



# Nitrous Pump Station

Part #: 00-68002, 00-68003, 00-68004

## INSTALLATION INSTRUCTIONS

### Safety Tips

- Direct contact with Nitrous oxide will cause severe frostbite. Avoid contact to body.
- Never directly inhale nitrous oxide for vehicle applications contains sulfur. Inhaling any amount of nitrous oxide can cause respiratory ailments and/or death by suffocation.
- Always wear hand and eye protection when performing bottle fills.
- Always use inline water filter on the airline side.
- Never allow oil, grease, or any other combustible substances to come in contact with cylinders, valves, solenoids, hoses and fittings. Oil and certain gases(such as oxygen and nitrous oxide) may combine to produce a flammable condition.
- Never deface or remove any markings that are used for content identification on compressed gas cylinders.
- Nitrous mother bottle valves should be closed when pump station is not in use.
- Keep valves closed on all empty bottles to prevent accidental contamination
- After storage, open the nitrous bottle valve for an instant to clear the opening of any possible dust or dirt.
- Notify the supplier of any condition that might have permitted any foreign matter to enter the valve or the bottle.
- Never drop or violently strike the bottle.
- Do not use an air line oiler with this pump.
- Do not over tighten AN style fittings. They can easily be damaged.
- Compressed air supply to this pump should not exceed 150PSI
- Air supply should have an additional air/water separator before entering the pump
- Periodically check nitrous filter for contaminants. The frequency of use and other factors will determine how often the filter will need to be cleaned. To clean the nitrous filter, unscrew the cap from the end of the filter and spray filter element with brake cleaner until contaminants have washed out of the filter.
- Always make sure AN connections are free of contaminants before tightening them. Failure to do so can result in the fittings being scratched causing leaks.
- The valve in this system depends on dynamic O-rings which are lubricated with light grease at original assembly. Periodically, these valve O-Rings should be wiped clean and re-greased for reliable operation. The frequency will be determined by many variables such as regularity of use.



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### 1. Introduction

This Nitrous Outlet Pump Station is designed for rapid filling of nitrous oxide bottles. For proper performance, please follow these supplied instructions carefully. Before using this pump it is necessary to read all instructions and safety tips thoroughly. For any questions about this pump or its components please call a Nitrous Outlet Tech at (866)648-7637.

### 2. Components

- 1-Nitrous Outlet Pump
- 1- Air/Water Filter
- 1- ¼ NPT inlet and ¼ exit ball valve
- 1-NPT to air hose connection
- 1- Nitrous Outlet 6AN nitrous filter
- 1-¼ NPT x ¼ NPT male to male union
- 1- ¼ NPT x ¼ NPT 90 degree fitting
- 1- 3/8 NPT x 6AN straight fitting
- 3- ¼ NPT x 6an straight fitting
- 1- Nitrous cut off valve
- 1- #660 Mother Bottle Nut and Washer
- 1- 7" 6AN stainless steel braided hose
- 1- 12" 6AN stainless steel braided hose
- 2- 36" 6AN stainless steel braided hose

### 3. Pump Operation

- A. Place the nitrous cylinder you intend to fill on an accurate scale. Determine how much nitrous oxide is left in the cylinder. If there is only a small percentage left in the cylinder, open the valve and relieve all the pressure in the cylinder. If a cylinder is more than 1/3 full and is going to be "topped off", it may be necessary in hot climates to place it in a refrigerator or freezer for a short period of time to cool it off to approximately 45° F. Lowering the temperature will also lower the bottle pressure and allow a complete fill/. In areas where daytime temperatures exceed 89 ° F, this method of cooling cylinders before filling may be necessary for all cylinders, regardless of whether they are full or empty.
- B. Connect the nitrous control calve assembly to the nitrous oxide cylinder you wish to fill. Initially only tighten slightly and turn on mother bottle to "bleed" air from the lines. You will know that the air has been bled from the lines when white nitrous vapor comes out around the fitting. You now have liquid nitrous all the way up to the bottle you are filling. Using a wrench, tighten the

### INSTALLATION INSTRUCTIONS

fitting to the nitrous bottle nipple. NOTE: If the bottle you are attempting to fill is equipped with a -4 bottle nipple you will need a 4ANx6AN adapter fitting and 4AN hose.

- C. Place the nitrous cylinder on an accurate scale and note the weight. There will be a slight weight increase due to the ball valve assemble. This additional “tare” weight must be added to the filled weight of the cylinder as stated on the cylinder label.
- D. Close the ball valve.
- E. Fully open the mother bottle
- F. Fully open the nitrous cylinder valve that you are filling.
- G. Open the ball valve assembly. Wait for the pressure in the mother bottle and nitrous cylinder to equalize. Often times with colder bottles you will see that nitrous has begun to fill the cylinder. Once the weight stops increasing the pressure has equalized.
- H. Slowly open the air pressure control valve on the compressed air side. Watch the scale reading and close the compressed air valve when the nitrous cylinder reaches its full weight.  
**NOTE:** If the cylinder being refilled reaches 1100PSI before the full weight of the bottle is reached, stop the pump by closing the compressed air valve. Invert, then right the nitrous cylinder. Repeat several times until you feel the bottle temperature drop. You can then turn the pump back on and continue filling the nitrous cylinder.
- I. Close the valve on the nitrous cylinder.
- J. Close the valve from the mother bottle
- K. Slowly disconnect the line to the nitrous cylinder. There will be some pressure in this line so unscrewing it slowly is important to let the pressure slowly bleed out.
- L. Close the valve to the mother bottle.

