

Classic Instruments

1951 – 1952

Chevy

Installation Manual

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Welcome from the Team at Classic Instruments!

Our congratulations and appreciation for your purchase of one of the finest quality sets 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 seven (7) year warranty covering defective parts and workmanship – this warranty will not cover instruments or sender units which have been installed incorrectly.

Follow our recommended procedures for installation and proper hookup to maintain the value and appearance of your instrument set during many future years of accurate and dependable service!

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 seven (7) 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.

It's always easy to look to a part for an issue with your set. Before you conclude that a part may be bad, thoroughly check your work. Today's semiconductors and passive components have reached incredibly high reliability levels, but there is still room for error in our human construction skills. However, on rare occasions a sour part can slip through. Please be aware that testing can usually determine if the part was truly defective or damaged by assembly or usage. Don't be afraid of telling us that you "blew it", we're all human and in most cases, replacement parts are very reasonably priced.

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 to 826 Moll Drive, 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 website for the latest in gauge design and updates to our installation manual

www.classicinstruments.com

Included Mounting Hardware

The 1951-1952 Chevy car kit includes hardware to mount two Classic Instruments gauges in the factory dash openings. The hardware includes:

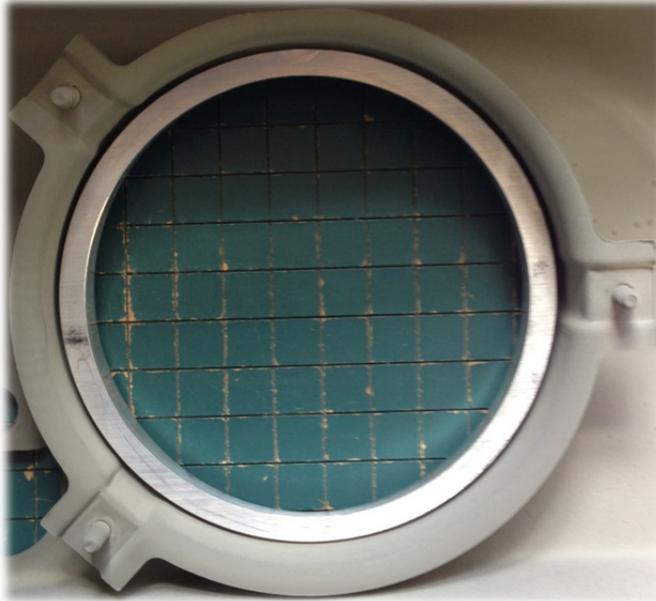
1. **4** O-rings [4-3/8" diameter & 0.2" thick]
2. **2** Machined dash inserts
3. **2** Mounting brackets
4. **6** 10-24 Nuts



Included Mounting Hardware

Mounting Gauges

- 1) Place one of the included dash inserts into a gauge opening from the back of the dashboard. Rotate the insert if needed to insure it is fully seated in the opening.



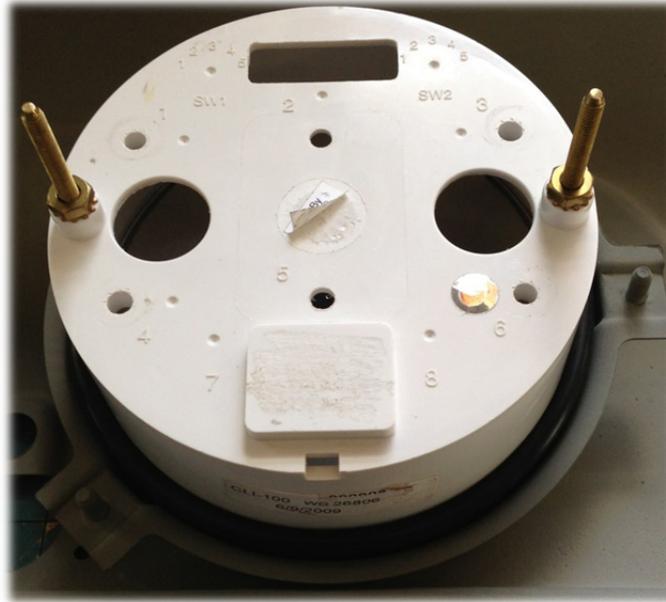
Dash insert installed in an opening in dashboard

- 2) Place two O-rings on the gauge you are currently installing. Install them from the back of the gauge and then slide up to touch the gauge bezel.



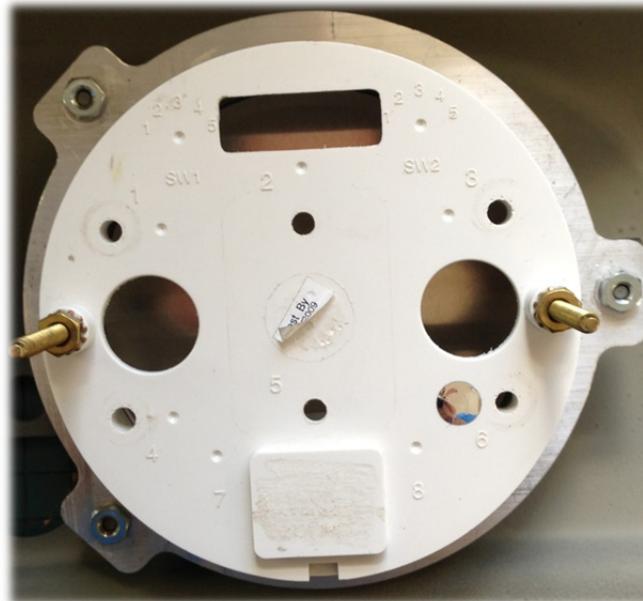
Two O-rings installed on a gauge

- 3) Place the gauge with O-rings installed into the opening of the dash insert from the back of the dashboard.



Gauge with O-rings placed in dash behind dash insert

- 4) Place a mounting bracket over the back of the gauge and secure it to the three studs of the dashboard using three of the included 10-24 nuts. Straighten the gauge in the dash before fully tightening the nuts.



Gauge installed in dash

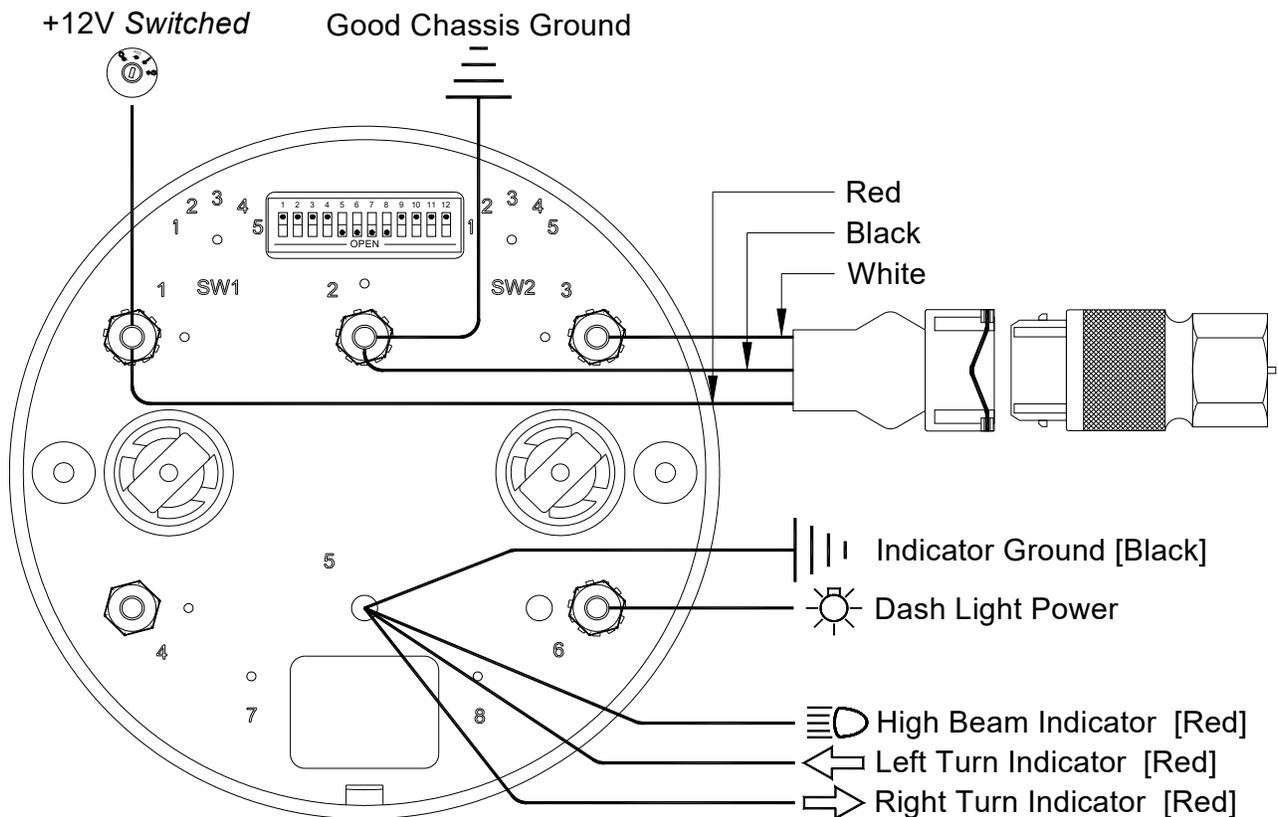
- 5) Repeat this process for the gauge in the other opening in the dashboard.

4 5/8" Speedometer Wiring [no included tachometer]



- 1) Always disconnect the vehicle battery before wiring any gauge.
- 2) Connect a switched +12VDC power source to the **1** terminal on the back of the speedometer. *We recommend using a dedicated power source for the speedometer to avoid possible problems caused by bad "noisy" power.*
- 3) Connect a good chassis ground to the **2** terminal on the back of the speedometer. *We recommend using a dedicated chassis ground (not stacked with other ground wires) to avoid possible problems caused by a bad ground.*
- 4) Connect a speed signal to the **3** terminal on the back of the speedometer:
 - a. White signal wire from a pulse signal generator [SN16]
 - i. See "Pulse Signal Generator Wiring" section for complete SN16 wiring instructions.
 - [OR]
 - b. Output from a [SN74] speedometer signal interface module.
 - i. See "Speedometer Signal Interface Wiring" section for complete SN74 wiring instructions.
- 5) Connect dash light power to the **6** terminal on the back of the speedometer.

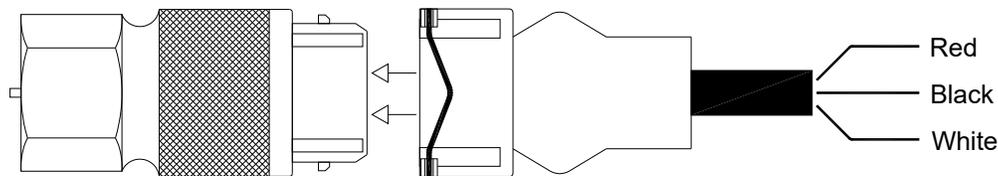
4 5/8" Speedometer Wiring Diagram



4 5/8" Speedometer Wired to a SN16 Pulse Signal Generator

Pulse Signal Generator [SN16] Wiring

Attach the signal generator to the transmission speedometer gear housing (where the speedometer cable originally connected). Do not use excessive force to tighten. These signal generators produce approximately 16,000 pulses per mile (PPM).

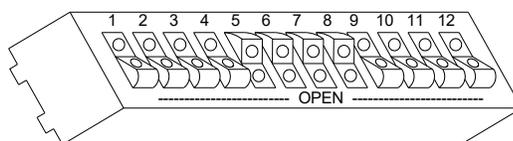


Red: ----- Power
Black: ----- Ground
White: ----- Signal

4-5/8" Speedometer Calibration Using a SN16 Signal

- 1) Set the 12 dip switches on the back of the speedometer to their default position of (5, 6, 7, 8 OPEN). **Power to the speedometer must be OFF when making adjustments to the dip switches.**
- 2) Check the current speedometer calibration at a known 60mph by pacing a vehicle with a calibrated speedometer or by using a GPS.
- 3) Note the speedometer reading at a known 60mph.
- 4) Stop the vehicle and turn power OFF to the speedometer.
- 5) Look up the speedometer reading on the 16,000 PPM calibration chart and set the speedometer dip switches according to the chart. The dip switches shown on the chart should be the ONLY switches set to OPEN. All other dip switches should be set to CLOSED.
- 6) The speedometer is now calibrated. The dip switches must be set back to the default position in order to use the calibration chart on future calibrations.

Speedometer Calibration Chart – SN16 Signal



(Default Dip Switch Setting)

(Switch 5 6 7 8 OPEN)

Set speedometer switches **5 6 7 8 OPEN**, all others closed (*code for 16,000 PPM*). Drive vehicle at 60mph. If the speedometer reads other than 60, turn off power & set switches per chart below.

Speedometer Reading	OPEN SWITCH	Speedometer Reading	OPEN SWITCH
40 MPH	8 9 11 12	80 MPH	4 5 6 10 12
41 MPH	7 10 12	81 MPH	4 5 6 8
42 MPH	7 8	82 MPH	4 5 6 8 9 11 12
43 MPH	7 8 9 11 12	83 MPH	4 5 6 7 10
44 MPH	6 10	84 MPH	4 5 6 7 8
45 MPH	6 8	85 MPH	4 5 6 7 8 9 11 12
46 MPH	6 8 9 11 12	86 MPH	3 10 12
47 MPH	6 7 10 12	87 MPH	3 8
48 MPH	6 7 8	88 MPH	3 8 9 11 12
49 MPH	6 7 8 9 11 12	89 MPH	3 7 10 12
50 MPH	5 10	90 MPH	3 7 8
51 MPH	5 8	91 MPH	3 7 8 9 11 12
52 MPH	5 8 9 11 12	92 MPH	3 6 11 12
53 MPH	5 7 10 12	93 MPH	3 6 8
54 MPH	5 7 8	94 MPH	3 6 8 9 11 12
55 MPH	5 7 8 9 11 12	95 MPH	3 6 7 10 12
56 MPH	5 6 10 12	96 MPH	3 6 7 8
57 MPH	5 6 8	97 MPH	3 6 7 8 9 11 12
58 MPH	5 6 8 9 11 12	98 MPH	3 5 10 12
59 MPH	5 6 7 10 12	99 MPH	3 5 8
60 MPH	5 6 7 8	100 MPH	3 5 8 9 11 12
61 MPH	5 6 7 8 9 11 12	101 MPH	3 5 7 10 12
62 MPH	4 10 12	102 MPH	3 5 7 8
63 MPH	4 8	103 MPH	3 5 7 8 9 11 12
64 MPH	4 8 9 11 12	104 MPH	3 5 6 10 12
65 MPH	4 7 10	105 MPH	3 5 6 8
66 MPH	4 7 8	106 MPH	3 5 6 8 9 11 12
67 MPH	4 7 8 9 11 12	107 MPH	3 5 6 7 10 12
68 MPH	4 6 10 12	108 MPH	3 5 6 7 8
69 MPH	4 6 8	109 MPH	3 5 6 7 8 9 11 12
70 MPH	4 6 8 9 11 12	110 MPH	3 4 10 12
71 MPH	4 6 7 10 12	111 MPH	3 4 8
72 MPH	4 6 7 8	112 MPH	3 4 8 9 11 12
73 MPH	4 6 7 8 9 11 12	113 MPH	3 4 7 10 12
74 MPH	4 5 10 12	114 MPH	3 4 7 8
75 MPH	4 5 8	115 MPH	3 4 7 8 9 11 12
76 MPH	4 5 8 9 11 12	116 MPH	3 4 6 10 12
77 MPH	4 5 7 10 12	117 MPH	3 4 6 8
78 MPH	4 5 7 8	118 MPH	3 4 6 8 9 11 12
79 MPH	4 5 7 8 9 11 12	119 MPH	3 4 6 7 10 12

Speedometer Signal Interface [SN74Z] Wiring

- 1) Connect switched +12VDC power to the SN74Z terminal marked **+12 VOLTS**.
- 2) Connect a good ground to the SN74Z terminal marked **GROUND**.
- 3) Connect the red wire of a Classic Instruments SN16 / SN16F pulse signal generator to the SN74Z terminal marked **SENDER +**. *If you are not using a pulse signal generator, this terminal is not used.*
- 4) Connect ¹⁾ one wire of an electronic transmission's vehicle speed sensor (VSS), ²⁾ one wire of a 2-wire pulse signal generator or ³⁾ the black wire of a Classic Instruments SN16 / SN16F pulse signal generator to the SN74Z terminal marked **SENDER -**.
- 5) Connect ¹⁾ one wire of an electronic transmission's vehicle speed sensor (VSS), ²⁾ one wire of a 2-wire pulse signal generator, ³⁾ the white wire of a Classic Instruments SN16 / SN16F pulse signal generator or ⁴⁾ a Computer (ECM / PCM) generated speed signal to the SN74Z terminal marked **SPEEDO IN**.
- 6) Connect the signal post of your speedometer to the SN74Z terminal marked **OUTPUT**.
- 7) ^{Optional:} The SN74Z terminal marked **CRUISE** puts out an 8,000 pulse per mile 12-volt square wave signal that can be used as a signal source for a cruise control, lockup converter, etc...
- 8) Connect two wires from a momentary contact pushbutton to the two terminals on the SN74Z marked **BUTTON**. *A pushbutton is also mounted to the SN74Z that can be used in place of a remote button attached to the BUTTON terminals.*

SN74Z Dip Switch Settings

- Dip Switch #1:
 - Set switch #1 ON to set the output to 8,000 pulses per mile (ppm). *(Classic Instruments speedometers that have 8 dip switches on the back require 8,000 ppm)*
 - Set switch #1 OFF to set the output to 16,000 pulses per mile (ppm). *(Classic Instruments speedometers that have 12 dip switches on the back require 16,000ppm)*
- Filter Switch:
 - Set the Filter Switch ON for square wave speed signals such as ECM / PCM speed signals or SN16 / SN16F pulse signal generator signals.
 - Set the Filter Switch OFF for sine wave speed signals such as OEM vehicle speed sensor (VSS) signals or SN96 / SN95 pulse signal generator signals. *(sine wave signal sensors always have 2 wires)*
- Dip Switches #2 - #5 are NOT used

Speedometer Signal Interface [SN74] Wiring Diagrams

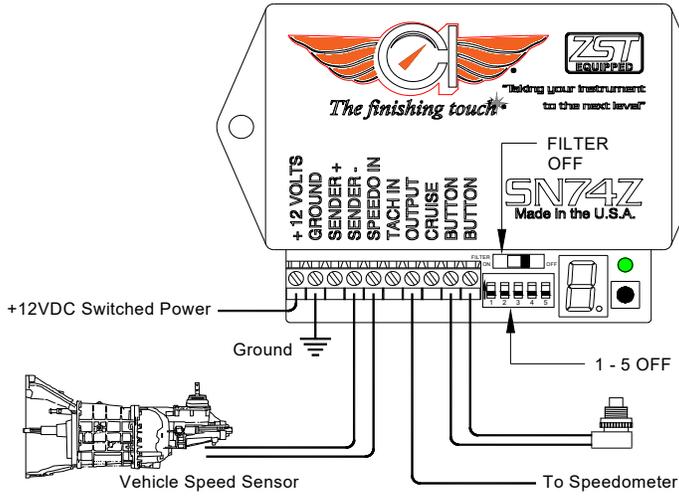


Figure 1: Vehicle Speed Sensor (VSS) Connection

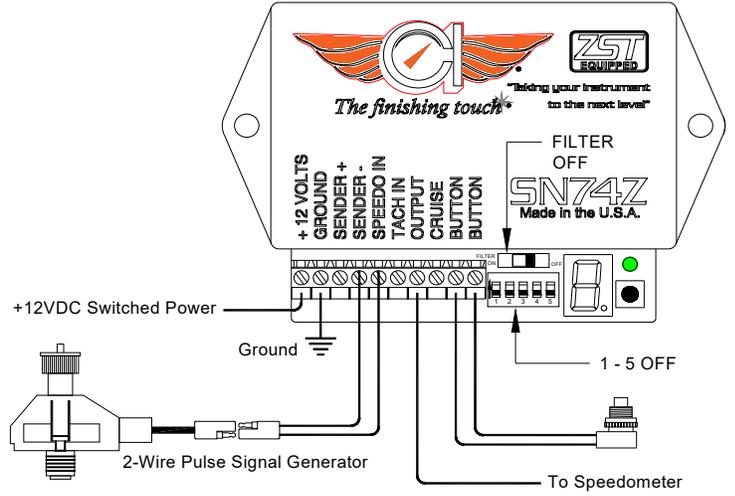


Figure 2: 2-wire Pulse Signal Generator Connection

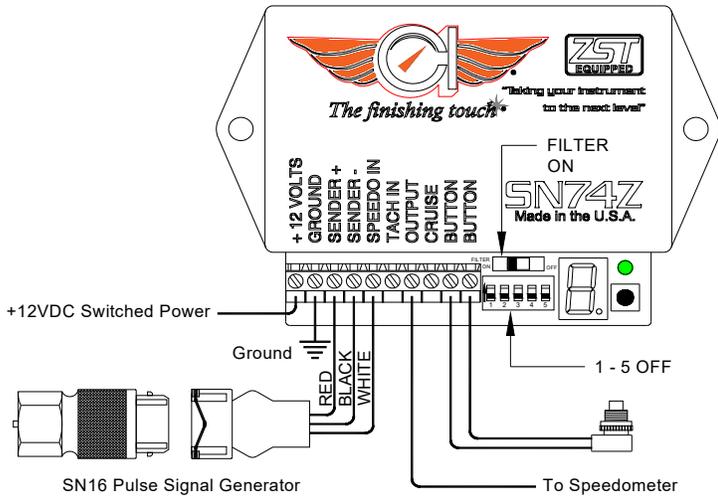


Figure 3: SN16 Pulse Signal Generator Connection

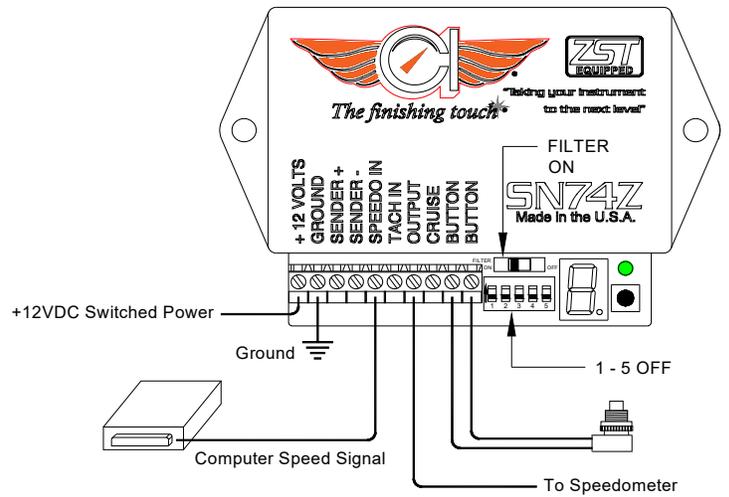


Figure 4: ECM/PCM Speed Signal Connection

SN74Z Speedometer Calibration Modes

There are three calibration modes you can use to calibrate the SN74Z. Use whichever mode seems easiest for your application. It is not necessary to perform all calibration modes.

Instant Calibration Mode

- Start with vehicle power off.
- Press and hold the calibration button and start the engine. *Once the engine is running, release the button.*
- The LED digit will display **C**, indicating entry into module select mode.
- After a few seconds, the LED digit will display **S**, **r** or **F**. Tap the button to cycle round robin through these setup options. Press and hold the button when the LED digit displays **S** (*indicating setup for speedometer applications*).
- Release the button when the LED digit displays **C**, indicating entry into calibration mode.
- Tap the button to change the LED digit to **1** indicating instant calibration mode. *Continuing to tap the button will cycle round robin through the calibration modes 1, 2, 3 and F.*
- Press and hold the button with the LED digit indicating **1** until the **1** starts blinking.
- Begin driving at 30 mph based on GPS or a pace car. *(The green LED on the SN74Z should blink indicating that it is getting a signal).*
- While driving steady at that speed, press and hold the button until the LED digit changes back to **C** (*to confirm that calibration is saved*).
- The speedometer should now begin reading 30 mph.
- Press and hold the button while the LED digit displays **C** to exit calibration mode. *(Tap the button to cycle round robin through the calibration modes again if you would like to perform another calibration).*

Real-Time Calibration Mode

- Start with vehicle power off.
- Press and hold the calibration button and start the engine. *Once the engine is running, release the button.*
- The LED digit will display **C**, indicating entry into module select mode.
- After a few seconds, the LED digit will display **S**, **r** or **F**. Tap the button to cycle round robin through these setup options. Press and hold the button when the LED digit displays **S** (*indicating setup for speedometer applications*).
- Release the button when the LED digit displays **C**, indicating entry into calibration mode.
- Tap the button to change the LED digit to **2** indicating real-time calibration mode. *Continuing to tap the button will cycle round robin through the calibration modes 1, 2, 3 and F.*
- Press and hold the button with the LED digit indicating **2** until the **2** starts blinking.
- Begin driving a known speed. (*The green LED on the SN74Z should blink, indicating that it is getting a signal*).
- Press and hold the button to change the speed shown on the speedometer. The first time the button is pressed and held, the speed shown on the speedometer will increase. The second time the button is pressed and held, the speed shown on the speedometer will decrease.
 - The SN74Z will alternate increasing or decreasing the speed shown on the speedometer each time the button is pressed. Press and hold the button to fine tune the speed shown on the speedometer.
- Once the speedometer is reading the correct speed, wait 8 seconds without pushing the button (*in order to save the calibration*). The LED digit will change back to **C** to confirm calibration is saved.
- Press and hold the button while the LED digit displays **C** to exit calibration mode. (*Tap the button to cycle round robin through the calibration modes again if you would like to perform another calibration*).

Marked Mile Calibration Mode

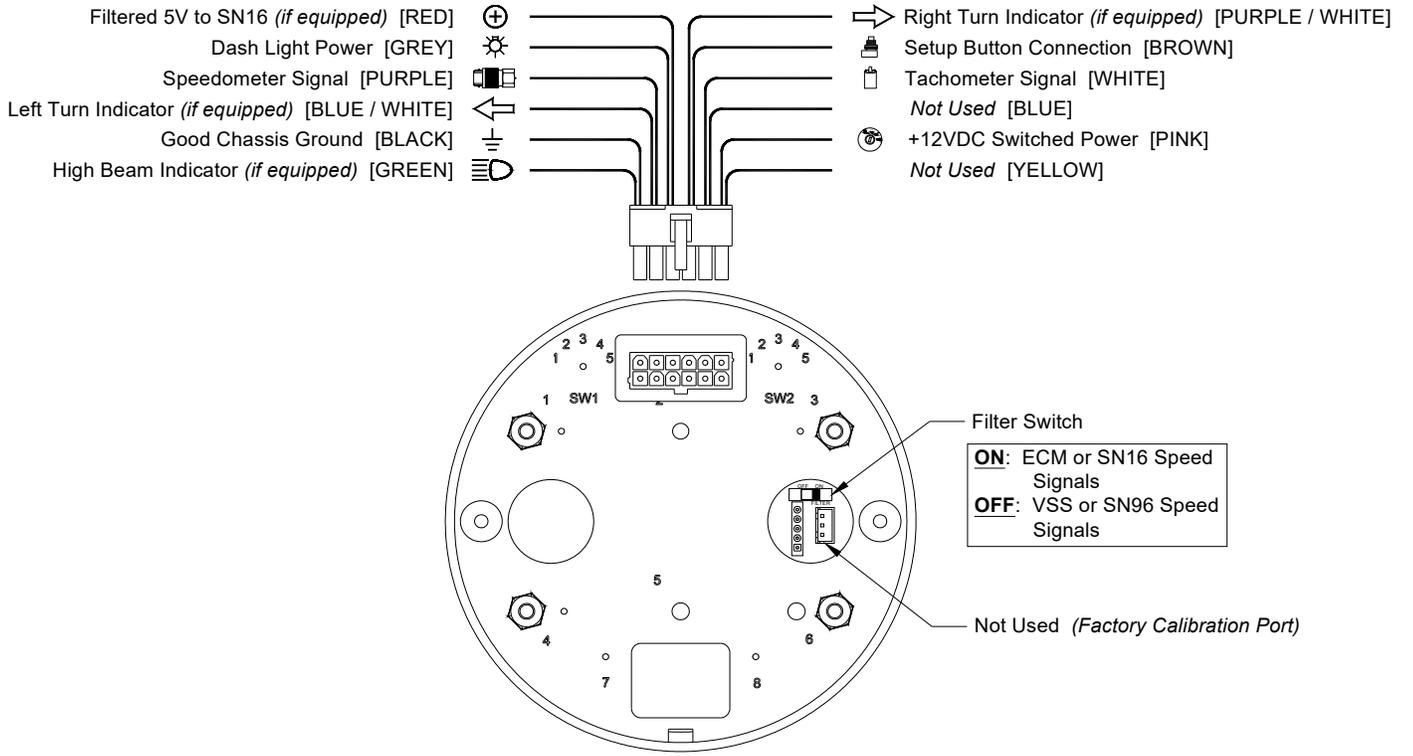
- Start with vehicle power off.
- Press and hold the calibration button and start the engine. *Once the engine is running, release the button.*
- The LED digit will display **C**, indicating entry into module select mode.
- After a few seconds, the LED digit will display **S**, **r** or **F**. Tap the button to cycle round robin through these setup options. Press and hold the button when the LED digit displays **S** (*indicating setup for speedometer applications*).
- Release the button when the LED digit displays **C**, indicating entry into calibration mode.
- Tap the button to change the LED digit to **3** indicating marked mile calibration mode. *Continuing to tap the button will cycle round robin through the calibration modes 1, 2, 3 and F.*
- Press and hold the button with the LED digit indicating **3** until the **3** starts blinking.
- Begin driving a known mile. (*The green LED on the SN74Z should blink, indicating that it is getting a signal*).
 - When driving the known mile, the speedometer will not indicate any speed. This is normal.
- At the end of the known mile, press and hold the button until the LED digit changes back to **C** to confirm calibration is saved.
- Press and hold the button while the LED digit displays **C** to exit calibration mode. (*Tap the button to cycle round robin through the calibration modes again if you would like to perform another calibration*).

4 5/8" Speed-Tachular Wiring



- 1) Always disconnect the vehicle battery before wiring any gauge.
- 2) Connect a switched +12VDC power source to the **Pink** wire of the wire harness. *We recommend using a dedicated power source for the speedometer to avoid possible problems caused by bad “noisy” power.*
- 3) Connect a good chassis ground to the **Black** wire of the wire harness. *We recommend using a dedicated chassis ground (not stacked with other ground wires) to avoid possible problems caused by a bad ground.*
- 4) Connect a speed signal to the **Purple** wire of the wire harness:
 - a. White signal wire from a pulse signal generator [SN16]
 - i. Connect the **RED** 5V wire of the wire harness to the RED wire of the SN16.
 - ii. Connect the BLACK ground wire of the SN16 to a good chassis ground.
 - [OR]
 - b. One (either) wire of an electronic transmission 2-wire vehicle speed sensor [VSS].
 - i. Connect the other wire of the VSS to the same point as the wire harness Black ground wire.
 - [OR]
 - c. Speedometer Signal wire of the vehicle computer [PCM].
- 5) Connect dash light power to the **Grey** wire of the wire harness.
- 6) Connect a tachometer signal to the **White** wire of the wire harness.
 - a. **STANDARD POINTS & CONDENSER SYSTEM**
 - i. Connect to the negative side of the coil (usually marked as “-”).
 - b. **GMC – HEI (High Energy Ignition System)**
 - i. Connect to the “TACH” terminal on coil side of distributor cap.
 - c. **MSD (Multiple Spark Discharge System)**
 - i. Connect to the TACH signal from the MSD box.
 - d. **VERTEX MAGNETO SYSTEM**
 - i. Connect to the “KILL” terminal on the side of a Vertex magneto body. An external adapter such as an MSD “Pro Mag Tach Converter” #8132 may be required.
 - e. **ACCEL IGNITION COILS**
 - i. Connect to the negative side of the coil. CAUTION! Some Accel ignition coils require the tach signal wire to be connected to the “+” terminal on the coil! PLEASE carefully read Accel’s instructions before connecting ignition coil.
 - f. **MALLORY IGNITION**
 - i. Connect to the negative terminal side of coil (usually marked as “-”).
 - g. **PCM TACHOMETER SIGNAL**
 - i. Connect to the signal from the computer. The tachometer typically needs to be set on 4 cylinder setting.
 - h. **MULTIPLE COIL IGNITION SYSTEMS**
 - i. A tach adapter may be required for these ignition systems. A tach signal driver such as the MSD #8913, which produces a 12V square wave signal, is recommended. Please check with manufacturer for your specific application.
 - i. **NOTICE!** For all other ignition systems please look at the owner’s manual for that system.
- 7) Connect the **Brown** wire of the wire harness to one wire of the momentary pushbutton.
 - a. Connect the other wire of the momentary pushbutton to ground.
- 8) Indicator Lights:
 - a. Connect the **Green** wire of the wire harness to high beam indicator power.
 - b. Connect the **Purple / White** wire of the wire harness to right turn indicator power.
 - c. Connect the **Blue / White** wire of the wire harness to left turn indicator power.
- 9) The **Blue** and **Yellow** wires of the wire harness are NOT USED.

4 5/8" Speed-Tachular Wiring Diagram



4 5/8" Speed-tachular Wiring

Speed-Tachular Calibration

Zeus Technology Calibration Modes	
Tachometer Indication	Calibration Mode
1000 RPM	Tachometer Cylinder Setup
2000 RPM	Tachometer Signal Type Setup
3000 RPM	Speedometer “Instant” Calibration
4000 RPM	Speedometer “Real-time” Calibration
5000 RPM	Speedometer “Measured Mile” Calibration
6000 RPM	Shift Indicator Setup <i>(if equipped)</i>
7000 RPM	Factory Defaults Reset Mode
8000 RPM	Exit calibration Mode

Entering Calibration Mode:

- 1) Start with power to the gauge OFF.
 - 2) Press and HOLD the calibration pushbutton.
 - 3) Start engine.
 - 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
-

Tachometer Cylinder Setup: *(steps 1-4 may be skipped if the gauge is already in calibration mode)*

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) If necessary, tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 1000RPM.
- 6) With the tachometer indicating 1000RPM, press and hold the calibration pushbutton for 6 seconds. The speedometer pointer will move to indicate the current cylinder setting. *(10MPH=1cylinder, 20MPH=2cylinder, 30MPH=3cylinder, 40MPH=4cylinder, 50MPH=5cylinder, 60MPH=6cylinder, 80MPH=8cylinder, 100MPH=10cylinder and 120MPH=12cylinder)*
- 7) Tap the pushbutton to change the cylinder setting. The speedometer will cycle through the available settings each time the pushbutton is tapped.
- 8) With the speedometer indicating the desired cylinder setting, press and hold the pushbutton for 6 seconds. The gauge will indicate 70MPH and 8000RPM. *The tenths position of the odometer will be lit green to indicate that the cylinder setting has been programmed.*
- 9) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

Tachometer Signal Type Setup: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 2000RPM.
- 6) With the tachometer indicating 2000RPM, press and hold the calibration pushbutton for 6 seconds. The speedometer pointer will move to indicate the current signal type setting. *The tenths position of the odometer will flash green and red.*
- 7) Tap the pushbutton to change the signal type setting. The speedometer will cycle between the two options each time the pushbutton is tapped. (50MPH=5V Signal, 120MPH=12V Signal)
- 8) Set the signal type to 5V if using a computer generated tachometer signal. Set the signal type to 12V for all other tachometer signals.
- 9) With the speedometer indicating the desired signal type setting, press and hold the pushbutton for 6 seconds. The gauge will indicate 70MPH and 8000RPM. *The tenths position of the odometer will be lit green to indicate that the signal type has been programmed.*
- 10) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

Speedometer “Instant” Calibration: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 3000RPM.
- 6) With the tachometer indicating 3000RPM, press and hold the calibration pushbutton for 6 seconds. The speedometer pointer will move to 0MPH. *The tenths position of the odometer will be flash green and red when a speed signal is detected. If no signal is detected, it will remain red.*
- 7) Drive the vehicle at exactly 30MPH. Press and hold the pushbutton while traveling 30MPH. *The tenths position of the odometer will be lit solid red or solid green while the button is pressed.* When the calibration is completed, the speedometer will move to indicate 30MPH at which point the pushbutton may be released. *The tenths position will also be lit green to indicate a successful calibration.*
- 8) If you are satisfied with the speedometer calibration, tap the pushbutton once to get back into the main gauge calibration mode. The gauge will indicate 70MPH and 8000RPM. If you would like to re-do the calibration, simply press and hold the pushbutton while traveling 30MPH and hold the pushbutton until the speedometer indicates 30MPH at which point the pushbutton may be released.
- 9) When you are finished calibrating the gauge, tap the pushbutton and the gauge will indicate 70MPH and 8000RPM. Then, Press and old the pushbutton for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

Speedometer “Real-Time” Calibration: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 4000RPM.
- 6) With the tachometer indicating 4000RPM, press and hold the calibration pushbutton for 6 seconds. The speedometer pointer will move to indicate the speed with the current calibration (which you will need to adjust to make correct).
- 7) Press and hold the pushbutton to increase the indicated speed. Release the pushbutton to stop increasing the speed. *The tenths position of the odometer will flash green and red if a speed signal is detected. If no signal is detected, the tenths position of the odometer will be lit red.*
- 8) If necessary, press and hold the pushbutton again to decrease the indicated speed. Release the pushbutton to stop decreasing.
- 9) Press and hold the pushbutton once more to increase the indicated speed. Etc...
- 10) Once the correct speed is dialed in on the speedometer, wait 10 seconds *until the tenths position of the odometer turns green* and then tap the pushbutton. The gauge will indicate 70MPH and 8000RPM.
- 11) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

Speedometer “Measured Mile” Calibration: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 5000RPM.
- 6) With the tachometer indicating 5000RPM, press and hold the pushbutton for 6 seconds. The speedometer pointer will move to 30MPH.
- 7) Begin driving a measured mile. While driving, *the tenths position of the odometer will be flashing green and red to indicate a good speed signal. If no speed signal is detected, the tenths position of the odometer will be lit red.*
- 8) At the end of your measured mile, press and hold the pushbutton for another 6 seconds. The gauge will indicate 70MPH and 8000RPM and *the tenths position of the odometer will be lit green to indicate a successful calibration.*
- 9) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

Optional Shift Indicator Setup: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 6000RPM.
- 6) With the tachometer indicating 6000RPM, press and hold the pushbutton for 6 seconds. The tachometer pointer will move to 0RPM and *the tenths position of the odometer will flash green and red.* The shift light trigger RPM can now be set.
- 7) Press and hold the pushbutton to increase the tachometer reading. Release the pushbutton to stop increasing the tachometer reading.
- 8) If necessary, push and hold the pushbutton again to decrease the tachometer reading. Release the pushbutton to stop decreasing the tachometer reading.
- 9) Press and hold the pushbutton once more to increase the tachometer reading. Etc...
- 10) When the desired shift light trigger RPM is indicated on the tachometer, release the pushbutton and wait 10 seconds. After 10 seconds of no pushbutton activity, the trigger point will be stored; the tachometer will indicate 8000RPM and *the tenths position of the odometer will be lit green.*
- 11) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

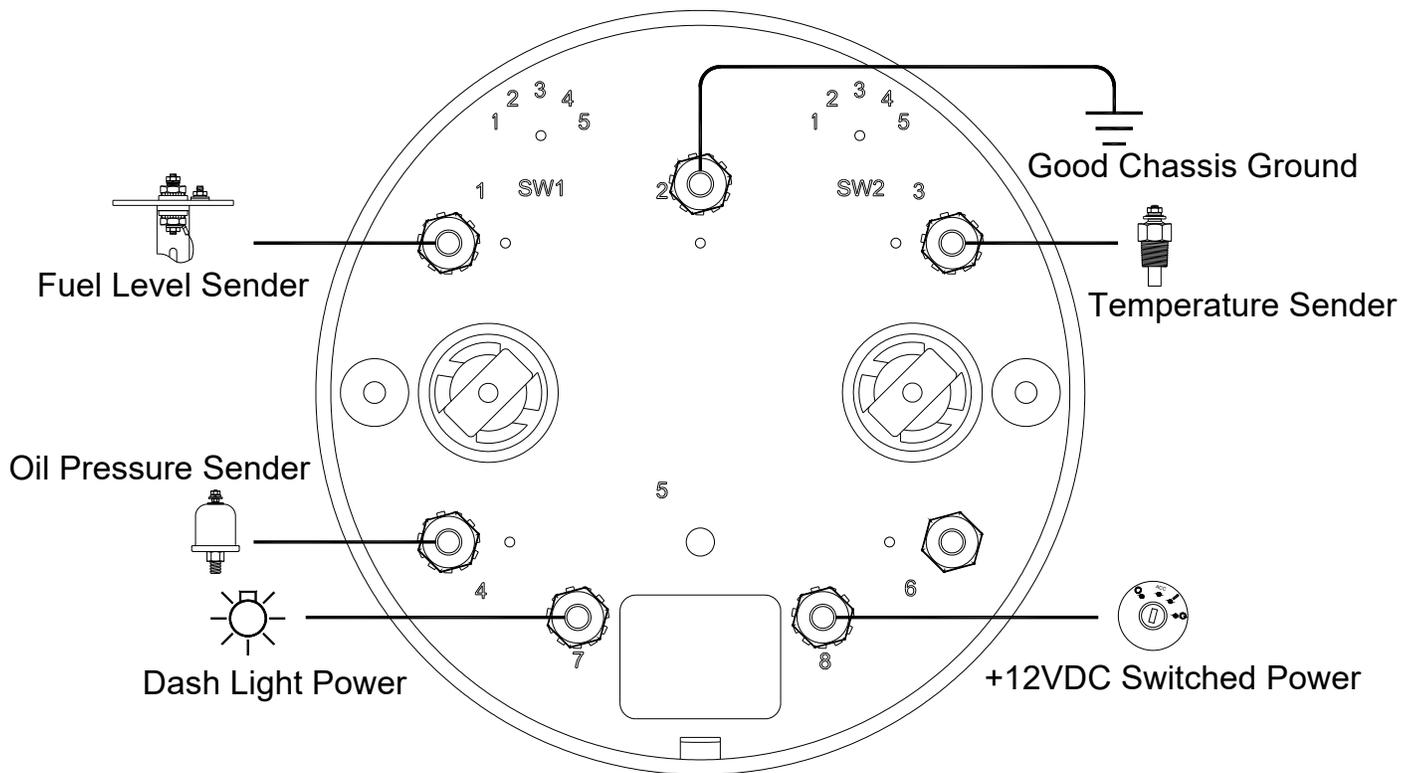
Reset Gauge Calibration to Factory Defaults: (steps 1-4 may be skipped if the gauge is already in calibration mode)

- 1) Start with power to the gauge OFF.
- 2) Press and HOLD the calibration pushbutton.
- 3) Start engine.
- 4) Release the pushbutton after the engine is started. The gauge will indicate 70MPH and 1000RPM. *The tenths position of the odometer will be also be lit red to indicate that the gauge is in calibration mode.*
- 5) Tap the calibration pushbutton to index the tachometer pointer until the tachometer indicates 7000RPM.
- 6) With the tachometer indicating 7000RPM, press and hold the pushbutton for 6 seconds. The tachometer will move to 8000RPM and *the tenths position of the odometer will be lit green to indicate the gauge has been restored to the factory default settings.*
- 7) If you are finished calibrating the gauge, press and hold the pushbutton while the tachometer is indicating 8000RPM for 6 seconds. This will exit the calibration mode. If you want to calibrate another function of the gauge, tap the pushbutton to index the tachometer to the desired calibration mode.

4 5/8" Quad Gauge Wiring

- 1) Always disconnect the vehicle battery before wiring any gauge.
- 2) Connect a switched +12VDC power source to the **8** terminal on the back of the quad gauge.
- 3) Connect a good chassis ground to the **2** terminal on the back of the quad gauge.
- 4) Connect the temperature signal to the **3** terminal on the back of the quad gauge.
- 5) Connect the fuel level signal to the **1** terminal on the back of the quad gauge.
- 6) Connect the oil pressure signal to the **4** terminal on the back of the quad gauge.
- 7) No connection is required for the Volt gauge of the quad.
- 8) Connect dash light power to the **7** terminal on the back of the quad gauge

4 5/8" Quad Gauge Wiring Diagram



Oil Pressure Sender Installation

(Part No. SN52, SN53 & SN54)

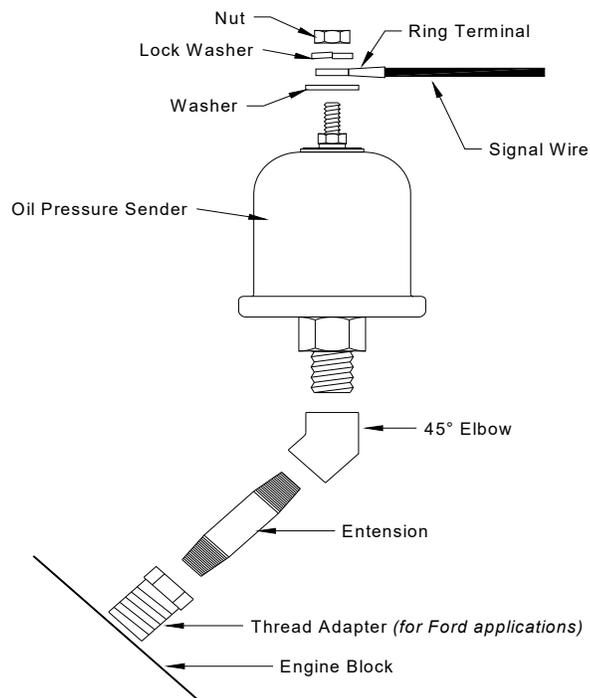
- 1) Disconnect battery before installation.
- 2) Only install Classic Instruments sending units when the engine is COLD.
- 3) DO NOT use Teflon tape on the threads. These threads are slightly tapered and designed to be self-sealing. The sender uses the threads for its ground connection and sealant may cause a poor ground causing inaccurate readings. If supplemental sealant is needed, we recommend using Loctite C5-A anti-seize. This is a copper based anti-seize which will allow a good electrical connection for the sender ground.

GM Installation: The correct location on most GM V8-engines to install the oil pressure sender is under the distributor housing at the rear of the block.

Use the 2 piece bushing kit provided to allow the sender to be mounted at a 45-degree angle pointing towards the driver's knees. This allows the sender to clear the back of the intake manifold, the underside of the distributor housing and also the firewall.

GM Installation – Big Block Engines: We do NOT recommend installing Classic Instrument's oil pressure sender in the opening located just above the oil filter on some big block GM engines. This location may not be a full-pressure passage but instead a "by-pass" oil passageway. Installing our pressure sender at this location may result in some strange low-pressure readings under certain driving conditions. This does not indicate a defective instrument or sender! It simply means you need to move the sender to the correct location.

GM Installation – LS Engines: Install the sender in the oil bypass housing located just above the oil filter. The housing will need to be drilled and tapped to 1/8"NPT.

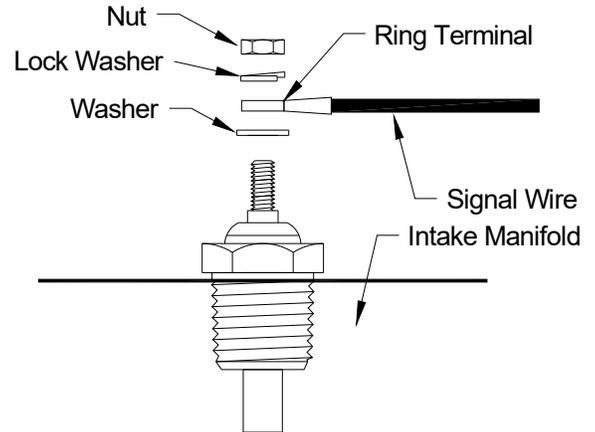


LS1 Oil Bypass Housing

Temperature Sender Installation

(Part No. SN22, SN23, SN24 & SN25)

- 1) Disconnect battery before making any connections.
- 2) Install the Classic Instrument's temperature sending unit only when the engine is COLD!
- 3) DO NOT use Teflon tape on the threads. These threads are slightly tapered and designed to be self-sealing. The sender uses the threads for its ground connection and sealant may cause a poor ground causing inaccurate readings. If supplemental sealant is needed, we recommend using Loctite C5-A anti-seize. This is a copper based anti-seize which will allow a good electrical connection for the sender ground.
- 4) Install the temperature sender into the intake manifold of your engine as possible. Installing the sender in the engine cylinder head may cause inaccurate temperature readings.
 - a. On GM "LS" engines, the temperature sender mounts on the passenger side of the engine under the rear cylinder. A 12mm thread sender is available to fit this location.
- 5) Connect a wire from the top terminal of the temperature sender to the indicated signal/sensor post on the back of the temperature gauge.
- 6) Tighten until snug. DO NOT OVER TIGHTEN!



Notice: Avoid installing the temperature sender into the head of a late-model GMC engine. Even though the stock GMC sender may have been installed there, this opening is too close to the exhaust header and will most likely cause an improper reading.