Component Procedures: Turn Signals

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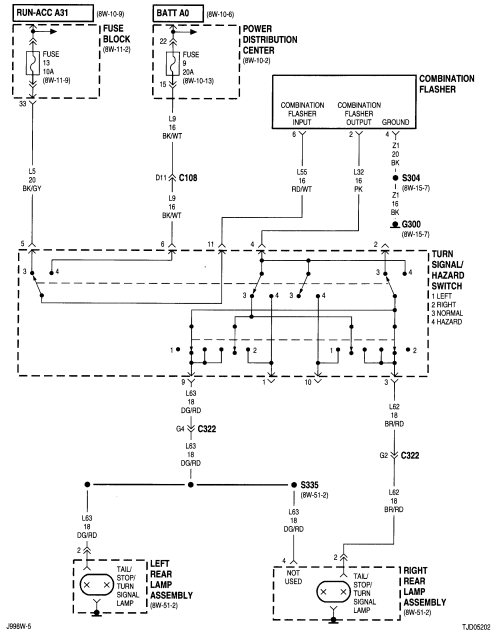
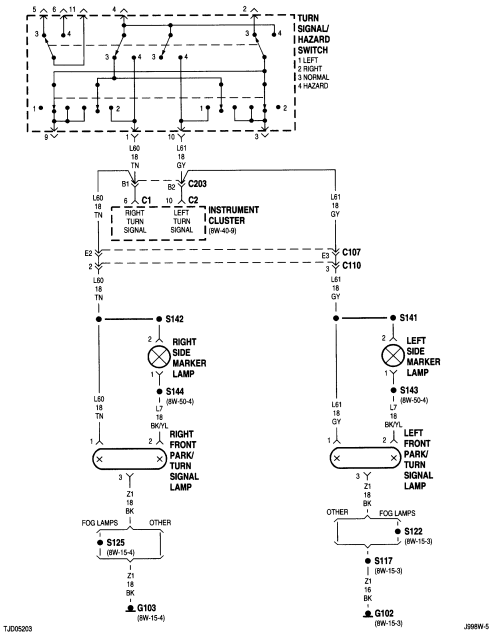
Component Procedures: Turn Signals

Components (itype_392)

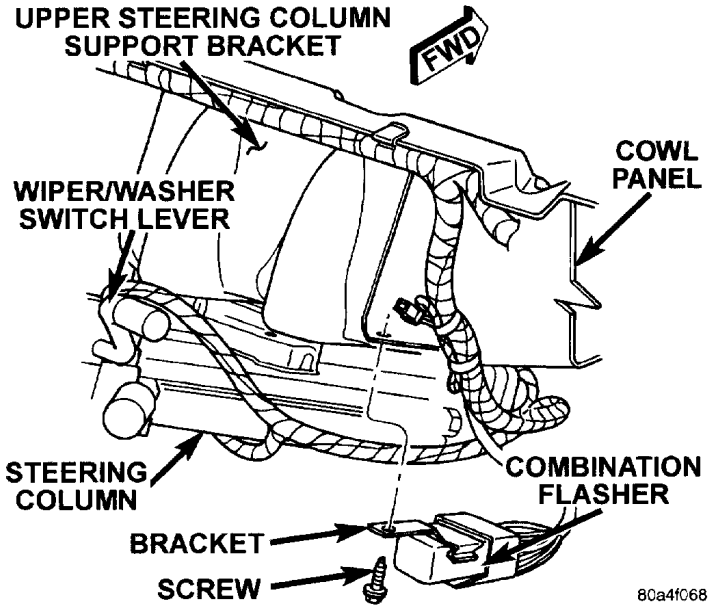
TURN SIGNAL
SYSTEM
DESCRIPTION
A turn signal system is standard factory-installed safety equipment on this model. The turn signal system uses ignition switched battery current, and will operate only when the ignition switch is in the On or Accessory positions. The turn signal system includes the following components:
-
Combination flasher
Front side marker lamp
s
- Turn signal cancelling cam
Turn signal indicator
lamps
Turn signal lamps
Turn signal switch
.
Refer to Lamp in the Lamps for more information on the exterior
turn signal lamp
s. Refer to Instrument Cluster in the Instrument Panel Systems for more information on the turn
signal indicator
lamps.
OPERATION
With the ignition switch in the On or Accessory position, and the turn signal (multi-function) switch control stalk moved up (right turn) or down (left turn), the turn signal system is activated. When the turn signal system is activated, the circuitry of the turn signal switch and the combination
flasher
will cause the selected (right or left) turn signal indicator lamp, front park/turn signal lamp, front
side marker lamp
and rear tail/stop/turn signal lamp to flash on and off. If the exterior lamps are turned off, the front
park/turn signal lamp and the front
side marker
lamp will flash in unison. If the exterior lamps are turned on, the front park/turn signal lamp and the front
side
marker lamp
will flash alternately
See the owner's manual in the vehicle glove box for more information on the features, use and operation of the turn signal system.
TURN SIGNAL CANCELLING CAM
The turn signal cancelling cam is concealed within the steering column below the steering wheel. The turn signal cancelling cam consists of two lobes that are integral to the lower surface of the clockspring rotor. The clockspring mechanism provides turn signal cancellation as well as a constant electrical connection between the
horn switch
, driver side airbag module and speed control switches on the steering wheel and the instrument panel wire harness on the steering column. The housing of the clockspring is secured to the steering column and remains stationary The rotor of the clockspring, including the turn signal cancelling cam lobes rotate with the steering wheel.
The turn signal cancelling cam is integral to the clockspring and cannot be repaired. If faulty or damaged, the entire clockspring assembly must be replaced. Refer to Clockspring in the Airbags and Seat Belts/Airbags/Clockspring/Service and Repair for the service procedures.
The turn signal cancelling cam has two lobes molded into the lower surface of the clockspring rotor. When the turn signals
are activated by moving the multi-function switch control stalk to a detent position, a turn signal cancel actuator is extended from the inside surface of the multi-function switch housing toward the clockspring rotor. When the steering wheel is rotated during the turn, one of the two turn signal cancelling cam lobes will contact the turn signal cancel actuator, releasing the multi-function switch control stalk from its detent and cancelling the turn signal event.

Electrical (OE) (itype_21)

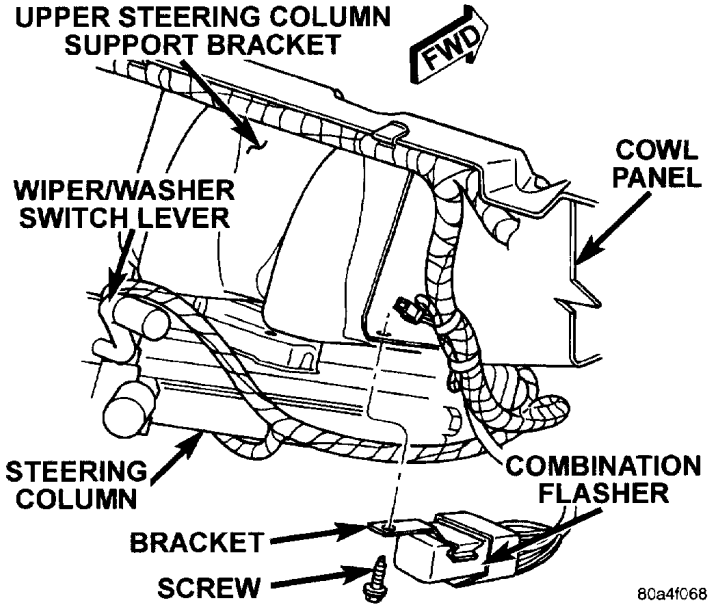




Components (itype_32)



Procedures (itype_376)



Technician Safety Information (itype_15)

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, REFER TO RESTRAINT SYSTEMS / AIRBAG SYSTEMS BEFORE ATTEMPTING AI STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY

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Mechanical (including Torque) (itype_28)

Tighten the screw that secures the
combination flasher
and bracket to the upper steering column mounting bracket screw to
4 Nm (35 in. lbs.)

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Component Tests and General Diagnostics (itype_383)

When diagnosing the
turn signal
or hazard warning circuits, remember that high generator output can burn out bulbs rapidly and repeatedly. If this is a problem on the vehicle being diagnosed, refer to Charging System in the Diagnosis and Testing of Charging System for further diagnosis of a possible generator overcharging condition.
If the problem being diagnosed is related to a failure of the
turn signals
to automatically cancel following completion of a turn, inspect the multi-function switch for a faulty or damaged cancel actuator and inspect the turn signal cancelling cam lobes on the clockspring mechanism for damage or improper installation.
WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO AIRBAG AND SEAT BELTS/AIR BAGS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY
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1. Turn the ignition switch to the On position. Actuate the
turn signal switch
or the
hazard warning switch
. Observe the
turn signal indicator
lamp(s) in the instrument cluster. If the flash rate is very high, check for a
turn signal bulb
that is not lit or is very dimly lit. Repair the circuits to that lamp or replace the faulty bulb, as required. If the turn
signal indicator
(s) fail to light, go to Step 2.
2. Turn the ignition switch to the Off position. Check the turn signal fuse in the fuseblock module and/or the hazard warning fuse in the Power Distribution Center (PDC). If OK, go to Step 3. If not OK, repair the shorted circuit or component as required and replace the faulty fuse(s).
3. Check for battery voltage at the hazard warning fuse in the PDC. If OK, go to Step 4. If not OK, repair the open fused B(+) circuit to the battery as required.
4. Turn the ignition switch to the On position. Check for battery voltage at the turn signal fuse in the fuseblock module. If OK, go to Step 5. If not OK, repair the open fused ignition switch output (accessory/run) circuit to the ignition switch as required.
5. Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Remove the combination flasher
from its wire harness connector and replace it with a known good unit. Connect the battery negative cable. Test the operation of the turn signal and
hazard warning system
s. If OK, discard the faulty combination
flasher
. If not OK, remove the test flasher and go to Step 6.
6. Turn the ignition switch to the On position. Check for battery voltage at the
combo flasher
input circuit cavity in the combination flasher wire harness connector. If OK, go to Step 7. If not OK, go to Step 9.
7. Turn the ignition switch to the Off position. Place the hazard warning switch in the On position. Check for battery voltage again at the combo flasher input circuit cavity in the combination flasher wire harness connector. If OK, go to Step 8. If not OK, go to Step 9.
8. Disconnect and isolate the battery negative cable. Check for continuity between the ground circuit cavity of the combination flasher wire harness connector and a good ground. There should be continuity If OK, go to Step 9. If not OK, repair the open ground circuit to ground as required.
9. Disconnect the instrument panel wire harness connector from the multi-function switch connector receptacle. Check for continuity between the combo flasher input circuit cavities in the combination flasher wire harness connector and in the instrument panel wire harness connector for the multi-function switch. There should be continuity. If OK, go to Step 10. If not OK, repair the open combo flasher input circuit as required.
10. Check for continuity between the combo flasher output circuit cavities in the combination flasher wire harness connector and in the instrument panel wire harness connector for the multi-function switch. There

should be continuity If OK, refer to Turn Signal Switch and Hazard Warning Switch in the Diagnosis and Testing. If not OK, repair the open combo flasher output circuit as required.