIR FLOW RATE
MAF V	MASS AIR FLOW SENS VOLT
MFDES	MASS FUEL DESIRED
HTRX2	02S DOWNSTREAM HTR CTRL
HTR12	02S HTR BK 1 DNSTREAM
HTR11	02S HTR BK 1 UPSTREAM
HTR22	02S HTR BK 2 DNSTREAM
HTR21	02S HTR BK 2 UPSTREAM
HTR22F	02S HTR BK 2 DNSTREAM OUT FAULT DET
HTR12F	02S HTR BK 1 DNSTREAM OUT FAULT DET
HTR12A	02S HTR BK 1 DNSTREAM PRIM CKT MON
HTR12CM	02S HTR BK 1 DNSTREAM PRIM CKT MON
HTR11A	02S HTR BK 1 UPSTREAM PRIM CKT MON
HTR11CM	02S HTR BK 1 UPSTREAM PRIM CKT MON
HTR11F	02S HTR BK 1 UPSTREAM OUT FAULT DET
HTR22A	02S HTR BK 2 DNSTREAM PRIM CKT MON
HTR22CM	02S HTR BK 2 DNSTREAM PRIM CKT MON
HTR21F	02S HTR BK 2 UPSTREAM OUT FAULT DET

Live Data Parameter Definitions

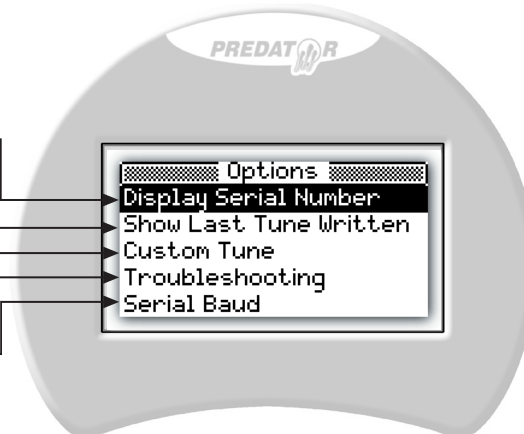
Acronym	Definition	Acronym	Definition
HTR21A	02S HTR BK 2 UPSTREAM PRIM CKT MON	PERDEL7	CYL 7 CHANGE ROTATIONAL VEL
HTR21CM	02S HTR BK 2 UPSTREAM PRIM CKT MON	PERDEL8	CYL 8 CHANGE ROTATIONAL VEL
HTRX1	02S UPSTREAM HTR CTRL	IAT2 V	INTAKE AIR TEMP 2-VOLT
02S12	TRACTION MTR TEMP	IAT2	INTAKE AIR TEMP 2
02S11	02 SENS BANK 1 UPSTREAM	OL	OPEN LOOP FUEL STATUS
02S22	02 SENS BANK 2 DNSTREAM	02S11SV	BANK 1 UPSTREAM HEGO VOLT
02S22SV	02 SENS BANK 2 DNSTREAM	02S21SV	BANK 2 UPSTREAM HEGO VOLT
02S21	02 SENS BANK 2 UPSTREAM	FF	FLEX FUEL-ALCOHOL CONTENT
PSP	PWR STEER LOAD PRESENT	FF_LRN	FLEX FUEL-ALCOHOL CONTENT LEARNED
PSP V	PWR STEER LOAD PRESENT-VOLT	MFFRPM	ENGINE RPM AT TIME OF MISFIRE
RDEF	REAR WINDOW ELECTRIC DEFROST IN	MFFLOAD	ENGINE LOAD AT TIME OF MISFIRE
SHRTFT1	SHORT TERM FUEL TRIM-BANK 1	MFFVS	VEHICLE SPEED AT TIME OF MISFIRE
SHRTFT2	SHORT TERM FUEL TRIM-BANK 2	MFFIAT	INTAKE AIR TEMP AT TIME OF MISFIRE
TCCRAT	TCC RATIO(TSS/ENG RPM)	MFFSOAK	ENGINE-OFF SOAK TIME AT TIME OF MISFIRE
TP MODE	THROT POS MODE	MFFRNTM	ENGINE RUNNING TIME AT TIME OF MISFIRE
VPWR	VEH PWR VOLT	MFFTP	THROTTLE POSITION AT TIME OF MISFIRE
VREF	VEH REF VOLT	MFFTCNT	# OF DRIVE CYCLES AT TIME OF MISFIRE
VSS	VEH SPD SENS	MFFPNP	IN DRIVE AT TIME OF MISFIRE
MAP_V	MAP VOLT	PSP_V	POWER STEERING PRES SENSOR
PERDEL1	CYL 1 CHANGE ROTATIONAL VEL	02S11FM	EGO11 FLT
PERDEL2	CYL 2 CHANGE ROTATIONAL VEL	RPMDSD	DESIRED IDLE RPM
PERDEL3	CYL 3 CHANGE ROTATIONAL VEL	REARFT1	RR FUEL TRIM BANK 1
PERDEL4	CYL 4 CHANGE ROTATIONAL VEL	REARFT2	RR FUEL TRIM BANK 2
PERDEL5	CYL 5 CHANGE ROTATIONAL VEL	02S21FM	EGO 21 FLT
PERDEL6	CYL 6 CHANGE ROTATIONAL VEL		

Predator Options

The options menu is mainly for the DiabloSport Predator Dealer.

When you select "Options" the following screen will be displayed:

- This option shows the Predator serial number
- Displays the name of the last tune written to the vehicle
- Brings up the submenu for Custom Tunes from DiabloSport
- Brings up the Troubleshooting submenu
- Alter the serial port Baud rate



Options Menu

Display Serial Number = Show the Predators serial number

Show Last tune Written = Display the last tune written to vehicle

Custom Tune = Custom tune menu, see Custom Tunes section

Troubleshooting = See Troubleshooting section

Serial Baud = Set the serial baud rate of communications for Predator.

Troubleshooting Menu

Show Calibration ID = Display the hex code on the vehicle

Show VIN = Show vehicles VIN number

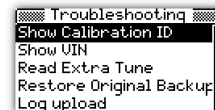
Read Extra Tune = Reads the tune in the vehicle for export to PC

Restore Original Backup = Restores the original tune and resets the tool for use on another vehicle.

Log Upload = Upload data log file to PC, see Diagnostics section.

Live Table Reset = Reset this when Predator is used on a different vehicle.

Verification = This is a troubleshooting feature and should only be used with the supervision of Diablosport tech support.



NOTE: When switching tool from one vehicle to another vehicle you must go into the options menu and press live table reset.

DIABLOSPORT

FORD F-SERIES

