

Your Ref: S0M02FPS
Our Ref : CS/ASM20002344/N

13 February 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 SJK 4681G ON 7 FEBRUARY 2020**

1. We refer to your letter dated 10 February 2020 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SJK 4681G (herein referred to as "**Insured Vehicle**") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 11 February 2020 at the premises of Progressive Auto Pte. Ltd. (herein referred to as "**Progressive**") located at 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.	: SJK 4681G
Make / Model	: HONDA CIVIC 1.8L 5AT
Chassis No	: JHMFD16309S200228
Year of Registration	: October 2008
Mileage	: N.A. (battery melted)
5. The exterior front body of the Insured Vehicle sustained visible fire damage. This included its windscreen, front bonnet, headlights, front bumper and side panels.
6. The fire had resulted in extensive damage to the engine compartment of the Insured Vehicle. Most of the components inside the engine compartment were found to be severely burnt and/or melted as a result of the fire. The interior compartment was observed to have been seriously affected by the fire. See photos 1 – 6 below.



Photo 1 shows the rear left view of the Insured Vehicle. The rear portion of the Insured Vehicle was observed to be relatively unaffected by the fire.



Photo 2 shows the general view of the frontal portion of the Insured Vehicle at the time of our inspection. The exterior body of the Insured Vehicle had sustained visible fire damage. This included its front windscreen, front bonnet, front bumper, front bumper reinforcement panel, headlights and side panels.



Photo 3 shows the general view of the left portion of the Insured Vehicle at the time of our inspection. The exterior body of the Insured Vehicle had sustained visible fire damage. This included its front windscreen, front bonnet, left headlight, front bumper and left front panel.



Photo 4 shows a closer view of the front windscreen of the Insured Vehicle at the time of our inspection. The front windscreen had sustained extensive fire damage.



Photo 5 shows a general view of the engine compartment of the Insured Vehicle at the time of our inspection. Most of the components inside the engine compartment were found to be severely burnt and/or melted as a result of the fire.



Photo 6 shows the interior compartment of the Insured Vehicle, which was observed to be seriously affected by the fire.

7. At the time of physical inspection of the Insured Vehicle, we had found it to be fitted with a non- standard rear exhaust muffler and aftermarket 17- inch alloy rims. All these fitted components were not the standard type for the Insured Vehicle. See photos 7 - 9 below.



Photo 7 shows a front view of the non-standard rear exhaust muffler that was found to be fitted on the Insured Vehicle at the time of our inspection.



Photo 8 shows a close up right side view of the non-standard rear exhaust muffler that was found to be fitted on the Insured Vehicle at the time of our inspection. The brand of the rear exhaust muffler was 'HKS' (circled).



Photo 9 shows the non-standard rim found to be fitted on the Insured Vehicle at the time of our inspection. The 17- inch alloy rims fitted on the Insured Vehicle were not the standard type for 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 rear left portion of the engine compartment. This can be determined from the greenish residue that was found on several stretches of burnt original factory fitted wirings mainly around the rear left portion of the engine compartment. 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. These physical evidences would appear to suggest that the cause of fire to the Insured Vehicle could have possibly been due to electrical in nature. See photos 10 – 12 below.

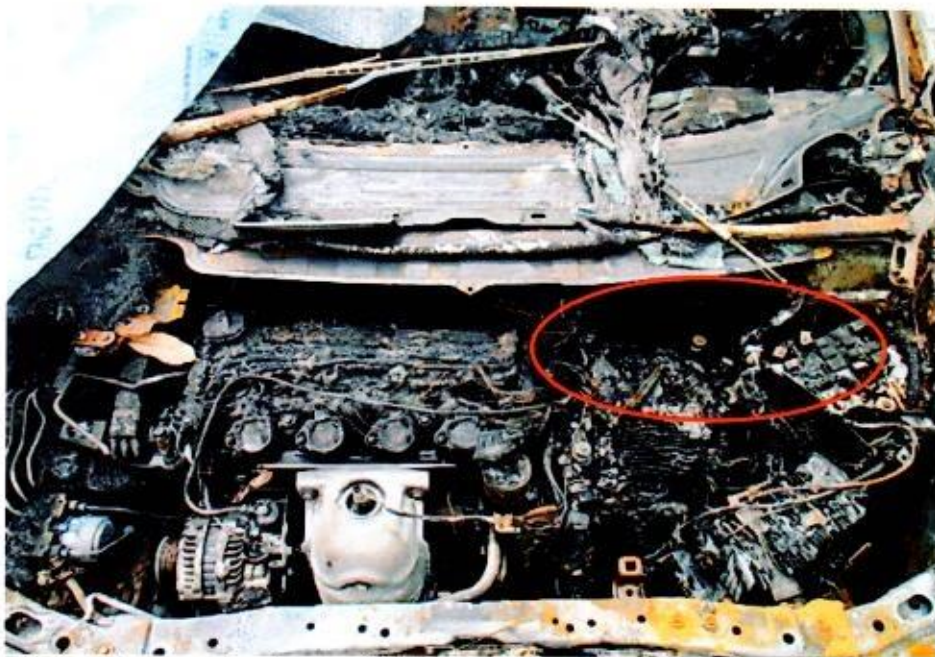


Photo 10 shows the burnt wirings around the rear left portion of the engine compartment which is near to the vicinity where the fire to the Insured Vehicle had likely started (circled).



Photo 11 shows a closer view the greenish residue on several stretches of burnt wirings at the rear left portion of the engine compartment (circled), 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 12 shows a close up view of the greenish residue on the wirings at the rear portion of the engine compartment (arrowed). The presence of such greenish residue suggests occurrence of an electrical short circuit.

9. From the Singapore Police Report No. G/20200207/2038 and Accident Statement, which was made by Mr Foo Chuan Shun (herein referred to as "**Mr Foo**"), we note that the fire to the Insured Vehicle had started at a time while it was parked. He was alerted of the fire when he heard a commotion that a vehicle was on fire at the carpark.
10. We managed to speak to Mr Foo where we were able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Vehicle.
11. According to Mr Foo, at about 0500 hours on 7 February 2020, he had parked the Insured Vehicle in lot 198 at open carpark B446 of Tampines Street 42 before going to a nearby coffee shop for breakfast. Mr Foo mentioned that he had driven to Johor Bahru at midnight and returned home at 0500 hours.
12. About 15 minutes after he parked the Insured Vehicle, he heard a commotion about a vehicle on fire. He ran to the carpark and saw the Insured Vehicle in flames. Mr Foo mentioned that somebody had already called the SCDF. Mr Foo managed to take photographs of the incident. Firefighters arrived in 10 minutes and took some time to put the fire out. Mr Foo assisted the SCDF in their preliminary investigations. His statement was also taken by the police who were at the scene.
13. There was a taxi parked to the right side of the Insured Vehicle when the fire broke out. Mr Foo mentioned that the left portion of the taxi had sustained consequential damage as a result of the fire. There was no vehicle parked to the left side of the Insured Vehicle when the incident occurred. The taxi driver arrived at the incident scene after the fire was put out and both him and Mr Foo exchanged personal particulars.
14. Mr Foo called the AXA hotline after the SCDF had completed their preliminary investigation and made towing arrangements. The tow truck arrived about 1 hour later and the Insured Vehicle was towed to Progressive. Mr Foo lodged a police report at Tampines Neighbourhood Police Centre at 1206 hours. He then made the insurance report at Progressive later that day at 1249 hours.
15. With regards to the history of the Insured Vehicle, we were able to gather from Mr Foo that the Insured Vehicle was purchased second- hand in 2018. The COE of the Insured Vehicle was renewed for 5 years when Mr Foo purchased it. Mr Foo is the owner and only driver of the Insured Vehicle. He had only drove the Insured Vehicle for about a year before the incident occurred.

16. To the best of his recollection, there has not been any major mechanical problem and/or electrical problem with the Insured Vehicle.
17. We asked Mr Foo regarding the non- standard rear exhaust muffler and aftermarket 17- inch alloy rims that were fitted onto the Insured Vehicle. He had replaced the original rims with aftermarket 17- inch alloy rims after purchasing the Insured Vehicle.
18. As for the HKS rear exhaust muffler, Mr Foo mentioned that he purchased it, had it fitted onto the Insured Vehicle and inspected on 6 May 2019. We were able to obtain the inspection acknowledgement letter issued by the LTA to prove that the HKS rear exhaust muffler had passed the mandatory inspection on 6 May 2019. See photo 13 below.

Land Transport Authority

10 Sin Ming Drive Singapore 575801
www.lta.gov.sg

06 May 2019

Our ref: 0605192301N046024398

FOO CHUAN SHUN
446 TAMPINES STREET 42
#12-22
SINGAPORE 520446



Dear MR FOO CHUAN SHUN

**NOTIFICATION OF SUCCESSFUL AMENDMENT OF VEHICLE SPECIFICATION FOR
VEHICLE NO. SJK4681G ←
CHASSIS NO. JHMFD16309S200228
ENGINE NO. R18A14002086**

We wish to inform you that the EXHAUST SYSTEM installed on your vehicle has passed inspection at STA (SIN MING) on 06 May 2019 ←

The details of the EXHAUST SYSTEM are as follows:

Make: HKS
Model name: HKS

2. Please note that the above EXHAUST SYSTEM is (are) specifically designed for your particular make and model of vehicle only. Should there be any changes to the EXHAUST SYSTEM, you are required to seek the Land Transport Authority (LTA)'s approval.

3. For any further clarification, please contact us at 1800- CALL LTA (1800-2255 582).

Yours sincerely

Eu Ai Ming (Mr)
for Deputy Director, Vehicle Approval & Control
Vehicle Services Group
Land Transport Authority

[This letter is computer-generated, no signature is required.]

From 01 Jan 2019, your hardcopy letters will be replaced with SMSes and e-letters in your OneMotoring inbox. Hardcopy letters will only be sent for letters mandated by law, such as summonses. If you wish to continue receiving hardcopy letters, please notify LTA by 31 May 2019 by logging in to www.onemotoring.com.sg using your SingPass/CorpPass.

NOTE: The General Insurance Association of Singapore would like to advise motorists to notify and declare to their respective motor insurers any modifications (including those approved by the Land Transport Authority) made to their vehicles. Failure to do so may result in the denying of claims in the event of an accident and the motor insurance policy considered void on the grounds of non-disclosure.

Photo 13 shows the inspection acknowledgement letter issued by the LTA to prove that the HKS rear exhaust muffler fitted onto the Insured Vehicle (circled) had passed the mandatory inspection on 6 May 2019 (arrowed).

19. Pertaining to the maintenance aspect, Mr Foo mentioned that he sends the Insured Vehicle for periodic servicing. He services the Insured Vehicle at Motoricarz Garage located at 53 Ubi Avenue 1, #01-19 Paya Ubi Industrial Park, Singapore 408934. During the course of our investigations, we were able to obtain from Mr Foo, tax invoices of the most recent servicing and repairs done to the Insured Vehicle. The last periodic servicing done on the Insured Vehicle was on 24 April 2019. The servicing package had included the changing of engine oil and oil filter. The bush was also replaced. See Invoice 1 below.



Motoricarz Garage

53 UBI AVENUE 1 #01-19 PAYA UBI INDUSTRIAL PARK
SINGAPORE 408934
TEL: 6844 4290 FAX: 6841 6043 HP: 97699299
EMAIL: motoricarzgarage@gmail.com
REGISTRATION NO: 53188525K

Bill To: EDWIN (CARZ WORLD)
Singapore
Attention:
Contact No: 9643 7773
Fax:
Email:

Invoice No: IVMG1904 - 163
Job Sheet No: MD-1045
Date: April 24, 2019
Term: Due upon receipt
Mileage: 109882 KM
Next Service: 119882 KM
Vehicle No: SJH4581G
Make/Model: HONDA CIVIC

S.No	Description	Qty	Price (SGD)	Amount (SGD)
1	SERVICING ENGINE OIL BARDHAL X90(4L) WITH OIL FILTER	1	120.00	120.00
2	BUSH AND LABOUR	1	20.00	20.00
Sub Total (SGD)				140.00
Amount in words : One Hundred Forty Singapore Dollar (SGD)				Total (SGD) 140.00

All Cheques must be crossed and made payable to - **MOTORICARZ GARAGE**.
For bank transfer, **MOTORICARZ GARAGE**, Acct No: UOB 362 - 302 - 473 - 1.
Once transfer or deposit is done, kindly call our office at **6844 4290** to notify.
Interest at the rate of 2% per month will be charge for all overdue payment.
This is Computer Generated Invoice. No Signature Required.


Product received and checked to be in good condition.

Customer's Signature

E. & O. E.

Invoice 1 shows the last periodic servicing done on the Insured Vehicle at Motoricarz Garge on 24 April 2019 (arrowed). The servicing package had included the changing of engine oil and oil filter. The bush was also replaced (circled).

20. Mr Foo also had the Insured Vehicle repaired about 1 month prior to the incident on 11 January 2020. The package had included the changing of the front wheel bearings. The pump bearing was also replaced. See Invoice 2 below.



Motoricarz Garage ←

53 UBI AVENUE 1 #01-19 PAYA UBI INDUSTRIAL PARK
SINGAPORE 408934
TEL: 6844 4290 FAX: 6841 6043 HP: 97699299
EMAIL: motoricarzgarage@gmail.com
REGISTRATION NO: 53188526K

Bill To: EDWIN (CARZ WORLD)
Singapore
Attention:
Contact No: 9543 7773
Fax:
Email:

Invoice No: NMG2001-55
Job Sheet No: MG 2564
Date: January 11, 2020 ←
Term: Due upon receipt
Mileage:
Next Service:
Vehicle No: SJK4681G ←
Make/Model: HONDA CIVIC

S.No	Description	Qty	Price (SGD)	Amount (SGD)
1	FRONT WHEEL BEARING (JAPAN)	2	45.00	90.00
2	PUMP BEARING AND LABOUR	1	100.00	100.00
Sub Total (SGD)				190.00
Amount in words : One Hundred Ninety Singapore Dollar (SGD)			Total (SGD)	190.00

All Cheques must be crossed and made payable to : **MOTORICARZ GARAGE**.
For bank transfer, **MOTORICARZ GARAGE**, Acct No. UOB 362 - 362 - 473 - 1.
Once transfer or deposit is done, kindly call our office at **6844 4290** to notify.
Interest at the rate of 2% per month will be charge for all overdue payment.
This is Computer Generated Invoice. No Signature Required.

Product received and checked to be in good condition.

Customer's Signature

E. & O. E.

Invoice 1 shows the servicing and repairs done on the Insured Vehicle at Motoricarz Garage on 11 January 2020 (arrowed). The servicing package had included the changing of the front wheel bearings. The pump bearing was also replaced (circled).

21. Mr Foo mentioned that since the latest servicing and repairs were done he had not experienced any other mechanical or electrical problems with the Insured Vehicle. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature of the Insured Vehicle while he was driving before the incident occurred.
22. Mr Foo mentioned that since the purchase of the Insured Vehicle, he has not additionally fitted any electrical or electronic component(s) to the Insured Vehicle.

Incident Scene Photographs

23. We were able to obtain from Mr Foo, photos of the Insured Vehicle which he had taken during the fire as well as after the fire was put out. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Foo. 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 where the Insured Vehicle was parked. See photos 14 - 19 below.



Photo 14 shows the Insured Vehicle on fire before the arrival of the SCDF. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Foo, which is there was a taxi parked on the right side of the Insured Vehicle when the fire broke out.



Photo 15 shows the SCDF's arrival and firefighters attempting to put out the fire.

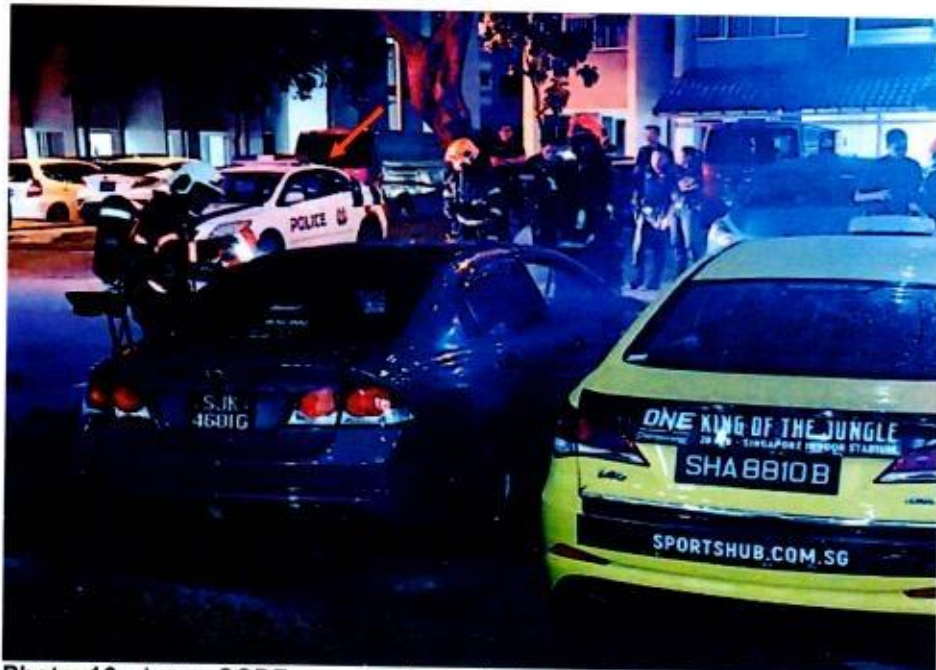


Photo 16 shows SCDF personnel conducting preliminary investigations as to how the fire to the Insured Vehicle had likely started. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Foo, which is police were also present at the incident scene (arrowed).



Photo 17 shows the Insured Vehicle and the taxi after the fire had been extinguished. The taxi had sustained consequential damage of heat nature to its front left side as a result of the fire (arrowed).

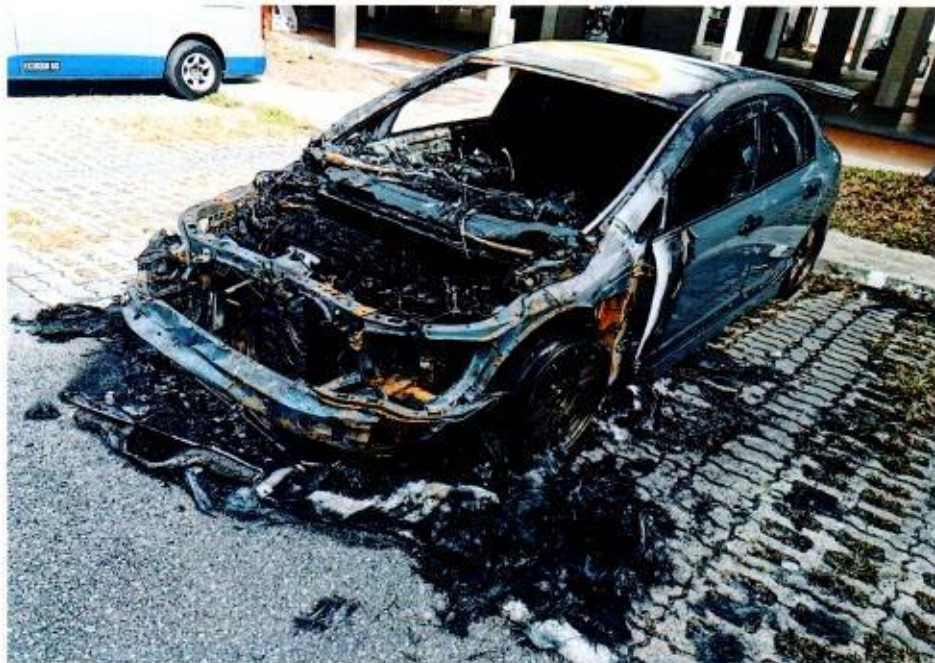


Photo 18 shows the Insured Vehicle at the incident scene after the fire was extinguished. The extent of damage indicates that the fire had started in the engine compartment.



Photo 19 shows the Insured Vehicle being prepped to be towed away.

24. Based on the vehicle service record invoices provided, we are of the opinion that it is unlikely that the fire could have been caused by poor maintenance of 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 the fire had started after the engine was switched off for a period of time (about 15 minutes).
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 given that our examination of the available incident scene photographs did not reveal any unusual material(s)/object(s) found on the ground where the Insured Vehicle was parked. The location of where the Insured Vehicle was parked 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 wirings that were found in the engine compartment of the Insured Vehicle, which was earlier discussed in paragraph 8 above.
28. Our checks with both local and international bodies and associations had revealed that at the time of writing this report, there were 3 manufacturer recalls. The 1st manufacturer recall on 25 July 2011 was for the water pump. The 2nd and 3rd manufacturer recalls on 14 May 2015 and 9 July 2015 respectively were for the SRS airbag. However all these faults were rectified. See search result from LTA below.

Vehicle Recall Details

* ONLY INFORMATION ON VEHICLE RECALLS SUBMITTED FROM 9 APRIL 2007 IS AVAILABLE

Owner ID Type Singapore NRIC	Owner ID 4471
Vehicle No. SJK4681G	Make/Model HONDA/ HONDA CIVIC 1.8I 5AT
Engine No. R18A14002086	Chassis No. JHMF0163095200228

Recall Details

Recall No.: R2011070047

Manufacturer Recall Date:

25 Jul 2011

Estimated Completion Year of Recall:

2018

Brief Description (As Provided by Motor Dealer):

If the convex area on back of the water pump pulley tightening hole gets worn as is repeatedly subject to auxiliary belt load, the tightening bolt may come loose and eventually break, causing the auxiliary belt to detach, and power generation failure and cooling failure may result. Should this happen, the warning light would come on, the engine would stop and unable to restart.

Date Rectified:

13 Sep 2011

Hotline Information:

KAH MOTOR CO. SDN. BHD at 68413838

For more details, contact KAH MOTOR COMPANY SDN. BERHAD.

Recall Details

Recall Extension No.: R2015050119X01

Manufacturer Recall Date:

14 May 2015

Estimated Completion Year of Recall:

2018

Brief Description (As Provided by Motor Dealer):

In a front passenger airbag inflator collected from the market, reduced propellant density, which may lead to abnormal airbag deployment, was observed. Therefore, the same type of inflators produced before the certain period will be replaced with new ones as a precautionary measure.

Date Rectified:

28 Mar 2017

Hotline Information:

KAH MOTOR CO SDN BHD at 68413838

For more details, contact KAH MOTOR COMPANY SDN. BERHAD.

Recall No.: R2015080142

Manufacturer Recall Date:

09 Jul 2015

Estimated Completion Year of Recall:

2018

Brief Description (As Provided by Motor Dealer):

As results of investigating market returned parts, for specific types of driver SRS airbag inflators, some were confirmed to have wide ranges of density variations with propellants. Therefore, even though the cause has not been determined, since there is a risk of abnormal deployment when airbag is deployed, relevant inflators will be replaced with new parts as preventative action.

Date Rectified:

28 Mar 2017

Hotline Information:


KAH MOTOR CO SDN BHD at 68413838

For more details, contact KAH MOTOR COMPANY SDN. BERHAD.

Conclusion

29. Having investigated and technically analysed the damages 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 wirings inside the engine compartment, somewhere around the rear left portion. The wirings were original factory wirings 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. We found the Insured Vehicle to be fitted with a non- standard rear exhaust muffler and non-standard tyre rims (17 inch alloy rims). The abovementioned rims do not require prior approval from LTA however the non-standard rear exhaust muffler would require prior approval from LTA. Mr Foo has provided documents to prove that the non-standard rear exhaust muffler has been approved by the LTA.
32. Although the aftermarket alloy rims and rear exhaust muffler fitted on the Insured Vehicle were not the standard type for the Insured Vehicle, we are of the view that these parts did not cause and/or contribute to the fire incident.
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 pose a fire risk.

34. 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.

**Muhd Nazril***Senior 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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