



## Preliminary Information

### PIC6522 Diagnostic Tip - Steering Column Lock System

#### Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Chevrolet	Corvette	1997 - 2004	All	All	All	All

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Involved Region or Country	United States
Condition	Some customers may comment about a DIC message that states either "Service Column Lock" or "Pull Key, Wait 10 Seconds". They may also have a concern where the vehicle will not crank, or when put into gear the vehicle's engine may run rough or stall. Vehicle speed may also be limited to approximately 3 mph.
Concern	The cause of these concerns may be a malfunctioning Steering Column Lock system.

#### Correction:

The cause of these symptoms may vary wildly from vehicle to vehicle. The purpose of this PIC is to assist the dealership technician in understanding the operation of this column lock system, it's many changes throughout the years, and how to correctly go about diagnosing it when it has an issue.

The steering column lock system was first used on the 1997 Corvette. This was the first year of the brand new C5 generation. The system would physically lock the steering wheel and prevent it from being turned when the ignition was in the off position. This helped to prevent a vehicle from being stolen. Once the ignition was turned on, the column unlocked, and it was then free to rotate. This system employed the use of a steering column lock plate, both a key-in, and key-out microswitch, the BCM, and a column lock motor or actuator. This motor extended and retracted a pintle. This would cause an interference with the column lock plate that was mounted on the steering column. When the pintle was extended, this prevented column rotation. When the pintle was retracted, the column was free to rotate.

Many misconceptions exist around the separate publications, special policy and bulletins regarding the Steering Column Lock system. There are many questions surrounding the operation, diagnosis, repairs, and the different revisions to each document. This PI is intended to help clear up those misconceptions. As always, dealership technicians are to check IVH for any open campaigns on the vehicle in question before beginning diagnosis.

Bulletin [01-02-35-008](#): This Service Bulletin only applies to all 1997 Corvettes, but only some 1998 and 2000 Corvettes built within a specified VIN range. This bulletin applies to vehicles that are NOT included in Customer Satisfaction Campaign 01044A Corvette Electronic Column Lock.

[01044A](#): This Customer Satisfaction document expired July 1, 2003. It covered a condition in which the electronic column lock may not function as intended. The condition could result in the failure of the steering column to unlock during initial key-in and start-up. Should the column fail to unlock, the engine will stop running if the vehicle starts to move.

[04006](#): This Bulletin covered a condition where the fuel shut off may not occur and the vehicle can be accelerated while the steering system is locked. The fix was to mechanically disable the electronic column lock by removing the column lock plate on certain vehicles listed. Due to tool and part availability this bulletin was released in 3 phases:

Rev. A: Additional vehicles have been added to the population. This bulletin does not include a service procedure for 97 Manuals and export Automatics, or 98 Manuals and export Automatics built through May 25, 1998.

Rev. B: Was revised to include 97 Manuals and export Automatics and 98 Manuals and export Automatics built

through May 25, 1998.

Rev. C: The service procedure for U.S. vehicles equipped with a manual transmission has been revised to remove the lock plate. Important: Changes in federal requirements allowed the release of revision C, however, due to the timing of the release; U.S. vehicles equipped with a manual transmission and serviced under previous versions of 04006 will still have the lock plate in place.

**05081:** This Special Policy Adjustment expired February 8, 2006. It covered 1997 - 2004 Chevrolet Corvettes equipped with a manual transmission (MM6 / M12); 1997 - 2000 Chevrolet Export Corvettes equipped with an automatic transmission; and 2001 - 2004 Chevrolet European Export Corvettes equipped with an automatic transmission that may have a condition where the column lock may fail to unlock the steering column when the vehicle is started and 04006C was already completed.

Due to the multiple publications, various release dates of each and changes in the service procedures, some questions may arise as to whether or not a document was completed properly. In particular, 04006C allowed the removal of the lock plate from U.S. vehicles equipped with manual transmissions. Prior to the release of version C, lock plate removal was not allowed, due to federal requirements in place at that time.

It is OK to have a manual equipped U.S. vehicle that has the lock plate in place, if it was serviced under a previous release of 04006. The presence of the lock plate in no way indicates incorrect procedures were performed. The customer and the dealer have the option of installing the cam orientation plate in place of the lock plate, but this is not a warranty repair, nor will it correct a "Service Column Lock" or "Pull Key, Wait 10 Seconds" message.

### Updated Diagnostic Aid -

The following information has been compiled over the years through the Technical Assistance Center (TAC) and it has been presented here to assist the field with diagnosing this system on US vehicles only. While this section has many tips for diagnosing the Service Column Lock message, it was written to cover a concern of that message being displayed immediately following **01044**, **04006**, or **05081** only. If a dealer is experiencing a Service Column Lock message and did not just complete one of those documents, then the diagnostic charts published in SI should be referenced. Low voltage is still a large contributor to these DIC messages, especially since this message is often seen as cars are brought out of seasonal storage, which is the most opportune time to experience low system voltages. Therefore, technicians should:

1. Ensure the latest revision of recall 04006 has been performed. This action instructs the dealership to remove the lock plate. Special Policy Bulletin **05081** expired on Feb 28, 2008 and is no longer in effect. Try to rotate the steering wheel with the ignition off; if the steering wheel will not move or appears locked, the column lock plate most likely has not been removed and recall **04006** should be completed. Since the recall has been closed, the repair will require claim pre-authorization.

**Important:** The remainder of this PI is written and should only be used for the condition and the models described above, in which a "Service Column Lock" message appears immediately following, or very shortly after completion of the campaign/special policy mentioned. Most vehicles seeking service today will likely have already had the applicable campaign/special policy completed months, or even years prior. Therefore, the PI information contained here would not apply.

**Note:** Published Service Information should be followed for conditions not specifically described above in this PI.

2. Confirm the battery can pass a battery load test and also make sure that it is fully charged. Once those have been done, disconnect and reconnect the battery to see if the concern is resolved.

3. Inspect Grounds G201 and G202 at the Driver and Passenger side 'A' pillars.

4. If a concern with the grounds is not found, remove the column lock relay and jumper harness that was installed as part of the campaign. Install a new relay and jumper (part number 19244028). As of November 2009, the relay in this harness is new, and it was designed to cancel out electrical interference that has been suspected of causing false messages. This harness is designed to electrically duplicate the lock/unlock signal from the column lock motor.

**NOTE:** It is important to make sure the column lock plate is removed before installing this new relay.

5. If the concern is not resolved with the new harness, then inspect the 4 digit date code that is located on the bottom of the electronic column lock (ECL) motor. The first character of the date code is the month, second two numbers are the day, and the fourth digit is the year. (Example: 8041 = August 4th, 2001. If a letter is used for the first character, this is to indicate the months of October, November, or December. Example N041 = November 4th, 2001)

\* If the date code of the ECL motor is before January 01, 2003, replace the electronic column lock motor and reinstall the original connector, without the relay or jumper harness installed. (Note: Do not remove the Cam Orientation Plate)



\* If the date code of the motor is after January 01, 2003, only the new jumper harness will be required. If the concern is still occurring after following all information above, then follow published diagnostics. (Note: Do not remove the Cam Orientation Plate)

\* If the concern is resolved, the harness and relay should be replaced with the latest part number available, as improvements have been made in the later parts. If it returns after the harness and relay were replaced with new parts, they can be entirely removed, and left off the vehicle permanently, as their presence was not required to meet Federal Motor Vehicle Safety Standards (FMVSS) requirements.

Important Note: There have been a few questions regarding which decade (1990's, 2000's, 2010's) that the ECL motor was produced in. A review of the parts history has proven that the date code on current / new CCA parts, are all within the 2010's. The age of a part should never be assumed based on the appearance or condition of the packaging it is in.

Note: DO NOT advise a dealer to request RFI through Partech for a different date code or vendor stamping!

To decipher the decade on the ECL motor that is currently in the vehicle, you will need the date code and the part number that is stamped on it. Use the following chart to determine the date code of the old/original ECL motor.

6. If the concern is still occurring with the harness and relay removed, the dealer should begin to follow SI diagnostics for the condition the vehicle is exhibiting, i.e. Column Won't Lock OR Column Won't Unlock. Keep in mind that if 04006C was performed, the steering wheel will not lock on U.S. vehicles. The (Electronic Column Lock) ECL actuator should still be moving to a locked and an unlocked position, appropriately, regardless of whether or not the relay and harness are in the vehicle.

Note: The harness and relay installed during 04006 or 05081 supplies a locked and unlocked signal to the BCM; it does NOT actually inhibit actuator operation.

Supplier Part No	GM Part No	Build	1st Character Month	2nd &3rd Character Day	4th Character Year
26050960	26050960	29-Feb-96	1-9;0,N,D	01-31	6
26050960	26050960	1997	1997 '1-9;0,N,D	01-31	7
26050960	26050960	1998	'1-9;0,N,D	'01-31	8
26050960	26050960	1999	1-9;0,N,D	01-31	9
26050960	26050960	2000	'1-9;0,N,D	01-31	0
26050960	26050960	2001	'1-9;0,N,D	01-31	1
26050960	26050960	2002	'1-9;0,N,D	01-31	2
26089807	26089807	4-Jun-02	'1-9;0,N,D	'01-31	2
26089807	26089807	2003	'1-9;0,N,D	'01-31	3
26111031	88965331	23-Sep-03	'1-9;0,N,D	01-31	3
26111031	88965331	2004	'1-9;0,N,D	01-31	4
26111031	88965331	2005	'1-9;0,N,D	01-31	5
26111031	88965331	2006	'1-9;0,N,D	01-31	6
26111031	88965331	2007	'1-9;0,N,D	01-31	7
26111031	88965331	2008	'1-9;0,N,D	01-31	8
26111031	88965331	2009	'1-9;0,N,D	01-31	9
26111031	88965331	2010	'1-9;0,N,D	01-31	0
26111031	88965331	2011	'1-9;0,N,D	01-31	1
26111031	88965331	2012	'1-9;0,N,D	01-31	2

If a dealership technician is directed to regular service information for diagnosing this system, It is suggested that the technician first check the operation of the column lock motor, using the Tech 2 Special Function command to see if the motor will operate. If it does not, a common reason for this is because the OEM column lock relay (NOT the additional relay that was added as part of the recall) is simply no longer operational. These were mechanical relays and they may be as many as 25+ years old at this time. The contacts may have been worn out. Being certain to select the correct relay, as there are several of them in a line, place your fingers on the relay, located under the glovebox, and rotate the ignition switch on and off. Attempt to feel the operation of this relay when it clicks. If it is not working, continue with diagnosis. As always, feel free to call TAC for assistance once the applicable measurements have been recorded.

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

### Version History

Version	1
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