

## GENERAL MOTORS

Chevrolet  
GMC

### DESCRIPTION

All instruments and gauges are installed in the instrument cluster and "C" & "K" models can be serviced in the vehicle. "G" models require removal of the entire instrument cluster from the vehicle prior to servicing. Indicator lamps and illuminating bulbs may be replaced on all models without removing instrument cluster from vehicle.

### TESTING

#### INDICATOR WARNING LIGHTS

**Oil Pressure Indicator** – 1) Indicator light is inoperative with ignition switch on and engine not running. Check for burned out bulb, open light circuit or defective oil pressure switch.

2) Indicator light is on and engine is running above idle speed. Indicates low oil pressure, defective oil pressure switch or ground condition between light and switch.

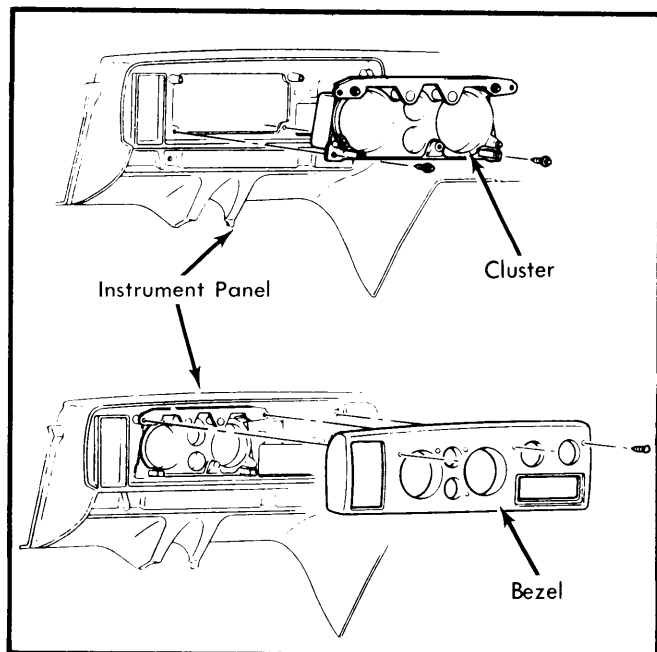


Fig. 1 General Motors "G" Models Instrument Cluster

**Temperature Indicator** – 1) If "HOT" indicator light is inoperative when cranking engine, check for burned out light bulb, open light circuit or a defective ignition switch.

2) When light is on with engine running, check for coolant temperature above 258°F, grounded condition between light and switch, defective temperature or ignition switch.

**Charging System Indicator** – 1) If light is on with ignition "OFF", check for shorted positive diode. If light is not on with ignition "ON" but engine not running, check for burned out bulb, open in light circuit or open in field.

2) If light is on with engine running above idle speed, check for no generator output, shorted negative diode or loose or broken generator belt.

#### FUEL GAUGE

Use a suitable Gas Gauge Tester (J-22344 or equivalent). Disconnect feed wire from the gas gauge tank terminal and connect one test lead to the wire and ground the other lead. Switch tester to "EMPTY" and "FULL" positions and fuel gauge should read the same as the tester. If not, proceed with the following tests with ignition in "ON" position.

**Dash Unit Never Reads Full** – Connect tester (J-22344) to tank unit feed wire and observe dash unit. If gauge does not read full, check cluster fuse, dash unit and printed circuit connections, opens in printed circuits or shorts due to pinched wires in body harness. Remove dash unit and check. If dash unit reads okay, reconnect tank unit feed wire to tank unit and completely fill fuel tank. Note dash unit pointer with engine running. If pointer still does not go to full, disconnect feed wire to tank unit. Using an ohmmeter, check resistance of tank unit for 88-92 ohms with full tank. If resistance is low, check tank mounting area for damage.

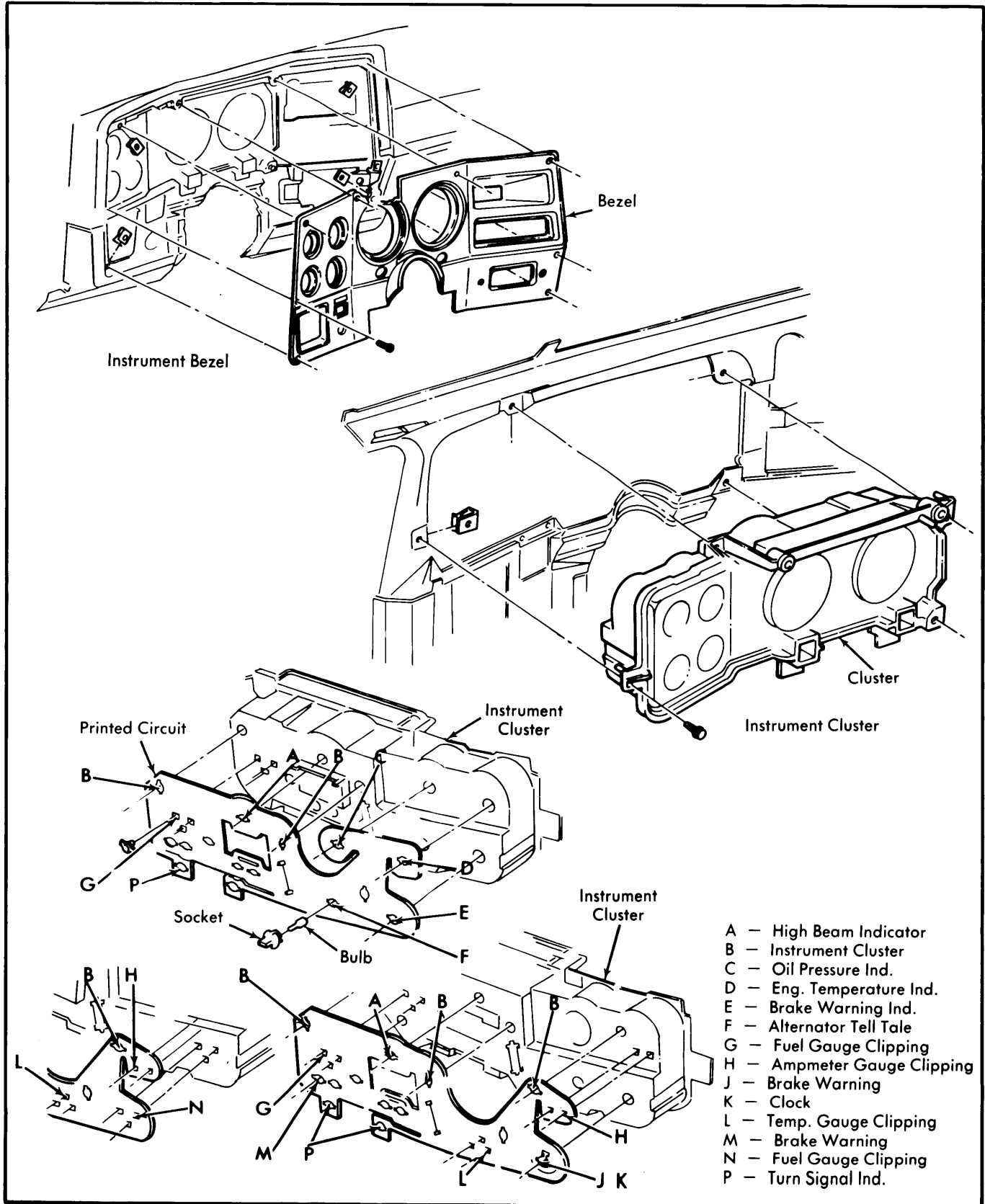
**Dash Unit Dead Between Empty and Full with Ignition "ON"** – Disconnect tank unit feed wire. Using a voltmeter, check feed wire voltage for 3-4 volts. If correct, connect gas gauge tester (J-22344) to tank unit feed wire and observe dash unit. If still dead, remove dash unit and check. If voltage does not register on meter, it indicates an open circuit on HOT side of dash unit. Check cluster fuse, connections at printed circuits for both dash unit and panel harness. If circuits okay, remove dash unit and check.

**Gauge Never Reads Empty or Reads Full at All Times with Ignition "ON"** – Check for disconnected or loose tank unit feed wire at tank unit. Connect tester (J-22344 or equivalent) to tank unit feed wire and observe dash unit. If dash unit reads okay, check ground wire from tank unit to trunk floor pan for continuity. If no improvement, check cluster fuse or proper connections at dash unit and printed circuits. Check trunk harness to flat wire. Finally, remove dash unit and check.

**Gauge Reads Empty At All Times with Ignition "ON"** – Disconnect tank unit feed wire. Dash unit should now read full. If not, check cluster fuse, printed circuit connections, and wiring for pinched condition in body harness. Finally, remove dash unit and check. If gauge reads full, check for grounded tank unit lead. Remove tank unit and check.

**Erratic Gauge Readings** – If operation is erratic (fluctuation during acceleration and deceleration is normal), check dash unit mounting screws, harness to printed circuit, panel harness to flat wire, flat wire to trunk harness, feed wire to tank unit and tank unit ground to body.

**GENERAL MOTORS (Cont.)**



**Fig. 2 General Motors "C" & "K" Models Instrument Cluster**

## GENERAL MOTORS (Cont.)

### OIL PRESSURE & TEMPERATURE GAUGE

Both gauges show actual readings and require a minimum of maintenance. The oil pressure gauge uses a direct tube from engine to gauge and if it becomes restricted, remove tube at both ends and blow out the line. Both gauges are electric and use sending units to transmit engine temperature and oil pressure. Do not repair either unit, replace units when required.

### AMMETER GAUGE

If gauge fails to read correctly, test charging system. See *Delco-Remy Alternators in ELECTRICAL Section for testing procedures.*

## REMOVAL & INSTALLATION

### SPEEDOMETER & GAUGES

**All Models** – All instruments and gauges are installed in the instrument cluster. On "C" and "K" models they may be serviced in the vehicle. On "G" models, the entire cluster must be removed for service.

### INSTRUMENT CLUSTER

**"C" & "K" Models** – 1) Disconnect battery ground cable and remove headlamp switch control knob, radio control knobs and 8 screws attaching bezel. Remove bezel.

2) Reach up under instrument panel cluster and disconnect speedometer by depressing tang on rear of speedometer head and pulling cable free.

3) Disconnect oil pressure gauge line at fitting in engine compartment. Pull instrument cluster out just far enough to disconnect line from oil pressure gauge. Remove cluster to bench for further disassembly as required.

4) To install, reverse removal procedure.

**"G" Models** – 1) Disconnect battery ground cable. Reach up under instrument panel cluster and disconnect speedometer cable by depressing tang while pulling cable free.

2) Unplug instrument panel harness connector from printed circuit. Disconnect oil pressure line from gauge (if equipped). Remove 2 nuts attaching instrument cluster studs to lower opening in panel. Pull top of cluster away from panel and lift out bottom of cluster. Remove cluster to bench for further disassembly, as required.

3) To install, reverse removal procedure making sure that clips at top of cluster slip into instrument panel opening after bottom of cluster is installed.

### PRINTED CIRCUITS

**All Models** – 1) Remove instrument cluster, all cluster light assemblies and printed circuit retaining screws.

2) On "G" Models, remove fuel, temperature and ammeter terminal nuts retaining printed circuits to rear of cluster. On all models, remove printed circuits from rear of cluster.

3) To install, reverse removal procedure while noting that retaining screws serve as ground for printed circuit and must be properly reinstalled to provide proper ground connection.

### HEADLIGHT SWITCH

**"C" & "K" Models** – Disconnect battery ground cable. Reach up behind instrument cluster, depress shaft retaining button and remove switch knob and rod. Remove cluster bezel screws at left end, and pull out on bezel. Hold switch nut with wrench. Disconnect multiple wiring connectors at switch terminals. To remove switch, turn while holding switch nut. To install, reverse removal procedure.

**"G" Models** – Disconnect battery ground cable. Reach up behind instrument panel and remove switch knob and shaft by depressing retaining button. Remove switch retaining nut from front of panel and push switch through panel opening. Remove multiple electrical connector at switch terminals. To install, reverse removal procedure making sure ground ring is installed on switch.