

Your Ref: M2200693
Our Ref: CS4/TMI22001265/D

04 March 2022

Tokio Marine Insurance Singapore Ltd
20 McCallum Street #09-01
Tokio Marine Centre
Singapore 069046
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SCG 3021Y ON 07 FEBRUARY 2022

1. I refer to your request dated 10 February 2022 and the instructions therein.
2. My analysis, comments and opinions with respect to the cause of fire to the insured vehicle SCG 3021Y (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 10 February 2022 at the premises of M/s Lai Huat (Meng Kee) Motor Pte Ltd, 160 Sin Ming Drive #04-01, 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.	: SCG 3021Y
Make / Model	: Volkswagen Beetle 1300
Chassis No	: 119521736
Year of Registration	: 1969 (May)
Mileage	: N.A (wiring affected)

5. The Insured Vehicle was observed to have sustained extensive fire damage that was confined to its rear portion and interior compartment. Parts and components inside the interior compartment and inside the engine compartment were completely burnt, leaving charred skeletal remains. The engine and transmission were also affected. For clarity, the engine compartment of the Insured Vehicle was located at its rear portion. See photo 1 – 5 below.



Photo 1 shows a general view of the rear right body of the Insured Vehicle at the time of my inspection. The Insured Vehicle was observed to have sustained extensive fire damage that was confined to its rear portion, engine compartment and interior compartment. The exterior body panels at the rear portion were observed to have been severely burnt.

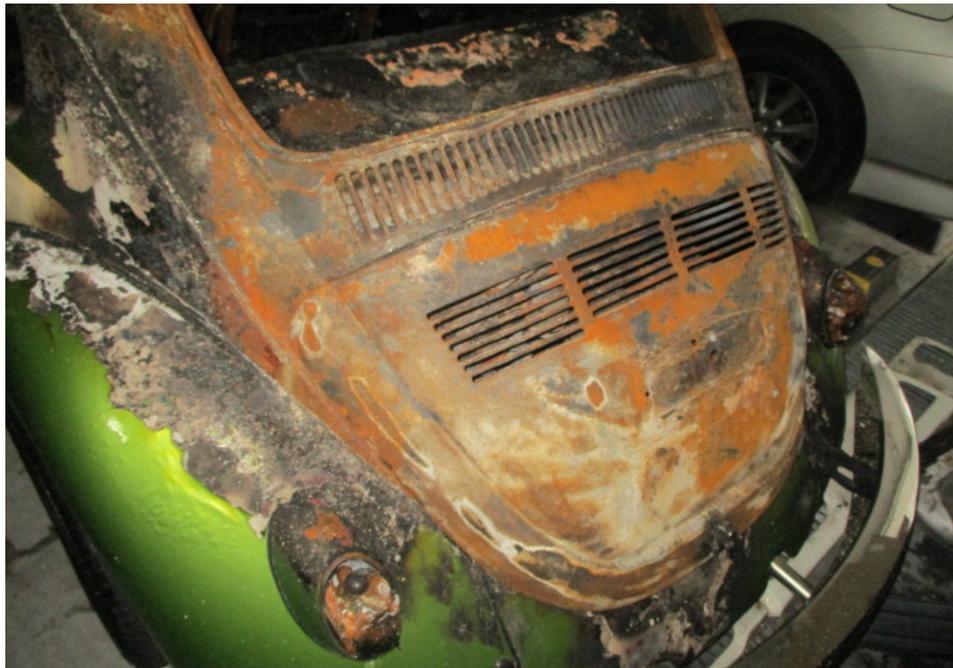


Photo 2 shows a general view of the rear left body of the Insured Vehicle at the time of my inspection. The Insured Vehicle was observed to have sustained extensive fire damage that was confined to its rear portion, engine compartment and interior compartment. The exterior body panels at the rear portion were observed to have been severely burnt.



Photo 3 shows a general view of the Insured Vehicle's engine compartment, which was located at the rear portion of the Insured Vehicle. The various parts and components within the engine compartment of the Insured Vehicle were all extensively affected by the fire. This had included the engine and transmission of the Insured Vehicle.

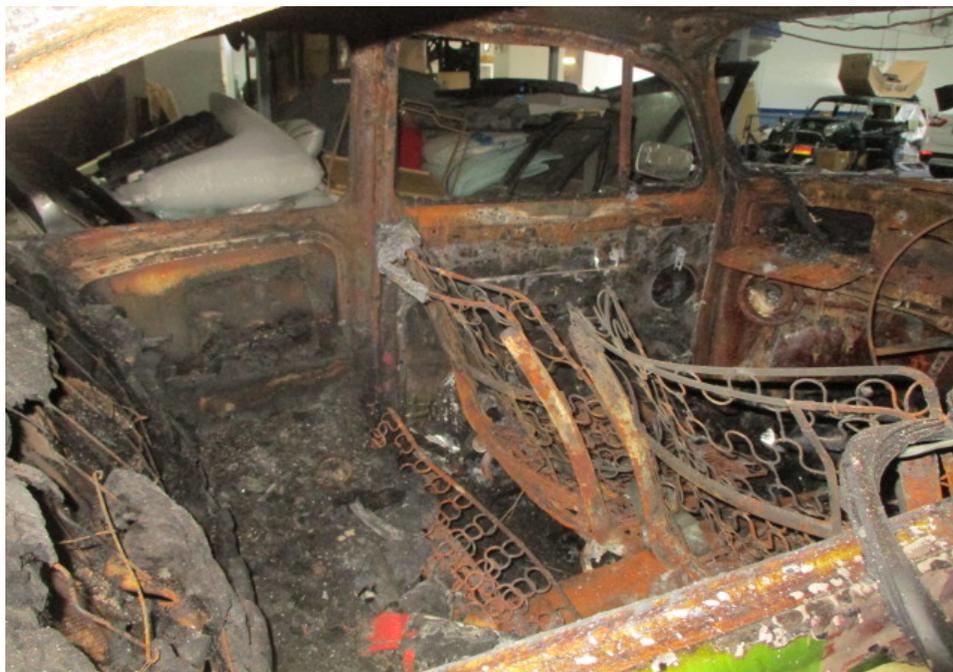


Photo 4 shows a general view of the Insured Vehicle's interior compartment. The various parts and components within the interior compartment of the Insured Vehicle were completely burnt, leaving charred skeletal remains



Photo 5 shows the front left body of the Insured Vehicle. The frontal portion of the Insured Vehicle was observed to be relatively unaffected by the fire. The front bonnet was observed to be dented, likely to be force opened by SCDF officers.

6. At the time of my inspection, I did not find any unusual skeletal 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.

Circumstance of Incident

7. From the Police Report, which was made by Mr Loh Ngai Lung (herein referred to as “**Mr Loh**”), I note that the fire to the Insured Vehicle had started at a time when it was parked at the multi-storey carpark at Block 601A Jurong West Street 62. The engine of the Insured Vehicle was engine turned off when Mr Loh heard loud gurgling sound coming from the rear engine compartment of the Insured Vehicle and saw smoke coming out from the rear engine compartment area. He pushed the Insured Vehicle to the middle of the carpark to prevent the fire from affecting nearby vehicles. He then tried to put out the fire using the nearby fire hose but was unsuccessful. Mr Loh subsequently called SCDF for assistance.
8. I spoke to Mr Loh on 18 February 2022 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 Mr Loh, he last drove the Insured Vehicle on 31 January 2022, and it was thereafter parked at deck 4B of the multi-storey carpark at Block 601A Jurong West Street 62 till the fire incident on 07 February 2022.
10. At about 1745hrs on 07 February 2022, Mr Loh went to the Insured Vehicle intending to insert a newly delivered SD card into the head unit of the Insured Vehicle. The SD card was for the GPS feature that comes standard with the head unit. He had to start the engine of the Insured Vehicle in order to insert the SD card into the head unit. Mr Loh estimates that he took about 5 mins to complete this task, after which he turned off the engine and started to clear some things from the interior compartment of the Insured Vehicle.
11. About 5 mins later, Mr Loh heard gurgling sounds similar to sounds of boiling water and at the same time saw smoke coming out from the 2 air vents at the rear portion of the Insured Vehicle. The 2 air vents are located above the engine compartment, which was at the rear portion of the Insured Vehicle. Fire was also seen coming out from the air vent that was closer to the rear windscreen of the Insured Vehicle.
12. Upon seeing the fire, Mr Loh pushed the Insured Vehicle forward, away from other parked vehicles. Attempts to put out the fire by Mr Loh was unsuccessful as he could not turn the nozzle of a nearby fire hose to an open position. The fire was eventually extinguished by SCDF officers who were activated by Mr Loh.
13. Mr Loh was allowed to tow the Insured Vehicle away after clearance was given by the SCDF fire investigators and the attending police officers. The Insured Vehicle was subsequently arranged to be towed to the authorized workshop where Mr Loh lodged the Singapore Accident Statement in view of filing an own damage claim.
14. With regard to the history of the Insured Vehicle, I was informed by Mr Loh that he had owned the Insured Vehicle for approximately 13 years. He would usually drive the Insured Vehicle once a week. When not being driven, the Insured Vehicle would be parked at the multi-storey carpark at Block 601A Jurong West Street 62. Apart for the Insured Vehicle, Mr Loh has another vehicle which he uses for his daily commute.

15. As the Insured Vehicle is more than 50 years old, Mr Loh carries out maintenance and replacement of wear and tear parts regularly. The last servicing of the Insured Vehicle was in November 2021 at Chong Auto, located at the Esso petrol station along Alexandra Road. A normal servicing that included engine oil replacement was carried out. The receipt for this servicing was kept inside the Insured Vehicle and was burned when the Insured Vehicle caught fire.
16. Mr Loh also informed me that there was no modification(s) and/or external electrical/electronic device(s) additionally fitted on the Insured Vehicle.
17. During my conversation with Mr Loh, he informed me that he had taken some photographs whilst at the incident scene. The photographs were duly forwarded to me for my review.

At Scene Information

18. The photographs provided by Mr Loh had showed the Insured Vehicle stationary across the driveway of the multi-story carpark with fire at its rear portion and smoke coming out from its interior compartment. See photo 6 - 9 below.



Photo 6 shows the Insured Vehicle at the incident scene (photograph provided by Mr Loh). As seen from the photograph, the Insured Vehicle's was stationary across the driveway of the multi-story carpark with fire at its rear portion. Smoke was also seen coming out from its interior compartment.



Photo 7 shows a closer view of the Insured Vehicle after the fire was extinguished by SCDF officers (photograph provided by Mr Loh).

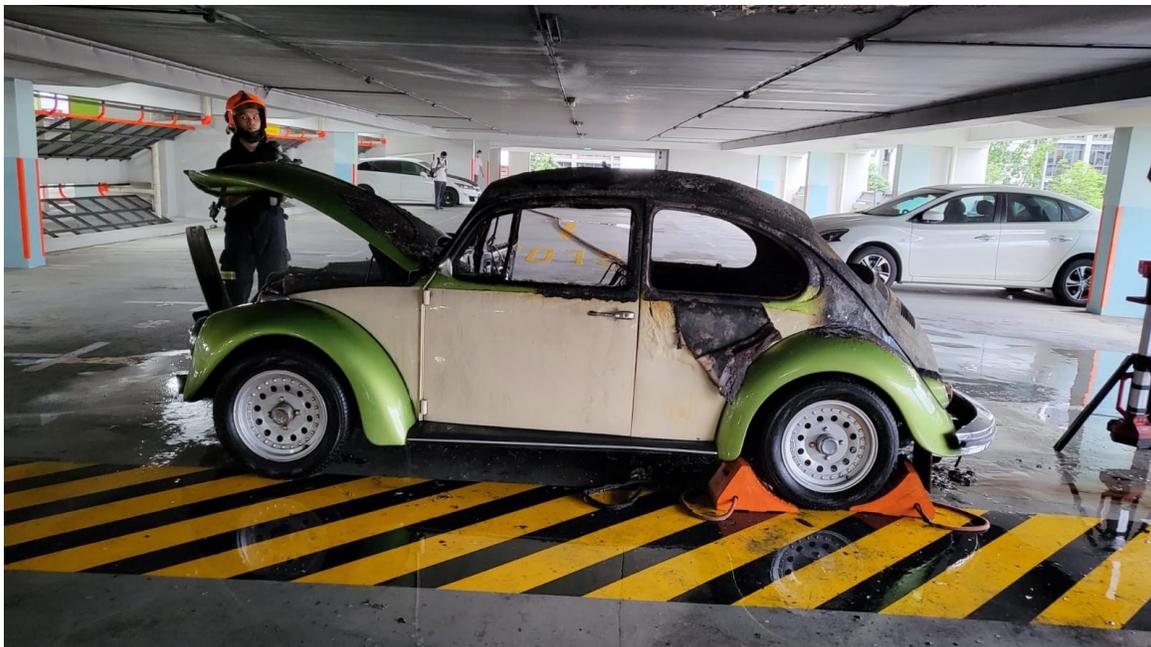


Photo 8 shows a closer view of the Insured Vehicle after the fire was extinguished by SCDF officers (photograph provided by Mr Loh).



Photo 9 shows the Insured Vehicle being towed to the authorized workshop after the fire was extinguished (photograph provided by Mr Loh).

Comments and Opinions

19. For this case, the photographs taken by Mr Loh at the incident scene can be relied on to establish where the fire to the Insured Vehicle had occurred. As seen in photograph 6 above, fire was only at the rear portion of the Insured Vehicle at a time when other areas of the Insured Vehicle were still relatively unaffected. Hence, the fire can be established to have originated at the rear portion of the Insured Vehicle before spreading into its interior compartment.
20. At the time of my inspection, I had noted that the engine compartment was located at the rear portion of the Insured Vehicle. Parts and components inside the engine compartment were all completely burnt, leaving charred skeletal remains (refer to photograph 3 above). This would indicate to me that the engine compartment was exposed to prolonged high heat intensity, which suggests that the causation of the fire was within the engine compartment, at the rear portion of the Insured Vehicle. This also follows Mr Loh's description that he first saw smoke coming out of the air vents at the rear portion. The engine compartment is located directly below these air vents. See photo 10 below.



Photo 10 shows the rear portion of the Insured Vehicle. Mr Loh had first saw smoke coming out from the 2 air vents (arrowed) at the rear portion of the Insured Vehicle. The engine compartment is located directly below both air vents. Following the characteristic that heat (hot air) rises upwards, the causation of the fire was determined to be from within the engine compartment.

21. Upon closer examination of the Insured Vehicle's engine compartment, I had found traces of greenish residue on several stretches of burnt wirings around the rear left area of the engine compartment. 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 was possibly due to electrical in nature. See photos 11 - 14 below.



Photo 11 shows the engine compartment of the Insured Vehicle at the time of my inspection. For this case, the causation of the fire was determined to be from within the engine compartment of the Insured Vehicle. Upon my closer examination, I had found traces of greenish residue on several stretches of burnt wirings (arrowed) at the rear left area of the engine compartment. The presence of greenish residue suggests that the fire was possibly due to electrical in nature.



Photo 12 shows a closer view of the burnt wirings (arrowed) with greenish residue. 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.



Photo 13 shows another view of the burnt wirings (arrowed) with greenish residue. The presence of greenish residue indicates internal heating of copper wires and 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 was possibly due to electrical in nature.



Photo 14 shows a close-up view of the burnt wirings (arrowed) with greenish residue. The presence of greenish residue suggests to me that the cause of fire to the Insured Vehicle was possibly due to electrical in nature. The wirings had likely experienced an abnormality of electrical current, which led to the fire.

22. My checks with both local and international bodies and associations revealed that the Insured Vehicle is not involved in any manufacturer recall campaign as at the time of writing this report. See photo 15 below showing the search result from LTA.

Vehicle Recall Details

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

Owner ID Type Singapore NRIC
Owner ID 242E
Vehicle No. SCG3021Y ←
Make/Model VOLKSWAGEN/ 1300
Engine No.: F1597584
Chassis No.: 119521736
Recall Details: No Recall Detail records ←

Photo 15 shows the LTA search result pertaining to manufacturer recall campaign involving the Insured Vehicle. The Insured Vehicle is not involved in any manufacturer recall campaign as at the time of writing this report.

Conclusion

23. For this case, I am of the view that the fire had originated within the engine compartment, at the rear portion of the Insured Vehicle. The cause of fire was of electrical in nature. The wirings at the rear left area of the Insured Vehicle's engine compartment had likely experienced an abnormality of electrical current, which led to the fire.

24. At the time of inspection, I did not find any unusual skeletal 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

25. My investigations also revealed that as at the time of writing this report, there is no manufacturer recall campaign that involved the Insured Vehicle.



Ang Bryan Tani

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