

Our Ref : CS/LPC24070505/N

7 August 2024

M/s Lonpac Insurance Berhad
300 Beach Road #17-04/06
The Concourse
Singapore 199555

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE
INSURED VEHICLE GBE 4567E ON 24 JULY 2024**

1. We refer to your letter dated 30 July 2024 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle GBE 4567E (herein referred to as “**Insured Vehicle**”) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 31 July 2024 at the premises of MOVA Automotive (herein referred to as “**MOVA**”) located at 15 Fan Yoong Rd, Singapore 629792.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: GBE 4567E
Make / Model	: NISSAN CABSTAR 3.0 5M/T ABS 2DR 2WD EURO 5
Chassis No	: JN1SC2F24Z0857916
Year of Registration	: December 2015
Mileage	: N.A (wiring affected)

5. Insured Vehicle was observed to have sustained severe fire damage all around. Its engine compartment and interior compartment were completely burnt. Rust had accumulated all over the Insured Vehicle as a result of exposure to environmental condition for a period of time. See photos 1 – 5 below.



Photo 1 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The Insured Vehicle was observed to have sustained extensive fire damage all around.



Photo 2 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The Insured Vehicle was observed to have sustained extensive fire damage all around. Its engine compartment and interior compartment were completely burnt. Rust had accumulated all over the Insured Vehicle as a result of exposure to environmental condition for a period of time.



Photo 3 shows the general view of the left body of the Insured Vehicle at the time of our inspection. The Insured Vehicle was observed to have sustained extensive fire damage all around. Rust had accumulated all over the Insured Vehicle as a result of exposure to environmental condition for a period of time.



Photo 4 shows the general view of the interior compartment of the Insured Vehicle at the time of our inspection. Its interior compartment was completely burnt.



Photo 5 shows the engine compartment of the Insured Vehicle which is situated beneath the cab 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.

6. 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

7. For this particular case, the fire appears to have originated within the engine compartment of the Insured Vehicle. This can be determined from the burn pattern and the high heat intensity burn marks (whitish burn marks) found on the underside of the cab as well as the rust that had developed on the underside of the cab of the Insured Vehicle.
8. The whitish burn marks are a result of exposure to prolonged heat intensity. Rust would normally start to develop around these areas soon after a fire as prolonged exposure to high heat intensity usually causes steel/metal material body parts to be exposed to natural environmental condition. The rust that had developed on the underside of the cab of the Insured Vehicle is an indication that the engine compartment had sustained exposure to prolonged high heat intensity. See photos 6 & 7 below.



Photo 6 shows the whitish burn marks that were found on the underside of the cab of the Insured Vehicle (circled). Such whitish burn marks are a result of exposure to prolonged heat intensity.



Photo 7 shows the rust that had developed on the underside of the cab of the Insured Vehicle (arrowed) which is an indication that the fire to the Insured Vehicle had originated from the engine compartment. The development of rust is an indication that the area was exposed to prolonged exposure to high heat intensity, which had caused the steel/metal material of the cab to be exposed to natural environmental condition.

9. Upon closer examination of the engine compartment of the Insured Vehicle which was where the fire had likely started, we had found traces of greenish residue on several burnt stretches of wirings around the centre portion of the engine compartment. The wirings were original factory fitted wirings. 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 8 - 11 below.

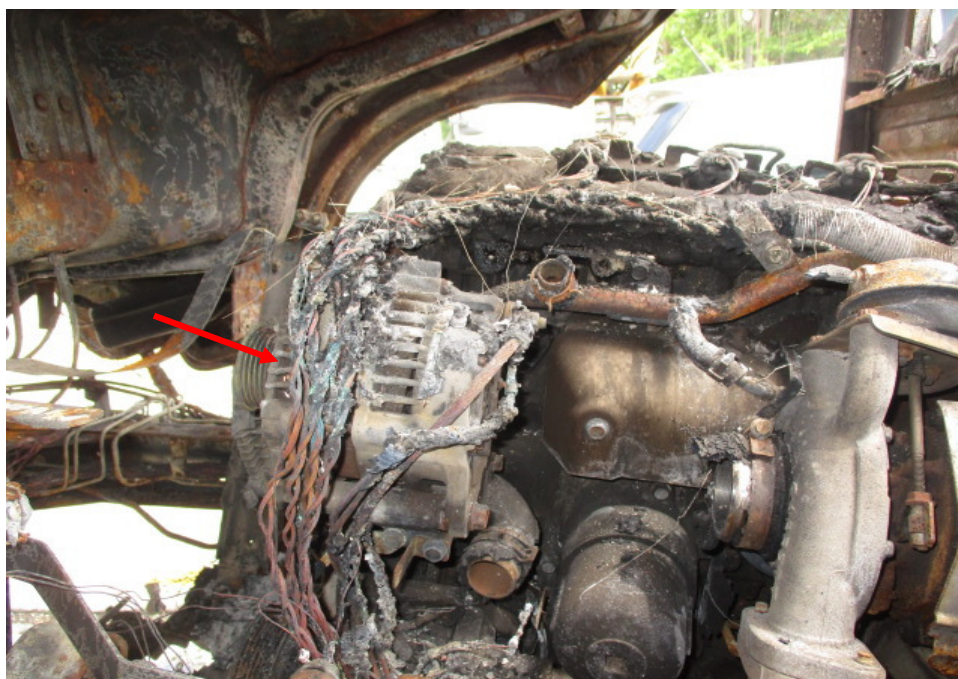


Photo 8 shows the burnt wirings around the centre portion of the engine compartment of the Insured Vehicle. The wirings were original factory fitted wirings. We observed traces of greenish residue on these wirings (arrowed). The presence of such greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.

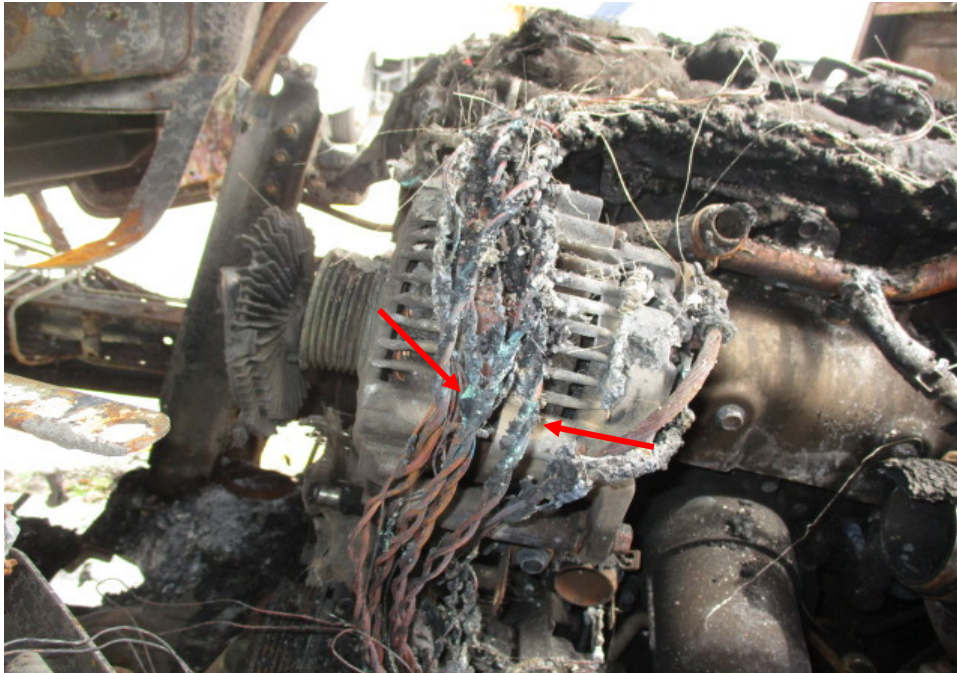


Photo 9 shows a closer view of the greenish residue found on the wirings around the centre portion of the engine compartment of the Insured Vehicle (arrowed). The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires.

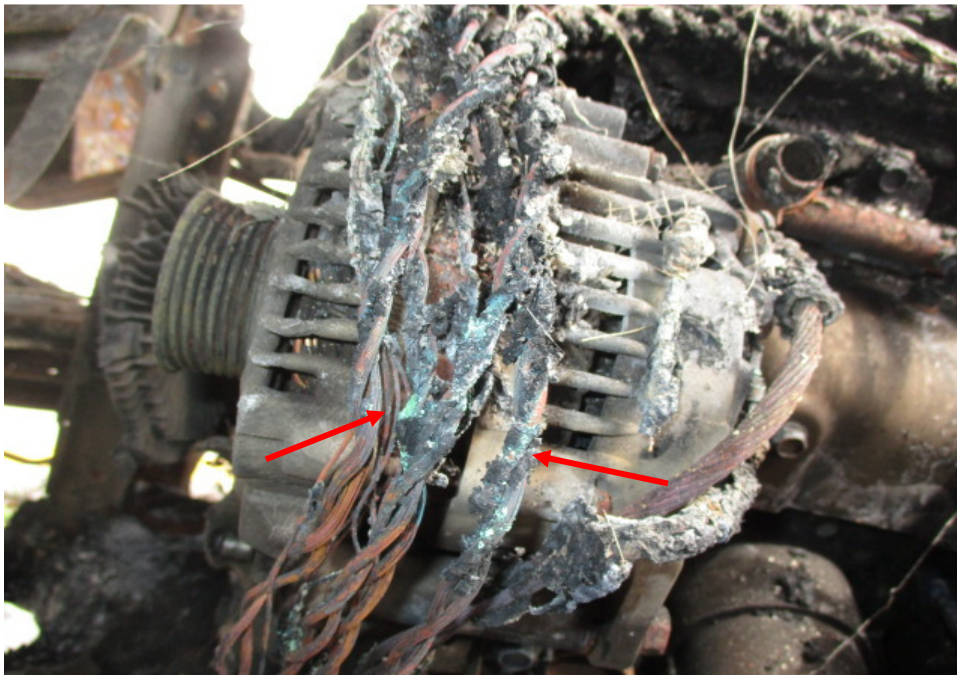


Photo 10 shows a close up view of the greenish residue found on the wirings around the centre portion of the engine compartment of the Insured Vehicle (arrowed). This physical evidence would then appear to suggest that the cause of fire to the Insured Vehicle could have possibly been due to electrical in nature.




Photo 11 shows a close up view of the greenish residue found on the wirings around the centre portion of the engine compartment of the Insured Vehicle (arrowed). 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.

10. From the Singapore Accident Statement which was made by Mr Radin Marzuki bin Mohamad (herein referred to as “**Mr Radin**”), we note that Mr Radin was first alerted to mechanical issues with the Insured Vehicle.
11. We managed to speak to Mr Radin where we were able to gather information pertaining to the incident.
12. The Insured Vehicle belongs to Simon Jr Pte. Ltd. (herein referred to as “**Simon Jr**”). Mr Radin who is an employee of Simon Jr is the only driver of the Insured Vehicle. According to Mr Radin, on the day of the incident, he had finished a fogging job at Berwick Drive and was headed to Jurong. As he was driving, he noticed smoke emitting from the sides of the Insured Vehicle via the side mirrors. He looked back at the rear window and saw black smoke emitting from the rear portion of the cab. So he exited at Ang Mo Kio Avenue 5 and stopped the Insured Vehicle along the road shoulder to check. He switched off the engine and alighted the Insured Vehicle. He opened the left side door to remove a petrol canister. He then proceeded to open the right side door to retrieve the fogging machine. He mentioned that he saw flames from back of the cab. He quickly got away from the Insured Vehicle. A passer-by saw the fire and called 995.

13. The police came first followed by the SCDF. The police redirected traffic whilst firefighters attempted to put the fire. Firefighters took some time to extinguish the fire. An EMAS truck also arrived at the incident scene. Mr Radin borrowed the mobile phone from one of the EMAS personnel as his had been destroyed in the fire, hence he was unable to take any photographs or videos of the incident. Mr Radin proceeded to call his boss, Mr Jason who made towing arrangements. The SCDF fire investigator arrived some time after and Mr Radin assisted the SCDF with their preliminary investigations.
14. The tow truck arrived at approximately 2100 hours. Mr Radin hitched a ride with the towing personnel. The Insured Vehicle was towed to MOVA. We asked Mr Radin why the insurance report was made almost a week later, on 30 July 2024. He informed us that nobody contacted him at his home number for any follow up. He was only contacted on 30 July 2024 by Mr Jason who told Mr Radin to make an insurance report at MOVA which he did on that same day at 1705 hours.
15. Mr Radin 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 the Insured Vehicle was driven.
16. To the best of his recollection, there has not been any major mechanical problem and/or electrical problem with the Insured Vehicle.
17. Pertaining to the maintenance aspect, Mr Radin sends the Insured Vehicle for periodic servicing at N-51 Automotive Pte. Ltd. located at Kaki Bukit AutoHub #01-17 #01-18 #01-08 #02-27, 2 Kaki Bukit Ave 2, 417921. The last servicing was done on 24 February 2024.
18. During the course of our investigations, we were also able to obtain from Mr Jason, a recent document relating to the servicing done to the Insured Vehicle. The latest servicing was done on 24 February 2024. The servicing package had included changing of engine oil, oil filter and air filter. The operating systems, alignment, wipers, battery, brakes and vital fluids were also inspected. Refer to Invoice 1 below.

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20. 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 the location of where the Insured Vehicle was positioned was observed to be not at a secluded location.
21. 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 around the centre portion of the engine compartment of the Insured Vehicle, which was earlier discussed in paragraph 9 above.
22. 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> Company	<i>Owner ID</i> 359K
<i>Vehicle No.</i> GBE4567E	<i>Make/Model</i> NISSAN/ CABSTAR 3.0 5M/T ABS 2DR 2WD EURO 5
<i>Engine No.:</i> ZD30346468K	<i>Chassis No.:</i> JN15C2F24Z0857916
<i>Recall Details:</i> No Recall Detail records	

Conclusion

23. 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 around the engine compartment. The wirings were original factory wirings inside the engine compartment of the Insured Vehicle.
24. 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.
25. 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.
26. 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.

**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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