



# 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**

## **NXD12002, NXD12003**

**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.

**Warning:** This dry nitrous system injects only nitrous into the engine. You must ensure you are adding adequate fuel to properly enrich the nitrous!!! This is most commonly achieved by retuning the ECU or by using an ECU that has the ability to add enrichment fuel when the nitrous is activated.

These instructions are divided into 6 sections:

1. **Mounting the Bottle & Routing the Supply Line**
2. **Mounting the Solenoid**
3. **Mounting the Nozzle**
4. **Wiring**
5. **Testing the System**
6. **Power Tuning Tips**

**Before starting any installation steps:**

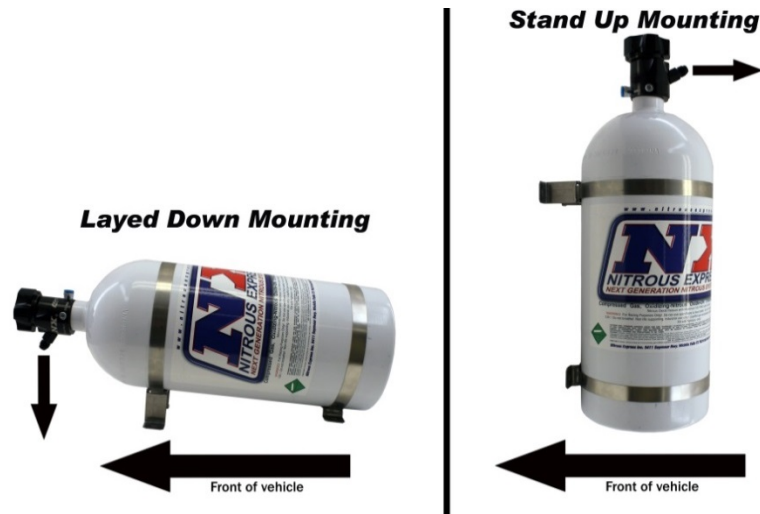
1. Never use Teflon tape on any system fittings. Tape debris will cause numerous problems ranging from clogged solenoids to blocked jets. Use the liquid thread sealer furnished with your NX system. A drop is all it takes.
2. Have your nitrous bottle filled by a reliable source, being sure it is filled 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 and the long bracket should be place approx. 7" above the lower bracket on 15lb bottles the upper bracket should be approximately 12" above the lower bracket. **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.**

### ILLUSTRATION A



To route the supply line, drill a  $\frac{3}{4}$ " 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.

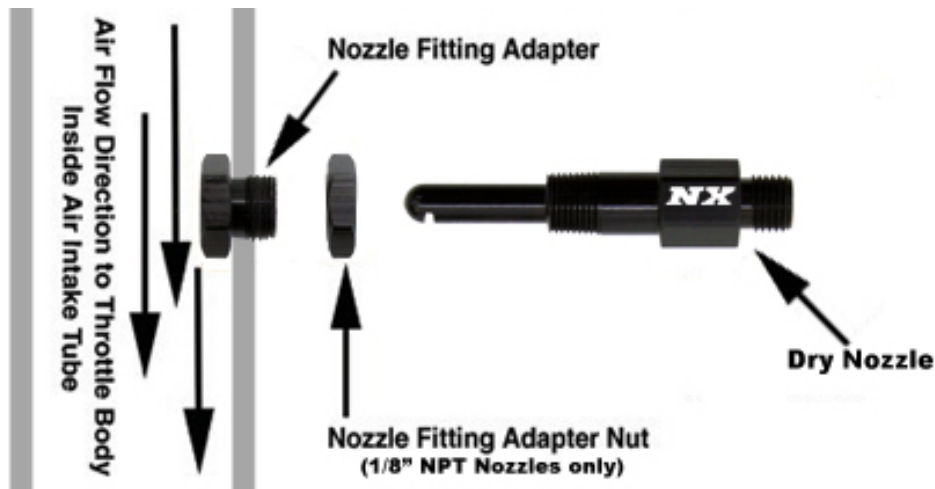
### MOUNTING THE SOLENOID

1. Install the 1/8npt to 6AN filter fitting into the nitrous solenoids "In" port.
2. Install the 1/8npt to 4AN fitting into the nitrous solenoids "out" port.
3. Install the 1/8npt pipe plug into the nitrous solenoids "purge" port (Follow alternate purge valve instructions if using a purge system).
4. Using the supplied solenoid mounting bracket, mount the nitrous solenoid in a suitable location under the hood away from any moving parts and away from exhaust components.

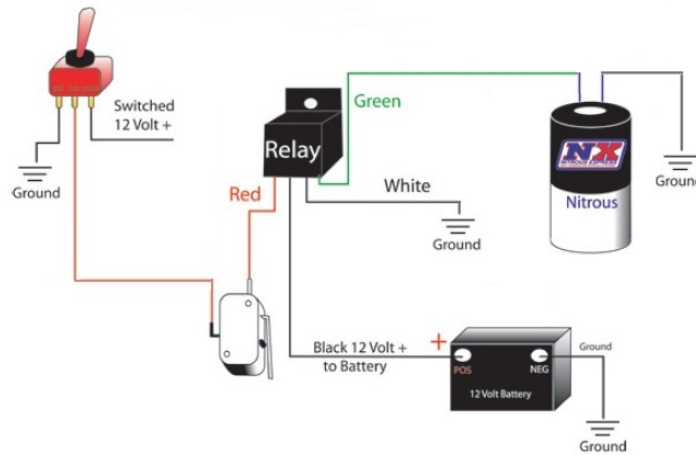
### MOUNTING THE NOZZLE

1. Remove the air inlet tube. Drill a 9/16" hole in the location you have chosen for the nozzle placement. This area should be as flat as possible to assure proper sealing of the nozzle adaptor.
2. Using a "sensor safe" silicone RTV type sealer; apply a thin bead around the nozzle adaptor sealing surface. Insert adaptor from the inside of the air inlet tube and snug the locking nut against the outside of the air intake tube. Thread the nozzle into the adaptor and tighten, aligning the nozzle discharge toward the throttle body. (The arrows in illustration "B" show the proper nozzle orientation.)
3. Using the horsepower jetting chart select the desired jet. Insert the jet into the nozzle.
4. After installing the jet into the nozzle using the supplied 3AN nitrous hose, connect the solenoid "out" port to the nozzle. Using a backup wrench, connect the previously cleaned nitrous supply line to the Nitrous "in" port of the nitrous solenoid and tighten securely.

## ILLUSTRATION B



## Wiring Schematic



### WIRING THE SYSTEM:

1. Mount the toggle (Arming) switch in a location that is within easy reach of and in plain sight of the driver.
2. Using 14-ga. wire and connectors supplied in the system, connect a HOT lead (12V POSITIVE) to the "Power" terminal of the toggle switch. (Use a 10 amp in line fuse if desired). This power source must be controlled by the ignition switch (See Wiring Schematic for Progressive Controller).
3. Connect a grounded wire to the "Ground" terminal of the toggle.
4. Follow the Wiring diagram above for your system.
5. Reconnect the battery cable.
6. At this point the solenoid should be tested for proper operation. Note: (Be sure the nitrous bottle is off and there is no pressure in the N2O supply line). To test, turn the "arming" toggle switch to the ON position and push the "activating" wide- open throttle switch. A clicking sound should be heard as the solenoid opens. IMPORTANT: Make sure that the solenoid is clicking! If no sound is heard, check all wire connections and the wiring schematic for proper connections.
7. With all components mounted, feed line and electrical connections completed, connect the nitrous supply line to the bottle and FULLY open the bottle valve and carefully check connections on the system for leaks and retighten fittings if necessary.

8. After a complete check and verification of all components of the system for proper installation and operation it is time to have some fun.

**Note: The nitrous solenoid is rated only for intermittent duty. Do not engage this solenoid for more than 20 continuous seconds. Solenoids that have “burned or scorched” electro-magnets will not be replaced under warranty.**

## 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!
3. Using the toggle switch “ARM” the system.
4. Test solenoid operation by using the system activation switch. The solenoid should “Click”. If it does not, re-verify all electrical connections and wiring diagram.
5. Carefully open the nitrous bottle and verify that no fittings or hoses are leaking. Correct any leaks before proceeding.
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 race use only and should only be used in that context.

## Additional parts recommended for operating your PROTON nitrous system satisfactorily:

- Nitrous Pressure gauge (PN 15509) - STRONGLY RECOMMENDED
- Purge Valve (PN 15603)
- Bottle Jacket (PN 15945)
- Bottle heater (NX 15941) - STRONGLY RECOMMENDED
- NHRA legal blow down vent fitting (PN 11709)
- NHRA legal blow down vent tube (PN 11708)

## SAFETY TIPS

Do not attempt to start engine if nitrous has been accidentally injected while the engine was not running. Disconnect wires and turn motor with throttle wide open for several revolutions before attempting to restart. If it is not possible to disable the injectors, you must wait 1 hour to restart the engine.

1. Never permit oil, grease, or any other readily combustible substances to come into contact with nitrous cylinders, valves, solenoids, hoses and fittings. Oil and certain gases (such as oxygen and nitrous oxide) may combine to produce a flammable condition.
2. Never interchange solenoids or other appliances used for one compressed gas with those used for another.
3. Identify the gas content by the label on the bottle before using. If the bottle is not identified to show the gas contained, return the bottle to the supplier.
4. Do not deface or remove any markings, which are used for content identification.
5. Cylinder valves should be closed except when nitrous is actually being used.
6. Notify supplier of any condition, which might have permitted any foreign matter to enter the valve or bottle.
7. Never drop or violently strike the bottle
8. Keep valves closed on all empty bottles to prevent accidental contamination.

## POWER TUNING TIPS:

Nitrous oxide works well with all applications; 4 cycle, 2 cycle, diesel, and rotary engines. Each one has individual tuning characteristics, and these tips apply generally to each one. Nitrous oxide is referred to as “Liquid

Supercharging” because it, in effect, does the same thing as a mechanical supercharger, adding more fuel and oxygen into each cylinder, thus producing more power.

1. Your engine should be tuned to its maximum power prior to nitrous usage.
2. Your fuel system is also an integral part of the nitrous system, be sure it is in top shape and all filters are clean.
3. Engine operating temperature should be between 160 and 200 degrees prior to nitrous usage.
4. Never “lug” your engine and hit the nitrous system, use the system at wide-open throttle only.
5. The better the exhaust system the better the nitrous system will work.
6. Do not attempt to drill or alter the jets, solenoids, or the tubes in the nitrous plate. These items are engineered to their maximum capability. Any modification you can make will decrease power and destroy engine parts.
7. Do not mix or attempt to match any other brand solenoids, plate, or nozzles with this system. Any attempt at this could lead to serious engine damage.
8. All of our systems are designed to operate at 1000 PSI bottle pressure. This is extremely important and cannot be stressed enough. If your bottle pressure is below 1000 PSI the system will run rich and will not produce the advertised horsepower. If the bottle pressure is above 1000 PSI the system will run lean, possibly damaging engine parts. This pressure is easily monitored by using a NX liquid filled pressure gauge (PN 15509). Note: When the ambient temperature is below 97 degrees a bottle warmer is required (PN 15940 or 15941). An NX bottle jacket (PN15945 or 15946) will help stabilize bottle pressure in the winter and summer.

**CAUTION: NEVER USE AN OPEN FLAME TO HEAT A NITROUS BOTTLE. THIS IS A VERY DANGEROUS AND POTENTIALLY FATAL PRACTICE!!!!!!!!!!!!!!**

9. A purge valve (15600) is recommended on all NX systems. When the weather begins to get hot a purge valve is worth up to a tenth of a second on a 1/4 mile pass. Note: The correct purging procedure for drag racing is: 1. Complete the burnout. 2. Light the pre-stage bulb. 3. Push the purge button three times, one second each. 4. Stage immediately, GO FAST.
10. If there is a question about the purity of your nitrous supply, a filter (PN15610 or 15607) should be used when refilling your bottle. Just attach the filter to your bottle when you take it to be refilled. Contaminated nitrous will cause serious damage to the nitrous solenoids and possibly to your engine. This is a lifetime renewable filter.
11. If you have questions about the suitability of your torque converter or gear ratios, call the factory tech line for the inside scoop.
12. Your nitrous bottle should be turned off when not in use (even between runs). An NX remote bottle opener (PN 11107) will make this task much easier.
13. Start with the lowest power setting in your system. Don’t try to be the track “Hero” on your first pass. Remember start out small and work your way up, NX systems produce more real horsepower than any other brand on the market today.
14. If the solenoids must be disassembled for cleaning or rebuilding always use the proper wrench (PN 15921). Do not use any clamping devise on the solenoid tower, instant non-warranty, damage will result.
15. All vehicles, including full competition race cars, must have an alternator to provide adequate amperage required by today’s racing accessories. Add up all the amps required by your car, you’ll be surprised!
16. If you have trouble with your NX system or any related parts, call your dealer first. If you still need help call the factory tech line 940-767-7694 9:00AM-5:00PM CST Mon-Fri. We are the nitrous experts and will give straight answers to your questions.

In conclusion.....

This instruction sheet and power tuning tips are valid only for a NX system. If you have a kit from another manufacturer this information will not help you! A tune up from any other brand of nitrous kit will not work with the NX “Next Generation” technology.

DO NOT LISTEN TO:

- A. YOUR BUDDY!
- B. YOUR BUDDY’S FRIEND!
- C. THE LOCAL NITROUS GURU!
- D. ANY ARTICLE IN ANY MAGAZINE

If you follow the foregoing suggestions, your NX system will operate trouble free and provide years of thrills. ABOVE ALL REMEMBER TO RACE SAFE AND HAVE FUN!

## Diesel Single Nozzle Jetting

Select the desired horsepower level to determine the nitrous jet requirements i.e. if you want a 50 HP boost you would use a 52 Nitrous jet.

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

Dry Single Nozzle	
HP	N20
50	52
75	62
85	73
100	82
125	88
150	93
175	99
200	110
250	136

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This jetting chart is for informational purposes only; NX is not responsible for misuse or misapplication.

# UNDERSTANDING HAZARDS OF NITROUS OXIDE

## IN AUTOMOTIVE AND RACING APPLICATIONS



**USERS OF NITROUS OXIDE MUST UNDERSTAND THE HAZARDS. NITROUS OXIDE:**

- ⚠ MAY CAUSE OR INTENSIFY FIRE; IT IS AN OXIDIZER.
- ⚠ CONTAINS GAS UNDER PRESSURE, MAY EXPLODE IF EXPOSED TO AN OPEN FLAME.
- ⚠ MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
- ⚠ MAY CAUSE DROWSINESS OR DIZZINESS.
- ⚠ MAY CAUSE FROSTBITE.



**NEVER INHALE NITROUS OXIDE OR NITROUS OXIDE MIXTURES EXCEPT UNDER MEDICAL SUPERVISION.**

- ⚠ RACING NITROUS OXIDE PRODUCTS CONTAIN SULFUR DIOXIDE.
- ⚠ INHALATION OF RACING NITROUS OXIDE PRODUCTS MAY BE HARMFUL OR FATAL.



**NEVER APPLY AN OPEN FLAME TO A NITROUS OXIDE CYLINDER**

- ⚠ WHEN FILLING FROM ONE CYLINDER TO ANOTHER.
- ⚠ TO ENHANCE PERFORMANCE WHEN CYLINDERS ARE IN USE.



**FOLLOW REGULATORY REQUIREMENTS AND INDUSTRY STANDARDS WHEN USING NITROUS OXIDE CYLINDERS OR WHEN TRANSFERRING PRODUCT FROM ONE CYLINDER TO ANOTHER (TRANSFILLING)**

- ✓ ONLY COMPETENT, TRAINED PERSONNEL SHOULD TRANSFILL CYLINDERS.
- ⚠ TRANSFILLING CYLINDERS CAN BE DANGEROUS.
- ✓ ONLY FILL NITROUS OXIDE CYLINDERS BY WEIGHT.
- ⚠ DO NOT COOL DOWN RECEIVING CYLINDER.
- ✓ ONLY USE CYLINDERS THAT ARE DEDICATED FOR NITROUS OXIDE SERVICE. DO NOT CHANGE THE CYLINDER SERVICE TO OR FROM A DIFFERENT GAS.



**DO NOT MAKE ALTERATIONS TO CYLINDER OR CYLINDER COMPONENTS**

- ⚠ DO NOT MODIFY PRESSURE RELIEF DEVICE (PRD).
- ⚠ DO NOT REPLACE, CHANGE, OR MODIFY VALVE.
- ⚠ DO NOT ALTER, REMOVE, OR COVER PRODUCT LABEL.



**FOLLOW SAFE PRACTICES FOR THE STORAGE AND USE OF OXIDIZERS**

- ✓ SECURE ALL CYLINDERS AND CONTAINERS WHEN BEING USED OR STORED.
- ✓ POST NO SMOKING SIGNS IN AREAS WHERE OXIDIZERS ARE STORED OR USED.
- ✓ SEPARATE OXIDIZERS FROM FLAMMABLES WHEN STORING.
- ✓ STORE AND USE IN WELL VENTILATED AREAS THAT ARE FREE OF COMBUSTIBLE MATERIALS.
- ✓ KEEP OIL AND GREASE AWAY FROM CYLINDER AND CYLINDER VALVE.