LKK Auto Consultants Pte Ltd
Company Registration No. 199607198R
51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: S0M02U1Z
Our Ref: CS4/ASM20010139/P

13th October 2020

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 YN 3808Y ON 17th September 2020

1. We refer to your request dated 22nd September 2020.

2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle YN 3808Y (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 22th September 2020 at the premises of ASM Automotive Services Pte Ltd. (herein referred to as **"ASM Automotive"**) located at 13 Pioneer Sector 1, Singapore 628424.

4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: YN 3808Y
Make / Model	: ISUZU NPR75UH5AC
Chassis No	: JAANPR75HD7103937
Year of Registration	: 2013 (JUNE)
Mileage	: N.A. (wiring affected)

5. The Insured Vehicle was noted to have sustained fire damage that had affected the front and rear cabin Insured Vehicle. The fire damage was observed to be most severe at its front cabin portion.

6. The front cabin, interior compartment and front windscreen were amongst the body parts that were burnt and/or partially melted as a result of the fire. See photos 1 – 11 below.

Photo 1 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its rear portion is observed to be unaffected by the fire.

Photo 2 shows the general view of the right portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its right portion is observed to be unaffected by the fire.

Photo 3 shows the general view of the left portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its left portion is observed to be unaffected by the fire.

Photo 4 shows the front view of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle had affected the whole front & rear cabin of the Insured Vehicle.

Photo 5 shows the general view of the interior compartment of the Insured Vehicle. The entire windscreen and the interior compartment have been badly burnt by the fire.

Photo 6 shows the close up view of the interior compartment of the Insured Vehicle. The interior compartment have been badly burnt by the fire.

Photo 7 shows the close up view of the interior compartment of the Insured Vehicle. The interior compartment have been badly burnt by the fire.

Photo 8 shows the close up view of the front cabin's exterior of the Insured Vehicle. The exterior compartment have been badly burnt by the fire.

Photo 9 the close up view of the rear of the front cabin's exterior of the Insured Vehicle. The front cabin body panel have been badly burnt by the fire.

Photo 10 shows the rear cabin of the Insured Vehicle from the right side at the time of our inspection. The fire damage to the Insured Vehicle had burnt down the body panel of the rear portion and were amongst the parts that were observed to have been affected by the fire.

Photo 11 shows the inside of the rear cabin of the Insured Vehicle from the right side at the time of our inspection. The goods in the rear cabin that the Insured Vehicle was carrying were amongst the parts that were observed to have sustained heat & smoke damage.

7. At the time of our inspection of the Insured Vehicle, we did not find any additionally fitted electronic and/or electrical component(s) on the Insured Vehicle. There was also no modification(s) found fitted on the Insured Vehicle.

Investigation and Technical Analysis

8. For this particular case, the fire appears to have originated from the front interior of the Insured Vehicle. This was determined basing on the area where the extent of fire damage was most severe which was at the front cabin compartment portion of the Insured Vehicle which metal plates and also the high heat intensity burn marks (whitish burn marks) that were found on the exterior surface of the front cabin interior of the front cabin. These 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 the prolonged exposure to high heat intensity usually causes the bare steel/metal material of the body parts to be exposed to natural environmental condition. The rust that had developed on the exterior surface of the back portion of the front cabin, at the immediate vicinity where these whitish burn marks were found, would also support our findings of where the fire to the Insured Vehicle had originated. See photo 12

Photo 12 shows the front portion body panel of the Insured Vehicle at the time of our inspection. The high heat intensity burn marks (whitish burn marks) and rust that had development found on the exterior surface of the bonnet indicates that the fire had originated from the front portion of the Insured Vehicle.

10. Upon closer examination of the front portion of the Insured Vehicle which was where the fire had started, we had found traces of greenish residue along the main wirings harnesses leading to the electrical components of the Insured Vehicle. The wirings were original wirings fitted from the 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 photos See photos 13 - 16 below.

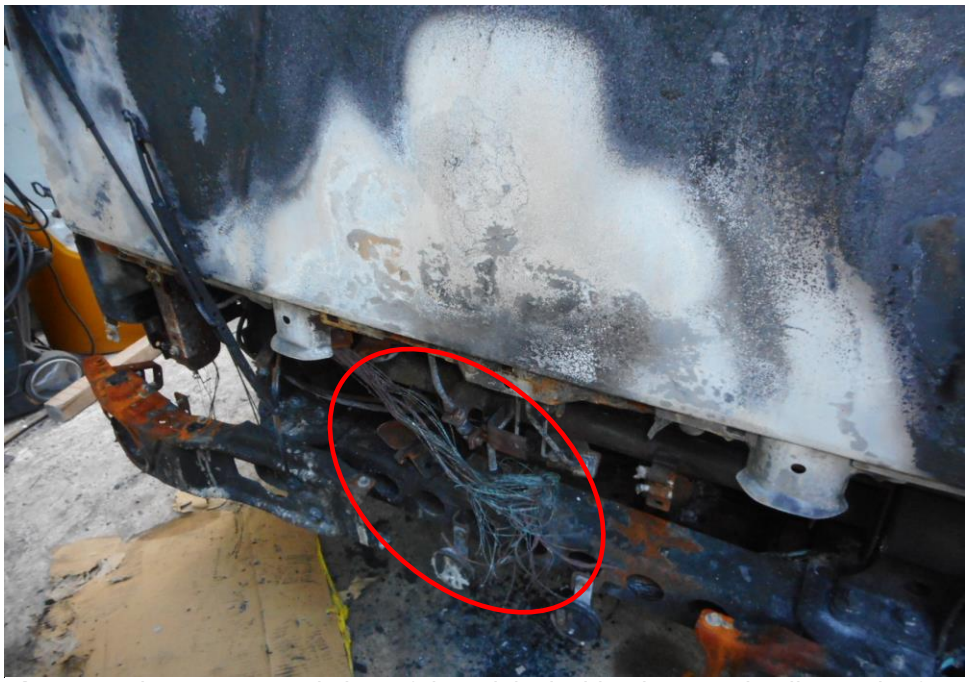

Photo 13 shows a general view of the original wiring harness leading to the fuse box into the front cabin compartment from the front of the Insured Vehicle. The original wiring harness (red circle) was observed with greenish residue on the surface. The presence of greenish residue indicates internal 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.

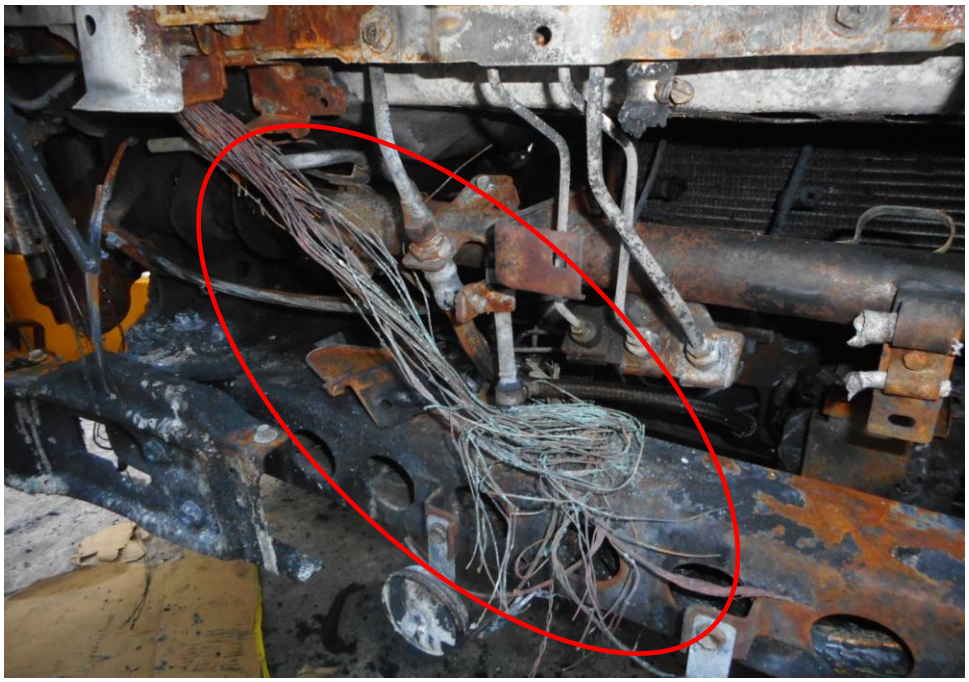

Photo 14 shows a close up view of the original wiring harness leading to the fuse box in the front cabin. The original wiring harness (red circle) was observed with greenish residue on the surface. The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires.

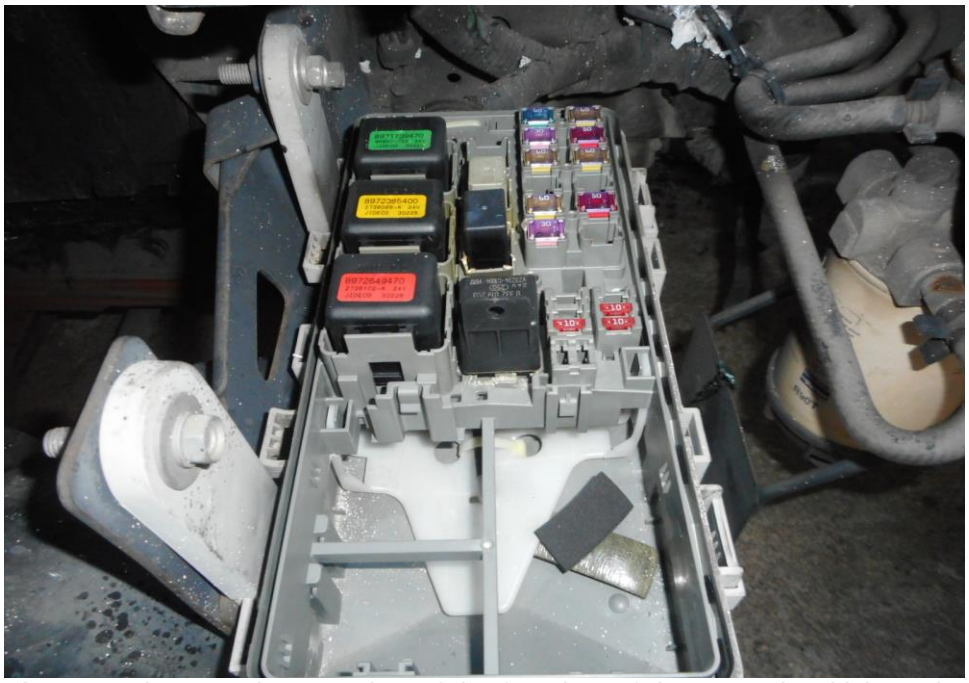

Photo 15 shows a close up view of the fuse box of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion and did not affect its fuse box as it was mounted in the middle of the Insured Vehicle.

Photo 16 shows a close up view of the batteries of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion and did not affect it batteries as it was mounted in the middle of the Insured Vehicle.

11. From the Singapore Accident Statement, which was made by Mr Wang Zhong Hua (herein referred to as **"Mr Wang"**); we note that the Insured Vehicle was parked stationary in its parking lot prior to the fire. Mr Wang was first alerted of the fire by seeing smoke emitting out from the front cabin portion of the Insured Vehicle

12. We managed to speak with Mr Wang Zhong Hua (herein referred to as **"Mr Wang"**) on 24 September 2020, Mr Wang was the driver and informed us that Insured Vehicle belongs to Entrepot One Pte Ltd (herein referred to as **"ENTREPOT ONE"**) where Mr Wang is working as the delivery driver for the company.

13. According to Mr Wang, on 17 September 2020 @ 0730 hours he headed to the car park to collect the Insured Vehicle where it was parked overnight to start his day, Mr Wang attempted to start up the Insured Vehicle multiple times, however there was no sign of the engine starting up. He then switched off the ignition and proceeded out of the Insured Vehicle to investigate the cause, shortly after he exited the Insured Vehicle he observed smoke emitting out from the front cabin exterior body panel and subsequently flames started bursting out.

14. Mr Wang hurry to grab a nearby fire extinguisher and attempt to put out the fire however the fire was too strong and he instructed a bypasses to request for SCDF assistance and they arrived shortly and the fire was put out within 10 minutes. Mr Wang then had his statement taken by the SCDF and Police officers on the scene.

15. Mr Wang subsequently contacted his company and they made towing arrangements with the insurance company (AXA). The tow truck arrived within an hour and the Insured Vehicle was towed to ASM Automotive Pte Ltd where Mr Wang made an insurance report on the same day at 1513 hours.

16. Mr Wang mentioned that he had not experienced any mechanical or electrical/electronic problems with the Insured Vehicle till the day of the incident.

17. With regard to the history of the Insured Vehicle, we were able to gather from, the company that the Insured Vehicle was purchased pre-owned 10 months ago and Mr Wang is the sole driver of the Insured vehicle since the day he joined the company.

18. To the best of his recollection, there has not been any major mechanical problem and/or electrical problem with the Insured Vehicle. He did not do any modification(s) and/or additionally fitted any electrical or electronic component(s) to the Insured Vehicle.

19. Pertaining to the maintenance aspect, Mr Wang sends the Insured Vehicle for periodical servicing. His company had provided us with the latest inspection certification and the receipts of the replaced items and informed that there was no major overhaul done or modifications done to the Insured Vehicle. See below.

STAMFORD TYRES

Stamford Tyres Int'l Pte Ltd
21 LOK YANG WAY, JURONG S628636
JURONG TRUCK CENTRE
PH:6268 3112, FAX:62621027

RCB Reg. No. :198904415C
GST Reg. No. :M2-0088778-6
feedback@stamfordtyres.com

D/O

CK94 ENTERPRISE PTE LTD
2 BUKIT MERAH CENTRAL
#20-01

SINGAPORE.159835

DATE: 2020-08-19 12:54:05
INVOICE NO: 234133/2Q
MILEAGE/CAR: 293894 KM
CUST PO:

CAR NO.: YN3808Y
W/O D/O: 20003628/GQ

S/No.	PRODUCT Code	Description	Quantity	U/M	Check box
1	TRSU137	215/75R17.5 SU FZ SSR05 18PR126/124L TL E/DOT	4	T	☑
2	ZS00001	TYRE INSTALLATION P:3,4,5,6,	4	EA	☑
3	ZS00011	TYRE DISPOSAL SVC	4	EA	☑
4	DISCOUNT	DISCOUNT	-4	EA	☑
5	SVCCA0003	CALTEX DELO 15W40 SERVICE PACKAGE (UP TO 6L)	1	EA	☑
6	LUSL108	(LTR)CALTEX DELO 400 MGX 15W401*200L	6	EA	☑
7	ZPOPT01	OIL FILTER	1	EA	☑
8	ZS00022	LABOUR-SERVICE/MAINTENANCE	1	EA	☑
9	LUSL108	(LTR)CALTEX DELO 400 MGX 15W401*200L	4	EA	☑
10	LUSL090	(LTR)CALTEX THUBAN GL5 EP 80W90 1*18L 510275HRK	1	EA	☑
11	ZPOPT10	BRAKE BULB	1	EA	☑
12	ZPOPT10	PLATE BULB	1	EA	☑
			TOTAL	$	

Any irregularity of delivery should be reported within seven (7) days, otherwise no claim will be entertained.
Compound interests at the rate of 1% per month will be charged on late payment.
All cheques should be crossed and made payable to STAMFORD TYRES INTERNATIONAL PTE LTD or order.

GOODS RECEIVED IN GOOD ORDER & CONDITION

COMPANY STAMP	RECIPIENT'S SIGNATURE & DATE	FOR STAMFORD TYRES INTERNATIONAL PTE LTD.
	965-9910	

REV. 3

TEST CERTIFICATE

No: JU90682957JU1

Land Transport Authority

THE ROAD TRAFFIC ACT (CHAPTER 276) HU4

This is to certify that the motor vehicle with registration no: YN3808Y was examined under section 90 of the Road Traffic Act and that at the date of the examination the prescribed statutory requirements were complied with in relation to the vehicle.

JIC INSPECTION SERVICES PTE LTD

19/Aug/2020

Date of issue

Authorised signatory

KEEP THIS CERTIFICATE SAFELY

CHECK carefully that the particulars specified above are correct. A test certificate showing any alteration should not be issued or accepted as this may delay the renewal of a vehicle licence.

For the purpose of renewing road tax, this Certificate must be presented within **3 MONTHS** from the date of issue.

A test certificate should not be accepted as evidence of the satisfactory mechanical condition of a vehicle offered for sale.

JIC INSPECTION SERVICES PTE LTD

HEAD OFFICE : 53 PIONEER ROAD SINGAPORE 628505 TEL: 6863 9639 FAX: 6863 1838
BRANCH : 21 ANG MO KIO STREET 63 SINGAPORE 569118 TEL: 6484 7370 FAX: 6484 7379
MAILING ADDRESS : 385 SIN MING DRIVE SINGAPORE 575718

Incident Scene Photographs

20. We managed to obtain photograph which were taken by Mr Wang at the incident location. The photograph were taken during the fire on the Insured Vehicle.

21. In general, the information that could be gathered from the photograph had corresponded to the events that were related to us by Mr Wang. Our close examination of these photograph also showed no unusual foreign material(s) and/or object(s) found on the ground in the immediate area of the road where the Insured Vehicle was positioned. Apart from the aforesaid; there was no further notable information that could be gathered from these photographs. See photo 17 - 20 below.

Photo 17 shows the Insured Vehicle on fire. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Wang, where the fire had started on the Insured Vehicle.

Photo 18 shows SCDF officers fighting the fire on scene, by than the fire than already burnt down the Insured Vehicle. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Wang, where the fire had started on the Insured Vehicle.

Photo 19 shows the burnt down Insured Vehicle after the fire was extinguished. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Wang, where the fire had started on the Insured Vehicle.

22. 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 Wang had mentioned to us that the Insured Vehicle was unable to be started up at the material time.

23. 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 the location where the Insured Vehicle caught fire was also observed to be not at a secluded location.

24. 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 original wiring harnesses wirings that were found leading from the original wiring harnesses to the electrical components on the Insured Vehicle, which was earlier discussed in paragraph 9 above.

25. 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 that may possibly be related to fire being originated from the engine 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 **Company**	*Owner ID* **692Z**
Vehicle No. **YN3808Y**	*Make/Model* **ISUZU/ NPR75UH5AC**

Engine No.:
4HK1102391

Chassis No.:
JAANPR75HD7103937

Recall Details:
No Recall Detail records

Conclusion

26. 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 along the original wiring harnesses leading to the electrical components of the Insured Vehicle.

27. 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.

28. There was no modification(s) or additional electronic and/or electrical component(s) fitted on the Insured Vehicle at the time of our physical inspection of the Insured Vehicle.

29. Our investigations had also revealed that at the time of writing this report, there is no manufacturer recall to similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident.

30. SCDF was activated to attend to the fire incident and a fire report pertaining to their findings will likely be forth coming. We have applied for this fire report and will forward a copy of the report once it is made available to us.

Sherwin Beh
Technical Investigator

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