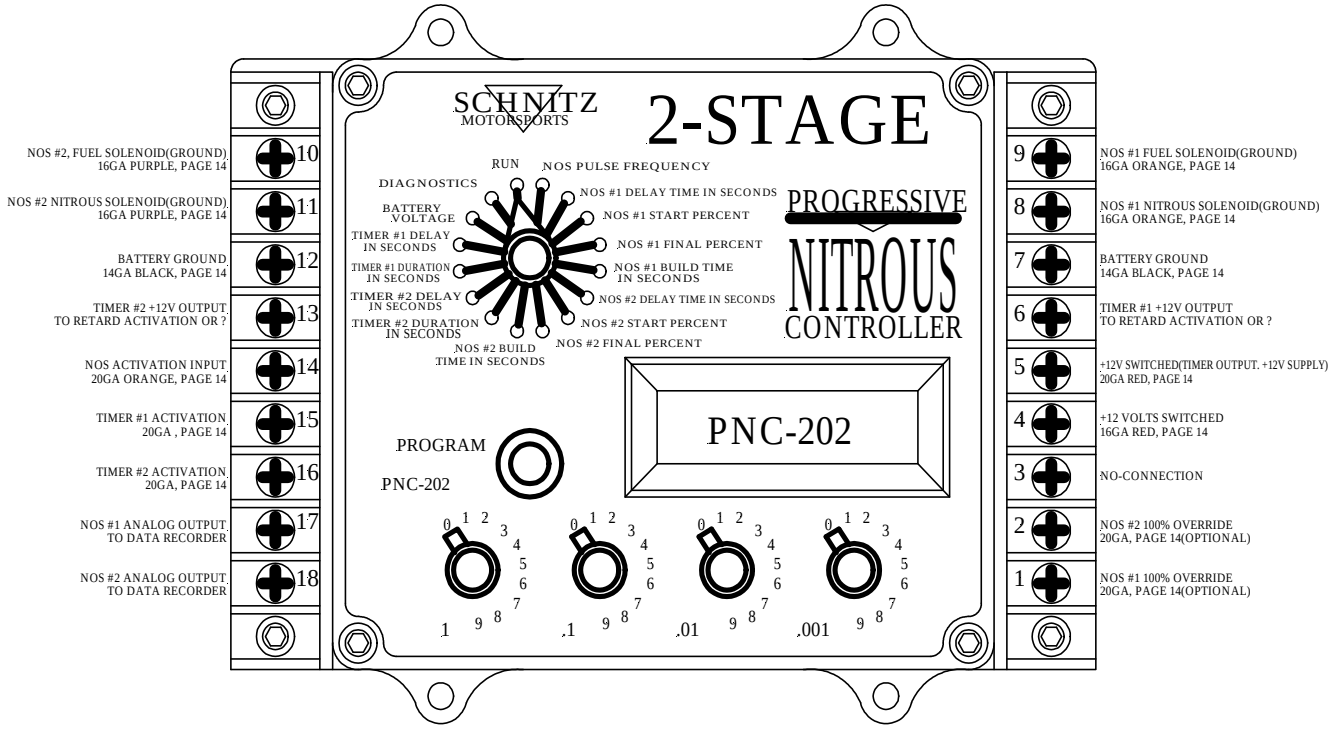
SCHNITZ MOTORSPORTS

PNC-202, 2-STAGE PROGRESSIVE NITROUS CONTROLLER

USER MANUAL
AND
INSTALLATION GUIDE



Important Application Information

IMPORTANT

Use only Static Suppression Spark-plug Wires.

Notice of Copyright

 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.

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It is the purchaser's 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.

Caution

Follow all recommended safety guidelines from this and other manufacturer installation guidelines. Never install any device, which pulsates nitrous solenoids without a safety solenoid installed. Static suppression ignition wires must be used with this unit! Mount the Ignition Controller as far away from secondary ignition components (ignition coils, ignition wires, etc.) As is physically possible.

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

PNC-202, 2-Stage Progressive Nitrous Controller

Description:

The PNC-202 provides 2-Stages of Dual Ramp Nitrous Power Control. The 2-Stages can be set the same and used together for Large Multiple Solenoid Single Stage Systems. There are separate outputs for the Fuel and Nitrous Solenoids to reduce feedback between the Solenoids and provide better Fuel Delivery to the Engine. 100% Nitrous Override Inputs have been provided, these Inputs are +12V activated and allow the User to take either Stage to 100% at any time desired. If the NOS Activation Signal is Removed the Progressive Nitrous Timers will wait until the NOS Activation Terminal goes back to +12V. The NOS Solenoid Outputs are turned OFF when the NOS Activation Input is OFF. This allows control of the Solenoids and Progressive Timers through the Throttle Switch. Two +12V Timers are built into the 2-Stage Controller. These can be programmed to do a variety of functions.

Overview of Functions.

1 - RUN, This setting is for Normal Operation. The Controller will function with the select switch in any position. This setting will Not allow any settings to be altered by accident, such as bumping the Program Switch while doing maintenance.

2 - NOS PULSE FREQUENCY, The Frequency at which the Solenoids Operate at can be Programmed by the User. The available settings are from 15 pulses per second to 35 pulses per second. Some solenoids will NOT fully open with the pulse frequency set high and the Start Percent set Low. It is recommended that testing be performed to ensure that the Solenoids fully open with the Setup that is Programmed into the Controller. Both Stages will use the same Pulse Frequency Setting.

3 - NOS1 DELAY TIME IN SECONDS, This setting allows the User to set the amount of Delay in seconds that the NOS 1st Stage waits after Activation(launch) to begin applying the Start Percent of NOS.

4 - NOS1 START PERCENT, This Setting is used to determine the Initial amount of NOS 1st Stage Power applied.

5 - NOS1 FINAL PERCENT #1 & #2, These Settings are used to determine the amount of NOS Power that is to be applied by the 1st NOS Stage Progressive Timer. The Final Percent may be less than 100% if needed. The NOS 1st Stage Progressive Timer can be Taken to 100% at any time by Applying a +12V signal to the NOS #1 100% override terminal.

6 - NOS1 BUILD TIME #1 & #2 IN SECONDS, These settings control how long it takes for the NOS 1st Stage to go from Start Percent Power to Final Percent #1 & #2 Power. If a low Build Time is used (.500 Second for example) the NOS 1st Stage Power will be very aggressive. If the Build Time is increased the NOS 1st Stage will take longer to apply and the NOS power will be less aggressive.

7 - NOS2 DELAY TIME IN SECONDS, This setting allows the User to set the amount of Delay in seconds that the NOS 2nd Stage waits after Activation(launch) to begin applying the Start Percent of NOS.

8 - NOS2 START PERCENT, This Setting is used to determine the Initial amount of NOS 2nd Stage Power applied.

9 - NOS2 FINAL PERCENT #1 & #2, These Settings are used to determine the amount of NOS Power that is to be applied by the 2nd NOS Stage Progressive Timer. The Final Percent may be less than 100% if needed. The NOS 2nd Stage Progressive Timer can be Taken to 100% at any time by Applying a +12V signal to the NOS #2 100% override terminal.

10 - NOS2 BUILD TIME #1 & #2 IN SECONDS, These settings control how long it takes for the NOS 2nd Stage to go from Start Percent Power to Final Percent #1 & #2 Power. If a low Build Time is used (.500 Second for example) the NOS 2nd Stage Power will be very aggressive. If the Build Time is increased the NOS 2nd Stage will take longer to apply and the NOS power will be less aggressive.

11 - TIMER1 DELAY IN SECONDS, This setting controls the Time at which the Timer #1 Output Terminal goes to +12V. The Timer #1 is activated by the Timer #1 Activation Terminal by applying +12V.

12 - TIMER1 DURATION IN SECONDS, This setting determines that amount of time that the Timer #1 Output is ON. If a setting of 0.000 is programmed the Output will remain on until the Timer System is Reset.

13- TIMER2 DELAY IN SECONDS, This setting controls the Time at which the Timer #2Output Terminal goes to +12V. The Timer #2is activated by the Timer #2 Activation Terminal by applying +12V.

14- TIMER2 DURATION IN SECONDS, This setting determines that amount of time that the Timer #2Output is ON. If a setting of 0.000 is programmed the Output will remain on until the Timer System is Reset.

15 - DIAGNOSTICS , The Diagnostics functions allow the User to test activation inputs and to Calibrate the Battery Voltage Monitor.

16 - BATTERY VOLTAGE, This setting shows the current Battery Voltage on the Display.

17- Analog Data Outputs are provided that Output a Analog Voltage that is proportional to the NOS Percent that is being applied. There are separate outputs for each Stage of NOS. The Output voltage will range from 0.0 to 4.0 Volts and each 1% increase in NOS will raise the respective analog output by .04 volts.

Schnitz Motorsports
PNC-202, 2-Stage Progressive Nitrous Controller

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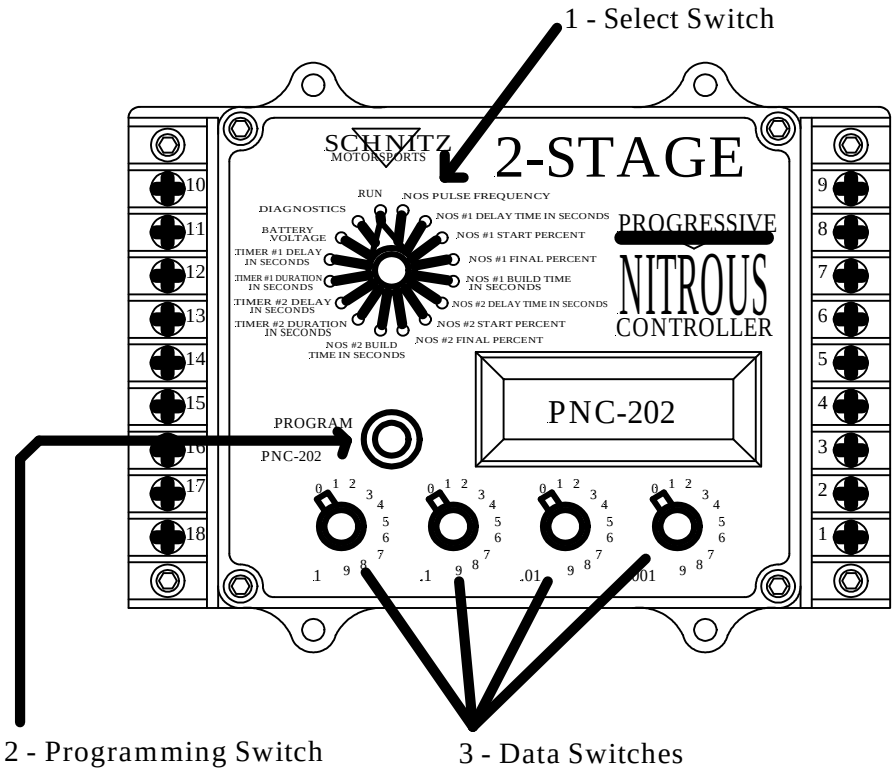
1.0 - The Basics of Setting Controller Parameters



Switch Descriptions and Functions

1 - Switch #1 is the FUNCTION SELECT SWITCH, This switch is used to select which parameter is displayed and also selects that parameter for programming.

2 - Switch #2 is the PROGRAM SWITCH, When this switch is pressed down and held for 2-seconds the DATA switches will be read and the settings will be programmed into the controller. If an INVALID setting is read the controller will NOT save the setting and will display an INVALID message on the display.

3 - Data Switches #3 are for entering NOS Control Data, and for selecting various options as described in the following pages.

Example Programming Sequence

Function Select Switch(#1) set to NOS #1 DELAY IN SECONDS

Data Switch 1 set at 1, .01 at 2, .001 at 5, .001 at 0

Data Switch 1 (seconds)
Data Switch .1 (.1 second)
Data Switch .01 (.01 second)
Data Switch .001 (.001 second)

Pressing and holding PROGRAM Switch for 2-seconds will set the NOS #1 DELAY at 1.250 seconds.

Please refer to each of the following sections for setting all Functions.

1.1 - Setting NOS Pulse Frequency

NOTE: If running NOS Bottle Pressure of 900psi or higher never set PULSE FREQUENCY Higher than 25. The Solenoids will NOT Open Properly at lower percentages with a high Pulse Frequency Setting and High Bottle Pressure.

Set SELECT Switch to NOS PULSE FREQUENCY

Example that would Set NOS PULSE FRQUENCY to 25 Pulses Per Second
1 set at 0 (not used)
.1 set at 0 (not used)
.01 set at 0 (not used)
.001 set at 1

0 = 15 pulses per second
1 = 20 pulses per second
2 = 25 pulses per second
3 = 30 pulses per second
4 = 35 pulses per second

Press the PROGRAM Button until the display reads PROGRAM. Display will now read 25 and the NOS PULSE FREQUENCY is set to 25 Pulses Per Second.

1.2 – Setting NOS1 DELAY TIMER

Set SELECT Switch to NOS #1 DELAY TIME IN SECONDS

Example that would set NOS DELAY TIME at 1.250 seconds

1 set at	1
.1 set at	2
.01 set at	5
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 1.250 and NOS #1 DELAY TIME is set to 1.250 seconds.

Valid range 0.000 to 9.999 seconds in .001 second increments.

Note: This is timer to delay the start of NOS 1st Stage. A time of 0.000 will allow the NOS 1st Stage to start immediately when activated.

1.3– Setting the NOS1 START PERCENT

Set SELECT Switch to NOS #1 START PERCENT

Example that would set NOS #1 START PERCENT at 34%

1 set at	0 (not used)
.1 set at	0
.01 set at	3
.001 set at	4

Press PROGRAM button until the display reads PROGRAM. Display will now read 34% and NOS #1 START PERCENT is set at 34%. Valid Percentage Range 10 to 100% in 1% increments. Setting to 0% will turn NOS OFF even if NOS is Activated.

Note: This setting allows the starting POWER developed from the NOS to be controlled for traction and other reasons.

1.4 – Setting NOS1 FINAL PERCENT #1

Set SELECT Switch to NOS #1 FINAL PERCENT

Set the 1 Data Switch to 0

Example that would set NOS #1 FINAL PERCENT at 100%

1 set at	0 - Used to Select Final% #1
1 set at	1
.01 set at	0
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 100% and NOS #1 FINAL PERCENT is set at 100%. Valid Percentage Range 10 to 100%, 1% Increments. Setting to 0% will turn NOS OFF even if NOS is Activated.

Note: This setting controls the maximum percentage of Nitrous Oxide that will be delivered to the engine. A setting of less than 100% can be used and the Progressive Timer can work backwards. Final% #1 less than Start%.

1.5 – Setting NOS1 FINAL PERCENT #2

Set SELECT Switch to NOS #1 FINAL PERCENT

Set the 1 Data Switch to 1

Example that would set NOS #1 FINAL PERCENT at 100%

1 set at	1 - Used to Select Final% #2
1 set at	1
.01 set at	0
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 100% and NOS #1 FINAL PERCENT is set at 100%. Valid Percentage Range 10 to 100%, 1% Increments. Setting to 0% will turn NOS OFF even if NOS is Activated.

Note: This setting controls the maximum percentage of Nitrous Oxide that will be delivered to the engine. A setting of less than 100% can be used and the Progressive Timer can work backwards. Final% #2 less than Final% #1

1.6 – Setting NOS1 BUILD TIME #1

Set SELECT Switch to NOS #1 BUILD TIME IN SECONDS

Set .001 Data Switch to 0

Example that would set NOS #1 BUILD TIME at 3.500 seconds

1 set at	3
.1 set at	5
.01 set at	0 (not used)
.001 set at	0 - Used to Select Build Time #1

Press PROGRAM button until the display reads PROGRAM. Display will now read 3.500 and NOS #1 BUILD TIME #1 is set at 3.500 seconds. Valid Time Range .200 to 9.900 seconds in .1 second Increments.

Note: This setting determines how fast the NOS goes from START PERCENT to FINAL PERCENT #1. A shorter BUILD TIME will make the NOS Power Curve more Aggressive.

1.7 – Setting NOS1 BUILD TIME #2

Set SELECT Switch to NOS #1 BUILD TIME IN SECONDS

Set .001 Data Switch to 1

Example that would set NOS #1 BUILD TIME at 3.500 seconds

1 set at	3
.1 set at	5
.01 set at	0 (not used)
.001 set at	1 - Used to Select Build Time #2

Press PROGRAM button until the display reads PROGRAM. Display will now read 3.500 and NOS #1 BUILD TIME is set at 3.500 seconds. Valid Time Range .200 to 9.900 seconds in .1 second Increments.

Note: This setting determines how fast the NOS goes from FINAL PERCENT #1 to FINAL PERCENT #2. A shorter BUILD TIME will make the NOS Power Curve more Aggressive.

1.8 – Setting and Using the NOS 2nd Stage

To set the 2nd Stage NOS functions Please use the Same procedures as setting the NOS #1 functions. You MUST Select the desired NOS #2 Setting with the Select Switch prior to Programming.

The 2nd Stage of NOS may Overlap the 1st Stage. Each Stage of NOS has its own Delay and Progressive Timers. However, both Stages of NOS use the same NOS PULSE FREQUENCY.

If the NOS is de-activated both Stages will WAIT at there Present Sate and RESUME there when activation continues.

1.9– Setting TIMER #1 DELAY

Set SELECT Switch to TIMER #1 DELAY IN SECONDS

Example that would set TIMER #1 DELAY at 1.850 seconds

1 set at	1
.1 set at	8
.01 set at	5
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 1.850 and TIMER #1 DELAY is set to 1.850 seconds. Valid range 0.000 to 9.999 seconds in .001 second increments.

Note: This TIMER setting controls when the Timer #1 Output turns on. The Delay Timer starts when the Timer #1 Activation Input is activated.

Note: The Timer #1 Delay and Duration are NOT affected by the Timer #1 Activation Input after the Initial Activation. Example - The NOS Timers wait until the NOS ACTVIATION INPUT Terminal is Re-Activated, The Timer Delay and Duration Continue to Count and the Timer Output remains ON.

1.10 - Setting TIMER #1 DURATION

Set SELECT Switch to TIMER #1 DURATION IN SECONDS

Example that would set TIMER #1 DURATION at 1.400 seconds

1 set at	1
.1 set at	4
.01 set at	0
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 1.400 and TIMER #1 DURATION is set to 1.400 seconds. Valid range 0.000 to 9.999 seconds in .001 second increments. If a setting of 0.000 is programmed the Output will remain on until the Timer System is Reset.

Note: This TIMER setting controls how Long the Timer Output stays on. The Duration Timer starts when the Timer Delay has timed out.

Note: The Timer #1 Delay and Duration are NOT affected by the Timer #1 Activation Input after the Initial Activation. Example - The NOS Timers wait until the NOS ACTVIATION INPUT Terminal is Re-Activated, The Timer Delay and Duration Continue to Count and the Timer Output remains ON.

1.11 – Setting TIMER #2 DELAY

Set SELECT Switch to TIMER #2 DELAY IN SECONDS

Example that would set TIMER #2 DELAY at 1.850 seconds

1 set at	1
.1 set at	8
.01 set at	5
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 1.850 and TIMER #2 DELAY is set to 1.850 seconds. Valid range 0.000 to 9.999 seconds in .001 second increments.

Note: This TIMER setting controls when the Timer #2 Output turns on. The Delay Timer starts when the Timer #2 Activation Input is activated.

Note: The Timer #2 Delay and Duration are NOT affected by the Timer #2 Activation Input after the Initial Activation. Example - The NOS Timers wait until the NOS ACTVIATION INPUT Terminal is Re-Activated, The Timer Delay and Duration Continue to Count and the Timer Output remains ON.

1.12 - Setting TIMER #2 DURATION

Set SELECT Switch to TIMER #2 DURATION IN SECONDS

Example that would set TIMER #2 DURATION at 1.400 seconds

1 set at	1
.1 set at	4
.01 set at	0
.001 set at	0

Press PROGRAM button until the display reads PROGRAM. Display will now read 1.400 and TIMER #2 DURATION is set to 1.400 seconds. Valid range 0.000 to 9.999 seconds in .001 second increments. If a setting of 0.000 is programmed the Output will remain on until the Timer System is Reset.

Note: This TIMER setting controls how Long the Timer Output stays on. The Duration Timer starts when the Timer Delay has timed out.

Note: The Timer #2 Delay and Duration are NOT affected by the Timer #2 Activation Input after the Initial Activation. Example - The NOS Timers wait until the NOS ACTVIATION INPUT Terminal is Re-Activated, The Timer Delay and Duration Continue to Count and the Timer Output remains ON.

1.13 – Checking Battery Voltage

Set SELECT Switch to BATTERY VOLTAGE

Battery Voltage will now be displayed. It is normal for the battery voltage reading to vary with the engine running.

Section 2, Diagnostics.

2.0 – Description of Diagnostic Functions

The Diagnostics functions allow the User to test activation inputs and to Calibrate the Battery Voltage Monitor.

NOTE - When testing input activation signals the display will react immediately to the Test +12V Signal. This allows the user to perform wiggle tests on the switch and/or wiring to help in diagnosing intermittent problems

2.1 - Testing NOS Activation Input

Set the SELECT Switch to DIAGNOSTICS, All other Data Switches at 0

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

To perform NOS Activation Input test set the .001 switch to 0.

At this time the DISPLAY will read NOS. If +12 volts is connected to the NOS Activation terminal the Display will show the message ACTIVE. Use this test to verify NOS arming / activation switches on the bike.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.2 – Testing the Timer #1 Activation Input

Set the SELECT Switch to DIAGNOSTICS, All other Data Switches at 0

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

To perform Timer #1 Activation Input test set the .001 switch to 1.

At this time the DISPLAY will read TIMER 1. If +12 volts is connected to the Timer #1 Activation input terminal the Display will show the message ACTIVE. Use this test to verify Timer #1 Activation Signal.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.3– Testing the Timer #2 Activation Input

Set the SELECT Switch to DIAGNOSTICS, All other Data Switches at 0

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

To perform Timer #2 Activation Input test set the .001 switch to 2.

At this time the DISPLAY will read TIMER 2. If +12 volts is connected to the Timer #2 Activation input terminal the Display will show the message ACTIVE. Use this test to verify Timer #2 Activation Signal.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.4– Testing the NOS #1 100% Override Input

Set the SELECT Switch to DIAGNOSTICS, All other Data Switches at 0

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

To perform NOS #1 100% Override Activation Input test set the .001 switch to 3.

At this time the DISPLAY will read OVR #1. If +12 volts is connected to the NOS #1 100% Override input terminal the Display will show the message ACTIVE. Use this test to verify NOS #1 100% Activation Signal.
To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.5– Testing the NOS #2 100% Override Input

Set the SELECT Switch to DIAGNOSTICS, All other Data Switches at 0

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

To perform NOS #2 100% Override Activation Input test set the .001 switch to 4.

At this time the DISPLAY will read OVR #2. If +12 volts is connected to the NOS #2 100% Override input terminal the Display will show the message ACTIVE. Use this test to verify NOS #2 100% Activation Signal.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.6 - Calibrating the VOLTAGE MONITOR

Set the SELECT Switch to DIAGNOSTICS

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

Set the .001 switch to 5. At this time the display will show the Current System Voltage.

Note: You will need a Voltage Meter to complete this function.

Connect the Volt Meter to the Battery and turn it on. If the Battery Voltage reading on the Controller is Correct then Exit Diagnostics as outlined below. If the Voltage needs to be adjusted Press and Release the PROGRAM Button until the Display reads the Correct Voltage.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.7 - Testing the SELECT and DATA Switches

Set the SELECT Switch to DIAGNOSTICS

Press and HOLD the PROGRAM Switch until display reads RELEASE. Release the PROGRAM Switch at this time. The controller is now in the diagnostic mode.

Set the .001 switch to 6. At this time the display will read SWITCH.

To perform the Test, Press and Release the PROGRAM Button. The display will at first show Copyright Information and the Date of Programming. After this these messages the display will show the current states of the Select and Data Switches. The switches may rotated at this time to verify that they are reading correctly.

To exit diagnostics turn the .001 switch to 9. Then press and release the PROGRAM switch.

2.8 - Error Codes Explained and Clearing Error Codes

The Pro-Series II Controller was designed with Self Diagnostics Features. These have been incorporated to Help the User Troubleshoot Wiring and/or Signal Problems. The Error Codes are Numbered and Each Code when Set will be Shown on the Display with a brief Description of the Problem Encountered. All Error Codes will Remain Until Cleared by the User. The Codes are Stored even if the Power is Removed from the Controller.

IMPORTANT - If an Error Code is Set during Operation the Controller will Still Perform ALL Functions Except for Programming. NOS Progressive Timers are NOT Reset if an Error Occurs.

List of Error Codes

IGX-2001, Activation Input Erratic - This Code indicates that the Activation Input has Went from ON to OFF in a Erratic Pattern Indicating a Faulty Switch and/or Wiring. This Input is Most Commonly Controlled by a Wide Open Throttle Switch.

IGX-2002, Timer #1 Input Erratic - This Code indicates that the Timer #1 Activation Input has Went from ON to OFF in a Erratic Pattern Indicating a Faulty Switch and/or Wiring.

IGX-2003, Timer #2 Input Erratic - This Code indicates that the Timer #2 Activation Input has Went from ON to OFF in a Erratic Pattern Indicating a Faulty Switch and/or Wiring.

IGX-2004, 100% Override #1 Input Erratic - This Code indicates that the 1st Stage 100% Override Input has Went from ON to OFF in a Erratic Pattern Indicating a Faulty Switch and/or Wiring.

IGX-2005, 100% Override #2 Input Erratic - This Code indicates that the 2nd Stage 100% Override Input has Went from ON to OFF in a Erratic Pattern Indicating a Faulty Switch and/or Wiring.

Clearing Error Codes

To Clear Stored Error Codes just Press the Program Button until the Message RELEASE is shown on the Display. At this time the Error Code that was Stored in Memory is Cleared.

NOTE - Multiple Error Codes are NOT Stored. Only the Most Recent Code is Stored and Displayed.

Section 3, Wiring Diagrams and Installation Instructions

3.0 – Overview of Installation Instructions

IMPORTANT - Must use Static Suppression Ignition Wires with this Controller. Ignition wires with any type of Metal and ,or Metal Spiral Core will NOT work with this controller. It is recommended that Ignition Wires with a Resistance of 2,000 ohms per foot are used. The Controller contains High Frequency Digital Components that can be Harmed by High Amounts of RFI Energy.

Please read and follow all instructions carefully. It is important that the installation guidelines be followed for maximum performance.

Guidelines:

1 - If Stock Ignition Switch is used a SEPARATE POWER SOURCE for the NOS System is HIGHLY recommended. Please refer to page 17.
2 - Use a good quality wire of recommended size.
3 - Solder all connectors to the wire, crimped connectors fail!
4 - Use shrink wrap to protect exposed terminals / wires.
5 - Install the proper FUSE where required.
6 - Use quality switches.
7 - Follow other manufacturer guidelines and recommendations when installing related components.
8 - NEVER disregard SAFETY and / or CAUTION Warnings!
9 - Mount all components correctly.

Related Components Needed for Installation and Operation

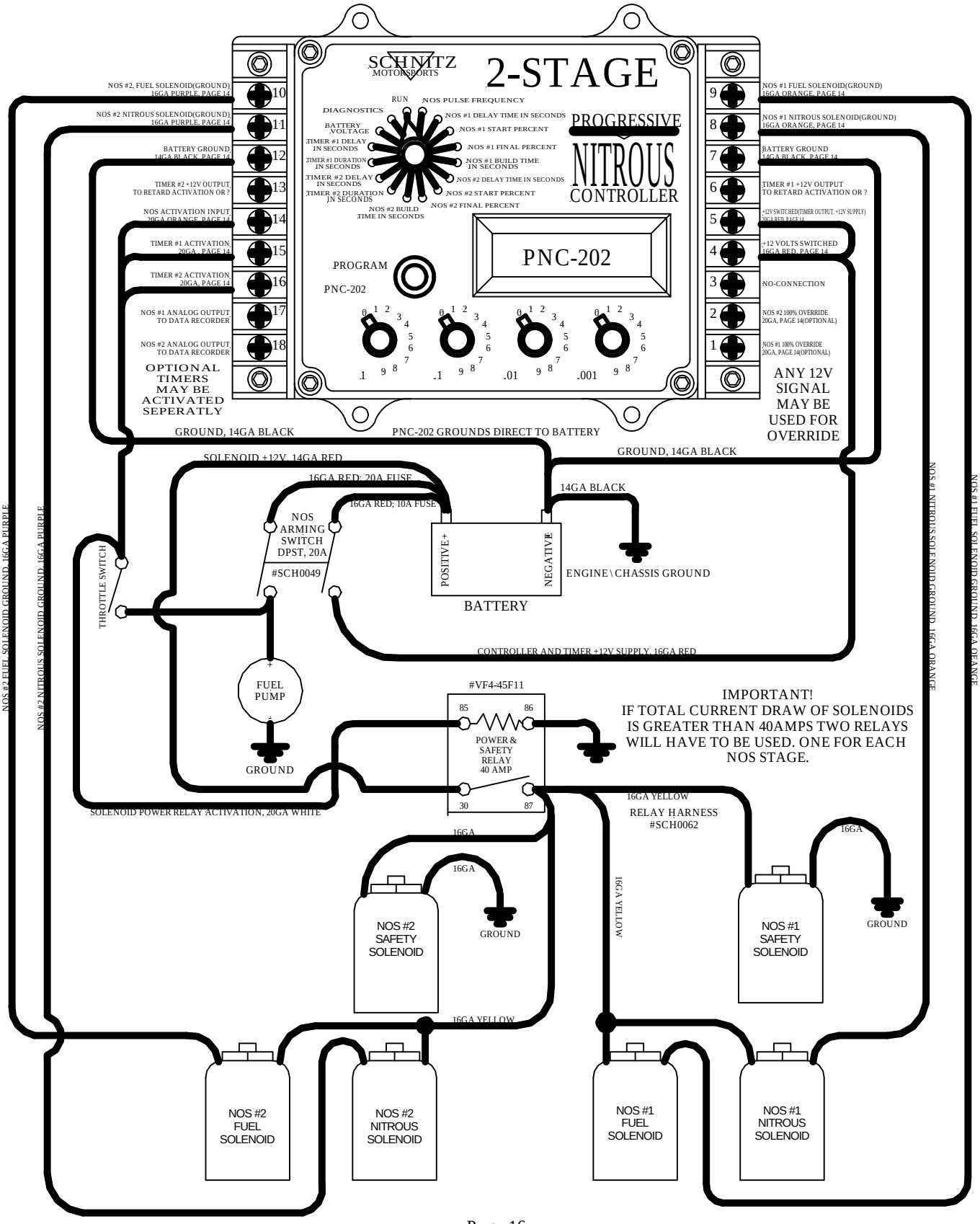
1 - Nitrous System(Use genuine NOS components for best results).
2 – Throttle with Switch built in. Activation switches as needed.

List of Items Supplied with Controller

1 - SCH0049, Double Pole Single Through Switch.
2 - VF4-45F11, 40 AMP Relay
3 - SCH0062, Relay Harness
4 - PNC-202 Wiring Harness
5 - Mounting Bolt Kit
6 - PNC-202 Terminal Kit

3.1 - Connecting the Nitrous Oxide System

NOTICE: ALL DIODES, CAPACITORS, AND FILTERS FROM PREVIOUS NOS INSTALLATIONS MUST BE REMOVED! FAILURE TO DO SO WILL RESULT IN UNDISIRABLE OPERATION OF THIS CONTROLLER.



3.2 - Connecting to the Analog Data Outputs

Both Analog Outputs have a voltage range of 0.0V(0%) to 4.0V(100%). This allows a Data Logging Computer to monitor the NOS percentage along with other important Engine Data. Both Analog Outputs have 1K Ohm Output Impedance. They can withstand momentary short circuits to Ground. Never apply a voltage to these terminals as damage will result.

Follow Data Computer Instructions when connecting and configuring to record information from these outputs.

3.3- Electrical Specifications

Power Requirements: +10.0V to 16.0V Supply Voltage, Negative Ground

Important - Total Current of All Outputs NOT to Exceed 80 Amps Continuous!

Activation Inputs: +12 volts at 5mA

Note: All inputs have active clamp circuitry. This suppresses flyback energy from relays and solenoids that are connected in-line with the activation signal.

NOS Solenoid Outputs: 30 Amp Maximum Current Draw for 40seconds.
Output provides a ground signal for the NOS Solenoid. Active Noise Suppression components are internal and NO external filters are needed.

Fuel Solenoid Outputs: 30 Amp Maximum Current Draw for 40seconds.
Output provides a ground signal for the Fuel Solenoid. Active Noise Suppression components are internal and NO external filters are needed.

Note: NOS and Fuel Outputs will Turn OFF if the Activation Signal is removed During Operation. The NOS Timers will wait during this period. however, the Timer #1, #2 System will continue to Count Down.

Timer Outputs: 5 Amp Maximum Current Draw for 40seconds.
Outputs provide +12 Volts.

Note: Terminal #5 is the +12V Supply for the Timer Outputs. If +12V is NOT present at this Terminal the Outputs will Remain OFF regardless of Timer Settings and Activation.

Analog Data Output: 5mA Maximum Current with 1k Ohm Output Impedance.
.04 volt increase or decrease for each 1% of change

Warranty Information

4.0 – Warranty

Schnitz Motorsports warrants to the original purchaser that the 2-Stage Progressive Nitrous 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 of purchase or warranty will be void. The warranty will not apply if the 2-Stage Progressive Nitrous Controller has been installed incorrectly, repaired, damaged, or tampered with by misuse, negligence or accident.

Phone 1-219-728-9457