

Your Ref: 5584354467SG
Our Ref : CI/AIG23003665/N

5 April 2023

M/s AIG Asia Pacific Insurance Pte. Ltd.

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

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE
INSURED VEHICLE SGB 9889A ON 24 MARCH 2023**

1. We refer to your letter dated 29 March 2023 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SGB 9889A (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 5 April 2023 at the premises of Premium Auto (herein referred to as "**Premium**") located at 24 Benoi Sector, Singapore 629857.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: SGB 9889A
Make / Model	: MERCEDES BENZ GLA180 URBAN (R18 LED)
Chassis No	: WDC1569422J529965
Year of Registration	: August 2018
Mileage	: N.A. (wiring affected)

5. The Insured Vehicle was noted to have sustained fire damage that was confined to within its interior compartment. The left front passenger seat and floor panel on the left front passenger side of the Insured Vehicle was observed to be partially burnt and/or melted while the exterior of the Insured Vehicle was observed to have been relatively unaffected by the fire with the exception of the front windscreen and left front passenger door window.

6. The fire had resulted in several components in the interior compartment to be slightly burnt and/or damaged. This had included its front left passenger seat, floor carpet and insulating material covering the floor panel, amongst others. See photos 1 – 7 below.



Photo 1 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The fire damage was confined to its interior compartment. The exterior portion of the Insured Vehicle was observed to be relatively unaffected by the fire with the exception of the front windscreen and left front passenger door window.



Photo 2 shows the general view of the engine compartment of the Insured Vehicle at the time of our inspection. The fire damage was confined to its interior compartment. The engine compartment of the Insured Vehicle was observed to be relatively unaffected by the fire.



Photo 3 shows the general view of the left frontal portion of the Insured Vehicle at the time of our inspection. The fire damage was confined to its interior compartment. The exterior portion of the Insured Vehicle was observed to be relatively unaffected by the fire with the exception of the front windscreen and left front passenger door window.



Photo 4 shows the general view of the front windscreen of the Insured Vehicle at the time of our inspection. The front windscreen had sustained slight damage as a result of the fire.



Photo 5 shows the general view of the left front passenger window glass (arrowed) of the Insured Vehicle at the time of our inspection. The left front passenger window glass had sustained slight damage as a result of the fire.



Photo 6 shows the interior compartment of the Insured Vehicle at the time of our inspection. The fire had resulted in several components in the interior compartment to be slightly burnt and/or damaged. This had included its front left passenger seat (circled), floor carpet, insulating material covering the floor panel (red arrows) amongst others.



Photo 7 shows the front left passenger seat of the Insured Vehicle at the time of our inspection. The fire damage was confined to its front left passenger side. The front left passenger seat was observed to be partially burnt and/or melted (arrowed).

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 from the centre portion of the left front passenger seat of the Insured Vehicle. This can be observed from the burnt components of the front left passenger seat. See photo 8 below.



Photo 8 shows the front left passenger seat of the Insured Vehicle. The fire appears to have originated from the centre portion of the front left passenger seat of the Insured Vehicle. This can be observed from the burnt components of the front left passenger seat (circled).

9. Upon closer examination of the area where the fire to the Insured Vehicle had likely started, we found greenish residue on some of the wirings leading from one of the motors of the front left passenger seat. The presence of greenish residue further indicates internal heating of copper wires, another 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 9 - 12 below.



Photo 9 shows the front left passenger seat with its cushion removed. Upon closer examination, the fire appears to have started from one of the motors located at the centre portion of the front left passenger seat (circled).

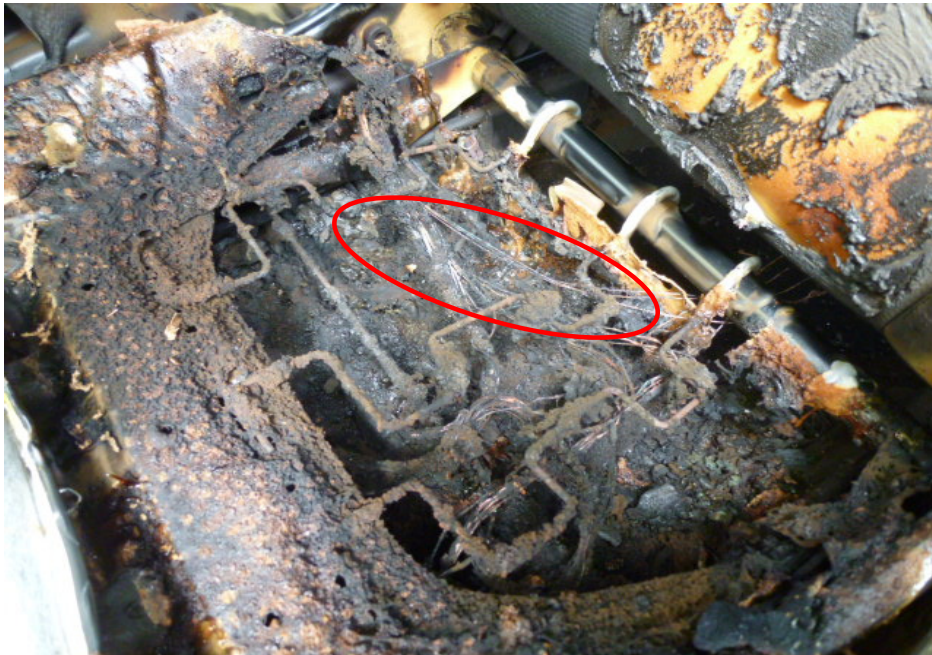


Photo 10 shows a closer look at the wirings leading from the motor located at the centre portion of the front left passenger of the Insured Vehicle. We found greenish residue on some of the wirings (circled). The presence of such greenish residue suggest occurrence of an electrical short circuit. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires.



Photo 11 shows a closer view of some of the wirings with greenish residue (arrowed). The presence of such greenish residue suggest occurrence of an electrical short circuit.

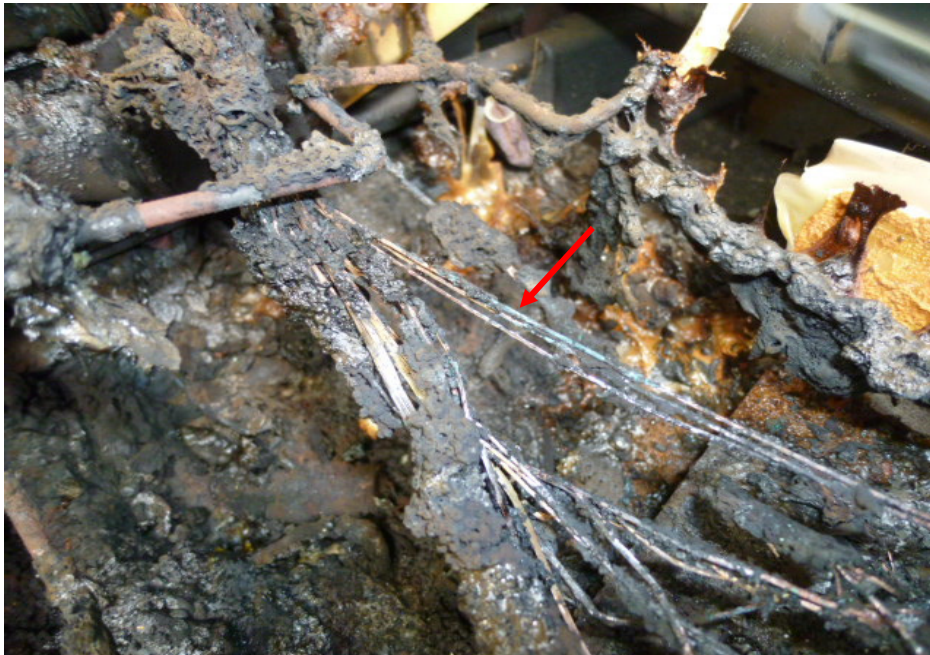


Photo 12 shows a close up view of some of the wirings with greenish residue (arrowed). The presence of such greenish residue suggest occurrence of an electrical short circuit.

10. From the Singapore Accident Statement, which was made by Mr Cheng Wee Wah (herein referred to as “**Mr Cheng**”), we note that the fire to the Insured Vehicle had started at a time when it was parked. Mr Cheng was first alerted of the fire when he went to unlock the Insured Vehicle.
11. We managed to speak to Mr Cheng on 5 April 2023 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 Mr Cheng, at about 1500hrs on 19 March 2023, he had parked the Insured Vehicle at the basement carpark of his home premises located at Block 467 Admiralty Drive. The Insured Vehicle was not driven till the 24 March 2023. At about 1300 hours on that day, Mr Cheng went to the Insured Vehicle when he noticed that the Insured Vehicle could not be unlocked with the remote transponder. Thinking that the battery of the transponder was flat, Mr Cheng used the spare key and manually unlocked the Insured Vehicle. Mr Cheng mentioned that he saw a hole in the front left passenger seat.

13. There were no more flames but the interior compartment was seriously affected by the fire. Mr Cheng took photographs of the Insured Vehicle. He did not call the SCDF for assistance. He called his workshop to make towing arrangements but was informed that they were not the authorized workshop for his insurance. Mr Cheng then called AIG. The Insured Vehicle was first towed to ComfortDelGro Engineering Pte. Ltd. located at 205 Braddell Rd, Singapore 579701. Mr Cheng made an insurance report at ComfortDelGro Engineering Pte. Ltd. on 27 March 2023 at 1138 hours. He was told by the staff that the Insured Vehicle could not be repaired there. Hence the Insured Vehicle was towed to Premium.
14. With regard to the history of the Insured Vehicle, we were able to gather from Mr Cheng that the Insured Vehicle was purchased second-hand from Cosmo Automotive in December 2022 with 6 years of COE left. Mr Cheng's brother, Mr Cheng Wee Kiang is the registered owner and Mr Cheng is the only driver of the Insured Vehicle. To the best of his recollection, there has not been any major mechanical problem and/or electrical problem with the Insured Vehicle.
15. Pertaining to the maintenance aspect, Mr Cheng mentioned that the Insured Vehicle was serviced before his brother bought it at Aero Garage Pte Ltd. located at 160 Sin Ming Drive, #08-07 Sin Ming AutoCity, Singapore 575722 on 22 December 2022.
16. During the course of our investigations, we were able to obtain from Mr Cheng, a tax invoice of the most recent servicing and repairs done to the Insured Vehicle. The servicing package had included the changing of engine oil and oil filter. See Invoice 1 below.



AERO GARAGE PTE. LTD

BLK 160 SIN MING DRIVE, SIN MING AUTO CITY
#08-01 SINGAPORE 575722

TEL: 6266 9511 FAX: 6266 9512

RCB NO: 201706720N

PAGE: 1

M/S: COSMO AUTOMOBILE PTE LTD

37 JALAN PEMIMPIN

#04-04

SINGAPORE 577177

TEL: 6465 1090 FAX: 6465 1091

TAX INVOICE

NO: ST1815537

DATE: 22/12/2022

A/C CODE: C0002

JOB NO: JC1815545

VEH REG: SGB9889A

MILEAGE: 65631KM

MAKE/MODEL: MERCEDES GLA180

TERMS: 30 DAYS

Description	Quantity	Unit Price	Amount
SERVICE PACKAGE INCLUDES 4LTR ENGINE OIL & OIL FILTER @ S150	1 SET	SS 200.00	SS 200.00
1 ENGINE OIL FULLY SYNTHETIC (AMSOIL 946 ml)	4 BTL		
2 OIL FILTER	1 PC		
3 ADDITIONAL ENGINE OIL FULLY SYNTHETIC	2 BTL		
4 DIAGNOSE SHORT TEST & SERVICE RESET (OIL INSPECTION MAINTENANCE REMINDER)	1 SET		
TOTAL QTY: 6 BTL, 1 PC & 1 SET		TOTAL	SS 200.00
		ADD GST @ 7%	14.00
		GRAND TOTAL	SS 214.00

SINGAPORE DOLLAR TWO HUNDRED FOURTEEN ONLY

For AERO GARAGE PTE. LTD.

AUTHORISED SIGNATURE



Invoice 1 shows the servicing done on the Insured Vehicle on 22 December 2022 at Aero Garage Pte. Ltd. (arrowed). The servicing package had included the changing of engine oil and oil filter (circled).

17. Mr Cheng mentioned that since the latest servicing was done he had not experienced any other mechanical or electrical problems with the Insured Vehicle. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature of the Insured Vehicle while he was driving before the incident occurred.

18. Mr Cheng mentioned that since the purchase of the Insured Vehicle, he 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 Mr Cheng several photographs of the Insured Vehicle which were taken post- incident. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Cheng. 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 of the lot where the Insured Vehicle was parked. See photo 13 below.



Photo 13 shows a close up view of the front left passenger seat of the Insured Vehicle post- incident. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Cheng, which is the fire had started from the front left passenger seat of the Insured Vehicle (circled).

20. 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 the fire had started after the Insured Vehicle was parked and the engine was switched off for a period of time (about 4 days).

21. 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 as the fire was confined to within its interior compartment, with no visible exterior damage. Our examination of the available incident scene photographs also did not reveal any unusual material(s)/object(s) found on the lot near 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.
22. 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 in nature is also supported by the condition of the wirings that were found at the centre portion of the front left passenger seat of the Insured Vehicle, which was earlier discussed in paragraph 9 above.
23. 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.
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> 9081 ←
<i>Vehicle No.</i> SGB9889A ←	<i>Make/Model</i> MERCEDES BENZ/ GLA180 URBAN (R18 LED)
<i>Engine No.:</i> 27091031684535	<i>Chassis No.:</i> WDC1569422J529965
<i>Recall Details:</i> No Recall Detail records ←	

Conclusion

25. 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. For this particular case, the fire had originated along the wirings leading from one of the motors somewhere around the centre portion of the front left passenger seat. The wirings were original factory wirings 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. 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.

28. 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)*

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