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**BCC:**  
**Sent Date:** 2005-06-24 21:54:35:000  
**Received Date:** 2005-06-24 21:54:39:000  
**Subject:** UPDATE: X001 Ignition Cylinder  
**Attachments:** X001 Ignition Cylinder 062405.ppt

Team,

Here is an update with latest info on Ignition Cylinder...



X001 Ignition Cylinder 062405.ppt

Al

# X001 Ignition Cylinder Effort...

## Next Actions

**PRTS#182276 Opened**

### Short Term:

- Service: Add Snap-in Plug w/13mm ring**
  - Timing 2 wks (100 parts avail 7/5/05), Tooling \$9K, Piece Cost TBD
  - Proto Tool Capable of 10,000 parts
  - Issue Service Bulletin 6/28 (Steve Oakley)
  - Validation: Concept Mock Up Verification 6/17
  
- Production: Fill In Key Slot & Add 3.5mm Hole and use (solid, non removeable?) 13mm ring**
  - Timing: 8-10wks to retool key, 8/22/05, \$215K, 0 piece cost
  - EWO #521309 approved 6/17/05, in Proc 6/27
  - Impacts X001, X020, X024, T001, X002

### Long Term Under Development:

- Revise Ignition Switch aka GMX191 to increase shut off effort from by 200% and return to slotted key**
  - Timing: 2008 SOP (GMX191 gets in 2007),
  - Cost:\$1.00/veh, Tools TBD

# X001 Ignition Cylinder Efforts...

## 6/17 Mock Up Results

Vehicle #	Retrofit	Rotational Torque Thru Key C/L To Shutoff	Downward Force At Key Ring To Shutoff
4033	hole in key & 13mm ring	0.1N-m	key and ring deflect >10lbs
4033	current prod	0.1N-m	6-7lbs
4177	current prod	0.1N-m	6-7lbs
4232	current prod	0.1N-m	6-8lbs
1116	increased detent effort ign cyl with current prod slotted key	0.2N-m	9-10lbs, did see as low as 7.5lbs

# X001 Ignition Cylinder Effort...Field Info

- GM Communication's Response (attach)
- Jeff Sabatini (NY Times) 6/19 article
- 5/23 Sunbury Article (attach)
- Service Bulletin PI (attach)
- Chris Jensen of the Cleveland Plain Dealer has written a column that will run this Sunday, 6/26. that is critical of GM for denying that Chevrolet Cobalt ignition cutoffs (not yet avail)

# X001 Ignition Cylinder Effort... GM Communications Statement

## **GM Statement On** Chevrolet Cobalt Inadvertent Shutoffs

***Attributable to Alan Adler, Manager, Product Safety Communications***

In rare cases when a combination of factors is present, a Chevrolet Cobalt driver can cut power to the engine by inadvertently bumping the ignition key to the accessory or off position while the car is running.

When this happens, the Cobalt is still controllable. The engine can be restarted after shifting to neutral.

GM has analyzed this condition and believes it may occur when a driver overloads a key ring, or when the driver's leg moves amid factors such as steering column position, seat height and placement. Depending on these factors, a driver can unintentionally turn the vehicle off.

Service advisers are telling customers they can virtually eliminate this possibility by taking several steps, including removing non-essential material from their key rings.

Ignition systems are designed to have "on" and "off" positions, and practically any vehicle can have power to a running engine cut off by inadvertently bumping the ignition from the run to accessory or off position.

# Ignition Cylinder Effort...6/19 NY Times Article

- **Making a Case for Ignitions That Don't Need Keys**

- By JEFF SABATINI

- Published: June 19, 2005

- CHEVROLET dealers are telling Cobalt owners to lighten their key rings to prevent intermittent stalling and the loss of electrical power in their cars. General Motors issued a service bulletin to dealers suggesting this fix.
- "In rare cases when a combination of factors is present, a Chevrolet Cobalt driver can cut power to the engine by inadvertently bumping the ignition key to the accessory or off position while the car is running," Alan Adler, a manager for safety communications, said. "Service advisers are telling customers they can virtually eliminate this possibility by taking several steps, including removing nonessential material from their key rings."
- During my time with the Cobalt, I encountered the problem once, or rather, my wife did. She was driving on a freeway when the car "just went dead," in her words. She recalled bumping her knee against the steering column just before the car shut off. She was able to coast to the shoulder of the road, where, once parked, the car started and behaved normally.
- The only things on the ring, other than the key, were the fob for the remote locking system and a tag identifying the car as G.M.'s - just as the key ring was given to me.
- Though my wife was able to continue to her destination, I wanted a dealer service department to look at the car. Young Chevrolet Oldsmobile Cadillac, in Owosso, Mich., found nothing wrong, but did share the service bulletin.
- Curious whether this experience was indeed rare, I searched the Internet for others who had encountered the same problem. I found a newspaper review describing the writer's experience with a Cobalt that unintentionally shut off.
- "Unplanned engine shutdowns happened four times during a hard-driving test week," Gary Heller wrote in The Daily Item of Sunbury, Pa., on May 26. "I never encountered anything like this in 37 years of driving. I hope I never do again."
- Mr. Adler said that G.M. did not currently consider this situation a safety issue. "When this happens, the Cobalt is still controllable," he said. "The engine can be restarted after shifting to neutral. Ignition systems are designed to have on and off positions, and practically any vehicle can have power to a running engine cut off by inadvertently bumping the ignition from the run to accessory or off position."

# X001 Ignition Cylinder Effort...Sunbury Article

May 26, 2005

All-new Cobalt  
has good,  
bad points

By Gary Heller

SUNBURY - The all-new Chevrolet Cobalt has many virtues and many faults.

The virtues include good gas mileage, loads of trunk space and better-than-average power for a car in this class.

The faults include a stiff ride, a cheap-feeling steering wheel, lack of rear seat legroom and one that I hope is unique - the engine is easy to turn off while the car is in motion.

Unplanned engine shutdowns happened four times during a hard-driving test week.

In each of those instances, I bumped the ignition key fob with my knee. The bump was enough to knock the key into the accessory position, which turned off the engine but allowed other systems to keep operating.

That happened twice on Interstate 80 at 65 mph before I figured what was going on. I confirmed my theory while parked at a rest stop.

Nevertheless, even knowing about the problem didn't stop me from bumping the key fob and accidentally turning off the engine twice more.

I never encountered anything like this in 37 years of driving. I hope I never do again.

Anyway, the test model was an LS sedan with a list price of \$15,920. The only options were a four-speed automatic transmission (\$850) and rear deck-lid spoiler (\$275).

The transmission worked well with the 2.2-liter engine, rated at 145 horsepower, but the engine was a shade noisy when pushed.

And I will have to acknowledge that I pushed it.

I took the Cobalt to Indiana, Pa., to bring my youngest son, Andrew, home from college.

Even with careful packing, the car was so full that Andrew had to ride home with a 40-pound duffle bag on his lap.

Nevertheless, the Cobalt had no trouble handling the mountains on I-80 between the Lewisburg and Clearfield exits - at least when the engine didn't shut down.

# X001 Ignition Cylinder Effort...Sunbury Article Cont

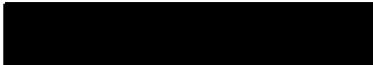
Gas mileage was certainly respectable, given the load. I didn't clock it precisely, but it was fairly close to the EPA rating of 32 miles per gallon on highways.

Speed-sensitive electric power steering was among the Cobalt's standard equipment, but I didn't find the handling exceptional. The ride was a bit stiff, but got softer with a load.

Standard equipment on the test model included driver and passenger dual-stage air bags, power windows, locks and exterior mirrors and four-wheel anti-lock brakes.

The Cobalt comes in several styles. A super sport model is available with a 205-horsepower supercharged engine. A 5-speed Getrag manual transmission is standard.

The Cobalt is replacing the Cavalier in the Chevrolet lineup and competes directly with the Ford Focus, Honda Civic, Mazda3 and Toyota Corolla. The standard goodies make it a tempting pick, but I'd look hard at the distance between your knee and the ignition switch before making a final decision.



The stats

2005 Chevrolet Cobalt LS sedan

Engine: 2.2-liter 4-cylinder

Gas mileage: 24 city, 32 highway

Base price: \$15,920

As tested: \$17,610

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# X001 ignition Cylinder Effort...Service Bulletin PI

**Engine Stalls, Loss of Electrical Systems, and No DTCs - keywords driver engine intermittent int ignition IPC key loss  
LSJ phantom #PIC3421 - (Feb 28, 2005)  
Engine Stalls, Loss of Electrical Systems, and No DTC**

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

## **Condition/Concern:**

The engine may stall while driving intermittently, and some customers may notice the loss of electrical systems.

**Note:** No DTCs are stored.

## **Recommendation/Instructions:**

There is potential for the driver to inadvertently turn off the ignition due to low key ignition cylinder torque/effort. The concern is more likely to occur if the driver is short and has a large heavy key chain.

In the cases this condition was documented, the driver's knee would contact the key chain while the vehicle was turning. The steering column was adjusted all the way down. This is more likely to happen to a person that is short as they will have the seat positioned closer to the steering column.

In cases that fit this profile, question the customer thoroughly to determine if this may be the cause. The customer should be advised of this potential and to take steps, such as removing unessential items from their key chain, to prevent it.

Please follow this diagnosis 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.

## **Models:**

(2005 Pontiac Pursuit) and (2005 Chevrolet Cobalt)