

Your Ref: 8420399346SG  
Our Ref : CI/TP21007165/P

27<sup>th</sup> June 2023

**M/s AIG ASIA PACIFIC INSURANCE PTE LTD**

78 SHENTON WAY, #09-16  
AIG BUILDING  
SINGAPORE 079120  
(Motor Claims Department)

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE  
Insured Vehicle YP 2381G ON 22<sup>nd</sup> APRIL 2023**

1. We refer to your letter dated 9<sup>th</sup> May 2023 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the Insured Vehicle YP 2381G (herein referred to as “**Insured Vehicle**”) are set out below.

**Inspection of the Insured Vehicle**

3. The Insured Vehicle was physically inspected on 11<sup>th</sup> May 2023 at the premises of 23 Jalan Buroh, Singapore 619479.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded: -

Insured Vehicle Registration No.	: YP 2381G
Make / Model	: JAC, N721
Chassis No	: LJ11KEBD1E8019060
Year of Registration	: MAY 2016
Mileage	: N.A (wiring affected)

5. The Insured Vehicle was observed to have sustained fire damage confined only to its left side engine compartment, the electrical wirings and electrical components around the engine compartment area was damaged as a result of the fire. The other parts of the Insured Vehicle were not affected by the fire. See photos 1 – 7 below.



**Photo 1** shows the front portion of the Insured Vehicle, which was observed to be unaffected by the fire.



**Photo 2** shows the rear portion of the Insured Vehicle, which was observed to be unaffected by the fire.



**Photo 3** shows the right body of the Insured Vehicle, which was observed to be unaffected by the fire.



**Photo 4** shows the left body of the Insured Vehicle, which was observed to be unaffected by the fire.



**Photo 5** shows the interior portion of the Insured Vehicle, which was observed to be unaffected by the fire.



**Photo 6** shows the engine compartment at the left engine portion of the Insured Vehicle at the time of our inspection. The engine compartment of the Insured Vehicle was observed to be burnt. The electrical wirings and electrical components around the left engine area was damaged as a result of the fire.



**Photo 7** shows the left engine compartment in the middle of the Insured Vehicle at the time of our inspection. The engine compartment of the Insured Vehicle was observed to be burnt. The electrical wirings and electrical components (circled) around the engine area was damaged as a result of the fire.

6. At the time of inspection, we did not find any unusual remains which could have suggested that there was possible modification(s) on the Insured Vehicle.

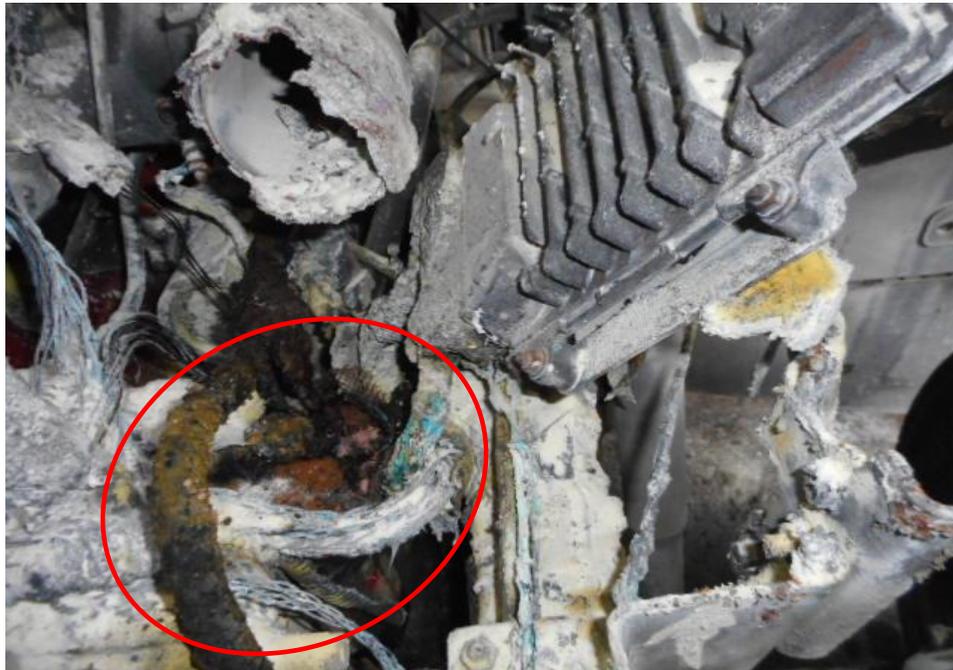
### **Investigation and Technical Analysis**

7. Based on the circumstances for this particular case, the fire appears to have originated from the left engine compartment area of the Insured Vehicle, somewhere around the left engine portion of the Insured Vehicle. This can be determined basing on the area where the extent of fire damage was most severe, the circumstances of the fires' origin at the material time of incident and also the burn marks and melting of material that were found at the left engine portion. around the left engine portion of the Insured Vehicle.

8. Upon closer observations, the wirings in the left engine compartment portion were observed to be where the fire had started, we had found traces of greenish residue on the original wirings leading from the Electronic Control Unit (ECU) to the electrical components. The wirings were original wirings fitting from manufacturer. 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 the 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 photo 8- 10 below.



**Photo 8** shows the general view of the left engine compartment of the Insured Vehicle at the time of our inspection. Observed that the engine component & electrical components in the left engine portion had sustain heat & smoke damaged.



**Photo 9** shows a close up view of the original wiring harness from electrical components to the Electronic Control Unit (ECU) (circled) was observed with greenish residue on the surface. 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 is likely where the fire had started from.



**Photo 10** shows the close up view of the original wiring harness from electrical components to the Electronic Control Unit (ECU) (circled) was observed with greenish residue on the surface. 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 is likely where the fire had started from.

9. From the Singapore Accident Statement, which was made by Mr Jamal Bin Ibrahim (herein referred to as “**Mr Jamal**”); we note that the fire to the Insured Vehicle started at a time when the Insured Vehicle was stationary at the loading bay. Mr Jamal was first alerted of the fire when he noticed smoke and flames emitting from the Insured Vehicle engine compartment area.
10. We managed to speak to Mr Jamal on 14<sup>th</sup> June 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.
11. According to Mr Jamal, on 22<sup>nd</sup> April 2023. Mr Jamal informed us that he works as a delivery driver and was doing his daily duties, he collected goods from 4 Chin Bee Road and headed to 5C Toh Guan to load up additional goods, upon reaching 5C Toh Guan he parked the Insured Vehicle at the loading bay of 5C Toh Guan. He mentioned that he turned off the engine and headed down to the rear of the Insured Vehicle to put the rear tailgate down to prepare to load up more goods into the Insured Vehicle, however after putting the rear tailgate down he realised that the tailgate was too far from the loading bay Mr Jamal mentioned that proceeded by to the Insured Vehicle and attempted to start up the engine to reverse the Insured Vehicle for the rear tailgate to be close enough to the loading bay. Mr Jamal mentioned cranked the ignition 3 times however, the engine did not start up. So Mr Jamal turned off the ignition and decided to manually load the goods into the Insured Vehicle. He alighted and when to retrieve the goods trolley from the rear goods cabin, he mentioned that upon retrieving the goods trolley he saw smoke emitting from the engine compartment area in between the front and rear cabin of the Insured Vehicle.
12. Mr Jamal mentioned that he subsequently took out the water bottle from the Insured Vehicle and tried to extinguish the fire and also 2 fire extinguisher that was placed at the loading bay beside the Insured Vehicle and managed to the extinguished the fire shortly. No SCDF assistance was activated
13. Mr Jamal subsequently contacted his company and they had arranged for towing arrangements. The Insured Vehicle was then towed to the authorised workshop, TCIM Singapore Pte Ltd. Mr Jamal made an insurance report on 27<sup>th</sup> April 2023
14. Mr Jamal mentioned that he had not experienced any mechanical or electrical/electronic problems with the Insured Vehicle till the day of the incident. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature throughout the period of the Insured Vehicle and when driven, prior to the fire.

15. With regards to the history of the Insured Vehicle, we were able to gather from Mr Jamal's company (BHS Logistics Pte Ltd) that the Insured Vehicle was a rental vehicle which was rented from Metaquip Pte Ltd which was TCIM rental division and the authorised insurance workshop as well. Mr Jamal is the registered driver of the Insured Vehicle. Mr Jamal informed us that he is the only driver of the Insured Vehicle and he has been driving the Insured Vehicle for at least 5 years and the Insured Vehicle is used daily.

### **Incident Scene Photographs**

16. During the course of our investigations, we were able to obtain coloured photographs showing the Insured Vehicle at the incident before and after the fire was extinguished and SCDF together with campus fire personnel on the scene. These were provided to us by Mr Jamal.

17. Our examination of these photographs revealed that the fire had started from the front of the Insured Vehicle. The photographs had also showed the Insured Vehicle on fire and similar extent of damage and burn pattern to the Insured Vehicle as per what we had observed during our physical inspection of the Insured Vehicle. Apart from the aforesaid; there was no further notable information that could be gathered from these photographs. See photo 11 below which were provided to us by Mr Jamal.



**Photo 11** shows where the fire had started on the Insured Vehicle. Observed is smoke emitting out from the engine compartment area (circled). In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Jamal, location when the fire broke out.

18. 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 Mr Jamal had mentioned to us that the Insured Vehicle engine was turned off when the Insured Vehicle was stationary at the loading bay and also driven there, prior to the fire incident.
  
19. 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 location where the Insured Vehicle caught fire was also observed to be not at a secluded location.
  
20. 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 several stretches of original wirings from the electrical components to its Electronic Control Unit which was burnt internally to its bare copper state on the Insured Vehicle which was a sign of short circuit that which was earlier discussed in paragraph 8 above.
  
21. Our checks with both local and international bodies and associations had also revealed that at the time of writing this report, there is a manufacturer recall of similar make and model Insured Vehicle to the Insured Vehicle that may possibly be related to fire being originated from the engine compartment of 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 <b>Company</b>	Owner ID <b>621Z</b>
Vehicle No. <b>YP2381G</b> ←	Make/Model <b>JAC/N721</b>
Engine No.: ISF38S514189181018	Chassis No.: LJ11KEBD1E8019060 ←
Recall Details: No Recall Detail records ←	

Save as PDF

OK →

### Conclusion

22. 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 nature. For this particular case, the fire had originated from the factory original wiring harnesses of the Electronic Control Unit (ECU) leading to its electrical components in the engine compartment of the Insured Vehicle.
23. 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.

24. There was 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.
25. Our investigations had also revealed that at the time of writing this report, there was no manufacturer recall to similar make and model of this Insured Vehicle that may possibly be related to this incident.



**Sherwin Beh**  
*Technical Investigator*



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

**DISCLAIMER OF LIABILITY TO THIRD PARTIES:** - This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part, does so at his or her own risk.