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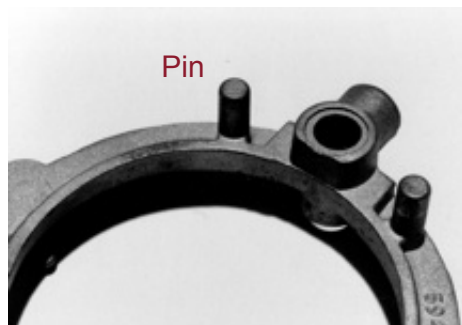
Specializing in 1956 to 1962 Corvettes

## *CORVETTE TIPS AND TECHNIQUES*

### *1953-1962 TURN SIGNAL SWITCH and CANCELING CAM*

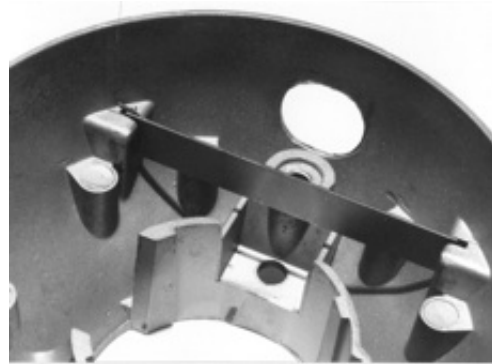
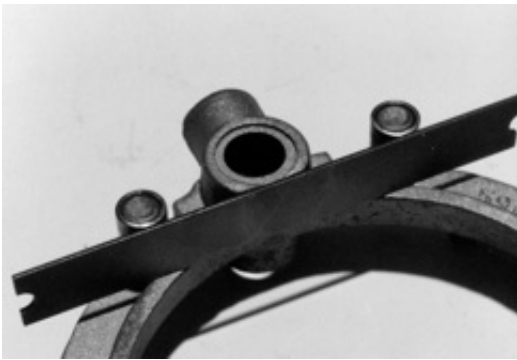
The turn signal switch and related parts, located in the housing below the steering wheel, at the top of the steering column, is a part of the car, which is often used, but seldom thought about. It never gets any routine maintenance, although it could use some. I often see Corvettes with problems in the turn signal assembly, and some of these problems are difficult to repair because of wear in the parts, and lack of availability of replacement parts. This article will attempt to familiarize you with one of the common problems of the turn signal assembly, and an inexpensive and effective way to repair it.

First, I would like to go over the general operating principles of the unit for those of you who may not be fully aware of them. You may have noticed the turn signal switch itself has six wires going to it. The reason there are so many wires is the Corvette uses the same light bulb filaments for the stop function and the turn function. Unlike many European and some newer domestic cars, which use red stoplights and amber turn signal lights, our Corvettes use the same lights for both stop and turn. That is, the same filament in the tail light globe is used for two different functions, and it is the turn signal switch in the column that controls the function the driver selects. (At this point I am assuming the reader understands the early Corvette uses two beam tail lamps which are actually two light globes in one, each one having a dim and a bright filament within the glass enclosure.)



To clarify, let me go over a simple scenario: The driver is stopped at a stop light with his or her foot on the brake and intends to turn to the right when the light turns green. The stoplights are glowing on both sides of the car.

Remember, during this time the stop/turn signal filaments are being used as stoplights only. At this point the driver turns the right turn signal on. In order for the right brake light to begin to flash, the little switch in the column must first disconnect the brake light circuit to the right side, which extinguishes the right brake light, and at the same time connect the turn signal flasher switch to that circuit so it will begin to flash.

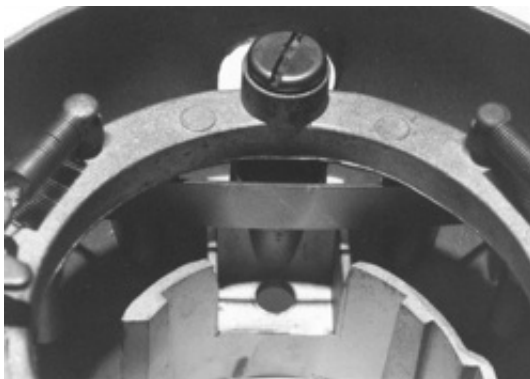


**Leaf Spring shown against repaired pins**

**Leaf Spring shown installed in housing**

As the driver completes the turn, and the steering wheel returns to the straight-ahead position, the cancelling cam is supposed to reset the turn signal switch to the center position which will turn off the flasher switch and re-establish the brake light circuit to the right side lamp. It is the re-centering of the switch, which enables the brake lights to operate once again on both sides at the rear of the car.

Although there are many things, which can go wrong with the turn signal switch and related parts, it is the failure to automatically re-center which is most common and most difficult to repair.



Parts installed in housing

Tubing ready to slide over pin

I have seen many cars where the cancelling cam would turn off the turn signal flasher, but fail to reconnect the brake light circuit. When this problem occurs, the driver has no way of knowing the brake lights on the rear of his or her car are only working on one side.

The reason the cancelling cam doesn't center the switch is often because of wear on the pins which bear against the leaf spring within the switch housing (see photo of pins on previous page). It is also possible for other causes to occur such as:

- (1) Lack of lubrication on the linkage within the housing.
- (2) A binding pivot point on the turn signal linkage ring.
- (3) A defective turn signal switch, which takes too much force to operate.
- (4) Misalignment due to worn, loose or warped parts within the housing.

The four problems noted above are only diagnosed after disassembly and inspection, and they may be repaired as required. The wear on the pins, however, would normally require a new turn signal cancelling ring. This part was serviced as Delco/Guide part number 897064. Since that part is no longer available, I have developed a simple way of repairing it.



The leaf spring shown in the other photo on the previous page is designed to snap the assembly smartly back to the center position when the cancelling ring disengages the turn signal switch at the conclusion of a turn. If the pins which bear against the leaf spring are worn from rubbing against the spring, the action will be sluggish, and the switch will not be fully centered when this happens. The photo at the far left (opposite page) shows the relationship of the pins on the ring to the leaf spring.

The worn pins may be resized by simply fitting a short length of brass tubing over them. I was able to buy a piece of brass tubing just right for the job at a hobby shop. The tubing measures 1/4-inch outside diameter and .213-inch inside for a wall thickness of .037-inch. I cut two pieces to a length of 3/8-inch, which just covers the pins. This brass tubing not only repairs the worn pins but also actually makes them a little larger than they originally were which makes up for wear in the slots, which hold the leaf spring. This method therefore repairs two problems at once. The photo above left (opposite page) shows the leaf spring in the slots of the housing.

Additional photos at right show the parts and how they relate to each other. When the parts are installed don't forget to put a little lithium grease on the wear points of the leaf spring and pins, and a drop of light oil on all the pivot points of the ring and cancelling dogs (the small parts which are held in position by the two small coil springs).

With a little attention to detail, the turn signal assembly on the early Corvette can operate exactly as it was intended, and on the day of your NCRS Performance Verification test there will be no surprises.