EDELBROCK NITROUS SYSTEM
FOR 2005-2007 MUSTANG GT
CATALOG #70410

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Thank You….
…for purchasing an Edelbrock Nitrous Oxide Injection System.

Nitrous Oxide injection is one of the most exciting performance enhancements, for the dollar invested, on the market today. With the use of nitrous oxide come some important safety considerations. This manual has been written to help you during the installation and use of your Edelbrock Nitrous System. Please read it completely before you install and use your system. Please pay close attention to the safety information at the beginning of each section. The information contained there specifically pertains to each of the components and installation methodologies within the section.

Please take the time to read and understand the following….

By installing your Edelbrock Nitrous System, you indicate you have read this document and you agree with the terms stated below:

It is the responsibility of the purchaser to follow all installation instruction guidelines and safety procedures supplied with the Edelbrock Nitrous Systems. It is also the responsibility of the purchaser to determine the compatibility of the product with the vehicle or the device on which the purchaser intends to install it.

Edelbrock Corporation assumes no responsibility for damages occurring from misuse, abuse, improper installation, improper operation, lack of responsible care, or all previously-stated reasons resulting from incompatibility with other manufacturer's products and/or systems.

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

Edelbrock Corporation assumes no responsibility for damages incurred by the use of products manufactured or sold by Edelbrock Corporation on vehicles used for competition or racing.

Edelbrock General Warranty

It is the constant endeavor of Edelbrock Corporation to give our customers the highest quality products obtainable. Edelbrock warrants each new product, except Performer Series Carburetors, Race Division Parts, Tubular Exhaust Systems, RPM Series Mufflers, Cat-Back Systems and Performer IAS Shock Absorbers which are warranted separately, to be free from defects in both workmanship and material for a period of one (1) year from the date of purchase, provided that the product is properly installed, subjected to normal use and service and that the product is not modified or changed in any way, negligence by customer or installer or used for racing or competition purposes.

Our warranty service and repair facility is located at 2700 California Street, Torrance, California 90503. Customers who believe they have a defective product should either return it to the dealer from which it was purchased or ship it directly to Edelbrock along with proof of purchase and a complete description of the problem. The product must be returned freight pre-paid. If a thorough inspection of the product by the factory indicates defects in workmanship or material, our sole obligation shall be to repair or replace the product. Warranty covers only the product itself and not the cost of installation or removal.

Edelbrock Corporation shall not be liable for any and all consequential damages occasioned by the breach of any written or implied warranty pertaining to this sale in excess of the purchase price of the product sold.

If you have any questions regarding a product or installation, please contact our Technical Department, toll free at 1-800-416-8628 from 7:00am to 5:00pm PST, Monday through Friday.

Thank you again for choosing Edelbrock Nitrous Systems.

Caution!!

Please read this installation manual fully before installing this system.

You will need to have available the following tools:

Hand Tools:

- ❑ Socket set including ratchets and extensions
- ❑ Pliers
- ❑ Wire Crimping Pliers, Wire Strippers
- ❑ Razor Blade or Other Sharp, Flat Edged Cutting Tool
- ❑ Screwdrivers
- ❑ Bench Vise
- ❑ Floor Jack and Jack Stands
- ❑ Safety Glasses

Power Tools:

- ❑ Power Drill
- ❑ Drill Bits

You Should Understand the Following Skills:

- ❑ Power Tool Safety Procedures
- ❑ Proper Measuring Techniques
- ❑ Basic Engine Operation and Tuning Techniques
- ❑ Undercar Safety Procedures
- ❑ Proper Electrical Assembly Techniques

WHAT IS NITROUS OXIDE?

Nitrous Oxide is a cryogenic gas composed of nitrogen and oxygen molecules. It is stored as a "gas over liquid", which means that both liquid and gaseous nitrous oxide is delivered into your engine. It is 36% oxygen by weight, which is what produces the added horsepower. By injecting more oxygen and fuel, we create the additional power much like a supercharger or a turbocharger does.

Nitrous Oxide is considered an "oxidizer", not a fuel, and is non-flammable by itself. Because nitrous oxide is a cryogenic, the same safety methods in handling dry ice apply to nitrous. Direct skin contact will cause a burn similar to contact with dry ice. The exception in using nitrous oxide comes from increased breathing hazards associated with the gaseous properties of nitrous oxide.

Nitrous Oxide is offered for sale in two common grades, which are U.S.P. and *Nytrous Plus*. U.S.P. nitrous oxide is medical grade nitrous oxide. Its common use is dental and veterinary anesthesia as well as used as a propellant in food such as canned whip cream. U.S.P. is not available to the public and would provide no horsepower advantage over automotive grade nitrous oxide.

Nytrous Plus was specifically designed for automotive use and differs from U.S.P. in that it contains trace amounts of sulfur dioxide (100 parts per million or "PPM") added to prevent substance abuse. The sulfur dioxide is an irritant to your breathing passageways and will cause sore throats and sore nasal passages if inhaled. *Nytrous Plus* was specifically created for automotive applications and is available for sale at many speed shops across the USA.

SAFETY STEPS FOR WORKING WITH NITROUS OXIDE

1. Never inhale *Nytrous Plus* as continued exposure can cause **death.** Keep your exposure to nitrous oxide minimal.
2. Do not vent nitrous oxide to atmosphere in confined spaces. Only vent nitrous oxide in well-ventilated and open areas.
3. Nitrous oxide can cause burns so protect all skin in and around your hands, arms and face. Wear safety glasses and gloves.
4. Do not use any form of Teflon Tape as sealant on fitting connections. **Use only Teflon Paste.**
5. When washing components, ensure the clean components are completely dry, free of oils, and solvents. Failure to remove all liquids could cause component or system failure.
6. Always turn the bottle off before making any repairs to the nitrous delivery system.

1.0 Introduction to your Edelbrock 2005-2007 Mustang GT Nitrous System

1.1 General Information

The Edelbrock Performer Nitrous System (Part Number 70410) is designed for the stock to slightly modified 2005 to 2007 Mustang GT. Horsepower and torque increases can vary with equipment upgrades and modifications.

The system a plate that is installed in between the throttle body and intake manifold. Both nitrous and fuel are delivered through this nitrous plate.

This system includes the bottle (shipped empty), bottle feed line and bottle brackets. The mounting brackets include rubber insulators to protect the surface of your nitrous bottle while mounted in the brackets. When installing your nitrous bottle, pay close attention to the installation instructions for the location of your bottle. Make sure that the installation of your bottle does not interfere with any systems that may lie under the location where you plan to drill holes for mounting the brackets.

Contact your local automotive store, motorcycle shop or race track for refilling your bottle. Trust a professional to properly fill your bottle and reference your installation manual when re-installing your filled bottle back into your vehicle. Always take care when handling a full bottle of nitrous oxide.

Please follow all safety methods during the installation of your Edelbrock Nitrous System, and follow all vehicle regulations and road laws when using your nitrous system.

1.2 Jet Map Information

Edelbrock Engineering has conducted dyno testing with the Edelbrock Mustang GT Nitrous System to ensure the horsepower increase is as intended. On a typically stock 4.6L engine, you can expect the following approximate horsepower and torque gains:

Nitrous Jetting	Fuel Jetting	Approx. HP Gains	Approx. TQ Gains
38	22	50 HP	85 ft./lb.
58	30	100 HP	151 ft./lb.

These tests were conducted with 950psi nitrous bottle pressure. **Never exceed the recommended jetting! Excessive jetting will result in severe engine damage.**

1.3 Engine Operation Considerations

When used correctly, nitrous oxide safely elevates cylinder pressures and temperatures while increasing combustion rate. These characteristics make the engine more sensitive to detonation. To ensure proper performance, engine and drive line life, the following tips are suggested:

•Fuel Quality

Because Nitrous oxide is an oxidizer, fuel selection is critical. Both octane and fuel consistency affect fuel burn rate. The oxidizer quality of nitrous oxide will accelerate the burn rate, so we recommend a high quality of gasoline. We also recommend you use the same grade of gasoline every time you use your nitrous oxide system. This will help maintain the same fuel burn rate every time.

•Ignition Components

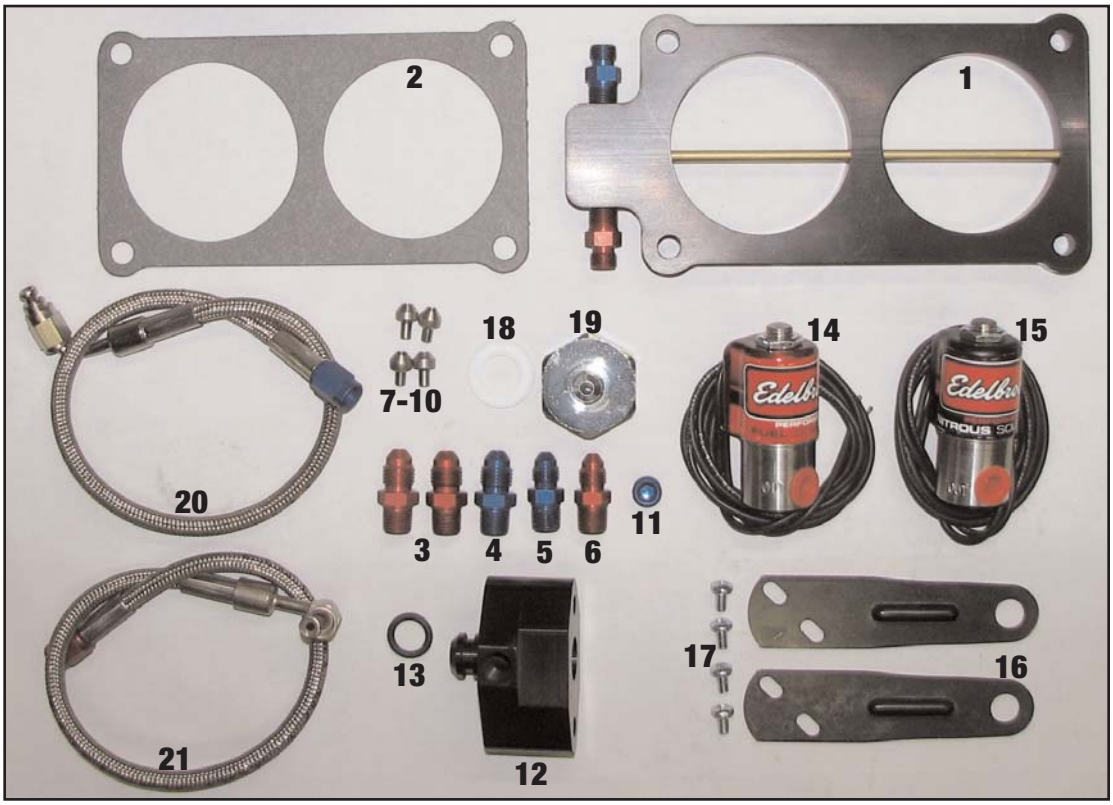
Most aftermarket **performance chips** increase the vehicle's ignition timing, which can cause detonation with the use of nitrous oxide. Please consult with your chip manufacturer on information regarding the compatibility of your chip with nitrous oxide use.

If your vehicle is equipped with platinum type spark plugs, we recommend they be replaced with the equivalent standard spark plug.

•Engine System Upgrades

With all performance modifications, complementary system upgrades will always serve to elevate the power of an engine, especially when using nitrous oxide as a power adder. Modifications such as ignition upgrades, free-flowing exhaust, camshafts, cylinder heads, manifolds can all add to the performance of a nitrous oxide injected engine.

1.4 Performer Kit Bill of Materials



	Qty.	Description	Item #
❑	1	2005-07 Mustang Nitrous Plate	1
❑	1	Gasket	2
❑	2	4AN x 1/8”NPT Straight Fitting, Red	3
❑	1	4AN x 1/8”NPT Nitrous Filter Fitting	4
❑	1	3AN x 1/8”NPT Fitting, Blue	5
❑	1	3AN x 1/8”NPT Fitting, Red	6
❑	1	.022” Taper Face Jet	7
❑	1	.030” Taper Face Jet	8
❑	1	.038” Taper Face Jet	9
❑	1	.058” Taper Face Jet	10
❑	1	1/8”NPT Plug	11
❑	1	Mustang Fuel Pressure Take-Off Adapter	12

	Qty.	Description	Item #
❑	1	Pressure Adapter O-Ring	13
❑	1	Performer Fuel Solenoid	14
❑	1	Performer Nitrous Solenoid	15
❑	2	Solenoid Mounting Bracket	16
❑	4	Solenoid Mounting Screws	17
❑	1	Teflon Washer for Bottle Nut	18
❑	1	4AN Bottle Nut	19
❑	1	3AN x 15” 90° Hose, Blue	20
❑	1	3AN x 15” 90° Hose, Red	21
❑	1	21ft 4AN Feed Line (Not Shown)	NA
❑	1	3ft 4AN Fuel Line (Not Shown)	NA
❑	1	10lb. Bottle Brackets (Not Shown)	NA

2.0 Nitrous System Installation

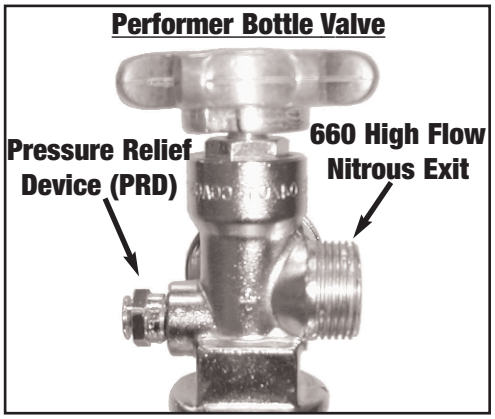
2.1 Nitrous Bottle Mounting

The nitrous bottle is an aluminum cylinder, designed and manufactured to withstand very high pressures. The valve on top of the bottle is a high-flow design that allows easy opening and closing which controls the nitrous flow to the engine compartment.

Accurate calibration of your nitrous system depends on the bottle remaining at a stable temperature. In vehicles (such as Corvettes) where the bottle must be mounted in an area subject to direct sunlight, it is suggested that the bottle be shielded with a bottle blanket.

If the bottle is mounted inside the passenger compartment or in a space that has access to the passenger compartment such as hatchbacks or vehicles that feature fold down rear seats, the pressure relief device (PRD valve) must be vented externally from the cockpit. This procedure will prevent the passenger compartment from filling with a cloud of nitrous oxide, should the safety pressure relief valve rupture. For more information, please contact the tech line.

Special consideration should be made to protect the bottle installation by not placing the bottle in a known crumple or crash zone within the vehicle. At no time should the bottle be mounted within the seating area of the passenger compartment of a street-driven vehicle.



Here is the Performer Bottle Valve. Installed on all bottle valves used in Edelbrock Nitrous Systems, is a Pressure Relief Device or “PRD”. It is a safety device designed to vent the contents of the bottle into the atmosphere if over-pressurization occurs. Unsafe bottle pressure is caused by over filling or elevated bottle temperatures.

There are two types of PRDs - Internal piping and external piping. The internal type requires no additional parts. The external type requires a safety blowdown tube designed to route the gas, if the PRD happens to rupture, to the outside of vehicle. The internal type is design to vent directly off the bottle into the atmosphere.

It is illegal to tamper with or remove this device.

Bottle Safety Information

1. **Do not** attempt to remove the bottle valve. Please return your bottle to Edelbrock if service is required to the siphon tube inside the bottle or the bottle valve itself.
2. **Never** heat the outside of your nitrous bottle with an open flame like that of a torch.
3. **Do not** strike the surface of your nitrous bottle with a heavy or sharp object.
4. **Do not** drop your nitrous bottle.
5. **Do not** attempt to grind off or destroy any imprinted markings on the face of the bottle.
6. **Do not** remove, modify or otherwise tamper with the safety valve on the bottle valve.
7. **Do not** attempt to use a bottle that has been damaged or tampered with.

Racing Vehicles

Before you mount a nitrous bottle in a vehicle intended for use in racing or sanctioned events, check with the sanctioning association or local racetrack for any rules regarding bottle installation. Most associations require the bottle be mounted within the confines of the safety roll cage, with the safety pressure relief cap vented away from the driver’s compartment.

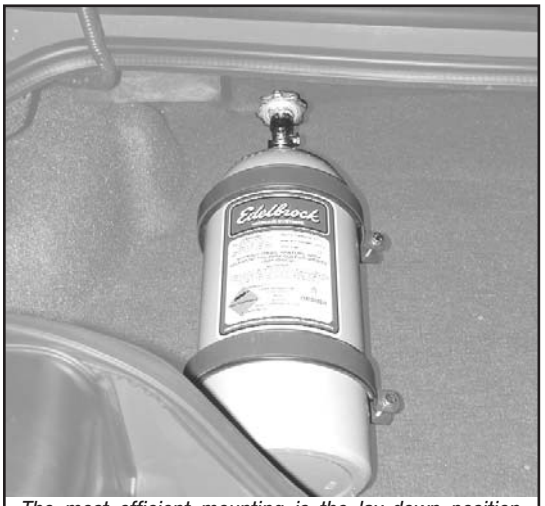
2.2 Bottle Orientation

Accurate calibration of your nitrous system depends on the bottle remaining at a stable temperature. Choosing the proper location and orientation for your bottle can greatly affect the overall operation of the nitrous system. Please read the entire bottle mounting instruction section before making your final bottle location decisions.

Bottle placement is critical to the performance of your nitrous system. It is important to understand how the bottle valve and siphon tube are assembled to properly orient the bottle in your vehicle and ensure that it picks up liquid nitrous while undergoing acceleration. All nitrous bottles are assembled so that the bottom of the siphon tube is at the bottom of the bottle, opposite the bottle label.

An Edelbrock nitrous bottle cannot be mounted upside-down. Edelbrock does not offer a non-siphon tube bottle for automotive use. If the bottle must be mounted parallel to the axles of the vehicle (sideways), the label must be angled at approximately 45 degrees toward the front of the vehicle. This orientation will position the siphon tube toward the rear and pointing to the lower rear-facing quadrant of the bottle. All of this positioning information is critical to system operation. It is most important to draw as much liquid nitrous as possible.

The siphon tube cannot do this unless the bottle is positioned correctly.



The most efficient mounting is the lay-down position with the valve handle toward the front of the vehicle. This position allows the greatest amount of liquid to be used before the siphon tube begins to pick up gaseous nitrous oxide.

2.3 Nitrous Bottle Installation

After you have determined the location and orientation of the nitrous bottle, use the following procedure to install the bottle:

1. Disconnect vehicle's battery.
2. Determine the location of the bottle within the confines of the rear of the vehicle.
3. Once a mounting location has been determined, raise the vehicle (following all safety practices involved in working on a vehicle from under the vehicle) and verify that there are no fuel lines, fuel tank(s), brake lines, emissions equipment, or structural members in the way of potential mounting bolt locations.
4. Install the rubber insulators within the bottle brackets.
5. Slip bottle into the mounting brackets.
6. Using the mounting bracket bolt holes as templates, mark an area for each of the brackets with chalk, scribe, or marking pen to locate the bolt placements for drilling.
7. Drill two (2) 3/8" mounting holes for each bracket.
8. If heater blanket is used, brackets must be installed 8-1/2 inches apart from each other.
9. Install the bottle mounting brackets using "Grade 8" bolts, nuts and flat washers (not included with kit). Use fender washers underneath the vehicle for sheet metal mounting.
10. Tighten the mounting bolts using a thread locking compound (not included with kit).
11. Mock up Safety Blowdown tube on bottle to find where tube will go through floor.
12. Mark floor where tube should go.
13. Using a 1/2" drill bit, drill through floor on mark.
14. Install Safety tube on bottle and cut off excess tube so that only 1 to 2 inches are protruding below floor.

Shown here is a bottle with a bottle bracket properly installed with the rubber insulator. The distance between the bottle brackets is somewhat adjustable. Remember, mount the short bottle bracket at least 1" from the bottom of the bottle, and never cover any of the bottle labels with a bottle bracket.

***Do not** attempt to install the bottle in the bracket without the rubber insulator. The bottle hoop on the bracket is designed to include the thickness of the insulator.*

2.4 Nitrous Feed Line Mounting

1. Determine the route your main nitrous feed line will follow. Ensure the path does not route the nitrous feed line too close to the exhaust system, suspension, electrical lines/components or tires.
2. Attach nitrous supply line to bottle.
3. Feed nitrous line along proposed route.
4. Secure nitrous supply line to underside of vehicle.
   Note: Stainless steel covering of the main nitrous feed line is very abrasive. Shield painted components or sensitive system components like electrical, fuel lines, brake lines or suspension components to prevent them from contacting main feed line. Rubber hose can be slid over and retained as a chafe guard.
5. Leave the nitrous line end under the hood loose pending installation of nitrous solenoid.

2.5 Solenoid Assembly and Installation

Nitrous Solenoid Assembly

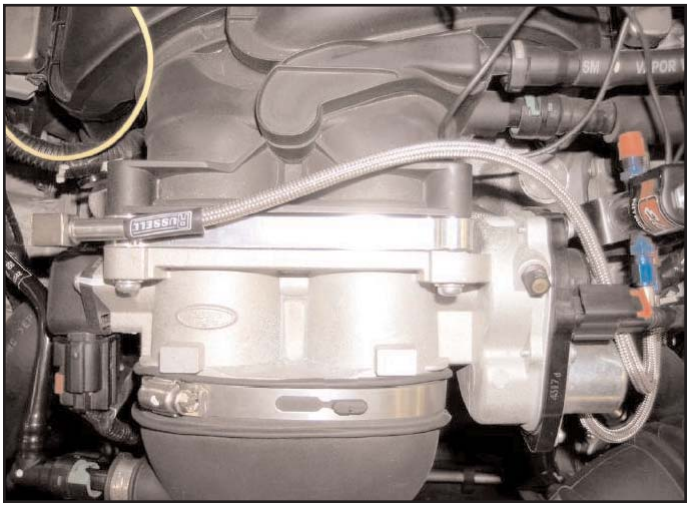
1. Hold the nitrous solenoid securely in a bench vise, being careful not to harm the solenoid or block the inlet or outlet ports of the solenoid.
2. Install the nitrous filter fitting (4AN x 1/8”NPT Blue Fitting) into the inlet port of the nitrous solenoid using Teflon Paste.
3. Install the nitrous outlet fitting (3AN x 1/8”NPT Blue Fitting) into the outlet port of the nitrous solenoid using Teflon Paste.
4. Remove the solenoid from the vise and attach a solenoid bracket using the supplied solenoid screws.
5. Find a location in the engine compartment to mount the solenoid, making sure that it is within reach of the feed line and nitrous plate.
6. Connect the 3AN x 15” 90° blue hose to the outlet port of the nitrous solenoid.
7. Select the nitrous jet you will be using and place this in the “N” fitting of the nitrous plate. Connect the 90° end of the 3AN hose line to the nozzle with the jet installed.
8. Connect the 4AN nitrous feed line to the inlet port of the nitrous solenoid.

Fuel Solenoid Assembly

1. Hold the fuel solenoid securely in a bench vise, being careful not to harm the solenoid or block the inlet or outlet ports of the solenoid.
2. Install the fuel inlet fitting (4AN x 1/8”NPT Red Fitting) into the inlet port of the fuel solenoid using Teflon Paste. Do not tighten this fitting at this time. Once you have found a mounting location for the fuel solenoid, you will then tighten this fitting so you can clock it to the best angle for connecting the fuel feed line.
3. Install the fuel outlet fitting (3AN x 1/8”NPT Red Fitting) into the outlet port of the fuel solenoid using Teflon Paste.
4. Remove the solenoid from the vise and attach the remaining solenoid bracket using the supplied solenoid screws.
5. Find a location in the engine compartment to mount the solenoid, making sure that it is within reach of the fuel feed line and nitrous plate.
6. Select the corresponding fuel jet and place in the red fitting of the nitrous plate. Connect the 3AN x 15” 90° red fuel hose from the outlet fitting of the fuel solenoid to the fitting on the nitrous plate with the jet installed.

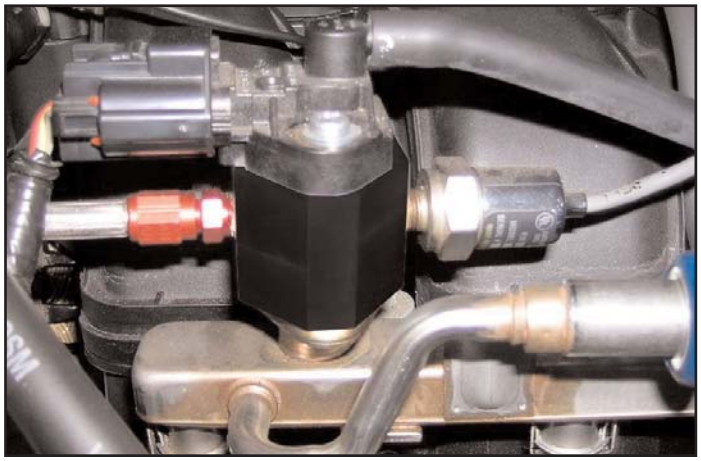
2.6 Nitrous Plate Installation

1. Disconnect the throttle body from the intake manifold by removing the two nuts from the studs on the lower portion of the throttle body and removing the two bolts from the upper portion of the throttle body.
2. Remove the two studs from the intake manifold.
3. Place the nitrous plate in between the throttle body and intake manifold with the nitrous inlet facing up as pictured below.
4. Place the supplied gasket in between the nitrous plate and throttle body. The nitrous plate to intake manifold side does not require a gasket because the intake manifold has an o-ring. Be sure the o-ring is seated correctly.
5. Using the four supplied bolts, bolt the throttle body/plate assembly to the intake manifold.

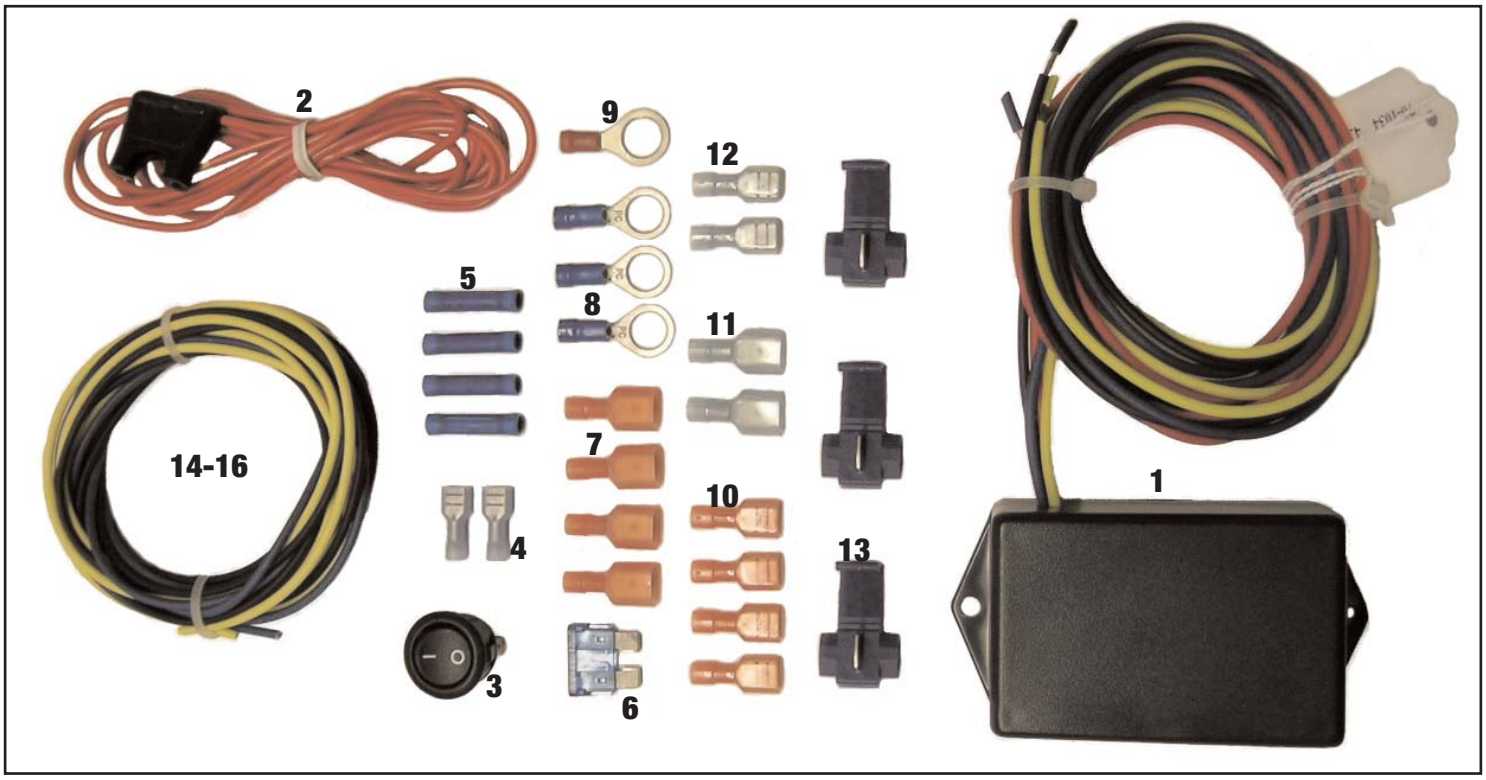


2.7 Fuel Pressure Take-Off Adapter Installation

1. Disconnect the connector for the fuel rail pressure sensor.
2. Remove the two screws mounting the fuel rail pressure sensor and carefully lift the sensor out of its seat.
3. Install the supplied o-ring on the adapter that comes in the kit. Lubricate the o-ring with a little fuel from the rail.
4. Carefully push the adapter nipple into the port of the fuel rail, being careful not to tear the o-ring. A slight twisting motion usually helps with the installation.
5. Using the same method as above, install the fuel rail pressure sensor into the top of the adapter.
6. Using the supplied bolts and washers, tighten the assembly down.
7. Using Teflon paste, install the 4AN to 1/8”NPT fitting into the front test port of the adapter.
8. Using Teflon paste, install the 1/8”NPT pipe plug into the remaining test port on the backside of the adapter. In the picture to the right, we have a pressure transducer installed in the spare port. If you are using a QuikData or other data acquisition unit, this port can be used for a transducer.
9. Connect the 4AN fitting to the inlet fitting of your Performer Fuel Solenoid using the supplied 3 foot 4AN fuel feed line.



3.0 Electrical System Installation

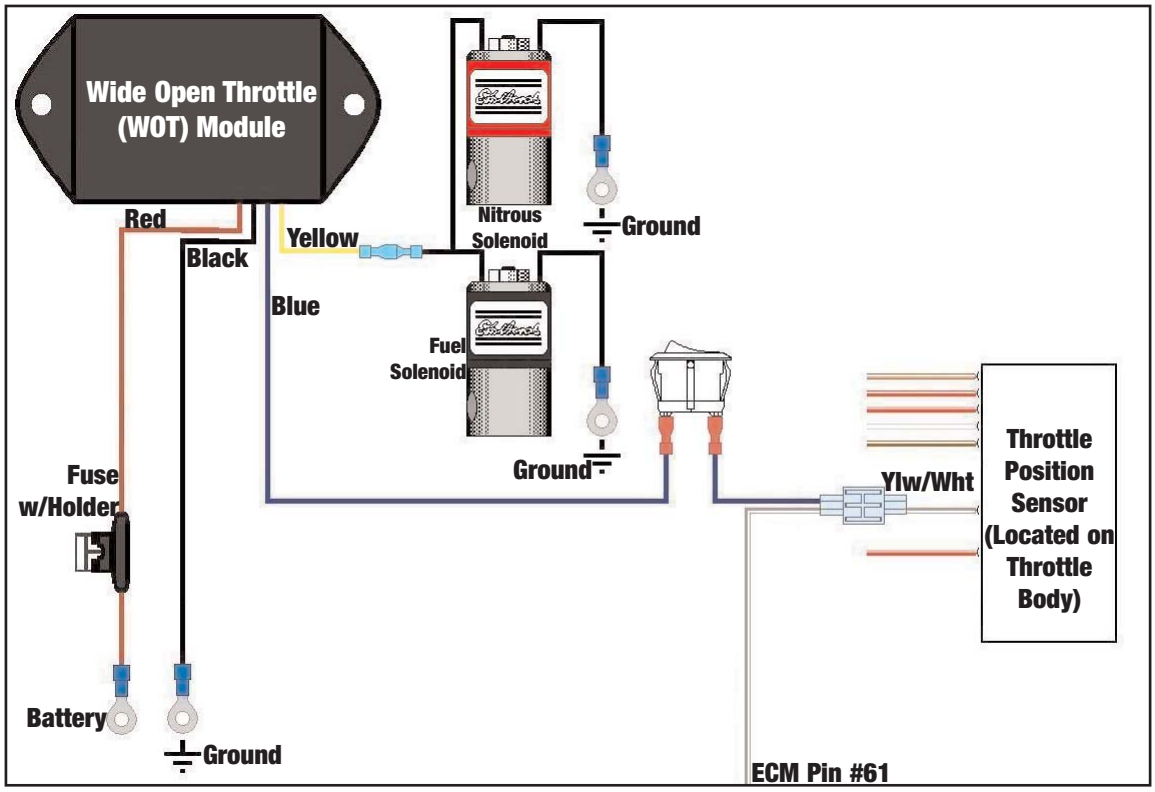


3.1 Nitrous Electrical Components Bill of Materials (BOM)

	Item #	Qty.	Description
❑	1	1	Wide Open Throttle Module
❑	2	1	6ft. 16 AWG Wire Assembly, Fused, In-Line (Red)
❑	3	1	On/Off Round Rocker Switch
❑	4	2	14/16 AWG Female Spade Connector Nylon Insulated (.187)
❑	5	4	16/22 AWG Insulated Butt Connector
❑	6	1	15AMP ATO Blade Fuse
❑	7	4	18/22 AWG Male Spade Connector Nylon Insulated
❑	8	3	14/16 AWG Ring Terminal 3/8” Stud Nylon Insulated
❑	9	1	18/22 AWG Ring Terminal 3/8” Stud Nylon Insulated
❑	10	4	18/22 AWG Female Spade Connector Nylon Insulated
❑	11	2	14/16 AWG Male Spade Connector Nylon Insulated
❑	12	3	14/16 AWG Female Spade Connector Nylon Insulated
❑	13	3	Splice, Insulated Displacement (16/18 AWG)
❑	14	1	6ft. 16 AWG Wire (Blue)
❑	15	1	6ft. 16 AWG Wire (Yellow)
❑	16	1	6ft. 16 AWG Wire (Black)

Important: The wiring hardware and instructions included with this kit are intended for 12-volt electrical systems only. Before attempting to wire your Edelbrock Performer Nitrous Oxide System, examine and follow the wiring diagram on the following page. Please call the Edelbrock Technical Department with any questions concerning electrical wiring.

3.2 Wide Open Throttle Module Wiring Diagram



3.3 Nitrous Electrical System Installation Procedure

Determine a location for the Wide Open Throttle relay and fuse holder wire. Most common installations locate these components close to the battery. However, these connectors are water-resistant not waterproof, so care is required when mounting this assembly under the hood of your vehicle.

Wire Schematic Origin and Destination Map

Wire Color	System	Origin	Destination	Terminal Used
Red	Main System Power	WOT Module	Bat. +12V Signal	Ring
Yellow	Solenoid Power	WOT Module	Solenoid	Spade
Blue	TPS 5 Volt Input	WOT Module	Arming Switch	Spade
Blue	TPS 5 Volt Input	Arming Switch	TPS Sensor	Splice Connector
Black	WOT Module Ground	WOT Module	Chassis Ground	Ring
Black	Solenoid Ground	Solenoid	Chassis Ground	Ring
Black	Solenoid Power In	Solenoid	WOT Module	Spade
Tan/Yellow	TPS 5 Volt Reference	Throttle Body	ECM Harness	-

3.4 Wide Open Throttle (WOT) Module Installation

The WOT module includes 3 feet of color-coded wires and terminals to make the electrical system installation for your Edelbrock Nitrous System as easy as possible. We recommend that you do not cut any lengths of wires from the wire harness or complete the wiring of the system until all of the mechanical components are securely mounted in their permanent locations.

Once all the solenoid and switches are placed, route the un-cut wires from the harness to each location allowing enough wire length on each circuit to not interfere with operating linkages, heat sources, brackets, etc. Pay particular attention to sharp edges along the route of your wire harness as they can chafe the wire and cause your system to fail.

Once you have decided the location of the “WOT” module secure it with fasteners (not included with kit) such as sheet metal screws, bolts and nuts, etc. Allow for some slack in the red wire that connects the “WOT” module and fuse holders together.

The relay in the WOT Module is rated for 30 AMP and the fuse is 15 AMP.

3.5 Wiring

1. Verify that the battery is disconnected. If it is not, remove the ground strap and place it away from the battery to keep it from shorting out.
2. Locate the red wire with fuse holder and affix it to the red wire on the "WOT" module with the provided butt connector or you can solder the two ends and then heat shrink, if so desired (required soldering iron, rosin core solder and heat shrink not provided in kit).
   Note: You may need to cut the red wire coming out of the "WOT" module wiring harness to accommodate the mounting location and proximity to the battery.
3. Connect the Red wire with fuse holder to the Positive terminal of the car battery.
4. Locate the Black wire on the "WOT" harness. Affix the Black wire with ring terminal to a good chassis ground. We recommend using an existing ground used by the OEM.
5. Locate the Yellow wire coming out of the "WOT" harness. Using provided male and female spade connectors, attach the yellow wire to one black wire from each of your solenoids.
6. Locate the remaining black wire on each of the solenoids. Using provided ring terminal, affix the black wires to a good chassis ground. *See Step 4.*
7. Locate the Blue wire on the "WOT" module. With provided female spade connector, attach blue wire to one of the terminal of the on/off rocker switch.
   Note: Wire length might need to be extended depending on the location of the "WOT" module.
8. Attach Blue wire extension to free terminal of on/off toggle switch.
9. Locate the Yellow/White wire running from the throttle position sensor to terminal #61 of ECM wiring harness connection.
10. Affix Blue wire from on/off rocker switch to Yellow/white wire from throttle position sensor with provided splice connector.

3.6 Arming Switch and Installation

The arming switch is a Black, non-illuminated switch that is a "MASTER" arming switch for your nitrous system. Without it, your nitrous system would be "on" all of the time and capable of engaging anytime you go to wide-open throttle conditions with your vehicle. The Switch is marked to indicate when it is in the "on" and the "off" position Therefore, it should be placed in an obvious position well within the line of sight and easy reach of the driver. Please refer to the procedures below for the installation of the arming switch:

1. Locate the final position of your arming switch.
2. Using a uni bit or 13/16 drill, drill a hole for the switch location.
   Note: If using a uni bit, try to drill the hole slightly under 13/16" diameter for a snug fit.
3. Insert the switch from in front of the mounting hole, it should lock in place.
4. Do not wire until all other mechanical components are in place. Please see the electrical system installation instructions for further information.

3.7 Final Solenoid and WOT Module Installation Recommendations

At this time, it is advised that you double-check the following areas:

1. ***Double Check*** all wires making sure they do not come in contact with any heat sources like exhaust manifolds, EGR crossover, etc.
2. ***Check*** all connections for exposed wire, try to keep all wire within the insulation or use shrink wrap to prevent any loose wires from shorting out.

4.0 Before You Run Your Vehicle Using Your Edelbrock Nitrous System

You have just completed the installation of your Edelbrock Nitrous System. It is time to perform some basic system checks to ensure all of the work you have done is correct and ready to operate properly. The following procedure is designed to validate the operation of your nitrous system before operating your vehicle:

Note: Before performing steps 1 through 4, make sure that the nitrous bottle is closed and main nitrous supply line is empty of any nitrous.

4.1 Fuel System Check

1. Hook up all battery leads.
2. Double-check all wires and leads for signs of heat and proper connections.
3. Start your vehicle.
4. Check all fittings for leaks.

4.2 Nitrous System Check

1. With the vehicle's engine running, slowly open nitrous bottle valve.
   Note: *There should be no change in engine idle speed. If idle speed changes, close nitrous bottle valve immediately and refer to the "Troubleshooting Guide" section.*
2. Inspect nitrous lines and fittings for leaks using a soapy water mixture and a small brush.
3. If any of the fittings/connections show bubbling around the attachment nut or on the threaded area of the fitting, shut the nitrous bottle valve off immediately and dry the fitting before attempting any service to that particular fitting connection.
4. If the engine idle does not come up, and all of the fittings appear to be leak-free, you have successfully completed the installation of you Edelbrock Nitrous System.

5.0 Solenoid Inspection and Maintenance

1. Close valve on nitrous bottle.
2. Make sure all nitrous supply lines are free of pressure before removal of any system solenoid.
   a. Empty main nitrous supply line at the nitrous bottle. Take care to not breathe or expose your skin to nitrous.
   b. **Do not open pressurized fuel lines over a hot engine.**
3. Remove nitrous solenoid from the engine and securely clamp it into a vise, taking great care not to damage the solenoid.
4. Remove the solenoid cover, retaining nut from top of the nitrous solenoid.
5. Remove coil and housing from nitrous solenoid base.
6. Unscrew stem from nitrous solenoid base. Do this by using a solenoid stem removal tool or by “double nutting” the stem and unscrewing the stem from the housing body. **Do not use pliers on solenoid stem;** damage to the stem will result.
7. Carefully remove the stem, spring and plunger from the solenoid base paying close attention to the way they are assembled.
8. Examine the plunger seal for swelling, cuts and abrasions. The seal surface should be flat, except for a small circular indentation in the center of the seal.

   A seal that has been contaminated or over-pressurized will bulge from exposure to chemicals other than nitrous oxide. It can appear to extend down from the plunger and be dome-shaped. A contaminated seal may return to its original shape if left out in fresh air for approximately 48 hours. It may then be returned to service. If it does not return to its original shape, it must be replaced.

9. Clean the solenoid body. **Do not use an oil-based solvent to clean any part of the solenoid.** Use paint thinner or electrical contact cleaner. Remove any contaminants that may be present. Make sure solenoid body is clean, dry and free of oils before assembly.
10. Replace the O-ring, plunger and piston spring.
11. Re-assemble solenoid by reversing disassembly procedure.

6.0 Troubleshooting Your Edelbrock Nitrous System

How to use our Troubleshooting Flowchart:

The troubleshooting of a nitrous system is basic and straightforward. The symptom chart is divided by symptom, cause and action required. Determine your problem (symptom), identify the potential problem (cause) and correct the problem (action required).

Symptom #1… There is No change in engine speed when system is activated.

1. Double check to see that the system is wired correctly.
   a. Compare wiring to schematic.
      i. Wire per instructions. See *"Nitrous Electrical System Wiring Diagram" section.*
2. Restricted fuel line.
   a. Inspect fuel line for restrictions.
      i. Remove restrictions (kinks in rubber line, pieces of rubber hanging in flow path, etc.).
   b. Check Fuel Pressure.
      i. Increase fuel delivery as needed.

Symptom #2… Change in engine speed when nitrous bottle valve is opened.

1. Malfunctioning nitrous solenoid.
   a. Repair/replace solenoid. See *"Solenoid Inspection and Maintenance" section.*
2. Contamination in nitrous solenoid.
   a. Remove and inspect solenoid for dirt around seat area of plunger in solenoid.

Symptom #3… Engine runs excessively rich when system is activated.

1. Nitrous bottle valve not fully opened.
   a. Check bottle valve.
      i. Open valve fully.
2. Nitrous bottle mounted improperly.
   a. Mount bottle properly. See *"Nitrous Bottle Installation" section.*
3. Plugged nitrous filter.
   a. Clean and/or replace nitrous filter.
   b. See nitrous solenoid symptom #2.
4. Low bottle pressure.
   a. Weigh bottle.
      i. Bottle should be 10 lbs. above empty bottle weight listed on bottle label when full.
   b. Check bottle temperature.
      i. Maintain 80 to 85 degrees of bottle surface temperature.
5. Check for correct jetting.

Symptom #4… High RPM misfire when system is activated.

1. Excessive spark plug gap.
   a. Inspect spark plugs.
      i. Set plug gap at 0.030 – 0.035 inch.
      ii. Contact the manufacturer of your plugs for more information.
2. Weak ignition/ignition component failure.
   a. Inspect ignition components.
      i. Replace worn components.
      ii. Upgrade ignition system to high performance high load capable ignition components.

Symptom #5… Engine detonates heavily when system is activated.

Inadequate fuel delivery due to:

1. Plugged fuel filter.
   a. Inspect fuel filter.
      i. Clean or replace filter.
2. Crimped fuel line.
   a. Inspect fuel line.
      i. Replace crimped line.
3. Weak or inadequate fuel pump.
   a. Install fuel pressure gauge. Run engine under load at wide-open throttle, with system activated and monitor the pressure.
      i. Repair or replace fuel pump.
      ii. Install nitrous dedicated fuel supply.

Symptom #6… No change in performance when system is activated.

1. System wired incorrectly.
   a. Compare wiring to schematic.
      i. Wire per instructions.
2. Loose ground wires.
   a. Connect test light to battery "+" (positive) terminal. Check for continuity at grounds.
      i. Tighten/repair loose grounds.
3. No power to arming switch.
   a. With ignition on, connect test light to battery "–" (negative) terminal. Check for power at pole #1 on arming switch.
      i. Repair wiring.
4. Malfunctioning arming switch.
   a. With ignition on, turn arming switch on. Connect test light to battery "–" (negative) terminal. Check for power at red wire on arming switch.
      i. Replace arming switch.
5. WOT switch may not be set to proper voltage.
   a. Attach a test light to the power output (Yellow Wire) of the WOT switch and check for power at wide open throttle.
      i. Adjust the pot voltage setting to correct voltage. The adjustable pot screw is located inside the WOT switch.
6. Inadequate nitrous supply.
   a. Weigh bottle.
      i. Bottle should be 10 lbs. above empty bottle weight listed on bottle label when full.
   b. Check bottle temperature.
      i. Maintain 80 to 85 degrees of bottle surface temperature.
   c. Check bottle valve.
      i. Open valve fully.
   d. Check bottle orientation.
      i. Mount bottle properly.
7. Mismatched nitrous/fuel jetting
   a. Compare jetting to recommended values.
      i. Install correct jets
   b. Verify the number stamped in the jet match the desired power level.
      i. Acquire the right size jets and install correct jets.
8. Excessive fuel pressure.
   a. Perform Fuel Pressure Test Procedure.
   b. Install fuel pressure gauge.
      i. Regulate pressure to proper settings.

Symptom #6… No change in performance when system is activated *(Continuation)*

9. Loose nitrous solenoid wiring.
    a. Inspect solenoid wiring. See *"Electrical System Installation"* section.
    b. Consult a book concerning proper wiring methods.
10. Malfunctioning nitrous or fuel solenoids.
    a. Inspect solenoid wiring. See *"Electrical System Installation"* section.
        i. Repair wiring.
    b. Inspect solenoids. See symptom #2.
        i. Rebuild/replace solenoid.

Symptom #7… Engine detonates mildly when system is activated.

1. Inadequate octane fuel.
    a. Verify what gasoline you use.
        i. Use higher-octane fuel.
2. Spark plug heat range too high.
    a. Verify what heat range the spark plug is, and how it functions in a high load, high performance application.
        i. Install a performance spark plug.
        ii. Reduce spark plug heat range.
3. Too much nitrous flow.
    a. Verify the size of the nitrous jet.
        i. Install the proper nitrous jet.
    b. Check bottle temperature and pressure.
        i. Ensure before every nitrous usage that you only use nitrous when the temperature and pressure of your bottle are correct.

Symptom #8… Vehicle surges under acceleration when system is activated.

1. Inadequate nitrous supply.
    a. Weigh bottle.
        i. Bottle should be 10 lbs. above empty bottle weight listed on bottle label when full.
    b. Check bottle temperature.
        i. Maintain 80 to 85 degrees of bottle surface temperature.
    c. Check bottle valve.
        i. Open valve fully
    d. Check bottle orientation.
        i. Mount bottle properly.

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