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Our Ref : CI/MSG18012883/N

5 July 2018

M/s MSIG Insurance (Singapore) Pte Ltd

16 Raffles Quay #24-01
Hong Leong Building
Singapore 048581
(Motor Claims Department)

**AUTOMOBILE TECHNICAL INVESTIGATION REPORT OF ACCIDENT
INVOLVING YN 6639Z AND XD 4304S ON 1 FEBRUARY 2018**

1. We refer to your letter dated 4 June 2018 and the instructions therein to comment on the damage consistency of the motor lorry YN 6639Z involved in the captioned accident, in particular to establish whether there was possibly contact between the right front portion of the motor lorry YN 6639Z and the rear portion of the motor lorry XD 4304S; and if there was contact, whether the damage on the right front portion of the motor lorry YN 6639Z is consistent to the accident.
2. The following documents were provided to us for our review and consideration in the preparation of this report:-
 - a) Singapore Accident Statement of the driver of the motor lorry YN 6639Z (herein referred to as "**Mitsubishi**"), where amongst other information, the circumstances of accident was described together with 9 coloured photographs of the Mitsubishi at the time of reporting;
 - b) Singapore Accident Statement of the driver of the motor lorry XD 4304S (herein referred to as "**Hino**"), where amongst other information, the circumstances of accident was described together with 7 coloured photographs of the Hino at the time of reporting;
 - c) 5 coloured photographs of the Mitsubishi post-accident at the accident scene taken by the driver of the Mitsubishi;
 - d) 7 coloured photographs of the Hino post-accident at the accident scene taken by the driver of the Hino;

- e) 61 coloured photographs taken during the physical inspection of the Hino.
3. In preparation of this report, we had conducted height measurements of the right front portion of the Mitsubishi. We had also conducted a physical inspection and thereafter height measurements of the rear portion of the Hino; both collectively referred herein as **“Involved Motor Vehicles”**. An analysis of all the available documents and information gathered was subsequently carried out.
4. We now set out below our detailed findings and analysis.

Nature of Accident

5. From the Singapore Accident Statement of the driver of the Mitsubishi, Boominathan Lakshmanan (herein referred to as **“Mr Nathan”**), on 1 February 2018 at 1440 hours was waiting at the traffic light junction along Outram Road. The Hino while making a right turn into the construction site came too close to the Mitsubishi. The rear portion of the Hino got hooked onto the driver door of the Mitsubishi and caused damages to the driver door and right front portion of the Mitsubishi.
6. The Singapore Accident Statement of the driver of the Hino, Ong Kian Tiong (herein referred to as **“Mr Ong”**), had stated that on the accident date and time, he was travelling along Outram Road on the 1st lane with the right signal indicator on to indicate his intention of making a right turn. All of a sudden, he heard a vehicle horn and when he had reached the construction site, the driver of the Mitsubishi approached Mr Ong and claimed that the Hino had hit the Mitsubishi. Mr Ong had no knowledge of any contact between the Involved Motor Vehicles. The Ong said that the Mitsubishi was behind the Hino before the said accident.

Damage to the Mitsubishi

7. Based on the circumstances of the case contained in the Singapore Accident Statement and photographs which were taken during the accident reporting on the next day after the accident, we note that the Mitsubishi had sustained an impact onto its right front portion, particularly to the driver door.
8. Examination of these photographs had showed dislodgement and buckling of the driver door. There was a slight dent on the right front portion. The right side mirror cover was missing and graze marks were found on the front portion of the right side mirror. The extent of the damages observed clearly indicates that the impact onto the Mitsubishi was more to the right front portion and relatively significant. See photos 1 – 4 below.



Photo 1 shows a general view of the front portion of the Mitsubishi at the time of reporting, which was taken the next day after the accident. Based on the circumstances of the case contained in the Singapore Accident Statement, we note that the Mitsubishi had sustained damages to its right front portion.



Photo 2 shows a right side view of the Mitsubishi. We observed dislodgement and buckling of the driver door (circled). The right side mirror cover was missing (arrowed).

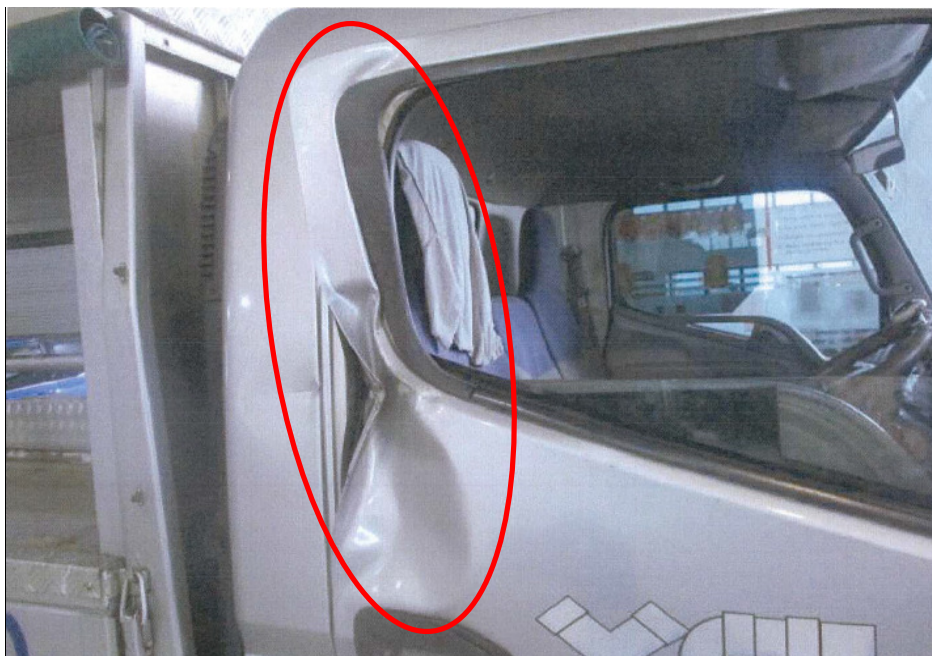


Photo 3 shows a closer view of the dislodgement and buckling of the driver door and a slight dent on the right front portion (circled).



Photo 4 shows a close up view of the Mitsubishi's right side mirror. The right side mirror cover was missing (circled) and graze marks were found on the front portion of the right side mirror (arrowed).

Physical Inspection of the Hino

9. The Hino was physically inspected at the premises of a construction site located at Outram Road, opposite the Singapore General Hospital.
10. Based on the circumstances of the case contained in the Singapore Accident Statement and Mr Ong's account of the accident, the Hino seemed to have sustained damage onto its rear right portion.
11. At the time of our inspection, we found the right side hinge of the Hino's tailgate to be buckled. Upon closer examination, we observed faint graze marks on the right tailgate lock. See photos 5 - 9 below.



Photo 5 shows the general view of the front portion of the Hino at the time of inspection.



Photo 6 shows a rear right view of the Hino at the time of inspection.



Photo 7 shows a closer up view of the right side hinge of the Hino's tailgate.



Photo 8 shows at the time of our inspection, we found the right side hinge of the Hino's tailgate to be buckled (circled).



Photo 9 shows upon closer examination, we observed faint graze marks on the right tailgate lock (circled).

Accident Scene Photographs

12. We were able to obtain post- accident photographs of the Involved Motor Vehicles from both drivers. The photographs show the damages sustained to both vehicles. We noticed the same graze marks on the right tailgate lock of the Hino. Closer examination of these photographs revealed what appeared to be silver- coloured paint transfer marks on the Hino's right tailgate lock, which is similar to the colour of the Mitsubishi. See photos 10 & 11 below.



Photo 10 shows the damages sustained to the right front portion of the Mitsubishi post- accident (circled).



Photo 11 shows the damages sustained to the rear right portion of the Hino post-accident. We noticed the same graze marks on the right tailgate of the Hino (arrowed). Closer examination of this photograph revealed what appeared to be silver- coloured paint transfer marks on the Hino's right tailgate lock, which is similar to the colour of the Mitsubishi (circled).

Site Inspection & Technical Analysis

13. For this case, Mr Nathan claimed that the Hino had come too close to the Mitsubishi while turning right into the construction site. Mr Ong on the other hand stated that the Mitsubishi was behind the Hino before he made the right turn. Due to conflicting accounts of the accident, we conducted a site inspection of the accident location together with Mr Ong.
14. The accident had occurred at the U-turn opening in the road divider along Outram Road. There are 4 lanes along Outram Road. The 1st lane is for motorists to either make a U- turn or proceed straight. Following the circumstances according to Mr Nathan, the Mitsubishi would have either been positioned along the 2nd lane beside the Hino right before Mr Ong made the right turn or behind the Hino on the 1st lane and came into contact with the Hino as it proceeded to go straight right before Mr Ong completed making the right turn. See photo 12 below.



Photo 12 shows the U-turn opening in the road divider along Outram Road where the accident occurred. There are 4 lanes along Outram Road. The 1st lane is for motorists to either make a U- turn or proceed straight.

15. We managed to obtain several photographs of the Hino while Mr Ong performed a right turn at the accident location in order to have a better understanding of the turning radius and protrusion angle of the Hino's rear portion while executing a turn. We observed the Hino travelling along Outram Road on the 1st lane and slowly approaching the U-turn opening in the road divider, preparing to turn right. We noticed from the front mirror that the Hino was completely within the 1st lane. As Mr Ong made the right turn, we observed another vehicle passing the rear portion of the Hino. The vehicle proceeded to go straight along the 2nd lane without coming into contact with the rear portion of the Hino as Mr Ong completed the right turn. See photos 13 - 15 below.



Photo 13 shows the Hino travelling along Outram Road on the 1st lane and slowly approaching the U-turn opening in the road divider, preparing to turn right. We noticed from the front mirror that the Hino was completely within the 1st lane (circled).



Photo 14 shows the Hino turning right. We observed another vehicle passing the rear portion of the Hino as Mr Ong made the right turn (arrowed).



Photo 15 shows the vehicle proceeding to go straight along the 2nd lane without coming into contact with the rear portion of the Hino as Mr Ong completed the right turn (arrowed).

16. Based on our examination of these photographs, it is unlikely that there would be any contact between the right front portion of the Mitsubishi and the rear right portion of the Hino if the Mitsubishi was travelling along the 2nd lane while the Hino was turning right at the accident location.
17. Since it is unlikely that the Mitsubishi was travelling along the 2nd lane, it is more plausible that the Mitsubishi was travelling along the 1st lane, behind the Hino when the accident occurred. Both vehicles may have come into contact when the Mitsubishi proceeded to go straight along the 1st lane before the Hino had completed the right turn.

Height Measurement

18. Notwithstanding the analysis of the circumstances of the case as well as the damages sustained to the Involved Motor Vehicles showing possible contact, we had conducted a height configuration test to determine whether the damages observed on the right front portion of the Mitsubishi corresponds to the damages observed on the rear right portion of the Hino.
19. In order to determine this, we had measured the height above ground level of the right front portion of the Mitsubishi. We had thereafter compared this measured height against the rear right portion of the Hino. See photos 16 - 19 below.



Photo 16 shows the height measurement being conducted on the right front portion of the Mitsubishi.

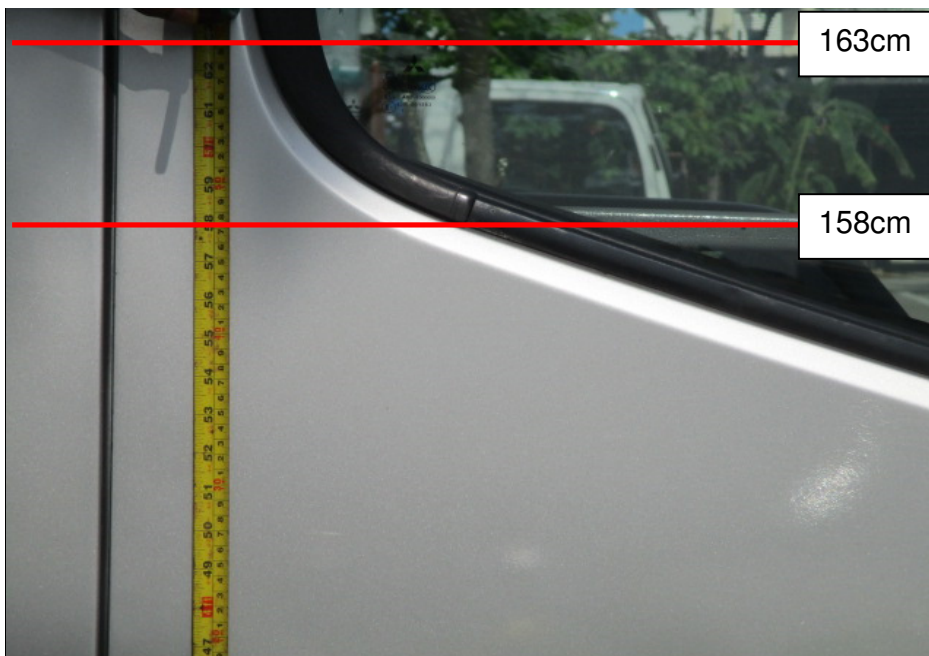


Photo 17 shows a closer view of the height measurement being conducted on the right front portion of the Mitsubishi. The height range above ground level of the driver door at the area where the driver door was buckled was measured to be approximately between 158cm to 163cm.



Photo 18 shows the height measurement being conducted on the rear right portion of the Hino.

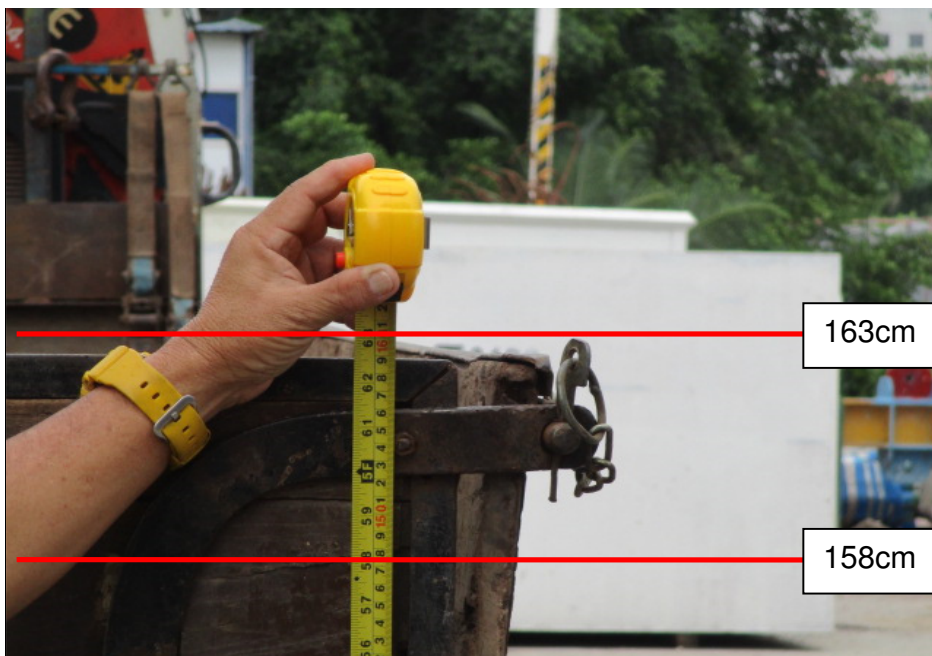


Photo 19 shows a closer view of the height measurement being conducted on the rear right portion of the Hino. The body part within the height range of 158cm to 163cm above ground was the right tailgate lock where the graze marks were found.

20. We now set out below the findings that we had gathered following the height measurements that was conducted:-

- a) the height range above ground level of the driver door of the Mitsubishi at the area where the driver door was buckled was measured to be approximately between 158cm to 163cm;
- b) the body part of the Hino within the height range of 158cm to 163cm above ground was the right tailgate lock where the graze marks were found;
- c) the height measurements appear to support the findings of possible contact between the right front portion of the Mitsubishi and the rear right portion of the Hino;
- d) our findings are further supported by, upon our examination of the post-accident photographs of the Hino, revealing what appeared to be silver-coloured paint transfer marks on the Hino's right tailgate lock, which is similar to the colour of the Mitsubishi.

Conclusion

21. Having investigated and technically analyzing the material evidence available at the time of writing this report, we are of the opinion that there was contact between the right front portion of the Mitsubishi and the rear right portion of the Hino at the material time of accident.

22. Both damages are corresponding to their respective heights and are consistent to their nature of contact.

Muhd Nazril

Technical Investigator

Ang Bryan Tani

AFF SAE-A, AMSOE AMIRTE, MATAI, Aff.Inst.AEA

Senior Technical Investigator

Technical Investigation & Reconstructionist (SAE-A)

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