

Your Ref: CMTD2403237/GPL (THE)
Our Ref: CS/SMO24100146/N

10 October 2024

M/s Sompo Insurance Singapore Pte. Ltd.

50 Raffles Place #03-03
Singapore Land Tower
Singapore 048623
(Claims Division)

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE
INSURED VEHICLE SKX 1759G ON 6 OCTOBER 2024**

1. We refer to your letter dated 7 October 2024 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SKX 1759G (herein referred to as “**Insured Vehicle**”) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 8 October 2024 at the premises of Kan Fook Sing Motor Workshop (herein referred to as “**KFS**”) located at Block 8 Defu South Street 1, #04-29 JTC Defu Industrial City, Singapore 533758.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: SKX 1759G
Make / Model	: KIA SORENTO 2.4 (A) GDI
Chassis No	: KNAPH813MG5139246
Year of Registration	: November 2015
Mileage	: N.A. (battery melted)

5. The Insured Vehicle was noted to have sustained fire damage that was confined to its frontal portion. The entire engine compartment of the Insured Vehicle was observed to be severely burnt while the interior compartment was observed to be severely affected by the fire.
6. The fire had resulted in the body parts at the frontal portion of the Insured Vehicle to be burnt. This had included its front bumper, front bonnet, front support panel, front grille, headlamps, front windscreen, front wheel rims, front fenders and front tyres, amongst others. See photos 1 – 6 below.



Photo 1 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The rear portion of the Insured Vehicle was relatively unaffected by the fire.



Photo 2 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its frontal portion. The entire engine compartment of the Insured Vehicle was observed to be severely burnt while the interior compartment was observed to be severely affected by the fire.



Photo 3 shows the closer view of the right front body of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its frontal portion. Its front bumper, front bonnet, headlamps, front windscreen, front wheel rims, front fenders and front tyres were amongst the body parts that were found to have been affected by the fire.



Photo 4 shows the general view of the front windscreen of the Insured Vehicle at the time of our inspection. The fire damage to the front windscreen was extensive.



Photo 5 shows the engine compartment of the Insured Vehicle at the time of our inspection. The entire engine compartment of the Insured Vehicle was observed to be severely burnt. Most of the parts inside the engine compartment were found to be burnt and/or melted as a result of the fire.



Photo 6 shows the interior compartment of the Insured Vehicle, which was severely affected by the fire.

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

Investigation and Technical Analysis

8. For this particular case, the fire appears to have originated within the engine compartment of the Insured Vehicle as this was the area where the damage of fire nature was most severe.
9. Upon closer examination of the left rear portion of the engine compartment, which was where the fire to the Insured Vehicle had likely started, we had found traces of greenish residue on several stretches of burnt wirings leading from the Engine Control Module (ECM). 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 wirings around the left rear portion of the engine compartment, which is in the immediate vicinity where the fire to the Insured Vehicle had likely started. We noticed greenish residue on several stretches of burnt wirings (circled). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.




Photo 8 shows a closer view of the burnt wirings around the left rear portion of the engine compartment. We noticed greenish residue on several stretches of the burnt wirings leading from the Engine Control Module (ECM) (circled). The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires.



Photo 9 shows a close up view of the greenish residue found on several stretches of burnt wirings leading from the ECM of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

10. From the Singapore Police Report No. G/20241007/7097 and Accident Statement, which was made by Ms Kim Hee Jung (herein referred to as “**Ms Kim**”), we note that the fire to the Insured Vehicle had started at a time while she was driving. She was alerted of the fire when she noticed white smoke emitting from the engine compartment.
11. We managed to speak to Ms Kim where we were able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Vehicle.
12. According to Ms Kim, she had brought her 2 sons to East Coast Park at around 1530 hours on 6 October 2024. They left East Coast Park at around 1800 hours and went to Tampines Hub for dinner. They reached the basement carpark of her condominium located at Tampines Street 73. By the time she parked, it was about 1915 hours. After she switched off the engine, she noticed whitish smoke emitting from the top portion of the front bonnet. She immediately grabbed whatever belongings she could, alighted the Insured Vehicle and brought her sons to the lift lobby.
13. She then proceeded to the guard house to inform the security guards about the incident. By then the smoke alarm had sounded. One of the guards immediately called 995. She then took her sons home before returning to the guard house. Ms Kim together with 2 security guards armed with fire extinguishers returned to the Insured Vehicle. By then there was a lot of smoke and the Insured Vehicle was on fire. The guards attempted to put out the fire but it was too overwhelming.
14. The SCDF arrived within a few minutes together with the police. The fire was extinguished in about 30 minutes. Ms Kim managed to take a video and photographs of the incident before gathering with the rest of the condo residents at the main gate. The police took her statement and Ms Kim assisted the SCDF in their preliminary investigations. Ms Kim called the insurance hotline and towing arrangements were made. The tow truck arrived around 2100 hours and the Insured Vehicle was towed to KFS. Ms Kim made an insurance report at KFS the following day, on 7 October 2024 at 1111 hours. She later lodged a police report at the Bedok Division HQ at 1646 hours.

15. With regards to the history of the Insured Vehicle, we were able to gather from Ms Kim that the Insured Vehicle was purchased secondhand by her husband, Mr Muhammad Azlan bin Abdul Latiff in May 2023 from a used car dealer with 2 and a half years of COE left. Her husband is the owner and main driver of the Insured Vehicle. Ms Kim drives the Insured occasionally and when her husband is overseas for work. To the best of her recollection, there has not been any major mechanical problem and/or electrical problem with the Insured Vehicle.
16. Pertaining to the maintenance aspect, Ms Kim mentions that her husband usually sends the Insured Vehicle for periodic servicing. She assists to do so when he is overseas. The Insured Vehicle is serviced at 2G Advance Auto Services Pte. Ltd. (herein referred to as “**2G**”) located at 51 Ubi Avenue 1 #01-31, Paya Ubi Industrial Park, 408933.
17. During the course of our investigations, we were able to obtain from Ms Kim, a document relating to the latest servicing record of the Insured Vehicle. The Insured Vehicle was last serviced on 4 October 2024. The servicing package had included the changing of engine oil and oil filter. Refer to Invoice 1 below.



2G Advance Auto Services Pte Ltd
51 Paya Ubi Ave 1
#01-31 Paya Ubi Ind. Park
Singapore 408933
Tel: +65 6747 4988 Fax: +65 6747 9166
Website: www.2Gadvance.com Email: enquiry@2Gadvance.com
Company Reg. No: 201702234M GST Reg. No: 201702234M

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TAX INVOICE : IV-013484

HEIDI
ATTN :
TEL : 96445061 FAX :
MAKE : KIA
MODEL : SORENTO

DATE : 04-Oct-2024
SALESPERSON :
TERMS : C.O.D
JS NO : JS-013484
MILEAGE (KM) : 128310
VEHICLE NO : SKK1759G

NO	DESCRIPTION	QTY	U/PRICE	AMOUNT
1	FULLY SYNTHETIC 5W40 ENGINE OIL PACKAGE INCLUDE CAR WASH AND INTERIOR VACUUM	1 PKG	100.00	100.00
2	FULLY SYNTHETIC GOLD 5W40	4 LIT	0.00	0.00
3	OIL FILTER HYUNDAI & KIA	1 PCS	0.00	0.00
4	REMARKS: NEED TO CHANGE AUTO TRANSMISSION OIL AND FRONT 2PCS HEADLAMP	1 PCS	0.00	0.00



SG DOLLARS : ONE HUNDRED AND NINE ONLY

SUB-TOTAL 100.00
GST (9.00%) 9.00
TOTAL (SGD) 109.00

Payment for this invoice can be made via any one of the following methods:
Internet Banking or ATM fund transfer to 2G Advance Auto Services Pte Ltd, OCBC
Account no. 712-034-958-081
Send via PayNow to our Unique Entity Number (UEN) 201702234M

Customer's Acknowledgement
I agreed that the above jobs had been performed to my satisfaction.

Date / Time of Collection : _____
Name / NRIC : _____
Customer's Signature : _____

Invoice 1 shows the last servicing package done on the Insured Vehicle on 4 October 2024 at 2G (red arrows) which included changing of engine oil and oil filter.

18. Ms Kim mentioned that since driving the Insured Vehicle, neither she nor her husband has not done any modification(s) and/or additionally fitted any electrical or electronic component(s) to the Insured Vehicle.

Incident Scene Photographs

19. We were able to obtain from Ms Kim, a video as well as photos of the Insured Vehicle which were taken during and after the fire was put out. In general, the information that could be gathered from the video and photographs had corresponded to the events that were related to us by Ms Kim. Our close examination of these photographs also showed no unusual foreign material(s) and/or object(s) found on the ground in the immediate area where the Insured Vehicle was parked. See photos 10 & 11 below.



Photo 10 shows a screenshot of the video recording taken by Ms Kim of the Insured Vehicle on fire 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 Ms Kim which is the fire had started from the engine compartment of the Insured Vehicle (arrowed).



Photo 11 shows firefighters attempting to put out the fire to the Insured Vehicle. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Ms Kim which is SCDF had responded to the incident (arrowed).

20. Based on the vehicle service record invoice provided, we are of the opinion that it is unlikely that the fire could have been caused by poor maintenance of the Insured Vehicle.
21. Given the circumstances of the incident as reported, the possibility of the cause of fire to the Insured Vehicle being due to engine overheating would seem unlikely as an overheated engine would have caused the Insured Vehicle to stall. However in this case, Ms Kim was the one who noticed white smoke emitting from the front bonnet After she had switched off the engine of the Insured Vehicle. Therefore, we are of the opinion that the fire was not caused by an overheated engine.
22. The possibility of the fire being due to external factors (foreign material(s) stuck on hot surfaces, arson and sabotage amongst others) would also seem unlikely given that our examination of the available incident scene photographs did not reveal any unusual material(s)/object(s) found on the ground where the Insured Vehicle was parked. The location of where the Insured Vehicle was parked was also observed to be not at a secluded location.
23. The possibility of the fire being due to electrical in nature would then seem more likely given that engine overheating and external factors would both seem unlikely. The fire being due to electrical nature is also supported by the condition of the wirings that were found in the engine compartment of the Insured Vehicle, which was earlier discussed in paragraph 9 above.
24. Our checks with both local and international bodies and associations had revealed that at the time of writing this report, there is no manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident. See search result from LTA below.



Vehicle Recall Details

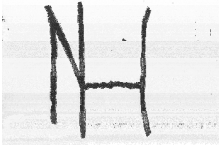
ONLY INFORMATION ON VEHICLE RECALLS SUBMITTED FROM 9 APRIL 2007 IS AVAILABLE

<i>Owner ID Type</i> Singapore NRIC	<i>Owner ID</i> 987E
<i>Vehicle No.</i> SKX1759G	<i>Make/Model</i> KIA/ SORENTO 2.4(A) GDI
<i>Engine No.:</i> G4KJFH752019	<i>Chassis No.:</i> KNAPH813MG5139246
<i>Recall Details:</i> No Recall Detail records	

Conclusion

25. Having investigated and technically analysed the damages to the Insured Vehicle, we are 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 inside the engine compartment, somewhere at the left rear portion. The wirings were original factory wirings leading from the Engine Control Module (ECM) of the Insured Vehicle.
26. We did not find any evidence which had suggested that the cause of fire to the Insured Vehicle was due to poor maintenance and/or recurring electrical problem.
27. There were no modification(s) or additional electronic and/or electrical component(s) fitted on the Insured Vehicle at the time of our inspection of the Insured Vehicle.
28. Our investigations had also revealed that at the time of writing this report, there is no manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident.

29. SCDF was activated to attend to the fire incident and a fire report pertaining to their findings will likely be forth coming. We have applied for this fire report and will forward a copy of the report once it is made available to us.

**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)*

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