SCHNITZ MOTORSPORTS
PROGRESSIVE NITROUS CONTROLLER

Notice:

It is the responsibility of the purchaser to follow all guidelines and safety procedures supplied with this product and any other manufactures product used with this product. It is also the responsibility of the purchaser to determine compatibility of this device with the vehicle and other components.

Schnitz Motorsports assumes no responsibility for damages resulting from accident, improper installation, misuse, abuse, improper operation, lack of reasonable care, or all previously stated reasons due to incompatibility with other manufacturer's products.

Schnitz Motorsports assumes no responsibility or liability for damages incurred from the use of products manufactured or sold by Schnitz Motorsports on vehicles used for competition racing.

Schnitz Motorsports neither recommends nor approves the use of products manufactured or sold by Schnitz Motorsports on vehicles which may be driven on public highways or roads, and assumes no responsibility for damages incurred from such use.

It is the purchasers responsibility to check the state and local laws pertaining to the use of Nitrous Oxide for racing applications. Schnitz Motorsports does not recommend nor condone the use of its products for illegal street racing.

Installation of Schnitz Motorsports products signifies that you have read this document and agree to the terms stated within.

Caution:

Follow all recommended safety guidelines from this and other manufactures installation guides.
Never install any device which pulsates nitrous solenoids without a safety solenoid installed.
Do NOT attempt to remove the cover from the Progressive Nitrous Controller. Damage to the unit will result and warranty will be voided!
Static suppression ignition wires must be used with this unit! Mount the unit as far away from secondary ignition components(coil, ignition wires, etc.) as physically possible.

Description:

The Schnitz Motorsports Progressive Nitrous Controller utilizes a digital micro-controller for precise timing and control over the injection of nitrous oxide. The rate of nitrous injection is programmable for beginning and final power percentages. The unit also contains a built in digital delay timer allowing precise control of the starting time of the nitrous injection. An advanced feature is the ability to select the pulse frequency that the nitrous and fuel solenoid operate at. Also a +12 volt output is available for activating an ignition retard unit or relay. The output is controlled by a digital timer. The timer starts when the unit is activated.

Note: The timer system in this unit will automatically reset 20 seconds after being activated. If the activation power is removed and then re-activated the Progressive Nitrous Unit will continue from the point where activation was halted. Providing the 20 second time-out period has not elapsed.

Installation

Programming the Unit

Trouble Shooting

Warranty

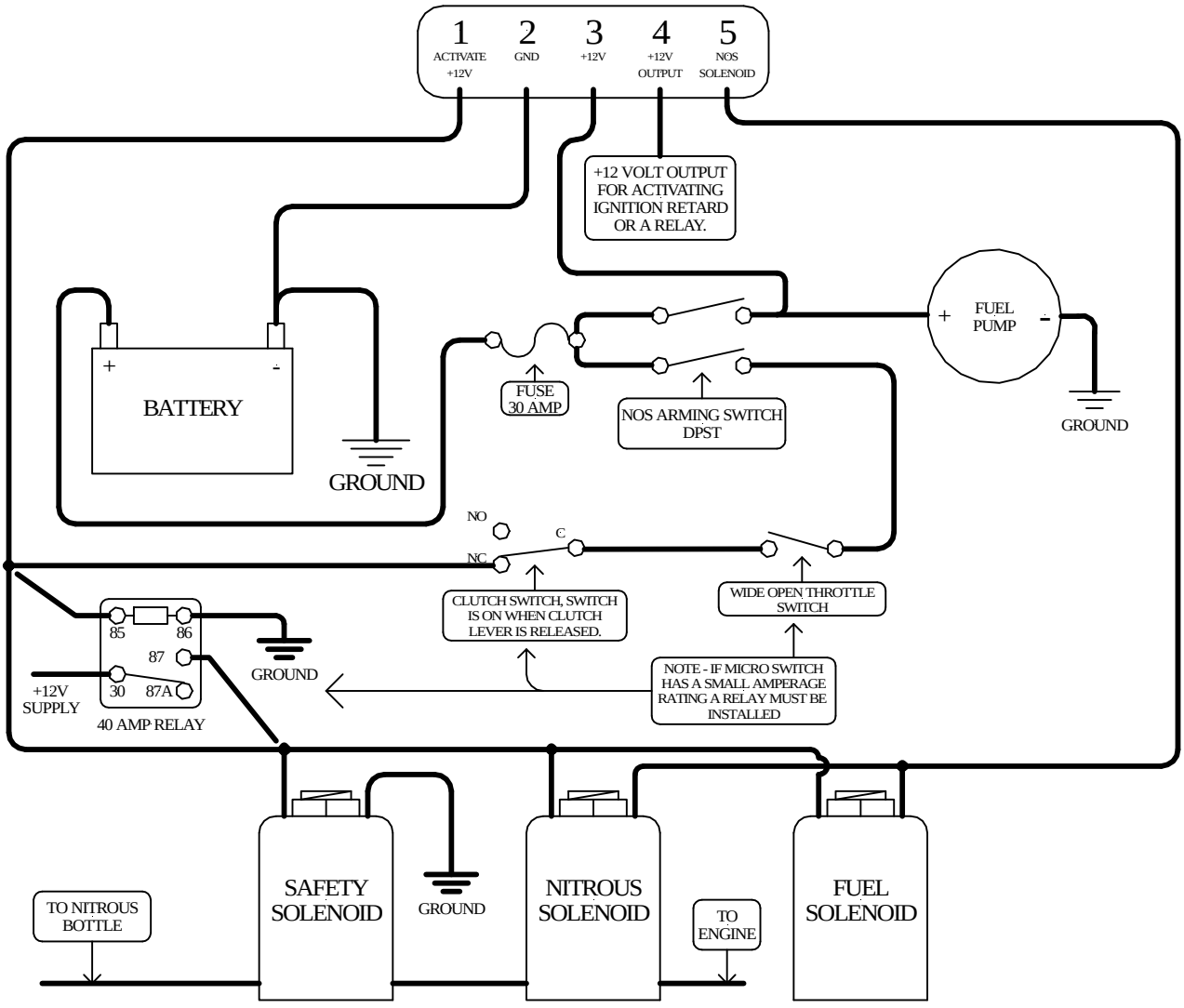
Typical Installation

Note: All Diodes, Capacitors, and Filters from previous NOS Installations MUST be Removed. Failure to do so will result in undisirable operation of this unit!

1 - Activate, +12 volt Input Acivates Progressive Unit
2 - GND, Connect to Battery Negative Terminal
3 - +12V, Connect to +12 volts switched power
4 - +12V Output, Supplies +12 volt at .25 amp
5 - NOS Solenoid, Connect to Solenoid Ground Wire(s)
(Note - The PNC-101 controls the ground side of the solenoids)

Caution - The Outputs on the PNC-101 are Rated at 30 Amps. Use of Multiple Solenoids or Large High Amperage Solenoids will Require the Use of a Relay. See Page 3 for Alternate Installation Instructions.

Caution - Before Welding this Electronic Device MUST be Completely Removed from the Chassis! No Exceptions!



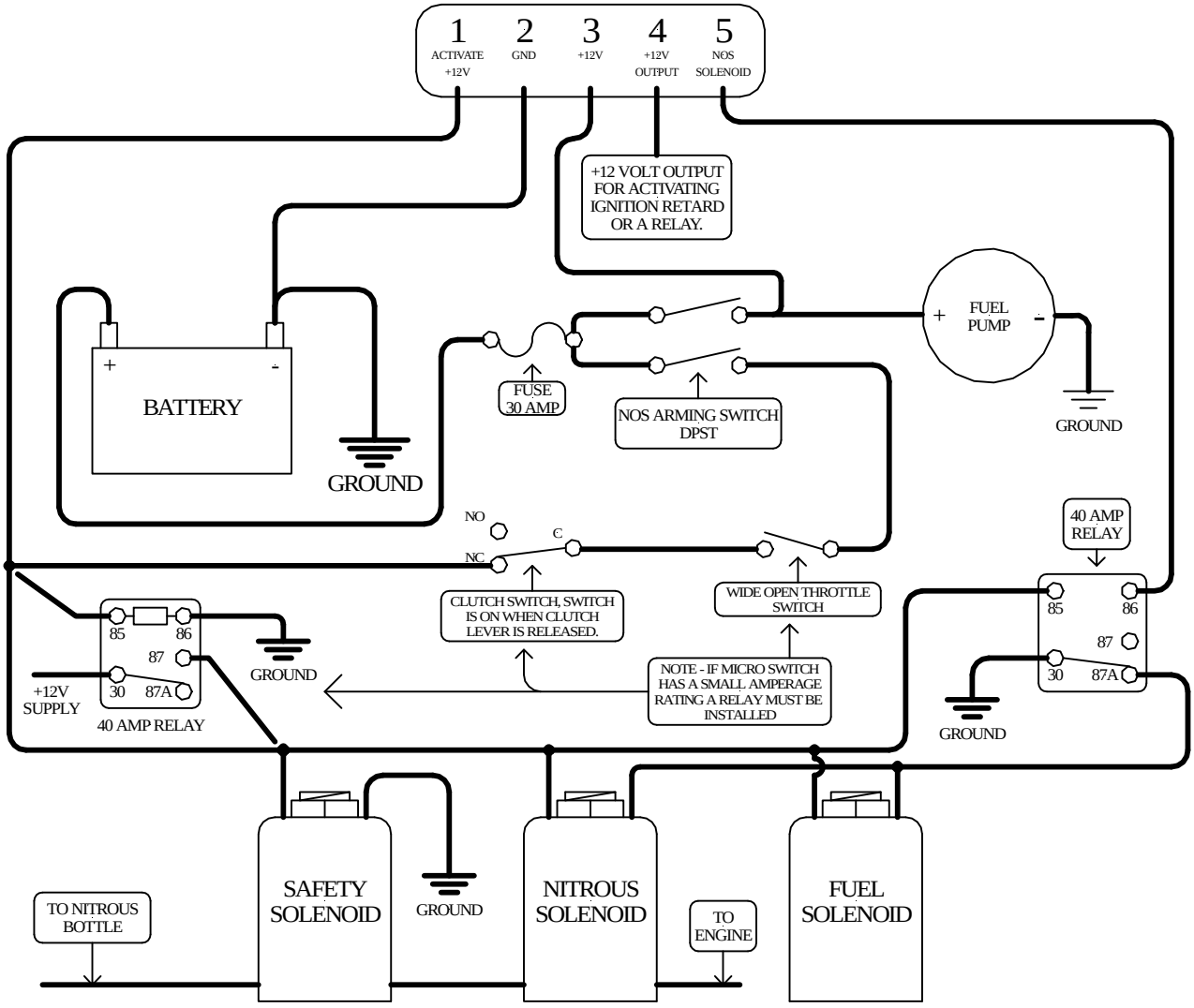
Alternate High Current Solenoid Installation

Note: All Diodes, Capacitors, and Filters from previous NOS Installations MUST be Removed.
Failure to do so will result in undisirable operation of this unit!

1 - Activate, +12 volt Input Acivates Progressive Unit
2 - GND, Connect to Battery Negative Terminal
3 - +12V, Connect to +12 volts switched power
4 - +12V Output, Supplies +12 volt at .25 amp
5 - Relay Terminal 86

Note - Incorrect Relay will cause Undesirable Operation
Schnitz Part # for Relay, VF4-45F11
Realy Wiring Harness #, SCH0061

Caution - Before Welding this Electronic Device MUST be Completely Removed from the Chassis! No Exceptions!



Programming the Data Parameters

To View Selected Data Pess the Program Switch Momentarialy

Note - Must Press and Hold the Prgramming Switch for 5 seconds when Entering New Data.

1 - Setting the +12 Volt Output Delay Time

(This Output can be used to control a Retard Box or ?)
Place the Select Switch in the +12V Activation Output Position
Set the Desired Delay Time in Seconds using the Data Switches
Example (1 = 2, .1 = 5, .01 - 2, .001 = 0) = 2.520 Seconds
Press and Hold Programming Switch to Enter New Value

2 - Setting the Display Brightness

Place the Select Switch at the Display Brightness Position
Using the .001 Data Switch Select the Level Desired(0 to 6)
Press and Hold the Programming Switch to Enter New Value

3 - Setting the NOS Pulse Frequency

Place the Select Switch at the NOS Pulse Frequency Position
Using the .001 Data Switch Select the Frequency Desired
(0 = 20, 1 = 25, 2 = 30, 3 = 35, 4 =40)
Press and Hold the Programming Switch to Enter the New Value

Note - The Pulse Frequency Determines how many times per second the Solenoids Open and Close. The Higher the Frequency the More times per second.

4 - Run Posistion

It is Recommended that the Select Switch is in the Run Position for Normal Operation, However, the Unit will Operate in All Select Switch Positions.

5 - Setting the NOS Delay Timer

(This is the Amount of Delay before the Start% of NOS Begins)
Place the Select Switch in the NOS Delay Time Position
Set the Desired Delay Time in Seconds using the Data Switches.
Example (1 = 2, .1 = 5, .01 = 2, .001 = 0) = 2.520 Seconds
Press and Hold the Programming Switch to Enter the New Value

6 - Setting the NOS Start Percent

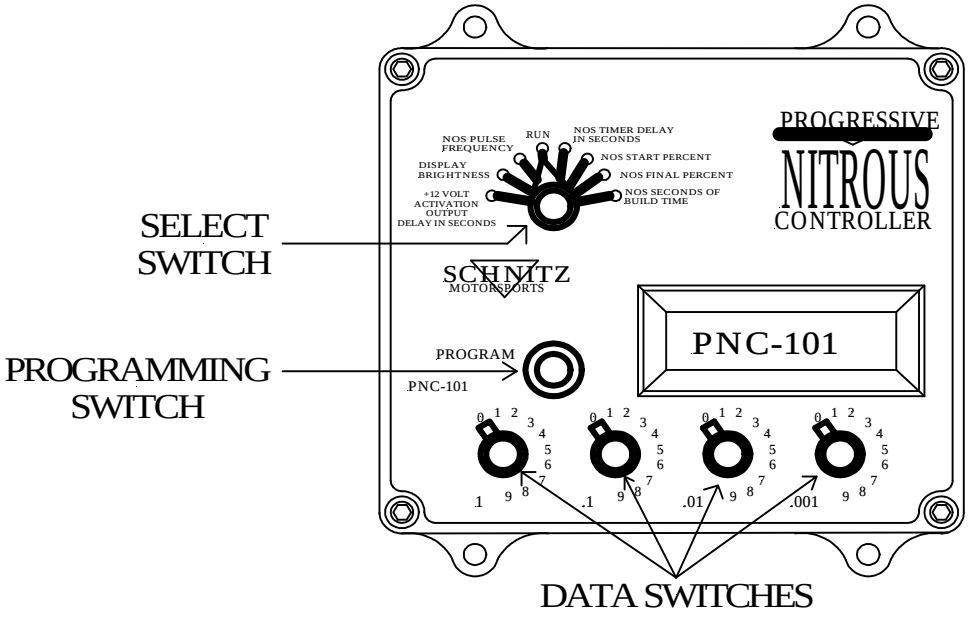
Place the Select Switch in the NOS Start Percent Position
Set the Desired NOS Starting Percent using the Data Switches
Example - (.1 = 0, .01 = 2, .001 = 1) = 21%
Note - Data Switch 1 is Ignored for This Setting
Valid Percentages are 20% to 100% in 1% Increments
Press and Hold the Programming Switch to Enter the New Value

7 - Setting the NOS Final Percent

Place the Select Switch in the NOS Final Percent Position
Set the Desired NOS Final Percent using the Data Switches
Example - (.1 = 1, .01 = 0, .001 = 0) = 100%
Note - Data Switch 1 is Ignored for This Setting
Valid Percentages are 20% to 100% in 1% Increments
Press and Hold the Programming Switch to Enter the New Value

8 - Setting the NOS Build Time

Place the Select Switch in the NOS Build Time Position
Set the NOS Build Time using the Data Switches
Note - This Determines the Amount of Time for the NOS to go from Start% to Final% of Power.
Example (1 = 3, .1 = 5) = 3.5 Seconds
Note - Data Switches .01 and .001 are Ignored for This Setting
Valid Range is .2 to 9.9 Seconds
Press and Hold the Programming Switch to Enter the New Value



SCHNITZ MOTORSPORTS

PNC-101, PROGRESSIVE NITROUS CONTROLLER
TROUBLE SHOOTING GUIDE

Symptom	Probable Cause	Repair Procedures
Display Blank with Power ON	Low or No Battery Voltage	1
Display Blinks, Controller Resets when NOS is Activated.	Low Battery Voltage or Electrical Interference	1, 2
Display is Erratic with Engine Running Only.	Incorrect Sparkplug Wires, Controller Mounted to Close to Ignition Coils.	2
Display reads RESET continuously after Controller is on for 20 seconds.	Activation voltage being applied to Terminal #1 at all times.	3
NOS Solenoids begin Cycling(Clicking) Immediately when Controller is turned on.	Activation voltage being applied to Terminal #1 at all times.	3
NOS Solenoids turn ON and OFF after going to 100% Power.	To much Current Draw from Solenoids	1
Delay in Beginning Power even with NOS Delay Timer Set to 0.000.	To High of PULSE FREQUENCY SETTING with HIGH Bottle Pressure.	4
Engine Runs Poorly Until 100% Power is Reached.	To much Fuel Pressure or Incorrect Fuel/NOS Jetting.	5
NOS goes to 100% Power with no activation signal, Regardless of Power Settings.	Shorted Solenoid Driver Due to Current Overload.	6
All Repair Procedures Check OK and Controller will NOT Operate Solenoids.	Damaged and/or Defective Solenoid Driver	6

INSTALLATION TIPS

Never install controller next to Ignition Coils or Magnetos, Always use Static Suppression sparkplug wires with a minimum of 3,000 ohms per foot resistance.

Do NOT use relays with Diodes or Suppression Resistors In-Line with the Activation Terminal Wiring. The voltage feedback from the Diode/Resistor can cause the controller to stay activated at all times.

ALWAYS remove all Diodes and Filters from previous controllers.

When using Large and/or High Current Solenoids always use a relay as described in the Installation Instructions.

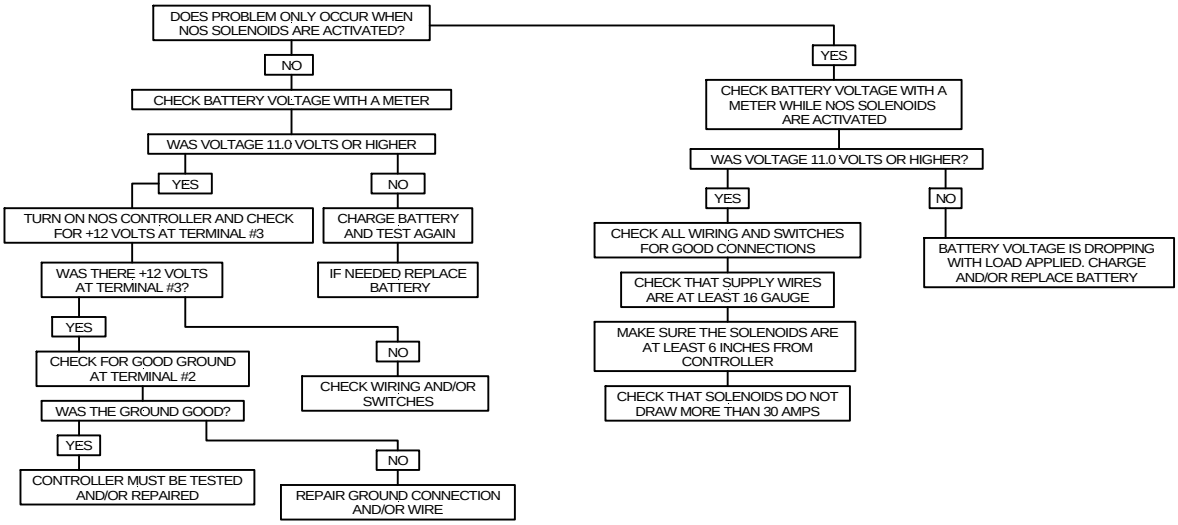
Do NOT allow controller to vibrate/rub against other objects or frame. Mount the controller securely.

Do NOT Allow water to enter controller(Pressure Washing, Etc.).

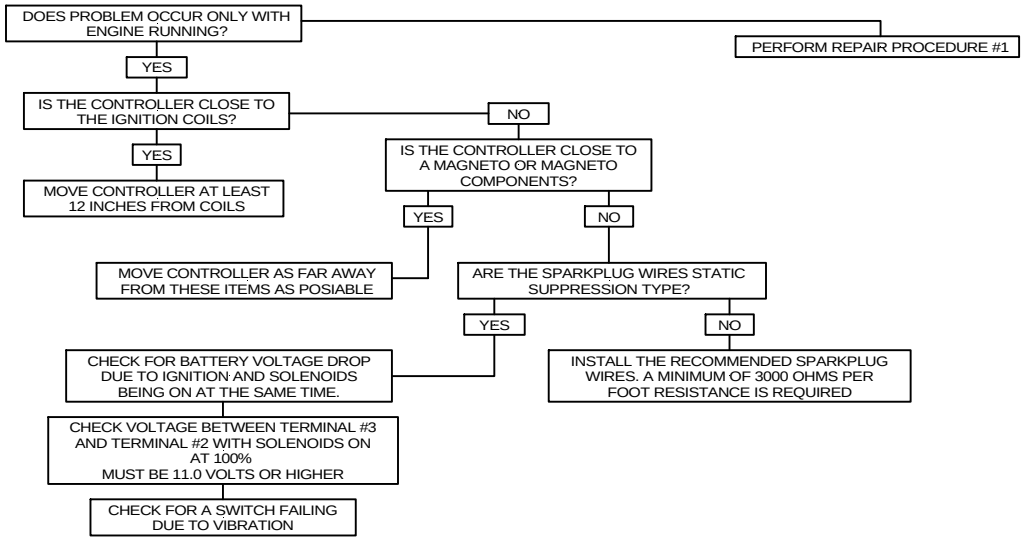
When changing engines, Mark or Tag you wires and especially the Grounds to make sure they are re-connected accurately.

REPAIR PROCEDURES

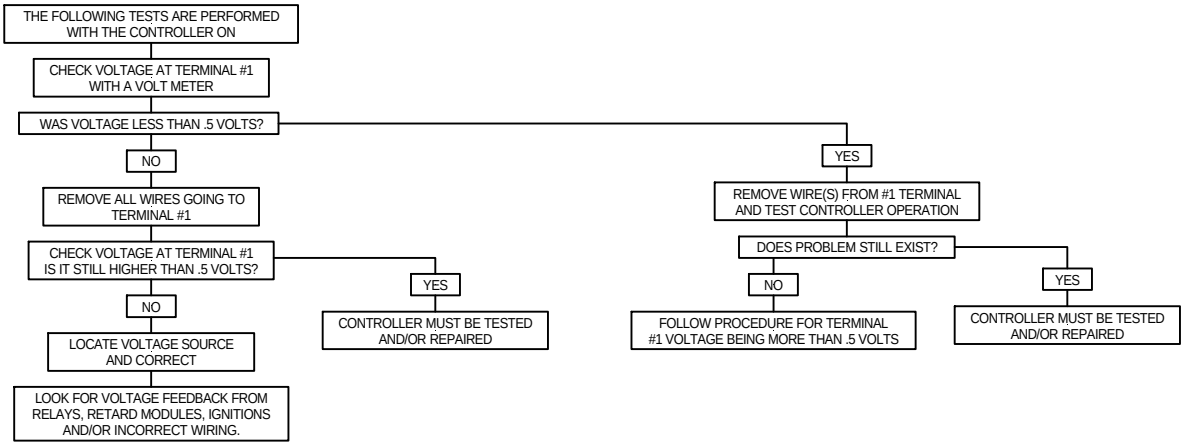
1: CHECK BATTERY VOLTAGE



2: ELECTRICAL INTERFERANCE

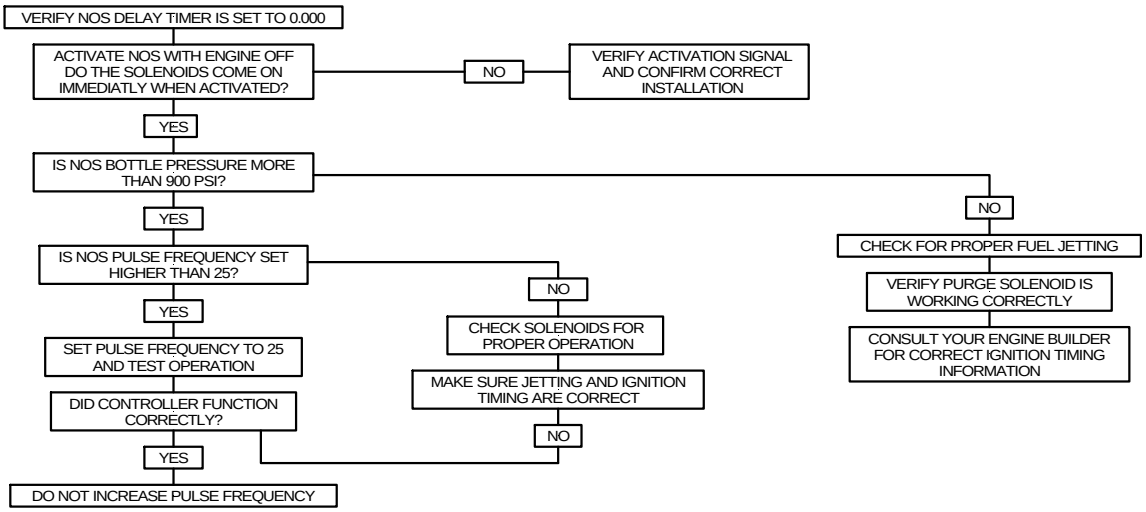


3: ACTIVATION TERMINAL ON AT ALL TIMES

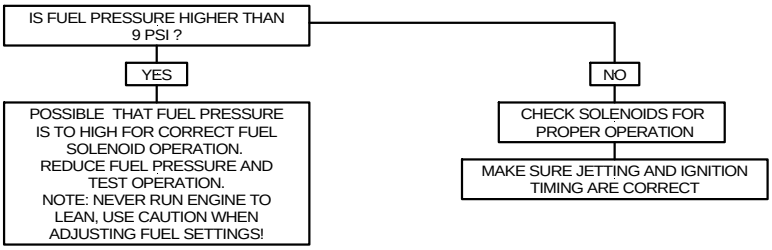


REPAIR PROCEDURES

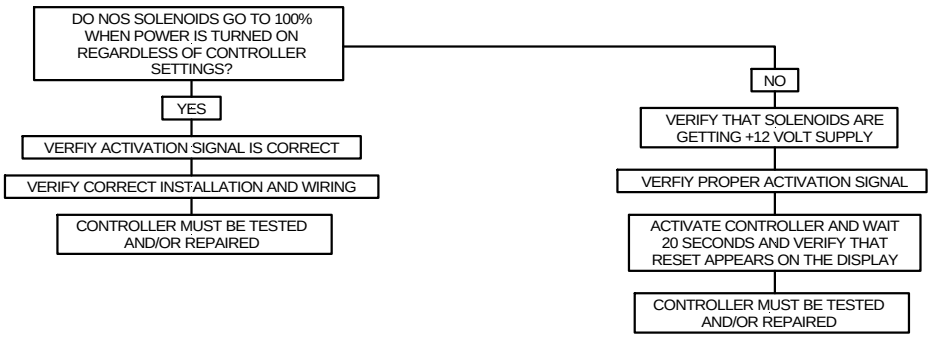
4: DELAY IN START OF NITROUS



5: POOR PERFORMANCE UNTIL 100% NOS ACTIVATION



6: NOS SOLENOID OUTPUT SHORTED TO GROUND AND/OR FAILURE TO OPERATE



Warranty

Schnitz Motorsports warrants to the original purchaser that the PNC-101 controller shall be free from defects in parts and workmanship under normal use for 90 days from the date of purchase.

Schnitz Motorsports obligation under this warranty is limited to the repair or replacement of any component found to be defective when returned postpaid to Schnitz Motorsports. The controller must be returned with evidence of place and date or purchase or warranty will be void.

The warranty will not apply if the PNC-101 has been installed incorrectly, repaired, damaged, or tampered with by misuse, negligence or accident.

Schnitz Motorsports is only responsible for ground UPS shipping in the 48 continental United States.