

Jason Guidi

Manager - Warranty, Product Safety & Compliance

June 3, 2016

Mr. Scott Yon, Chief of Vehicle Integrity Division
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
West Building, W41-326
Washington, DC 20590

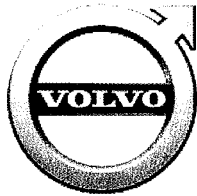
Re: Volvo Car USA's response to NHTSA's General Order regarding shattering glass in panoramic sunroofs

Dear Mr. Yon,

In response to the Administration's general order directed to Motor Vehicle Manufacturers regarding panoramic sunroofs, dated April 14, 2016, herein are Volvo Car USA's answers to that request.

Question 1: Describe the history of panoramic sunroofs in the vehicles you manufacture. Your response should include, but not be limited to, the reason(s) you decided to add panoramic sunroofs as an option, the model(s) and the model year for which you first offered this option, and the timeline of the development and decision-making that led to the introduction of panoramic sunroofs.

Volvo response: Volvo introduced its first panoramic sunroof (S/R) with the introduction of the XC60 that entered the US market as a model year 2010. Several reasons were behind the decision to add a panoramic S/R to what was then Volvo's all new small SUV. Some of those reasons include, but not limited to, design trends, competitor pressure, customer demands, and that such a concept provides for a more spacious interior perception due to the extra light entering the cabin that also results in increased second row comfort.



It was at a late stage in the XC60 project, during the end of CY 2005 until beginning of CY 2006, and after a compressed concept study was presented to executive management, it was decided to assign resources for a further technical & commercial investigation of a new panoramic sunroof for the XC60 project. This decision was made at a Product Board meeting mid April 2006 and after an intensive 10-week investigation (task force assignment) the final approval and order to incorporate a panoramic sunroof into the XC60 core project was made. The plan was to introduce it at the start of the XC60 vehicle production beginning August 24, 2008.

Question 2: Identify and enumerate the total population of vehicles you manufactured that contain a panoramic sunroof as original equipment. Your response should be broken down by make, model and model year.

Volvo XC60:

<u>MY</u>	<u>Population</u>
2010	19,716
2011	13,965
2012	18,348
2013	22,562
2014	10,719
2015	29,185
2016	24,459
Total:	138,954

Volvo XC90:

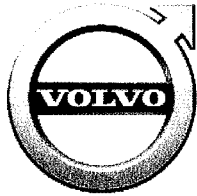
<u>MY</u>	<u>Population</u>
2016	38,091

Question 3: For each panoramic sunroof identified in your Response to Request No. 2, provide the following information: (i) the name and contact information for the sunroof manufacturer; (ii) the number of glass panel; (iii) the size of the glass panel(s) (length x width in centimeter); (iv) the thickness of the glass panel(s) (millimeters); and (v) the standard to which the sunroof was manufactured. Your response should include an explanation of any changes made between models and model years.

Volvo response:

(i) Panoramic sunroof manufacturer: Inalfa Roof Systems, De Amfoor 2 - 5807 GW, 5800 AM Venray

The Netherlands. Same for Volvo XC60 and Volvo XC90.



(ii) Number of glass panels: Two panels per panoramic sunroof (one front, openable/retractable panel and one rear, fixed panel). Same for Volvo XC60 and Volvo XC90.

(iii) Size of glass panels;

XC60: Front glass panel length is 59 cm and rear glass panel length is 34 cm

XC60: Front glass panel width is 84 cm and rear glass panel width is 83 cm

XC90: Front glass panel length is 62 cm and rear glass panel length is 70 cm

XC90: Front glass panel width is 85 cm and rear glass panel width is 82 cm

(iv) Thickness of glass panels: T=5 mm (laminated glass). Same for Volvo XC60 and Volvo XC90.

(v) Standard for XC60 and XC90 Panoramic sunroofs;

FMVSS 205 Vehicle glass (USA)

CMVSS 205 Vehicle glass (Canada)

EEC 92/22, ECE R43-00 Vehicle glass (Europe)

ARD 8/01 Glazing materials (Australia)

Art 29, TS 11-4-1-26 Glazing (Japan)

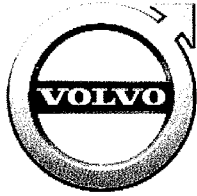
GB 9656-2003 Safety Glazing Materials (China)

No changes related to glass panels have been made from production start of Volvo XC60 and Volvo XC90 other than labeling requirements for certain markets.

Question 4: Identify by make, model, and model year, the number of incidents involving an allegation that a panoramic sunroof has spontaneously shattered, and state the number of injuries or fatalities associated with such incidents.

Volvo response: No incidents involving an allegation that a panoramic sunroof has spontaneously shattered have been received.

Question 5: File a report of every incident involving an allegation that a panoramic sunroof has shattered spontaneously in a vehicle manufactured by you, of which you are aware by any means (including but not limited to consumer complaints, lawsuits, and media reports). The report shall include the following information: (i) the date on which you were first notified or learned of the incident; (ii) the name of the individual involved in the incident; (iii) the contact information for counsel representing that individual (if applicable); (iv) the make, model, and model year of the vehicle; (v) the vehicle identification number (VIN); (vi) the date, location, and description of the



incident (including whether the vehicle was stationary or in motion when the incident occurred); (vii) the number and description of any injuries or fatalities; (viii) a summary of your current understanding as to the nature of the incident and/or the cause of the breakage (including whether a rock or other item of road debris was found; and (ix) a summary of any other information relevant to your investigation of the incident. Your report should be in the format attached as Exhibit A.

Volvo response: No incidents involving an allegation that a panoramic sunroof has spontaneously shattered have been received.

We trust the above fulfills Volvo's obligation concerning the Administrations General Order directed to Motor Vehicle Manufacturers regarding panoramic sunroofs. Should you have any questions please feel free to contact me or Vinny D'Auria of my staff at 201-647-0004 or e-mail at vincent.dauria@volvocars.com

Drive Safely,

A handwritten signature in cursive script, appearing to read "Jason Guidi".

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