

STEERING COLUMN SWITCHES

1993 Jeep Cherokee

1993 ACCESSORIES & EQUIPMENT
Chrysler Corp. Steering Column Switches

Jeep; Cherokee, Grand Cherokee, Grand Wagoneer, Wrangler

DESCRIPTION

NOTE: Grand Cherokee and Grand Wagoneer are equipped with a combination switch incorporating headlight, turn signal, wiper, hazard and dimmer functions.

DISABLING & ACTIVATING

AIR BAG

WARNING: Grand Cherokee and Grand Wagoneer are equipped with Supplemental Restraint System (SRS), air bag system MUST be disabled before servicing ANY steering column component. Disabling system will prevent accidental air bag deployment, resulting in possible serious injury or property damage.

BEFORE servicing ANY steering column or air bag component, disconnect and shield negative (ground) battery cable. Wait 2 minutes to allow air bag system capacitor to deplete its residual charge. Proceed with steering column service.

TESTING

HEADLIGHT DIMMER SWITCH

Cherokee & Wrangler

1) Position headlight switch in ON position. Position dimmer switch in HIGH or LOW beam position.

2) Measure voltage between dimmer switch connector voltage supply terminal and vehicle body ground. Voltmeter should indicate battery voltage. If not, repair open circuit in wire harness between headlight switch and dimmer switch.

3) Position dimmer switch in LOW beam position. Measure voltage between dimmer switch connector low beam voltage out terminal and vehicle body ground. Voltmeter should indicate battery voltage. If not, replace dimmer switch.

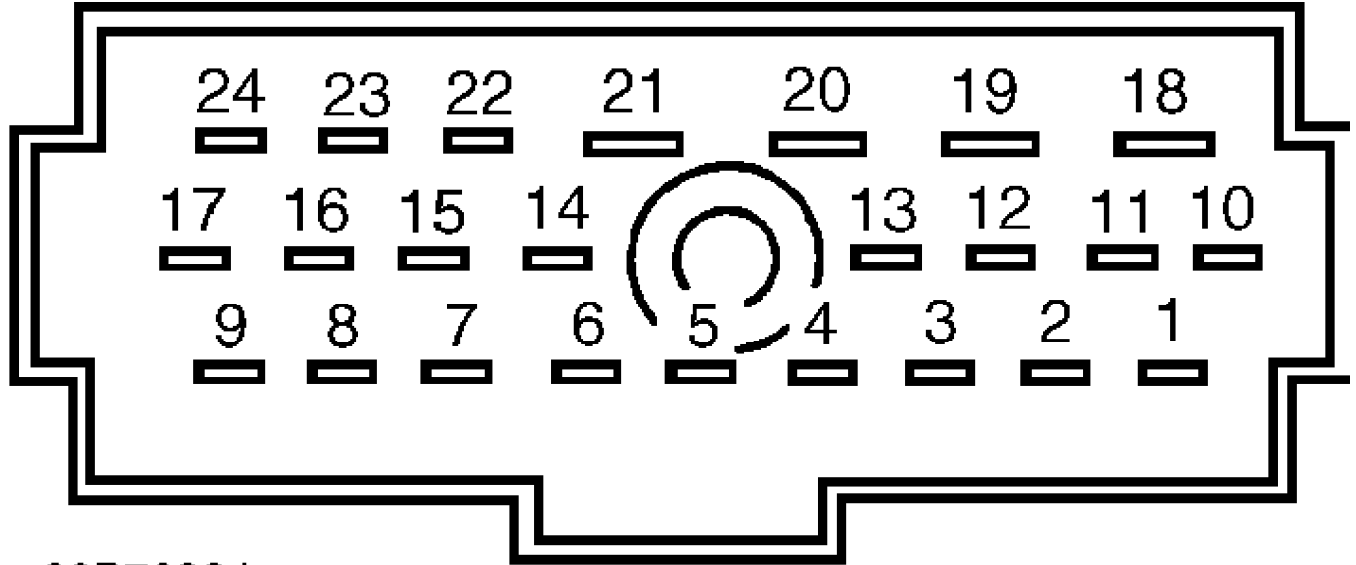
4) Position dimmer switch in HIGH beam position. Measure voltage between dimmer switch connector high beam voltage out terminal and vehicle body ground. Voltmeter should indicate battery voltage. If not, replace dimmer switch.

Grand Cherokee & Grand Wagoneer

1) Disconnect negative battery cable. Remove tilt lever (if equipped). Remove upper and lower steering column trim covers. Remove knee blocker. Remove steering column mounting nuts.

2) Lower steering column to gain access to rear of combination switch. Using Remover (TTXR20B2), remove tamper-proof mounting screws. Gently pull combination switch away from steering column. Loosen connector screw sufficiently to remove connector. Screw will remain in connector. Remove connector. Using ohmmeter, check for continuity in turn signal and hazard warning terminals of combination switch with turned to indicated positions. See Fig. 1. Refer to the DIMMER SWITCH CONTINUITY table. If continuity is not as specified,

replace combination switch as an assembly.



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Fig. 1: Combination Switch Pins ID (Grand Cherokee & Grand Wagoneer)
 Courtesy of Chrysler Corp.

DIMMER SWITCH CONTINUITY TABLE (GRAND CHEROKEE & GRAND WAGONEER)

Function	Pin Continuity
Low Beam	18 & 19
High Beam	19 & 20
Optical Horn	20 & 21

HAZARD SWITCH

Cherokee

1) Ensure fuse for hazard flasher is good. Measure voltage at fuse side of flasher (side terminal). If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit between fuse and hazard flasher.

2) Replace hazard flasher. Lights should flash. If lights do not flash, measure voltage at turn signal switch connector between Violet/Tan wire and ground. If battery voltage is present, replace hazard/turn signal combination switch. If battery voltage is not present, repair open in Violet/Tan wire.

Grand Cherokee & Grand Wagoneer
 See TURN SIGNAL SWITCH.

Wrangler

Ensure fuse for hazard flasher is good. Measure voltage at battery side of hazard fuse flasher terminal "A". If battery voltage is not present, repair open circuit from fuse No. 5.

HEADLIGHT SWITCH

Cherokee & Wrangler

1) Place headlight switch in ON position. Measure voltage between headlight switch connector voltage supply terminal and ground.

Voltmeter should indicate battery voltage. If battery voltage is not indicated, repair open circuit in wire harness between fuse and switch connector terminal.

2) Measure voltage between headlight switch connector voltage supply terminal and ground. Battery voltage should be present. If battery voltage is not indicated, repair open circuit in wire harness between fuse and switch connector terminal.

3) Measure voltage between headlight switch connector battery voltage out terminal and ground. Voltmeter should indicate battery voltage. If battery voltage is not indicated, replace headlight switch.

Grand Cherokee & Grand Wagoneer
See HEADLIGHT DIMMER SWITCH.

HORN

Cherokee

1) Inspect headlight delay fuse, and replace if necessary. Relay contacts should click when horn switch is depressed. If relay clicks, go to step 4). If relay does not click, remove relay located on bracket (3 relays) behind instrument panel. Check voltage at relay connector between Gray/Orange wire and ground. If battery voltage exists, go to next step. If battery voltage does not exist, repair open in Gray/Orange wire.

2) Depress horn switch. Check resistance at relay connector between Black/Red wire and ground. If reading is zero ohms, go to next step. If reading is not zero ohms, repair horn switch ground.

3) Check resistance at relay connector between Green/Red wire and ground. Resistance should be almost zero ohms (horn resistance). If resistance is as specified, replace relay. If resistance is not as specified, repair open in circuit between relay and horns (Green/Red wire).

4) Disconnect horn connector. Depress horn switch. Check voltage at horn connector between Green/Red wire and ground. If battery voltage does not exist, go to next step. If battery voltage exists, replace horns.

5) Check resistance between horn bracket and chassis ground. Resistance should be zero ohms. If resistance is not zero ohms, check mounting screw for corrosion and repair or replace as necessary.

Grand Cherokee & Grand Wagoneer

1) Check fuse No. 13 in fuse block. Replace fuse, if necessary. Depress horn switch. Horn relay (Black), located in relay center under glove box, should click audibly. If relay clicks, go to step 5). If relay does not click, remove relay.

2) Relay cavities in relay center are numbered. Check for battery voltage in cavity No. 1. Battery voltage should exist. If battery voltage does not exist, repair open in circuit between fuse block and relay center.

3) Depress horn switch. Check resistance between cavity No. 2 and ground. If resistance is greater than zero ohms, repair open in switch ground.

4) Check resistance between relay cavity No. 4 and ground. Resistance should be nearly zero ohms (horn resistance). If resistance is as specified, replace horn relay. If resistance is not as specified, repair open in Dark Green wire between relay and horn.

5) Disconnect horn connector. Depress horn switch. Check voltage at horn connector between Dark Green wire and ground. If battery voltage does not exist, go to next step. If battery voltage exists, replace horns.

6) Check resistance at horn connector between Black wire and chassis ground. Resistance should be zero ohms. If resistance is not

zero ohms, repair open in Black wire to ground.

Wrangler

1) Check 10-amp fuse (fuse No. F15) located in fuse block below flashers. Replace fuse as necessary. Relay contacts should click when horn switch is depressed. If relay does not click, go to next step. If relay clicks, go to step 5).

2) Remove relay. Relay is taped in wiring harness above fuse panel. Check voltage at relay connector between Red/White wire and ground. If battery voltage exists, go to next step. If battery voltage does not exist, repair open in Red/White wire.

3) Depress horn switch. Check resistance at relay connector between Orange/White wire and ground. If resistance is almost zero ohms, go to next step. If resistance is not almost zero ohms, repair horn switch ground.

4) Check resistance at relay connector between Gray/Orange wire and ground. Reading should be almost zero ohms (horn resistance). If resistance is as specified, replace relay. If resistance is not as specified, repair open in Gray/Orange wire between relay and horns.

5) Disconnect horn connector. Depress horn switch. Check voltage at horn connector between Gray/Orange wire and ground. If battery voltage does not exist, go to next step. If battery voltage exists, replace horns.

6) Check resistance at horn connector between Black wire and chassis ground. Resistance should be zero ohms. If resistance is not zero ohms, repair open in Black wire to ground.

IGNITION SWITCH TEST

Except Grand Cherokee & Grand Wagoneer

1) Remove ignition switch. See IGNITION SWITCH R & I under REMOVAL & INSTALLATION. Using an ohmmeter or self-powered test light, check ignition positions for continuity between terminals. See Fig. 2. Also, see the IGNITION SWITCH TERMINAL CONNECTIONS table.

2) Identify ignition switch slide bar positions by locating alignment hole in flat portion of switch, adjacent to terminals. Starting from alignment hole end of switch, positions are ACC, OFF-LOCK, OFF, ON and START. Each position has a detent stop except START position, which is spring-loaded. There should be no resistance between any 2 connected terminals. If switch does not function as specified, replace switch.

Grand Cherokee & Grand Wagoneer

Testing procedures are not available from manufacturer.

IGNITION SWITCH TERMINAL CONNECTIONS TABLE

Switch Position	Continuity Between	Circuit Result
ACC	A & B2	Connected
OFF-LOCK	N/A	Open
OFF	N/A	Open
ON	I1 & B1 (1)	Connected
"	A & B2 (1)	Connected
"	I3 & B3 (1)	Connected
START	I1, B1 & S	Connected
"	G1 & G2	Grounded

(1) - Terminals B1, B2 and B3 are all connected to battery circuit.

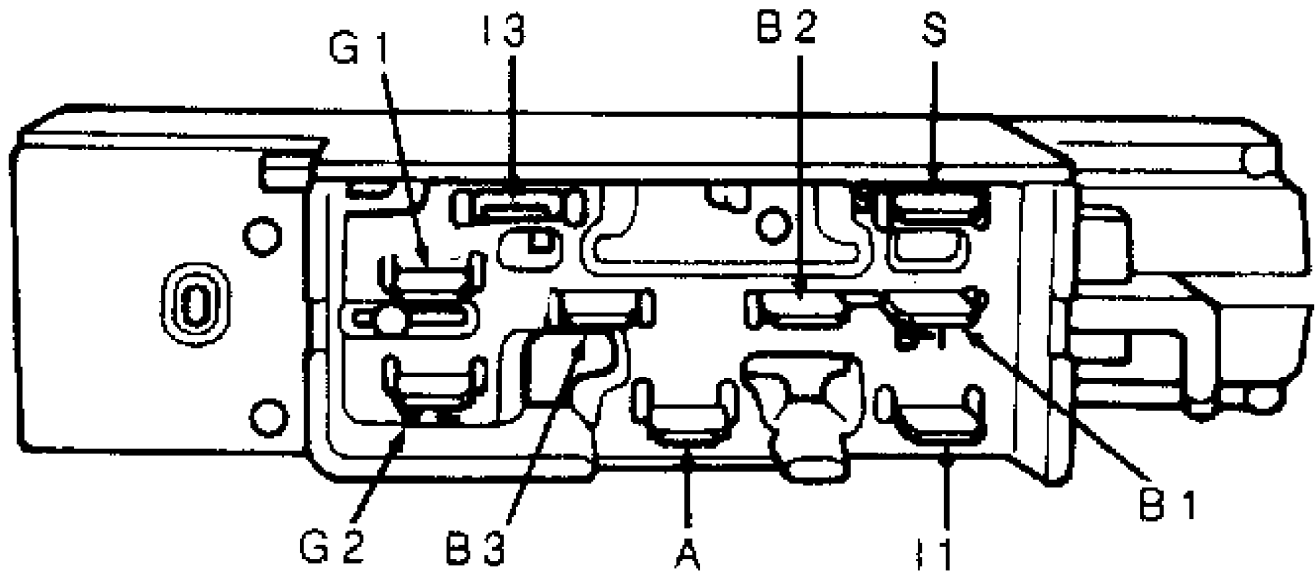


Fig. 2: Locating Ignition Switch Terminals
 Courtesy of Chrysler Corp.

TURN SIGNAL SWITCH

Cherokee

1) Remove and inspect TURN fuse. Replace as necessary. Turn ignition switch to ACC position. Place turn signal switch in left turn signal position, and pull hazard switch out. Measure voltage at turn signal flasher between Yellow/Black wire (bottom terminal) and ground. If battery voltage is present, go to next step. If battery voltage is not present, repair open in Yellow/Black wire.

2) Replace turn signal flasher with 2-lamp, 12-volt rated flasher. Turn signals should flash. If turn signals do not flash, measure voltage at turn signal/hazard switch connector between Black wire and ground. If battery voltage is present, replace turn signal/hazard switch assembly. If battery voltage is not present, repair open circuit to hazard flasher.

Grand Cherokee & Grand Wagoneer

1) Disconnect combination switch connector. Using ohmmeter, check for continuity in turn signal and hazard warning terminals of combination switch with turned to indicated positions. See Fig. 1. See the TURN SIGNAL SWITCH CONTINUITY table. If continuity is not as specified, combination switch must be replaced as an assembly.

TURN SIGNAL SWITCH CONTINUITY TABLE (GRAND CHEROKEE & GRAND WAGONEER)

Function	Pin Continuity
Turn Signal Switch	
Neutral	12, 14 & 15
Left	15, 16 & 17; 12 & 14; (1) 22 & 23
Right	11, 12 & 17; 14 & 15; (1) 23 & 24
Hazard Switch	11, 12, 13, 15 & 16

(1) - With optional corner lamps.

Wrangler

Disconnect turn signal/hazard switch connector. Pull hazard

switch on. Measure resistance at turn signal/hazard switch connector. Measure between specified wires with turn signal switch in correct position. See the TURN SIGNAL SWITCH TEST SPECIFICATIONS (WRANGLER) table. If switch does not test as specified, replace switch.

TURN SIGNAL SWITCH TEST SPECIFICATIONS (WRANGLER)

Switch Position	Wire Color	Ohms
Left Turn	Violet & Yellow	Zero
"	Violet & Light Blue	Zero
Right Turn	Violet & Dark Green	Zero
"	Violet & Dark Blue	Zero

WIPER SWITCH

For testing information, see WIPER/WASHER SYSTEMS article.

REMOVAL & INSTALLATION

STEERING WHEEL & HORN PAD R & I

Removal & Installation (Cherokee & Wrangler)

1) On standard steering wheel, remove 3 screws on rear of steering wheel and remove horn pad. On sport steering wheel (round horn button), remove bushing, receiver and flex plate from steering wheel. On all models, remove steering wheel retaining nut. Mark steering wheel and shaft for reassembly reference. Using steering wheel puller, remove steering wheel.

2) To install, reverse removal procedure. Ensure marks are aligned. Tighten steering wheel nut to specification. Refer to the TORQUE SPECIFICATIONS table. Replace negative battery cable. Check horn and turn signal for correct operation. Reset clock and radio stations if necessary.

Removal & Installation (Grand Cherokee & Grand Wagoneer)

1) Disable air bag system. See AIR BAG DISABLING. Ensure steering wheel is in straight-ahead position. Remove nuts mounting air bag module to steering wheel. Remove screws securing cruise control switch to steering wheel. Disconnect wiring connectors. Remove air bag module and cruise control switch assembly.

2) Pry trim covers from back of steering wheel and remove horn switch mounting screws. Disconnect horn wires. Remove horn switch.

3) Remove steering wheel retaining nut. Reference mark steering wheel and steering shaft. Using puller, remove steering wheel. To install, reverse removal procedure. Align marks made during removal. Tighten steering wheel retaining nut to specification.

COMBINATION SWITCH R & I

Removal & Installation (Grand Cherokee & Grand Wagoneer)

1) Disable air bag system. See AIR BAG DISABLING. Remove tilt lever (if equipped). Remove upper and lower steering column covers. Remove steering panel trim panel and knee bolster. Remove steering column-to-mounting bracket retaining nuts. Lower steering column.

2) Using Tamper-Proof Torx Bit (TTXR20B2), remove combination switch retaining screws. Gently roll combination switch away from column. Unscrew connector retaining screw from combination switch. Screw will remain in connector. Disconnect connector. Remove switch. To install, reverse removal procedure.

IGNITION SWITCH R & I

Removal (Cherokee & Wrangler)

1) Disconnect negative battery cable. On Cherokee, remove lower instrument panel trim panel. On Wrangler, remove windshield wiper intermittent control module and bracket. Place ignition key lock in ACC position.

2) Remove 2 headlight dimmer switch attaching nuts. Before removing dimmer switch, tape 2 actuator rods to steering column to prevent accidental disengagement from upper part of steering column. Lift switch off lock rod.

3) Remove ignition switch-to-steering column attaching screws. Disengage ignition switch from remote actuator rod by lifting it straight up. Remove switch from steering column.

Installation (Cherokee & Wrangler)

1) Place key lock switch in ACC position. Move position slider of switch to ACC position. Connect non-Black connector to switch, then connect Black connector to switch. One connector will interlock the other connector.

2) Slip remote actuator rod into access hole on switch. Install switch to steering column. Use care not to move slider bar on switch out of ACC detent position. Remove ignition switch actuator rod securing tape from steering column.

3) Install 2 ignition switch-to-steering column screws finger tight. DO NOT tighten screws yet.

4) To adjust ignition switch on non-tilt steering column, hold key lock in ACC position. Gently slide ignition switch up toward steering wheel. This will remove slack from switch. Tighten screws. DO NOT allow ignition switch to move from ACC detent position.

5) To adjust ignition switch on tilt steering column, hold key lock switch in ACC position. Gently slide ignition switch down away from steering wheel. This will remove slack from switch. Tighten attaching screws. DO NOT allow switch to move from ACC detent position.

6) On all models, ignition switch and headlight dimmer switch share 2 mounting screws. One mounting screw must be removed from ignition switch. This must be done after ignition switch has been adjusted, and before dimmer switch has been installed. Remove one screw, but do not remove stud/nut.

7) Slip headlight dimmer switch into actuator rod and position over ignition switch. Install screws finger tight. Remove dimmer switch actuator rod securing tape from steering column.

8) Adjust dimmer switch by depressing it slightly and inserting a 3/32" drill bit into adjustment hole to prevent horizontal switch movement. Move switch toward steering wheel to remove any lash from switch actuator rod. Tighten dimmer and ignition switch retaining nuts to 35 INCH lbs. (4 N.m). To complete installation, reverse removal procedure.

Removal (Grand Cherokee & Grand Wagoneer)

1) Disconnect negative battery cable. Remove tilt lever (if equipped). Remove upper and lower steering column covers. Remove ignition switch mounting screws. Gently pull switch away from steering column.

2) Release connector locks on 7-pin and 4-pin connectors. Pull connectors from switch body. Turn key to LOCK position. Using small screwdriver, depress lock cylinder retaining pin. Rotate key to OFF position. Remove lock cylinder.

NOTE: When ignition switch is in LOCK position, flag on park/lock pin at rear of switch will be parallel with 7-pin connector

terminals.

Installation (Grand Cherokee & Grand Wagoneer)

1) Install connectors in switch body. Ensure connector locks are engaged. Ensure switch is in LOCK position. Apply small amount of grease to park/lock pin and flag. Mount ignition switch on steering column. Ensure park/lock pin at back of switch engages park/lock slider linkage. Tighten mounting screws to 17 INCH lbs. (2 N.m).

2) Install steering column covers. Install tilt lever (if equipped). Connect negative battery cable. Ensure lock cylinder and ignition switch are in LOCK position. Insert lock cylinder in switch until it bottoms. Insert key and rotate clockwise to end of travel. Check for proper switch operation.

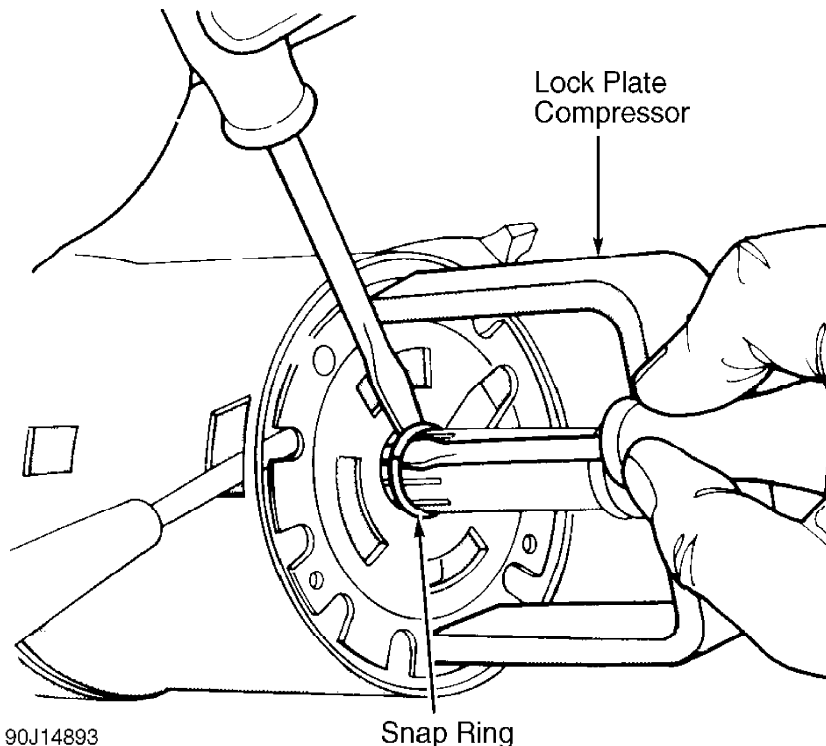
LOCK CYLINDER R & I

Removal (Cherokee & Wrangler)

1) Disconnect negative battery cable. Remove horn/trim cover retaining screws from back of steering wheel. Remove steering wheel. Disconnect horn wiring. On sport steering wheel (round horn button), pull button upward, and remove horn components.

2) Remove steering wheel retaining nut and vibration dampener. Mark steering shaft and steering wheel for reassembly reference. Use proper steering wheel puller to avoid damaging shaft or threads.

3) Remove lock plate plastic cover. Compress lock plate using Lock Plate Compressor (J-23653 for standard threads or J-23653-4 for Metric threads). See Fig. 3. Pry retaining snap ring from steering shaft groove, and slide snap ring toward compressor.



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Fig. 3: Removing Lock Plate & Snap Ring
Courtesy of Chrysler Corp.

4) Unscrew and remove compressor. Remove snap ring, lock plate, canceling cam and spring from steering shaft. Remove hazard

warning switch knob from side of column by pushing inward on knob and turning it counterclockwise. Remove turn signal switch retaining screw. Remove turn signal/wiper switch rod.

WARNING: Lock plate is held by high pressure spring. DO NOT remove snap ring without using lock plate compressor.

5) Disconnect wire harness connector on bracket at lower end of steering column. Remove 3 turn signal switch retaining screws. Pull switch outward toward end of shaft. DO NOT dislodge dimmer switch rod.

6) Insert paper clip below retainer so retainer is flattened. See Fig. 4. Using needle-nose pliers, remove key warning buzzer switch and contacts as an assembly.

7) Remove lock cylinder retaining screw. Insert ignition key into lock cylinder and turn to ON position. Pull out lock cylinder.

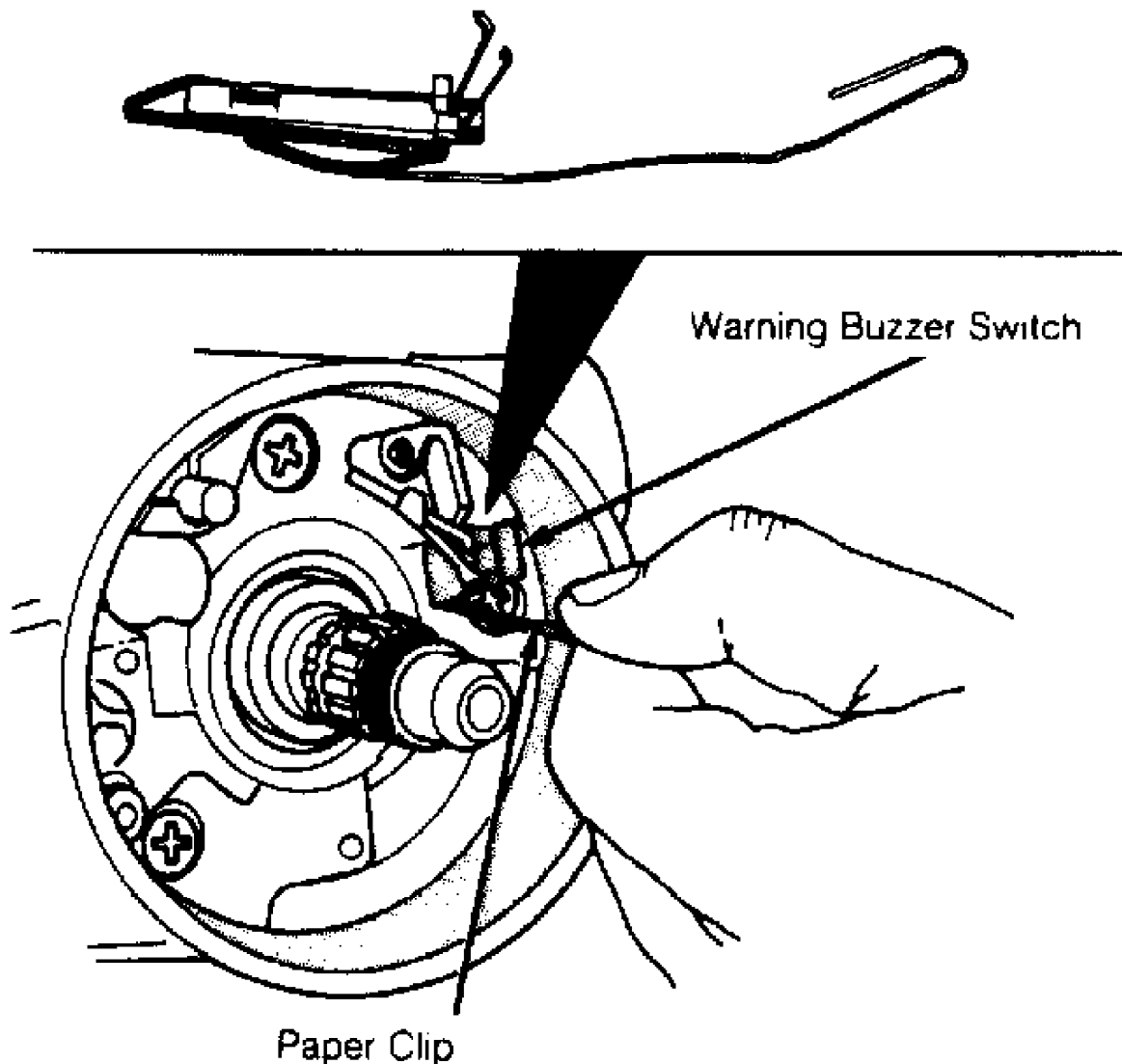


Fig. 4: Removing Warning Buzzer Switch
Courtesy of Chrysler Corp.

Installation (Cherokee & Wrangler)

To install, reverse removal procedure. Ensure lock cylinder

bottoms in bore and engages into gear for ignition switch rod by turning key. Fit warning buzzer, with contacts separated, in place. Before tightening screws, ensure dimmer switch rod is in socket in turn signal switch.

Removal & Installation (Grand Cherokee & Grand Wagoneer)
See IGNITION SWITCH R & I.

TURN SIGNAL & HAZARD FLASHER SWITCH R & I

Removal & Installation (Cherokee & Wrangler)

1) Place front wheels in straight-ahead position. Disconnect the negative battery cable. Remove the steering wheel. Refer to STEERING WHEEL & HORN PAD R & I.

2) On column shift models, remove selector lever retaining pin and lever. On all models, use 2 screwdrivers to remove lock plate cover (if equipped). See Fig. 5.

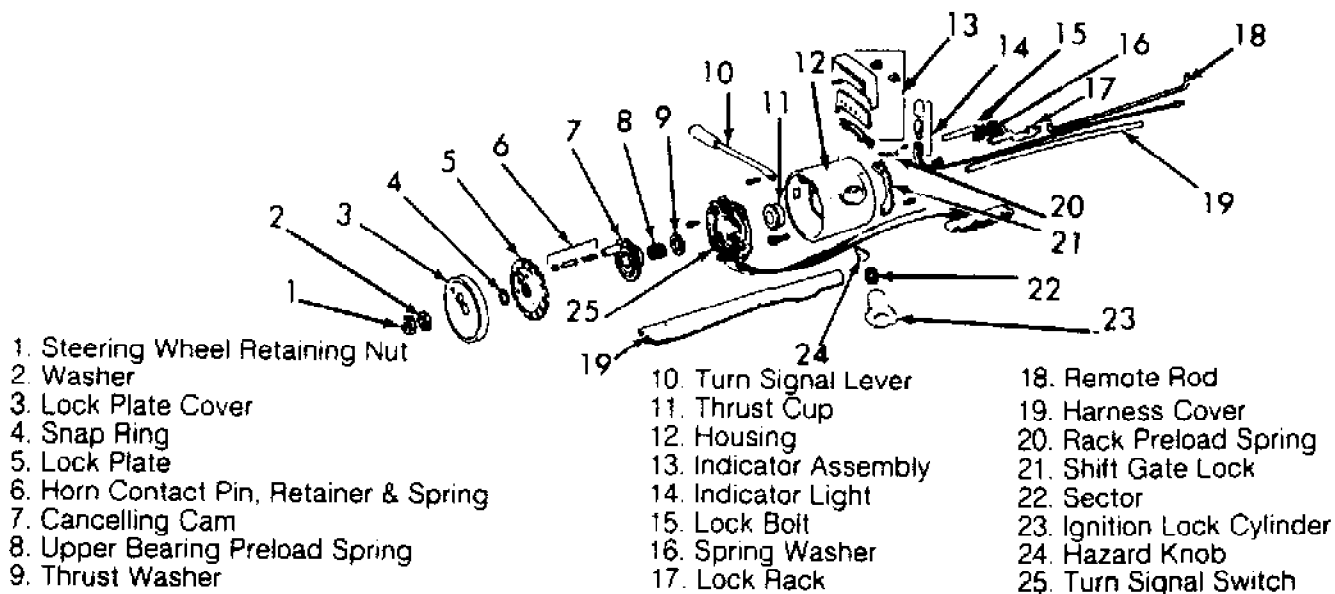


Fig. 5: Exploded View Of Typical Steering Column Switch Assembly
Courtesy of Chrysler Corp.

3) Using lock plate compressor, compress lock plate. See Fig. 3. Remove and discard lock plate snap ring. Remove plate compressor.

WARNING: Lock plate is under strong spring tension. DO NOT attempt to remove snap ring without using lock plate compressor.

4) Remove lock plate, canceling cam, upper bearing preload spring and thrust washer. See Fig. 5. Depress hazard warning switch knob and rotate counterclockwise to remove.

5) On column shift models, remove gear selector cover and shift indicator light bracket screw. DO NOT remove light bracket. On tilt models, remove tilt lever.

6) On all models, disconnect switch wiring harness connector from bracket located at lower end of steering column. Wrap tape around connector for ease of switch removal.

7) Remove plastic protector from wiring harness (if equipped). Remove turn signal switch attaching screws and dimmer switch arm. Remove turn signal switch. To install, reverse removal

procedure. Tighten turn signal switch screws to specification. See TORQUE SPECIFICATIONS TABLE at the end of this article. Install NEW lock plate snap ring.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Steering Wheel Nut	25 (34)
	INCH Lbs. (N.m)
Dimmer Switch Nuts	35 (4)
Ignition Switch	
Nuts (Cherokee & Wrangler)	35 (4)
Screws (Grand Cherokee & Grand Wagoneer)	17 (2)
Turn Signal Mounting Screws	35 (4)
