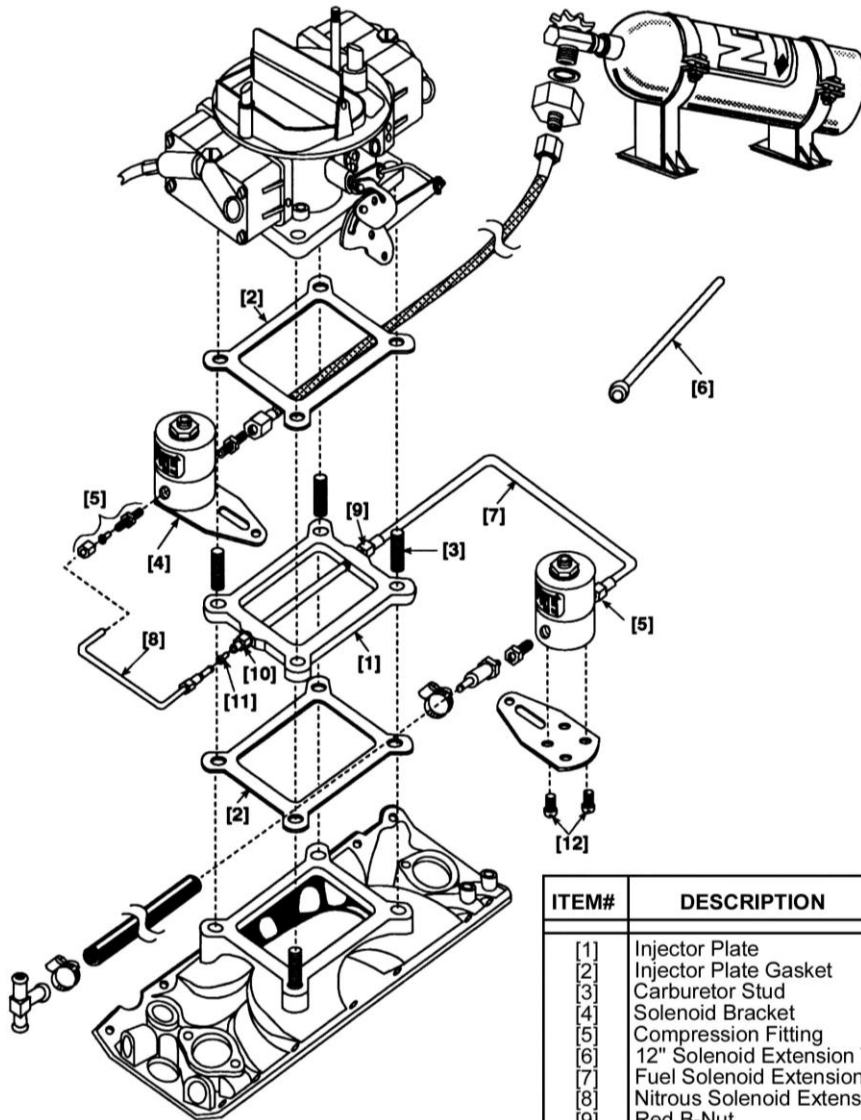




NOS COMPETITION CHEATER SINGLE CARBURETOR INJECTOR PLATE INSTALLATION INSTRUCTIONS FOR NOS P/N 12500NOS, 12570NOS, 12600NOS, & 12670NOS



Parts List

ITEM#	DESCRIPTION	QTY	P/N
[1]	Injector Plate	1	*
[2]	Injector Plate Gasket	2	*
[3]	Carburetor Stud	4	*
[4]	Solenoid Bracket	2	16500-S
[5]	Compression Fitting	2	16433-S
[6]	12" Solenoid Extension Tube	2	16360-S
[7]	Fuel Solenoid Extension Tube	1	16866-S
[8]	Nitrous Solenoid Extension Tube	1	16865-S
[9]	Red B-Nut	1	17551-S
[10]	Blue B-Nut	1	17550-S
[11]	Flare Jet Assortment	1	13742-S
[12]	Solenoid Base Screws	4	16501-S

* Varies with application.

1.0 Injector Plate Mounting

1. Remove the carburetor inlet ducting and air cleaner.
2. Disconnect the throttle linkage from the carburetor.
3. Disconnect the fuel line from the carburetor.
4. Remove the carburetor.
5. Remove the stock carburetor studs.
6. Install the extended carburetor studs [3].
7. Install the injector plate [1] and gaskets [2] on the intake manifold *with the NOS label facing UP*

8. Install the carburetor.
9. Connect the throttle linkage.

2.0 Nitrous Solenoid Installation

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

NOTE: *Use Teflon paste only on pipe threads.*

1. Clamp the nitrous solenoid base in a bench vise.
2. Install the nitrous filter fitting in the inlet port of the nitrous solenoid.
3. Install the 1/8-inch NPT fitting adapter [5] in the outlet port of the nitrous solenoid.
4. Remove the nitrous solenoid assembly from the vise.
5. Attach the solenoid mounting bracket [4] to the nitrous solenoid.
6. Loosely mount the nitrous solenoid near the base of the carburetor on the nitrous (blue) end of the injector plate.
7. Install the proper nitrous jet [11] in the injector plate, with the beveled edge out.
8. Install the formed nitrous (blue) extension tube [8] using the B-nut (blue) [10].

NOTE: *Extension tubes may need to be shortened, depending on the application.*

9. Tighten the solenoid mount.

3.0 Fuel Solenoid Installation

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

NOTE: *Use Teflon paste only on pipe threads.*

1. Clamp the fuel solenoid base in a bench vise.
2. Install the in-line fuel filter in the inlet port of the fuel solenoid.
3. Install the 1/8-inch NPT compression fitting adapter [5] in the outlet port of the fuel solenoid.
4. Remove the fuel solenoid assembly from the vise.
5. Attach the solenoid mounting bracket [4] to the fuel solenoid.
6. Loosely mount the fuel solenoid near the red end of the injector plate.
7. Install the proper fuel jet [1] in the injector plate, with the beveled edge out.
8. Connect the outlet port of the fuel solenoid to the injector plate using the formed fuel (red) extension tube [7] using the B-nut (red) [9].

NOTE: *Extension tubes may need to be shortened, depending on the application.*

9. Tighten the solenoid mount.

Suggested Tuning Combinations for Competition Cheater - Single Carburetor System

Cheater					
EXTRA HP	JETTING		FUEL OCTANE (R+M/2)	IGNITION TIMING	NGK OR EQUIVALENT SPARK PLUG
	N20	FUEL			
100	.047	.047	93+ Race Fuel		Stock
125	.055	.055	100+ Race Fuel		-7
150	.063	.063	100+ Race Fuel	*	-8
185	.073	.073	110+ Race Fuel	*	-9
210	.082	.082	110+ Race Fuel	*	-9
250	.093	.093	112+ Race Fuel	*	-10

***See Timing recommendation chart below**

Determining the correct ignition timing for an engine using nitrous oxide is not cut and dry as it is dependent on many variables. Variables such as piston design, combustion chamber size and design, valve angle, fuel type, nitrous system design, and other factors all play a critical role as to what timing a specific engine/vehicle combination needs. When running larger amounts of nitrous, it is critical that the proper ignition timing be run as well as the proper spark plug heat range.

There is one specific timing that is most ideal for a specific engine and nitrous tune-up. In the end the best and correct method to determine timing in a car is to read the spark plugs.

Due to all these variables, it is difficult to recommend a generic timing for a given amount of nitrous. However the information below is intended to provide a starting point. After this, it is best to use the spark plugs as an indicator as to what timing a specific engine requires. The spark plugs also will help with nitrous and fuel jetting as well as fuel pressure needs.

One large variable that drives the ideal ignition timing is the "combustion efficiency". This is a combination of the cylinder head valve angle, combustion chamber size and burn characteristics, and piston dome design among other things. The more efficient the overall combustion efficiency is, the less timing is needed with nitrous. Note that when running large amount of nitrous, the old school rule of "take out two degrees per 50 HP of nitrous" is not ideal or wise.

The following timing recommendations below are based on nitrous HP amounts and a factor called "Combustion Efficiency". Combustion Efficiency takes into account the piston dome, chamber size, valve angle, and other factors. It is split up into three categories, "High", "Medium", and "Low". The following reviews these:

"High" – An engine with an exceptionally efficient and quick burn rate when running nitrous. Typically this would have a piston with a dish, flattop, or very small, flat dome design. Combustion chambers are small and valve angles are greatly reduced from the "factory" valve angle. Generic examples are engines with current high end race heads that have valve angles reduced 7-11 from stock, very small combustion chambers, and flat top piston that still maintain 13-14:1 compression ratios.

"Medium" – An engine with a small and efficient chamber – An example could be a SBC with an 18 degree head with a moderate piston dome.

"Low" – Older engines with factory valve angles. Pistons may have large domes to maintain high compression ratios - Large, open combustion chambers. An example would be a BBC engine with a 119cc open chamber and large dome piston.

The following are some initial recommendations for timing. Be conservative and read your plugs. Run an 1/8th mile hit rather than a 1/4 mile pass to start to see initial plug strap readings. The "Plug" recommendation is based on NGK heat ranges. An equivalent Autolite or other brand can be used.

Note: These are for V8's. For a 4 cylinder, cut these numbers in half.

Suggested Baseline Timing Combinations

N20 HP	Combustion Efficiency	Timing	NGK Spark Plug or Equiv.	Fuel/Octane
100	Low	32	Stock	93+
100	Medium	30	Stock	93+
100	High	28	Stock	93+
125	Low	31	Stock/-7	100+
125	Medium	29	Stock/-7	100+
125	High	27	Stock/-7	100+
150	Low	29	-8	100+
150	Medium	27	-8	100+
150	High	25	-8	100+
175	Low	27	-9	110+
175	Medium	25	-9	110+
175	High	23	-9	110+
200	Low	24	-9	110+
200	Medium	22	-9	110+
200	High	20	-9	110+
250	Low	22	-10	112+
250	Medium	20	-10	112+
250	High	18	-10	112+

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