



# Nitrous Pump Filling & Maintenance Instructions

PART NUMBER 00-68002, 00-68003, and 00-68004

## INSTALLATION INSTRUCTIONS

This Nitrous Outlet Pump Station maintenance instructions 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 please call a Nitrous Outlet Tech at (254) 848-4300.

### Safety Tips and Maintenance for Nitrous Pump Station

- Direct contact with nitrous oxide will cause severe frost bite. Avoid contact to body.
- Never directly inhale nitrous oxide as 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.
- 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 and should not drop below 90psi.
- 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.

### Components Included with Nitrous Pump Station

- 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

**\*These are the components used for these instructions. If you are using aftermarket parts, other components may be required.**

IMPORTANT- ALL APPROPRIATE SAFETY EQUIPMENT (GLOVES, TOOLS ETC.) MUST BE USED DURING THE INSTALLATION OF THIS PRODUCT(S). NITRO DAVE'S LLC ACCEPTS NO RESPONSIBILITY FOR INJURIES RESULTING IN THE INSTALLATION OF ANY PRODUCT(S). NITROUS OXIDE IS FOR OFF-ROAD USE ONLY.

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### Bottle Filling Instructions

#### Step 1:

Turn on your weigh scale and let it zero out. While the scale starts up make sure your ¼ turn valve is closed and open the mother bottle.



#### Step 2:

Set your nitrous bottle on the scale and see how much it weighs with the amount of nitrous that is in it. Keep this number handy because we will use it later.

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### Step 3:

Attach your fill hose to the bottle nipple and tighten. Slowly open your ¼ turn valve. This will push all the air to your bottle nipple. Now you will crack the fill hose at the bottle nipple to bleed the air out of the system to ensure a proper fill. You will know all the air is bled out of the system when there is a solid plume of nitrous coming out of the fill hose end.



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## INSTALLATION INSTRUCTIONS



### Step 4:

Now that the bottle is ready to fill you are ready to do a little math. The bottle will have the weight of gas only, bottle only, and a total weight of nitrous on the label. Take the number that you had from Step 2 and subtract it from the total weight of the bottle and gas. Ex: A completely full Nitrous Outlet bottle weighs in at 23.9 lbs, bottle weighs in at 20.5 lbs, so bottle needs 3.4 lbs. Rule of thumb if you are filling over 6 lbs the bottle should be emptied to ensure a proper fill.



### Step 5:

Now you know how much you need to fill and the air is purged out of the system you are ready to fill. Zero your scale and open the bottle valve slowly till you hear the nitrous flowing steadily in the bottle and continue to open till its wide open. If your bottle is cold you may not have to run the nitrous pump but if your bottle is room temp or hotter turn the air valve and the pump will start filling. Close the air valve when you get close to your target weight. Shut off the 1/4 turn valve and close your bottle valve. Crack your fill line so you can purge the line and remove it.



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## INSTALLATION INSTRUCTIONS



### Step 6:

Verify that you have a complete fill, take the bottle off the scale and zero it out. Once it's zeroed out place the bottle back on the scale to get a complete weight of the bottle and gas together. If it's close to 23.9 lbs then you have successfully completed a proper fill.



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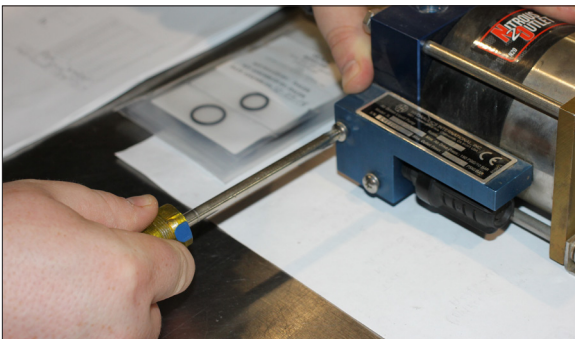
## INSTALLATION INSTRUCTIONS

### CAUTION - REMOVE PUMP FROM AIR SUPPLY BEFORE DISASSEMBLY:

These Periodic Maintenance Instructions are designed specifically for the Hydraulics International, Inc. If you need any assistance during installation or if you have questions about this plate system, call our Tech Help Line at (254) 848-4300. All HII models incorporate a spool-type directional control valve that is the heart of the cycling system for the drive. This valve 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. This frequency will be determined by many variables such as air moisture content, contamination, cycle rates, and overall duty cycle of individual applications. The typical symptom indicating need for re-greasing the O-rings is slow, erratic cycling. It is suggested that a note be made of the frequency of this slow down, so that it can be predicted, and then the O-rings cleaned and re-greased at a convenient shut down to insure uninterrupted operation when the unit is needed.

#### Tools Needed for Installation\*:

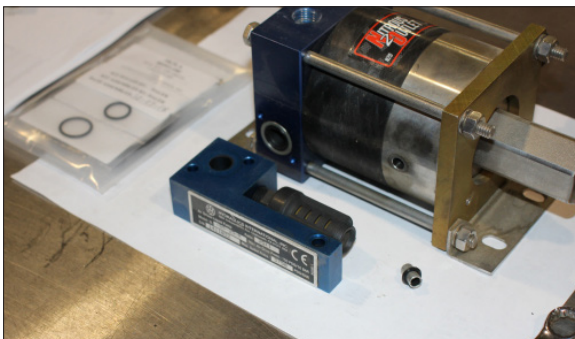
- Pick
- 7/16" Wrench
- 11/16" Wrench
- Phillips Head Screwdriver



### Periodic Maintenance

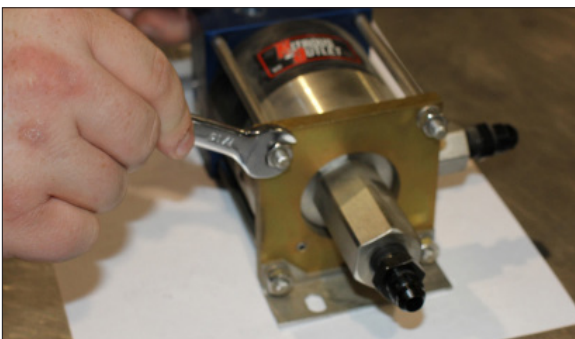
#### Step 1:

Remove both Phillips head screws and pull muffer away from pump.



#### Step 2:

Remove all four 7/16" bolts and set mounting plates aside.



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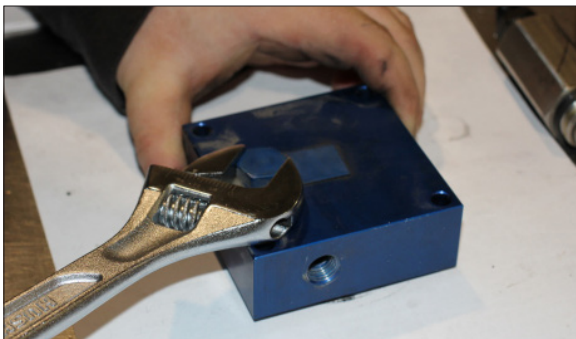
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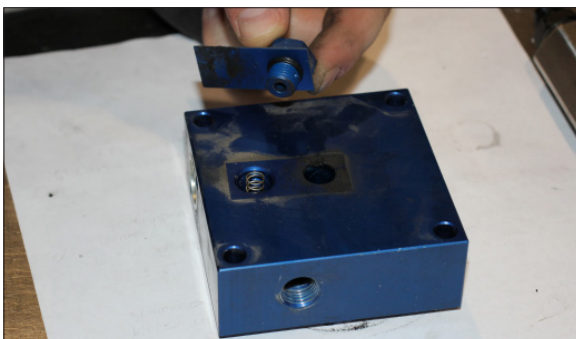
## INSTALLATION INSTRUCTIONS



**Step 3:**  
Remove upper housing from pump body



**Step 4:**  
Remove 11/16" bolt and block off plate from upper housing.



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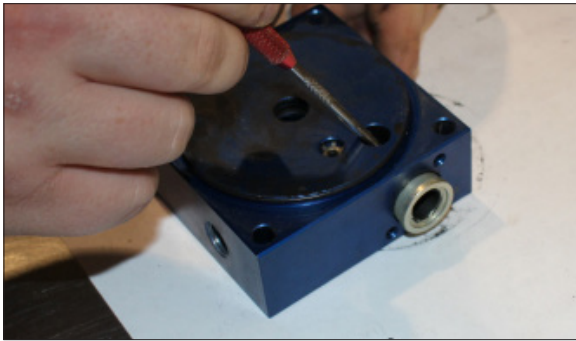
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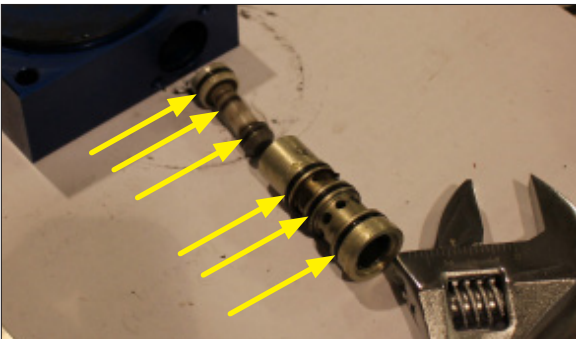
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## INSTALLATION INSTRUCTIONS



### Step 5:

Use pick to remove air valve from upper housing.



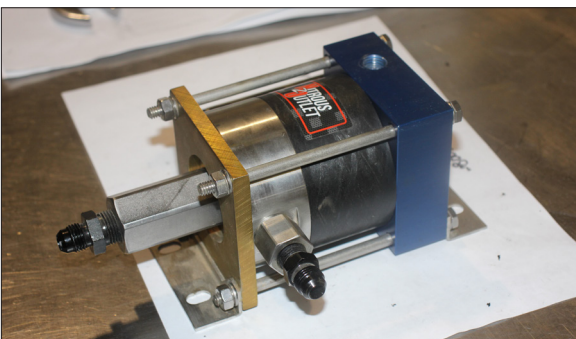
### Step 6:

Use a lint-free cloth to clean air-valves and o-ring areas and inside upper housing as best as possible.



### Step 7:

Apply light grease to o-ring areas and inside upper housing. We typically use white lithium grease



### Step 8:

Reverse the disassembly process and reassemble the pump.

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