CHIME/BUZZER WARNING SYSTEMS

CONTENTS

GENERAL

The buzzer or optional chime module is mounted on the left side of the fuse block (above and to the left of the brake/clutch pedal). The buzzer or chime sounds an audible warning tone in any of the following conditions:

- Vehicle lights are ON when the ignition has been switched OFF and the key is removed and then the driver's door is opened (except YJ).
- The key is in the ignition and the driver's door is open (On some vehicles, the buzzer will not sound if the ignition switch is in the ON position).
- The ignition is switched ON and the driver's seat belt is not buckled. Buzzer will quit after 4 to 8 seconds. Besides the buzzer, a seat belt indicator lamp turns on as a reminder to fasten seat belt.

OPERATION/DIAGNOSIS

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 ON or START position.

SEAT BELT WARNING

The seat belt warning system uses both visual and audible signals. These consist of a buzzer that is part of a combined seat belt and key warning buzzer and a red light on the instrument panel.

The system will always illuminate the seat belt warning lamp for four to eight seconds when the ignition switch is turned to the ON position. Also, only if the driver does not fasten his seat belt, the buzzer will sound during the same time interval. Passenger belts are not connected to the system.

A timed buzzer-relay is used to operate the system for the time period. It has a time delay mechanism and buzzer assembly. Only the driver's seat belt buckle has a switch that is connected to the system.

KEY-IN-IGNITION WARNING

To sound the key-in-ignition warning, the following must occur:

- 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.

On some vehicles the chime/buzzer will not sound if the door is open and the key is in the ON position.

LIGHTS-ON WARNING (EXCEPT YJ)

To sound the lights-on warning, the following must occur:

- 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.

DIAGNOSIS

If the buzzer/chime unit does not operate as described, check the two fuses for pins 1 and 7 (Figs. 1 and 2) 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. Using a flat head screwdriver, release the locking plastic clip while carefully pulling out the module. 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:

VOLTAGE TESTS

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

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

Turn ignition OFF and remove the key from the ignition.

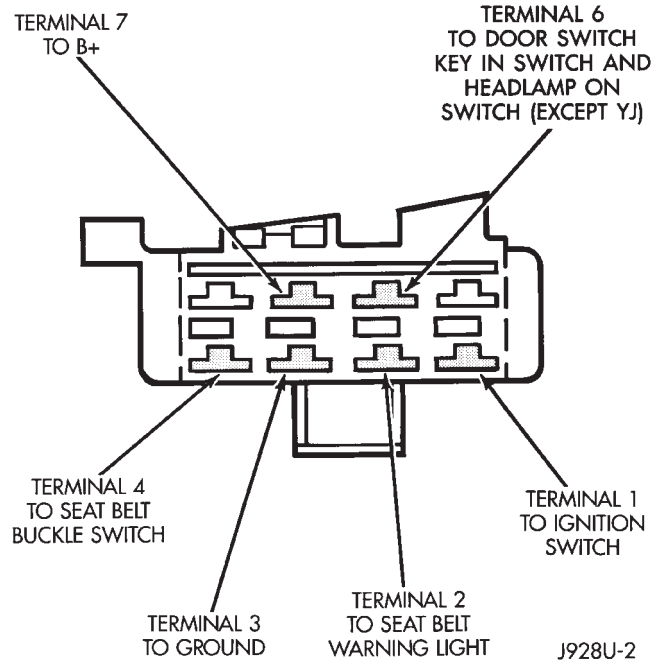


Fig. 1 Buzzer Module Connector Terminal Identification—Pin Side

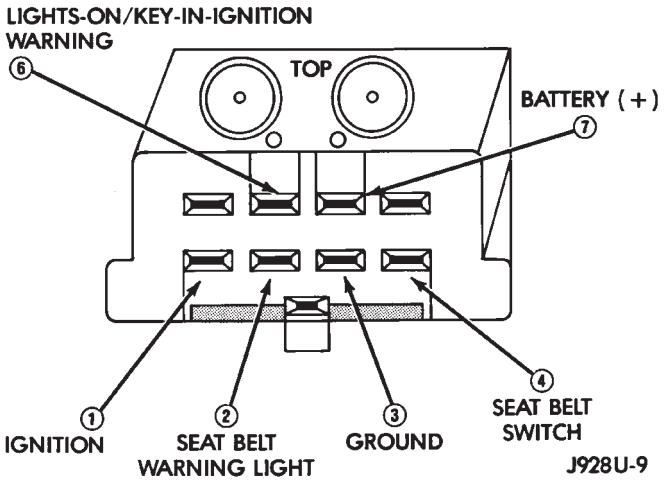


Fig. 2 Buzzer Module Terminal Identification

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

RESISTANCE TESTS

CAUTION: Before using an ohmmeter, turn ignition switch OFF and disconnect negative cable from battery to avoid damaging the meter.

Measure between the following pins and vehicle ground.

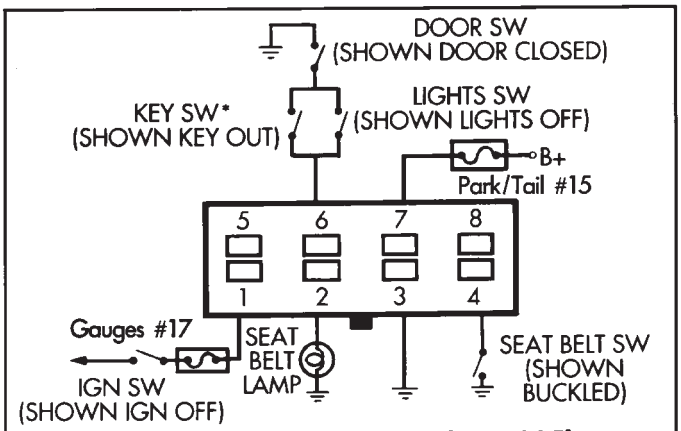
• Buzzer/chime module connector pin 2. Meter should read almost zero ohms (bulb filament). If not, replace seat belt indicator bulb.

• Buzzer/chime module connector pin 3. Meter should read zero ohms. If not, repair open to ground.

• Buzzer/chime module connector pin 4. Drivers seat belt not buckled. Meter should read zero ohms. If not, repair open to ground (or buckle switch may be defective). Meter should read open circuit if drivers 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 to ground.

• Buzzer/chime module connector pin 6. Remove key from ignition. Open driver's door, headlamp switch ON (except YJ), meter should read zero ohms. If not, repair open to ground.



PIN VIEW (SAME AS REAR SIDE [WIRE SIDE] CONNECTOR VIEW)

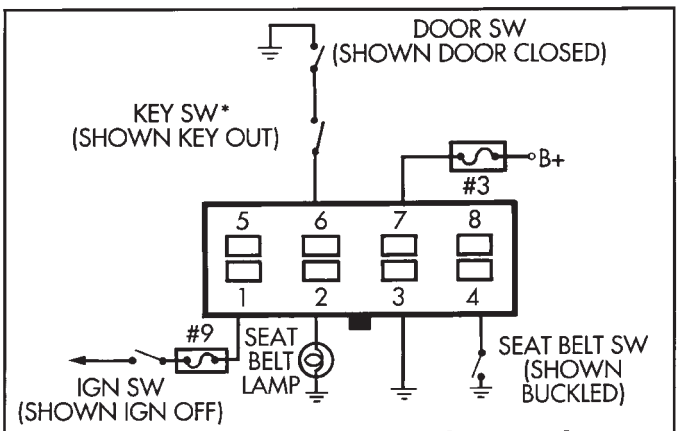
X = Do Not Care

FUNCTION	DESCRIPTION	IGN.	SEAT BELT	DRIVER'S DOOR	KEY	HEAD LAMPS
Seat Belt Reminder	4 to 8 Second Tone and Lamp Output	On / Off	Not Bckld	X	X	X
	4 to 8 Second Lamp Output Only	On / Off	Bckld	X	X	X
Key and Head Lamp Reminder*	Continuous, Steady Tone	X	X	Open	In	X
					X	On

*On some vehicles, the key switch opens when the ignition is switched on.

J928U-10

Fig. 3 Buzzer Module Schematic—XJ



PIN VIEW (SAME AS REAR SIDE [WIRE SIDE] CONNECTOR VIEW)

X = Do Not Care

FUNCTION	DESCRIPTION	IGN.	SEAT BELT	DRIVER'S DOOR	KEY
Seat Belt Reminder	4 to 8 Second Tone and Lamp Output	On / Off	Not Bckld	X	X
	4 to 8 Second Lamp Output Only	On / Off	Bckld	X	X
Key Reminder*	Continuous, Steady Tone	X	X	Open	In
					X

*On some vehicles, the key switch opens when the ignition is switched on.

J928U-1

Fig. 4 Buzzer Module Schematic—YJ

IGNITION KEY WARNING SWITCH REPLACEMENT

(1) Disconnect negative cable from battery.
(2) Remove horn button with a push and turn motion.
(3) Remove horn button components (Fig. 1).

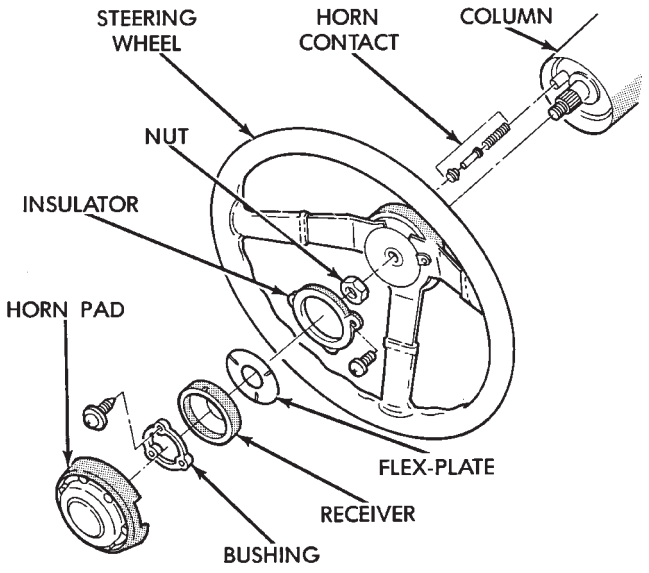


Fig. 1 Steering Wheel Removal/Installation

(4) Turn key to LOCK position and remove steering wheel nut and washer.
(5) Scribe an alignment mark on steering wheel in line with mark already existing on end of steering column.
(6) Remove vibration damper from steering column hub, if equipped.
(7) Remove steering wheel using a steering wheel puller. DO NOT hammer on puller or end of steering shaft.

WARNING: TO REMOVE THE STEERING SHAFT SNAP RING IN THE FOLLOWING STEP, THE LOCKPLATE MUST BE COMPRESSED. DO NOT ATTEMPT TO REMOVE THE LOCKPLATE WITHOUT COMPRESSOR TOOL C4156 AS THE LOCKPLATE IS UNDER HEAVY SPRING TENSION.

(8) Compress lockplate with compressor tool C4156.
(9) Remove steering shaft snap ring (Fig. 2). Discard snap ring. It is not reusable.
(10) Remove compressor tool.
(11) Remove lockplate, cancelling cam, and upper bearing preload spring.
(12) Remove horn button components from canceling cam.

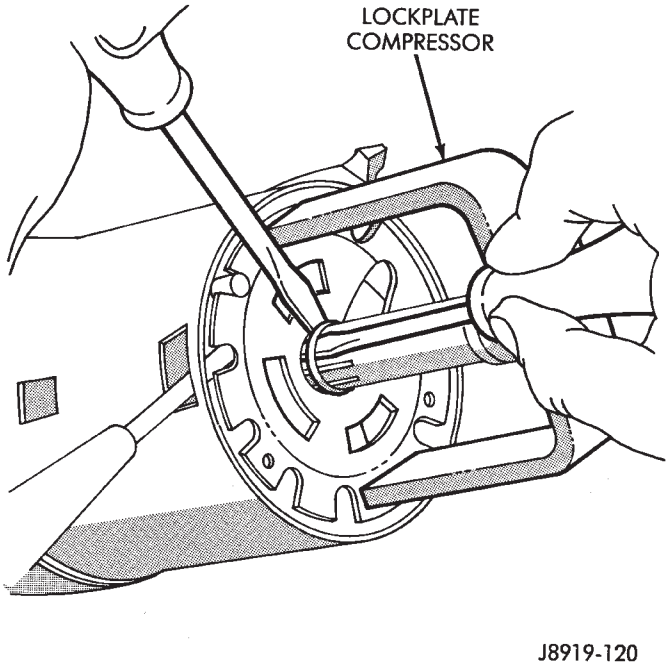


Fig. 2 Lockplate Removal

(13) Remove screw and hazard warning switch knob.
(14) Remove dimmer switch actuator arm attaching screw (Fig. 3).

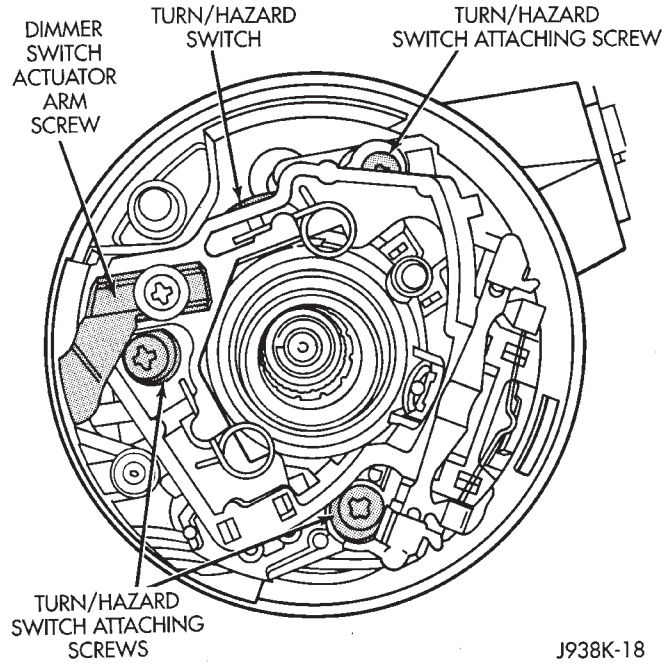


Fig. 3 Turn/Hazard Switch And Dimmer Actuating Arm Screws

(15) Remove turn/hazard switch attaching screws (Fig. 3).
(16) Unplug wiper switch connector.
(17) Push turn/hazard connector up and out of

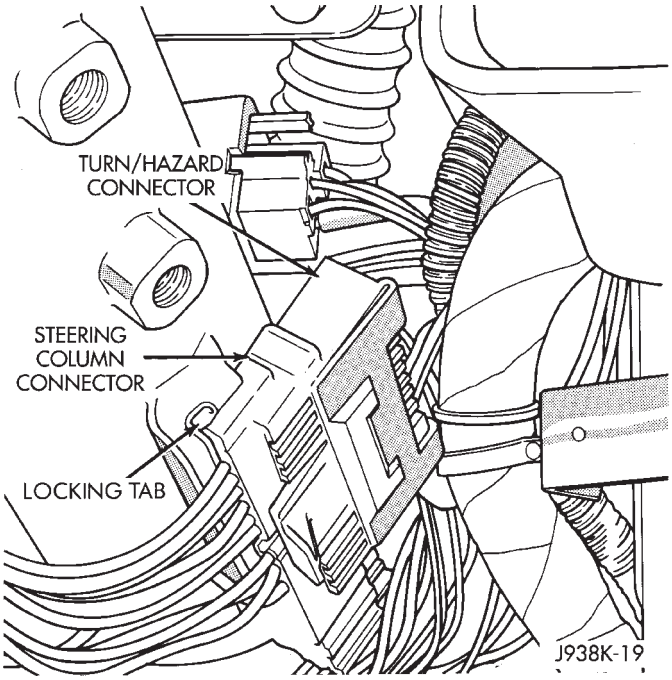


Fig. 4 Turn/Hazard Switch And Steering Column Connectors

steering column connector (Fig. 4).

(18) Pry up locking tabs of steering column connector and remove connector from column bracket.

(19) Pull turn/hazard switch out of the column far enough to allow access to remaining screws.

(20) Insert ignition key in the lock cylinder and turn key to ON position.

(21) Remove key warning buzzer switch and retaining clip with a paper clip. Insert paper clip below retainer so that retainer is flattened (Fig. 5).

Do not attempt to remove buzzer switch and clip separately. The clip could fall into the column jacket.

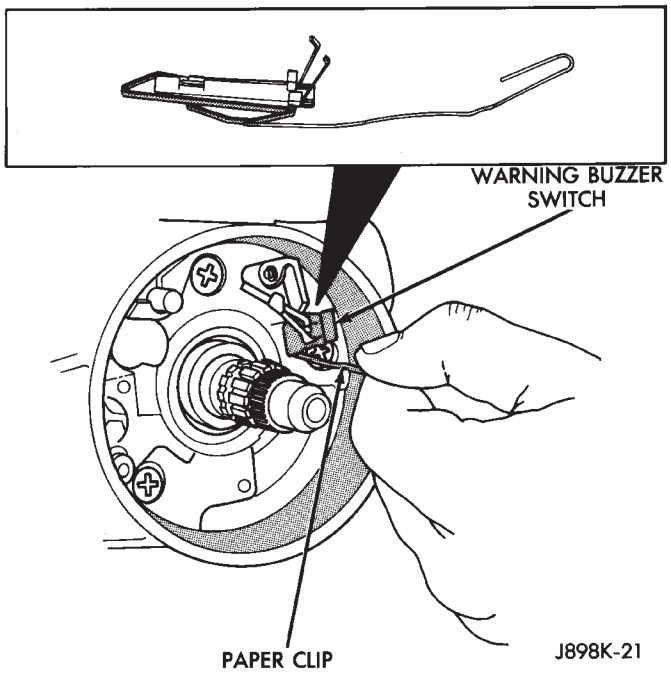


Fig. 5 Buzzer Switch Removal

(22) Reverse the removal procedures to assemble steering column.

(23) Install steering wheel. Tighten steering wheel nut to 34 N·m (25 ft. lbs.) torque.