

# ***LS3 Plate System Installation Instructions***



## **Read all Instructions before beginning!!!!**

**Caution – EXTREME DANGER – Caution**

**Do not use or mix any other manufacturer's products with any Nitrous Express products.**

**Do not use or mix any Nitrous Express products with any other manufacturer's products.**

**THESE INSTRUCTIONS APPLY TO NITROUS EXPRESS PRODUCTS ONLY!**

**FOR SANCTIONED RACE USE ONLY - NOT FOR SALE OR USE IN CALIFORNIA**

**CAUTION:** An experienced technician familiar with the use and handling of high-pressure cryogenic gases should install this system. If you have any doubt about your skills this system should be taken to a qualified shop for installation. If you have decided to do the install yourself please read and understand all of these instructions before you start. Some of these instructions may or may not apply to your vehicle, if you have any questions please call our tech department 940-767-7694 9:00A.M.-5:00P.M. CST.

The following article outlines the installation of the Nitrous Express LS3 / L99 Plate system on a 2010 Camaro SS. This Camaro is equipped with an automatic transmission and the L99 engine.

Let's get started:

1. Disconnect the negative cable from the battery (located in the trunk).
2. Remove the engine cover by pulling up on the front of the cover (the oil cap must be removed as well). The next step is to remove the Air intake tube from the throttle body.



3. Unplug the harness from the throttle body and remove the four bolts that attach the throttle body to the intake manifold.



4. Apply a thin bead of silicone to the mounting flange of the throttle body.



5. Place the nitrous express plate between the intake manifold and the throttle body and reinstall the factory bolts.



Once all four bolts are tightened, rotate the throttle blade open and verify that silicone has not protruded into the throttle body bore. If needed, wipe excess silicone out with a clean paper towel. Now plug the Throttle body harness back into the throttle body and replace the air intake tube.

6. The next step is to remove the Schrader valve from the factory fuel rail (use an absorbent rag to catch any fuel that drips from the fuel rail). Attach the short braided fuel line (the one with the red fittings) to the factory fuel rail. Slip a fuel jet into the fitting on the NX nitrous plate and attach the fuel line to the plate. The next step is to run the Nitrous line through the vehicle. There is an unused rubber grommet on the driver's side firewall (above and to the right of the hood pop cable). Remove the grommet and cut a hole large enough for the nitrous line and a few electrical wires to route through. Slip the nitrous jet into the plate and connect the nitrous line over the jet. **(Jetting chart can be found on the last page of these instructions)**

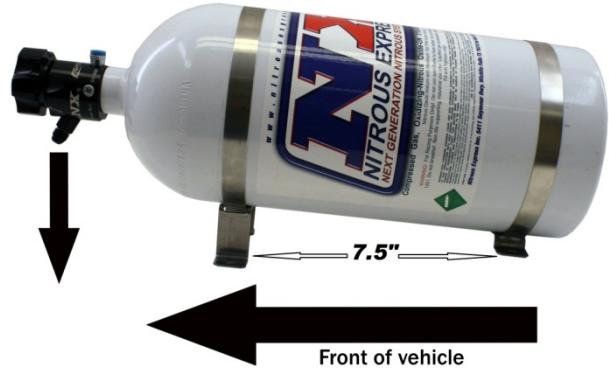


Route the nitrous line along the top of the intake, behind the insulation on the firewall, and through the firewall grommet.

7. Next we'll move to the interior. Remove the driver's side plastic kick panel and door guard. Tuck the nitrous line below the carpet and route to the back of the vehicle.

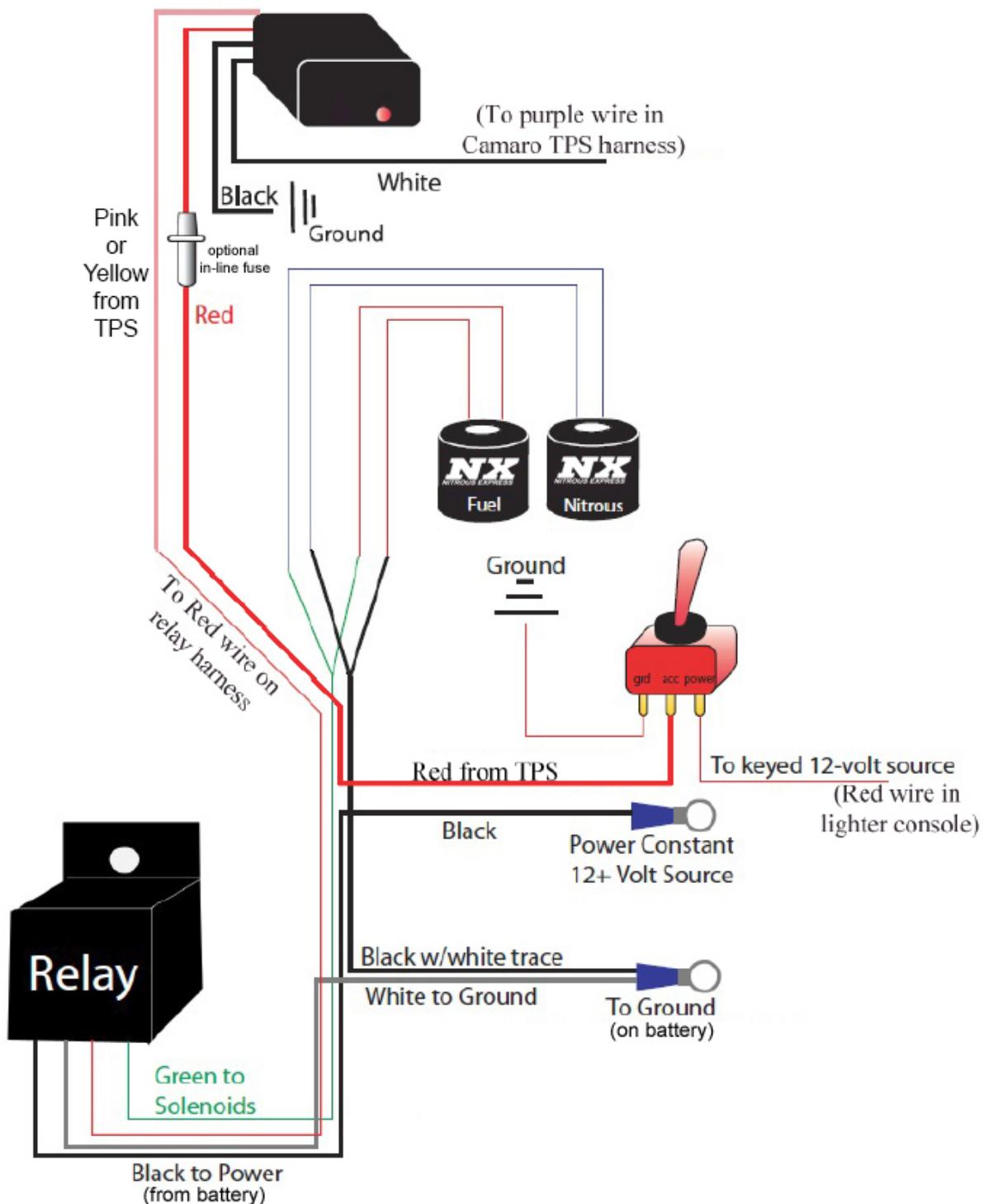


Remove the lower back seat by pulling two clips at the bottom edge of the lower seat cushion. Route the nitrous line below the back seat bottom and under the back cushion. Attach the bottle brackets to the bottle and set the bottle in the trunk with the valve facing forward.



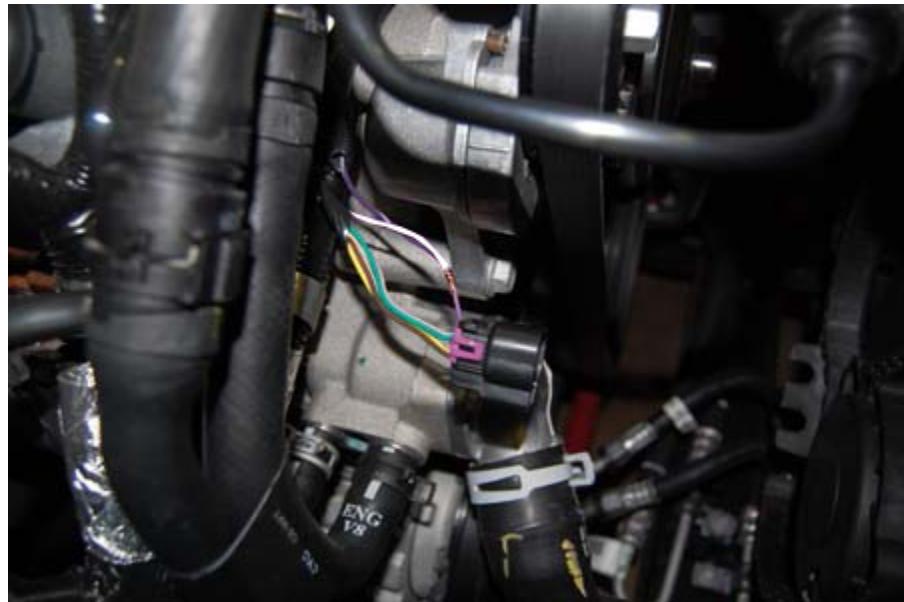
Mark the carpet through the holes in the bottle bracket. Remove the bottle and drill holes through your markings (make sure to check for wiring above and below the metal before drilling). Attach the bottle brackets using the supplied bolts, washers and nuts. Slip the bottle into the brackets and tighten. Also attach the main feed line to the bottle and slip any excess feed line below the carpet.

8. Now it time to move on to wiring. This diagram shows how the system should be connected, the following pages outline the specific locations for wire routing and connections specific to the 2010 and newer Camaro.



Attach the white wire of the TPS module wire to the purple wire of the Camaro throttle body harness (AKA TPS Wire). NOTE: The TPS module will be mounted inside, so you should route the white wire from the TPS module

through the previously mentioned firewall grommet. Make sure to solder and tape the connection.



9. Attach one wire of each solenoid to ground and attach the other wire of each solenoid to the green wire of the NX relay harness.



Attach the white wire of the NX relay harness to ground (optionally through a fuel pressure safety switch). Connect the black wire of the NX relay harness to the positive battery stud on the driver's side of the engine bay (we chose to install an optional fuse in this wire).



10. Route the red wire of the NX relay harness (AKA relay trigger wire) through the previously mentioned firewall grommet. Cover the wires with split loom and electrical tape for a clean factory look. Replace the engine cover and oil cap.



11. We are now done under the hood so we'll move back into the interior of the vehicle. Lift the shifter trim panel and expose the wires of the lighter plug. This will be your source for key switched 12volts.
12. Attach an 18 gauge wire to the red wire going to the bottom of the lighter plug and connect it to the switched 12 volt terminal on the master arming switch. Make sure to solder and tape the connection



13. Choose a suitable location for the master arming switch to be mounted; the switch will need to be accessible from the driver's seat. (we chose to place our master arming switch in the A-pillar).





14. Run a wire from the accessory terminal of the master arming switch to the red wire of the NX throttle position activation switch.



15. Connect the pink or yellow wire of the NX TPS Module to the red wire of the nitrous system relay. (this is the wire that you previously routed through the firewall)
16. Ground the black wire of the NX TPS Module to a chassis ground. Now it's time to replace the trim panels and rear seat.
17. Reconnect the battery, turn the ignition switch and master arming switch on.
18. Now you must program the NX TPS Module.
  - A. You will need to turn the key to the on position, it is not necessary to start the vehicle.
  - B. This switch works with rising or falling TPS signal as long as it has at least a 1v deviation between idle & wide open throttle. When in learn mode, the unit first does a 5 second idle signal analysis. If too much signal

noise is found, it flashes an error (this is to catch a bad TPS or when connected to wrong wire).

C. Once the switch is wired according to the schematic, you will need to put it in learn mode. Learn mode is achieved by pushing and holding the button for 3 seconds, at which point the GREEN LED on the switch will blink slow. This tells you it is checking the TPS idle voltage. This takes approx. 4 seconds. DO NOT change the throttle position during this time. Once the GREEN LED turns off you can proceed.

D. Now take the vehicle to full throttle and back to idle two times. If the GREEN LED is ON solid, then your TPS is set. If the GREEN LED is flashing, the TPS Switch detected a variation between the 1st and 2nd full throttle position and as a precaution, did not learn that setting. You will need to turn off the switch and start the learn procedure again. If the GREEN LED is still OFF, the TPS signal range may be too small or you have the switch connected to the wrong wire.

**NOTE: Once the switch has learned your full throttle position, the GREEN LED will be ON whenever the switch has power and the RED LED will be on when the switch sees full throttle.**

## TESTING AND USING THE SYSTEM

All NX systems are designed for off road usage. Use extreme caution and observe all safety precautions (see your vehicles owner's manual). Select a suitable test area; your local racetrack is best. Open the bottle and arm the system with the master arming switch. Gently launch the vehicle, gradually accelerating to wide-open throttle. When WOT is achieved a noticeable surge of power should be produced. If not stop and recheck all installation procedures. Call the factory tech line if the problem cannot be located. NOTE: All vehicles equipped with factory rev-limiters should take extreme care not to over-rev the engine. If the rev-limiter is engaged with the N2O system on, serious engine damage could result. An aftermarket RPM window switch (NX PN# 18959) should be used to disengage the N2O system 200 RPM's before the rev-limiter activates. Your NX system is now ready for regular usage.

## SAFETY TIPS

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

1. Never permit oil, grease, or any other readily combustible substances to come into contact with nitrous cylinders, valves, solenoids, hoses and fittings. Oil and certain gases (such as oxygen and nitrous oxide) may combine to produce a flammable condition.
2. Never interchange solenoids or other appliances used for one compressed gas with those used for another.
3. Identify the gas content by the label on the bottle before using. If the bottle is not identified to show the gas contained, return the bottle to the supplier.
4. Do not deface or remove any markings, which are used for content identification.
5. Cylinder valves should be closed except when nitrous is actually being used.
6. Notify supplier of any condition, which might have permitted any foreign matter to enter the valve or bottle.
7. Never drop or violently strike the bottle
8. Keep valves closed on all empty bottles to prevent accidental contamination. Open the bottle valve for an instant to clear opening of any possible dust or dirt before usage. Aim bottle outlet away from all body parts. Do not point it in the direction of a person.

Open the nitrous bottle and check all connections for leaks. With the lines disconnected from the solenoids, crack your nitrous bottle open to allow Nitrous pressure into the system. Check for any leaks that may be present, and tend to any that may exist. If the solenoid itself is not sealing, activate the nitrous solenoids a few times in rapid bursts to seat the plunger in the solenoids.

#### **POWER TUNING TIPS:**

Nitrous oxide works well with all applications; 4 cycle, 2 cycle, diesel, and rotary engines. Each one has individual tuning characteristics, and these tips apply generally to each one. Nitrous oxide is referred to as "Liquid Supercharging" because it, in effect, does the same thing as a mechanical supercharger, forcing more fuel and oxygen into each cylinder, thus producing more power. The biggest enemy of all supercharged, turbo charged and nitrous injected engines is "DETINATION". The use of higher-octane fuel, and or a combination of better fuel and timing retard can control this. Remember detonation is a spark plug, head gasket and engine "KILLER".

1. Your engine should be tuned to its maximum power prior to nitrous usage.
2. The ignition is an integral part of the nitrous system and must be able to ignite the mixture under very high cylinder pressures. The hotter the spark the better!
3. In stock engine applications and street usage the spark plugs should be at least 2 steps colder than stock. Do not use platinum tip, extended tip or any plug with multiple ground straps or split ground straps. When in doubt about heat range always go one step colder. A spark plug that is to "Hot" will cause detonation, burned plugs, poor performance, and engine damage. In competition engines always use the coldest plug available. Never use an extended tip plug in a racing engine.
4. The NX nitrous system is so advanced, (technology, engineering, and workmanship) that huge amounts of timing retard is not required. You may run as much timing as you normally would, if you have the octane required to prevent detonation. We recommend 1 degree timing retard for each 50 horsepower boost as a starting point. Your engine may need more or less depending on your combination.

5. Your fuel system is also an integral part of the nitrous system, be sure it is in top shape and all filters are clean.
6. Engine operating temperature should be between 160 and 200 degrees prior to nitrous usage.
7. Never "lug" your engine and hit the nitrous system, use the system at wide-open throttle only, nitrous should not be used below 3000 rpm's. If you do any of the above a serious "Back Fire" could result in engine damage.
8. The better the exhaust system the better the nitrous system will work.
9. Do not attempt to drill or alter the jets, solenoids, or the tubes in the nitrous plate. These items are engineered to their maximum capability. Any modification you can make will decrease power and destroy engine parts.
10. Do not mix or attempt to match any other brand solenoids, plate, or nozzles with this system. Any attempt at this could lead to serious engine damage.
11. All of our systems are designed to operate at 1050 PSI bottle pressure. This is extremely important and cannot be stressed enough. If your bottle pressure is below 1050 PSI the system will run rich and will not produce the advertised horsepower. If the bottle pressure is above 1050 PSI the system will run lean, possibly damaging engine parts. This pressure is easily monitored by using a NX liquid filled pressure gauge (PN 15509). Note: When the ambient temperature is below 97 degrees a bottle warmer is required (PN 15940 or 15941). An NX bottle jacket (PN15945 or 15946) will help stabilize bottle pressure in the winter and summer.  
**CAUTION: NEVER USE AN OPEN FLAME TO HEAT A NITROUS BOTTLE. THIS IS A VERY DANGEROUS AND POTENTIALLY FATAL PRACTICE!!!!!!!!!**
12. A purge valve (PN15605) is recommended on all NX systems. When the weather begins to get hot a purge valve is worth up to a tenth of a second on a 1/4 mile pass.
13. If there is a question about the purity of your nitrous supply, a filter (PN15610 or 15607) should be used when refilling your bottle. Just attach the filter to your bottle when you take it to be refilled. Contaminated nitrous will cause serious damage to the nitrous solenoids and possibly to your engine. This is a lifetime renewable filter.
14. If you have questions about the suitability of your torque converter or gear ratios, call the factory tech line for the inside scoop.
15. Your nitrous bottle should be turned off when not in use (even between runs). An NX remote bottle opener (PN 11107) will make this task much easier.
16. Start with the lowest power setting in your system. Don't try to be the track "Hero" on your first pass. Remember start out small and work your way up, NX systems produce more real horsepower than any other brand on the market today.

17. If the solenoids must be disassembled for cleaning or rebuilding always use the proper wrench (PN 15921). Do not use any clamping devise on the solenoid tower, instant non-warranty, damage will result.
18. If you run an NX system of 150+ horsepower you must use a high octane racing type fuel. These are some tips to help you choose and maintain the correct fuel for your application:
  - A. The most important statistic you should look for in the fuel specifications is the "MON" or motor octane number. In most cases the higher the number the more timing you can run and detonation will not be a problem

- B. Most V-8 or V-12 engines with stock compression will run on "93" unleaded pump gas with up to 150 horsepower boost, most 4 or 6 cylinders with stock compression can use up to 75 horsepower.
- C. Racing engines with high compression must run racing fuel. The higher the compression, and the higher the boost, the higher the "MON" must be.
- D. With nitrous usage usually the highest "MON" available is the one that should be used.
- E. All NX systems are calibrated to use fuel with .730 specific gravity or "SG". If you use a fuel with a lower "SG" you must use a larger fuel jet to compensate for the lighter fuel. If you use a fuel with a higher "SG", a smaller fuel jet will be required. Most unleaded pump gas is .730 SG or above.

- F. Racing fuel should be stored in an airtight, dark container. Exposure to atmosphere allows very important elements to evaporate, lowering the octane of the fuel. Sunlight oxidizes the lead contained in racing fuel, since this is the most important ingredient used to raise octane it must be protected.
- G. Never leave race fuel in your car between race days. This allows evaporation of the very important "High end" hydrocarbons and lowers the octane of the fuel.
- H. Never buy racing fuel from an underground or vented storage tank. Always demand to see where and how the fuel is stored, a sealed drum is the only correct way.
- I. AV gas or aviation fuel is not compatible with nitrous usage, don't be tempted by the cheap price, instant engine damage will result!
- J. For a fuel recommendation, contact your NX dealer.

19. All vehicles, including full competition race cars, must have an alternator to provide adequate amperage required by today's racing accessories. Add up all the amps required by your car, you'll be surprised!

20. If you have trouble with your NX system or any related parts, call your dealer first. If you still need help call the factory tech line 940-767-7694 9:00 AM - 5:00 PM CST Mon-Fri.

In conclusion.....

This instruction sheet and power tuning tips are valid only for a NX system. If you have a kit from another manufacturer this information will not help you! A tune up from any other brand of nitrous kit will not work with the NX “Next Generation” technology.

## DO NOT LISTEN TO:

- A. YOUR BUDDY!
- B. YOUR BUDDY'S FRIEND!
- C. THE LOCAL NITROUS GURU!
- D. ANY ARTICLE IN ANY MAGAZINE

If you follow the foregoing suggestions, your NX system will operate trouble free and provide years of thrills. ABOVE ALL REMEMBER TO RACE SAFE AND HAVE FUN!

## Chevy/GM EFI Plate Jetting

Select the desired horsepower level and fuel type to determine the nitrous and fuel jet requirements.

Ignition timing should be retarded 1.5 - 2 degrees per 50 hp of nitrous being sprayed.

Spark plugs should be copper core, 2 steps colder than stock, gapped no larger than .035.

**CHECK ALL JETS FOR OBSTRUCTIONS UPON INSTALLATION!!!!!!!**

5th Gen Camaro Plate-55psi Fuel Pressure			
HP	N2O	Gasoline	E85
50	35	20	22
75	41	22	24
100	52	28	30
125	57	30	32
150	62	33	35
175	70	35	37
200	82	39	41
225	136	40	42

With Integrated Solenoids on Plate



## UNDERSTANDING

# HAZARDS OF NITROUS OXIDE

## IN AUTOMOTIVE AND RACING APPLICATIONS



**USERS OF NITROUS OXIDE  
MUST UNDERSTAND THE  
HAZARDS. NITROUS OXIDE:**

- ! MAY CAUSE OR INTENSIFY FIRE; IT IS AN OXIDIZER.
- ! CONTAINS GAS UNDER PRESSURE, MAY EXPLODE IF EXPOSED TO AN OPEN FLAME.
- ! MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
- ! MAY CAUSE DROWSINESS OR DIZZINESS.
- ! MAY CAUSE FROSTBITE.



**NEVER INHALE NITROUS  
OXIDE OR NITROUS OXIDE  
MIXTURES EXCEPT UNDER  
MEDICAL SUPERVISION.**

- ! RACING NITROUS OXIDE PRODUCTS CONTAIN SULFUR DIOXIDE.
- ! INHALATION OF RACING NITROUS OXIDE PRODUCTS MAY BE HARMFUL OR FATAL.



**NEVER APPLY AN OPEN  
FLAME TO A NITROUS  
OXIDE CYLINDER**

- ! WHEN FILLING FROM ONE CYLINDER TO ANOTHER.
- ! TO ENHANCE PERFORMANCE WHEN CYLINDERS ARE IN USE.



**FOLLOW REGULATORY  
REQUIREMENTS AND INDUSTRY  
STANDARDS WHEN USING  
NITROUS OXIDE CYLINDERS  
OR WHEN TRANSFERRING  
PRODUCT FROM ONE CYLINDER  
TO ANOTHER (TRANSFILLING)**

- ✓ ONLY COMPETENT, TRAINED PERSONNEL SHOULD TRANSFILL CYLINDERS.
- ! TRANSFILLING CYLINDERS CAN BE DANGEROUS.
- ✓ ONLY FILL NITROUS OXIDE CYLINDERS BY WEIGHT.
- ! DO NOT COOL DOWN RECEIVING CYLINDER.
- ✓ ONLY USE CYLINDERS THAT ARE DEDICATED FOR NITROUS OXIDE SERVICE. DO NOT CHANGE THE CYLINDER SERVICE TO OR FROM A DIFFERENT GAS.



**DO NOT MAKE ALTERATIONS  
TO CYLINDER OR CYLINDER  
COMPONENTS**

- ! DO NOT MODIFY PRESSURE RELIEF DEVICE (PRD).
- ! DO NOT REPLACE, CHANGE, OR MODIFY VALVE.
- ! DO NOT ALTER, REMOVE, OR COVER PRODUCT LABEL.



**FOLLOW SAFE  
PRACTICES FOR THE  
STORAGE AND USE OF  
OXIDIZERS**

- ✓ SECURE ALL CYLINDERS AND CONTAINERS WHEN BEING USED OR STORED.
- ✓ POST NO SMOKING SIGNS IN AREAS WHERE OXIDIZERS ARE STORED OR USED.
- ✓ SEPARATE OXIDIZERS FROM FLAMMABLES WHEN STORING.
- ✓ STORE AND USE IN WELL VENTILATED AREAS THAT ARE FREE OF COMBUSTIBLE MATERIALS.
- ✓ KEEP OIL AND GREASE AWAY FROM CYLINDER AND CYLINDER VALVE.