

Your Ref : 73740  
Our Ref : CI/DAI17022799/N

20 November 2017

**M/s Direct Asia Insurance (Singapore) Pte Ltd**  
88 South Bridge Road  
Singapore 058716  
(Motor Claims Department)

## **TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED MOTORCYCLE FT 4200L ON 13 NOVEMBER 2017**

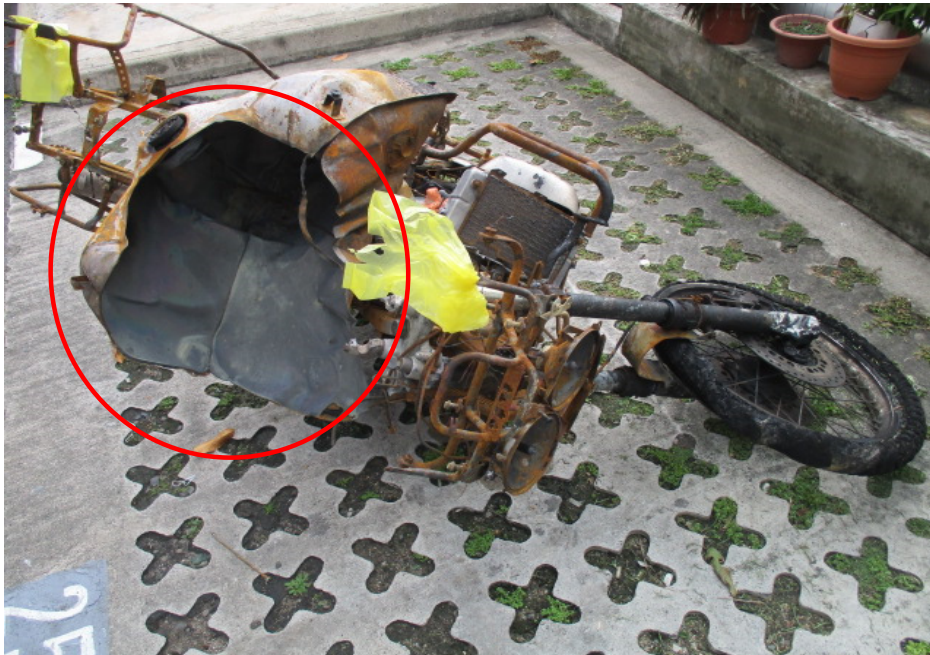
1. We refer to your request dated 15 November 2017.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured motorcycle FT 4200L (herein referred to as “**Insured Motorcycle**”) are set out below.

### **Inspection of the Insured Motorcycle**

3. The Insured Motorcycle was physically inspected on 16 November 2017 at the premises of Ah Lim Motor Co. (herein referred to as “**Ah Lim**”) located at 10 Ang Mo Kio Industrial Park 2A, Ang Mo Kio Autopoint, #01-09, Singapore 568047.
4. A static inspection was carried out to the Insured Motorcycle where the following general information was recorded:-

Vehicle Registration No.	: FT 4200L
Make / Model	: HONDA XRV750Y
Chassis No	: JH2RD07A0YM413798
Year of Registration	: 2001 (May)
Mileage	: N.A (battery melted)

5. The Insured Motorcycle was observed to have sustained severe fire damage all around. The fire caused the fuel tank to explode, exposing the internal part of the fuel tank. Parts that were made of plastic and rubber type of material at its exterior body as well as some of its engine components were found to be severely burnt and/or melted. The drive train had sustained extensive fire damage, rendering the Insured Motorcycle immobile. Rust had accumulated all over the Insured Motorcycle as a result of exposure to environmental condition for a period of time. See photos 1 – 5 below.



**Photo 1** shows the general front view of the Insured Motorcycle at the time of inspection. The Insured Motorcycle was observed to have sustained severe fire damage all around. The fire caused the fuel tank to explode, exposing the internal part of the fuel tank (circled). Parts that were made of plastic and rubber type of material at its exterior body as well as some of its engine components were found to be severely burnt and/or melted. The drive train had sustained extensive fire damage, rendering the Insured Motorcycle immobile. Rust had accumulated all over the Insured Motorcycle as a result of exposure to environmental condition for a period of time.



**Photo 2** shows a closer view of the exposed internal part of the fuel tank as a result of the explosion caused by the fire.





**Photo 3** shows a closer view of the partially burnt front wheel rim and melted front tyre.



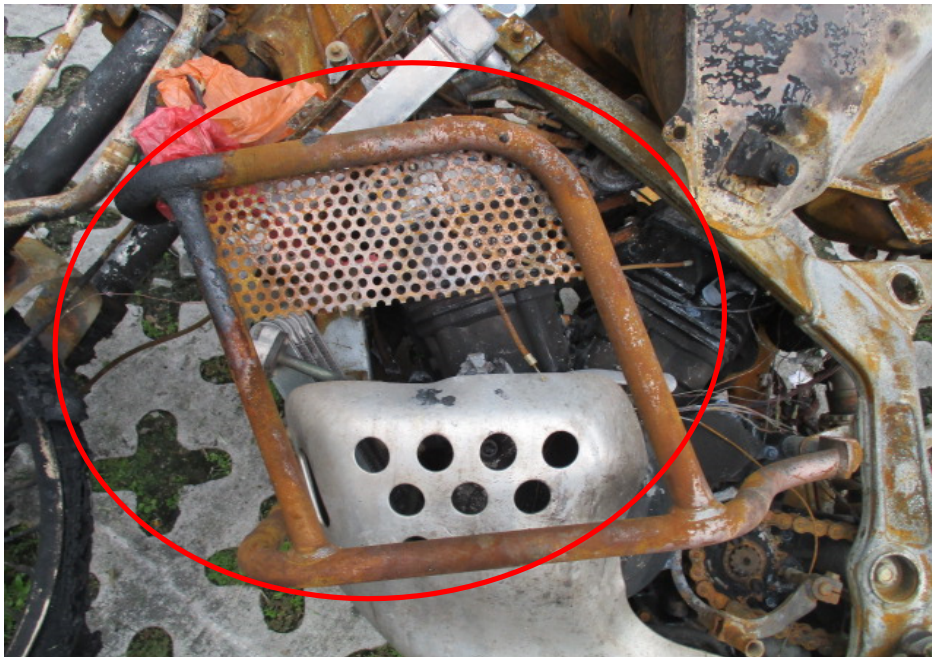
**Photo 4** shows a closer view of the drive train which had sustained extensive fire damage, rendering the Insured Motorcycle immobile.



**Photo 5** shows a close up view of the severely burnt and/or melted engine components of the Insured Motorcycle as a result of the fire (circled).

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, side pannier racks, and a non- standard rear exhaust muffler. The engine crash bars and side pannier racks had accumulated rust as a result of exposure to environmental condition for a period of time. All these fitted components were not the standard type for the Insured Motorcycle. See photos 6 - 9 below.





**Photo 6** shows the engine crash bar (circled) fitted on the Insured Motorcycle which had accumulated rust as a result of exposure to environmental condition for a period of time.



**Photo 7** shows the side pannier rack (circled) fitted on the Insured Motorcycle which had accumulated rust as a result of exposure to environmental condition for a period of time.



**Photo 8** shows the front view of the non-standard rear exhaust muffler that was found to be fitted on the Insured Motorcycle at the time of our inspection.



**Photo 9** shows a close up top 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 'REMUS' (circled).

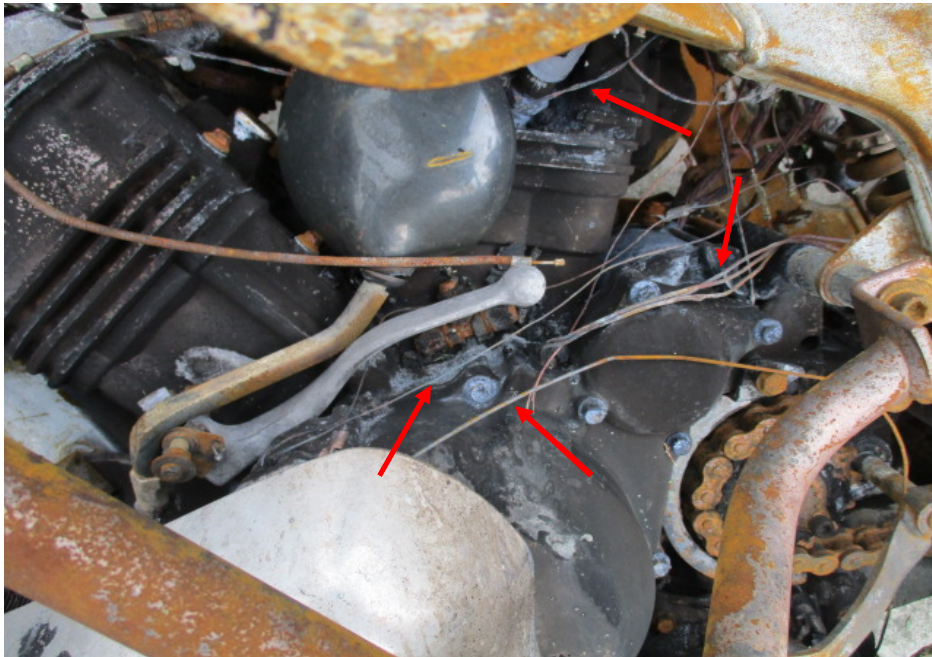


### **Investigation and Technical Analysis**

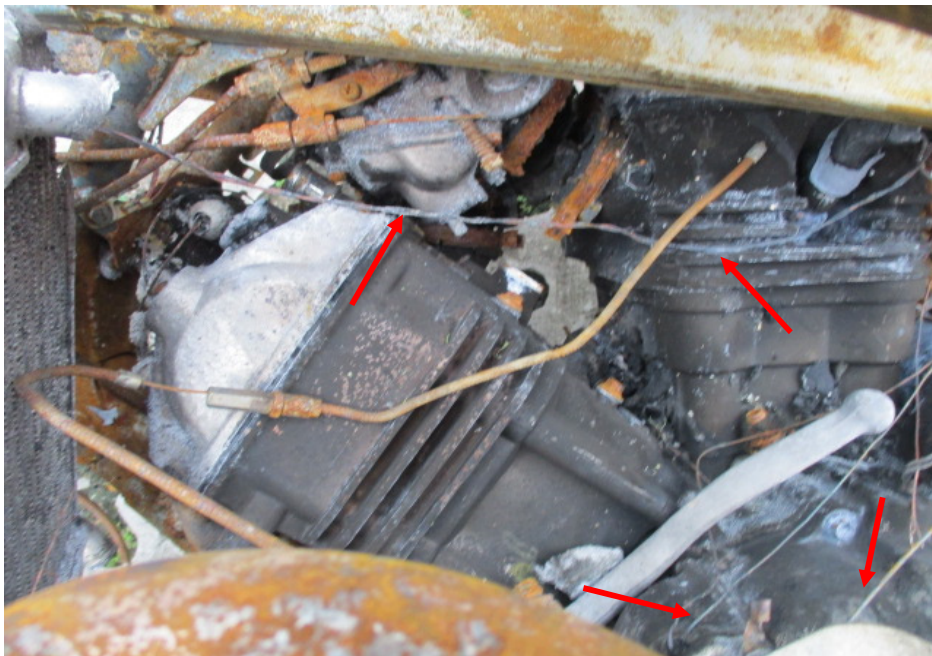
7. For this particular case, based on the circumstances as stated in the Singapore Accident Statement and Malaysian Police Report, the fire seemed to have started from the left side of the Insured Motorcycle, below the fuel tank.
8. Upon closer examination of the left side of the Insured Motorcycle below the fuel tank which was 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 10 – 14 below.



**Photo 10** shows a view of the left side of the Insured Motorcycle. Upon closer examination of the left side of the Insured Motorcycle below the fuel tank 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.



**Photo 11** shows a closer view of the left side of the Insured Motorcycle below the fuel tank which was where the fire had likely started. We had found several stretches of 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 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 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.

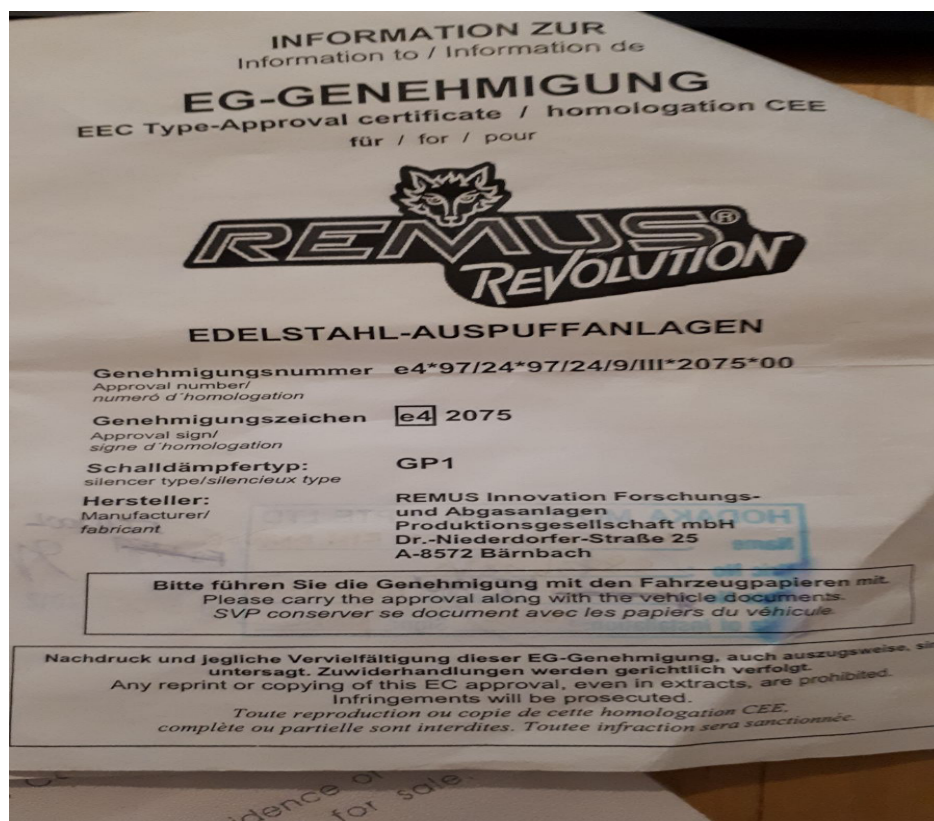


**Photo 14** shows a close up view of the wirings with greenish residue (red arrows). The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring.

9. From the Malaysian Police Report No. JASIN/003818/17 and Singapore Accident Statement which were made by Mr Bargielowski Simon James (herein referred to as “**Mr Simon**”), we note that the fire to the Insured Motorcycle had started at a time after it could not start up. Mr Simon was first alerted of the fire when he saw flames from underneath the left side of the fuel tank of the Insured Motorcycle.
10. We managed to speak to Mr Simon on 20 November 2017 where we were able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Motorcycle.
11. According to Mr Simon, he and a friend went on a road trip to West Malaysia from Singapore from 10 to 13 November 2017. They left Singapore on 10 November 2017 at 0600 hours and entered Johor via the Second-Link Expressway. From there they travelled to Terengganu and Cameron Highlands before arriving in Malacca on 12 November 2017 at 1600 hours. They checked out of the hotel in Malacca at about 0900hrs on 13 June 2017 and began the ride back to Singapore. They travelled along the trunk roads and avoided the North- South Highway. Approximately 35 kilometres outside of Malacca near Jasin, they stopped the bikes at the side of the road to rest and have a drink of water.
12. 15 minutes later, at about 1100 hours, Mr Simon sat on the Insured Motorcycle and pressed the starter button. He heard a ‘pop’ sound and a flash of light coming from the Insured Motorcycle. He then saw flames from the underside of the fuel tank, on the left side. He quickly dismounted and tried to blow out the flames but it had spread. So he took all his luggage and distance himself from the Insured Motorcycle. Shortly after, the fuel tank exploded. Mr Simon and his friend warned approaching motorists of the fire. A passer-by called the fire department and firefighters arrived 15 minutes later.
13. The fire was extinguished in less than 5 minutes. The police arrived and escorted Mr Simon and his friend to the nearest police station in Jasin, Malacca where he lodged a police report at 1221 hours. Mr Simon proceeded to call the Direct Asia hotline. He was redirected to an authorized workshop in Kuala Lumpur which then put him in touch with a tow company based in Johor Bahru. Mr Simon had the Insured Vehicle towed to Ah Lim the next day on 14/11/17. Mr Simon and his friend returned to Singapore shortly after making towing arrangements for the Insured Motorcycle. Mr Simon made an insurance report at Ah Lim on 14/11/17 at 1738 hours.



14. With regards to the history of the Insured Motorcycle, we were able to gather from Mr Simon that the Insured Motorcycle was purchased second hand 2 years ago from Dynasty Motors. He is the registered owner and only rider of the Insured Motorcycle. To the best of his recollection, there has not been any major mechanical problem with the Insured Motorcycle. He did however mention to us that last year he had problems with the ignition. Hence he had the ignition wiring harness replaced.
15. We asked Mr Simon regarding the engine crash bars, side pannier racks, 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. We were able to obtain the exhaust authentication certificate as well as the inspection acknowledgement letter issued by the LTA to prove that the after-market rear exhaust muffler had passed inspection on 5 October 2012. See photos 15 & 16 below.



**Photo 15** shows the REMUS rear exhaust muffler authentication certificate for the Insured Motorcycle.

Land Transport Authority

10 Sin Ming Drive Singapore 575701  
Hotline: 1800 - CALL LTA (1800 - 2255 582)  
FAX: (65) 6553 5329

Date: 05 OCT 2012 VIR No.:201210055691V0

Mr/Ms/Messrs  
MOHAMMAD ISA BIN ANWAR  
APT BLK 718 WOODLANDS AVENUE 6  
#12-654  
SINGAPORE 730718

Dear Sir/Madam

**INSPECTION ACKNOWLEDGEMENT LETTER**

**EXHAUST SYSTEM**  
Vehicle Registration No: FT4200L  
Chassis No: JH2RD07A0YM413798  
Engine No: RD04E2913868  
Applicant: MOHAMMAD ISA BIN ANWAR

This is to acknowledge that your vehicle has passed the inspection on 05 OCT 2012.

The accessory details are as follows:  
Make :REMUS  
Model Name :REMUS  
EEC/ECE/JASMA/JMCA Number :E4 2187  
Type Number: PC1

Thank you for presenting the above vehicle for inspection.

Registrar of Vehicles

VICOM (Sin Ming) 385 Sin Ming Drive, Singapore 575718 Tel: 6458

VI\_IC\_ACK08\_LTR

**Photo 16** shows the inspection acknowledgement letter issued by the LTA to prove that the REMUS rear exhaust muffler fitted onto the Insured Motorcycle by the previous owner (red arrows) had passed inspection on 5 October 2012 (circled).

16. Pertaining to the maintenance aspect, Mr Simon sends the Insured Motorcycle for periodical servicing (i.e. every 3,000km). He services the Insured Motorcycle at Pang Scooter Service (herein referred to as “PSS”) located at 1006 Bukit Merah Lane 2, #01-96, Singapore 159762.



17. The last servicing was done 2 months before the incident. Mr Simon had the engine oil and oil filter changed as well as had mechanical checks done on the Insured Motorcycle before embarking on his road trip. We were however unable to obtain a receipt of the most recent servicing and repairs done to the Insured Motorcycle as Mr Simon always paid in cash and did not request for receipts.
18. When we contacted PSS, Ms Izah from the administration department confirmed that Mr Simon did service the Insured Motorcycle at PSS as he is a regular. She mentioned that Mr Simon never requested for receipts and always paid in cash. She informed us that if the customer did not require a receipt, only the bike model and the amount charged would be recorded in PSS's daily sales log.
19. Mr Simon mentioned that after the ignition wiring harness was replaced and servicing was done he had not experienced any mechanical or electrical problems with the Insured Motorcycle till the day of the incident. He also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature of the Insured Motorcycle when he was riding the Insured Motorcycle throughout the road trip till the day of the incident.

### **Incident Scene Photographs**

20. Although we could not visit the site where the incident happened, we managed to obtain several photographs which were taken by Mr Simon at the incident location. The photographs were taken during and after the fire to the Insured Motorcycle were extinguished.
21. In general, the information that could be gathered from these photographs had corresponded to the events that were related to us by Mr Simon. 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 side of the road where the Insured Motorcycle was positioned. See photos 17 - 20 below.



**Photo 17** shows the Insured Motorcycle after the fire had started (circled). In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Simon, which is the fire started from the left side.



**Photo 18** shows the rear view of the Insured Motorcycle as the fire began to spread. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Simon, which is the fire started from the left side (red arrows).





**Photo 19** shows flames engulfing the Insured Motorcycle. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Mr Simon, which is the fuel tank exploded shortly after the fire broke out (circled).



**Photo 20** shows Malaysian firefighters extinguishing the last remnants of the fire to the Insured Motorcycle.

22. 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 Simon had mentioned to us there were no indications of abnormally high temperatures on the Insured Motorcycle throughout the road trip. Furthermore, an overheated engine would have caused the Insured Motorcycle to stall. However in this case, Mr Simon had already stopped the Insured Motorcycle by the side of the road for a short water break. The engine of the Insured Motorcycle was not running during that time. Therefore, we are of the opinion that the fire was not caused by an overheated engine.
23. 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 side of the road where the Insured Motorcycle was positioned. The location of where the Insured Motorcycle was positioned was also observed to be not at a secluded location.
24. 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 underneath the left side of the fuel tank of the Insured Motorcycle, which was earlier discussed in paragraph 8 above.
25. 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.



## Enquiry on Vehicle Recall - Details

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

### Vehicle Owner Particulars

Owner ID Type:	Foreign Identification Number
Owner ID:	2026L ←

### Vehicle Details

Vehicle Registration number:	FT4200L ←
Make:	HONDA
Vehicle Model:	XRV750Y
Engine No.:	RD04E2913868
Chassis No.:	JH2RD07A0YM413798

### Recall Details

No Recall Detail records ←

OK



## Conclusion

26. 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 underneath the left side of the fuel tank of the Insured Motorcycle. The wirings were original factory wirings of the Insured Motorcycle.

27. We found the Insured Motorcycle to be fitted with aftermarket engine crash bars, side pannier racks and rear exhaust muffler. The engine crash bars and side pannier racks fitted do not require prior approval from LTA however the non-standard rear exhaust muffler would require prior approval from LTA. Mr Simon has provided documents to prove that the non-standard rear exhaust muffler has been approved by the LTA.
28. Although the aftermarket engine crash bars, side pannier racks 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.
29. 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.

**Muhd Nazril***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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