



PRESSURE ON DEMAND

NITROUS P.O.D.

P/N 14182NOS (w/ bottle opener and heater)

P/N 14181NOS (w/o bottle opener)

P/N 14180NOS (P.O.D. only)

CONGRATULATIONS on purchasing your NOS Nitrous Oxide Accessory! If you have any questions regarding the performance of your product, call **NOS Technical Service** at 1-866-GOHOLLEY, fax to 1-270-781-9772, or for online help, please refer to the **Tech Service** section of our website: www.holley.com.

1.0 INTRODUCTION:

The NOS P.O.D. is a single controller for the bottle opener, bottle heater, and bottle pressure control. With the P.O.D., the user can now control bottle pressure automatically. It allows for the user to open and close the bottle, as well as control nitrous bottle pressure from inside the vehicle. NOS nitrous systems are calibrated for a nitrous bottle pressure of 950 psi, which requires a bottle temperature around 85° F. The NOS P.O.D. allows the operator to reach the performance levels that all NOS products are designed to achieve.

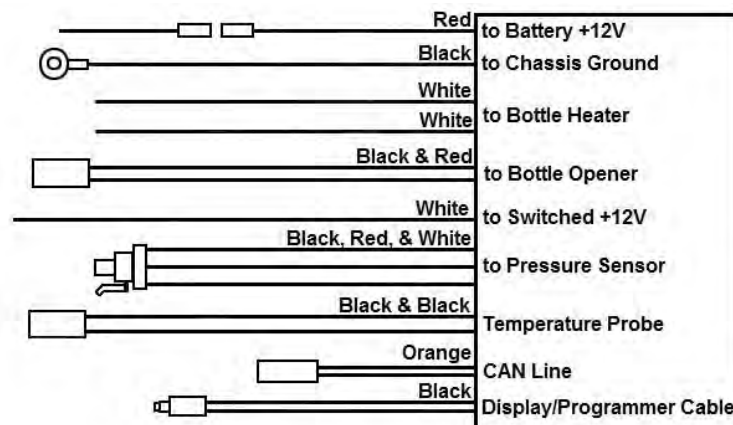
This instruction sheet outlines the setup and usage of the NOS P.O.D. controller. It is important to pay attention to the **NOTES / IMPORTANT** highlights that head some of the sections, as they explain each function key and what they mean.

NOTE: INDEPENDENT OPERATION - This is used when the operator wants to mount the nitrous pressure sensor directly into the bottle valve so the sensor will see bottle pressure, even if the valve is not open. This is so the heater can be operated and bottle pressure can be raised without requiring that the bottle be open. These threaded ports are usually found in the bottle valve itself. If you are using an NOS brand bottle, the valve should say SUPER HI-FLO on the side of the valve. If your NOS brand bottle is not a SUPER HI-FLO, it will not contain these ports. Standard NOS HI-FLO valves do not contain this port. (The type of valve is forged into the side of the housing).

IMPORTANT!!! DO NOT OPERATE THE POD IN INDEPENDENT MODE WHEN USING A HI-FLO VALVE OR ANY BRAND BOTTLE THAT DOES NOT HAVE THE SENSOR MOUNTED IN THE BOTTLE!!! THIS WILL DISABLE THE SAFETY/HIGH PRESSURE WARNING AND COULD LEAD TO POSSIBLE VEHICLE DAMAGE, PERSONAL INJURY, OR DEATH!!! ONLY OPERATE AN NOS HI-FLO VALVE IN DEPENDENT MODE WITH THE NOS POD!!!

NOTE: DEPENDENT OPERATION - This operation is required when the operator mounts the nitrous pressure sensor after the outlet of the bottle valve. **This mounting style is MANDATORY for a HI-FLO valve.** For those using the SUPER HI-FLO valve, this mounting style is optional. To operate the P.O.D. in this manner, the pressure sensor is anywhere after the outlet of the bottle valve, where the main nitrous feed line would be attached. If this is the way you chose to mount your pressure sensor, select DEPENDENT for heater/opener independent/dependent operation in the setup menu.

WARNING! Be very careful when removing any fittings in the nitrous bottle. Make sure that the bottle has been completely emptied!



Wiring Diagram

2.0 OPENER AND WIRING HARNESS INSTALLATION

1. Disconnect the negative battery cable.
2. Use a small flat-head screwdriver or pick to remove the cap from your NOS bottle valve handle.
3. Use a 1/2" socket to loosen the nut (**BE VERY CAREFUL NOT TO OPEN THE BOTTLE VALVE**) and remove the handle from the top of your NOS bottle.
4. Slip the bottle gear over the square brass stem on top of the valve and reinstall the lock nut (Fig. 1). Tighten securely.

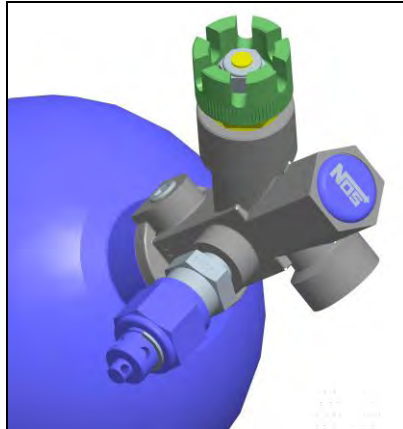


Figure 1

5. Carefully use a straight blade screwdriver to quickly crack the valve open and closed. Be very careful not to expose skin or eyes to nitrous spray if there are no attachments on the bottle opening. This step is to ensure that the bottle valve was not over torqued and too tight for the motor to open.

WARNING! Don't inhale nitrous; death may occur. Contact with skin can cause frostbite.

6. Install the bottle opener motor assembly over the bottle gear, making sure the gear on the motor meshes with your bottle gear.
7. Once the motor assembly is installed correctly, tighten the opener assembly securely.

NOTE: The bottle must be closed when the unit is first started. The unit always assumes the bottle is in a closed position.

8. Install the nitrous pressure transducer. If set up for "independent" operation, install the sensor in the nitrous bottle gauge port (make sure bottle is empty!!). If the sensor is to be installed after the bottle, a -4 AN adapter is included to install the pressure sensor. If the line is a -6, a -6 gauge adapter must be purchased. Use some Teflon paste (never tape) on the sensor threads only when installing or it will leak.
9. Next, mount the main controller next to the nitrous bottle.
10. Run the 12 ga. red power wire to a good source of full-time battery power. There is a separate wire included as well as a ring terminal if needed. The best place is to run this to the battery.
11. Run the black single ground wire to a good, clean bare-metal chassis ground.
12. Run the single white power wire to a switched +12 volt power source (only has power when the ignition switch is in the "run" position. There is a scotchlock connector included to tap into a switched power wire in the kit.
13. Connect the 3-wire (red, black, & white) connector from the controller to the pressure sensor.
14. Connect the 2-wire (black & red) connector from the controller to the opener motor.
15. Secure the heater element around the bottle with the Velcro straps, making sure to install the temperature sensor underneath the nitrous heater strap. This will allow for monitoring of the bottle temperature.
16. Then connect the two white wires from the controller to the bottle heater. There are two crimp connectors provided in the kit for this. It doesn't matter which wires are connected to the bottle heater.

17. Route the Display/Programmer cable from the controller into the passenger compartment, making sure the cable is not in danger of being crimped or cut. Reroute, as necessary. Install the Display/Programmer and connect to the Display/Programmer cable on the controller. If the length is not long enough, a mouse/keyboard extension cable (called PS/2) can be purchased at most computer stores.
18. The unit should now be ready for use.

Let's Set Up Your New P.O.D.!

3.0 MAIN MENU OPTIONS:

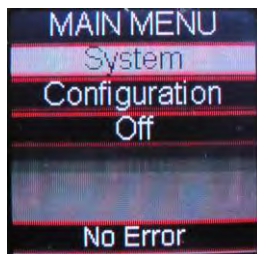


Figure 2

- **System** – Enters into the menu to operate the P.O.D.
- **Configuration** – Enters into configuration parameters, if they need to be changed.
- **Off** – Shuts the unit off while it is still powered. To turn back on, simply hit the button.

4.0 SYSTEM MENU:

1. Hitting the menu key will show the following screen (Fig. 3).



Figure 3

- **(1) ACTUAL >> TARGET** – The left value shows the actual bottle pressure. The right value shows the target. This target should be what is set up in the Configuration area. However, if you would like to raise or lower it, you can click on those values and edit the target pressure. Note that when the power is cycled, it will revert back to the setting in the Configuration area. To change it permanently, change it in the Configuration area.
- **(2) TEMPERATURE AND VOLTAGE** – The values on the second line from the top indicate the temperature from the temp sensor, which should be installed in the blanket. The value on the right, indicates the voltage of the P.O.D. unit.
- **(3) HEATER ICON** – The left icon is used to turn the heater on and off, and show its status. When the system is set up in “Dependent Mode”, the heater can only be turned on, when the bottle is open. Click on the icon, and it will change from “HEATER OFF” to “HEATER ON”.
- **(4) OPENER ICON** – The icon on the right is used to open and close the bottle and show its status. When the bottle is closed, the icon will say “CLOSED”. After the icon is selected, it will open the bottle and say “OPEN”.
- **(5) ERROR/BACK** – The bottom of each screen is used to return to the Main Menu Screen. It also shows if there is an error. If no error is present, it will say “No Error”. If any error is present, it will say “Error Detected”. To view the error, go back to the main menu screen, and click on “Error Detected” at the bottom of the screen.

5.0 CONFIGURATION MENU:

1. To enter the configuration menu, simply select "Configuration" from the Main Menu screen (Fig. 4).
2. The following reviews the options in the config menu:

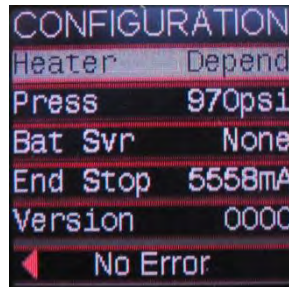


Figure 4

HEATER – DEPENDENT (spelled DEPEND on P.O.D.) or INDEPENDENT (spelled INDEPEND on P.O.D.) – This allows for the user to select for either Dependent operation or Independent operation.

- **Dependent** – Must be used when the pressure sensor is NOT installed in the nitrous bottle. The bottle must be opened for the heater to function, if not the unit will not be able to read the bottle pressure as it rises. In dependent mode, the bottle MUST be opened before the heater can be turned on. When the bottle is closed, the heater is automatically turned off.
- **Independent** – Can only be used when the pressure sensor is installed in the nitrous bottle, allowing for the unit to read pressure whether the bottle is opened or closed. This mode allows for the heater to be turned on with the bottle closed.

WARNING! Using the independent setting with the pressure sensor installed after the bottle valve could result in excessive pressure leading to bottle discharge or rupture. If unsure as to which setting to use, contact the NOS technical support line.

- **PRESSURE** – This is the default target pressure (PSI) the unit targets every time the unit is turned on. The default value is 950 PSI.
- **BAT SAVER** – This is a battery saver feature. Use the ▲ and ▼ buttons to change it. The following can be selected:
 - **NONE** – Disables feature. Will keep heater on no matter what the battery voltage
 - **HTR & CLSE** – Automatically shuts bottle and turns heater off if the battery voltage goes below 9 volts
 - **HTR ONLY** – Automatically turns heater off if the battery voltage goes below 9 volts
- **END STOP** – This is the current at which the unit will shut off at when opening and closing the valve. If the value is too low, the valve will not fully seal when it is closed. If it is too high, it will prematurely wear the valve or tighten the valve too much and it will stick when it is opened or closed. For NOS openers, testing has found a value of 5500 Milli-Amps (mA) to be the best value. Normally, this value should not have to be changed.
- **VERSION** – This shows the firmware version in the unit and serial number.

6.0 NORMAL USE:

The unit is easy to use. Simply turn the unit on and it will come up to the MAIN MENU screen. Select "System" to operate the opener or heater. If in dependent mode, the bottle must be opened before the heater can/will turn on. If in independent mode, the heater can be turned on and off without the bottle being open. If the bottle is not up to the target pressure, turn the heater on. The heater will automatically regulate the pressure to the target setting. When nitrous is to be used, open the bottle.

Once the target pressure is reached, the heater may cycle on and off, but the Heater Icon will remain on if it is activated.

NOTE: When the power is shut off, the bottle will always automatically close.

7.0 ERROR CODES:

- The following are error codes that will show if there is a problem with the unit. If an error occurs, you will get an “Error Detected” message at the bottom of the screen (Fig. 5). To view the error, go back to the main menu screen, and click on “Error Detected” at the bottom of the screen. This will bring up the “Error Status” screen, which will show any errors present (Fig. 7).

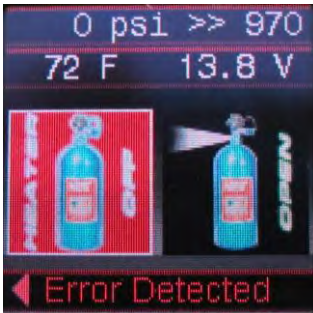


Figure 5

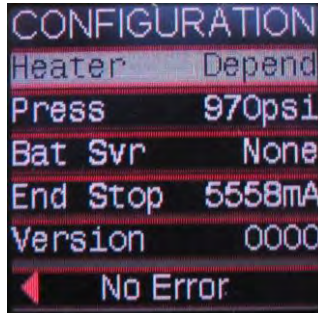


Figure 6

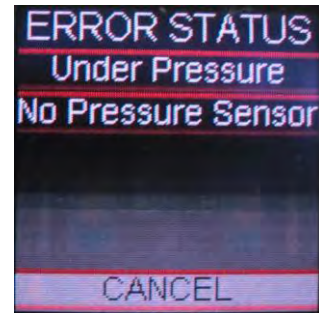


Figure 7

- **No Errors** – No errors present (Fig. 6).
- **Over Pressure** – Shuts off the heater if pressure goes over 1500 PSI.
- **Under Pressure** – Shuts off the heater if the pressure is below 250 PSI, suggesting that the sensor is not seeing real pressure, or the bottle is empty.
- **No Pressure Rise** – If the unit does not see a 4 PSI pressure rise in 15 minutes, this error will occur. This would occur if misusing independent mode and turning the heater on without the sensor seeing real bottle pressure.
- **Openr Max Timeout** – If opener runs for 5 seconds and doesn't hit an end stop.
- **Openr Min Timeout** – If opener hits an end stop too soon, valve could be stuck too tight for opener to open or close.
- **Heater Open Circuit** – Heater failed or not connected.
- **Heater Short Circuit** – Short circuit in heater detected.
- **No Pressure Sensor** – Pressure sensor disconnected or failed
- **No Temp Sensor** – Temp sensor not connected or failed
- **Config Save Error** – Problem saving config file. Check for missing or damaged SD card.
- **NO COMM LINK** – If display is not communicating with controller.
- **Low Voltage** – If system voltage drops to an unsafe value.

In the unlikely case that the valve is “stuck” when it is opened or closed (you will get the “Openr Min Timeout” message, hit the OPENER button again. This will “hit” the valve again and may unseat the valve.

If you have a valve that gets stuck, the “End Stop” current may have to be lowered. Contact NOS technical services for any assistance.

8.0 ACCESSORIES

- Replacement Heater – 14162NOS

NOS Technical Support
Toll-Free Phone: 1-866-GOHOLLEY
Phone: 1-270-781-9741
Fax: 1-270-781-9772

For online help, please refer to the Tech Service section of our website: www.holley.com

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