LKK Auto Consultants Pte Ltd
Company Registration No. 199607198R
51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: S0M02MH6 01 July 2020
Our Ref : CS4/ASM20005470/D

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 SKE 9898K ON 15 APRIL 2020

1. I refer to your request dated 29 April 2020.

2. My analysis, comments and opinions with respect to the cause of fire to the insured vehicle SKE 9898K (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 29 April 2020 at the premises of M/s Trendy Automotive, 160 Sin Ming Drive #05-02 Sin Ming Autocity, Singapore 575722.

4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded: -

Vehicle Registration No.	: SKE 9898K
Make / Model	: Mercedes Benz SL350
Chassis No	: WDB2304582F149888
Year of Registration	: 2008 (September)
Mileage	: N.A (wiring affected)

5. No visible damage of fire nature was observed to the exterior body of the Insured Vehicle. Its interior compartment and engine compartment were also without any fire damage.

6. Upon checking the rear boot compartment of the Insured Vehicle, I had found fire damage that was confined to the right side of the rear boot compartment. The carpet upholstery, wirings and a control module unit at the right side of the rear boot compartment were amongst the parts that were observed to be burnt. See photo 1 – 4 below.

Photo 1 shows a general view of the frontal body of the Insured Vehicle at the time of my inspection. I did not observe any damage of fire nature to the exterior body of the Insured Vehicle. Its interior compartment and engine compartment were also without any damage of fire nature.

Photo 2 shows a general view of the rear right body of the Insured Vehicle at the time of my inspection. I did not observe any damage of fire nature to the exterior body of the Insured Vehicle.

Photo 3 shows the rear boot compartment of the Insured Vehicle. Upon checking the rear boot compartment of the Insured Vehicle, I had found fire damage that was confined to the right side (circled) of the rear boot compartment. The carpet upholstery, wirings and a control module unit at the right side of the rear boot compartment were amongst the parts that were observed to be burnt.

Photo 4 shows a closer view of the burnt carpet upholstery, wirings and control module unit at the right side of the rear boot compartment.

7. At the time of my inspection of the Insured Vehicle, I did not find any additionally fitted electronic and/or electrical component(s) on the Insured Vehicle. There was also no modification(s) fitted on the Insured Vehicle.

Circumstance of Incident

8. From the Singapore Accident Statement, which was made by one Ang Boon Hock (herein referred to as "**Mr Ang**"), I note that the fire to the Insured Vehicle had started at a time when it was parked. On 15 April 2020 at about 1545hrs, Mr Ang's daughter had gone to retrieve some files from the Insured Vehicle however she was not able to unlock the Insured Vehicle. At the same time, she discovered smoke emitting from the interior compartment and called SCDF for assistance.

Investigation and Technical Analysis

9. For this case, it can be established that the fire had originated within the rear boot compartment of the Insured Vehicle given that there was no fire damage observed on other areas of the Insured Vehicle.

10. Upon my close examination of the burnt area, I had found greenish residue on the stretch of wirings leading to the connector socket of a burnt control module unit. The connector socket itself was found with whitish burnt marks, which are a result of prolong exposure to heat intensity. The presence of greenish residue on the wirings indicate 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 suggests that the cause of fire to the Insured Vehicle was due to electrical in nature. See photo 5 - 7 below.

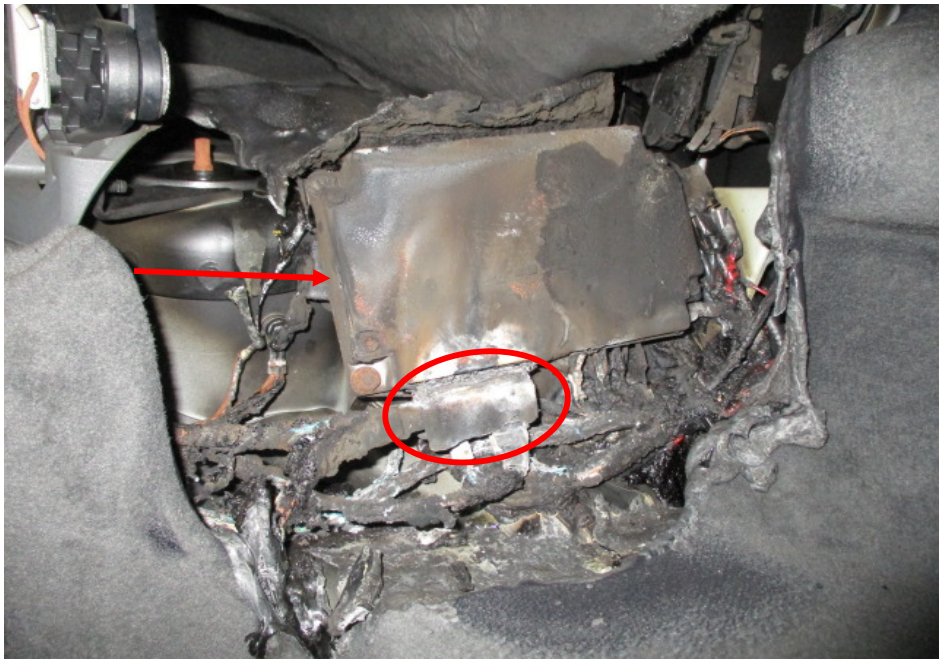


Photo 5 shows the burnt control module unit (arrowed) at the right side of the Insured Vehicle's rear boot compartment. Upon my close examination of the burnt area, I had found greenish residue on the stretch of wirings leading to the connector socket of the burnt control module unit. The connector socket (circled) was found with whitish burnt marks, which are a result of prolong exposure to heat intensity.

Photo 6 shows the greenish residue (arrowed) that was found on the wirings leading to the burnt connector socket. The presence of greenish residue suggests occurrence of an electrical short circuit, indicating that the cause of fire to the Insured Vehicle was due to electrical in nature.

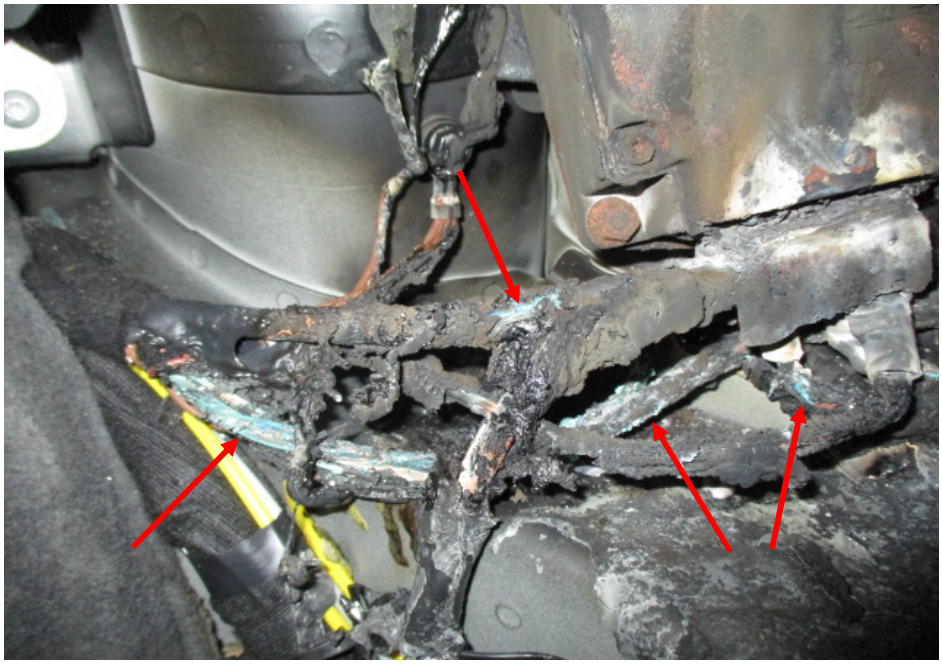


Photo 7 shows the greenish residue (arrowed) that was found on the wirings leading to the burnt connector socket. The presence of greenish residue on the wirings indicate internal heating of copper wires, a sign of an electrical short circuit occurring. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires. This physical evidence suggests that the cause of fire to the Insured Vehicle was due to electrical in nature.

11. My checks and enquiries revealed that the burnt control module was the “vehicle power supply control module”, which monitors and control the supply of electronical power to the various electrical/electronic devices and components fitted on the Insured Vehicle. See photo 8 below showing an example of this “vehicle power supply control module”

Photo 8 shows the "vehicle power supply control module" (circled), which was found to be burnt on the Insured Vehicle.

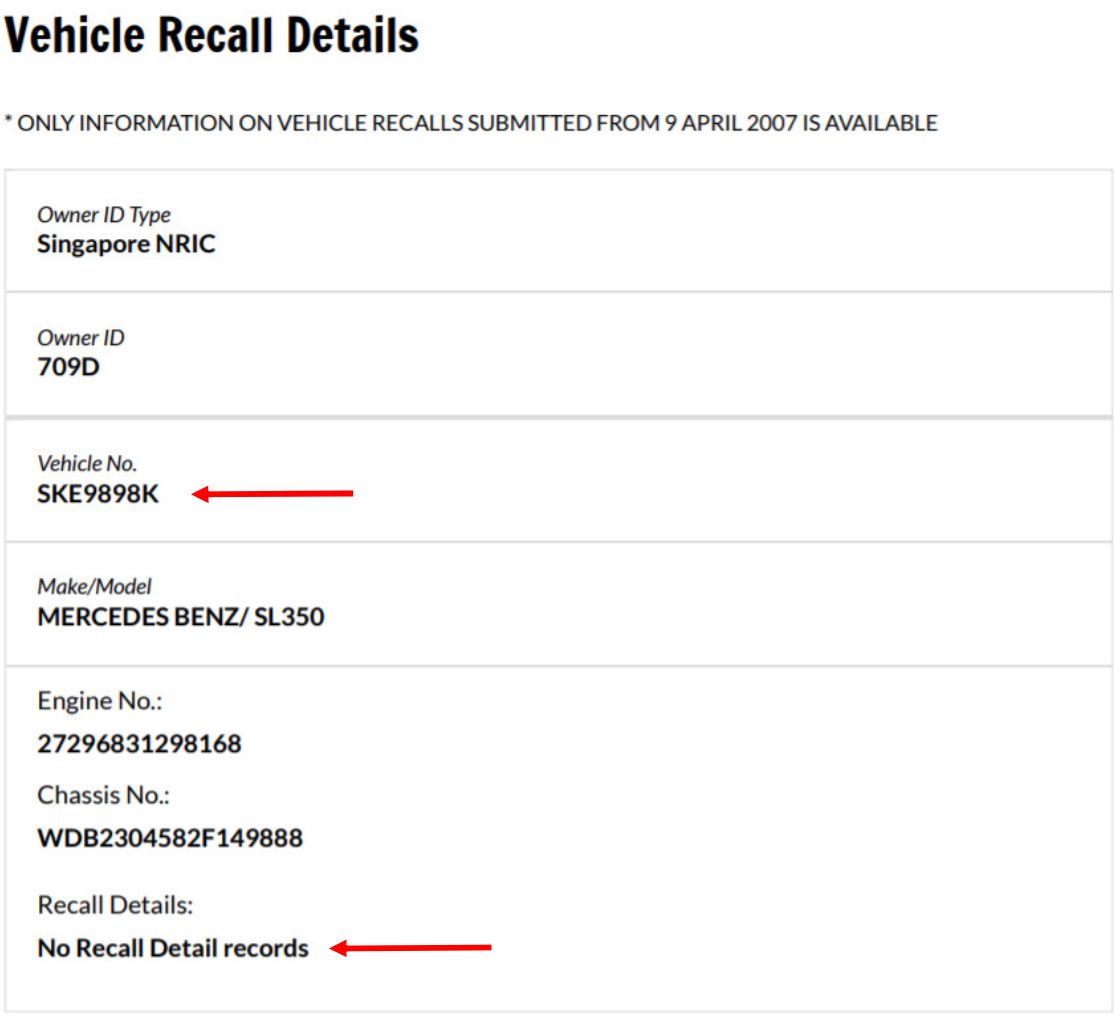
12. For a vehicular fire, causation(s) typically include engine overheating, fluid leak, external factor and electrical nature. For this case, the possibility of the cause of fire to the Insured Vehicle being due to engine overheating and fluid leak would seem unlikely as the fire had started when the engine was switched off. Temperature within the engine compartment would have been cooled down after the engine was switched off.

13. The possibility of the fire being due to external factor (foreign material(s) stuck on hot surfaces, arson and sabotage amongst others) would also seem unlikely given that my inspection of the Insured Vehicle did not produce any signs or indications of fire damage to the exterior body of the Insured Vehicle.

14. The possibility of the fire being due to electrical in nature would then be the most probable causation given that engine overheating and external factor would both seem unlikely. Furthermore, my observations of greenish residue on the wirings shown in photograph 6 & 7 supports the finding of fire being due to electrical in nature.

15. Although the engine of the Insured Vehicle was switched off at the material time of incident, some electrical current would still be flowing within the electrical system as several electrical and/or electronic components on the Insured Vehicle would require current to remain in operation and/or in standby mode. These components may include the alarm system, clock, radio and cabin light amongst others.

16. My checks with both local and international bodies and associations had revealed that at the time of writing this report, there is no manufacturer recall campaign which involved the Insured Vehicle. See search result from LTA below.



Vehicle Recall Details

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

Owner ID Type
Singapore NRIC

Owner ID
709D

Vehicle No.
SKE9898K

Make/Model
MERCEDES BENZ/ SL350

Engine No.:
27296831298168

Chassis No.:
WDB2304582F149888

Recall Details:
No Recall Detail records

Screenshot shows the LTA search result regarding manufacturer recall. From the result, the Insured Vehicle was not involved in any recall campaign.

Conclusion

17. Having investigated and technically analysed the damages of burnt nature to the Insured Vehicle, I am of the view that the cause of fire to the Insured Vehicle was of electrical in nature. For this particular case, the fire had originated along the wirings of the vehicle power supply control module of the Insured Vehicle. This control module was located at the right side of the rear boot compartment of the Insured Vehicle.

18. There was no modification(s) or additional electronic and/or electrical component(s) fitted on the Insured Vehicle at the time of my inspection of the Insured Vehicle.

19. My investigations also revealed that the Insured Vehicle is not involved in any manufacturer recall campaign.

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