

Your Ref: M600337
Our Ref : CI/MSG19015660/P

2nd September 2019

MSIG Insurance (Singapore) Pte. Ltd.
16 Raffles Quay #24-01
Hong Leong Building
Singapore 048581
(Motor Claims Department)

**TECHNICAL INVESTIGATION REPORT OF ROAD INCIDENT INVOLVING THE
INSURED VEHICLE YN 8539R ON 18th July 2019**

1. We refer to your letter dated 22nd July 2019 and the instructions therein.
2. Our analysis, comments and opinions with respect to the dislodged front left brake pad of to the insured vehicle YN 8539R (herein referred to as "Insured Vehicle") are set out below.

Inspection of the Insured Vehicle

3. The Insured Vehicle was physically inspected on 19th July 2019 at the premises of Khai Wah Battery & Tyre Pte Ltd, 453 Tagore Industrial Ave, Singapore 787824.
4. A static inspection was carried out to the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: YN 8539R
Make / Model	: Mitsubishi Canter 3.0D
Chassis No	: FEB21EA10171
Year of Registration	: July 2015
Mileage	: 125,211Km

5. The Insured Vehicle was noted to have been in a road accident and sustained damage that was confined to its front bumper portion. The interior compartment and rear portion was observed to be unaffected by the accident. See photos 1 – 5 below.



Photo 1 shows the general view of the front portion of the Insured Vehicle at the time of our inspection. The damage to the Insured Vehicle was confined to its front bumper portion and number plate is amongst the body parts that were found to have been affected as a result of the accident.



Photo 2 shows the close up view of the front portion of the Insured Vehicle at the time of our inspection. The damage to the Insured Vehicle was confined to its front bumper portion and number plate (arrowed) is amongst the body parts that were found to have been affected as a result of the accident.



Photo 3 shows the right portion of the Insured Vehicle, which was observed to be unaffected by the accident.



Photo 4 shows the left portion of the Insured Vehicle, which was observed to be unaffected by the accident.



Photo 5 shows the rear portion of the Insured Vehicle, which was observed to be unaffected by the accident.

6. 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

7. We were able to gather further information pertaining to the incident as well as information pertaining to the history of the Insured Vehicle.
8. From the Singapore Accident Statement, which was made by Mr Didar Mustakim Billah (herein referred to as "Mr Didar"), we note that the accident to the Insured Vehicle had happened when coming to a stop in front of the traffic lights. Mr Didar applied the brake on the Insured Vehicle but it continued moving front and collided into another vehicle in front of him.

9. According to Mr Didar, at about 1432hrs on 18 July 2019, he was travelling along Bedok North Road towards PIE expressway. Upon reaching the traffic junction, the lights turned red and Mr Didar proceed to apply the brakes on the Insured Vehicle. However, the Insured Vehicle did not come to a stop and continued moving forward thus colliding into the vehicle in front.
10. Mr. Didar alighted from the Insured Vehicle to assess the accident damage, he went to inspect the brake as well and observed that the brake pads of the front left wheel was dislodged from the brake caliper housing and fell onto the rims.
11. Mr Didar subsequently contacted his company to inform them of the accident and his company made towing arrangements to have the Insured Vehicle towed to workshop Khai Wah Battery & Tyre Pte Ltd and on the same day made an insurance report with his Insurance company (MSIG).
12. During our inspection of the Insured Vehicle at the workshop, we observed that the front disc brakes and brake pads were taken out of the Insured Vehicle and replaced by a new set of disc brakes and brake pads. We instructed the workshop to produce the old disc brakes and brake pads for inspection and we observed only the front left and right disc brakes and only 3 out of 4 brake pads. The front left outer brake pad was missing at the time of our inspection.
13. Upon closer inspection of both the front left and right disc brakes, we observed that the outer surface of the front left disc brake sustained abnormal damage and wear compared to the front right outer surface of the disc brake which was in good condition. This is suspected that upon the driver depressing the pedal brake to stop the Insured Vehicle, the piston from the brake caliper will push the brake pads onto the disc brakes to slow the Insured Vehicle down. With the missing outer brake pad, the disc brakes were forced to come into contact with the brake caliper instead of the brake pad which caused damage and abnormal wear on the disc brakes surface in which cause the braking efficiency of the Insured Vehicle to be reduced. See photos 6 - 8 below.



Photo 6 shows the brake fluid reservoir of the Insured Vehicle at the time of my inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 7 shows both front left (red circle), right (yellow circle) disc brakes and the 3 of 4 brake-pads of the Insured Vehicle. Front left outer brake pad was missing at the time of my inspection.



Photo 8 shows the front left inner brake pad (arrowed) and the front left disc brake of the Insured Vehicle. The brake pad's braking material was observed to be of sufficient level. However the other outer side of the brake pad was missing at the time of my inspection, which will cause the braking efficiency of the Insured Vehicle to be reduced.



Photo 9 shows the front right inner and outer brake pads (arrowed) and the front right disc brake of the Insured Vehicle. The brake pad's braking material was observed to be of sufficient level. However the other outer side of the brake pad was missing at the time of my inspection, which will reduce the braking efficiency of the Insured Vehicle.

14. The possible cause of the brake pads dislodging from the brake caplier are due to caplier bolts which were not properly tighten. In addition that vibration during driving will further loosen the bolts overtime and further more due to the heavy braking force exerted during braking of the vehicle will force the already loosen brake caliper bolts to give way and thus the brake pads to fall off.
15. For this case, it could be that when the driver applied brake to the Insured Vehicle at the material time the brake caliper bolt became detached causing the brake pad to fall off. Ultimately, leading to the driver unable to stop the Insured Vehicle in time and colliding into the vehicle in front.
16. 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 on 30th July 2018 for the Supplementary Restraint System (SRS) airbag ECU wiring harness being squashed or sheared off due to routing was rectified 4th March 2019. Given that the cause of accident was related to the brakes, the manufacturer recall 30th July 2018 whether rectified or not, it did not cause or contributed to the accident See search result from LTA below.

Enquiry on Vehicle Recall - Vehicle Specific

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

Vehicle Owner Particulars	
Owner ID Type:	Company
Owner ID:	889D
Vehicle Details	
Vehicle Registration number:	YN8539R 
Make:	MITSUBISHI
Vehicle Model:	CANTER FEB21ER4SDEB 
Engine No.:	4P10B67062
Chassis No.:	FEB21EA10171

Recall Details

1

Recall No.: R2018080566

Manufacturer Recall Date: 30 Jul 2018

Estimated Completion Year of Recall: 2020

Brief Description (As Provided by Motor Dealer): The airbag ECU wiring harness, which has been secured between cabin front metal bracket and front top edge of ECU bracket may in isolated cases be squashed or sheared off due to this routing.

Date Rectified: 04 Mar 2019

For more details, contact GOLDBELL ENGINEERING PTE LTD

Hotline information: EUGENE SEE CHAO-SHAN at 68640680

OK

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Recall 1 shows the recall details of the Insured Vehicle, this recall package consist for the Supplementary Restraint System (SRS) airbag ECU wiring harness being squashed or sheared off due to routing was rectified 4th March 2019, however there is no relation to the cause of the accident (arrowed).

Conclusion

17. Basing on our investigations, the braking system of the Insured Vehicle was compromised at the material time. This was due to its front left brake pad becoming detached from the caliper at some point in time when the driver was applying brake to bring the Insured Vehicle to a stop at a traffic junction. The cause of this was due to the caliper bolts not tightened properly.

18. 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.
19. Our investigations had also revealed that there is no manufacturer recall to similar make and model vehicle as the Insured Vehicle that may possibly be related to this accident.
20. At the time of writing this report, the servicing history / records of the Insured Vehicle is yet to be forwarded to us for review despite our repeated attempts to obtain from the owner of 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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