

Your Ref :S0M02UGE  
Our Ref : CS4/ASM20012219/N

13 November 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 MOTORCYCLE FBQ 4513Y ON 19 SEPTEMBER 2020**

1. We refer to your request dated 7 November 2020.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured motorcycle FBQ 4513Y (herein referred to as “**Insured Motorcycle**”) are set out below.

**Inspection of the Insured Motorcycle**

3. The Insured Motorcycle was physically inspected on 19 March 2019 at the premises of Wing Fuat Pte. Ltd. (herein referred to as “**Wing Fuat**”) located at Block 3020A Ubi Road 1, #01-37, Singapore 408714.
4. A static inspection was carried out to the Insured Motorcycle where the following general information was recorded:-

|                          |                        |
|--------------------------|------------------------|
| Vehicle Registration No. | : FBQ 4513Y            |
| Make / Model             | : HONDA CB400SF MANUAL |
| Chassis No               | : NC42E1208296         |
| Year of Registration     | : December 2017        |
| Mileage                  | : N.A (battery melted) |

5. The Insured Motorcycle was observed to have sustained severe fire damage all around. Rust had accumulated all over the rear portion of the Insured Motorcycle as a result of exposure to environmental condition for a period of time. See photos 1 – 4 below.



**Photo 1** shows the general view of the front portion of the Insured Motorcycle at the time of our inspection. The Insured Motorcycle was observed to have sustained extensive fire damage all around. Rust had accumulated all over the rear portion of the Insured Motorcycle as a result of exposure to environmental condition for a period of time.

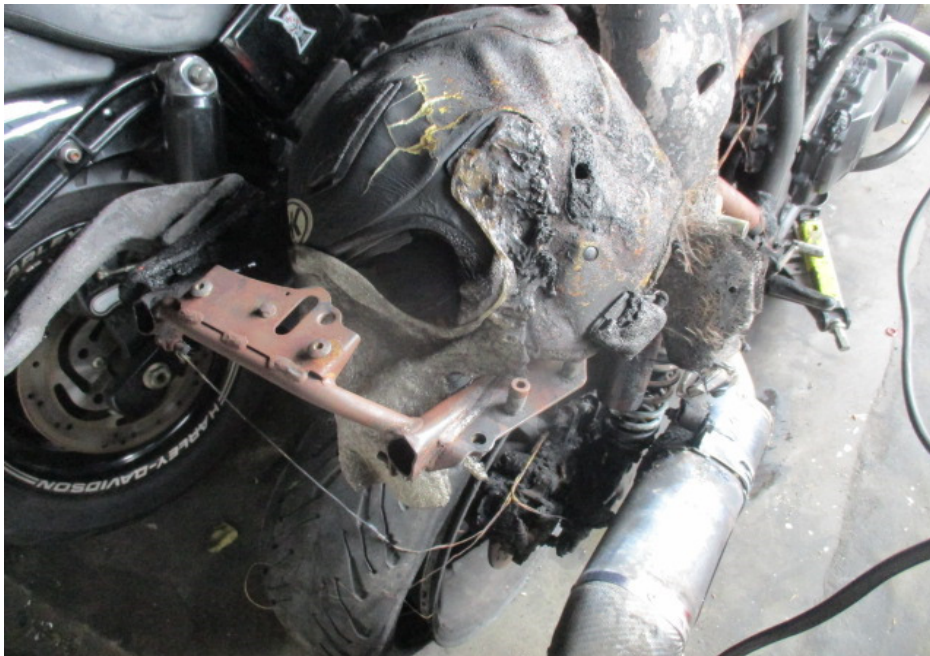


**Photo 2** shows the general view of the left body of the Insured Motorcycle at the time of our inspection. The Insured Motorcycle was observed to have sustained extensive fire damage all around. Rust had accumulated all over the rear portion of the Insured Motorcycle as a result of exposure to environmental condition for a period of time.





**Photo 3** shows the general view of the right body of the Insured Motorcycle at the time of our inspection. The Insured Motorcycle was observed to have sustained extensive fire damage all around. Rust had accumulated all over the rear portion of the Insured Motorcycle as a result of exposure to environmental condition for a period of time.



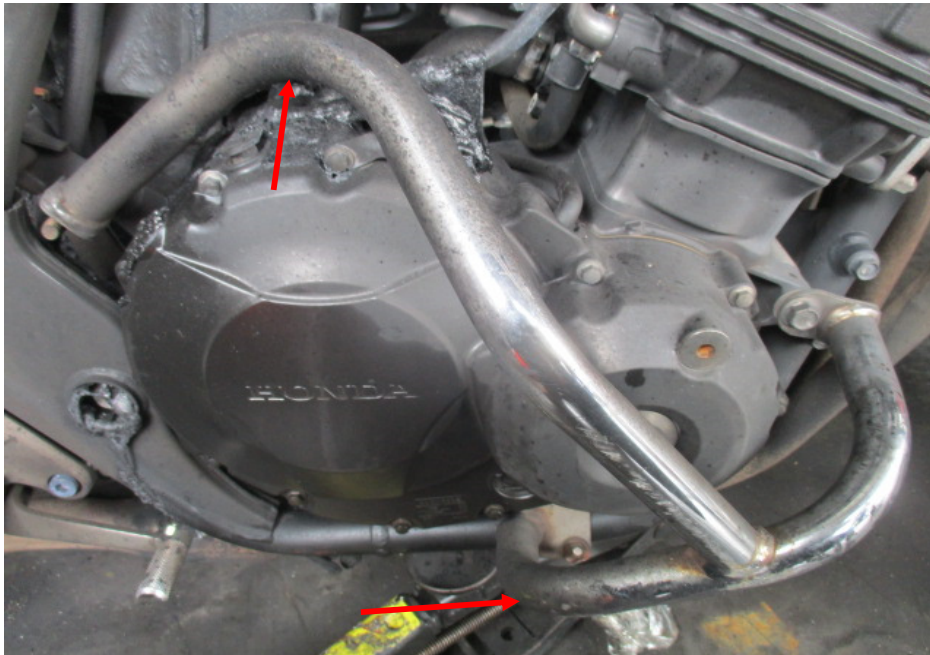
**Photo 4** shows the general view of the rear portion of the Insured Motorcycle at the time of our inspection. The Insured Motorcycle was observed to have sustained extensive fire damage all around. Rust had accumulated all over the rear portion of the Insured Motorcycle as a result of exposure to environmental condition for a period of time.

6. At the time of physical inspection of the Insured Motorcycle, we had found several modifications on the Insured Motorcycle. These included engine crash bars and a non- standard rear exhaust muffler. The engine crash bars and non- standard rear exhaust muffler had sustained visible fire damage. All these fitted components were not the standard type for the Insured Motorcycle. See photos 5 - 7 below.



**Photo 5** shows the left engine crash bar fitted on the Insured Motorcycle which had sustained visible fire damage (circled).





**Photo 6** shows the right engine crash bar fitted on the Insured Motorcycle which had sustained visible fire damage (arrowed).



**Photo 7** shows the right view of the non-standard rear exhaust muffler that was found to be fitted on the Insured Motorcycle at the time of our inspection. The brand of the rear exhaust muffler was 'YOSHIMURA' (circled).

### **Investigation and Technical Analysis**

7. For this particular case, based on the nature of fire damage, the fire seemed to have started from the rear portion of the Insured Motorcycle.
8. Upon closer examination of the left rear portion of the Insured Motorcycle where the fire had likely started, we had found several stretches of wirings with greenish residue. These wirings were original factory fitted wirings. 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. This physical evidence would appear to suggest that the cause of fire to the Insured Motorcycle could have possibly been due to electrical in nature. See photos 8 – 13 below.



**Photo 8** shows a view of the left body of the Insured Motorcycle. Upon closer examination of the left rear portion of the Insured Motorcycle which was where the fire had likely started, we had found several stretches of wirings with greenish residue (circled). These wirings were original factory fitted wirings. The presence of such greenish residue suggests occurrence of an electrical short circuit. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires.





**Photo 9** shows a closer view of the left rear portion of the Insured Motorcycle which was where the fire had likely started. We had found several stretches of wirings with greenish residue (circled). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.



**Photo 10** shows a closer view of the left rear portion of the Insured Motorcycle which was where the fire had likely started. We had found several stretches of wirings with greenish residue (arrowed). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.



**Photo 11** shows a closer view of the wirings with greenish residue (red arrows). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.



**Photo 12** shows a close up view of the wirings with greenish residue (red arrows). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.





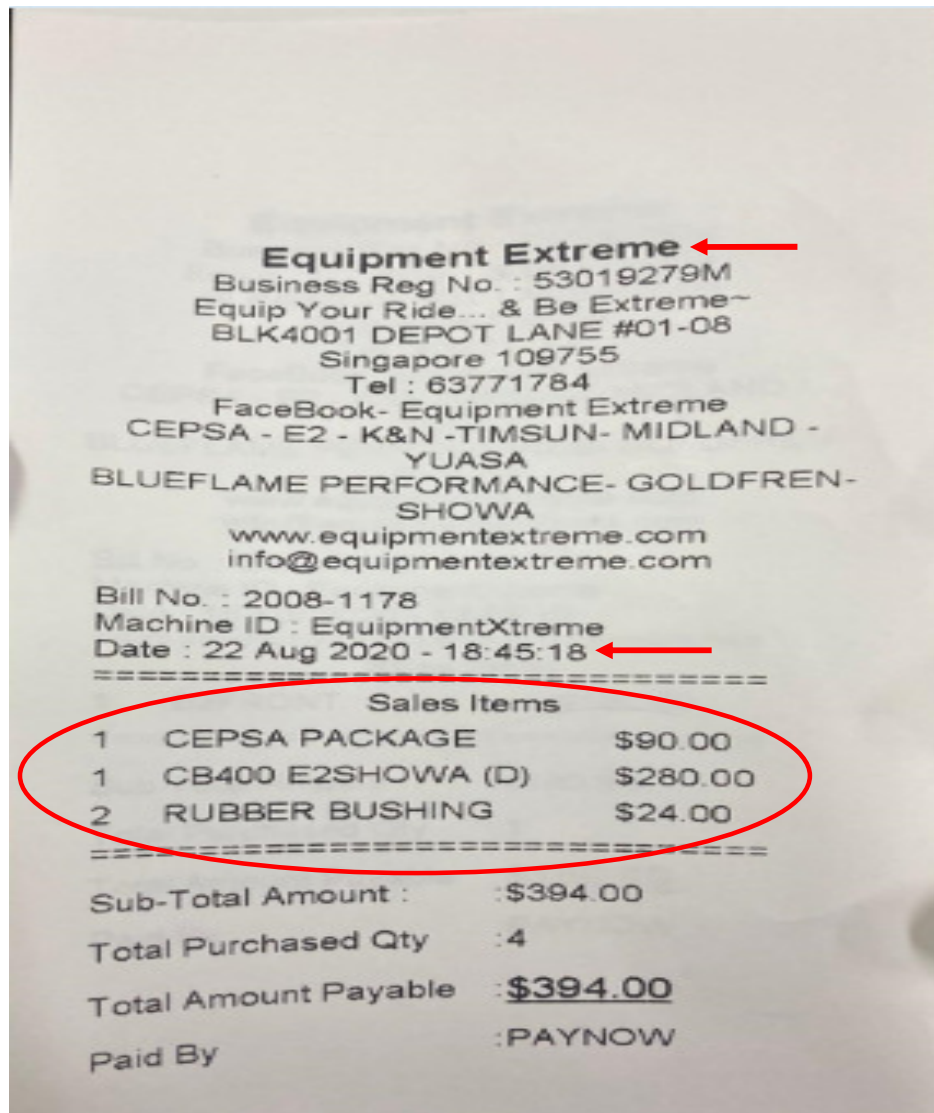
**Photo 13** shows a close up view of the wirings with greenish residue (red arrows). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.

### **Investigation and Technical Analysis**

9. According to the Singapore Police Report No. G/20200919/2039 and Accident Statement made by Mr Juainizal bin Johani (herein referred to as **“Mr Juainizal”**), who is the registered owner of the Insured Motorcycle, we note that on 19 September 2020 at about 0540 hours he had parked the Insured Motorcycle at parking lot 14 of the open carpark located at Block 60 Dakota Crescent. He then proceeded to work at Dakota MRT Station. Mr Juanizal works as a train captain with SMRT. Later that day at 0914 hours, he received a call from a private number. The caller told him that the Insured Motorcycle had caught fire and asked him to return to the incident scene. He told her that he would need 30 minutes as he was at Botanic Gardens MRT Station.
10. Mr Juainizal arrived at 1000 hours but by then the fire had already been put out by the SCDF. He took several post- incident photographs. He assisted SCDF with their preliminary investigations and his statement was also taken by the police who were at the incident scene. He called Wing Fuat who advised him to call AXA and make towing arrangements. The tow truck arrived in 30 minutes. Mr Juainizal hitched a ride with the tow truck to Wing Fuat.

11. Mr Juainizal proceeded to make an insurance report at Progressive Car Care Pte Ltd at 1159 hours followed by a police report at Bedok North Neighbourhood police Centre at 1321 hours.
12. With regards to the history of the Insured Motorcycle, we were able to gather from Mr Juainizal that the Insured Motorcycle was purchased secondhand in 2019 from Wing Fuat with 8 years of COE left. He is the registered owner and only rider of the Insured Motorcycle.
13. To the best of his recollection, there has not been any major mechanical problem and/or electrical problems with the Insured Motorcycle. Mr Juainizal mentioned that he does not suspect arson or sabotage as that was the only day he had parked at the incident location. He informed us that he parks at different locations as he starts work at various locations along the MRT Circle Line.
14. We asked Mr Juainizal regarding the engine crash bars and non- standard rear exhaust muffler that were fitted on the Insured Motorcycle. He mentioned that all these components came with the Insured Motorcycle when he purchased it. As for the after-market rear exhaust muffler, it was already registered to the Insured Motorcycle by the previous owner.
15. Pertaining to the maintenance aspect, Mr Juainizal sends the Insured Motorcycle for periodical servicing. He services the Insured Motorcycle at Equipment Extreme located at 4001 Depot Lane, Singapore 109755. The last recorded servicing before the incident was done on 22 August 2020. We were able to obtain a receipt of the most recent servicing and repairs done to the Insured Vehicle. The last servicing package included the changing of engine oil and oil filter. The rear shock absorbers and rubber bushings were also changed. Refer to Invoice 1 below.





**Invoice 1** shows the last servicing package done on the Insured Motorcycle at Equipment Extreme on 22 August 2020 (red arrows) which had included changing the engine oil and oil filter. The rear shock absorbers and rubber bushings were also changed (circled).

16. Mr Juainizal also informed us that he has not done any modification(s) and/or additionally fitted any electrical or electronic component(s) to the Insured Motorcycle.

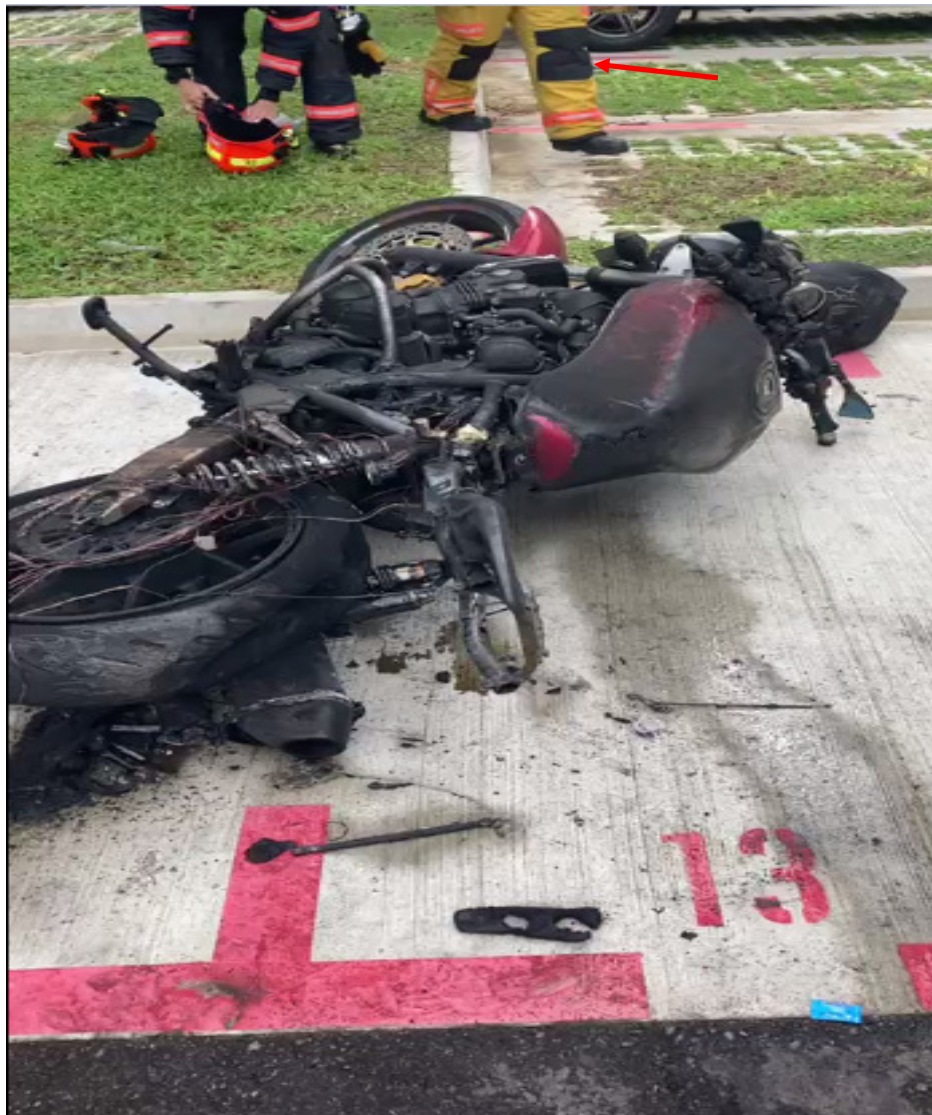
### **Incident Scene Photographs**

17. Although we could not visit the site where the incident happened, we managed to obtain several photographs which were taken by Mr Juainizal at the incident location. The photographs were taken after the fire to the Insured Motorcycle was extinguished.
18. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Juainizal. 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 Motorcycle was parked. See photos 14 – 16 below.



**Photo 14** shows a closer view of the Insured Motorcycle (arrowed) which was found completely burnt by the fire at the parking lot of Block 60 Dakota Crescent.





**Photo 15** shows the rear portion of the Insured Motorcycle post- incident. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Juainizal, which is the SCDF had responded to the fire (arrowed).




**Photo 16** shows a closer view of the rear portion of the Insured Motorcycle at the incident scene after the fire was extinguished. The extent of fire damage observed indicates that the fire had started from the left rear portion (circled).

19. Given the circumstances of incident as reported, the possibility of the cause of fire to the Insured Motorcycle being due to engine overheating would seem unlikely as Mr Juainizal had mentioned to us there were no indications of abnormally high temperatures on the Insured Motorcycle when he was riding on the day of the incident. Furthermore, the fire had started after the engine was switched off for a period of time (about 4 hours). Therefore, we are of the opinion that the fire was not caused by an overheated engine.
20. 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 near the parking lot where the Insured Motorcycle was parked. The location of where the Insured Motorcycle was parked was also observed to be not at a secluded location.
21. 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 at the left rear portion of the Insured Motorcycle, which was earlier discussed in paragraph 8 above.



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 Motorcycle that may possibly be related to this incident. See search result from LTA below.



### Vehicle Recall Details


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

|  |  |
|--|--|
| Owner ID Type<br><b>Singapore NRIC</b>               | Owner ID<br><b>752E</b> ←                  |
| Vehicle No.<br><b>FBQ4513Y</b> ←                     | Make/Model<br><b>HONDA/ CB400SF MANUAL</b> |
| Engine No.:<br><b>NC42E1208296</b>                   | Chassis No.:<br><b>NC421803869</b>         |
| Recall Details:<br><b>No Recall Detail records</b> ← |  |

### Conclusion

23. Having investigated and technically analysed the damages of burnt nature to the Insured Motorcycle, we are of the view that the cause of fire to the Insured Motorcycle was of electrical in nature. For this particular case, the fire had originated along the wirings at the left rear portion of the Insured Motorcycle. The wirings were original factory wirings of the Insured Motorcycle.

24. We found the Insured Motorcycle to be fitted with aftermarket engine crash bars and rear exhaust muffler. The engine crash bars fitted do not require prior approval from LTA however the non-standard rear exhaust muffler would require prior approval from LTA. AT the time of writing this report, Mr Juainizal has not provided the LTA documentation for the non-standard rear exhaust muffler. We will forward a copy of the documents once it is made available to us.
25. Although the aftermarket engine crash bars and rear exhaust muffler fitted on the Insured Motorcycle were not the standard type for the Insured Motorcycle, we are of the view that these parts did not cause and/or contribute to the fire incident.
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 motorcycle as the Insured Motorcycle 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.

**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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