

CHIME/BUZZER WARNING SYSTEMS

SEAT BELT WARNING SYSTEM

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GENERAL INFORMATION

The buzzer or optional chime module is located on the convenience center. The convenience center is located under the driver's end of the instrument panel (Figs. 1 and 2). The buzzer or chime sounds an audible warning tone in any of the following conditions:

- Vehicle lights are ON when the ignition is switched OFF, the key is removed and driver's door opened.
- Key is in the ignition and driver's door is open. (On some vehicles, the buzzer will not sound if the ignition switch is in the RUN position).
- Ignition is switched ON and driver's seat belt is not buckled. Sound will quit after 4 to 8 seconds. Besides the sound, a seat belt light indicator turns on as a reminder to fasten seat belt.
- An input from the Driver's Information Center is received.

There is also a door lock inhibit feature. If the key is in the ignition or the lights are ON, while the driver's door is open, the power locks/keyless entry will not operate.

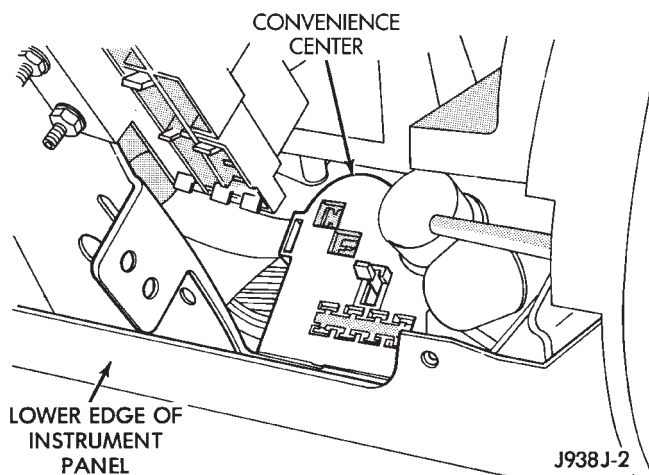


Fig. 1 Convenience Center Location

OPERATION

Battery voltage for module operation is supplied to two pins. Voltage is always present at pin 7. Pin 1 receives voltage when the ignition switch is in the RUN or START position.

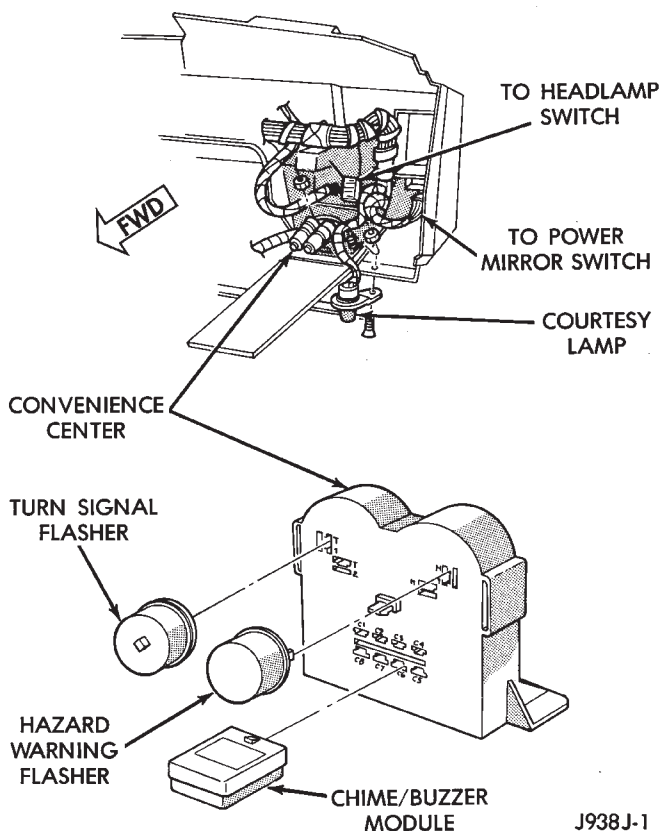


Fig. 2 Turn Signal and Hazard Warning Flashers

LIGHTS ON

To sound the lights on warning, the module needs:

- the headlamp switch must be closed
 - the driver's door jamb switch must be closed.
- These conditions ground pin 6 of the module. These switches are closed when the headlamp switch is on, and the driver's door is open.

SEAT BELT WARNING

To sound the seat belt warning, the module needs:

- battery voltage at pin (7)
- battery voltage at the ignition switch input (Pin 1)
- a ground at the seat belt switch.
- a ground at Pin 3.

This occurs when the seat belt switch is closed because the driver's seat belt is not buckled. The "fasten belt" light also will turn on along with the warning sound.

KEY IN IGNITION

To sound the key in ignition alarm, the module needs:

- the ignition key warning switch must be closed
- the driver's door jamb switch must be closed.

These conditions ground pin 6 of the module. These switches are closed when the key is in the ignition and the driver's door is open.

VEHICLE INFORMATION CENTER

There will be 6 beeps (3 beeps, pause, 3 beeps) unless the fault goes away or SET/SELECT is pressed in diagnostics mode. There should be no beeping for the first 8 seconds after the ignition turns ON. Beeping will only occur for two messages in a row if the second message has higher priority over the first message.

DOOR LOCK INHIBIT

Pin 8 of the chime module provides the ground for the coil side of the power door lock relay.

The LOCK function will not operate if:

- The chime module is not plugged in.
- The key is in the ignition, or the lights are ON, while the driver's door is open.
- The door lock inhibit feature of the chime module is inoperable due to defective electronics in the chime. In this case the operation is unpredictable.

DIAGNOSIS

If the buzzer/chime unit does not operate as described, check the two fuses for pins 1 and 7 (Figs. 3, 4) and replace as required. If the fuses are not defective, perform the following tests to determine if the problem is in the module or in the wiring. Remove the module from the fuse block. Plug in a known good module and check its operation. If the problem is not corrected by replacing the module, remove the module and continue as follows:

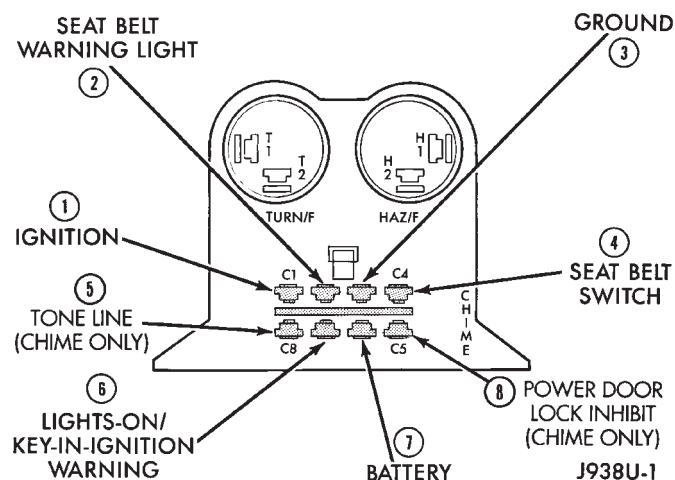


Fig. 3 Convenience Center Terminal Identification

VOLTAGE TESTS

Ignition in RUN position, measure between the following pins and vehicle ground.

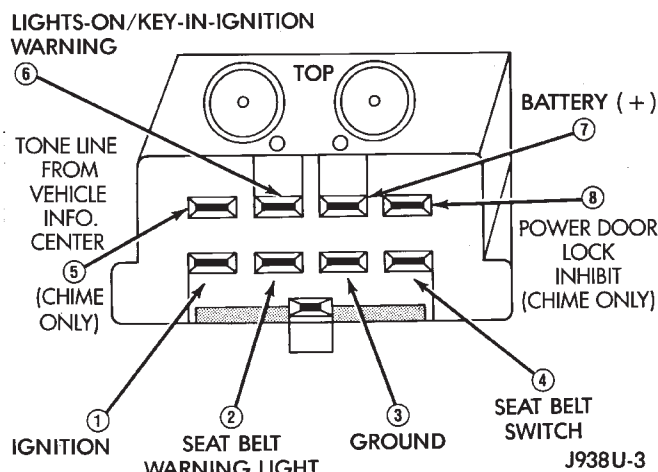


Fig. 4 Buzzer Module Terminal Identification

- Measure voltage at buzzer/chime module connector pin 1. Meter should read battery voltage. If not, repair open circuit to ignition switch.

Turn ignition off and remove the key from the ignition.

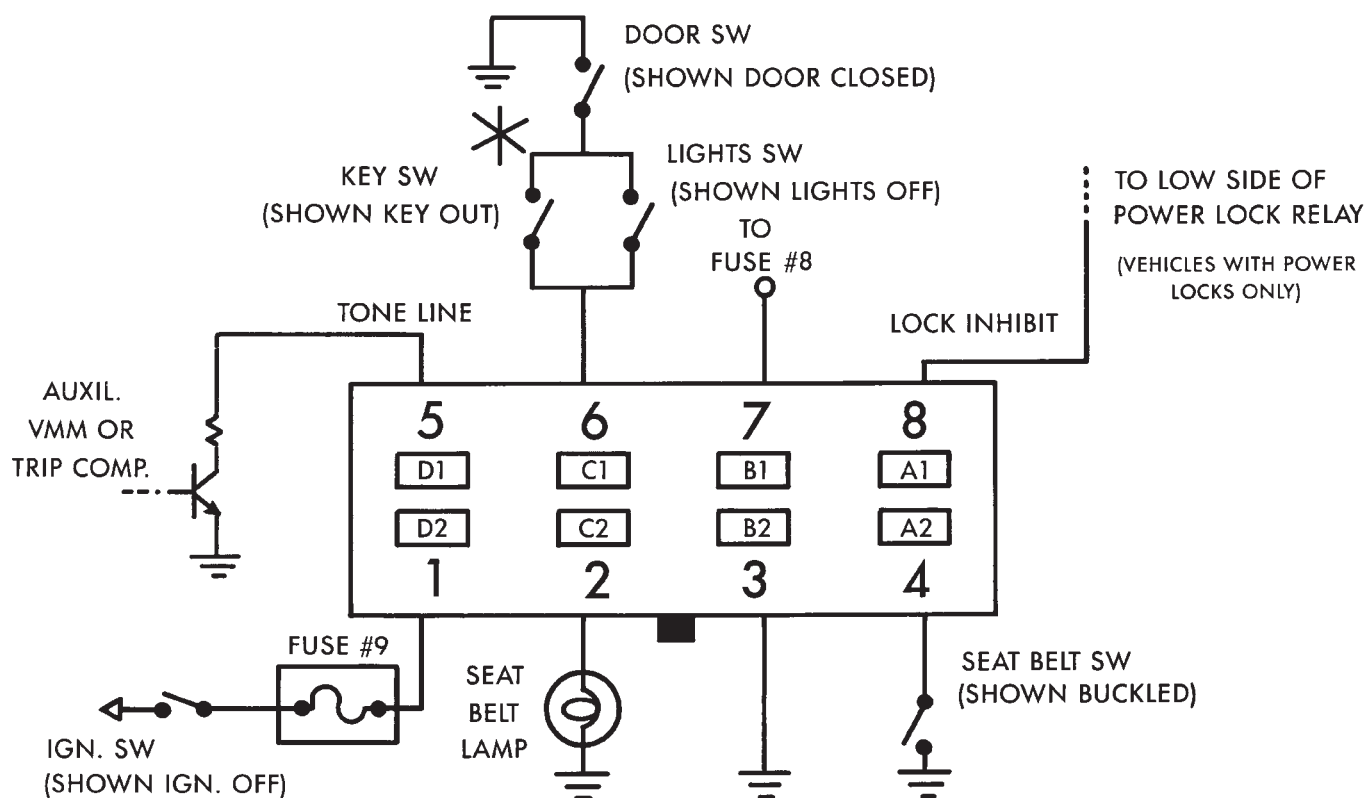
- Measure voltage at buzzer/chime module connector pin 7. Meter should read battery voltage. If not, repair open circuit to fuse.

RESISTANCE TESTS

CAUTION: Before making resistance measurements, turn ignition switch OFF and disconnect the battery negative cable. This will avoid damaging the ohmmeter.

Measure between the following pins and vehicle ground.

- Buzzer/chime module connector pin 2. Meter should read almost zero ohms (bulb filament). If not, replace seat belt indicator bulb.
- Buzzer/chime module connector pin 3. Meter should read zero ohms. If not, repair open circuit to ground.
- Buzzer/chime module connector pin 4. Driver's seat belt not buckled. Meter should read zero ohms. If not, repair open circuit to ground (or buckle switch may be defective). Meter should read open circuit if driver's seat belt is buckled. If not, repair short to ground (or buckle switch may be defective).
- Buzzer/chime module connector pin 6. Open driver's door, key in ignition (in OFF position). Meter should read zero ohms. If not, repair open circuit to ground (or key-in-ignition switch may be defective).
- Buzzer/chime module connector pin 6. Remove key from ignition. Open driver's door, headlamp switch on, meter should read zero ohms. If not, repair open circuit to ground.



PIN 8 (POWER LOCKS INHIBIT): LOW WHEN PIN 6 IS HI. AND OPEN WHEN PIN 6 IS LOW.

N/A = NOT APPLICABLE. X = DON'T CARE.

FUNCTION	DESCRIPTION	IGN.	SEAT BELT	TRIP COMP	DRIVER'S DOOR	KEY	HEAD LAMPS
SEAT BELT REMINDER	4 TO 8 SEC. CHIME AND LAMP OUTPUT	ON OFF	NOT BCKLD	X	X	X	X
	4 TO 8 SEC. LAMP OUTPUT ONLY	ON OFF	BCKLD	X	X	X	X
TRIP COMPUTER	CONTINUOUS. STEADY TONE	ON	X	LOW	X	X	X
KEY & HEAD LAMP REMINDER	PULSD. FAST- RATE CHIMES	OFF	X	X	OPEN	IN	X
						X	ON
DOOR LOCK INHIBIT	POWER LOCKS INHIBITED	OFF	X	X	OPEN	IN	X
						X	ON

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Fig. 5 Buzzer Module Schematic

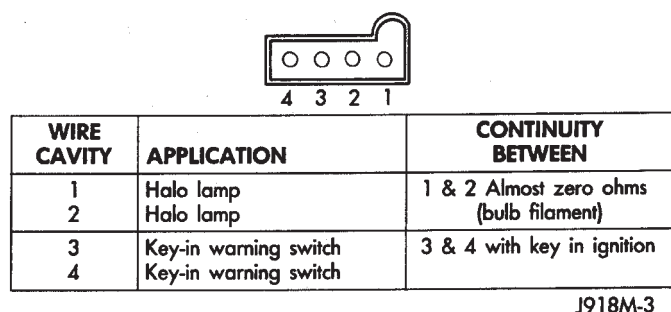


Fig. 6 Halo Lamp And Key-In Warning Switch Continuity Chart

KEY-IN SWITCH REPLACEMENT

REMOVAL

- (1) Disconnect battery negative cable.
- (2) Tilt column only—remove tilt lever (counterclockwise).
- (3) Carefully remove both upper and lower steering column covers. Requires removal of 3 screws (Torx T-20).
- (4) Remove 3 ignition switch mounting screws (tamper proof Torx bit Snap-On TTXR20B2 or equivalent required) (Fig. 7).

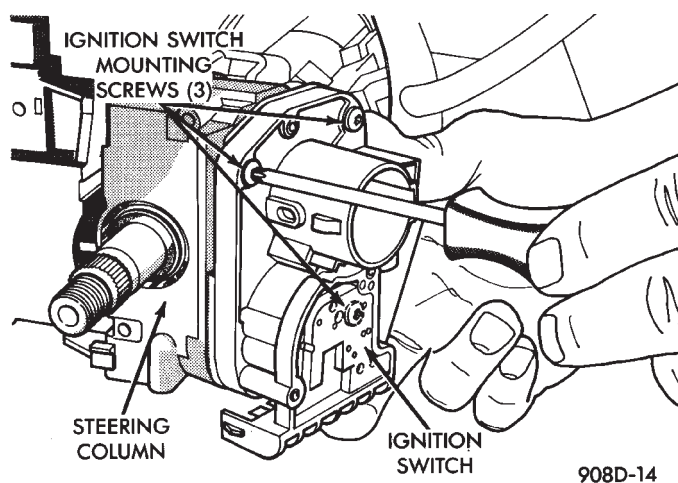


Fig. 7 Ignition Switch Screw Removal

- (5) Gently pull switch away from the column. Release 2 connector locks on the 7 terminal wiring connector, then remove the connector from the ignition switch.

- (6) Release connector lock on the 4 terminal Key In and Halo light connector then remove the connector from the ignition switch (Fig. 8).

- (7) Remove the key cylinder from the ignition switch as follows:

(a) Place the key in the ignition switch in the Lock position. Use a small screw driver to depress the key cylinder retaining pin flush with the key cylinder surface (Fig. 9).

(b) Rotate the key clockwise to the Off position. The key cylinder should now be unseated from the

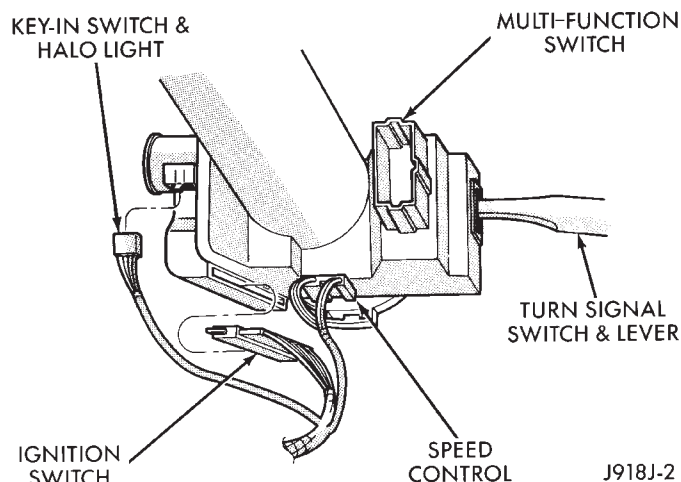
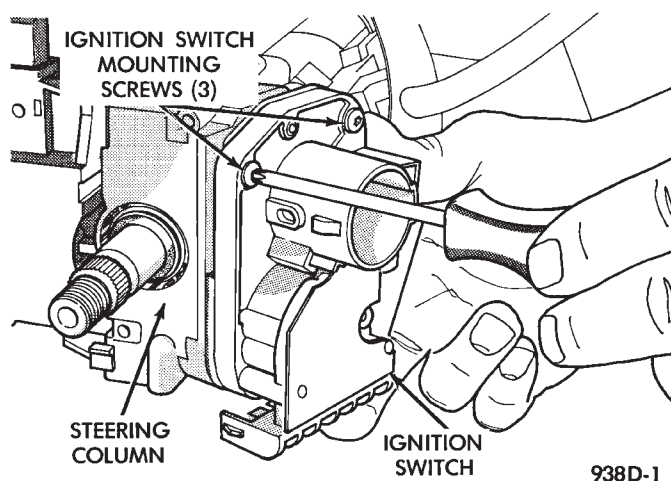


Fig. 8 Key In Switch And Halo Lamp Connector



Key Cylinder Pin

ignition switch assembly and about 1/8 inch above the ignition switch halo light ring (Fig. 10).

CAUTION: Do not try to remove the key cylinder at this time.

- (c) Rotate the key counterclockwise to the Lock position and remove the key.

- (d) Remove key cylinder (Fig. 11).

INSTALLATION

- (1) Install 2 wiring connectors to the switch. Make sure that the switch locking tabs are fully seated in the wiring connectors.

- (2) Mount ignition switch to the column with 3 screws. When equipped with column shift:

- the shifter must be in the Park position

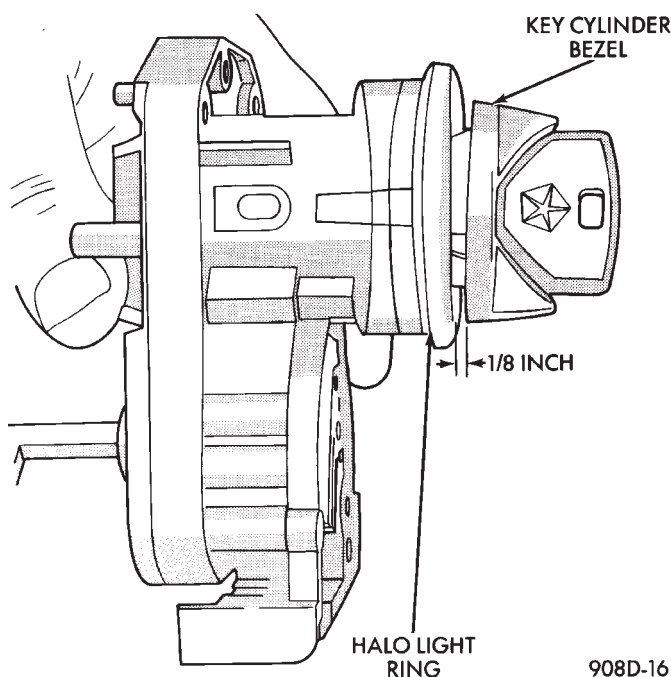


Fig. 10 Unseated Key Cylinder

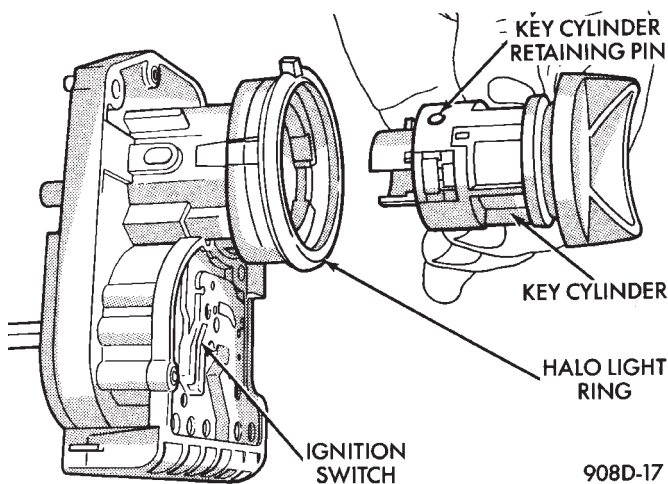


Fig. 11 Key Cylinder Removal

- the park lock dowel pin on the ignition switch assembly must engage with the column park lock slider linkage (Figs. 12 and 13).

Verify ignition switch is in lock position (flag is parallel with the ignition switch terminals). Apply a daub of grease to flag and pin. Position park lock link and slider to mid-travel. Position ignition switch against lock housing face, making sure pin is inserted

into park lock link contour slot. Torque retaining screws to 2 N•m (17 in. lbs.).

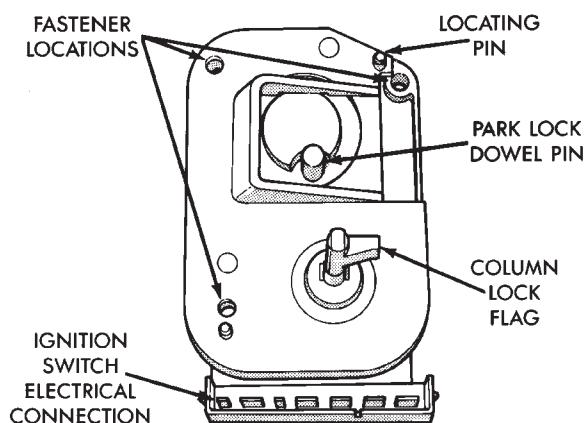


Fig. 12 Ignition Switch—View From Column

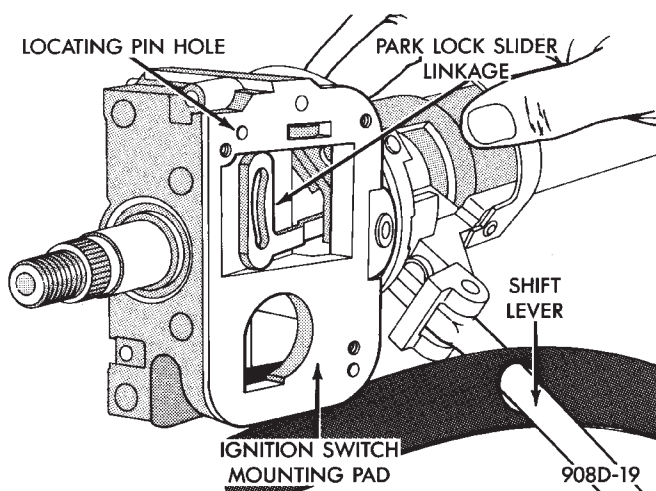


Fig. 13 Ignition Switch Mounting Pad—Typical

- (3) Assemble cover to the column with 3 screws. Torque screws to 2 N•m (17 in. lbs.).
- (4) Tilt column only—install tilt lever (clockwise).
- (5) Install battery negative cable.
- (6) Install key cylinder as follows:
 - (a) With the key cylinder and the ignition in the Lock position, gently insert the key cylinder into the ignition switch assembly until it bottoms.
 - (b) Insert key, while gently pushing on the key cylinder inward toward the ignition switch, rotate the key clockwise to the Run position.
- (7) Check for proper operation of push-to-lock, halo lighting, Accessory, Lock, Off, Run, Start, Column Lock and Shift Lock (if applicable).

