

## PONTIAC

## All Models

## DESCRIPTION &amp; OPERATION

**Fuel Gauge** — Circuit consists of an electromagnetic gauge in instrument panel and a fuel tank sending unit incorporating a float, linkage, movable contact arm and rheostat. As float lowers with fuel level, contact arm moves over rheostat which decreases resistance to gauge circuit, allowing gauge pointer to move towards empty position. Gauge pointer may rest at any position with ignition in "OFF" or "START" and should move to correct fuel level with ignition in "ACC" or "ON" position.

**Temperature Indicator** — When engine coolant temperature reaches about 248° F, engine temperature sending unit will close, completing indicator ground circuit, allowing temperature indicator light to come on. When engine is in "START", temperature indicator should come on as a test of indicator bulb.

**Oil Pressure Indicator** — A pressure operated sending unit is located on oil filter support or side of block. Indicator light on instrument panel will come on as sending unit closes and ground circuit is completed when oil pressure drops below 5 psi. Lamp should also come on when ignition is on and when engine is not running. Lamp is wired in series with electric choke and will light if choke becomes inoperative.

**Alternator Indicator** — Indicator on instrument panel should come on with ignition switch on and engine not running or until engine is accelerated above 900 RPM after being started. When alternator voltage output is above battery voltage, indicator light should turn off.

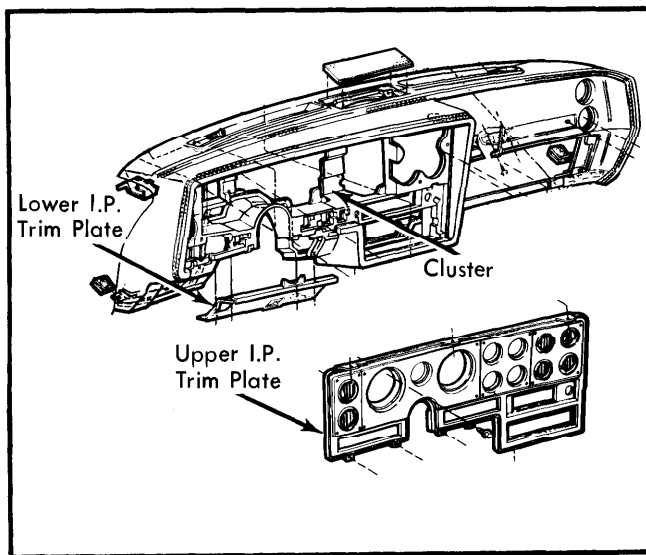


Fig. 1 Grand Prix, Grand LeMans & LeMans Instrument Cluster

**Choke Warning Lamp** — Vehicles with electric chokes and optional gauge package use a choke indicator lamp to monitor choke malfunctions. The lamp should light with ignition on.

**Wait Lamp** — Vehicles with diesel engines have a "WAIT" lamp. This indicates when glow plugs have warmed the engine sufficiently for starting. The light should come on with ignition on.

**Water in Fuel Lamp** — Diesel engine vehicles use an indicator to show if there is water in the fuel. The light should come on with ignition on. If there is water in the fuel, the indicator will come on about 20 seconds after engine has been started.

**Rally Gauge Package** — Rally gauge package option consists of a coolant temperature gauge, voltmeter and oil pressure gauge in addition to fuel gauge. Water temperature and oil pressure gauges are electrically operated from sending units located in cylinder head and oil filter base. The voltmeter registers regulated voltage indicating battery charge.

## TESTING

## INDICATOR WARNING LIGHTS

**Temperature Indicator** — If light remains on, check coolant temperature or sending unit for ground. Check for a shorted condition between firewall and sending unit or between firewall and printed circuit. If indicator fails to come on, check bulb, fuse or circuit for an open condition.

**Oil Pressure Indicator** — If indicator light remains on, check for shorted sending unit or firewall connector. Also check for a short between printed circuit and fuse block. If light fails to come on, check bulb, fuse, circuit and electric choke for an open condition.

**Alternator Indicator** — If indicator light fails to come on with ignition on and engine not running, check bulb. If bulb is good, or if indicator remains on after engine is started and accelerated above 900 RPM, test charging system. See *Delco-Remy Alternators* in **ELECTRICAL** Section.

## FUEL GAUGE

- 1) With ignition switch in "OFF" position, disconnect sender wire (Pink) in rear compartment. Turn ignition to "ON" position and gauge should read past "FULL".
- 2) Use a jumper wire and short body side of harness connector to ground. Gauge should read past "EMPTY".
- 3) If steps 1 and 2 are OK, trouble is in the sending unit or wiring connector at tank.
- 4) If steps 1 and 2 are not OK, remove gauge from cluster and reconnect wire in rear compartment.
- 5) Check the 3 terminals on the back of the gauge. With ignition "ON", one should have 12 volts, one grounded, and the other measure from 0 to 90 ohms. If all check OK, replace gauge. If not, repair wiring to gauge.

## STOP LIGHT SWITCH

If stop-hazard fuse is good and stop lights fail to come on, or fail to turn off, check for voltage using a test light at White wire terminal in steering column connector while depressing brake pedal. If light does not come on, check switch adjustment. If switch is properly adjusted and light fails to come on, replace stop light switch.

## PONTIAC (Cont.)

### ADJUSTMENT

#### STOP LIGHT SWITCH

**All Models** — With pedal in fully raised position, stop light switch plunger should be fully depressed against pedal shank. Adjust switch by moving in or out as necessary.

### REMOVAL & INSTALLATION

#### INSTRUMENT PANEL TOP PAD

**Removal (Bonneville, Catalina)** — Remove 1 screw at each end of cover, and 4 screws in defroster vents. Remove 7 screws under forward edge and remove top cover.

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

pull knob and shaft out. Remove left cluster or trim cover panel if ferrule nut is not visible. Remove ferrule nut, wiring connector, any mounting screws, and remove switch.

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

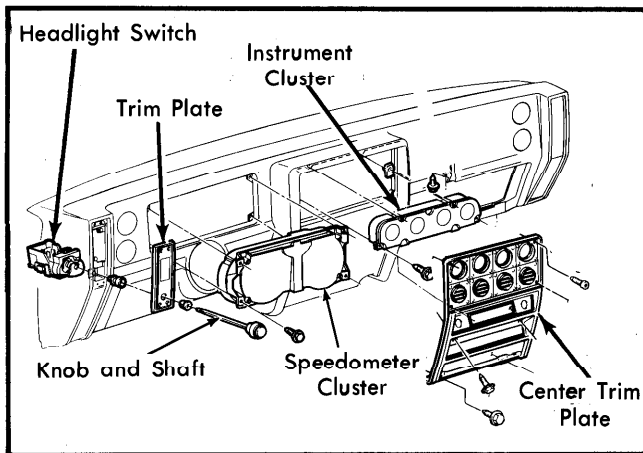


Fig. 2 Phoenix Instrument Cluster

#### SPEEDOMETER, GAUGES, & PRINTED CIRCUITS

**Removal (All Models)** — 1) Disconnect battery. Remove trim plate below column, and instrument cluster trim plate. Gauges can now be removed.

2) Remove cluster screws and disconnect shift indicator cable from column. On Firebird, loosen column nuts and lower column 1/2". Disconnect speedometer cable on all models and pull cluster back. Disconnect wiring, remove all bulbs, clips, and screws, then remove printed circuit.

3) To remove instruments in center of dashboard, remove appropriate trim plate, remove cluster screws, and pull panel forward. Disconnect wiring and remove gauges.

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

#### HEADLIGHT SWITCH

**Removal (All Models)** — Pull switch knob out fully. Depress knob release button on headlight switch behind panel, and

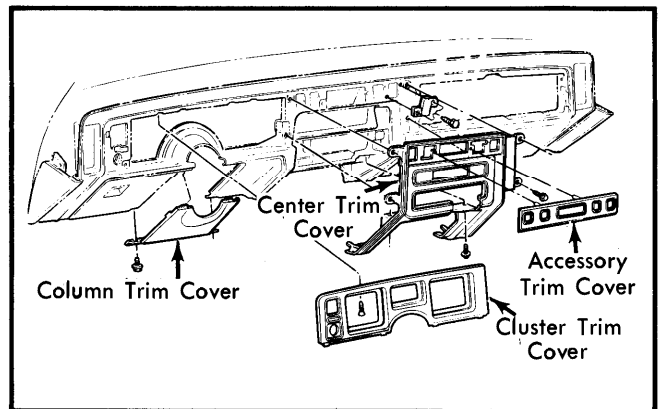


Fig. 3 Bonneville & Catalina Instrument Cluster

#### WIPER SWITCH

**NOTE** — Windshield wiper switch removal procedures can be found in the appropriate Wipers/Washers article in this section.

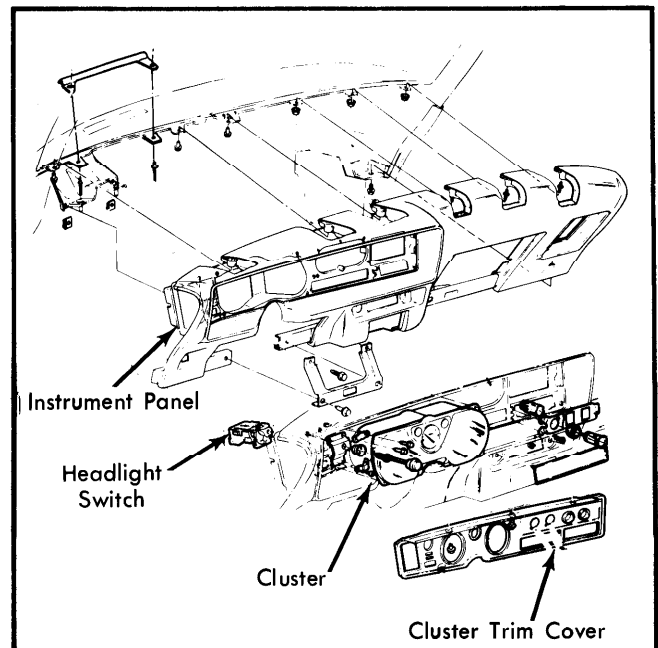


Fig. 4 Firebird Instrument Cluster