

Your Ref: 23/24/24/VC06/029746
Our Ref : CS/LPC24090028/J

5 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 XD 2119Z ON 21 August 2024**

1. We refer to your letter dated 2 September 2024 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle XD 2119Z (herein referred to as **"Insured Vehicle"**) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 3 September 2024 at the premises of Mah Lian Motor Vehicle Repairer Pte Ltd located at 38 Defu Lane 9, Singapore 539278.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: XD 2119Z
Make / Model	: ISUZU CYZ52L
Chassis No	: JALCYZ52L87000005
Year of Registration	: JANURARY 2008
Mileage	: N/A

5. The exterior front portion, right body, left body and interior compartment of the Insured Vehicle sustained visible fire damage. This included its front windscreen, front body panels, front bumper, headlights, front bumper, side panels, front right door, front left door and dashboard.
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. However the engine compartment of the Insured Vehicle was appeared to be intact and unaffected by 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 damage. This included its front windscreen, front body panels and headlights.



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 side panels and front right door.



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 side panels and front left door.



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 and exterior 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 right driver 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 - 10 below.



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

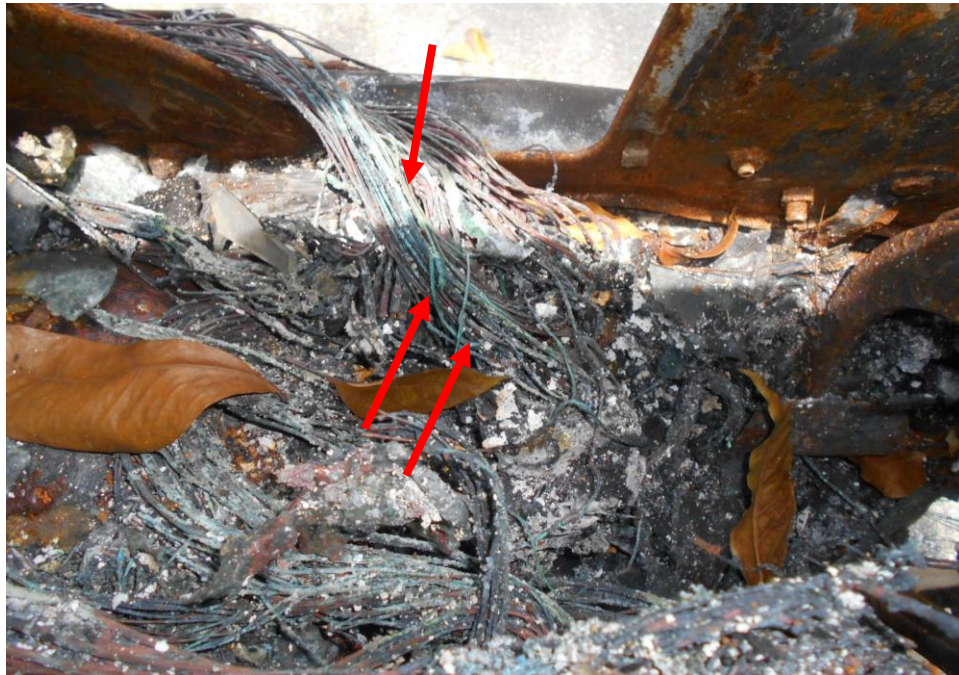


Photo 8 shows a closer view of the wirings with greenish residue found around the front right driver portion of the interior dashboard of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

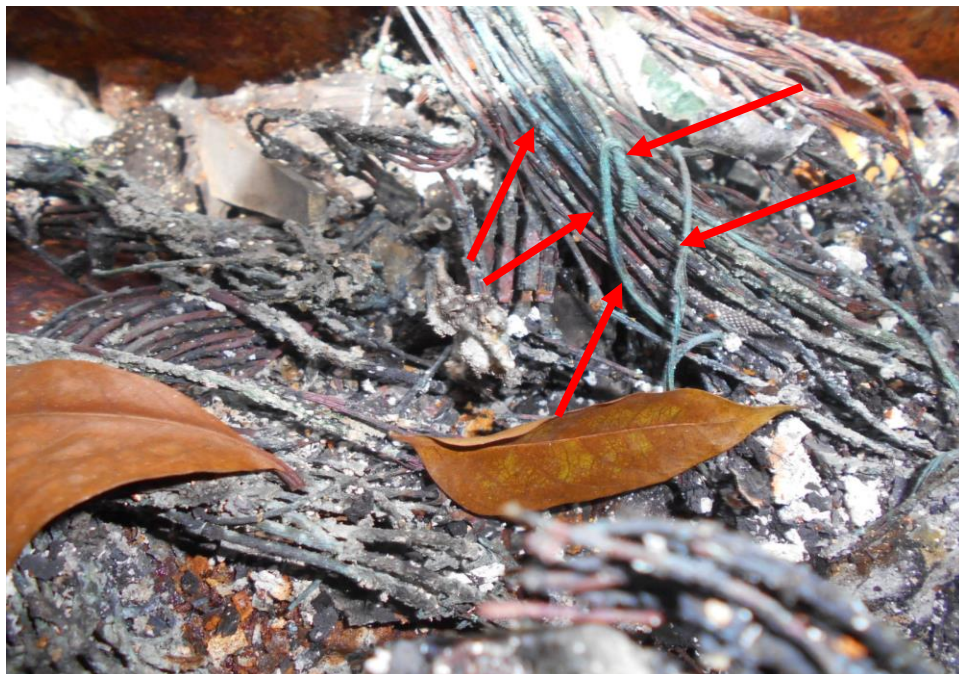


Photo 9 shows a close up view of the wirings with greenish residue found around the front right driver portion of the interior dashboard of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

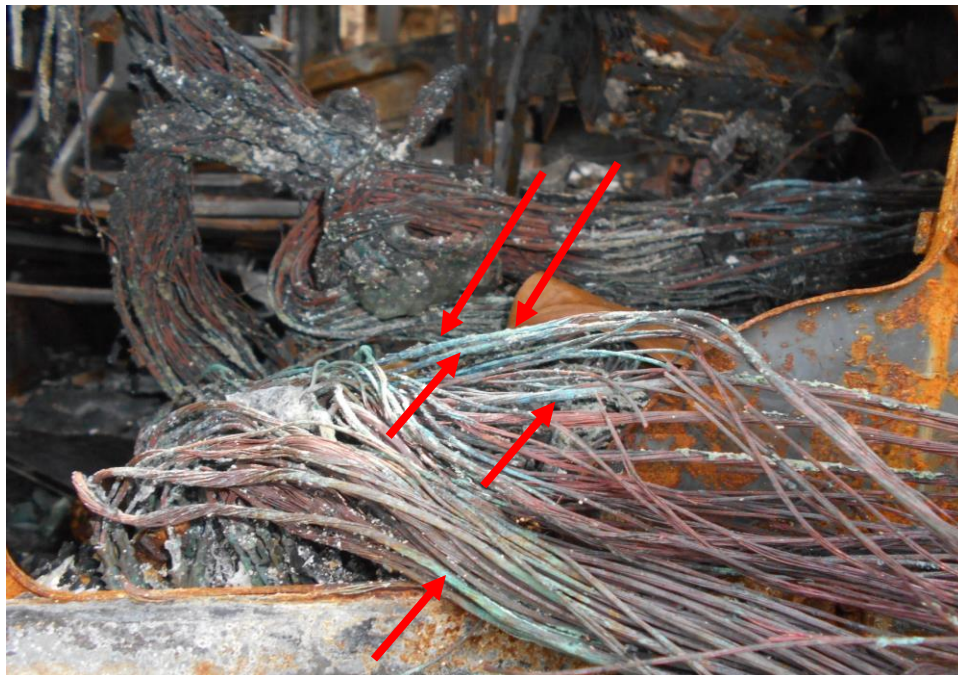


Photo 10 shows a close up view of the wirings with greenish residue found around the front right driver portion of the interior dashboard of the Insured Vehicle (red arrows). The presence of such greenish residue suggests occurrence of an electrical short circuit.

8. From the Police Report L/20240821/2029, which was made by Mr Cui Xinmin (herein referred to as “**Mr Cui**”), we note that the fire to the Insured Vehicle had started at a time when Mr Cui had parked the Insured Vehicle at his company’s parking lot.
9. We managed to speak to Mr Cui on 4 September 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 Cui, who is a truck driver for his company Hock Chuan Hong Waste Management Pte Ltd (herein referred to as “**HCHWM**”), on the 20 August 2024 at approximately 1900hrs Mr Cui had finished his work duties and was headed back to HCHWM to return the Insured Vehicle and to have a rest, upon arriving back at HCHWM at approximately 2030hrs Mr Cui had parked up the Insured Vehicle at the allocated parking lots of HCHWM, Mr Cui then proceeded to park up the Insured Vehicle and was headed up to his dormitory to rest/sleep. As Mr Cui turned in for the night it was past midnight at approximately 0100hrs on the 21 August 2024 he was alerted by his fellow colleague of a fire to his vehicle parked outside of the allocated parking lot. Upon noticing flames engulfing from the cabin of the Insured Vehicle Mr Cui then immediately rushed down and took a near-by fire hose reel and proceeded to try extinguishing the fire to the Insured Vehicle but to no avail. He also mentioned to us that his fellow colleague had called for SCDF assistance. The firefighters and Police had arrived at the incident scene shortly after and extinguished the fire in about 5 minutes. No ambulance was called as nobody had suffered any injury. There was also no damage to any government property.
11. Mr Cui mentioned that he had informed 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 Mah Lian Motor Vehicle Repairer Ptd Ltd. Mr Cui made the insurance report on the following day of the incident on 22 August 2024 at National Assessment Centre Services IDAC Pte Ltd at 1623 hours.
12. With regards to the history of the Insured Vehicle, we were able to gather from Mr Cui that the Insured Vehicle was purchased brand new 16 years ago by his company HCHWM who is the registered owner and Mr Cui is the only driver of the Insured Vehicle.
13. Mr Cui 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 Cui sends the Insured Vehicle for periodical servicing. He provided us with his latest servicing record on 7 July 2024. Refer to invoice 1 below.

HOCK CHUAN HONG WASTE MGT PTE LTD
HCH ENVIRONMENTAL ENGINEERING PTE LTD

Vehicle No. 车牌号: 2119 Date of Servicing: 日期: 2-7-24

Driver's In-Charge: 委任司机: W Speedometer Reading: 里程表: _____

Driver Compartment - Cleanliness 车厢的整洁 (TO BE MAINTAINED BY DRIVER) (司机必须清扫)			
☐ Well-Maintained 保持良好	☐ Acceptable 可以接受	☐ Need-Improvement 需要改善	
ITEM DESCRIPTION 项目	Qty 数量	ITEM DESCRIPTION 项目	Qty 数量
* Engine Maintenance (引擎的维修)			
1 Change Engine Oil 换燃油	20	* Brake Maintenance 维修制动系统	
2 Oil Filter 滤油网	2	1 Brake Hoses 刹车软管	
3 Fuel Filter 燃油网	2	2 Brake Pipes 刹车铁管	
4 Air Filter 风网	1	3 Brake Air valve 刹车气阀	
5 Gear Oil 牙油 90/140	1	4 Brake Master Pump 刹车总泵	
6 Fan Belt 风扇带	1	5 Brake Pump Repair Kit 刹车泵修理配件	
7 Timing Belt 定时带	1	6 Brake Lining / Shoe 制动蹄衬层 (勿力度)	
8 Timing Bearing 带明马铃	1	7 Hand Brake Shoe 手制动蹄衬层 (手勿力度)	
9 Timing Oil Seal 带明皮及	1	8 Hand Brake Oil Seal 手勿力皮及	
10 Air-Con Bearing 冷气马铃	1	9 Wheel Bearing - Big / Small 车轮轴承 (大/小)	
11 Engine Mounting 引擎脚	1	10 Wheelhub Oil Seal - Big / Small 车轮皮及 (大/小)	
12 Radiator and Related Hoses 水箱及相关软管	1	11 Wheelhub Cylinder 车轮泵	
		12 Brake Fluid 刹车油	
		13 FAG Bearing Grease 轴承润滑脂	
* Clutch Maintenance 离合器的维修			
1 Clutch Cover 离合器压盘	1	* Steering Maintenance 方向盘维修	
2 Clutch Bearing 离合器轴承	1	1 Steering Linkages 转向拉杆十字头	
3 Clutch Disc 离合器盘片	1	2 Steering Pump 转向泵	
4 Clutch Master Pump Assy. 离合器总泵 (上)	1	3 Steering Oil Pump 转向油泵	
5 Clutch Booster Pump Assy. 离合器助力泵 (下)	1	4 Steering Ball Joints 转向大球头 (短)	
6 Clutch Master Pump Repair Kit 离合器总泵修理配件 (上)	1	5 Steering Drag Joints 转向大球头 (长)	
7 Clutch Booster Pump Repair Kit 离合器助力泵修理 (下)	1	6 Suspension (Front) 干涉 (前)	
8 Drive Shaft 驱动轴 (来什)	1	7 Suspension (Rear) 干涉 (后)	
9 Drive Shaft Oil Seal 驱动轴油封 (来什皮及)	1	8 TQD Oil 转向机油	
10 Clutch / Brake Fluid 勿力油	1	* Hook Lift / Crane 拉臂钩/起重机	
		1 Structure 结构	
		Visual Inspection 目视检查	
		2 Hydraulic / Air Supply Pipelines 液压管 / 风管	
		Normal (正常)	
		Repair Leakage 修复漏油	
		Replace (更换)	
		3 Hydraulic Control Valve 液压控制阀	
		Normal (正常)	
		Repair Leakage 修复漏油	
		Replace (更换)	
		4 Load Holding Valve 负载保持阀	
		Normal (正常)	
		Repair Leakage 修复漏油	
		Replace (更换)	
		5 Container Bin Locking Device 箱的锁定装置	
		Normal (正常)	
		Repair to Agent 修理代理商	
		6 Rear Stabiliser / Outrigger 后面稳定器/外伸支架	
		Normal (正常)	
		Repair to Agent 修理代理商	
		7 Hydraulic Oil 液压油	
		8 Hydraulic Oil Filter 液压滤网	
		9 PTO Universal Joint PTO 万向接头	
* Greasing to ALL Points 注脂所有润滑点			
* Smoke Emission Check 废气排放检查			
1 Visual Inspection 目视检查	Normal (正常)	Refer to Agent 修理代理商	
Remarks 备注: <u>Oil. 50. Oil F. 01522. 0K170. Full. 120PF 4503</u> <u>Brake chamber</u>			
Serviced By 经手技工: <u>SAK</u>		Check By 审查: <u>PH</u>	
Next Servicing Due On: 下个维修日: _____		Acknowledged By 确认: _____	
Mechanic (S) 技工:		Maintenance Manager 维修经理	
		Appointed Driver 委任司机	

Invoice 1 shows the latest recorded service history conducted on the 7 July 2024 by Hock Chuan Hong Waste MGT PTE LTD (red circle) which includes replacing of engine oil, engine oil filter and fuel filter (red arrows).

Incident Scene Photographs

15. We were able to obtain photos from Mr Cui 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 Cui. See photos 11 - 13 below.



Photo 11 shows the Insured Vehicle (red arrow) bursting into flames before the arrival of SCDF.



Photo 12 shows firefighters (red arrows) arriving to the scene and extinguishing the fire to the Insured Vehicle.



Photo 13 shows firefighters (red arrows) extinguishing the last remnants of the fire to the Insured Vehicle.

16. Given the circumstances of 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 engine was switched off for a period of time (about 5 hours).
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 front right driver 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 revealed that at the time of writing this report, there is a manufacturer recall on 21 January 2009 for the insufficient storage management system of materials (Zinc & Nylon) and zinc oxidation becomes advance and distended, the purpose of the recall was for the driver and passenger seatbelt & seatbelt retractors where the seatbelt retractors might jam causing it to experience premature material failure/fatigue. However, it was rectified on 9 April 2009. See search result from LTA below.

1

2

Vehicle Recall Details

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

Owner ID Type Company	Owner ID 775C
Vehicle No. XD2119Z	Make/Model ISUZU/ CYZ52L
Engine No.: 6WG1407245	Chassis No.: JALCY52L87000005

Recall Details

Recall No.: R2009030015

Manufacturer Recall Date:

21 Jan 2009

Estimated Completion Year of Recall:

2009

Brief Description (As Provided by Motor Dealer):

The insufficient Storage Management System of Materials (Zinc & Nylon) and Zinc Oxidation becomes advanced and distended.

Date Rectified:

09 Apr 2009

Hotline Information:

Winnie Tan at 68614800

For more details, contact TRIANGLE AUTO PTE LTD

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 right centre driver 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)

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.