

# Classic Instruments

***1947 – 1953***

***Chevy Truck***

Installation Manual

## Table of Contents

Welcome from the Team at Classic Instruments! .....	3
Mounting Gauges .....	4
4 5/8" Speedometer Wiring [no included tachometer] .....	5
4 5/8" Speedometer Wiring Diagram .....	5
Pulse Signal Generator [SN16] Wiring .....	6
Speedometer Calibration Using a SN16 Signal .....	6
Speedometer Calibration Chart – SN16 Signal .....	7
Speedometer Signal Interface [SN74] Wiring .....	8
Speedometer Signal Interface [SN74] Wiring Diagrams .....	9
Speedometer Calibration Using SN74 .....	11
4 5/8" Speed-Tachular Wiring .....	12
4 5/8" Speed-Tachular Wiring Diagram .....	13
Speed-Tachular Calibration .....	14
Entering Calibration Mode: .....	14
Tachometer Cylinder Setup: .....	14
Tachometer Signal Type Setup: .....	15
Speedometer “Instant” Calibration: .....	15
Speedometer “Real-Time” Calibration: .....	16
Speedometer “Measured Mile” Calibration: .....	16
Optional Shift Indicator Setup: .....	17
Reset Gauge Calibration to Factory Defaults: .....	17
4 5/8" Quad Gauge Wiring .....	18
4 5/8" Quad Gauge Wiring Diagram .....	18
Oil Pressure Sender Installation .....	19
Temperature Sender Installation .....	20
Universal Fuel Level Sender Installation .....	21

## **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**

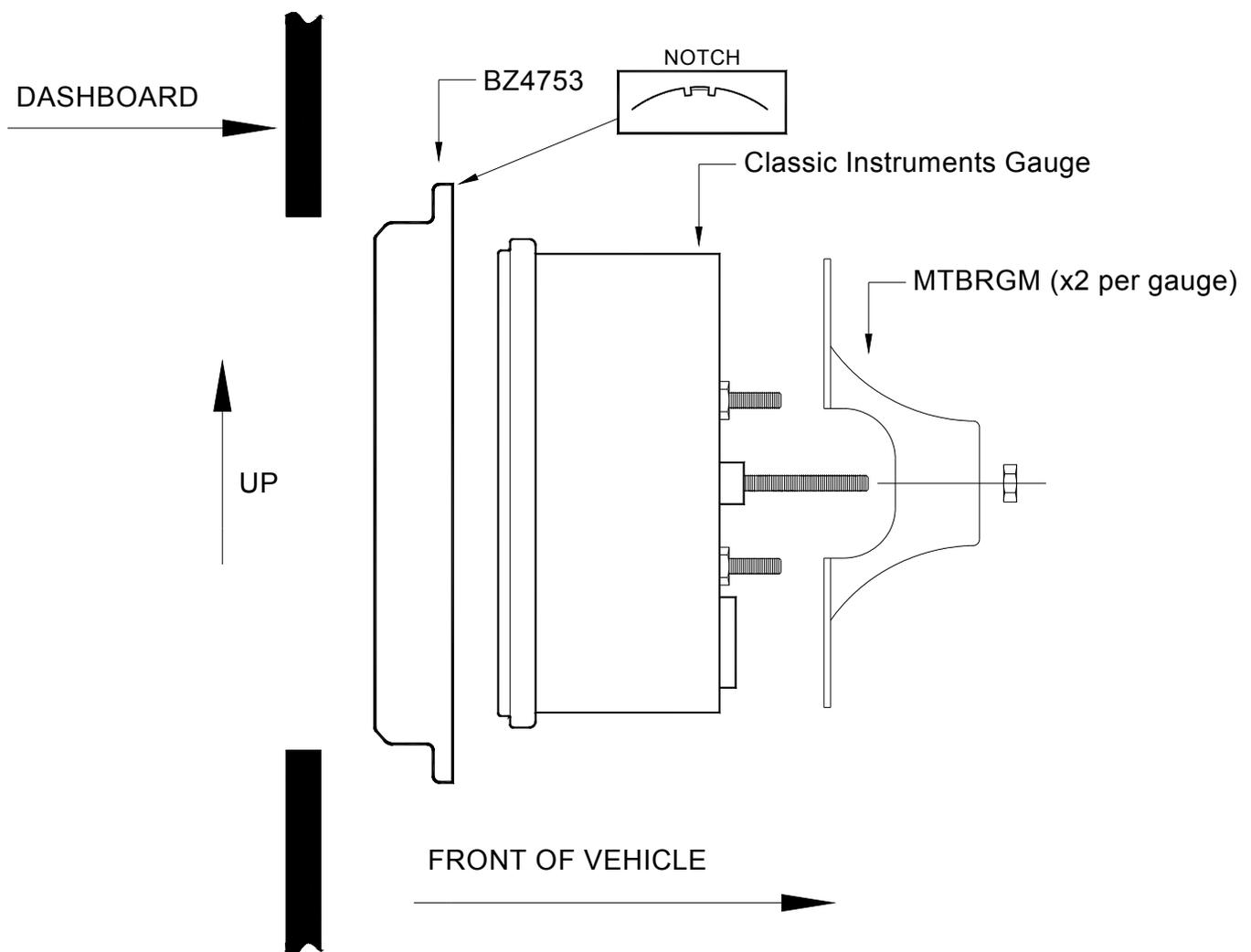
**OR**

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

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

## Mounting Gauges

- 1) The gauges for the 1947-1953 Chevy Truck were designed to be mounted from the back of the dashboard. Begin by inserting a new reproduction chrome bezel [part #BZ4753] (or original bezel) into the gauge openings in the dashboard with the notch in the bezels facing up.
- 2) Insert a gauge into the opening (from the back) of the reproduction or original bezel you installed in step 1.
- 3) Install two brackets [MTBRGM] to the mounting studs of each gauge. Adjust the brackets, if necessary, to align the slots in the bracket with the studs of dashboard. Use two nuts per bracket to attach to the dashboard studs and then one 10x32 nut per bracket to attach the gauge mounting studs.

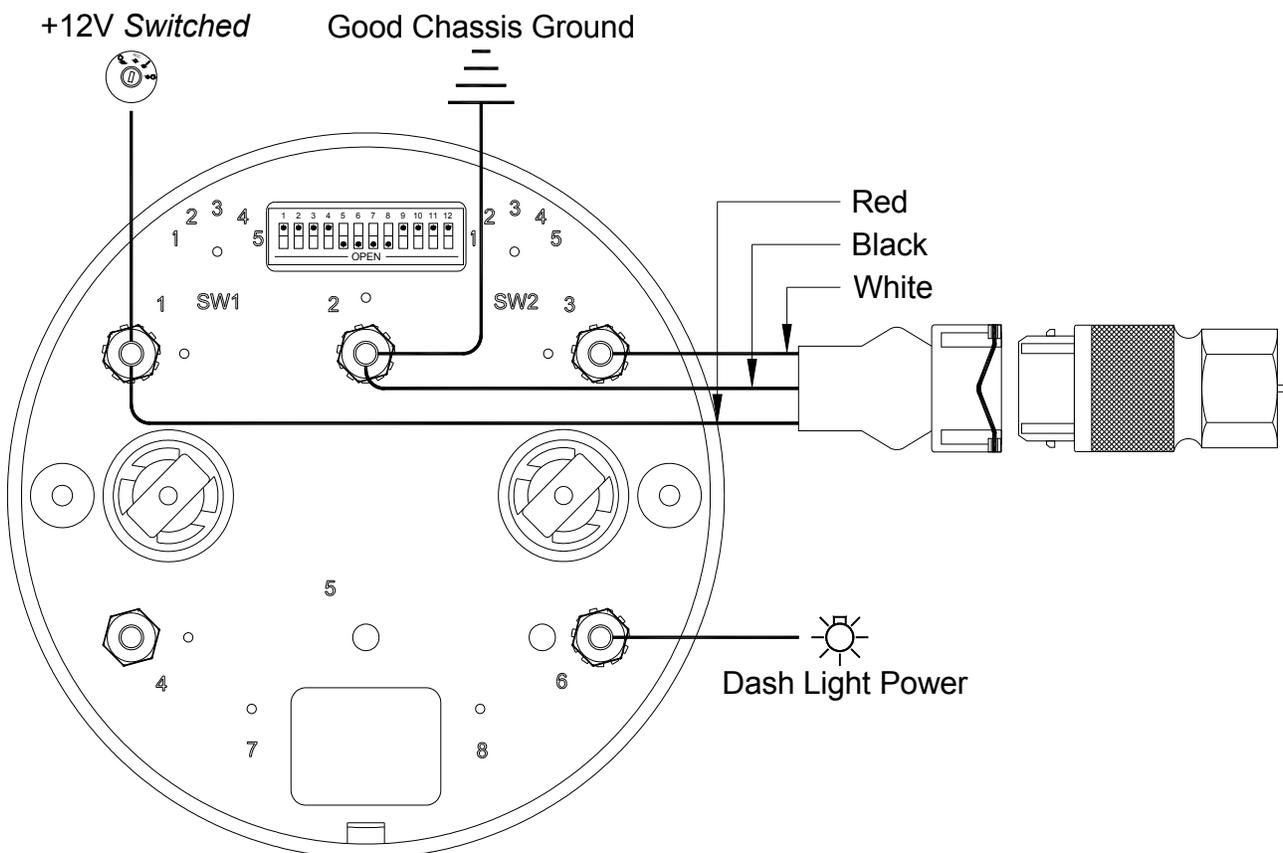


## 4 5/8" Speedometer Wiring [no included tachometer]



- 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 **8** terminal on the back of the speedometer.

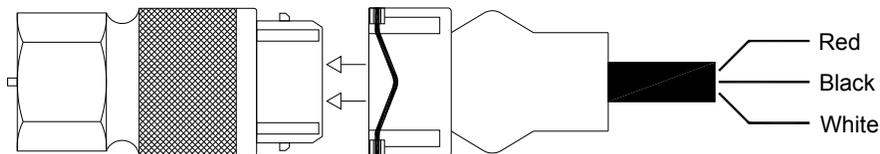
### 4 5/8" Speedometer Wiring Diagram



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:** ----- +12VDC

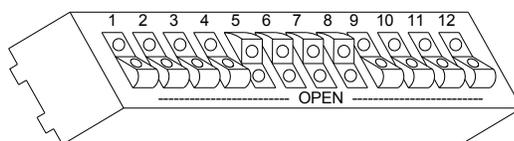
**Black:**----- Ground

**White:**----- Signal

### ***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

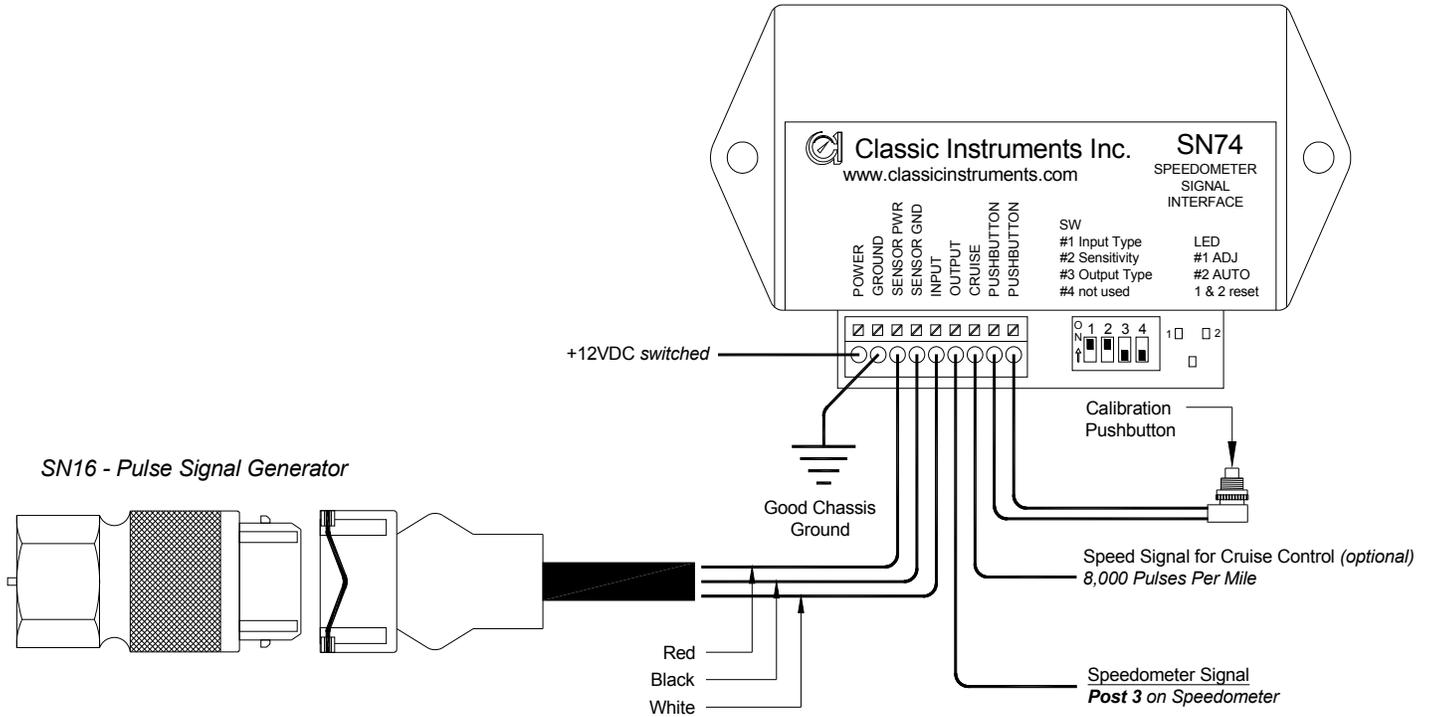
## Speedometer Signal Interface [SN74] Wiring

- 1) Connect switched +12VDC to "POWER"
- 2) Connect chassis ground to "GROUND"
- 3) Connect the red wire from a SN16 pulse signal generator to "SENSOR PWR". *(if not using the SN16, do not use this connection)*
- 4) Connect the black wire from a SN16 pulse signal generator OR one wire from the built-in transmission VSS (2-wire) to "SENSOR GND". *(if using an ECM speed signal, do not use this connection)*
- 5) Connect the white wire from a SN16 pulse signal generator OR one wire from the built-in transmission VSS (2-wire) OR the ECM speed signal to "INPUT"
- 6) Connect "OUTPUT" to the signal connection of the speedometer.
- 7) Connect "CRUISE" to the signal input for a cruise control module *(if needed)*. The cruise control signal is 8,000 pulses per mile (PPM).
- 8) Connect one lead from the momentary pushbutton to each of the two "PUSHBUTTON" connections.
- 9) Determine the default pulse setting for the speedometer (Classic Instruments speedometer with 8 dip switches is 8,000ppm, Classic Instruments speedometer with 12 dip switches is 16,000ppm)
- 10) If speedometer dip switches are not in the default position, set them at this time (8,000ppm speedometer 2 6 7 8 OPEN, 16,000ppm speedometer 5 6 7 8 OPEN)
- 11) Set switches on the module according to the chart below based on the speed signal you will be using.

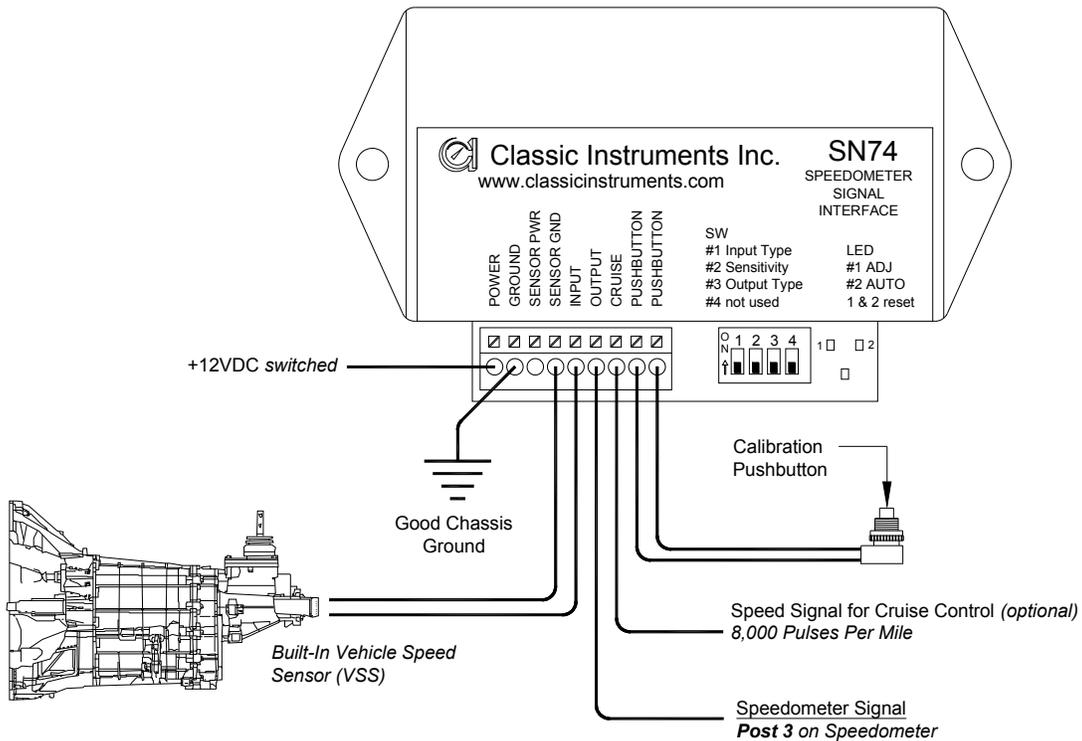
Signal Source	Gauge Type	Switch Setting
SN16 Pulse Signal Generator [3-wire]	8-Pulse (8,000ppm)	1 2 3 ON – 4 OFF
	16-Pulse (16,000ppm)	1 2 ON – 3 4 OFF
VSS [2-wire]	8-Pulse (8,000ppm)	3 ON - 1 2 4 OFF
	16-Pulse (16,000ppm)	1 2 3 4 OFF
ECM [1-wire]	8-Pulse (8,000ppm)	1 2 3 ON – 4 OFF
	16-Pulse (16,000ppm)	1 2 ON – 3 4 OFF

Switch 1 – OFF = Vehicle Speed Sensor signal, ON = Computer or SN16 signal  
 Switch 2 – OFF = high sensitivity, ON = low sensitivity  
 Switch 3 – OFF = 16,000ppm signal output, ON = 8,000ppm signal output  
 Switch 4 – *Not Used*

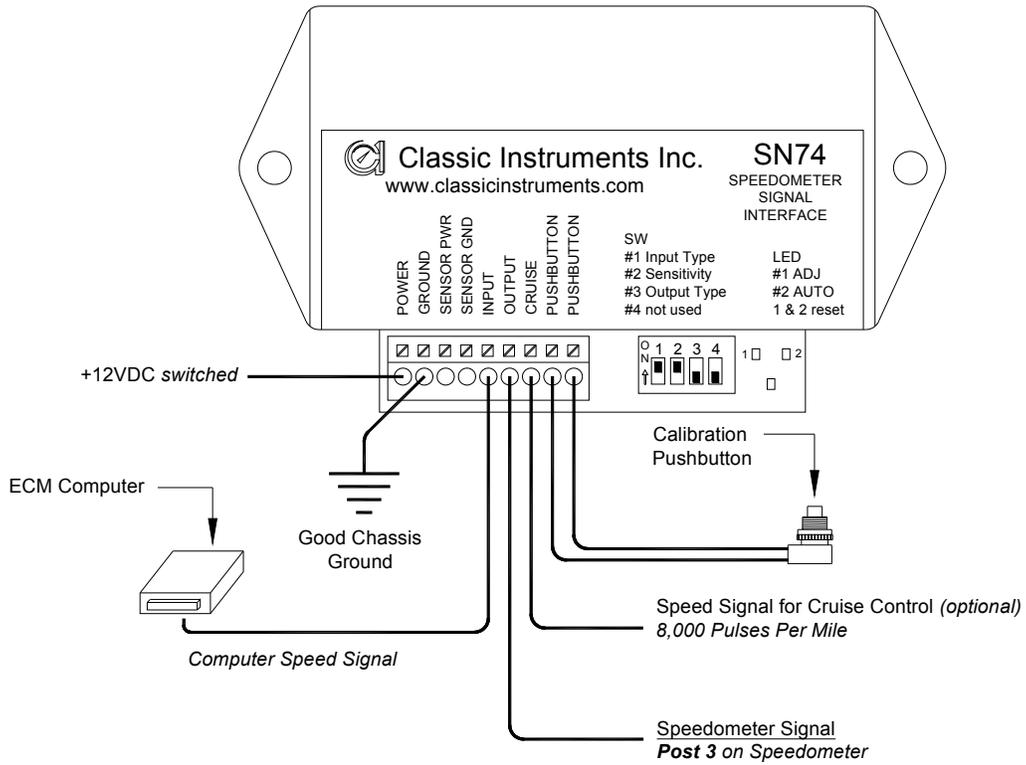
# Speedometer Signal Interface [SN74] Wiring Diagrams



SN74 Connected to a SN16 Pulse Signal Generator



SN74 Connected to Vehicle Speed Sensor (VSS)



SN74 Connected to ECM Speed Signal

## Speedometer Calibration Using SN74

### Marked Mile Calibration Mode (Use When Calibrating for the First Time)

- 1) Start with the vehicle power / engine off. Push and hold the pushbutton while starting the engine.
- 2) When the engine is running, release the pushbutton.
- 3) The red LED labeled "1" on the module will be lit (indicating real-time calibration mode).
- 4) Tap the pushbutton. The red LED labeled "1" will turn off and the red LED labeled "2" will turn on (indicating marked mile calibration mode).
- 5) Push and hold the pushbutton with red LED "2" lit until LED "2" starts blinking (*approximately 5 seconds*)
- 6) Begin driving a known mile. (*The green LED between the red LEDs should blink once you start moving indicating that the module is getting a signal.*)
- 7) When driving the known mile, the speedometer will not indicate any speed. This is normal.
- 8) At the end of the known mile, press and hold the pushbutton until the red LED "2" turns off. (*approximately 5 seconds*)

### Real-Time Calibration Mode (For Fine Tuning the Speedometer Calibration)

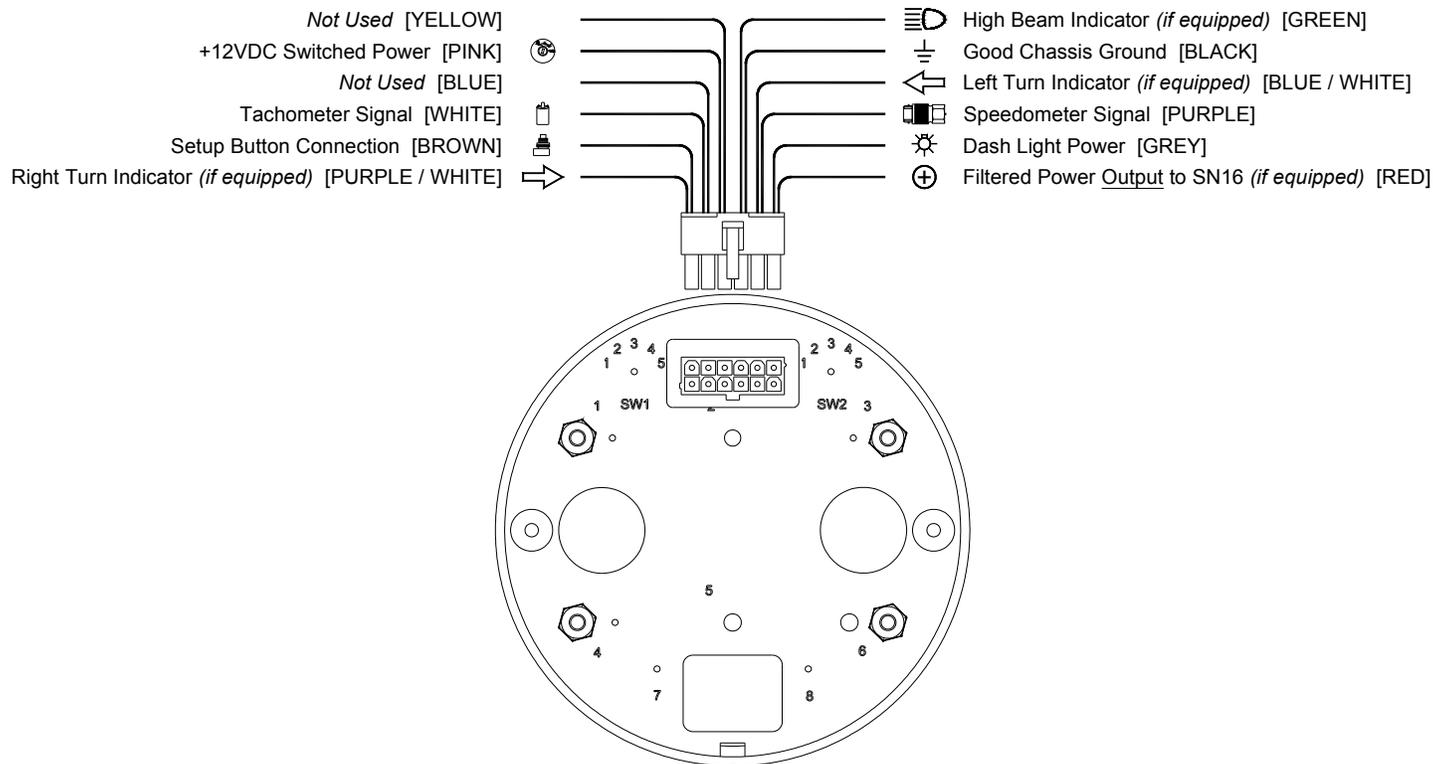
- 1) Start with the vehicle power / engine off. Push and hold the pushbutton while starting the engine.
- 2) When the engine is running, release the pushbutton.
- 3) The red LED labeled "1" on the module will be lit (indicating real-time calibration mode).
- 4) Push and hold the pushbutton with red LED "1" lit until LED "1" starts blinking. (*approximately 5 seconds*)
- 5) Drive a known speed using a GPS or by pacing another car. (*The green LED between the red LEDs should blink once you start moving indicating that the module is getting a signal.*)
- 6) Press and hold the pushbutton to change the speed show on the speedometer. The first time the pushbutton is pressed and held, the speed shown on the speedometer will increase. The second time the pushbutton is pressed and held, the speed shown on the speedometer will decrease.  
*Note: Changes in speed will happen slowly. The button will need to be held longer if a large change of speed is required.*
- 7) The pushbutton will alternate between increasing or decreasing the speed shown on the speedometer each time it is pressed. Press and hold the pushbutton to fine tune the speed shown on the speedometer.
- 8) Once the correct speed on the speedometer has been achieved, wait *at least 8 seconds* without pushing the pushbutton, then turn power to the module off in order to save the 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** wire of the wire harness to the RED power 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) Optional connections: (if equipped)
  - 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.

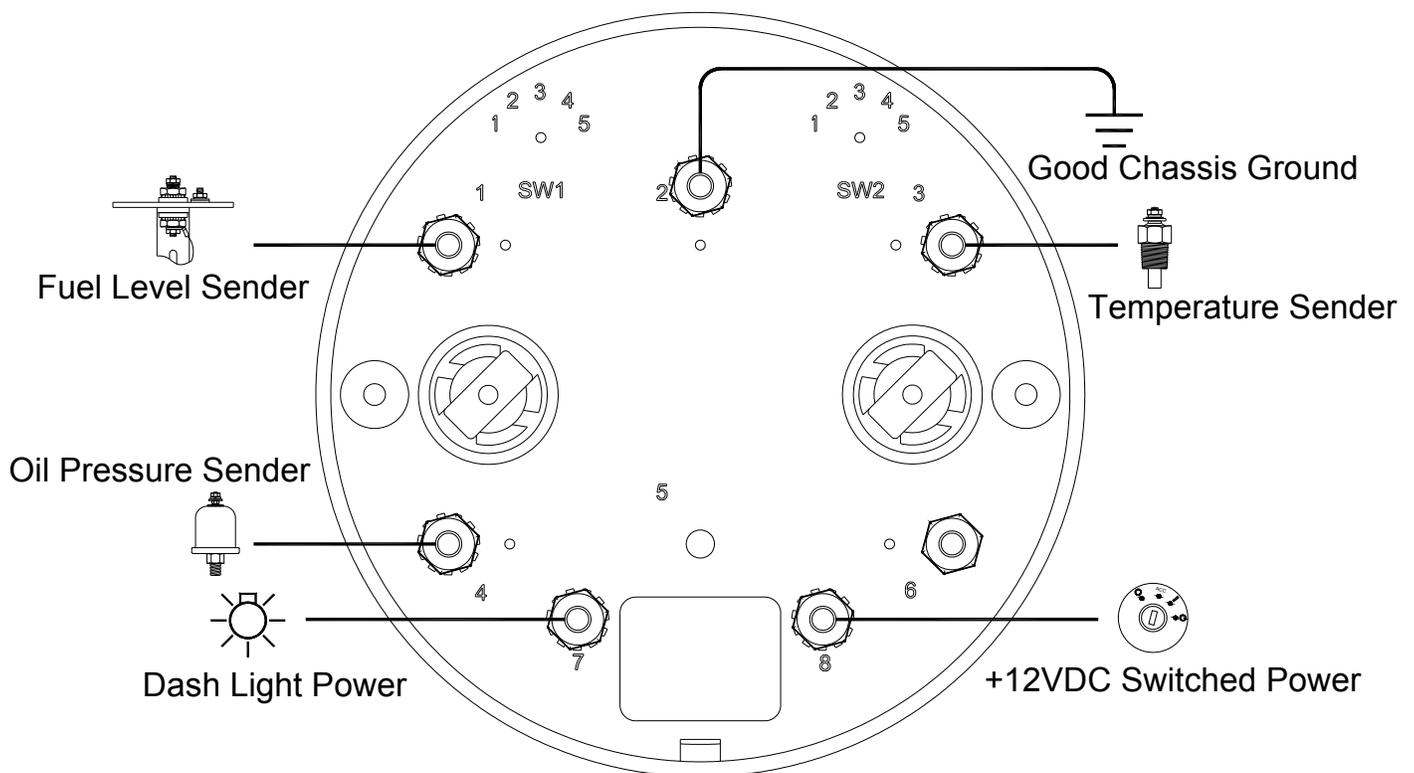
Reset Gauge Calibration to Factory Defaults: *(steps 1-4 may be skipped if the gauge is already in calibration mode)*

- 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)

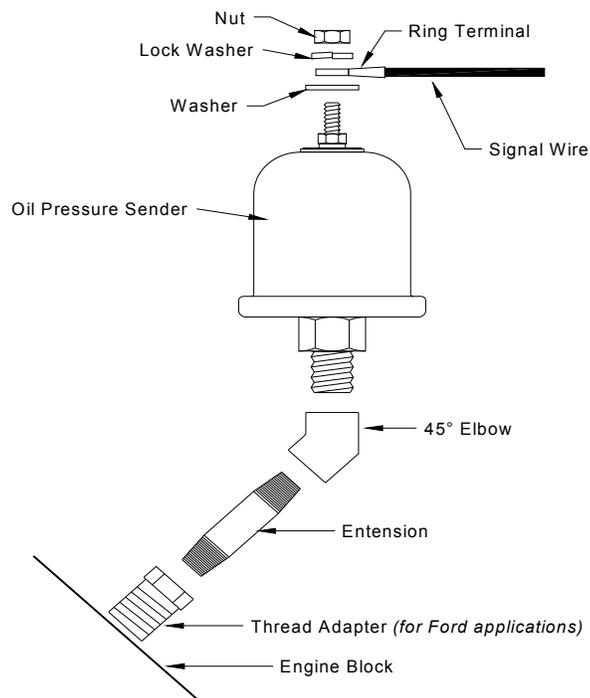
- 1) Disconnect battery before installation.
- 2) Only install Classic Instruments sending units when the engine is COLD.
- 3) DO NOT use Teflon tape on the threads. These threads are slightly tapered and designed to be self-sealing. The sender uses the threads for its ground connection and sealant may cause a poor ground causing inaccurate readings

**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.

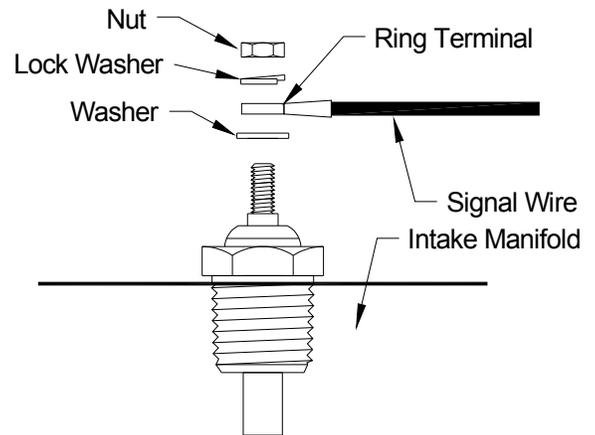


LS1 Oil Bypass Housing

## 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
- 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!

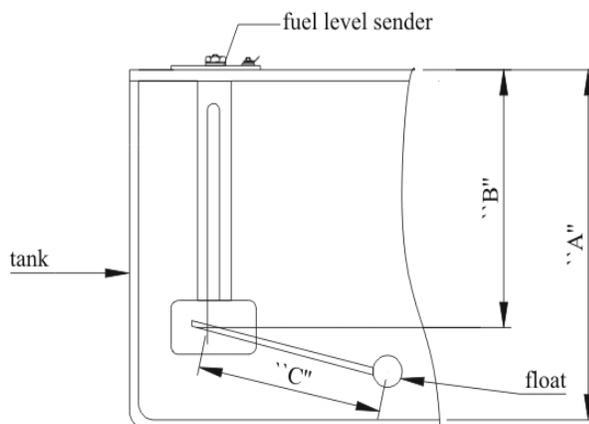


**Notice:** Avoid installing the temperature sender into the head of a late-model GMC engine. Even though the stock GMC sender may have been installed there, this opening is too close to the exhaust header and will most likely cause an improper reading.

# Universal Fuel Level Sender Installation

Part #: SN35 (240Ω-33Ω), SN36 (0Ω -30Ω), SN38 (0Ω -90Ω), SN39 (75Ω -10Ω) & SN40 (10Ω -180Ω)

A = Tank Depth , B = Float Pivot Depth , C = Float Arm Length (Dimensions in Inches)								
A	B	C	A	B	C	A	B	C
6.0	3.0	3.5	12.0	6.0	7.8	18.0	9.0	12.0
6.5	3.25	3.8	12.5	6.25	8.1	18.5	9.25	12.3
7.0	3.5	4.2	13.0	6.5	8.5	19.0	9.5	12.6
7.5	3.75	4.5	13.5	6.75	8.9	19.5	9.75	12.9
8.0	4.0	4.9	14.0	7.0	9.3	20.0	10.0	13.4
8.5	4.25	5.3	14.5	7.25	9.6	20.5	10.25	13.8
9.0	4.5	5.6	15.0	7.5	10.0	21.0	10.5	14.2
9.5	4.75	6.0	15.5	7.75	10.4			
10.0	5.0	6.4	16.0	8.0	10.7			
10.5	5.25	6.7	16.5	8.25	11.0			
11.0	5.5	7.1	17.0	8.5	11.4			
11.5	5.75	7.4	17.5	8.75	11.8			



**TABLE 1**

**I.** Measure depth of the fuel tank. Locate this dimension in Column “A” of Table 1. Column “B” shows the length from the underside of the sender flange to the center of the float pivot. Column “C” shows distance from the center of the float pivot to the center of the float. For example, a tank 12” deep would need a measurement of 6” from the flange to the pivot and 7.8” from the pivot to the float.

**II.** For tank depths 6” to 15-1/2”, it will be necessary to eliminate a part of the assembly. (See Fig.1) proceed as follows:

1. Remove two screws “d” and discard.
2. Remove two screws “e” from the plastic housing and reserve for later use.
3. Carefully remove bracket “f” from the plastic housing and discard. Replace with bracket “g” in the housing and loosely re-install the two screws “e” into housing. (6” tanks require cutting top portion of housing and use of only lower screw to fit)
4. Slide housing up or down until the proper dimension from Table 1 is reached, then tighten screws securely.

**CAUTION:** Do not over tighten hardware to avoid damage to the threads.

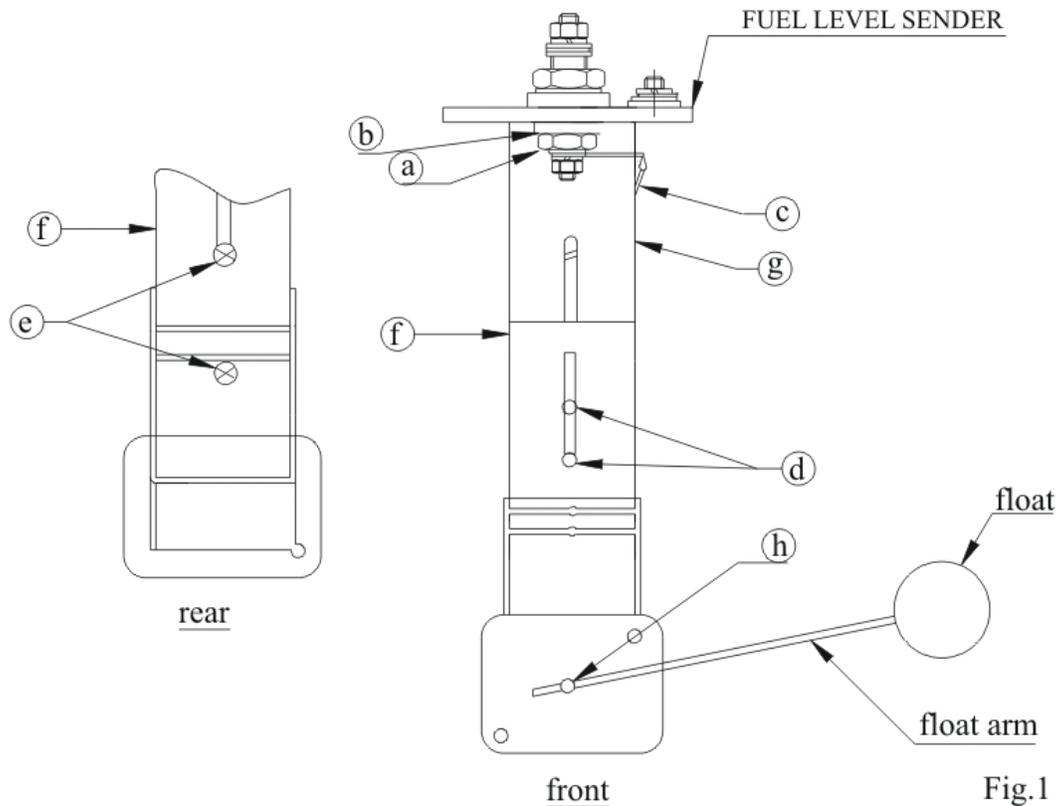


Fig.1

**III.** For tank depths of 16” to 21” no disassembly of the sender bracket is necessary.

1. Loosen two screws “d” and adjust the plastic housing up or down until the proper dimension from Table 1 is obtained, then retighten screws securely.

**IV.** To install the float assembly, loosen screw “h”, remove the short piece of rod, and discard. Insert the float rod until the proper length “c” from Table 1 is met, and then tighten the screw securely. Carefully cut off any excess rod with bolt cutter or similar tool, taking care not to damage the assembly.

**NOTE:** Make sure the float is installed as shown in Fig.1. If installed backwards, the fuel gauge will indicate “full” when the tank is empty, and “empty” when the tank is full.

1. Cut the bracket (g or f) so it doesn’t extend lower than the black rheostat assembly. The rheostat should be the lowest point of the fuel sender.
2. With the gasket in place below the flange, carefully feed the float arm and sender body into the 1.697” (43mm) hole in the tank. Make certain the float arm has free motion within the tank. Using the sender flange as a template, locate the position of the five mounting holes. Use the supplied screws to mount into the tank with threaded inserts in place.
3. Insert fuel sender assembly into tank, align holes and thread in mounting screws. Check that all screws are secure to complete assembly.
4. Connect the center terminal of the sender to your fuel gauge’s signal terminal. Connect the off-center terminal to a good chassis ground.

AVOID OVERTIGHTENING.

