

Corvette Steering Column to Transmission Interlock Systems (1969 thru 1976)

General Motors introduced a second generation energy absorbing and function locking steering column in all of their passenger cars starting in the 1969 model year. One of the features of this system was the ability to lock both the transmission shift lever and the steering wheel when the ignition key was rotated to the OFF-LOCK position. With the introduction of this theft prevention system, there was a great concern that a vehicle operator might inadvertently lock the steering wheel while the vehicle was moving forward on the road. To prevent this from happening, General Motors and Saginaw Steering Gear Division came up with an interlock system that interconnected the steering column, shifter mechanism, and the transmission. This system prevented the ignition key from being turned all the way to OFF-LOCK unless the automatic transmission was placed in PARK or a manual transmission was shifted into REVERSE.

Original C3 Corvette Interlock System (1969-1976)

All C3 Corvettes have either a transmission mounted manual shifter or console mounted automatic shifter. In order to best describe how the Corvette interlock systems work, it may be best to review the basic column mounted gear shift system that is standard in the vast majority of GM vehicles. The basic hardware for all GM interlock systems is the same. The operation of a floor shift system is a bit different.

Typical GM Passenger Car Column Shift System

All GM passenger cars with automatic transmission and a steering column shift lever require that the operator place the shift lever into PARK in order to lock the steering column. The shift lever is connected to a tube that extends down through the steering column. That lower end of the tube has a lever that extends out of the column and into the engine compartment. It connects to a cable or linkage that attaches to the small shift lever on the transmission.

Moving the column shift lever counterclockwise causes the transmission lever to be moved from the LOW to the PARK positions respectively. Moving the column shift lever into PARK also positions a gate inside the steering column head making it possible for the driver to rotate the ignition key all the way to OFF-LOCK. With the ignition lock cylinder in OFF-LOCK, the shift lever cannot be moved out of the PARK position. Also, with the column shift lever in PARK, the steering column lower lever is now in the full UP position. This lower lever position causes a lever on the automatic transmission to be in PARK. The transmission is locked in PARK because the steering column shifter is now locked.

The C3 Floor Shift Interlock System

The **C3 Corvette** steering column and transmission interlock system (1969 through 1976) operates as follows: The vehicle operator has to place the shifter into PARK (with automatic transmissions) or into REVERSE (with manual transmissions). The motion of the shifter lever to those transmission positions causes a cable from the transmission to push the lower steering column lever to the full UP position.

The steering column lower lever can be viewed by opening the hood and looking down under the brake master cylinder. With the column lever in the UP position, the internal gate inside the steering column is positioned such that the ignition key can be rotated all the way to OFF-LOCK. With the lock cylinder in the OFF-LOCK position, both the shifter and the steering wheel are locked the same as all the other GM vehicles of that era. Also, there is no difference between a T&T column and a standard (non-adjustable) column with respect to the lower lever and locking methods.

Interlock Cable Adjustment Procedure (please refer to diagrams on page 3)

It is possible to make a small adjustment of the Interlock Cable (T) where it connects to the Steering Column (J) by loosening and moving the Bracket Assembly (M) that mounts to the Dash Panel (in the engine compartment.) There is no adjustment of the cable at the transmission.

The bracket assembly has a welded stud and a Carriage Bolt (N) that pass through slots in the dash panel and also through slots in the Seal & Plate that is welded to the lower end of the steering column inside the car. You fix the location of the bracket assembly and the lower end of the steering column by tightening Nuts (R) on the stud and the carriage bolt.

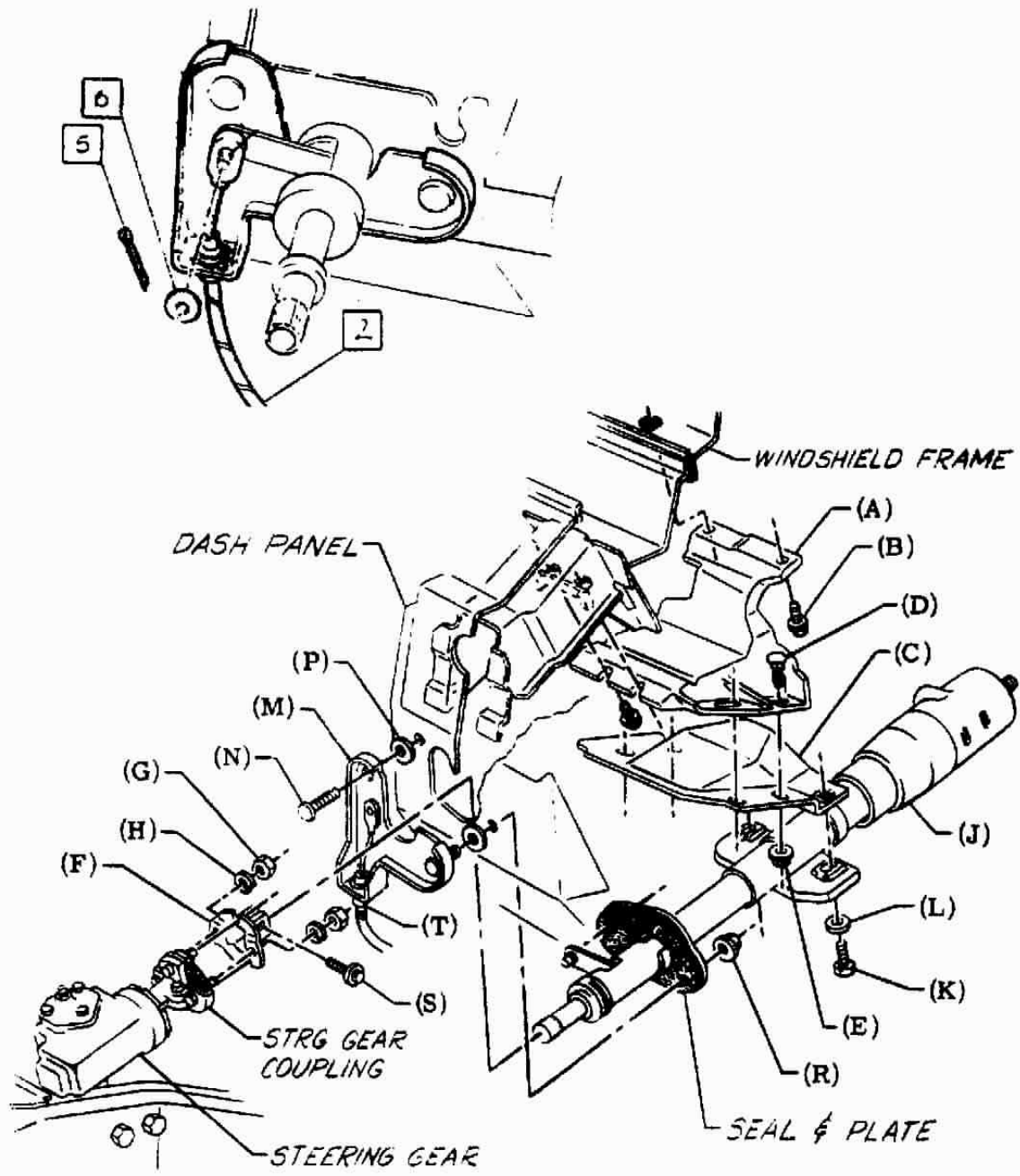
Loosening the nuts will allow some limited movement of the bracket assembly on the dash panel. This will provide some adjustment since moving the bracket assembly will move the cable sheath relative to the steering column lower lever.

Important: The position of the lower end of the steering column is fixed when you tighten the two nuts that hold the seal & plate to the bracket assembly and the dash panel. When you loosen and reposition the bracket assembly, you still want to make sure that the steering column is positioned correctly and pointing right at the steering gear.

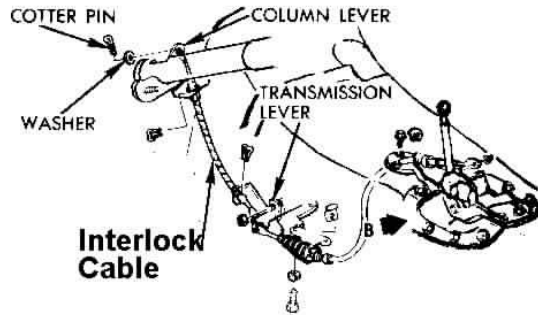
The way to check that the steering column is in the correct position is to snug up the two nuts on the seal & plate. Then inspect the two stop pins on the steering gear flexible coupling and make sure that they are central in the window openings and not contacting any part of the Steering Column Flange (F). Once you have determined that they are central; then rotate the steering wheel one quarter turn (90 degrees) and recheck that the pins are still central in the slots. If they are central in both steering wheel positions, the column is positioned correctly and the two nuts can be tightened.

The “Finger Inhibitor” System (1977–1982)

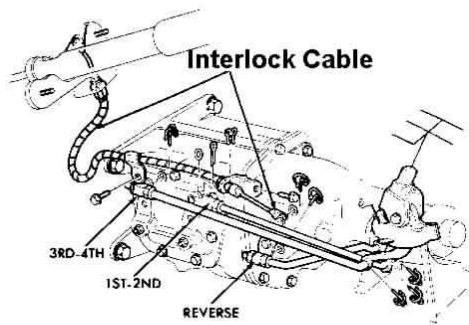
This steering column/transmission interlock system was used on all C3 Corvettes from 1969 through the 1976 model year. Starting in the 1977 model year, a small lever was added to the steering column. It was located on the steering column head, directly behind the ignition lock cylinder. In order to rotate the lock cylinder to the OFF-LOCK position it was necessary to trip the lever to open the gate inside the steering column head. Since a double motion was required to go from just turning off the engine to turning off the engine and locking the steering column, General Motors determined that interlocking to the transmission in PARK or REVERSE was no longer required. Note, with the Finger Inhibitor System, the transmission shifter lever does not lock.



CORVETTE C3 STEERING COLUMN INSTALLATION DIAGRAMS



C3 CORVETTE and AUTO TRANS



C3 CORVETTE and MANUAL TRANS

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StrgColumnTransC3InterlockSystems

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