

## Dodge 6.7L Cummins Series Edge Racing Juice and Attitude Installation Instructions and Manual P/N: 30908





### **Table of Contents**

EDGE RACING PRODUCTS DISCLAIMER	4
LIMITATION OF WARRANTY	6
Registration and Race Unlock Code	7
Why register? Benefits of product registration:	8
About the Racing Juice	8
Dodge Juice Getting Connected	9
Supplied Items:	9
Required Tools:	9
Mounting the Juice Module	11
Connecting the Harness	12
Final Inspection	18
Using the Juice	18
Race Levels and Towing	18
EGTs: What they mean and why	19
The Juice Module and your Transmission	19
Edge Racing Attitude Monitor	20
About the Attitude	21
Juice and Attitude Power Gains	22
Adjusting Juice Power Levels	22
Installing the EGT Thermocouple	23
Tools Needed:	23
Dodge Attitude getting Connected	26
Changing the Display	31
Changing the Variables on the Screen	33
Display	34
Adjusting the Backlight	35
Important Regeneration Information	36
Passive Regeneration	37
Active Regeneration	37
HOW DOES THE JUICE MODULE AFFECT THE DPF?	37
Benefits the Juice has on the DPF system	38

Juice Configuration	38
Max EGT Set Point	39
Max Boost Set Point	40
Disabling backdown for EGT and Boost:	41
Low End Responsiveness	42
Transmission Setup	44
Turbo Cool-Down Setup	45
Tire Size	46
Timing Options	47
DPF Options (Diesel Particulate Filter)	47
Retrieve / Clear Diagnostic Trouble Codes (DTC)	47
Retrieving Trouble Codes	48
Clearing Trouble Codes	48
Alerts	49
Records	52
Performance Tests	53
Restore Default Settings	55
Glossary of Terms	55
Technical Support:	56

©2009, Edge Products Incorporated All rights reserved. Edge Products 1080 South Depot Drive Ogden, UT 84404 888-360-3343 <u>www.edgeproducts.com</u> *Manual Version 0* 

### EDGE RACING PRODUCTS DISCLAIMER DISCLAIMER

This Edge Racing-brand product ("this Product") is designed, and intended, only for legal, organized, closed-course, off-street racing/pulling/competition uses involving the motor vehicle in which it is installed (the "Vehicle"), and not for use on public highways, streets, and other roads. The person or entity buying this Product and/or using this Product [even if different from such buyer] (the "User") agrees to use the Vehicle only for otherwise legal, organized, closed-course, off-street racing/pulling/competition purposes in controlled environments under the auspices of a recognized sanctioning body or government permit.

Use of this Product in the Vehicle on public highways, streets, and other roads, and in some cases off-road, may violate applicable federal, state, or local clean air, emission, noise, and other environmental laws, or applicable motor vehicle, vehicle registration, traffic, and other laws. The User must review and comply, and is solely responsible for reviewing and complying, with all applicable clean air, emission, noise, and other environmental laws, as well as all applicable motor vehicle, traffic, safety, and other laws, in connection with User's installation and use of this Product with the Vehicle.

Use of this Product may violate warranties from the manufacturer of the Vehicle or from others. The User must review and comply, and is solely responsible for reviewing and complying, with the terms and conditions of any such warranty.

Use of this Product may make the Vehicle non-compliant with applicable laws, make the Vehicle capable of generating unsafe driving speeds, make the Vehicle capable of exceeding tire speed ratings, make the Vehicle capable of exceeding RPM ratings of the engine, exceed stress limits of the engine, transmission, chassis, body, and other components of the Vehicle, destroy or damage mechanical, electrical, structural, or other components of the Vehicle, may require superior driving skills and techniques to handle the Vehicle, may make the Vehicle unsafe, and may lead to personal injury or property damage. The User must ensure, and is solely responsible for ensuring, the proper installation of this Product in the Vehicle in a manner compatible with other components of the Vehicle, and in accordance with the written instruction manual of Edge Racing Products, in accordance with industry standards and in a good and workmanlike manner, and in accordance with applicable law.

The User must ensure, and is solely responsible for ensuring, the proper, legal, and safe use of the Vehicle. Use of the Product in the Vehicle is at the sole risk and discretion of the User. The User acknowledges that motorsports, racing, and other competitions are dangerous and may cause death, other personal injury, or property damage.

Except as expressly provided in the written Limited Warranty from Edge Products issued for this Product, and to the greatest extent provided by applicable law, this Product is sold on an AS IS, WHERE AS, and WITH ALL FAULTS basis, and Edge Products disclaims any and all warranties of any kind, whether express or implied, relating to this Product, including without limitation any implied warranty of merchantability, any implied warranty of fitness for a particular purpose, any warranty as to success in races or other competition, or any warranty made by any distributor or other third party. Any such Limited Warranty is conditioned upon the User's compliance with the terms and conditions of this Disclaimer.

To the greatest extent provided by applicable law, the User, for himself/herself/itself and his/her/its heirs, personal representatives, successors, and assigns, hereby releases, discharges, indemnifies, and holds harmless Edge Products, LLC d/b/a Edge Racing and its agents, employees, officers, managers, members, subsidiaries, parents, successors, and assigns (the "Edge

Racing Parties") from any and against any and all claims, causes of action, damages, injuries, losses, expenses, attorneys fees, and harm of any kind, whether or not foreseeable, directly or indirectly relating in whole or part to the use or installation of this Product in violation of the terms and conditions of this Disclaimer, any Edge Racing manual, directions, or instructions, and applicable law, any use of the Vehicle in violation of the terms and conditions of this Disclaimer and applicable law, and any other use of the Vehicle, regardless of the acts or omissions, whether negligently or otherwise occurring, of any Edge Racing Party. To the greatest extent provided by applicable law, each Edge Racing Party will not be liable for, and the User waives any right to seek against any Edge Racing Party, any consequential, indirect, special, statutory, exemplary, punitive, or incidental damages caused by the installation or use of this Product, and the liability of the Edge Racing Parties in the aggregate will be limited to the standard retail purchase price of this Product. User hereby expressly waives the provisions of California Civil Code Section 1542, to the extent applicable, which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

Installation or other use of this Product constitutes the User's acknowledgement that the User has read and understand the warnings, cautions, terms and conditions in this Disclaimer and that the User agrees and consents to the terms and conditions of this Disclaimer; **OTHERWISE DO NOT INSTALL OR USE THIS PRODUCT.** 

You may sign and accept this disclaimer electronically at <u>www.edgeproductsracing.com</u>. If you do not have internet access you can print this form and fill out the section below. All fields are required in order to receive a product activation code. Once complete fax this form to Edge Products at 801-337-2198.

			date	/	/
Signature					
			date	/	/
Signature of pare	nt or guardian (if und	ler 18 years old)			
Name:		Date of Bi	rth:		
Phone Number	•				
Address Line 1	:				
City:		State:		_ Zip:	
Country:		E-mail address:			
Year:	Make & Model:				
VIN Number:					
Attitude ELECT	FRONIC Serial # (f	ound on Attitude	scree	n after ir	nstallation)

#### LIMITATION OF WARRANTY

Edge Products, LLC, MSDP Inc., (hereafter "SELLER") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of SELLER's product sold herewith. The SELLER shall be in no way responsible for the product's open use and service and the BUYER hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by SELLER and BUYER.

The Warranty is Limited to one (1) year from the date of sale and limited solely to the parts contained within the product's kit. All products that are in question of Warranty must be returned shipping prepaid to the **SELLER** and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Edge Products Inc.

Under no circumstances shall the **SELLER** be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.

If the **BUYER** sends back a failed unit that is out of warranty and chooses to buy a refurbished unit, the refurbished unit will only carry a 60 day warranty. If the **BUYER** purchases a new unit at a predetermined discounted rate, it will have the standard 1 year warranty.

Under no circumstances will the **SELLER** be liable for any damage or expenses insured by reason of the use or sale of any such equipment.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT, THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN SIXTY (60) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND. Note: Proof of purchase required for all warranty claims.

PLEASE NOTE, you will need to obtain an unlock code as described in the following *Registration and Unlock Racing Code* section before using the *Attitude*.

All Edge modules and programmers are built to operate with OEM calibrations. When you take your vehicle to a service center they may, by your request or otherwise, update your vehicles calibrations. Therefore it is important that you return your vehicle to stock before taking it in for service. Edge updates its active products (i.e. those currently being manufactured) to work effectively with updated OEM calibrations. However, this process can take some time as Edge is not always made aware of calibration changes made by the OEM. In the case of <u>discontinued</u> <u>products</u>, Edge cannot ensure that your unit will work effectively if you take your vehicle to a dealership and you are given, by your request or otherwise, a new calibration.

Programming your vehicle may expose existing defects in your vehicle's PCM that could disable your vehicle. It is advised that you do not program your vehicle in remote locations in case of vehicle failure.

If you have used another tuner/programmer on your truck, you will need to program your truck back to stock before using the *Attitude*.

Failure to return to stock may result in PCM failure or engine damage.

## Registration and Race Unlock Code

You will need to register this product and obtain an unlock/disclaimer code before using the *Juice/Attitude*. Install the *Juice* and *Attitude*. After the Attitude display is active, you will receive the following notice. The serial # of your product will be found on the next display screen after pressing a button (see below). You will need the unlock code first before you can proceed and finish the installation.



To unlock your *Attitude*, visit <u>http://www.edgeproductsracing.com</u> and follow the directions at the web location to register the product and receive the code. The code will immediately be emailed to the email address you have entered, and you will have electronically signed and accepted responsibility for the use of this product.

After you receive the code, record it here for future reference. You will need this code at a later step during the installation.

Serial # Unlock Code
----------------------

**NOTE:** If you do not have access to the internet, you may as an option, completely fill out the information on P.5 and <u>Fax both P. 4 & 5</u> to Edge Products at 801-337-2198. You will then receive your code by Fax, phone or email.

PLEASE take the time to register your product on line at edgeproducts.com. Follow the instructions at link: <u>http://www.edgeproducts.com/product\_registration.php</u>

#### Why register? Benefits of product registration:

- **Your Safety** registering your product allows us to know exactly which product you have and provide important product updates to you that improve the quality and/or safety of the product
- Enhanced Features almost all Edge products are easily updated via the internet. We are constantly adding new features and improvements to our product that we know you will want to enjoy
- **Confirmation of Ownership** provides a record in case of product loss, theft, or required warranty work. When you call us for support our team will already have much of the information they need to help you!
- **Improved Product Development** helps us better understand you (our customers) and design products that meet your needs
- **Special Offers** allows us to inform you about special offers on accessories and/or new products that fit your vehicle and enhance your driving experience
- AND...
- <u>Extended Warranty Plan Opportunity</u> within the first 90 days of ownership, Edge offers the option to buy a 1-year warranty extension to all customers who register their product!

### About the Racing Juice

Note: This manual consists of two sections, one for the Racing <u>Juice</u> module and the other for the <u>Attitude</u> monitor. You will need to refer to both sections to complete the installation.

Congratulations on purchasing the Edge Racing *Juice* Module for the Dodge Cummins Diesel®. You will need to refer to this section if you are installing the *Juice*. If you have previously purchased and installed the *Juice* module or *Attitude* monitor, you will need to remove and install the new *Racing Juice* and *Attitude* received in this package. If you have any questions, please contact Edge Products. We will be very happy to answer your questions about our complete product line.

The *Juice* Module is an add-on Engine Control Module (ECM) for the Cummins® Engine that offers additional features not available with the factory setup. Since it is an add-on ECM, it uses all the factory data, and then enhances the factory settings to optimize your truck's performance. Some of these features include:

- Engine temperature monitoring and power increase from the *Juice* module as engine reaches operating temperature
- 7 on-the-fly selectable Race settings with the *Attitude* monitor

The *Juice* module offers a large power increase over stock throughout the rpm range, but the power is most noticeable in the mid-range rpm's. This greatly improves performance, and can reduce transmission downshifting during normal driving.

The *Juice* also regulates power delivery and timing based on engine temperature. This means that while the engine temperature is below  $140^{\circ}$  F no additional fueling or timing is delivered. At  $140^{\circ}$  F the module begins modifying timing and delivering fuel at 25% of the calculated additional fuel. The percentage increases as the engine temperature increases, until at full engine temperature ( $170^{\circ}$  F) the *Juice* delivers 100% of the calculated additional fuel. The *Juice* with *Attitude* for the 6.7L Dodge Cummins is designed specifically for a standard truck platform and <u>does not</u> work on the chassis cab version.

## **Dodge Juice Getting Connected**

#### **Supplied Items:**

- 1. Edge Juice Module
- 2. Harness cable set (3 assemblies)
- 3. Accessory package including Velcro mounting strips, wire ties and Fuse taps.
- 4. DPF replacement sensors

#### **Required Tools:**

10mm Box-end wrench or socket/ratchet (to connect ground wire)

Please read these instructions completely so that you understand each step prior to installation.

#### The Edge Juice Module

*Figure #1* shows the Edge *Juice* Module with the harness cable and Edge Attitude Display and Engine connections.



#### Mounting the Juice Module

The Edge *Juice* Module is best mounted either along the inside of the battery located near the driver's side fender or on top of the fuse box using the supplied Velcro (*see Figure* #2). Note that installation is much easier if you do not mount the juice module until after all of the harness connectors are connected, and the power and ground lines are connected.



FIGURE #2

#### **Connecting the Harness**

1. Disconnect the 2 stock injector connectors by squeezing the tab on the side of the connector, and carefully pulling them apart. The connector for injectors 1, 2, & 3 is located closest to the front of the vehicle. (*see Figure #3*)



FIGURE #3

Gently insert the *Juice* connectors into the stock connectors that are fixed to the block and lock in place. Gently insert the stock connectors to the other end of the *Juice* connectors (*see Figures #4 & #5*). The *Juice* connector for injectors 1, 2, & 3 will be closest to the *Juice* module, and has Orange/White, Red/White and Brown/White wires and a shorter cable length. The connector for injectors 4, 5, & 6 has Blue/White, Green/White, and Tan/White wires and a longer cable length.



Unplug the stock injector connectors





Insert the Edge Juice injector connectors between the stock connectors

FIGURE #5

**Notice**: Use caution when inserting connector bodies. If the connector does not slide smoothly, remove the connector, inspect the pins, and retry installation. Pull on the connectors, <u>not the wires</u> when removing the engine or Juice harness.

 Next, connect the ground to the truck by removing the 10mm bolt from the fender, above the battery on the driver's side. Add the black ground wire with the round terminal to the wires already on the bolt. Replace and tighten the bolt. (*see Figure #6*)



FIGURE #6

4. Next, install the OBDII data link and turbo timer connectors. The data link connector is inside the cab below the steering column (*see Figure #7*)



OBDII Data link connector location

FIGURE #7

Connect the supplied data link cable to the data link connector (see Figure #8)



Connect the Edge Juice OBDII data link as shown

FIGURE #8

Locate the key position connector inside the steering column (see Figure #9) You will need to pull away the plastic covering as shown below to gain easier access. The connector is located on the other side of the steering column plastic as shown. (**The turbo timer will not function w/out the Attitude installed**)



Turbo timer connector location

**Tip:** Look at the Turbo Timer connector from the Juice harness to get a better feel for what you are looking or feeling for. The connector can be reached from underneath.

Connect the Edge turbo timer cable to the key position connector and connect the factory connector to the other end of the Edge cable. The arrow points to the connector's location (*see Figure #10*).



Connect the turbo timer cable. (View is looking up from the brake pedal)

Figure #10

Route both the data link and turbo timer cables through the firewall grommet (*see Figure #11*).

**Tip:** While the engine is running in turbo timer mode, the engine can be shut off by pressing the panic button located on the key fob. Once this option is used, either the **lock** or **unlock** button on the key fob must be pressed in order for the turbo timer to be active again.



Firewall grommet location.

FIGURE #11

Connect the data link and turbo timer cables to the corresponding connectors on the Juice harness (*reference Figure #1 & see #12*).



Connect the data link and turbo timer cables to the Juice harness

FIGURE #12

5. Connect the red power wire by opening the fuse box, remove fuse 30 (15 Amp spare fuse), and re-insert the fuse with the supplied fuse tap (*reference Figure 1 and see Figure #13 & #14*). Connect the terminal of the red power wire to the fuse tap making sure that you **allow for clearance of the fuse box lid**. If the terminal does not fit snugly on the fuse tap, gently squeeze the terminal with needle nose pliers or something similar to make it fit more securely.



FIGURE #13



FIGURE #14

Route the Red power wire out of the fuse box on the side next to the battery.

6. Run the Attitude monitor cable through the firewall grommet near the steering column. Connect to the corresponding connector on the Juice harness (*see Figure* #15).



FIGURE #15

#### **Final Inspection**

- 1. Recheck all connections for a properly secure installation. Using the supplied wire ties, secure the wiring harness to prevent possible heat damage.
- 2. Start the engine. The engine should start and idle like a stock truck. If the engine does not start or run properly, turn the engine off, remove the key from the ignition, then check the *Juice* module connections, making sure all connectors are fastened tightly. If failure conditions still exist, contact your Edge Products dealer or Edge Products technical support (1-888-360-3343).

### Using the Juice

#### **Race Levels and Towing**

**NOTE:** Due to the high performance nature of Juice settings, on-highway usage including towing or hauling loads is not legal, and should not be allowed.

It is important to understand how the additional power may affect your vehicle.

Race levels one through three might reasonably be used with a stock truck, but work best with any additional upgrades you may have done to your vehicle.

The remaining Race levels are designed to be used with an upgraded drive train. If you have modified your injectors, upgraded the transmission, changed a turbo or performed other similar enhancements, these levels will match fueling to the additional performance created by these upgrades. On a stock truck, it is possible to overstress the engine and transmission while driving in higher levels.

#### EGTs: What they mean and why

EGT stands for exhaust gas temperature, and is the single most important indicator of how a diesel engine is performing. Unlike a gasoline motor, a diesel motor will continue to make power as more fuel is added. As more fuel is added, heat will be generated until the motor just gets too hot and things start to melt. This is a situation you want to avoid. Exhaust gas temperature is the ideal measurement of how hot the motor is, since temperature fluctuations in exhaust gas are almost instantaneous. It is possible to generate excessive EGT on a stock truck, particularly if you are towing. This is why we always recommend installing an EGT gauge and why we offer the Attitude monitor, which monitors EGT and will automatically defuel your truck when EGTs get too high. In our experience with the 6.7L Cummins 1450 degrees F is about as high as you want to let your EGTs go. Keep in mind, the stress on your engine created by the heat is a function of both temperature and time.

As you drive your truck in the various power settings, keep your eye on the EGTs. Depending on how you drive and where you drive, you may find a particular power level is more suitable to your power needs.

#### The Juice Module and your Transmission

The automatic transmission has a fluid-filled clutch-like device called a torque converter. This device uses the spinning motion of the engine to drive the transmission which drives your wheels. As the truck speed stabilizes, the torque converter engages a mechanical connection which locks the two halves of the torque converter, so the output shaft is going the same speed as the input shaft. This mechanical linking of the two halves is called *Torque converter Lock-up*. If the engine produces too much power, this mechanical lock-up can start to slip. When this slippage occurs, the *Juice* module reduces the power output to prevent continuous slip (only available with Attitude monitor). This is a great feature that provides an extra level of protection for your vehicle. Please keep in mind however, that if you run in higher levels, the additional power is so great that it is possible to overstress a stock transmission if you drive too hard.

Edge takes a great deal of pride in the quality of our customer service. If you have any questions or concerns about your *Juice* module, please feel free to call us at 888-360-3343. Our tech support desk is open from 8:00am to 5:00pm Mountain time Monday through Friday.



## Edge Racing Attitude Monitor Installation Instructions and Manual





### About the Attitude

The *Attitude* allows you to monitor the performance of your vehicle's vital engine components and output values. The following parameters can be displayed on the main *Attitude* screen:

- Back down % (Percent back down due to high EGT or Boost)
- Barometric (Pressure in InHg)
- DPF Regeneration (On/Off)
- EGT F (Exhaust Gas Temperature)
- Engine Coolant Temp F
- Fuel Rail Pressure PSI
- $^{1}$ Gear (Auto only)
- Intake Air Temp F
- Load % (amount of fuel delivered by stock computer)
- RPM
- Speed MPH
- Throttle %
- Torq Lock (Auto only)
- Transmission Temp F (Auto only)
- Turbo Boost PSI

One of the most powerful features of the *Attitude* is the option to monitor the EGT of your vehicle and automatically lower the power output to maintain an EGT below a maximum desired level. The *Attitude* will also alert you both visually and audibly at preset engine parameter thresholds and also record the maximum values reached in each of the parameters.

Two more great features include Turbo Cool Down Timer and Retrieving and clearing Diagnostic Trouble Codes (DTC).

<sup>&</sup>lt;sup>1</sup> A lock symbol will appear next to the current gear on the Attitude display if the torque converter is locked.

## Juice and Attitude Power Gains

The following power gains are representative of an actual test vehicle. These gains were measured on a Super Flow Dyno at an altitude of 4400 ft above sea level, and represent power delivered to the rear wheels of the test truck. The modifications made to the test vehicle included: 1) addition of the Edge Racing *Juice* module 2) installed twin turbos 3) installed aftermarket injectors and 4) removal of the DPF. Power gains may vary somewhat on a different vehicle or in different geographic locations.

RACE LEVEL GAINS	НР	TQ
STOCK LEVEL 0	0	0
RACE LEVEL 1	40	90
RACE LEVEL 2	50	120
RACE LEVEL 3	65	160
*RACE LEVEL 4	80	200
*RACE LEVEL 5	125	265
*RACE LEVEL 6	150	290
*RACE LEVEL 7	175	315

**Warning:** It is strongly advised that you do not combine, or "stack" chips to gain more horsepower.

\* Note: Power levels may vary based on performance modifications.

## Adjusting Juice Power Levels

The Juice power level is displayed in the upper right-hand corner of the screen when vehicle parameters are being viewed. To adjust the power levels, press the arrow keys to the desired level. Levels can be changed at any time while viewing vehicle parameters.



## Installing the EGT Thermocouple

The following items should be included in your *Attitude* package:

- 1. The *Attitude* Module with Cable
- 2. Accessory package including Velcro Mounting strips, and wire ties.
- 3. Attitude Mounting L Bracket
- 4. EGT Thermocouple Sensor Probe

#### **Tools Needed:**

- 1. Drill
- 2. 1/8" drill bit or similar size (for pilot hole)
- 3. 21/64" (best size) or 5/16" drill bit
- 4. 9/16" wrench or socket
- 5. 5/8" open end wrench
- 6. 1/8" National Pipe Tap
- 7. Phillips screwdriver
- 8. 5/16" or 8mm wrench (for thermocouple connection to Juice)

It is necessary to tap a small hole into your exhaust manifold to insert the EGT sensor. **The EGT probe must be mounted for the turbo timer to operate properly.** 

**TIP**: One effective way to avoid metal fragment contamination in your engine manifold is to apply grease in the tip of the drill bit and threads of your tap tool when drilling/tapping the hole in your manifold. Reduce pressure on the drill when the drill breaks through the manifold wall to reduce risk of pushing metal chips into the manifold.

#### Edge Products

**CAUTION:** Wear eye protection and protective clothing when performing this operation, to protect from getting metal chips in your eyes. Also, since exhaust manifolds can be very hot, allow the engine to cool before drilling. Make sure the park brake is set when working under the vehicle.

1. Obtain a 1/8" National Pipe Tap (NPT) available from your hardware store. Drill a 21/64" (5/16" optional) hole through the manifold wall, and then use the pipe tap to cut the threads. Follow the instructions provided with the tap. The pipe tap is tapered, so you will only want to turn the tap until the bottom threads of the tap are slightly deeper than flush with the inside of the exhaust manifold wall. Use caution not to tap too deep since this would cause the thermocouple fitting and probe to seat too deep.



**Note:** Top arrow indicates a secondary location for EGT probe, bottom arrow was drilled with a right angle drill.

2. Now that the manifold has been drilled and tapped, remove the fitting from the Thermocouple and install by tightening the tapered thread end into the manifold. (Ideally the tip of the fitting would be less than or flush with the inside of the exhaust flow path.) Tighten the fitting so that it is securely seated. Then install the probe into the fitting, and tighten the top nut of the fitting just tight enough to keep the probe firmly mounted. Make sure that the probe cable is positioned to allow best path and minimal bending, for cable routing to the top of the engine compartment.

**Warning:** Do not allow the metal on the thermocouple wire to touch the positive battery terminal, it will start to melt.





3. With the Thermocouple installed and the cable routed to the top of the engine compartment, connect the (2) ring terminals to the mating *Juice* harness terminals with the supplied hardware. Position the supplied shrink wrap first and then secure the fasteners after mating to the color coded wires. Heat and shrink the wrap over the connections. Secure the excess cable to the firewall with supplied cable ties.



### **Dodge Attitude getting Connected**

The *Attitude* monitor connects under the hood to the Edge *Juice* module. Follow these steps to install the Attitude:

- 1. Place your *Attitude* monitor on the dash of your vehicle approximately where you want it installed. Attach the *Attitude* mounting bracket on the dashboard between the gauge cluster and the A-pillar. The following picture demonstrate how to best mount the Attitude with the supplied bracket. (*see Figure #1*)
- 2. Using the supplied Velcro, attach the bracket to the surface of your dash, and then secure the Attitude to the bracket using the two-sided tape.

**TIP**: *Before applying Velcro to your dash, use soap and water or alcohol pad to remove any non-sticking substance like Armor All.* 



FIGURE #1

3. Open the driver's door and remove the dashboard end cap by pulling at the bottom and at the side (*see figure #2 & #3*). The end cap tabs fit securely. Some force is required and using a plastic pry tool to carefully assist may be helpful.



# FIGURE #2 FIGURE #3 4. Feed the cable between the A-pillar and the dash and through the brackets and under the dash (*see figure #4 & #5*). The cable will move freely when positioned.

(**NOTE**: *it is optional to route the cable into the engine compartment around the door pillar and through the slot near the hood hinge.*)



- 5. Replace the dashboard end cap by aligning the tabs and applying pressure until the cap snaps back into place. (*see figure 5*)
- 6. Route the cable under the dash and through a location with a grommet or hole, where cables currently pass through the firewall (*see figure #6*). Connect the *Attitude cable* to your Edge *Juice* module by snapping together the cables with the green connections (*see Figure #7*). Secure any excess cable to prevent entanglement with moving engine parts or pedal operation.



Firewall grommet location.

FIGURE #6



FIGURE #7



Note: Use care when disconnecting the Attitude connection.

Once your *Attitude* monitor is installed successfully and you have turned on your vehicle, you will be prompted through the following screens.

1. After the Attitude monitor is powered on, a *Device Not Activated* screen will be displayed. Press a button to display the next page. If you have already received your Unlock Code, you may continue the installation of the Code. Otherwise follow the instructions noted in the *Registration and Race Unlock Code* section and record the serial number and obtain the code as instructed.



2. After pressing [ENTER or any button], the following screen will appear. Enter the code by using the up and down arrow buttons and [ENTER] button alternately until the last digit is entered. (**Note:** *The up arrow displays numerals.*)



- 3. After pressing [ENTER], a screen will appear asking you to write down the Unlock code for future reference. Press [ENTER] to continue.
- 4. After pressing [ENTER], you will read (4) screens with the following note concerning the use of the *Racing Juice/Attitude*. Press [ENTER] after each screen. (**Note:** *This note may appear more than once, during the set-up.*)

IMPORTANT: This product is neither intended nor sold for use on pollution-controlled, diesel-powered vehicles operated on roads or highways.

As such, it is not certified under the anti-tampering provisions of CA Vehicle Codes 27156 or 38391 and can only be legally used during organized motorsports events.

This product is specifically designed and intended for vehicles engaged in legal off-road racing/pulling activities only.

Press <ENTER> to accept that you understand the intended use of this product and accept all liability associated with the improper use of this product.

7. After pressing [ENTER] the following screen will appear. Read this disclaimer carefully. To indicate you accept the agreement, press the [ENTER] button. This screen will appear the first five times the *Attitude* monitor is used.



8. After pressing [ENT] a screen similar to the following appears indicating that your *Juice* and *Attitude* were installed correctly. **Note:** *Parameters and values might vary.* 

>	<b>O</b>	
2	Gear	Boost

## Changing the Display

The *Attitude* allows you to view multiple engine parameters on the same screen. To select a desired view, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:



2. Select the *Display* option and press the [Enter] button. The following screen appears:



3. Select the desired viewing option by using the up and down arrows and pressing the [Enter] key. Below are examples of the display options:

#### **Two Function Bar Graph Display Sample**



#### **Two Function Digital Display Sample**



#### **Three Function Digital Display Sample**



#### Four Function Digital Display Sample



### Changing the Variables on the Screen

The following is a list of variables that can be displayed on the *Attitude* display:

- **Back down %** due to high EGT or Boost
- **Barometric** Pressure (InHg)
- **DPF Regeneration** (On or Off)
- EGT (Exhaust Gas Temp F)
- Engine Coolant Temp F
- Fuel Rail Pressure PSI
- Gear (auto Only)
- Intake Air Temp F

- Load %
- RPM
- Speed MPH
- Throttle %
- Torq Lock (auto only)
- **Transmission Temp** F (auto only- Will read N/A until the motor is running)
- Turbo Boost PSI

#### **Display**

To change the variables you want to display on the screen, perform the following steps: (**Tip:** *Use the Up and Down arrow buttons to scroll through the screen options*)

1. When viewing the main screen of variables, press the [Menu] button. The following screen appears:



2. Select the *Display* option and press [Enter]. The following screen appears:



3. Select the desired display style (i.e., *4 Function Digital*) you would like and press [Enter]. Depending on which option you choose, a screen similar to the following appears:



4. Select the screen position variable (i.e., *Top Left*, etc.) you would like to change and press [Enter]. A screen listing the possible replacement variables similar to the following appears. Scroll through the list and select the variable you want to display and press [Enter]. (**Note**: *The arrow located at the bottom or top right corner of the screen indicates there are more parameters than the display can show*.)



5. The *Setup Digital Displays* screen appears again listing the variable options you have chosen to view. If you have no more changes, select the *Set As Display* option and press [Enter]. The vehicle parameter screen appears with your desired variables in view.

## Adjusting the Backlight

When viewing engine parameters (like the sample below) press the [Enter] button to adjust the backlight. Each time the [Enter] button is pressed, the backlight will change to either bright, dim, or off.



### Important Regeneration Information

NOTE: Most racing is done with a modified, free-flowing exhaust systems and Regeneration should be disabled. When you remove your DPF, you will need to replace with a "Delete Pipe" manufactured by an aftermarket supplier such as Flow-Pro.

Only reference this Regeneration section if you have not modified or removed the stock exhaust system and associated hardware and sensors on your vehicle.

If you have removed your stock DPF and disconnected the sensor cables, it is necessary to install the (3) DPF sensors included in the Juice/Attitude package. The new sensors are attached on the sensor cable connectors originally installed on the DPF. (see the picture below for location and example of a sensor attach location)



(These new sensors will need to be removed and the sensor cables reattached to the DPF when the DPF is reinstalled.)

NOTE: Also reference the DPF Options in the Juice Configuration section.



Example DPF sensor location (1 of 3 located along the chassis frame)

Your vehicle is equipped with a diesel particulate filter (DPF). This filter is used in conjunction with a diesel oxidation catalyst. Together they work to reduce the amount of harmful exhaust emitted from the tailpipe. As soot builds up in the DPF it will begin to restrict the filter. The soot that gathers is automatically purged in one of two ways: Passive Regeneration & Active Regeneration. Both methods occur automatically and require no action on your part. During either of these regeneration methods, you may notice an increase or change in the exhaust noise & increased EGT.

#### Passive Regeneration

Passive Regeneration happens when the exhaust temperature (EGT) reaches an appropriate level in order to oxidize or burn soot to clean the DPF. This method happens as a result of normal engine operating conditions, typically when the engine reaches an EGT high enough to burn off the soot (i.e. heavy towing, high load conditions etc.)

#### Active Regeneration

If EGT's do not get hot enough to cause Passive Regeneration, then your truck's enginecontrol system automatically initiates an active regeneration. During active regeneration, the DPF is cleaned by raising the exhaust temperature to a point where the soot is burned away. This is accomplished through various engine actions which raise the EGT's in the oxidation catalyst/DPF system to an appropriate high level where the soot is burned off. After the soot is burned off, the EGT's and back-pressure (restriction) fall back to normal levels.

**Note:** Along with a diesel particulate trap your vehicle is equipped with a NOx (Oxides of Nitrogen) trap. This trap is designed to minimize the amount of NOx that your vehicle emits by absorbing the NOx into the trap. Once the trap is full the vehicle will automatically regenerate the trap by shutting off the intake and opening the EGR (exhaust gas recirculation) valve. This process will cycle on and off, thus causing an increase in EGT (exhaust gas temperature). The increased EGT allows the trapped NOx to be removed. While this process is happening you will notice a fluctuation in EGT, even while maintaining a constant load. This process will occur as often as needed and is necessary for the proper operation of your vehicle's emission reduction system.

### HOW DOES THE JUICE MODULE AFFECT THE DPF?

The *Juice* Module utilizes aggressive fueling strategies in order to achieve horsepower gains. The added fueling may cause more instances of Passive Regeneration. Additionally, depending on your settings/driving style, you may also see Active Regeneration occur more often than you would with a stock vehicle.

In order to minimize the number of times that your vehicle will initiate Active regeneration;

- Avoid driving aggressively with the Low End Responsiveness set to most responsive.
- Avoid short aggressive bursts of acceleration, this may cause a large build up of soot, and the short sprints may not allow a regeneration cycle to initiate.

#### Benefits the Juice has on the DPF system

The *Attitude* contains two useful features for monitoring your truck's regeneration cycle. The *Attitude* has a built-in audible alert notifying you when the cycled is initiated. Edge strongly recommends you monitor and display the regeneration cycle in order to allow for a proper and complete regeneration cycle. Since the release of the DPF on the 2007 6.7L Dodge pickup, it has been confirmed that DPFs may clog and become unusable if owners do not allow for a complete regeneration cycle. Even then, DPFs may still become clogged and unusable under normal use, with OEM equipment or aftermarket parts installed.

**Important Note:** It is the customer's responsibility to watch for and ensure complete regeneration cycles. Edge Products' devices do not adversely affect the regeneration cycle of your vehicle. Any vehicle exhaust- and emission-system issues are the sole responsibility of the vehicle owner and the OEM. No DPF warranties are expressed or implied.

In addition to the alert and PID the Attitude Monitor will display an "R" in the lower right corner anytime Active Regeneration is happening. This displays whether the alert is on or off.



## Juice Configuration

The *Attitude* allows you to configure the *Juice* module in a variety of ways. To change the *Juice* configurations, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:



2. Select the *Juice* Configuration option and press [Enter]. A screen similar to the following will appear: (**Note**: The arrow located at the bottom right corner of the screen indicates there are more parameters than the display can show.)



- 3. Select the desired option and press [Enter]. The following are descriptions of each of the *Juice* Configuration options available and detail concerning each is outlined in the following pages:
  - Max EGT Set Point
  - Max Boost Set Point
  - Low End Responsiveness
  - Transmission setup

- Turbo Cool Down Setup
- Tire Size
- Timing Options
- DPF Options

#### Max EGT Set Point

The Max EGT set point allows you to control the maximum EGT. As the exhaust gas temperature approaches the EGT set point, a percentage of defueling occurs. This percentage is represented by the backdown value you can display on the screen. The percentage represents the amount of *defueling* that is occurring due to the max EGT value being reached. In other words, fueling is decreased at higher percentages.

When this value reaches 100% the fueling delivered by the *Juice* module will be totally disabled. However, **stock fueling will allow the truck to reach its stock EGT levels** which may exceed the preset *Max EGT Set Point* which you set in the Attitude.

**Important Note:** Any other high performance modifications in addition to the Juice can allow the fueling to exceed stock EGT levels even after 100% defueling by the Attitude is reached, which may result in detrimental EGT levels.



1. After selecting the *Max EGT Set Point* [default is 1450] option from the *Juice Configuration* screen (previous steps), the following screen appears:



2. Change the Max EGT set point by pressing the up and down arrow keys to select the maximum temperature that you want the exhaust gas temperature to reach, then pressing [Enter]. When the exhaust gas temperature reaches this value, the power delivery will be decreased to prevent the temperature from exceeding this set value.

#### Max Boost Set Point

The Max Boost set point allows you to control the maximum pressure from the turbo charger. As the turbo boost approaches the maximum boost set point, a percentage of defueling occurs. This percentage is represented by the backdown value you can display on the screen. The percentage represents the amount of *defueling* that is occurring due to the max boost value being reached. In other words, more fueling is decreased at higher percentages. When this value reaches 100% the fueling delivered by the *Juice* module has been totally disabled. However, stock fueling will allow the truck to reach its stock boost levels which may exceed the preset *Max Boost* Set Point which you established in the *Attitude*.

**Important Note:** Any other high performance modifications in addition to the Juice can allow the fueling to exceed stock Boost levels even after 100% defueling by the Attitude is reached, which may result in detrimental Boost levels.

**Important Note #2:** The amount of boost achieved for your vehicle will vary; the max boost that the factory sensor will read is 40psi, so the Attitude will only display up to that point. Depending on elevation and other factors, you may have to change the default max boost set point and boost alert to accommodate your conditions.



1. After selecting the *Max Boost* Set Point [default is 36] option from the *Juice* Configuration screen (previous steps), the following screen appears:



2. Change the *Max Boost* set point by pressing the up and down arrow keys to select the maximum pounds of boost that the turbo is allowed to produce. Once the number is set, press [Enter]. When the boost level reaches this value, the power delivery will be reduced so as not to allow the boost to exceed this set value.

#### **Disabling backdown for EGT and Boost:**

There are times you may want to disable the EGT and Boost backdown feature for a limited period, such as in a competition setting. You may disable the backdown feature for a period of 1-120 minutes.

**Warning:** *Disabling this feature could lead to dangerous EGT and Boost levels. Transmission slip protection is also disabled when you use this function.* 

To temporarily disable the backdown feature, perform the following steps:

- 1. Make sure the Attitude is set to view the EGT level as one of the engine parameters. This will at least provide you with a visual confirmation of excessive EGT levels.
- 2. While viewing the vehicle parameters display, press [Enter] twice quickly and the following screen appears:



- 3. Press the up or down arrow keys to select the desired number of minutes you would like this feature disabled. (The number of minutes you do NOT want your power decreased because of high EGT levels.)
- 4. After you have selected the number of minutes you would like the EGT backdown option disabled, press [Enter]. The screen will return to your previous vehicle parameters view mode, and the *Juice* power level indicator will flash until the designated time for disabling has been reached. When the *Juice* power level indicator quits flashing, your set max EGT backdown level will go back into effect.



#### Low End Responsiveness

Adjusting the fuel at low end responsiveness allows you to adjust the response before the turbocharger builds boost pressure in the intake. Select level 1 for the lowest level of response at low boost, and select level 5 for the highest level. You will see a significant change in vehicle response depending upon which level you select.

1. In the Juice Configuration menu, select the Low End Responsiveness option.



2. Select the power level for which you want to adjust the low end responsiveness fueling and press [ENTER]. The following screen appears allowing you to select the Low end responsiveness level that will be unique to that level every time you select that power level.



3. After you press [Enter], the following screen appears allowing you to select the Low End Responsiveness Adjustment sub-level that will be unique to the Power Level you chose. The fueling adjustment will remain until changed.



4. To leave this screen, press the [Menu] button multiple times.

### Transmission Setup

This option determines if the transmission slip protection feature is on or off. If this feature is ON and slip is detected across the torque converter (while locked) or clutch, the *Juice / Attitude* will reduce the amount of fuel delivered to the engine until slip is no longer detected. **If you detect a power loss during hard acceleration, this may be the reason.** 



#### Axle Ratio

Choose axle ratio. Used to determine Torque converter or clutch slip. Most vehicles come from the factory with a 3.73 axle ratio [the Attitude default is 3.73]. You have to special order a 3.42 and 4.10 axle ratio.



A lock symbol will appear next to the current gear on the *Attitude* display if the torque converter is locked. (Automatic transmission only)

#### Turbo Cool-Down Setup

This feature is only available with the *Attitude* monitor installed and allows the engine to continue running (after key-off) until one of two conditions are met. 1) if the EGT falls below the preset target EGT set point or 2) the time set expires. Press the brake pedal to override this feature and shut off the motor.

**Tip:** The turbo timer can be shut off by using the panic button located on the key fob; although once this option is used, either the lock or unlock button on the key fob needs to be used in order for the turbo timer to be active again.

**WARNING:** Due to potential exhaust buildup, **do not use** this feature if your vehicle's motor will be running unattended in a garage or enclosed area.



Set-up using EGT



Set-up using Time (in minutes)



NOTE: The Turbo Timer will not function unless:

1. At least ten seconds have passed after key on

2. After the ten seconds have expired, the Juice has seen an RPM above 1100

#### Tire Size

If your vehicle has stock tires, there is no need to change the value on this screen. After selecting the *Tire Size* option from the *Juice* Configuration screen (previous steps), the following screen appears:



The numbers on this screen represent the circumference of your tire in mm. Adjust the tire size by pressing the up/down arrow keys. The table below will help you determine your wheel circumference by matching your tire size with the sizes listed.

For example, if your tire size is 285/65/18R, the value (circumference) you enter into the *Attitude* is 2599.0. Another alternative is to measure your tire's circumference by marking your tire and rolling it one complete revolution and measuring the distance then multiply the inches by 25.4 (i.e., 99.4 inches x 25.4 = 2524.7 mm). Enter your tire size.

Width	Ratio	Rim	Circumference
215	75	16	2288.8 mm (select 2300)
245	75	16	2430.0 mm
265	75	16	2524.2 mm
285	75	16	2618.4 mm
295	75	16	2665.5 mm
305	75	16	2712.6 mm
315	75	16	2759.7 mm
325	75	16	2806.8 mm
265	70	17	2520.8 mm
285	65	18	2599.0 mm

325	60	18	2660.2 mm
265	70	16	2441.0 mm
275	70	16	2485.0 mm
305	70	16	2616.9 mm
Tire Size			
33			2631.9 mm
35			2791.5 mm
37			2951.0 mm
38			3030.7 mm

#### Timing Options

Enter Juice or Stock Timing. If you enter Juice timing, the timing will be matched to the *Juice* Power options.

#### **DPF Options (Diesel Particulate Filter)**

Two options are available.



#### Manual Regen

If you have not removed the DPF, you may Manually Regen (actively start the regeneration cycle) to ensure the minimum amount of soot is present in the filter. This feature will also allow you to regenerate prior to removing the DPF for racing. (**Note:** *The engine must be running to initiate regeneration, and may not begin until you have driven the vehicle for a period of time.*)

#### **Reset DPF Data**

(Warning: Do not reset DPF data if the DPF is currently installed on the vehicle.)

After you have removed the DPF filter, use this feature to reset the DPF Data by selecting this option and pressing [ENTER]. This feature allows you to cancel a regeneration cycle if it were to begin while having the DPF removed from the vehicle.

## *Retrieve / Clear Diagnostic Trouble Codes (DTC)*

This function interrogates the PCM and TCM and retrieves and displays any available trouble codes that may have been set.



#### **Retrieving Trouble Codes**

If trouble codes are found, they will be displayed. The codes may be retained for diagnostic purposes, or cleared if you are comfortable with removing.



#### **Clearing Trouble Codes**

Diagnostic trouble codes in the PCM and TCM can be cleared by selecting the "Clear DTCs" from the menu. A feature has been added that will allow automatic trouble code clearing on power up which can be enabled by selecting the option from the menu. "*Clear codes on power up*" *If this option is active, you must wait till the juice clears all trouble codes before continuing to start the vehicle.* 

**IMPORTANT:** This "Clear codes on power up" feature will likely prevent ANY trouble codes from appearing, which could be dangerous or cause you to overlook a code which is important to resolve.



Alerts	

The Attitude can alert you when certain engine parameter levels are met such as EGT, Boost, and Engine Temperature. When these parameter thresholds are met or exceeded, the Attitude screen will display the value and you will hear a repeating audible alarm. The volume of this audible alarm can not be changed. Following is the list of Alert options:

- EGT Alert
- Boost Alert
- Engine Temp Alert
- Speed Alert

- Tran Temp Alert (Transmission)
- Regen. Alert (Regeneration On\Off)

To set alerts, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:

	Setup	
5	[•] Uisplay [] Juice Configuration	
	[] Retrieve / Clear DTCs	
S.	[] Records	

2. Select the *Alerts* option and press [Enter]. The following screen appears:



- 3. Turn alerts *On* by scrolling to the *Alerts are On/Off* option and press [Enter] to turn alerts On or Off.
- 4. To change the *EGT Alert* value [default is 1450] scroll to the *EGT Alert* option and press [Enter]. The following screen appears:



- 5. Press the up and down arrow keys until you see the desired EGT level at which you want to be alerted and press [Enter] to set that value.
- 6. To change the *Boost Alert* value [default is 36] scroll to the *Boost Alert* option and press [Enter]. The following screen appears:



- 7. Press the up and down arrow keys until you see the desired Boost level at which you want to be alerted and press [Enter] to set that value.
- 8. To change the Engine Temperature Alert value [default is 225] scroll to the *EngTemp Alert* option and press [Enter]. The following screen appears:



- 9. Press the up and down arrow keys until you see the desired Engine Temp level at which you want to be alerted and press [Enter] to set that value.
- 10. To change the Speed Alert value [default is 75] scroll to the *Speed Alert* option and press [Enter]. The following screen appears:



- 11. Press the up and down arrow keys until you see the desired Speed at which you want to be alerted and press [Enter] to set that value.
- 12. To change the Transmission Temperature Alert value [default is 230] scroll to the *TranTemp Alert* option and press [Enter]. The following screen appears:



- *13.* Press the up and down arrow keys until you see the desired Transmission Temp level at which you want to be alerted and press [Enter] to set that value. *Transmission temp will show N/A unless the motor is running.*
- 14. To change the DPF regeneration alert [default is OFF] scroll to the Regen *Alert* option and press [Enter]. This alert can only be changed to ON/OFF.

**Note:** If you desire to **temporarily** stop the Attitude from alerting you to a specific threshold, while the actual alert is signaling you, press any key (menu, arrow or enter) and the alert will temporarily stop. When all of the alarm parameters drop below the set thresholds, then exceed them again, the alert will start up again.

#### **Records**

The *Attitude* can keep a record of the maximum engine parameter values that your vehicle produces. These records are stored in the Records section of the Attitude.

**RPM** 

Speed

Trans Temp F

- Engine Temp F
- 0-60
- <sup>1</sup>/<sub>4</sub> mile
- Backdown

To view or clear these values, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:



2. Select the *Records* option and press [Enter]. The following screen appears:



3. All of the records are stored on this screen. To clear an individual record, select that record and press [Enter]. To clear all the values, select *Clear All* and press [Enter].



The *Attitude* allows you to test the performance of your vehicle by timing the 0-60 and the <sup>1</sup>/<sub>4</sub> mile times. To run these tests, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:



2. Select the *Performance Tests* option and press [Enter]. The following screen appears:



3. Select the desired performance test and press [Enter]. The following screen appears:



4. When your vehicle is at a complete stop, the following screen automatically appears:



5. When you press the accelerator pedal, the screen returns to the display mode and automatically begins the performance test. During testing, a "T" appears in the upper right corner of the screen indicating that testing is in process. When the test is complete (the desired distance or speed is reached) the test will automatically stop and your time will be displayed on the screen as shown. (quarter mile result example):



## Restore Default Settings

If you would like to restore the *Attitude* back to its original factory settings, select this option and enter Yes.

<u>Note</u>: This will reset the Attitude display options, alerts and records back to the preset defaults from Edge Products. In addition, you will be required to re-enter the Race Unlock code you recorded in the Registration and Race Unlock section.

## Glossary of Terms

**Backdown** – This decreases the amount of additional fueling. % Backdown is the percentage of **additional** fuel held back. The *Juice/Attitude* includes a feature to backdown the fueling to control critical parameters such as EGT and Boost.

**Barometric pressure** – This is a measurement of the atmospheric pressure, mainly due to your altitude (above or below sea level) and the current weather conditions.

**Boost** – This is how much additional air pressure is added to the intake/throttle body of the truck by the Turbocharger.

**Defueling** – This decreases the amount of fuel added to the Engine (see Backdown). Both the PCM and the *Juice* do defueling, but the *Juice* can only 'Backdown' to stock fuel. The Juice does not 'Backdown' below stock fueling.

**DPF-** Diesel Particulate Filter. Filters Soot generated during the fuel combustion cycle.

DTC- Diagnostic Trouble Codes. The code helps determine what system to trouble shoot.

EGT – This is an acronym for Exhaust Gas Temperature. This is the temperature of the hot burned gases leaving the engine through the exhaust. Generally, EGT should not be permitted beyond 1450°F to prevent turbocharger damage.

Load – This is the percentage of total fuel supplied by the PCM.

**Low Boost Fueling** – This is a Juice setting controlling extra fueling before the turbo boost builds. The higher the setting, the more fuel the Juice adds

**PCM** – This is an acronym for **P**owertrain Control Module. This is the main onboard computer that controls the operation of the engine and transmission.

**Pyrometer** – See Thermocouple

**Power braking** – This is the process of revving the engine while keeping the brakes on. This is done to spool the turbo to a usable level (for racing).

**Spooling** – This is the process of generating turbo boost pressure by revving the motor.

**Thermocouple** – This is a device used for measuring the temperature of the exhaust gases.

**Turbo/Turbocharger** – This device takes advantage of the hot exhaust gases to pump extra air into the engine intake.

# Technical Support: 888-360-3343

To expedite your support call, please have part number, version number, and Date of Manufacture ready prior to calling Technical Support.