



Manifold w/ Pre-Assembled Direct Port Nitrous System
Victor Jr. 454-R For BB Chevrolet V8
Catalog #72902

INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before beginning this installation. This installation can be accomplished with common tools and basic procedures. However, it is recommended to have a strong familiarity with working on automotive fuel systems, as well as aftermarket nitrous systems, before attempting this installation. If you do not feel comfortable performing this installation or have never worked with automotive fuel systems or aftermarket nitrous systems, it is highly recommended to have this installation completed by a qualified mechanic with strong familiarity with automotive service procedures. If you have any questions, please call our **Technical Hotline at: 1-800-416-8628**, 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday.

WARNING! Always work in a well-ventilated area when working with gasoline as the vapors are toxic and are highly flammable. Be aware of any sources of heat or sparks, such as drop lights or space heaters. Do not smoke and do not allow those around you to smoke during this installation.

Proper installation is the responsibility of the installer. Improper installation will void all manufacture's standard warranties and may result in poor performance and engine or vehicle damage.

FOR RACING AND OFF ROAD APPLICATIONS ONLY: This pre-assembled direct port nitrous manifold is intended for racing and off road use only. It is not intended to be used on the streets as it does not have provisions for chokes, emission pieces, etc. The Victor Jr. 454-R manifold is designed to work with flow characteristics of 850 cfm standard flange square bore carburetors. Due to the generous amount of aluminum casted into the roof of the runners, it may be necessary to remove material from the flanges to clear the valve cover rail on stock and some aftermarket cylinder heads.

EGR SYSTEMS: This manifold will not accept stock EGR (exhaust gas recirculation) equipment. EGR systems are used on some 1972 and later model vehicles and only in some states. Check local laws for requirements.

Kit includes the following:

- ☐ 1 - Manifold w/ Pre-assembled E2 Direct Port Nozzles
- ☐ 1 - Driver side Fuel Solenoid and Line Assemblies
- ☐ 1 - Driver side Nitrous Solenoid and Line Assemblies
- ☐ 1 - Passenger side Fuel Solenoid and Line Assemblies
- ☐ 1 - Passenger side Nitrous Solenoid and Line Assemblies
- ☐ 16 - Taper Face Jets - .016"
- ☐ 16 - Taper Face Jets - .020" (not pictured)



INSTALLATION ITEMS

Due to the variety of years, makes and models to be covered, please review the Installation Items section of the Edelbrock catalog to decide whether more items are required for your specific vehicle than are mentioned in this installation instruction sheet.

INTAKE MANIFOLD GASKET: Use Edelbrock intake manifold gasket, #7208 or equivalent.

CARBURETOR RECOMMENDATIONS: The Victor Jr. 454-R will accommodate standard square bore carburetors. 750 cfm or larger carburetors are recommended but will vary depending on your application.

NOTE: This manifold has no provision for power brake vacuum. If your application requires manifold vacuum, drill and tap a 3/8" or 1/4" pipe hole in either the back or passenger side of the plenum as close to the carb flange as possible. This should be done prior to installing the manifold.

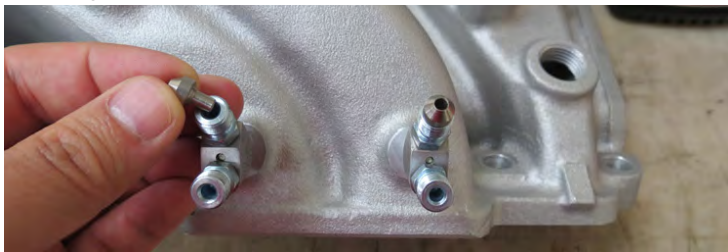
INSTALLATION INSTRUCTIONS

These installation instructions will only highlight the assembly and installation procedure for the Edelbrock direct port intake manifold. Please refer to your service manual for details on how to remove your factory intake manifold.

1. Install the jets into the E2 nozzles as shown.

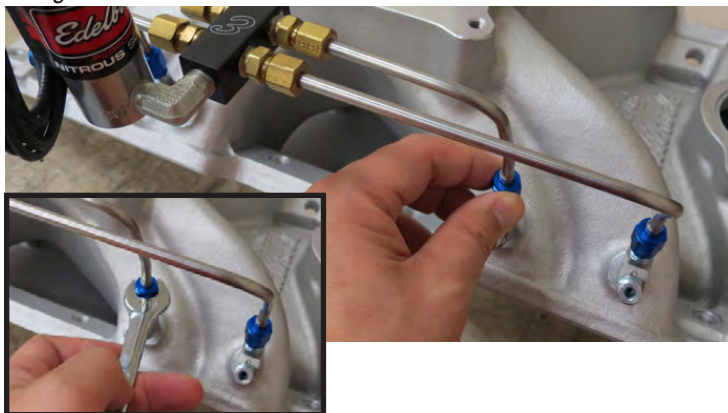
NOTE: Sixteen .016 jets and .020 jets are provided. Use appropriate jets for your application.

We recommend consulting your engine builder to determine the desired power level and nitrous to fuel ratio desired.



2. Install the passenger side Nitrous Assembly (Blue Assembly) onto the E2 nozzles. Nozzles are marked "N" for nitrous and "F" for fuel. Hand tighten all fittings, then use a 7/16" wrench to snug down the fittings.

WARNING: DO NOT force the fittings in as this will cross thread the fittings.

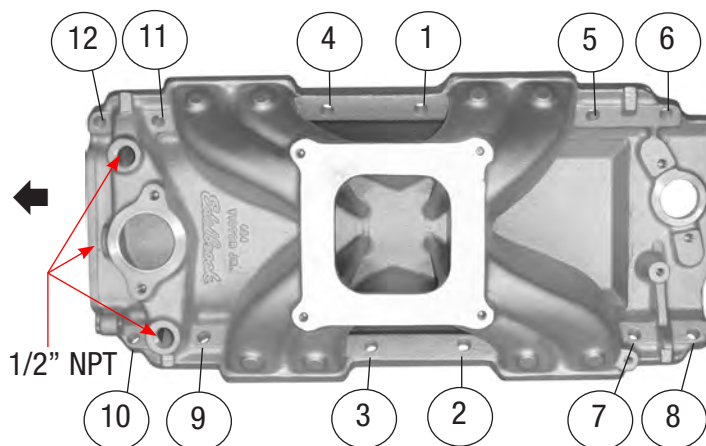


3. Repeat Step 2 for the passenger side Fuel Assembly (Red Assembly) and for the driver side Fuel and Nitrous assemblies.



4. Remove any sensors on the factory manifold and install them onto the Edelbrock manifold. The 1/2" NPT fittings on the manifold must be plugged if not being used.

5. Place the manifold gasket (not included) and the assembled manifold onto the engine. Using the torque sequence below, torque all manifold bolts to 25 ft./lbs.



JET MAP

The horsepower gains listed below in the Jet Map chart are approximate gains. Depending on engine configuration and tuning, your gains may be slightly different. The jet map is based on a nitrous system with a flowing fuel pressure of 6½ PSI. Any variations different than 6½ PSI will change your jet map and potentially damage your engine. We highly recommend using the **Edelbrock Flow Test Tool (P/N 76506)** to set your flowing fuel pressure.

NOTE: When using the high horsepower settings with a direct port system, many variables come into play when setting proper timing retard, such as timing with your previous horsepower settings, cylinder head configuration, compression ratio, tune-up, etc. We recommend consulting your engine builder to determine proper timing retard and spark plug heat range before using these settings.

Jet Map			
HP Gain	Nitrous Jet	Fuel Jet	Sugg. Timing Retard
100 HP	.016	.016	2° - 4° Retard
150 HP	.020	.020	4° - 6° Retard
200 HP	.024	.024	6° - 8° Retard
250 HP	.028	.028	8° - 10° Retard
300 HP	.032	.032	10° - 13° Retard

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

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

WHAT IS NITROUS OXIDE?

Nitrous Oxide is a cryogenic gas composed of nitrogen and oxygen molecules. It is stored as a "gas over a 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 a corresponding fuel), we create the additional power the same way a supercharger or a turbocharger does.

Nitrous Oxide is considered an "oxidizer" and not a fuel. Therefore, nitrous oxide is non-flammable by itself. Because nitrous oxide is a cryogenic, the same safety methods in handling dry ice apply to nitrous. Direct contact with the skin 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 Nitrous Plus. U.S.P. nitrous oxide is medical grade nitrous oxide. Its common use is dental and veterinary anesthesia as well as use as a propellant in food such as canned whip cream. U.S.P. is not available to the public and would provide no advantage in the making of horsepower over the automotive grade nitrous oxide.

Nitrous Plus was specifically designed for automotive consumption 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 all of your breathing passageways and will create sore throats and sore nasal passages. Nitrous Plus was specifically created for automotive applications and is available for sale to the public at many speed shops across the USA.

☒ Safety Steps For Working With Nitrous Oxide

1. Never inhale Nitrous Plus (Nitrous oxide (N₂O) for vehicular use) as continued exposure can cause death. Nitrous Plus has a maximum of 100 parts per million (ppm) of sulfur dioxide and will cause irritation to nose and throat passageways.
2. When working around any high-pressure gas including nitrous oxide, take all precautions to ensure that exposure to nitrous oxide is minimized.
3. Do not vent nitrous oxide to atmosphere in confined spaces. Only vent nitrous oxide in well-ventilated and open areas.
4. Liquid nitrous oxide can cause burns to human flesh so protect all skin in and around your hands, arms and face. Wear safety glasses and rubber gloves to protect from liquid nitrous oxide splatter.
5. When venting down the nitrous system, vent the line down closest to the nitrous bottle.
6. Do not use any form of Teflon tape as sealant on fitting connections. Use only Teflon paste.
7. 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.
8. Always turn the bottle off before making any repairs to the nitrous delivery system.
9. To safely release nitrous oxide in a pressurized line;
 - j. Position vehicle in a well-ventilated, unconfined space.
 - k. Turn bottle off.
 - l. Slowly turn the nitrous feed line at the bottle open until you hear a light hissing noise.
 - m. Allow the entire nitrous pressure to vent from the line.

- n. Perform your work on the system.
- o. Re-attach the nitrous line to the bottle.
- p. Slowly open the nitrous bottle valve, listening for leaks.
- q. Perform leak checks on all affected fittings and the bottle fitting.

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 and engine life, the following tips are suggested:

- **Adequate Fuel Pressure and Delivery**

When designing your fuel system, plan on your pumps and lines flowing at least 0.10 gallons per hour per horsepower. The testing at Edelbrock was conducted with a fuel pressure of 6.5 psi. Any variation from this fuel pressure will cause your final air/fuel ratio to change. Consult our technical department for any questions on fuel pressure and its effects on final air/fuel ratios when using nitrous oxide.

- **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 type of gasoline. We also recommend you use the same grade of gasoline every time you use your nitrous oxide system. This will maintain the same fuel burn rate every time.

- **Engine System Upgrades**

With all performance modifications complementary system upgrades will always serve to elevate the consistency and longevity of an engine, especially when using nitrous oxide as a power adder. Ignition upgrades, intake manifold upgrades, fuel controls and fuel pumps can all add to the performance of a nitrous oxide injected engine.

- **Cast Pistons**

With all nitrous oxide applications, forged pistons are highly recommended. Because of heightened potential for detonation, cast pistons are more prone to failure and cannot handle horsepower increases over 125 hp. Never initiate your nitrous system before you are at full-load, wide-open throttle conditions. Cast pistons will not be able to survive this kind of stress.

EDELBROCK GENERAL WARRANTY

It is the constant endeavor of Edelbrock LLC to give our customers the highest quality products obtainable. Edelbrock warrants each new product, except Performer Series Carburetors and Race Division Parts, 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 LLC 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.