Purging Nitrous Oxide Systems

Purging the nitrous system helps to displace any trapped air that may be present and fill the system with liquid nitrous. A relief valve is placed prior to the main solenoid specifically for this purpose. Some often purge the fuel system in the same manner with a return line back to the tank. The same thing can be accomplished by purging through the engine, but contrary to belief, no power is gained. You can get rid of trapped air in both the nitrous and fuel system up to the solenoid, but in a nanosecond, the system below the solenoid is sucked dry. Purging through the engine also has no cooling effect. In fact, with a thermocouple inserted in the intake at the top of the runner and the nozzle at the bottom, the inlet air will not increase even 1 degree by purging and will only increase by 2-3 degrees on a full dyno pull. The exact same dyno torque and horsepower throughout the rpm range has been observed when purging through the engine or to the atmosphere, and the same engine put in a race car exhibited the same elapsed time by purging in either manner.

A superior system for car engines would deliver the nitrous via a solenoid for each runner mounted high enough to cool the incoming air and maintain liquid at the injection point rather than “critical phase” nitrous, and purge the system right at the injection point.