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1964-67 Pontiac
GTO, LeMans, Tempest

Gauge Cluster Kit
Installation Instructions
(510100)

92969124 instruction sheet rev. 0.0 1/12/2009

Important facts about this kit.

1. The dash panel used in this picture is used by permission of Covan's Thunder Road.
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:

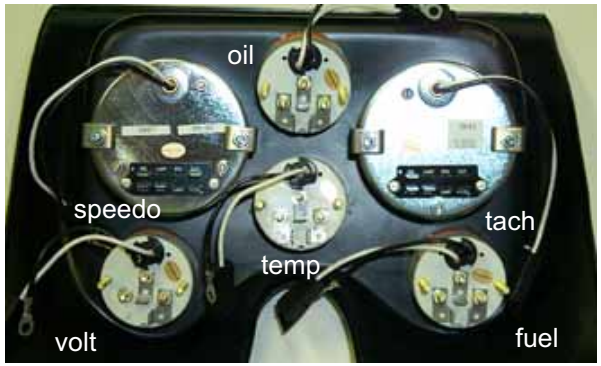
Install the blade terminals to the back of each of the 4 small gauges. Secure the terminal with a lock washer and nut. There are specific left, center, and right hand terminals. Install as shown in the photo.

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.

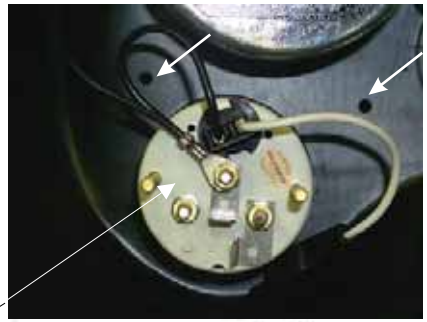
STEP 3: Insert the gauges into the housing in the locations shown.



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 pigtails 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.

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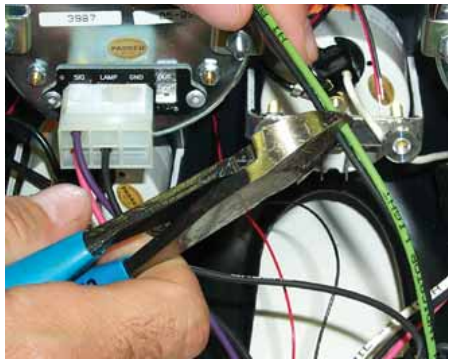
STEP 9:

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
green	left hand turn	light blue
green	right hand turn	dark blue
red	brake	pink



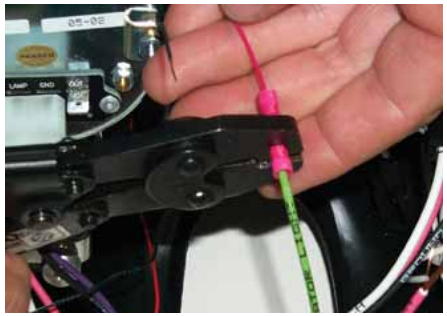
STEP 10:

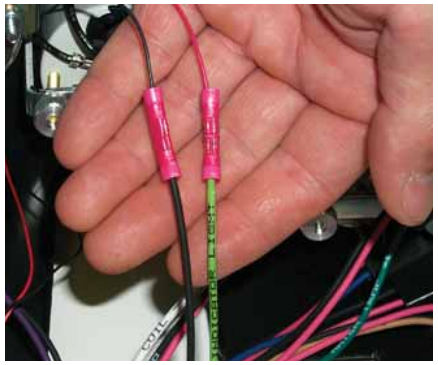
Install butt connectors, as shown, matching the wire functions noted above with the proper LED. Trim wires from the harness to the desired length before crimping.

Match the black wire from each LED panel lamp with a black ground wire from the harness for all LED lamps except the red brake warning LED.

If you are using the red brake warning LED lamp, remove the factory lamp socket and attach the black lead wire from this LED lamp to the factory brown wire. As noted above, the red will connect to the factory pink wire.

LED color	function	signal ground wire color
red	brake	tan





Step 11:

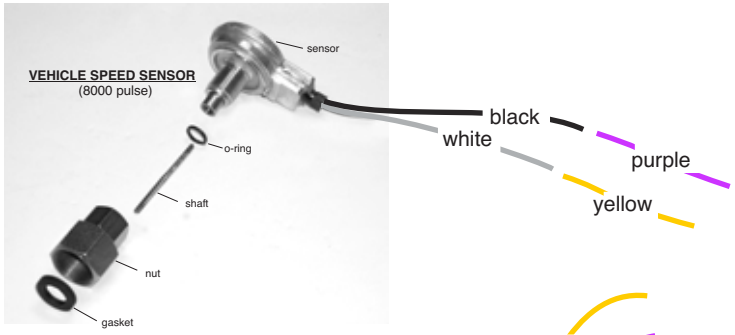
This is a completed LED splice.

STEP 11:

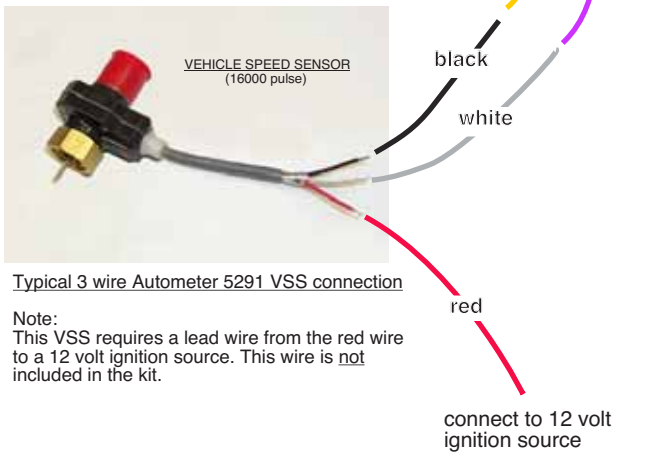
The speedometer connection has a separate long yellow wire with a ring terminal on the end. This wire is twisted around the purple vehicle speed sensor lead that is plugged into the speedometer connector. The purpose of this wire is to cancel out any signal interference to the speedometer and must be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

STEP 12:

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.

STEP 13:

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. Following are photos of the dash harnesses by year. Each photo will identify the stock wire that requires connection to the new cluster disconnect followed by an explanation of each connection.

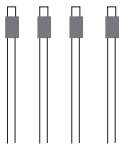
STEP 14:
Connect your existing instrument cluster wires to the new wiring kit using the supplied connectors and terminals and pin location chart. Be sure to maintain color continuity with the gauge side wiring when plugging the wires into our connectors.
Using the enclosed PIN LOCATION chart, apply the appropriate terminal to your existing wires and plug into the supplied connector. There are empty cavities. Note: Empty cavities can be used for remaining wires from the original cluster connectors which are not used in this application. This will protect the wires.

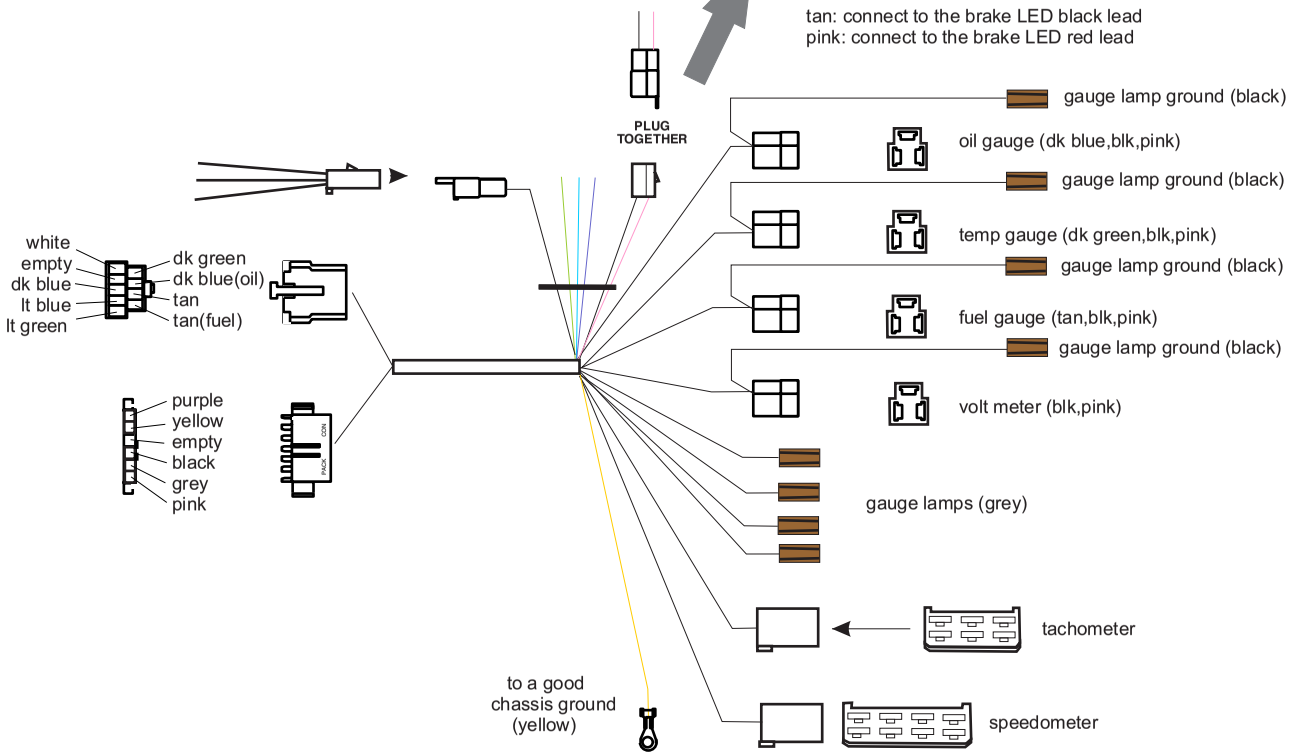
LONG BARE LEADS
lt green: connect to hi beam LED red lead
black: connect to hi beam LED black lead

lt blue: connect to LH turn LED red lead
black: connect to LH turn LED black lead

dk blue: connect to RH turn LED red lead
black: connect to RH turn LED black lead

tan: connect to the brake LED black lead
pink: connect to the brake LED red lead





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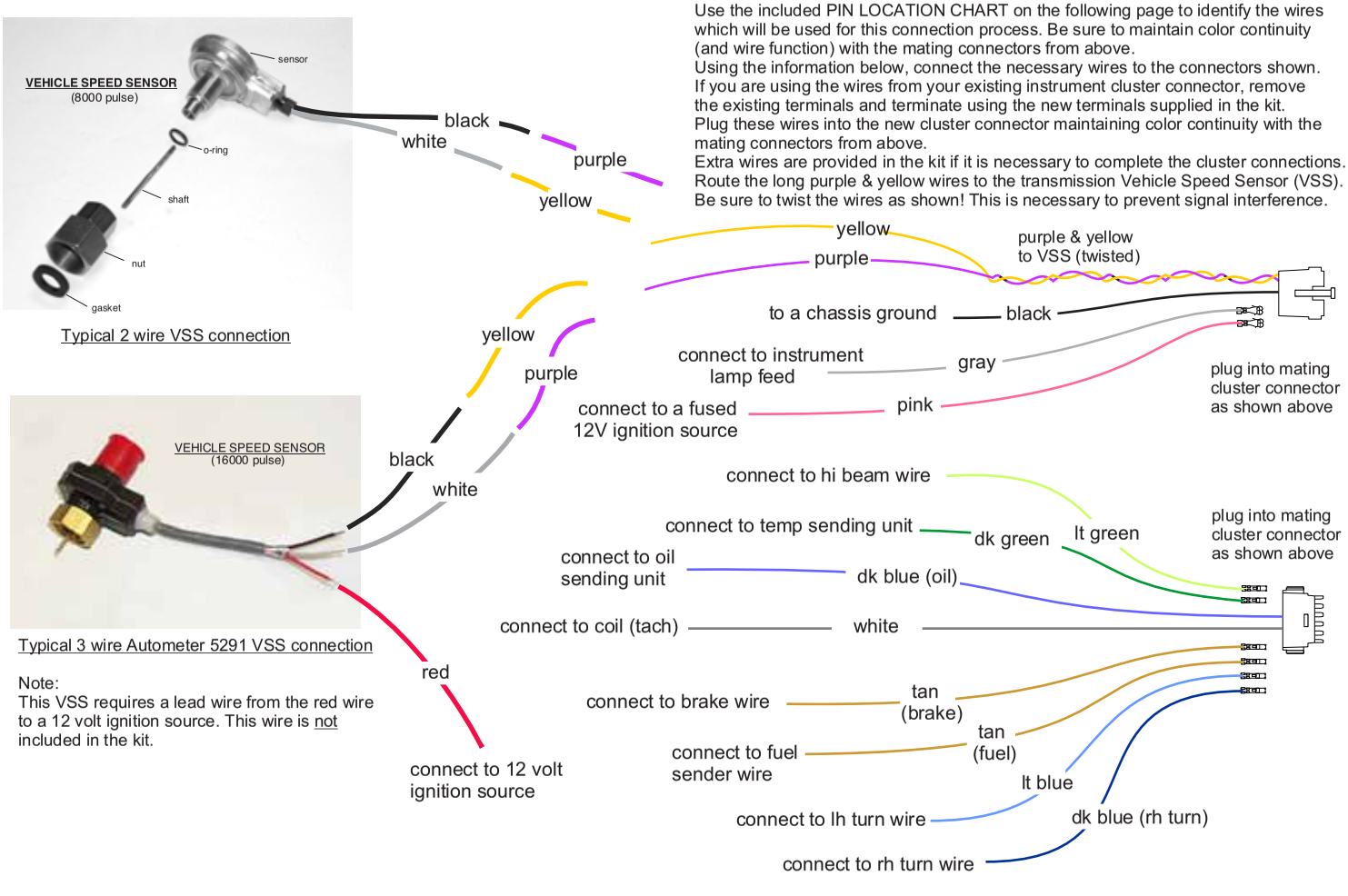
Typical 2 wire VSS connection

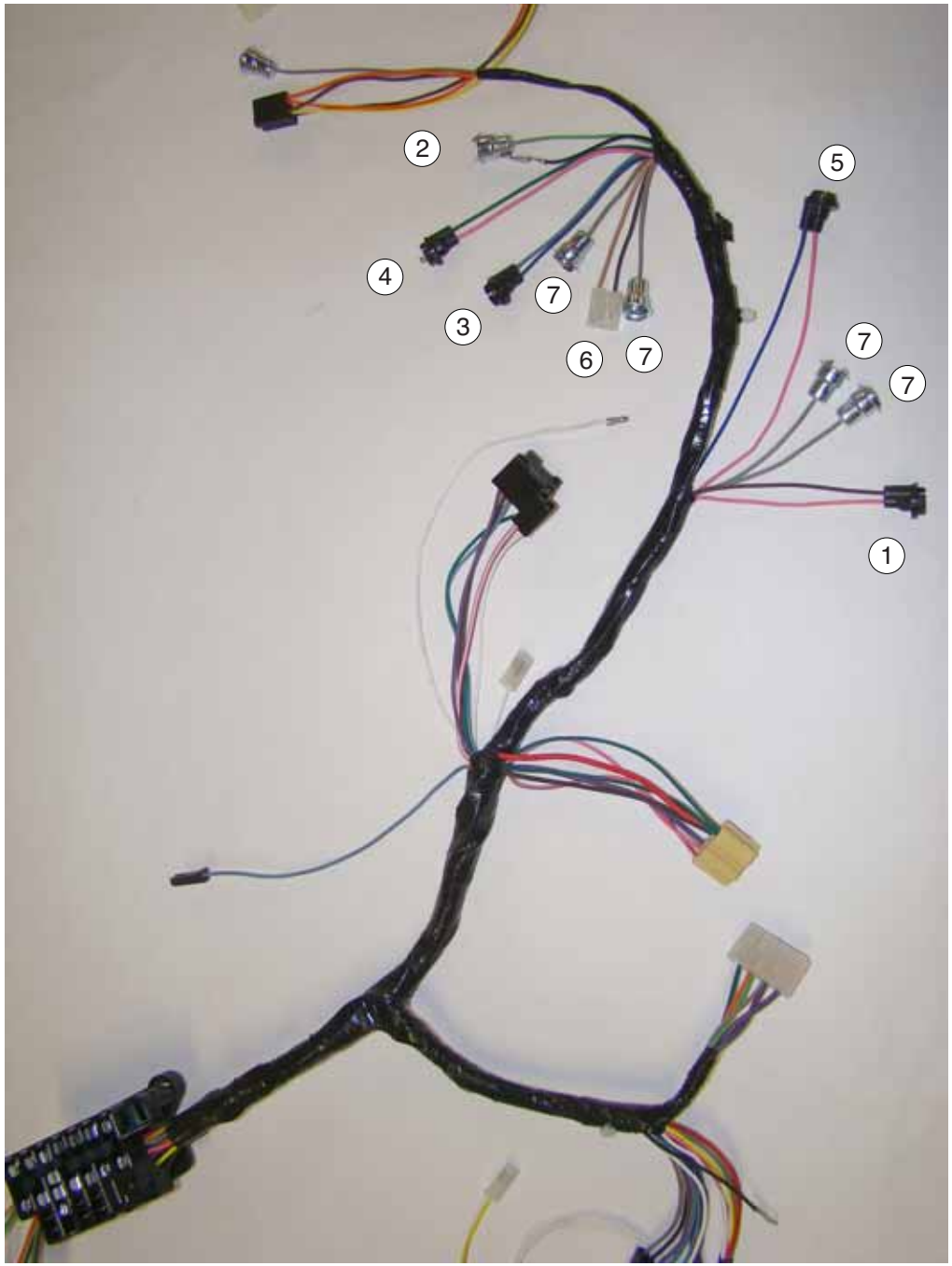
Typical 3 wire Autometer 5291 VSS connection

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.

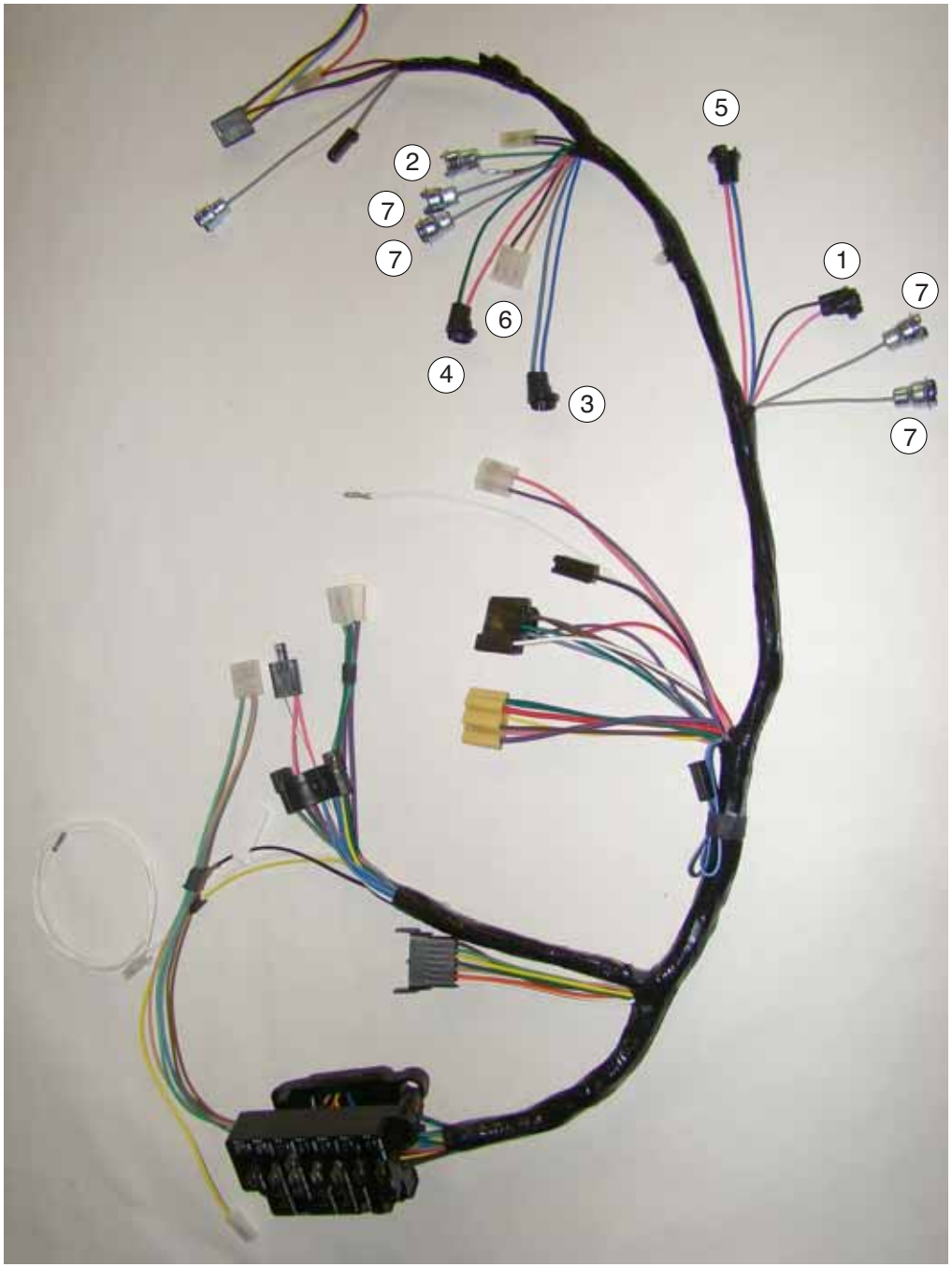
DASH SIDE CONNECTIONS
Use the included PIN LOCATION CHART on the following page to identify the wires which will be used for this connection process. Be sure to maintain color continuity (and wire function) with the mating connectors from above.
Using the information below, connect the necessary wires to the connectors shown. If you are using the wires from your existing instrument cluster connector, remove the existing terminals and terminate using the new terminals supplied in the kit.
Plug these wires into the new cluster connector maintaining color continuity with the mating connectors from above.
Extra wires are provided in the kit if it is necessary to complete the cluster connections. Route the long purple & yellow wires to the transmission Vehicle Speed Sensor (VSS). Be sure to twist the wires as shown! This is necessary to prevent signal interference.



1964 Dash - All



1965 Dash - All



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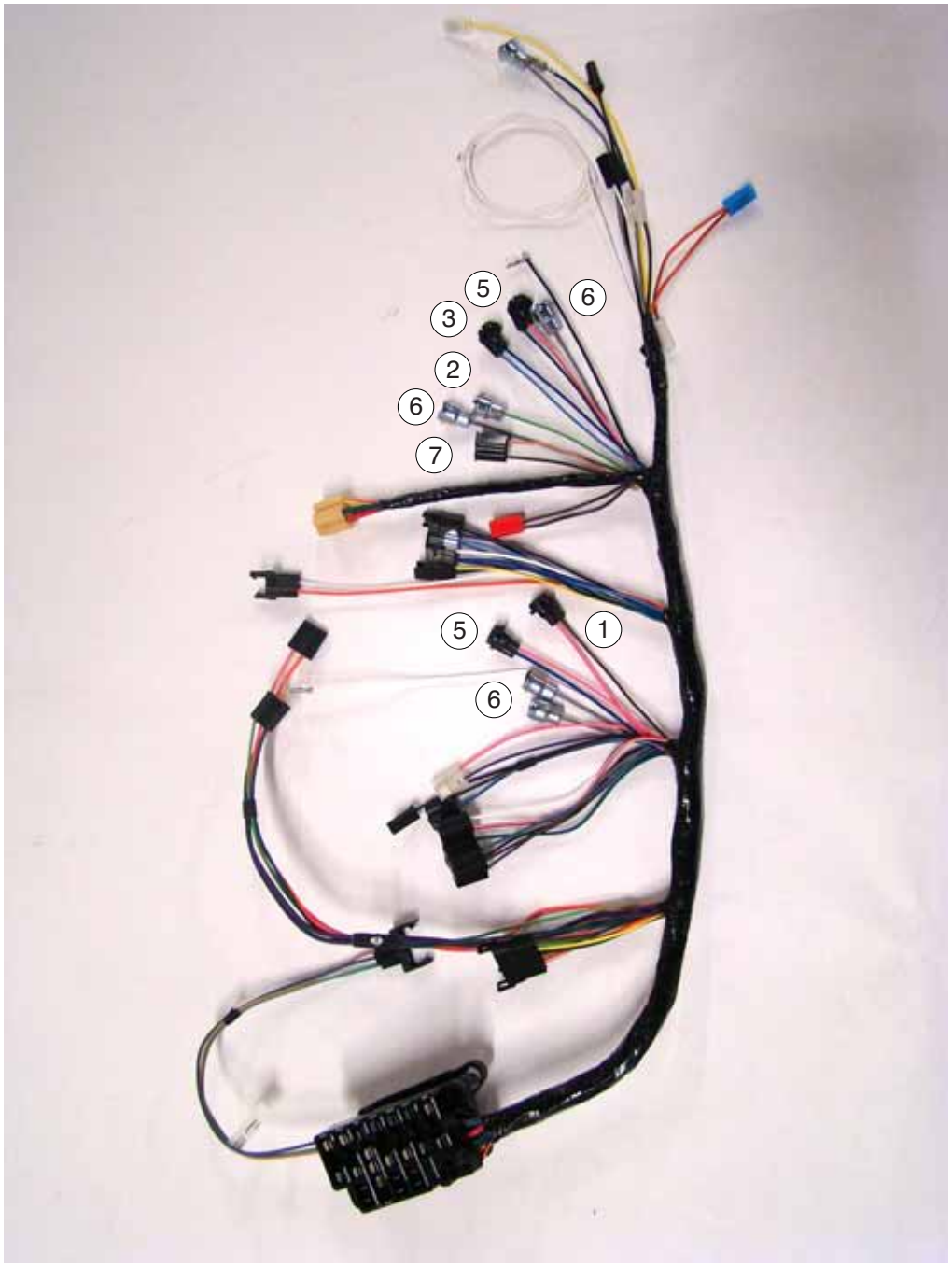
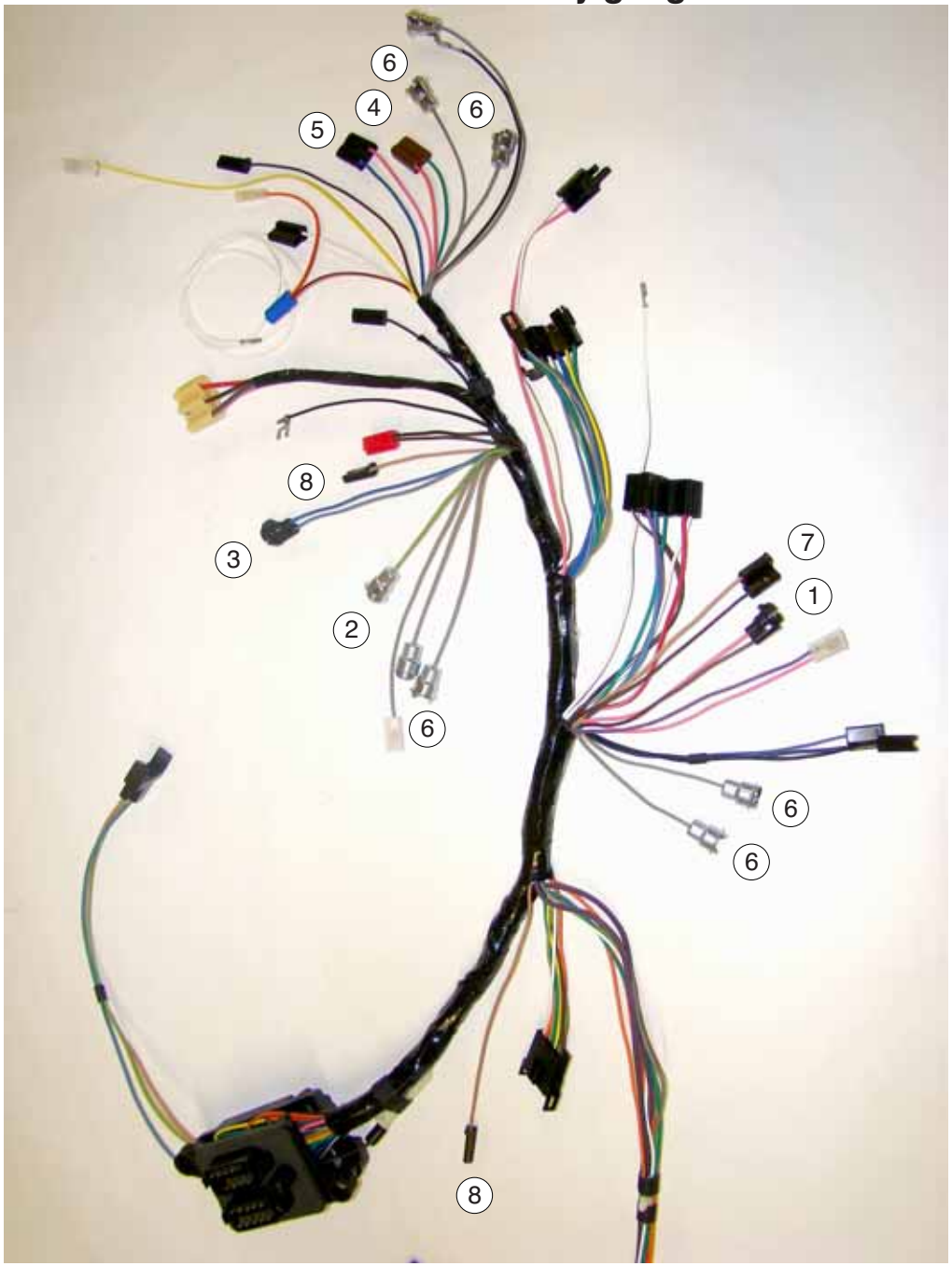
1966 Dash - with warning lights



1966 Dash - with factory gauges



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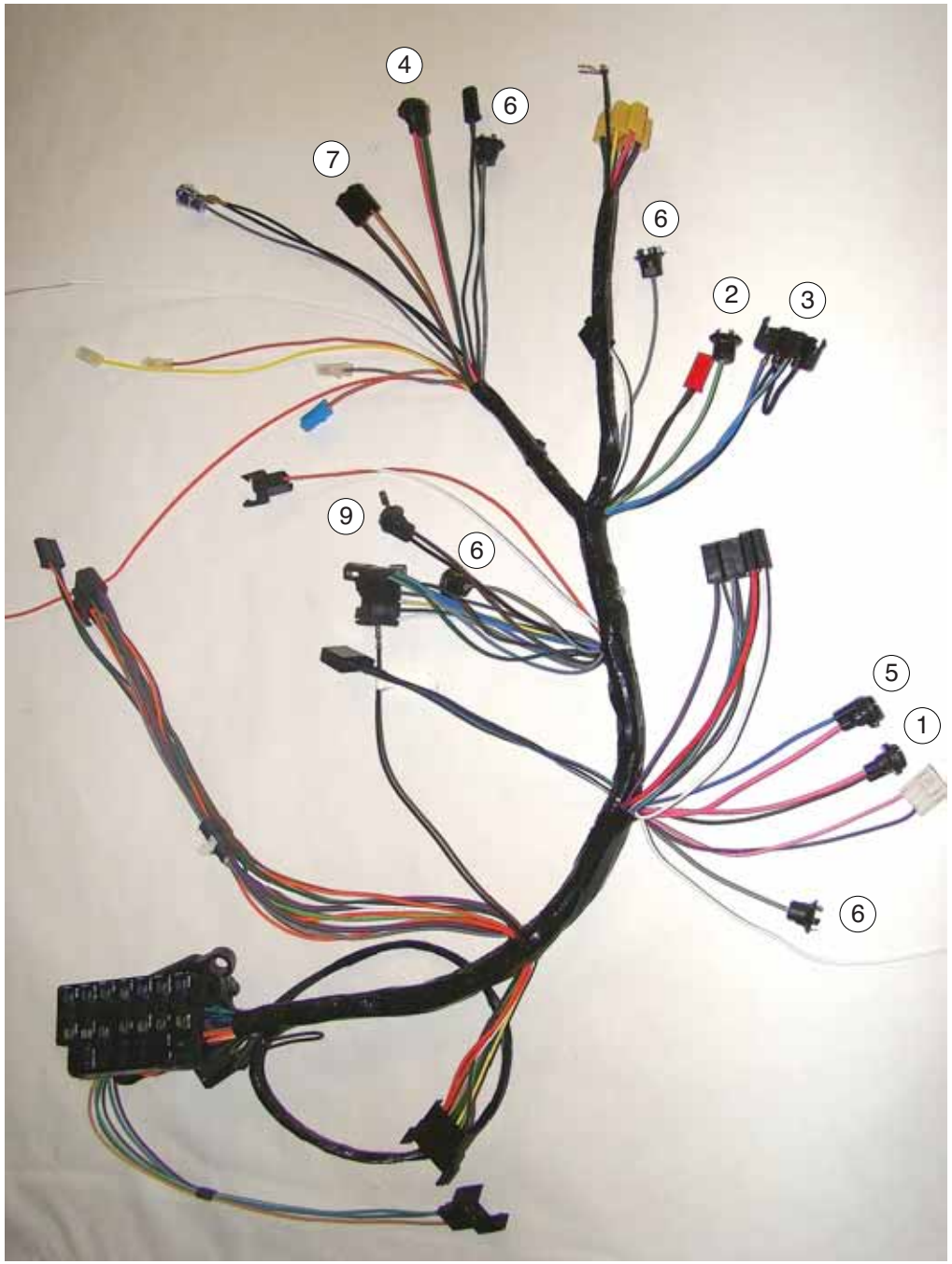
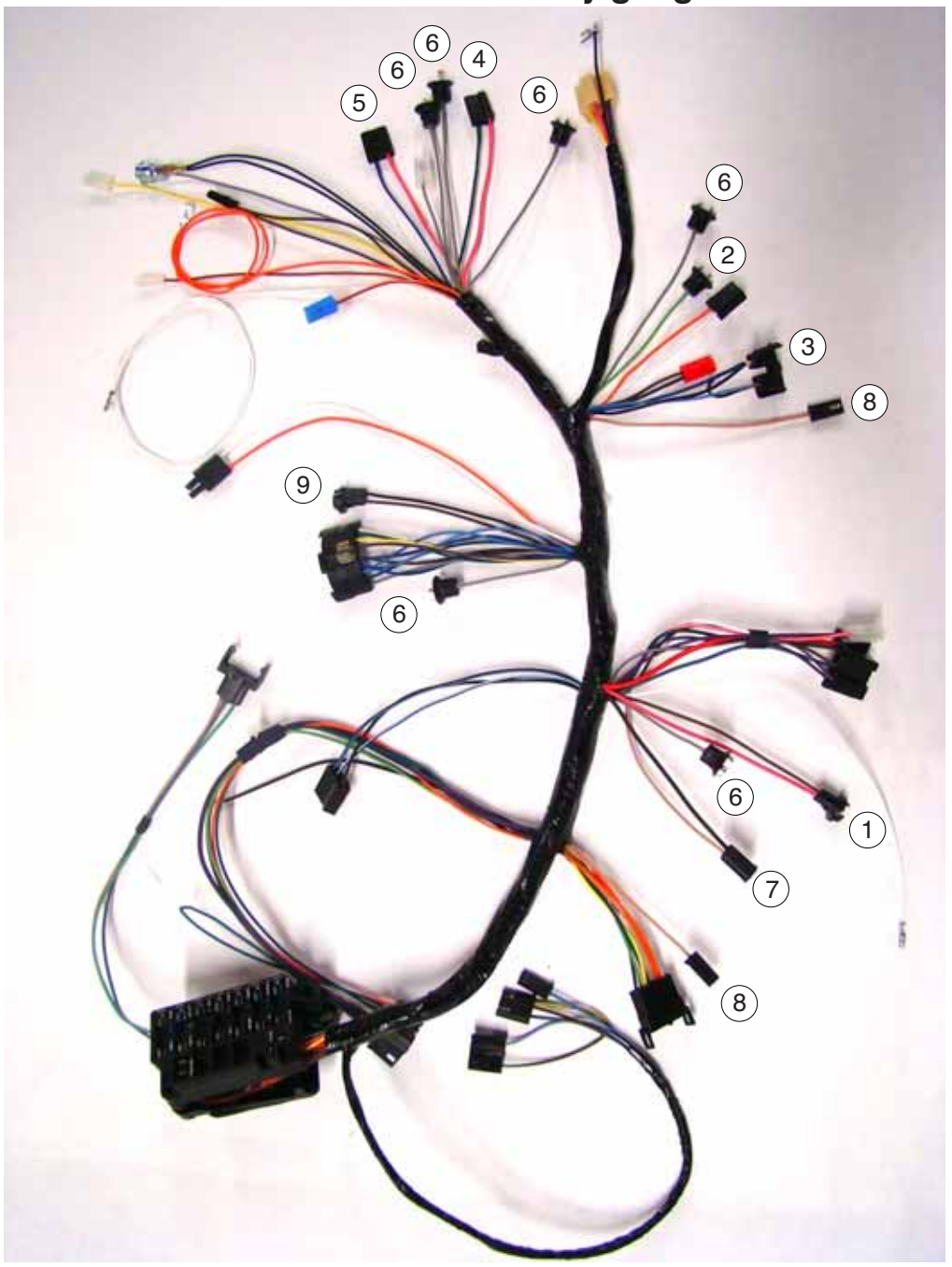
1967 Dash - with warning lights



1967 Dash - with factory gauges



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1964-67 GTO, LeMans, Tempest Dash Harness connections

Circuit	Function	Wire Color	Installation
1	Alternator Light	Brown	All cars were equipped with an alternator charge light which can be incorporated into the new dash. The new gauge setup does not require this indicator light as a voltmeter is used in the new instrument cluster. If the light is not being used in the new dash, remove the light bulb from the indicator light socket, if so equipped, and tape the light socket back against the harness.
2	High Beam Indicator	Light Green	Connect this wire to the **HI BEAM INDICATOR LIGHT** wire from the cluster disconnect. The black ground wire attached to the side of the light socket (1964, 1965) will be connected to the **GROUND** wire from the cluster disconnect. Discard the original light socket.
3	Left Turn Indicator	Light Blue	Connect this wire to the **LEFT DASH IND** wire from the cluster disconnect using a supplied butt connector.
3	Right Turn Indicator	Dark Blue	Connect this wire to the **RIGHT DASH IND** wire from the cluster disconnect using the supplied butt connector. Remove the light bulb from the indicator light socket if so equipped. Discard the original light socket (1964, 1965, 1966). Tape the original light socket connector (1967) with the remaining wires back against the harness.
4	Coolant Temp Sender	Dark Green	Connect this wire to the **WATER TEMP SENDER** wire from the cluster disconnect using a supplied butt connector.
4		Pink	Connect this wire or the pink wire from the Oil Pressure sender light socket to the **12V IGNITION** wire from the cluster disconnect using a supplied butt connector. Remove the light bulb from the indicator light socket if so equipped. Tape the connector or light socket with the remaining wire back against the harness.
5	Oil Pressure Sender	Dark Blue	Connect this wire to the **OIL PRESSURE SENDER** wire from the cluster disconnect using a supplied butt connector.
5		Pink	Connect this wire or the pink wire from the Coolant temp sender socket to the **12V IGNITION** wire from the cluster disconnect using a supplied butt connector. Remove the light bulb from the indicator light socket if so equipped. Tape the connector or light socket with the remaining wire back against the harness.
6	Fuel Tank Sender	Tan Brown	Connect this wire to the **GAS GAUGE** wire from the cluster disconnect using a supplied butt connector. This wire is not used. Tape the connector with the remaining brown wire back against the harness.
7	Instrument Lights	Gray	Connect any of these wires to the gray **DASH LIGHTS** wire from the cluster disconnect. Several wires can be grouped together. All of the identified instrument light wires will be eliminated as the new gauges have their own light leads in the new instrument cluster harness. Any unconnected wires must be taped back against the harness. Use the supplied butt connectors to make this connection.
8	Tachometer	Tan	see note 2.
9	Brake warning light	Tan	1967 only. Connect this wire to the tan brake warning lead from the cluster connector as defined on page3. 1964-66. This wire, and the associated brake warning light, is not used. The tan wire from the cluster connector (as shown on page 4) should not be connected for 1964-66 cars.

Notes:

1. 1965 cars had an optional Rally Gauge package wired with a separate Rally Gauge adapter harness. This kit wires the new gauges directly from the cluster disconnect and does not require an interface to the factory Rally Gauge adapter harness. See the 1965 dash for the necessary connections.
2. Cars with a factory tachometer used a separate tachometer harness. This kit wires the tachometer directly from the disconnect harness and will not require the use of or an interface to a separate tachometer harness. For 1967, the associated tachometer lead wires in the dash harness are ignored.