

BoonDocker Orifice Plate / Filter Update Instructions

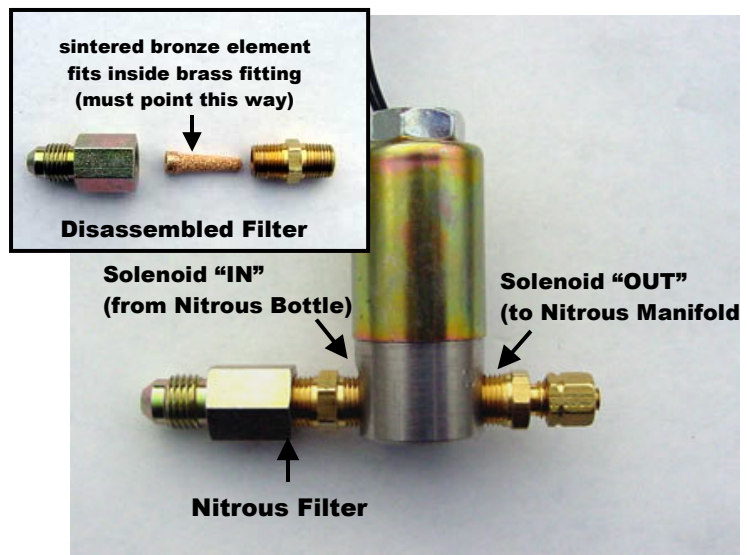
This update provides an orifice plate that flows more nitrous and a Nitrous Filter that fits on the Solenoid.

Update Kit Contents:

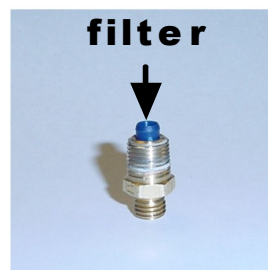
- 1 – Nitrous Filter
- 1 – new orifice plate
- 2 – O-rings

Nitrous Filter Installation Instructions:

1. Remove the fitting that attaches the braided hose to the nitrous solenoid. This fitting is on the side marked “IN”.
2. Thoroughly clean the threads. Any remaining debris will bypass the filter and go straight to the Nitrous Manifold!
3. Install the Nitrous Filter onto the nitrous solenoid. Use Teflon tape on the threads – be sure not to get any tape on the inside of the threads, which will quickly clog the filter!



4. There is a small blue filter located on the Nitrous Manifold behind the brass compression fitting that holds the black poly line. Remove this fitting and remove the blue filter (use needle-nose pliers to remove the filter from the fitting). Some manifolds have a small washer behind the fitting – remove this washer as well.
5. Thoroughly clean the threads. Any remaining debris will plug the small nitrous orifice holes and prevent the manifold from spraying! Reinstall the fitting with Teflon tape - be sure not to get any tape on the inside of the threads!



Read this before you increase nitrous

Be sure your engine is working good before you decide to increase the amount of nitrous. If you are not getting the power increase you are expecting with the original setup, something is likely wrong. Review the manifold tuning procedure and verify that you can tune the manifold so you know there is too much fuel. From there, if leaning the manifold mixture screw does not produce an increase in power, one of the following problems may exist:

1. Be sure your bottle is full, at the correct temperature (70-90 deg), and positioned correctly so the valve picks up liquid nitrous. The system will not work properly if nitrous vapor is being picked up or if the bottle is too cold.
2. Your engine could be detonating. Detonation can occur if your compression ratio is high, your timing has been advanced, or you are not using good octane fuel. Listen carefully to the motor - if it does not sound clean and you are not too rich, you are likely detonating.
3. A bad power source or faulty electrical connection may cause the nitrous system to malfunction intermittently. Carefully check all connections. If necessary, solder all connections.

Important Note: A known problem exists on Polaris snowmobiles when the lighting system has been disconnected (like when the hood has been removed). The voltage will be fine at an idle, but when revved up, the voltage regulator will become overloaded and the voltage will drop, causing the nitrous solenoid to no longer work. Either reconnect the headlight, or install an additional voltage regulator in parallel (connect both yellow wires together). Both regulators must in good working order and be the exact same type so they both regulate to the same voltage.

4. Dirty nitrous can quickly plug the nitrous filter and obstruct the nitrous delivery. Remove and clean the sintered bronze filter element by blowing compressed air through it backwards. Always fill your bottle from a filtered source.

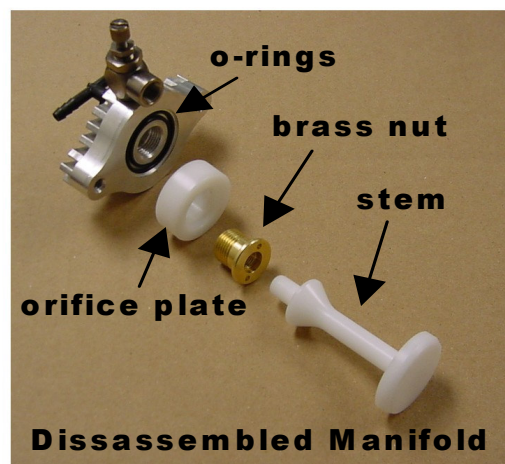
Orifice Plate Instructions:

A. Remove Manifold from Airbox

In order to keep everything clean, we recommend you first remove the nitrous manifold from the airbox.

B. Install New Orifice Plate

1. Remove the stem from the manifold by unscrewing it counter-clockwise. Do not use tools.
2. Using the supplied socket tool, loosen the brass nut that holds the orifice plate.
3. Remove the old orifice plate and o-rings and install the new o-rings and orifice plate. Make sure the orifice plate is facing the right way - the larger orifice holes face towards the o-rings in the manifold, and the brass nut fits down into the orifice plate. Make sure both o-rings are in the center groove and be sure to tighten the brass nut until the o-rings are fully compressed.
4. Replace the stem. Tighten it until it is hand-tight and snug.
5. Reinstall the manifold on the airbox and reconnect the black nylon line and carb vent hoses.
6. Retune the manifold according to the instructions below. Even if the manifold has been tuned before, it still needs to be retuned. Be sure to check carefully for leaks around the orifice plate and brass fitting on the manifold.



Manifold Tuning Instructions:

1. Run the sled in an open area at full throttle and apply nitrous for 1 or 2 seconds. Note engine power and rpms when the button is pushed.
2. Enrichen the mixture by turning the nitrous manifold adjustment screw in (clockwise) 1/2 turn. Run nitrous for 1 or 2 seconds again and note power and rpm difference. If no power loss is noted, repeat step 2 until a loss is noted. A power loss indicates you are rich enough (be sure!) - go to step 3.
3. To find where the mixture starts to become too lean, turn the nitrous manifold adjustment screw out (counterclockwise) 1/2 turn and note power. A power increase should be noted. Turn nitrous manifold adjustment out 1/2 turn and compare to previous run. If no power increase is noted, go to step 4. If power increase is noted, repeat step 3 until no power increase is noted. Use extreme caution - you can go too lean!
4. For the final setting, turn the nitrous manifold adjustment screw back in (clockwise) 1/2 turn.
5. After this adjustment is made, if the engine does not run perfectly smooth when using nitrous, do not use it! If the exhaust note does not sound clean, the cause is likely detonation which can quickly destroy the engine. Either use higher octane fuel or reduce the engine's compression before using nitrous again.