

Part 573 Safety Recall Report

17V-370

Manufacturer Name : Volvo Car USA LLC

Submission Date : JUN 08, 2017

NHTSA Recall No. : 17V-370

Manufacturer Recall No. : R89716



Manufacturer Information :

Population :

Manufacturer Name : Volvo Car USA LLC

Number of potentially involved : 1,305

Address : AUTOMOTIVE SAFETY & COMPLIANCE
1 VOLVO DRIVE, BUILDING B
ROCKLEIGH NJ 07647

Estimated percentage with defect : 100 %

Company phone : 201-768-7300

Vehicle Information :

Vehicle 1 : 2017-2017 Volvo XC90

Vehicle Type : LIGHT VEHICLES

Body Style : SUV

Power Train : GAS

Descriptive Information : In the defective part, the crimping of the tube that hold the MGG in place is not up to specification. In the event of a crash where the pre-tensioner is activated and in combination with certain conditions (see "Describe the defect or non-compliance"), this might cause the pressure in the tube to be too high for the defected crimping and the MGG may detach from the tube and propelled in the direction out from the tube. Despite this condition, the seat belt works properly.

The seat belt retractor R200.1 mounted on the right hand side (RHS) third row XC90. The MGG mounted in the tube. Root cause was broken jaws on the tube crimping station. Intervals for jaws condition check was not defined at the supplier.

Description of condition and customer symptom(s)

In the event that meets all the circumstances (See chapter "Description of the deviation") which is needed for the risk of a detachment of the MGG in a crimped defected R200.1 seat belt retractor, the test shows:

That for a defected R200.1 seat belt retractor on the right hand side in a XC90 third row, the MGG squib will, if it penetrates the inner side trim panel, lose most of its kinetic energy before it may enter the 3rd row occupant compartment. It will only have a small portion left of its kinetic energy.

If the MGG detaches and penetrates the inner side trim panel, it will enter the luggage compartment in the rear right corner.

According to Volvo Cars it is highly unlikely that there may be an increased risk for injury for the occupants.

Volvo Cars has not received any reports alleging injuries, fatalities, or crashes related to this condition. Volvo Cars has not received any reports of that a MGG has detached and penetrated the inner side trim panel.

Production Dates : SEP 23, 2016 - NOV 08, 2016

VIN Range 1 : Begin : YV1LF68BCH1133955 End : YV4A22PK0H1143647 Not sequential

Description of Defect :

Description of the Defect : The Micro Gas Generator (MGG) may detach from the seatbelt during an accident.

The following chain of events needs to happen for the MGG to detach from the tube:

1. Belted occupant in the third row seat.
2. Heavy pre-brake before impact.
3. Occupant hanging forward in the shoulder belt due to pre-brake, so the belt force is over 400-450 N in the seat belt reel (occupant weight over approx. 80-85kg).
4. Frontal impact with crash severity that reach activation threshold for the pre-tensioner.
5. Pre-tensioner activates during the phase when the occupant are hanging in the belt and creating a belt force over 400-450 N.
6. A seat belt with sub-optimum crimp of the MGG.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : According to Volvo Cars it is highly unlikely that there may be an increased risk for injury for the occupants.

Description of the Cause : In the defective part, the crimping of the tube that hold the MGG in place is not up to specification. In the event of a crash where the pre-tensioner is activated and in combination with certain conditions (see chapter "Description of the deviation"). This might cause the pressure in the tube to be too high for the defected crimping and the MGG may detach from the tube and propelled in the direction out from the tube. Despite this condition, the seat belt works properly.

The seat belt retractor R200.1 mounted on the right hand side (RHS) third row XC90. The MGG mounted in the tube. Root cause was broken jaws on the tube crimping station. Intervals for jaws condition check was not defined at the supplier.

Identification of Any Warning that can Occur : In the event that meets all the circumstances (See chapter “Describe the defect or noncompliance”) which is needed for the risk of a detachment of the MGG in a crimped defected R200.1 seat belt retractor, the test shows:

That for a defected R200.1 seat belt retractor on the right hand side in a XC90 third row, the MGG squib will, if it penetrates the inner side trim panel, lose most of its kinetic energy before it may enter the 3rd row occupant compartment. It will only have a small portion left of its kinetic energy.

If the MGG detaches and penetrates the inner side trim panel, it will enter the 3rd row occupant compartment in the rear right corner.

Supplier Identification :

Component Manufacturer

Name : Autoliv B.V. & Co. KG

Address : 1320 Pacific Dr.
Auburn Hills MICHIGAN 48306

Country : United States

Chronology :

- A. Field Action decision by Volvo Car Corporation 2017-06-07
- B. Condition detected by? (market TR**, internal, inspection, testing) Supplier
- C. Number of Technical Reports with the condition, reported to Volvo Cars from NSC? 0 Report
- D. Total number of cars included in TRs concerning the condition? 0 Vehicles
- E. Implementation date 2017-06-07

In the beginning of December 2016 Volvo Cars received information from the supplier regarding a possible fault on the seat belt pretension. (NHTSA ID: 16E-094)

The issue was presented at Critical Concern Management Team (CCMT) 21st of December; initial testing shows no effect on safety or compliance. More testing is needed to confirm that there is no safety risk. New test material are ordered and test will be performed during the holidays and the result shall be presented at the next CCMT for verification.

The 11th of January 2017 a status report was presented at CCMT, the item still shows no effect on safety or compliance, further analyze and verification of test data is ongoing.

After analyze and verification of test data the item was presented at CCMT the 16th of January. CCMT confirms that there is no safety nor compliance issue and the issue was closed.

In the beginning of March, the US authority NHTSA raised questions to Volvo Cars based on information filed by the supplier to NHTSA webpage.

On the 7th of March, Volvo Cars presented the MGG concern to the US authority NHTSA together with Volvo Cars conclusion.

In the beginning of May NHTSA contacted Volvo Cars to inform about their view of the issue.

The 17th of May NHTSA view of the concern was presented to CCMT.

The item was presented at CCMT the 7th of June, based on the input from NHTSA, Volvo Cars has in agreement with NHTSA decided to release a recall for the concerned cars.

Description of Remedy :

Description of Remedy Program : The corrective action is to replace the 3rd row passenger's side seatbelt retractor.

How Remedy Component Differs from Recalled Component : Concerned seat belts are identified through serial numbers on the seat belt and translated into VIN/Chassis ID.

To remedy the concerned vehicles Volvo Cars needs to replace the right hand side seat belt in the 3rd seat row.

Deviating part

Not fulfilling the specification for the crimping of the MGG.

Improved part

Crimp Force Monitoring system (HBM) is installed on machine (to control parameters function: Force/Distance)

Identify How/When Recall Condition was Corrected in Production : Deviating part
Not fulfilling the specification for the crimping of the MGG

Improved part

Crimp Force Monitoring system (HBM) is installed on machine (to control parameters function: Force/Distance)

Recall Schedule :

Description of Recall Schedule : NR

Planned Dealer Notification Date : JUN 08, 2017 - JUN 08, 2017
Planned Owner Notification Date : AUG 07, 2017 - AUG 07, 2017

* NR - Not Reported