

## CADILLAC

Cadillac, All Models

### DESCRIPTION & OPERATION

**Fuel Gauge** — Fuel gauge is an electromagnetic type, with a variable resistance sending unit in the tank. Connections to the gauge are made by a printed circuit. Vehicles with digital instrument clusters provide 0 to 1-1/2 D.C. volts to the sending unit according to the amount of fuel remaining in the tank. This variable voltage is interpreted by the cluster microprocessor as a specific number of gallons and is displayed on the digital fuel display.

**Indicator Lights** — All warning lights come on with the ignition in the "ON" position and the engine off. The "Stop Engine Temp" light will come on with the driver's door open and the ignition in the "ON" position. All should go off when the engine starts.

**NOTE** — MPG Sentinel system description and servicing procedures are covered in Section 1A, Computerized Engine Controls.

### TESTING

#### FUEL GAUGE

1) Locate pink wire near trunk latch and disconnect. Gauge should register above full. Connect a good sending unit to pink wire, and ground body of unit. As float arm is moved, gauge needle should follow.

2) If gauge does not follow sending unit movement, inspect wire between gauge and connector at tank. If gauge is stuck in full position, check for open or broken wire. If gauge is stuck in empty position, check for shorts or grounded wire. If all connections are good and no wire damage is found, replace fuel gauge.

3) If fuel gauge operates properly with substituted sending unit, check ground connection of existing tank sender. If ground connection is bad, repair. If ground connection is good, lower tank, remove sending unit, and test with ohmmeter. Resistance should change smoothly from 0 ohms at empty to 88-92 ohms at full. If not, replace sender.

#### OIL PRESSURE INDICATOR

1) Oil pressure indicator should glow when ignition is "ON" and pressure is below 3-5 psi. If lamp stays on, disconnect dark blue wire at oil pressure sender. Lamp should go out. If not, check printed circuit. If it goes out, remove sending unit and check pressure with gauge. If pressure is correct, replace sender.

2) If lamp does not operate, check "gages" fuse. Disconnect sending unit. Lamp should glow. If so, replace sender, making sure threads are clean. If lamp does not glow, check for burned out bulb, broken wire, or poor printed circuit connection.

#### COOLANT TEMPERATURE INDICATOR

1) Temperature bulb should glow when engine is cranking and when coolant temperature is above 270° F. If engine is cool and light remains on, disconnect dark green wire to sender (near A/C compressor). If lamp goes off, replace sender.

2) If lamp stays on, lower steering column slightly and disconnect dark green wire from ignition switch. If lamp goes off, replace ignition switch. If lamp is still on, check continuity between sender and printed circuit. If wires are good, replace printed circuit.

3) If lamp never comes on with engine cranking, check for blown "gages" fuse. Disconnect dark green wire at sender. If lamp comes on, replace sender. If not, check bulb and printed circuit connector. If bulb and connector are good, lower steering column slightly and ground dark green wire at ignition switch.

4) If lamp comes on, replace ignition switch. If not, make continuity check of green wire. If good, replace printed circuit.

#### STOP ENGINE TEMPERATURE INDICATOR

The "Stop Engine Temp" light should come on with key in ignition and door open. A buzzer will sound and light will come on when engine metal temperature exceeds 320° F. The buzzer will stay on until temperature drops below 240° F, even with ignition "OFF".

1) If lamp does not come on, disconnect the light green wire at the sending unit (rear of left cylinder head). If lamp comes on and buzzer sounds, replace sender. If not, check fuse, bulb, and printed circuit connector. Voltage should be present at printed circuit connector.

2) If voltage is present at connector, light green wire is open between sender and lamp. If no voltage, pink wire is open between fuse and printed circuit.

3) If lamp does not go out, disconnect light green wire at sender. If lamp goes out, replace sender. If lamp stays on, green wire is shorted to ground between printed circuit and sender.

#### ALTERNATOR INDICATOR

1) Alternator lamp should be on when ignition is "ON" and engine is not running. If lamp is on with ignition "OFF", disconnect leads from alternator 1 and 2 terminals. If lamp stays on, leads are shorted. If lamp goes out, replace rectifier bridge in alternator.

2) If lamp does not come on with ignition "ON" and engine stopped, check bulb, fuse, and wire from ignition switch to terminal 1 at alternator. If no problems are found, check for shorts between terminals 1 and 2, and replace rectifier.

3) If lamp stays on with engine running, check for blown A/C fuse. If fuse is good, check belts and alternator.

#### DIGITAL INSTRUMENT CLUSTER

**No Cluster Displays** — Check for blown fuse, power at wiring harness cluster connector and ground and cluster.

**Fuel Display Shows Same Reading at All Times** — Fuel tank sending unit lead has an open, or connector terminal is loose.

**Fuel Display Shows Same Reading Part of the Time** — Wrong fuel tank sending unit installed. Intermittent open in wiring harness.

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**Fuel Display Shows Flashing "E" at All Times** — Fuel tank sending unit lead shorted to ground connection.

**Display Lights Do Not Dim** — Check for blown fuse or improper voltage in wiring harness at cluster connector.

**Digits Do Not Light, or Remain On at All Times** — Replace cluster.

### ADJUSTMENT

#### STOP LIGHT AND CRUISE SWITCHES

Push switch into retaining clip. Pull brake pedal to normal rest position, then rotate each switch  $\frac{1}{2}$  turn out to ensure some play between brake pedal and switch plunger.

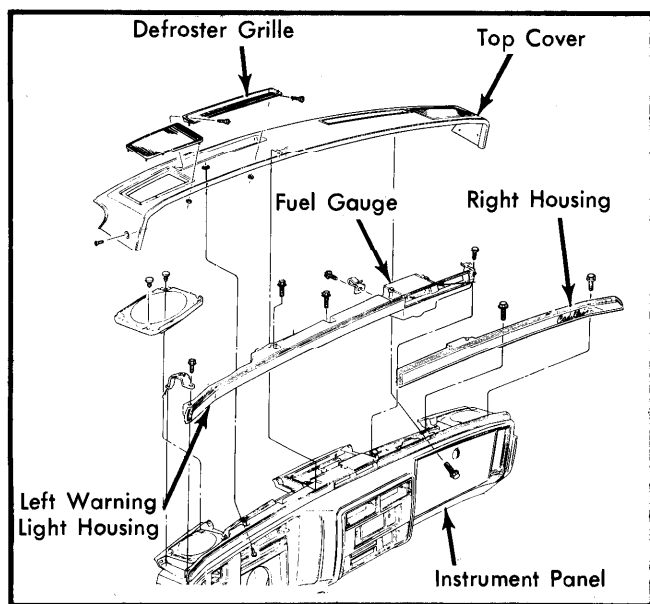
### REMOVAL & INSTALLATION

**NOTE** — Windshield wiper switch procedures are described in the appropriate *Wipers/Washers* article in this Section.

#### INSTRUMENT PANEL TOP COVER

**Removal (Fleetwood, DeVille)** — Remove screw at each end of dashboard top cover. Remove screw above speedometer and screw inside glove box liner. Remove 4 screws at ends of defroster vents, pull center of cover free from spring clips and remove.

**Installation** — To install, reverse removal procedure.



**Fig. 1 Cadillac Instrument Panel Top Cover (Fleetwood and DeVille)**

**Removal (Eldorado, Seville)** — Remove 4 screws at edges of defroster vents. Remove 4 screws along front edge of top cover, then remove cover.

**Installation** — To install, reverse removal procedure.

#### WARNING LIGHTS AND FUEL GAUGE

**Removal (Fleetwood, DeVille)** — Remove top cover. Disconnect wiring and remove 5 screws retaining left assembly to dash, 4 screws retaining right assembly to dash. Remove 3 nuts and light socket, then remove fuel gauge. To remove printed circuit, remove all nuts and bulbs.

**Installation** — To install, reverse removal procedure.

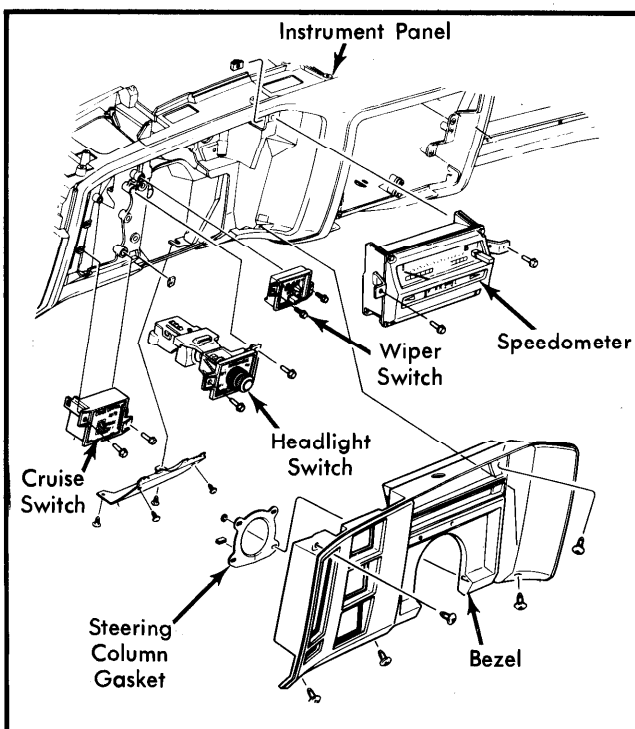
#### SPEEDOMETER CLUSTER AND PRINTED CIRCUIT

**Removal (Fleetwood, DeVille)** — 1) Disconnect battery. Remove air conditioning vent knob and grille using suitable tool (J-24612-01). Remove 6 screws retaining bezel to panel (one screw inside A/C vent). Remove 2 upper and 2 lower screws in steering column cover, disconnect column seal, and remove bezel.

2) Remove screw holding shift indicator cable to column. Remove 2 upper screws and 2 inboard lower screws from cluster. Remove 1 screw directly above steering column. Pull cluster back, disconnect speedometer cable and speed sensor, then remove cluster.

3) Remove 4 speedometer lens screws and lens. Remove shift indicator by pulling straight out. Remove 2 rubber mounted screws and remove speedometer. Remove all sockets and bulbs from cluster to remove printed circuit.

**Installation** — To install, reverse removal procedure and adjust shift indicator as necessary with pointer in "N".



**Fig. 2 Speedometer Cluster Removal (Fleetwood and DeVille)**

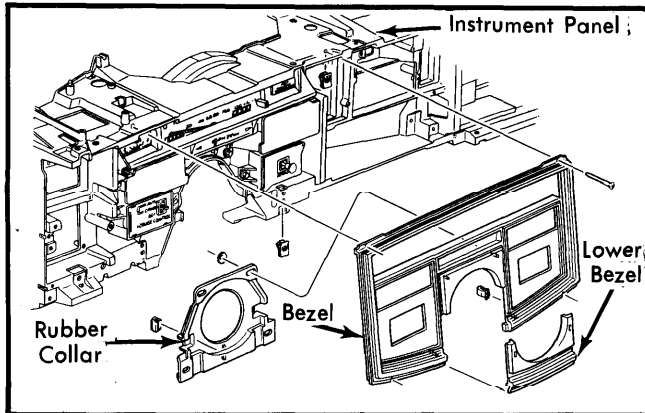
**Removal (Eldorado, Seville)** — 1) Disconnect battery. Remove 4 screws securing bezel. Remove 4 screws on warning lamp lenses, then 6 screws on cluster lens. Remove lenses and retainer. Remove 2 screws and shift indicator.

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2) Remove 2 screws and coolant indicator, then 2 screws and fuel gauge. Remove 4 screws and speedometer head. Remove trip reset knob.

**Installation** — To install, reverse removal procedure.



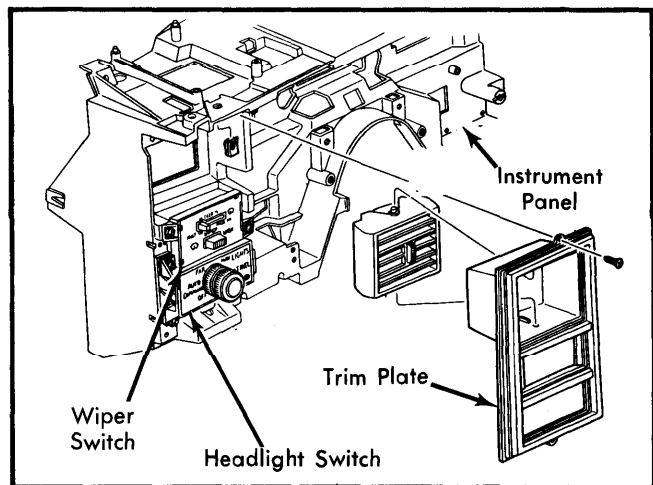
**Fig. 3 Speedometer Cluster Removal (Eldorado and Seville)**

### HEADLIGHT SWITCH

**Removal (Fleetwood, DeVille)** — Remove speedometer cluster bezel and remove 3 headlight switch screws. With cruise control and twilight sentinel, remove 2 cruise control switch screws and slide switch forward to remove headlight switch. Remove wiring connectors and pull switch out.

**Installation** — To install, reverse removal procedure.

**Removal (Eldorado, Seville)** — Remove 2 screws from left-hand trim plate and air vent. Remove trim plate and headlight switch screws. Disconnect wiring and remove switch.



**Fig. 4 Left Trim Plate Removal (Eldorado and Seville)**

**Installation** — To install, reverse removal procedure.

### CENTER INSTRUMENT PANEL INSERT

**Removal (Fleetwood, DeVille)** — Remove the radio knobs, springs, and retaining nuts. Remove both air vents and remove one screw from inside each vent. Remove 2 lower screws and insert.

**Removal (Eldorado, Seville)** — Remove 2 screws at top edge of trim insert. Remove radio knobs and retaining nuts, then remove trim plate.

**Installation** — To install, reverse removal procedure.