

Your Ref: S0M02QCC
Our Ref: CS4/ASM20007092/P

16th July 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 GBA 9799R ON 1st July 2020**

1. We refer to your request dated 7th July 2020.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle GBA 9799R (herein referred to as “**Insured Vehicle**”) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 9th July 2020 at the premises of Ethoz Building. (herein referred to as “**Ethoz**”) located at 30 Bukit Batok Crescent, Singapore 658075.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: GBA 9799R
Make / Model	: NISSAN CABSTAR 3.0 5M/T
Chassis No	: JN1SC2F24Z0800262
Year of Registration	: 2008 (APRIL)
Mileage	: N.A. (wiring affected)

5. The Insured Vehicle was noted to have sustained fire damage that had affected the whole 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 company registration of the Insured Vehicle at the time of our inspection. As the fire damage to the Insured Vehicle had burnt down the both the front and rear registration plates of the Insured Vehicle.



Photo 2 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 Insured Vehicle.



Photo 3 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 4 shows the close up view of the interior compartment of the Insured Vehicle. The interior compartment have been badly burnt by the fire.



Photo 5 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 entire rear portion compartment. The whole rear cabin panel were amongst the parts that were observed to have been affected by the fire.



Photo 6 shows the rear cabin of the Insured Vehicle from the left side at the time of our inspection. The fire damage to the Insured Vehicle had burnt down the entire rear portion compartment. The goods in the rear cabin that the Insured Vehicle was carrying were amongst the parts that were observed to have been burnt by the fire.



Photo 7 shows the close up view of the goods in the rear cabin of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle had burnt down the entire rear portion compartment. The goods in the rear cabin that the Insured Vehicle was carrying were amongst the parts that were observed to have been burnt by the fire.



Photo 8 shows the battery unit of the Insured Vehicle at the time of our inspection. The battery unit and the battery terminal was damaged by the fire of the Insured Vehicle.



Photo 9 shows the engine compartment of the Insured Vehicle at the time of our inspection. The front cabin of the Insured Vehicle was not able to be lifted due to the damage it sustained from the fire, the engine unit was observed to be damaged by the fire.



Photo 10 shows a closer view of the rear portion of the Insured Vehicle at the time of our inspection. The entire rear cabin compartment and the goods inside had sustained severe visible fire damage.



Photo 11 shows a closer view of the rear cabin compartment of the Insured Vehicle at the time of our inspection. The rear cabin was significantly burnt and/or melted as a result of the fire. We also found remnants of cardboard and various other items in the rear cabin compartment.

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.

9. 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 on the main wirings harnesses leading from the fuse box 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 12 - 14 below.



Photo 12 shows the general view of the interior compartment of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle has affected its engine and interior compartment. Its interior dashboard (circled), radio head unit (yellow arrow), various original wiring harnesses was amongst the parts in the compartment that were found to have been affected as a result of the fire.

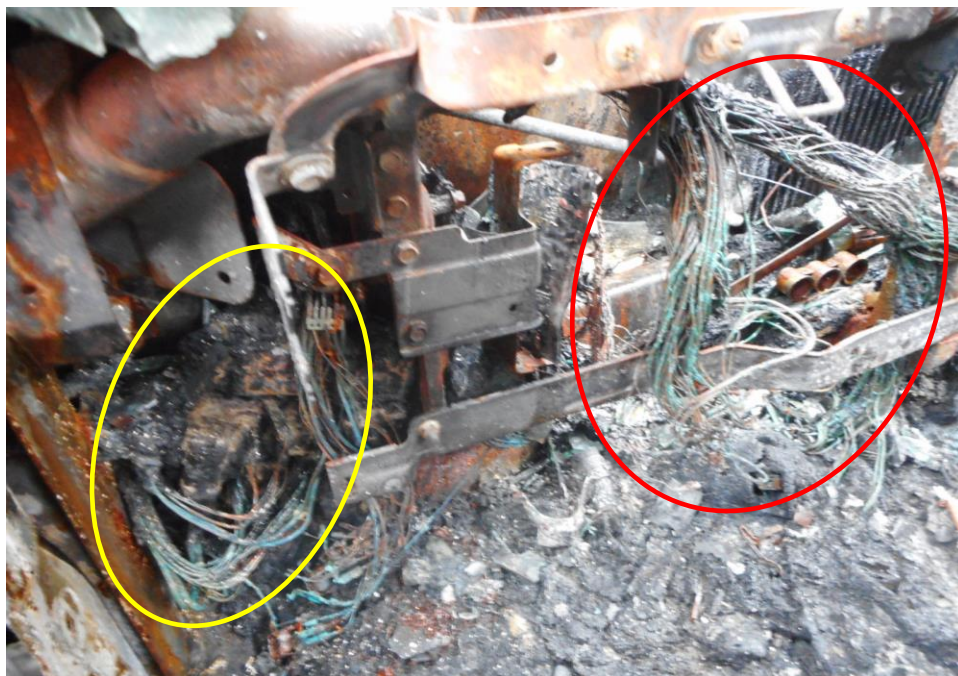


Photo 13 shows a close up view of the original wiring harness leading to the fuse box in the front cabin compartment. The original wiring harness (red circle) and fuse box wirings (yellow circle) was observed with greenish residue on the surface. The presence of greenish residue indicates internal heating 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.

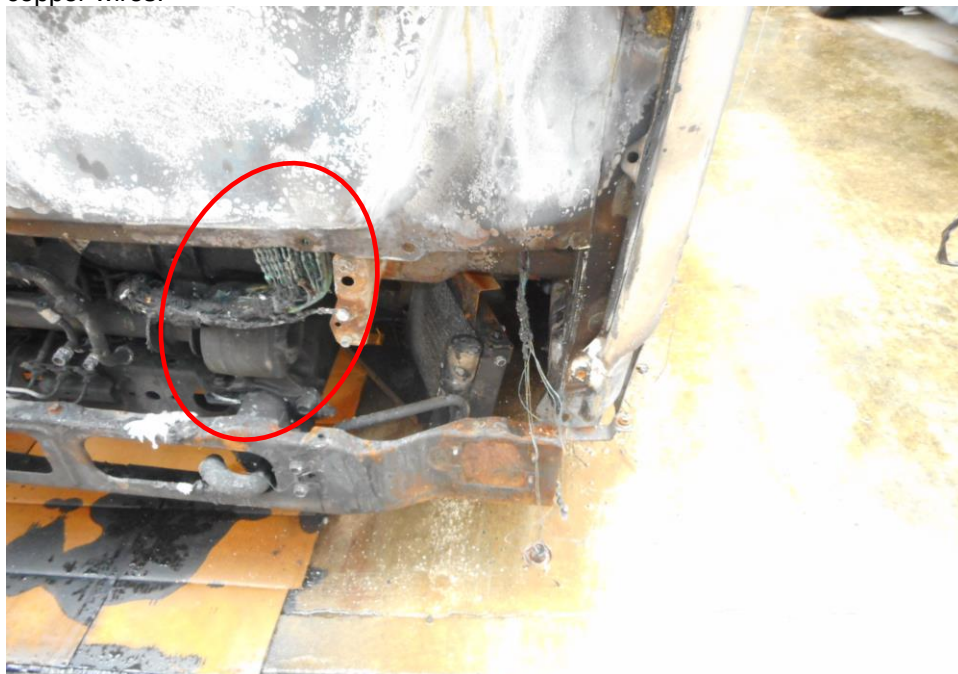


Photo 14 shows a close up view of the original wiring harness leading to the fuse box into the front cabin compartment from the front of the Insured Vehicle. The original wiring harness (red circle) was observed with greenish residue on the surface. The presence of greenish residue indicates internal 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.

10. From the Singapore Accident Statement, which was made by Mr Amli Irwan Bin Mohamed Jaim (herein referred to as **“Mr Amli”**); we note that the fire to the Insured Vehicle had started at a time when he came to a stop at the traffic light junction. Mr Amli was first alerted of the fire by seeing smoke emitting out from the interior cabin of the Insured Vehicle
11. However, we managed to speak with Mr Amli Irwan Bin Mohamed Jaim (herein referred to as **“Mr Amli”**) on 14 July 2020, Mr Amli was the driver and informed us that Insured Vehicle belongs to PRIME LOGISTICS HUB (herein referred to as **“PRIME LOGISTICS”**) where Mr Amli is working as the delivery driver for the company.
12. According to Mr Amli, on 1 July 2020 @ 1645 hours he was doing his deliveries at Block 3017 East Gourmet, after completing his deliveries he drove the Insured Vehicle out to the next destination, while approaching the junction of Bedok North Avenue 4 & 5 he felt the Insured Vehicle started to jerk a few times before stalling at the traffic lights of the junction. Mr Amli attempted to restart the Insured Vehicle however there was no sign of the engine starting up. Shortly after he saw smoke emitting from the left passenger side dashboard where the fuse box was located at, Mr Amli exited the Insured Vehicle and when to deploy the emergency hazard sign behind the Insured Vehicle to warn other road users of the breakdown.
13. After deploying the hazard sign, Mr Amli noticed the smoke was getting stronger and shortly flames broke out from the front left cabin area. Within 5 minutes the fire had engulfed the whole front and rear cabin of the Insured Vehicle.
14. Mr Amli proceed to call for SCDF assistance and they arrived within 10 minutes and the fire was put out within 15 minutes. Mr Amli had his statement taken by the SCDF and Police officers.
15. Mr Amli 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 ETHOZ Protect Pte Ltd – Bukit Batok. Mr Amli made an insurance report on 3 July 2020 at 1645 hours.

16. Mr Amli mentioned that he had not experienced any mechanical or electrical/electronic problems with the Insured Vehicle till the day of the incident.
17. Mr Amli mentioned that he is a smoker, however he does not smoke in the Insured Vehicle while driving nor during the material time where the fire incident had happened.
18. With regard to the history of the Insured Vehicle, we were able to gather from Mr Nicholas, the director of the company that the Insured Vehicle was purchased pre-owned two years ago.
19. Pertaining to the maintenance aspect, the Insured Vehicle has always gone its periodic servicing and no major components was replaced or repaired.
20. 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.
21. With regards to the history of the Insured Vehicle, we were able to gather from Mr Amli informed us that he is the sole driver of the Insured vehicle since the day he joined the company.
22. Pertaining to the maintenance aspect, Mr Amli sends the Insured Vehicle for periodical servicing. However their company does not keep any servicing records but he had mentioned that they had recently replaced the Air-conditioner compressor, battery and starter motor. They had provided us with his 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.

Eika Automotive & Accessories

253 Jalan Buruh Singapore 128828 Tel: 6276-0118
H/P: 9836-7668 Fax: 6778-5922 Email: eika_auto@yahoo.com.sg

TAX INVOICE

GST Reg. No: 43075500K

Customer Name: **Mr Nicholas Kwek**
Company Name: **Prime Logistics Hub**
Address: **194 Pandan Loop**
#04-27 Pantech Biz Hub
Singapore: **128383**
Contact Number: 9856-4654 / 6562-2038
Fax: 6872-6651
nickwek658@yahoo.com.sg

Invoice No.: **57709/20**
Date: **19 June 2020**
Vehicle No.: GBA9799R
Make: Nissan
Model: Cabstar
Mileage 238,920km

<u>Description</u>	<u>Qty</u>	<u>Amount</u> <u>(S\$)</u>
Air Con Compressor	1 pc	\$ 580.00
Fan Belt	1 pc	\$ 48.00
Labour to Remove and Renew to Condition		FOC
To Refill Air Con Gas	1 unit	FOC
Towing Service		\$ 60.00

PAYABLE AMOUNT : \$ 688.00
Add: GST 7% \$ 48.16
TOTAL PAYABLE AMOUNT : **\$ 736.16**

Invoice 1 shows the replacement of the Air-conditioner compressor (arrowed) one week prior to the fire.

Eika Automotive & Accessories

253 Jalan Buroh Singapore 128828 Tel: 6276-0118
H/P: 9836-7668 Fax: 6778-5922 Email: eika_auto@yahoo.com.sg

TAX INVOICE

GST Reg. No: 43075500K

Customer Name: **Mr Nicholas Kwek**

Invoice No.: **57796/20**

Company Name: **Prime Logistics Hub**

Date: **29 June 2020**

Address: **194 Pandan Loop**

#04-27 Pantech Biz Hub

Vehicle No.: **GBA9799R**

Singapore: **128383**

Make: **Nissan**

Contact Number: **9856-4654 / 6562-2038**

Model: **Cabstar**

Fax: **6872-6651**

Mileage

nickwek658@yahoo.com.sg

Description

Qty

Amount

(S\$)

→ **Amaron Battery 95D31L**

1 pc

\$ 180.00

Out Service

\$ 25.00

PAYABLE AMOUNT :

\$ 205.00

Add: GST 7%

\$ 14.35

TOTAL PAYABLE AMOUNT :

\$ 219.35

Invoice 2 shows the replacement of the battery (arrowed) a few days prior to the fire.

LAST SALE

LIAN HENG AUTO WORKSHOP (1994)

399-K Woodlands Road, Yew Tee Industrial Estate

Singapore 678009 Tel : 6762 0091

Reg. No.: 5145-1100A

No: 4074

Prime key

GBA 9799 Q

Date: 20.6.20.

del: 174 Mileage: _____ km[illegible]

old out are not returnable

TOTAL

Received By

for Ho Lian Heng Auto WorkShop (1994)

Invoice 3 shows the replacement of the starter motor (arrowed) one day prior to the fire.

REV. 1.1

TEST CERTIFICATE

No. BB01500827BB1

Land Transport Authority

THE ROAD TRAFFIC ACT (CHAPTER 276)

This is to certify that the motor vehicle with registration no: GBA9799R 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.

27/Jun/2020

Date of issue

VICOM
INSPECTION CENTRE PTE LTD

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.



VICOM (Sin Ming)
385 Sin Ming Drive
Singapore 575718
Tel: 6458 4555

VICOM (Changi)
20 Changi North Crescent
Singapore 499613
Tel: 6545 4808

VICOM (Bt Batok)
511 Bt Batok Street 23
Singapore 659545
Tel: 6567 7111

VICOM (Yishun)
501 Yishun Industrial Park A
Singapore 768732
Tel: 6755 9028

VICOM (Kaki Bukit)
23 Kaki Bukit Ave 4
Singapore 415933
Tel: 6749 5422

Test certification shows the passing of the LTA inspection to the Insured Vehicle (arrowed) a few days prior to the fire.

Incident Scene Photographs

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

24. In general, the information that could be gathered from the photograph had corresponded to the events that were related to us by Mr Amli. 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 15 - 20 below.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 15 shows the signs of smoke emitting from the front cabin of 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 Amli, location when the fire broke out.



Photo 16 shows front view of 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 Amli, where the fire had started on the Insured Vehicle.



Photo 17 shows rear view of the Insured Vehicle on fire, as the fire has started from the front cabin and spread towards the rear cabin. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Amli, where the fire had started on the Insured Vehicle.



Photo 18 shows SCDF officers arriving on scene, as seen the fire had already engulfed the whole 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 Amli, where the fire had started on the Insured Vehicle.



Photo 19 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 Amli, where the fire had started on the Insured Vehicle.



Photo 20 shows a SCDF officer investigating the fire on scene, of the burnt down 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 Amli, where the fire had started on the Insured Vehicle.

25. 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 Amli 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 and at the material time prior to the incident.

26. 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 Amli was driving the Insured Vehicle. The location where the Insured Vehicle caught fire was also observed to be not at a secluded location.
27. 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 fuse box to the original wiring harnesses and the electrical components on the Insured Vehicle, which was earlier discussed in paragraph 9 above.
28. 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. As from our investigation, the fire had broke out from the fuse box and wiring harnesses located in the front cabin interior 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 Business	Owner ID 209L
Vehicle No. GBA9799R ←	Make/Model NISSAN/ CABSTAR 3.0 5M/T ABS 2DR 2WD 3.4T
Engine No.: ZD30169249K	Chassis No.: JN1SC2F24Z0800262 ←

Recall Details

Recall No.: R2013080034

Manufacturer Recall Date:
25 Jul 2013 ←

Estimated Completion Year of Recall:
2015

Brief Description (As Provided by Motor Dealer):
Crack may occur at priming pump connector insert, resulting in fuel seepage after engine stop running. ←

Date Rectified:
- ←

Hotline Information:
Tan Chong Motor Sales at 64694091/2
Autolution Industrial Pte Ltd at 64929666
TC Autoclinic Pte Ltd at 62622212
Tan Chong Motor Sales at 63570755/7

For more details, contact **TAN CHONG MOTOR SALES PTE LTD**

Recall shows the recall details of the Insured Vehicle, this recall package consist of the fuel priming pump connector cracking and resulting in fuel seepage. This components have not been replace. However, there is no relation to the cause of the fire as from our findings and investigations that the fire had started from the fuse box and wiring harnesses in the front cabin's interior. (arrowed).

Conclusion

29. 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 fuse box and to the electrical components of the Insured Vehicle.
30. 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.
31. 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.
32. Our investigations had also revealed that at the time of writing this report, the manufacturer recall campaign from 25th July 2013 – 2015 which had involved the Insured Vehicle and rectified or not, did not possess a fire risk to the Insured Vehicle as per our investigations and findings on the cause of fire on the Insured Vehicle.
33. 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)

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