

# DYNOTUNE TPS – 2 STAGE RPM WINDOW SWITCH

## Operation

The Dynotune RPM WINDOW SWITCH is a 2 channel RPM activated window switch (RPMWS) with an integrated throttle-position activation switch (TPAS). The unit accepts most tach signals, including low-voltage and irregular signals such as those found on many V-10s. Some mustangs will require a tach adaptor. The TPAS accepts all analog throttle-position sensor signals as well as a “hot” or “grounded” wide-open-throttle (WOT) switch.

Both channels have their own settable ON and OFF points. Each channel also has its own multi-gear lockout feature, which allows it to be turned off until you have cycled through the window. The internal TPAS can be configured to prevent the RPMWS channels from activating unless you are at WOT .

The Dynotune RPM WINDOW SWITCH requires 9~18 volts to operate correctly. **The output lines SWITCH GROUND when activated (ON) and have a maximum current rating of 1 amp.**

**DO NOT CONNECT SOLENOIDS DIRECTLY TO THE OUTPUT WIRES!!! RELAYS MUST BE USED IF CURRENT DRAW IS MORE THAN 1AMP!!**

In run mode, the LEDs (A,B,C.)will show the unit’s status.

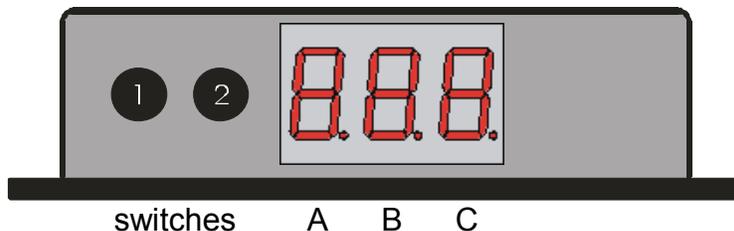
A = throttle position activation switch status [0 = OFF / 1 = ON]

B = gear lock out for channel 1 [0 = feature OFF / L = locked out]

C = gear lock out for channel 2 [0 = feature OFF / L = locked out]

**Press and hold switch #1 and the unit will display the current RPM. This will be very useful to verify your setting in STEP 1 of the configuration. Example: 12.5 = 12500 RPM**

## Programming the TPS - RPM Window Switch



**Switch #1** - toggles through the configuration menu. As you toggle through the configuration menu, the stored value will be displayed. Each time you push switch #1 you will move the flashing character to the next digit. EXP. Space “B” will be flashing while making changes to this field (using switch 2), push switch 1 when you are ready to move to space “C” each step is programmed the same way.

**Switch #2** - increments the flashing value that was selected by switch #1. Push switch #2 to get the flashing character to the number you need for programming your application. EXP. Each time switch #2 is pushed the field that is flashing will raise 1 character.

**LED A.B C** displays the configuration step number and its setting

A = configuration item

B C = value for the current configuration step

**To enter the programming mode**, press and hold both switches until “Pro” is displayed. Now release the switches and the unit will automatically go to the first configuration step. P.r.0.

### **STEP 1. TACH set-up**

**B C** is the number of cylinders. This setting is used by the RPMWS to calculate the correct RPM.

**0 0 0** = individual coil per cylinder systems where the tach wire is connected to the coil

**0 0 1** = coil packs that fire in pairs (waste spark systems) and the tach wire is connected to the coil

**0 0 2 ~ 0 1 2** = cylinder combinations from 2 to 12 where the tach wire is connected to the tach from the engine electronic controller or distributor. EX. 002 would be for a 2 cyl application. LS1 vehicles connecting to the tach wire at the PCM will use 004 . Note: If you have trouble finding a tach signal cycle through all the tach setups until you find one that works. Rev up the vehicle after you get an idle RPM to verify that the RPM's matches your tach.

### **STEP 2. Gear Lockout**

**A** = Not used at this time

**B** = how many times you must pass the deactivation set point before channel 1 will activate. 0 turns this option off.

**C** = how many times you must pass the deactivation set point before channel 2 will activate. 0 turns this option off.

### **STEP 3. Channel 1 Activation RPM**

**A B C** = RPM where 02.3 = 2300 RPM

### **STEP 4. Channel 1 Deactivation RPM**

**A B C** = RPM where 06.6 = 6600 RPM

### **STEP 5. Channel 2 Activation RPM**

**A B C** = RPM where 03.9 = 3900 RPM

### **STEP 6. Channel 2 Deactivation RPM**

**A B C** = RPM where 10.5 = 10,500 RPM

### **STEP 7. TPAS Mode**

**A B C** = throttle position activation switch mode

0 0 0 = “grounded” WOT switch

0 0 1 = “hot” WOT switch

0 0 2 = TPS signal

0 0 3 = turns this feature off if you are not connecting the blue wire. WARNING, this option should only be used if you have a WOT device controlling a relay. Using this feature will activate your relay anytime the system is armed and inside the activation and deactivation window. Primarily used for systems that are wired and wanting to have features of a window switch.

### **STEP 8. TPS WOT setting**

**Note: only applies if Step 7 is configured as 02**

**8.B.C** = WOT voltage

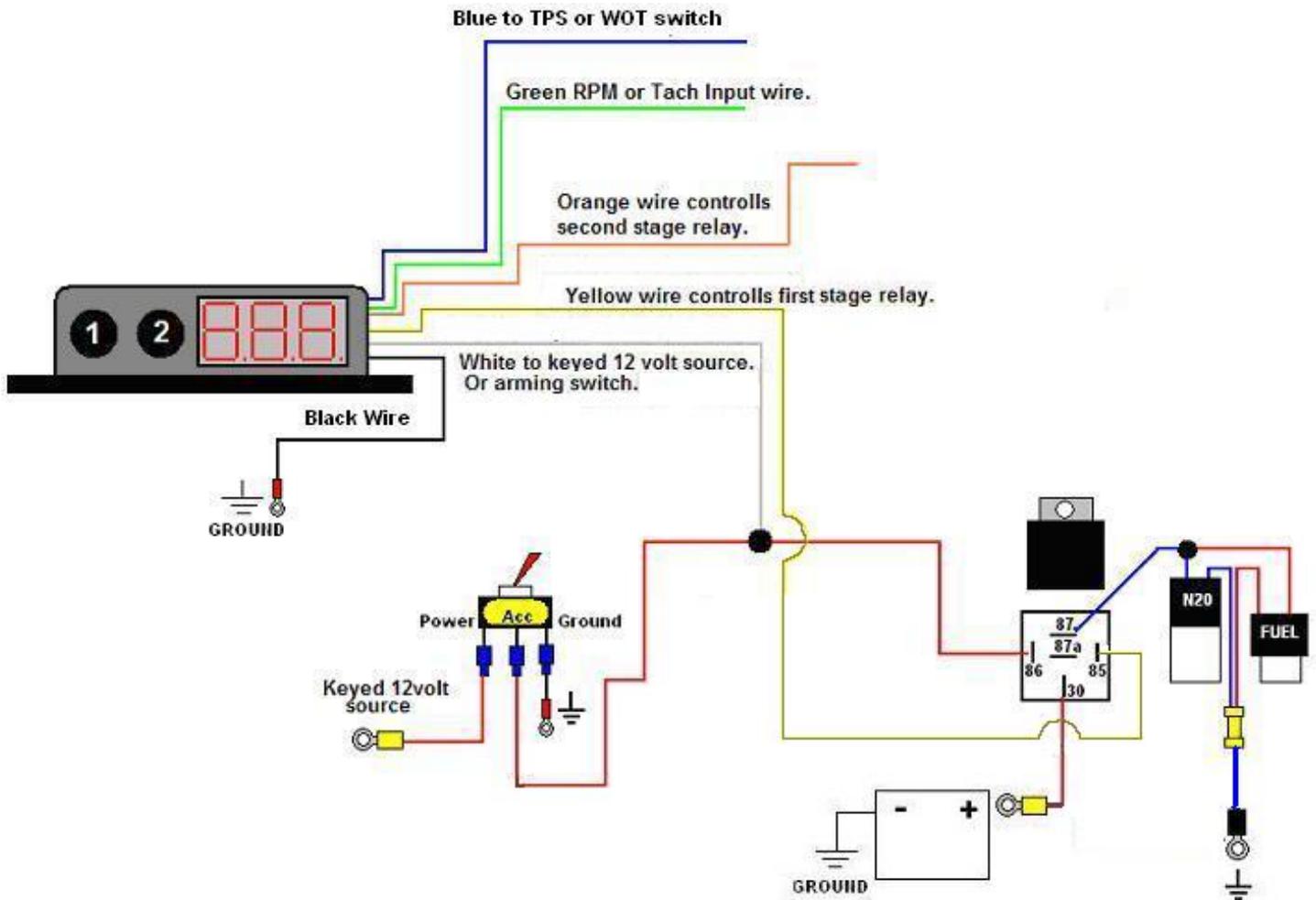
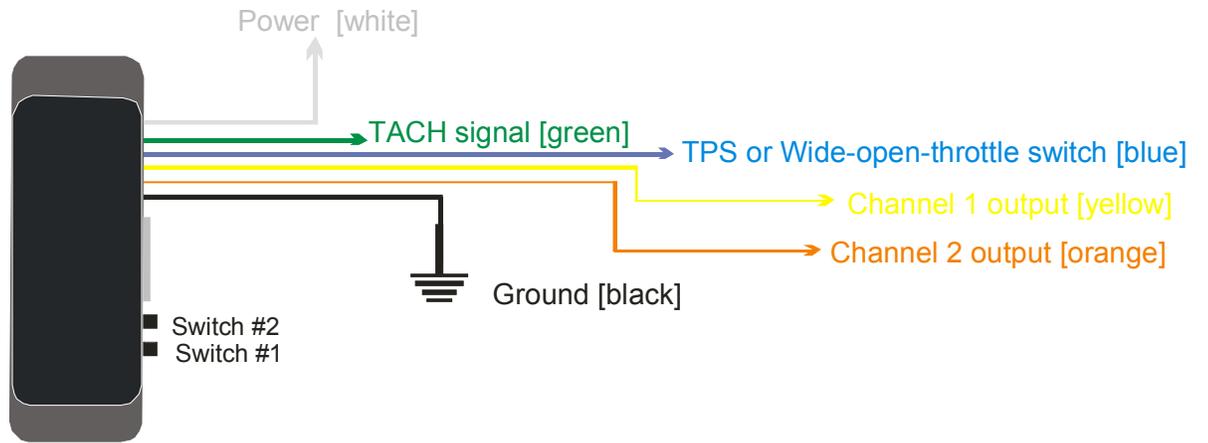
While at IDLE (first try this with the key on and engine not running), press switch #2 to read and display the TPS signal. Pop the throttle to open it all the way – the unit only needs to see WOT for a fraction of a second. Now press switch #1 to save the displayed value. (You do not have to be at WOT when you press switch #1 to save)

NOTE: Fly by wire cars should go for a drive for step 8. Since the throttle blade may have some delay in throttle speed vs pedal speed.

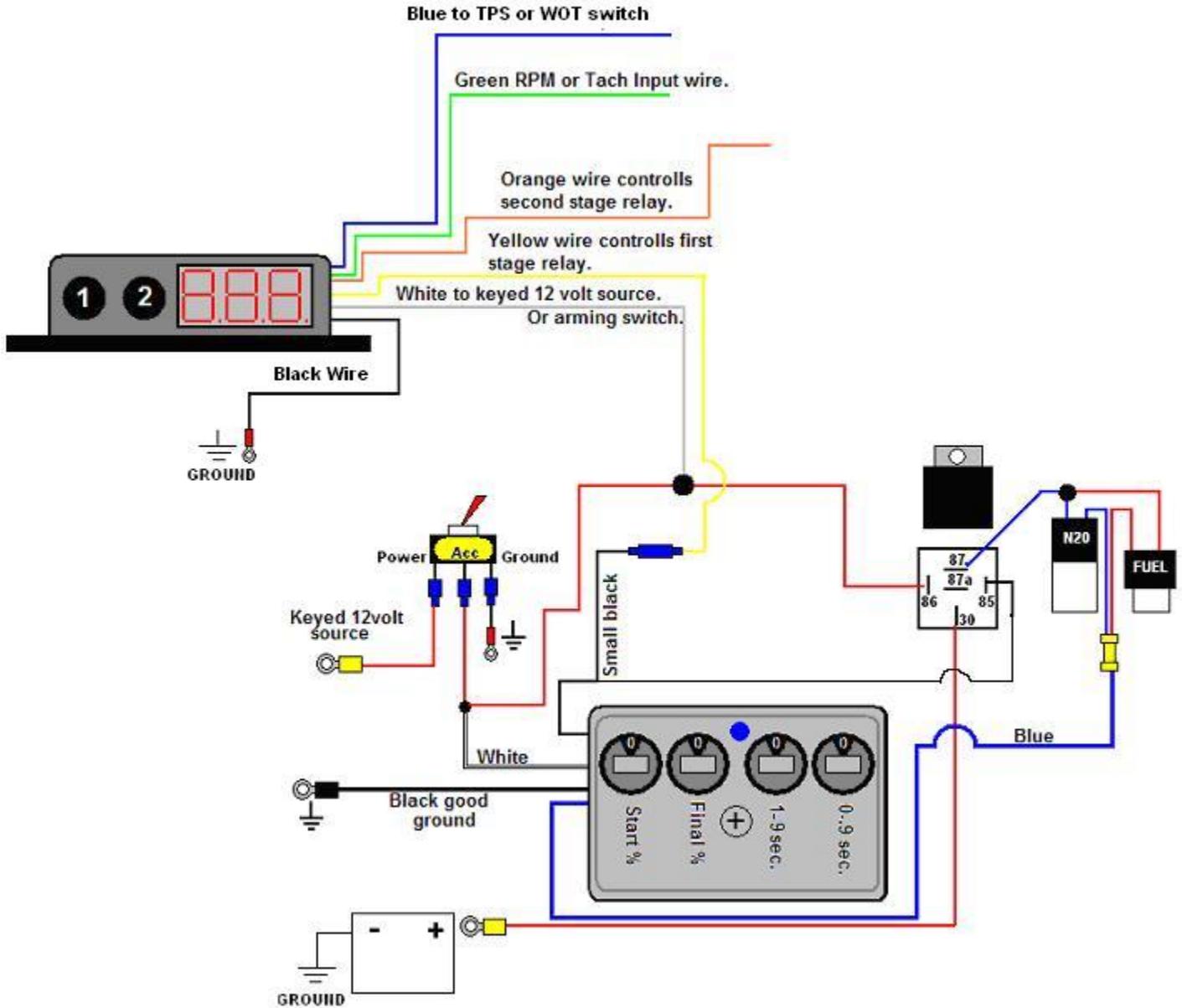
Push switch #1 and You will see **End** when the programming is complete. If at any point you see **Err**, the unit has had an internal malfunction. Turn the power off and back on and try again.

**DO NOT CONNECT SOLENOIDS DIRECTLY TO THE OUTPUT WIRES!!!**  
**RELAYS MUST BE USED IF CURRENT DRAW IS MORE THAN 1AMP!!**

# WIRING TOP VIEW



## TPS DUAL RPM WINDOW SWITCH WITH NITROUS CONTROLLER



### **Understanding LED readout.**

Your window switch has an LED readout that not only is for programming but also tells you what your window switch is doing. From confirming your rpm input set up is correct, to helping you diagnose a problem if one arises.

0 = Off, 1 = Activated, L = Locked

1<sup>st</sup> LED is your TPS, 2<sup>nd</sup> LED is stage 1, 3<sup>rd</sup> LED is stage 2

So if you read

0. 0. 0. then all items are OFF.

1. 0. 0. you have reached your TPS activation set point. No activation of system.

0. 1. 0. you are inside your RPM window. No activation of system.

1. L. 0. you have reached your TPS activation set point, but you are in gear locked mode. No activation of system.

1. 1. 0. you have reached your TPS activation and are inside your RPM window. ACTIVATION OF SYSTEM.

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