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18 August 2020

M/s China Taiping Insurance (Singapore) Pte Ltd

3 Anson Road #16-00
Springleaf Tower
Singapore 079909
(Motor Claims Department)

**AUTOMOBILE TECHNICAL INVESTIGATION REPORT OF ACCIDENT
INVOLVING SKT 5832Y AND SJQ 8981H ON 31 MARCH 2020**

1. We refer to your letter dated 7 August 2020 and the instructions therein to comment on the damage consistency of the motor car SKT 5832Y involved in the captioned accident, in particular to establish whether there was possibly contact between the rear of the motor car SKT 5832Y and the front of motor car SJQ 8981H; and if there was contact, whether the damage on the rear portion of the motor car SKT 5832Y 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 car SKT 5832Y (herein referred to as "**Mitsubishi**"), where amongst other information, the circumstances of accident was described together with 7 coloured photographs of the Mitsubishi at the time of reporting;
 - b) Singapore Accident Statement of the driver of the motor car SJQ 8981H (herein referred to as "**BMW**"), where amongst other information, the circumstances of accident was described together with 11 coloured photographs of the BMW at the time of reporting;
 - c) 27 coloured photographs of the damage to the Mitsubishi taken during the Pre- Repair Survey by LKK Auto Consultants Pte. Ltd.;
 - d) 39 coloured photographs taken during the physical inspection of the BMW;
 - e) 3 post-accident photographs taken by the driver of the BMW;

- f) 1 video recording of the accident taken from the in-vehicle camera of the Mitsubishi.
3. In preparation of this report, we had conducted height measurements of the front portion of the Mitsubishi (using a similar make and model). We had also conducted a physical inspection and thereafter height measurements of the frontal portion of the BMW; both collectively referred herein as “**Involved Motor Cars**”. 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

From the Singapore Accident Statement of the driver of the Mitsubishi, Mr Tan Wei-Wen, Paul (herein referred to as “**Mr Tan**”), on 31 March 2020 at 0800 hours, the Mitsubishi was stationary at the traffic junction along Ang Mo Kio Avenue 5 and Ang Mo Kio Industrial Park 2. Suddenly the front portion of the BMW collided into the rear portion of the Mitsubishi as the driver was unable to stop in time. The rear bumper of the Mitsubishi sustained damages. The rear number plate was also dented.

5. The Singapore Accident Statement of the driver of the BMW, Mr Toh Chee Seng (herein referred to as “**Mr Toh**”), however had stated that on the abovementioned date, time and location, he was travelling along Ang Mo Kio Avenue 5 and approaching Ang Mo Kio Industrial park 2 when the traffic light turned red. The vehicles in front of Mr Toh came to a stop. He did not manage to stop in time and rear-ended the Mitsubishi. Both drivers checked their respective vehicles. Mr Toh mentioned that there was no visible damage to both vehicles. He suggested to the driver of the Mitsubishi to make a report just in case.

Damage to the Mitsubishi

6. From our examination of the photographs taken during the Pre- Repair Survey conducted by LKK Auto Consultants Pte. Ltd. about 2 months after the accident, we note that the Mitsubishi had sustained an impact onto its rear portion. The damages were mainly observed to be at or around the rear bumper and rear number plate.
7. We observed dents on some of the alpha- numeric letterings as well as 2 vertical black marks found on one of the alpha- numeric letterings of the rear number plate of the Mitsubishi. 2 horizontal black marks were also found on one of the alpha- numeric letterings of the rear number plate of the Mitsubishi. Upon closer examination, a crack was observed on the underside and lower centre portion of the rear bumper of the Mitsubishi. However, we also noted that the front bumper was not misaligned at its corner edges. See photos 1 - 7 below.



Photo 1 shows the general view of the rear portion of the Mitsubishi at the time of the Pre- Repair Survey conducted by LKK Auto Consultants Pte. Ltd. which was taken about 2 months after the accident. The damage to the Mitsubishi was observed to be confined to the rear bumper and rear number plate (circled).



Photo 2 shows a closer view of the damage observed on the rear number plate (circled).



Photo 3 shows a close up view of the dents found some of the alpha-numeric letterings (arrowed) as well as 2 vertical black marks found on one of the alpha-numeric letterings of the rear number plate of the Mitsubishi (circled).



Photo 4 shows a close up view of the dents found some of the alpha- numeric letterings (arrowed) as well as 2 horizontal black lines found on one of the alpha- numeric letterings of the rear number plate of the Mitsubishi (circled).



Photo 5 shows a close up view of the crack observed on the underside and lower centre portion of the rear bumper of the Mitsubishi (arrowed).



Photo 6 shows a close up view of the right corner edge of the rear bumper of the Mitsubishi. We observed that there was no misalignment at the corner edges (red arrows).

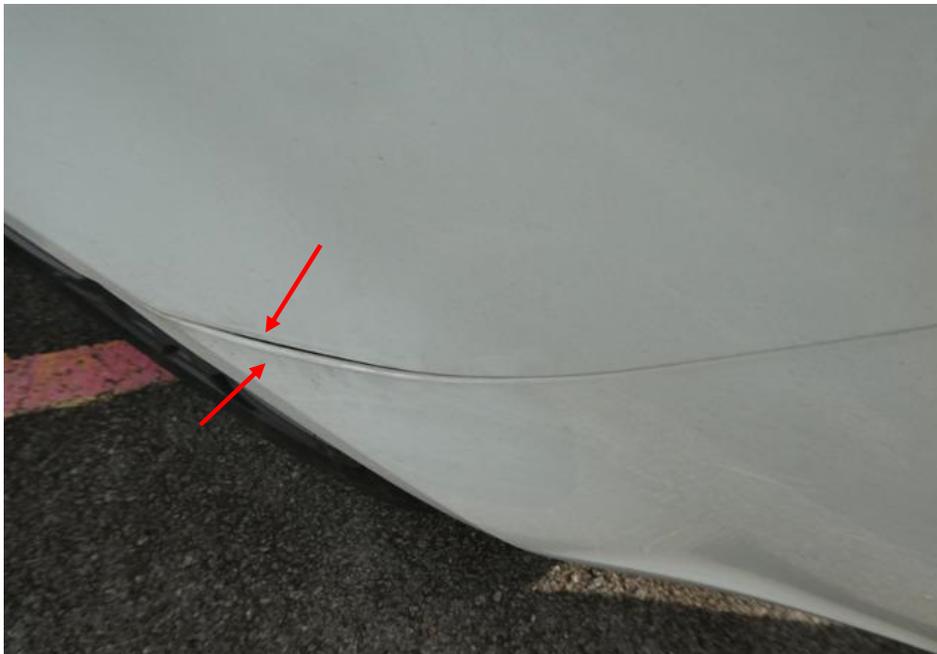


Photo 7 shows a close up view of the left corner edge of the rear bumper of the Mitsubishi. We observed that there was no misalignment at the corner edges (red arrows).

Physical Inspection of the BMW

8. The BMW was physically inspected on 17 August 2020 at the private carpark of Mr Toh's home premises located at 90 West Coast Road, Singapore 126810.
9. The mileage recorded was 120, 932km.
10. The physical inspection carried out had primarily focused on the front portion of the BMW, in particular its front bumper and front number plate as the accident was reported to be of a head to rear nature where the BMW was behind the Mitsubishi at the material time.
11. Our visual examination of the front bumper of the BMW revealed a paint chip and cracks. We observed horizontal black marks on some of the alpha-numeric letterings of the BMW's front number plate. We also found a crack on one of the alpha-numeric letterings of the BMW's front number plate. However we noted that the front bumper was not misaligned at its corner edges. See photos 8 - 16 below.



Photo 8 shows the general view of the front portion of the BMW at the time of our inspection. The physical inspection carried out had primarily focused on the front portion of the BMW, in particular its front bumper and front number plate as the accident was reported to be of a head to rear nature where the BMW was behind the Mitsubishi at the material time. The mileage recorded was 120, 932km.



Photo 9 shows a closer visual examination of the BMW's front bumper which revealed a paint chip and cracks (circled). We also observed damages on some of the alpha- numeric letterings on the front number plate of the BMW (arrowed).



Photo 10 shows a close up view of the horizontal black mark on one of the alpha- numeric letterings of the BMW's front number plate (circled).



Photo 11 shows a close up view of the horizontal black marks on some of the alpha- numeric letterings of the BMW's front number plate (circled).



Photo 12 shows a close up view of a crack observed on one of the alpha- numeric letterings of the BMW's front number plate (circled).



Photo 13 shows a closer view of the paint chip and crack observed on the BMW's front bumper (circled).



Photo 14 shows a close up view of the paint chip (arrowed) and cracks (circled) observed on the BMW's front bumper.



Photo 15 shows a close up view of the right corner edge of the front bumper of the BMW. We observed that there was no misalignment at the corner edges (red arrows).



Photo 16 shows a close up view of the left corner edge of the front bumper of the BMW. We observed that there was no misalignment at the corner edges (red arrows).

Accident Scene Photographs & Technical Analysis

12. For this case, we were able to obtain several photographs taken at the accident scene by Mr Toh. It shows the position of the Involved Motor Cars at the accident location. The BMW was observed to be directly behind the rear of the Mitsubishi. Upon closer examination of these photographs, we observed a crack at the centre bottom portion of the Mitsubishi's rear bumper. We also observed a crack on one of the alpha- numeric letterings of the BMW's front number plate. It would appear that the damage to the BMW that could possibly have been a result of contact with the rear of the Mitsubishi was the front number plate of the BMW. This is also taking into consideration that the rear bumper is the most protruded body part at the rear of the Mitsubishi where in the event of any contact, it will be the first body part that will come into contact with the front number plate of the BMW. See photos 17 - 19 below.



Photo 17 shows the position of the Involved Motor Cars at the accident location. The BMW was observed to be directly behind the rear of the Mitsubishi. In such a position, the front number plate of the BMW would have come into contact with the centre lower portion of the rear bumper of the Mitsubishi as the front number plate was the most protruded body part at the frontal portion of the BMW.



Photo 18 shows a closer view of the rear portion of the Mitsubishi post-accident. Upon closer examination, we observed a crack at the centre bottom portion of the Mitsubishi's rear bumper (circled).



Photo 19 shows a close up view of the front number plate of the BMW post-accident. Upon closer examination, we observed a crack on one of the alphanumeric letterings of the BMW's front number plate (circled).

Video Recording

13. The video recording that was provided to us in preparation of this report was taken from a recording device that was mounted onto the front windscreen of the Mitsubishi. The recording was provided to us in a single recording and had showed the events before the accident and the accident itself. The length (duration) indicated in the video recording was 5 seconds.
14. From the video recording, the Mitsubishi could be seen coming to a stop at the traffic junction.
15. Between the 4th and 5th second mark of the video recording, we had noted a slight movement (forward like movement) of a white object on the left side of the dashboard of the Mitsubishi. This was after the BMW had rear-ended the Mitsubishi. The capturing of this slight movement by the video recording device that was mounted on the front windscreen of the Mitsubishi is a sign that there was jerk-like movement to the Mitsubishi itself. Ultimately, indicating that there was contact between the front portion of the BMW and the rear of the Mitsubishi. See screenshots 1 and 2 below showing the 4th and 5th second mark of the video recording. However one would have to view the recording to see this slight movement.



Screenshot 1 shows the 4 second mark of the video recording. The Mitsubishi could be seen coming to a stop at the traffic junction. The white object on the left side of the dashboard is stationary (arrowed)



Screenshot 2 shows the 5 second mark of the video recording. Between the 4th and 5th second mark of the video recording, we had noted a slight movement (forward like movement) of a white object on the left side of the dashboard of the Mitsubishi (arrowed).

Height Measurement

16. We had conducted a height configuration test to determine whether the damages observed on the rear portion of the Mitsubishi corresponds to the damages observed on the front portion of the BMW.
17. In order to determine this, we had measured the height above ground level of the rear portion of the Mitsubishi (using a similar make and model), at the area where the crack as well as the black marks were found. We had thereafter compared this measured height against the front portion of the BMW. See photos 20 & 21 below.

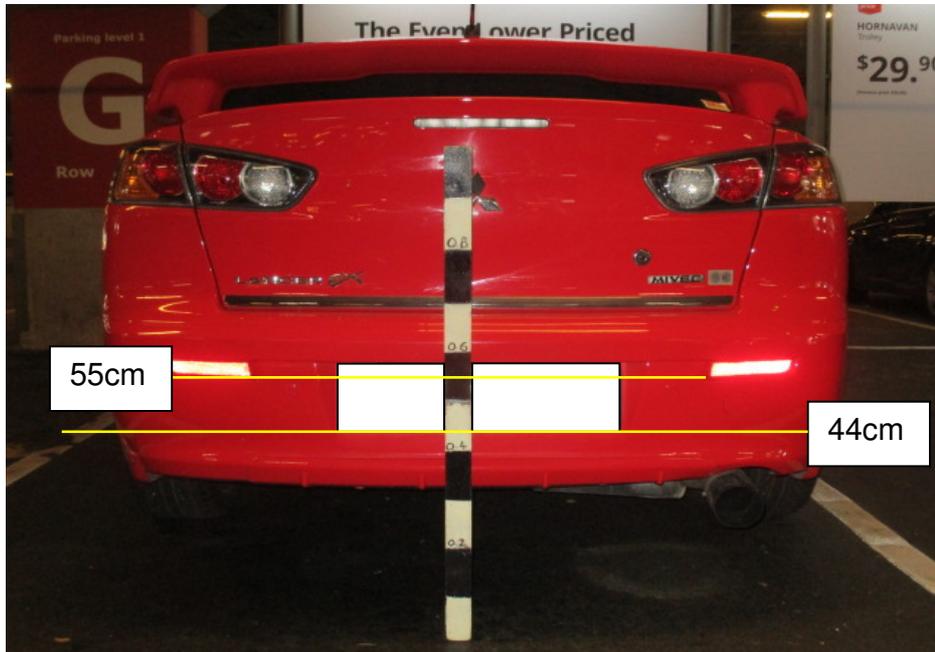


Photo 20 shows the height measurement being conducted on the front portion of the Mitsubishi (using a similar make and model). The height range above ground level of the front number plate of the Mitsubishi, at the area where the damages were found, was measured to be approximately between 44cm to 55cm.



Photo 21 shows the height measurement being conducted on the front portion of the BMW. The body part at the height range of between 44cm to 55cm above ground level was the front bumper and front number plate of the BMW where the paint chip, cracks and black horizontal marks were observed.

18. 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 front number plate of the Mitsubishi, at the area where the damages were found, was measured to be approximately between 44cm to 55cm;
- b) the body part at the height range of between 44cm to 55cm above ground level was the front bumper and front number plate of the BMW where the paint chip, cracks and black horizontal marks were observed;
- c) the height measurements appear to support the findings of possible contact between the front portion of the BMW and the rear portion of the Mitsubishi. The damage observed on the front bumper of the BMW was a result of this contact and corresponds to the damage observed on the rear bumper of the Mitsubishi. In other words, the damage observed on the rear portion of the Mitsubishi is consistent to the damage observed on the front portion of the BMW.

Conclusion

19. 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 front of the BMW and the rear of the Mitsubishi at the material time.

20. The impact force from the contact was relatively minor and had occurred when the BMW was unable to stop in time and had rear-ended the Mitsubishi, which was stationary at the time of contact.

21. The damage observed on the rear of the Mitsubishi is consistent to the nature of the accident and also consistent to the damage observed on the rear bumper of the BMW.

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