



P/N A5060-SNOS

## 305 / 350 General Motors Tuned Port EFI WET MANIFOLD SYSTEM

Kit Number: 05151NOS



### OWNER'S MANUAL

**NOTICE:** Installation of Nitrous Oxide Systems Inc. products signifies that you have read this document and have agreed to the terms stated within.

It is the purchaser's responsibility to follow all installation instruction guidelines and safety procedures supplied with the product as it is received by the purchaser to determine the compatibility of the product with the vehicle or the device the purchaser intends to install the product on.

Nitrous Oxide Systems Inc. assumes no responsibility for damages occurring from accident, misuse, abuse, improper installation, improper operation, lack of reasonable care, or all previously stated reasons resulting from incompatibility with other manufacturers' products.

Nitrous Oxide Systems Inc. assumes no responsibility or liability for damages incurred by the use of products manufactured or sold by Nitrous Oxide Systems Inc. on vehicles used for competition or racing.

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

NOS nitrous oxide is legal for use in most states when used in accordance with state and local traffic laws. NOS does not recommend or condone the use of its products in illegal racing activities.

NOS has not pursued California Air Research Board (CARB) exemptions for these kits, hence, they are not legal for use on pollution-controlled vehicles in California. A correctly installed NOS nitrous system should not alter the emission control performance of your vehicle under standard EPA test cycle conditions.

**NOTICE:** The NOS G.M. Tuned Port Kit is not intended for use on hatchback type vehicles without the use of NOS part numbers 16160NOS (External Aluminum Blow-Down Tube) and 16166NOS (Racer Safety Pressure Relief Cap).

## HAZARDS DEFINED

This manual presents step-by-step instructions that describe the process of installing your NOS Nitrous Oxide Injection System. These procedures provide a framework for installation and operation of this kit. Parts are referenced by name and number to avoid confusion. Within the instructions, you are advised of potential hazards, pitfalls, and problems to avoid. The following examples explain the various hazard levels:

**WARNING!** Failure to comply with instructions may result in injury or death.

**CAUTION!** Failure to comply with instructions may result in damage to equipment.

**NOTE:** This information is important, needs to be emphasized, and is set apart from the rest of the text.

**HINT:** These special instructions provide a handy work tip.

## NITROUS OXIDE INJECTION SYSTEM SAFETY TIPS

### WARNINGS

Do not attempt to start the engine if the nitrous has been injected while the engine was not running. Disconnect the coil wire and turn the engine over with the throttle wide open for several revolutions before attempting to start. Failure to do so can result in an extreme engine damage.

Never permit oil, grease, or any other readily combustible substances 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 of safety relief valve on the nitrous bottle valve. Increasing the safety relief valve pressure settings may create an explosive bottle hazard.

Identify the gas content by the NOS 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 bottle valves should always be closed when the system is not being used.

Notify the supplier of any condition, which might have permitted any foreign matter to enter the valve or bottle.

Keep the valves closed on all 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 valves and solenoids are properly mated. Never force connections that do not fit properly.

**CONGRATULATIONS** on purchasing your NOS Nitrous Oxide Injection System. Your system is composed of the highest quality components available. It should provide many miles of trouble-free performance when used correctly. If you have any questions regarding the performance of your system, call NOS Technical Service at 1-866-GO-HOLLEY.

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## WHAT IS NITROUS OXIDE?

### NITROUS OXIDE...

...Is a cryogenic gas composed of nitrogen and oxygen molecules

...Is 36% oxygen by weight

...Is non-flammable by itself

...Is stored as a compressed liquid

...Exists in two grades—U.S.P. and Nitrous Plus:

- ❑ U.S.P. is medical grade nitrous oxide; its common use is dental and veterinary anesthesia. It is also commonly used as a propellant in canned whipped cream. U.S.P. is not available to the public.
- ❑ Nitrous Plus differs from U.S.P. in that it contains trace amounts of sulphur dioxide added to prevent substance abuse. Nitrous Plus is intended for automotive applications and is available for sale to the public

In automotive applications, Nitrous Plus and fuel are injected into the engine's intake manifold, which produces the following results:

- ❑ Lowers engine intake air temperature, producing a dense inlet charge.
- ❑ Increases the oxygen content of the inlet charge (air is only 22 percent oxygen by weight).
- ❑ Increases the rate at which combustion occurs in the engine's cylinders.

## Do's and Don'ts of Nitrous Oxide

### Do's

- ❑ Read all instructions before attempting to install your NOS nitrous system.
- ❑ Make sure your fuel delivery system is adequate for the nitrous jetting you have chosen. Inadequate fuel pressure or flow **will** result in engine damage.
- ❑ Use 14 gauge (minimum) wire when installing electrical system components.
- ❑ Use high-quality connections at all electrical joints.
- ❑ Use Teflon-based **paste** on pipe style fittings.
- ❑ Make sure your engine and related components (ignition, carburetor, and driveline) are in proper working condition.
- ❑ **If nitrous is accidentally injected into the engine when it is not running, remove the engine coil wire, open the throttle, and crank the engine 10 to 15 seconds before starting. Failure to do so can result in an explosive engine failure.**
- ❑ **Use your NOS nitrous system only at wide-open throttle and at engine speeds above 3000 RPM.**
- ❑ **Install a proper engine to chassis ground. Failure to do so may result in an explosive failure of the main nitrous supply line.**
- ❑ Use a high-quality fuel, as suggested in Chapter 4, Tuning Suggestions.

### Don'ts

- ❑ Engage your nitrous system with the engine off. **Severe** engine damage can occur.
- ❑ Modify NOS nitrous systems (if you need a non-stock item, call NOS Technical Service for assistance).
- ❑ Overtighten AN type fittings.
- ❑ Use Teflon Tape on pipe threads. Pieces of Teflon tape can break loose and become lodged in nitrous or fuel solenoids or solenoid filters. Debris lodged in a nitrous or fuel solenoid can cause catastrophic engine failure.



- ❑ Use sealant of any kind on AN type fittings.
- ❑ Allow nitrous pressure to exceed 1100 psi. Excessive pressure can cause swelling or in extreme cases failure of the nitrous solenoid plunger. Solenoid plungers are designed so that pressure-induced failures will prevent the valve from operating. No leakage should occur with this type of failure.
- ❑ **Inhale nitrous oxide. Death due to suffocation can occur.**
- ❑ **Allow nitrous oxide to come in contact with skin. Severe frostbite can occur.**
- ❑ Use octane boosters that contain methanol. Fuel solenoid failure may occur, producing severe engine damage.

# Chapter 1 Introduction to your NOS Nitrous Oxide Kit

## 1.1 General Information

NOS Kit Number 05151NOS is designed for late model General Motors vehicles equipped with 305 or 350 cubic inch engines that use Tuned Port Fuel Injection.

Horsepower increases from these kits will vary with engine displacement and configuration. However, approximate power increases can be estimated based upon the massflow of nitrous oxide into the engine. On a typical engine, the following power increases approximate what you can expect to see.

**Table 1 05151NOS Kit Configurations**

Configuration	N <sub>2</sub> O/Fuel Jet(s)	Approximate Power Increase	Recommended Application (Kit #)
Jet Pack I	55-42	100 BHP	05151NOS
Jet Pack II	70-53	150 BHP	05151NOS*

\*Use only on 5.7L engines.

Typically, the standard #10 bottle (10 lb.) of nitrous will supply 2 to 3 minutes of operation at wide-open throttle. A full #10 bottle will weigh 25 lbs. For best performance, the bottle should be refilled when it weighs 17 to 18 lbs.

## 1.2 EFI Wet Manifold System Requirements

When used correctly, NOS nitrous oxide injection elevates cylinder pressures and temperatures while increasing the combustion rate. These characteristics make the engine more sensitive to detonation. **To ensure proper performance and engine life with all EFI Wet Manifold kits, the following are absolute musts:**

**NOTE:** Most fuel pumps are rated at free-flowing conditions. At 5 psi, their flow rates may be greatly reduced.

### ☐ Adequate Fuel Pressure and Delivery

Kit Number 05151NOS is designed for 5.0 & 5.7L multi-port fuel injected GM engines. The fuel pumps that these vehicles come equipped with are very marginal for high performance usage. Under normal operating conditions, these vehicles operate at 35-40 psi. With the use of nitrous oxide injection, it is common for fuel pressure to dip to 28-32 psi. Hence, the fuel jetting supplied with this kit is designed to work at these lower pressures. If modifications other than the installation of a nitrous oxide injection kit have been made to your vehicle, NOS strongly suggests the addition of an auxiliary in-line fuel pump, similar to our P/N 15763NOS unit. If you have chosen to install an auxiliary fuel pump, fuel side jetting in your nitrous kit will need to be altered. Phone the NOS technical department for details.

### ☐ Aftermarket Computer Chips

Do not attempt to use this kit in conjunction with aftermarket "EPROMS" that use more aggressive ignition timing curves than stock.

### 1.3 Kit Components

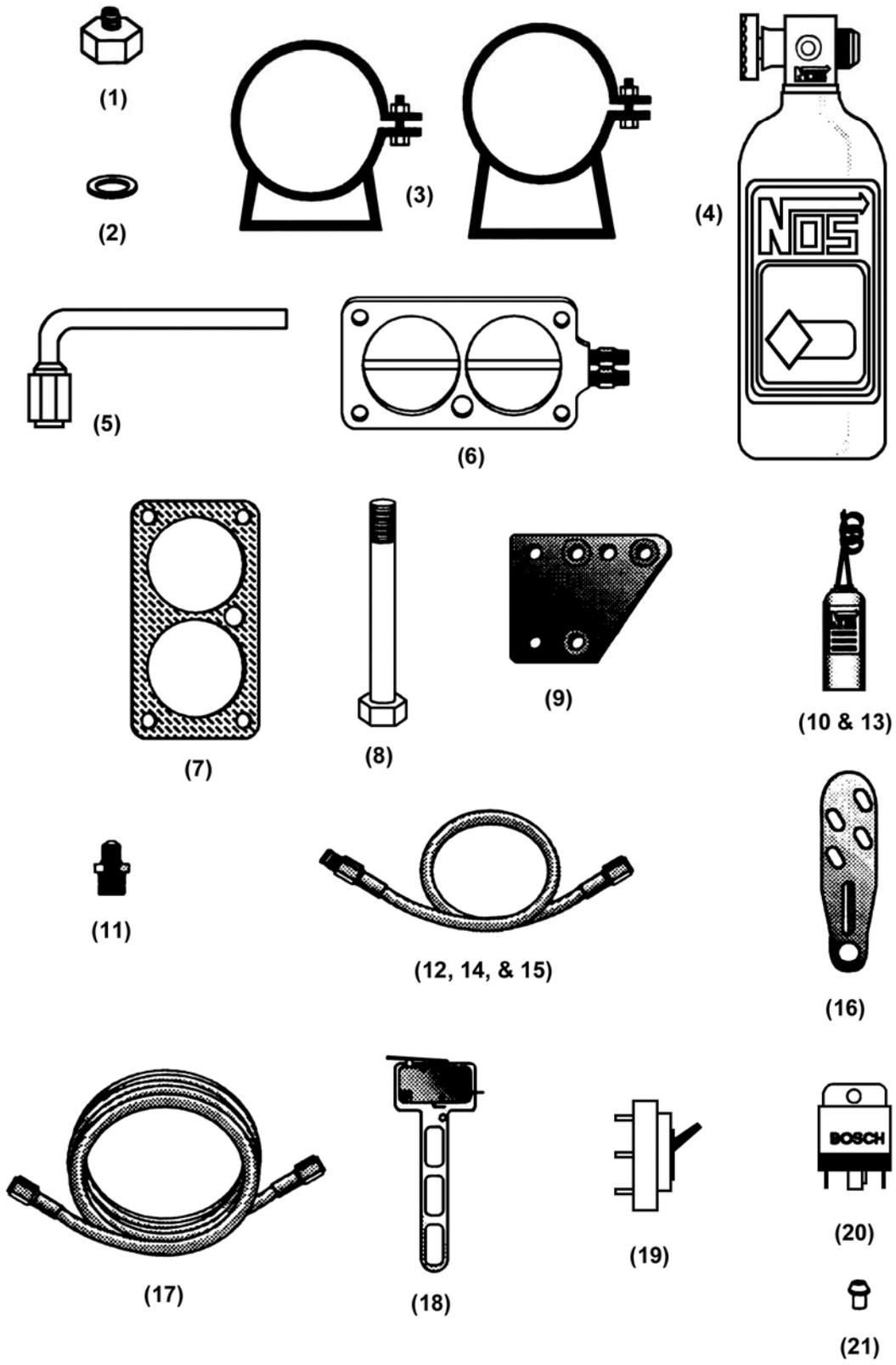
Before beginning the installation of your NOS kit, compare the components in your kit with those shown in Figure 1 and listed in Table 2. If any components are missing, please contact NOS Technical Support at 1-866-GOHOLLEY.

**Table 2 Kit Number 05151NOS Parts List**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>NOS P/N</b>
(1)	Bottle Valve Adapter	1	16220NOS
(2)	Bottle Nut Washer	1	16210NOS
(3)	Bottle Bracket Set	1	14125NOS
(4)	Nitrous Oxide Bottle 10 lb.	1	14745-TPINOS
(5)	Bottle Blow-Down Tube	1	16160NOS
(6)	Injector Plate Assembly	1	13420B-SNOS
(7)	Throttle Body Gaskets	2	13485A-SNOS
(8)	Long Throttle Body Bolts	4	13499-SNOS
(9)	Throttle Linkage Extension	1	17100NOS
(10)	Power Shot N <sub>2</sub> O Solenoid	1	16020NOS
(11)	N <sub>2</sub> O Filter	1	15570NOS
(12)	3AN x 1/8" NPT 2 ft. Hose (Blue)	1	15060-1NOS
(13)	Power Shot Fuel Solenoid	1	16080NOS
(14)	4AN x 1/8" NPT 2 ft. Hose (Red)	1	15230-2NOS
(15)	3AN x 1/8" NPT 2 ft. Hose (Red)	1	15060-2NOS
(16)	Solenoid Mounting Bracket	1	16505NOS
(17)	4AN x 14 ft. N <sub>2</sub> O Hose (Blue)	1	15295NOS
(18)	Microswitch & Bracket	1	15640NOS
(19)	Arming Switch	1	15602NOS
(20)	Wiring Relay—30 AMP*	1	15618NOS
(21)	Flare Jet Assortment	4	-----

\*\* Wiring and connectors also supplied.

Figure 1 Kit Number 05151NOS Components



## Chapter 2 Kit Installation

### 2.1 Bottle Mounting Instructions

#### 2.1.1 Street Vehicles

Accurate calibration of your NOS nitrous system depends on the bottle remaining at a stable temperature. Mount the bottle away from heat sources, such as the engine compartment or exhaust system, and away from windows, where the bottle is exposed to direct sunlight. In vehicles such as Corvettes, Camaros, and Firebirds, it is impractical to mount the bottle away from direct sunlight. In these cases, the bottle should be covered or insulated, such as with an NOS bottle blanket.

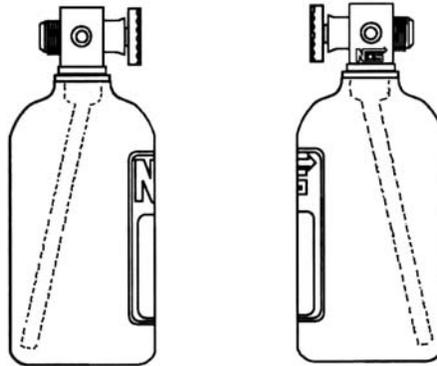
NOS recommends that the bottle be environmentally separated from the driver's compartment. Vehicles such as Corvettes, Camaros, and Firebirds do not have separate trunk compartments, so this kit includes an external blow-down tube. The safety blow-down tube should be routed to the exterior of the vehicle (preferably under the vehicle). This procedure will prevent filling the driver's compartment with a cloud of nitrous oxide if the safety pressure relief cap should happen to rupture for any reason.

#### 2.1.2 Racing Vehicles

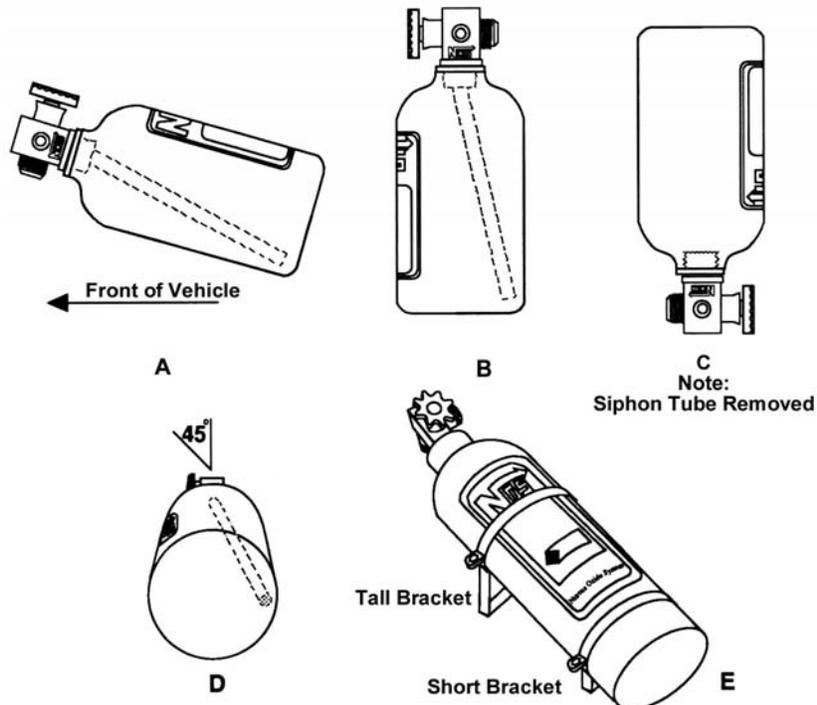
Before mounting a nitrous bottle in a racing vehicle intended for use in sanctioned events, check with the sanctioning association for any rules regarding this subject. Most associations require the bottle to be mounted within the confines of the safety roll cage, with the safety pressure cap vented away from the driver's compartment.

**NOTE:** Disconnect the battery ground before beginning installation.

**Figure 2 Nitrous Bottle Siphon Tube Orientation**



**Figure 3 Nitrous Bottle Mounting Orientations**



## 2.2 Bottle Orientation

Bottle placement is critical to the performance of your NOS nitrous system. It is important to understand how the bottle valve and siphon tube are assembled to properly orient the bottle in your vehicle to ensure that it picks up liquid nitrous while undergoing acceleration. All nitrous bottles are assembled so that the siphon tube is at the bottom of the bottle and opposite the bottle label (Figure 2).

Whenever the bottle is mounted in a lay-down position, the valve handle must be towards the front of the vehicle with the label facing up (Figure 3A).

If the bottle is mounted vertically, the valve handle and label must face toward the front of the vehicle (Figure 3B). This orientation will position the siphon tube at the back of the bottle where the liquid N<sub>2</sub>O will be during acceleration.

**WARNING! DO NOT attempt to remove the siphon tube without completely emptying the bottle of all nitrous and pressure. Failure to completely empty the bottle will result in an explosive condition causing injury or death.**

A bottle mounted upside-down must have the siphon tube removed before use (Figure 3C). Non-siphon bottles can be specially ordered from NOS.

If the bottle must be mounted parallel to the axles of the vehicle (sideways), the valve handle and label must be angled at approximately 45° toward the front of the vehicle (Figure 3D). This orientation will position the siphon tube toward the rear of the bottle.

**NOTE:** When using a bottle with a siphon tube, the tall bracket should be at the valve end of the bottle and the short bracket at the bottom (Figure 3E).

The most efficient mounting is the lay-down position (Figure 3A) 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 Bottle Installation

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

**NOTE:** Numbers in parentheses ( ) refer to the parts list / assembly drawing number for the component. Figure 4 shows the installation assembly for Kit Number 05151NOS.

1. Install the bottle nut adapter (1) and washer (2) on the nitrous bottle (4), and tighten securely.
2. Loosely install the bottle mounting brackets (3) and vent tube (5) on the nitrous bottle.
3. Locate the bottle assembly in the desired mounting location, ensuring that the location will provide easy access to the bottle valve, hose connection, and bracket clamp bolts to facilitate bottle changing.
4. Use the assembled bottle/bracket/blow-down tube unit as a pattern to mark for hole drilling. Drill four 5/16" holes for the bottle bracket bolts, a 1/2" hole for the blow-down tube, and an 11/16" hole for the nitrous supply line.
5. Mount the brackets securely to the surface (recommended minimum of 5/16" bolts).
6. Tighten the bracket clamps on the bottle.

## 2.4 Injector Plate Mounting

1. Remove the throttle body inlet ducting.
2. Disconnect the throttle linkage and hoses from the throttle body.
3. Remove the throttle body.
4. Install the injector plate (6) and gaskets (7) on the intake manifold with the injector plate discharge orifices pointed into the intake manifold plenum.
5. Reinstall the throttle body using the extended bolts (8) provided.
6. Connect the throttle linkage using the throttle linkage extender (9) provided.
7. Reinstall the throttle body vacuum hoses.

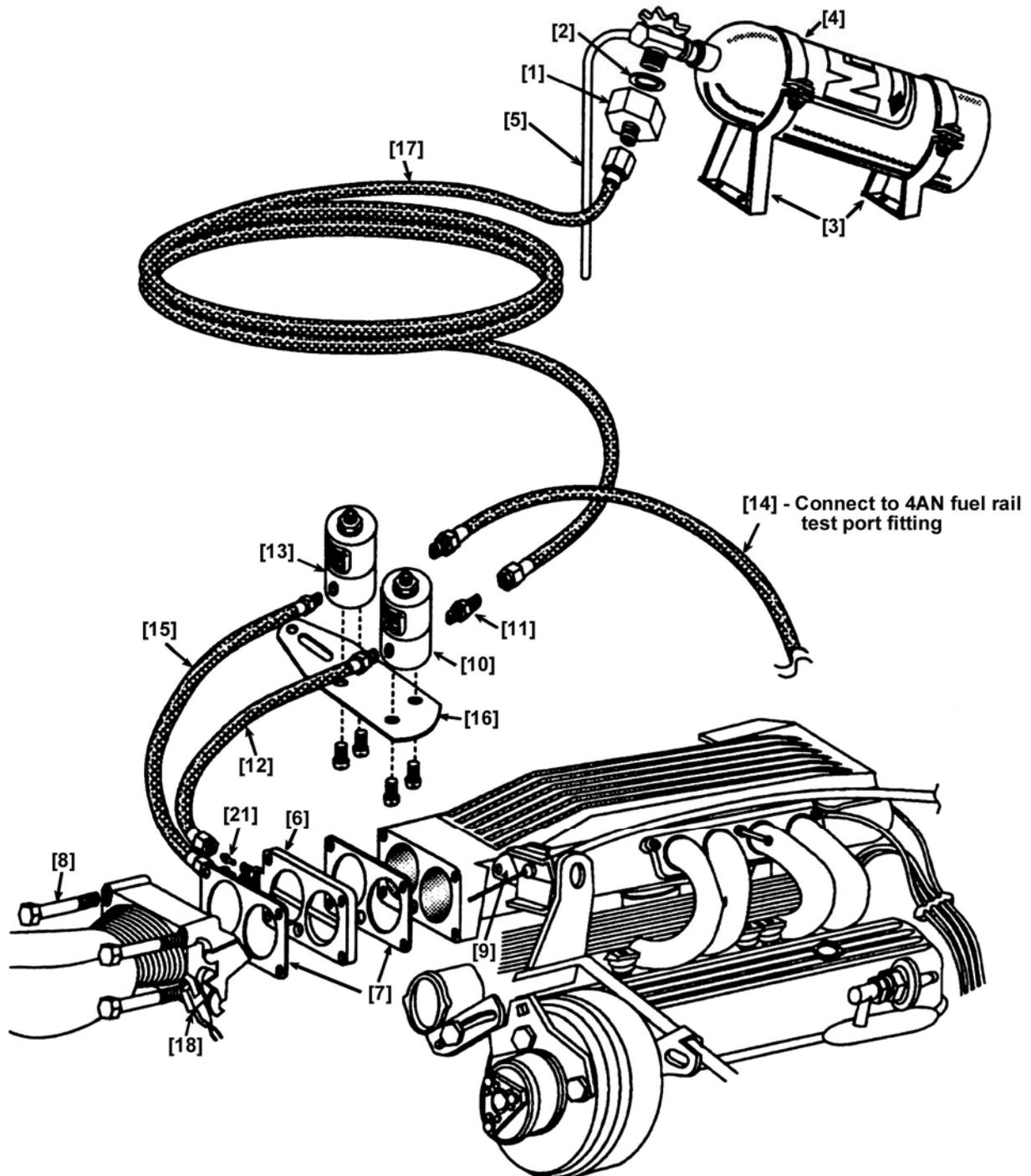
8. Reinstall the air inlet duct.

## 2.5 Fuel Feed Fitting Modification

1. Locate the fuel rail "test port" on the engine's fuel log. It should be found on the passenger side, near the rear two cylinders.
2. Remove the protective cap from the test port. Remove the Schrader valve from the test port using a tire valve core tool.

**CAUTION!** When removing the Schrader valve from the fuel log test port, use **CAUTION**. Fuel in the log is under high pressure. **NEVER** remove the Schrader valve when the engine is hot.

Figure 4 Kit Number 05151NOS Exploded View



## 2.6 Nitrous & Fuel Solenoid Installation and Injector Plate Hook-Up

**CAUTION!** Do not overtighten the vise in the following procedure or the solenoid will be damaged.

1. Clamp the nitrous solenoid (10) in a bench vise.

**NOTE:** Remember to use Teflon paste only on pipe style threads

2. Install the nitrous filter fitting (11) in the inlet port of the nitrous solenoid.
3. Install the 1/8" NPT fitting of the 2 ft. x 3AN blue hose (12) in the outlet of the nitrous solenoid. Remove the solenoid from the vise.
4. Install the fuel solenoid (13) in a bench vise.
5. Install the 1/8" NPT fitting of the 2 ft. x 4AN red hose (14) in the inlet of the fuel solenoid.
6. Install the 1/8" NPT fitting of the 2 ft. x 3AN red hose (15) in the outlet of the fuel solenoid. Remove the solenoid from the vise.
7. Mount the nitrous and fuel solenoid assemblies on the solenoid mounting bracket (16).
8. Select a mounting location for the nitrous and fuel solenoid assembly. Be sure that the 2 ft. x 3AN hoses will reach the nitrous and fuel fittings on the injector plate and that the 2 ft. x 4AN fuel feed hose reaches the fuel rail test port fitting.
9. Secure the solenoid assembly in place.
10. Select the proper nitrous and fuel jets from the application chart. Install the jets into the appropriate fittings in the injector plate.
11. Attach the open ends of the red and blue 2 ft. x 3AN hoses to the injector plate fittings.
12. Connect the open end of the 2 ft. red 4AN hose to the 4AN fuel rail test port fitting.

## 2.7 Nitrous Feed Line Mounting

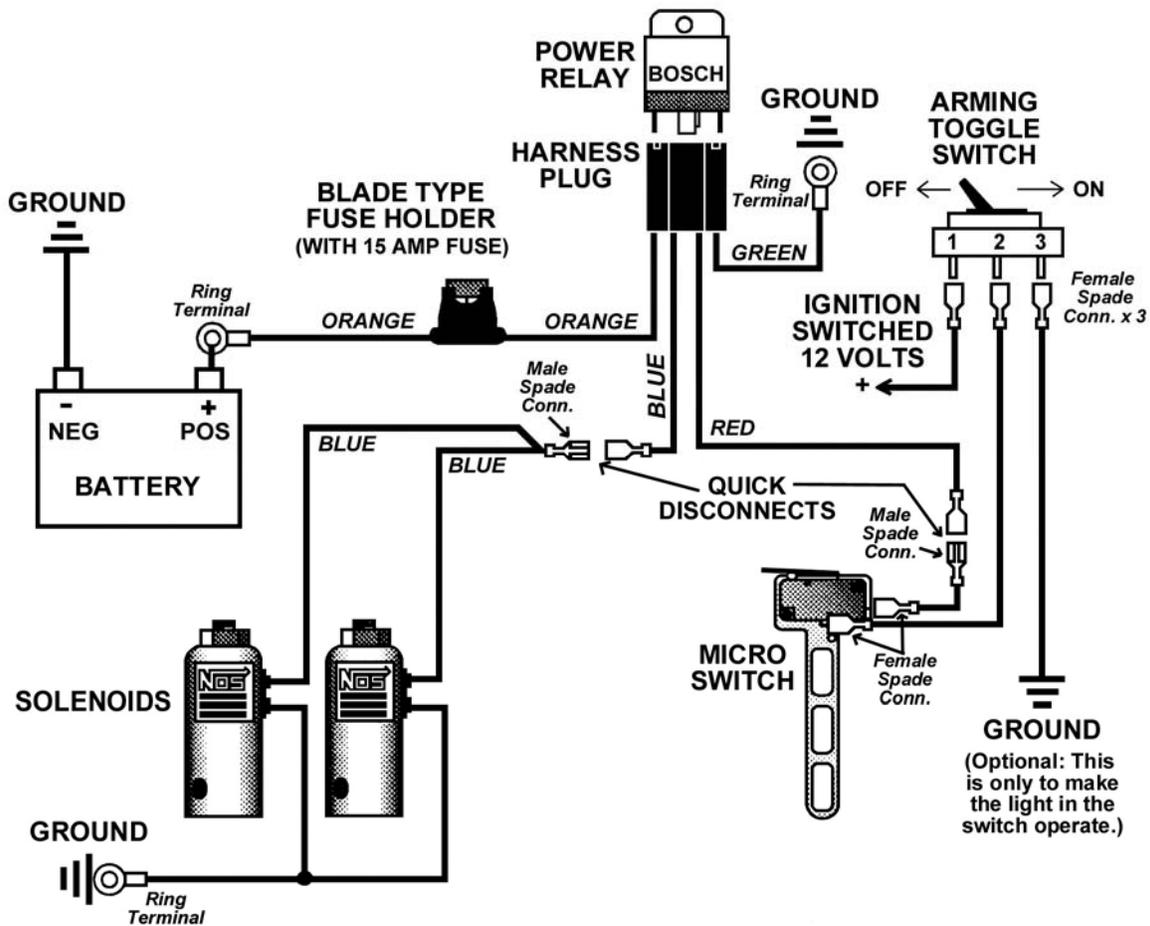
**HINT:** Routing the main nitrous feed line from the bottle under the vehicle and following the vehicle's fuel lines along the underbody usually works well. If there is not enough room for the hose to enter the engine bay between the engine and the frame rails, vehicles with plastic inner fenders can have the hose enter the engine bay between the plastic inner fender and the body.

1. Determine the route for your nitrous feed line to follow. Ensure that the path is clear of exhaust system, suspension, steering, wheels, electrical lines and components, and tires.
2. Feed the main nitrous supply line (17) along the proposed route.
3. If it is necessary to support the nitrous supply line under the vehicle, use 1/2" Tinnerman clamps or nylon tie-wraps to support the line securely.
4. Attach the nitrous supply line to the nitrous bottle valve adapter.

**WARNING:** Nitrous oxide is dangerous to humans if inhaled or comes in contact with the skin. Always point the nitrous line opening away from people when purging the line.

5. Purge the nitrous supply line.
  - A. Wrap the end of the nitrous line with a rag and hold securely.
  - B. Point the opening **away** from people.
  - C. Briefly open the bottle valve.
6. Attach the nitrous supply line to the nitrous solenoid inlet port.

Figure 5 Wiring Schematic



## 2.8 Electrical System Installation

Refer to Figure 5 and the procedures in this section for the electrical system installation.

**WARNING! Death or injury may occur from working on a charged electrical system**

1. Disconnect the car battery at the ground cable (if not already done).

**WARNING! Binding or dragging of the throttle linkage will create a potentially dangerous stuck-throttle condition. Ensure that the microswitch does not interfere with normal throttle linkage operation.**

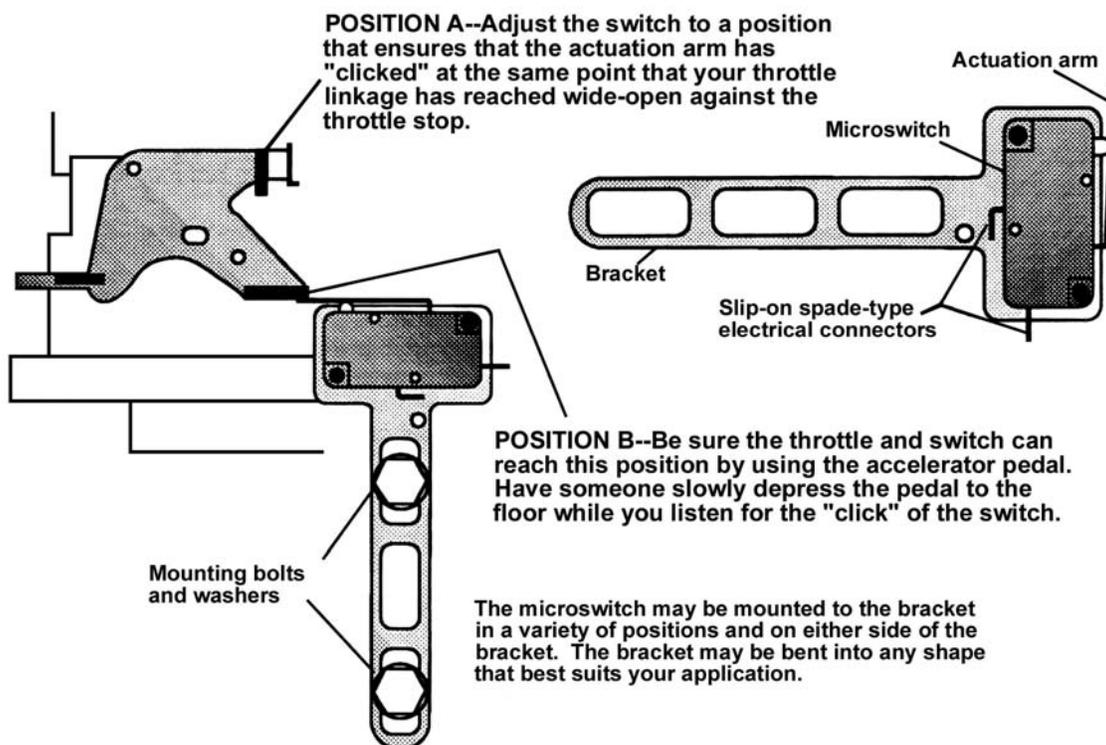
2. Install the throttle microswitch (18) as follows:

**HINT:** The microswitch may be mounted to the bracket (in a variety of positions) and on either side of the bracket. The bracket may be bent to suit the application.

- A. Mount the throttle microswitch on the throttle body, so that the throttle linkage movement triggers the microswitch.
  - B. Adjust the microswitch to trigger at wide-open throttle by adjusting the microswitch's position to ensure that the actuation arm of the microswitch "clicks" at the same point your throttle linkage reaches wide-open throttle against the throttle stop (Position 6A).
  - C. Ensure that the throttle and switch can reach the activation position, as shown in Figure 6B, by using the accelerator pedal. Have an assistant slowly press the pedal to the floor while you listen for the "click" of the microswitch.
3. Install the NOS arming switch (19) in the vehicle's interior, within easy reach of the driver.
  4. Install the wiring relay (20) and relay harness in the engine compartment near the battery. The relay's orange wire should reach the battery (+) terminal.
  5. Connect the orange relay wire to the battery (+) terminal. Install the 15 AMP fuse into the fuse socket.

6. Connect one wire from each solenoid together. Join the solenoid wires to the blue relay wire, using the spade connector.
7. Join the remaining solenoid wires together. Connect to a good chassis ground, using a ring connector.
8. Connect the green relay wire to a good chassis ground.
9. Connect the red relay wire to either terminal on the microswitch.
10. Connect the open terminal of the microswitch to the middle (#2) terminal on the arming switch.
11. Connect #1 terminal on the arming switch to a switched +12 volt power source.
12. Connect #3 terminal of the arming switch to a ground.
13. Reconnect the battery.
14. Turning the arming switch on.
15. Push the throttle wide open. Each solenoid should make a clicking noise if it is cycling correctly. If no noise is heard, check all wiring connections and the wiring schematic in Figure 5.

**Figure 6 Throttle Microswitch Installation**



### Chapter 3 Preparing for Operation

1. Turn on the vehicle ignition.
2. Check all the fuel lines and fittings for leaks.
3. Start the engine.
4. Temporarily disconnect the nitrous solenoid.
5. Raise the engine speed to 2000 RPM.
6. Manually depress the microswitch momentarily. The engine should bog / sputter (fuel rich).

**NOTE:** If the engine does not respond as noted in step 6, refer to Appendix A, Troubleshooting Guide.

7. Reconnect the nitrous solenoid.

**NOTE:** There should be no change in the engine idle speed or exhaust tone. If the idle speed changes, refer to Appendix A, Troubleshooting Guide.

8. Inspect the nitrous hoses and fittings for leaks.

9. **ENJOY!**

## Chapter 4 Tuning Suggestions

Your NOS Kit Number 05151NOS is factory set to work with stock engine settings. For maximum performance, follow the settings listed in Table 3.

**Table 3 Tuning Suggestions for NOS Kit Number 05151NOS**

N <sub>2</sub> O Jetting (Nitrous-Fuel)	Fuel Quality	Ignition Timing	Plugs
55-42	92+ Octane	Stock	Stock
70-53	92+ Octane	Stock	Stock

## Appendix A Troubleshooting Guide

The troubleshooting chart on the following pages should help determine and rectify most problems with your installed NOS system. If you still need assistance determining or fixing problems, call NOS Technical Support Department at 1-866-GOHOLLEY or fax at 1-270-781-9772.

PROBLEM	POSSIBLE CAUSES	DIAGNOSTIC PROCEDURE	CORRECTIVE ACTION
No change in engine speed when the fuel solenoid is activated (Preparing for Operation—Chapter 3).	System wired incorrectly.	Compare wiring to schematic.	Wire per instructions.
	Restricted fuel line.	Inspect fuel line for restrictions (crimped or plugged).	Remove restrictions.
	Malfunctioning fuel solenoid.	Turn arming switch ON. Cycle pushbutton switch. Solenoid should make “clicking” noise.	Repair/replace solenoid.
Change in engine speed when nitrous bottle valve is opened (Preparing for Operation—Chapter 3).	Malfunctioning nitrous solenoid.	Remove and inspect solenoid.	Repair/replace solenoid.
Engine runs rich when system is activated.	Bottle valve not fully opened.	Check bottle valve.	Open valve fully.
	Bottle mounted improperly.	Check bottle orientation.	Mount bottle properly.
	Plugged nitrous filter.	Inspect filter.	Clean/replace filter.
	Low bottle pressure.	Check bottle temperature.	Set bottle temperature to 75° to 85°F.
	Inadequate nitrous supply.	Weigh bottle.	Fill bottle. 1-800-99-REFILL.
	Mismatched N <sub>2</sub> O/fuel jetting.	Compare jetting to recommended values.	Install correct jets.
	Loose nitrous solenoid wiring.	Inspect the solenoid wiring.	Repair wiring.
Malfunctioning nitrous solenoid.	Close bottle valve. Disconnect the nitrous solenoid outlet port. Disconnect the solenoid (+) lead. Open the nitrous bottle valve. Connect the +12V to the solenoid. Solenoid should make a clicking noise.	Replace solenoid.	
No change in performance when system is activated.  <i>(continued on the following page)</i>	System wired incorrectly.	Compare nitrous wiring to schematic.	Wire system per instructions.
	Loose ground wire(s).	Connect 12V test light to battery (+) terminal. Check for continuity at grounds noted in schematic.	Tighten/repair loose ground(s).
	No power to arming switch.	Connect 12V test light to battery (-) terminal. Check for power at pole #1 on arming switch.	Repair wiring.
	Malfunctioning arming switch.	Turn arming switch ON. Connect 12V test light to battery (-) terminal. Check for power at pole #2.	Replace arming switch.

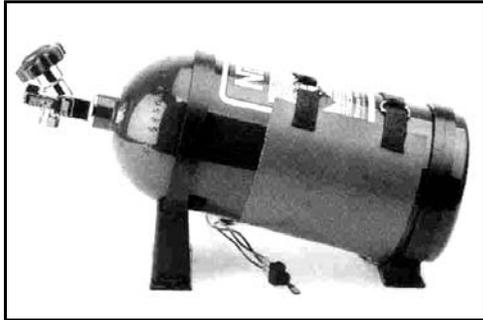
	Malfunctioning throttle microswitch.	Temporarily disconnect power relay red wire from microswitch. Connect 12V test light to battery (-) terminal. Manually set microswitch ON. Check for continuity at microswitch positive terminal (Figure 5).	Replace throttle microswitch.
	Overly rich fuel condition.	Check for black smoke or backfiring through exhaust with system activated.	Install smaller fuel jet or decrease fuel pressure.
Engine detonates mildly when system is activated.	Excessive ignition timing.	Check ignition timing.	Reduce timing in 2° increments, up to 4° from non-nitrous conditions.
	Inadequate octane fuel.		Use higher octane fuel; up to 100 octane-unleaded.
	Spark plug heat range too high.		Reduce spark plug heat range (maximum 2 steps).
	Too much nitrous flow.		Reduce nitrous jetting.
Engine detonates heavily when system is activated.	Inadequate fuel delivery due to: Plugged fuel filter.	Inspect fuel filter.	Clean or replace filter.
	Crimped fuel line.	Inspect fuel line.	Replace crimped line.
	Weak fuel pump.	Install fuel pressure gauge, such as NOS P/N 15906 in the fuel line. Run engine under load at wide-open throttle, with system activated. Fuel pressure should be at least 25 psi.	Repair/replace fuel pump.
High-rpm misfire when system is activated.	Excessive spark plug gap.	Inspect spark plugs.	Set spark plug gap at 0.030" to 0.035".
	Weak ignition/ignition component failure.	Inspect components (plug wires, distributor cap, etc.)	Replace worn components.
Surges under acceleration when system is activated.	Inadequate supply of nitrous.	Check bottle weight.	Replace with full bottle.
	Bottle mounted incorrectly.	Compare bottle position and orientation to instructions.	Mount or orient bottle correctly.

## Nitrous Oxide Accessories

To maintain optimum system performance on cold days, a **Bottle Heater (P/N 14164)** is a must.

To maximize the efficiency of the system, a **Bottle Blanket (P/N 14165)** is also suggested.

**#10 Bottle Heater P/N 14164**



**#10 Bottle Blanket P/N 14165**



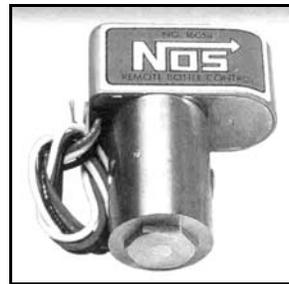
The **Throttle/RPM-Activated Switch, P/N 15879**, allows hands-free nitrous operation and prevents nitrous from being injected at speeds above or below operator-set levels. Greatly reduces the chance of accidental engine damage. ON/OFF levels adjust from 2000 to 9000 RPM.

The **Remote Bottle Valve, P/N 16058** is the perfect convenience accessory—electronically turns nitrous bottle on and off with the flick of a switch—no more trips to the trunk. It is also great as a safety shut-off valve. It operates on 12V DC. The complete kit includes hardware and installation instructions.

**Throttle/RPM-Activated Switch P/N 15879**



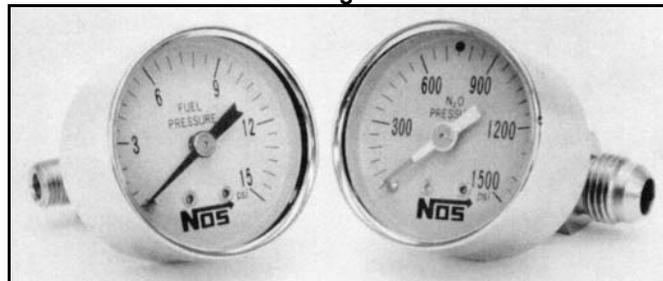
**Remote Bottle Valve P/N 16058**



The **Nitrous Pressure Gauge, P/N 15910 (-4AN lines) or P/N 15912 (-6AN lines)** [0-1500 PSIG] is designed to provide accurate ( $\pm 2\%$  of full scale) readings of fuel pressure in carbureted applications.

The **Fuel Pressure Gauge, P/N 15900** [0-15 PSIG] is engineered to provide accurate ( $\pm 2\%$  of full scale) readings of fuel pressure in carbureted applications.

**Nitrous Pressure Gauge P/N 15910 or 15912**



To order, contact your local dealer.

### NOS Technical Service

Phone: 1-866-GOHOLLEY

Fax: 1-270-781-9772

For online help, please check the Tech Service section of our website: [www.holley.com](http://www.holley.com)

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