

Your Ref: CDMPG22000042-001
Our Ref : CS4/EGI22000288/P

22nd February 2022

M/s ERGO INSURANCE PTE LTD
8 TEMASEK BOULEVARD, #04-01
SUNTEC TOWER THREE
Singapore 038988
(Motor Claims Department)

TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE INSURED VEHICLE SLV 9795Y ON 7th January 2022

1. We refer to your letter dated 10th January 2022 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SLV 9795Y (herein referred to as “**Insured Vehicle**”) are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 10th January 2022 at the premises of Jin Auto Services Pte Ltd located at 14 Defu Lane 10, Singapore 539195
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: SLV 9795Y
Make / Model	: HONDA FIT 1.3L (A)
Chassis No	: GE61067368
Year of Registration	: FEB 2009
Mileage	: N.A (wiring affected)

5. The Insured Vehicle was noted to have sustained fire damage that was confined to its interior compartment at the front right dashboard portion. The exterior body was observed to be unaffected by the fire.
6. The fire was confined to its interior front right dashboard portion, the fire had resulted in the various components located in the surrounding to suffer from heat and smoke damages, and this includes the steering wheel and instrument panel. As well as the electronic components & wirings were also observed to sustain damages. See photos 1 – 7 below.



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 interior portion. Its exterior is observed to be unaffected by the fire.



Photo 2 shows the general view of the right portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its interior portion. Its exterior is observed to be unaffected by the fire.



Photo 3 shows the general view of the left portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its interior portion. Its exterior is observed to be unaffected by the fire.



Photo 4 shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its interior portion. Its exterior is observed to be unaffected by the fire.



Photo 5 shows the general view of the engine portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its interior portion. Its engine compartment is observed to be unaffected by the fire.



Photo 6 shows the general view of the interior compartment of the Insured Vehicle at the time of our inspection. The right portion of the dashboard had suffered heat and smoke damages (circled) as a result of the fire.



Photo 7 shows the close up view of the interior compartment of the Insured Vehicle at the time of our inspection. The steering wheel (red arrow) and its instrument panel (yellow arrow) had suffered heat and smoke damages (circled) as a result of the fire.

7. At the time of inspection of the Insured Vehicle, we found additionally fitted electronic and/or electrical component(s) in the Insured Vehicle. The additionally fitted components are the additionally fitted electrical grounding cable at the engine compartment and an OBD port tuning module and an alarm lighting and system in the interior compartment of the Insured Vehicle. An aftermarket audio head unit, was also observed in the interior compartment of the Insured Vehicle. See photo 8 – 13 below.



Photo 8 shows the front engine compartment of the Insured Vehicle an additionally fitted electrical grounding cables (circled) on the Insured Vehicle, which was observed to be unaffected by the fire.

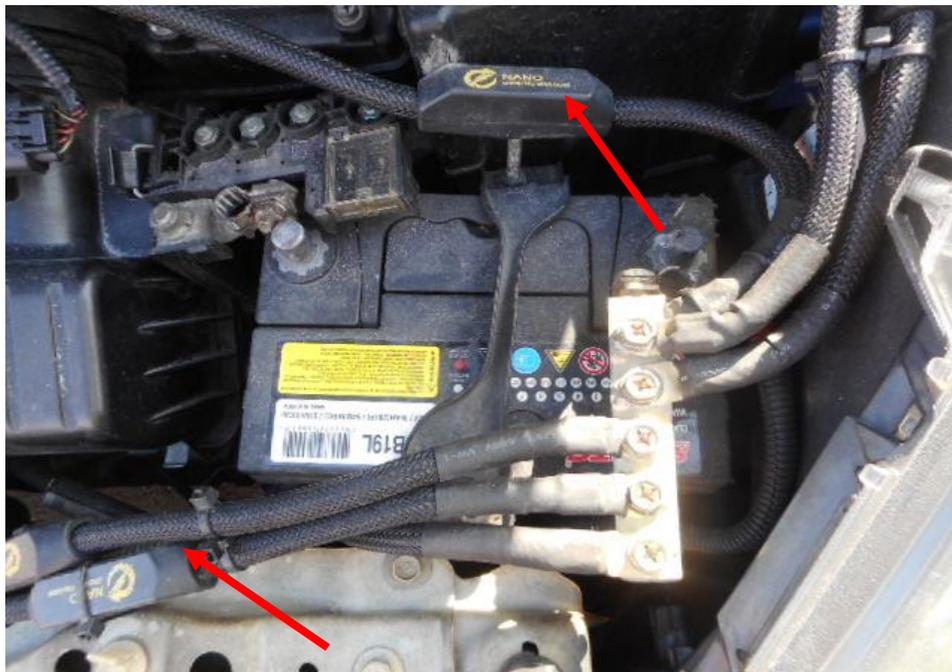


Photo 9 shows the front engine compartment of the Insured Vehicle an additionally fitted electrical grounding cables (arrowed) on the Insured Vehicle, which was observed to be unaffected by the fire.



Photo 10 shows the front engine compartment of the Insured Vehicle an additionally fitted electrical grounding cables (arrowed) on the Insured Vehicle, which was observed to be affected by the fire.



Photo 11 shows the interior dashboard of the Insured Vehicle an aftermarket audio head unit (arrowed) on the Insured Vehicle, which was observed to be affected by the fire.



Photo 12 shows the interior driver foot well of the Insured Vehicle an additionally fitted OBD tuning module was found (arrowed) on the Insured Vehicle, which was observed to be affected by the fire.



Photo 13 shows the interior dashboard of the Insured Vehicle, an additionally fitted alarm lighting and system was found (circled) on the Insured Vehicle, which was observed to be affected by the fire.

Investigation and Technical Analysis

8. Based on the circumstances for this particular case, the fire appears to have originated from the interior portion of the Insured Vehicle, in the front right dashboard portion. This can be determined basing on the area where the extent of fire damage was most severe, the circumstances of the fires' origin at the material time of incident and also the burn marks and melting of material that were found at the front right dashboard portion.

9. Upon closer observations, we have observed that its alarm lighting wirings in the right dashboard panel were observed to be where the fire had started, we had found traces of greenish residue on the wirings leading from the alarm lighting wirings to the fuse box panel. The alarm lighting wirings were not original wirings fitted from manufacturer and have been additionally fitted. 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 the oxidation as a result of chemical reaction involving the copper wires. This physical evidence 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 14 -16 below.



Photo 14 shows the general view of the wirings in the front right dashboard of the Insured Vehicle at the time of our inspection. Observed where the fire had likely started from the wirings of the alarm lighting connecting to the fuse box panel (arrowed) as there was greenish residue on the surface. 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. The fire damage had also melted the electrical components that it was connected to. These alarm wirings and lighting components are not original wirings fitted from manufacturer and are additionally fitted.



Photo 15 shows a close up view of the alarm lighting wiring harness connected to the fuse box panel (circled) as there was greenish residue on the surface. 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. The fire damage had also melted the electrical components that it was connected to. This is likely where the fire had started from. These alarm wirings and lighting components are not original wirings fitted from manufacturer and are additionally fitted.

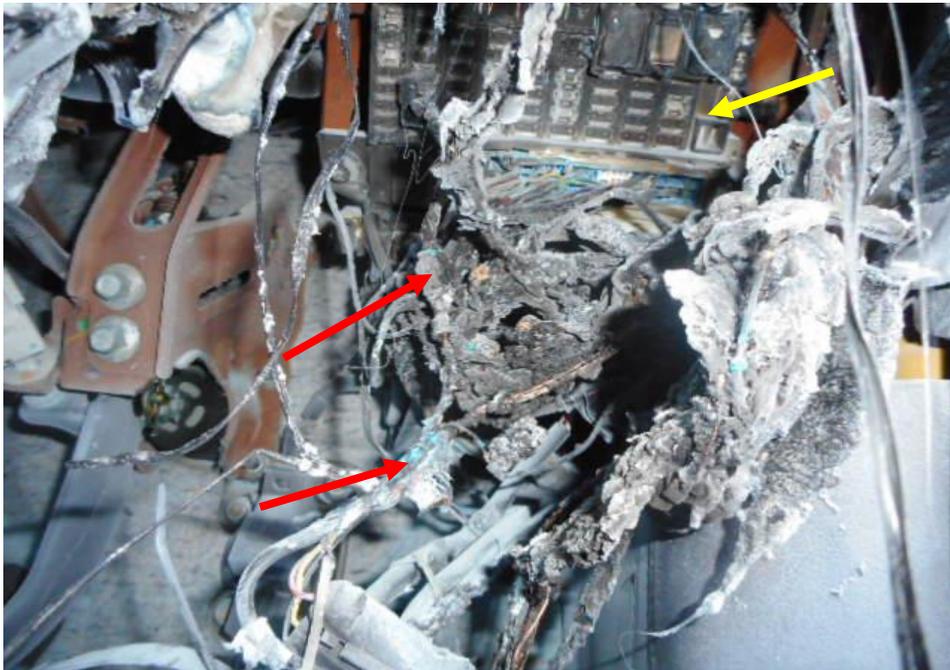


Photo 16 shows a close up view of the alarm lighting and wiring harness (red arrow) connected to the fuse box panel (yellow arrow) as there was greenish residue on the surface. The presence of greenish residue indicates internal heating of copper wires, a sign of an electrical short circuit occurring. The greenish residue is normally left behind from oxidation as a result of chemical reaction involving the copper wires. The fire damage had also melted the electrical components that it was connected to and the surrounding components. This is likely where the fire had started from. These alarm wirings and lighting components are not original wirings fitted from manufacturer and are additionally fitted.

10. We managed to speak to the driver and the owner Ms and Mr Lim on 17th January 2022 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. From the Singapore Accident Statement, which was made by Ms Lim (herein referred to as "**Ms Lim**"), we note that the fire to the Insured Vehicle had started at a time when she was driving the Insured Vehicle. Ms Lim first notice burnt smell and smog emitting from the cabin of the Insured Vehicle while she was driving.
12. According to Ms Lim, on 7th January 2022 at 2145 hours she was driving the Insured Vehicle from her work place at Ubi towards home located at Boon Keng with her colleague in in the Insured Vehicle beside her. 15 minutes into driving, she noticed burned smell in the cabin and 5 minutes after she mentioned that she notice smoke emitting from the front air-conditioner vents of the Insured Vehicle. Ms Lim quickly pulled into a small road at Kallang way and away from the main road & both exited the Insured Vehicle.

13. Ms Lim informed us that she had turned off the engine of the Insured Vehicle before proceeding out. When she and colleague was out of the Insured Vehicle they observed a small flame emitting out from the front right dashboard panel, she quickly called for SCDF assistance while her colleague went to retrieve a fire extinguisher from the nearby buildings.
14. Ms Lim mentioned that they managed to put out the fire at the material time before the arrival of the SCDF officers. Subsequently, Ms Lim had also contacted her brother Mr Lim which was the owner of the Insured Vehicle. Mr Lim mentioned that he came by shortly and both had statement taken down by the SCDF officers and he had arranged for a tow truck to have it towed to the insurance authorise workshop (Jin Auto Services Pte Ltd) .Mr and Ms Lim proceeded down & made an accident report the following day.
15. Ms and Mr Lim mentioned that they had not experienced any mechanical or electrical/electronic problems with the Insured Vehicle till the day of the incident. Ms Lim also mentioned that there were neither warning lights displayed nor was there an abnormal rise in temperature throughout the period the Insured Vehicle and when driven, prior to the fire.
16. With regards to the history of the Insured Vehicle, we were able to gather from Mr Lim that he is the owner of the Insured Vehicle and his sister Ms Lim is the Insured Driver and the Insured Vehicle was purchased pre-owned 2 years 11 months ago and the Insured Vehicle is driven about 2 days per week as he has another Vehicle and his sister only borrows the Insured Vehicle at times.
17. Pertaining to the maintenance aspect, Mr Lim informed us that he is the one sending the Insured Vehicle for LTA inspection and periodical servicing, he mentioned that he had recently bought the Insured Vehicle for servicing and there was no major repairs/overhaul's conducted on the Insured Vehicle.
18. Pertaining to the additionally fitted and aftermarket modifications, Mr Lim informed us that the additionally fitted electrical grounding cables, OBD tuning module and the aftermarket head audio unit was all fitted by him when he first bought the Insured Vehicle. And the alarm lighting and system had come with the Insured Vehicle.

Incident Scene Photographs

19. During the course of our investigations, we were able to obtain coloured photographs showing the Insured Vehicle at the incident location before, during and after the fire was extinguished by Ms Lim. These were provided to us by Ms Lim.
20. Our examination of these photographs revealed that the fire had started from the interior front right dashboard portion of the Insured Vehicle. The photographs had also showed the extent of damage and burn pattern to the Insured Vehicle as per what we had observed during our physical inspection of the Insured Vehicle. Apart from the aforesaid, there was no further notable information that could be gathered from these photographs. See photos 17 and 18 below which were provided to us by Ms Lim.

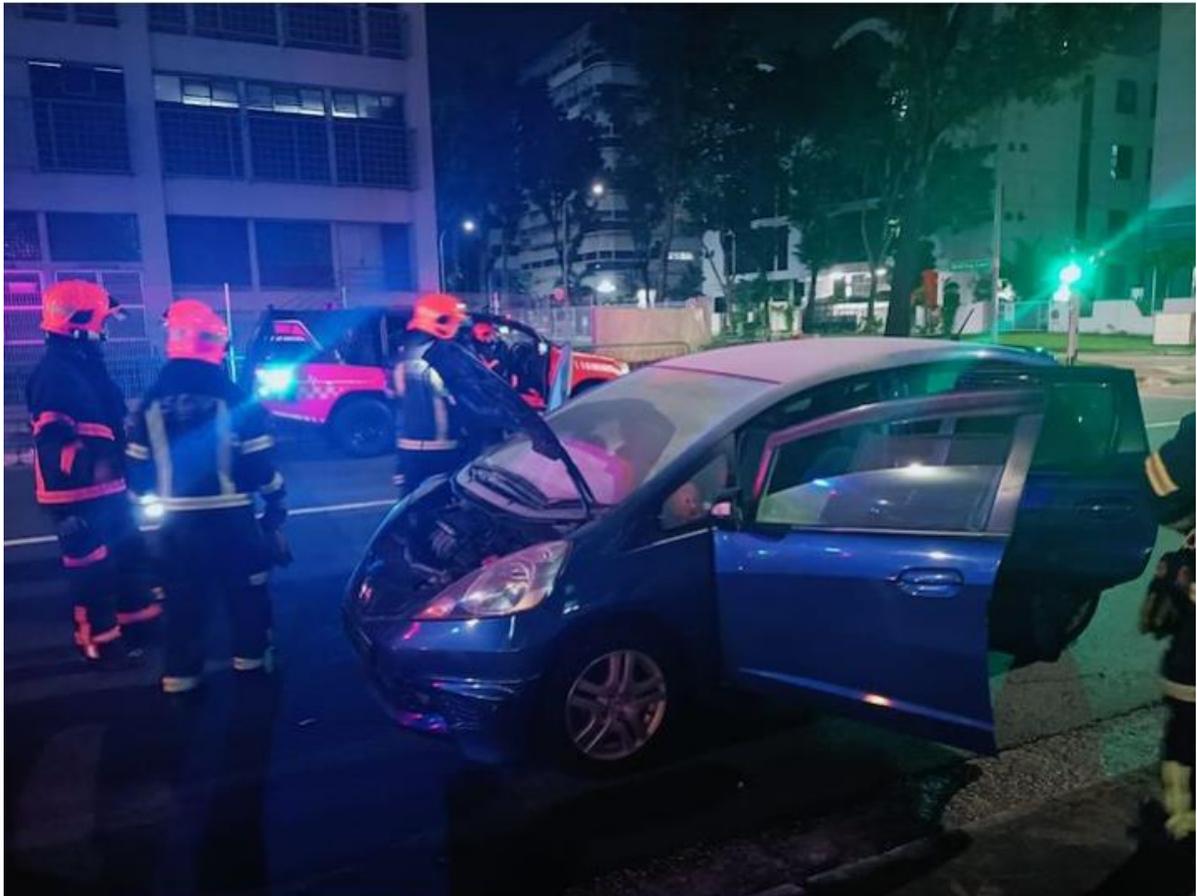


Photo 17 shows the SCDF officers at the scene inspecting the Insured Vehicle. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Ms Lim, location when the fire broke out.



Photo 18 shows the interior front right dashboard portion (circled) that was damaged on the Insured Vehicle at a result of the fire. In general, the information that could be gathered from this photograph had corresponded to the events that were related to us by Ms Lim, location when the fire broke out.

21. 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 Ms Lim had mentioned to us there were no indications of abnormally high temperatures when she was driving the Insured Vehicle on the day of the incident. Moreover, there was no damaged of fire nature in the engine compartment.

22. 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 as the fire occurred as Ms Lim was driving the Insured Vehicle. The location where the Insured Vehicle caught fire was also observed to be not at a secluded location.
23. 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 leading from the alarm lighting to its fuse box panel that was fitted in the front right dashboard of the Insured Vehicle. These wirings and electrical components were not original wirings and components fitted from manufacturer on the Insured Vehicle and was additionally fitted, which was earlier discussed in paragraph 9 above.
24. Our checks with both local and international bodies and associations had also revealed that at the time of writing this report, there was 2 manufacturer recall from 28th May 2015 to end 2016 and 9th July 2015 to end 2017 for the front passenger and driver airbag. Given that the cause of fire was due to electrical nature, so the manufacturer recall of 28th May 2015 to end 2016 and 9th July 2015 to end 2017 whether rectified or not, it did not cause or contributed to the fire 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 688H
Vehicle No. SLV9795Y ←	Make/Model HONDA/ FIT 1.3L A
Engine No.: L13A4076270	Chassis No.: GE61067368 ←

Recall Details

Recall No.: R2015080143 ^	
Manufacturer Recall Date: 28 May 2015	Estimated Completion Year of Recall: 2016
Brief Description (As Provided by Motor Dealer): As regards certain passenger's airbag inflators, the container of the inflator could break and scatter the inflator component parts around, causing injury to the vehicle occupant in the event of the air bag deployment. ←	Date Rectified: 19 Apr 2016 ←
Hotline Information: MS ANGIE CHEW at 81331678	
For more details, contact CHIP GUAN CREDIT PTE LTD	

Recall No.: R2015110180

Manufacturer Recall Date:	Estimated Completion Year of Recall:
09 Jul 2015	2017
Brief Description (As Provided by Motor Dealer):	Date Rectified:
On investigation of the certain types of driver's SRS airbag retrieved from the market, it was found that some of them varied greatly in density of gas generating propellant.	-
Hotline Information:	
ANGIE CHEW at 81331678	
For more details, contact CHIP GUAN CREDIT PTE LTD	

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Conclusion

25. 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 nature. For this particular case, the fire had originated from the wirings of the alarm lighting wiring to the fuse box panel which are installed at the front right dashboard, these are additionally fitted and not from the manufacturer.

26. 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.
27. Upon investigation, the aftermarket head audio unit, additionally fitted electrical grounding cables and the OBD tuning module on the Insured Vehicle did not cause a fire for this particular incident. As the fire had started from the additionally fitted alarm lighting wiring to the fuse box of the Insured Vehicle.
28. Our investigations had also revealed that at the time of writing this report, the manufacturer recall campaign in between 28th May 2015 to end 2016 and 9th July 2015 to end 2017 for the front passenger and driver airbag which had involved the Insured Vehicle did not possess a fire risk to the Insured Vehicle.



Sherwin Beh
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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