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## **Welcome From the Team at Classic Instruments!**

Our congratulations and appreciation for your purchase of the finest quality set of specialty instruments ever produced! Your instrument set has been conceived, designed, and manufactured by Classic Instruments, Inc. in the U.S.A. Each instrument has been tested and certified for accuracy and quality before packaging and shipping.

For trouble-free installation and operation, follow the instructions exactly as outlined. Your instruments were assembled to precise specifications and although each has a five (5) year warranty covering defective parts and workmanship – this warranty will not cover instruments or sending units which have been installed incorrectly.

### **LIMITED WARRANTY**

Classic Instruments, Inc. (CI) warrants to the original purchaser that any CI product manufactured or supplied by CI will be free from defects in material and workmanship under normal use and service for a period of five (5) years from date of purchase.

Improper installation, use of sending units other than CI's or attempted repair or adjustments by other than CI shall void this warranty. Disassembly of any instruments or senders for whatever reason shall specifically void this warranty.

Purchaser requesting a product to be repaired or replaced under warranty must first call CI at 1-800-575-0461 before the return of defective part. Send defective part either to 1299 M-75, through UPS, or to P.O. Box 411 through U.S. Mail, Boyne City, MI 49712, USA. Include a written description of the failure with defective part.

Purchaser agrees and accepts that under no circumstances will a warranty replacement be furnished until CI has first received, inspected, and tested the returned part.

All other warranties expressed or implied are hereby excluded including any implied warranty of merchandise and implied warranty of fitness for a particular purpose. The sole and exclusive remedy for breach of this warranty is limited to the replacement set forth above.

It is expressly agreed that there shall be no further remedy for consequential or other type of damage, including any claim for loss of profit, engine damage or injury.

### **TECHNICAL ASSISTANCE**

**1-800-575-0461**

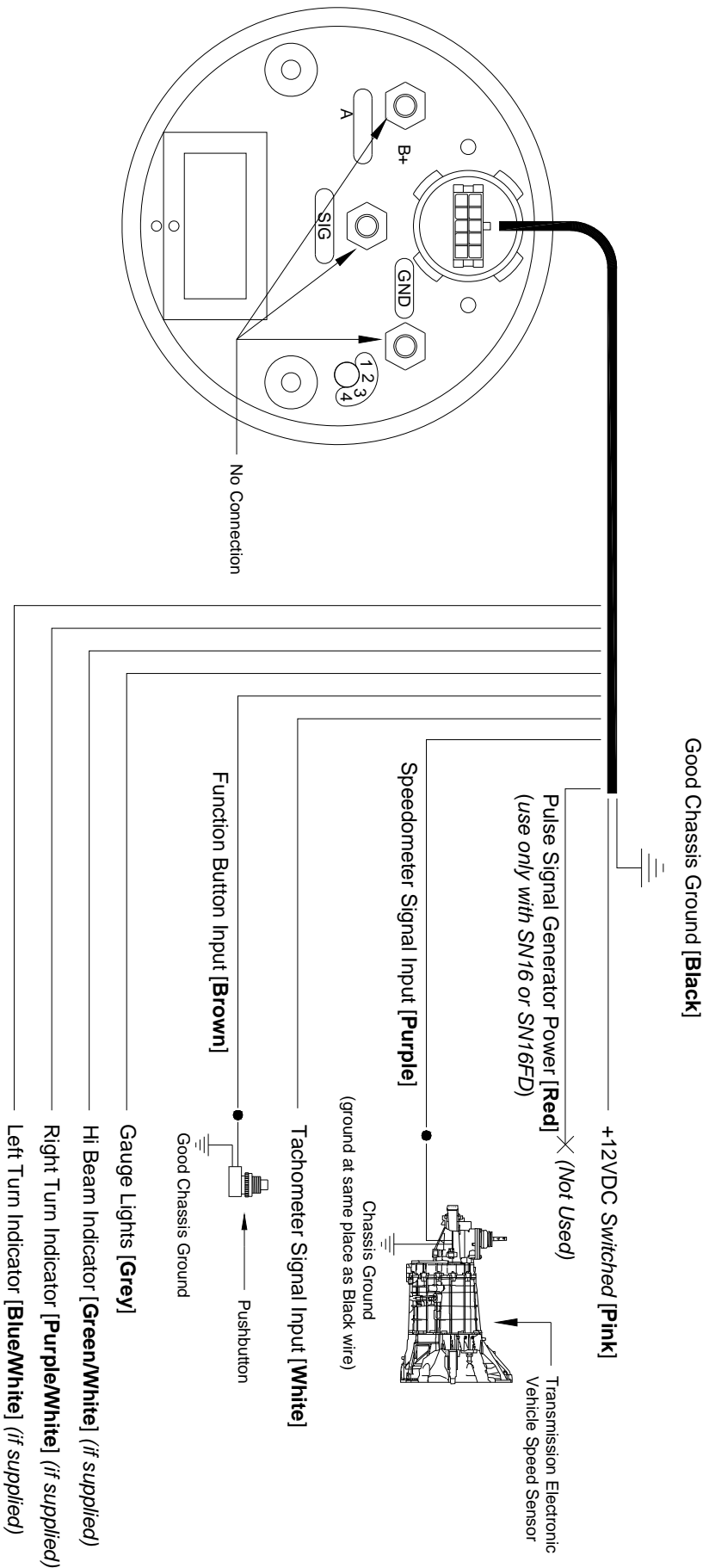
**OR**

**Visit our new website for the latest in gauge design and updates to our installation manual at:**

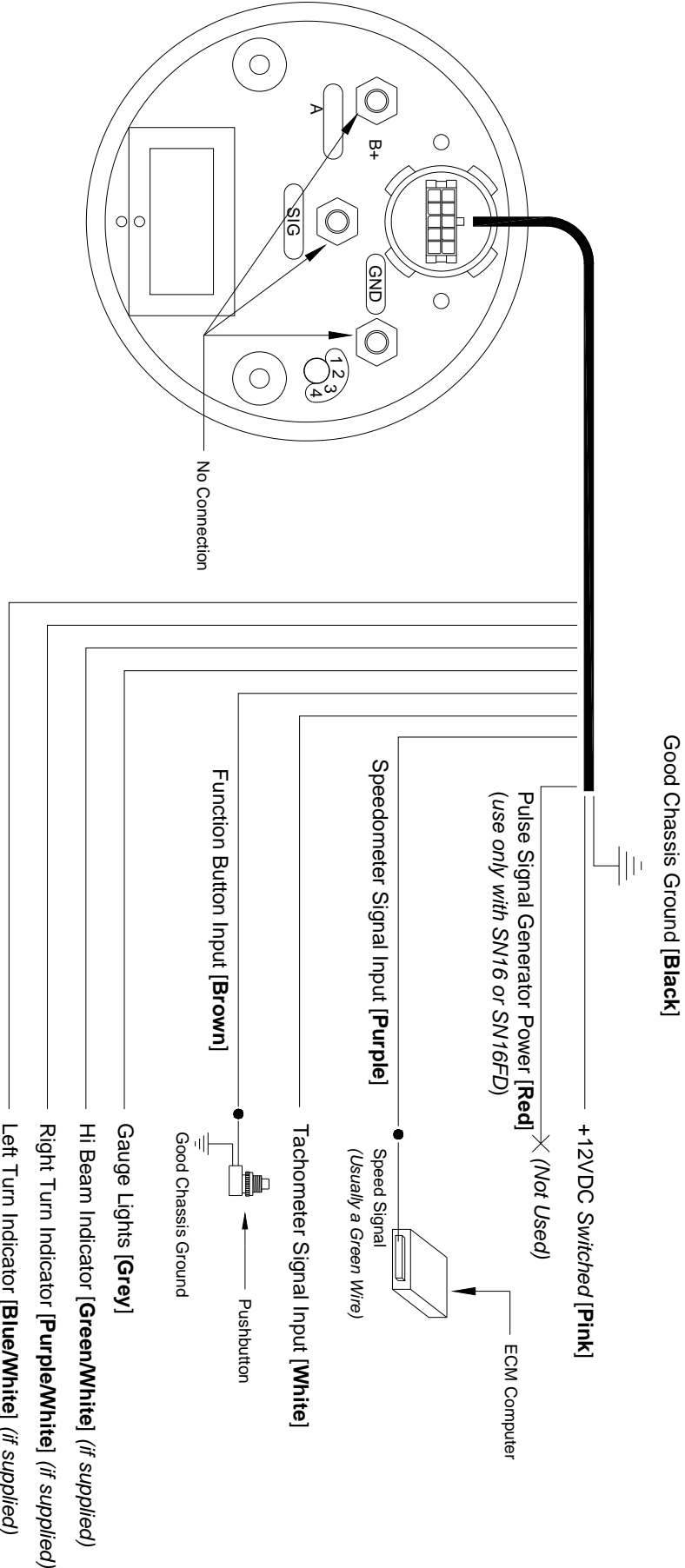
**[www.classicinstruments.com](http://www.classicinstruments.com)**



# Using Transmission Vehicle Speed Sensor (VSS)



**Using ECM Speed Signal**



## Wiring the Ultimate Speedometer

**Step 1:** Connect the pink wire of the instrument harness to a +12VDC switched power source.

**Step 2:** Connect the black wire of the instrument harness to a good chassis ground.

**Step 3:** Connect the speedometer signal.

2-wire pulse signal generator:

- A. Connect one wire of the signal generator to the purple wire of the instrument harness.
- B. Connect the other wire of the signal generator to a good chassis ground.

3-wire pulse signal generator:

- A. Connect the white wire of the signal generator to the purple wire of the instrument harness.
- B. Connect the black wire of the signal generator to a good chassis ground.
- C. Connect the red wire of the signal generator to the red wire of the instrument harness.

Electronic (built-in) speed sensor or magnetic sensor:

- A. Connect one of the wires from the sensor to the purple wire of the instrument harness
- B. Connect the other wire from the sensor to a good chassis ground.

Computer speed signal:

- A. Connect the computer speed signal wire to the purple wire of the instrument harness.

**Step 4:** Connect the white wire of the instrument harness to the tachometer signal.

See Table 1

**Step 5:** Connect the grey wire of the instrument harness to a +12VDC dash light power source.

**Step 6:** Connect the function / setup pushbutton.

- A. Connect the brown wire of the instrument harness to one lead of the function / setup pushbutton.
- B. Connect the other lead of the function / setup pushbutton to a good chassis ground.

**Step 7:** Connect the green/white wire of the instrument harness to the +12VDC high beam indicator signal. *(if supplied)*

**Step 8:** Connect the blue/white wire of the instrument harness to the +12VDC left turn indicator signal. *(if supplied)*

**Step 9:** Connect the violet/white wire of the instrument harness to the +12VDC right turn indicator signal. *(if supplied)*

<b>Ignition System</b>	<b>Tachometer Signal Source</b>
Standard Points & Condenser System	Negative side of coil (usually marked "-")
GM – HEI (High Energy Ignition) System	Terminal marked "TACH" on coil side of distributor cap.
MSD (Multiple Spark Discharge) System	TACH post on MSD box. If there isn't a box, signal comes from negative side of coil. If tachometer doesn't respond correctly, your MSD system may require a MSD TACH adapter part #8910 or #8920. Contact MSD for the correct adapter for your application.
Vertex Magneto System	"KILL" terminal on side of Vertex magneto body. An external adapter such as a MSD Pro Mag Tach Converter #8132 may be required.
Mallory Ignition System	Negative side of coil (usually marked "-") <b>Important!</b> Some Mallory ignition systems require the tachometer to be set at the 4-cylinder setting.
ECM (computer) Tachometer Signal	Signal comes from the computer. You may need to set the tachometer at the 4-cylinder setting.
All Other Ignition Systems	Please look at the owner's manual for the location of the tachometer signal.

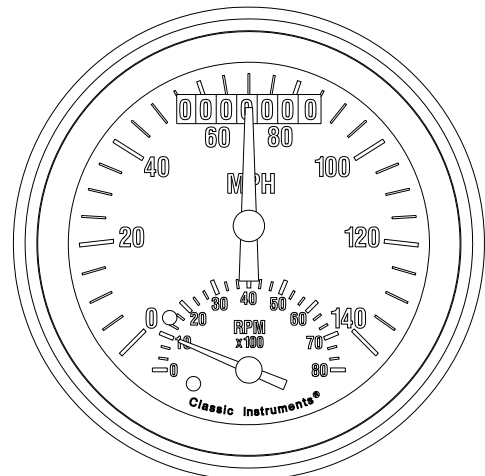
**Table 1**

## Setting Up Your Speedometer and Tachometer

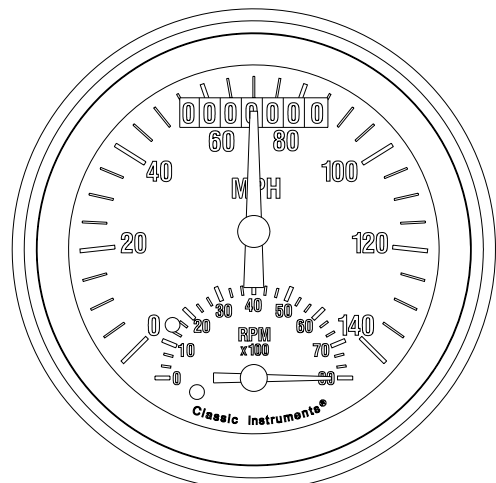
Speedometer / Tachometer Setup Option Menu		
Tach Pointer Location	Setup Option	Description
1000 RPM	Tachometer Cylinder Setup	Sets number of cylinders.
2000 RPM	Tachometer Signal Type	Selects between 5V and 12V tachometer signal.
3000 RPM	Speed Auto Calibrate	Calibrates speed using an exact marked mile.
4000 RPM	Real-Time Speed Adjust	Manually increase or decrease speed.
8000 RPM	Exit	Exit setup

### Entering Setup Mode:

- 1) Start with the power off. While pressing the pushbutton, start the vehicle's engine. Release the pushbutton when the engine is running and the speedometer pointer is at 70MPH.
- 2) The tachometer will point to 1000 RPM and the speedometer will point at 70MPH once you have successfully entered the setup mode. **Fig. 1**
- 3) Tapping the pushbutton will cycle through the setup options.
- 4) Pressing and holding (approx. 4 seconds) the pushbutton will select the current setup option that the tachometer is indicating.
- 5) When setup is complete, select the exit option (8000 RPM) then press and hold the pushbutton. **Fig. 2**



**FIG. 1**



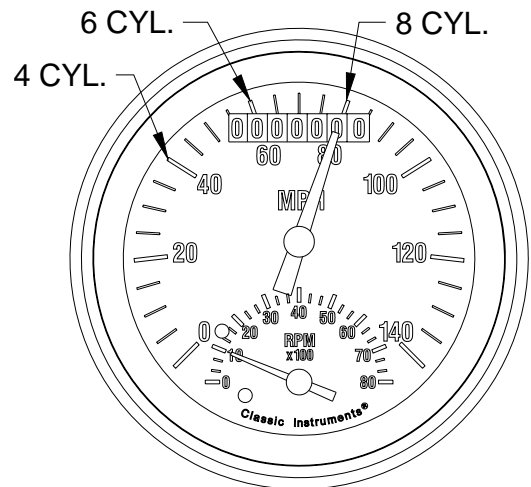
**FIG. 2**



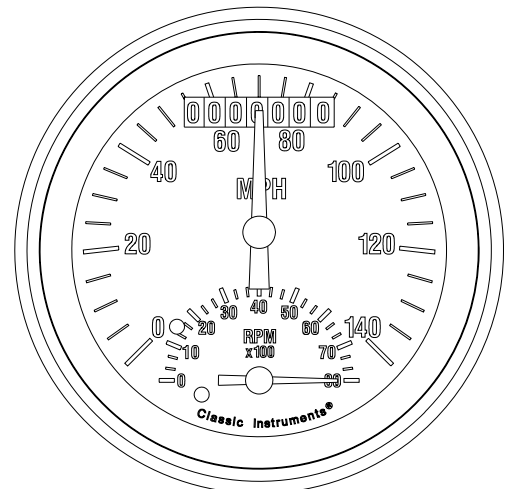
## Tachometer Setup:

### Cylinder Select:

- 1) Tap the pushbutton until the tachometer points to 1000 RPM (tachometer cylinder setup option). **Fig. 3**
- 2) Press and hold (4 seconds) the pushbutton to enter the tachometer cylinder setup mode. The speedometer will point to the current cylinder number setting (40 MPH for 4 cylinders, 60 MPH for 6 cylinders, etc...).
- 3) Tap the pushbutton until the correct setting is selected.
- 4) Press and hold the pushbutton to save the setting. The speedometer pointer will again indicate 70 MPH and the tachometer will point to 8000 RPM (exit). Tachometer cylinder selection is now set.
- 5) If you are finished making setup changes, press and hold the pushbutton with the tachometer pointing to 8000 RPM to exit setup mode. **Fig. 4**



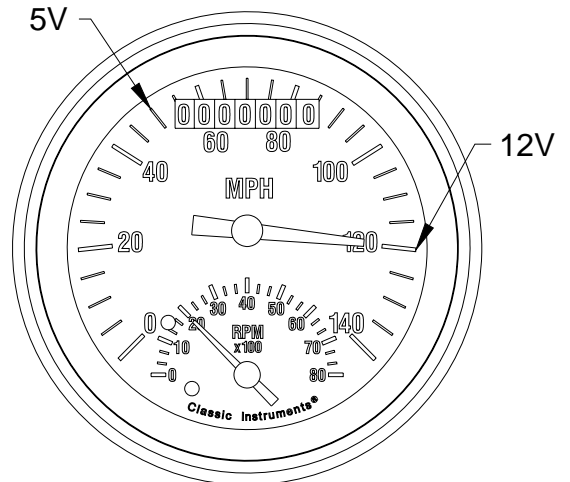
**FIG. 3**



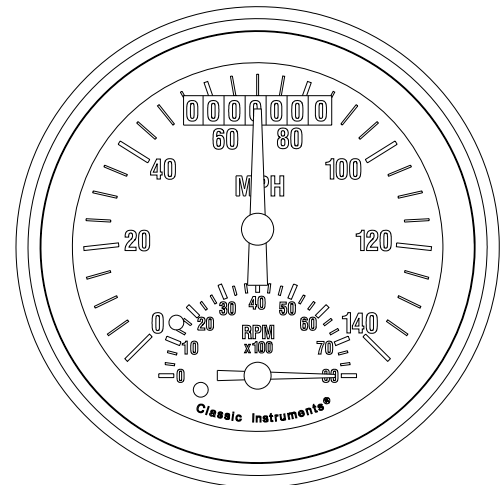
**FIG. 4**

## Tachometer Signal Type:

- 1) Tap the pushbutton until the tachometer points to 2000 RPM (tachometer signal type option). **Fig. 5**
- 2) Press and hold (4 seconds) the pushbutton to enter the tachometer signal type mode. The speedometer will point to the current setting (50 MPH for 5V signal or 120 MPH for 12V signal). *Note: Use 5V setting if tachometer signal comes from a computer. For any other signal use 12V.*
- 3) Tap the pushbutton until the correct tachometer signal type setting is selected.
- 4) Press and hold the pushbutton to save the setting. The speedometer pointer will again indicate 70 MPH and the tachometer will point to 8000 RPM (exit). Tachometer signal type is now set.
- 5) If you are finished making setup changes, press and hold the pushbutton with the tachometer pointing to 8000 RPM to exit setup mode. **Fig. 6**



**FIG. 5**



**FIG. 6**

## Speedometer Setup:

There are two ways to calibrate the speedometer. Speed auto calibrate (using an exact marked mile) and real-time speed adjust (manually adjust speed up or down). It is recommended you use the speed auto calibrate option first and then make any fine tune adjustments using the real-time speed adjust option.

### Speed Auto Calibrate:

- 1) Tap the pushbutton until the tachometer points to 3000 RPM (speed auto calibrate option).

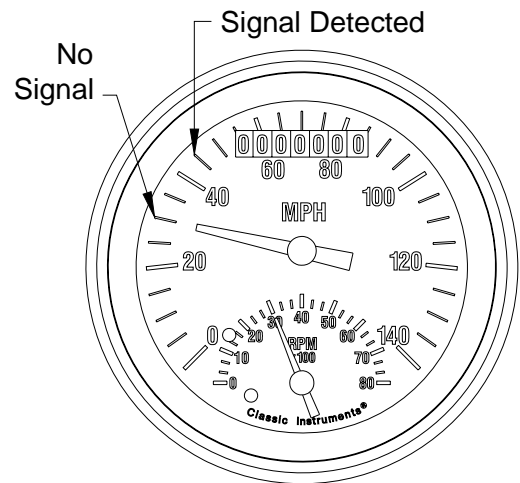
**Fig. 7**

- 2) Press and hold (4 seconds) the pushbutton to enter the speed auto calibrate mode. The speedometer will point to 30 MPH indicating you are in speed auto calibrate mode.

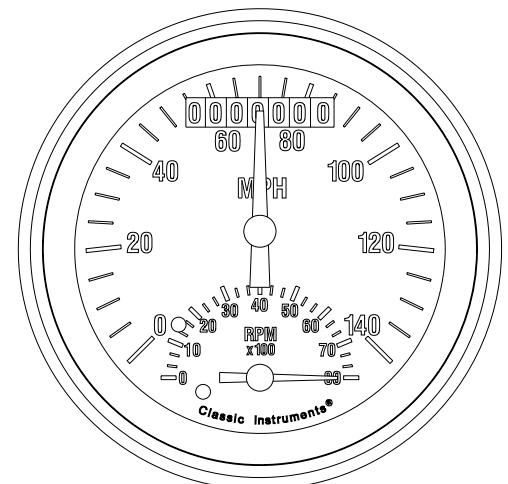
- 3) Begin driving the measured mile. The tachometer will operate as normal but the odometer will not move. When a speed signal is detected, the speedometer will point to 45 MPH. If a speed signal is NOT detected, the speedometer will continue to point at 30 MPH.

- 4) At the end of the measured mile, press and hold the pushbutton. The speedometer will again point up and the tachometer will point to 8000 RPM (exit). The speedometer is now calibrated.

- 5) If you are finished making setup changes, press and hold the pushbutton with the tachometer pointing to 8000 RPM to exit setup mode. **Fig. 8**



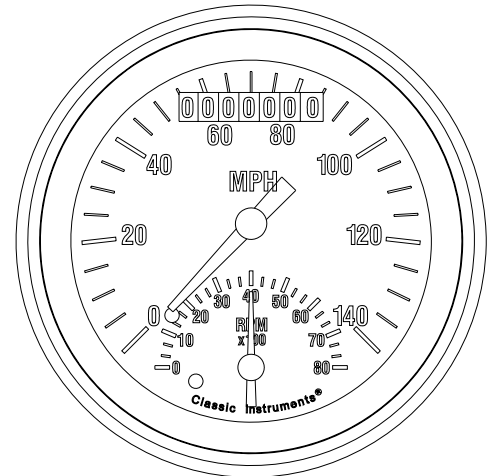
**FIG. 7**



**FIG. 8**

## Real-Time Speed Adjust:

- 1) Tap the pushbutton until the tachometer points to 4000 RPM (real-time speed adjust option). **Fig. 9**
- 2) Press and hold (4 seconds) the pushbutton to enter the real-time speed adjust mode.
- 3) Begin driving the vehicle at a steady known speed (using a GPS or pacing another vehicle). The tachometer will remain at 4000 RPM to indicate the gauge is in real-time speed adjust mode.
- 4) Pressing the pushbutton will begin to increase the speed reading until the button is released.
- 5) The next time the pushbutton is pressed the speed reading will decrease until the button is released.
- 6) Continue adjusting the speedometer reading until the correct speed is achieved.
- 7) If no adjustments are made for 8 seconds, the current calibration setting will be saved. The speed setting may still be adjusted after this until the key is turned off and will be saved again after 8 seconds of pushbutton inactivity. When finished adjusting the speed, bring the vehicle to a stop and turn the key off to exit the setup mode.



**FIG. 9**