

Boost by Smith's Dual Purpose Launch / Shift Light



Quick video reference showing electrical connections:

<https://youtu.be/mnTVHt-GphA>

In-depth video reference showing programming setpoints and generally how it works:

<https://youtu.be/VI-hJdoUgyE>

*****WARNING*****

This Dual-Purpose Launch-Shift Light can cause damage to both you and your motorcycle if not used properly.

There are few things to keep in mind and suggestions for this product:

- The auto-shift function is active whenever the shift light illuminates. The launch light activating will not trigger the auto-shift, but the shift light will trigger the auto-shift output. When you make changes to your Shift RPM Setpoint, the settings are then flashed back across the shift light. When this happens be sure to have your toggle switch off, and your air shifter kill box and bottle pressure deactivated and turned off. If you fail to do this and change your shift RPM setting this could result in the bike trying to shift the transmission multiple times rapidly while sitting still. **THIS WILL CAUSE DAMAGE TO YOUR TRANSMISSION!!!** For this reason, see the next item below.
- When performing your burnout, it would be advised to turn the auto-shift off in case you over rev during burnout, you don't want the bike shifting into the next gear during your burnout.
- Never rev the engine to redline in neutral, if the shift light activates and your toggle switch is on it will try to shift most likely resulting in transmission damage as well as possibly throwing you off the bike.
- It is my suggestion to leave your current shift button hooked up (horn button most commonly used) in case the bike ever starts to wheelie and you need to short shift. If you connect the horn signal to the same wire as auto-shift (after the toggle switch) you will be able to hit the button and shift the bike manually earlier than what auto-shift is set for.
- If you have another device installed on the coils (like a MSD launch master), you don't want to get your tach signal from here, when on the 2 step, the signal will be goofy and try to cause the bike to shift will on the 2 step)

If there are any questions or concerns on the operation or safety of this product feel free to contact me.

*****WARNING*****

Thanks for your purchase of the BoostBySmith shift light.

As a special note, I have already programmed your light for you for the following setpoints:

Number of cylinders: If you purchased your shift light with a coil adapter for the tach signal, this will be set to coil on plug mode (dip switch 5), if you purchased this without it and are hooking my tach wire to your tach signal wire that goes from ECU to the dash, it needs to be set to 2 cylinder mode (dip switch 1)

Launch RPM: 5000 RPM

Launch Window: 500 RPM (launch light will come on from 5000-5500 RPM)

Shift RPM: 10,600 RPM (keep in mind your tach will read about 11,200-11,300 at this Setting as the stock Suzuki tach's read very high.

The biggest mistakes people make when hooking up my shift light's are:

- Hooking into the wrong yellow with blue wire tach signal (its NOT the one at the large yellow connector over the left ram air tube, that's +12V with high beam on). Its in sealed up harness where left ram air tube meets the frame and goes directly from the ECU to the dash.
- Setting number of cylinders wrong. Using the tach signal (yellow with blue tracer) you should be set to 2 cylinder mode. If you are using #1 coil ground you should be using coil on plug mode.
- Not understanding that the stock reads very high, so people usually go out and look at tach for exact setting and shift light doesn't come on, you aren't revving the bike high enough due to the inaccurate tach, set the light lower, or rev the bike further out. Hayabusa's read 600-700 rpm fast at redline.
- Some devices such as Wego datalogger being on the same tach wire as shift light can cause issues, move one of the 2 devices to #1 coil ground and reprogram number of cylinders to coil on plug if shift light or 1 cylinder for datalogger to alleviate this.

For autoshift output: please reference the photos below to know which position is on and off.



Launch Light Setup Instructions

To set # of cylinders: Set dip switch setting to desired # of cylinders, then hold down push buttons 1 & 2, then power the RPM switch up by turning the key on, continue to hold the buttons until the launch light flashes rapidly, the setting will be flashed back to you for verification. *Note: Suzuki Hayabusa should be set to 2 cylinder mode (dip switch 1) for proper RPM settings if you are using the yellow/blue wire for tach signal. If using a coil adapter, it will be set to coil on plug mode (dip switch 5)*

To set Launch RPM: Set dip switch setting to desired launch RPM, then hold down button 2 until it flashes rapidly, the setting will be flashed back to you for verification. This value is adjustable from 3,000 – 15,700 RPM in 100 RPM increments. *In order to see the launch light setting, you must pull the clutch lever in the entire time the settings are being flashed back. Zero is display as two very quick flashes.*

To set Launch Upper Window: Set dip switch setting to desired upper launch window, then hold down buttons 1 & 2 until it flashes rapidly, the setting will be flashed back to you for verification. This value is adjustable from 100-3,000 RPM and doesn't need to be changed when changing the actual launch RPM. For example, once you set the launch window to say 500 RPM, no matter what you set the launch RPM to, the upper window will always be 500 RPM higher than the launch RPM. Setting this value to 0 will allow the launch light to stay illuminated anytime you are over the rpm set point (same as shift light). *In order to see the launch window setting, you must pull the clutch lever in the entire time the settings are being displayed. Zero is displayed as two very quick flashes.*

To set Shift RPM: Set dip switch setting to desired Shift RPM, then hold down button 1 until it flashes rapidly, the setting will be flashed back to you for verification. This value is adjustable from 3,000 – 15,700 RPM in 100 RPM increments. *Note: Zero is displayed as two very quick flashes of the light. 10,600 for example would be displayed as:*

1.....pause.....two quick flashes for zero.....pause.....1.2.3.4.5.6

Wiring:

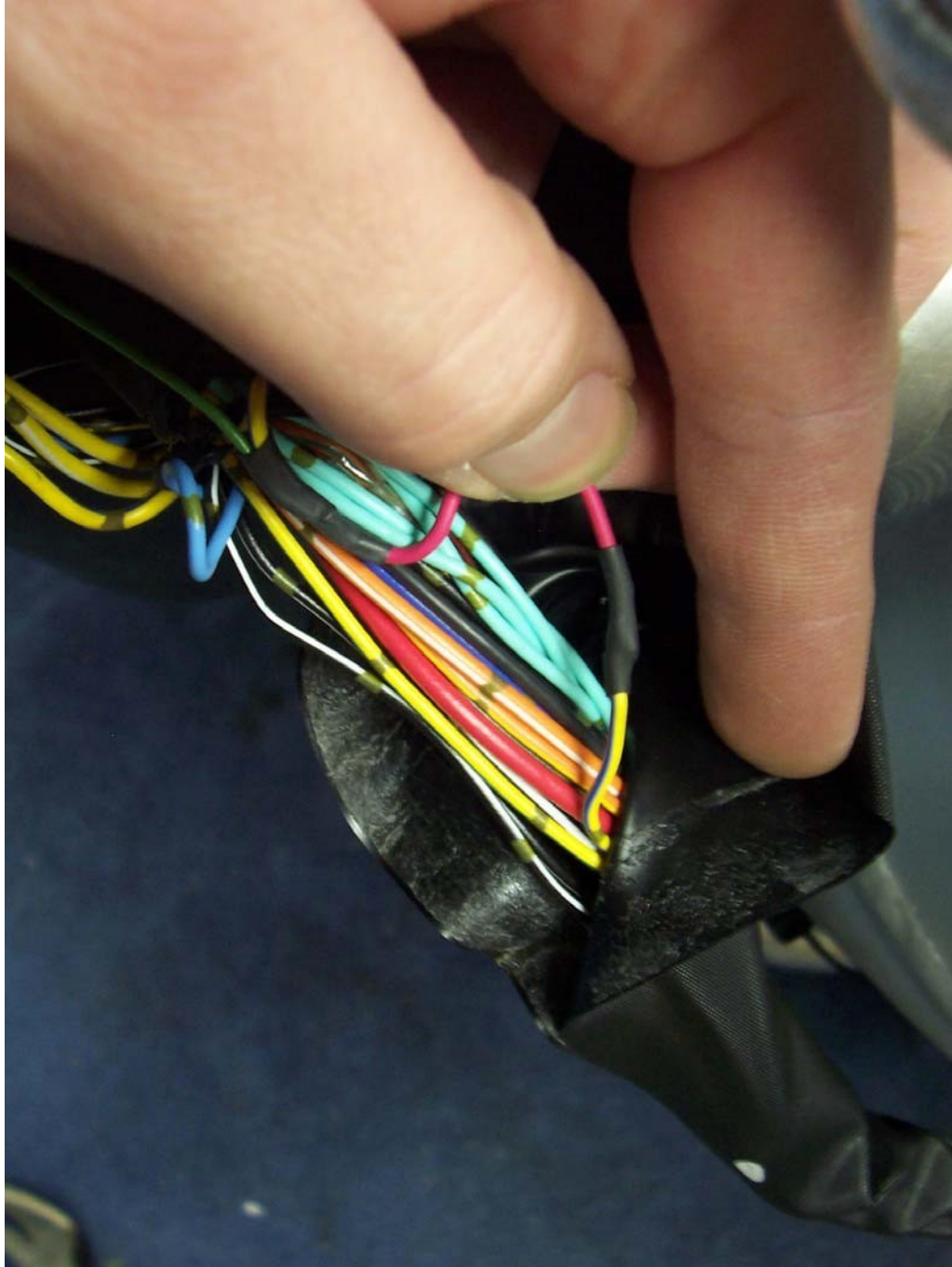
All Hayabusa shift lights (gen1 and gen2) after about May of 2022 are now much more plug and play then they used to be.

You will plug into the left hand control connector over the left ram air tube. For Gen1 this is a yellow 13 pin connector, for Gen2 this is a 10 pin connector. From this connector, I will get +12V ignition, ground, clutch switched ground, and tie into the factory horn button.

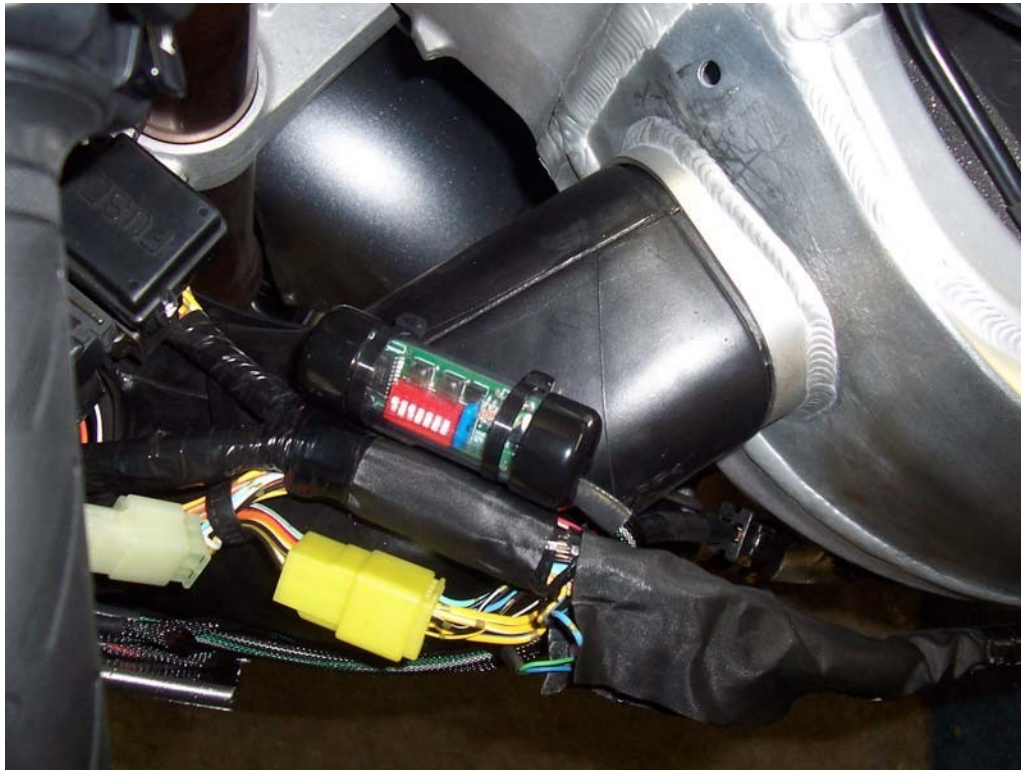
The only thing left to wire is the tach signal. If you purchased my tach adapter (coil adapter), simply plug inline to any of the 4 ignition coils (it doesn't matter which one, though #1 is what folks typically do). If you didn't purchase this, or have something like a MSD launch master installed on the coils already, you will need to hook my green tach signal wire to your yellow / blue tracer wire that goes from ECU to Dash.

TACH SIGNAL ILLUSTRATION

CRIMP THE RED SCOTCH-LOCK CONNECTOR
ON THE YELLOW WIRE WITH BLUE TRACER INSIDE THIS HARNESS.
NOW CONNECT THE GREEN LEAD FROM THE SHIFT LIGHT
HARNESS TO THE RED SCOTCH LOCK CONNECTOR



PLACEMENT



There are 3 dip switch settings tables to reference, the first one, goes from 3,000-15,700 RPM and is used to program the shift light, and launch light activation RPM.

The second table is used only to set the launch window RPM (this is the amount of RPM above the launch light activation setting that it will shut back off). I typically set this to 500 RPM, so if launch light is set to 5000 RPM, and launch window, the launch light will only come on with clutch in, and engine RPM between 5000-5500 RPM.

The third table is for setting the number of cylinders. Remember, it will be 2 cylinder mode (dip switch 1) when using the yellow/blue tach signal wire that goes from ECU to dash, and will be coil on plug mode when using my coil adapter (tach adapter addon), this is dip switch 5. Improperly setting number of cylinders will cause the shift light to come on very early, or very late depending on which way you inaccurately set it. Do NOT use a coil adapter if you have a MSD Launch Master hooked to the coils.

SWITCH POSITIONS

RPM	1	2	3	4	5	6	7
3000	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3100	ON	OFF	OFF	OFF	OFF	OFF	OFF
3200	OFF	ON	OFF	OFF	OFF	OFF	OFF
3300	ON	ON	OFF	OFF	OFF	OFF	OFF
3400	OFF	OFF	ON	OFF	OFF	OFF	OFF
3500	ON	OFF	ON	OFF	OFF	OFF	OFF
3600	OFF	ON	ON	OFF	OFF	OFF	OFF
3700	ON	ON	ON	OFF	OFF	OFF	OFF
3800	OFF	OFF	OFF	ON	OFF	OFF	OFF
3900	ON	OFF	OFF	ON	OFF	OFF	OFF
4000	OFF	ON	OFF	ON	OFF	OFF	OFF
4100	ON	ON	OFF	ON	OFF	OFF	OFF
4200	OFF	OFF	ON	ON	OFF	OFF	OFF
4300	ON	OFF	ON	ON	OFF	OFF	OFF
4400	OFF	ON	ON	ON	OFF	OFF	OFF
4500	ON	ON	ON	ON	OFF	OFF	OFF
4600	OFF	OFF	OFF	OFF	ON	OFF	OFF
4700	ON	OFF	OFF	OFF	ON	OFF	OFF
4800	OFF	ON	OFF	OFF	ON	OFF	OFF
4900	ON	ON	OFF	OFF	ON	OFF	OFF
5000	OFF	OFF	ON	OFF	ON	OFF	OFF
5100	ON	OFF	ON	OFF	ON	OFF	OFF
5200	OFF	ON	ON	OFF	ON	OFF	OFF
5300	ON	ON	ON	OFF	ON	OFF	OFF
5400	OFF	OFF	OFF	ON	ON	OFF	OFF
5500	ON	OFF	OFF	ON	ON	OFF	OFF
5600	OFF	ON	OFF	ON	ON	OFF	OFF
5700	ON	ON	OFF	ON	ON	OFF	OFF
5800	OFF	OFF	ON	ON	ON	OFF	OFF
5900	ON	OFF	ON	ON	ON	OFF	OFF
6000	OFF	ON	ON	ON	ON	OFF	OFF
6100	ON	ON	ON	ON	ON	OFF	OFF
6200	OFF	OFF	OFF	OFF	OFF	ON	OFF
6300	ON	OFF	OFF	OFF	OFF	ON	OFF
6400	OFF	ON	OFF	OFF	OFF	ON	OFF
6500	ON	ON	OFF	OFF	OFF	ON	OFF
6600	OFF	OFF	ON	OFF	OFF	ON	OFF
6700	ON	OFF	ON	OFF	OFF	ON	OFF
6800	OFF	ON	ON	OFF	OFF	ON	OFF
6900	ON	ON	ON	OFF	OFF	ON	OFF
7000	OFF	OFF	OFF	ON	OFF	ON	OFF
7100	ON	OFF	OFF	ON	OFF	ON	OFF
7200	OFF	ON	OFF	ON	OFF	ON	OFF
7300	ON	ON	OFF	ON	OFF	ON	OFF
7400	OFF	OFF	ON	ON	OFF	ON	OFF
7500	ON	OFF	ON	ON	OFF	ON	OFF
7600	OFF	ON	ON	ON	OFF	ON	OFF
7700	ON	ON	ON	ON	OFF	ON	OFF
7800	OFF	OFF	OFF	OFF	ON	ON	OFF
7900	ON	OFF	OFF	OFF	ON	ON	OFF
8000	OFF	ON	OFF	OFF	ON	ON	OFF
8100	ON	ON	OFF	OFF	ON	ON	OFF
8200	OFF	OFF	ON	OFF	ON	ON	OFF
8300	ON	OFF	ON	OFF	ON	ON	OFF
8400	OFF	ON	ON	OFF	ON	ON	OFF
8500	ON	ON	ON	OFF	ON	ON	OFF
8600	OFF	OFF	OFF	ON	ON	ON	OFF
8700	ON	OFF	OFF	ON	ON	ON	OFF
8800	OFF	ON	OFF	ON	ON	ON	OFF
8900	ON	ON	OFF	ON	ON	ON	OFF
9000	OFF	OFF	ON	ON	ON	ON	OFF
9100	ON	OFF	ON	ON	ON	ON	OFF
9200	OFF	ON	ON	ON	ON	ON	OFF
9300	ON	ON	ON	ON	ON	ON	OFF

SWITCH POSITIONS

RPM	1	2	3	4	5	6	7
9400	OFF	OFF	OFF	OFF	OFF	OFF	ON
9500	ON	OFF	OFF	OFF	OFF	OFF	ON
9600	OFF	ON	OFF	OFF	OFF	OFF	ON
9700	ON	ON	OFF	OFF	OFF	OFF	ON
9800	OFF	OFF	ON	OFF	OFF	OFF	ON
9900	ON	ON	ON	OFF	OFF	OFF	ON
10000	OFF	OFF	ON	OFF	OFF	OFF	ON
10100	ON	ON	ON	OFF	OFF	OFF	ON
10200	OFF	OFF	OFF	ON	OFF	OFF	ON
10300	ON	OFF	OFF	ON	OFF	OFF	ON
10400	OFF	ON	OFF	ON	OFF	OFF	ON
10500	ON	ON	OFF	ON	OFF	OFF	ON
10600	OFF	OFF	ON	ON	OFF	OFF	ON
10700	ON	OFF	ON	ON	OFF	OFF	ON
10800	OFF	ON	ON	ON	OFF	OFF	ON
10900	ON	ON	ON	ON	OFF	OFF	ON
11000	OFF	OFF	OFF	OFF	ON	OFF	ON
11100	ON	OFF	OFF	OFF	ON	OFF	ON
11200	OFF	ON	OFF	OFF	ON	OFF	ON
11300	ON	ON	OFF	OFF	ON	OFF	ON
11400	OFF	OFF	ON	OFF	ON	OFF	ON
11500	ON	OFF	ON	OFF	ON	OFF	ON
11600	OFF	ON	ON	OFF	ON	OFF	ON
11700	ON	ON	ON	OFF	ON	OFF	ON
11800	OFF	OFF	OFF	ON	ON	OFF	ON
11900	ON	OFF	OFF	ON	ON	OFF	ON
12000	OFF	ON	OFF	ON	ON	OFF	ON
12100	ON	ON	OFF	ON	ON	OFF	ON
12200	OFF	OFF	ON	ON	ON	OFF	ON
12300	ON	OFF	ON	ON	ON	OFF	ON
12400	OFF	ON	ON	ON	ON	OFF	ON
12500	ON	ON	ON	ON	ON	OFF	ON
12600	OFF	OFF	OFF	OFF	OFF	ON	ON
12700	ON	OFF	OFF	OFF	OFF	ON	ON
12800	OFF	ON	OFF	OFF	OFF	ON	ON
12900	ON	ON	OFF	OFF	OFF	ON	ON
13000	OFF	OFF	ON	OFF	OFF	ON	ON
13100	ON	OFF	ON	OFF	OFF	ON	ON
13200	OFF	ON	ON	OFF	OFF	ON	ON
13300	ON	ON	ON	OFF	OFF	ON	ON
13400	OFF	OFF	OFF	ON	OFF	ON	ON
13500	ON	OFF	OFF	ON	OFF	ON	ON
13600	OFF	ON	OFF	ON	OFF	ON	ON
13700	ON	ON	OFF	ON	OFF	ON	ON
13800	OFF	OFF	ON	ON	OFF	ON	ON
13900	ON	OFF	ON	ON	OFF	ON	ON
14000	OFF	ON	ON	ON	OFF	ON	ON
14100	ON	ON	ON	ON	OFF	ON	ON
14200	OFF	OFF	OFF	OFF	ON	ON	ON
14300	ON	OFF	OFF	OFF	ON	ON	ON
14400	OFF	ON	OFF	OFF	ON	ON	ON
14500	ON	ON	OFF	OFF	ON	ON	ON
14600	OFF	OFF	ON	OFF	ON	ON	ON
14700	ON	OFF	ON	OFF	ON	ON	ON
14800	OFF	ON	ON	OFF	ON	ON	ON
14900	ON	ON	ON	OFF	ON	ON	ON
15000	OFF	OFF	OFF	ON	ON	ON	ON
15100	ON	OFF	OFF	ON	ON	ON	ON
15200	OFF	ON	OFF	ON	ON	ON	ON
15300	ON	ON	OFF	ON	ON	ON	ON
15400	OFF	OFF	ON	ON	ON	ON	ON
15500	ON	OFF	ON	ON	ON	ON	ON
15600	OFF	ON	ON	ON	ON	ON	ON
15700	ON	ON	ON	ON	ON	ON	ON

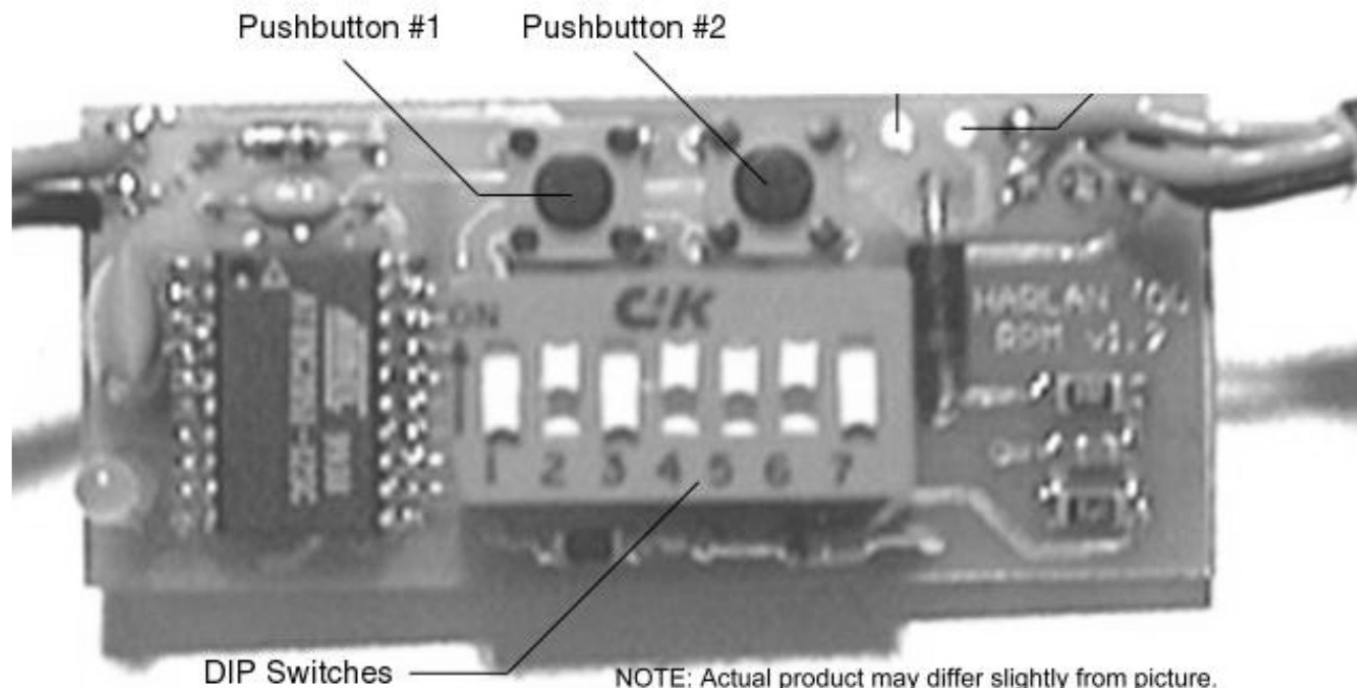
LAUNCH WINDOW SWITCH POSITIONS

RPM	1	2	3	4	5	6	7
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF
100	ON	OFF	OFF	OFF	OFF	OFF	OFF
200	OFF	ON	OFF	OFF	OFF	OFF	OFF
300	ON	ON	OFF	OFF	OFF	OFF	OFF
400	OFF	OFF	ON	OFF	OFF	OFF	OFF
500	ON	OFF	ON	OFF	OFF	OFF	OFF
600	OFF	ON	ON	OFF	OFF	OFF	OFF
700	ON	ON	ON	OFF	OFF	OFF	OFF
800	OFF	OFF	OFF	ON	OFF	OFF	OFF
900	ON	OFF	OFF	ON	OFF	OFF	OFF
1000	OFF	ON	OFF	ON	OFF	OFF	OFF
1100	ON	ON	OFF	ON	OFF	OFF	OFF
1200	OFF	OFF	ON	ON	OFF	OFF	OFF
1300	ON	OFF	ON	ON	OFF	OFF	OFF
1400	OFF	ON	ON	ON	OFF	OFF	OFF
1500	ON	ON	ON	ON	OFF	OFF	OFF
1600	OFF	OFF	OFF	OFF	ON	OFF	OFF
1700	ON	OFF	OFF	OFF	ON	OFF	OFF
1800	OFF	ON	OFF	OFF	ON	OFF	OFF
1900	ON	ON	OFF	OFF	ON	OFF	OFF
2000	OFF	OFF	ON	OFF	ON	OFF	OFF
2100	ON	OFF	ON	OFF	ON	OFF	OFF
2200	OFF	ON	ON	OFF	ON	OFF	OFF
2300	ON	ON	ON	OFF	ON	OFF	OFF
2400	OFF	OFF	OFF	ON	ON	OFF	OFF
2500	ON	OFF	OFF	ON	ON	OFF	OFF
2600	OFF	ON	OFF	ON	ON	OFF	OFF
2700	ON	ON	OFF	ON	ON	OFF	OFF
2800	OFF	OFF	ON	ON	ON	OFF	OFF
2900	ON	OFF	ON	ON	ON	OFF	OFF
3000	OFF	ON	ON	ON	ON	OFF	OFF

SWITCH POSITIONS

# Cylinders	1	2	3	4	5	6	7
2	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	OFF	ON	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF
Coil Per Plug	OFF	OFF	OFF	OFF	ON	OFF	OFF

NOTE: Suzuki Hayabusa should be set to 2 Cylinder Mode



NOTE: Actual product may differ slightly from picture.
Relative position of buttons and switches is unchanged.