CHRYSLER CORP.

Dodge
Plymouth

DESCRIPTION & OPERATION

Fuel, temperature and oil pressure gauges operate on the constant voltage principle through a common voltage limiter which provides intermittent current to the gauge system.

Fuel Level Gauge – A hinged float arm in fuel tank raises or lowers depending on fuel level, and contacts a variable resister in the fuel gauge sending unit. This provides a change of resistance in the fuel gauge circuit. This resistance registers on instrument panel gauge in the form of a level reading.

Temperature & Oil Pressure – The operation of temperature and oil pressure indicating systems is identical in operation to the fuel system, with the exception of the method of varying resistance of the sending units.

In temperature, the resistance of the disc in sending unit varies with a direct relation to coolant temperature. When coolant temperatures are high, resistance is low, when coolant temperatures are low, resistance is high.

In oil pressure, the sending unit resistance is controlled by a diaphragm. The diaphragm is actuated as oil pressure increases or decreases.

Oil Pressure Warning Light – The oil pressure switch is mounted on the engine (location depends on engine). When oil pressure is high (normal) switch is held in "OFF" or "OPEN" position, allowing no current to flow to the indicator light. When oil pressure is low, switch is in "ON" or "CLOSED" position allowing current to flow to the indicator light.

Alternator Indicator System – Alternator gauge is an ammeter which senses the direction and rate of flow of electrical current to or from battery, thereby indicating whether battery is being charged or discharged.

TESTING

VOLTAGE LIMITER

To quickly test voltage limiter in vehicle, connect one lead of a voltmeter or test light to temperature sending unit and other lead to a good ground. Leave sending unit wire attached to sending unit. Turn ignition switch "ON". A fluctuating voltmeter or a flashing light indicates voltage limiter is operating.

FUEL GAUGE

1) Disconnect wire at fuel tank unit. Connect one lead of suitable gauge tester (C-3826) to wire terminal, and other lead to a good ground. Turn ignition "ON", turn tester knob to "H" position and observe instrument panel gauge. Gauge should read "FULL", plus two pointer widths minus one pointer width. Turn tester knob to "M", gauge should read ½ plus or minus two pointer widths. Turn knob to "L" and gauge should read "EMPTY", plus one pointer width, minus two pointer widths.

2) If panel gauge does not perform as prescribed, continuity of circuit from tank sending unit to panel unit should be tested with special attention to printed circuit board before replacing gauge. If panel performs properly when tested but fails to operate properly when connected to vehicle system, fuel tank sending unit ground strap should be inspected for proper installation on fuel line. If ground continuity is good, remove tank unit for testing.

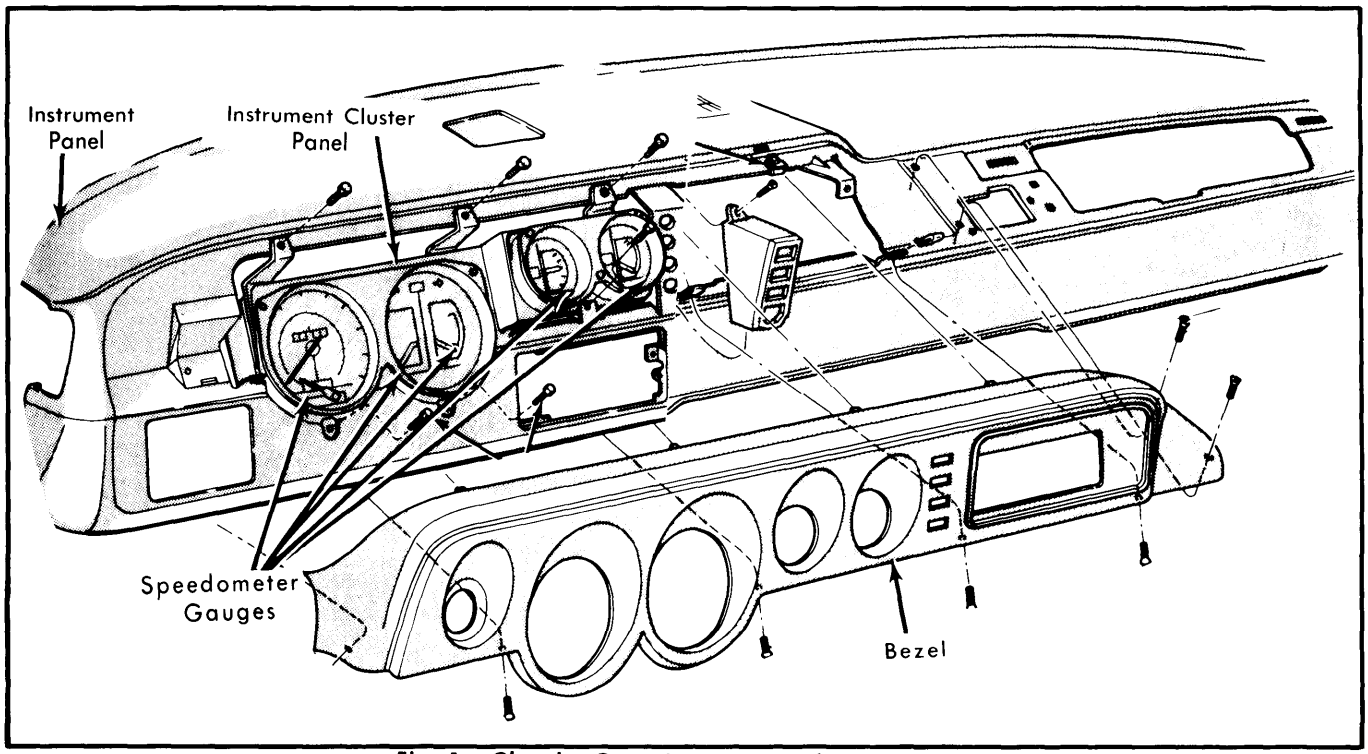

Fig. 1 Chrysler Corp. Instrument Cluster & Bezel (Except Motor Home)

CHRYSLER CORP. (Cont.)

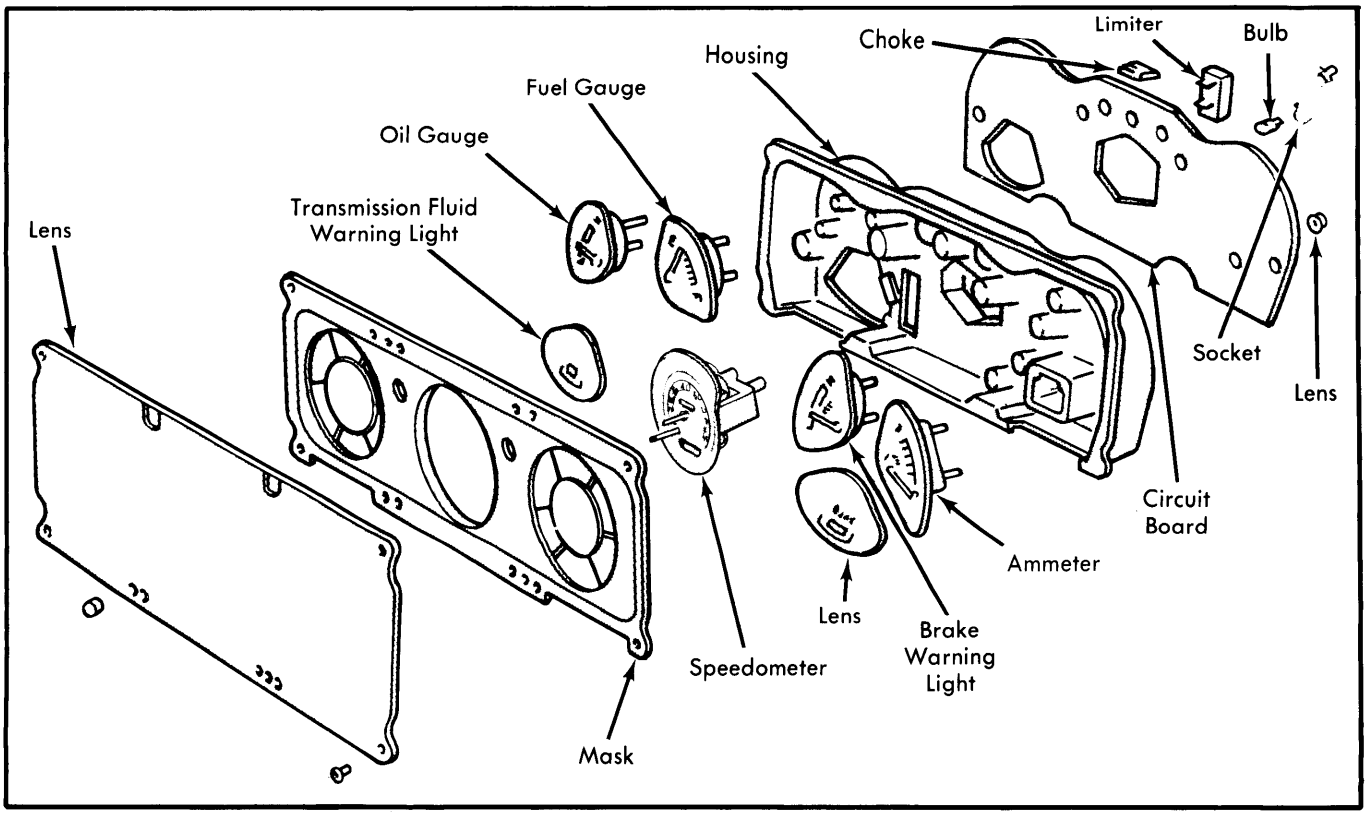

Fig. 2 Exploded View of Chrysler Motor Home Instrument Panel

FUEL TANK SENDING UNIT

With unit removed from tank, proceed as follows: Using an ohmmeter with a 0 to 100 ohm scale, connect one lead to body of sending unit, and the other lead to terminal in center of unit. Hold unit so float arm contacts "EMPTY" stop. The ohmmeter should read 73 ohms ±12 ohms. Raise arm to "FULL" stop. The reading should now be 9.6 ohms ±1 ohm. If unit does not perform to these specifications, inspect the stops or arm for possible distortion. If no physical defect can be found, unit must be replaced.

TEMPERATURE GAUGE

Disconnect terminal from temperature sending unit on engine. Connect one test lead of suitable tester (C-3826) to terminal and other lead to a good ground. Turn ignition "ON", turn tester knob to "L" and temperature gauge should show "C" plus or minus ⅛". Turn tester knob to "M", pointer should advance to driving range left of ½ position of dial. Turn tester knob to "H", gauge pointer should move to "H" position on dial.

AMMETER GAUGE

Turn headlights "ON" (do not start engine). Ammeter needle should move toward the "D" or discharge scale. If no movement of the needle is observed, check terminals for loose wires. If terminals are secure, ammeter is defective. If needle moves toward the "C" or charge side, the connections are reversed.

OIL PRESSURE GAUGE

Disconnect wire from oil pressure sending unit on engine. Connect one lead of a suitable tester (C-3826) to removed wire and other lead to a good ground. Place tester knob in "L" position, and turn ignition "ON". Do not start engine. Oil pressure gauge should read "L" plus or minus ⅛". Turn tester knob to "M" position, oil pressure gauge should advance to ½ position on dial. With tester knob in "H" position, gauge should also advance to "H" position. Should gauge respond to the above tests, but fail to operate when connected to vehicle system, indications are of a defective sending unit. Should gauge fail to respond to above tests, check for loose connection, broken wire or a faulty gauge.

REMOVAL & INSTALLATION

SPEEDOMETER & GAUGES

Speedometer and gauges can be removed after removal of the instrument cluster, by removing mounting screws or attaching nuts holding unit to back of cluster.

INSTRUMENT CLUSTER

All Models (Except Motor Homes) – Disconnect battery ground cable and remove cluster mounting screws. Pull cluster out just far enough to disconnect the speedometer cable, printed circuit board connector and ammeter gauge electrical leads. Remove cluster from vehicle. To install, reverse removal procedures.

CHRYSLER CORP. (Cont.)

Motor Homes – Disconnect battery ground cable and remove screws attaching instrument cluster-to-panel. Disconnect speedometer cable and lead wires to instruments. Remove cluster from vehicle. To install, reverse removal procedures.

PRINTED CIRCUITS

Motor Homes – With instrument cluster removed, remove all gauges and light bulb socket assemblies. Remove voltage limiter and choke. Remove spare ignition, ground terminals and lights. Remove auxiliary gas gauge cover if equipped. Remove attaching screws and printed circuit board from vehicle. To install, reverse removal procedures.

All Other Models – With instrument cluster removed, remove voltage limiter and radio capacitor. Remove all lamp socket assemblies and gauges except the speedometer. Remove attaching screws and printed circuit board from vehicle. To install, reverse removal procedures.

HEADLIGHT SWITCH

All Models (Except Motor Homes) – Disconnect fusible link found in engine compartment. Remove left air conditioner and air outlet assembly (if equipped). Reach under instrument panel, depress knob and stem release button located on switch housing and at the same time pull knob and stem assembly out of switch housing located on front of instrument panel. Remove spanner nut mounting switch to panel. Lower switch from behind panel and disconnect all electrical leads from switch. Remove switch from vehicle. To install, reverse removal procedures.

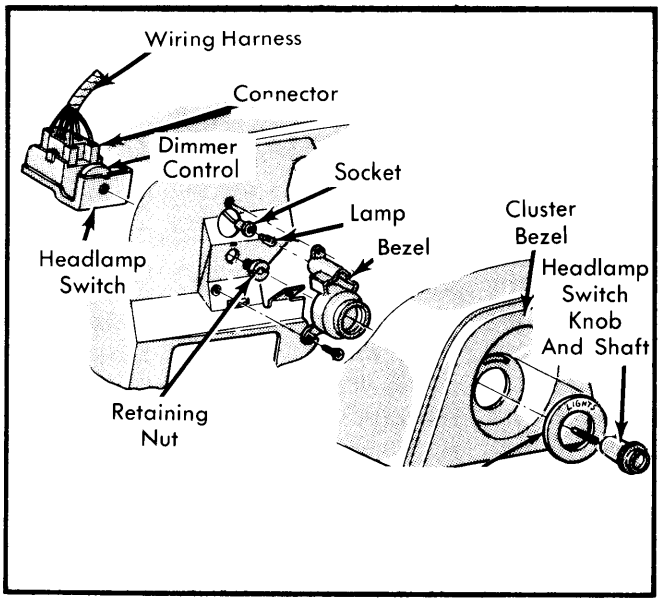

Fig. 3 Chrysler Corp. Headlight Switch (Except Motor Homes)