

## Turn Signal Malfunctions Diagnosed

(All 1964½-1966 Mustangs).

Since many turn signal components — flashers, switches, and bulbs, are being received in the Recall Parts Program which are good parts, it is indicated that additional aid is needed in diagnosing turn signal problems.

Find below typical complaints, their probable cause, and a simplified test which will confirm what correction is necessary. The requirements are a 12 volt test light, and a known good bulb and flasher. A known operable turn signal switch is also convenient but not absolutely necessary. It should be noted that a turn signal switch can be plugged in the multiple disconnect under the dash for diagnosis much more easily than removal of the steering wheel and switch from the hub.

**(1) Complaint:** One front turn signal light will not operate. Dash panel indicator operates and parking light operates.

**Possible Causes:**

- a. Burned out or broken light bulb filament.
- b. A defect in that part of the circuit between the light socket and the lead disconnect.

**Test:**

- a. Substitute a good bulb. If bulb does not light, use following test.
- b. Check for power at the turn signal light socket terminal. (See Fig. 1). If there is no power, check for power at the connections between the light socket and terminal block.

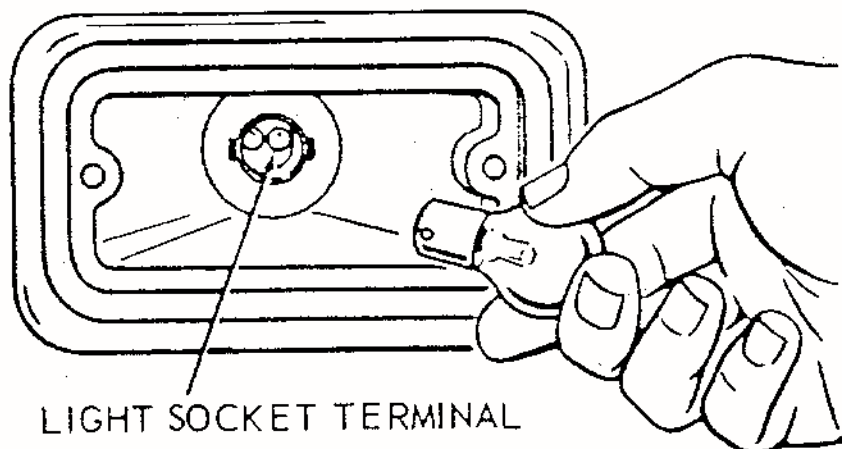
**(2) Complaint:** The turn signals on one side of the car will not operate. The dash panel indicator light does not flash.

**Possible Cause:**

- a. One or both turn signal lamps burned out.
- b. Defective indicator bulb.
- c. Defective turn signal switch.

**Test:**

- a. Test signal lamps.
- b. Check dash indicator bulb.
- c. Disconnect the turn signal switch wiring at the quick disconnect plug and temporarily substitute a new switch by plugging it in at the multiple disconnect. If, with the new switch, the system functions properly, it may be assumed the original switch is defective. See tests under Item 8 for additional switch problems. If the system does not function properly, check the wiring beyond the multiple plug for breaks or a loose connection.



d. If a substitute switch is not available, by-pass the turn signal switch. At the multiple disconnect nearest the switch, connect a jumper wire between the turn signal flasher output terminal and the turn signal light terminal. If both the front and rear turn signal lights operate the original switch is defective. If the signal lights do not operate, the wires beyond the plug are loose or broken. See tests under Item 8 for additional switch problems.

**(3) Complaint:** One rear turn signal light does not operate. The top lights do not operate. The tail lights do not operate.

**Possible Cause:**

- a. Bulb filaments burned out or broken.
- b. A defect in that part of the circuit between the turn signal switch and the bulb socket.
- c. Defective turn signal switch.

**Test:**

- a. Substitute a known good bulb. If the bulb does not light go to the following test.
- b. Disconnect the bulb socket from the wiring harness. Check for power at the wiring harness connector. If there is power, the socket assembly is defective. If there is no power, check for power at each disconnect, starting at the light socket and going toward the switch.
- c. Replace switch after performing switch tests. See tests under Item 8, prior to replacing switch.

**(4) Complaint:** All turn signals do not operate.

**Possible Cause:**

- a. Burned out fuse (if so equipped).
- b. Defective flasher.
- c. A defect in that part of the circuit from the flasher to the switch.

**Test:**

- a. Install a good fuse. If the lights do not operate, see Test b.
- b. Substitute a known good flasher. If the lights do not operate, see Test c.

c. Check for power at all circuit disconnects between the flasher and the ignition switch. Check for power at each connector between the ignition switch and the turn signal switch disconnect.

**(5) Complaint:** The dash indicator light does not operate. Turn signal lights operate.

**Possible Cause:**

- a. Burned out or broken light bulb filament of indicator light.
- b. A defect in that part of the circuit between the indicator bulb socket and the lead disconnect.

**Test:**

- a. Substitute a known good bulb. If the indicator bulb does not light see Test b.
- b. Check for power at each connection in that part of the circuit between the bulb socket and the terminal block.

**(6) Complaint:** Indicator light comes on but does not flash.

**Possible Cause:**

- a. One turn signal lamp inoperative.
- b. Wrong flasher unit.

**Test:**

- a. Visually inspect the front and rear turn signal lights with the indicator selector turned on. One or the other will probably not light. Substitute a known good bulb. If the good bulb does not light, check for an open in the circuit to the bulb. Check for power at each connection starting at the socket. The defective part will be found between the connections where the test bulb does not light and the next connection where it does light. If the test bulb does not light at any point, the flasher is not operating properly. See test b.
- b. Substitute the correct flasher.

**(7) Complaint:** Flasher slows down and stops when engine is idling.

**Possible Causes:**

- a. Defective flasher.
- b. Low power from the charging circuit.
- c. Engine idle too slow.

**Test:**

- a. Substitute a known good flasher. If this does not remedy the situation go to Test b.
  - b. Low power from the charging system may be determined by a test of the charging system.
  - c. Slow engine idle. Make proper adjustments.
- (8) Complaint:** Lack of canceling from a turn (dash indicator light remains on).

**Possible Causes:**

- a. Steering shaft not centered in steering column.
- b. Loctite in the turn signal mechanism creating a binding condition.
- c. Turn signal switch not located in best position in relation to canceling cam.

**Test:**

- a. Under the hood, check if the steering shaft is properly centered in the lower end of the steering column. Center if required by loosening the column to dash panel attachment and shifting the column in relation to the shaft. Recheck for proper canceling.
- b. If an excessive amount of locktite was used to retain the lever, and some of this material worked into the switch mechanism, it can cause a binding condition. Observe visually.
- c. In event the above does not correct the canceling malfunction remove the steering wheel from the shaft. Mark the location of the canceling cam on the hub, then remove the turn signal canceling cam from the wheel assembly hub. Cut a piece of .020 shim stock to size, 1/2-inch wide and 2 1/4-inches long, and form the shim to fit around the steering wheel hub, covering the same area as the canceling cam assembly. Reinstall the steering wheel, torque the retaining nut to specification and install the horn ring assembly. Check for proper turn signal and horn operation.

A number of miscellaneous complaints other than those above may be caused by external circumstances. For example, a customer who occasionally uses small utility trailers, may pierce the existing tail lamp wiring for signal light operation. This causes excessively fast turn signal blinking due to the additional wires and bulbs. This excessive flashing rate may contribute to premature flasher failure. It is recommended that the heavy duty turn signal flasher (6AZ-13350-A) be used on these vehicles.

If trailers with multiple lights are to be used, it is recommended that a separate relay and additional circuit breaker protection be provided for the additional load.

The service installation of some accessories may also influence turn signal operation. If an accessory ammeter is installed with power leads too small in diameter,

the turn signals will flash too slow or may even stop. The problem is similar to a defective generating system.

Therefore, as an added insight to unique turn signal problems, note if there are any after-market installed accessories on the vehicle. The source of power for their wiring inadvertently may influence turn signal operation.

The use of past model flashers (silver col-

or, 1962-1957) will also influence turn signal flashing rate when used with the current rear, stop, and turn signal lamps (trade number 1157). The earlier type flasher will result in an overload and be accompanied by an increase in flashing rate.

If the old style bulbs (trade number 1134) are used with the current flashers, when other accessories are operating it is possible the turn signals will stop blinking.

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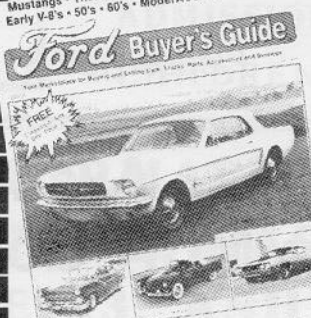
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