Nitrous Express

5411 Seymour Hwy Wichita Falls, Tx 76410

Tel 940-767-7694 Fax 940-687-0751

www.nitrousexpress.com

Viper Plate Instructions (P#20970)
Read all Instructions before beginning!!!!

Caution – EXTREME DANGER – Caution

Do not use or mix any other manufacturer's products with any Nitrous Express products.

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THESE INSTRUCTIONS APPLY TO NITROUS EXPRESS PRODUCTS ONLY!

FOR SANCTIONED RACE USE ONLY - NOT FOR SALE OR USE IN CALIFORNIA

CAUTION: An experienced technician familiar with the use and handling of high-pressure cryogenic gases should install this system. If you have any doubt about your skills this system should be taken to a qualified shop for installation. If you have decided to do the install yourself please read and understand all of these instructions before you start. Some of these instructions may or may not apply to your vehicle, if you have any questions please call our tech department 940-767-7694 9:00A.M.-5:00P.M. CST.

Before starting, disconnect the negative terminal on the battery. If you have any questions about your particular vehicle consult a shop manual.

These instructions are divided into 6 sections:

1. mounting the bottle
2. mounting the nitrous plates
3. fuel supply connection
4. electrical hook-up
5. programing the TPS signal
6. testing the system

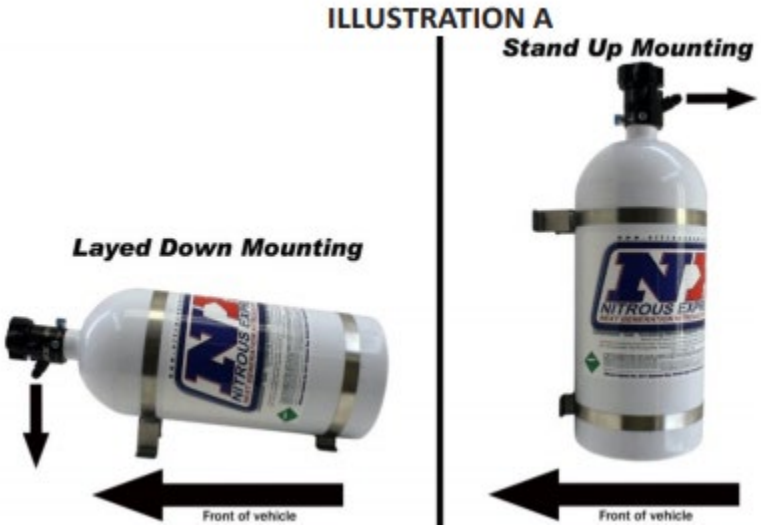
Before starting any installation steps:

1. Never use Teflon tape on any system fittings. Tape debris will cause numerous problems ranging from clogged solenoids to blocked jets. Use the liquid thread sealer furnished with your NX system. A drop is all it takes.

2. Have your nitrous bottle filled by a reliable source, being sure it is filled to the correct capacity with FILTERED “NY-TROUS+” nitrous oxide

MOUNTING THE BOTTLE

The nitrous bottle should be mounted in the trunk area or outside of the passenger compartment. If this is not possible or practical a NHRA approved blow down tube and vent fitting (PN’s 11708, 11709) must be installed. The positioning of the bottle should be as shown in illustration “A”. This will allow the siphon tube to be covered at all times. The mounting brackets should be assembled on the bottle with the short bracket approx. 2” from the bottom. The long bracket should be place approx. 7” above the lower bracket on 10lb bottles. The upper bracket should be approximately 12” above the lower bracket on 15lb bottles. **Note: Before drilling holes to mount the bottle, be sure to check for clearance beneath the mounting surface i.e.: fuel tank, fuel lines, brake lines, etc.**



To route the supply line, drill a ¾” hole beneath the valve discharge port. Before beginning the routing procedure; place tape over both ends of the line. Now route the line beneath the car being sure to avoid all exhaust, suspension and other moving parts. Following the factory fuel line is usually the safest. Be careful to avoid any positive 12-volt sources, one small spark to the outer braid of the line will destroy it!!! Secure the line carefully, zip ties work best here. Before connecting the line to the bottle, purge the line of all possible debris by carefully blowing compressed air through the line for several seconds. Connect the line to the bottle nipple and tighten securely.

MOUNTING THE NITROUS PLATES

Before any modifications are made under the hood, we suggest that you make a diagram of all hoses wiring and linkages.

1. Remove the throttle body.

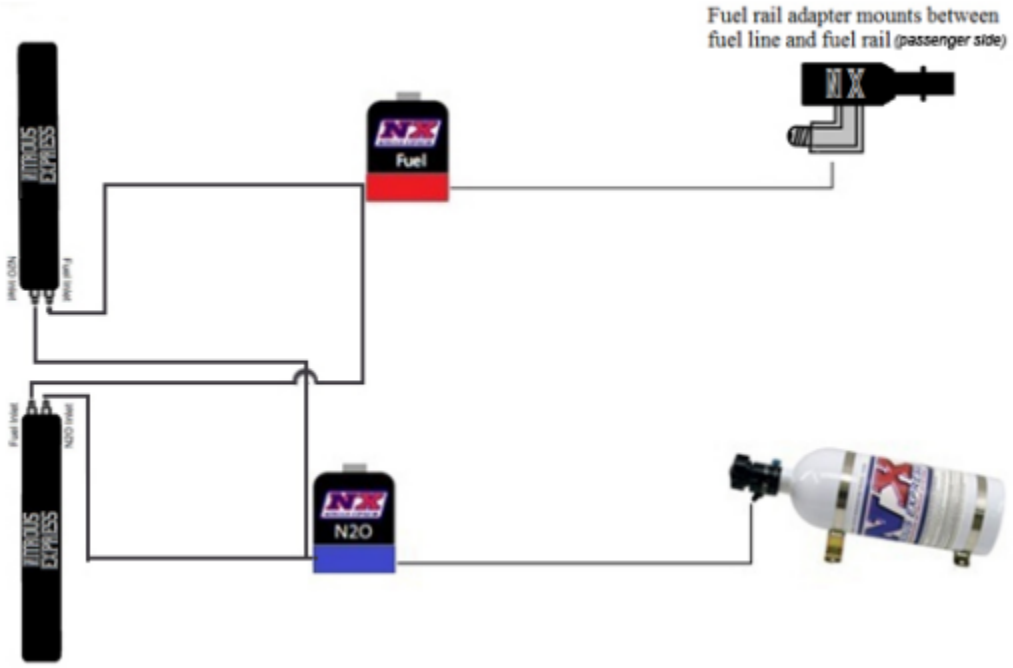
2. The nitrous plate should be installed behind the throttle body; fuel and nitrous fittings are to the rear. Using supplied gaskets reinstall the throttle bodies in front of the nitrous plate and torque to factory specs using the provided hardware. (See Illustration B) Using the supplied gasket, re-install the throttle body and nitrous plate and torque to factory specs using the provided hardware.

3. Select the horsepower setting that you want to start with, insert the proper nitrous jet in the fitting marked “N2O” (CAUTION: You must always use a back-up wrench when tightening the nitrous or fuel fittings, failure to do so will void the system warranty!!!!!) Connect the stainless feed line to the plate fitting. The nitrous fitting can be identified by the “N2O” marked on the plate. Repeat this procedure for the fuel line (the fuel fitting will be marked “FUEL”). NOTE: Always check each jet for obstructions before installing.

4. Connect the braided lines attached to the plate to the corresponding (Nitrous or Fuel) Solenoid.

FUEL SUPPLY CONNECTION

ILLUSTRATION C

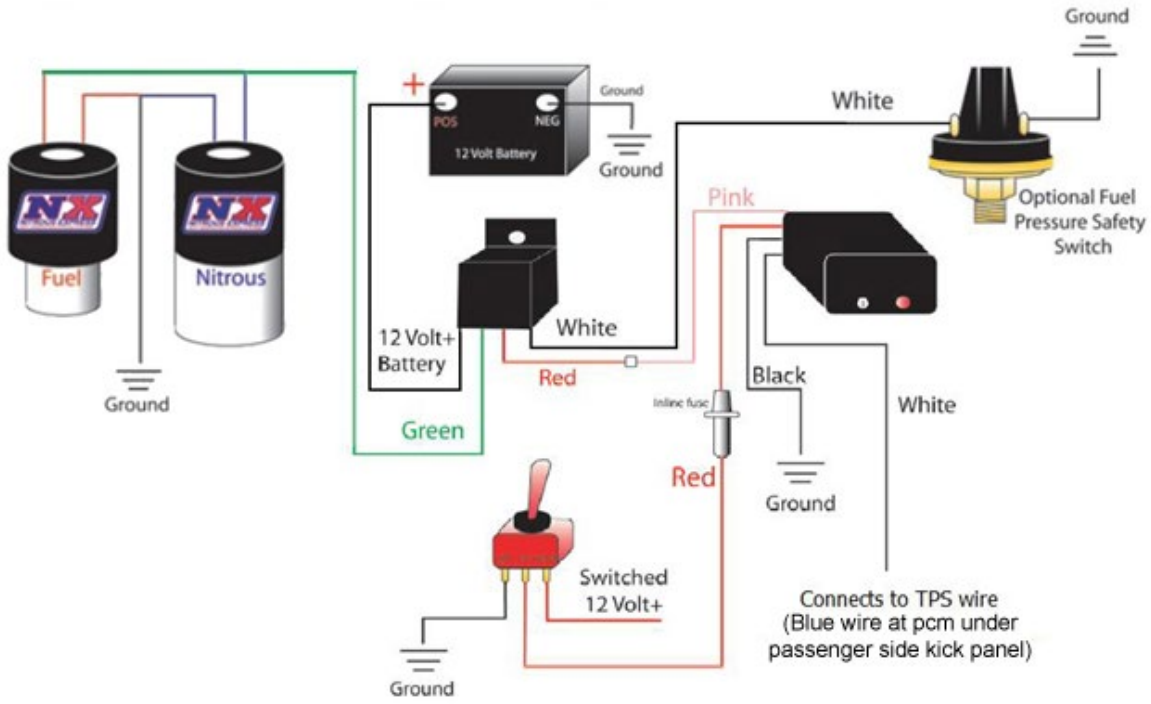


1. Install the supplied Fuel Line Adapter on the Passenger side fuel rail (located in the fender well by the strut tower brace).

2. The Fuel Rail Adapter has 2-1/8npt holes. Install the 1/8xD-4 Fitting in one, and the 1/8npt hex plug in the other. NX Thread Sealer must be used on the pipe threads. DO NOT USE ON FLARE SIDE of fitting.

3. Install the desired jet in the Fuel fitting in the Plate. Connect the fuel lune to the fuel rail adapter.

ELECTRICAL HOOK-UP



1. Mount the Master Arming Switch in a location that is within easy reach of and in plain sight of the driver.

2. Using 18-ga. wire and connectors supplied in the switch kit, connect a key switched HOT lead (12 VDC POSITIVE) to the “Power” terminal of the Master Arming Switch (this is the terminal on the opposite side of the gold terminal). (Use 5 amp inline fuse if desired). This power source must be controlled by the ignition switch.

3. Connect an 18-ga, grounded wire to the Ground terminal of the Master Arming Switch (this is the gold terminal on the master arming switch).

4. Connect an 18-ga. Grounded wire to the black wire of the TPS Wide Open Throttle Module.

5. Connect the white wire of the TPS Wide Open Throttle Module to the brown wire at the throttle body.

6. Connect an 18-ga. wire from the center terminal “ACC” of the Master Arming Switch to the red wire of the TPS Wide Open Throttle Module

7. Connect the pink wire of the TPS Wide Open Throttle Module to the “Red” wire on the supplied heavy duty relay. (See wiring diagram).

8. Attach the white wire of the relay to ground. If using an optional fuel safety switch connect the switch between the white wire.

9. Using 12-ga. Wire, connect the “Black” wire of the heavy duty relay to the positive + post on the vehicle battery. (If desired a 40 amp fuse may be installed near the battery)

10. Using 12-ga. Wire, attach one wire from each of the solenoids to the “Green” wire on the relay. Note: These coils are direct current and it does not matter which wire is positive or negative. Now attach the two remaining solenoid wires to a good ground. 6

11. Reconnect the battery cable.

12. For TPS Wide Open Throttle Module programming instructions reference the instructions below. There are two versions of TPS Wide Open Throttle Module available. If your TPS Wide Open Throttle Module has two LEDs follow the programming instructions below. If your TPS Wide Open Throttle Module has only one LED skip to the section labeled TPS Wide Open Throttle Module with one LED.

Programming the TPS Wide Open Throttle Module. –Note these instructions are for TPS modules with only 2 LEDs on the module. If you have an older version with only 1 LED on the module please refer to nitrousexpress.com/instructions.html for programming instructions.

The NX TPAS is designed to trigger a relay, 1 amp maximum current draw, at or near wide open throttle and automatically calibrates itself to work with rising or falling signal.

1. The NX TPS Wide Open Throttle Module may be installed inside or under the hood. Mount the unit in a place that it will be easy to access the learn button and view the LEDs. Make sure the unit is located away from any heat source, i.e. exhaust manifold, header, or EGR.

2. Following the wiring diagram, route all wires but make no connections.

3. You must determine which wire on your vehicle’s TPS is the output signal to the vehicles computer.

4. Connect all wires per NX Self- Programming Throttle Position Activation Switch wiring diagram using a 1 to 3 amp fuse in series with the red wire.

5. On initial power up, press and hold the button while turning on switched +12 volts. The green LED should begin flashing indicating that the unit is not programmed.

6. Release the button.

7. With the throttle at pedal at idle position, press and hold the button until the red LED comes on (approximately 4 seconds). The green LED will continue to flash. Release the button and leave the throttle at Idle. The unit is now calibrating the idle position and making sure that the idle signal is stable. Wait for both LED’s to turn off.

8. Now move throttle to wide open and hold for 1 second, then release back to idle (Red LED should come on to indicate that its working and waiting to check the calibration).

9. To check the calibration, move throttle to wide open again and then release to idle a second time. Once the check is complete, the Red LED will turn off and the Green LED will turn on indicating that the unit is calibrated and armed.

10. Once calibrated, the unit will activate the relay when the throttle opens to 90% or more and it will remain on as long as the throttle is between 90% and 100%. (When the relay is activated, both the red and green LEDs will be on). When the throttle closes to less than 90%, the unit will turn the relay and the red LED off. The green LED will remain on indicating that the unit is re-armed and ready for the next run.

11. If at any time during the calibration process the green and red LED's flash rapidly in an alternating pattern that means the calibration was not completed correctly. This can be the result of one of two things. Either the throttle was moved while it was calibrating the idle position or the TPS signal is not stable. Check wiring and recalibrate.

Testing the System

1. Re-check all installation procedures to be sure nothing has been omitted.

2. Be sure the nitrous bottle has not been opened and the supply line is empty! 7

3. Using the toggle switch "ARM" the system.

4. Test solenoid operation by using the system activation switch. Both solenoids should "Click" (The nitrous solenoid should click loud, and the fuel solenoid will click soft). If they do not, re-verify all electrical connections and wiring diagrams.

5. Open the nitrous bottle and check all connections for leaks. With the lines disconnected from the solenoids, crack your nitrous bottle open to allow Nitrous pressure into the system. Check for any leaks that may be present, and tend to any that may exist. If the solenoid itself is not sealing, activate the nitrous solenoids a few times in rapid bursts to seat the plunger in the solenoids.

6. Do not start the engine if nitrous has been accidentally injected while the motor was not running! All nitrous must be cleared from the engine before starting; otherwise a violent intake manifold explosion could occur!

7. Start engine and check for any fuel leaks. Correct any leaks before proceeding.

8. The Nitrous System is now ready for normal usage.

9. All NX systems are intended for off road use only and should only be used in that context.

Additional parts recommended for operating your nitrous system satisfactorily:

- Nitrous Pressure gauge (PN 15508) - STRONGLY RECCOMMENDED
- Purge Valve (PN 15603)
- Bottle Jacket (PN 15945 for 10lb bottle or PN 15946 for 15lb bottle)
- Fuel pressure Safety Switch (PN 15718)
- Bottle heater (NX 15940) - STRONGLY RECCOMMENDED
- NHRA legal blow down vent fitting (PN 11709)
- NHRA legal blow down vent tube (PN 11708)
- TPS/RPM Window Switch (PN 18959)

Dodge Viper Gen 5 Plate Jetting

Select the desired horsepower level and fuel type to determine the nitrous and fuel jet requirements.

Ignition timing should be retarded 1.5 - 2 degrees per 50 hp of nitrous being sprayed.

Spark plugs should be copper core, 2 steps colder than stock, gapped no larger than .035.

CHECK ALL JETS FOR OBSTRUCTIONS UPON INSTALLATION!!!!!!!!

Dodge Viper Gen 5 @55psi Fuel Pressure			
HP	N2O	Gasoline	E85
100	**32**	18	20
150	**38**	20	22
200	**41**	24	26
250	**52**	26	28
300	**62**	31	33

With .120" N2O solenoid and 6an feedline
one nitrous and fuel jet per plate, I.E,
50hp would be a .032 and a .018 in each plate

This jetting chart is for informational purposes only, NX is not responsible for misuse or misapplication!