CHRYSLER CORP.

Chrysler Corp., All Models

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

DESCRIPTION & 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 fail, 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 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.

Temperature Indicator Light (Gran Fury & Royal Monaco Only) – The temperature warning switch is located in the intake manifold and is controlled by engine temperature. When engine temperature is normal, switch is held in "Off" or "Open" position allowing no current to flow to the "Hot" indicator light. When engine temperature rises to an overheating condition, switch is on "On" or "Closed" position allowing current to flow to the "Hot" indicator light. The light will stay illuminated until temperature returns to normal operating condition.

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.

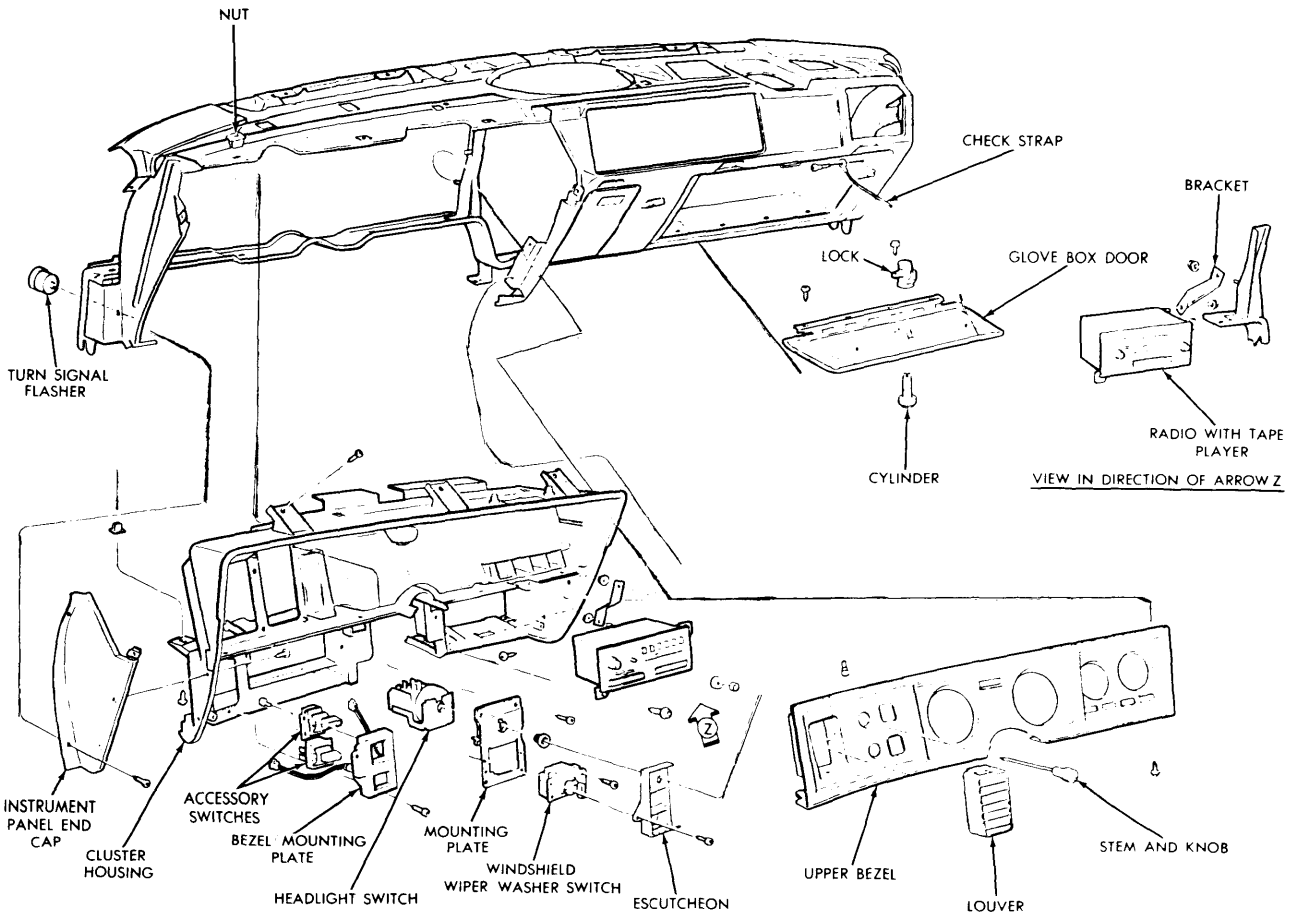

Fig. 1 Fury, Monaco, Cordoba & Charger SE Instrument Panel

CHRYSLER CORP. (Cont.)

Alternator Indicating 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.

Fuel Pacer – System consists of a vacuum switch, hoses, diodes, and the left front turn indicator light. If manifold vacuum drops below 4½ in. Hg, electrical contacts inside the vacuum switch close, turning on the indicator light, meaning too much fuel is being used by the engine. This system will override the turn indicator. One diode is used in-line with the left fender indicator light from the turn signal switch, and prevents cross-feed to other turn signal indicators. Another diode is used in the feed wire to the fender indicator and prevents electrical feed-back through the ignition switch when the ignition is in the "ACC" position and the hazard flashers are on.

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 3/32" or minus 1/32". Turn tester knob to "M", gauge should read ½. Turn knob to "L" and gauge should read "EMPTY", plus 1/32" or minus 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.

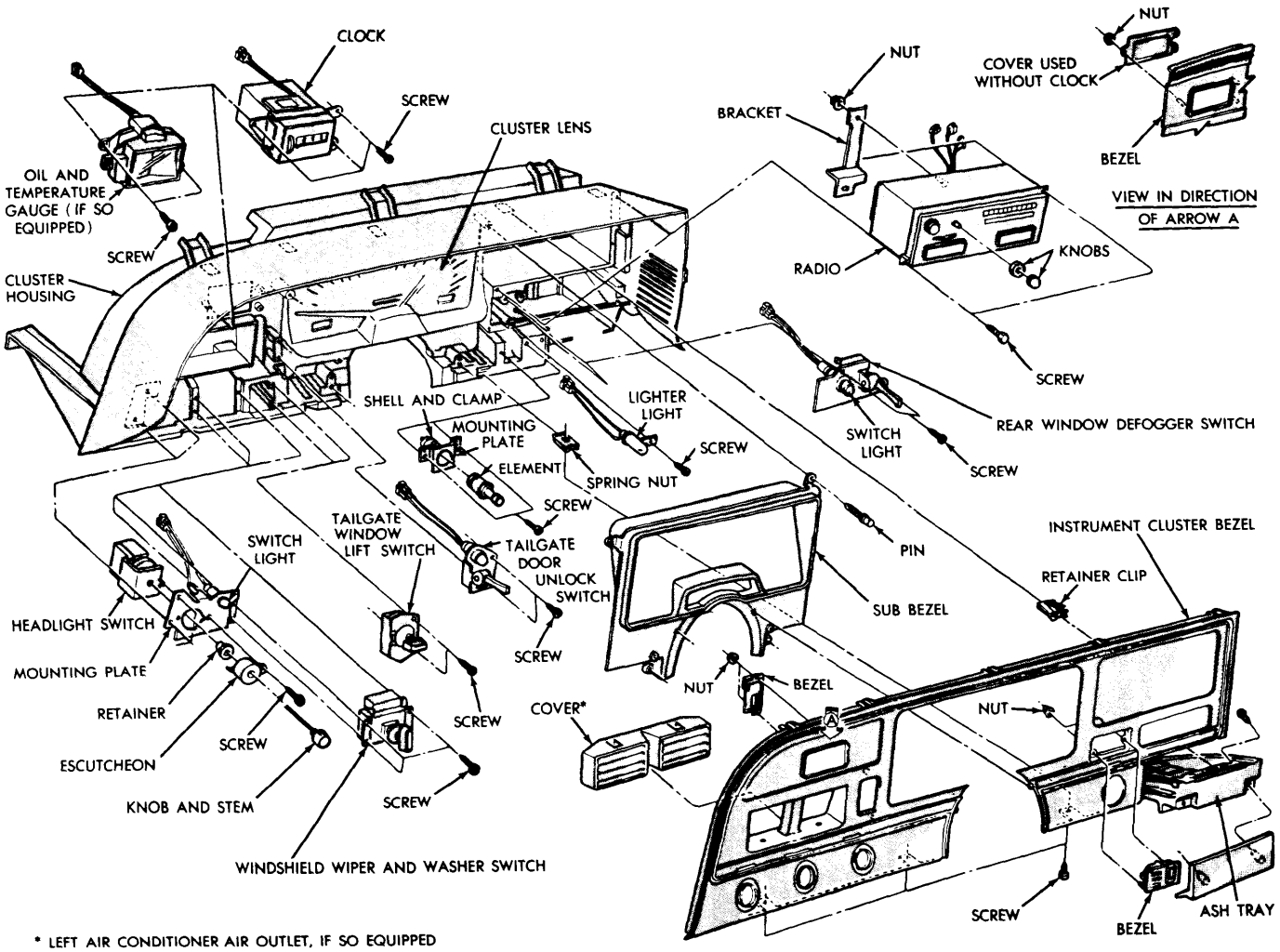

Fig. 2 Gran Fury & Royal Monaco Instrument Panel

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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 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. 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.

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, indications are; loose connection, broken wire or a faulty gauge.

FUEL PACER

Disconnect vacuum hose from switch and install an external vacuum source to switch. Turn ignition to "ON" but do not start engine. Proceed with following tests:

1) Observe left fender indicator light. If light is on, switch is good. If light is off, check wiring and connections to and from switch and to indicator light, check indicator bulb, or check for a defective vacuum switch (Test 2).

2) Apply increasing vacuum to switch. Indicator light should turn off at about 4½ in. Hg. If not, apply more vacuum. If light goes off, switch is out of adjustment. If light does not go out, switch is defective and must be replaced.

ADJUSTMENT

STOP LIGHT SWITCH

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

The stop lamp switch and mounting bracket assembly is attached to the brake pedal bracket. The switch is actuated by a striker plate on Gran Fury, Royal Monaco and 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 ½" from released position.

FUEL PACER

NOTE – *Fuel pacer vacuum switch is preset to turn indicator light on at about 4½" of engine vacuum. If a complaint of the indicator light remaining on too much of the time (over sensitivity to engine load), or if light does not come on soon enough (causing extra fuel usage), then switch may be adjusted about ±1½ in. Hg to compensate for the condition of the complaint.*

To adjust vacuum switch, "T" a vacuum gauge into fuel pacer vacuum source. Set parking brake, block drive wheels, start engine, place transmission in "D", and note vacuum reading when fender indicator light begins to glow. If vacuum reading is not to specification, or if sensitivity change is desired, remove yellow cap on vacuum switch and adjust screw to desired vacuum setting. Vacuum setting is increased when screw is turned clockwise, or decreased when screw is turned counterclockwise. **CAUTION** – *Do not turn screw more than four turns in either direction, or damage to switch may occur.*

REMOVAL & INSTALLATION

STEERING COLUMN LOWERING & RAISING

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

Lowering – Remove three toe plate bolts. Remove nut attaching horn ground strap. Remove gear shift pointer (Aspen, Volare, Royal Monaco, Diplomat, LeBaron, Gran Fury & Chrysler only). Remove nuts attaching steering column bracket-to-support bracket and lower 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

Aspen, LeBaron, Diplomat & Volare – Remove four cluster bezel mounting screws from lower edge of bezel. Place gear selector lever in "L" position. Remove bezel by pulling rearward to disengage retaining clips along top edge of bezel. Loosen gear selector pointer and rotate with set screw to allow clearance for cluster removal. Remove cluster mounting screws and then cluster. To install, reverse removal procedure.

CHRYSLER CORP. (Cont.)

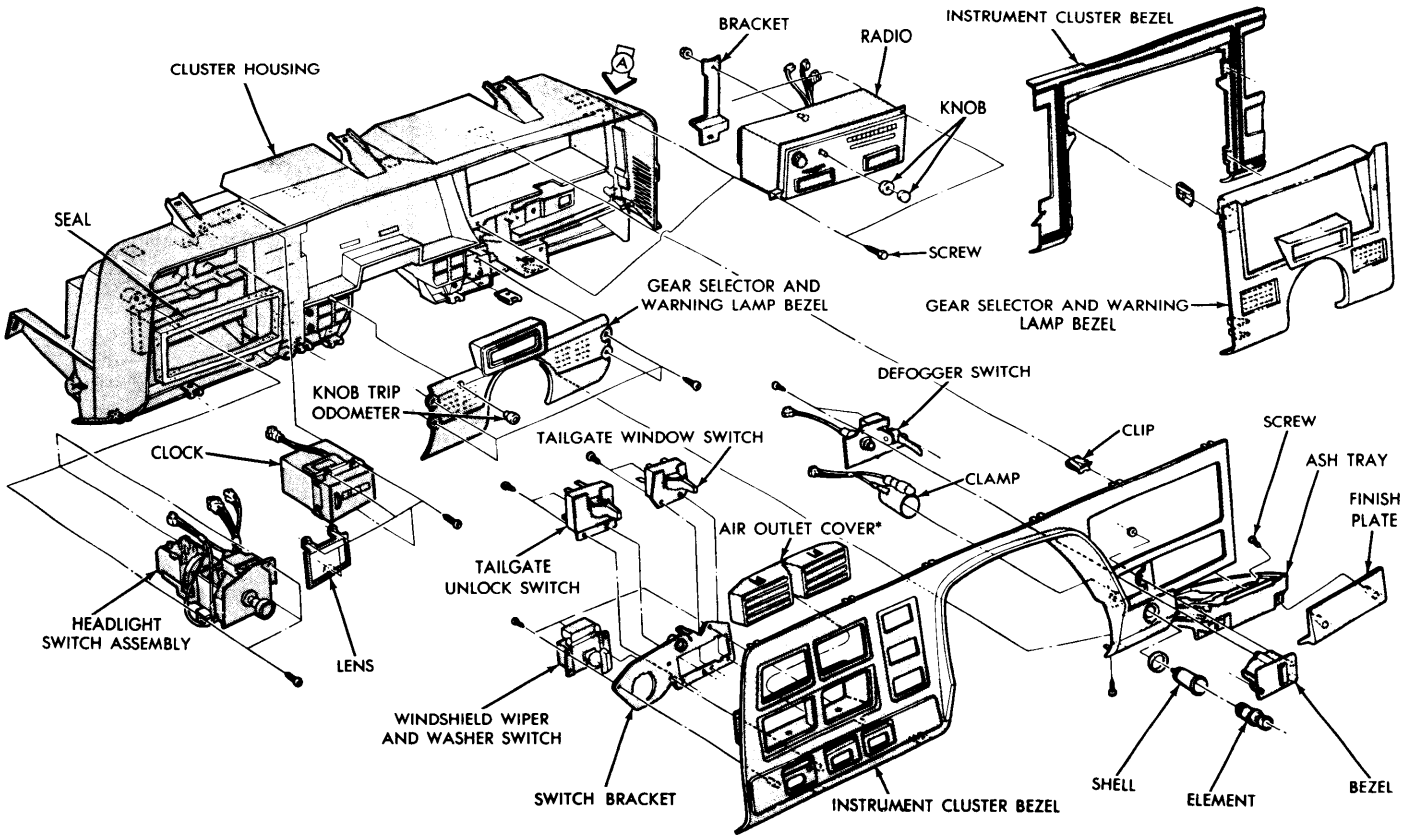

Fig. 3 Chrysler Instrument Cluster

Fury, Monaco, Cordoba & Charger SE – Remove trim pad, radio and heater/air conditioner controls. Remove cluster housing reinforcement bracket and from under dash disconnect speedometer cable. Disconnect all electrical leads and three wiring trough clips. Remove upper cluster bezel, instrument panel end cap and steering column-to-support bracket nuts. Remove 11 screws mounting cluster housing to instrument panel and remove cluster housing. To install, reverse removal procedure.

Gran Fury & Royal Monaco – 1) Place gear selector in "L" position. Remove ash tray and its housing. Remove cigar lighter. Center cluster bezel switches and levers in their openings. Remove bezel mounting screws and pull top of bezel outward to release upper spring clips. Disengage cluster bezel locking tabs from bezel and remove cluster bezel. Remove sub-bezel using pliers to remove nylon attaching pins.

2) To remove cluster lens, remove gear shift pointer. Remove lens-to-cluster housing attaching pins with pliers, then remove lens. To remove speedometer, remove instrument panel upper cover. Working through access hole in top of panel, disconnect speedometer cable. Remove speedometer assembly. Other cluster components may now be removed as required. To install cluster assembly, reverse removal procedure.

Chrysler – Remove instrument panel upper cover by lifting rearward edge of cover to free mounting clips then lift cover rearward, up, and off. Working through hole in top of panel, disconnect speedometer cable and round printed circuit board connector. Place gear selector in "L" position. Remove ash tray and while holding trip odometer reset shaft with needle nose pliers, remove reset shaft knob. Remove gear selector bezel by pulling it from the panel (Brougham), or removing bezel retaining screws (Chrysler). Remove screws along bottom edge of cluster bezel. Center temperature control lever. Disengage clips along top of bezel by pulling bezel out. Disconnect electrical lead and remove bezel. Remove cluster lens by rolling it out from the top. Remove cluster-to-carrier screws and pull cluster assembly out enough to disconnect lights, modules, and wires. Remove cluster assembly. To install, reverse removal procedure.

SPEEDOMETER & GAUGES

Aspen, LeBaron, Diplomat & Volare – 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. Remove speedometer lens retaining pins and remove lens. Pull off pointer. Remove speedometer mounting screws, or screws retaining appropriate gauge to instrument cluster. To install, reverse removal procedure.

Fury, Monaco, Cordoba & Charger SE – Remove instrument panel lens and mask. Disconnect wires or cable from appropriate gauge and remove gauge retaining screws from front of panel. Pull gauge from cluster housing. To install, reverse removal procedure.

CHRYSLER CORP. (Cont.)

Gran Fury, Royal Monaco & Chrysler Speedometer – Remove instrument cluster bezel. On Chrysler models only, remove gear selector and warning lamp bezel. On all other models, remove sub bezel. On all models, remove instrument panel upper cover. Working through hole in top of panel, disconnect speedometer cable. Remove speedometer-to-cluster housing mounting screws. Remove speedometer assembly.

Gran Fury & Royal Monaco Fuel or Ammeter Gauges – Remove speedometer and appropriate gauge-to-cluster mounting screws. Pull gauge from terminal clip on printed circuit and remove gauge. To install, reverse removal procedure.

Gran Fury & Royal Monaco Oil or Temperature Gauges – Remove cluster bezel and appropriate gauge-to-cluster mounting screws. Pull gauge out, disconnect electrical leads and remove gauge. To install, reverse removal procedure.

Chrysler Fuel, Ammeter and 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. To install, reverse removal procedure.

PRINTED CIRCUIT BOARDS

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. To install, reverse removal procedure.

WINDSHIELD WIPER/WASHER SWITCH

Aspen, Volare, Diplomat & LeBaron – 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. Remove switch and disconnect wiring. To install, reverse removal procedure.

All Other Models – Remove cluster bezel. Remove switch mounting screws. Pull switch outwards and disconnect wiring. Remove switch. To install, reverse removal procedure.

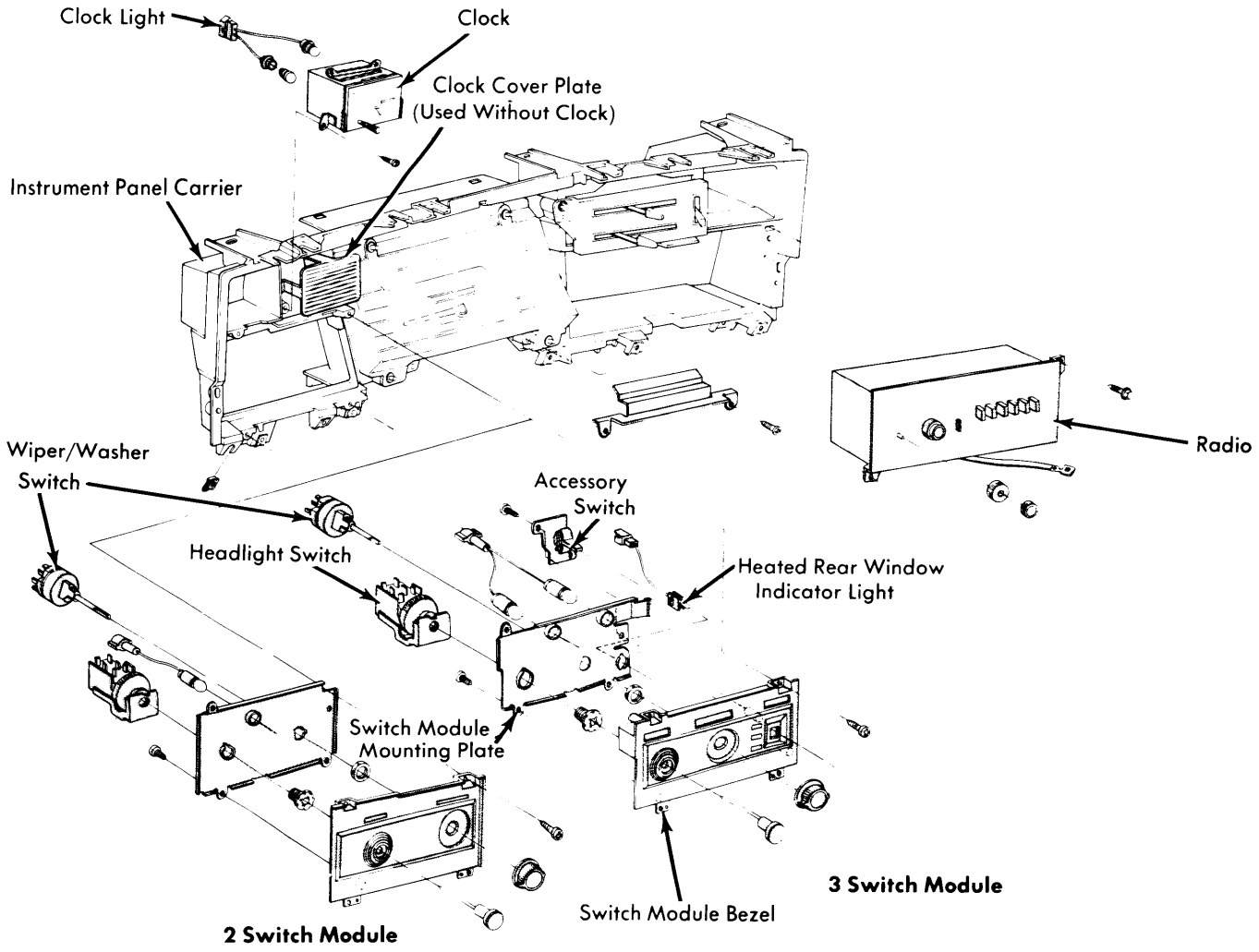

Fig. 4 Aspen, Diplomat, LeBaron & Volare Instrument Panel

CHRYSLER CORP. (Cont.)

HEADLIGHT SWITCHES

Aspen, Diplomat, LeBaron & 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. To install, reverse removal procedure.

Fury, Monaco, Cordoba & Charger SE – 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. To install, reverse removal procedure.

Gran Fury & Royal Monaco – Remove instrument cluster bezel, windshield wiper/washer switch retaining screws, and headlight switch plate-to-cluster carrier retaining screws. Depress release button on side of headlight switch and pull stem and knob from switch. Remove escutcheon-to-mounting plate retaining screw and remove escutcheon. Remove switch-to-plate retaining nut and remove switch. To install, reverse removal procedure.

Chrysler – Remove instrument cluster bezel. Pull A/C outlet housing seal loose at top to gain access to lower switch bracket retaining screws. Remove lower switch bracket retaining screws, pull assembly outwards and disconnect electrical leads. While depressing release button on switch, pull knob and stem out of switch. Remove bulb assembly retaining screw, bulb assembly, lens mounting clips, and lens. Remove switch to mounting plate retaining nut and remove switch. 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.