



Your Ref : 2100352154-04
Our Ref : CI/AIG18009117/Z

23th May 2018

M/s AIG Asia Pacific Insurance Pte Ltd
78 Shenton Way, #08-16,
Singapore 079120
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SJY 7966S ON 12th May 2018

1. We refer to your letter dated 15th May 2018 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SJY 7966S (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 16th May 2018 at the premises of TC AutoClinic Pte Ltd (Authorised Nissan Service Centre), No.1 Sixth Lok Yang Road, Singapore 628099.

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

Vehicle Registration No.	: SJY 7966S
Make / Model	: Qashqai+2-2.0 SMT ABS D/AB SR 7EAT
Chassis No	: SJNJB NJ10U7013015
Year of Registration	: 30 th September 2010
Mileage	: N.A (battery melted)

5. The Insured Vehicle was noted to have sustained fire damage that was confined to its front portion. The entire engine compartment of the Insured Vehicle was observed to be severely burnt while the interior compartment was not affected by the fire.
6. The fire had resulted in the body parts at the front portion of the Insured Vehicle to be burnt. This had included its front bonnet, front support panel, front grille, front headlamps, and front windshield amongst others. See photo 1 – 4 below.



Photo 1 shows the general view of the front 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 front bonnet, front grille and front right headlamp were amongst the body parts that were found to have been affected as a result of the fire.

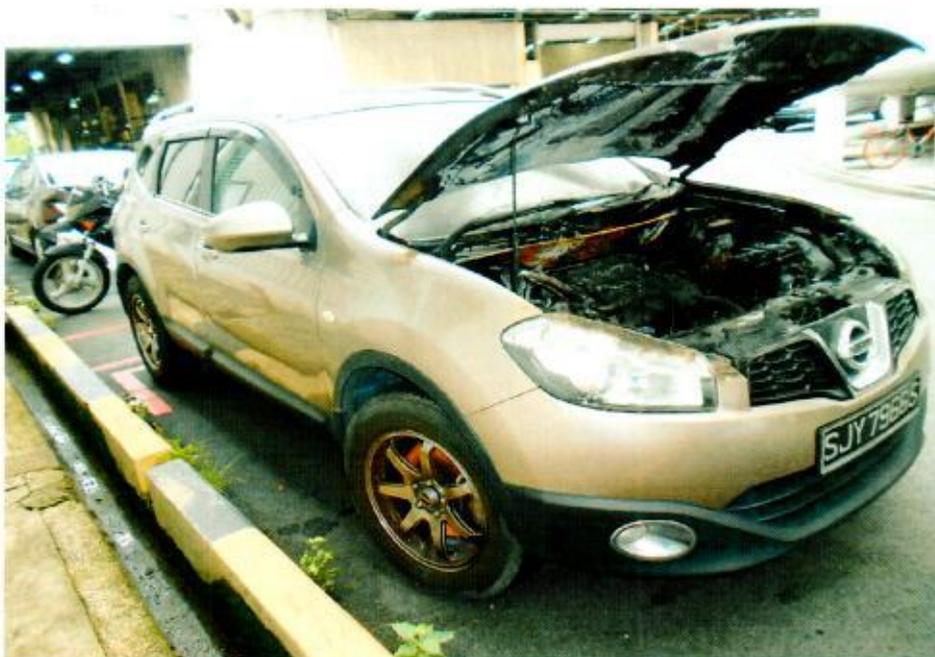


Photo 2 shows the general view of the front right portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its front bonnet and front left headlamp were amongst the body parts that were found to have been affected as a result of the fire.



Photo 3 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 4 shows the windshield of the Insured Vehicle, which was observed to be cracked were amongst the parts that were found to have been damaged as a result of the fire.

7. At the time of inspection of the Insured Vehicle, our observation found that the Insured Vehicle was installed with an additional video camera recorder fitted on the front windshield. No other 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 prolong 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 5 & 6 below.



Photo 5 shows the burn pattern and whitish burn marks (circled) 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 6 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. The rust (circled) that had developed around this area was a result of prolonged exposure to high heat intensity, which had caused the steel/metal material of the front bonnet to be exposed to natural environmental condition.

10. Upon closer examination of the area around the centre 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 7 - 8 below.



Photo 7 shows the close-up view of the wirings around the centre 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 8 shows a wider 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. J/20180513/2039, which was made by Ms Ng Bee Yean, (herein referred to as **"The Driver"**) who was the last person driving the Insured Vehicle. On 12th May 2018 at about 1700hrs, the driver had parked the Insured Vehicle which belongs to Ms Ng Yen Ni (herein referred to as **"The Owner"**) at the multi-storey car park of Blk 625A Senja Road, Deck 3A lot 290. After she had parked the car inside the parking lot, she smelt of burning smell coming from the front part of the car. She then alighted and opened the front bonnet. A gushed of white smoke came out from the engine compartment. She then waited for about 5 minutes hoping that the smoke will subside. However, it turned into fire. A passer-by called SCDF & SPF for assistance. The driver then called her brother-in-law to bring fire extinguisher. Other passer-by assisted to activate the nearby water hose but unsuccessful. Subsequently, her brother-in-law came & managed to scale down the fire with a fire extinguisher. Soon after, the SCDF & SPF came and took control of the situation.
12. No one was injured in the incident & no other vehicle was affected from the fire incident.
13. We had arranged for a face to face interview with The Driver together with The Owner under the void deck of their residence which is at Blk 926, Jurong West Street 92, Singapore 640926 on 22nd May 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.
14. The Owner is currently working as an Admin Assistant since 2012. She is the registered owner of the Insured Vehicle. Since she does not have a driving licence, the Insured Vehicle will be driven by her sister most of the time. The Driver is currently working as a Service Receptionist at ISUZU since 2016.
15. According to The Driver, the Insured Vehicle was parked at their parking lot for about 4 days prior the incident. On 12th May 2018 they planned to make a trip down to their sister's place at Blk 625 Senja Road for a family dinner. At about 1630hrs, she began warming up the engine before moving off to the planned destination (about 5 minutes). At about 1645hrs they arrived at Blk 625A Senja Road Carpark, Deck 3A. She had reversed parked the Insured Vehicle inside a parking lot no.290.



16. Upon parking successfully into the parking lot. She notice that there's white smoke was coming out from the engine compartment. She then rushed to open the front bonnet. She called her uncle who happens to be a mechanic & asked for advice. Her uncle advised her to let it cool off & advised her family member to go up to her sister's house & wait.
17. Soon the smoke grew more & fire starts to emit from the engine compartment. The Driver saw the spark of fire came from the centre rear of the engine compartment.
18. Passer-by tried helping by activating the nearby fire hose but unsuccessful. SCDF & SPF were summoned for assistance. The Driver then called her brother in law to get a fire extinguisher to stop the fire. Eventually, her brother in law came & managed to scale down the fire. Soon after, SCDF & SPF came & took control of the situation.
19. Fire was extinguished with a water jet & a compressed air foam backpack. No one was injured & no properties were damage from the fire incident.
20. The Insured Vehicle was eventually arranged to be towed from the incident location to Tan Chong AutoClinic Pte Ltd by AIG officer at about 0700hrs. That was after clearance was obtained from both SCDF investigating officers and Police investigating officers, who had also attended to the scene.
21. We were able to gather from The Owner that the Insured Vehicle was purchased brand new in 2010. According to The Driver, she did not experience any mechanical and/or electrical problem with the Insured Vehicle prior to the fire incident when she was driving it. To the best of her 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.
22. Regarding the maintenance aspect, both The Owner & The Driver did not provide me with any preventive maintenance record for the Insured Vehicle. They had informed me that no servicing records were kept after servicing & they can't remember when was the last time the Insured Vehicle was sent for servicing. The only record that they kept was STA Inspection Certificate No. STAL0097376 that was done on 05th July 2017 prior renewal of road tax. See photo 9 below.



Auto
Consultants
Pte Ltd

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

TEST CERTIFICATE

NO

STAL0097376

Land Transport Authority

THE ROAD TRAFFIC ACT
(CHAPTER 276)

This is to certify that motor vehicle with registration No. SJY2966S 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.

Date of issue : 05/07/2017

STA Inspection Pte Ltd

Reference No : LL170709667

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.

WARNING:

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



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Sui Ming Centre
227-231, Middle Road
Singapore 378527
Tel: (65) 6257 3885
Fax: (65) 6257 8199
www.sta.com.sg
CR No: 102280733

Service Branch Locations
100, Bras Basah Road
Singapore 179570
Tel: (65) 6331 1115
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Photo 9 shows an STA Inspection Certificate No. STAL0097376.

23. We did an investigation on the preventive maintenance through Tan Chong AutoClinic Pte Ltd. We were informed by the Customer Service Officer Ms Felice from Tan Chong Head Office verbally via telephone conversation that The Insured Vehicle last servicing record was done on 2013. We were unable to get any hard copy receipt from the Customer Service Officer due to Personal Data Protection Act.

24. Notwithstanding that both The Owner & The Driver informed me that there was no modification(s) and/or additional electronic or electrical component(s) fitted on the Insured Vehicle, our observation found that the Insured Vehicle was installed with an additional video camera recorder fitted on the front windshield.

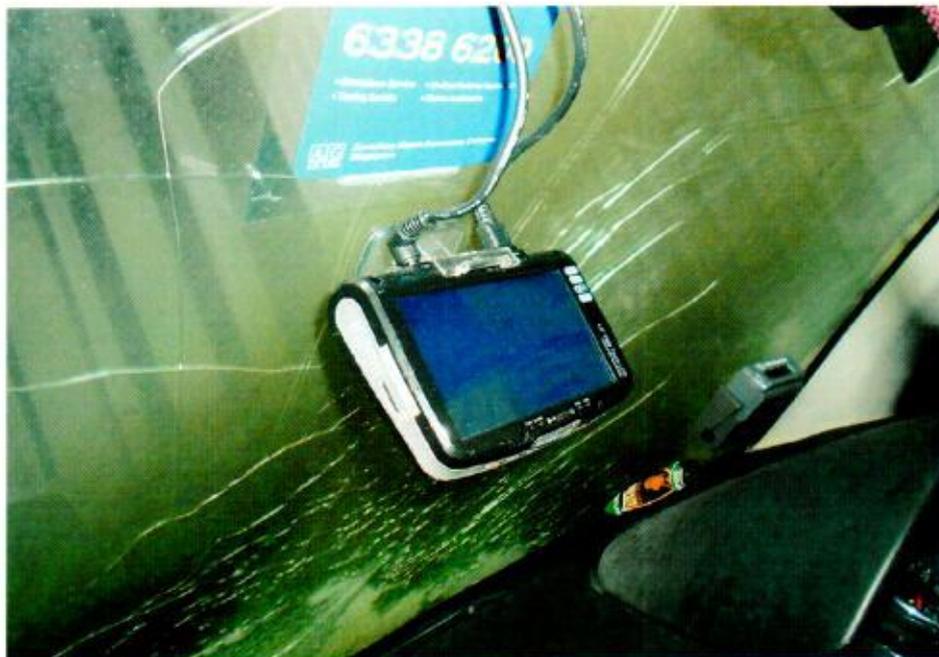


Photo 11 shows the Insured Vehicle was installed with an additional video camera recorder fitted on the front windshield.

Incident Site Visit

25. We visited the incident location on 22nd May 2018. The incident had occurred at a Multi-Storey car park, which is at Block 625A Senja Road Deck 3A Lot 290. The carpark serves both the residences and visitors. When driving through the carpark compound, parking lot number 290 was observed to be on the right side of the car park. Further observations on the cement floor, we found burnt marks/ burnt residual. Burnt marks were also observed on the concrete ceiling at the parking lot. This reveals that there's evidence that fire incident happen at the said spot. See photo 11 – 15 below.



Photo 11 shows the general view of block 625A, a Multi-Storey car park where the Insured Vehicle was parked at the time of incident.



Photo 12 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 290, which is on the right side upon entering Deck 3A of the Multi-Storey car park.



Photo 13 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 290.



Photo 14 shows the close-up view of where the Insured Vehicle was parked at the time of incident. Further observations on the cement floor, we found burnt marks/ burnt residual at the parking lot. This reveals that there's evidence that fire incident happen at the said spot.



Photo 15 shows the close-up view of where the Insured Vehicle was parked at the time of incident. Further observations, we also found burnt marks/ burnt residual at the concrete ceiling above the parking lot. This reveals that there's evidence that fire incident happen at the said spot.

26. Although there was no CCTV camera(s) around the incident location, we were however able to obtain photographs which were taken by The Owner & The Driver at the incident location. The photographs were taken at the time of the fire incident.
27. In general, the information that could be gathered from these photographs had corresponded to the events that were related to me by both The Owner & The Driver. 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 lot where the Insured Vehicle was parked. See photo 16 - 19 below.



Photo 16 shows the Insured Vehicle at the incident scene. An SCDF fire fighter was seen trying to extinguish the fire from the Insured Vehicle.



Photo 17 shows the Insured Vehicle at the incident scene. SCDF fire fighters were seen trying to extinguish the fire from the Insured Vehicle.



Photo 18 shows a semi close-up view of where the Insured Vehicle was parked at the time of incident. It was after the fire-fighter's had extinguished the fire.



Photo 19 shows the close-up view of the Insured Vehicle after SCDF fire fighters had extinguished the fire.

28. 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.
29. 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.
30. 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.
31. 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.
32. 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 20 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: 3912B

Vehicle Details

Vehicle Registration number: SJY7966S
Make: NISSAN
Vehicle Model: QASHQAI+2 2.0 SMT ABS D/AB SR 7EAT
Engine No.: MR20981193A
Chassis No.: SJNJBNJ10U7013015

Recall Details

No Recall Detail records

OK

Photo 20 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.

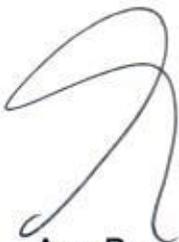
Conclusion

33. 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 centre rear of the engine compartment. The wiring was an original factory fitted on the Insured Vehicle.
34. Notwithstanding that we was not provided with any servicing record, basing on STA Inspection Certificate 'passed' result which was done on 05th July 2017, 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.

35. Notwithstanding that both The Owner & The Driver informed us that there was no modification(s) and/or additional electronic or electrical component(s) fitted on the Insured Vehicle, our observation found that the Insured Vehicle was installed with an additional video camera recorder fitted on the front windshield. However, looking at the physical evidence that the source of fire ignite was from the engine compartment area, we did not find any evidence which had suggested that the cause of fire to the Insured Vehicle was due to the additional video camera recorder that was fitted on the front windshield.
36. 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
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
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Technical Investigation & Reconstructionist (SAE-A)

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