

# RECON XZT



## INSTALLATION GUIDE

# ABOUT

Before installation it is important to know what parts you have and what the capabilities of these parts are.

The Recon XZT is the smallest and most powerful gauge of its kind. With the Recon XZT you will be able to continuously monitor 3 vital engine parameters. You can only display one parameter at a time but, the Recon XZT continues to monitor the other parameters simultaneously. You may set warnings for all of the monitored parameters as well. There is also a recall function built into the Recon XZT allowing you to see the minimum and maximum values for each parameter monitored. You will also have the ability to adjust the brightness of the Recon XZT display.

The Recon XZT consists of 3 main parts.

- First is the Recon XZT itself. The Recon XZT comes with the main cable assembly attached to it from Quadzilla. This main section contains the display, buttons and all of the electronics needed in order to properly monitor your engine.
- Secondly you have the main wiring harness. This is a simple wiring harness with only 6 wires in it. It is important to follow the installation instructions so that you will connect the proper lines to the corresponding sensors and power supplies.
- Lastly you have a thermocouple. This sensor allows you to monitor exhaust gas temperatures which is the most vital and important parameter to monitor for engine longevity. You will be required to drill and tap your exhaust manifold to install the thermocouple. The thermocouple supplied with the Recon XZT has a simple plug in style connector to make the remaining installation simple.



# ACCESSORIES

If you desire to monitor your fuel system with a fuel pressure gauge, the Recon XZT is up to the task. In order to do this you will need to purchase a fuel pressure kit which includes a 0-100psi pressure sensor and the hardware required for installation. In the event you wish to monitor fuel pressure you will not be able to monitor transmission/oil temperature.

Part # RECFPKIT

## IN CAB INSTALLATION

The Recon XZT was designed to mount on the steering column of your truck. It is held secure with the supplied double sided 3M tape. This allows you to mount a full set of gauges in your truck without having to modify any portion of your vehicle. The following instructions are for mounting the Recon XZT on your steering column.

- 1** Choose a spot on your steering column that will allow you to see the Recon XZT without hindering the view of any of your other gauges. Clean this spot with the supplied alcohol swab.
- 2** Remove the backing from the tape that comes installed on the bottom of the Recon XZT and secure it to the area you cleaned. You must apply some pressure in order to get the proper adhesion but, do not press too hard which may harm the Recon XZT. Holding light pressure on your gauge for 5 to 10 seconds is recommended.



**FORD**



**CHEVY**



**DODGE**

- 3** Route the gray cable and connector between the steering column and lower dash panel into the area under your dash. Dependant on any other aftermarket items under your dash panel you may also choose to remove that panel for easier access.

# THERMOCOUPLE INSTALLATION

Please review the recommend location for the thermocouple for your specific application.

## DODGE 98-06

On the passenger side of the vehicle locate the exhaust manifold. On the top side of the manifold between cylinders #2 and #3 is the ideal location for the thermocouple.



## FORD 99-06

On the driver's side of the vehicle locate the exhaust manifold. You will need to drill from underneath the vehicle. The ideal location for the thermocouple is located just as the manifold turns up to the turbo inlet pipe. See figure for reference. Make certain that you drill at an angle that will accept the length of the thermocouple.



## GM 01-06

Remove the passenger side fender well. Once this is removed you will see the exhaust manifold. Towards the rear of the manifold there is a flange that the manifold bolts to. Just in front of this flange is the ideal place to drill for the thermocouple. See figure for reference.

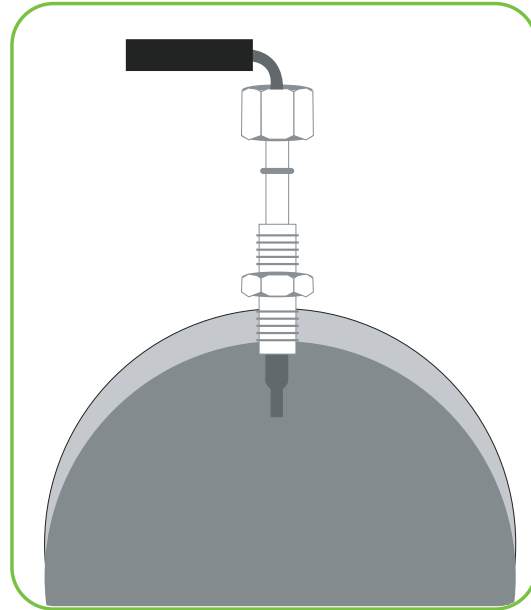


**1** Drill a 21/64 hole in your exhaust manifold in the correct location for the thermocouple. It is recommended to use a small amount of light grease on your drill bit. There are two ways to accomplish this; the best way is what you feel most comfortable with. You can either drill the hole with the engine running or you may remove the entire manifold from the truck. **DO NOT DRILL WITH THE MANIFOLD ON THE TRUCK AND THE ENGINE OFF.** You may desire to drill a small pilot hole but be sure that you do not break a smaller bit off. If you choose to leave the engine running any small shavings will pass safely through the exhaust system.

**2** Use a 1/8-27 or 1/8NPT tap to make threads in the 21/64 hole you drilled. This is a tapered thread so you will not want to run the tap all the way into the manifold. The threads only need to be deep enough to securely fasten the thermocouple bushing into the manifold.

**3** Screw the thermocouple bushing into the manifold. Be careful not to over tighten the fitting.

**4** Insert the thermocouple into the bushing and tighten the locking nut.



## DODGE 98-02 INSTALLATION

**1** Disconnect both negative battery cables.

**2** Lay the main harness out on your engine. The small black connector will go inside the cab. This is done by cutting a small slit in the rubber grommet mounted in the firewall on the driver's side. Cut a small slit in the outside portion of the grommet and push the connector into the cab.

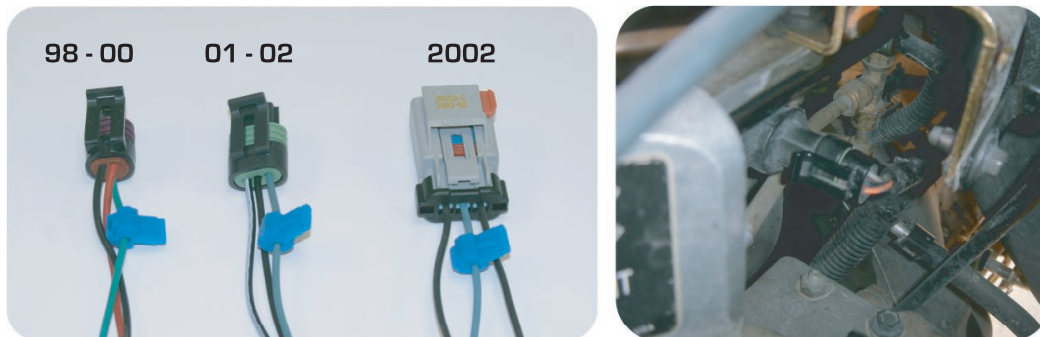
**3** Locate the large 2 pin connector that has the Green and White wires in it. Route this across the top of the firewall over to your thermocouple. Plug the large 2 pin connector into the thermocouple.

**4** Locate your MAP sensor. This is on the driver's side of the engine located just above and behind the fuel filter canister. The year model of your particular truck will determine the exact shape of the connector. All 98.5-02 MAP sensors have 3 wires in them.

**A** For 98-00 trucks the MAP sensor is round. There are 2 wires in the top of the connector and one wire in the bottom of the connector. Connect the supplied wire tap to the wire that is on bottom. This wire should be labeled Pin C.

**B** For 2001 trucks the MAP sensor is an oval shape. Connect the supplied wire tap to Pin C which is on the right side of the plug when looking at the rear of the connector with the locking tab on top.

**C** For 2002 Trucks the MAP sensor is an oval shape with a locking red connector on top of it. Connect the wire tap to the Center wire of the MAP sensor.



If you have a power module installed you will need to connect to the same wire on the modules wiring harness to receive an accurate reading. Only tap the wire of the plug that is going into the actual sensor. Tapping the wire on the factory plug, when using a module, will result in a false reading.

- 5** Connect the blue wire from the Recon XZT wiring harness to this tap.
- 6** Find the 1/8" male X 1/4" female and the 1/4" male X 1/8" female brass fittings supplied in the kit.
- 7** Screw the 1/4" male end of the brass fitting into the 1/4" female fitting using Teflon tape.
- 8** Screw the supplied 1/8" temperature sensor into the 1/8" female side of your brass adapter fitting.
- 9** Locate test port #2 on your transmission. This port is on the passenger side of the vehicle. The transmission is round on the front passenger side corner. Moving towards the rear of the transmission you will see an inset part of the transmission. There is a small plug in this test port. Remove the plug.

**10** Using Teflon tape screw the temperature probe and adapter fittings into this port. Do not over tighten.

**11** Route the brown wire from the main wiring harness to the temperature probe.

**12** Remove the nut and washers from the probe and install the ring terminal on the probe. Re-install the washers and nut to secure the wire.



**13** Go over all of your wiring up to this point and secure them. Take careful notice in areas that may see extreme heat or areas where the wires may be around moving parts. Use the supplied wire ties to secure the main wiring harness. [See note on page 4](#)

**14** Inside the cab locate the small black connector that you routed into the cab in step #2. You may want to pull any excess slack into the cab of the truck.

**15** Open the fuse box located on the inside of the truck on the driver's side of the dash. You will be required to have the door open to access the fuse compartment.

**16** Remove fuse #17 and install the fuse tap included with the red wire over the leg of the fuse. Re-install the fuse.

**17** Find a good ground source for the black wire with a ring terminal. There are many bolts under the dash that will work. Simply remove the nut from the bolt and install the ring terminal over the bolt. Re-install the nut to secure the wire. Take caution in choosing your ground source as there are some places under the dash that are not grounded.

**18** Plug the 6 pin connector on the gray cable into the 6 pin connector on the main wiring harness.

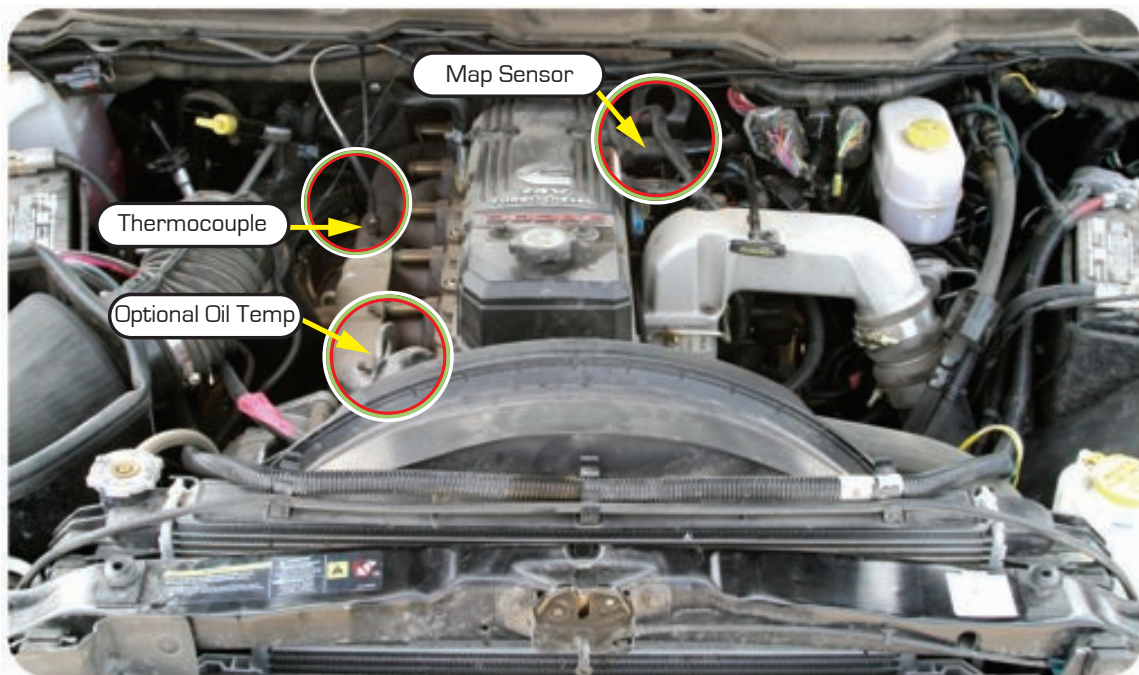
**19** Re-connect the negative battery terminals.

**20** Start your engine. The default screen will display EGT. This reading should be between 250-350 degrees dependant on outside temperature and your exact probe location.

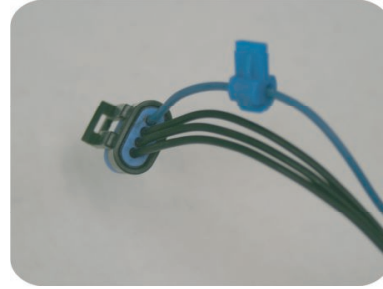
**21** Check all connections and secure all of the loose wires in the engine compartment and under the dash.

# DODGE 03-07 INSTALLATION

- 1** Disconnect both negative battery cables.
- 2** Lay the main harness out on your engine. The small black connector will go inside the cab. There is a small grommet located on the driver's side firewall that can be cut or removed for installation. Once this is located route the black 6 pin connector into the cab. The Red wire will not go inside the cab.
- 3** Locate the large 2 pin connector that has the Green and White wires in it. Route this across the top of the firewall over to your thermocouple. Plug the large 2 pin connector into the thermocouple.
- 4** Locate your MAP sensor. This is on the driver's side of the engine located beside the valve cover amongst the injector lines. This is a 4 wire connector.
- 5** Connect the supplied wire tap to Pin D. This is marked on the back of the connector. You can also locate Pin D by holding the plug where the lock is facing up and looking at the rear of the plug, Pin D is on the right hand side.



If you have a power module installed you will need to connect to the same wire on the modules wiring harness to receive an accurate reading. Only tap the wire of the plug that is going into the actual sensor. Tapping the wire on the factory plug, when using a module, will result in a false reading.



- 6 Connect the blue wire from the Recon XZT wiring harness to this tap.
- 7 Find the 1/8" male X 1/4" female and the 1/4" male X 1/8" female brass fittings supplied in the kit.
- 8 Screw the 1/4" male end of the brass fitting into the 1/4" female fitting using Teflon tape.
- 9 Screw the supplied 1/8" temperature sensor into the 1/8" female side of your brass adapter fitting.

10 Locate test port #2 on your transmission. This port is on the passenger side of the vehicle. The transmission is round on the front passenger side corner. Moving towards the rear of the transmission you will see an inset part of the transmission. There is a small plug in this test port. Remove the plug.

11 Using Teflon tape screw the temperature probe and adapter fittings into this port. Do not over tighten.

12 Route the brown wire from the main wiring harness to the temperature probe.

13 Remove the nut and washers from the probe and install the ring terminal on the probe. Re-install the washers and nut to secure the wire.

If your truck has a manual transmission then install the temperature probe in the oil filter housing to measure oil temperature. You do not need to use any of the adapter fittings. Simply remove one of the plugs and screw the temperature probe in place. Use teflon tape to prevent leaks.

14 Go over all of your wiring up to this point and secure them. Take careful notice in areas that may see extreme heat or areas where the wires may be around moving parts. Use the supplied wire ties to secure the main wiring harness.



- 15 Locate the fuse box on the driver's of the truck on the inner fender.
- 16 Remove fuse #28 and install the fuse tap included with the red wire over the leg of the fuse. Re-install the fuse.
- 17 Find a good ground source for the black wire with a ring terminal. There are many bolts under the dash that will work. Simply remove the nut from the bolt and install the ring terminal over the bolt. Re-install the nut to secure the wire. Take caution in choosing your ground source as there are some places under the dash that are not grounded.
- 18 Plug the 6 pin connector on the gray cable into the 6 pin connector on the main wiring harness.
- 19 Re-connect the negative battery terminals.
- 20 Start your engine. The default screen will display EGT. This reading should be between 250-350 degrees dependant on outside temperature and your exact probe location.
- 21 Check all connections and secure all of the loose wires in the engine compartment and under the dash.

## FORD 99-07

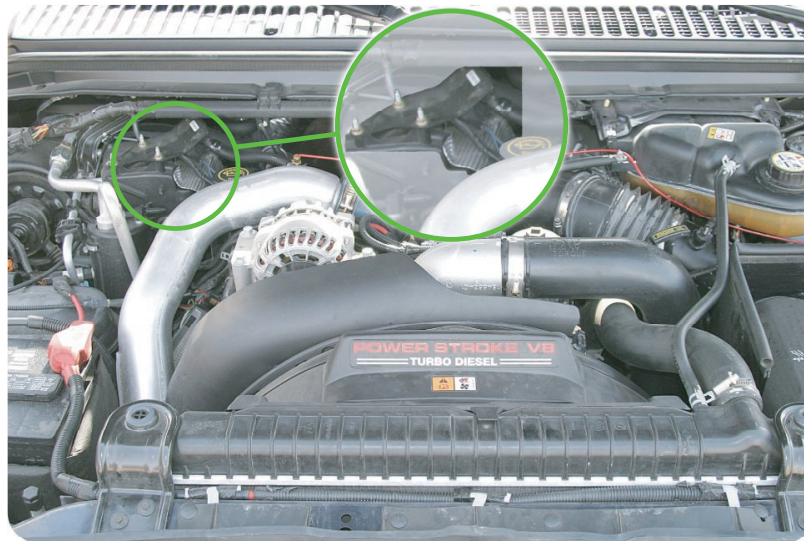


- 1 Disconnect both negative battery cables.
- 2 Lay the main harness out on your engine. The small black connector will go inside the cab. There is a diamond shaped plastic plug located on the driver's side firewall that can be drilled or removed for installation. Once this is located route the black 6 pin connector into the cab.
- 3 Locate the large 2 pin connector that has the Green and White wires in it. Route this down the firewall to your thermocouple. Plug the large 2 pin connector into the thermocouple.
- 4 Locate your MAP sensor. All MAP sensors have 3 wires from 99-07.

**A** On 99-03 truck this is on the passenger side of the engine located beside the hot turbo pipe going to the intercooler. This is a 4 wire connector.



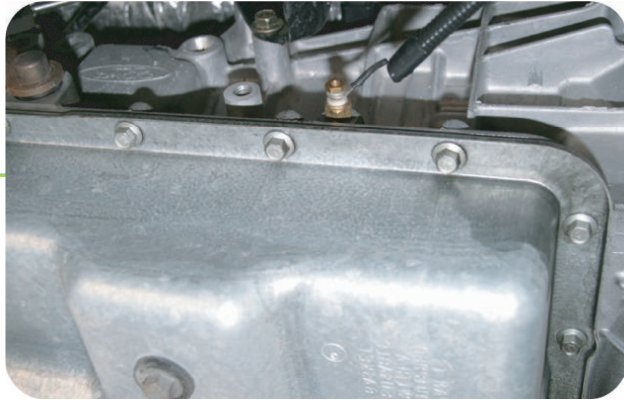
**B** On 03-07 6.0L trucks this is located on the passenger side of the vehicle just behind and to the passenger side of the Oil Fill cap.



**C** Connect the supplied wire tap the Center wire of the MAP sensor.

If you have a power module installed you will need to connect to the same wire on the modules wiring harness to receive an accurate reading. Only tap the wire of the plug that is going into the actual sensor. Tapping the wire on the factory plug, when using a module, will result in a false reading.



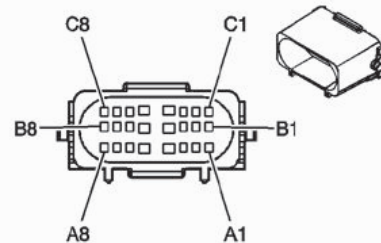


- 5** Connect the blue wire from the Recon XZT wiring harness to this tap.
- 6** Locate the test port on your transmission. This port is on the driver's side of the vehicle. The port is located just above the transmission pan towards the rear of the pan. There is a small plug in this test port. Remove the plug.
- 7** Using Teflon tape screw the temperature probe into this port. Do not over tighten.
- 8** Route the brown wire from the main wiring harness to the temperature probe.
- 9** Remove the nut and washers from the probe and install the ring terminal on the probe. Re-install the washers and nut to secure the wire.
- 10** Go over all of your wiring up to this point and secure them. Take careful notice in areas that may see extreme heat or areas where the wires may be around moving parts. Use the supplied wire ties to secure the main wiring harness.
- 11** Locate the fuse box on the driver's side of the truck below the steering wheel. You will need to remove the lower dash panel to get to the fuse box.
- 12** On 99-03 trucks remove fuse #27 and install the fuse tap included with the red wire over the leg of the fuse. Re-install the fuse.
- 13** On 99-03 trucks remove fuse #45 and install the fuse tap included with the red wire over the leg of the fuse. Re-install the fuse.
- 14** Find a good ground source for the black wire with a ring terminal. There are many bolts under the dash that will work. Simply remove the nut from the bolt and install the ring terminal over the bolt. Re-install the nut to secure the wire. Take caution in choosing your ground source as there are some places under the dash that are not grounded.

- 15 Plug the 6 pin connector on the gray cable into the 6 pin connector on the main wiring harness.
- 16 Re-connect the negative battery terminals.
- 17 Start your engine. The default screen will display EGT. This reading should be between 250-350 degrees dependant on outside temperature and your exact probe location.
- 18 Check all connections and secure all of the loose wires in the engine compartment and under the dash.

## GM 01-07

- 1 Disconnect both negative battery cables.
- 2 Lay the main harness out on your engine. The small black connector will go inside the cab. This is done by cutting a small slit in the rubber grommet mounted in the firewall on the driver's side. Cut a small slit in the outside portion of the grommet and push the connector into the cab.
- 3 Locate the large 2 pin connector that has the Green and White wires in it. Route this across the top of the firewall to your thermocouple. Plug the large 2 pin connector into the thermocouple.
- 4 Locate the Main Engine Plugs. These are located on the drivers side of the engine, directly above the valve cover. There are 2 large connectors stacked on top of each other. You are looking for the smaller plug that is on top. This is a 24pin connector. Connect the supplied wire tap to PIN C8. This should be a Light Green wire, located in the top row of wires and nearest the firewall.
- 5 Attach the supplied wire tap to the light green wire .



If you have a power module installed you will need to connect to the same wire on the modules wiring harness to receive an accurate reading. Only tap the wire of the plug that is going into the actual sensor. Tapping the wire on the factory plug, when using a module, will result in a false reading.

**6** Connect the blue wire from the Recon XZT wiring harness to this tap.

If you have an after market transmission pan you may now install the 1/8 NPT sensor into the oil pan fitting. On factory transmissions there is also a test port located on the bottom and towards the front of the transmission. You may desire to get the proper AN fitting to take a reading at this location, but it is not recommended due to the fact that the sensor could be damaged from protruding to low off of the transmission. We recommend using the 1/8" NPT probe to measure Oil temperature on the Duramax engines.

**7** Find the 3/8" X 1/8" NPT bushing included with your kit.

**8** Using Teflon tape screw the temperature probe into this bushing. Do not over tighten.

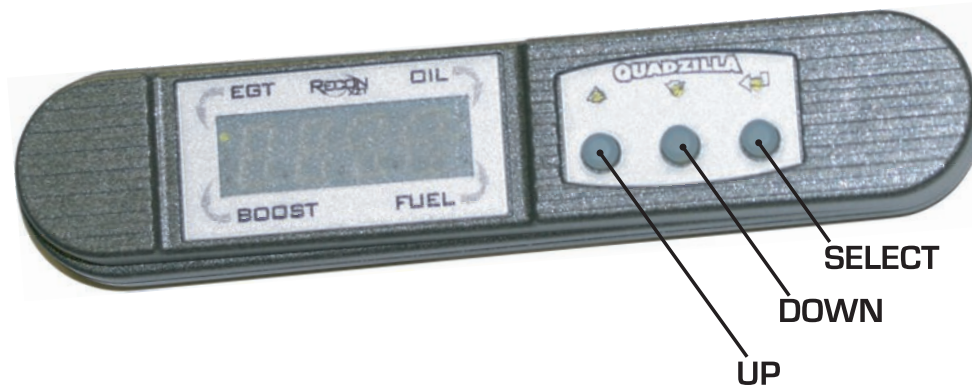
**9** Locate the oil filter housing. This is easiest to find from under the driver side of the engine. On the Oil filter housing look for the 3/8" bushing that uses a 6mm hex head for removal. This port should be located towards the front of the housing and should be facing the driver's side front tire. Have a rag ready as you will spill some oil. Make sure the vehicle has cooled off as the oil can be very hot.

**10** Using Teflon tape install the bushing into the port. Be careful not to over tighten



- 11 Route the brown wire from the main wiring harness to the temperature probe.
- 12 Remove the nut and washers from the probe and install the ring terminal on the probe. Re-install the washers and nut to secure the wire.
- 13 Go over all of your wiring up to this point and secure them. Take careful notice in areas that may see extreme heat or areas where the wires may be around moving parts. Use the supplied wire ties to secure the main wiring harness.
- 14 Open the fuse box located on the inside of the truck on the driver's side of the dash. You will be required to have the door open to access the fuse compartment. Attach the red wire with the fuse tap to the fuse labeled IGN.
- 15 Find a good ground source for the black wire with a ring terminal. There are many bolts under the dash that will work. Simply remove the nut from the bolt and install the ring terminal over the bolt. Re-install the nut to secure the wire. Take caution in choosing your ground source as there are some places under the dash that are not grounded.
- 16 Plug the 6 pin connector on the gray cable into the 6 pin connector on the main wiring harness.
- 17 Start your engine. The default screen will display EGT. This reading should be between 250-350 degrees dependant on outside temperature and your exact probe location.
- 18 Check all connections and secure all of the loose wires in the engine compartment and under the dash.

# FUNCTIONS



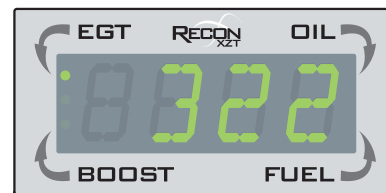
The Recon XZT has 3 buttons for control. There is a reference above each button for ease of use.

The button on the far left is the UP button. This can be used to move through the various menus as well as to change the display.

The center button is the down button. This can be used to move through the various menus as well as the change the display.

The far right button is the select and "menu" button. This button is used to enter into a sub menu as well as to select a warning. You can also use the button to change the brightness of your module. This button will also be used in conjunction with either the UP or DOWN buttons to display you minimum or maximum records.

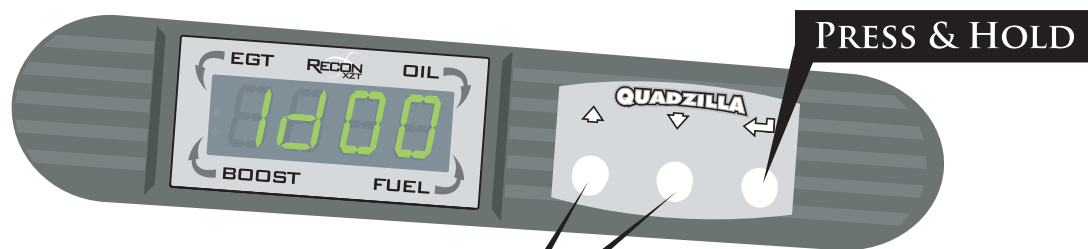
## DISPLAY



The Recon XZT will allow you to view one parameter at a time. On the face of the Recon XZT you will notice abbreviations with arrows pointing to the display itself. When a particular parameter is being monitored there will be an illuminated dot that defines that parameter. If the Recon XZT detects a warning being breached it will automatically switch to that parameter and the corresponding dot will illuminate. If you are in the vehicle ID display there will not be a dot illuminated.

# SETUP

The first time you use the Recon XZT you will need to select a vehicle ID. To do this simply use the UP or DOWN button until "Id00" appears on the screen. There will not be an illuminated dot on the display. Now press and hold the select button for approximately 3 seconds, or until the screen starts to flash. It is perfectly normal for the screen to dim during this process. Once the screen is flashing use the UP or DOWN arrow to choose your vehicle. Below you will find a reference table that will allow you to choose the correct ID for you vehicle.



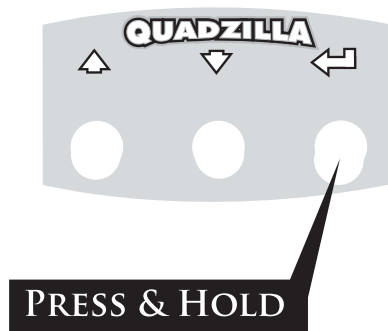
- <00> 1998.5-2000 DODGE
- <01> 2001-2002 DODGE
- <02> 2003-2004 DODGE
- <03> 2004.5-2007 DODGE
- <04> 1999-2003 FORD
- <05> 2003-2004 FORD
- <06> 2005-2007 FORD
- <07> 2001-2004 CHEVY
- <08> 2004-2005 CHEVY
- <09> 2006 -2007CHEVY

Once you choose your correct ID hit the select button. This will take you back to the main menu. You will now have a fully functioning gauge for all 3 parameters.

# WARNINGS

The Recon XZT has the ability to set warnings for each parameter monitored. It is important to set realistic warnings for your vehicle. Setting warnings that are easily reached may cause confusion as the Recon XZT will prioritize the warnings and will cause the display to change parameters quickly in some instances.

To set a warning scroll to the parameter that you desire to set a warning for. Press and hold the select button for approximately 3 seconds or until that parameter starts flashing. Use the up or down arrow to select the desired warning or you may select OFF.



The EGT warning is adjustable from 750 degrees up to 1500 degrees in 25 degree increments. The recommended settings for individual vehicles are:

DODGE 98-02	1250 DEGREES
DODGE 03-04	1300 DEGREES
DODGE 04.5-06	1350 DEGREES
FORD 99-03	1250 DEGREES
FORD 03-06	1300 DEGREES
GM 01-06	1300 DEGREES

These settings are very conservative and you may need to vary your warnings based on current vehicle modifications and exact probe location.

The Boost warning is adjustable from 15psi to 45psi. The recommended settings for individual vehicles are:

DODGE 98-02	30PSI
DODGE 03-04	30 PSI (THIS VEHICLE IS EQUIPPED WITH AN ELECTRONIC WASTEGATE)
DODGE 04.5-06	OFF
FORD 99-03	25PSI
FORD 03-06	30 PSI
GM 01-06	25 PSI

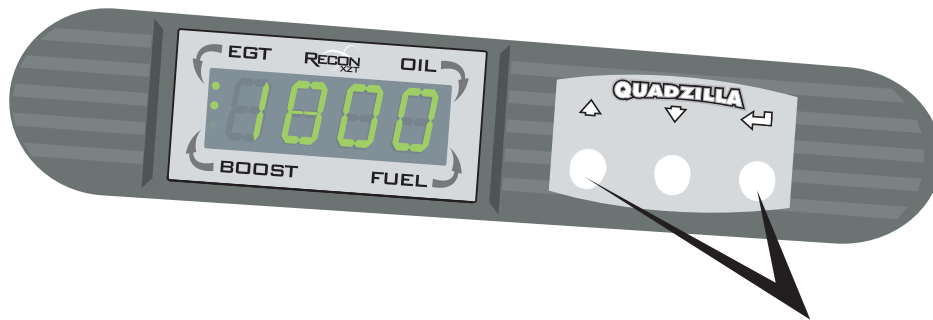
These settings are very conservative and you may need to vary your warning based on current vehicle modifications.

The transmission warnings are adjustable from 195 degrees up to 280 degrees. It is recommended to set this warning at 220 degrees on all transmissions. This should give you plenty of warning before you hurt the transmission. Most transmissions are damaged between 230 and 240 degrees. Transmission temperature is not fast reacting and once it gets hot the only way to cool it is to pull over and allow it to cool off.

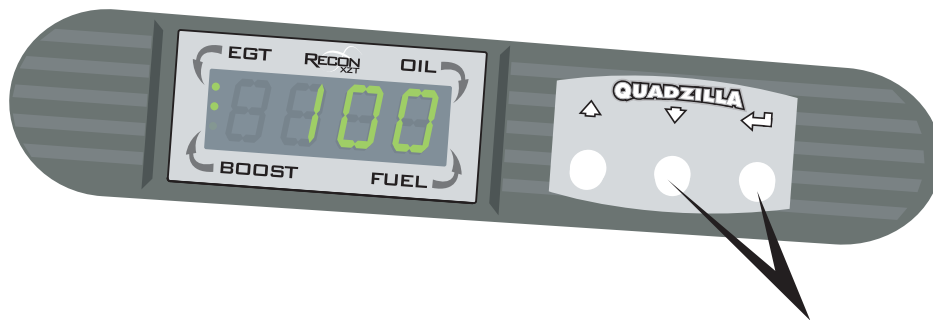
## RECALL

You may also check your minimum and maximum values reached. This function resets with a power off condition so if you want to check it you must do so before you turn the vehicle off.

To recall a maximum value go to the desired parameter on the display. Press and hold the SELECT button and simultaneously hold the UP button. The display should illuminate the dot that corresponds to the selected parameter plus the middle dot on the left side of the display.



To recall a minimum value go to the desired parameter on the display. Press and hold the select button and simultaneously press the DOWN button. The display should illuminate the dot that corresponds to the selected parameter plus the middle dot on the right hand side of the display.



To reset the values simply cycle the ignition off and restart the vehicle.

# BRIGHTNESS CONTROL

Adjusting the brightness of your Recon XZT can be done by simply pressing the select button. The Recon XZT has three settings for brightness. By pressing the select button you will be able to scroll to the brightness setting of your choice.

