

Your Ref: S0M02YB0
Our Ref : CS4/ASM21006178/N

7 June 2021

M/s AXA Insurance Pte. Ltd.

8 Shenton Way #24-01
AXA Tower
Singapore 068811
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SLX 1888E ON 6 DECEMBER 2020

1. We refer to your letter dated 27 May 2021 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SLX 1888E (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 31 May 2021 at the premises ComfortDelGro Engineering Pte. Ltd. located at 205 Braddell Rd, Singapore 579701.
4. A static inspection was carried out to the Insured Vehicle where the following general information was first recorded:-

Vehicle Registration No.	: SLX 1888E
Make / Model	: AUDI S4 SEDAN 3.0 TFSI QU TIP (SR) (R/S/ABAG)
Chassis No	: WAUZZZF48HA164062
Year of Registration	: July 2017
Mileage	: N.A (wiring affected)
5. The Insured Vehicle was observed to have serious fire damage at the engine compartment.
6. The Insured Vehicle had also sustained a direct impact of significant force onto its front side. Its front wheels, front support panel, front bumper and front bumper reinforcement were amongst the body parts that were bent/ buckled as a result of the impact force. See photos 1 – 4 below.



Photo 1 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The Insured Vehicle was observed to have sustained serious fire damage at the engine compartment. The Insured Vehicle had also sustained a direct impact of significant force onto its front side. Its front wheels, front support panel, front bumper and front bumper reinforcement were amongst the body parts that were bent/ buckled as a result of the impact force.



Photo 2 shows the general view of the engine compartment of the Insured Vehicle at the time of our inspection. The Insured Vehicle was observed to have sustained serious fire damage at the engine compartment (circled).



Photo 3 shows the frontal portion of the Insured Vehicle. Impact damage was observed at its front side (circled). Its front wheels, front support panel, front bumper and front bumper reinforcement were amongst the body parts that were bent/ buckled as a result of the impact force.



Photo 4 shows the front bonnet of the Insured Vehicle. Its front bonnet was amongst the body parts that was bent/ buckled as a result of the impact force.

7. At the time of physical inspection of the Insured Vehicle, we had found several aftermarket 19- inch alloy rims. All these fitted components were not the standard type for the Insured Vehicle. See photo 5 below.



Photo 5 shows the non-standard rim found to be fitted on the Insured Vehicle at the time of our inspection. The 19- inch alloy rims fitted on the Insured Vehicle were not the standard type for the Insured Vehicle.

Investigation and Technical Analysis

8. According to the Police report T/20201230/7001 and Singapore Accident Statement made by Mr Goh Boon Keong, Eric (herein referred to as "**Mr Goh**"), the fire started at a time after he had collided into the rear of the Motor Bus bearing registration number PC 8302X (herein referred to as "**Motor Bus**").
9. We managed to speak to Mr Goh on 4 June 2021 where we were able to gather further information regarding the accident and also information pertaining to the history of the Insured Vehicle.
10. Mr Goh is the owner and only driver of the Insured Vehicle. According to Mr Goh, on 6 December 2020 at about 0700 hours or thereabouts, he was driving the Insured Vehicle along Jurong Island Highway heading to work.

11. From what he can recall, he had passed the Jurong Island checkpoint. The next thing he knew, he had rear-ended the Motor Bus which caused it to turn on its left side. He regained consciousness and heard his colleague Mr Raffid calling out to him. Mr Raffid was assessing Mr Goh's condition when he noticed a small fire at the engine compartment and remembered that Mr Goh had kept a small water-based fire extinguisher at the back of the Insured Vehicle. He immediately went to retrieve it and put out the fire in less than 5 minutes. He saw other people with fire extinguishers who further helped to make sure the fire was put out.
12. Mr Raffid then helped Mr Goh out of the Insured Vehicle. He stayed with Mr Goh for awhile before leaving when another colleague arrived at the accident scene. Mr Raffid mentioned that when he left, the police and ambulance had not yet arrived. Mr Goh was later sent to the National University Hospital (NUH). The Insured Vehicle was towed to the Traffic Police Vehicle Pound for investigations.
13. Mr Goh mentioned that he had not experienced any mechanical problems with the Insured Vehicle till the day of the accident. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature throughout the period he was driving the Insured Vehicle.
14. We asked Mr Goh regarding the aftermarket 19-inch alloy rims. He mentioned that the aftermarket rims came with the Insured Vehicle when he purchased it. Mr Goh mentioned that he has not done any other modification(s) and/or additionally fitted any electrical or electronic component(s) to the Insured Vehicle.
15. With regards to the history and maintenance records of the Insured Vehicle, Mr Tan had mentioned that he had only purchased the Insured Vehicle from a direct owner a month before the accident. He maintained that the previous owner had serviced the Insured Vehicle before it was sold to him. Hence he does not possess any servicing records of the Insured Vehicle.

16. For this particular case, the front side of the Insured Vehicle had sustained an impact of significant force. This can be determined from the physical damage to the Insured Vehicle where the body parts around the front side were pushed inwards, in a direction towards the engine bay of the Insured Vehicle. The impact force had penetrated the front bumper reinforcement, front bumper support panel and beyond, pushing the radiator towards the engine bay. This was caused when the Insured Vehicle had collided into the rear of the Motor Bus. See photo 6 below.

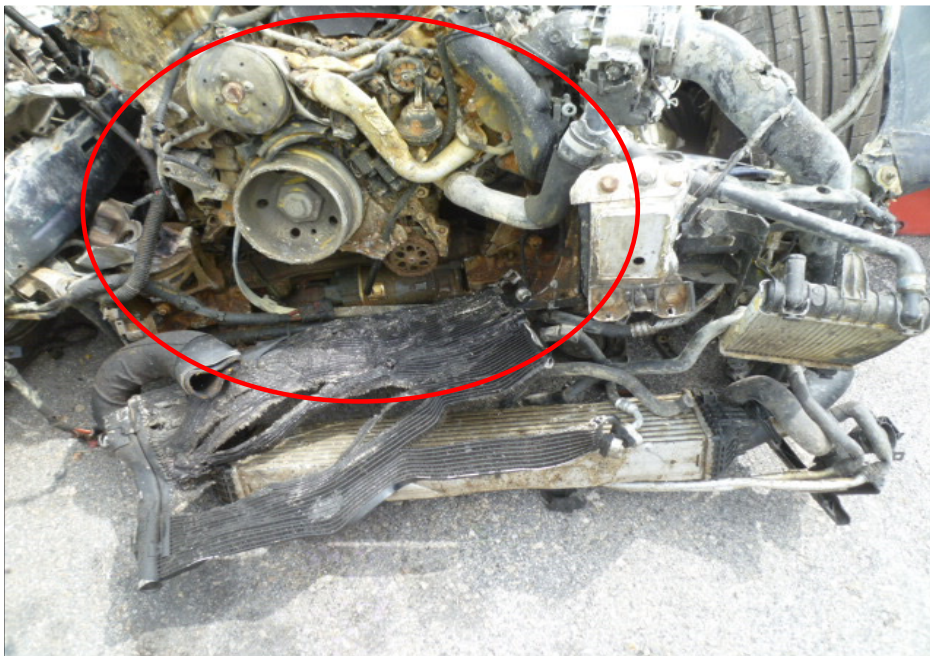


Photo 6 shows the front side of the Insured Vehicle. The impact force from the collision with the Motor Bus had penetrated the front bumper reinforcement, causing a significant dent on the front bumper support panel and beyond, pushing the radiator towards the engine bay (circled).

17. The information gathered during the course of our investigations had indicated that the fire to the Insured Vehicle had occurred after a collision with the Motor Bus. In this aspect, there are normally 2 possible causes of fire that are commonly associated with a motor vehicle fire that had originated after a collision. One would be of electrical nature while the other would be of fuel (petrol) leak.

18. Given the severity of the fire damage to the engine compartment of the Insured Vehicle and its condition at the time of our physical inspection, we were not able to conclusively determine the cause of fire to the Insured Vehicle. However considering that the body parts at the front side of the Insured Vehicle were all pushed towards the engine bay, it may be possible that the cause of fire to the Insured Vehicle was due to electrical in nature, which had occurred after the Insured Vehicle had collided with the Motor Bus along Jurong Island Highway. Live wire(s) around the impact area could have come into contact with the metal body of the Insured Vehicle, creating sparks, which ignited the fire.
19. Upon closer examination of the Insured Vehicle, we had found greenish residue on several stretches of original factory fitted wirings from the rear of the engine compartment (before the firewall panel) leading to the electrical components along the dashboard. The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires. This physical evidence would then appear to suggest that the cause of fire to the Insured Vehicle could have possibly been due to electrical in nature. See photos 7 - 9 below.



Photo 7 shows the engine compartment of the Insured Vehicle. We found greenish residue on some of the wirings around the rear centre portion of the engine compartment of the Insured Vehicle (circled).



Photo 8 shows a closer view of the wirings with greenish residue found on some of the wirings around the rear centre portion of the engine compartment of the Insured Vehicle (circled). The presence of such greenish residue suggest occurrence of an electrical short circuit.

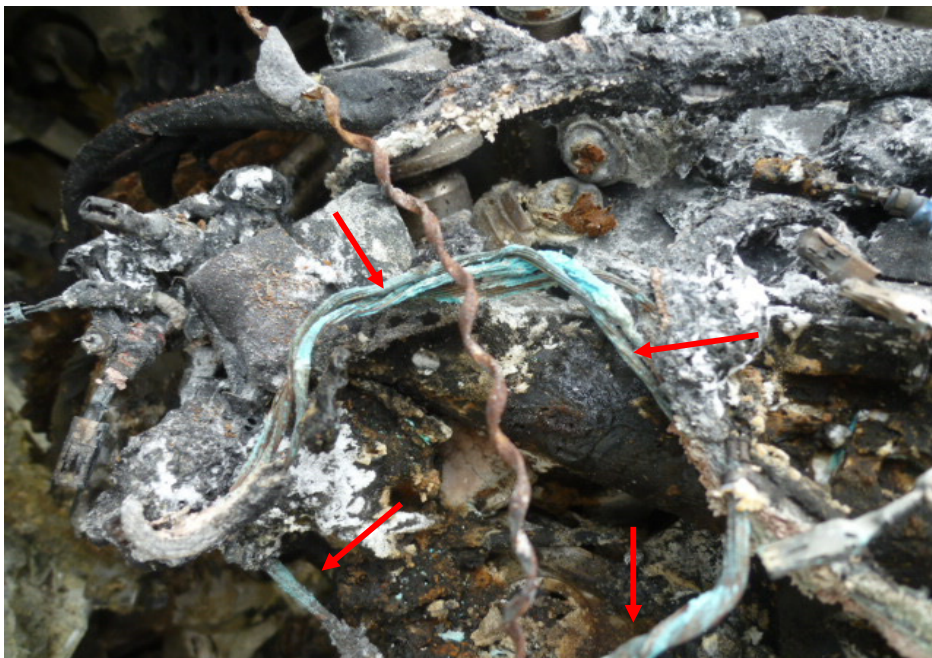


Photo 9 shows a close up view of the wirings with greenish residue found around the rear centre portion of the engine compartment of the Insured Vehicle (red arrows). The presence of such greenish residue suggest occurrence of an electrical short circuit.

Accident Scene Photographs

20. We were able to obtain photos of the Insured Vehicle on fire as well as photos which they had taken during and after the fire was put out. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Goh and Mr Raffid. See photos 10 - 14 below.



Photo 10 shows the Insured Vehicle on fire after rear- ending the Motor Bus and before the arrival of the SCDF. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Raffid, which is the fire started from the front bonnet almost immediately after the collision and that he used a small fire extinguisher from the Insured Vehicle to put out the fire (arrowed).



Photo 11 shows Mr Raffid helping Mr Goh up after putting out the fire to the Insured Vehicle.



Photo 12 shows other passers-by making sure the fire to the Insured Vehicle was extinguished (arrowed).




Photo 13 shows both vehicles after the fire was put out.



Photo 14 shows the Insured Vehicle after the fire was put out. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Raffid, which is the fire started from the front bonnet almost immediately after the collision.

21. Our checks with both local and international bodies and associations had revealed that at the time of writing this report, there was a manufacturer recall on 21 March 2018 for the door aluminium trim strip. However it was rectified. 5 April 2018. See search result from LTA below.



Vehicle Recall Details

ONLY INFORMATION ON VEHICLE RECALLS SUBMITTED FROM 9 APRIL 2007 IS AVAILABLE

<i>Owner ID Type</i> Singapore NRIC	<i>Owner ID</i> 464J
<i>Vehicle No.</i> SLX1888E	<i>Make/Model</i> AUDI/ S4 SEDAN 3.0 TFSI QU TIP (SR) (R/S/ABAG)
<i>Engine No.:</i> CWG019810	<i>Chassis No.:</i> WAUZZZF48HA164062

Recall Details

Recall No.: R2018030518

<p><i>Manufacturer Recall Date:</i> 21 Mar 2018</p> <p><i>Brief Description (As Provided by Motor Dealer):</i> It is possible that part of the aluminium trim strip in the lower section of the door trim may come loose.</p> <p><i>Hotline Information:</i> MS SHIRLEY YOON at +65 6768 9826</p> <p>For more details, contact AUDI SINGAPORE PTE LTD</p>	<p><i>Estimated Completion Year of Recall:</i> 2018</p> <p><i>Date Rectified:</i> 05 Apr 2018</p>
--	---

Conclusion

22. Having investigated and technically analysed the damages of burnt nature to the Insured Vehicle, we are of the view that the cause of fire to the Insured Vehicle was of electrical in nature, where live wire(s) around the impact area could have become detached and came into contact with the metal body of the Insured Vehicle, creating sparks, which ignited the fire.
23. At the time of inspection, we did not find any unusual remains which could have suggested that there was possible modification(s) and/or additionally fitted electronic and/or electrical component(s) on the Insured Vehicle.
24. We found the Insured Vehicle to be fitted with 19- inch alloy rims. The tyre rims fitted do not require prior approval from LTA.
25. Although the aftermarket alloy rims fitted on the Insured Vehicle were not the standard type for the Insured Vehicle, we are of the view that these parts did not cause and/or contribute to the fire incident.
26. Our investigations had also revealed that at the time of writing this report, there is no manufacturer recall of similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident.

27. SCDF officers did not attend to the incident scene hence there will not be any SCDF fire report that may be forthcoming.

**Muhd Nazril***Senior Technical Investigator***Ang Bryan Tani***AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA**Senior Technical Investigator**Technical Investigation & Reconstructionist (SAE-A)*

DISCLAIMER OF LIABILITY TO THIRD PARTIES:- This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part, does so at his or her own risk.