

## CHRYSLER CORP.

Chrysler Corp., All Models

**CAUTION** — Disconnect fusible link in engine compartment before servicing instrument panel.

## DESCRIPTION &amp; OPERATION

Fuel, temperature and oil pressure gauges operate on the constant voltage principle through a voltage limiter. On models equipped with Gauge Alert System, the fuel, temperature and ammeter gauges have a small light emitting diode mounted in gauge dial. Light will illuminate if gauge is functioning other than normal. The electronic sensor circuit is mounted on gauge housing and if gauge or sensor fails, replace as a unit.

**Fuel Level Gauge** — A hinged float arm in fuel tank raises or lowers depending on fuel level, and contacts a variable resistor in the 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 fuel level reading.

**Temperature & Oil Pressure** — The operation of temperature and oil pressure indicating systems are identical in operation with the fuel system, with the exception of the method of varying resistance of sending unit.

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 Indicator 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 Indicating System** — Alternator gauge is an ammeter which senses the direction and rate of flow of electrical current to or from the battery, thereby indicating if 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

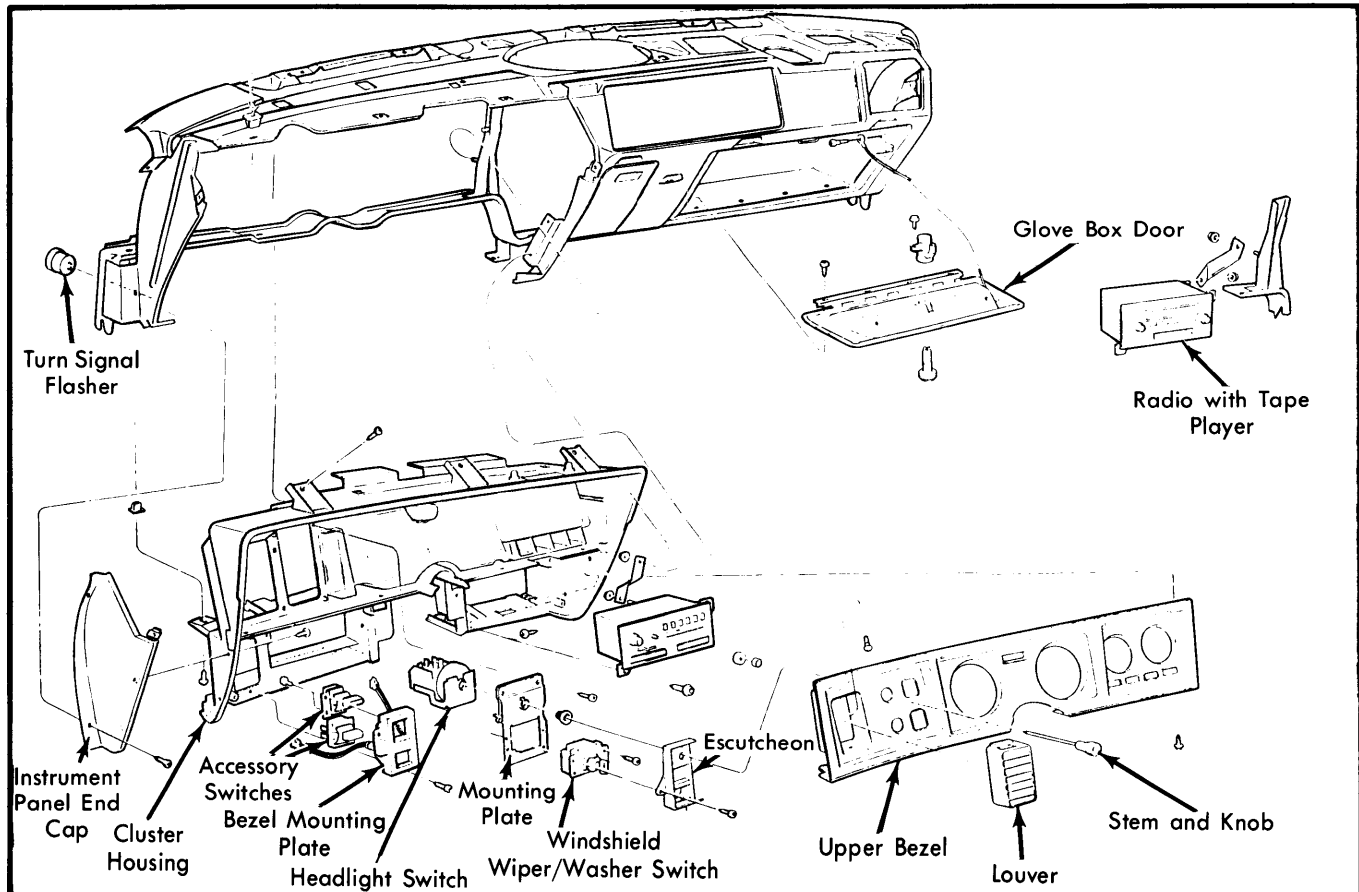


Fig. 1 Cordoba & Magnum Instrument Panel

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lead to a good ground. Leave sending unit wire attached to sending unit. Turn ignition to "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  $\frac{3}{32}$ " or minus  $\frac{1}{32}$ ". Turn tester knob to "M", gauge should read  $\frac{1}{2}$ ". Turn knob to "L" and gauge should read "EMPTY", plus  $\frac{1}{32}$ " or minus  $\frac{3}{32}$ ". If gauge alert system is working properly, light should illuminate with tester knob in "L" position.

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 OK, remove tank unit for testing.

### FUEL TANK SENDING UNIT

1) With sending unit removed from tank, clip float arm to empty stop and turn ignition to "ON" position. After two minutes, gauge should read "EMPTY", plus one pointer width or minus two pointer widths.

2) Move and clip float arm to full stop. Gauge should read "FULL", plus two pointer widths, minus one pointer width.

3) If gauge does not meet specifications, check wiring, connections and fuel gauge (using tester C-3846 or known good sending unit).

4) If gauge is bad, replace. If gauge is good, replace sending unit.

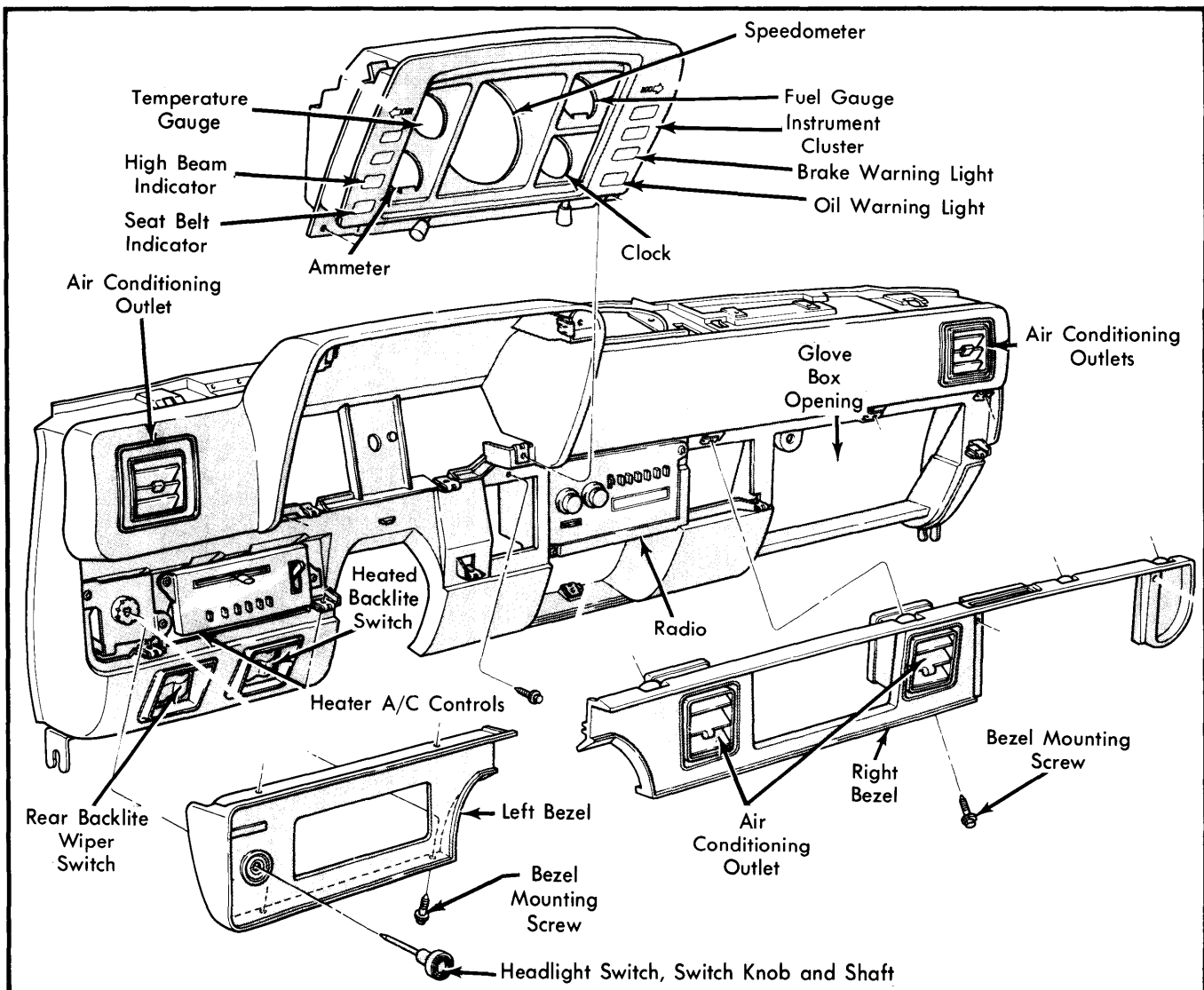


Fig. 2 Horizon & Omni Instrument Panel

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## 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  $\frac{1}{8}$ ". Turn tester knob to "M", pointer should advance to driving range left of  $\frac{1}{2}$  position of dial. Turn tester knob to "H", gauge pointer should move to "H" position on dial. If gauge alert system is working properly, light should illuminate with tester knob in "H" position.

## 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.

## ADJUSTMENT

## STOP LIGHT SWITCH

**NOTE** — Do not pull brake pedal back at any time.

The stop light switch and mounting bracket assembly is attached to the brake pedal bracket. The switch is actuated by a striker plate on Chrysler models. On all other models the switch is actuated by a brake push rod. Stop lights should come on when brake pedal is depressed  $\frac{1}{2}$ " from released position.

**NOTE** — On Horizon and Omni,  $.130$ " from released position.

## REMOVAL &amp; INSTALLATION

## STEERING COLUMN LOWERING &amp; RAISING

**NOTE** — This procedure is not for removal and installation of steering column and should be used only when necessary.

**Lowering** — 1) Disconnect fusible link, remove steering column cover, lower reinforcement and gearshift pointer from steering column on Aspen, Volare, Diplomat and LeBaron.

2) Remove lower bezel and cluster reinforcement bracket for Cordoba and Magnum.

3) Remove lower left and right bezels, and gearshift pointer cable for St. Regis, Newport and New Yorker.

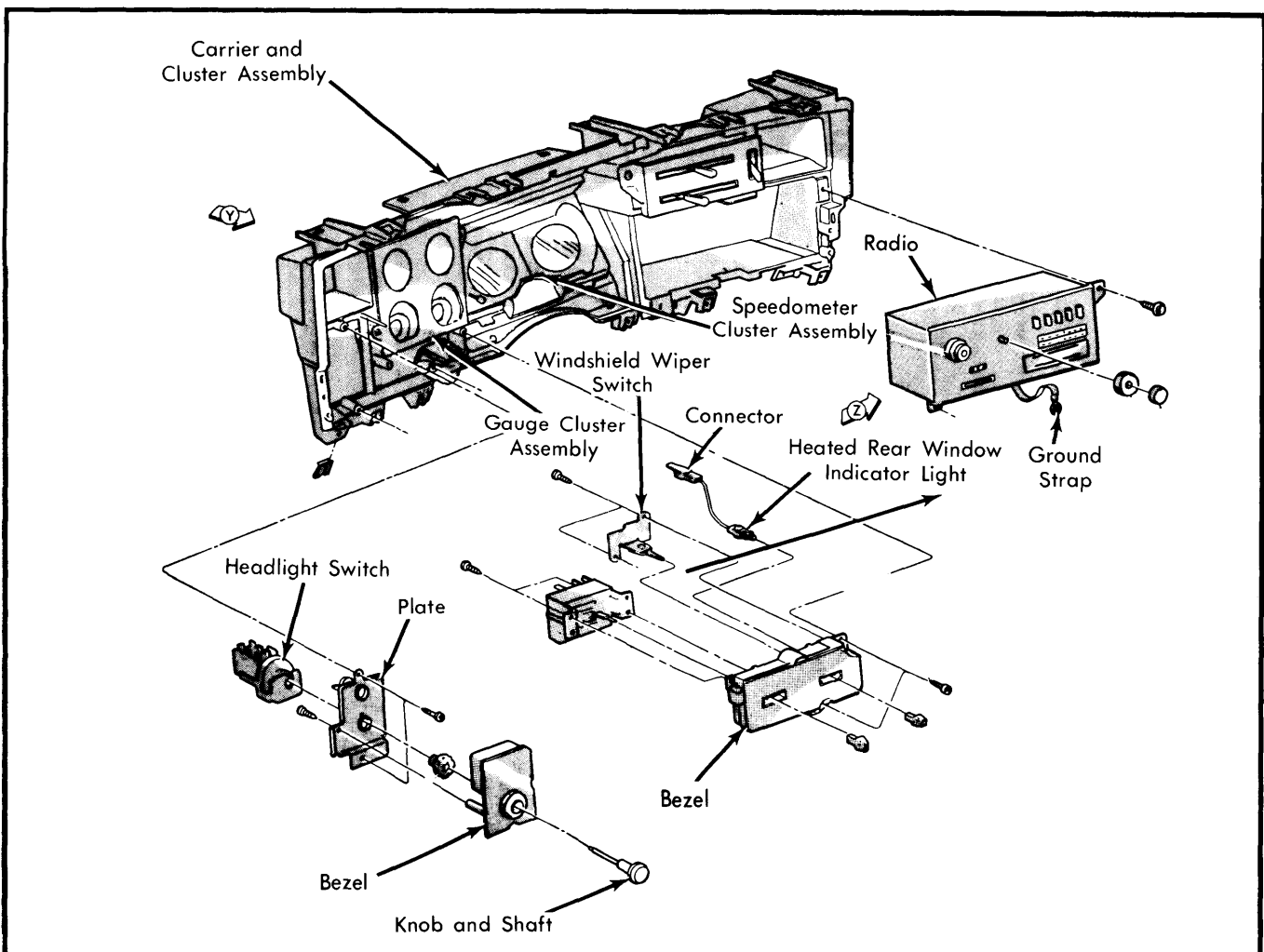


Fig. 3 Chrysler Diplomat & LeBaron Instrument Cluster

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4) Remove 3 toe plate bolts at firewall, 2 nuts and washers attaching steering column support bracket and lower steering column to seat.

**Raising** — Reverse lowering procedure insuring that wiring does not get pinched and that column attaching bracket nuts are torqued to 110 INCH lbs. and that toe plate attaching bolts are torqued to 200 INCH lbs.

### INSTRUMENT CLUSTER

**Removal (Aspen, LeBaron, Diplomat & Volare) — 1)** Remove bezel, screws attaching cluster and printed circuit board to cluster carrier.

2) Pull assembly from carrier, disconnect electrical leads and remove assembly.

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

**Removal (Cordoba & Magnum) — 1)** Remove trim pad, radio and heater/air conditioner controls, cluster housing reinforcement bracket and from under dash, disconnect speedometer cable.

2) Disconnect all electrical leads and 3 wiring clips.

3) Remove upper cluster bezel, instrument panel end cap and steering column-to-support bracket nuts.

4) Remove 11 screws mounting cluster housing to instrument panel and remove cluster housing.

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

**Removal (Horizon & Omni) —** Remove speedometer assembly, disconnect two wiring harness connectors and two cluster attachment screws. Disengage cluster upper spring retainers and remove unit.

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

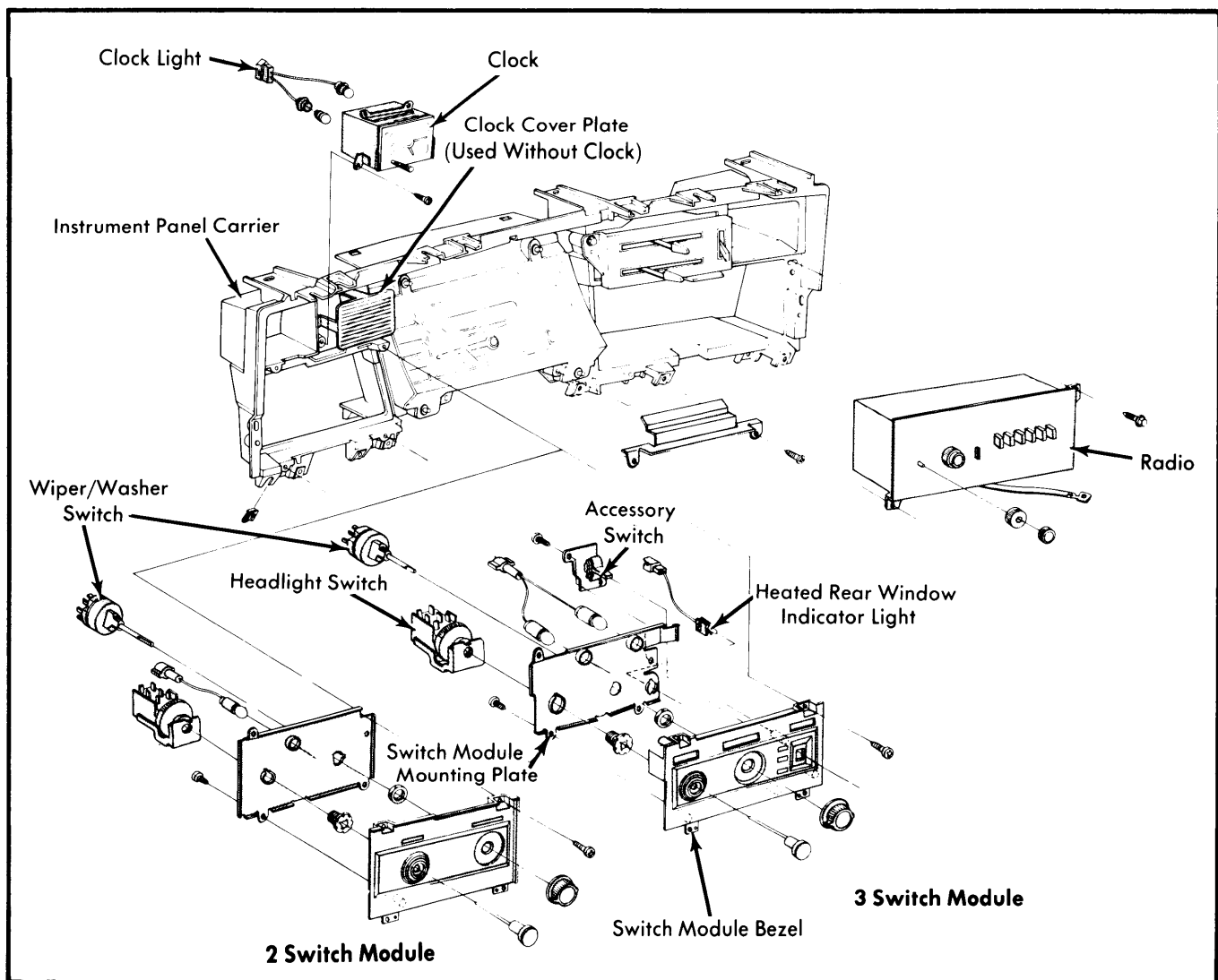


Fig. 4 Aspen & Volare Instrument Panel

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**Removal (St. Regis, Newport & New Yorker) – 1)** Remove 5 hood and brake release screws and bezel.

2) Remove 4 accessory switch bezel screws and bezel.

3) Pull gearshift pointer cable from steering column and lower column.

4) Disconnect speedometer cable, right remote mirror control and screws attaching cluster housing to base panel.

5) Roll cluster assembly downward, disconnect wiring and remove cluster.

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

**SPEEDOMETER & GAUGES**

**Removal (Aspen, LeBaron, Diplomat & Volare) – 1)** Remove instrument cluster bezel. Reach under instrument panel to right of steering column and disconnect speedometer cable by pressing retaining clip downward. Remove instrument cluster as previously described.

2) Remove speedometer lens retaining pins and remove lens. Pull off pointer.

3) Remove speedometer mounting screws, or screws retaining appropriate gauge to instrument cluster and remove desired instrument.

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

**Removal (Cordoba & Magnum) –** Remove instrument panel lens and mask. Disconnect wires or cable from appropriate gauge and remove gauge retaining screws from front panel. Pull gauge from cluster housing.

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

**Removal (Horizon & Omni) –** Remove lens mask assembly. Remove speedometer assembly, then remove gauges as required and voltage limiter by pulling from cluster housing.

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

**Removal (Chrysler Fuel, Ammeter & Temperature Gauges) –** Remove cluster bezel and gear selector and warning lamp bezel.

**NOTE** – Remove fuel and temperature gauges before removing ammeter.

Remove cluster lens and appropriate gauge from circuit board slip terminals.

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

**PRINTED CIRCUIT BOARDS**

**Removal** – Remove instrument cluster and all lamps, lamp sockets, switches and gauges which attach to/or through printed circuit. Remove circuit board mounting screws (if used) and remove circuit board.

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

**WINDSHIELD WIPER/WASHER SWITCH**

**Removal (Aspen, LeBaron, Diplomat & Volare) –** Remove cluster bezel. Remove switch module assembly mounting screws. Pull assembly out and let hang loose to gain access to switch. Pull and remove knob from switch stem. Remove switch mounting nut, switch and disconnect wiring.

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

**Removal (All Other Models) –** Remove cluster bezel. Remove switch mounting screws and remove switch. Disconnect wiring.

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

**HEADLIGHT SWITCHES**

**Removal (Aspen, LeBaron, Diplomat & Volare) –** Remove cluster bezel and switch module mounting screws. Pull module out and while depressing release button on switch, pull knob and stem from headlight switch. Using a Phillips screwdriver through stem opening remove switch mounting nut. Disconnect switch wiring and remove switch.

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

**Removal (Cordoba & Magnum) –** Remove instrument cluster upper bezel escutcheon retaining screw, and switch plate-to-cluster housing retaining screws. Pull switch from cluster housing and disconnect electrical leads. While depressing release button on switch, pull stem and knob from switch. Remove escutcheon, switch mounting nut and switch from mounting plate.

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

**Removal (Horizon & Omni) –** Remove instrument cluster left bezel. Remove mounting screws, switch and harness connector.

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

**Removal (St. Regis, Newport & New Yorker) – 1)** While depressing headlight switch stem release button, pull knob and stem from switch.

2) Snap out headlight trim bezel, remove mounting nut and pull switch from cluster housing.

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

**INSTRUMENT PANEL SWITCHES**

Switches can be removed from front of instrument panel or from cluster bezel after removing bezel from cluster housing.