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From: To:

EVOO (NHTSA) NHTSA ODI CRD:

Subject: Date:

Cc:

ODI-11417805 Tuesday, May 25, 2021 2:05:14 PM

Attachments:

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NHTSA Attachment for Complaint 11417805

I had sent this attachment with the original complaint text to the NHTSA website on 5/19/21. Upon checking today 5/24/21, to ensure that it was received, I was instructed by NHTSA Agent AnnMarie in a chat session at 0935 PDT to send it again via email to this address. Please confirm successful receipt.

Thank you,

Quality Control Analyst



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Sent from Mail for Windows 10

National Highway Traffic Safety Administration - 5/19/21



We are reporting a series of problems which we think could be posing significant risks to motor vehicle safety which exist in 2016 Volvo XC90 T6 SUVs and which could also exist in previous years and more current Volvo models.

The following is a summary of issues we encountered in our 2016 Volvo XC-90 Vin# YV4A22PK2G which we purchased new from Bill Pierce Motors (Authorized Volvo Dealer) in Reno Nevada 06/24/2016. (A certificate of title is attached to this complaint.)



1. After a recent car wash at a Shell Service Station.....April 5,2021, upon starting the vehicle – the computerized dashboard displayed erratic and incomplete information. It attempted to

indicate multiple system failures – eg brakes, suspension, and others too garbled to understand. The entire driver's console and information center display which were designed to show all of the vehicle operating modes and driver information were compromised and not functioning correctly. The Start/Stop Switch would no longer shut the engine down. I could not get the vehicle to shift out of Park.

I found myself quite concerned about a highly computerized vehicle now running with no apparent operator control. I could not be certain whether the engine was being cooled properly from its electrical fans because the cabin was becoming uncomfortably hot. None of the environmental controls worked. Even the electric windows were affected. There were no engine safety indicators of any kind visible working to ensure electrical, engine oil pressure, coolant temperature....none of the other operator information systems were working properly and the engine still could not be shut down. I found myself uncomfortable getting out of the vehicle since it has so many self-driving, collision avoidance steering and braking functions that could be affected. I did not want to risk being run over by my own car. Nor, could I allow the vehicle to move, possibly on its own...so I sat in it for about 3 hours sweating while waiting for a Volvo Tow Service to arrive.

The Tow operator was somehow able to get the gear shift to move and was able to back the vehicle out to the street and onto his truck. He was also unable to shut the engine down and towed it to the Neillo Volvo Dealership about 3.5 miles away, here in Sacramento CA. I had deep concerns about safety with this vehicle being towed with the engine still running. All of the instrumentation remained unusable.

As a former Military Combat Pilot – I can attest to an extreme discomfort in not being able to shut a dangerous operating situation down.

A telephone conversation with Neillo's Service Department later confirmed that they received the vehicle still running. They had difficulties shutting the engine down and they requested an approval for a \$190 Diagnosis on Work Order

1 approved this transaction and waited for the results.

2. Neillo Service performed the Diagnosis and determined that the Stop/Switch component was defective and they requested my approval to replace it for an additional \$813.25 plus tax. I have retained this switch assembly. (See Picture of this switch.)



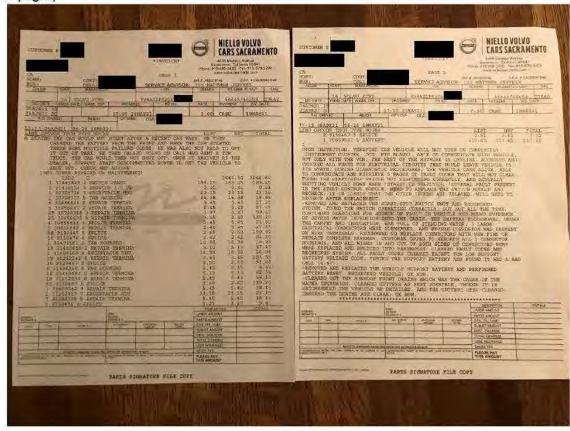
I approved the replacement of this switch. I noted from the Service Technician's notes that they found that the switch was actually shutting the vehicle down when turned to the "Start" position. So, I have to include the Switch Assembly as another Safety Concern which poses a risk to motor vehicle safety which when under certain situations not understood, may leave the operator unaware of which direction to turn the knob. It is fairly large component combining a number of additional functions including Driver Mode, Parking Brake, and what appears to be a holding brake function. There is no evidence of mechanical, broken parts or liquid caused damages. The part is stamped made in China. This is the only (in vehicle) engine on/off control that I am aware of. The vehicle uses no conventional keyed ignition switch and this functionality depends entirely on a proximity connection from a wireless fob to enable the start function. It is also unknown to me whether the other functions of this switch assembly were negatively impacted or affected. This assembly is mounted in a raised console behind the Gear Shift Lever between the Driver and Passenger seats.

It was during the dealer's test drive for this repair that the computer information systems failed again with very similar results as the initial symptoms.

I was called to approve an additional \$390 for an additional diagnosis. Service technician reports now indicated significant water damage. The Volvo Service

Advisor recommended that I contact my Insurance carrier and his "guestimates" at this point were expected to be several thousands of dollars. I notified my Insurance Carrier to inquire as to Comprehensive Coverage. I also initiated a Contact with Volvo USA Consumer Relations requesting their assistance. I approved the additional \$390.

3. During this next phase, Neillo Volvo Service removed the Driver's side floor boards and discovered several inches of water. Three large electrical cable connections were found submerged and corroded. To us, this represented significant manufacturers' Safety Related Defects – water entering the vehicle while hidden from view, unnoticeable, while compromising electrical connections which lead to a cascading failure of various computers. This compromised the operation of the vehicle and totally deprived the operator of specific key safety information while rendering operator control to zero. I have a problem with all of this happening without a single blown fuse. (See attached Neillo parts listing and notes 2 – pages)



My first concern was how this water intrusion was not immediately noticeable by myself or by Neillo's technicians during the initial replacement of the Start/Stop Switch. There was no visible water or water damage reported until later when the Insurance Company made an observation of a dried water spot under the Driver's sun visor. (See Photo)



Now I was being told that there are Sunroof Drains which when clogged cause water to seep into the automobile's frame and leaks down the windshield posts to pool under the floorboards. I was totally unaware of these drains and never received any owner/user information regarding their maintenance. There is no mention of these in the owner's manual.

My subsequent research indicated there was a past history of class action lawsuits – most notably Neale, et al. v. Volvo Cars of North America LLC, et al. These "alleged water damages multiple parts that cause owners to replace the components, including the carpet, sensors and all kinds of electronics and modules." These cases dealt with 2003-2011 Volvo XC90, 204-2011 Volvo S40, S60, S80, and V70, and 205-2011 Volvo V50. I think there could be significant similarities regarding these drains with more current owners who are unlikely to be aware that their vehicle is being damaged by water ingressing around clogged sunroof drains.

It appears that my 2016 Volvo XC-90, a larger Volvo Luxury SUV, has evidenced the similar safety-related defects. I would contend that for over a decade, the manufacturer was made aware that water could leak into the vehicle hidden from view until causing varying degrees of damage. This exposed the owner/operator/passengers to the risks of this damage affecting active critical components necessary for the safety and proper operation of the vehicle.

My insurance carrier denied comprehensive coverage for the accumulation of water and its resultant damage.

The response from the Manufacturer Volvo USA Consumer Relations was "denied vehicle beyond the terms of the warranty." (See Volvo Consumer Relations Email)



We purchased the vehicle 6/24/2016 and it only has 46654 miles. So it is a \$60,000 car a little less than one year out of warranty.

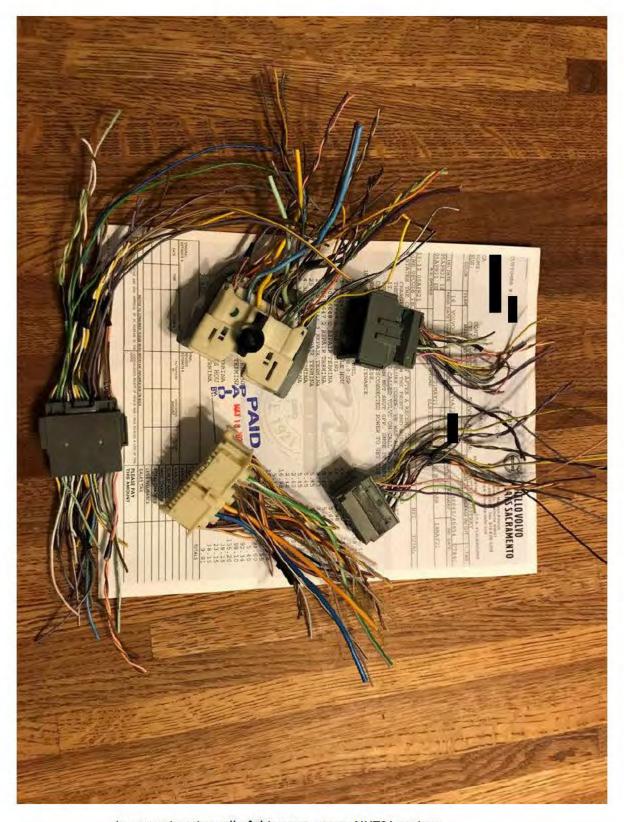
I found it significant that some of the class action suits were stalled because no one had shown how the water got into the vehicle. From the Neillo Service Technician's notes they "-cleared out the sunroof front drains which was the cause of the water intrusion".

So, I feel betrayed by Volvo that they did not mention anywhere in the operator's manual the need to periodically check for the presence of debris around the sunroof or how to test drain functionality from the top of the car. I find it regrettable they would continue to remain silent knowing the risk of hidden damages likely still accumulating in a number of their vehicle models. This in turn demonstrates their lack of interest in mitigating safety risks.

Neillo Service made another estimate for the repair \$5,357.07 plus tax. With my vehicle being out of service for almost a whole month, I authorized the repair. The bulk of the effort was to replace the three cable connections.

I think that it is important for NHTSA to inform the Insurance Carriers and others that corrosion safety risks can be accelerated by the low voltage presented in the vehicle.

I cannot be certain how the repairs were completed, but the Service Advisor told me that there were no bare wires under the floor board and that new connectors were spliced into the existing cables. There were a lot of splices that must have been made which are evident from the number of wires cut on the old connectors. I found myself having to make a significant financial investment to get my car back while the manufacturer did not seem to care. I also find it equally disturbing that the manufacturer appears to be totally ok with leaving the dealer with the potential liability to myself and others from a failure of automated safety maneuvering features or any one of the computer cluster controls affected in the splicing. (See Photo of retained connectors)



In my estimation, all of this warrants an NHTSA review.

4. During the above diagnosis, a Support Battery was found to be defective. A Support Battery appears to be a small 12 volt lead acid sealed cell unit. (See Photo)



I would suggest that a failed "Support Battery" which is not referenced in the owner's manual and which is installed behind panels in the Engine Compartment out of visual sight of an owner looking under the hood represents another unacceptable safety risk. Hidden inside the vehicle, much like the sunroof drains, leakage or corrosion or failure is not apparent or even made known to the owner/operator in time to be proactive. Lead Acid Batteries are in themselves a hazardous waste item and inherently a fire hazard. Hidden lead acid batteries in a vehicle could be potentially catastrophic for first responders responding to collision accidents or other forms of emergencies. The owner's manual even failed to provide information as to the location of the main vehicle battery. It is discouraging that the manual explains to the owner how to replace a headlight but has no

entry at all for the main vehicle battery. I have to suggest that the NHTSA needs to ensure that manufacturers take the responsibility to provide the owners/operators of automobiles the information necessary for safely operating and maintaining their vehicles.

Please advise if I can be of service in providing more information......

