



SINGLE STAGE PROGRESSIVE, TPS, RPM WINDOW SWITCH

Operation

The DYNOTUNE PROGRESSIVE/RPM WINDOW SWITCH is a single stage progressive Nitrous controller, 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 for the window switch to function properly, its best to try without it first, if you notice that the tach reading jumps around and does not read properly you should get a tach adaptor from companies like MSD or Autometer). The TPAS accepts all analog throttle-position sensor signals (even fly by wire) as well as a “hot” or “grounded” wide-open-throttle (WOT) switch.

This unit has settable ON/LOW and OFF/HI RPM points and multi-gear lockout feature. Multi-gear lockout delays the stage from turning ON until you have cycled through the RPM window (X times). The internal TPAS can be configured to prevent the RPMWS channel from activating until you are at WOT .

The DYNOTUNE RPM WINDOW SWITCH requires 9~18 volts to operate correctly. The output line switches HOT when activated (ON) and has a maximum current rating of 1 amp. NEVER SET THE ACTIVATION BELOW 500 RPMs THIS WILL VOID THE WARRANTY AND NOT FUNCTION!

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

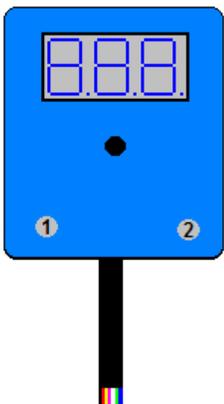
A = throttle position activation switch status [0 = OFF / 1 = ON]

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

C = rpm window status [0 = not in RPM range / 1 = in RPM range]

Press and hold switch #2 and the unit will display the current RPM (A.B.C). This will be very useful to verify your setting in STEP 1 of the configuration. Example: 12.5 = 12500 RPM.

Programming the RPM Window Switch



Switch #1 – “SETUP” toggles through the configuration menu. As you toggle through the configuration menu, the stored value will be displayed. Each time you push Switch #1 it 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 – “SELECT” 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 increase by a value of 1.

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

A: = configuration item. The Set up Number can be shown solid or a brief moment depending on configuration screen.

A 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.



STEP 1. Progressive START %

LED A is Step#

LED B C is your Progressive START %.



0 1 0 = Starting ramp percentage is 10%. (The % of power leaving the line. 10% of 150hp jets=15HP)



0 2 5 = Starting ramp percentage is 25%. (The % of power leaving the line. 25% of 150hp jets=37.5HP)

STEP 2. Progressive RAMP TIME. This is how long it will take to go from activation(see above) to 100% progressive power.



2 5 0 = Ramp time of 5 seconds. (will take 5 seconds to go from 10% to 100% power(15hp to 150hp)

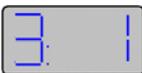


2 1 4 = Ram; time of 1.4 seconds. (will take 1.4 seconds to go from 25% to 100% power(37.5hp to 150hp)

STEP 3. Reset / Resume: This is useful for clutch cars.



3 0 = Progressive unit will reset the ramping to the beginning if WOT is cycled.(Not used to often)



3 1 = Progressive unit will pick up where it left off ramping if WOT is cycled. (Most common setting!)

STEP 4. Standard / Advanced Mode. This setting will allow you to stop your programming here and use the controller as a progressive unit only. OR continue programming for added features; RPM window switch, TPS mode, Gear lock out



4 0 = Standard Mode: Unit is being used as a progressive unit only. **In this mode your BLUE wot input wire must be connected to a mechanical WOT switch. Using the STANDARD programming wiring digram.**



4 1 = Advanced Mode: All the features are available in this mode. Including all WOT options.

STEP 5. TACH set-up

(Some mustangs will require a tach adaptor for the window switch to function properly, its best to try without it first, if you notice that the tach reading jumps around and does not read properly you should get a tach adaptor from companies like MSD or Autometer).

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 trigger wire.



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



0 0 2 ~ 0 1 2 = cylinder combinations from 2 to 12 where the tach wire is connected to the tach signal from the engine electronic controller or distributor. **EX. 002 would be for a 2 cylinder application.**

NOTE: [LS1 vehicles connecting to the tach wire at the pcm will use 004, if connecting to a coil pack use 000. When in doubt, start at 000 and test it. It should display about 1.0=1K rpm at idle, rev it up to 3k rpm and make sure it tracks. If it does not than go to setting 001 and try it again! You have 000-012 settings you can try! One of them will work otherwise you may no be on the correct tach wire.](#)

STEP 6.. Gear Lockout

A = not used at this time

B = not shown.

C = how many times you must pass the upper rpm deactivation set point before the switch will activate. 0 turns this option off.

EXAMPLES BELOW



You will only see this screen with the right digit blinking.



6: 0 = NO gear lock out is selected. System will activate at the preset RPM window and TPS WOT settings.

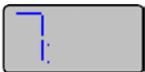


6: 1 = You must pass your deactivation RPM 1 time, before that system will activate.(locks out 1st gear)



6: 4 = You must pass your deactivation RPM 4 times, before that system will activate.(locks out 1-4 gears)

STEP 7. RPM set up for Channel 1 Activation.



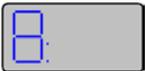
You will only see this screen for a brief moment.

Activation RPM

A B C = RPM where 02.3 = 2300 RPM. The digit you are adjusting will be blinking. Never set below 00.5.



STEP 8. RPM set up for Channel 1 Deactivation RPM



You will only see this screen for a brief moment.

Deactivation RPM

A B C = RPM where 06.6 = 6600 RPM

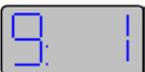


STEP 9. TPAS Mode

A B C = throttle position activation switch mode.



0 0 0 = "grounded" WOT switch



0 0 1 = "hot" WOT switch

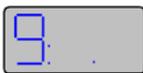


0 0 2 = TPS signal to PCM.



0 0 3 = turns this feature off if you are not connecting the blue wire.

WARNING!!! This option should only be chosen IF you have a WOT device controlling the relay. Using this feature will activate the relay anytime the system is armed and inside the Activation and Deactivation window. Primarily used for systems that are already wired and want to have features of a window switch.



STEP 10. TPS WOT setting

Note: only applies if Step 5 is configured as 002

9:B.C = WOT voltage

While at IDLE, 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)

Fly By Wire cars should go for a test drive for step 9. Since the throttle blade may have some delay in throttle speed vs pedal speed.

Push Switch #1 and You will see **End** this shows 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.

Understanding LED readout plus trips and tricks.

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

In advanced mode

0.x.x - not at WOT

1.x.x - WOT

x.0.x - lockout OFF

x.L.x - gear lockout ON

x.1.x - lockout off and RPM inside window

x.x.0 - RPM outside of window

x.x.1 - RPM inside window

1.1.1 - stage active

In standard mode

0.1.1 - unit not triggered

1.1.1 - stage active

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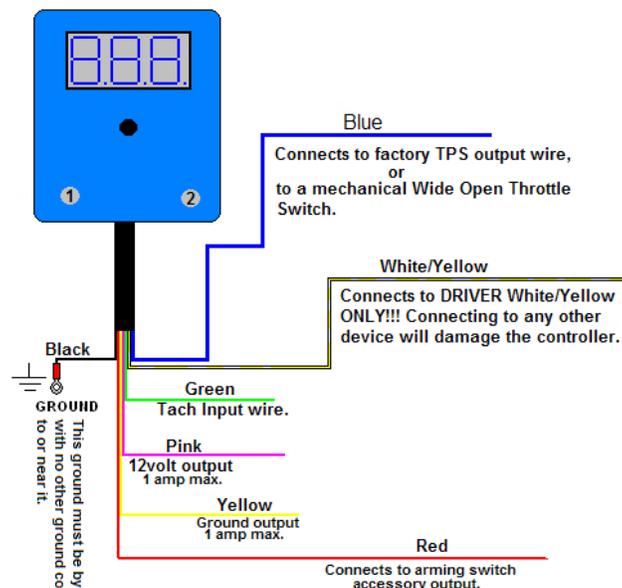
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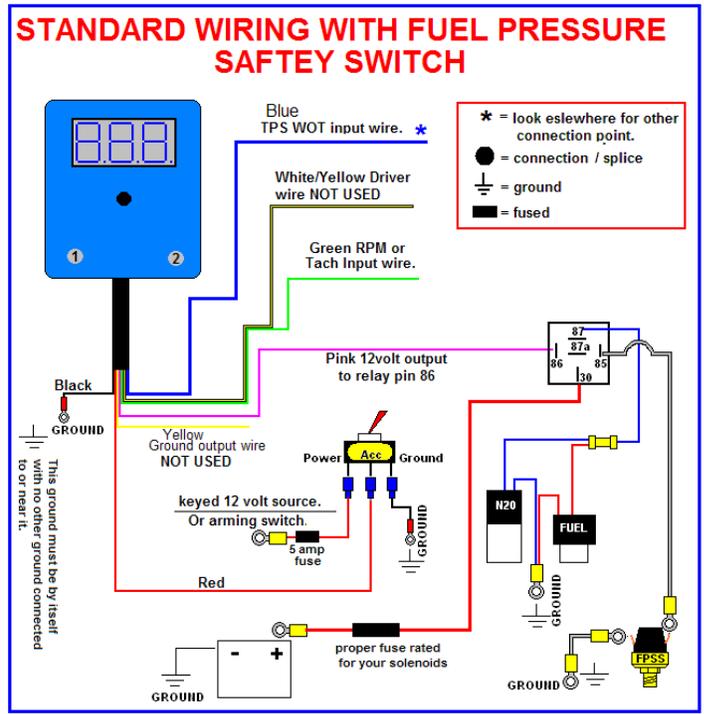
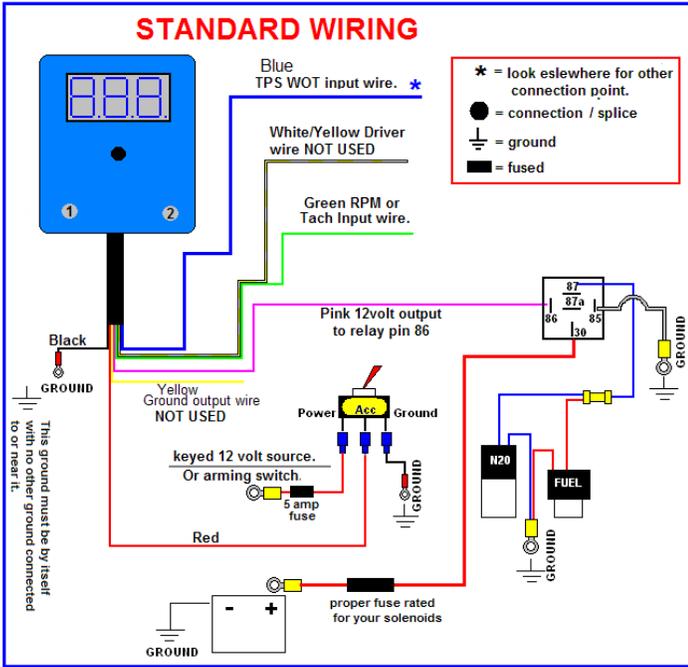
To find a tach wire for your application you can search your shop manual, a online car forum, or <http://www.raptorperformance.com/> as these guys have a great database of installations for tach wires. The TPS wire can typically be found in one of two locations, on the throttle body or attached to the gas pedal.

Setting up tach program:

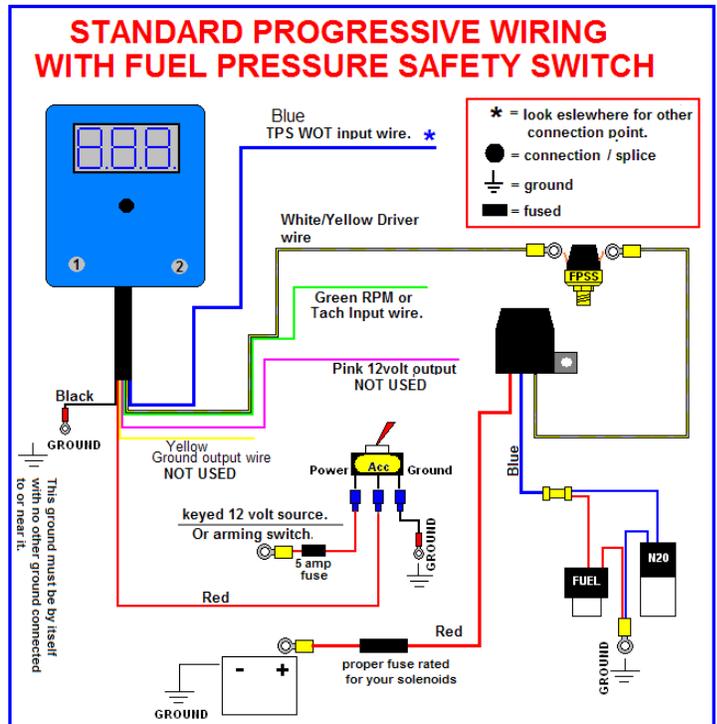
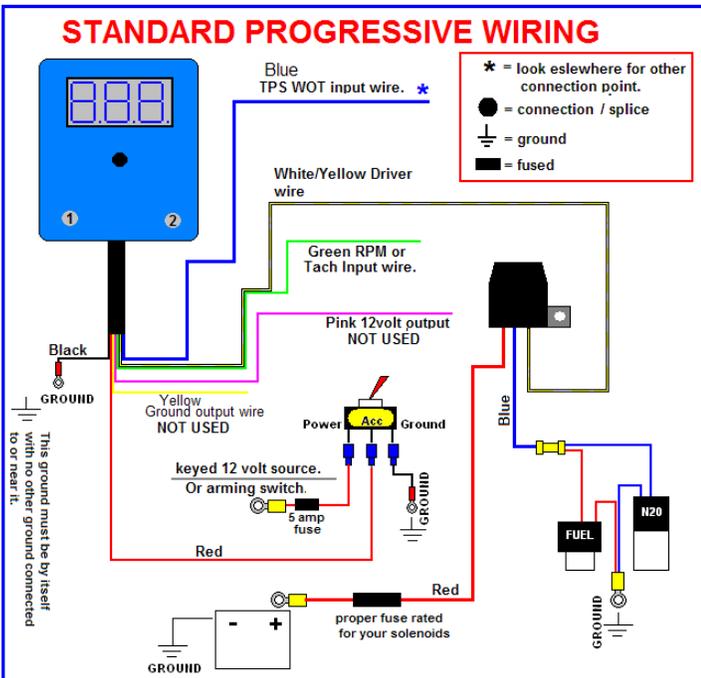
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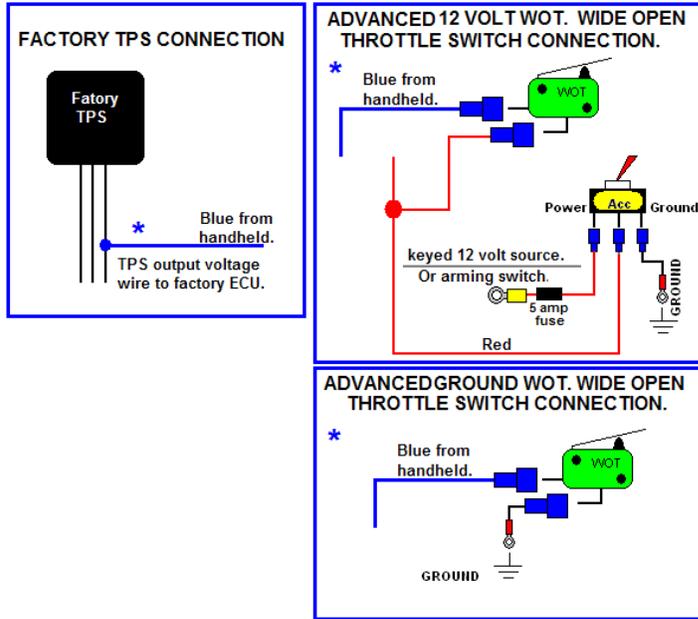
WINDOW SWITCH ONLY DIAGRAMS



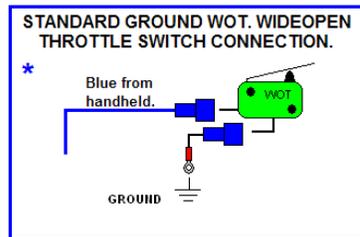
PROGRESSIVE WIRING DIAGRAMS USING CONTROLLER AND DRIVER



BLUE TPS WOT INPUT WIRE CONNECTION DIAGRAMS ADVANCED PROGRAMMING OPTIONS.



BLUE TPS WOT INPUT WIRE CONNECTION DIAGRAM STANDARD PROGRAMMING OPTION ONLY, IF USING IN PROGRESSIVE MODE ONLY!



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