Granatelli Dual Window Switch

These instructions are for:

Part # GM-DWS100

Wiring Diagram and Schematic

Short Wire Leads:

Red – 12v
Black – Ground
Blue – Window/RPM Switch Output #1
Purple – Window/RPM Switch Output #2
Yellow – RPM Signal Input 6V> (High Voltage – i.e. Primary side of the ignition source or ignition box output)
White – RPM Signal Input 5.5< (Low Voltage – i.e. out put off an ECU or ECM signal)
Orange – RPM Output
Green – TPS - Throttle Positioning Switch – Signal input

Introduction:

Thank you for choosing the **Granatelli DWS100**. The **DWS100** includes 2 independent Window/RPM switches, TPS activation, and a Tachometer output lead. This device incorporates "easy set-up" and simple "set and forget" dynamics making this a great tool. The **DWS100** incorporates two independent window switches that may either be connected to RPM activated devices of your choice using a relay, and/or be controlled by the TPS function (for WOT switch operation). As an added benefit, the **DWS100** has built in tachometer adapter for those running distributor-less ignition vehicles without conventional tachometer leads.

Installation:

Find a suitable place to mount the **DWS100** box somewhere inside the vehicle cabin.

NOTE: Mounting this device in the engine compartment will void all warranties expressed or implied. If this is your option, confirm mounting location is dry and cool.

Wire Lead Installation:

- Attach the Red wire to a 12V fused and switched source.
- Attach the Black wire to a suitable, clean existing or new chassis ground.
- The Blue and Purple wires represent the 2 separate trigger leads to the devices you are wishing to control. Please note: The outputs are capable of carrying up to 2 amps each. **They are not intended to nor do they carry enough current to directly drive solenoids!** Also remember you have two separate window switches built into 1 box. Therefore, you have two output wires; Blue and Purple. They are an active ground, meaning when the device is within the preset RPM window, the wires will be pulled to ground. Since the outputs (Blue & Purple) connect to ground when they activate, the device you wish to control should be connected to a 12V source and will turn on when the output switches to ground.

Example: On a standard automotive relay, connect pin 85 to a switched 12V source, and pin 86 to the Blue or Purple wire.

- Attach the Yellow wire to an RPM input to the **DWS100**. This can be a tachometer signal from your PCM (which is sometimes low voltage and if so should be wired to the white wire), the primary wire on a coil, or possibly to the drive side of an injector. *USE CAUTION on CDI ignition systems*. Others may have a

- C.O.P.(Coil On Plug) setup with 4, 6, 8 etc. individual coils, in which you would attach the Yellow wire to the signal side of the coil. You should be able to run directly off of the signal wire on the coil pack.
- The White wire is an alternate **Low Voltage** RPM input. If the Yellow wire is connected to a low voltage RPM signal and does not work, try connecting the White wire instead. **DO NOT** connect the White wire to a voltage source of 6V or higher, as damage will occur and **WARRANTY WILL BE VOID.**
- **There shouldbe no reason for the Yellow and White wire to both be connected**
- The Orange wire is a "Tach Out" signal and is intended to drive your aftermarket tachometer input or other RPM dependent device. If your vehicle does not have a tachometer signal (Ford modular motors) and your tachometer is reading erratically when connected to the coil signal, there is an excellent chance the Orange wire will correctly drive the tachometer.
- Green wire (TPS Signal)

Setup and Programming:

When everything is correctly connected, turning the power ON (ignition switch) to the device should light up the **DWS100**. The two segments of the LED display should light up on the left side telling you that the device has power.

Pressing the button once gives you access to the features of the device. If you press and hold the button, the display will cycle through the following options:

 — Display. Displays all the current settings

 — Purple. Set and then display RPM points for the Purple output wire

 — Blue. Set and then display RPM points for the Blue output wire

 — Setup. Set and then display the Pulse count

 — TPS. Set the TPS detection levels

Each window switch, Purple and Blue, requires that you set two different RPM points, a Low  (Activate On) and a High RPM (Threshold Off).

**NOTE: Below we will describe the series of actions required to set each RPM Window Switch point, you will first see the Low RPM* *, then the High RPM* *followed by a* *for each Window Switch separately.* The *signifies throttle dependence.*

To program in your selected RPM (the Blue or Purple wire) press the button until or is displayed, then let go. The display will change to indicating you are about to set the Low or RPM ON.

To do this, press and hold the button until it reads the thousands of RPM you want for this RPM setting. The display will cycle from – for 1000 to 9000 RPM followed by , , , , and indicating 10,000 to 15,000 RPM.
Release the button when it reads the thousands of RPM you want.

Now the middle line, (-) will be lit, indicating hundreds. This is set the same as the thousands: hold the button until the number you want appears and then let it go.

Now the bottom line, (_) will be lit, indicating tens. This is set the same as the thousands, hold the button until the number you want appears and let then let go.

Now an H will appear and the pattern will repeat allowing you to set the High RPM.

If you enter the RPM settings reversed or enter the same numbers for both, you will find the window switch will never activate.

Next a t- will appear. This means the **DWS100** wants to know if your device needs to be TPS dependant. (Please note if you do not connect the green wire to a TPS source, set this function for 0.) When you press and hold the button now, the display will toggle between 0 and 1. 0 means the output will turn on regardless of the TPS setting and 1 means the output will respect (look for) the TPS setting.

As an example - If you were going to use the Purple output for Nitrous and the Blue output for a shift light, you would want to set the TPS set to 1 for the Purple Nitrous wire and set the TPS to 0 for the Blue shift light wire because the shift light needs to activate regardless of anything else when you reach the desired and set RPM point.

Note: When setting the TPS the trigger wires Purple or Blue should not be connected to the device. To set the TPS detection make sure the Green wire is attached to the 0V-5V or 5V-0V output from the TPS switch at the throttle body. With the Key on and Engine off, Press and hold the button until the t-appears and then release. Now the display will show L. L represents the gas pedal at rest, meaning the untouched gas pedal position. Press the button once (this sets the off throttle point). Next the display will show H, press the accelerator all the way down W.O.T. (Wide Open Throttle) and then press the button once again. The display will clear and should leave a (-) across the top of the display indicating it sees W.O.T. With the key on & engine off you should test this a few times to make sure you have it set correctly. You can check the setting by pressing on the accelerator. The top light on the display should light when the pedal is pressed down to the floor. To disable the TPS, disconnect the Green wire and then set the TPS again.

To see the current settings, just press and hold the button until a d appears and then let it go. All programmed functions and setting will scroll through the menu indicting everything you have programmed into the device.

Part # GM-DWS100

SETTING YOUR DUAL WINDOW SWITCH

Display Indications While Running		
-	-	-
Below Set RPM	In Window	Above Set RPM

RPM

1-9 = 1000-9000
A = 10,000
b = 11,000
C = 12,000
d = 13,000
E = 14,000
F = 15,000

Setting Pulse

For a 4 stroke engine with a distributor, set the pulse to ½ the number of cylinders.
For a single cylinder 4 stroke that fires every other rotation set pulse to "0"
If you still don't know how to set Pulse or it's still wrong, set the RPM to 2000 and then try each pulse setting until the light comes on at 2000 RPM.

Press button and triple lines appear Release to see current setting	- - -
To set Low RPM, hold until "L" appears and then release.	L
Press and hold to set thousands 1000 through 15000	1 - F
Middle line indicates we're about to set hundreds	-
Press and hold to set hundreds	0 – 9
Bottom line indicates we're about to set tens	-
Press and hold to set tens	0 – 9
"H" appears, so now we're setting the High RPM	H
Press and hold to set thousands 1000 through 15000	1 - F
Middle line indicates we're about to set hundreds	-
Press and hold to set hundreds	0 – 9
Bottom line indicates we're about to set tens	-
Press and hold to set tens	0 – 9
"t-" indicates about to set TPS	t-
Press and hold to set TPS on or off. 1 indicates throttle dependant / 0 means inactive	1 or 0
"P" indicates about to set Pulses	P
Press and hold to set pulse count	1 - 6

Limited Warranty and Liability Agreement

Granatelli Motorsports is a California Corporation and warrants that, at the time of delivery of the Product, and for a period of ninety (90) days thereafter, that the Product shall be free of defects in parts and workmanship which could substantially affect the Product's performance and that the Product will conform to the written specifications and description of the Product provided to the Customer.

The extent of Granatelli Motorsports' liability under this warranty shall be limited to the prompt correction or replacement, at Granatelli Motorsports' option and at no cost to the customer other than return shipment, of any defective part of the product determined to be necessary by Granatelli Motorsports. This only applies if written notice of the claimed defect was received by Granatelli Motorsports prior to expiration of the warranty period.

This warranty shall not apply if (I) the Product, or any part thereof is not used in accordance with the operating parameters specified by Granatelli Motorsports; (II) The Product, or any part thereof, is disassembled, altered, modified or converted for any other use than that intended by Granatelli Motorsports without prior written approval from Granatelli Motorsports; (III) This Product is damaged or rendered unserviceable due to negligence, vandalism, theft, fire, debris or other peril, malfunction of equipment, or by any cause within the Customer's control.

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