

Our Ref : CS/LPC24080524/J

3 September 2024

M/s Lonpac Insurance Berhad
100 Beach Road #19-00
Shaw Tower
Singapore 189702

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE
INSURED VEHICLE YP 1982D ON 29 August 2024**

1. We refer to your letter dated 30 August 2024 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle YP 1982D (herein referred to as **"Insured Vehicle"**) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 30 August 2024 at the premises of Kim Soon Lee Pte Ltd (herein referred to as **"KSL"**) located at 200 Bedok South Avenue 1, Singapore 469331.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: YP1982D
Make / Model	: HINO GH8JRMA-QGS
Chassis No	: GH8JRM10297
Year of Registration	: MARCH 2016
Mileage	: N/A

5. The exterior front body of the Insured Vehicle sustained visible fire damage. This included its front windscreen, front right body panel and front left body panel.
6. The fire had resulted in extensive damage to the interior compartment of the Insured Vehicle. Most of the components inside the interior compartments were found to be severely burnt and/or melted as a result of the fire. See photos 1 – 6 below.



Photo 1 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The exterior of the Insured Vehicle had sustained visible fire damages. This included its front windscreen.



Photo 2 shows the general view of the right body of the Insured Vehicle at the time of our inspection. The exterior of the Insured Vehicle had sustained visible fire damages. This included its front right body panel.



Photo 3 shows the general view of the left body of the Insured Vehicle at the time of our inspection. The exterior of the Insured Vehicle had sustained visible fire damages. This included its front left body panel.



Photo 4 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The rear portion appears to be intact and unaffected by the fire.



Photo 5 shows the interior compartment of the Insured Vehicle, which was significantly affected by the fire.



Photo 6 shows the general view of the engine portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its interior portion. Its engine compartment is observed to be unaffected by the fire.

Investigation and Technical Analysis

7. For this particular case, the fire appears to have originated within the interior compartment of the Insured Vehicle, somewhere around the front centre portion of the dashboard. This can be determined from the greenish residue that was found on several stretches of burnt original factory fitted wirings mainly around the centre portion of the interior 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 appear to suggest that the cause of fire to the Insured Vehicle could have possibly been due to electrical in nature. See photos 7 - 9 below.



Photo 7 shows the burnt wirings around the front centre portion of the interior dashboard which is near to the vicinity where the fire to the Insured Vehicle had likely started (circled).

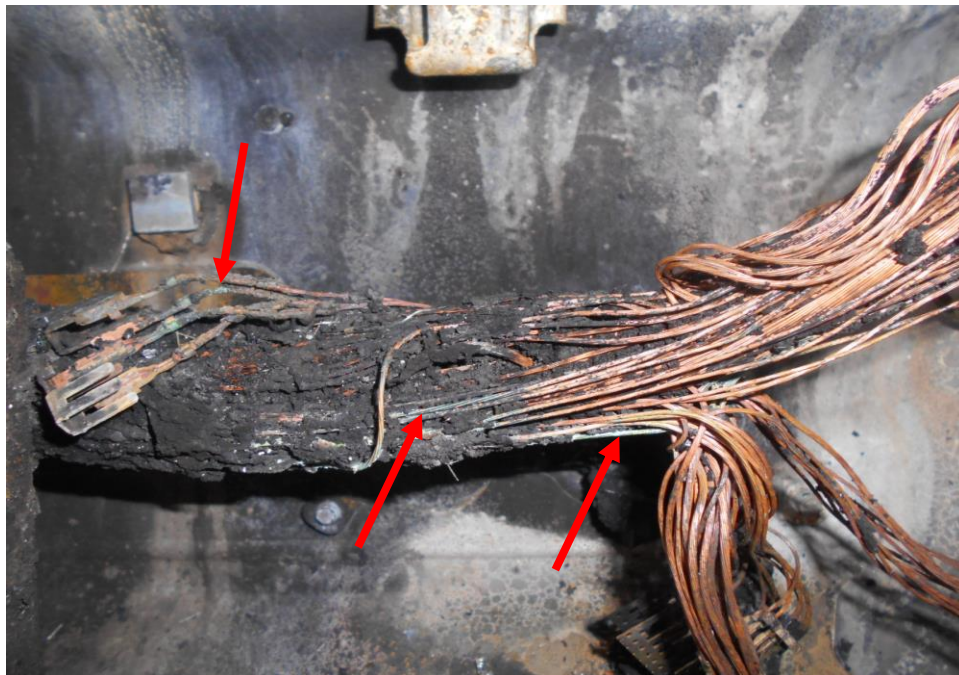


Photo 8 shows a closer view of the wirings with greenish residue found around the centre portion of the interior dashboard of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

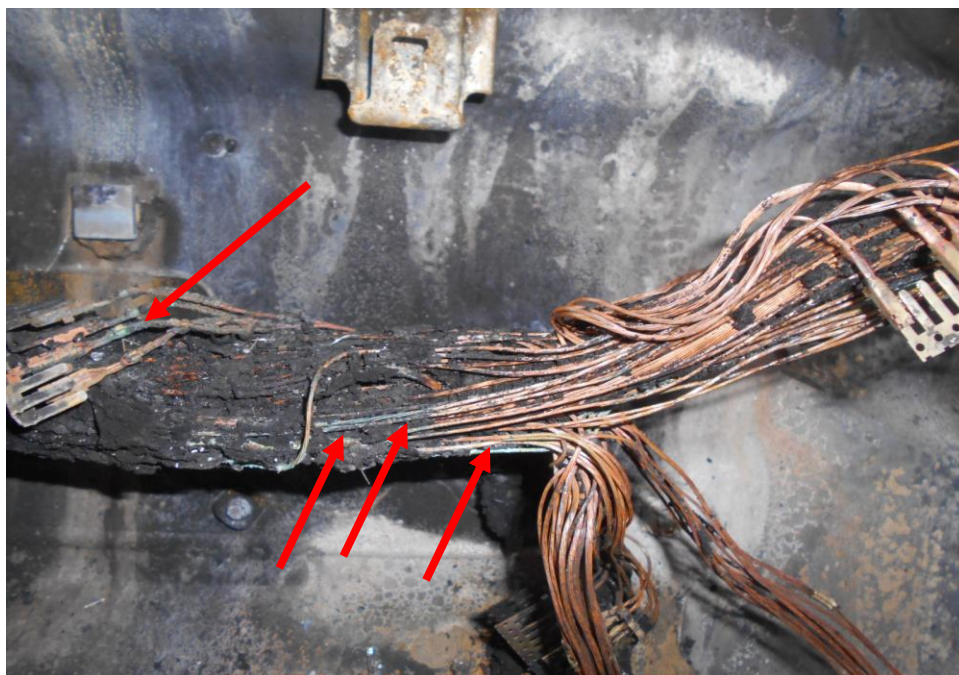
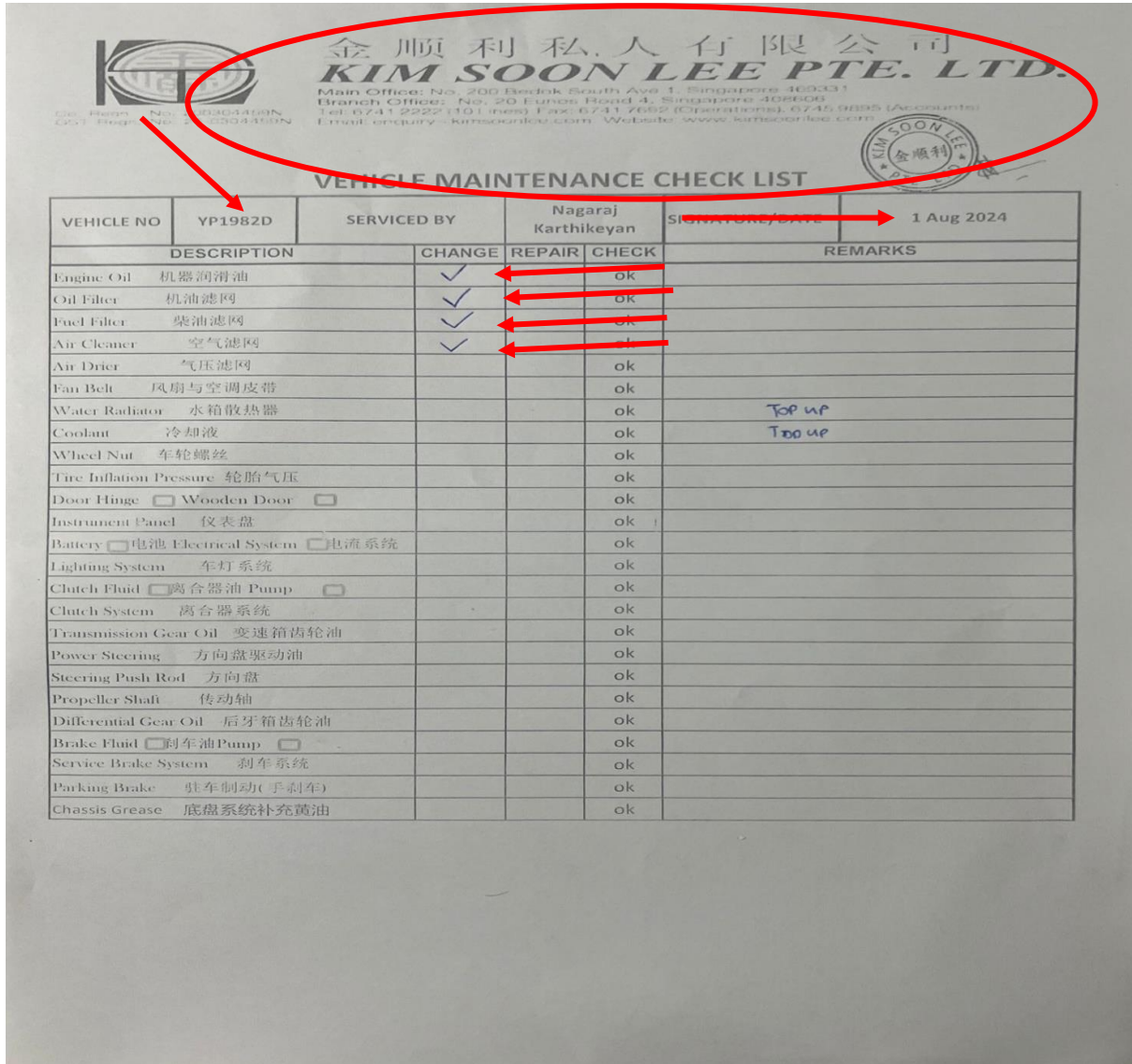


Photo 9 shows a close up view of the wirings with greenish residue found around the centre portion of the interior dashboard of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

8. From the Police Report L/20240829/0111, which was made by Mr Zhao HongJian (herein referred to as **"Mr Zhao"**), we note that the fire to the Insured Vehicle had started at a time when Mr Zhao was driving the Insured Vehicle down a ramp at 280 Woodlands Industrial Park Level 3.
9. We managed to speak to Mr Zhao on 30 August 2024 where we were able to gather further information regarding the incident as well as information pertaining to the history of the Insured Vehicle.
10. According to Mr Zhao, who works as a logistics driver for KSL, on the 29 August 2024 at approximately 1600hrs Mr Zhao was at 280 Woodlands Industrial Park E5 Harvest loading construction equipment and was headed back to KSL whilst driving the Insured Vehicle down the ramp of 280 Woodlands Industrial Park E5 Harvest Mr Zhao had started noticing a strong burning smell from the interior of the Insured vehicle not long after white smoke started emitting out from the centre portion of the dashboard, Mr Zhao then immediately stopped the Insured Vehicle and turned off the engine and that's when he started noticing flames emitting from the centre portion of the dashboard, Mr Zhao hurriedly evacuated to a safe spot away from the burning Insured Vehicle and called for SCDF assistance. The firefighters and Police had arrived at the incident scene shortly after. No ambulance was called as nobody had suffered any injury. There was also no damage to any government property. The fire was extinguished within 10 minutes.
11. Mr Zhao mentioned that he called his work superior, and his superior had called the tow truck driver and made towing arrangements. The tow truck arrived, and the Insured Vehicle was towed to back to KSL. Mr Zhao made the insurance report on the following day of the incident on 30 August 2024 at Kan Fook Sing Motor Workshop PTE LTD at 1658 hours.
12. With regards to the history of the Insured Vehicle, we were able to gather from Mr Zhao that the Insured Vehicle was purchased brand new from Borneo Motors Pte Ltd 8 years ago by his company KSL who is the registered owner and Mr Zhao is the only driver of the Insured Vehicle.
13. Mr Zhao 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 any abnormal rise in temperature throughout the period the Insured Vehicle prior to the fire.

14. Pertaining to the maintenance aspect, Mr Zhao sends the Insured Vehicle for periodical servicing. He provided us with his latest servicing record on 1 August 2024. Refer to invoice 1 below.



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VEHICLE MAINTENANCE CHECK LIST

VEHICLE NO	YP1982D	SERVICED BY	Nagaraj Karthikeyan	SIGNATURE/DATE	1 Aug 2024
DESCRIPTION		CHANGE	REPAIR	CHECK	REMARKS
Engine Oil	机器润滑油	✓	✓	ok	
Oil Filter	机油滤网	✓	✓	ok	
Fuel Filter	柴油滤网	✓	✓	ok	
Air Cleaner	空气滤网	✓	✓	ok	
Air Drier	气压滤网			ok	
Fan Belt	风扇与空调皮带			ok	
Water Radiator	水箱散热器			ok	Top up
Coolant	冷却液			ok	Top up
Wheel Nut	车轮螺丝			ok	
Tire Inflation Pressure	轮胎气压			ok	
Door Hinge	<input type="checkbox"/> Wooden Door <input type="checkbox"/>			ok	
Instrument Panel	仪表盘			ok	
Battery	<input type="checkbox"/> 电池 Electrical System <input type="checkbox"/> 电流系统			ok	
Lighting System	车灯系统			ok	
Clutch Fluid	<input type="checkbox"/> 离合器油 Pump <input type="checkbox"/>			ok	
Clutch System	离合器系统			ok	
Transmission Gear Oil	变速箱齿轮油			ok	
Power Steering	方向盘驱动油			ok	
Steering Push Rod	方向盘			ok	
Propeller Shaft	传动轴			ok	
Differential Gear Oil	后牙箱齿轮油			ok	
Brake Fluid	<input type="checkbox"/> 刹车油 Pump <input type="checkbox"/>			ok	
Service Brake System	刹车系统			ok	
Parking Brake	驻车制动(手刹车)			ok	
Chassis Grease	底盘系统补充黄油			ok	

Invoice 1 shows the latest recorded service history conducted on the 1 August 2024 by Kim Soon Lee Pte Ltd (red circle) which includes replacing of engine oil, engine oil filter, fuel filter and air cleaner/air filter (red arrows).

Incident Scene Photographs

15. We were able to obtain photos from Mr Zhao of the Insured Vehicle during and after the fire was put out. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Low. See photos 10 - 13 below.



Photo 10 shows white smoke emitting from the centre dashboard of the Insured Vehicle interior compartment. (red circle).



Photo 11 shows flames emitting from the centre dashboard of the Insured Vehicle interior compartment. (red arrow).

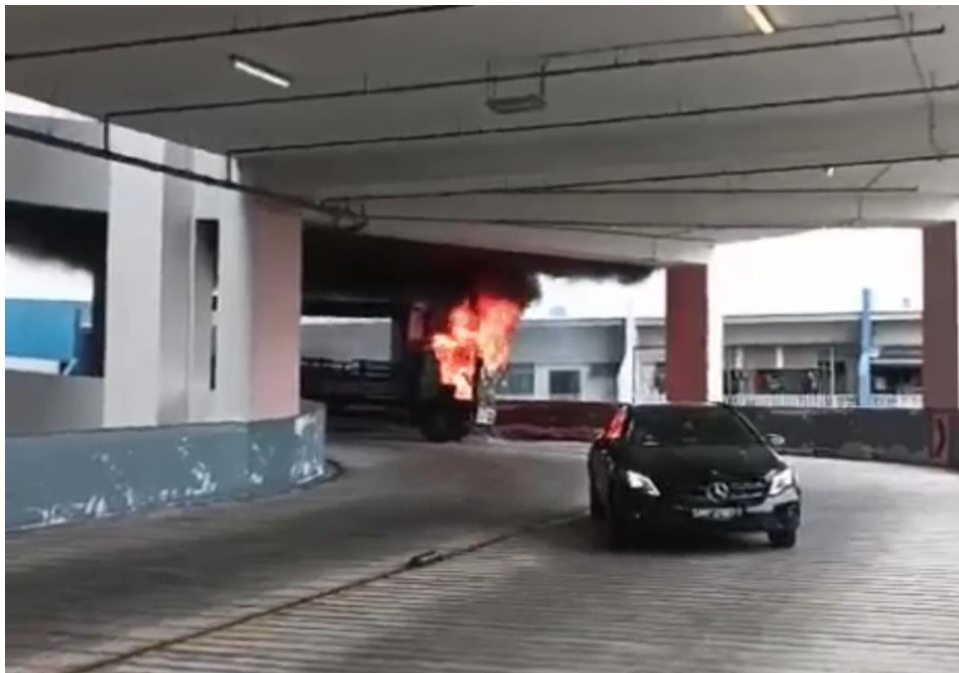


Photo 12 shows the Insured Vehicle bursting into flames shortly before the arrival of the SCDF.



Photo 13 shows the SCDF fire fighter (red arrow) extinguishing the fire to the Insured Vehicle.

16. 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 Zhao had mentioned to us there were no indications of abnormally high temperatures when he was driving the Insured Vehicle on the day of the incident.
17. 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 our examination of the available incident scene photographs did not reveal any unusual material(s)/object(s) found on the ground near where the Insured Vehicle was positioned. The location of where the Insured Vehicle was positioned was also observed to be not at a secluded location.
18. 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 interior dashboard of the Insured Vehicle, which was earlier discussed in paragraph 7 above.

19. Our checks with both local and international bodies and associations had also revealed that at the time of writing this report, there is no manufacturer recall of similar make and model vehicle as 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 Company	Owner ID 459N
Vehicle No. YP1982D ←	Make/Model HINO/ HINO GH8JRMA-QGS
Engine No.: J08EVD19209	Chassis No.: GH8JRM10297
Recall Details: No Recall Detail records ←	

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Recall details. Shows the vehicle recall results retrieved from LTA's website. There was no recall on the Insured Vehicle at the time to the fire incident.

Conclusion

20. 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 inside the interior compartment, somewhere around the front centre portion of the dashboard. The wirings were original factory fitted wirings of the Insured Vehicle.

21. At the time of inspection, we 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.

22. 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.

23. 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.



Elton Seet

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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