

G.U.S.™ MOUNTING:

- ❑ Recommended panel cut-out (hole size) for 2-1/16" nominal gauge is 2.098" +/- .02".
- ❑ Secure the gauge in the hole using the supplied retaining bracket, lock washers and #8-32 nuts. Maximum torque for mounting screws is 6 in. lbs.

TIP: *It may be easier to pre-wire gauge before installing!*

G.U.S.™ WIRING (Figure 1):

1. Disconnect negative (-) battery cable.
2. Using 18-ga. wire, connect the (-) terminal to a clean (rust/paint-free) ground, preferably battery negative terminal.
3. Using 18-ga. wire, connect the (+) terminal to a switched +12V source, like the ignition wire.
4. Using 18-ga. wire, connect the (S) terminal the coil negative or the tachometer terminal of the ignition module.
5. Reconnect the negative (-) battery.
6. Set the pulses per revolution (PPR). Refer to the programming section.

Installation Instructions

Gauge Ultra-Shift Light™ (G.U.S.™)

PRECAUTIONS:

- ❑ Read ALL instructions before installing instrument.
- ❑ Follow ALL safety precautions when working on vehicle-wear safety glasses!
- ❑ ALWAYS disconnect (-) negative battery cable before making electrical connections.

HELP?:

- ❑ If after reading these instructions you don't fully understand how to install your instruments, contact your local Stewart Warner distributor, or contact our Technical Support Team toll free at **1-866-797-7223 (SWP-RACE)**.
- ❑ Additional applications information may be found at **www.SW-Performance.com**.

GENERAL APPLICATION:

12-volt DC negative (-) ground electrical systems (11-20 VDC operating voltage range).

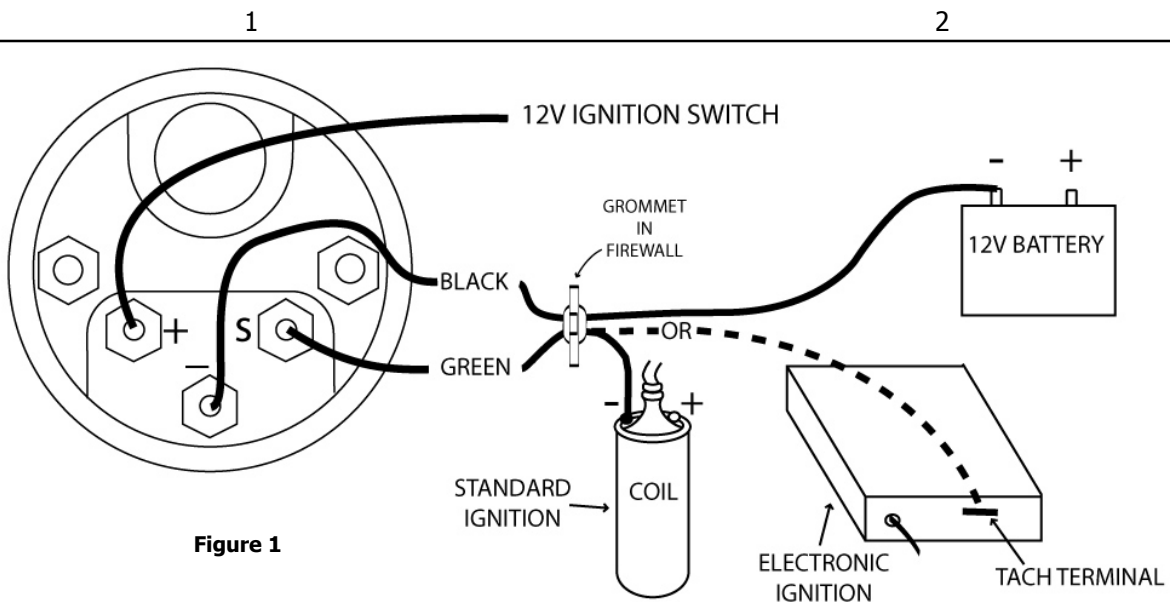


Figure 1

NEVER CONNECT THE (S) TERMINAL TO THE COIL WHEN USING AN MSD OR SIMILAR HIGH OUTPUT CAPACITIVE DISCHARGE STYLE IGNITION SYSTEM

Damage to the shift light will occur—Connect (S) terminal to the tachometer terminal only.

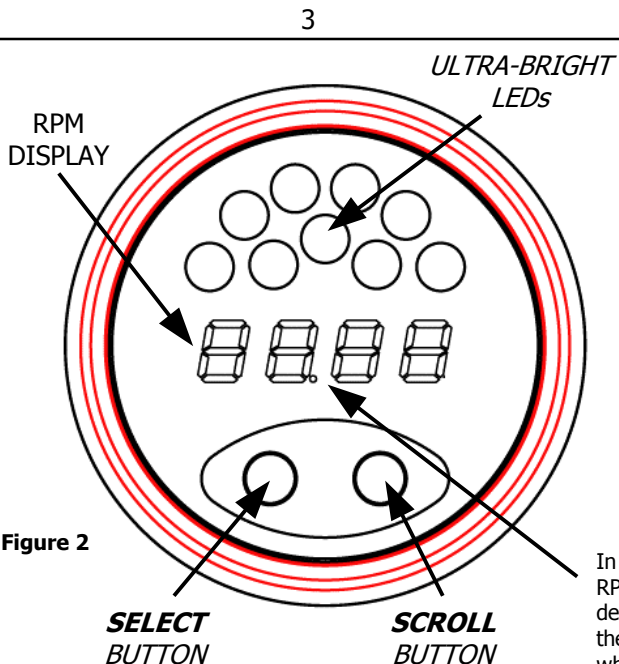


Figure 2

PROGRAMMING (FIGURE 2):

Programming the G.U.S.™ is done through the two (2) buttons, **SCROLL & SELECT**, on the front of the unit. While in programming mode the **SCROLL** button scrolls through the menus and the **SELECT** button selects the menu options.

1. To enter the programming mode, press both **SCROLL & SELECT** buttons at the same time.
2. The LED cluster will flash three times indicating program mode has been accessed.
3. Release both Buttons.
 - ❑ While in programming mode, there are three (3) parameters in the **MAIN MENU** that can be adjusted. These are "**SHP**" (set shift-point), "**DISP**" (turn RPM display on/off), "**PPR**" (set number of pulses per crankshaft revolution).
4. To exit programming mode, do not press any buttons for 5 seconds. All changes will automatically be stored and the unit will return to normal operation.

In order to display up to 18,000 RPM with only 4 digits, a decimal point is displayed and the right most digit is dropped when the RPM exceeds 9990.

CALIBRATION (PPR/Number of Cylinders):

Until recently, tachometers were calibrated based on the number of cylinders in the engine. Now, there are all types of engine control modules (ECMs - on-board computers) and distributor-less ignitions and the old standard rule—"half the number of cylinders equals the pulses per revolution (PPR)"—no longer applies. "Pulses per revolution" relates to how many times the ignition fires per crankshaft revolution. The tachometer outputs from the ECMs can range from 1-PPR to 4-PPR for a V-8 engine. So, the new standard is to refer to PPR instead of the number of cylinders.

SIGNAL INTERFACING:

The *Gauge Ultra-Shift™* (G.U.S.™) is also designed to work with a wide variety of ignition types, including standard inductive [coil (-) connection] and any ignition system with a clean tachometer output signal. The input level can range from TTL 5V (outputs from newer engine control modules) and 300-400 volt pulses from coil (-) on most inductive ignition systems. The G.U.S.™ will operate on most traditional capacitive discharge ignitions when connected to the ignition primary circuit. However, for high-output CD's (such as MSD) only connect to the tach output terminal, never the coil primary. It's best to consult our tech support hotline if you're unsure, rather than risk damage to the G.U.S.™, ignition or your warranties.

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SHIFT RPM SET-UP (Range 1000 to 18,000 RPM):

NOTE: The upper rpm limit of the shift light is floating, and depends upon the PPR setting. Example, .5-2 PPR=18,000 RPM, 2.5-4 PPR=15,000 RPM, and 5-6 PPR=13,000 RPM.

1. Enter programming mode.
2. Scroll to the "**SHP**" parameter using the **SCROLL** button, then press the **SELECT** button to select.
3. The display will show the current shift point setting (or the default 3000 RPM for a new shift light).
4. Holding down the **SCROLL** button will cause the value to increment slowly. After holding down for one second, the values increment quickly. Simply release the **SCROLL** button and press it again to go back to incrementing slowly, or press the **SCROLL** button repeatedly to increment one at a time.

NOTE: When scrolling above 9990 RPM, a decimal point will appear in the center of the display to indicate that the far right digit will not be displayed.

5. If the desired shift RPM is missed, simply continue to hold the **SCROLL** button and the value will wrap around and start at 1000 RPM again.
6. Once the desired shift RPM is displayed, press the **SELECT** button to return to the **MAIN MENU**.
7. To exit programming mode, do not press any buttons for 5 seconds. All changes will automatically be stored and the unit will return to normal operation.

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MEMORY FUNCTIONS (Max RPM Recall and Clear):

The *G.U.S.™* stores one peak RPM value. It is stored in memory until it is exceeded or cleared by the user.

1. At any time during normal operation, the max RPM recall can be displayed by pressing the **SCROLL** button.
2. The internal display will show "**PEAC**", then display the actual maximum RPM while the LED cluster flashes twice.
3. To clear the stored peak value, press and hold the **SCROLL** button. The display will read "**PEAC**", show the current peak value, and after three (3) seconds it will return to zero. The LED cluster will flash indicating a successful clear, then return to normal operation.

LED CLUSTER INTENSITY (4 Levels):

There are four (4) selectable intensity settings for the LED cluster.

1. To change the intensity of the LED cluster, press and hold **SELECT** button to enter *intensity select mode*.
2. The LED cluster will turn on at the highest intensity for one second, change to the medium-high intensity for one second, change to the medium-low intensity for one second, then to the lowest intensity for one second, then repeat.
3. To select intensity, simply release **SELECT** button when the LED cluster is at the desired intensity. The LED cluster will flash once at the newly selected intensity to confirm the setting.

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PPR SET-UP (.5,1,1.5,2,2.5,3,4,5,6 PPR):

1. Enter programming mode.
2. Scroll to the "**PPR**" parameter using the **SCROLL** button.
3. Select the "**PPR**" parameter option using the **SELECT** button.
4. The display will show the current setting (the default setting is "**4**"PPR).
5. Press the **SCROLL** button to scroll to the appropriate setting.
6. Once the desired setting is displayed, press the **SELECT** button to return to the **MAIN MENU**.
7. To exit programming mode, do not press any buttons for 5 seconds. All changes will automatically be stored and the unit will return to normal operation.

PPR TIP: When connecting to an engine with a distributor, generally, the old rule (half the number of cylinders = PPR) still applies. When connecting to the signal wire to a coil pack that drives 2 cylinders, generally, the PPR = 1. When connecting to a "coil on plug" ignition or one coil for each cylinder, the best option is to look for a tach signal coming out of the ECU, but the .5 PPR setting may work when directly connected to any one of the coils. This connection may be erratic if the ignition system fires the coil more than once (multiple spark).

NOTE: An improper PPR setting will cause the RPM display and shift light to be inaccurate. It will not cause damage to the G.U.S.™.

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RPM DISPLAY ON/OFF:

1. Enter programming mode.
2. Scroll to the "**dISP**" parameter using the **SCROLL** button.
3. Select the "**dISP**" parameter option using the **SELECT** button.
4. The display will show the current "**On**"/"**OFF**" setting (the default setting is "**OFF**").
5. To change the setting press the **SCROLL** button to toggle between "**ON**" & "**OFF**".
8. Once the desired setting is displayed, press the **SELECT** button to return to the **MAIN MENU**.
9. To exit programming mode, do not press any buttons for 5 seconds. All changes will automatically be stored and the unit will return to normal operation.

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CLEANING DIRECTIONS:

- For proper cleaning of instrumentation/accessories, use a glass cleaner or mild detergent with a spray on and wipe method.

WARRANTY INFORMATION:

TWO (2) YEAR LIMITED WARRANTY. SWP products are warranted against defects in workmanship and materials for a period of two (2) years from the date of purchase. Proof-of-purchase is required; otherwise, the warranty period shall default to two (2) years from date-of-manufacture (as indicated by the date code on the product). See detailed Warranty Policy for other Terms & Conditions.

STEWART WARNER PERFORMANCE

1-866-SWP-RACE (797-7223)

www.SW-Performance.com



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