

## INSTALLATION INSTRUCTIONS FOR:

**C7WY-13A366-AS** Sequential system kit for **1967 Cougars built before 1/3/67**

**C7WY-13A366-BS** Sequential system kit for **1967 Cougars built from 1/3/67**

**C8WY-13A366-AS** Sequential system kit for **1968 Cougars**

### INTRODUCTION:

This sequential system kit eliminates all the mechanical motor-driven sequencers and relays used in trunks of the 1967-1968 Cougars. *One* system module replaces all these parts found in the Cougar trunk: Sequential flasher and motor (the noisy one), directional relay (the big one), emergency relay (5-pin), and the stop lamp relay (for early 1967 Cougars). It plugs into the original wiring harness and mounts in the original location without any modifications. Parts included in this kit are: System control unit with wiring and a troubleshooting guide.

### INSTALLATION:

1. Locate the factory sequential system mounted under the trunk mat on the driver's side (Figure 1).
2. Disconnect all connectors from the sequencer motor, directional relay, and stop lamp relay (on early 1967 cars). Unplug the black plastic connector on the emergency relay (Figure 1). Remove the attaching nuts, bolts, and the old relays.
3. Mount the unit in the original location using the original hardware as shown in Figure 2. Plug in the flasher control unit connectors to the wiring harness. *Note:* The black bullet connector is not used on the early 1967 Cougar. Plug the single spade connector into the black plastic emergency relay connector in the socket pin matching the light blue wire (Figure 3). Use electrical tape to secure the pin to the socket.

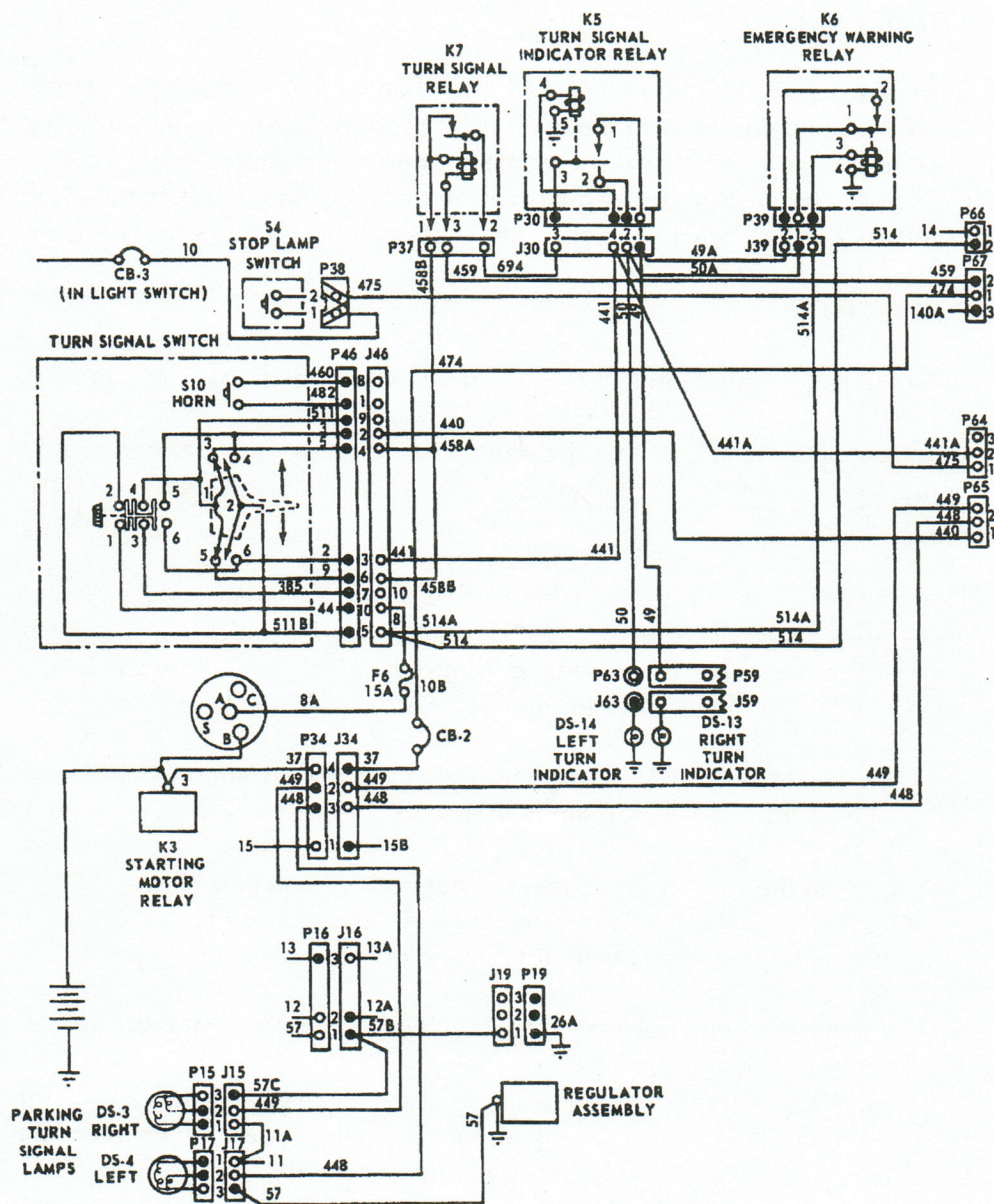
*Note:* To install a C7WY-13A366-AS (early Cougar) system on a late (after 1/3/67) Cougar,

- a) Tape up the unused stop lamp connector ( 4-pin black/green/red/green-white ) out of the way.
  - b) Position the box on the rubber hanger pad as shown in Figure 2.
  - c) Redrill the rubber pad to fit the holes in the mounting bracket.
  - d) Plug in the flasher control unit connectors into the wiring harness.
4. Make sure that the vehicle battery is fully charged and that the vehicle is running before testing. A low battery may cause the indicator lights (in the dash) to not flash, but the front and rear turn signal lights will still function properly. This is normally due to heavy loads (AC, headlights on, brake lights on, etc.) and will happen with the factory system. If this occurs, check all bulbs, sockets, and connectors in the system. A more detailed troubleshooting guide is available from your parts dealer.

### WARRANTY:

The sequential system kits are covered by a limited warranty for two years after purchase. Should the unit fail during this warranty period, it will be repaired or replaced upon prepaid return to your dealer. This limited warranty does not include repair of damage to the unit resulting from accident, disaster, misuse, abuse, unauthorized modifications or any use beyond normal operating conditions. This warranty excludes any coverage for incidental or consequential damages.

# 1967 COUGAR SEQUENTIAL WITH STOP

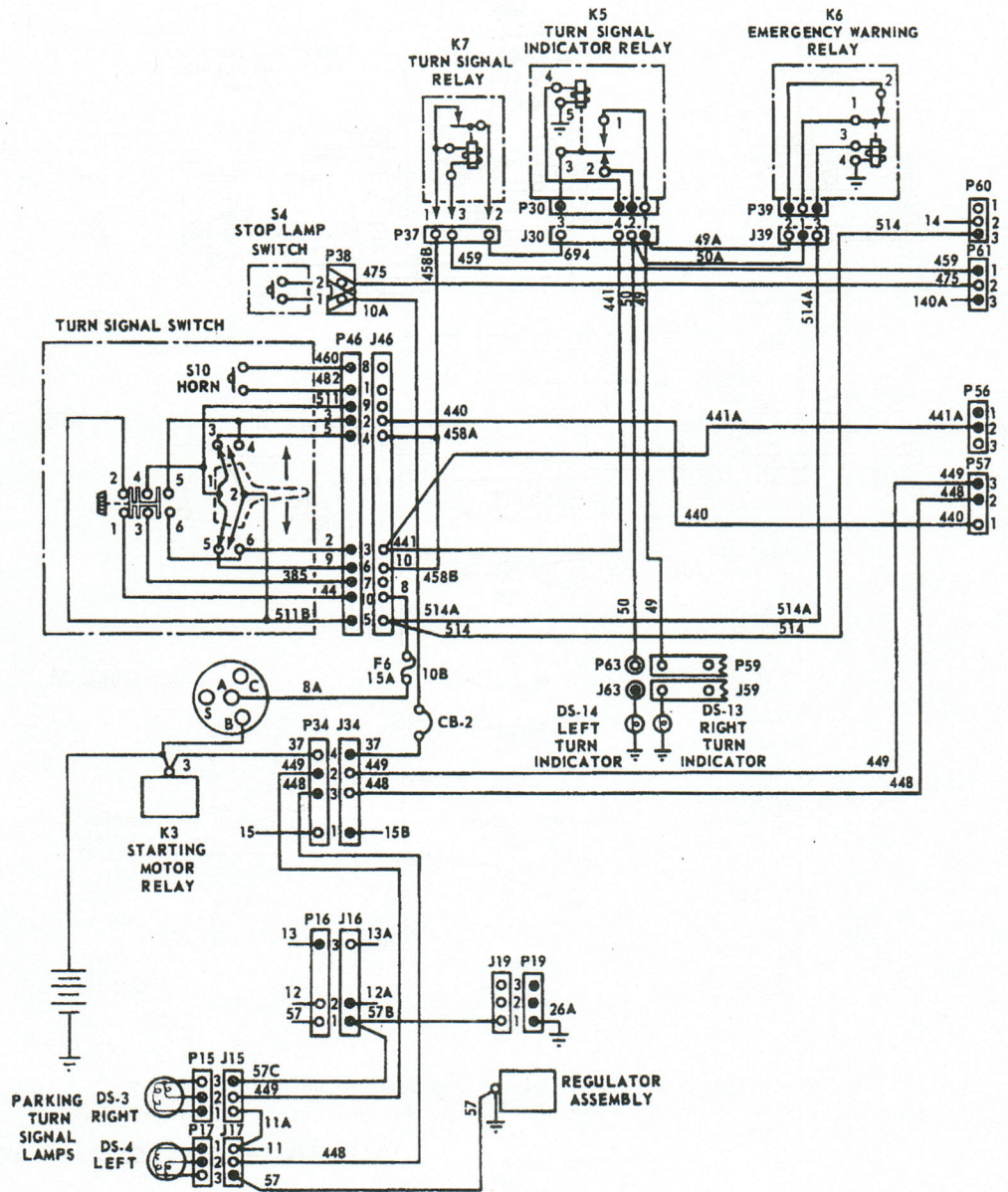


This wiring diagram illustrates the sequential turn signal circuit used in vehicles built prior to January 3, 1967. In this design, the stop lamp switch energized the stop lamp relay. This relay handled the heavier current draw of the stop lamps. After January 2, 1967, a heavy duty stop lamp switch replaced the original light duty switch. This heavy duty switch is designed to handle the stop lamp current draw and thus eliminate a need for the relay.

The sequential turn signal and emergency flasher circuits are the same whether or not a stop lamp relay is used. Thus, trouble shooting procedures for sequential turn signal system problems are not affected by this circuit modification. There are, however, changes in wire location and color codes in a few of the connectors. Pages 28 to 34 illustrate the various connectors and the sequence in which their wires are installed.



# 1967 COUGAR SEQUENTIAL TURN WITHOUT STOP



Here is a complete wiring diagram of the 1967 Cougar Sequential Turn Signal System. All the plugs and jacks (the two parts of a connector) are shown. The wire numbers, their color codes, and numbered position in a connector are also given.

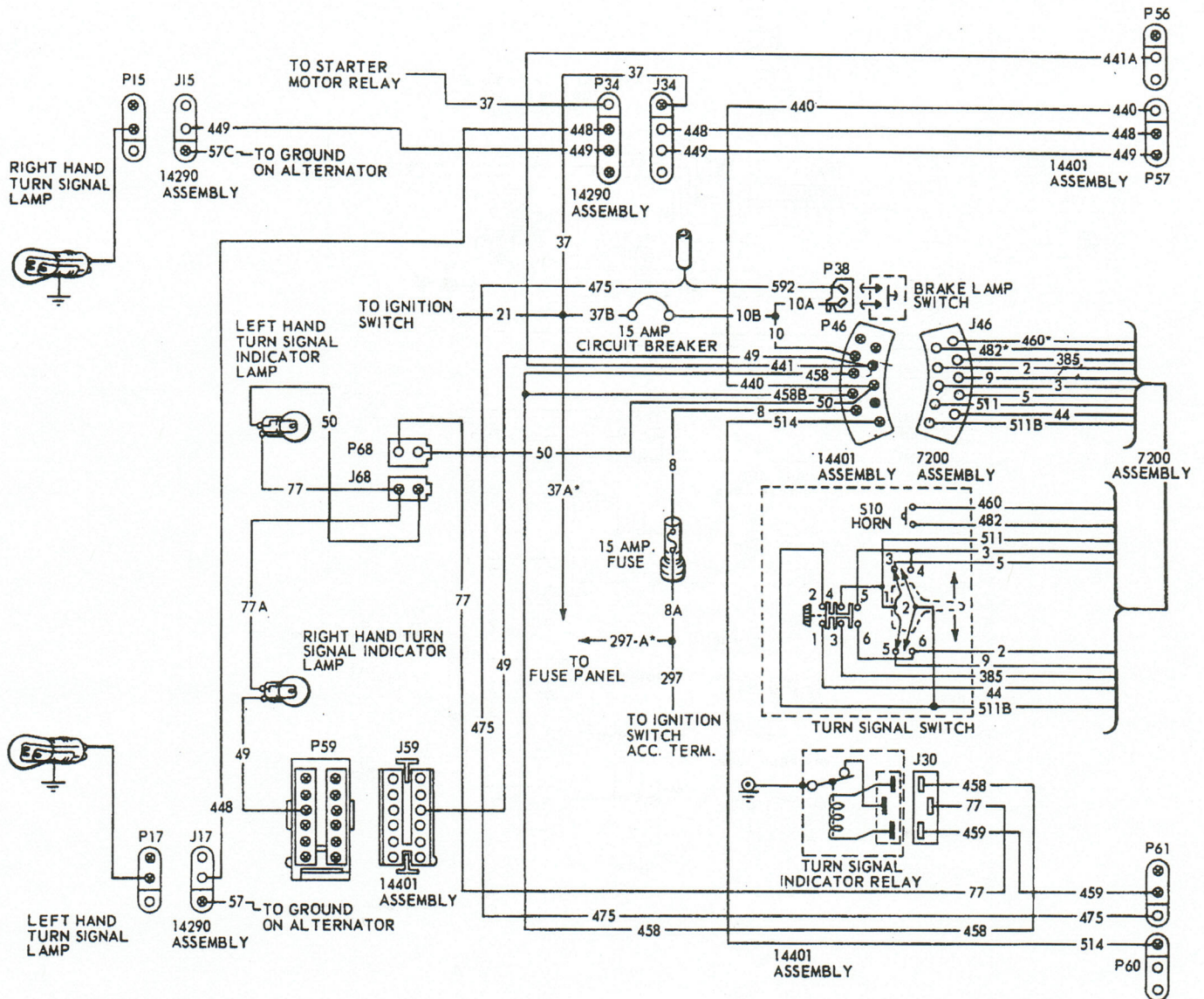
With an understanding of the schematic drawings and this wiring diagram, any circuit can be traced from component to component through all the connectors and wiring harness involved.

By using the schematic diagrams and the actual wiring diagram, many problems can be correctly diagnosed prior to the use of a volt meter or test light.

One deficiency of the wiring diagram is that the actual locations of the various connectors, relays and other components of the system are not shown. The illustrations on pages 28 to 34 cover not only the location of all the parts of the system, but also illustrate all the connectors and the sequence in which their wires are installed.



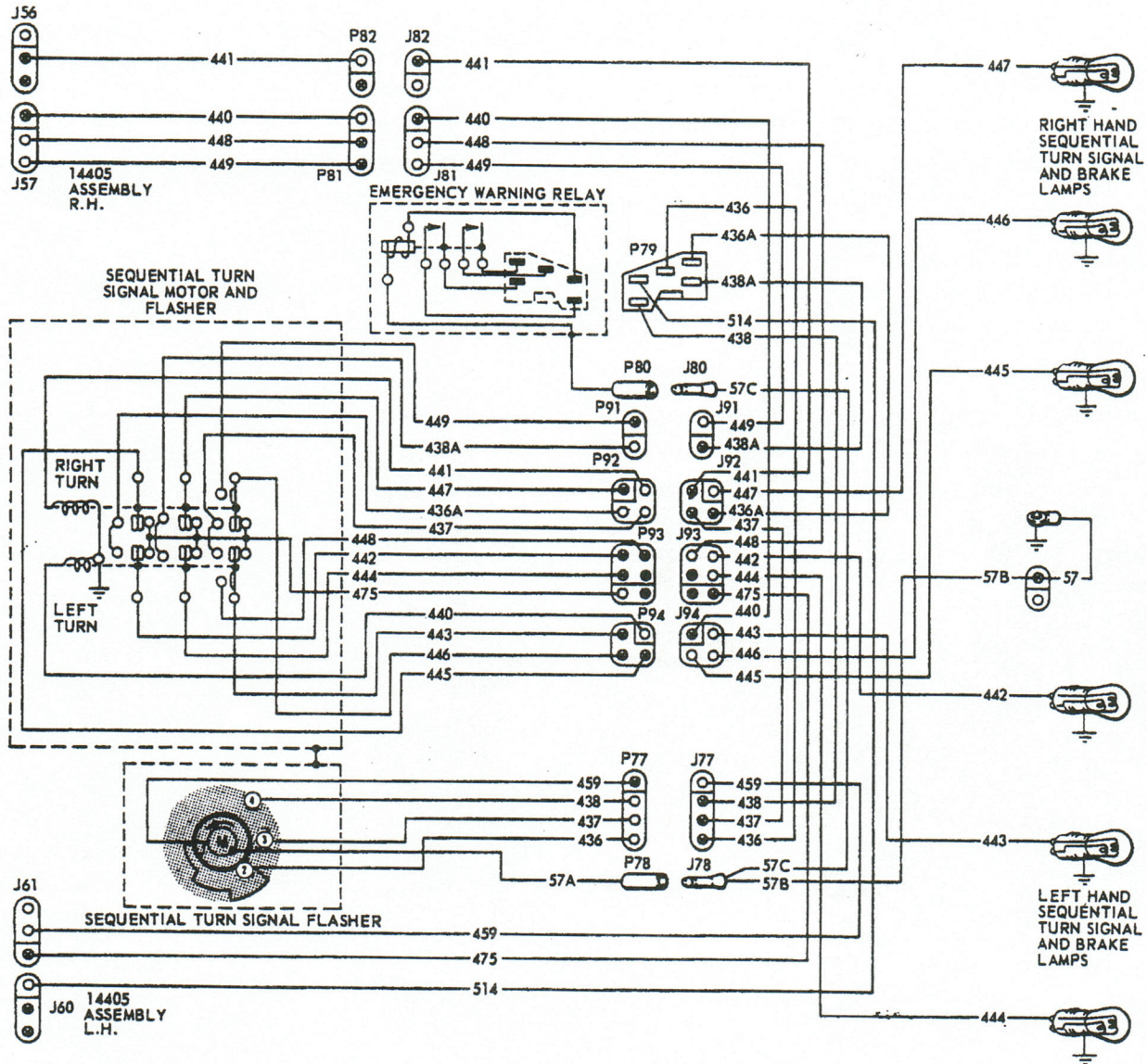
# 1968 COUGAR SEQUENTIAL TURN



This wiring diagram illustrates the actual wiring system in the car. The connector numbers are for use in conjunction with the illustration on page 16 as an aid in locating the connectors in the car. The wire numbers designate the color of the wires as shown in the color code table on the next page.

By using the appropriate schematic diagram to diagnose a problem and this wiring diagram to trace the circuit in question, it is possible in nearly all cases to solve problems that might develop in a sequential turn signal system.

# SIGNAL SYSTEM WIRING DIAGRAM



## WIRING COLOR CODE

449	49A	49	2A	2	WHITE-BLUE STRIPE	444	GREEN-BLACK STRIPE
475	44B	50A	50	3	GREEN-WHITE STRIPE	446	ORANGE-WHITE STRIPE
			445	5	ORANGE-BLUE STRIPE	447	ORANGE-RED STRIPE
			8A	8	ORANGE-YELLOW STRIPE	458	ORANGE-BLACK STRIPE
			442	9	GREEN-ORANGE STRIPE	459	ORANGE-GREEN STRIPE
			443	10	GREEN-RED STRIPE	511B	511A GREEN
	514A		514	44	BLUE	297	BLACK-GREEN STRIPE
	57	THRU	57C	385	WHITE-RED STRIPE	482	BLUE-YELLOW STRIPE
21	460		436A	436	YELLOW	37	BLACK-YELLOW STRIPE
			438A	437	YELLOW-RED STRIPE	592	BLUE-WHITE STRIPE
			438A	438	YELLOW-BLACK STRIPE		
			494	440	WHITE		
	77		441A	441	VIOLET		

● SPLICE  
 = GROUND

\* NOTE: WIRE FUNCTION NOT APPLICABLE TO THIS CIRCUIT

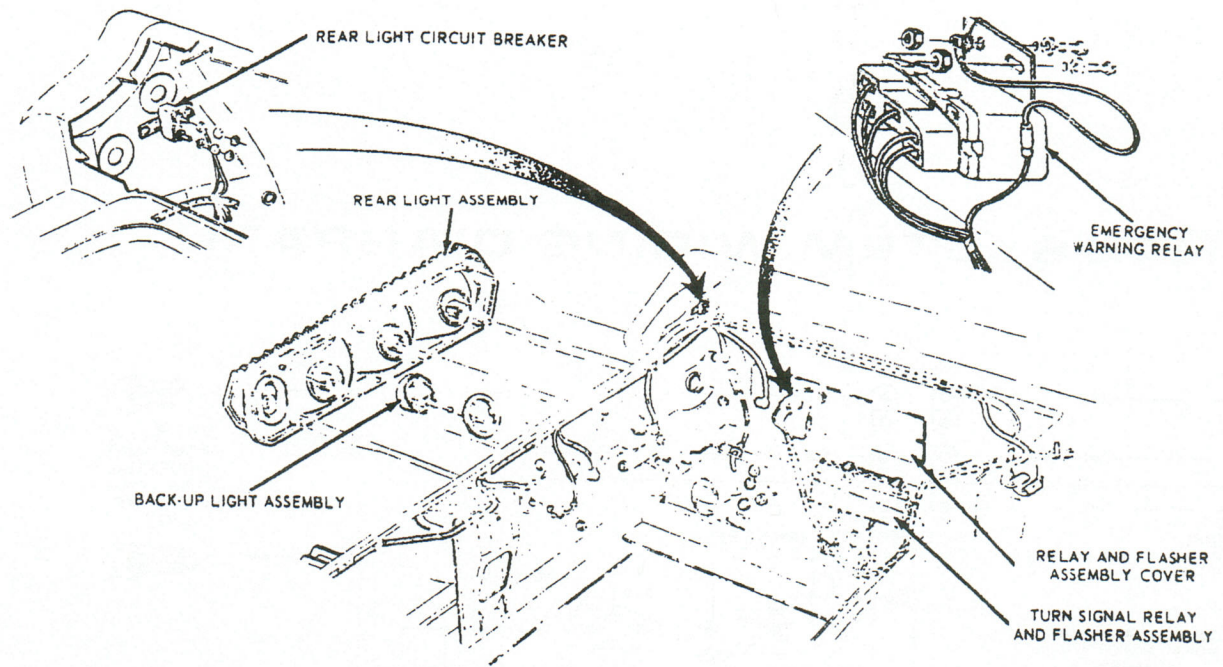


Figure 1. Turn Signal Sequencer Location

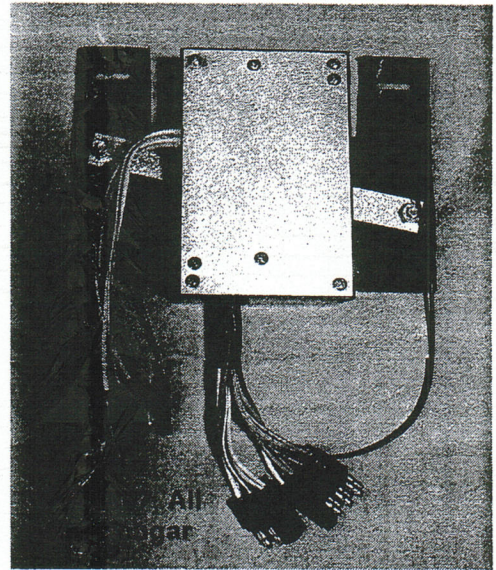
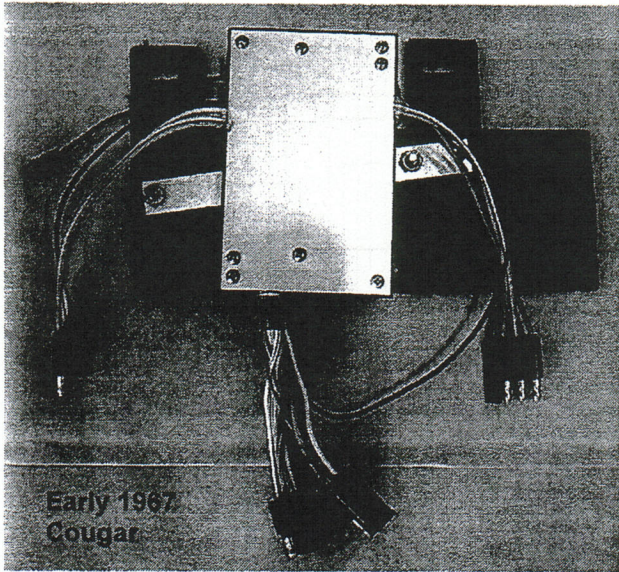


Figure 2. Electronic Sequencer Mounting

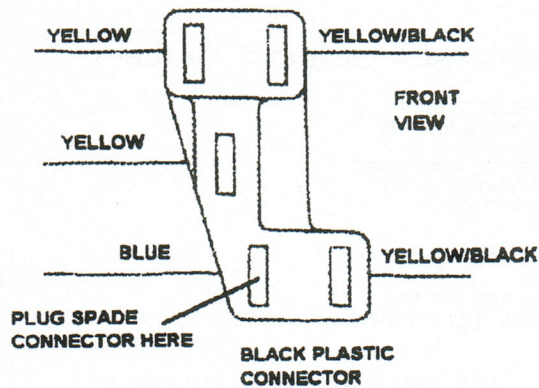


Figure 3. Emergency relay wire connection



## Troubleshooting Sequential Turn Signals

This article covers troubleshooting 1967-1968 Mercury Cougar sequential turn signals. While most the information as been acquired through experience on a 1968 model, the ideas can be applied when servicing a 1967 model too. This information is also applicable to 1967-1969 T-Birds as they share the same basic design and parts.

The turn signal system has five electro-mechanical parts: the turn signal switch, (located in the steering column), a turn signal relay (located under the dash), a directional relay, an emergency relay, and a motor-driven sequencer (located in the driver's side trunk under the mat or behind the backseat in T-Birds). The 1967 system also has an emergency relay and a turn indicator relay under the dash. The most failure prone parts are the mechanical sequencer, the turn signal switch, and the emergency relay in the trunk. Circuit diagrams may be found in the appropriate year factory shop manual.

Basically, the system works as follows: when the directional lever on the turn signal switch is moved, it completes circuits that select and feed power to the corresponding bank of lights. Power for the lights is fed through the turn signal relay to the sequencer. The sequencer has three cams that, when rotated, depress switches corresponding to the inboard, center, and outboard tail lights. The power is then routed first through the emergency relay (which disconnects all but the center light if the emergency switch is on for Cougars and connects all lights together for T-Birds.) and then to the directional relay. This two-sectioned (right and left) relay routes power through to the selected bank of lights. Since brake lights are not sequenced, the directional relay allows all lights to turn on simultaneously when the brake light power feed is energized. But when the turn signal switch is actuated, the brake light power feed is disconnected and the turn signal feed is activated to allow the directional signal to override the brake lights.

Now that you understand a little about how your turn signal system works, you can start troubleshooting. You will need a VOM (Volt-Ohm-Meter) and the circuit diagram for your year car. The most common complaints are: no turn signals, one or more lights on but not flashing, one or more lights flashing, and center and front lights only flashing. The first place to check is the in-line fuse under the dash to the right the steering column. The next stop is to check all bulbs and their sockets. If these are all good, then now the real sleuthing must begin!

### **No turn signals:**

When the turn signal lever is depressed, no lights come on anywhere. Start by depressing the emergency switch, if the emergency flashers work, the turn signal switch is most likely bad. Next, listen to the directional relay for a click while moving the turn signal lever. If there is no sound, disconnect the turn signal switch from the harness and check it according to Table 1. The table shows wire pairs that should be shorted together when the switch is in the position indicated. If any of the connections are open, replace the switch. Usually the switch has failed when the plastic around the riveted contacts in the area around the emergency button appears to be burnt or melted. This can be seen with the steering wheel removed.

### **Some or all lights on but not flashing:**

This usually means that the motor in the sequencer has quit. Remove the white cover from the sequencer and see if the motor is turning the cam. FORD has discontinued the unit but an electronic replacement is available.

### **One or more lights flashing:**

If all bulbs are OK, the trouble is most likely in the sequencer. The switch contacts erode away with age. Sometimes they can be cleaned up with an ignition points file, but this is just a temporary fix. The best solution is to replace the sequencer with an electronic unit.

**Center and front light flashing only:**

This is the normal mode for the emergency lights on a Cougar, but will occur if the emergency relay fails. On a T-Bird with the emergency flashers on, this indicates that the emergency relay is bad.

**Dash indicator light doesn't flash:**

The indicator relay is calibrated to click and operate the dash light when all four bulbs (1 in front, and 3 in back) are working - check the bulbs first. A low battery, poor charging system, bad connections in the turn signal switch, or bad relay can cause this problem

CENTER-POSITION	LEFT-TURN	RIGHT-TURN
Green, Orange-Blue	Blue, Green-White	Blue, Orange-Blue
Green, Green-Orange	Blue, Green-Orange	Blue, White-Blue
Blue, Red	Blue, Red	Blue, Red
	Green, Orange-Blue	Green, Green-Orange

Table 1. 1967 or 1968 Turn signal switch connections

Description	1967 Cougar	1968 Cougar
<b>OEM parts:</b>		
Turn indicator relay (4 pin)	C7WY-13A366-B	-----
Turn signal relay (3 pin)	C7WY-13A366-C	C8WY-13A366-A
Directional relay	C7WY-13A366-A	C8SZ-13A366-A
Emergency relay (under dash)	C7WY-10B926-B	-----
Emergency relay (in trunk)	C7WY-10B926-A	C7WY-10B926-A
Sequencer	C7SZ-13350-C	C7SZ-13350-C
Turn signal switch	C7ZZ-13341-F	C8SZ-13341-A
Turn signal switch/tilt	C7ZZ-13341-E	C8SZ-13341-B
Stop light relay (early)	C7SZ-13482-B	-----
<b>Replacement Parts:</b>		
Electronic sequential system: replaces sequencer, directional relay, emergency relay, and stop light relay.	C7WY-13A366-AS (early) C7WY-13A366-BS (late)	C8WY-13A366-AS
Electronic sequencer	CE-1	CE-1
Directional relay	C7WY-13A366-AR	C8SZ-13A366-AR
Emergency relay (in trunk)	C7WY-10B926-AR	C7WY-10B926-AR
Stop light relay	C7SZ-13482-BR	-----

Table 2. Parts list