

SECTION 15

STROBE WARNING LAMP AND BACKUP ALARM

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STROBE WARNING LAMP

GENERAL

Two different strobe warning lamp models are available for installation on CJ models with cab and Cherokee, Wagoneer, Truck models. The external wiring circuit is essentially the same for both lamps. The same wiring kit is used for installation of either lamp. Power consumption by either lamp is 28 watts (12 vdc, 2.3 amps).

INSTALLATION

CJ Models with Cab

In addition to the items supplied in the wiring kit, the following items are also necessary for installing the wiring circuit.

- 1/8-inch loop terminals, 4 each.
- 1/4-inch loop terminals, 2 each.
- Nylon cable ties, 12 each.

Ensure all wiring installation items are available before starting.

NOTE: Throughout wiring procedure, remove 1/4-inch insulation from wire ends prior to crimping terminals on wires.

(1) Route cable in engine compartment along with existing wiring harness to starter solenoid. Remove 4 inches of plastic sheathing and metal braid. Crimp a 1/4-inch loop terminal on black cable wire.

(2) Cut fuse wire loop and, with a crimp connector, connect red cable wire to either end of fuse holder wire. Crimp a 1/4-inch loop terminal on opposite fuse holder wire.

(3) Route opposite end of cable through grommet (speedometer cable) in dash panel into passenger compartment.

(4) Secure cable in engine compartment with nylon cable ties.

(5) Drill a 1/2-inch hole approximately 3 inches from left outer edge of instrument panel and 1 inch below windshield holddown knob for switch installation (fig. 15-1).

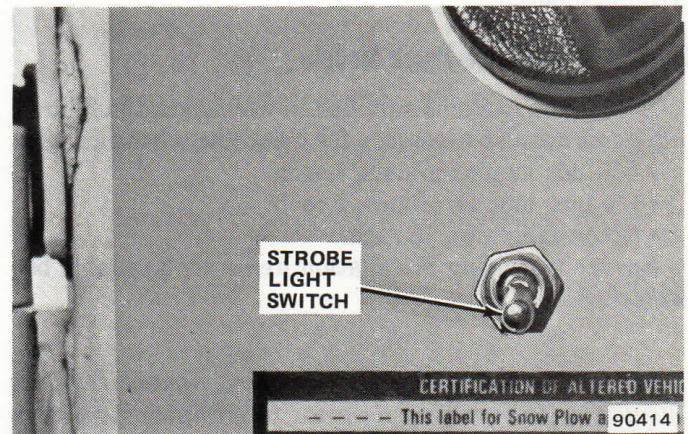


Fig. 15-1 Strobe Lamp Switch Location—CJ Models

(6) Determine length of cable necessary for routing to switch location and cut cable.

(7) Remove 2 inches of plastic sheathing and metal braid from each cut end of cable. Crimp a 1/8-inch loop terminal on each of the 4 wires.

(8) Attach 4 wires to switch in black-red pairs and install switch in instrument panel. Tie cables under instrument panel as necessary.

(9) Route free end of cable with existing wiring along left inner quarter panel to roll bar. Secure cable within existing harness clips.

(10) Route cable up along roll bar to top center of cab. Secure cable to roll bar.

(11) Mark top of cab roof for drilling holes to mount lamp base and route wires.

NOTE: Base should be positioned equidistant from either side edge of cab roof and either forward or aft of roll bar.

(12) Depending on lamp model being installed, drill 5/16-inch holes for base having 3 mounting studs or 1/4-inch holes for base having 2 hook bolts. Drill 5/16-inch hole in center of base position on roof for wires and install grommet.

(13) Route lamp base wires down through grommet and secure lamp base to cab roof. Ensure rubber sealing ring provides waterproof seal between base and roof.

(14) Strip insulation from ends of cables and connect red lamp wire to red cable wire and black lamp wire to black cable wire with crimp connectors.

(15) Disconnect negative (-) battery cable, connect red fuse wire to battery side of starter solenoid and black wire under starter solenoid base attaching screw.

NOTE: During wiring installation, always connect red wire to red wire and black wire to black wire. Failure to do so may damage lamp internal circuitry.

(16) Connect negative (-) battery cable and test strobe lamp. If lamp fails to flash, refer to Troubleshooting.

Cherokee-Wagoneer-Truck Models

In addition to items supplied in wiring kit, the following items are also necessary for installing wiring circuit.

- 1/8-inch loop terminals, 4 each.
- 1/4-inch loop terminals, 2 each.
- Nylon cable ties, 12 each.

Ensure all wiring installation items are available before starting.

NOTE: Throughout wiring procedure, remove 1/4-inch insulation from wire ends prior to crimping terminals on wires.

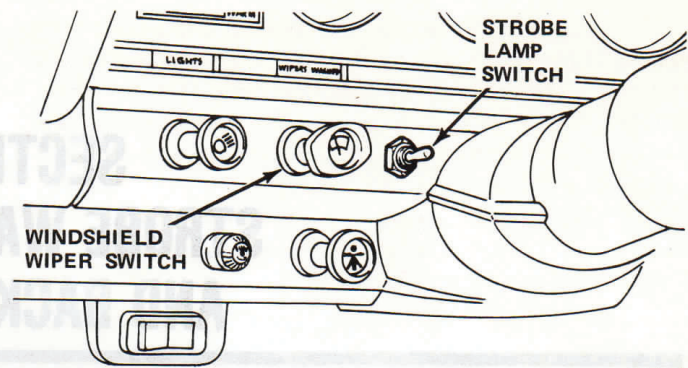
(1) Route cable in engine compartment along with existing wire harness to starter solenoid. Remove 4 inches of plastic sheathing and metal braid. Crimp a 1/4-inch loop terminal on black cable wire.

(2) Cut fuse wire loop and, with a crimp connector, connect red cable wire to either end of fuse holder wire. Crimp a 1/4-inch loop terminal on opposite fuse holder wire.

(3) Route opposite end of cable through grommet in dash panel into passenger compartment.

(4) Secure cable in engine compartment with nylon cable ties.

(5) At a position 2 inches inboard of windshield wiper switch, mark and drill 1/2-inch hole for lamp switch (fig. 15-2).



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Fig. 15-2 Cherokee-Wagoneer-Truck Models
Strobe Lamp Switch Location

(6) Determine length of cable necessary for routing to switch location and cut cable.

(7) Mark top of vehicle roof for drilling holes to mount lamp base and route wires.

NOTE: Base should be positioned equidistant from either side edge of roof. For Cherokee and Wagoneer models, center lamp base on forward half of roof; for Truck models, center lamp base on cab roof.

(8) Remove headliner.

- (a) Remove crossbar moulding (if equipped).
- (b) Remove coat hooks (if equipped).
- (c) Remove sun visors.
- (d) Remove windshield moulding.
- (e) Remove dome light attaching screws.
- (f) Lower headliner.

(9) Depending on lamp model being installed, drill 5/16-inch holes for base having 3 mounting studs or 1/4-inch holes for base having 2 hook bolts. Drill 5/16-inch hole in center of base position on roof for wires and install grommet.

(10) Route wires down through grommet and install base. Ensure rubber sealing ring provides waterproof seal between base and roof.

(11) Strip insulation from ends of cables and connect red lamp wire to red cable wire and black lamp wire to black cable wire with crimp connectors.

(12) Remove left seat belt retractor (Cherokee only) and route cable through left B-pillar via opening behind seat belt retractor.

(13) Replace headliner.

- (a) Raise headliner.
- (b) Install dome light attaching screws.
- (c) Install windshield moulding.
- (d) Install sun visors.
- (e) Install coat hooks (if removed).
- (f) Install crossbar moulding.

(14) Remove left side step plate, route cable under floor carpet adjacent to door opening, under instrument panel and up to switch hole. Install step plate.

(15) Cut off excess cable, remove 2 inches of plastic sheathing and metal braid from each cable end and crimp a 1/8-inch loop terminal on each of the 4 wires. Connect wires to switch in black-red pairs and install switch in instrument panel. Tie cables under instrument panel as necessary.

(16) Disconnect negative (-) battery cable, connect red fuse wire to battery side of starter solenoid and black wire under starter solenoid base holddown screw.

NOTE: During wiring installation, always connect red wire to red wire and black wire to black wire. Failure to do so may damage lamp internal circuitry.

(17) Connect negative battery cable and test strobe lamp. If lamp fails to flash refer to Troubleshooting.

TROUBLESHOOTING

Lamp Does Not Flash

If lamp fails to flash, check wiring circuit according to following procedure.

CAUTION: If using an ohmmeter to check fuse, either remove fuse or de-energize circuit. Otherwise ohmmeter will be damaged.

(1) Check in-line fuse. If open, replace and check for short to ground.

(2) If fuse is OK, visibly check all connections for security. Repair as necessary.

(3) If connections are secure, disconnect fuse wire at starter solenoid and check continuity of wires and

connections between solenoid end of cable and lamp end of cable. Isolate open connection, and repair as necessary.

(4) If continuity of both wires is OK, connect fuse wire to solenoid and check for presence of 12 vdc at source, switch and lamp with voltmeter.

CAUTION: Do not touch glass element of flash tube with bare hands. Skin oil residue on glass may cause premature failure of flash tube.

(5) If 12 vdc is present at lamp, remove lamp dome lens and replace flash tube. Place dome lens on base (do not secure) and test lamp. If OK, secure dome lens.

(6) If lamp fails to flash, lamp power supply circuit board is defective. Replace board or base.

WARNING: Allow capacitors to discharge before replacement.

Lamp Will Not Turn Off

If the lamp cannot be turned off by switch, check wiring circuit.

(1) Disconnect fuse wire at solenoid.

(2) With ohmmeter, check for continuity across switch in OFF position. If shorted, replace switch.

(3) If switch is not shorted, check for short in circuit to another 12 vdc source. Repair as necessary.

NOTE: For lamp, wiring cable or switch replacement, refer to applicable installation procedure.

BACKUP ALARM

GENERAL

The backup alarm is fully transistorized and weatherproof. Power consumption is less than 1 watt.

INSTALLATION

The backup alarm is mounted at rear of vehicle and uses backup lamp circuit for power source. Ensure all mounting hardware is available before starting installation.

(1) Using alarm mounting bracket as guide, mark and centerpunch location for mounting bolt and wire holes. If vehicle does not have bumperettes, alarm is located on left-hand side of rear crossmember, approximately 3 inches from end. If vehicle has bumperettes, alarm is located inboard left side of left bumperette (fig. 15-3).

(2) Drill three 1/4-inch holes in rear crossmember or bumperette.

(3) Mount alarm with furnished hardware. Ensure black wire (ground) is securely attached to bracket.

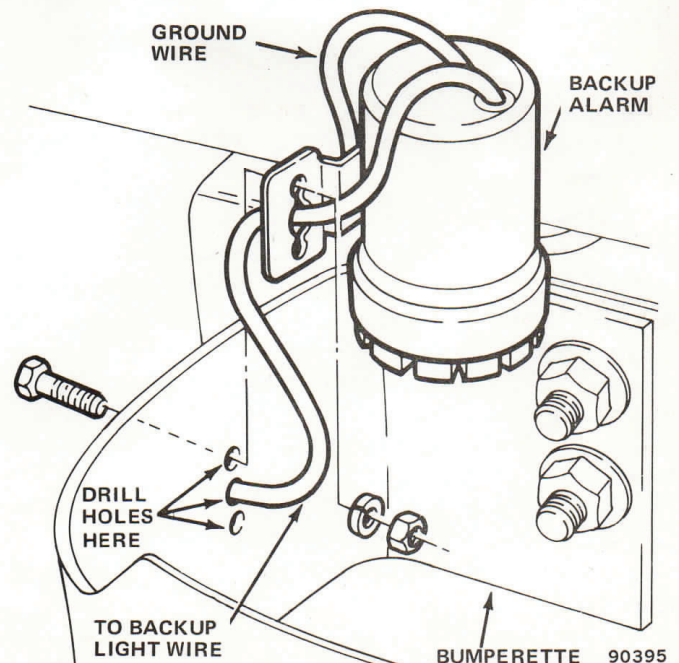


Fig. 15-3 Backup Alarm Installation

(4) Route yellow wire through drilled center hole to backup lamp wire (white with black stripe) and connect with 3M wire connector.

(5) Turn vehicle ignition switch on and place transmission in reverse to check alarm. If alarm fails to sound, refer to Troubleshooting.

TROUBLESHOOTING

Alarm Does Not Sound

If alarm fails to sound with ignition switch on and transmission in reverse:

(1) Check backup lamps, if not illuminated troubleshoot backup lamp circuit.

(2) If backup lamps are illuminated, check for a good electrical connection at wire connection and proper grounding of alarm (black wire). If both are OK, replace alarm.

NOTE: For alarm replacement, refer to procedures above.

Alarm Sounds Continuously

If alarm sounds continuously (ignition switch on but transmission in forward gear position) check if backup lamps are illuminated. If illuminated, check backup lamp switch for malfunction. Repair or replace as necessary.

BACKUP ALARM

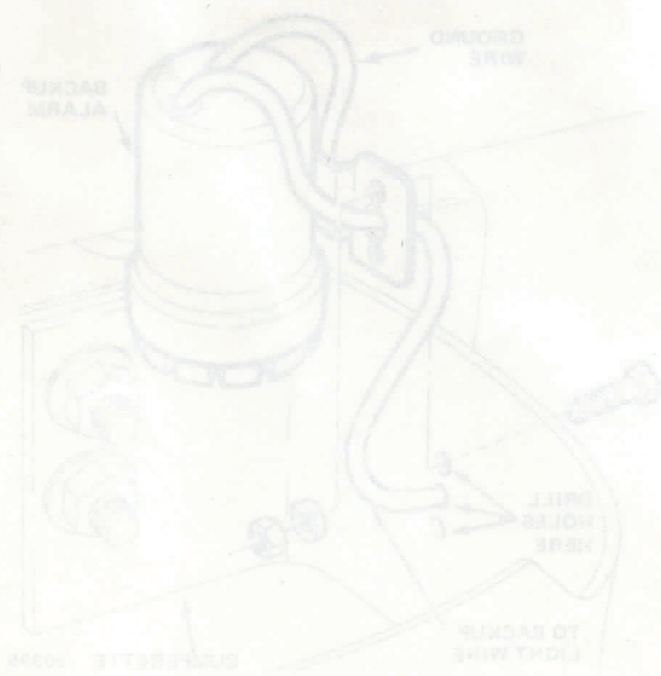


Fig 15-3 Backup alarm installation

The backup alarm is fully transistorized and waterproof. Power consumption is less than 1 watt.

INSTALLATION

The backup alarm is mounted 21 rear of vehicle and uses backup lamp circuit for power source. Ensure all mounting hardware is available before starting installation.

(1) Using alarm mounting bracket as guide, mark and center punch location for mounting bolt and wire holes. If vehicle does not have bumperless alarm is located on left-hand side of rear crossmember, spacer-mounting 3 inches from end. If vehicle has bumperless alarm is located inboard left side of left bumperless (Fig 15-3).

(2) Drill three 1/4-inch holes in rear crossmember or bumperless.
 (3) Mount alarm with furnished hardware. Ensure thick wire (ground) is securely attached to bracket.