



1963-67 Corvette

Gauge Cluster Kit Installation Instructions (510031)

Important facts about this kit.

1. The dash panel used in this picture is used by permission of Covan's Classic.
2. This kit requires some modification to your original under dash wiring harness. It is not intended to be a complete plug and play interface. We strive to make the integration of this product as easy as possible. However, in many cases there are no mating connectors due to obsolescence of original factory connectors. This requires substitution of components that will require modifications on the part of the installer.
3. As mentioned throughout the documentation included here, it is important to read the instructions that come with the gauges. This is important to identify the type of gauge used and any special requirements the manufacturer may have for installation.
4. This harness is designed to be used for Autometer Series I and Series II short sweep gauges. The harness is not compatible with Autometer full sweep gauges as they include their own sender harness assemblies. This harness assembly addresses connection of the water temperature, oil pressure, fuel, voltmeter, speedometer, and tachometer gauges, as well as indicator lights for turn signals, high beam lights, and emergency brake (if originally equipped).
5. Vehicle grounding and specifically instrument panel grounding are extremely important to the operation of you gauges. Check your grounds as this is the most common problem concerning proper operation of your gauges.

STEP 1:

Install the blade terminals to the back of each of the 4 small gauges. Secure the terminal with a lock washer and nut. There are specific left, center, and right hand terminals. Install as shown in the photo.

NOTE: Voltmeters use the 'GND' and 'I' terminals only.

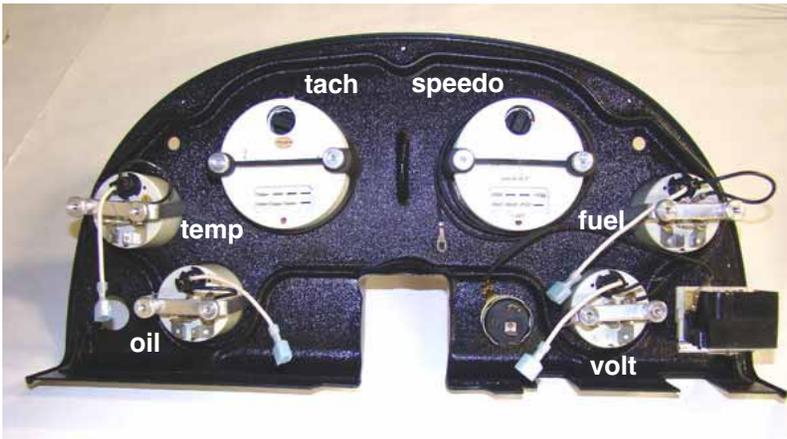


STEP 2:

Plug the appropriate lamp socket pigtails into the 4 smaller gauges. This picture shows the lamp socket on a Series I gauge. Series II gauges have an integral blade terminal for the lamp power and ground connection.



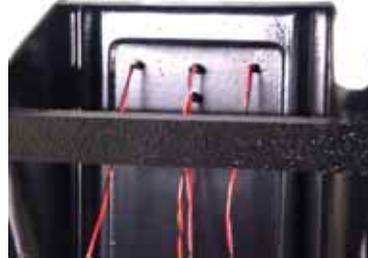
STEP 3: Insert the gauges into the housing in the locations shown.



STEP 4:

Drill 4 mounting holes for LED's, using a 5/32" drill bit, at the desired locations. Insert LED's in the hole from the front of the panel.

NOTE: The LED housings are a taper fit into the hole. Press the LED housing all the way in to tighten against the instrument panel.



STEP 5:

Connect the black ground wires from the lamp pigtailed to the center ground studs of the smaller gauges as shown.

NOTE 1: This picture shows connection of individual light sockets as would appear on Series I gauges. The speedometer and tachometer have separate twist-in light sockets.



NOTE 2: This picture shows connection of lighting as would appear on Series II gauges. A separate blade terminal for power and ground exists for the internal lighting. The speedometer and tachometer have a specific lamp terminal within the 8 cavity plug.



STEP 6:

Install the mounting brackets on all the 6 gauges. The completed assembly is now ready for the connection of the wiring harness. Note that this assembly shows Series I gauges.



STEP 7:

Plug in gauge connections using the supplied connectors. Plug in the connectors in the order shown below. A typical plug-in is shown in this picture.

- | | |
|-----------|---------------------------|
| 1. FUEL | pink / black / tan |
| 2. TACH | pink / black / white |
| 3. TEMP | pink / black / dark green |
| 4. OIL | pink / black / dark blue |
| 5. VOLT | pink / black |
| 6. SPEEDO | pink / black / purple |



STEP 8:

Plug each lamp power wire (white) into the mating connectors on each gray wire (DASH LIGHTS) on the new harness.

NOTE:

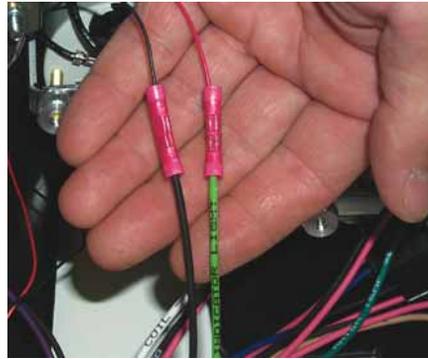
The supplied wiring harness comes with plug-in female terminals for the power and ground terminals of the Series II type 2 1/16 inch and 2 5/8 inch gauges. This is a direct plug into the terminals on the gauge. If you are using Series I gauges, you will have to remove these terminals and connectors and install the male and female disconnect terminals supplied in the kit to connect the individual light sockets. This picture shows this connection type. Please refer to the instruction sheet in the 500928 Gauge Side Wiring sub-kit for a more detailed explanation of the differences in the gauges.



STEP 9:

Select an LED lamp from the panel, and attach the appropriate signal lead wire from the harness, as noted below. Each signal wire will attach to the red LED lead wire from the panel. Trim the wires from the harness to the desired length before crimping.

LED color	function	power wire color
blue	high beam	light green or black with light green stripe
green	left turn lamp	light blue or black with light blue stripe
green	right turn lamp	dark blue
red	brake	(1963) black (1964-67) pink or black with pink stripe
amber	headlight doors	light blue



STEP 10:

Install butt connectors, as shown, matching the wire functions noted above with the proper LED. Match the black LED panel lamp wire with a black ground wire from the harness for all LED lamps except the red brake warning LED and the headlight door open LED.

If you are using the red brake warning LED lamp in an original 1963 vehicle, attach the red LED lamp lead wire to the brake switch tan wire. The LED lamp black wire must then be attached to one of the black ground wires from the harness. Only the 1963 car used a separate two contact park brake alarm switch and a single contact warning light. Power was fed to the switch assembly and passed from the switch through the bulb which was grounded at the instrument cluster.

If you are using the red brake warning LED lamp in an original 1964-67 vehicle, attach the black LED lamp lead wire to the harness tan wire. As noted above, the red LED lamp lead wire will connect to the harness pink wire. All 1964-67 cars used a dual contact brake warning light socket that fed power directly to one of the light socket contacts. The ground was set from the other end of the tan wire at the single contact brake switch.

If you are using the amber headlight door LED lamp, remove the factory lamp socket and attach the black LED lead wire to the factory gray with black stripe wire. As noted above, the red LED lamp lead wire will connect to the factory light blue wire.

Step 11:

A grounding kit is included for your headlight and wiper switch. Connect as shown, routing to a good chassis ground with the supplied ring terminal.

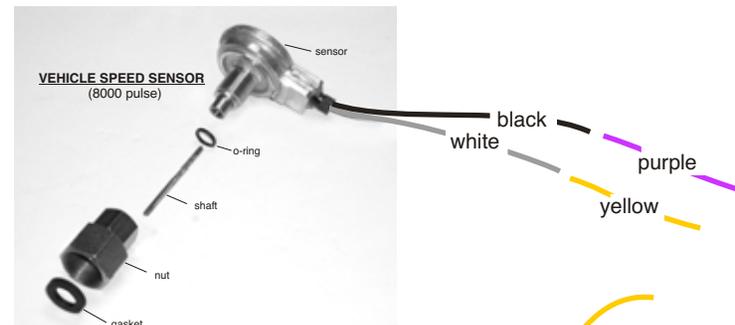


STEP 12:

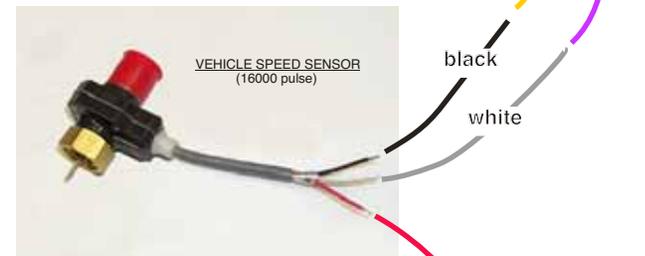
The speedometer connection has a separate long yellow wire with a ring terminal on the end. This wire is twisted around the purple vehicle speed sensor lead that is plugged into the speedometer connector. The purpose of this wire is to cancel out any signal interference to the speedometer and must be grounded to a good chassis ground after the instrument cluster is finally installed.

STEP 13:

This kit uses an electronic programmable speedometer which requires a vehicle speed sensor that replaces the original speedometer cable at the transmission. Below are the connections for the various vehicle speed sensors that may be supplied in your kit.



Typical 2 wire VSS connection



Typical 3 wire Autometer 5291 VSS connection

Note: This VSS requires a lead wire from the red wire to a 12 volt ignition source. This wire is not included in the kit.

connect to 12 volt ignition source

STEP 14:

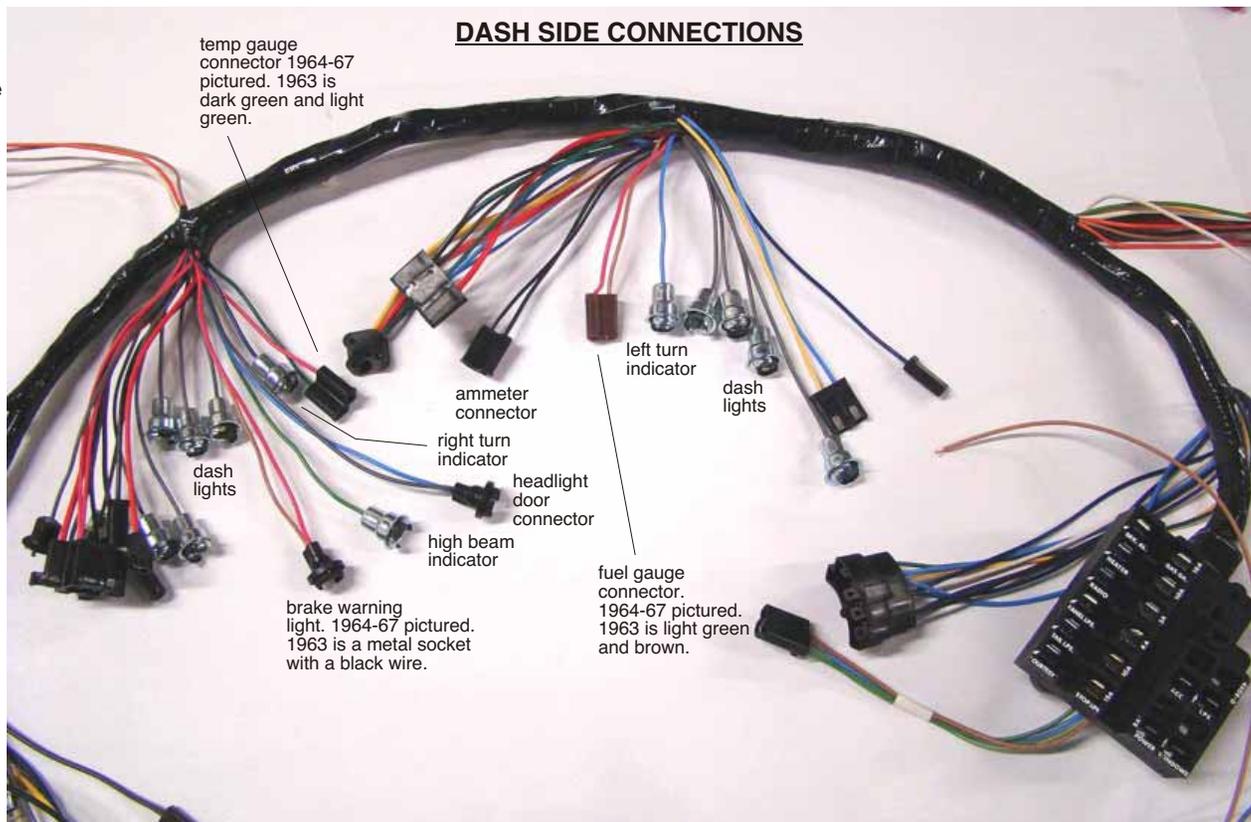
This completes the wiring of the gauge cluster. The next steps involve the preparation of the under dash harness to incorporate the mating plug connection for the gauge harness disconnect.

STEP 15:

Pictured is an original 1964-67 under dash harness. 1963 coloring is slightly different. We will use this harness to identify the wires that need to be modified in order to connect the new instrument cluster harness. You will be modifying the original dash harness to accept the mating connectors to the new gauge cluster harness.

Only the identified wires require modification. Any remaining wires not plugged in under the dash must be removed from the harness or capped off and securely taped back against the dash harness to prevent any possible shorting situation.

Refer to the connection pictures on page 5 and follow the connection descriptions below to complete this operation. Each of the three connectors is labeled and will be wired by this label nomenclature.



CONNECTOR A

GRAY w / BLACK stripe Route this wire to the factory headlight door open light and connect using one of the supplied butt splices. Be sure to maintain color continuity with the factory Gray with Black stripe wire.

LIGHT BLUE Route this wire to the factory headlight door open light and connect using one of the supplied butt splices. Be sure to maintain color continuity with the factory Light Blue wire.

CONNECTOR B

YELLOW (VSS signal ground shield)
PURPLE (VSS signal wire) Route this wire, and the yellow wire above, to the vehicle speed sensor. These wires **MUST** be twisted, as shown, all the way to the transmission. This will properly shield the signal wire from interference.

BLACK (ground) Connect this to a good chassis ground.

GRAY (dash lights) Connect the end to one of the factory gray instrument lamp wires, using the supplied butt splice. All other instrument lamp wires must be shielded and taped back against the dash harness.

PINK (12V ignition) Route this wire to the factory fuel gauge. Connect the end to the pink or black with pink stripe wire (1964-67) or the light green wire (1963) from the factory fuel gauge using the supplied terminals and connector. Be sure to maintain color continuity with the factory fuel gauge connector.

CONNECTOR C

TAN (gas gauge) Route this wire to the factory fuel gauge. Connect the end to the tan wire (1964-67) or the brown wire (1963) from the factory fuel gauge using the supplied terminals and connector. Be sure to maintain color continuity with the factory fuel gauge connector.

WHITE (coil tach) Route to the coil, and connect to the negative terminal of the coil.

DK BLUE (oil pressure) Route this wire to the engine mounted oil pressure sender unit.

TAN (brake switch) 1963 only Route this wire to the factory brake warning lamp. Cut off the existing single contact factory lamp socket from the black wire and install the terminals and connector shown. Only this single black wire will exist at this location. Make sure the tan wire to black wire circuit is complete through the connector.

TAN (brake switch) 1964-67 only Route this wire to the factory brake warning lamp. Cut off the existing double contact factory lamp socket and install the terminals and connector shown. The pink wire or black with a pink stripe wire will not pass through this connection. Make sure the tan wire to tan wire circuit is complete through the connector.

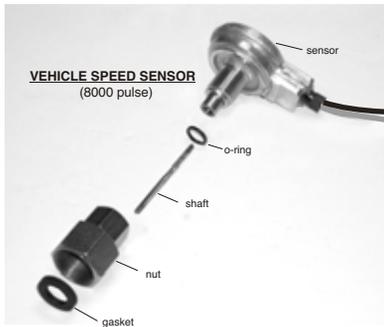
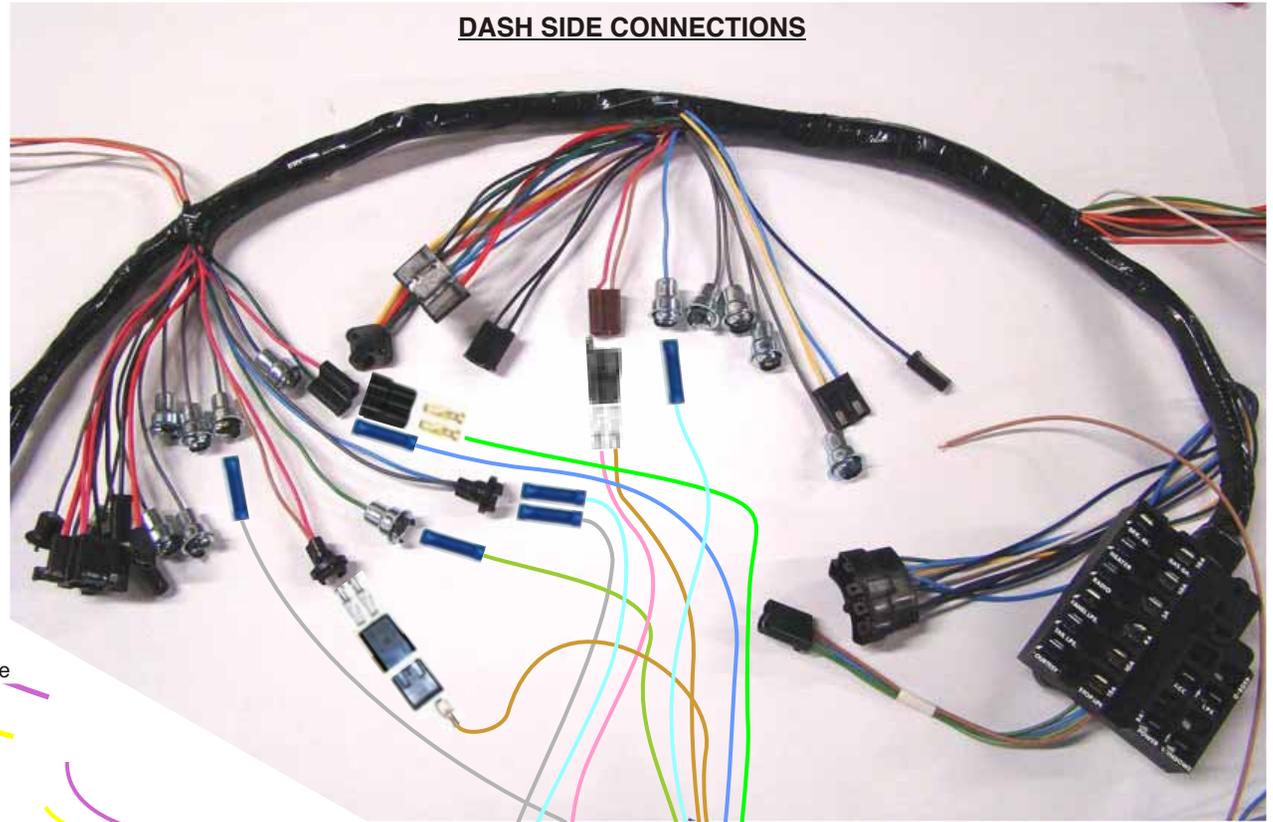
DK GREEN (temp sender) Route this wire to the factory temp gauge connector. Install the terminal and plug into the factory temperature gauge connector as shown. Be sure to maintain color continuity with the factory temperature gauge connector.

LT GREEN (hi beam) Route this wire to the factory hi beam lamp and connect using supplied butt splice.

LT BLUE (left turn ind) Route this wire to the factory left turn lamp and connect using supplied butt splice.

DK BLUE (right turn ind) Route this wire to the factory right turn lamp and connect using supplied butt splice.

DASH SIDE CONNECTIONS



VEHICLE SPEED SENSOR
(8000 pulse)

Typical 2 wire VSS connection

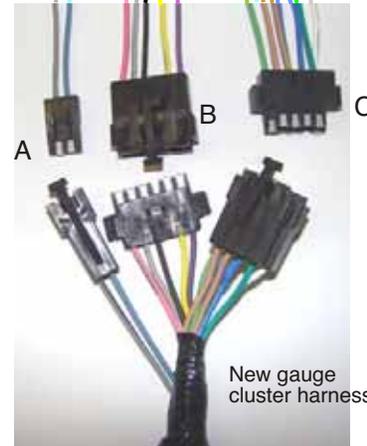


VEHICLE SPEED SENSOR
(16000 pulse)

Typical 3 wire Autometer 5291 VSS connection

Note:
This VSS requires a lead wire from the red wire to a 12 volt ignition source. This wire is not included in the kit.

connect to 12 volt ignition source



New gauge cluster harness

black
to a chassis ground

dark blue
to oil pressure sending unit

white
to negative side of coil

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