

Your Ref : 6216126103SG (003)  
Our Ref : CC3/AIG18000691/N

2 June 2019

**M/s AIG Asia Pacific Insurance Pte. Ltd.**

78 Shenton Way #08-16

CHARTIS Building

Singapore 079120

(Motor Claims Department)

**AUTOMOBILE TECHNICAL INVESTIGATION REPORT OF ACCIDENT  
INVOLVING SHB 9981D AND SJX 3357G ON 7 JANUARY 2018**

1. We refer to your letter dated 27 April 2018 and the instructions therein to comment on the damage consistency of the motor taxi SHB 9981D involved in the captioned accident, in particular to establish whether there was possibly contact between the rear of the motor taxi SHB 9981D and the front of motor car SJX 3357G; and if there was contact, whether the damage on the rear portion of the motor taxi SHB 9981D 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 taxi SHB 9981D (herein referred to as "**Taxi**"), where amongst other information, the circumstances of accident was described;
  - b) Singapore Accident Statement of the driver of the motor car SJX 3357G (herein referred to as "**Mercedes**"), where amongst other information, the circumstances of accident was described;
  - c) 17 coloured photographs of the damage to the Taxi taken during the Pre- Repair Survey by LKK Auto Consultants Pte. Ltd.;
  - d) 8 coloured photographs taken during the physical inspection of the Mercedes;
  - e) 3 coloured post-accident photographs taken by the driver of the Mercedes;
  - f) 1 post-accident video taken by the driver of the Mercedes.

3. In preparation of this report, we had conducted height measurements of the rear portion of the Taxi (using a similar make and model). We had also conducted a physical inspection and thereafter conducted height measurements of the front portion of the Mercedes; 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**

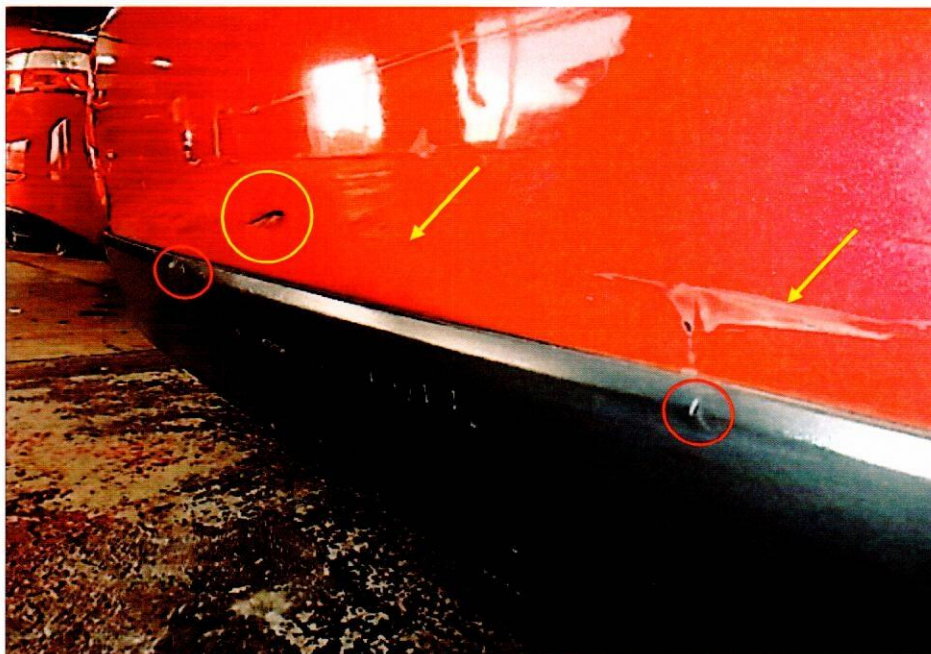
5. From the Singapore Accident Statement of the driver of the Taxi, Mr Tan Jim Hua (herein referred to as **"Mr Tan"**) he was driving the Taxi along Buyong Road towards Orchard Road on 7 January 2018 at 2215 hours. As he approached the junction and stopped at the right turn pocket, he suddenly felt an impact at the rear. Mr Tan alighted to check the damages. He realized that the Mercedes had rear-ended the Taxi.
6. The Singapore Accident Statement of the driver of the Mercedes, Ms Pandit Sonal (herein referred to as **"Ms Pandit"**) on the other hand, had stated that at the aforementioned date and time she was driving along Buyong Road and was turning right into Orchard Road when the Taxi suddenly came in front of the Mercedes. She mentioned that both vehicles were in close proximity with each other but there was no contact between both vehicles. Ms Pandit took a post-accident video and mentioned that there were no scratch marks on the Mercedes.

#### **Damage to the Taxi**

7. From our examination of the photographs taken during the Pre- Repair Survey conducted by LKK Auto Consultants Pte. Ltd. about 2 days after the accident, the damage to the Taxi was observed to be confined to its rear centre portion. We observed a dent as well as paint graze marks at the centre portion. We also noted vertical indentations on the lower rear bumper. The boot lid was also dented at the lower centre portion. See photos 1 - 5 below.



**Photo 1** shows the general view of the rear of the Taxi at the time of the Pre-Repair Survey conducted by LKK Auto Consultants Pte. Ltd. taken 2 days after the accident. The damage to the Taxi was observed to be confined to its rear centre portion (circled).



**Photo 2** shows upon closer examination of the centre portion of the rear bumper, we observed a dent (yellow circle), paint graze marks (yellow arrows) as well as vertical indentations on the lower rear bumper (red circles) of the Taxi.



**Photo 3** shows a close up view of the dent (yellow circle) on the centre portion of the Taxi's rear bumper.



**Photo 4** shows a close up view of the paint graze marks (yellow arrows) on the centre portion of the Taxi's rear bumper as well as vertical indentations (red circles) on the lower rear bumper of the Taxi.



**Photo 5** shows a close up view of the slight dent on the lower centre portion of the Taxi's boot lid (arrowed).

### **Accident Scene Photographs**

8. For this case, the Singapore Accident Statement of Ms Pandit had contained several photographs taken at the accident scene. It shows the position of the Involved Motor Vehicles at the accident location. The position of the Mercedes appeared to be slightly towards the right from the rear of the Taxi.
9. Upon closer examination of the accident photographs we observed that the front right tow cover of the Mercedes was pushed inwards. See photos 6 & 7 below.



**Photo 6** shows the position of the Involved Motor Vehicles at the accident location. The position of the Mercedes appeared to be slightly towards the right from the rear of the Taxi.



**Photo 7** shows the position of the Mercedes after the accident. Upon closer examination we observed that the front right tow cover of the Mercedes was pushed inwards (arrowed).

### **Technical Analysis**

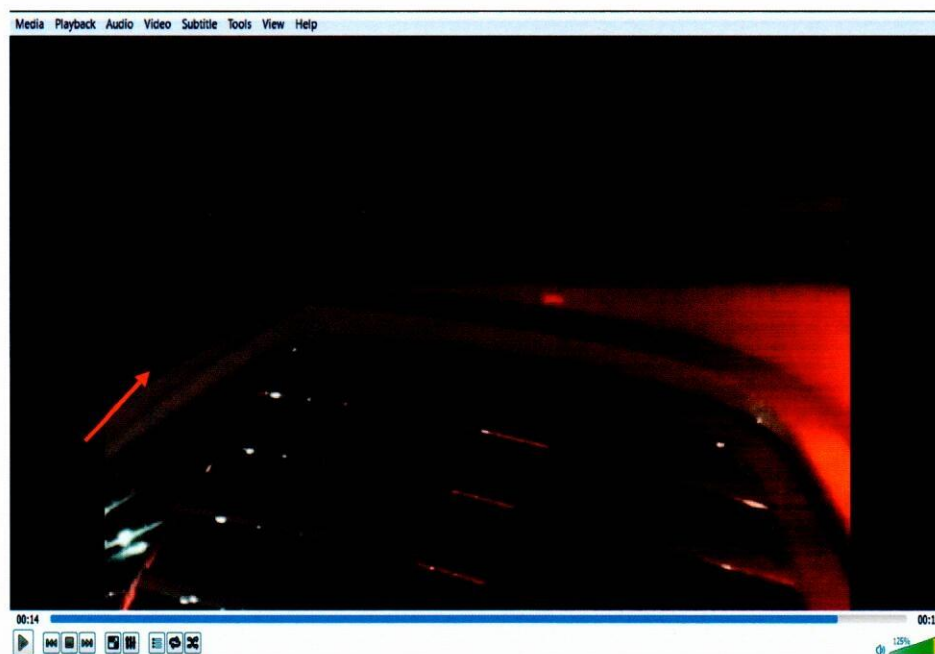
10. Our analysis of the documents that were made available to us in preparation of this report, and our observations following the physical inspection of the Mercedes would appear to suggest that the front number plate frame of the Mercedes had contacted onto the lower rear bumper of the Taxi. Reasons for which are set out below.
11. Firstly, the vertical indentations on the Taxi's lower rear bumper were caused by an object that is of a similar shape, pressing onto the rear portion of the Taxi. If one was to consider the shape of the Mercedes's front number plate frame, it would then appear that these vertical indentations were caused by the top corners of the Mercedes's front number plate frame.
12. Although there was no obvious crack or break on the front number plate frame of the Mercedes at the time of our inspection, it could be due to the impact force arising from the contact being not significant enough to have stretched pass the material strength of the front number plate frame. In this aspect, one would have to consider the material stiffness of the number plate frame, which is constructed of hard plastic, against the thermoplastic (soft plastic) material of the rear bumper.

### **Video Recording**

13. The video recording that was provided to us in preparation of this report was taken from Ms Pandit's mobile phone. The recording showed the events after the accident. The length (duration) indicated in the video recording was 16 seconds.
14. At the 13 second mark of the video recording, we had observed that the front right tow cover of the Mercedes was pushed inwards. At the 14 second mark of the video recording, we had observed the front number plate of the Mercedes had appeared to be dislodged post- accident. See screenshot 1 and 2 below showing the 13 and 14 second mark of the video recording depicting the damages to the Mercedes post- accident.



**Screenshot 1** of the video recording taken from the mobile phone of Ms Pandit shows the front right tow cover of the Mercedes which was observed to be pushed inwards (circled) at the 13 second mark.



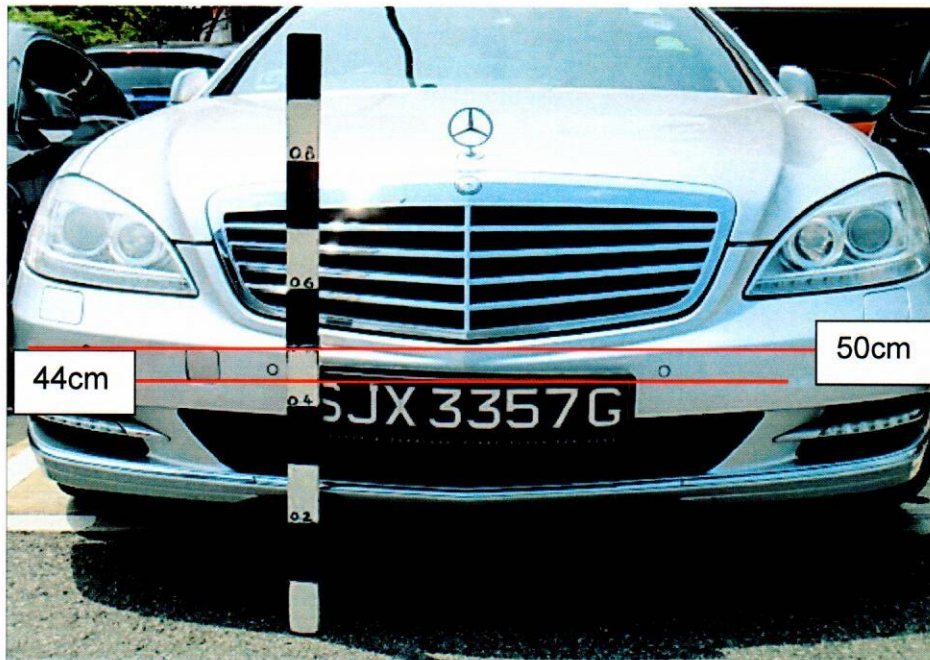
**Screenshot 2** of the video recording taken from the mobile phone of Ms Pandit shows the front number plate of the Mercedes which had appeared dislodged post- accident (arrowed) at the 14 second mark.

### Height Measurement

15. We had conducted a height configuration test to determine whether the damages observed on the rear bumper of the Taxi corresponds to the damages observed on the front portion of the Mercedes.
16. In order to determine this, we had measured the height above ground level of the rear portion of the Taxi (using a similar make and model), at the area where the various damages were found. We had thereafter compared this measured height against the front portion of the Mercedes. See photos 8 & 9 below.



**Photo 8** shows the height measurement being conducted on the rear portion of the Taxi (using a similar make and model). The height above ground level of the Taxi's lower rear bumper where the vertical indentations were found was measured to be approximately 44cm. The height above ground level of the Taxi's rear bumper where the dent and paint graze marks were found was measured to be approximately 50cm.



**Photo 9** shows the height measurement being conducted on the front portion of the Mercedes. The height above ground level of the bottom portion of the Mercedes's front right tow cover which was observed to be pushed inwards was measured to be approximately 44cm. The height above ground level of the top corners of the Mercedes's front number plate frame was also measured to be approximately 44cm. The height above ground level of the top portion of the Mercedes's front right tow cover was measured to be approximately 50cm.

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

- a) the height above ground level of the Taxi's lower rear bumper where the vertical indentations were found was measured to be approximately 44cm;
- b) the height above ground level of the Taxi's rear bumper where the dent and paint graze marks were found was measured to be approximately 50cm;
- c) the height above ground level of the bottom portion of the Mercedes's front right tow cover which was observed to be pushed inwards was measured to be approximately 44cm;
- d) the height above ground level of the top corners of the Mercedes's front number plate frame was also measured to be approximately 44cm;

- e) the height above ground level of the top portion of the Mercedes's front right tow cover was measured to be approximately 50cm;
- f) the height measurements appear to support the findings of possible contact between the rear portion of the Taxi and the front portion of the Mercedes. The damage observed on the rear portion of the Taxi was a result of this contact and corresponds to the damage observed on the front portion of the Mercedes.

### **Conclusion**

- 18. Having investigated and technically analyzing the material evidence available at the time of writing this report, we are of the opinion that there was likely to be contact between the front of the Mercedes and the rear of the Taxi at the material time of accident. The impact force from the contact was relatively minor.
- 19. The damage to the lower rear bumper of the Taxi was caused by the front number plate frame of the Mercedes, specifically by the top corners of the Mercedes's number plate frame. This is supported by the following material/physical evidence:-
  - a) the shape of the vertical indentations on the Taxi's lower rear bumper had corresponded to the shape of the top portion of the Mercedes's front number plate frame;
  - b) the height above ground level of the vertical indentations was of the corresponding height above ground of the top corners of the Mercedes's front number plate frame.
- 20. Upon contact, the front number plate frame of the Mercedes had compressed against the lower rear bumper of the Toyota, creating the permanent vertical indentations on the lower rear bumper as well as the dislodgement of the Mercedes's front number plate.



21. We are further of the view that the energy forces generated from the impact was not significant enough to have dissipated and affected body parts that were beyond the rear bumper of the Taxi.

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