

Switches & Instrument Panels

GENERAL MOTORS

Chevrolet, GMC

DESCRIPTION

All instruments and gauges are installed in the instrument cluster. "C", "K" and "S" 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 & TROUBLE SHOOTING

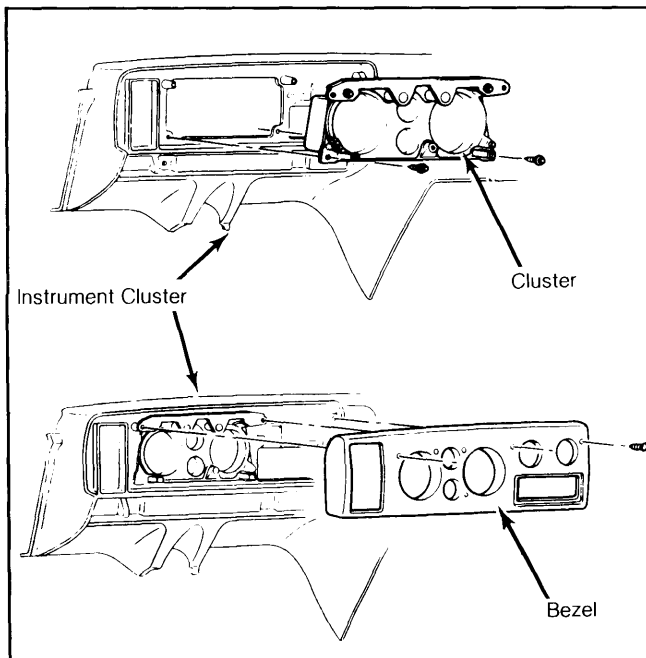
INDICATOR WARNING LIGHTS

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.

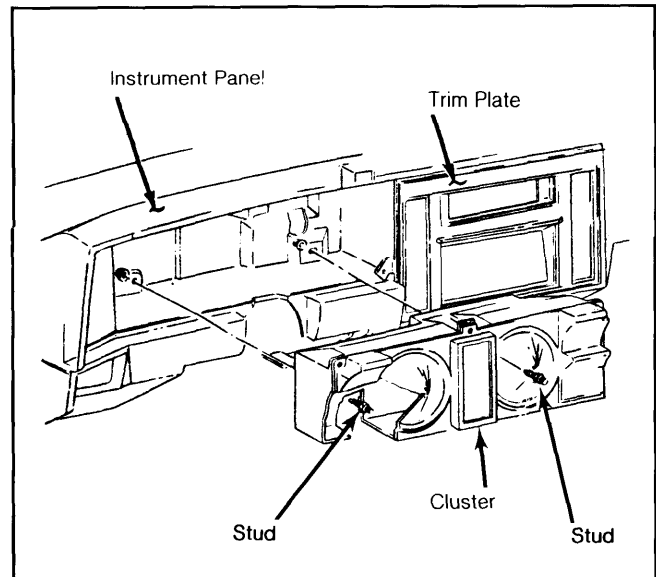
2) When light is on with engine running, check for coolant temperature above 258°F (125°C), grounded condition between light and switch, defective temperature sender or ignition switch.

Charging Indicator

1) If light is on with ignition "OFF", check for shorted positive diode. If light is not on with ignition "ON" and 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 alternator output, shorted negative diode or loose or broken alternator belt.

Fig. 2: General Motors "S" Models Instrument Cluster



FUEL GAUGE

1) Use Fuel Gauge Tester (J-24538-A or equivalent). Disconnect feed wire from the fuel gauge tank terminal and connect one test lead to the wire and ground the other lead. Turn ignition "ON". If gauge responds but not accurately, proceed to step 2). If gauge does not respond, go to step 3). If gauge responds accurately, go to step 5).

2) Remove gauge and check for loose nuts at gauge terminals. If nuts are loose and gauge reads between $\frac{1}{4}$ and $\frac{1}{2}$ with 90 ohms from tester, tighten nuts and reinstall gauge. If gauge is inaccurate in other ways and/or nuts are tight, replace gauge.

3) Disconnect front body connector. Connect tester to lead going to gauge. If gauge responds accurately, check wiring between rear compartment and front body connector. If gauge does not respond, go to step 4).

4) Remove gauge. Check for bad connections at gauge terminal or instrument cluster connection. If connections are good, replace gauge. If bad, repair connections and replace gauge.

5) Check rear compartment connector and wires to sender. If okay, replace sender. If not, repair wire or connector.

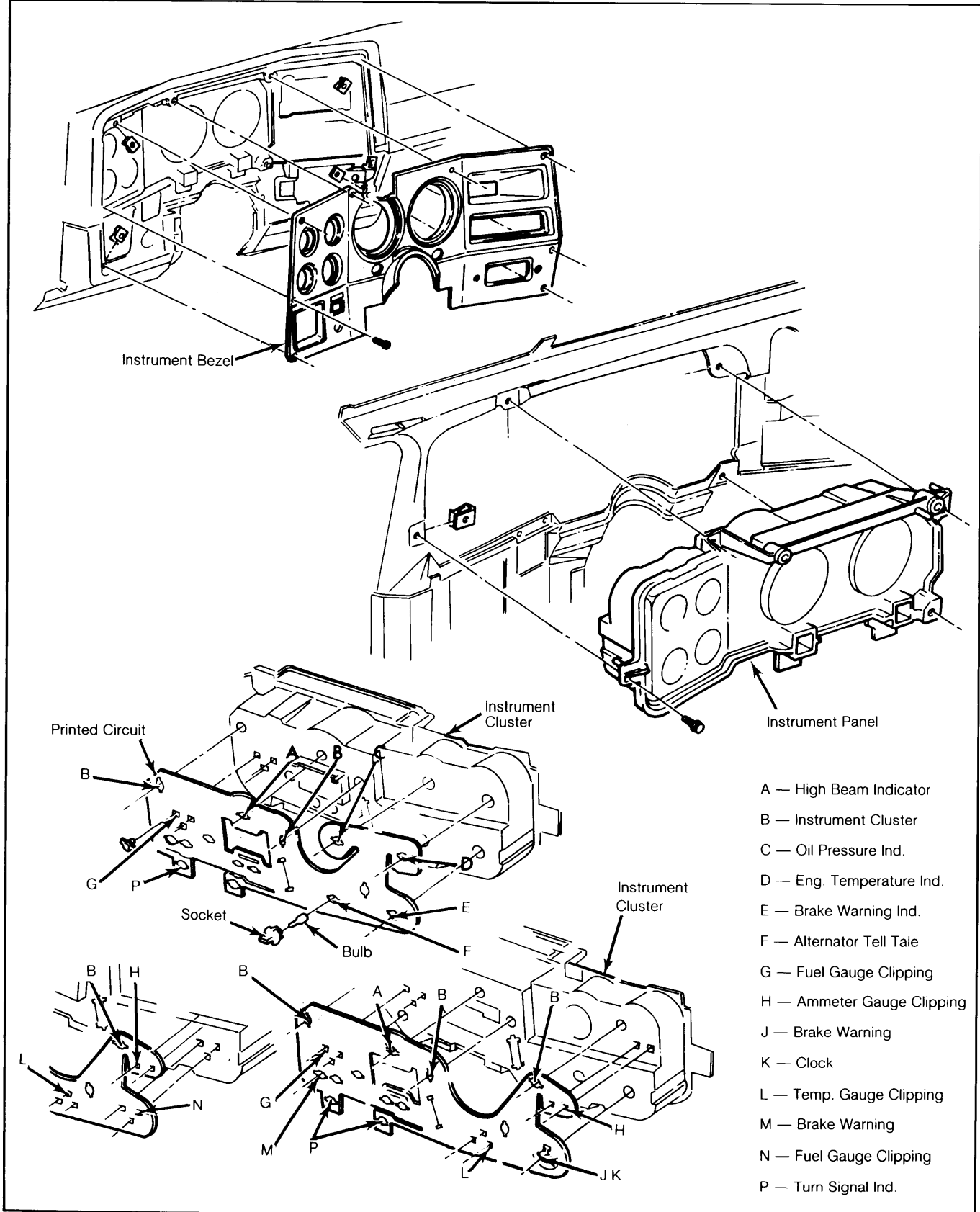
OIL PRESSURE GAUGE

1) Disconnect oil gauge sender wire in rear compartment and connect tester (J-24538-A) to sender and ground. Turn ignition "ON". If gauge responds to tester accurately, replace sender. If gauge does not respond, go to step 2). If gauge responds but not accurately, go to step 4).

2) Disconnect oil gauge lead at wiring harness connector. Connect tester to lead that goes to gauge. If gauge responds to tester accurately, check wiring between sender connections and engine harness connector. If gauge does not respond, go to step 3).

GENERAL MOTORS (Cont.)

Fig. 3: General Motors "C" & "K" Models Instrument Cluster



Switches & Instrument Panels

GENERAL MOTORS (Cont.)

3) Remove gauge. Check for bad connections at gauge terminals or instrument cluster connector. If connections are good, replace gauge. If bad, repair connections and reinstall gauge.

4) Remove gauge and check for loose nuts at gauge terminals. If nuts are loose and gauge reads slightly below midscale with 90 ohms from tester, tighten nuts and reinstall gauge. If gauge is inaccurate in other ways and/or nuts are tight, replace gauge.

TEMPERATURE GAUGE

1) Disconnect temperature gauge sender wire in rear compartment and connect tester (J-24538-A) to sender and ground. Turn ignition "ON". If gauge responds to tester accurately, replace sender. If gauge does not respond, go to step 2). If gauge responds but not accurately, go to step 4).

2) Disconnect temperature gauge lead at wiring harness connector. Connect the tester to lead that goes to gauge. If gauge responds accurately, check wiring between sender connections and engine harness connector. If gauge does not respond, go to step 3).

3) Remove gauge. Check for bad connections at gauge terminals or instrument cluster connector. If connections are good, replace gauge. If bad, repair connections and reinstall gauge.

4) Remove gauge and check for loose nuts at gauge terminals or lack of ground connection to gauge. If connections are bad, repair connections and reinstall gauge. If connections are good, replace gauge.

AMMETER GAUGE

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

SPEEDOMETER

1) If speedometer is noisy, check for kinked, pinched or burnt casings. Check for bent cable tips, improper or insufficient lubrication of cable, or rough drive gear.

2) If speedometer whines, driven gear stem in transmission could be binding with adapter. If calibration is wrong, possible causes include wrong transmission adapter, wrong drive gear or sleeve, over or undersize tires, and faulty speedometer head.

REMOVAL & INSTALLATION

SPEEDOMETER & GAUGES

All Models

All instruments and gauges are installed in the instrument cluster. On "C" and "K" and "S" 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 headlight switch control knob and radio control knobs. Remove steering column cover, 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) Remove cluster from vehicle for further disassembly as required. 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) Remove clock set stem knob. Remove bezel attaching screws and remove bezel. Remove lower cluster attaching screws. Pull top of cluster away from instrument panel and lift out bottom of cluster. Unplug harness connector from printed circuit and remove cluster.

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.

"S" Models

1) Disconnect battery ground cable. Remove 5 screws and remove instrument cluster trim plate. Remove instrument panel face plate. Remove lens and speedometer cable.

2) Disconnect electrical connector from instrument cluster and remove cluster. To install, reverse removal procedure.

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. They must be properly installed to provide proper ground connection.

HEADLIGHT SWITCH

"C" & "K" Models

1) 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.

2) Disconnect multiple wiring connectors at switch terminals. To remove switch, turn while holding switch nut. To install, reverse removal procedure.

"G" Models

1) 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.

2) Remove multiple electrical connector at switch terminals. To install, reverse removal procedure making sure ground ring is installed on switch.

"S" Models

1) Disconnect battery ground cable. Pull headlight switch to "ON" position. Reach up under instrument panel and depress switch shaft retainer button while pulling on the switch control shaft knob.

2) Remove 3 screws and remove switch trim plate. Use a large bladed screwdriver to remove light switch ferrule nut from front of instrument panel. Disconnect connector from bottom of light switch. To install, reverse removal procedure.