



Your Ref : GA219427
Our Ref : CS/ASM18007192/Z

19th April 2018

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

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SGV 4954Y ON 20th March 2018

1. We refer to your letter dated 18th April 2018 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SGV 4954Y (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 19th April 2018 at the premises of Progressive Automotive Pte Ltd, Blk 3022A Ubi Road 1, #01-45/46 Singapore 408716.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

| | |
|--------------------------|------------------------------|
| Vehicle Registration No. | : SGV 4954Y |
| Make / Model | : Nissan Latio 1.5L A |
| Chassis No | : JN1BAAC11Z0005035 |
| Year of Registration | : 18 th June 2007 |
| Mileage | : N.A (battery melted) |

5. The Insured Vehicle was noted to have sustained fire damages to its front portion, interior, roof area & its left & right exterior portion. The entire engine compartment of the Insured Vehicle was observed to be severely burnt by the fire.
6. The fire had resulted in the body parts at the front portion, interior, roof area & its left & right exterior portion of the Insured Vehicle to be burnt. Except for the exterior rear, exterior rear left & exterior rear right portion was not affected by the fire. See photo 1 – 9 below.



Photo 1 shows the general view of the front right portion of the Insured Vehicle at the time of our inspection. A severe burnt damage to the Insured Vehicle was observed as a result of the fire.



Photo 2 shows the general view of the front right portion of the Insured Vehicle at the time of our inspection. A severe burnt damage to the Insured Vehicle was observed as a result of the fire.



Photo 3 shows the general view of the front left portion of the Insured Vehicle at the time of our inspection. A severe burnt damage to the Insured Vehicle was observed as a result of the fire.



Photo 4 shows the engine compartment of the Insured Vehicle at the time of our inspection. The entire engine compartment of the Insured Vehicle was observed to be severely burnt. Most of the parts inside the engine compartment were found to be burnt and/or melted as a result of the fire.



Photo 5 shows the windshield of the Insured Vehicle, which was observed to be shattered were amongst the parts that were found to have been damaged as a result of the fire.

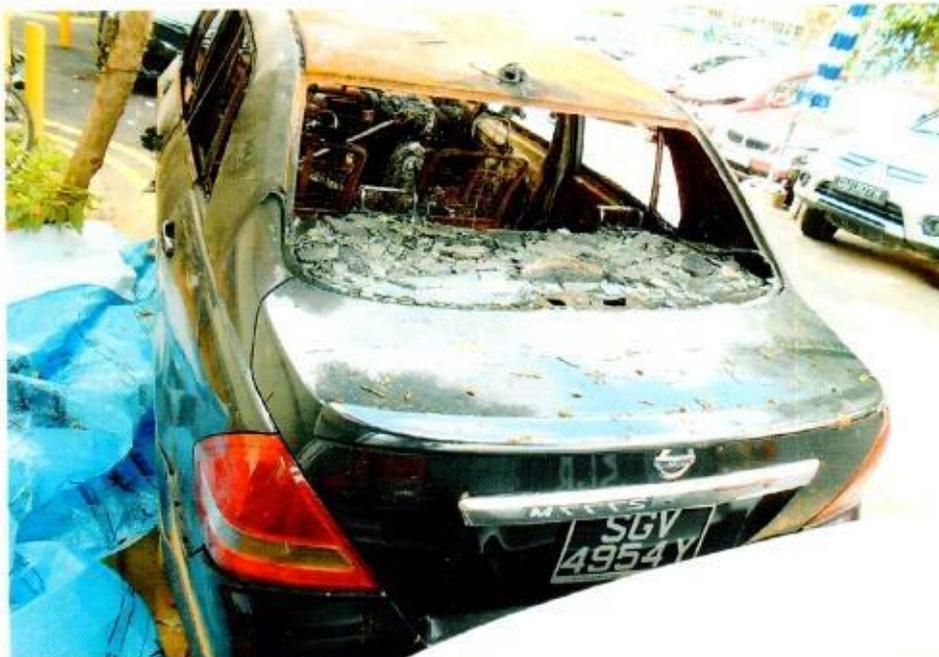


Photo 6 shows the rear windscreen of the Insured Vehicle, which was observed to be shattered were amongst the parts that were found to have been damaged as a result of the fire.



Photo 7 shows the interior of the Insured Vehicle, which was observed to be severely burnt were amongst the parts that were found to have been damaged as a result of the fire.



Photo 8 shows the rear bonnet compartment of the Insured Vehicle, which was observed to be severely burnt were amongst the parts that were found to have been damaged as a result of the fire.



Photo 9 shows the rear portion of the Insured Vehicle, which was observed to be unaffected by the fire.

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

Investigation and Technical Analysis

8. For this particular case, the fire appears to have originated within the engine compartment of the Insured Vehicle, somewhere around the centre and towards the rear of the engine compartment. This can be determined from the burn pattern and the high heat intensity burn marks (whitish burn marks) found on the front bonnet of the Insured Vehicle, at both its top and under side.
9. 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 prolonged exposure to high heat intensity usually causes steel/metal material body parts to be exposed to natural environmental condition. See photo 10 & 11 below.



Photo 10 shows the burn pattern and whitish burn marks that were found on the top side of the front bonnet of the Insured Vehicle. Such whitish burn marks are a result of exposure to prolong heat intensity, which may indicate where the fire had started. Rust would also begin to develop on these areas soon after the fire.



Photo 11 shows the whitish burn marks that were found on the underside of the front bonnet, directly under the area where the same whitish burn marks were found on the top side of the front bonnet.

10. Upon closer examination of the area around the rear of the engine compartment, which was in the immediate vicinity of where the fire to the Insured Vehicle had likely started, we had found several stretches of wiring burnt internally to its bare copper state. The wirings of the Insured Vehicle and are likely to be the original engine wire harness. Such condition normally indicate internal heating of copper wires which is a sign of an electrical short circuit occurring. This would then appear to suggest that the cause of fire to the Insured Vehicle could have possibly been due to electrical in nature. See photo 12 - 13 below.



Photo 12 shows the wirings around the rear of the engine compartment, which was in the immediate vicinity where the fire to the Insured Vehicle had likely started. The wirings (red arrow) were found to have been burnt internally, suggesting occurrence of an electrical short circuit. The wirings also appear to be an original engine wire harness of the insured vehicle.

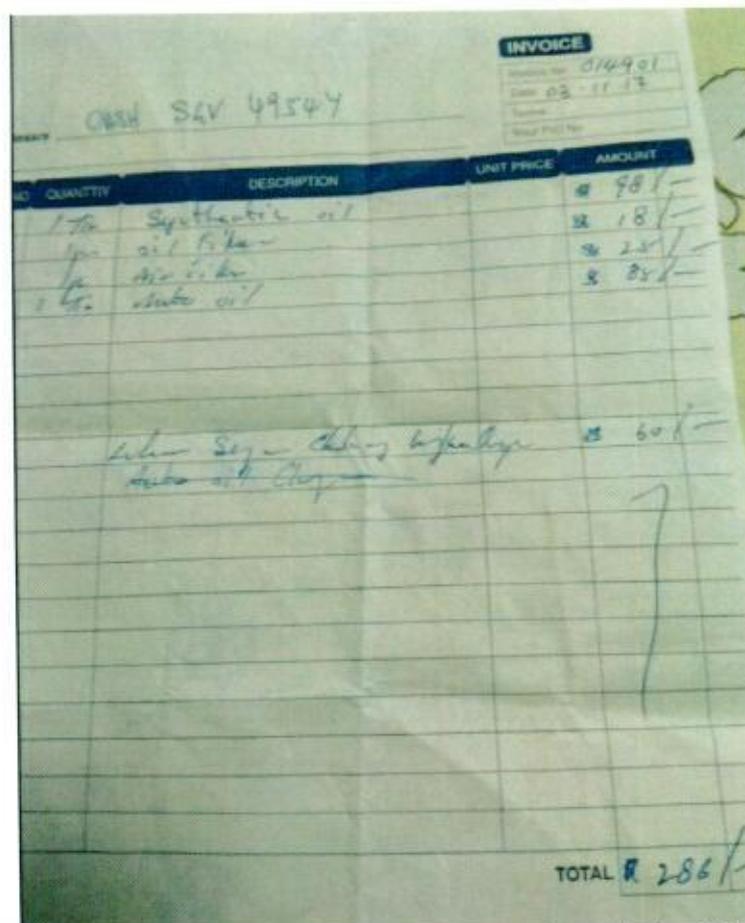


Photo 13 shows a closer view of the wirings (red arrow) which were found to have been burnt internally, suggesting occurrence of an electrical short circuit.

11. From the Singapore Police Report No. T/20180321/2035, which was made by Mr Leong Wai Kuen, (herein referred to as "**Mr Leong**") who was the last person driving the Insured Vehicle. Mr Leong had parked the Insured Vehicle at about 1800hrs at an open car park in front of 'True Buddha Shi Cheng Association' Temple, no. 117 Sims Avenue and left. It was approximately around 15 minutes at about 1815hrs Mr Leong was informed by his colleague that the Insured Vehicle was on fire. Mr Leong then rushed down & grabbed a fire extinguisher trying to extinguish the fire. However, after utilising 2 cylinders of fire extinguishers, the fire were still unable to be extinguished. SCDF fire-fighters were summoned. SCDF fire fighters & SPF officers came & took control of the situation. After the fire was extinguished, Mr Leong was interviewed by SCDF & SPF investigation officers. Mr Leong was advised by the insurance to lodge a police report for making insurance claims. He proceeded to make a police report on the next day.
12. We had arranged for a face to face interview with Mr Leong in his office which is at 'True Buddha Shi Cheng Association' Temple, no. 117 Sims Avenue, Singapore 387441 on 19th April 2018 where we were able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Vehicle.

13. Mr Leong is currently managing a temple known as 'True Buddha Shi Cheng Association' Temple as a General Affairs Manager & Building Facilities Supervisor; he has been managing the temple since 2014 for about 4 years. He is the registered owner of the Insured Vehicle & also the main driver. Although sometimes the Insured Vehicle will be driven by his son occasionally. Mr Leong drives the Insured Vehicle mainly to office & for transportation purposes.
14. According to Mr Leong, on 20th March 2018 he had driven the Insured Vehicle to office as usual. At about 1645hrs, he had left office to run some errands. At about 1800hrs he came back to the temple. He had parked the Insured Vehicle at an open private car park in front of 'True Buddha Shi Cheng Association' Temple, no. 117 Sims Avenue. He then secured the Insured Vehicle with everything intact and went up to his office on the 4th floor.
15. At about 1815hrs, Mr Leong was informed by his colleague located on the first floor that the Insured Vehicle was on fire. He rushed down & grabbed a cylinder of fire extinguisher in the effort of extinguishing the fire. After utilising 2 cylinders of fire extinguishers, he still failed to extinguish the fire. SCDF fire-fighters were then summoned. Both SCDF fire-fighters & SPF officers arrived & took control of the situation. Soon the fire was extinguished successfully by SCDF fire-fighters. Fire was extinguished with a water jet & a compressed air foam backpack. No one was injured & no properties were damage from the fire incident.
16. Mr Leong was interviewed by SCDF & SPF Investigation Officers on the case facts. CCTV video footage recorded the fire incident & presented to the investigators. We were informed by Mr Leong that the fire starts at about 1813hrs from the CCTV footage. Small smoke was noted on the CCTV footage & it grew bigger eventually thus erupted into flame. However, the CCTV video footage recording was not kept & it had been overridden due to insufficient hard disk space on the day of our interview.
17. The next working day Mr Leong made a police report & also reported to insurance, the Insured Vehicle was eventually arranged to be towed to an authorized workshop at Progression Automotive Workshop @ 3022A Ubi Road 1, #01-45/46 on the same day.

18. We were able to gather from Mr Leong that the Insured Vehicle was purchased pre-owned from a car dealer on 03rd May 2013. According to Mr Leong, he did not experience any mechanical and/or electrical problem with the Insured Vehicle prior to the fire incident when he was driving it earlier in the day. To the best of his recollection, there has not been any major mechanical and/or electrical problem with the Insured Vehicle apart from the usual wear and tear that a vehicle would experience.
19. Regarding on the maintenance aspect, Mr Leong informed me that the last servicing carried out on the Insured Vehicle was on 03rd November 2017 at his regular workshop. He was able to provide me with a document relating to this servicing. Our review of this document revealed that the engine oil, oil filter, air filter & Auto Transmission Oil were replaced during this servicing. See document photo below relating to this servicing which was provided to me by Mr Leong. See photo 14.



| QUANTITY | DESCRIPTION | UNIT PRICE | AMOUNT |
|----------|-----------------------------|------------|---------|
| 1 Ltr | Synthetic oil | | 98/- |
| 1pc | oil filter | | 18/- |
| 1pc | Air filter | | 25/- |
| 1 Ltr | Auto oil | | 85/- |
| | Labour Servicing & disposal | | 60/- |
| | Auto oil change | | |
| TOTAL | | | R 286/- |

INVOICE
Invoice No: 014401
Date: 03-11-17

CASH SAV 49544

Photo 14 shows a preventive maintenance record provided by Mr Leong.

20. Mr Leong also informed me that there was no modification(s) and/or additional electronic or electrical component(s) fitted on the Insured Vehicle.
21. We visited the incident location on 19th April 2018. The incident had occurred at an open space private car park, right in front of 'True Buddha Shi Cheng Association' Temple, no. 117 Sims Avenue. The car park serves only the employees and visitors of 'True Buddha Shi Cheng Association' Temple. At the time of the fire incident, the Insured Vehicle was parked on the left side of the car park near to the Temple building. Further observations on the ground, we found burnt marks/ burnt residual on the cemented flooring. This reveals that there's evidence that fire incident happen at the said spot. See photo 15 – 18 below.



Photo 15 shows the Temple signage at the front of the open car park where the Insured Vehicle was parked at the time of incident.



Photo 16 shows the Temple signage at the front of the open car park where the Insured Vehicle was parked at the time of incident.



Photo 17 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was on the left side upon entering the private open car park.



Photo 18 shows the close-up view of where the Insured Vehicle was parked at the time of incident. Further observations on the ground, we found burnt marks/ burnt residual on the cemented parking space. This reveals that there's evidence that fire incident happen at the said spot.

22. Although there was CCTV camera(s) installed pointing to the incident location, we were however unable to obtain the video footage due to the recording had been overridden due to an insufficient hard disk space. However, it was presented to the SCDF & SPF Investigation Officers on the day of the incident. We were only able to record verbal statement by Mr Leong on the day of our interview session. See photo 19 below.



Photo 19 shows the installed CCTV was pointing to the direction of the Insured Vehicle at time of the fire incident.

23. We were able to gather photograph that were submitted by Mr Leong on the day of the incident. The photographs were taken at the time of the fire incident.
24. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Leong. 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 parking space where the Insured Vehicle was parked. See photo 20 - 22 below.



Photo 20 shows the Insured Vehicle at the incident scene. These photograph was taken before the arrival of SCDF fire fighters. Mr Leong tried to extinguish the fire with a fire extinguisher but failed.

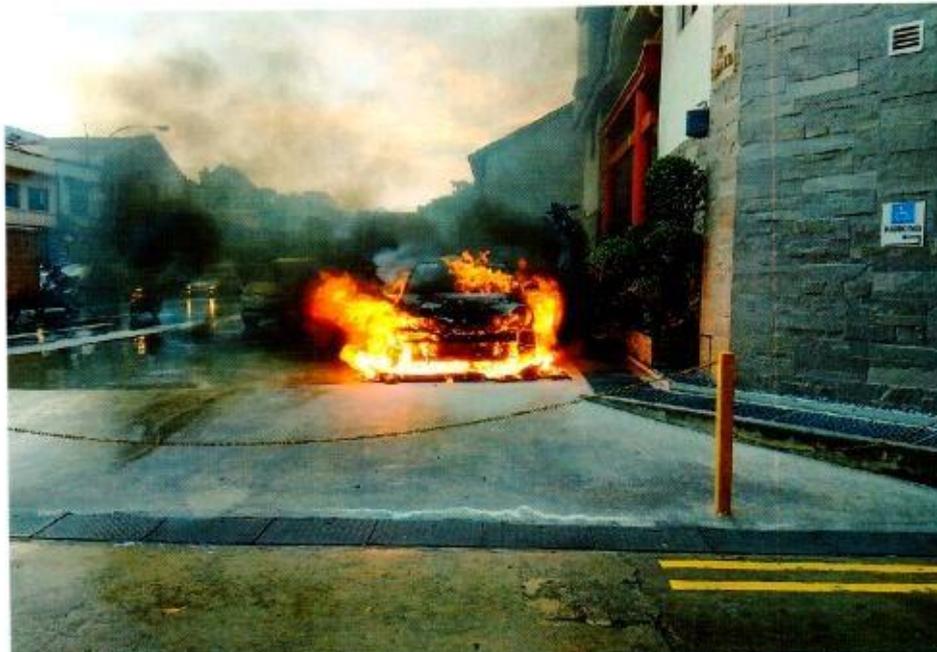


Photo 21 shows the Insured Vehicle at the incident scene. These photograph was taken before the arrival of SCDF fire fighters. Mr Leong tried to extinguish the fire with a fire extinguisher but failed hence it was engulf with fire.



Photo 22 shows the general view of the fire fighter while in the process of extinguishing the fire.

25. 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.
26. The possibility of the fire being due to external factor (foreign material(s) stuck on hot surfaces, arson and sabotage amongst others) would also seem unlikely given that my 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 parked.
27. The possibility of the fire being due to electrical in nature would then seem more likely given that engine overheating and external factor would both seem unlikely. The fire being due to electrical nature is also supported by the condition of the wirings of the Insured Vehicle, which was earlier discussed in paragraph 10 above.

28. Although the engine of the Insured Vehicle was switched off at the material time of incident, some electrical current would still be flowing within the electrical system as several electrical and/or electronic components on the Insured Vehicle would require current to remain in operation and/or in standby mode. These components may include the alarm system, clock, radio and cabin light amongst others.
29. 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 photo 19 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: Singapore NRIC
Owner ID: 0641E

Vehicle Details

Vehicle Registration number: SGV4954Y
Make: NISSAN
Vehicle Model: LATI0 1.5L A
Engine No.: HR15154185A
Chassis No.: JN1BAAC11Z0005035

Recall Details

1 Recall No.: R2016030213
Manufacturer Recall Date: 10 Mar 2016
Estimated Completion Year of Recall: 2017
Brief Description (As Provided by Motor Dealer): ABS ACTUATOR UNIT COULD POSSIBLY BE DAMAGED BY EXCESSIVE WATER PENETRATION DURING HIGH PRESSURE CAR AND/OR ENGINE WASH.
Date Rectified: -
For more details, contact TAN CHONG MOTOR SALES PTE LTD
Hotline Information: TAN CHONG MOTOR SALES PTE LTD at 64694091/2/3

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Photo 23 shows 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.

Conclusion

30. 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 wiring inside the engine compartment, somewhere around the left rear of the engine compartment. The wiring was an original factory fitted on the Insured Vehicle.

31. 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.
32. 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.
33. 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.



Rohaizal A. Rahim
Technical Investigator



Ang Bryan Tani
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