

TURN SIGNALS AND HAZARD WARNING FLASHER

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GENERAL INFORMATION

WARNING: ON VEHICLES EQUIPPED WITH AIRBAG, SEE GROUP 8M, RESTRAINT SYSTEMS FOR AIRBAG REMOVAL PROCEDURES.

TURN SIGNALS—AC, AY, AA AND AP BODIES

The turn signals are part of the multi-function switch. Which contains electrical circuitry for turn signal, cornering lamps, hazard warning, headlamp beam select, headlamp optical horn, windshield wiper, pulse wipe and windshield washer switching. The integrated switch assembly is mounted to the left hand side of the steering column. When the driver wishes to signal his intentions to change direction of travel, he moves the lever upward to cause the right signals to flash and downward to cause the left signals to flash. After completion of a turn the system is deactivated automatically. As the steering wheel returns to the straight ahead position, a canceling cam of two lobes molded to the clockspring mechanism comes in contact with the cancel actuator on the turn signal multi-function switch assembly. Either cam lobe, pushing on the cancel actuator, returns the switch to the off position.

If only momentary signaling such as indication of a lane change is desired, the switch is actuated to a left or right intermediate detent position. In this position the signal lamps flash as described above, but the switch returns to the OFF position as soon as the lever is released.

When the system is activated, 1 of 2 indicator lamps mounted in the instrument cluster flashes in unison with the turn signal lamps, indicating to the driver that the system is operating.

AG AND AJ BODIES

The turn signals are actuated with lever on the left side of the instrument panel switch pod. When the driver wishes to signal his intentions to change direc-

tion of travel, he moves the lever upward to cause the right signals to flash and downward to cause the left signals to flash.

After completion of a turn the system is deactivated automatically. The cancellation switch in the steering column sends a signal to a remote turn signal switch in the switch pod to cancel the turn signal function. As the steering wheel returns to the straight ahead position from a turn, a cancel cam which is located on the steering wheel contacts a cancel flipper located on the cancellation switch. When the flipper is contacted by the cancel cam in the proper rotational direction, the cancel switch sends a signal to the remote turn signal switch.

If only momentary signaling such as indication of a lane change is desired, the switch is actuated to a left or right intermediate detent position. In this position the signal lamps flash as described above, but the switch returns to the OFF position as soon as the lever is released.

When the system is activated, 1 of 2 indicator lamps mounted in the instrument cluster flashes in unison with the turn signal lamps, indicating to the driver that the system is operating.

HAZARD WARNING SYSTEM

The hazard warning system is actuated by a push button located on the top of the steering column between the steering wheel and the instrument panel. The hazard switch is identified with a double triangle on top of the button. Push and release the button to turn the hazard function ON or OFF. The button will move out from the steering column in the ON position and will remain in toward the column in the OFF position.

CHIME FUNCTION—AC, AG, AJ AND AY

The chime will sound after the vehicle has traveled a distance of 0.6 miles at a speed above 15 miles per hour.

TESTING PROCEDURES

MULTI-FUNCTION SWITCH TESTS AA, AC, AP, AND AY BODIES

The multi-function switch contains electrical circuitry for turn signal, cornering lamps (optional), hazard warning, headlamp beam select, headlamp optical horn, windshield wiper, pulse wipe, and windshield washer switching. This integrated switch assembly is mounted to the left hand side of the steering column. Should any function of the switch fail, the entire switch assembly must be replaced. Refer to Fig. 1 for diagnosis.

To test the switch, first disconnect the negative battery cable, then remove the upper and lower column covers to gain access to the switch connector. Remove switch connector. Using an ohmmeter, test for continuity (no resistance) between the terminals of the switch as shown in the following continuity charts (Fig 2 or 3).

DUAL-FUNCTION SWITCH TESTS—AG AND AJ BODIES

The dual-function switch contains electrical circuitry for hazard warning switching, and circuitry and electronics for turn signal cancellation. The switch assembly is mounted to the left hand side of the steering column.

To test the hazard warning portion of the switch, first disconnect the negative battery cable, then remove the upper and lower steering column covers to gain access to the switch connector. Remove switch connector (Fig. 4). Using an ohmmeter, test for continuity between the terminals of the switch as shown in the following continuity chart (Fig. 5).

To test the cancellation portion of the switch:

- (1) Reconnect battery and switch connector (Fig. 5).
- (2) Connect voltmeter positive lead (+) to pin 8 and negative lead (-) to ground.
- (3) Place ignition switch to the ON position. Voltmeter should read battery voltage. If no voltage is present, check feed wire to pin 8. If battery voltage is present continue with switch test.

RIGHT CANCELLATION TEST

- (1) Connect one side of a jumper wire to pin 3 and the other end of jumper wire to ground.
- (2) Connect the positive lead (+) of a voltmeter to pin 5 and the negative lead (-) to ground.

CAUTION: Do not allow pin 5 to become grounded during test, switch failure will result.

- (3) With the ignition switch in the ON position, push the cancellation pawl down and read the voltmeter.
- (4) The voltmeter should show at least 9 volts.

- (5) If voltage is 0 to 8 volts the cancellation switch is defective. If voltage is 9 volts or more the cancellation switch is working correctly.

LEFT CANCELLATION TEST

- (1) Connect one side of a jumper wire to pin 4 and the other end of jumper wire to ground.
- (2) Connect the positive lead (+) of a voltmeter to pin 5 and the negative lead (-) to ground.

CAUTION: Do not allow pin 5 to become grounded during test, switch failure will result.

- (3) With the ignition switch in the ON position, push the cancellation pawl up and read the voltmeter.
- (4) The voltmeter should show at least 9 volts.
- (5) If voltage is 0 to 8 volts the cancellation switch is defective. If voltage is 9 volts or more the cancellation switch is working correctly.

REMOTE TURN SIGNAL SWITCH TEST—AA AND AJ BODIES

The remote turn signal switch is located on the left side of the instrument panel switch pod. To test, remove switch pod assembly from instrument panel. Using an ohmmeter, test for continuity between the terminals of the switch as shown in the following continuity chart (Fig. 6). The white 7 way connector next to the 14 way connector must be connected when performing continuity checks.

CANCELLATION SOLENOID TEST—AG AND AJ BODIES

To test the turn signal cancellation solenoid:

- (1) Remove switch pod from instrument panel.
- (2) Connect one end of a jumper wire to the positive terminal of the battery, the other end to pin 6 of the turn signal switch 14 way connector.
- (3) Place turn signal switch in the left turn mode.
- (4) Take a second jumper wire and connect one end to a good ground. Momentarily touch the other end of the jumper wire to pin 11 or 14. The solenoid should energize, and return the switch to its center OFF position.
- (5) Place turn signal switch in the right turn mode.
- (6) Repeat step 4. The solenoid should energize, and return the switch to its center OFF position.
- (7) If switch does not return to center in either direction, the switch is defective.

MULTI-FUNCTION SWITCH—AA, AC, AP AND AY BODIES

REMOVAL

- (1) Disconnect negative battery cable.
- (2) Tilt column only remove tilt lever.

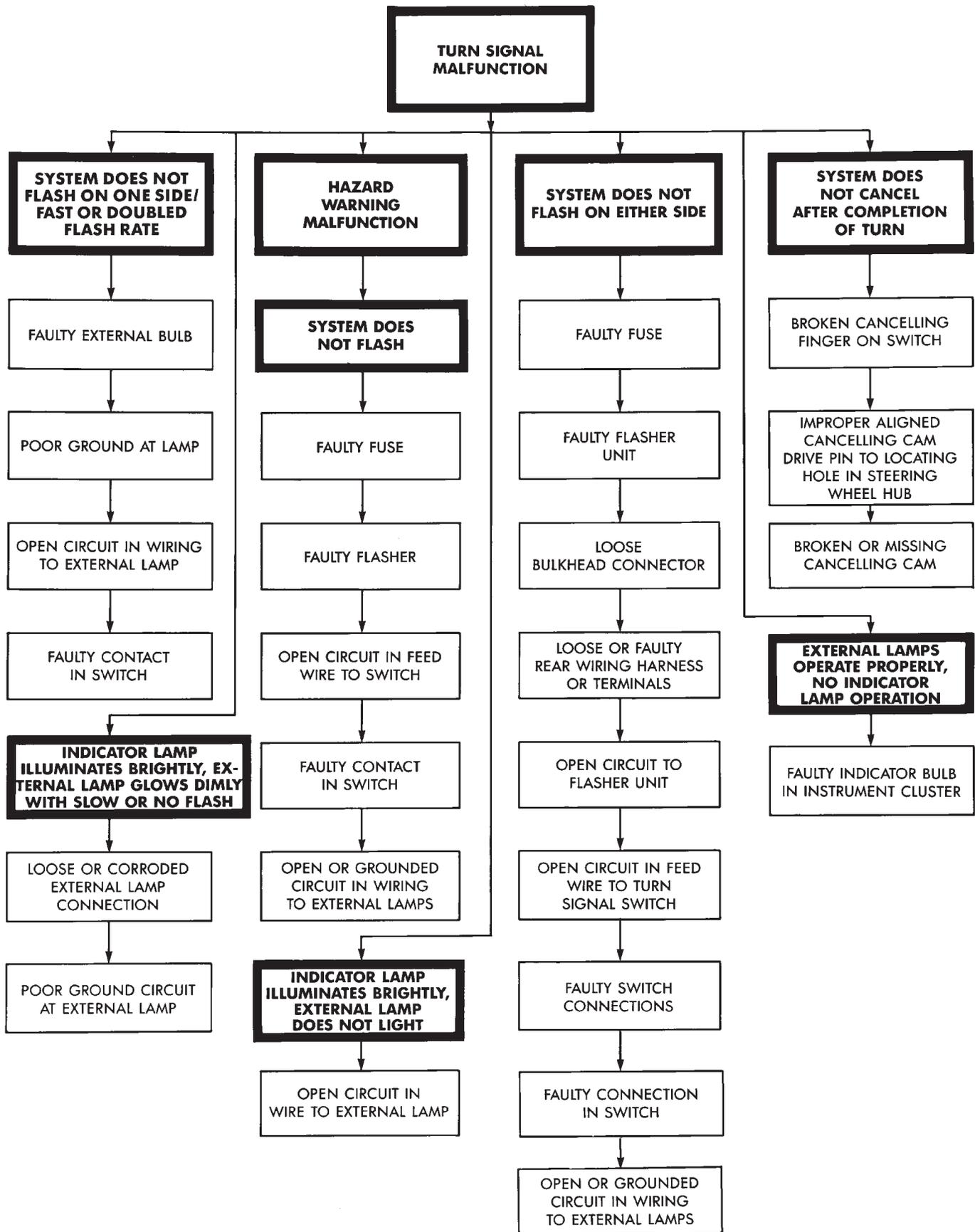
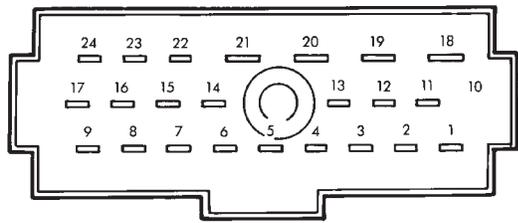


Fig. 1 Turn Signal and Hazard Warning Flasher Diagnosis

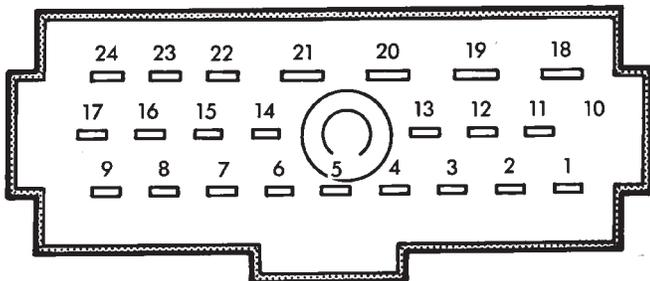


VIEW FROM TERMINAL CASE

SWITCH POSITIONS		CONTINUITY BETWEEN
TURN SIGNAL	HAZARD WARNING	
NEUTRAL	OFF	12 AND 14 AND 15
LEFT	OFF	15 AND 16 AND 17
LEFT	OFF	12 AND 14
LEFT	OFF	22 AND 23 WITH OPTIONAL CORNER LAMPS
RIGHT	OFF	11 AND 12 AND 17
RIGHT	OFF	14 AND 15
RIGHT	OFF	23 AND 24 WITH OPTIONAL CORNER LAMPS
NEUTRAL	ON	11 AND 12 AND 13 AND 15 AND 16

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Fig. 2 Turn Signal and Hazard Switch Continuity



VIEW FROM TERMINAL SIDE

SWITCH POSITION	CONTINUITY BETWEEN
LOW BEAM	18 AND 19
HIGH BEAM	19 AND 20
OPTICAL HORN	20 AND 21

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Fig. 3 Beam Select Switch Continuity

(3) Remove both upper and lower steering column shrouds.

(4) Remove multi-function switch tamper proof mounting screws (Fig.7).

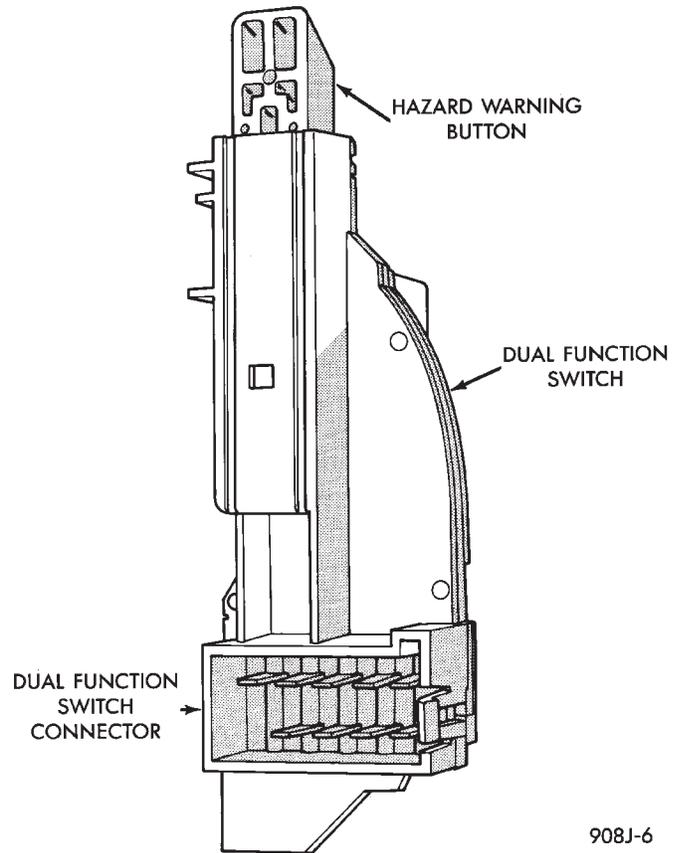
(5) Gently pull switch away from column. Loosen connector screw. The screw will remain in the connector.

(6) Remove wiring connector from multi-function switch.

INSTALLATION

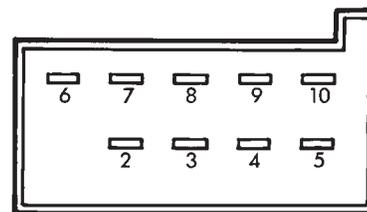
(1) Install wiring connector to switch and tighten connector retaining screw to 2 N•m (17 in. lbs.) torque.

(2) Mount multi-function switch to column and tighten retaining screws to 2 N•m (17 in. lbs.) torque.



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Fig. 4 Dual-Function Switch Connector



VIEW FROM TERMINAL SIDE

SWITCH POSITION	CONTINUITY BETWEEN
OFF	6 AND 8
ON	6 AND 9 7 AND 10

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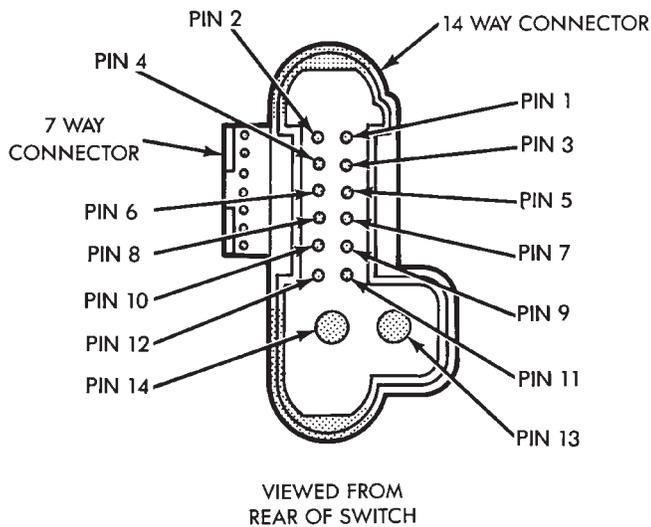
Fig. 5 Hazard Warning Switch Continuity—AJ Body

(3) Install steering column covers. Tighten retaining screws to 2 N•m (17 in. lbs.) torque.

(4) Tilt column only install tilt lever.

(5) Install negative battery cable.

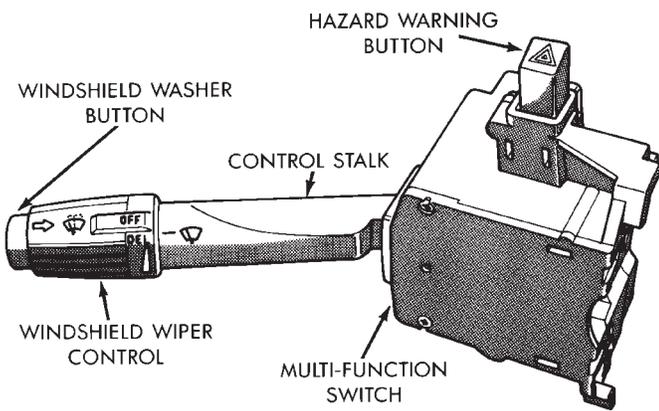
(6) Check all functions of switch for proper operation.



SWITCH POSITION	CONTINUITY BETWEEN
LEFT	PIN 2 AND PIN 7 PIN 2 AND PIN 13
RIGHT	PIN 1 AND PIN 7 PIN 1 AND PIN 13

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Fig. 6 Remote Turn Signal Switch Continuity—AG and AJ Bodies



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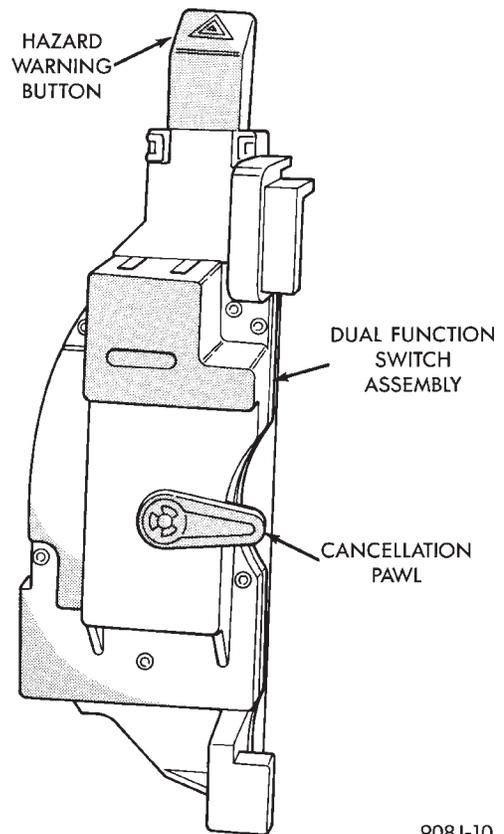
Fig. 7 Multi-Function Switch—AA, AC, AP and AY Bodies

DUAL-FUNCTION SWITCH—AG AND AJ BODIES

REMOVAL

- (1) Disconnect negative battery cable.
- (2) Tilt column only remove tilt lever.
- (3) Remove three attaching screws, in the upper and lower steering column covers and remove covers.
- (4) Remove two tamper proof mounting screws.

- (5) Gently pull switch away from column. Release connector lock on the wiring connector, then remove the connector from the switch (Fig. 8).



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Fig. 8 Dual-Function Switch—AG and AJ Bodies

INSTALLATION

- (1) Install wiring connector to switch. Make sure that switch locking tab is fully seated in the wiring connector.
- (2) Mount switch to column and torque screws to 2 N• (17 in. lbs.).
- (3) Install steering column covers and torque screws to 2 N• (17 in. lbs.).
- (4) Tilt column only install tilt lever.
- (5) Re-install negative battery cable.
- (6) Check all functions of switch for proper operation of the hazard warning and turn signal cancellation.

REMOTE TURN SIGNAL SWITCH REMOVAL—AG AND AJ BODIES

- (1) Disconnect battery ground cable..
- (2) Remove turn signal lever by pulling it straight out of the switch (Fig. 9).
- (3) Remove two screws from the bottom of the switch pod that hold turn signal switch.
- (4) Disconnect turn signal pigtail wire from head-lamp switch at the 8-way connector.

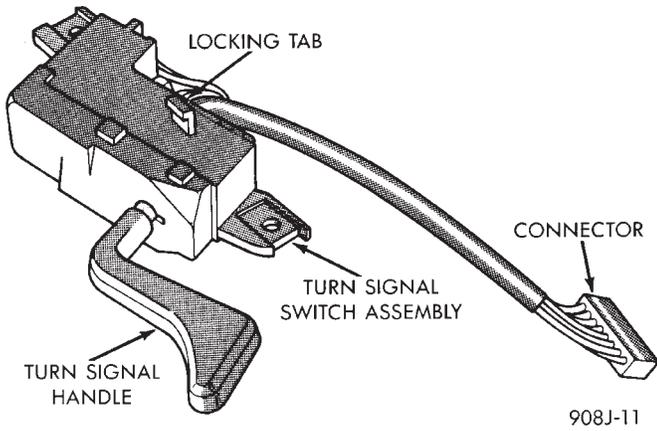


Fig. 9 Remote Turn Signal Switch—AG and AJ Bodies

- (5) For installation reverse above procedure.
- (6) Check for proper operation of all components which are controlled by the pod mounted switch.

TURN SIGNAL AND HAZARD WARNING FLASHER LOCATION

AA, AC, AP AND AY BODIES

The turn signal flasher and the hazard warning flasher are two separate plug-in type units.

On AC and AY both flashers are on the relay module (Fig. 10).

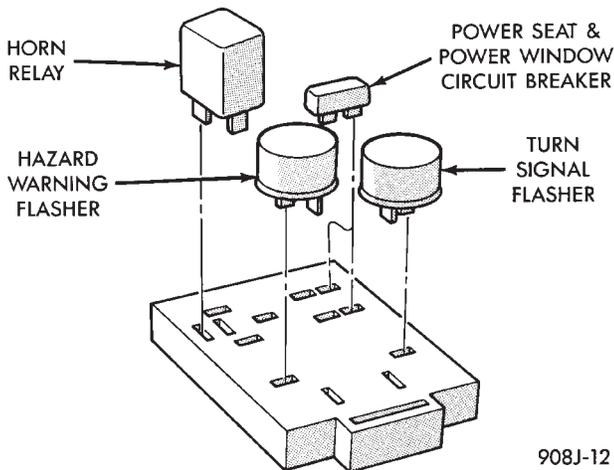


Fig. 10 Turn Signal and Hazard Warning Flasher—AC and AY Bodies

On AA and AP Bodies the hazard flasher is located on the relay module (Fig. 11). The turn signal flasher is on the driver's side of A/C duct for AA Body (Fig. 12) and center A/C duct for AP Body.

AG AND AJ BODIES

The turn signal flasher and the hazard warning flasher are combined into one unit called a combination flasher (combo-flasher). The combo-flasher controls the flashing of the hazard warning system and

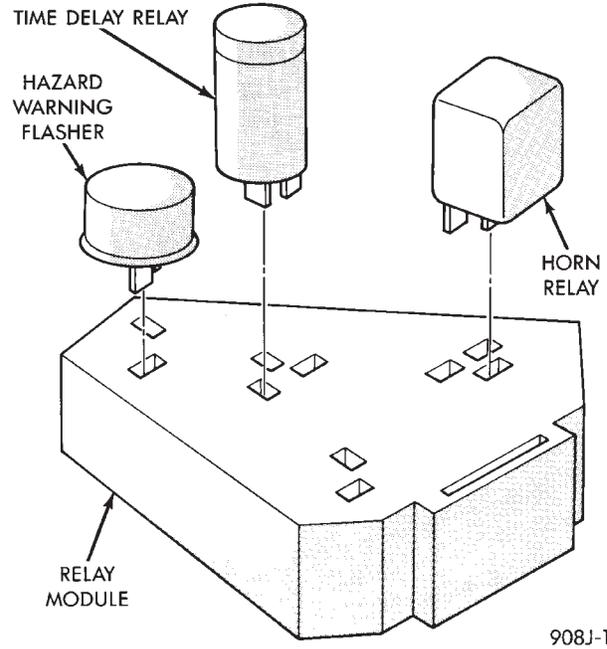


Fig. 11 Hazard Warning Flasher—AA and AP Bodies

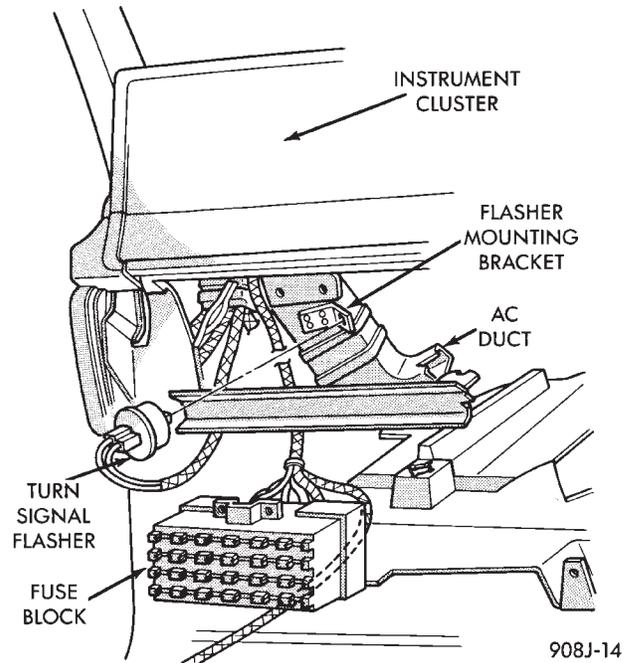


Fig. 12 Turn Signal Flasher—AA Body

the turn signal system. An inoperative bulb or incomplete turn signal circuit will result in an increase in flasher speed.

The combo-flasher is located under the instrument panel, right of the steering column and is clipped on the A/C distribution duct. The combo-flasher is yellow in color for ease of identification.

TURN SIGNAL RELAYS—AG AND AJ BODIES

The AG and AJ models are equipped with four turn signal relays.

- One relay controls the right rear turn signal and stop lamp. The second relay controls the left rear turn signal and stop lamp. The third relay controls the right front turn signal. The fourth relay controls the left front turn signal.

The turn signal relays are located in the relay bank, underneath the driver's side of the instrument panel. The four turn signal relays are identical and can be interchanged.

The turn signal relays do not cycle on and off with the turn signal lamp. Their function is to complete

the turn signal circuit when the turn signal is switched on. Turn signal cycling is done by the combination flasher.

To test the relay, remove the suspect relay and switch it with 1 of the other 3 turn signal relays. If the problem follows the relay, replace that relay. If the problem remains in the same circuit, the relay is not the problem. Refer to Group 8W, Wiring Diagrams.

