

Your Ref: S8M00XC2
Our Ref : CS/ASM18018451/N

31 October 2018

M/s AXA Insurance Pte. Ltd.
8 Shenton Way #24-01
AXA Tower
Singapore 068811
(Motor Claims Department)

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE
INSURED VEHICLE PZ 8118R ON 27 SEPTEMBER 2018**

1. We refer to your letter dated 11 October 2018 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle PZ 8118R (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 11 October 2018 at the premises of Liannex Corporation (herein referred to as "**Liannex**") located at 18 Sungei Kadut Way, Singapore 728789.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: PZ 8118R
Make / Model	: ISUZU LT 134P
Chassis No	: JALLT134P77000316
Year of Registration	: May 2008
Mileage	: 380,293km

5. The exterior body of the Insured Vehicle had sustained fire damage at the rear portion. Affected parts had included the rear windscreen, engine panel, side panels, tail lights and rear bumper, amongst others. The engine compartment of the Insured Vehicle had sustained significant fire damage. The interior compartment of the Insured Vehicle was observed to be unaffected by the fire. See photos 1 – 6 below.



Photo 1 shows the general view of the front portion of the Insured Vehicle at the time of our inspection. The front portion of the Insured Vehicle was relatively unaffected by the fire.



Photo 2 shows the general view of the rear left portion of the Insured Vehicle at the time of our inspection. The rear left portion of the Insured Vehicle was relatively unaffected by the fire.



Photo 3 shows the general view of the right rear portion of the Insured Vehicle at the time of our inspection. The exterior body of the Insured Vehicle had sustained significant fire damage at the rear right portion.



Photo 4 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The Insured Vehicle had sustained fire damage at the rear portion. Affected parts had included the rear windscreen, engine panel, side panels, tail lights and rear bumper, amongst others.



Photo 5 shows the general view of the damaged rear windscreen of the Insured Vehicle at the time of our inspection.



Photo 6 shows a general view of the engine compartment of the Insured Vehicle at the time of our inspection. The engine compartment of the Insured Vehicle was significantly affected by the fire. Most of the parts inside the engine compartment were found to be partially burnt and/or melted as a result of the fire.

Investigation and Technical Analysis

6. For this particular case, the fire appears to have originated within the engine compartment of the Insured Vehicle, somewhere around the rear right portion of the engine compartment. This can be determined from the nature of the fire damage which was more extensive at the rear right portion. The rear left portion had sustained minimal fire damage. Basing on the circumstances of the fires' origin at the material time of incident as well as examining the area where the extent of fire damage was most severe, we can determine that the fire had likely started from the rear right portion of the engine compartment of the Insured Vehicle.
7. Upon closer examination of the rear right portion of the engine compartment of the Insured Vehicle as well as around the immediate vicinity to where the fire had likely started, we had found greenish residue on several burnt stretches of original factory fitted wirings around the rear right portion of the engine compartment. The presence of such 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 7 - 10 below.

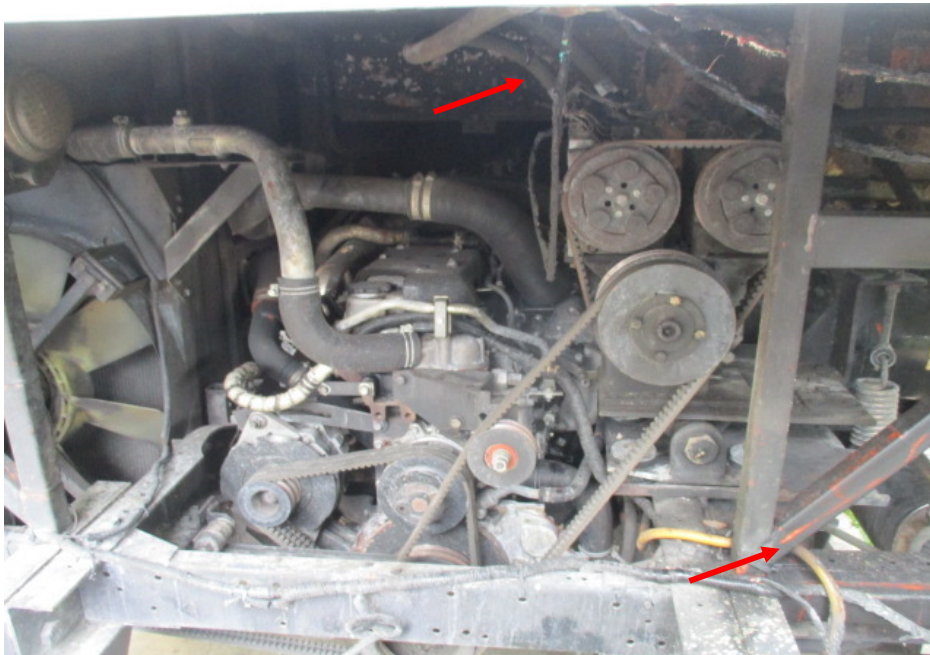


Photo 7 shows a closer view of the burnt engine compartment of the Insured Vehicle. The fire damage was more extensive at the rear right portion (arrowed). The rear left portion had sustained minimal fire damage.

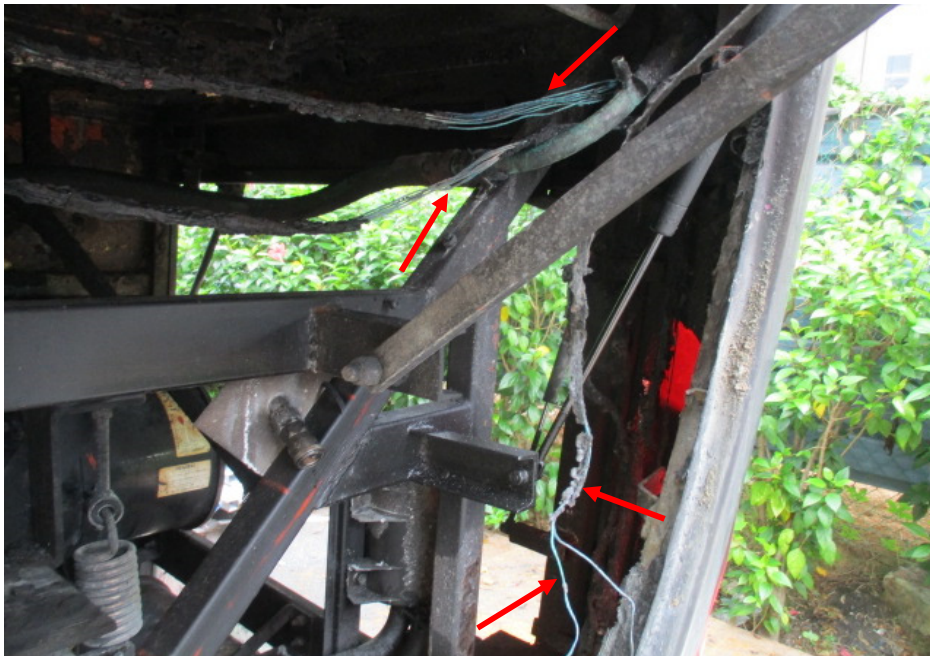


Photo 8 shows a view of the greenish residue found on several burnt stretches of original factory fitted wirings around the rear right portion of the engine compartment (arrowed) of the Insured Vehicle.

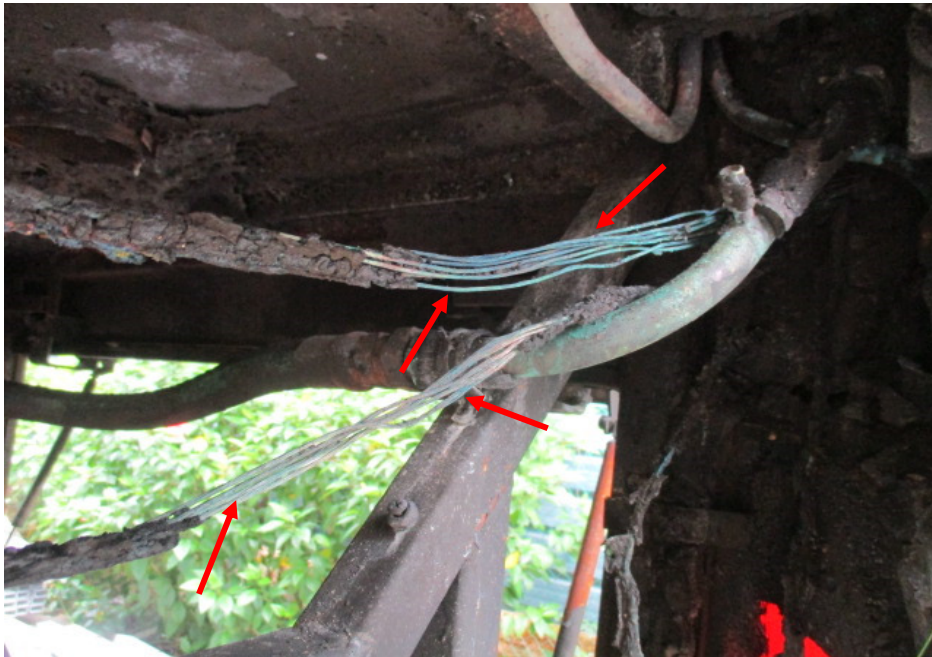


Photo 9 shows a closer view of the greenish residue that was found on several burnt stretches of original factory fitted wirings around the rear right portion of the engine compartment (arrowed) of the Insured Vehicle.

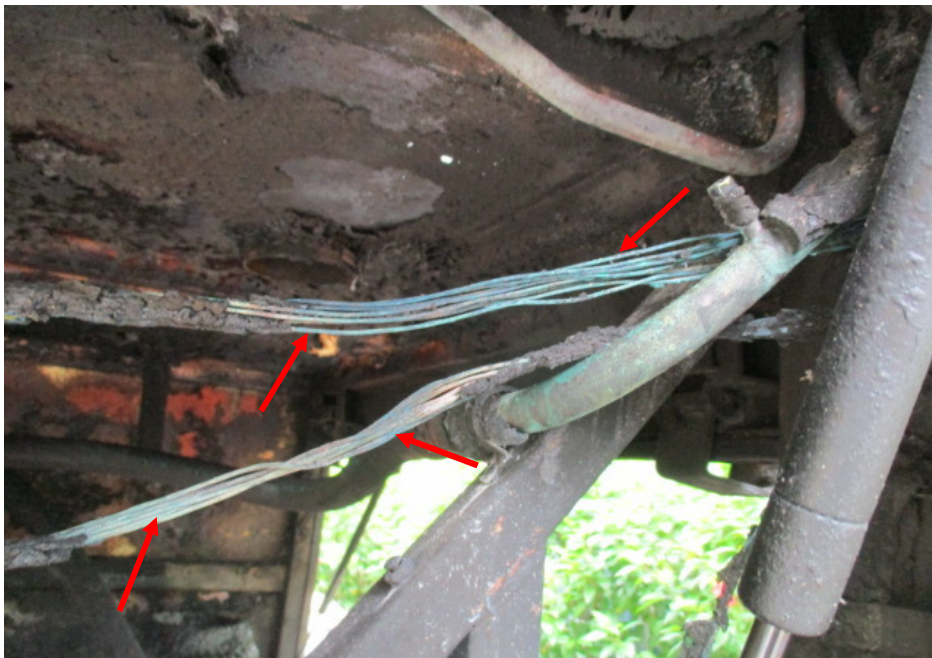


Photo 10 shows a close up view of the greenish residue that was found on several burnt stretches of original factory fitted wirings around the rear right portion of the engine compartment (arrowed) of the Insured Vehicle.

8. From the Singapore Police Report No. F/20180927/2059 and Accident Statement which was made by Mr Ratonel Bryan Colin (herein referred to as “**Mr Ratonel**”), who is the driver for Yeoong Charter Bus (herein referred to as “**YCB**”), we note that the fire to the Insured Vehicle had started at a time while he was parking the Insured Vehicle. Mr Ratonel was first alerted of the fire by a cleaner who approached him after he had parked the Insured Vehicle.
9. We managed to speak to Mr Ratonel where we were able to gather further information pertaining to the incident.
10. According to Mr Ratonel, on 27 September 2018 at 0925 hours, he had finished a morning trip and drove the Insured Vehicle into a heavy vehicle carpark Y0017 located at 2B Yishun Ave 7, Singapore 768929. He proceeded to reverse- park the Insured Vehicle into parking lot 2. Just as he had parked the Insured Vehicle, a Malay man who works as a cleaner in the vicinity approached Mr Ratonel via the driver window and told Mr Ratonel that the rear portion of the Insured Vehicle had caught fire. He immediately switched off the engine and rushed to take a look.
11. Police and SCDF had arrived and the fire was extinguished shortly after. Mr Ratonel called his office to inform them of the incident as well as to make towing arrangements. The tow truck arrived and the Insured Vehicle was towed to Comfort Delgro located at 205 Braddell Road, 579701.
12. After the Insured Vehicle was towed, Mr Ratonel went to the Yishun North Neighbourhood Police Centre where he lodged a police report at 1229 hours. He then brought along the police report and went to Comfort Delgro where he made the insurance report at 1339 hours.
13. Pertaining to the maintenance aspect, Mr Ratonel mentioned that the Insured Vehicle will be sent for periodic servicing at Lian Hup Station (herein referred to as “**LHS**”) located at 1091 Woodlands Rd, Singapore 738689.
14. During the course of our investigations, we were able to obtain from Ms Alice, an administrative assistant at Liannex, the latest servicing records of the Insured Vehicle which was dated on 10 September 2018, approximately 2 weeks before the incident occurred. The servicing package included changing of engine oil, oil filter, diesel filter and turbo filter. The battery water was topped up. The brakes were adjusted and the engine was also treated with a chemical wash. Refer to Invoice 1 below.

INVOICE 發貨單

SALES AND SERVICE ORDER

銷售及服務發單

No. 25395

聯合油站

LIAN HUP STATION

1091, WOODLANDS ROAD, 23 1/4 K.M. SINGAPORE 738689

TEL: 6269 4018 FAX: 6269 6442

REGISTRATION NO: 52943311K

CUSTOMER'S NAME 顧客姓名

DATE 日期

ADDRESS 住址

TEL: No. 電話

Make 形式	Car No. 車號	Model 模型	Speedometer 哩程表	Time Wanted 取車時間	Deliver 送交 Call For 來取
	P28118			(4)	

SERVICES 服務

QTY. 數量

\$ 元

CTS. 占

Battery Deliv

4ms 4 80

Coolant

2ms 10 00

Engine oil (2SP)

1214 144 00

oil filter

17 00

oil filter

23 00

Pump Grease

15 00

Adjust Brake

8 00

(Handing)

Desol filter

Engine oil (400)

4ms 20 80

Wash Engine with Chemical

50 00

Desol filter

18 00

Turbo filter

24 00

專修標棒、油咀、引擎及烏煙白煙等等。30 Days Credit Term.

TOTAL

\$ 333 80

\$ 333, 80

Invoice 1 shows the latest servicing package done on the Insured Vehicle on 10 September 2018 at LHS (red arrows). The servicing package included changing of engine oil, oil filter, diesel filter and turbo filter. The battery water was topped up. The brakes were adjusted and the engine was also treated with a chemical wash (circled).

15. Mr Ratonel mentioned that he had not experienced any mechanical or electrical problems with the Insured Vehicle till the day of the incident. He mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature of the Insured Vehicle when he was driving the Insured Vehicle on the day of the incident.

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 Ratonel had mentioned to us there were no indications of abnormally high temperatures on the Insured Vehicle. Moreover, an overheated engine would have caused the Insured Vehicle to stall. However in this case, Mr Ratonel was alerted of the fire while he was parking the Insured Vehicle and switched off the engine of the Insured Vehicle.
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 as the fire occurred as Mr Ratonel was parking the Insured Vehicle. The location where the Insured Vehicle caught fire 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 seem unlikely. The fire being due to electrical nature is also supported by greenish residue found on several burnt stretches of original factory fitted wirings around the rear right portion of the engine compartment 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 was a manufacturer recall on 26 September 2011 for the fuel common rail. However it was rectified on 25 January 2012. See search result from LTA below.

Enquiry on Vehicle Recall - Vehicle Specific

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

Vehicle Owner Particulars	
Owner ID Type:	Business
Owner ID:	5406L ←
Vehicle Details	
Vehicle Registration number:	PZ8118R ←
Make:	ISUZU
Vehicle Model:	LT134P
Engine No.:	6HK1460692
Chassis No.:	JALLT134P77000316
Recall Details	

1	Recall No.:	R2011100058
	Manufacturer Recall Date:	26 Sep 2011
	Estimated Completion Year of Recall:	2012
	Brief Description (As Provided by Motor Dealer):	SURFACE OF FUEL COMMON RAIL GET ROUGH CONDITION DUE TO MACHINE FAILURE IN PRODUCTION LINE OF VENDOR. AS A RESULT, DURABILITY OF HEAT LOAD IS NOT ENOUGH.
	Date Rectified:	25 Jan 2012
	For more details, contact TRIANGLE AUTO PTE LTD	
	Hotline Information:	ANG KHOON ENG at 68614800

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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 original factory fitted wirings around the rear right portion of the engine compartment of the Insured Vehicle.
21. 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.
22. 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 pose a fire risk.

Muhd Nazril

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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