Classic Instruments

BELERA II

1955, 1956 Chevy

Installation Manual

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Welcome to the Team of 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 826 Moll Drive, 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
1-231-582-0461
OR
Visit our website for the latest in gauge design and updates to our installation manual at:

www.classicinstruments.com

Installing the New Instrument Cluster

Disassembling the Original Instrument Cluster

1) If using the original stock bezel, start by removing the instrument cluster from the dash. (figure 1)

Figure 1

Figure 2

2) Place the original bezel face down on a flat surface (figure 2)
3) Remove the six screws that hold the instrument cluster in the bezel. The screws are located around the perimeter of the bezel. (figure 3)

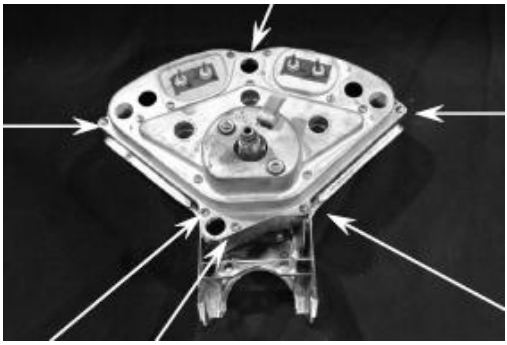


Figure 3

4) Remove the old instrument cluster from the bezel.

5) Remove the inner insert and glass. (figure 4)

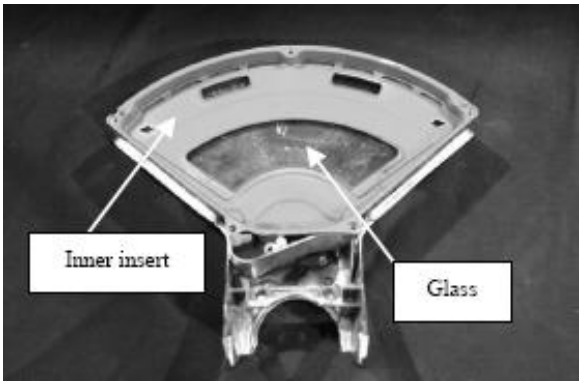


Figure 4

For manual transmissions, skip steps 6 – 8 and go directly to the assembly section.

6) For automatic transmissions, remove the gear selector bracket (2 screws) and disengage the spring.
7) Remove the gear selector glass.
8) Remove the stock gear selector pointer. (figure 5)

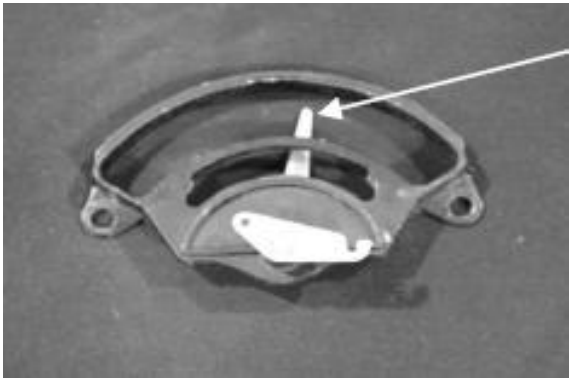


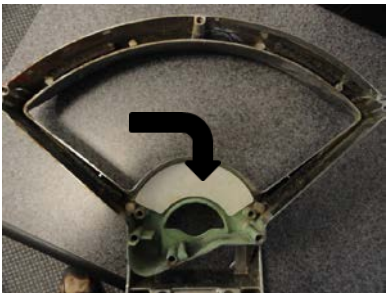
Figure 5

Assembling the New Instrument Cluster

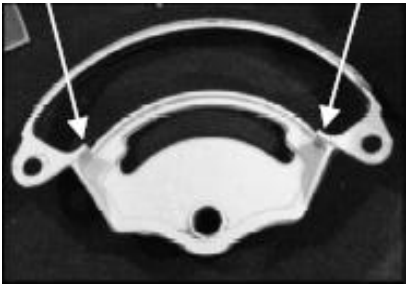
Note: Assembling using after-market bezel may require enlargements of mounting holes.

For manual transmissions, skip steps 1-6 & 9-12

1) Place the furnished gear selector glass over the gear selector window.



2) Before placing the original gear selector bracket over the glass, file the corners about 1/8" on the back side.

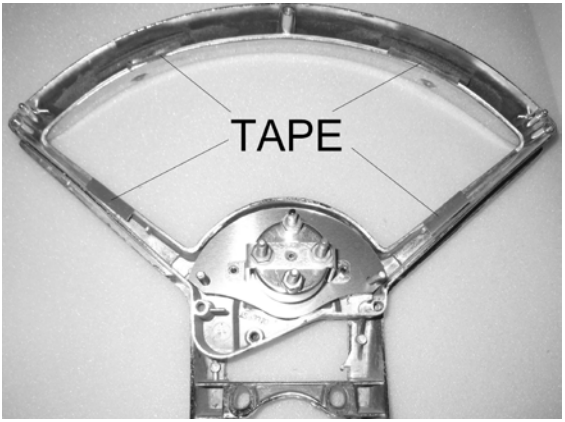


3) Use a very small amount of trim tape (supplied) on the back of the gear selector bracket where it will contact the glass. Make sure the tape is not visible from the front.

4) Place the gear selector bracket over the gear selector glass.

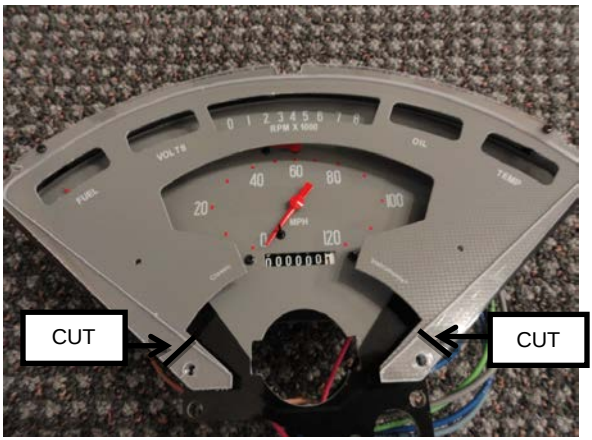
5) Place the gear selector over the stock bracket and secure with the two screws that were holding the old bracket.

6) Use a very small amount of trim tape (supplied) around the rim of the large opening in the bezel. Make sure the tape is not visible from the front of the bezel. The tape will prevent the glass from rattling when the new instrument cluster is installed.



7) Place the large glass into the bezel.

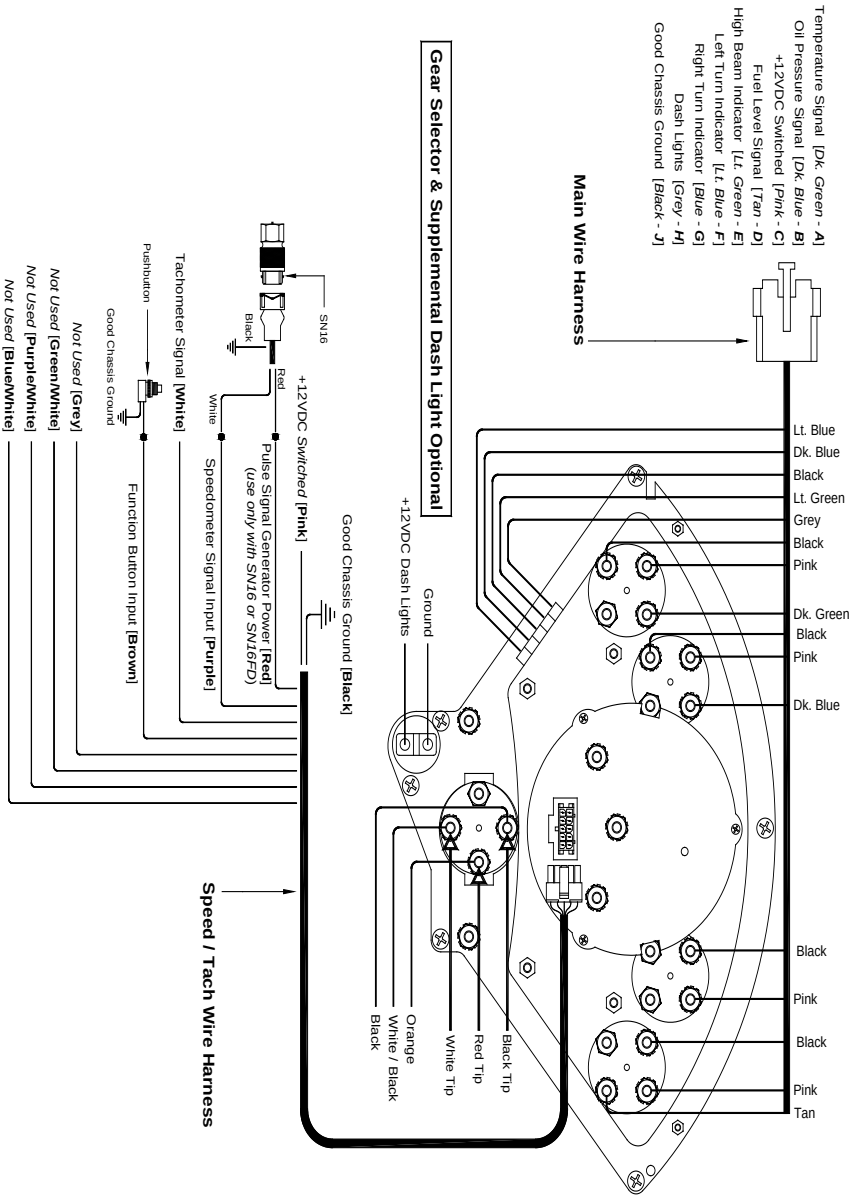
8) Remove the two screws from the bottom of the new instrument cluster located at each side of the gear selector opening. Cut the lower part of the thin clear plastic spacer.



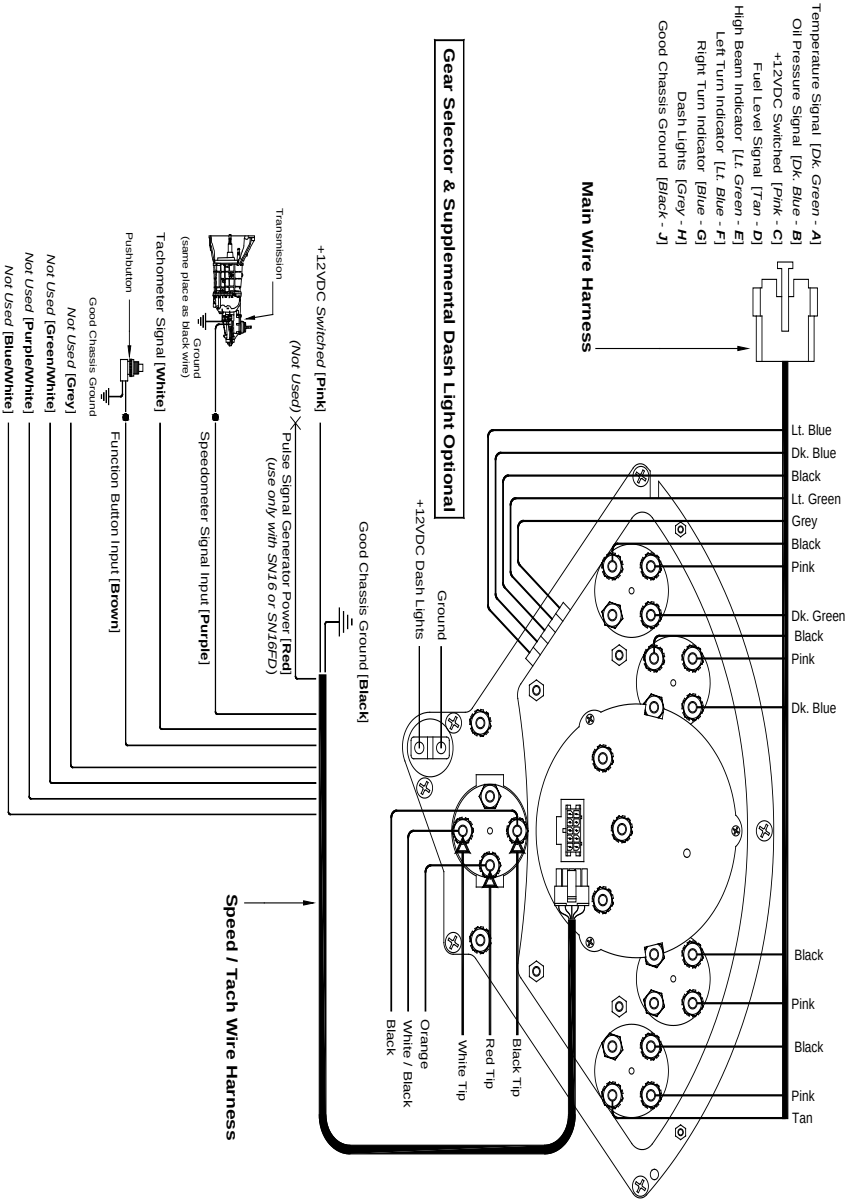
9) Place the instrument cluster into the bezel and secure with the six screws around the perimeter.

Wiring Diagrams

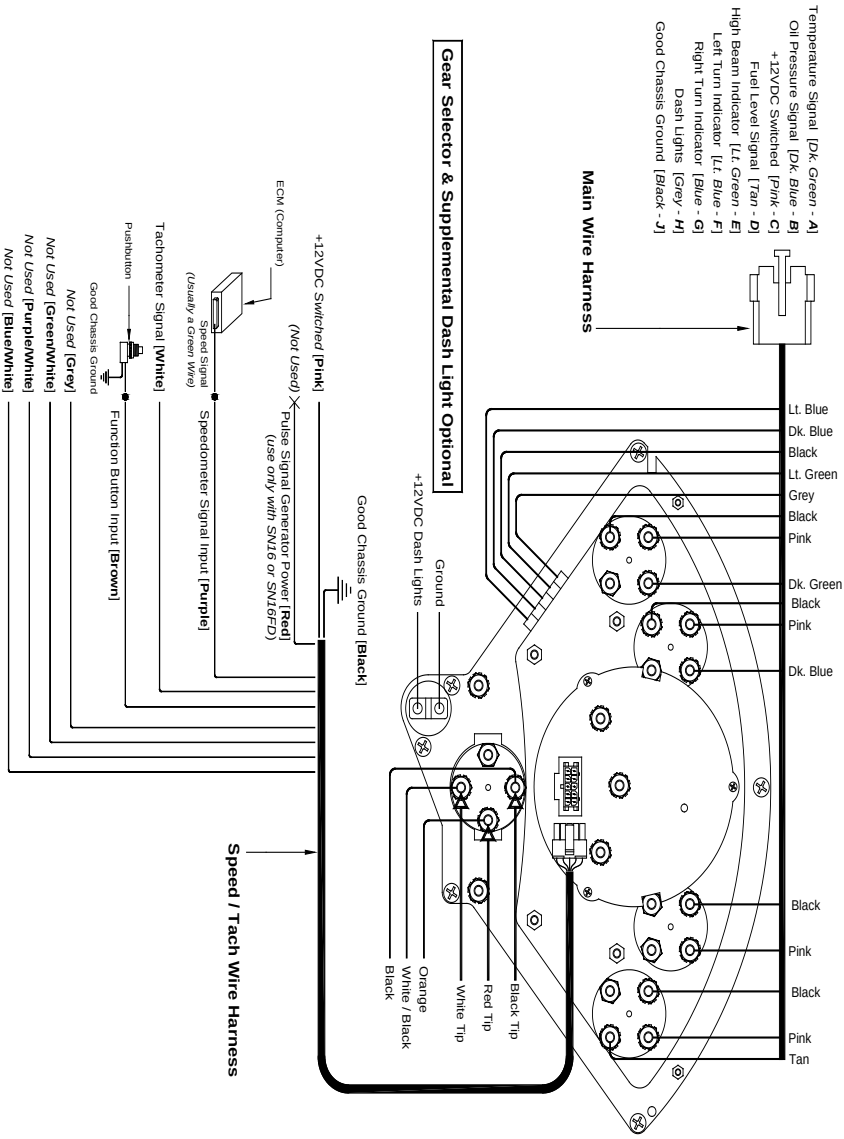
Using a Classic Instruments Pulse Signal Generator



Using an Electronic Transmission's Vehicle Speed Sensor



Using a Computer Supplied Speed Signal



Wiring the 1955/1956 Chevy Instrument Cluster

Speedometer & Tachometer

1) Connect the **pink** wire of the speed/tach wire harness to a +12VDC switched power source.

2) Connect the **black** wire of the speed/tach wire harness to a good chassis ground.

3) Connect the **purple** wire of the speed/tach wire harness to one of the following:
   a. One of the wires from a mechanical 2-wire pulse signal generator. Connect the other wire to the ground from step 2.
   b. The white wire from a mechanical 3-wire pulse signal generator.
   c. One of the wires from a built in 2-wire electronic speed sensor on an electronic transmission. Connect the other wire to the ground from step 2.
   d. Speedometer signal wire from a computer.

4) Connect the **red** wire of the speed/tach wire harness to the red wire of a mechanical 3-wire pulse signal generator. (*Only if a 3-wire sender is being used*).
   a. Connect the black wire of a mechanical 3-wire pulse signal generator to a good chassis ground (*only if a 3-wire sender is being used*)

5) Connect the **white** wire of the speed/tach wire harness to the tachometer signal.
   See Table 1 on next page

6) Connect the **brown** wire of the speed/tach wire harness to one lead of the function / setup pushbutton.
   a. Connect the other lead of the function / setup pushbutton to a good chassis ground.

7) The **grey**, **white/green**, **white/blue** and **white/purple** wires of the speed/tach wire harness are NOT used.

Ignition System	Tachometer Signal Source
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 "-") **Important!** 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

Fuel, Volt, Oil Pressure & Temperature

1) Connect the **dark green** wire (position A) of the main wire harness to the supplied Classic Instruments temperature sensor. *See figure 10 on next page*

2) Connect the **dark blue** wire (position B) of the main wire harness to the supplied Classic Instruments oil pressure sensor. *See figure 11 on next page*

3) Connect the **pink** wire (position C) of the main wire harness to a +12VDC switched power source.

4) Connect the **tan** wire (position D) of the main wire harness to the stock [*0-30 ohm*] fuel sender.

5) Connect the **light green** wire (position E) of the main wire harness to the high beam indicator signal from the vehicle's high beam switch.

6) Connect the **light blue** wire (position F) of the main wire harness to the left turn indicator signal from the vehicle's turn signal switch.

7) Connect the **blue** wire (position G) of the main wire harness to the right turn indicator signal from the vehicle's turn signal switch.

8) Connect the **grey** wire (position H) of the main wire harness to the dash light power from the vehicle's light switch.

9) Connect the **black** wire (position J) of the main wire harness to a good chassis ground.

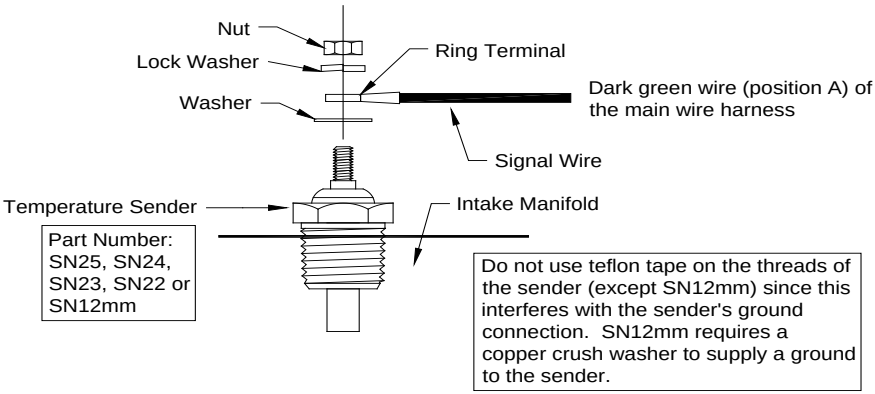


Figure 10

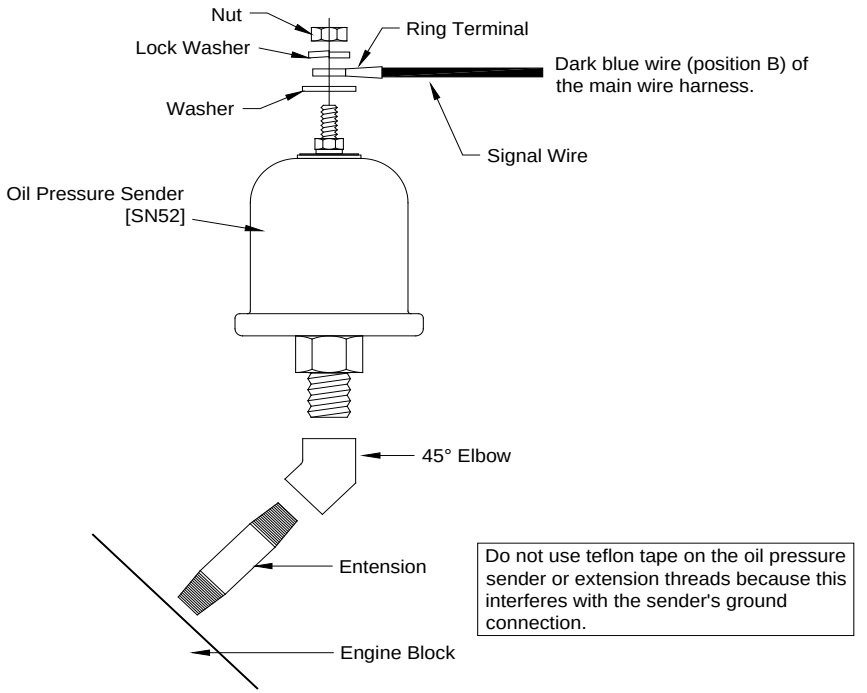


Figure 11

Gear Indicator

1) Connect the ring connector of the **black** wire of the gear indicator harness to the stud with a **black** tip on the back of the gauge.
   a. Connect the other end of the **black** wire to a good chassis ground.

2) Connect the ring connector of the **orange** wire of the gear indicator harness to the stud with a **red** tip on the back of the gauge.
   a. Connect the other end of the **orange** wire to a +12VDC switched power source.

3) Connect the ring connector of the **white/black** wire of the gear indicator harness to the stud with a **white** tip on the back of the gauge.
   a. Connect the other end of the **white/black** wire to the "To Gauge" position on the SN46 universal gear shift sender.

See figure 12 & supplemental instructions included with the SN46 universal gear shift sender for details on how to wire and calibrate the gear indicator.

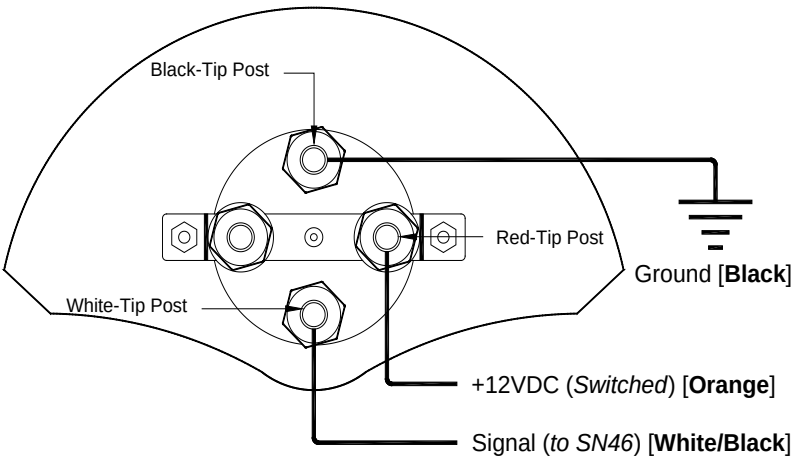
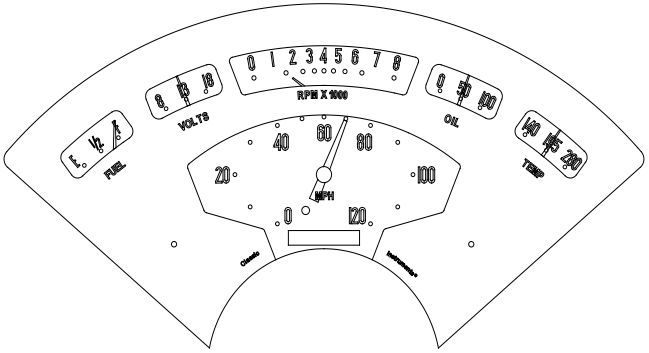


Figure 12

Calibrating the Speedometer & Tachometer



Gauge Indication upon Entering Setup Mode

Entering Setup Mode:

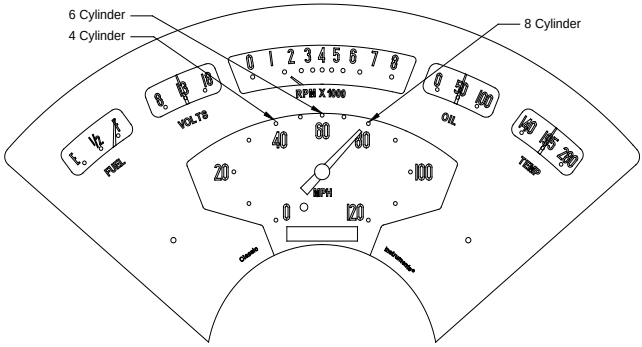
1) Start with the power off. Press and hold the function button. Start the vehicle's engine. Release the function button once the engine is running. The speedometer should indicate 70MPH and the tachometer should indicate 1,000RPM.
2) Tap the function button to cycle through the setup options shown in Table 2 below. (the tachometer pointer indicates setup option)
3) Press and hold the function button for 4 seconds to enter the setup option indicated by the tachometer pointer.
4) To exit the setup mode, tap the function button until the tachometer pointer is indicating 8,000RPM. Once the tachometer is indicating 8,000RPM, push and hold the function button for 4 seconds. The speedometer and tachometer will then return to normal operation.

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

Table 2

Tachometer Setup:

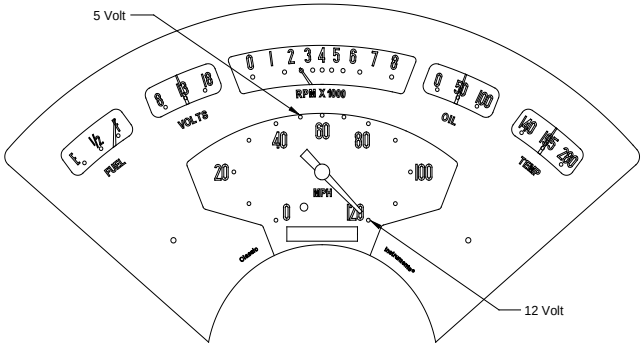
Cylinder Select:



Gauge Indication for 8-Cylinder Count Setting

1) Enter setup mode as described in the “Entering Setup Mode” section of this manual.
2) Tap the function button as necessary to move the tachometer pointer to 1,000RPM. [Tachometer Cylinder Setup option]
3) Press and hold the function button for 4 seconds. The tachometer pointer will stay at 1,000RPM and the speedometer pointer will indicate the current cylinder count setting. (40MPH indicates 4 cylinders, 60MPH indicates 6 cylinders, 80MPH indicates 8 cylinders, etc…)
4) Tap the function button to increase the speedometer pointer by 10MPH. Keep tapping the function button until the speedometer pointer indicates the correct number of cylinders for the tachometer signal being used. (the speedometer pointer will move back down to 10MPH if you continue to tap the function button with the speedometer pointer at 120MPH)
5) Once the speedometer is indicating the correct cylinder setting, press and hold the function button for 4 seconds. The speedometer pointer will return to 70MPH and the tachometer pointer will move to 8,000RPM. The tachometer cylinder count is now set.
6) If you are finished making setup changes, press and hold the function button for 4 seconds with the tachometer still pointing to 8,000RPM. The speedometer and tachometer will now function normally.

Tachometer Signal Type:



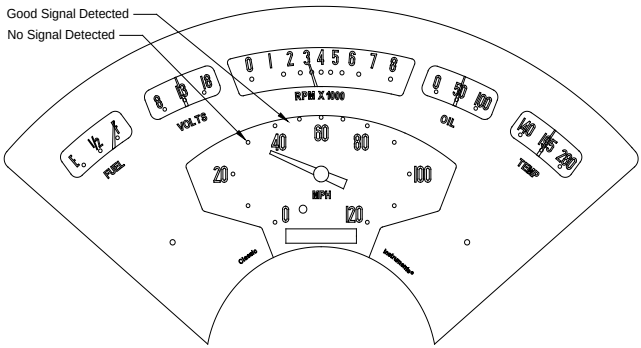
Gauge Indication for 12 Volt Tachometer Signal

1) Enter setup mode as described in the "Entering Setup Mode" section of this manual.
2) Tap the function button as necessary to move the tachometer pointer to 2,000RPM. [Tachometer Signal Type Setup option]
3) Press and hold the function button for 4 seconds. The tachometer pointer will stay at 2,000RPM and the speedometer pointer will indicate the current signal type setting. (Either 50MPH for 5 volt signal or 120MPH for 12 volt signal)
4) Tap the function button to alternate the speedometer pointer between 120MPH and 50MPH. [Use the 50MPH (5 volt) setting if you will be using a computer tach signal. Use the 120MPH (12 volt) setting for all other signals.]
5) Once the correct signal type is indicated by the speedometer pointer, press and hold the function button for 4 seconds. The speedometer pointer will return to 70MPH and the tachometer pointer will move to 8,000RPM.
6) If you are finished making setup changes, press and hold the function button for 4 seconds with the tachometer still pointing to 8,000RPM. The speedometer and tachometer will now function normally.

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.

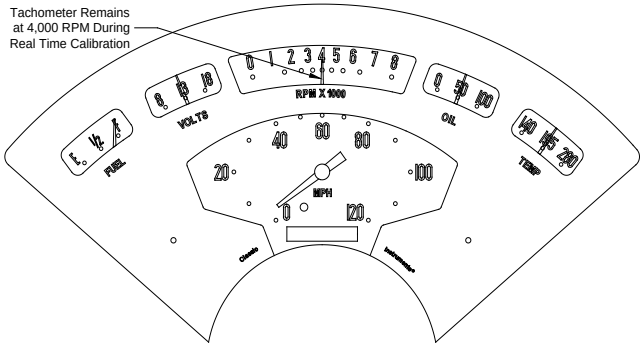
Speed Auto Calibrate:



Gauge Indication for No Speed Signal Detected

1) Enter setup mode as described in the "Entering Setup Mode" section of this manual.
2) Tap the function button as necessary to move the tachometer pointer to 3,000RPM. [Speed Auto Calibrate Setup option]
3) Drive to the beginning of a measured mile. (the speedometer and tachometer won't operate at this time) Stop the vehicle where you wish to begin the measured mile.
4) Once you are ready to begin driving a measured mile, press and hold the function button for 4 seconds. The tachometer will begin functioning normally. The speedometer will indicate 30MPH. (30MPH indicates you are in the marked mile mode and the speedometer <u>is not</u> receiving a signal)
5) Begin driving the measured mile (at any speed). The speedometer will indicate 45MPH. (45MPH indicates you are in marked mile mode and the speedometer is receiving a signal)
6) At the end of a measured mile, press and hold the function button for 4 seconds. You may do this while traveling or after coming to a stop. (Coming to a stop after exactly 1 mile and then pushing the function button will give the most accurate calibration). The speedometer will return to 70MPH and the tachometer will move to 8,000RPM.
7) If you are finished making setup changes, press and hold the function button for 4 seconds with the tachometer still pointing to 8,000RPM. The speedometer and tachometer will now function normally.

Real-Time Speed Adjust:



Gauge Indication While in Real-Time Speed Adjust Mode

1) Enter setup mode as described in the "Entering Setup Mode" section of this manual.
2) Tap the function button as necessary to move the tachometer pointer to 4,000RPM. [Real-Time Speed Adjust Setup option]
3) Press and hold the function button for 4 seconds. The speedometer pointer will return to 0 and the tachometer will remain at 4,000RPM.
4) Begin driving at a known speed. Press and hold the function button to increase the speedometer reading. The next time the function button is pressed the speedometer reading will decrease. (the speedometer will continue to alternate between increasing and decreasing speed each time the function button is pressed) During the real time calibration, the odometer will not function.
5) Once the speedometer is reading accurately, make sure to not push or tap the function button for at least 10 seconds in order to save your current calibration. The speed setting may still be adjusted after this until the key is turned off. Speed settings will only be saved if the function button hasn't been pressed or tapped for at least 10 seconds.
6) You must turn the key off in order to get the speedometer out of real time calibration mode.

Enjoy! Happy Hot Rodding!