



Service Bulletin

File in Section: 09 - Restraints

Bulletin No.: 05-09-40-002G

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INFORMATION

Subject: Safety Belt Locking Conditions (Normal Operating Characteristic)

Models: 2005-2014 GM Passenger Cars and Light Duty Trucks

This bulletin has been revised to add the 2013-2014 model years. Please discard Corporate Bulletin Number 05-09-40-002F.

The purpose of this bulletin is to explain when the safety belts are supposed to lock. There are several different locking situations for both front and rear safety belts.

Overspool Lock

There is an unintentional locking condition that ALL safety belts from ALL manufacturers may experience called "overspool lock." If the webbing snaps back to the stowed position rapidly enough, the retractor will lock with the belt fully stowed. This is more likely to occur when customers "help" the belt to retract. Without the weight of the latch plate and friction to slow the retractive speed of the webbing, the higher than normal webbing retraction speed that occurs engages the locking mechanism when a sudden stop occurs at the end of web travel. Since the webbing is now fully loaded on the spool, the retractor cannot rewind itself further to release the locking mechanism. When this happens, the occupant cannot extract the belt to wear it. **DO NOT replace the retractor for this condition until first attempting to disengage the locking mechanism by following the recommendation listed below.**

Recommendation

Pull hard on the locked webbing and then release. The hard pull extracts a small amount of webbing from the retractor which, in turn, permits a small amount of retraction to occur when released. This is all that is needed to disengage the locking mechanism. The safety belt will now function properly.

Vehicle Sensing

This type of locking occurs in response to the vehicle under the following conditions:

- The vehicle changes speed or direction abruptly (the vehicle goes into rapid acceleration OR rapid deceleration or there is aggressive cornering).
- It can also occur in a static condition when a vehicle is parked on a large slant (fore-aft or side-to-side), such as streets in San Francisco, California.
- It may also occur over rough road conditions where the retractor mechanism is bounced into a locked condition.

In all of these conditions, as long as tension is maintained on the webbing, the belt will stay locked. When the tension is released, the belt retracts slightly, the lock bar disengages and the safety belt should return to normal function. Please inform customers that may comment that "the belt locks intermittently" that this is the design intent and the belt is functioning properly.

Web Sensing

This type of locking occurs in response to the extraction of webbing. When the webbing reels out at an accelerated rate, it goes into lock mode and stays there until tension is again released. To observe this condition, extract the webbing quickly. Customers may refer to this condition as "intermittent lock-up" and encounter it when trying to put the belt on too quickly.

Automatic Locking (ALR)

When the webbing is pulled all the way out, it automatically converts the retractor into a cinch-down mode (i.e. ALR). This is typically used to tightly secure a child seat to the vehicle. Some customers may experience inadvertent activation of ALR mode if they happen to pull the belt all the way out to the end of travel while they are putting the belt on. The ALR mode of operation is automatically cancelled when the belt is unfastened and stowed (the belt returns to normal sensitive function).

The ALR locking mode is also provided at the driver's position of the **Corvette only**, as a unique feature. Corvette customers may find this feature appealing when they plan to operate the vehicle in a "spirited" manner (such as driving in mountainous terrain). With the ALR active, the operator is snugly cinched into the seat and kept firmly in place during high G-force driving maneuvers.

