



## INTRODUCTION

Thank you for purchasing the highest quality nitrous system on the market. Nitrous Outlet strives to offer the best product with the best price and customer service available. Nitrous Outlet has trained professionals on staff to help with any technical questions you may have before and after your installation. You can contact Nitrous Outlet at 1-866-648-7637 or [info@nitrodaves.com](mailto:info@nitrodaves.com).

All Nitrous Outlet systems are carefully designed to work on specific applications. We suggest contacting the tech. department to learn what modifications, if any, are needed for this kit to work properly on your application.

It is the purchaser's responsibility to follow all installation instruction guidelines and safety procedures supplied with the product. It is up to the customer to determine the compatibility of the product with the application the purchaser intends to install the product on.

Nitrous Outlet assumes no responsibility or liability for damages incurred by these products manufactured or sold by Nitrous Outlet.

Nitrous Outlet neither recommends nor condones the use of products manufactured or sold by Nitrous Outlet on vehicles, which may be driven on public roads or highways, and assumes no responsibility for damages incurred by such use.

Nitrous Outlet accepts no responsibilities of knowing your state laws, and recommends that all products should be used for off road use only.

These instructions will guide you through the installation of your Nitrous Outlet nitrous system. For the best results please follow the directions in order and step by step. This way you can insure you have a safe and properly installed system.

Use red loc-tite or Teflon paste on all pipe thread connections. Do not use any type of sealer on the AN fittings. (Flare, hose, and bottle connections). **DO NOT USE TEFLON TAPE.** If you use loc-tite you will need to heat the connector to loosen.

Before starting your installation, disconnect the negative battery cable. See your owner's manual for information if needed.

## Item List

00-10040 Universal EFI Single Nozzle pictured for illustration purpose



Number	Description	Part Number
1	Bottle & Bottle Brackets	00-3014 (bottle) 00-3200 (bracket)
2	Relay and Harness	00-5202
3	Bottle Bracket Bolts	00-5300(bolt) 00-5301(nut) 00-5302(washer)
4	Electrical Connectors	Call
5	Wide Open Throttle Mounting Screws	00-5306(nut) 00-5305(bolt)
6	Solenoid Mounting Screws	00-5303
7	Wide Open Throttle (WOT) Switch	00-5100
8	Solenoid and WOT Mounting Brackets	00-5402
9	Pan Head Screws	00-5304
10	Toggle Switch	00-5102
11	Switch Bezel	00-5103
12	Bottle Nipple	00-3400
13	Bottle Nut	00-3402
14	16' Main Feed Line	00-2067
15	24" Solenoid to Nozzle Lines	00-2010(red) 00-2011(black)
16	18" Fuel Feed Line	00-2042
17	Wire	00-5217(red) 00-5219(blue)
18	1/8x3an (nitrous solenoid outlet)	00-1059B
19	1/4x4an (nitrous solenoid inlet)	00-1062B
20	Ford Fuel Rail Fitting	
21	1/8x3an (fuel solenoid outlet)	00-1059R
22	1/8x4an (fuel solenoid inlet)	00-1061R
23	Nitrous Solenoid	00-5004
24	Fuel Solenoid	00-5005
25	Jets	
26	Nozzle	00-4000
27	Import Fuel "T"	

## Mounting The Bottle



Bottle placement is critical to the performance of your Nitrous Outlet Nitrous system. It is important to mount your nitrous bottle properly in order to ensure that the siphon tube located in the nitrous bottle picks up liquid nitrous.

If mounting the bottle in lay-down position, the bottle valve must be towards the front of the vehicle with the label facing up.

If mounting the bottle vertically, the valve handle and label must face toward the front of the vehicle. This position will orientate the siphon tube at the back of the bottle where the liquid nitrous will be during acceleration.

If mounting the bottle sideways in the vehicle the valve handle and label must be angled around 45\* toward the front of the vehicle. This position will orientate the siphon tube at the back of the bottle where the liquid nitrous will be during acceleration.

1. Insert the bottle nipple into the bottle nut and tighten on to the bottle valve. Fasten bottle brackets around the bottle. Use illustration B as a guide for proper bottle and bracket orientation.
2. Place the bottle, still in the brackets, in a mounting location that will provide easy access. Using the brackets as a pattern, mark and drill four 3/8" holes.

NOTE: Before drilling check for fuel tank, lines, wiring, etc. Secure bracket using the four supplied 5/16 bolts.

## NOZZLE MOUNTING

The location of the nozzle will determine the solenoid placement. This system comes with 2-foot lines to run from the solenoid to the nozzle. On a wet single nozzle system the recommended nozzle location will be mounted into the inlet tube 2-6" in front of the throttle body. On a single nozzle dry system the nozzle will be placed in the air box before the mass air meter. Certain application will dictate other nozzle location. Please call technical support if you need additional assistance at 1-866-648-7637.

1. Determine the nozzle location. This area should be as flat as possible and free from obstruction. Mark and drill a 9/16" hole in the inlet tube.

2. Using a silicone RTV type sealant, apply a thin bead around the nozzle adapter surface. Insert adaptor from the inside of the inlet tube and snug the locking lug from the outside.



Thread the nozzle into the adaptor and position so that the discharge point is pointed towards the throttle body.

3. Using the supplied jet card choose the lowest horsepower jets available. Place jets into nozzle. It is always best to start small and work your way up to larger jets. Attach the black stainless line to the nozzle fitting marked "N2O" and the red line to the side marked "fuel"

**NOTE:** Always check the jets for obstruction before using.

## **ROUTING THE NITROUS FEED LINE**

**NOTE:** Place a piece of tape over the end of the line before routing to prevent debris from entering the line.

The 16' -4 AN nitrous feed line may be routed to the engine either through the passenger compartment or underneath the vehicle.

If routing the main feed line under the vehicle route the line as to avoid kinks, possible abrasion points or exhaust components. Drill a 3/4" hole in a suitable area near the bottle valve. Starting at the bottle (do not attach line to nipple) route the line to the engine bay. Following the factory fuel lines is usually the best route. Make sure to keep a safe distance from any moving parts, suspension components, and hot engine parts. Make sure to secure the line where possible. Avoid any electrical connections as sparks can destroy the lining and cause a nitrous leak. If routing the main feed line inside of the vehicle, route the main feed line from the back of the vehicle to the front exiting through the firewall into the engine bay, avoiding kinks, possible abrasion points, or electrical components.

## **SOLENOID MOUNTING**

1. Nitrous Outlet Solenoids are designed with 1/4 NPT inlets and 1/8 NPT discharge ports. The nitrous solenoid has 2 1/8 NPT discharges, the side discharge is for a purge and the bottom location is the main nitrous discharge port. If you are not using a purge there is an included 1/8 plug to block off the purge port. Install all solenoid fitting using Teflon paste. **DO NOT USE TEFLON TAPE.** The black 1/4x-4 fitting will go in the nitrous solenoid inlet. The black 1/8x-3 will go in the bottom discharge. The red 1/4x-1 will go in the fuel solenoid inlet, and the 1/8x-3 will go in the fuel side discharge port.

2. The solenoid mounting brackets are designed to be universal. Start by mounting the bracket to the solenoids. Do not tighten, as you may have to flip the bracket over to align the solenoid for proper orientation. Try to locate an existing screw or bolt to mount the brackets. Remember you will need to locate the solenoids within reach of the nozzle lines. Tighten all mounting screws.

**NOTE:** The solenoids can be mounted vertically, horizontally or upside down.

3. Thread the black -3 line onto the nitrous discharge and the red -3 line to the fuel discharge port. The nitrous main feed line will attach to the nitrous solenoid inlet.

**NOTE:** Before attaching remove the tape and purge the feed line to remove any debris from the line. You can do this by blowing compressed air into the line while having an assistant hold the other end away from the car and any bystanders. Immediately after purging attach the feed line to the nitrous solenoid and the bottle nipple.

## FUEL SUPPLY

There are two ways to tap into the factory fuel supply. The first is to use the fuel test port and the other is to splice into the high-pressure side of the fuel lines.

**WARNING:** The fuel rail and/or fuel lines are under high pressure. Use extreme caution when disconnecting any fuel line. Collect and dispose of any excess fuel spillage.

Located on the fuel rail is a test port normally used by mechanics to test fuel pressure. This will usually be covered by a plastic cap and is where the fuel feed line should be connected if possible.

**NOTE:** Care should be taken to confirm that the port you have selected is a fuel fitting, as there are several test ports in the engine bay.

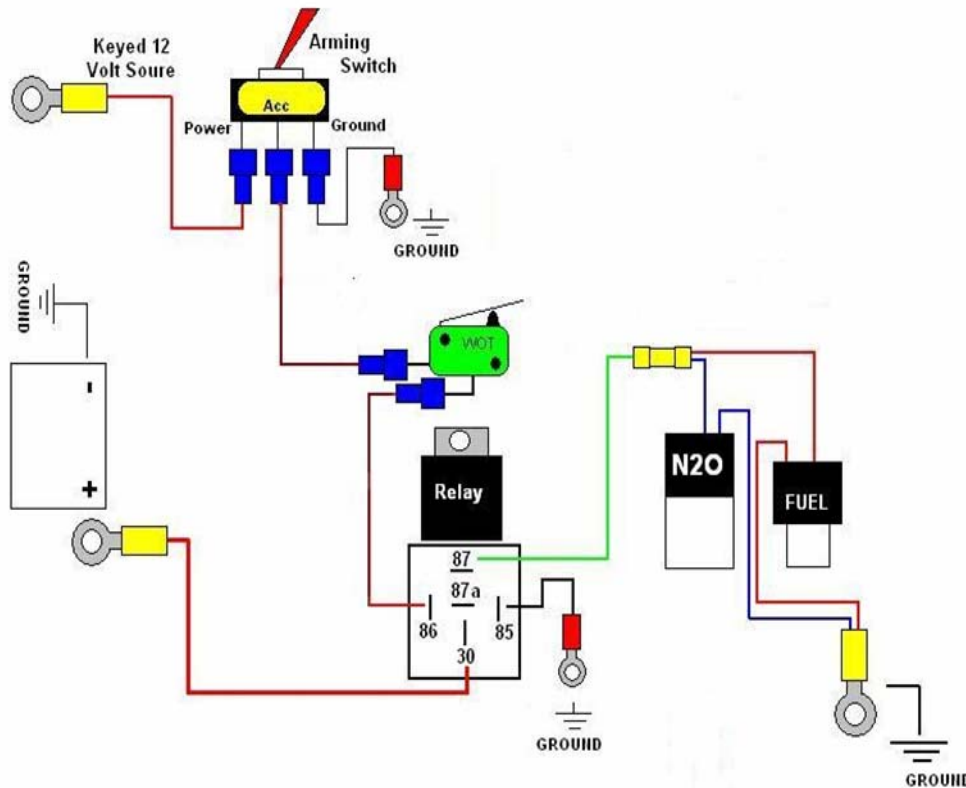
Using a valve core tool remove the Schrader valve from the connector fitting. Most Fords and some imports will require the whole test port be removed and replaced with the supplied fuel rail fitting. Connect the 18" long red -4 line to the fuel supply to the fuel solenoid

If your vehicle does not have a test port than the supplied Tee fitting will be used to splice into the factory fuel line. This must be done on the high-pressure side and not the return. Choose a location between the fuel filter and the fuel rail, cut the hose, insert the fuel tee, and tighten the clamps. Connect the 18" long red -4 line to the fuel supply on the fuel solenoid.



## WIRING

Mount the toggle switch in the desired location. Using the blue wire provided, connect the switch to a switched 12-volt source. Connect a ground wire to the ground terminal on the toggle switch. Assemble the WOT switch to the supplied bracket using the 4-40 screws and nuts. Be careful to not over tighten as you can crack the WOT switch. The mounting bracket can bend to place the switch in the proper location. The activation arm is long enough to twist, bend, or cut to aid in installation. Run a wire from the remaining terminal to one side of the WOT switch. Wire the other side of the WOT switch to the red wire on the relay. Connect the supplied red wire to a 12-volt constant source and the black wire on the relay. Attach one wire from each solenoid to the green wire on the relay. Run the remaining wires to ground. Attach the white wire on the relay to ground. Reconnect the battery cable. At this point the system is ready for testing. Make sure Nitrous bottle is off and there is no pressure on the main feed line. Turn the master arm to the “on” position and push the WOT; you should hear the solenoids click. If no sound is heard or only one of the solenoids is clicking, check all connections and the wiring schematic for proper connection.



## COMPLETION

With all components mounted, feed line and electrical connections completed, connect the feed line to the bottle and fully open the valve. Carefully check all hose connections for leaks and retighten fittings as needed. When there are no leaks detected start the engine and check for fuel leaks. After a complete inspection and verification that there are no leaks or shorts, it is time to SPRAY IT.

# Have fun, be safe, and enjoy your Nitrous Outlet nitrous system!

## TUNING TIPS

Nitrous Outlet supplies you with a suggested jetting for each horsepower level. This is only a starting point for tuning your Nitrous System. It is up to you to double check your tune up and make sure it is safe and accurate.

Note: It is important that your engine is properly tuned to its full capability before using your nitrous system.

### 1. Fuel Delivery

Be sure all fuel filters are clean and the fuel system is in perfect working order. It is up to you to know the limitations of your fuel system. If you are not sure please call Nitrous Outlets tech department at 1-866-648-7637 and talk to technical support for advice. We suggest using a fuel pressure gauge to monitor flowing fuel pressure.

### 2. Checking air fuel

We suggest using a wide band O2 to determine your air fuel. We suggest tuning your air fuel for a reading of 11.5 to 11.8. On a wet style nitrous system you will make air fuel changes by changing out the fuel jet. You will use a larger fuel jet to go richer, and a smaller fuel jet to go leaner. Dry systems vary in tuning methods to achieve correct air fuel settings. We suggest calling technical support at 1-866-648-7637 if you need assistance.

### 3. Checking for hot cylinders

Reading spark plugs is the best way to know what each individual cylinder is doing. It is common to have a motor with a hot cylinder. A hot cylinder is one that normally runs leaner than all the other cylinders. We suggest reading the spark plugs to determine if your motor has a hot cylinder. If your motor does have a hot cylinder there are ways of special tuning to protect the hot cylinder.

1. Up to a certain point you can richen up the entire system enough to make sure that the hot cylinder is getting enough fuel. We do not suggest jetting the system to rich. This could cause the system to run to rich and creating engine failure.
2. You can run a colder plug in the hot cylinder.

### 4. Ignition

The ignition system plays an important role in a properly operating nitrous system. The ignition must be able to ignite the mixture under high cylinder pressures. The stronger the spark the better your system will perform.

### 5. Spark plugs

Do not use platinum tip, extended tip, or any other plug with multiple ground straps or split ground straps. In stock and street engine applications the spark plugs should be at least 2 steps colder than stock. When in doubt about heat range please contact Nitrous Outlets tech dept. for advice. Too hot of a spark plug will cause detonation. Detonation can result in burned spark plugs, blown head gaskets, poor performance, and engine failure.

### 6. Timing

Every engine will differ in the amount of timing needed for the amount of nitrous used. On most stock EFI applications no timing will need to be pulled up to a certain point. We recommend 1 degree per 50 horsepower boost as a starting point. Your engine may need more or less depending on your combination.

### 7. Octane

Using higher-octane fuel is just as important as using the proper spark plug to eliminate detonation. We suggest running the highest octane at the pump for all street applications. For large hp levels race gas will be required.

## 8. Bottle pressure

Bottle pressure is very critical to a proper working nitrous system. We suggest tuning your nitrous system to a bottle pressure of 950 to 1050 PSI. If the bottle pressure is below 950 PSI the system will run rich resulting in loss of power. If the bottle pressure is above 1050 PSI the system will run lean, and possibly damage the engine. We suggest using a Nitrous Outlet bottle heater in conjunction with your Nitrous Outlet nitrous system.

**CAUTION: NEVER USE AN OPEN FLAME TO HEAT A NITROUS BOTTLE. DOING SO COULD RESULT IN INJURY OR DEATH!!!!!!!!!!**

## **SAFETY TIPS**

Do not attempt to start the engine if nitrous has been accidentally injected while the engine was not running. Disconnect the coil wire and turn the motor over while pushing the throttle wide open for several revolutions before attempting to start. If it is not possible to disable the ignition then the spark plugs must be removed and the engine turned over to circulate the nitrous through the motor.

Never permit oil, grease, or any other readily combustible substance 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 highly flammable condition.

Never interchange nitrous and fuel solenoids. Failure to follow these simple instructions can result in extreme engine damage and/or personal injury.

Never drop or violently strike the bottle. Doing so may result in an explosive bottle failure.

Never change pressure settings or safety relief valve on the nitrous bottle valve. Increasing the safety release valve pressure settings may result in a bottle explosive bottle hazard.

Identify the gas content on the label on the bottle before using. If the bottle is not identified to show the gas contained, return the bottle to the supplier.

Do not deface or remove any markings, which are on the nitrous bottle.

Nitrous bottles should always remain closed while not in use.

Keep the nitrous bottle valve closed on 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.

It is important that all threads on the valve and solenoids are properly mated. Never force connections that do not fit properly.

Never "lug" your engine and hit the nitrous system, use the system at wide-open throttle only. Nitrous should only be used above 3000 rpms. If you do either of these a serious backfire may result in engine damage.

Engine operating temperature should be between 160 to 200 degrees prior to nitrous use.

## SYSTEM ACCESSORIES

Nitrous Outlet carries a full line of nitrous accessories to work in conjunction with your nitrous system. We suggest using these products to create a safe and proper operating nitrous system.

1. **Bottle Heater:** Bottle pressure is very important to a proper operating nitrous system. We suggest tuning your Nitrous Outlet system with a bottle pressure of 950 to 1050 PSI. A bottle heater will be needed to keep your system at the needed pressure so that the nitrous flows correctly. As it cools off outside creating a chill on the bottle or you start to use your system your bottle pressure will drop causing your engine to bog and lose horsepower.
2. **Purge:** The purge system is needed for more than producing a cool show for your buddies. A purge kit is needed to evacuate the air from the main feed line. This will eliminate the system from bogging the engine due to the fuel hitting before the nitrous, causing the engine to go rich upon the initial hit. By purging the air from the main feed line you will improve 60-foot times and have a harder hitting nitrous system. The purge kit can also be used to purge down excessive bottle pressure.
3. **Nitrous Pressure Gauge:** since knowing your bottle pressure is very important you will need a nitrous pressure gauge in order to watch bottle pressure. Nitrous Outlet offers a nitrous pressure gauge that mounts to the bottle as well as in the cockpit of the vehicle.
4. **Fuel Pressure Gauge:** being aware of the fuel pressure is the best way to know the limits of the fuel system. By monitoring the fuel pressure you will know if the fuel system is being extended. Nitrous Outlet offers mechanical gauges to mount in the engine compartment as well as gauges to go in the cockpit of your vehicle.
5. **Fuel Pressure Safety Switch:** The fuel pressure safety switch is a safety device that is designed to shut off the nitrous system in the event of fuel pump failure. This switch is pressure controlled and will wire in conjunction to the systems relay. In the event the fuel pump fails it will break the ground source to the system relay.
6. **TPS Activation Switch:** Most late model fuel injected applications are drive by wire (NO THROTTLE CABLE). These applications require a TPS activation switch in order to activate your nitrous system at wide-open throttle. The activation switch works by reading the throttle position sensors voltage.
7. **Window Safety Switch:** The window safety switch is designed to keep you from spraying under to low of a rpm or over revving your engine. The window switch gives you two settings, an activation rpm and a deactivation rpm. You will set the activation point to at least 3000 RPM. When the system is activated, the TPS or wide-open throttle switch sees wide-open throttle it will complete the positive circuit to the systems relay. The window switch will read the engine RPM. When it rises to the set RPM on the window switch, the switch will supply ground to the systems relay, completing the circuit and firing the solenoids. In the incident the driver misses a gear, transmission slips, rear end or driveshaft breaks causing the engine to over rev the window switch will take away the ground to the solenoids at the set RPM on the switch shutting off the nitrous system. We suggest setting the deactivation RPM for the window switch at the shift point or 200 to 300 RPM before rev limiter.
8. **NHRA Valve & Blow Down Tube:** In order to meet NHRA requirements you must use a blow down tube if the bottle is located in the vehicle. In order to adapt the blow down tube to the bottle you will need a NHRA approved blow off valve. This valve is threaded on both ends creating an external thread for the blow down tube to screw on. The blow down tube is designed to evacuate the nitrous from the bottle outside the vehicle in the case that the safety disc burst.

9. Nitrous Filter: The nitrous filter is used to filter any trash or contaminants from entering your nitrous solenoid.
10. Remote Bottle Opener: With the remote bottle opener you can open and close the bottle with out ever leaving the comforts of the driver seat.