

RAPTOR PERFORMANCE

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RPM Activated Switch-Operating Instructions

1 YEAR LIMITED WARRANTY. IN NO EVENT WILL RAPTOR PERFORMANCE OR ANY OF ITS AFFILIATES BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THIS PRODUCT. NO OTHER CLAIMS ARE MADE ABOUT THIS PRODUCT, EXPLICIT OR IMPLIED.

INSTRUCTIONS FOR INSTALLATION AND SWITCH PROGRAMMING:

- REMOVE THE NEGATIVE BATTERY CABLE FROM THE BATTERY.
 - CONNECT A GROUND WIRE FROM THE VEHICLE CHASSIS TO THE RAPTOR RPM SWITCH, GREEN CONNECTOR (POSITION #2 FROM LEFT) (SEE FIGURE #1).
 - CONNECT A POWER WIRE FROM A **SWITCHED AND FUSED** +12 VOLT SOURCE TO THE RAPTOR RPM SWITCH, GREEN CONNECTOR (POSITION #3 FROM LEFT) (SEE FIGURE #1). (POWER SHOULD BE APPLIED WHEN THE IGNITION KEY IS IN THE ON POSITION AND POWER SHOULD BE REMOVED WHEN THE KEY IS OFF).
 - CONNECT A TACH WIRE FROM TACH OUTPUT LEAD OF THE VEHICLE OR THE SWITCHED SIDE OF THE IGNITION COIL (NEGATIVE SIDE) TO THE RAPTOR RPM SWITCH, GREEN CONNECTOR (POSITION #1 FROM LEFT) (SEE FIGURE #1).
 - THE OTHER TWO CONNECTOR POSITIONS (#4 & #5) ARE FOR THE RELAY CONTACTS.
 1. THE "NORMALLY CLOSED" CONTACT IS NORMALLY CONNECTED TO GROUND INTERNALLY, AND WILL OPEN WHEN THE PRESET ENGINE RPM IS REACHED.
 2. THE "NORMALLY OPEN" CONTACT IS NORMALLY OPEN AND WILL CLOSE MAKING CONTACT WITH GROUND INTERNALLY WHEN THE PRESET ENGINE RPM IS REACHED.
 - REMOVE THE FOUR (4) SCREWS FROM THE FACEPLATE AND REMOVE FACEPLATE TO MAKE RPM OR CYLINDER SELECT ADJUSTMENTS.
 - SET THE DESIRED RPM ACTIVATION POINT USING TWO OF THE THREE ROTARY SWITCHES, WITH A SMALL SCREWDRIVER (SEE FIGURE 2).
EXAMPLE: FOR 5800 RPM = "RPM X1000" TO "5" AND "RPM X100" TO "8".
- NOTE: THE RPM RANGE CAN BE DOUBLED TO A MAXIMUM OF 19,800 RPM BY DOUBLING THE CYLINDER SELECT SWITCH FOR YOUR VEHICLE AND SETTING THE RPM TO 1/2 OF THE DESIRED RPM ACTIVATION POINT.
- ** CARE MUST BE USED WHEN SETTING SWITCHES. THE SLOT CAN BE DAMAGED IF THE CORRECT SCREWDRIVER IS NOT USED. FULLY INSERT BEFORE TURNING.**
- SET THE "CYLINDER SELECT" SWITCH ACCORDING TO THE ENGINE'S RPM PULSE/REV CONFIGURATION (SEE FIGURE 2).
 - **FOR VEHICLE SPECIFIC INFORMATION (IF AVAILABLE), PLEASE CHECK THE RAPTOR WEBSITE.**
 - RESTORE THE BATTERY CABLE CONNECTION.
NOTE: TO CHANGE SETTINGS, TURN IGNITION OFF, CHANGE SWITCH SETTINGS AND TURN IGNITION BACK ON. THE SHIFT LIGHT READS THE SWITCH SETTINGS UPON POWER UP ONLY.

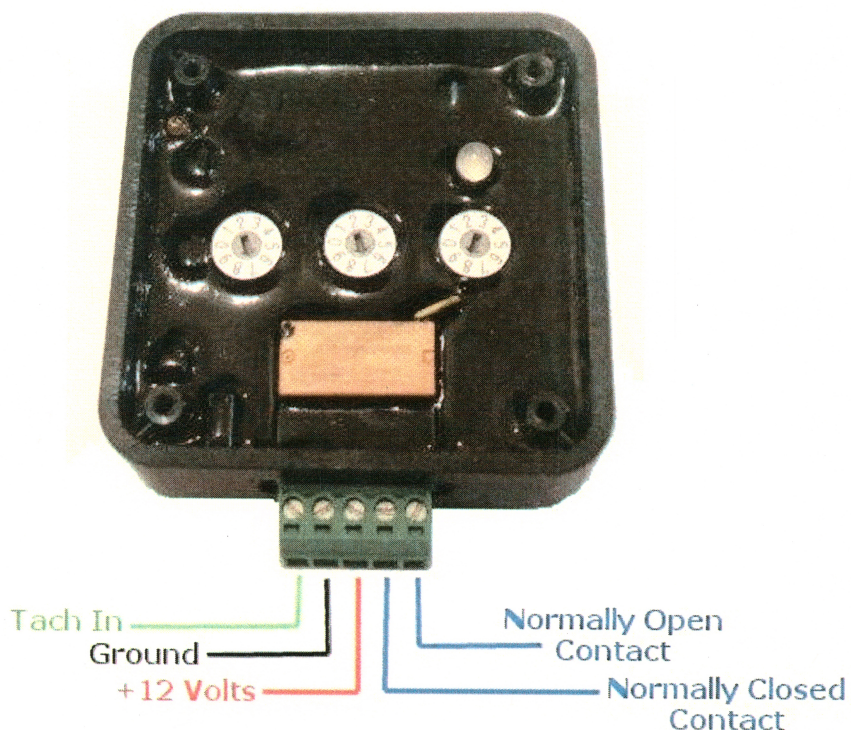


Figure 1

VERIFY MODE

VERIFY MODE DISPLAYS THE SWITCH SETTINGS, IF THEY HAVE BEEN CHANGED FROM THE LAST VALUE STORED IN MEMORY.

TURN IGNITION ON AND THE RAPTOR RPM SWITCH WILL FLASH THE SETTINGS TO YOU WITH THE STATUS LED.

- A- THE STATUS LED WILL TURN GREEN AND WILL FLASH THE NUMBER OF TIMES WHICH IS REPRESENTATIVE OF THE "RPM X1000 SETTING".
- B- THERE WILL BE A PAUSE (NO LED ON FOR ABOUT 2 SECONDS).
- C- THE STATUS LED WILL TURN RED AND WILL FLASH THE NUMBER OF TIMES WHICH IS REPRESENTATIVE OF THE "RPM X100 SETTING".
- D- THERE WILL BE ANOTHER PAUSE (NO LED ON FOR ABOUT 2 SECONDS).
- E- THE STATUS LED WILL TURN ORANGE AND WILL FLASH THE NUMBER OF TIMES WHICH IS REPRESENTATIVE OF THE "CYLINDER SETTING", AND FINALLY THE RAPTOR RPM SWITCH WILL DO AN LED TEST (ALTERNATING RED & GREEN) AND THEN BE READY FOR USE.

NORMAL MODE

NORMAL MODE IS WHEN THE SWITCH SETTINGS HAVE NOT BEEN CHANGED FROM THE PREVIOUS VALUES STORED IN MEMORY.

- UPON TURNING ON THE IGNITION, THE RAPTOR RPM SWITCH WILL DO A STATUS LED TEST ONLY (ALTERNATING RED & GREEN) AND NO SWITCH SETTINGS WILL BE DISPLAYED. THE RAPTOR RPM SWITCH IS READY FOR USE AT THIS POINT.

ERROR MODE (INVALID SWITCH SETTINGS)

IN "INVALID SWITCH ERROR MODE", THE STATUS LED WILL BE ORANGE AND WILL FLASH AT A RAPID RATE TO INDICATE THE RPM ACTIVATION POINT IS SET BELOW THE MINIMUM SETTING OF 1000 RPM OR THE CYLINDER SELECT SWITCH IS IN AN INVALID POSITION. INVALID CYLINDER SELECT SWITCH LOCATIONS ARE: "0", "7" OR "9".

- TURN OFF THE IGNITION AND CHANGE THE SWITCHES TO A SETTING ABOVE 1000 RPM OR SET THE CYLINDER SELECT SWITCH TO THE CORRECT SETTING.

ERROR MODE (NO TACH SIGNAL)

IN "NO TACH SIGNAL ERROR MODE", THE GREEN LED WILL FLASH RAPIDLY MEANING NO TACH SIGNAL IS DETECTED. CHECK TACH INPUT WIRE FOR PROPER CONNECTION AND MAKE SURE YOU HAVE THE CORRECT SIGNAL FOR THE ENGINE RPM. WHEN THE TACH SIGNAL IS DETECTED, THE STATUS LED WILL BE ON SOLID GREEN, UNLESS THE ENGINE RPM SETPOINT HAS BEEN EXCEEDED, THEN IT WILL BE SOLID RED. (IF CONNECTIONS ARE GOOD AND CYLINDER SETTING IS SET CORRECTLY, SWAP SIGNAL AMPLIFIER JUMPER "S4 TO "COM"- "AMP". THIS WILL AMPLIFY THE INCOMING SIGNAL). THIS IS TYPICAL ON 2010+ CAMAROS, PONTIAC G8, NISSAN 350Z.

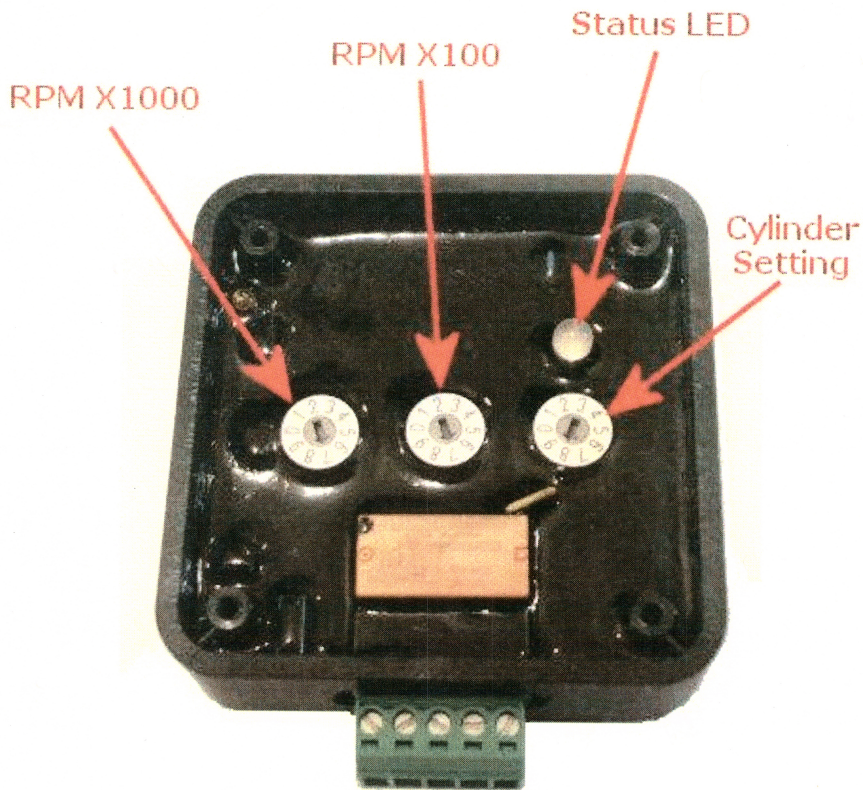


FIGURE 2

STATUS LED (NORMAL OPERATION):

GREEN ON = POWER IS ON AND A TACH SIGNAL IS DETECTED.
 GREEN RAPID FLASHING = POWER IS ON AND NO TACH SIGNAL DETECTED.
 RED ON = POWER IS ON AND RPM SETPOINT HAS BEEN REACHED (RELAY CONTACTS ACTIVATED).

****NOTE****

THE RAPTOR RPM SWITCH ACTIVATES AT THE DESIRED SETPOINT, BUT DE-ACTIVATES AT 100 RPM BELOW THE SETPOINT TO PREVENT RELAY "CHATTER" (QUICK ON/OFF SUCCESIONS).

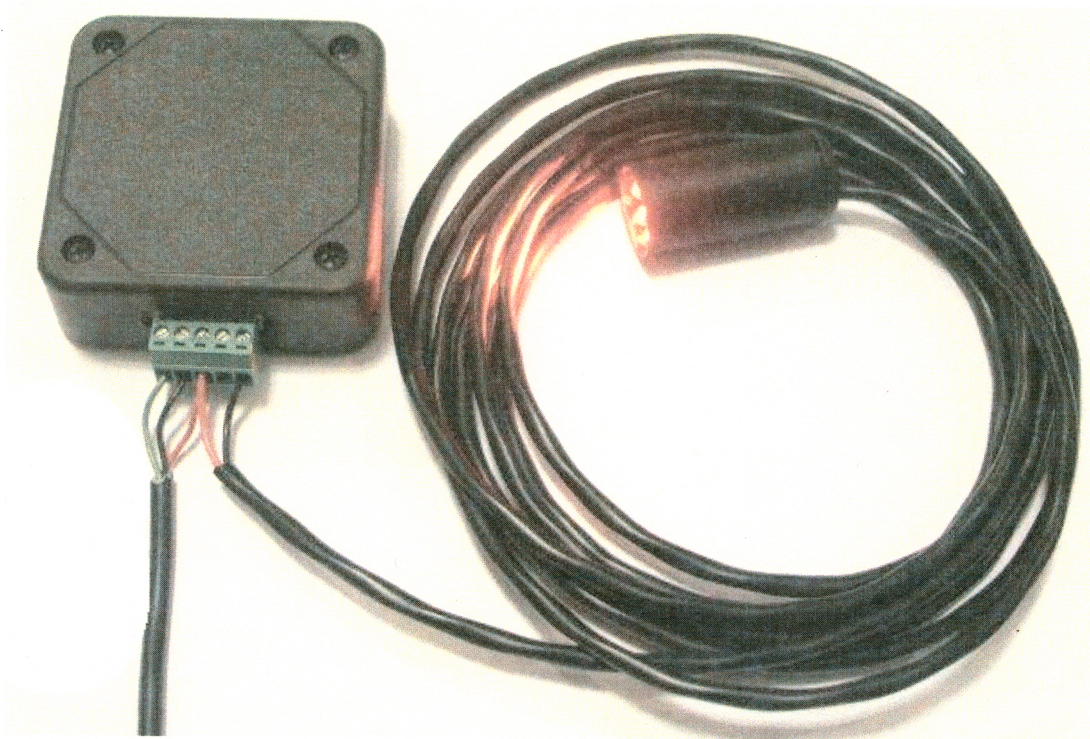
MAX VOLTAGE INPUT (PIN #3)	15 VDC
MAX CURRENT DRAW FROM 12 VOLT SUPPLY	.070 AMPERES (70 mA)
MAX RELAY CONTACT RATING (PIN #4 OR #5)	2 AMPERES (THERMALLY PROTECTED)
MAX RPM ERROR	< .1% (< 5 RPM AT 5000 RPM)

SPECIAL CONSIDERATION FOR CYLINDER SELECTION BY VEHICLE:

99-2008 MUSTANG (4.6L ENGINE): "1 CYLINDER MODE" (1/2 PULSE/REV) (READS OFF ONE COIL)
GM LSX ENGINES (EXCEPT LS3, L99) (CAMARO, FIREBIRD, CORVETTE, GTO, CTSV, ETC): "4 CYLINDER MODE"
 (FROM PCM)
GM LS3, L99 ENGINE: SET TO ONE CYLINDER MODE AND SET "S4" JUMPER TO "COM" AND "AMP" (SEE
 HEADING: "ERROR MODE (NO TACH SIGNAL)" ABOVE.
DODGE VIPER: "2 CYLINDER MODE" (READS OFF ONE OF THE FIVE COILS)
DODGE SRT4: "2 CYLINDER MODE" (READS OFF COIL PACK)

FOR MORE VEHICLE INFO, SEE THE RAPTOR WEBSITE: www.raptorperformance.com

The Raptor RPM Switch can be used to trigger a number of devices.
TWO WIRING EXAMPLES SHOWN BELOW:



Typical Wiring Application with Raptor Warning Light



Typical Wiring Application with Single LED

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Warning Light Operating Instructions



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INSTRUCTIONS FOR INSTALLATION:

THE WARNING LIGHT IS A SIMPLE HOOKUP. IT IS BASICALLY A TWO WIRE CONNECTION. RED IS CONNECTED TO A FUSED 12 VOLT SOURCE AND THE BLACK WIRE IS SIMPLY SWITCHED TO GROUND BY THE CONTROLLING CIRCUIT (RPM ACTIVATED SWITCH, LOW OIL SWITCH, HIGH EMP SWITCH, ETC.).

- REMOVE THE NEGATIVE BATTERY CABLE BEFORE MAKING ANY ELECTRICAL CONNECTIONS.
- CONNECT THE RED WIRE OF THE SHIFT LIGHT TO A **FUSED** +12 VOLT SOURCE.
- CONNECT THE BLACK WIRE OF THE WARNING LIGHT TO A SWITCHED OUTPUT (USER'S EXTERNAL CONTROL CIRCUIT).
- RESTORE BATTERY CABLE CONNECTION.

MAXIMUM VOLTAGE: 16VDC

