LKK Auto Consultants Pte Ltd
Company Registration No. 199607198R
51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: D19/4634M/PTE/JS
Our Ref : CS/FCI19013015/D

31 July 2019

M/s First Capital Insurance Limited
36 Robinson Road
#16-01 City House
Singapore 068877
(Motor Claims Department)

MECHANICAL INSPECTION REPORT OF INSURED VEHICLE SJA 29U

1. I refer to your request on 16 July 2018 to conduct a physical inspection of a motor car bearing registration number SJA 29U (herein referred to as "**Insured Vehicle**"), which was involved in an accident on 15 July 2019 at the carpark premises of 29/31 Toh Heights.

2. The objective of the inspection is to determine if there was any possible mechanical failure to the Insured Vehicle that may have caused or contributed to the accident.

3. Following the request, I had carried out a physical inspection of the Insured Vehicle on 23 July 2019 at the premises of M/s Wearnes Automotive Pte Ltd, 45 Leng Kee Road Singapore 159103. I now set out below my observations and comments with respect to this inspection.

General Condition

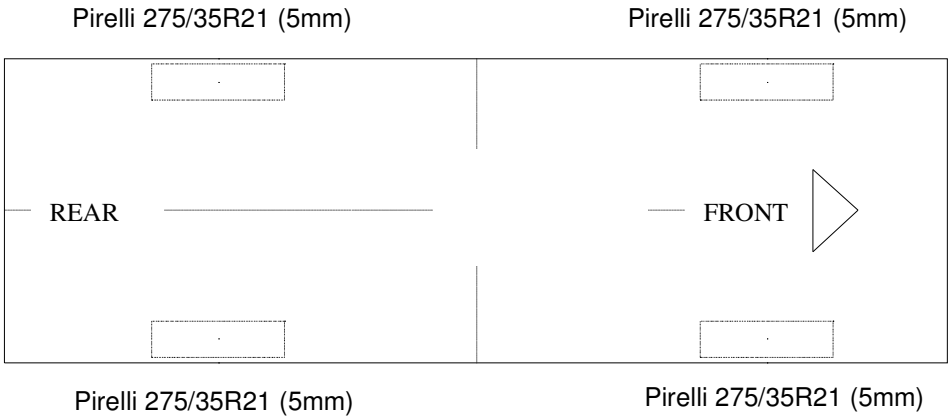
4. The following general information of the Insured Vehicle was first recorded: -

Vehicle Registration No.	: SJA 29A
Make / Model	: Bentley New Flying Spur W12
Chassis No	: SCBEA53W0EC091621
Year of Registration	: 2014 (March)
Mileage	: 103,924km

5. The Insured Vehicle was observed to have sustained damages at its left front body, left rear body, rear body and right rear body. Its undercarriage was also affected as a result of the accident. Amongst the body parts found damage were its front bumper, front left headlamp, front left fender, front left wheel rim, rear left wheel rim, rear left fender, rear bumper, rear bootlid, rear right taillamp, rear right fender, rear right exhaust and rear end panel etc.

Tyres and Wheel Rims

6. The condition of the Insured Vehicle's 4 tyres was observed to be in serviceable condition. I did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres. The 4 tyres were also observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows: -



7. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage apart for some cut/grazing nature damage on the outer spokes of the front left wheel rim and rear left which rim, which was a result of this accident. See photo 1 – 5 below.

Photo 1 shows a general view of the front right body of the Insured Vehicle at the time of my inspection. The mileage of the Insured Vehicle at the time of my inspection was recorded to be 103,924km.

Photo 2 shows a general view of the damage (circled) at the left front body of the Insured Vehicle. The front bumper, front left headlamp, front bumper lower grille and front left fender were amongst the body parts that were found to be damaged as a result of the accident.

Photo 3 shows a general view of the damage (circled) to the front left wheel rim of the Insured Vehicle. The 4 tyres fitted on the Insured Vehicle were all found to be in serviceable condition with remaining tread depth of approximately 5mm each with no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres.

Photo 4 shows the damage (circled) at the rear left fender of the Insured Vehicle.

Photo 5 shows the damage at the right rear body of the Insured Vehicle. Its rear bumper, rear bumper reinforcement, rear bootlid, rear right taillamp and rear right fender were amongst the body parts that were damaged as a result of the accident.

Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Insured Vehicle, I had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, power steering fluid and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.

9. Further examination of the engine compartment revealed no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment of the Insured Vehicle. See photo 6 – 9 below.

Photo 6 shows a general view of the Insured Vehicle's engine compartment. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment.

Photo 7 shows the brake fluid reservoir of the Insured Vehicle at the time of my inspection. I had found the brake fluid to be of sufficient level and without any visible contamination for operating purposes.

Photo 8 shows the engine coolant reservoir of the Insured Vehicle at the time of my inspection. I had found the engine coolant to be of sufficient level and without any visible contamination.

Photo 9 shows the power steering fluid reservoir of the Insured Vehicle at the time of my inspection. I had found the power steering fluid to be of sufficient level and without any visible contamination for operating purposes.

Electronic Safety / Warning Indicators

10. The Insured Vehicle's automatic self-test of the functionality of its various electronic operating systems like the Anti-Lock Brake System (ABS), Traction Control (TC) and Supplemental Restraint System (SRS) during cranking of the engine had indicated that these systems were in working condition and without abnormality. This can be established from the warning lights disappearing from the instrument panel after the self-test.

11. The engine check light and EPC (electronic power control) light had however remained lighted up after the self-test. The EPC refers to a fault(s) in either one or more electric operating system of the Insured Vehicle. The illumination of the engine check light accompanies the illumination of the EPC light, indicating that the engine of the Insured Vehicle is operating in safe mode where power is restricted. Given the extent of damage that the Insured Vehicle had sustained, it would not be unusual for the safe mode to be triggered hence the cause of the fault(s) was likely a result of the accident. See photo 10 & 11 below.

Photo 10 shows the warning light for Anti-Lock Brake System (ABS), Traction Control (TC) and Supplemental Restraint System (SRS) appearing on the instrument panel of the Insured Vehicle during the self-test of its various electronic operating systems when its engine was cranked.

Photo 11 shows the engine check light and EPC light still illuminated after the self-test. This indicates a fault to either one or more electric operating system of the Insured Vehicle. The illumination of the engine check light accompanies the illumination of the EPC light. The ABS, TC and SRS lights were however no longer illuminated indicating that these electronic operating systems were in working condition and without abnormality.

Braking System & Steering System

12. Given that the Insured Vehicle was in safe mode at the time of my inspection, and also considering that the accident had resulted in damage to its undercarriage, my operational test to the steering system and braking system of the Insured Vehicle could only be limited to driving the Insured Vehicle forward and backward.

13. Prior to the operational test, I had first conducted static tests on the braking system by stepping on the brake pedal to check for any signs of leaks within the braking system. Generally, I had found no abnormal sinking downwards of the brake pedal when it was depressed. In general, the static brake tests had suggested that there was no internal leakage of pressure/vacuum in the braking system of the Insured Vehicle.

14. Static test on the steering system of the Insured Vehicle also revealed no abnormality to the steering system. I did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. The front wheels were also able to turn in accordance to the direction that the steering wheel was turned.

15. I subsequently shifted the transmission of the Insured Vehicle to “D” mode by manually downshifting the gear selector. The Insured Vehicle moved forward when I stepped on the accelerator pedal. Whilst moving, I stepped on the brake pedal and noted that the Insured Vehicle was able to stop effectively. The transmission was then selected to “R” mode and the Insured Vehicle reversed when I stepped on the accelerator pedal. The Insured Vehicle was able to stop effectively again when I stepped on the brake pedal. The same cycle was repeated 3 times, and on all occasions, I was able to bring the Insured Vehicle to a complete stop effectively. See photo 12 & 13 below.

Photo 12 shows the Insured Vehicle, with its front wheels turned to its full right, after it was driven forward from its original position. As part of my tests on the braking system and steering system of the Insured Vehicle, I had driven the Insured Vehicle forward and stopped, thereafter reverse and stopped. In general, I had found the braking system and steering system to be operating normally. The Insured Vehicle was able to stop effectively, and the steering wheel was able to turn without any abnormal free play and/or other resistance. The front wheels were able to turn in the direction that the steering wheel was turned.

Photo 13 shows the Insured Vehicle after it was driven forward from its original position. In general, I had found the braking system and steering system of the Insured Vehicle to be operating normally.

Front Right Door

16. The front right door of the Insured Vehicle was checked, and it was observed that the hinges and locking mechanism were all properly fitted and in serviceable condition. Whilst seated on the driver's seat with the front right door closed, I had exerted some force by leaning onto the front right door and it was noted that the front right door remained closed and did not open. It could only be opened by manually pulling the inner handle and pushing the front right door outwards. When opened, the hinges were able to securely hold the front right door in an open position. Generally, I did not find any loose swinging of the front right door during my checks and tests. There was no issue/fault with the condition of the Insured Vehicle's front right door that could have suggested any malfunction of the front right door. See photo 14 & 15 below.

Photo 14 shows the inner handle of the Insured Vehicle's front right door. Whilst seated inside the Insured Vehicle, the front right door could only be opened by manually pulling the inner handle and pushing the front right door outwards. Exerting some force by leaning onto the front right door without pulling the inner handle will not open the front right door. I had found no issue/fault with the condition of the Insured Vehicle's front right door that could have suggested malfunction of the front right door.

Photo 15 shows the front right door of the Insured Vehicle opened. The hinges were able to securely hold the front right door open. Generally, I did not find any loose swinging of the front right door during my checks and tests.

Video Recording

17. My analysis of the video recording, showing the events before the accident and the accident itself, produced several notable information pertaining to the circumstance of accident. Below paragraphs discusses my video analysis.

18. The Insured Vehicle was first seen moving forward and reversing twice, a manoeuvre by its driver to adjust the position of the Insured Vehicle. What is notable from the manoeuvres was that the Insured Vehicle was able to stop without any issue. The brake lights at the rear of the Insured Vehicle could also be seen lighted up whenever the Insured Vehicle was coming to a stop. Refer to the time stamp 08:47:14 to 08:47:56 of the video recording.

19. At the last stationary position before the Insured Vehicle started reversing leading to the accident, the front right door was seen slightly ajar as the Insured Vehicle started reversing. For a moment, the front right door opened wider as the Insured Vehicle continued reversing before it closed, and the Insured Vehicle could be seen reversing at speed towards the 2 parked vehicles within the carpark premise. Refer to the time stamp 08:47:56 to 08:47:58 of the video recording.

20. What was notable during this sequence was that the brake lights at the rear of the Insured Vehicle did not light up when the Insured Vehicle was reversing at speed. The brake lights also did not light up during the second phase of the accident, when the Insured Vehicle moved forward at speed before colliding into the gate of the carpark premise and become no longer clearly visible to the recording device. Refer to the time stamp 08:47:58 to 08:48:09 of the video recording.

21. At the time of my inspection of the Insured Vehicle, I had checked on the working condition of the Insured Vehicle's brake light. It was noted that when the brake pedal of the Insured Vehicle was depressed, the brake light at the rear left taillamp and the rear right taillamp will light up together with the third brake light, which covers almost the entire width at the bottom part of the rear windscreen. Based on this observation, it can be ascertained that the brake lights of the Insured Vehicle were in working condition and will light up when the brake pedal was depressed. See photo 16 & 17below.

Photo 16 shows the brake light at the rear left taillamp and the rear right taillamp of the Insured Vehicle lighted up together with the third brake light (arrowed) when the brake pedal was depressed. From my observations, it can be ascertained that the brake lights of the Insured Vehicle were in working condition.

Photo 17 shows a closer view of the Insured Vehicle's third brake light, which lights up when the brake pedal was depressed. The third brake light covers almost the entire width at the bottom part of the rear windscreen.

22. Co-relating my findings that the brake lights of the Insured Vehicle were in working condition with the events seen in the video recording (paragraph 20 above), it would appear that the brake pedal of the Insured Vehicle was not depressed at the time when the Insured Vehicle was reversing at speed and at the time when it was moving forward at speed. This also takes into consideration that just prior to the accident, the brake lights were lighted up whenever the Insured Vehicle was coming to a stop during adjustment manoeuvres by the driver (paragraph 18 above). The accident could be a result of the driver inadvertently stepping on the accelerator pedal instead of the brake pedal. The accident does not seem to be a result of any mechanical fault(s) to the Insured Vehicle.

Others

23. My checks with both local and international bodies and associations revealed that at the time of writing this report, there was a manufacturer recall in 2015 which involved the Insured Vehicle. According to the brief details of the recall, the connection of a battery cable may possibly become loose. From the records, rectification to address this issue was carried out to the Insured Vehicle in 2016. The accident involving the Insured Vehicle was not caused by or related to the manufacturer recall involving the Insured Vehicle as the issue pertaining to the recall was not mechanical related. Furthermore, the purpose for the recall was rectified in 2016. 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:	Singapore NRIC
Owner ID:	953D
Vehicle Details	
Vehicle Registration number:	SJA29U
Make:	BENTLEY
Vehicle Model:	NEW FLYING SPUR W12
Engine No.:	CVA005412
Chassis No.:	SCBEA53W0EC091621
Recall Details	
1	
Recall No.:	R2015110177
Manufacturer Recall Date:	26 Oct 2015
Estimated Completion Year of Recall:	2016
Brief Description (As Provided by Motor Dealer):	On the vehicles affected by the recall, a 12V battery cable has a bolted connection where it passes through the front bulkhead on the right hand side. There is a possibility that this connection may be loose on a small number of vehicles.
Date Rectified:	18 Mar 2016
For more details, contact WEARNES AUTOMOTIVE PTE. LTD.	
Hotline Information:	BENTLEY SERVICE CENTRE at 63782643

Conclusion

24. Findings gathered from my physical inspection of the Insured Vehicle revealed no evidence(s) to suggest that there was possible mechanical failure and/or abnormal behaviour to the Insured Vehicle that may have caused and/or contributed to the accident.

25. A short operational test of the Insured Vehicle, which I had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its steering system and braking system. The front right door of the Insured Vehicle was also properly secured and without any abnormal movement (swinging outwards or inwards) when tested.

26. Co-relating my findings gathered at the time of my inspection of the Insured Vehicle with my analysis of the video recording showing the accident, I am of the opinion that the driver of the Insured Vehicle had inadvertently stepped on the accelerator pedal instead of the brake pedal at the material time. The accident was not a result of any mechanical fault(s) to the Insured Vehicle.

Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
Senior Technical Investigator
Technical Investigation & Accident Reconstructionist (SAE-A)