



Your Ref: 549458
Our Ref : CS/MSG18002989/Z

21st February 2018

M/s MSIG Insurance (Singapore) Pte. Ltd.
16 Raffles Quay #24-01
Hong Leong Building
Singapore 048581
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE MOTOR VEHICLE GBC 1145U ON 09th FEBRUARY 2018

1. We refer to your letter dated 13th February 2018 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the Motor Vehicle GBC 1145U (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Motor Vehicle

3. The Insured Vehicle was physically inspected on 20th February 2017 at the premises of Sin Yew Hup Auto Pte. Ltd. (herein referred to as "**Sin Yew Hup**") located at Block 4, 393M Woodlands Road, Yew Tee Industrial Estate, Singapore 677981.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: GBC 1145C
Make / Model	: NISSAN NV200 1.5LMT ABS Airbag 2WD 6DR
Chassis No	: JN1YBAM20U0003379
Year of Registration	: 25 th May 2011
Mileage	: N.A (wiring affected)

5. The Insured Vehicle was noted to have sustained fire damages that severely effected on most parts of the Motor Vehicle. The fire damages was observed on its interior compartment, engine compartment, front portion, left portion, right portion & rear portion. Rust had accumulated all over the Insured Vehicle as a result of exposure to environmental condition for a period of time. However, only the rear left door portion was unaffected by the fire. See photos 1 – 6 below.



Photo 1 shows the front view of the Insured Vehicle at the time of our inspection. The Insured Vehicle was noted to have sustained fire damages that severely effected on most parts of the Insured Vehicle.



Photo 2 shows the interior view of the Insured vehicle, it was observed to have sustained with severe damages due to the fire.



Photo 3 shows the right side of the Insured Vehicle at the time of our inspection. The Insured Vehicle was noted to have sustained fire damages that severely effected on most parts of the Insured Vehicle.



Photo 4 shows the left side of the Insured Vehicle at the time of our inspection. The Insured Vehicle was noted to have sustained fire damages that severely effected on most parts of the Insured Vehicle.



Photo 5 shows the engine compartment of the Insured Vehicle at the time of our inspection. The fire damages the entire engine compartment.



Photo 6 shows the rear portion of the Insured Vehicle at the time of inspection. Only the left hand rear door was unaffected by the fire.

6. The 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 prolonged exposure to high heat intensity usually causes steel/metal material body parts to be exposed to natural environmental condition. The rust that had developed on the Motor Vehicle is an indication that it had sustained exposure to prolonged high heat intensity. See photo 7 below.



Photo 7 shows the 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 prolonged exposure to high heat intensity usually causes steel/metal material body parts to be exposed to natural environmental condition. The rust that had developed on the Motor Vehicle is an indication that it had sustained exposure to prolonged high heat intensity.

7. At the time of inspection, we did not observe 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.

Investigation and Technical Analysis

8. From the Singapore Accident Statement which was made by Mr Lim Eng Khong (herein referred to as "**Mr Lim**"), while he was still driving the vehicle along Ayer Rajah Expressway (herein referred to as "**AYE**"), he realised there's a smoky smell inside the Insured Vehicle and decided to pull over to the road shoulder. He saw smoke emitted from the front portion around the engine compartment. By then he together with his wife had moved away from the Insured Vehicle. Soon after, the whole Motor Vehicle was engulfing with fire.
9. We managed to speak to Mr Lim on 21st February 2018 at his residence at Blk 503A Canberra Link #03-11 Singapore 751503 where we were able to gather further information regarding the accident and also information pertaining to the history of the Insured Vehicle.
10. The Insured Vehicle was purchased brand new & was registered on 25th May 2011 under Mr Lim's trading business company "Qin Xun Trading Pte Ltd" Co Registration No. 200800163K. It was a duo partnership company where Mr Lim was one of the owners. Mr Lim was the only driver for the Motor Vehicle as he disallowed any other person to drive the Motor Vehicle under his personal preference.
11. Prior to the fire incident on the same day, Mr Lim was driving the Insured Vehicle for work purposes. At about 4pm he fetches his wife from home to hospital to pay a visit to their father who was warded in the hospital. On the way to hospital at along AYE towards Outram Road exit he realised there's a burning smell inside the Insured Vehicle and decided to pulled over to the road shoulder. He then stopped the engine & pulled out the ignition key and alighted the Insured Vehicle to check. He saw fire emitted from the front portion around the engine compartment. By then, together with his wife they had moved away from the Insured Vehicle. Soon after, the whole Insured Vehicle was engulfing with fire. He then called for SCDF assistants & look for fire extinguisher around the vicinity in the effort of extinguishing the fire.

12. SCDF personnel arrived about 5 minutes later & took control of the situation. SPF & LTA officers arrived shortly. After the fire was extinguished, Mr Lim was interviewed by Investigating Officers (herein referred to as "I.O") from SCDF, SPF & LTA with regards to the incident. EMAS towing towed away the Insured Vehicle to No. 2 Paya Lebar (LTA Pound) after getting approval from the I.Os. Mr Lim arranged his own towing of the Insured Vehicle on the 12th February 2018 to MSIG insurance authorised workshop which is Sin Yew Hup located at Yew Tee Industrial Estate. A delay of 3 days incurred due to the fire incident happened on Friday late afternoon therefore arrangement of towing service can only be done on 12th February 2018 to MSIG insurance authorised workshop.
13. Mr Lim mentioned that he had not experienced any other mechanical problems with the Motor Vehicle till the day of the fire incident. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature throughout the period he was driving the Insured Vehicle.
14. With regards to the history and maintenance records of the Insured Vehicle, Mr Lim had mentioned that he had kept records on the maintenance servicing. The last periodical servicing maintenance was sent to Tan Chong Motor Service Centre at 911 Bukit Timah Road, Singapore 589622 on 10th October 2017. He was able to provide us with a document relating to this servicing. Our review of this document revealed that the recorded mileage of the Insured Vehicle during this servicing was 174,104km. The servicing package included changing of engine oil, oil filter, and drain plug washer. Refer to invoice 1 below



Auto
Consultants
Pte Ltd

Company Registration No. 199607198R

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Tan Chong Motor Sales Pte Ltd

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GST Regn No: 19-8106231-D

Co. Regn No: 199106231D



NAME M/S QIN XUN TRADING PTE LTD
ADDRESS 20 WOODLANDS LINK
#05-18 S(1736733)
TELEPHONE 67532186 / 93884367
MODEL YTKARDRM20TQABPHHH
ENGINE NO K9KE276D099516
CHASSIS NO JN1YBAM20U0003379
VEHICLE NO GBC1145U

INVOICE NO W24005278
INVOICE DATE 10-OCT-2017
TERMS CASH
DATE REC'D 10-OCT-2017
SALE RS
JOB NO TC655572
MILEAGE 174104
YOUR REFERENCE (10) : XXXX000163E-RE

ITEMS	JOB DESCRIPTION	AMOUNT
LABOUR		
1	**CARRYOUT 10,000KM NISSAN PREVENTIVE MAINTENANCE SERVICE PACKAGE (INCL ENGINE OIL)-3RD INTAKE	NC
2	ROTATE AND BALANCE BOTH FRONT WHEELS	NC
	SUBTOTAL	0.00
PARTS		
1	WASHER DRAIN	S
	Qty:1	
2	OIL FILTER	S
	Qty:1	
	SUBTOTAL	0.00
REMARKS		
1	** 3RD NPM INTAKE	
2	PLEASE BOOK FOR YOUR NEXT SERVICE TO ENJOY PRIORITY	
3	COMPLIMENTARY:-CAR WASH AND VACUUM INTERIOR	
4	ENJOY EXCLUSIVE M'SHIP PRIVILEGES/PROMOTIONAL DEAL	
5	PLS VISIT: "WWW.DUC.COM.SG" TO FIND OUT OR REGISTER	
6	ENGINE HTG NO GD	
6	BATTERY TESTED 100%	

DOLLARS

WORKSHOP MANAGER

The General Terms and Conditions of Service are "Goodbook" printed overleaf or attached to this invoice and shall apply to all Services set out above. Any claim relating to the Services shall be subject to the Conditions. Any application to the change of the invoice must be made within seven (7) days from the date of the invoice. Otherwise it shall be assumed that this invoice has been accepted in full and is conclusive.

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TO SECURITY DEPT.

PLEASE PRINT AND SIGN

DATE

TIME

Site Incident Photograph

15. We were able to gather some photographs taken by Mr Lim at the incident scene before the Insured Vehicle was towed away. We note that the location of the incident was located inside a tunnel along AYE before Outram Road Exit.
16. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Lim. Our close examination of these photographs also showed no unusual foreign material(s) and/or object(s) found on the ground in the immediate area of the side of the road where the Insured Vehicle was positioned. See photos 14 -20 below.



Photo 14 shows the fire incident along AYE tunnel before Outram Road exit. SCDF officers seen extinguishing the fire.



Photo 15 shows a general view of the Motor Vehicle's condition after the fire was extinguished. The fire burnt pattern mark was observed to be from the front portion.



Photo 16 shows a general view of the Motor Vehicle's condition after the fire was extinguished.

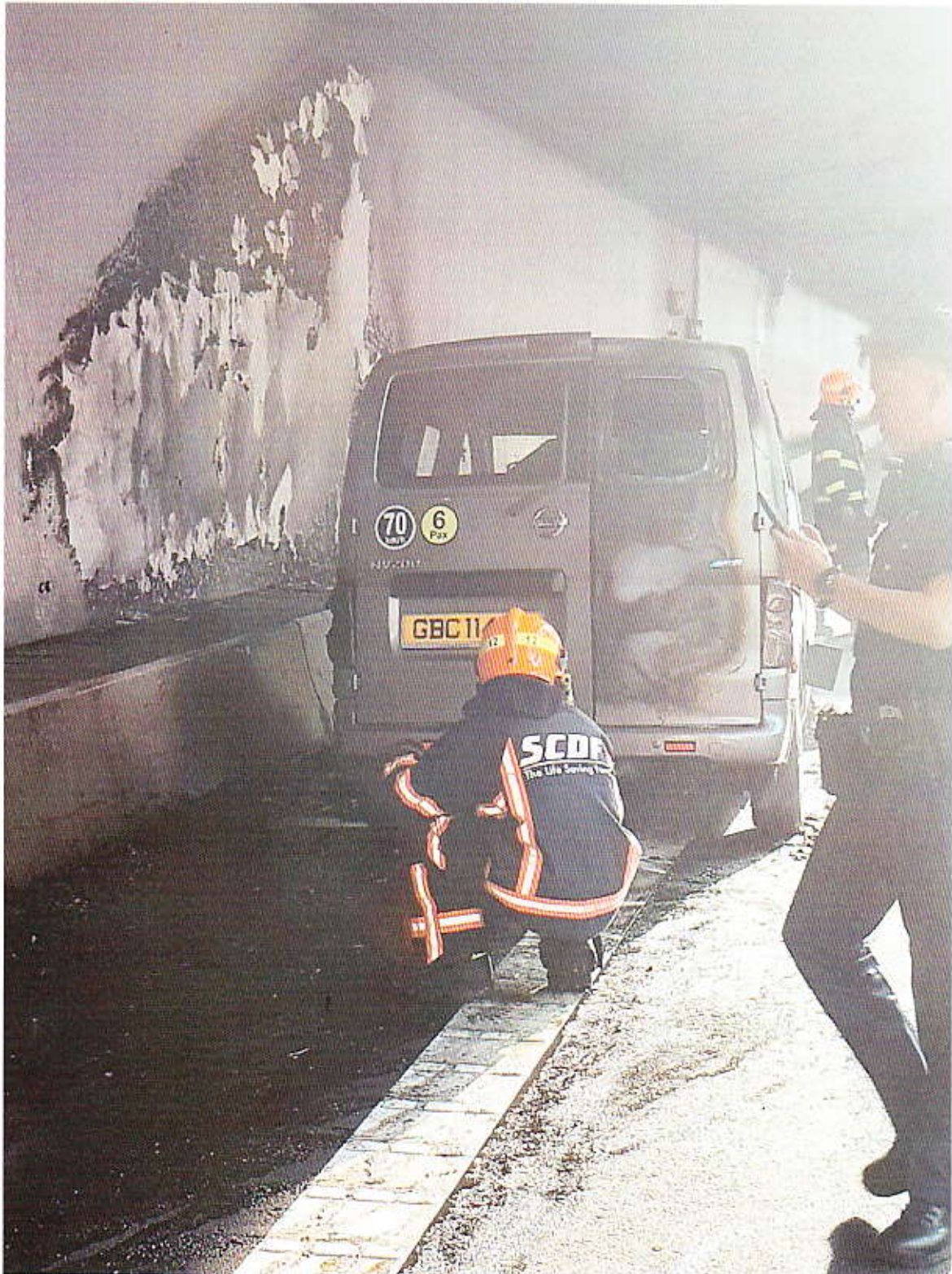


Photo 17 shows the SCDF & SPF officers conducting investigation at scene after the fire was extinguished.



Photo 18 shows a close-up view of the burnt engine compartment after being towed.



Photo 19 shows a close up view of the burnt interior compartment after being towed.



Photo 20 shows a general view of the burnt Motor Vehicle compartment after being towed.

17. For this case, the evidence and information gathered such as vehicle service invoice appears to suggest that the fire to the Insured Vehicle does not occurred due to lack of maintenance service/poor maintenance. In this aspect, a few possible causes of fire could have existed. These include electrical nature of the wiring inside the engine compartment, an overheated engine, the possibility of the fire being due to external factors (foreign material(s) stuck on hot surfaces, arson and sabotage and leakage of fluid onto hot surfaces amongst others.
18. 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 there were neither warning lights displayed nor was there an abnormal rise in temperature throughout the period he was driving the Motor Vehicle.
19. 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 at an open space environment without near to any foreign materials.
20. Other aspect that we could gather was the photograph that shows the Insured Vehicle at time of the fire incident at the incident location. The fire pattern was seen to be engulfing from the front portion of the Insured Vehicle. With reference to the photograph, there's evidence to say that the fire started from the front portion looking at the fire damages on the sidewall of the tunnel. The information given by Mr Lim also corresponds to the fire incident. See photo 14 above.
21. Basing on the result of our interview session with Mr Lim on 21st February 2018. Information gathered to the best of his recollection. The fire was seen emitted out from the engine compartment at time of the incident. Therefore there are possibilities that the fire erupted from the engine compartment area. It was believed that there are possibilities 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 sparked from the short circuit wires might cause ignition to start a fire. However given the extensive damage of burnt nature to the engine area of the Insured Vehicle, we are unable to determine the source of the leakage.
22. Our checks with both local and international bodies and associations had 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 possibly be related to this incident. 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:	Company
Owner ID:	0160K
Vehicle Details	
Vehicle Registration number:	GB01148U
Make:	NISSAN
Vehicle Model:	NISSAN 1.8L MT ABS AIRBAG 2WD SEDAN
Engine No:	K3KF2750099213
Chassis No:	JN1YBAM20U0003379
Recall Details	
No Recall Detail records	

Conclusion

23. Having investigated and technically analysed the damages of burnt nature to the Insured Vehicle, We are of the view that the fire had originated from the engine area of the Insured Vehicle. The cause of fire to the Insured Vehicle was likely due to of electrical short circuit in the engine compartment. However given the extensive damage of burnt nature to the engine area of the Insured Vehicle, we are unable to determine the source of the leakage.
24. 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.
25. There were 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.
26. 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 possibly be related to this incident.

27. 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.



Rohaizal A. Rahim
Technical Investigator



Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF Inst.AEA
Senior Technical Investigator
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