



Control Box Advanced Mode Instructions

The new '07 Control Box programming has an Advanced Mode feature. These instructions detail how to activate Advanced Mode and what new features are offered. Advanced Mode must be used to change the Control Box nitrous regulator mode (ADJ, FIX, NON).

I. Activating Advanced Mode

Press both the **SEL** and the **Left-Arrow** buttons together while either starting the sled with the control box plugged in, or while plugging in the 9-volt battery jumper to power on the box. The following should be displayed indicating Advanced Mode has been activated:

```
Advanced Mode ON
```

Release the two buttons and the Control Box will resume normal operation.

II. Setup Menus

The Setup menu is available in Advanced Mode under the Map Menu

From the Main Menu, select the Map Menu. The following Map Menu should be displayed. Note that “**StUp**” is now displayed in the upper right corner (instead of “Quit”).

```
Lock ULock StUp  
->Load Copy Quit
```

A. Transition Setup Menu (LMH)

Move the cursor to **StUp** and press **SEL**. The **Transition Setup Menu** will be displayed.

```
LMH LO2MD MD2HI  
DCy 19← 44
```

This menu is used to adjust the Lo/Md/Hi Transition points. These transition points are preset with values determined to work best for the vehicle it was programmed for. Either the incoming Injector Duty Cycle or the Throttle Position Sensor can be used to determine the LO, MD, HI transition points used in the RPM Fuel adjustment menus. Below is a description of each item on the screen:

Note: These settings are global and will affect all Maps

DCy This indicates the **Transition Mode** – whether the box uses incoming Injector Duty Cycle (**DCy**) or the **TPS** (Throttle Position Sensor) input to determine the Lo/Md/Hi transitions. Use the Up/Down arrows to toggle this mode between DCy and TPS. If DCy is selected, the LO2MD and MD2HI values are represented as incoming injector duty cycle values which can be adjusted between the values 0 and 99. If TPS is selected, the LO2MD and MD2HI values are represented as TPS values which can be adjusted between 4 and 248.

LO2MD

19 This is the **LO to MD transition point**. When the incoming injector duty cycle or TPS value is greater than this value, the Control Box fuel adjustment will change from the LO to MD adjustment.

MD2HI

44 This is the **MD to HI transition point**. When the incoming injector duty cycle or TPS value is greater than this value, the Control Box fuel adjustment will change from the MD to HI adjustment. **Note: This value must be greater than the LO2MD setting or unexpected results may occur.**

B. N2O Setup Menu

Press **SEL** again to go to the next menu. If the Control Box is nitrous capable, the **Nitrous Setup Menu** will be displayed, otherwise the Main Menu will be displayed.

```
Reg N2OMode LED
FIX←  TPS  N2O
```

This menu is used to change the Regulator mode (ADJ, FIX, NON) and change the Nitrous Synergy input from TPS to DCy (used for earlier non-TPS capable control boxes). This setting is global and will affect all Maps.

Reg:ADJ This displays the current Nitrous Regulator Mode. The Up/Down arrows can be used to change this to ADJ (for Adjustable regulator), FIX (for Fixed Regulator), or NON (for NON-regulated).

N2OMode:TPS This displays the current Nitrous Synergy Mode. The Up/Down arrows can be used to change this to TPS (for Throttle Position Sensor input), or DCy (for Duty Cycle input).. The N2O Menu (under the Main Menu) will change between TPS or DCy according to the setting of this mode.

LED:N2O An LED is available for advanced tuning and this setting is used to determine when the LED turns on. The following three modes are available:

- N2O LED turns on whenever nitrous is on. *For Arctic Cats using the special Exhaust-valve fuel adjustment feature (instead of nitrous), this will turn on when fuel is being adjusted before the valve opens.*
- ACL LED turns on whenever the accelerator pump is on.
- MD LED turns on whenever the control box detects the load range is in MD.

II. Accelerator Pump Function

An Accelerator Pump feature (ACEL) is available if the Control Box is run in Advanced Mode. If the Control Box is returned to non-Advanced Mode, this feature will be deactivated regardless of the ACEL settings below. For non-nitrous capable boxes, ACEL will be available from the Main Menu. For the nitrous capable boxes, ACEL will come up after the last Fuel Menu Screen. This function allows extra fuel to be added or subtracted during acceleration.

Note: If available, the **Transition Setup Menu (LMH)** Transition Mode (DCy/TPS) setting will determine if the TPS or incoming injector Duty Cycle is used to detect Acceleration.

```
M1U →AM DR Sens
ACEL 00 00 00
```

M1U This displays current map that is being used – in this case, **M1** stands for **Map1**. The “U” indicates that this map is Unlocked so these settings may be changed. If the Map is Locked, it must first be Unlocked before these settings can be changed.

AM This displays the **Amount** of fuel to be added (if positive) or subtracted (if negative) during Acceleration. This fuel amount will be summed with any other current fuel modifications being made by the Control Box. This means during acceleration the final fuel adjustment amount will be the amount due to the Control Box RPM and/or Nitrous settings in *addition* to the AM fuel setting.

DR This displays the **Duration** in engine cycles that the fuel shown in AM will modify the existing fuel during Acceleration. The accelerator pump feature will be turned off if this value is zero.

Note: The Acceleration fuel adjustment will be turned off whenever deceleration is detected (throttle is backed off) regardless of this setting.

Sens This displays the **Sensitivity** that is used to detect engine acceleration. Higher numbers make this **Less** sensitive. Do not use zero, or acceleration will be on all the time! Suggested values are between 10 and 20.

The Stats Screen will display an “A” and a solid block on the left-side of the screen to indicate when the Accelerator pump feature is active as shown:



Run 35/40 F 10
5500 MD A

III. De-Activating Advanced Mode

Note: The Accelerator Pump feature will be disabled if Advanced Mode is OFF!

Press both the **SEL** and the **Right-Arrow** buttons together while either starting the sled with the control box plugged in, or while plugging in the 9-volt battery jumper to power on the box. The following should be displayed indicating Advanced Mode has been de-activated:

Advanced ModeOFF

Release the two buttons and the Control Box will resume normal operation.