PONTIAC

All Models

DESCRIPTION & 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.

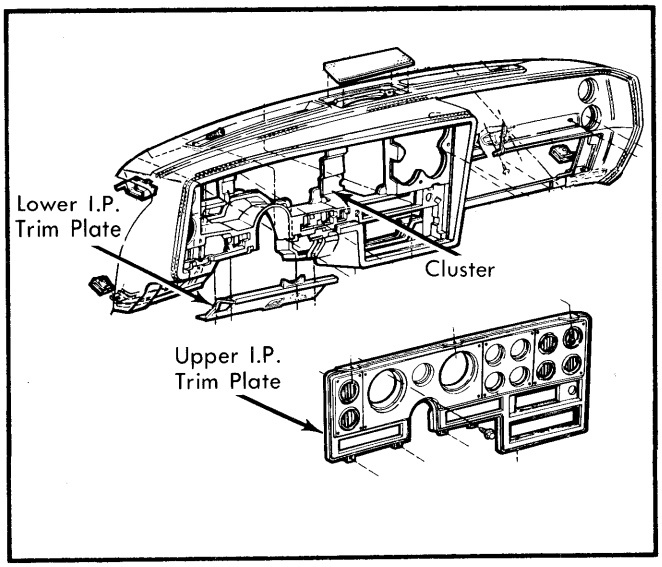

Fig. 1 Bonneville & Grand Prix Instrument Cluster

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 (Firebird) – Remove 4 retaining screws from defroster ducts. Remove retaining screws from under lip of pad and remove pad.

Removal (T1000) – 1) Disconnect battery. Remove 1 screw at each end of pad, 2 from inside glove box and nut from mounting stud on bottom of radio. Remove screw under top of trim plate (center trim plate must be moved to provide access). Remove 2 screws from center of pad.

2) Remove headlight switch shaft and headlight switch trim plate. Remove screw from top of trim panel opening. Pull instrument panel pad up and to the rear to clear retaining clips and remove pad.

Installation (Firebird & T1000) – To install, reverse removal procedure.

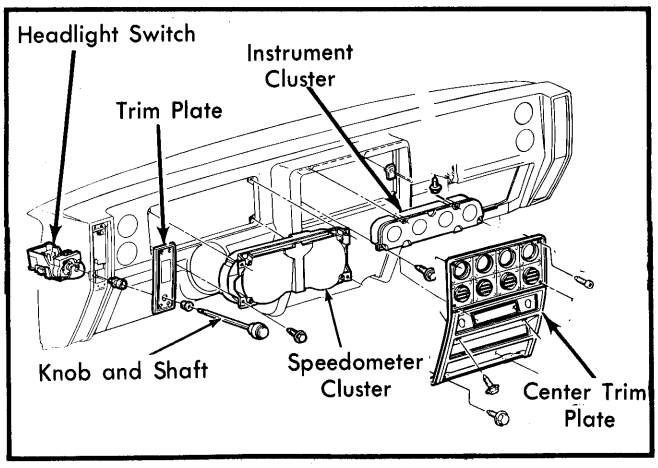

Fig. 2 Phoenix Instrument Cluster

INSTRUMENT PANEL

Removal (Bonneville & Grand Prix) – 1) Disconnect battery cable. Remove sound insulation panels. Disconnect shift indicator cable at steering column, remove steering column nuts and lower steering column.

2) Pry up front edge of speaker cover and remove 2 panel-to-cowl retaining screws. Remove retaining screws from each end of instrument panel pad. Remove 3 bottom screws. Disconnect front end and engine wiring harnesses from fuse block and remove fuse block from firewall.

3) Remove heater control cables and electrical connections. Remove remaining electrical connectors. Remove speedometer cable from speedometer head. Remove instrument panel.

Removal (Phoenix, J2000 & 6000) – 1) Disconnect battery. Remove sound insulation panels and steering column trim cover. Disconnect parking brake cable and vent cables (as needed).

2) On J2000, remove glove box and door. On all models, disconnect temperature control cable, heater control cable, A/C wiring, vacuum harnesses and A/C duct (as equipped). Remove steering column retaining bolts and lower steering column.

3) On Phoenix, disconnect chassis wiring harness from engine harness at fuse block and remove fuse block from cowl. On 6000, disconnect chassis harness and ECM connectors. Disconnect instrument panel harness at cowl. On Phoenix and 6000, remove center instrument panel trim plate and radio. Disconnect neutral and brake light switches.

4) On J2000, remove right lower trim plate and disconnect cigar lighter and accessory switches. Pull heater or A/C control head out slightly and disconnect wiring and vacuum harnesses, then remove head. Disconnect front end and engine harnesses from bulkhead connector, then remove bulkhead connector from cowl. Remove hood release handle set screw and remove handle. Loosen retaining nut and disconnect hood release cable.

5) Remove upper instrument panel retaining screws (in defroster ducts on J2000), and lower retaining screws. Pull panel part way out and disconnect ignition, headlight dimmer and turn signal switches. Disconnect remaining electrical wiring and vacuum lines. Remove panel.

Installation – To install, reverse removal procedure.

SPEEDOMETER CLUSTER, INSTRUMENT PANEL & PRINTED CIRCUITS

Removal (Bonneville, Firebird & Grand Prix) – 1) Disconnect battery. Remove lower trim plate(s). Remove instrument cluster trim plate. Remove cluster attachment screws, pull cluster partially out and disconnect speedometer cable and electrical connections.

2) Remove trip odometer reset knob and cluster lens (if equipped). On Bonneville and Grand Prix, remove auxiliary gauge cluster retaining screws, pull out cluster, disconnect wiring harness and remove cluster. On all models, remove retaining screws, disconnect wiring connectors and remove selected gauge from cluster.

3) To remove printed circuit, remove remaining wiring harneses and snap-in bulbs from rear of cluster. Remove printed circuit-to-instrument cluster retaining nuts (if any) and remove circuit.

Removal (Phoenix, J2000, T1000 & 6000) – 1) Disconnect battery. Remove clock stem knob. Remove lower trim plate(s), cluster trim plate and steering column trim covers (if equipped). Remove speedometer cluster retaining screws.

2) On J2000, loosen steering column retaining bolts and lower steering column. On Phoenix, disconnect shift indicator detent cable after marking location of cable on steering column shift bowl. On T1000 and 6000, remove speedometer cluster bezel (T1000 only) and lens.

PONTIAC (Cont.)

3) On all models, pull cluster out slightly and disconnect speedometer cable and wiring harness connector(s). Remove speedometer cluster.

4) On Phoenix and 6000, remove auxiliary instrument (or warning light) cluster. Remove trim plates and cluster retaining screws. Pull out cluster, disconnect wiring harness connector(s) and remove cluster.

5) Remove printed circuit. Remove snap-in bulbs and wiring harness connectors from back of speedometer cluster. Remove any nuts retaining circuit to housing and remove printed circuit.

Installation (All Models) – Reverse removal procedures to install.

HEADLIGHT SWITCH

Removal (Bonneville, Grand Prix, J2000 & T1000) – 1) Pull switch knob to on position. On J2000, remove knob from rod by depressing retaining clip under knob with paper clip. On all other models, press knob release button on headlight switch behind panel and remove knob and shaft.

2) On all models, remove trim plate and retaining nut. On J2000, rotate switch 180°, tilt forward and pull out. Disconnect wiring harness. On all other models, remove wiring connector and mounting screws. Remove switch.

Removal (Firebird) – Remove lower trim plates and instrument trim plate. Remove switch assembly retaining screws, depress tangs and pull switch out of panel. Disconnect wiring harness from switch.

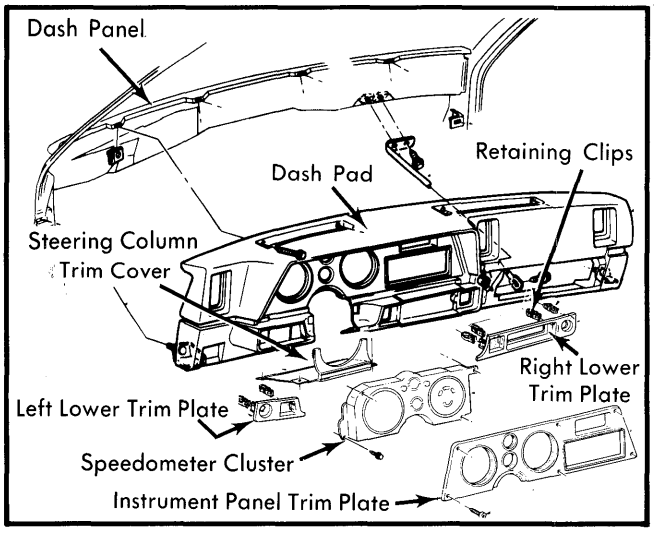

Fig. 3 J2000 Instrument Panel

Removal (Phoenix & 6000) – Disconnect battery. Remove steering column trim cover and headlight rod and knob assembly. Remove left trim plate. On Phoenix, remove switch from instrument panel, disconnect wiring harness and remove switch. On 6000, remove screws holding switch and bracket assembly to instrument panel. Disconnect electrical connector and remove switch and bracket assembly. Loosen bezel and separate switch from bracket.

Installation (All Models) – To install, reverse removal procedure.

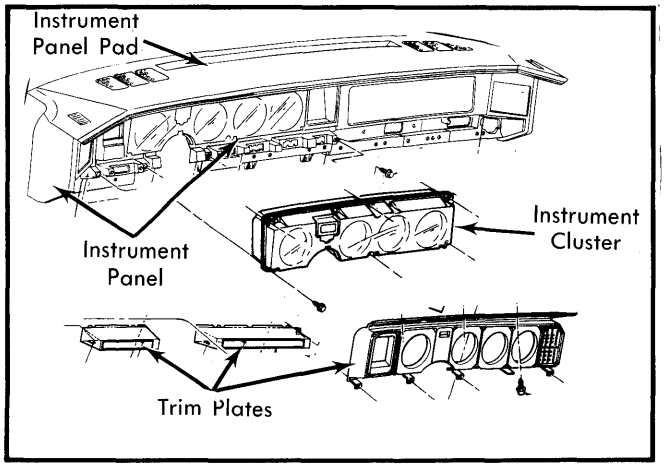

Fig. 4 Firebird Instrument Cluster

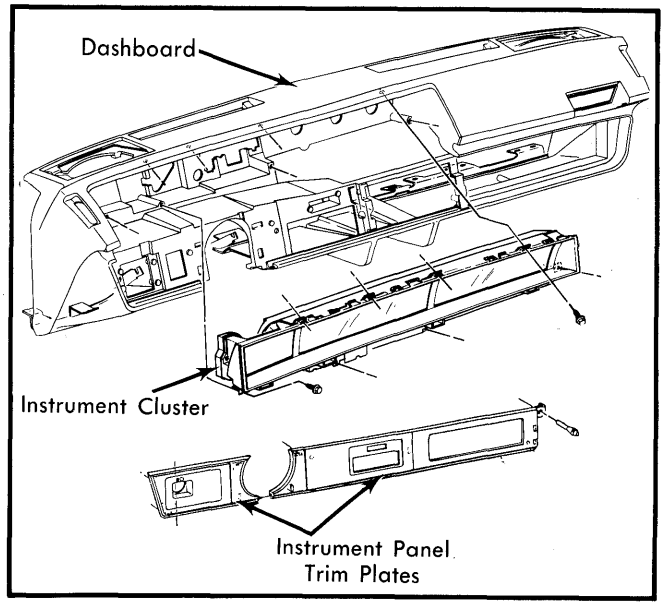

Fig. 5 6000 Instrument Panel