



**MPS Spyder Nitrous Spray System**



The **MPS Spyder Nitrous Spray System** was designed to evenly distribute nitrous to each cylinder when using a dry nitrous system. The Spyder Nitrous Spray System uses individual jets for each cylinder delivering the precise nitrous charge you need for your specific application. The Spyder Nitrous Spray System you ordered comes with one set of jets. The table below will give you a general idea of the jets needed to attain specific horsepower levels.

**Nitrous Jets Horsepower**

.012	23 HP
.013	27 HP
.014	30 HP
.015	34 HP
.016	40 HP
.017	44 HP
.018	50 HP
.019	54 HP
.020	60 HP
.021	68 HP
.022	75 HP
.023	81 HP
.024	90 HP
.026	105 HP
.028	120 HP

We do not recommend more than 40 - 60 HP for bikes with stock pistons. We recommend the following engine modifications for a long lasting nitrous installation: a good quality forged piston, heavy duty cylinder studs, stainless steel valves, heavy duty valve springs, and heavy duty connecting rods. With these modifications 100 plus nitrous shots can be used. A larger nitrous solenoid must be used with jets bigger than .028. You must increase fuel to match the extra oxygen your engine is getting from the nitrous. You can do this with a variety of products. We like the Power Commander with a hub unit to change maps on the fly. Stock fuel injectors can be a limitation to the amount of fuel you can deliver. Most stock injectors will have no problem delivering enough fuel for 40 - 60 horsepower. Duty cycles above 95% are dangerous and not recommended. To gain more power you will need larger injectors. We recommend our 62 lb injectors for up to 400 total horsepower. Factory ignition timing is ok with 93 octane pump gas for 30-40 horsepower. For more horsepower you will need to retard the ignition timing or use a fuel with more octane or both. We recommend using either a MSD SB-6 ignition or a Schnitz timing retard module to retard the ignition timing. For large horsepower systems we also would recommend using a progressive controller to control the power of a big nitrous system. We recommend either the Schnitz 2 dial controller, the NOS mini progressive, or the Daytona Sensors NC-2. All are quality units with different features. Call us for recommendations on your specific nitrous system combinations. The MPS Spyder Nitrous Spray System is for use in closed course competition events only and are not for use on any public street or highway.

**Mounting** – The MPS Spyder Nitrous Spray System mounts inside the top of the air box with the



1/4 - 28 bolts provided. You will need to locate the Spyder Nitrous Spray System so the stainless steel tubes align with each throttle body venturi. Mark the hole location and drill a 1/4" hole for the 1/4 - 28 bolt in the top of the air box and mount the Spyder. Make sure that the jets are tightened securely. Jets inside your motor are not good! Install the straight fitting on the line to the -4 fitting on the Spyder distribution block. Find a good spot for the bulkhead fitting to come through the air box where the line won't be kinked and drill a 7/16" hole in the airbox. Put the bulkhead fitting through the air box and secure it with the bulhead nut. Install the line from the distribution block to the bulkhead fitting and tighten all lines and fittings. Do not use any sealing agents on AN fittings. Sealing agents should only be used on pipe thread.

**Bottle Mounting** – To mount the bottle you will need to find a suitable spot. **Danger: Nitrous bottles can explode. Never exceed 1000 lbs of bottle pressure. Nitrous pressures over 1000 lbs or so can prevent the nitrous solenoid from opening. Do not expose the bottle to direct sunlight or leave the bottle enclosed in a container in direct sunlight. If you mount your bottle in your trunk or under the seat be sure to take the bottle out before letting the bike sit in the sun. Nitrous gains pressure with temperature. Do not mount the bottle near**

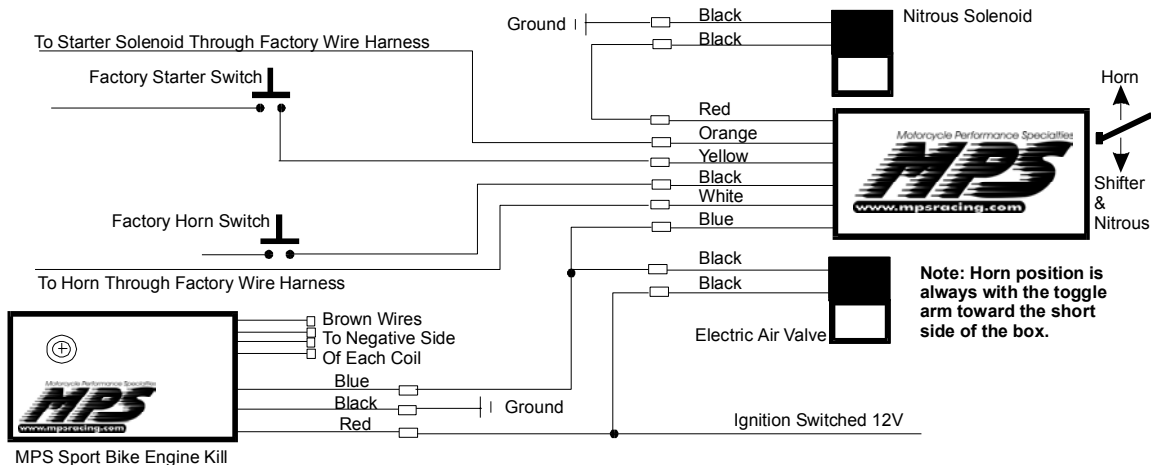
any source of heat. You will need to find a place that the bottle is out of sight, away from heat, secure, and accessible. Above the motor, under the tank is not a good spot in other words! The nitrous bottle has no siphon tube installed in the bottle. When the bottle is mounted the valve should be the lowest part of the bottle. The better job you can do positioning your bottle the better the system will function. The system needs to pick up liquid nitrous. The optimum position is the bottle valve toward the ground. Siphon tubes can be installed if you wish to mount the bottle upright.

**Plumbing** – The Nitrous solenoid inlet port is connected directly to the nitrous supply bottle via a #4 AN swivel type fitting. Locate the male –4 fitting on the outlet side of the nitrous solenoid. Route the –4 line to the bulkhead fitting on the outside of the airbox. Tighten all lines and fittings.

**Wire The Horn/Shifter – Starter/Nitrous Control Box**

*Note: The Black, White, and Blue will not be used if you don't have an air shifter or your bike has a horn that switches power. The switch swapper will only work for air shifters on bikes that switch ground with the horn button.*

- Locate the harness coming out of your left handlebar switch pod.
- Carefully slice back the protective covering around the harness in a convenient spot. Locate the horn switch wire. Hayabusa will be the solid black wire. ZX12 will be a black wire with a white tracer. Other models consult your service manual or call us.
- Cut this wire.
- **Black Wire** - Locate the end that runs to the switch and connect it to the black wire on the controller harness
- **White Wire** - Locate the end that goes toward the main wire harness and connect it to the white wire on the controller
- **Blue Wire** - Connect the blue wire to the blue wire on the MPS Sport Bike Electronic Engine Kill and the negative side of the electric air valve as shown in the wire diagram.
- Locate the harness coming out of your right handlebar switch pod.
- Carefully slice back the protective covering around the harness in a convenient spot.



Locate the starter switch wire. Hayabusa and GSXR1000 will be a yellow wire with a green tracer. ZX12 will be a blue wire with a white tracer. Other models consult your service manual or call us.

- Cut this wire.
- **Yellow Wire** - Locate the end that runs to the switch and connect it to the yellow wire on the controller harness

- **Orange Wire** - Locate the end that goes toward the main wire harness and connect it to the orange wire on the controller
- **Red Wire** - Connect the red wire to the nitrous solenoid positive as shown in the wire diagram.

### Wiring Diagram

#### Factory Horn Switch Wire Colors

Hayabusa = Solid Black or Black/White  
ZX12R = Black with White tracer

#### Factory Starter Switch Wire Colors

Hayabusa = Yellow with Green tracer  
ZX12R = Blue with White tracer

**Testing The System** – First, turn off the nitrous bottle valve. Now turn on the key and arm the nitrous. With your hand on the nitrous solenoid, push the starter button quickly. You should hear and feel the nitrous solenoid open. Next flip the nitrous arm switch to the starter position and push the starter button. This should engage the starter and not activate the nitrous solenoid.

**Operation** – The nitrous bottle weighs 2.2 lbs. empty and 3.2 lbs. full. Weighing the bottle is the only way to tell if the bottle is full or empty. Pressure is not an indicator of how much nitrous is left in the bottle. We highly recommend dynoing your bike before taking it to the track. Here are a few tips to tuning and operating the system. Never use the nitrous at anything other than full throttle operation. You will need a minimum of 93 octane fuel. Do not use any product that advances the ignition timing more than stock. A Power Commander is recommended to deliver extra fuel at full throttle. Starting as rich is the safest tuning method. Damage can result when the rev limiter is activated while on nitrous. Avoid the rev limiter on nitrous or install the a RPM switch to prevent it from happening. Use of the larger included nitrous jets should be done only after the smaller jets are used successfully.

If you have any more questions we have a Frequently Asked Questions page at our web site as well as the telephone tech support. Thank you for your purchase of this MPS product. All products sold by MPS are for use at closed course competition events and not for use on public streets or highways.