

Your Ref: 8567853436SG
Our Ref : CI/AIG19017385/D

04 October 2019

AIG Asia Pacific Insurance Pte Ltd

78 Shenton Way #08-16
AIG Building
Singapore 079120
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SKP 7717E ON 20 SEPTEMBER 2019

1. I refer to your request dated 24 September 2019.
2. My analysis, comments and opinions with respect to the cause of fire to the insured vehicle SKP 7717E (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 26 September 2019 at the premises of M/s Wearnes Automotive Pte Ltd, 249 Alexandra Road, Singapore 159935.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded: -

Vehicle Registration No.	: SKP 7717E
Make / Model	: Volvo V40 Cross Country T4
Chassis No	: YV1MZ485BF2062140
Year of Registration	: 2014 (October)
Mileage	: N.A (wiring affected)

5. The Insured Vehicle was observed to have been extensively burnt. Its front portion, centre portion and rear portion were burned to char leaving skeletal remains. All the parts inside the engine compartment and inside the interior compartment were also similarly burned to skeletal char.
6. From what can be observed, there was no modification(s) and/or additional electrical and/or electronic component(s) fitted on the Insured Vehicle. See photo 1 – 5 below.



Photo 1 shows a general view of the front right body of the Insured Vehicle at the time of my inspection. The Insured Vehicle was observed to have been extensively burnt, leaving skeletal char remains. The entire Insured Vehicle was affected as a result of the fire.



Photo 2 shows a general view of the rear left body of the Insured Vehicle at the time of my inspection. The Insured Vehicle was observed to have been extensively burnt, leaving skeletal char remains. The entire Insured Vehicle was affected as a result of the fire.



Photo 3 shows a general view of the engine compartment of the insured vehicle. All the parts inside the engine compartment were burned to char as a result of the fire. From what can be observed, there was no modification(s) and/or additional electrical and/or electronic component(s) fitted on the Insured Vehicle.



Photo 4 shows a general view of the interior compartment of the insured vehicle. All the parts inside the interior compartment were burned to char as a result of the fire. From what can be observed, there was no modification(s) and/or additional electrical and/or electronic component(s) fitted on the Insured Vehicle.



Photo 5 shows the rear of the Insured Vehicle's interior compartment. All the parts inside the interior compartment were burned to char leaving skeletal remains.

Circumstance of Incident

7. From the police report T/20190920/2152, which was made by one Suzana Binte Sujat (herein referred to as "**Ms Suzana**"), I note that she was driving the Insured Vehicle when smoke started coming out from the Insured Vehicle at the junction of Balestier Road and Jalan Kebun Limau. The Insured Vehicle subsequently caught fire. SCDF and Police officers arrived and assisted into the fire.
8. I spoke to Ms Suzana on 30 September 2019 and through telephone conversation, I was able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Vehicle.
9. According to Ms Suzana, she was driving the Insured Vehicle heading to Jalan Pisang for lunch. She started her journey from her office at Seletar West area, travelled along CTE towards AYE and intended to exit at Balestier Road en route to her destination at Jalan Pisang. Two of her colleagues were seated inside the Insured Vehicle. From Ms Suzana's recollection, there was no abnormality to the operating behaviour of the Insured Vehicle during her drive before the fire.

10. Along CTE near to the Balestier Road exit, she and her colleagues noticed white smoke coming out from the air-conditioning vents of the Insured Vehicle. There was also some burning smell. In order not to cause obstruction and also because she had intended to exit at Balestier Road, Ms Suzana decided to continue driving the Insured Vehicle to stop along Balestier Road to check. However, along the exit towards Balestier Road, more smoke started to come out from the air-conditioning vents and this time she decided to turn into a small driveway located towards the right of the exit.
11. Upon stopping the Insured Vehicle, Ms Suzana switched off the engine, alighted and opened the front bonnet to check. She did not see any smoke emitting from within the engine compartment however there was still smoke coming out from the air-conditioning vents. When she checked the interior compartment, she saw a palm size flame inside the interior compartment, at the bottom of the left side centre console, at the foot well area of the front left passenger side. She tried to put out the flame by using the carpet at the front left passenger side to beat on the flame. However, this was not successful, and the flame started to grow bigger. She had her colleagues then walked away from the Insured Vehicle, with one of her colleagues calling SCDF for assistance.
12. Whilst waiting for SCDF officers to arrive, the interior compartment started to be engulfed in fire and thereafter spread to the front and back of the Insured Vehicle. SCDF officers eventually arrived and extinguished the fire. By this time, the Insured Vehicle was already burnt to skeletal char. After clearance was obtained from the SCDF officers, Ms Suzana arranged for the Insured Vehicle to be towed to Wearnes Automotive Pte Ltd, where an own damage claim was submitted.
13. With regard to the history of the Insured Vehicle, Ms Suzana informed me that it was purchased brand new in 2014. The Insured Vehicle is registered under her husband's name. She and her husband would share usage of the Insured Vehicle. As far as she can recall, there has not been any major mechanical or electrical issue(s) with the Insured Vehicle. The last servicing carried out was on 28 June 2019 at Wearnes Automotive Pte Ltd. Ms Suzana also informed me that there is no modification(s) and/or electrical and/or electronic component(s) fitted on the Insured Vehicle.
14. Ms Suzana took some photographs during her time at the incident location and these photographs were duly forwarded to me for review.

Investigation and Technical Analysis

15. The photographs provided to me by Ms Suzana had showed the condition of the Insured Vehicle before the fire, when it was engulfed in fire, and also the condition after the fire was extinguished. Upon examining the photograph showing the Insured Vehicle before the fire, it was noted that there was white coloured smoke inside the interior compartment of the Insured Vehicle, at the centre console/centre of front dashboard area. This corresponds to the information provided by Ms Suzana, where smoke was first seen inside the interior compartment of the Insured Vehicle.
16. When examining further photographs, fire could be first seen coming out from the front left passenger door window of the Insured Vehicle before spreading to the front and rear of the Insured Vehicle. This would indicate that the fire had originated from within the interior compartment of the Insured Vehicle, which corresponds to Ms Suzana's observation of a palm size flame inside the interior compartment.
17. After the fire was extinguished, the Insured Vehicle could be seen burned to skeletal char, in a condition that is similar to the time of my inspection. See photo 6 – 10 below.



Photo 6 shows white coloured smoke inside the interior compartment of the Insured Vehicle, at the centre console/centre of front dashboard area (photograph provided by Ms Suzana). According to Ms Suzana, smoke was coming out from the air-conditioning vents of the Insured Vehicle as she was driving along CTE.



Photo 7 shows flame coming out from the front left passenger door window of the Insured Vehicle before spreading to the front and rear of the Insured Vehicle. This would indicate that the fire had originated from within the interior compartment of the Insured Vehicle, which corresponds to Ms Suzana's observation of a palm size flame inside the interior compartment (photograph provided by Ms Suzana).



Photo 8 shows the Insured Vehicle at the incident scene engulfed in flame. From the interior compartment of the Insured Vehicle, the flame spread to the front and rear of the Insured Vehicle before SCDF arrival (photograph provided by Ms Suzana).



Photo 9 shows the Insured Vehicle at the incident scene after the fire was extinguished. The Insured Vehicle was burned to skeletal char as a result of the fire (photograph provided by Ms Suzana).



Photo 10 shows the Insured Vehicle at the incident scene (photograph obtained from social media website STOMP). Flame coming out from the interior compartment of the Insured Vehicle first before spreading to the front and rear of the Insured Vehicle.

18. For this case, the extensive damage of fire nature to the Insured Vehicle did not allow me to make any notable observations, during my inspection, with regard to the origin and cause of fire. However, from my review of the photographs taken at the incident scene and information gathered from Ms Suzana during my interview with her, the origin of fire can be established by the presence of smoke that was seen emitting from the Insured Vehicle before the fire started.
19. As seen in photograph 6 above, smoke was gathered at the centre console/centre of front dashboard area of the Insured Vehicle before the fire. The subsequent outbreak of fire was also inside the interior compartment, at the bottom of the left side centre console, at the foot well area of the front left passenger side (seen by Ms Suzana). Given these factors, the origin of fire can be established to be from within the interior compartment of the Insured Vehicle. This was also supported by flame subsequently coming out from the front left passenger door window and front right passenger door window first before spreading to the front and rear of the Insured Vehicle, as seen in photograph 7 and 10 above.

20. Typically, fire arising from within the interior compartment of a motor vehicle would either be due to external factor or due to electrical nature. External factor tends to involve human negligent like lighted cigarette butt falling onto carpet, playing of lighter etc. For this case, external factor does not seem to be the cause as Ms Suzana and her colleagues are non-smokers. Furthermore, Ms Suzana had mentioned that she and her colleagues saw smoke coming out from the air-conditioning vents of the Insured Vehicle.
21. For this case, the first sight of flame was at the bottom of the left side centre console of the Insured Vehicle. A number of wiring harnesses are fitted behind the front dashboard area, which gives rise to the suggestion of an electrical short circuit to the wirings located behind the front dashboard of the Insured Vehicle. Since the wirings are located behind the front dashboard, smoke from an electrical short circuit would disperse through the air-conditioning vents amongst other gaps surrounding the front dashboard. This would correspond to the observation of smoke initially coming out from the air-conditioning vents of the Insured Vehicle. Hence, if following the information gathered for this case through my interview with Ms Suzana, and my examination of the available photographs that were taken at the incident scene, the cause of fire to the Insured Vehicle was due to electrical nature to the wiring harness behind the front dashboard area.
22. Other common causes of vehicular fire like engine overheat, fluid leak etc involves fire originated from within the engine compartment. The available photographs that were taken at the incident scene did not show flame originating from the front of the Insured Vehicle hence I did not consider these other common causes for this case.
23. With regard to the maintenance aspect of the Insured Vehicle, Ms Suzana mentioned that the last servicing was on 28 June 2019 at Wearnes Automotive Pte Ltd. This information was confirmed by Wearnes Automotive Pte Ltd upon my enquiry. However due to PDPA, I was unable to obtain any relating documents.
24. My checks with both local and international bodies and associations had revealed that at the time of writing this report, there was a manufacturer recall in 2016 which involved the Insured Vehicle. According to the brief details of the recall, the Insured Vehicle may experience high acceleration or engine load immediately after cold start.

25. From the LTA records, rectification to address this issue was carried out to the Insured Vehicle in 2016. Given that the issue does not pose a fire risk, the manufacturer recall involving the Insured Vehicle was unlikely to have contributed or caused this fire incident. Furthermore, the purpose for the recall was rectified in 2016. See photo 11 below showing the search result from LTA.

Enquiry on Vehicle Recall - Vehicle Specific

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

Vehicle Owner Particulars		
Owner ID Type:	Singapore NRIC	
Owner ID:	718Z	
Vehicle Details		
Vehicle Registration number:	SKP7717E ←	
Make:	VOLVO	
Vehicle Model:	V40 CROSS COUNTRY T4	
Engine No.:	B4164T1200486	
Chassis No.:	YV1MZ485BF2062140	
Recall Details		
1	Recall No.:	R2016110315
	Manufacturer Recall Date:	21 Oct 2016
	Estimated Completion Year of Recall:	2019
	Brief Description (As Provided by Motor Dealer):	Volvo Cars investigations have identified a weakness in the engine warm-up during certain driving and climate conditions, such as high acceleration or engine load immediately after cold start, specifically in cold climate. ←
	Date Rectified:	08 Dec 2016 ←
	For more details, contact WEARNES AUTOMOTIVE PTE. LTD.	
	Hotline Information:	GUEST RELATION OFFICER at 63789358

Photo 11 shows the LTA search result regarding the manufacturer recall involving the Insured Vehicle in 2016. From the information gathered, rectification to address the purpose of the recall was carried out to the Insured Vehicle in 2016. Given that the issue does not pose a fire risk, the manufacturer recall involving the Insured Vehicle was unlikely to have contributed or caused this fire incident.

Conclusion

26. Having investigated and technically analysing the information gathered during the course of my investigations, I am of the view that the cause of fire to the Insured Vehicle was due to electrical nature to the wirings behind the front dashboard of the Insured Vehicle.

27. I 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.
28. There was no modification(s) and/or additional electronic and/or electrical component(s) fitted on the Insured Vehicle at the time of my inspection.
29. My investigations also revealed that there was a manufacturer recall that involved the Insured Vehicle in 2016. As the cause of the recall does not pose a fire risk, I am hence of the opinion that the recall is not related to this fire incident. Furthermore, rectification to address the purpose for the recall was carried out to the Insured Vehicle in 2016.

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