

Your Ref: 1396297935SG-001
Our Ref :CI/AIG18001166/Z

19th January 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 SJZ 8084A ON 30th DECEMBER 2017**

1. We refer to your letter dated 12th January 2018 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SJZ 8084A (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 15th January 2018 at the premises of Lai Huat (Meng Kee) Motor Pte Ltd, 160 Sin Ming Drive, #04-01/02, Sin Ming Autocity, Singapore 575722.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: SJZ 8084A
Make / Model	: BMW 320i
Chassis No	: WBAPG56040NM
Year of Registration	: 2010 (December)
Mileage	: N.A (battery melted)

5. The Insured Vehicle was noted to have sustained fire damages that were confined to its front portion in between the engine & interior portion. The effected burnt area was observed to be on the left hand side behind the engine area before the glove compartment where the front passenger seat's located.
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, at the left top area; wiper panel garnish; front windshield; front dashboard and left front door (interior) amongst others. See photo 1 – 4 below.

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Photo 1 shows the general view of the front portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front bonnet, at the left top area; wiper panel garnish; front windshield; front dashboard and left front door (interior) 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 left portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front bonnet, at the left top area; wiper panel garnish; front windshield; front dashboard and left front door (interior) amongst the body parts that were found to have been affected as a result of the fire.

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Photo 3 shows the engine compartment of the Insured Vehicle at the time of our inspection. The engine compartment of the Insured Vehicle was observed to be partially burnt. Some parts inside the engine compartment, at the rear left area (circled), were found to be burnt and/or melted as a result of the fire.



Photo 4 shows the interior compartment of the Insured Vehicle, which was observed to be partially burnt and/or melted. The front dashboard & front windscreen were amongst the parts that were found to have been burnt and/or melted as a result of the fire. The front left air bag was also found to be activated due to the incident.

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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 its front portion in between the engine & interior portion. 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, and also given that there was no other areas of the Insured Vehicle that were found with damage of burnt nature.
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 prolong 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 left 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 were 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.

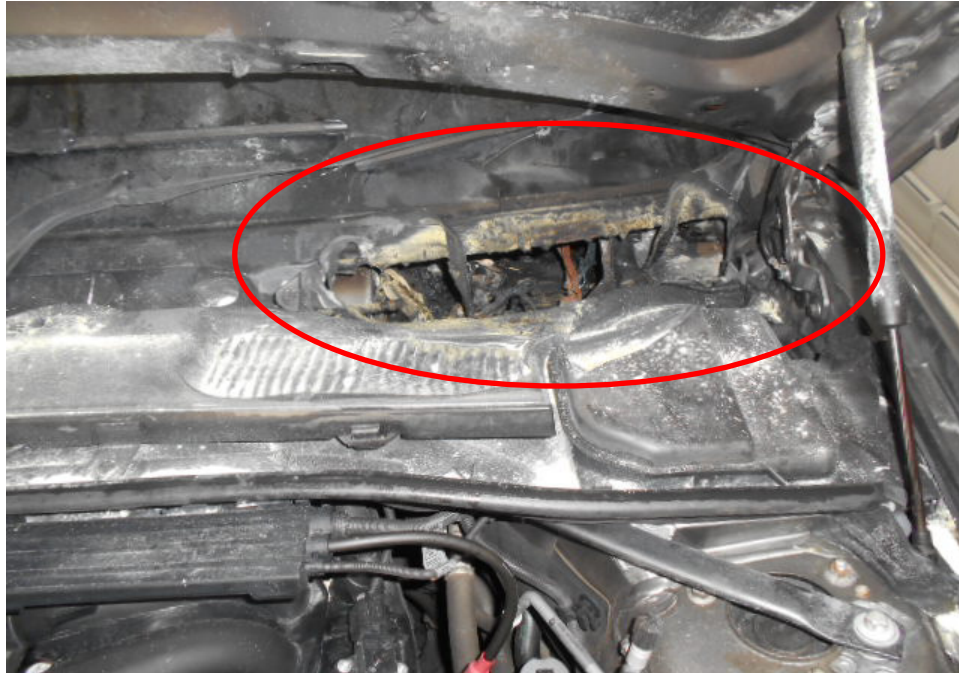


Photo 7 shows a closer view of the wirings around the left rear of the engine compartment, which was in the immediate vicinity where the fire to the Insured Vehicle had likely started.

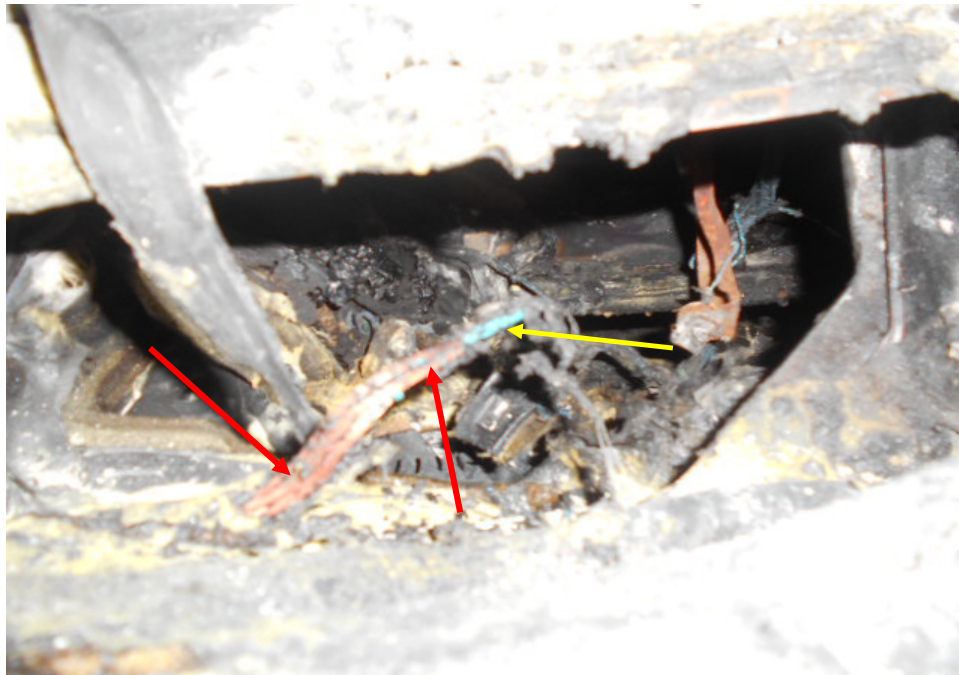


Photo 8 shows a closer view of the wirings (red arrow) which were found to have been burnt internally to its bare copper state, suggesting occurrence of an electrical short circuit. These wirings were observed to be greenish (yellow arrow) believe to be the focal point of the fire ignition.

11. From the Police report J/20180109/2076, which was made by Mr Lee Lian Fei, who was the last person driving the Insured Vehicle. Mr. Lee Lian Fei had parked his vehicle SJZ 8084A at Blk 115A Ho Ching Road Multi Storey Carpark Level 1 Lot no. 3 on 26th December 2017 at about 0900hrs, everything was intact & secured. He left & took a flight to Bangkok for business trip at about 1310hrs on the same day,
12. We note that the fire to the Insured Vehicle had started when it was parked. It was about 5 days later which was on 30th December 2017 after it was parked at the same parking location. Mr. Lee Lian Fei was alerted of the fire by his sister Ms. Lee Tsiu Wuk through his mobile phone while he was still in Bangkok.
13. We had arranged for an interview session with Mr Lee Lian Fei at Great World City on 18th January 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. According to Mr Lee Lian Fei, on 26th December 2017 at about 0900hrs, he had parked his vehicle SJZ 8084A at Blk 115A Ho Ching Road Multi Storey Carpark Level 1 Lot no. 3. Preparing to take a flight to Bangkok for a business trip. He had reversed parked inside the parking lot, secured the Insured Vehicle with everything intact and went up to his unit at #07-108. He then left at about 1310hrs to Changi Airport.
15. He was alerted of the fire on 30th December 2017 at about 2130hrs, by his sister Ms. Lee Tsiu Wuk through his mobile phone while he was still in Bangkok. Ms. Lee Tsiu Wuk also informed Mr. Lee Lian Fei that the SCDF & Police was at the scene extinguishing the fire & controlling the situation.
16. Mr. Lee Lian Fei then contacted the AIG insurance helpline (Policy No. 2100305775) (Insurance Report Case No. 20171230/0720) informing them of the incident. The Insured Vehicle was eventually arranged to be towed from the incident location to the AIG authorized workshop Lai Huat (Meng Kee) at 160 Sin Ming Drive on 2nd January 2018.
17. Mr Lee Lian Fei returned to Singapore on 8th January 2018 at about 2300hrs & subsequently made a police report the next day on the 09th January 2018 at Jurong NPP, 158 Yung Loh Road #01-58 Singapore 610158.

18. We were able to gather from Mr. Lee Lian Fei that the Insured Vehicle was purchased used from an individual in 2011. Mr. Lee Lian Fei is the registered owner of the Insured Vehicle. According to Mr. Lee Lian Fei, he did not experience any mechanical and/or electrical problem with the Insured Vehicle prior to the fire incident when he was driving it before leaving for Bangkok. 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 the maintenance aspect, Mr. Lee Lian Fei informed us that the last servicing carried out on the Insured Vehicle was on 02nd October 2017 at Performance Motor Limited workshop at 303 Alexandra Road. He was able to provide me with a document relating to this servicing. My review of this document revealed that the recorded mileage of the Insured Vehicle during this servicing was 95,541km. The engine oil, oil filter, standard scope servicing and washer additive were replaced during this servicing. See document below relating to this servicing which was provided to me by Mr Lee Lian Fei.

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Service Dealer

Performance Motors Limited

A member of the Sime Darby Group
Co. Reg. No. 197401399W GST Reg. No. M2002001-K

303, Alexandra Road
Sime Darby Performance Centre
Singapore 159541
Tel: 63190100 (Sales & Admin)
63190111 (AfterSales)
Fax: 64747770

230, Kampong Ayer Road
East Coast Centre
Singapore 438160
Tel: 63190508 (AfterSales)
Fax: 63449773

315, Alexandra Road
Sime Darby Business Centre
Singapore 159544
Tel: 63190528 (AfterSales)
63190533/530 (Motorrad)
Fax: 64796601 (AfterSales)
64796604 (Motorrad)



Service Tax Invoice (Re-Print)

Svc. Contract No. : 14656		Page : 1	
Cust. Svc. Advisor : Ryan M. Fuentes		Payment Terms : Cash	
Invoice No. : W1 1888275 WSB		Effective Date : 02/10/2017 - 01/10/2020	
Invoice Date : 02/10/2017		Invoice By : Ryan M. Fuentes	
- CUSTOMER INFORMATION - Lee Lian Fei 115 Ho Ching Road #07-108 Singapore 610115		- INVOICE TO - Customer Number Code : 40000 Cash Sales - Service Singapore	
Make:	Registration No.	Chassis No.	Registration Date
BMW	SJZ8084A	NM26417	29/12/2010
			Model
			E90/320i RL LIM ZA A /N46
			Mileage
			95,541
Package Code	Description	Package Price	
PMLOSP_A	PML Oil Service Package (4 Cylinder - Non-Turbo)	495.33	
Package of three BMW Engine Oil Services comprising: - BMW Recommended Engine Oil - Set Oil Filter Element - Engine Oil Service - Service - Standard Scope - Complimentary BMW windscreen washer additive Valid for 36 months from date of purchase. Non-transferrable and non-refundable.			
Computer Generated Invoice. No signature is required.		Total Service Package : S\$ 495.33 GST % @ 7 % : S\$ 34.67 Total Invoice Amount : S\$ 530.00 Amount Payable : S\$ 530.00	
All amounts are in Singapore Dollars. Work to be carried out subject to the Company's Terms and Conditions of Service.			

20. Mr Lee Lian Fei also informed us that there was no modification(s) and/or additional electronic or electrical component(s) fitted on the Insured Vehicle. To the best of his knowledge, no other motor vehicle or property was affected by the fire incident. He further confirmed that the Insured Vehicle was not driven after he had left for Bangkok.
21. We visited the incident location on 16th January 2018 taking the police report made by Mr Lee Lian Fei and the information that we had gathered during our conversation with him as references.
22. The incident had occurred at the Blk 115A Ho Ching Road Multi Storey Carpark Level 1 Lot no. 3. When driving along the driveway of the carpark, parking lot number 3 was observed to be on the left side of the driveway. It was the first of 3 parking lots in between the motorcycle lot and the handicapped lot.
23. At the time of our visit, there was another motor vehicle parked inside parking lot 3. We were therefore not able to clearly see if there were any burnt marks or burned residual remains on the ground inside the parking lot. The ceiling and water pipe directly above the parking lot, were not affected by the fire incident.
24. The location where the Insured Vehicle was parked at the material time of incident was noted to be not at a secluded location. See photo 9 – 13 below.

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Photo 9 shows the general view of the multi-storey carpark where the Insured Vehicle was parked at the time of incident. This was inside the premises of blk 115A Ho Ching Road. The Insured Vehicle was parked at the 1st floor of this carpark at the material time of incident.



Photo 10 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 3, which is on the left side of the carpark driveway, at the 1st floor of the multi-storey carpark.

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Photo 11 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 3, which is the first of 3 parking lots in between the motorcycle lot and the handicapped lot.



Photo 12 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 3, which is the first of 3 parking lots in between the motorcycle lot and the handicapped lot. The ceiling and water pipe directly above the parking lot, were not affected by the fire incident.



Photo 13 shows the general view of where the Insured Vehicle was parked (arrowed) at the time of incident. This was inside parking lot 3, which is the first of 3 parking lots in between the motorcycle lot and the handicapped lot. The ceiling and water pipe directly above the parking lot, were not affected by the fire incident.

25. We were however able to obtain photographs which were taken by Ms. Lee Tsiu Wuk (sister of Mr. Lee Lian Fei). The photographs were taken after the fire to the Insured Vehicle was extinguished and had showed the front portion of the Insured Vehicle badly burnt.

26. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Lee Lian Fei. 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 14 - 16 below.



Photo 14 shows the Insured Vehicle at the incident scene after the fire was extinguished (arrowed). There appears to be no abnormal foreign material(s) and/or object(s) found on the ground in the immediate area where the Insured Vehicle was parked. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Lee.



Photo 15 shows the Insured Vehicle at the incident scene after the fire was extinguished. The engine sustained partial burnt due to the incident.



Photo 16 shows the Insured Vehicle at the incident scene on the next day. There appears to be no abnormal foreign material(s) and/or object(s) found on the ground in the immediate area where the Insured Vehicle was parked.

27. 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 (about 5 days).
28. 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.

29. 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.
30. 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.
31. Our checks with both local and international bodies and associations had revealed that at the time of writing this report, there was a manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle. However, it was rectified on 17th October 2013 by Performance Motor Limited. Hence, it may not be possibly related to this incident.

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:	3584G	
Vehicle Details		
Vehicle Registration number:	SJZ8084A	
Make:	B.M.W.	
Vehicle Model:	320I AT ABS D/AB 2WD 4DR GAS/D SR	
Engine No.:	B255I818N46B20BD	
Chassis No.:	WBAPG56040NM26417	
Recall Details		
1	Recall No.:	R2013030004
	Manufacturer Recall Date:	14 Feb 2013
	Estimated Completion Year of Recall:	2013
	Brief Description (As Provided by Motor Dealer):	The plug-in contact of the battery-positive cable on the front power distributor (fitted behind the glove compartment) may be damaged by vehicle vibrations and therefore cause corrosion through rubbing in conjunction with a high current load. Damage to the plug-in contact may impair the power supply to the vehicle.

https://vri.lta.gov.sg/ita/vri/action/enquireVehRecallForSpecificVehProxyAction?FUNCTION_ID=F2303031ET

1/16/2018

Enquiry on Vehicle Recall - Vehicle Specific

Date Rectified:	17 Oct 2013
For more details, contact BMW ASIA PTE LTD	
Hotline Information:	Performance Motors Ltd at 18002255269

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Conclusion

32. 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 its front portion in between the engine & interior portion. The wirings were likely to be the original engine wire harness.
33. 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.
34. 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.
35. Our investigations had also revealed that at the time of writing this report, there was a manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle. However, it was rectified on 17th October 2013 by Performance Motor Limited. Hence, it may not be possibly related to this incident.

Rohaizal A. Rahim*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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