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Our Ref : CI/TPD18019475/Z

07<sup>th</sup> February 2019

**Fatal Accident Investigation Team**

Traffic Police Department  
Singapore Police Force  
10 Ubi Avenue 3  
Singapore 408865

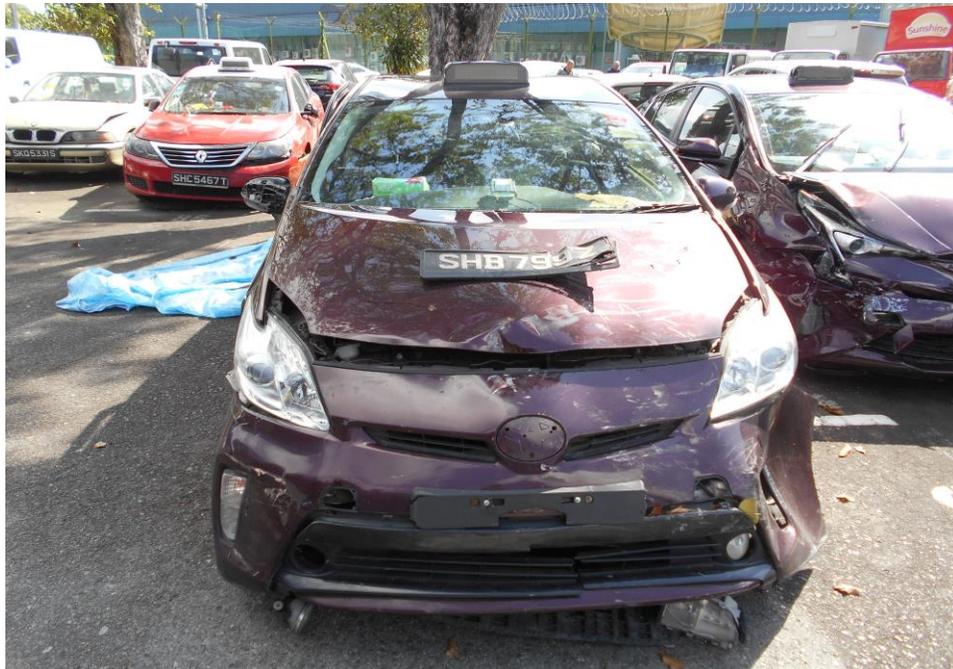
**MECHANICAL INSPECTION REPORT OF MOTOR TAXI SHB 799Z**

1. We refer to your request on 19<sup>th</sup> October 2018 to conduct a physical inspection of a motor taxi bearing registration number SHB 799Z (herein referred to as "**Motor Taxi**"), which was involved in a fatal road traffic accident on 04<sup>th</sup> October 2018.
2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Motor Taxi that may have contributed to the accident.
3. Following the request, we carried out a physical inspection of the Motor Taxi on 15<sup>th</sup> November 2018 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. We now set out below our observations and comments with respect to this inspection.

**General Condition**

4. The mileage of the Motor Taxi at the time of our inspection was not recorded due to the damages sustained as a result of the accident.
5. The Motor Taxi had sustained extensive impact damage at its frontal left & right portion, right hand side portion (severe) & rear portion. The impact force was significant, causing the various parts and components of the Motor Taxi to be damaged. This had included its cooling system which were amongst the multiple parts and components that were pushed inwards of the Motor Taxi.

6. Other body parts that were damaged had included a damaged front lower bumper, buckled front left & right side fenders, missing front license plate, front windshield, radiator, right side doors and right side mirror amongst others. The interior compartment was not affected by the accident. See photo 1 to 10 below.



**Photo 1** shows a general view of the frontal portion of the Motor Taxi at the time of our inspection. The Motor Taxi was observed to have sustained extensive impact damage at its frontal, left & rear portion. The impact force was significant, causing the various parts and components to be damaged as a result of the accident.

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**Photo 2** shows a general view of the front right portion of the Motor Taxi at the time of our inspection. The Motor Taxi was observed to have sustained extensive impact damage at its right hand side portion.



**Photo 3** shows a general view of the front left portion of the Motor Taxi at the time of our inspection. The Motor Taxi was observed to have sustained extensive impact damage at its front left portion.

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**Photo 4** shows a closer view of the damage front bumper of the Motor Taxi. The impact force was significant, causing the front bumper of the Motor Taxi to be buckled as a result of the accident.



**Photo 5** shows a closer view of the cracked front windshield of the Motor Taxi as a result of the accident.

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**Photo 6** shows a closer view of the Motor Taxi driver side door. The impact force was significant, causing it to be damaged.



**Photo 7** shows a closer view of the damaged right side of the Motor Taxi. The impact force was significant, causing it to be pushed inwards due to the accident's impact.

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**Photo 8** shows a closer view of the damaged rear lower right bumper. The impact force was significant, causing it to be misaligned due to the accident's impact.



**Photo 9** shows the interior portion of the Motor Taxi. The impact force did not affect the interior portion.



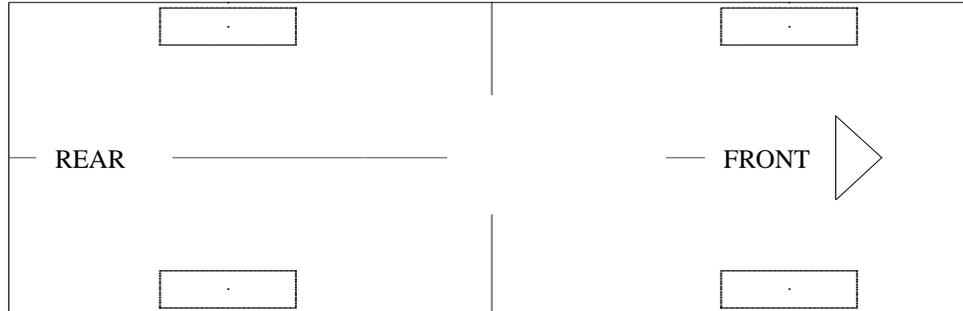
**Photo 10** shows a general view of the rear right portion of the Motor Taxi at the time of our inspection. The rear portion was observed to have minor misalignment by the accident.

### **Tyres and Wheel Rims**

7. The condition of the Motor Taxi's 4 tyres was observed to be in serviceable condition. We 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:-

Falken ZIEX Z3914 195/65R15 (8mm)

Falken Sincera SN832 195/65R15 (7mm)



Yokohama ASPEC 195/65R15 (6mm)

Falken Sincera SN832 195/65R15 (7mm)

8. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any significant damage apart for some relatively minor kerb grazing type of damage on the rim covers. See photo 11 – 14 below.



**Photo 11** shows the condition of the front right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.



**Photo 12** shows the condition of the front left tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre, which was also sufficiently inflated for vehicular operation.



**Photo 13** shows the condition of the rear right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 6mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.



**Photo 14** shows the condition of the rear left tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 8mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.

### **Engine Compartment & Operating Fluids**

9. Upon examination of the engine compartment of the Motor Taxi, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid and engine oil were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids. However, we found severe damages to the radiator which stores coolant fluid for the cooling system due to the accident's impact. Basing on the damaged radiator, there's possible fluid leakage from the radiator tank which affects the coolant system operations.
10. Our subsequent checks on the underside of the Motor Taxi revealed no other fluid stain except for coolant fluid. Visually, the radiator was observed to be damaged as a result of the accident. See photo 15 – 20 below.



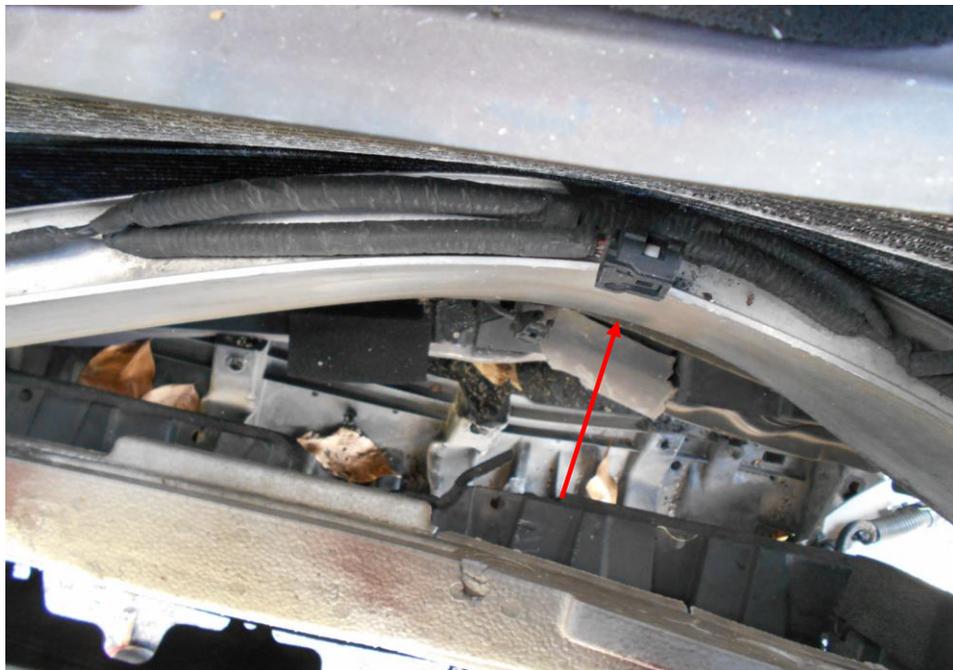
**Photo 15** shows a general view of the Motor Car's engine compartment. The various parts and components inside the engine compartment were unaffected by the accident from top view.



**Photo 16** shows the close up view of the engine coolant that was seen with sufficient level not affected by the accident's impact



**Photo 17** shows the close up view of the brake fluid that was seen with sufficient level not affected by the accident's impact.



**Photo 18** shows the close up view of the radiator that was visually pushed inwards due to the accident's impact



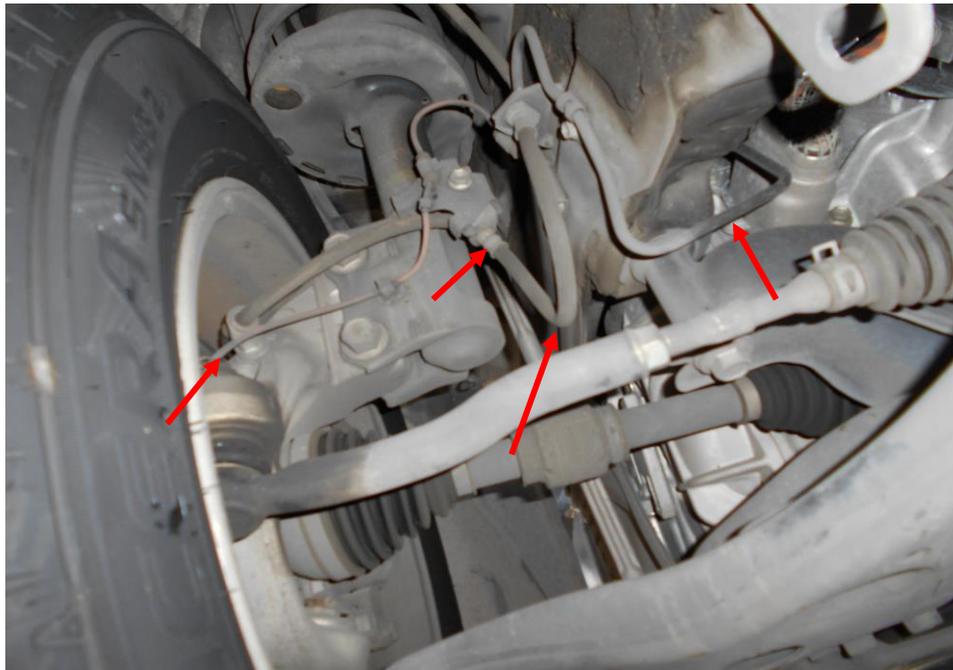
**Photo 19** shows the engine oil dip stick of the Motor Taxi at the time of our inspection. The engine oil was observed to be of sufficient level and without any visible contamination.



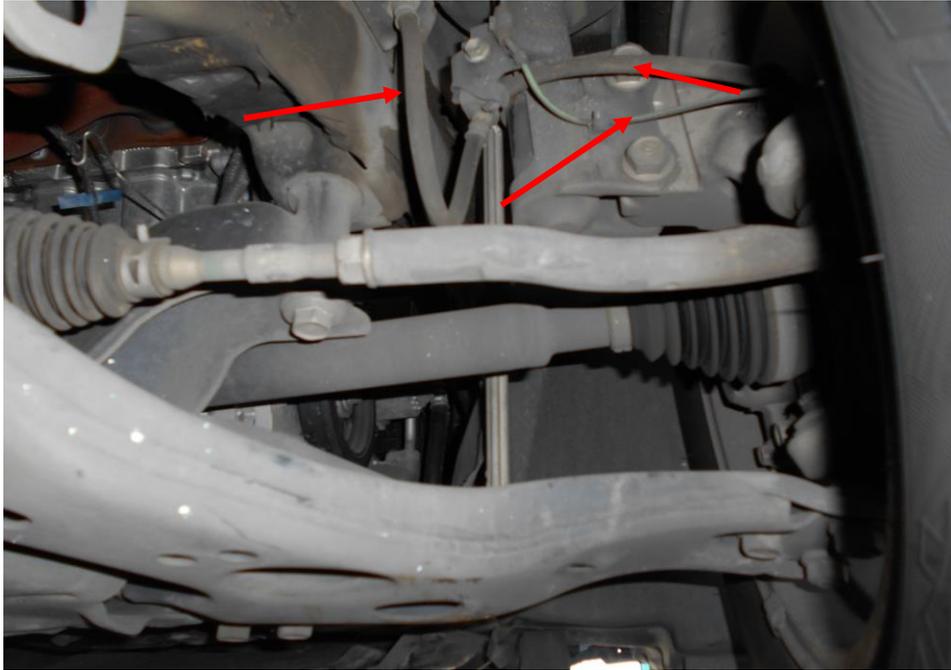
**Photo 20** shows the undercarriage of the engine area. Visually there's no sign of fluid leakage at time of our inspection. However, its undercarriage was observed to be affected by the accident's impact.

## Steering System & Braking System

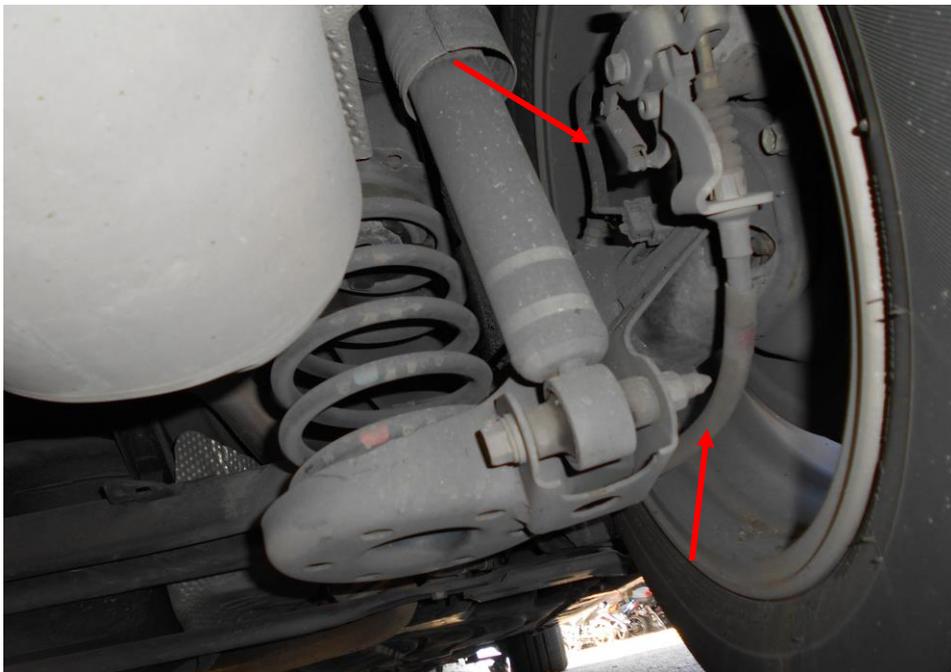
11. We were not able to conduct any tests on the steering system of the Motor Taxi. This was due to the damages sustained as a result of the accident, as well as damage to several mechanical components of the steering system.
12. As for the braking system, our investigation reveals that there was no brake fluid leakage or damages to its supporting components. The brake hoses, brake booster, brake callipers and brake fluid reservoir was found to be intact and unaffected by the accident's impact. The brake fluid was noted to be of sufficient level without any contamination for operational purposes at time of our inspection. See photo 21 - 24 below.



**Photo 21** shows the braking components at the front left wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car.



**Photo 22** shows the braking components at the front right wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.



**Photo 23** shows the braking components at the rear right wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.



**Photo 24** shows the braking components at the rear left wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.

### **Electronic Safety / Warning Indicators**

13. The Motor Car's automatic self-test of the functionality of its various operating systems like the Anti-Brake Lock System (ABS) and Supplemental Restraint System (SRS) during cranking of the engine was not able to be initiated as the engine of the Motor Car could not be started due to damage sustained as a result of the accident.

### **Operational Behaviour of the Motor Car**

14. No operational test to primarily determine whether there was any abnormality to the engine system, transmission system and steering system of the Motor Car could be conducted given the extent of damage that it had sustained.

## Conclusion

15. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its engine system which includes its cooling system was damaged as a result of the accident.
16. However, from our detailed observation on the braking system, it shows that there's no brake fluid leakage or damages to its supporting components. The brake fluid was noted to be of sufficient level without any contamination for operational purposes at time of our inspection.
17. The 4 tyres of the Motor Car were also found to be in serviceable condition. There was no 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 sufficiently inflated for vehicular operation with remaining tread depth of approximately 6mm to 8mm each.
18. Our findings were based solely on a static and visual inspection of the Motor Car. No operational test could be carried out to the Motor Car given the extent of damage that it had sustained as a result of the accident which ended it into an immobility condition.

### **Rohaizal A. Rahim**

*Technical Investigator*

### **Ang Bryan Tani**

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