



Your Ref: TP/IP/26753/2018
Our Ref : CI/TPD18010659/Z

08th August 2018

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR TAXI SHD 9756C

1. We refer to your request on 17th May 2018 to conduct a physical inspection of a motor taxi bearing registration number SHD 9756C (herein referred to as "Motor Taxi"), which was involved in a fatal road traffic accident on 05th May 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 04th June 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 to the ignition system which is part of the engine system as a result of the accident.
5. The Motor Car had sustained extensive impact damage at its frontal portion. The impact force was significant, causing the various parts and components inside the engine compartment to be damaged. This had included its engine assembly and transmission assembly, which were both amongst the multiple parts and components inside the engine compartment that were pushed inwards, towards the rear of the Motor Taxi.

6. Other body parts that were damaged had included a buckled front bonnet, buckled front left & right side fenders, damaged licence plate, cracked headlamp and damaged front bumper & grille 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 portion. The impact force was significant, causing the various parts and components inside the engine compartment to be damaged.



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 front right 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.



Photo 4 shows a closer view of the damage sustained on the front right of the Motor Taxi. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Taxi.



Photo 5 shows a closer view of the damage sustained on the front left of the Motor Taxi. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Taxi.



Photo 6 shows a closer view of the engine compartment of the Motor Taxi from the right hand side of the bonnet opening. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Taxi.



Photo 7 shows a closer view of the damaged radiator of the Motor Taxi from the front view. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Taxi.



Photo 8 shows the interior portion of the Motor Taxi. The impact force did not affect the interior portion.



Photo 9 shows a general view of the rear left portion of the Motor Taxi at the time of our inspection. The rear portion was observed to be relatively unaffected by the accident.



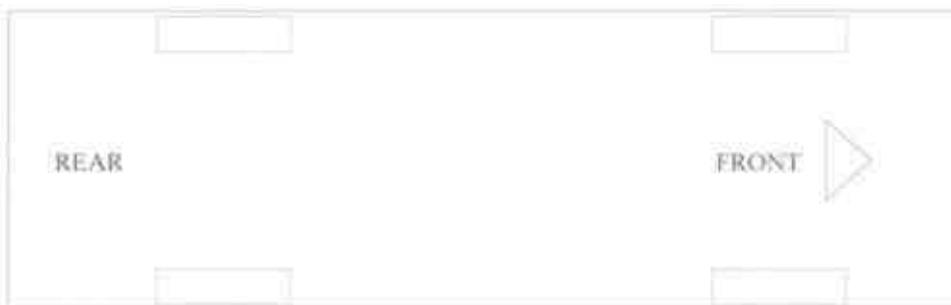
Photo 10 shows a general view of the rear right portion of the Motor Taxi at the time of our inspection. The rear portion was observed to be relatively unaffected by the accident.

Tyres and Wheel Rims

- 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:-

Good Year Excellence 215/60R16 (5mm)

Giti Comfort T20 215/60R16 (5mm)



Giti Comfort T20 215/60R16 (5mm)

Giti Comfort T20 215/60R16 (6mm)

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 6mm. 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 5mm. 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.

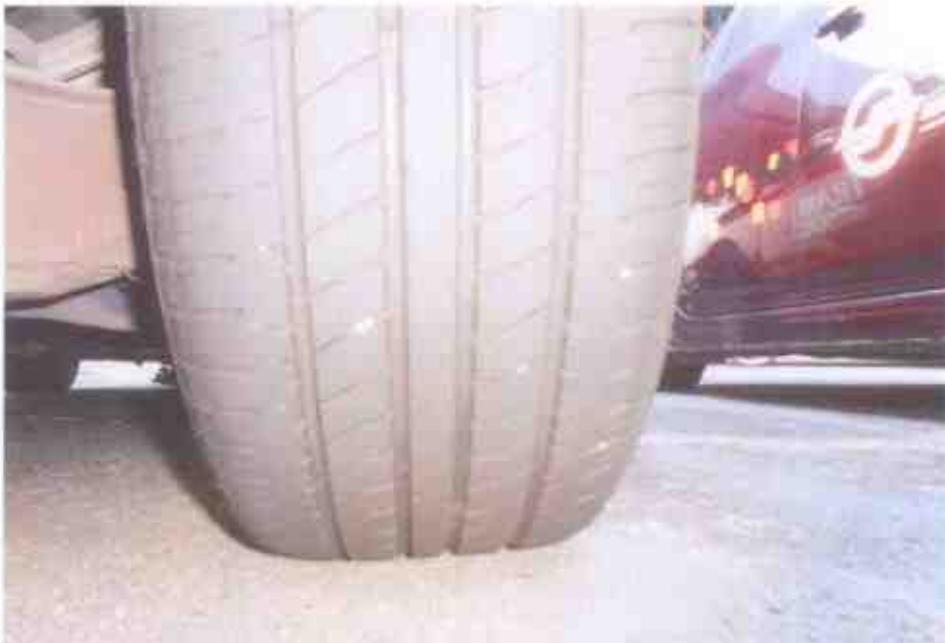


Photo 13 shows the condition of the rear right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.



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 5mm. 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. The engine compartment of the Motor Taxi was severely affected by the collision. Major parts and components inside the engine compartment were badly damaged. Parts like the radiator, steering system amongst others were found to be damaged.
10. Leakage of the various operating fluids such as engine coolant was noted. Given the extent of damages to the engine compartment, the leakages were likely due to the accident. The engine undercarriage was however observed to be covered with fresh fluid, suggesting leakage of fluid. There was no accumulation of dust and/or dirt particles on the engine housing where the fluid stains had formed. This would indicate that the fluid leakage was a fresh leak and likely to be a result of the accident. We were therefore unable to comment whether these operating fluids were of sufficient level and without contamination for vehicular operation prior to the accident.
11. Operating fluids such as brake fluid, engine fluid & coolant fluid were unable to access due to the buckled front bonnet due to the accident's impact. See photo 15 – 17 below.



Photo 15 shows the close up view of the radiator of the Motor Taxi. Leakage of the engine coolant was seen. The radiator was observed to be broken due to the accident.



Photo 16 shows the close up view of the fluid leakage from the undercarriage at time of our inspection.



Photo 17 shows the leakage from the undercarriage of the engine area.

Steering System & Braking System

12. We were not able to conduct any tests on the steering system of the Motor Taxi. This was due to leakage of power steering fluid, as a result of the accident, as well as damage to several mechanical components of the steering system & engine system. See photo 18 below.



Photo 18 shows the misalignment of the steering wheel & the front tyre as a result of the accident's impact.

13. 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. However, the brake fluid was not able to be inspected at time of our inspection due to the buckled front bonnet as a result of the accident's impact collision. See photo 19 - 22 below.



Photo 19 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.

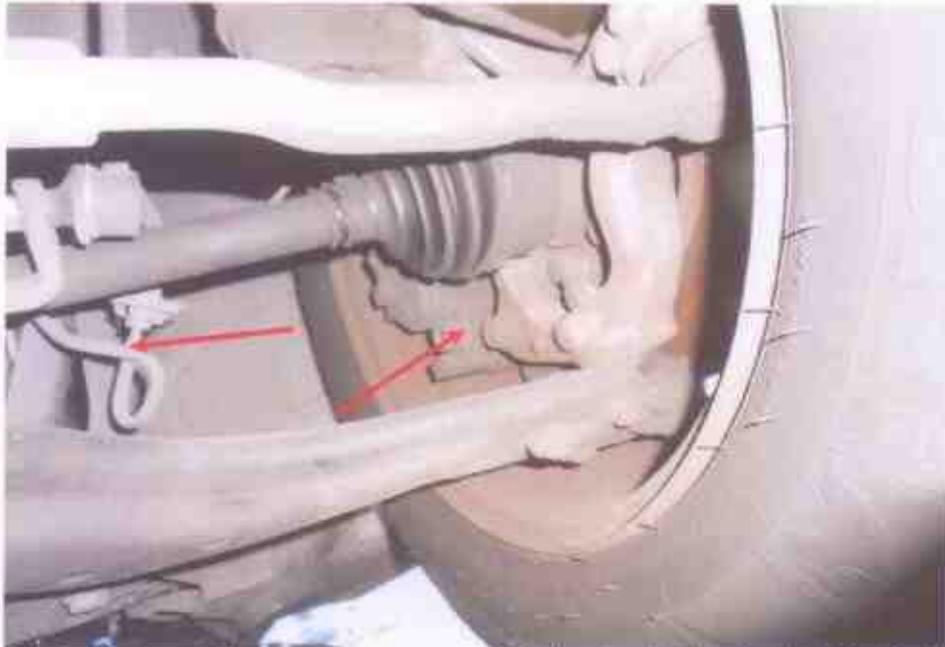


Photo 20 shows the braking components at the front right wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.

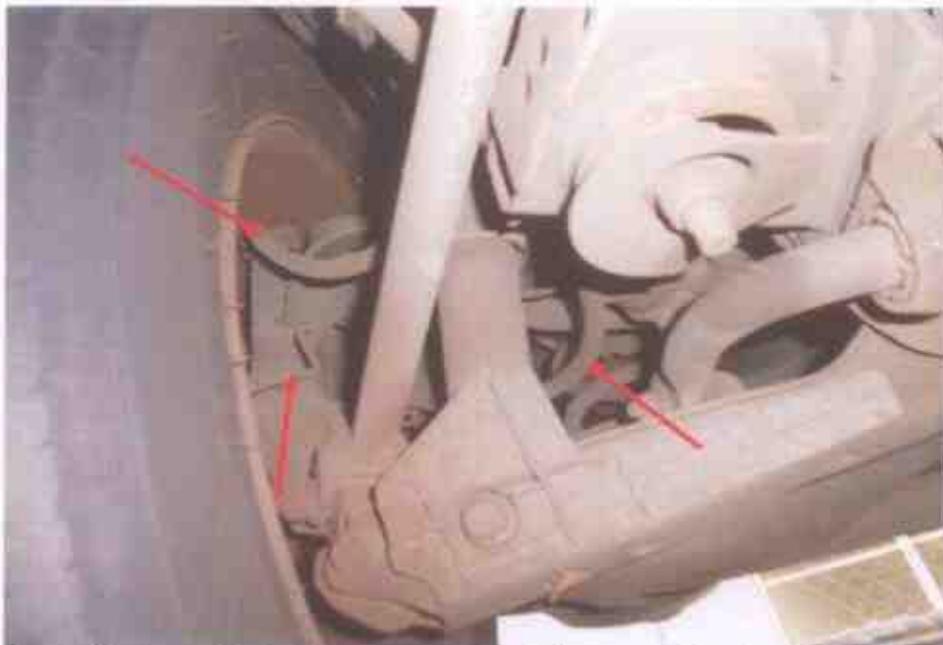


Photo 21 shows the braking components at the rear right wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi.



Photo 22 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

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 damage of the ignition system and engine system of the Motor Taxi as a result of the accident.

Operational Behaviour of the Motor Taxi

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

Conclusion

16. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motor Taxi that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its engine system and steering system were damaged as a result of the accident.
17. 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 5 to 6mm each.
18. 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 given the extent of damage that it had sustained as a result of the accident.



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