



Your Ref: TP/IP/45529/2017  
Our Ref : CI/TPD17021579/Zn

21<sup>st</sup> November 2017

**Fatal Accident Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR TAXI SHD 1875U**

1. We refer to your request on 30<sup>th</sup> October 2017 to conduct a physical inspection of a Motor Taxi bearing registration number SHD 1875U (herein referred to as "**Motor Taxi**"), which was involved in a fatal road traffic accident on 28<sup>th</sup> August 2017.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor Taxi that may have contributed to the accident.
3. Following the request, we had carried out a physical inspection of the Motor Taxi on 20<sup>th</sup> November 2017 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 977,466km.
5. The Motor Taxi had sustained a relatively minor impact damages that was confined to its frontal portion. Its front left bonnet was observed to have minor dent & its lower bumper was observed to have minor cracked & scratches.



**Photo 1** shows the mileage of the Motor Taxi was 977466 km.



**Photo 2** shows a general view of the front body of the Motor Taxi at the time of our inspection. The Motor Taxi was observed to have sustained minor damages at the frontal portion.



**Photo 3** shows a general view of the rear body of the Motor Taxi at the time of our inspection. The Motor Taxi was observed to be in good general condition.



**Photo 4** shows a close up view of the front bonnet of the Motor Taxi at the time of our inspection. The Motor Taxi had sustained relatively minor misalignment at the front bonnet of the Motor Taxi.





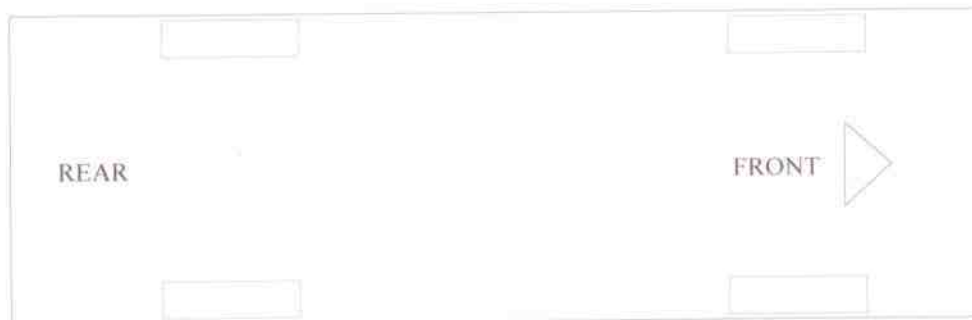
**Photo 5** shows a close up view of the lower bumper of the Motor Taxi at the time of our inspection. The Motor Taxi had sustained relatively minor cracked at the lower bumper of the Motor Taxi.

### Tyres and Wheel Rims

6. 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:-

Maxxis Radial UA-603 205/65ZR16 (4mm)

Maxxis Radial UA-603 205/65ZR16 (4mm)



Maxxis Radial UA-603 205/65ZR16 (4mm)

Maxxis Radial UA-603 205/65ZR16 (5mm)

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7. The 4 tyres were observed to be wrapped around standard wheel rims with wheel caps fitted on its outer side. Multiple grazed marks that are commonly associated to grazing against a road kerb, were found on all the wheel caps of the Motor Taxi. See photo 6 – 10 below.



**Photo 6** shows the 4 tyres were observed to be wrapped around standard wheel rims with wheel caps fitted on its outer side. Multiple grazed marks that are commonly associated to grazing against a road kerb were found on all the wheel caps of the Motor Taxi.



**Photo 7** 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 4mm.



**Photo 8** shows the condition of the rear left tyre of the Motor Taxi, which was observed to be in serviceable condition with tread depth of approximately 4mm.





**Photo 9** 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 5mm.



**Photo 10** 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 4mm.

### Engine Compartment & Operating Fluids

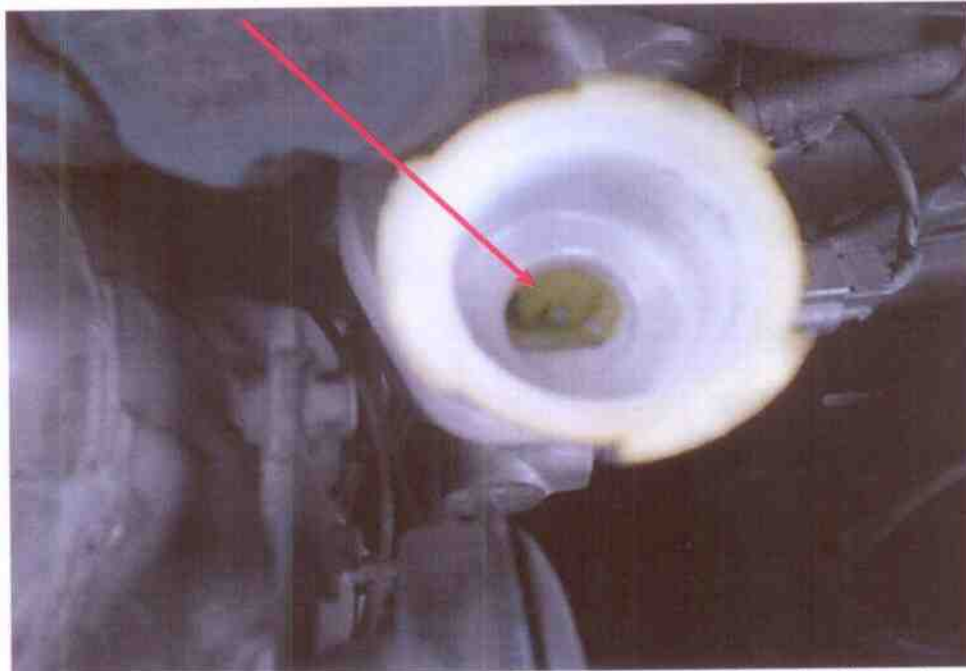
8. Upon examination of the engine compartment of the Motor Taxi, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, engine oil, transmission fluid and engine coolant were all found to be of sufficient level for operating 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 Motor Taxi.
10. Our subsequent checks on the underside of the Motor Taxi also revealed no fluid stain. Visually, the various undercarriage components of the Motor Taxi were all observed to be intact and without any visible damage. See photo 11 – 15 below.



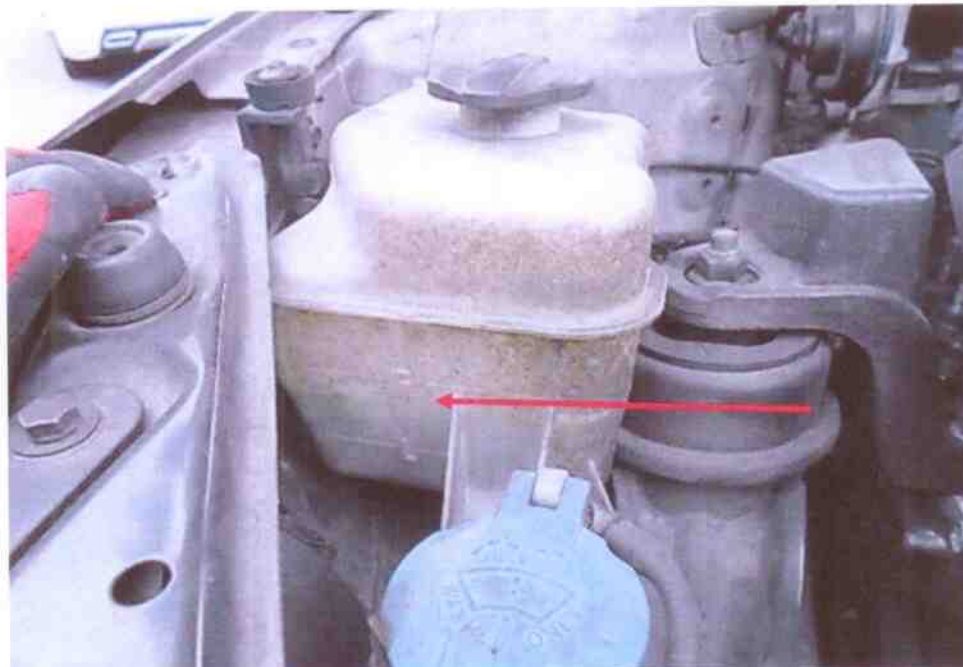
**Photo 11** shows a general view of the Motor Taxi's engine compartment. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment.



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**Photo 12** shows the brake fluid reservoir of the Motor Taxi at the time of our inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



**Photo 13** shows the coolant fluid reservoir of the Motor Taxi at the time of our inspection. The coolant fluid was observed to be of sufficient level and without any visible contamination.



**Photo 14** 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 15** shows the coolant fluid at radiator tank of the Motor Taxi at the time of our inspection. The coolant fluid was observed to be of sufficient level and without any visible contamination.

### **Steering System & Braking System**

11. The mechanical components of the Motor Taxi steering system were all found to be visually intact and undamaged. The steering wheel, steering tie rods, drive shafts and ball joints of the Motor Taxi were observed to be intact and securely attached to the front left wheel and front right wheel.
12. Although the steering system could not be tested at the time of our inspection (engine unable to be started), it is likely that the steering system of the Motor Taxi was in serviceable condition at the material time of accident since its mechanical components were all found to be generally intact and securely fitted.
13. Static brake tests conducted on the Motor Taxi revealed no abnormality. The brake booster had responded well to the various tests conducted. There was also no abnormal movement 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 Motor Taxi. The braking system of the Motor Taxi was likely to be in serviceable condition at the material time. This was also taking into consideration that the brake fluid was of sufficient level, and also that there was no sign(s) of brake fluid leakage along the brake hoses and brake pipes. See photo 16 - 19 below.

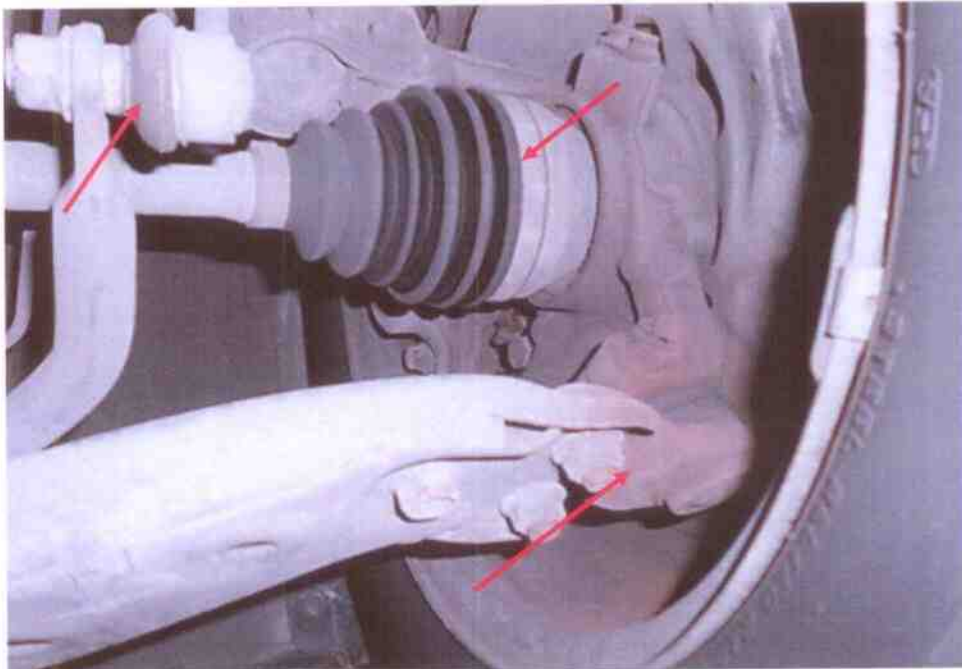




**Photo 16** shows the rear left wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.



**Photo 17** shows the brake hose (arrowed) 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. Our visual inspection of the various mechanical components of the Motor Taxi's braking system, including its brake calliper, revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.



**Photo 18** shows the various undercarriage components at the front left wheel of the Motor Taxi, in particular the steering tie rod. The various steering components were all found to be intact, suggesting that the steering system of the Motor Taxi was likely to be in serviceable condition. (arrowed)



**Photo 19** shows the various undercarriage 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. Our visual inspection of the various mechanical components of the Motor Taxi's braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.



### Electronic Safety / Warning Indicators

14. The Motor Taxi'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 Taxi could not be started due to a flat battery. See photo 20 below.



Photo 20 shows the warning lights for the various electronic operating systems of the Motor Taxi appearing on its instrument panel during the ignition start, in particular the ABS light and SRS light. Despite the engine was unable to be started at time of inspection.

### Operational Behaviour of the Motor Car

15. No operational test to primarily determine whether there was any abnormality to the engine system, transmission system and braking system of the Motor Car could be conducted due to a flat battery & was unable to be started at time of our inspection.

### Conclusion

16. At the time of our inspection of the Motor Taxi, its steering system and braking system could not be tested as the Motor Taxi's engine could not be started due to a flat battery. However basing purely on our observations, it would appear that the steering system and braking system of the Motor Taxi were in serviceable condition. This is taking into consideration that all the various mechanical components were found to be intact and undamaged.



17. The observations gathered from our physical inspection of the Motor Taxi had indicated no evidence to suggest possible mechanical failure to the Motor Taxi that may have contributed to the accident.
18. The 4 tyres of the Motor Taxi 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 4 & 5mm each.
19. Our findings were based solely on a static and visual inspection of the Motor Taxi. No operational test could be carried out to the Motor Taxi due to it was unable to be started at time of inspection.



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