

SECTION D

INSTRUMENT PANEL—SPECIAL AND SKYLARK

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DIVISION II DESCRIPTION AND OPERATION

20-19 DESCRIPTION OF INSTRUMENT PANEL - SPECIAL AND SKYLARK

a. Description of Instrument Cluster Assembly

The instrument cluster assembly contains the speedometer, fuel gauge, indicator lights and clock. See Figure 120-17.

The generator, temperature and oil pressure indicators use red lights to warn the driver of conditions other than normal when the engine is running.

A printed circuit which is part of the speedometer housing is used to complete the circuit for the fuel gauge and the lights in the cluster assembly.

A rectangular disconnect plug,

which is part of the instrument panel wiring harness, attaches to the printed circuit contacts. The two retaining fingers are of different widths to insure correct assembly of the disconnect plug in the printed circuit. If the printed circuit should

become defective, it should be replaced as it is not practical to repair it.

To remove the printed circuit, it is necessary to remove the instrument cluster.

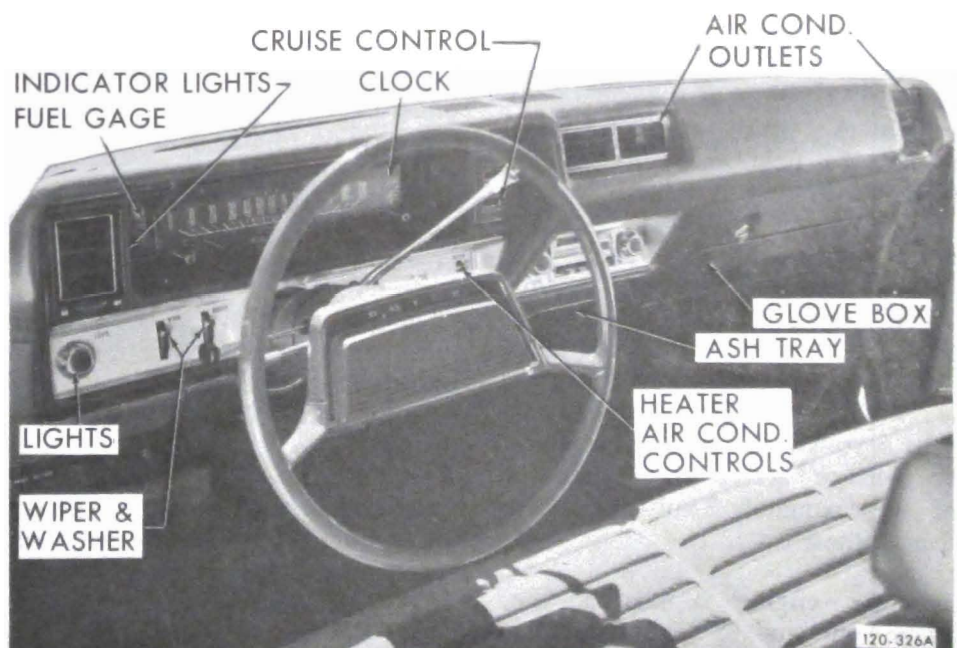


Figure 120-17 Instrument Panel -
43-44000

If the car has a composite instrument panel wiring harness, connections and wiring are included to connect the following options quickly and easily: cruise control and rear window defroster.

CAUTION: Disconnect battery ground cable from battery terminal before removing any instrument panel unit or wiring.

b. Generator Charge Indicator

The red "GEN" warning light should light when the ignition is turned "ON" and before the engine is started; if not lighted, either the bulb is burned out or the indicator light wiring has an open circuit. After the engine is started, the "GEN" light should be out at all times; if the light comes on, the generator belt may be loose or missing, the generator or regulator may be defective, or the charging circuit may be defective.

To trace the generator indicator light circuit, see Figure 120-18.

With the ignition switch turned on (engine not running), current flow is through the ignition switch, through the generator light in the instrument cluster, the the "4" terminal of the regulator, through the lower contacts of the voltage regulator (held closed by the spring), out the "F" terminal, in the "F" terminal of the generator, through the brush and slip ring, through the field, through another brush and slip ring to ground.

Before the engine is started, the generator light should glow at about 1/2 brightness. This is because the voltage in the circuit before the light is about 12 volts, but the voltage at the "4" terminal after the light is about 5 volts. This makes the effective voltage across the generator light approximately 7 volts for about 1/2 brightness.

After the engine is started, the voltage put out by the generator immediately closes the field relay. This causes battery voltage from the "3" terminal to be present at the

"4" terminal. See Figure 120-18. Since battery voltage is present on both sides of the generator light, the light goes out. If the generator light comes on with the engine running, the charge circuit should be tested at the first opportunity to determine the cause of the trouble. See paragraph 68-9.

c. Oil Pressure Indicator

The engine oil pressure indicator light is controlled by a pressure operated switch located at the right front of the engine. This light should come on when the ignition is turned "on" and the engine is not running. If not lit, either the bulb is burned out, the wiring has an open circuit or the oil switch is defective.

If the engine oil pressure drops below a safe level during operation, the circuit is completed through the pressure switch to ground, and the "Oil" indicator light in the cluster will be turned on. See Figure 120-18.

If the "Oil" indicator stays on or comes on when the engine is running at speeds above idle, stop engine immediately and find out reason. The following may be the cause, rather than low oil pressure.

1. Wiring circuit between oil pressure switch and light grounded. Remove connector from pressure switch, if light stays on trouble is in wiring.
2. Switch defective. Replace switch.

d. Temperature Indicator

A temperature switch located in right front of the intake manifold controls the operation of the "HOT" indicator light located in instrument cluster.

If the engine cooling system is not functioning properly and the water temperature should reach 248°F., the "HOT" indicator will be turned on by the temperature switch. As a test circuit to check whether the "HOT" indicator bulb is functioning properly, a light wire which leads to the

"GND" terminal of the ignition switch is connected into the temperature switch circuit. See Figure 120-18. When the ignition is in the "START" position (engine cranking), the "GND" terminal is grounded inside the switch and the "HOT" bulb will be lit. When the engine is started and the ignition switch is in the "ON" position, the test circuit is opened and the bulb is then controlled by the temperature switch.

e. Trouble Diagnosis - Generator, Oil Pressure and Temperature Indicators

Use Figure 120-18 to trace wiring circuits for indicator lights. To determine if there is a ground in the indicator light circuit, remove connector from control switch. If light stays on, trouble is in circuit.

DIVISION III

SERVICE PROCEDURES

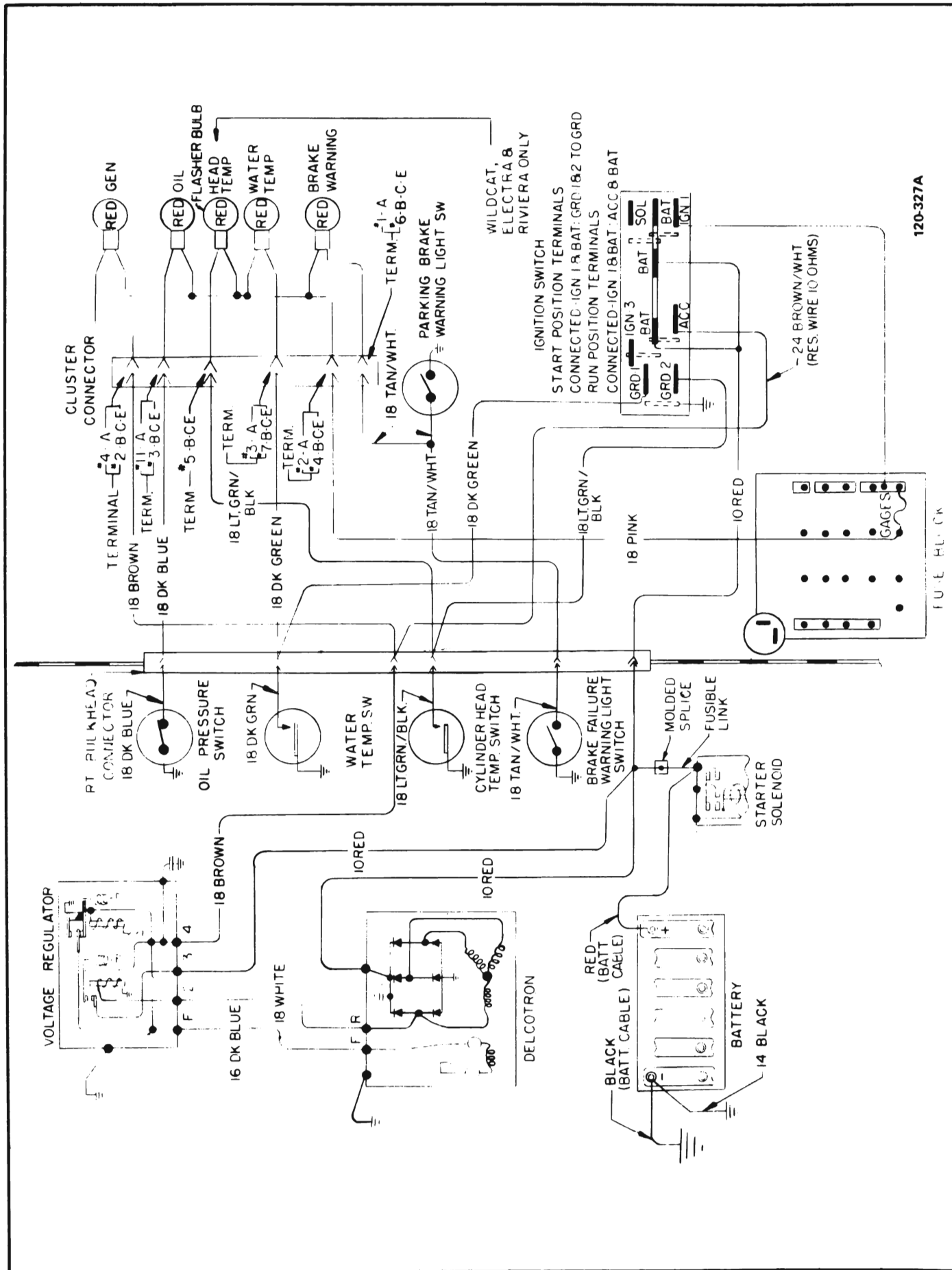
120-20 REMOVAL AND INSTALLATION OF INSTRUMENT PANEL PARTS - SPECIAL AND SKYLARK

Before starting any instrument repair, always disconnect battery ground cable.

a. R. & I. Instrument Cluster Assembly

CAUTION: If equipped with cruise control, upper speedo cable must be disconnected from transducer to prevent damage when cluster housing is pulled back.

1. Remove glove box (9 screws).
2. Remove instrument panel upper cover by removing 2 screws thru cluster housing and 2 nuts above glove box opening. Pull cover rearward to disengage 3 guide pins from clips.
3. Remove steering column opening filler (4 screws). (A/C cars, drop left air conditioner plastic duct by removing two screws and disconnecting



120-327A

FUSE BLOCK

Figure 120-18 Instrument Warning Light Wiring Diagram

Complaint	Possible Cause
<p>1. GENERATOR INDICATOR</p> <p>Light on, ignition "Off"</p> <p>Light not lit, ignition "On" and engine not running.</p> <p>Light on, engine running.</p>	<p>Positive diode shorted.</p> <p>Bulb burned out. Replace.</p> <p>Positive diode shorted.</p> <p>Open in light circuit. Locate and correct.</p> <p>No generator output. Check output, paragraph 68-9.</p> <p>Loose or broken generator belt.</p>
<p>2. OIL PRESSURE INDICATOR</p> <p>Light not lit, ignition "On" and engine not running.</p> <p>Light on, engine running above idle speed.</p>	<p>Bulb burned out. Replace.</p> <p>Open in light circuit. Locate and correct.</p> <p>Oil pressure switch defective. Replace.</p> <p>Wiring between light and switch grounded. Locate and correct.</p> <p>Oil pressure switch defective. Replace.</p> <p>Low oil pressure. Locate cause and correct.</p>
<p>3. TEMPERATURE INDICATOR</p> <p>Light not lit when cranking engine.</p> <p>Light on, engine running.</p>	<p>Bulb burned out. Replace.</p> <p>Open in light circuit. Locate and correct.</p> <p>Ignition switch defective. Replace.</p> <p>Wiring between light and switch grounded. Locate and correct.</p> <p>Temperature switch defective. Replace.</p> <p>Cooling system water temperature above 248°F. Find cause and correct.</p> <p>Ignition switch defective. Replace.</p>

Figure I20-19 Indicator Trouble
Diagnosis - 43-44000

inner end from center distribution duct.)

4. Lower steering column by removing 2 nuts and disconnecting shift indicator link.

5. Pad steering column to avoid marring paint.

6. Pull instrument cluster housing back after removing 8 screws. Rest housing on steering column and rotate so that back of cluster is visible.

7. Disconnect speedo cable by depressing "quick-connect" retainer spring. (A/C cars, disconnect left air hose from left outlet by twisting "quick-connect" coupling counter-clockwise).

8. Disconnect heater control panel by removing 2 captive nuts.

9. Disconnect cluster wiring connector.

10. Disconnect buzzer and clock connectors, if so equipped.

11. Remove instrument cluster by removing 4 cluster to housing screws.

12. Install instrument cluster by reversing above steps.

b. R. & I. Speedometer

1. To remove a speedometer, first remove instrument cluster as described in subparagraph a, above.

2. Remove clock reset knob, if so equipped.

3. Remove 7 retainer clips from cluster face. Remove 1 retainer screw from cluster bezel.

4. Remove 3 screws from speedometer back and remove speedometer.

5. Install speedometer by reversing above steps.

c. R. & I. Printed Circuit

1. To remove a printed circuit, first

remove instrument cluster as described in subparagraph a, above.

2. Remove 10 cluster light bulb sockets.

3. Remove 3 screws from gas gauge dash unit and remove unit.

4. Remove 3 screws from printed circuit and remove printed circuit.

5. Install printed circuit by reversing above steps.

d. R. & I. Clock

1. Remove radio filler plate by removing radio knobs, escutcheons and 5/8 hex nuts. Remove 2 filler plate to panel screws. (Do not remove radio.)

2. Remove clock reset knob. Disconnect clock wire.

3. Remove 2 clock retainer screws through radio filler plate opening and remove clock.

4. Install clock by reversing above steps.

e. R. & I. Fuel Gauge Dash Unit

1. Follow procedure for removal of instrument cluster as described in subparagraph a, above for the first 7 steps only.

2. With instrument cluster housing pulled back and rotated, remove 3 gauge unit screws and remove unit. (Do not remove instrument cluster from housing.)

3. Install fuel gauge unit by reversing above steps.

f. R. & I. Radio

1. Remove radio knobs and escutcheons. Remove two 5/8 hex nuts.

2. Remove filler plate by removing 2 screws.

3. Remove ash tray. Remove ash tray slide by removing 4 screws.

4. Remove radio support by removing 2 screws. (A/C cars, remove center distributor duct by removing 2 screws and 2 hose clamps.)

5. Remove 2 nuts attaching radio face to instrument panel and move radio downward. Disconnect radio antenna lead and wiring connector and remove radio.

6. Install radio by reversing above steps.

g. R. & I. Front Radio Speaker

1. Remove radio knobs and escutcheons. Remove two 5/8 hex nuts and two screws from radio filler plate and remove plate. (Do not remove radio.)

2. Unplug speaker connector from radio.

3. Remove screw at speaker bracket and remove speaker through radio filler plate opening.

4. Install speaker by reversing above steps.

NOTE: In A/C car, remove radio as explained in subparagraph f. Remove instrument panel upper cover as explained in subparagraph a, and remove two screws at upper center A/C duct and remove duct.

h. R. & I. Light Switch

1. Pull switch out to last notch, then depress latch button and pull knob and rod assembly out of switch. (A/C cars, first remove left duct by removing 2 screws and 2 hose clamps.)

2. Remove switch escutcheon.

3. Pull switch down as far as possible and unplug from connector.

4. Install light switch by reversing above steps.

i. R. & I. Windshield Wiper-Washer Switch Assembly

1. Remove steering column opening filler by removing 4 screws. (In A/C

cars, remove left duct by removing 2 screws and 2 hose clamps.)

2. Unplug connectors from switch assembly.

3. Remove switch assembly by removing 2 screws.

4. Install wiper-washer switch assembly by reversing above steps.

j. R. & I. Cigar Lighter Case

1. Disconnect cigar lighter feed and ground wires. (In A/C cars, remove left duct by removing 2 screws and 2 hose slamps.)

2. Unscrew cigar lighter retainer

(under instrument panel) from lighter case and remove retainer.

3. Remove cigar lighter element and knob, case and escutcheon.

4. Install cigar lighter parts by reversing above procedure.

k. R. & I. Accessory or Cruise Control Switch

1. Pry switch cover plate from face of cluster housing.

2. Remove 2 retaining screws from switch.

3. Pull switch from connector (connector is retained in cluster housing).

4. Install switch by reversing above procedure.

l. R. & I. Horn Relay - Buzzer Assembly

1. Remove radio knobs and escutcheons. Remove two 5/8 hex nuts.

2. Remove radio filler plate by removing 2 screws.

3. Find relay mounted on vertical support to right of filler plate opening. Remove relay by removing 2 screws.

4. Install horn relay-buzzer by reversing above procedure.

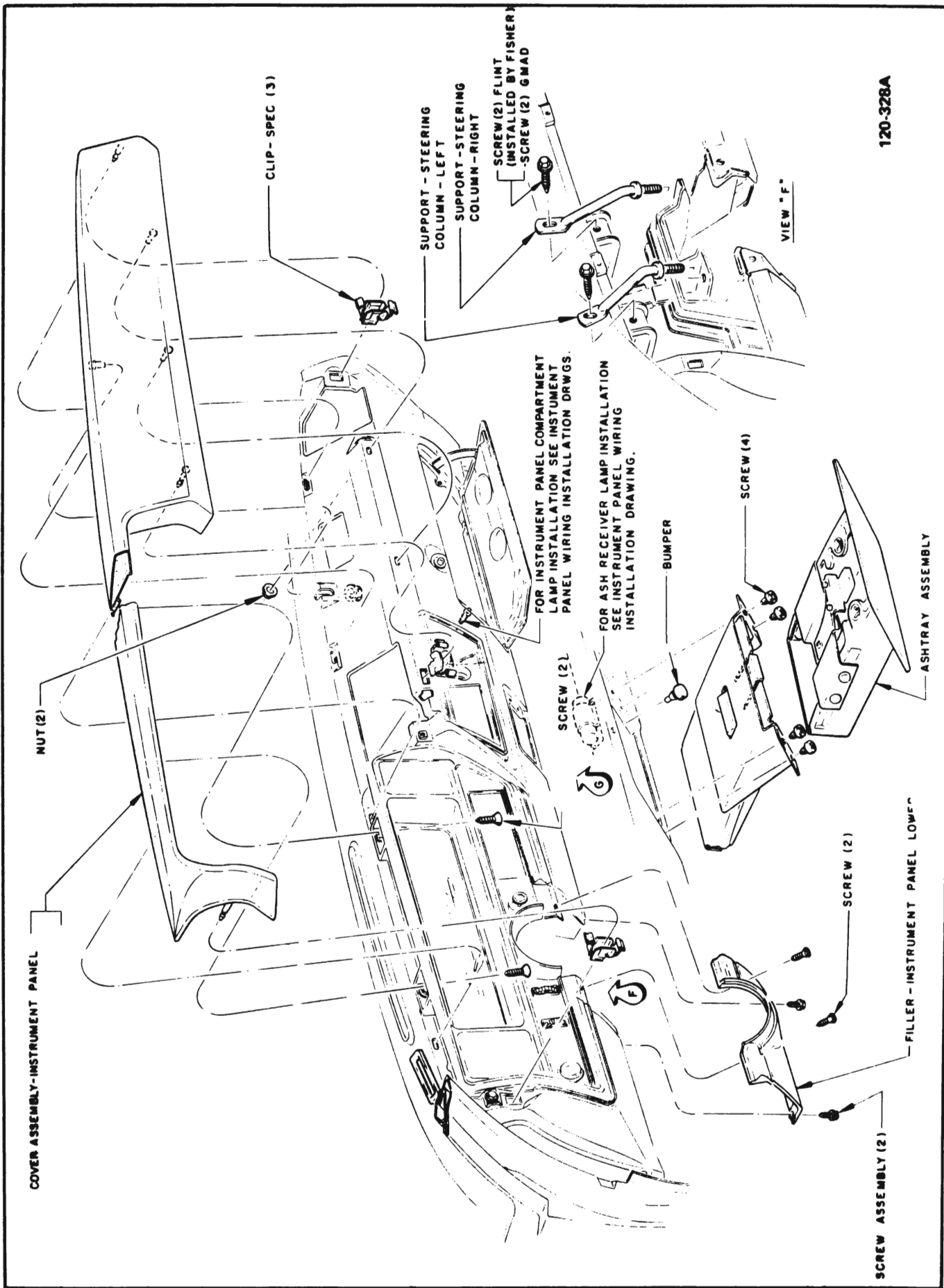


Figure 120-20 Instrument Panel Cover and Ash Tray Installation 43-44000

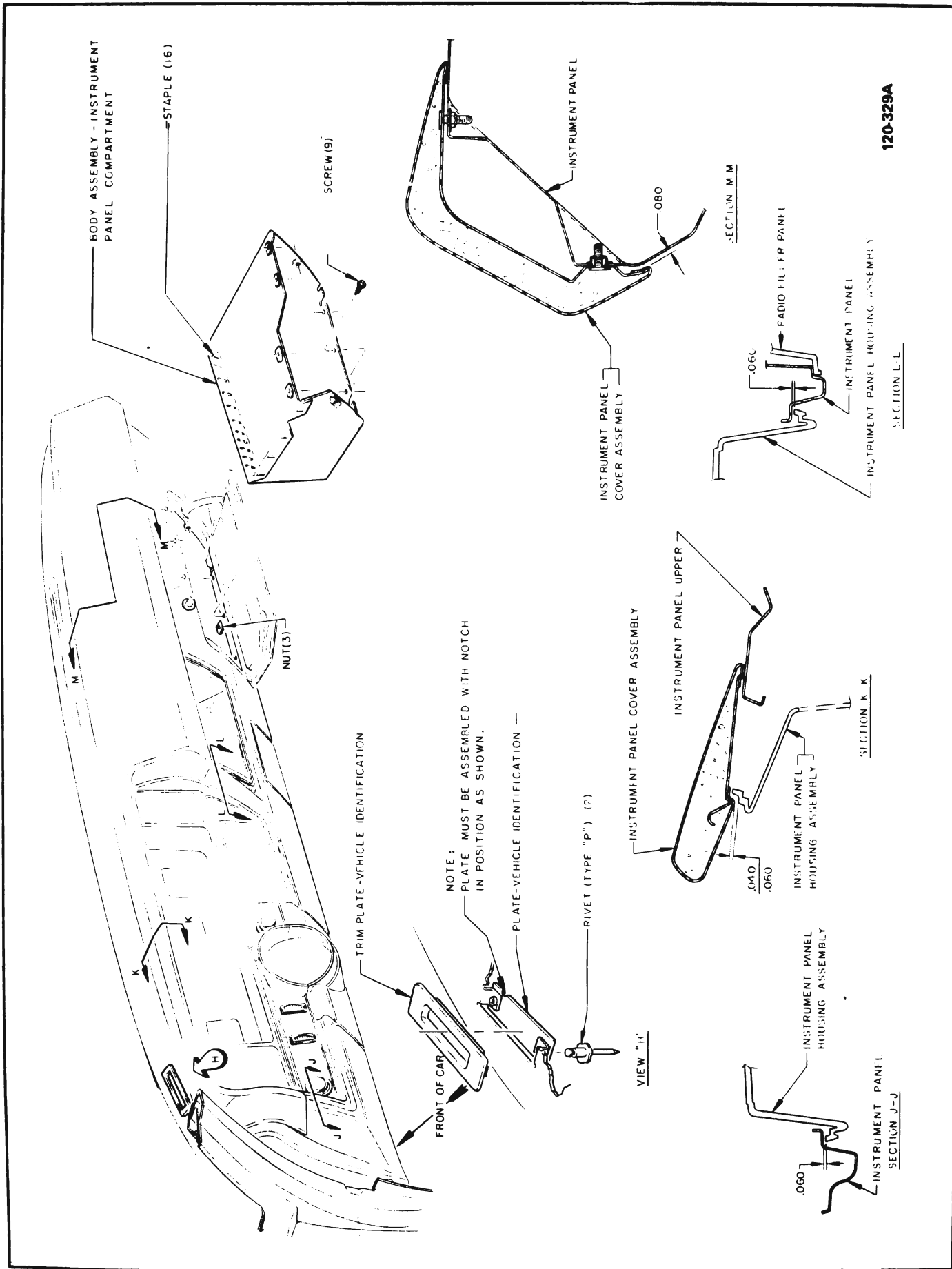


Figure 120-21 Glove Box Installation 43-44000

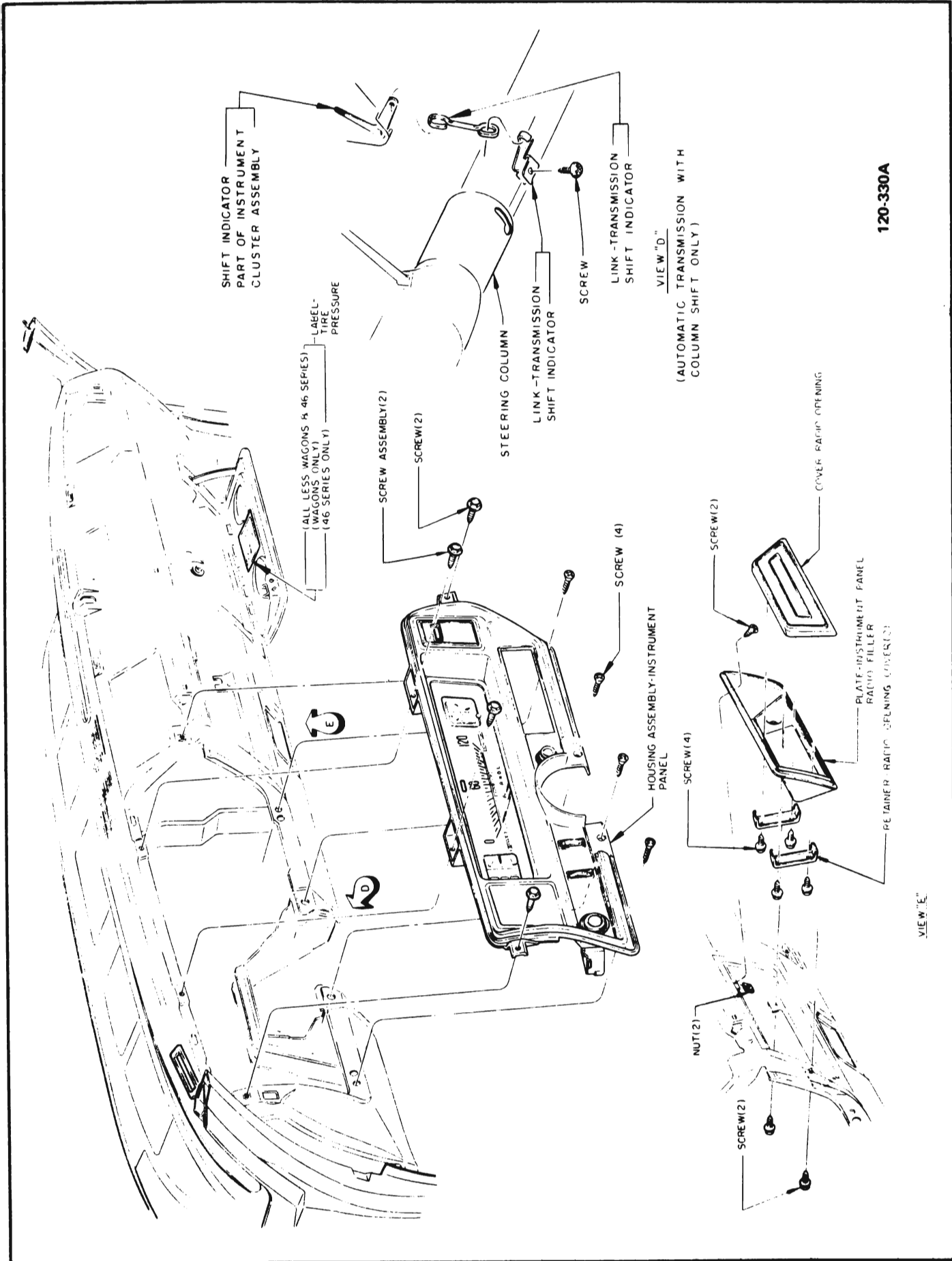


Figure 120-22 Instrument Housing Installation 43-44000

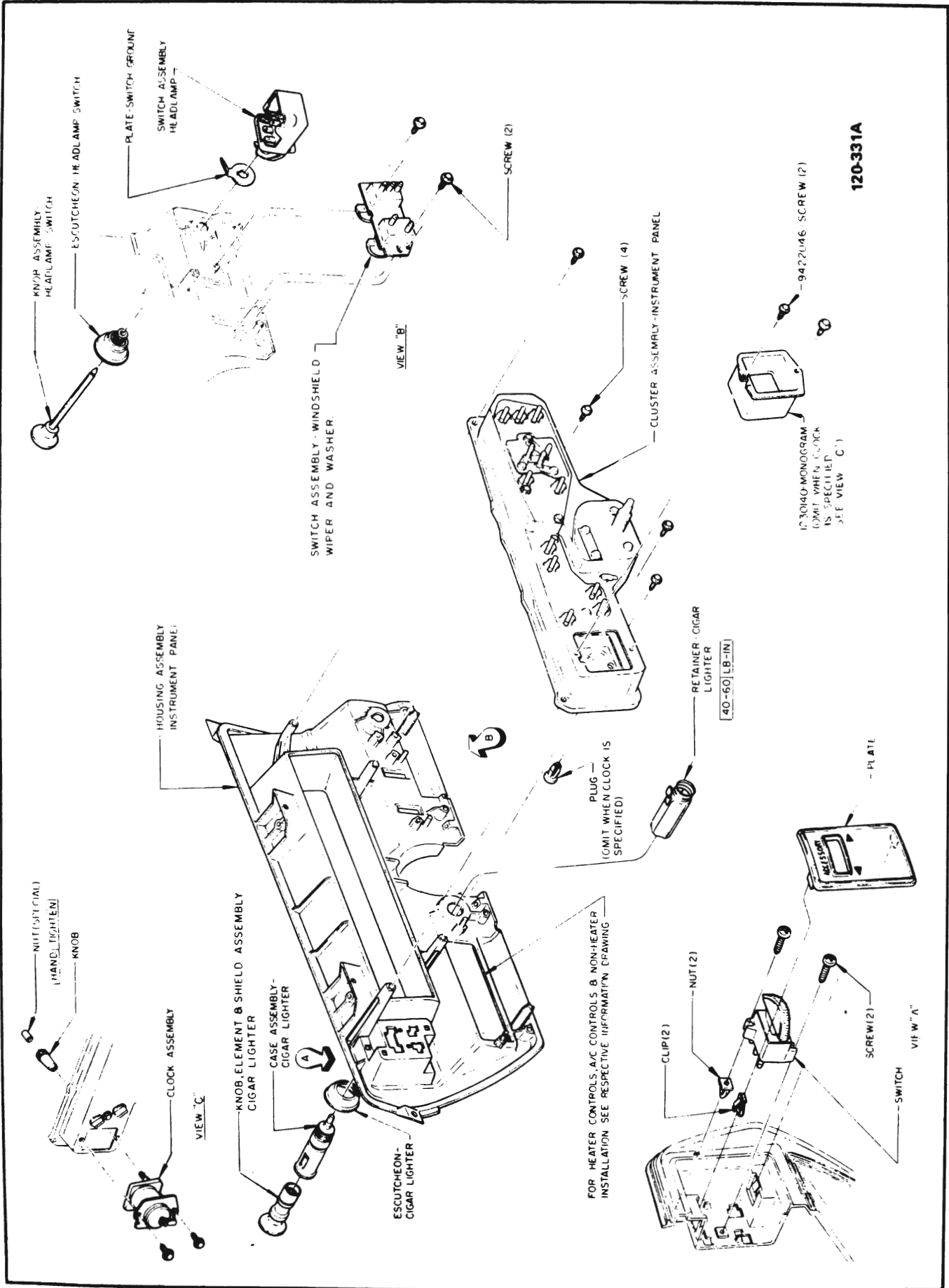


Figure 120-23 Instrument Cluster, Cigar Lighter, Clock and Switches Installation 43-44000

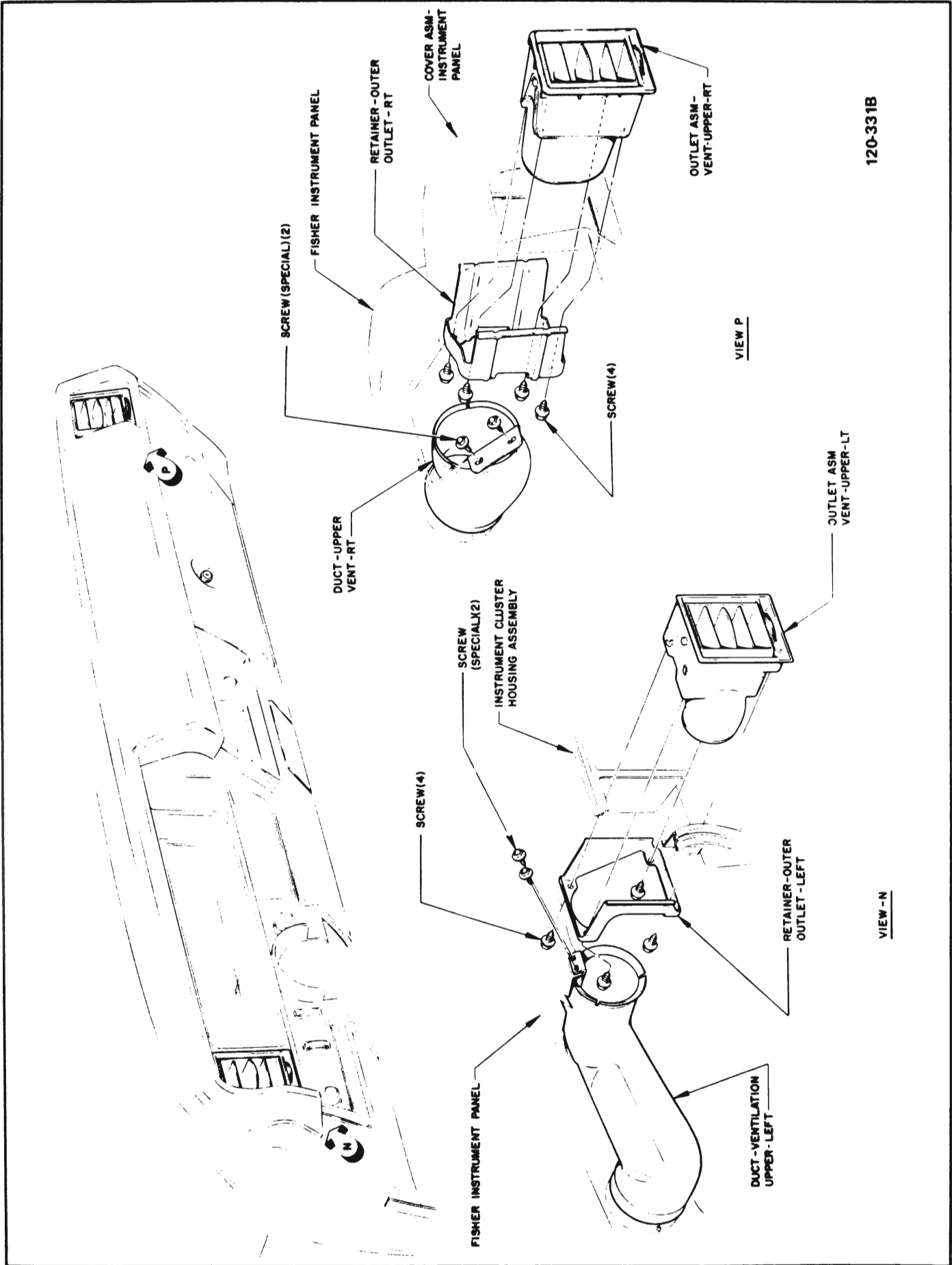


Figure 120-24 Instrument Panel Upper Ventilation · 43-44000