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Our Ref : CI/TPD18010664/Z

25th June 2018

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SJM 3610H

1. We refer to your request on 24th April 2018 to conduct a physical inspection of a motor car bearing registration number SJM 3610H (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 19th April 2018.
2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident.
3. Following the request, we carried out a physical inspection of the Motor Car on 24th May 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 Car at the time of our inspection was not recorded as its ignition system was severely damaged by the accident's collision impact.
5. The Motor Car had sustained extensive impact damages 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, steering assembly and transmission assembly, which were amongst the multiple parts and components that were pushed inwards, towards the rear of the Motor Car.

6. Other body parts that were damaged had included the front windshield, front bonnet and front bumper amongst others. The driver's airbag was also activated due to the extensive impact at time of the accident.
7. This was likely due to the consistency of the accident's case facts that the Motor Car SJM 3610H driver was travelling straight along Commonwealth Avenue West towards the direction of Commonwealth Avenue on lane 4 of a 5 lane road from Motor Taxi SHB 8858J opposite direction when it made a right turn into Clementi Road. As such, the frontal portion of the Motor Car collided into the left portion of the Motor Taxi. See photo 1 to 11 below.



Photo 1 shows a general view of the frontal portion of the Motor Car at the time of our inspection. The Motor Car 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 Car at the time of our inspection. The Motor Car was observed to have sustained extensive impact damage at its frontal portion.



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



Photo 4 shows a closer view of the damage at the frontal portion of the Motor Car's engine. 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 Car.



Photo 5 shows a closer view of the damage at the frontal right portion of the Motor Car. 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 Car.



Photo 6 shows a closer view of the damage at the frontal portion of the Motor Car. The impact force was significant, causing extensive damage to the radiator.



Photo 7 shows a closer view of the interior cabin of the Motor Car. The impact force didn't cause damages to the interior cabin. However, it activated both driver's & passenger's airbag at time of impact.



Photo 8 shows a closer view of the damage at the windscreen area of the Motor Car. The impact force was significant, causing the windscreen to sustain cracked.



Photo 9 shows a general view of the rear left portion of the Motor Car. The rear portion was observed to be in good condition, no damages found at time of our inspection.



Photo 10 shows a general view of the rear right portion of the Motor Car. The rear portion was observed to be in good condition, no damages found on the Motor Car's body at time of our inspection. However, we found that the rear right tyre was deflated due to the accident.



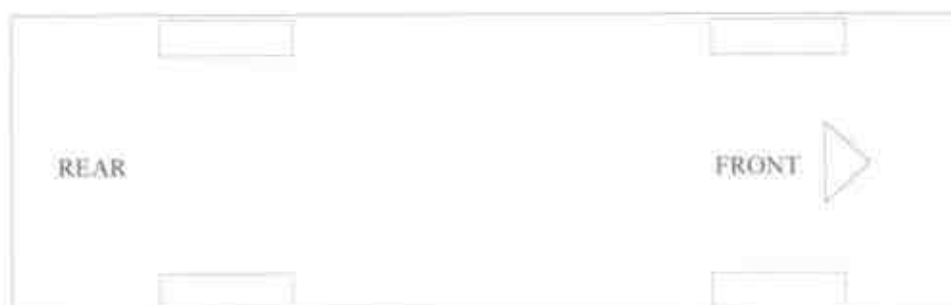
Photo 11 shows a general view of the rear left portion of the Motor Car. The rear portion was observed to be in good condition, no damages found at time of our inspection.

Tyres and Wheel Rims

8. The condition of the Motor Car'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:-

Yokohama advan dB decibel
235/50R18 (6mm)

Yokohama advan dB decibel
235/50R18 (6mm)



Yokohama advan dB decibel
235/50R18 (8mm)
(Alloy rim sustained chipped at the
outer side)

Yokohama advan dB decibel
235/50R18 (6mm)

9. The 4 tyres were observed to be wrapped around alloy wheel rims. However, the rear right alloy wheel rims were observed to have sustained with chipped off on the outer side likely due to the accident's impact collision. See photo 12 to 17 below.



Photo 12 shows the general condition of the rear right tyre of the Motor Car. The alloy rim was observed to be chipped off at the side due to the accident's impact.



Photo 13 shows the close-up view of the rear right tyre of the Motor Car. The alloy rim was observed to be chipped off at the side due to the accident's impact.



Photo 14 shows the condition of the rear right tyre of the Motor Car. The tread patterns were obvious visually. The remaining tread depth of the rear right tyre was approximately 8mm.



Photo 15 shows the condition of the rear left tyre of the Motor Car. The tread patterns were obvious visually. The remaining tread depth of the rear left tyre was approximately 6mm.



Photo 16 shows the condition of the front right tyre of the Motor Car. The tread patterns were obvious visually. The remaining tread depth of the rear left tyre was approximately 6mm.



Photo 17 shows the condition of the front left tyre of the Motor Car. The tread patterns were obvious visually. The remaining tread depth of the front left tyre was approximately 6mm.

Engine Compartment & Operating Fluids

10. The engine compartment of the Motor Car was severely affected by the collision. Almost all the parts and components inside the engine compartment were badly damaged. Parts like the radiator, air intake system, fuel rails, exhaust manifold, fuse box and control modules amongst others were found to be damaged.
11. Leakage of the various operating fluids like the engine oil, engine coolant and power steering fluid was also 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 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 was therefore unable to comment whether these operating fluids were of sufficient level and without contamination for vehicular operation prior to the accident. See photo 18 to 21 below.

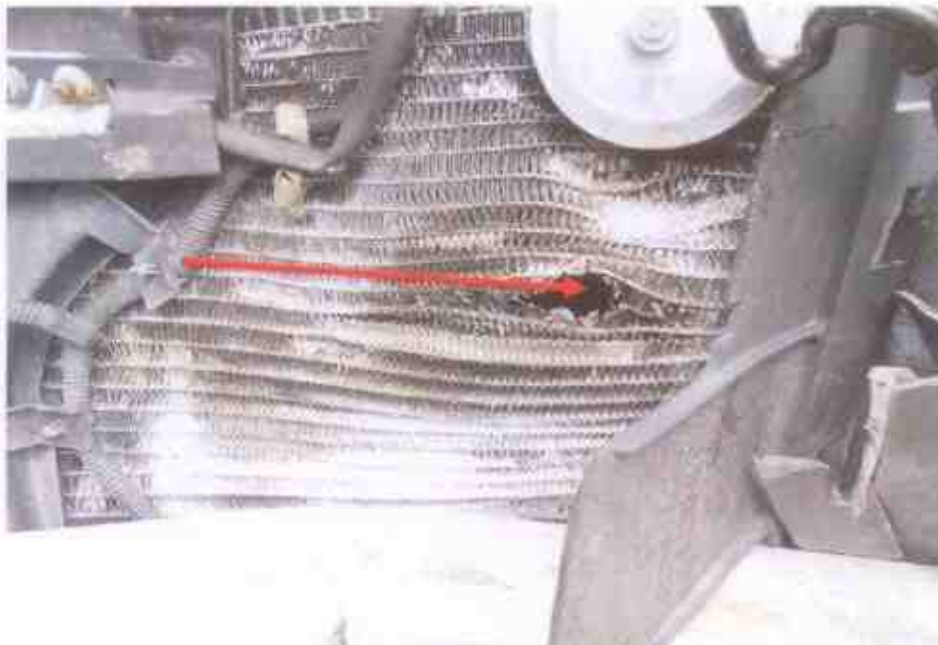


Photo 18 shows the close up view of the radiator's tank that was observed to be damaged likely due to the accident impact.



Photo 19 shows the close up view of the steering fluid reservoir that was insufficient (leakage) likely due to the accident impact.



Photo 20 shows the close up view of the fluid leakage at the undercarriage area likely due to the accident impact.



Photo 21 shows the close up view of the fluid leakage at the undercarriage area likely due to the accident impact.

Steering System & Braking System

12. We were not able to conduct any tests on the steering system and braking system of the Motor Car. This was due to leakage of power steering fluid of which was a result of the accident, as well as damage to several mechanical components of the steering system and braking system. See photo 22 - 27 below.



Photo 22 shows a close up view on the front right drive shaft of the Motor Car. We were not able to conduct any tests on the steering system of the Motor Car due to the damage to this components, as well as leakage of power steering fluid.



Photo 23 shows the power steering fluid reservoir of the Motor Car was observed to be insufficient level due to leakage of fluids.



Photo 24 shows the braking & steering components at the rear right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car.



Photo 25 shows the braking & steering components at the rear left wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car.



Photo 26 shows the braking & steering components at the front right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. However, the steering system was observed to be damaged due to the accident's impact.



Photo 27 shows the braking & steering components at the front left wheel of the Motor Car. We did observe fluid leakage at the time of our inspection of the Motor Car. The steering system was also observed to be damaged due to the accident's impact.

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) was not able to be initiated due to major mechanical damages which includes its ignition system and engine system of the Motor Car.
14. The Supplemental Restraint System (SRS) of the Motor Car was however likely to be in normal operating condition at the material time of the accident. The evidence of the deployed the driver's & front passenger's airbag indicates that the impact sensors and control module of the Motor Car's SRS were all in serviceable condition at the material time of accident. See photo 28 & 29 below.



Photo 28 shows the Supplemental Restraint System (SRS) of the Motor Car was however likely to be in normal operating condition at the material time of the accident. The evidence of the deployed driver's airbag indicates that the impact sensors and control module of the Motor Car's SRS were all in serviceable condition at the material time of accident.



Photo 29 shows the Supplemental Restraint System (SRS) of the Motor Car was however likely to be in normal operating condition at the material time of the accident. The evidence of the deployed front passenger's airbag indicates that the impact sensors and control module of the Motor Car's SRS were all in serviceable condition at the material time of accident.

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 not 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 Car that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its engine system, transmission system, steering system and braking system were all damaged as a result of the accident.

17. The 4 tyres of the Motor Car were 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. Although the rear right alloy wheel rims was observed to have sustained with chipped off on the outer side due to the accident's impact collision, our observation reveals that 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 damages that it had sustained as a result of the accident.



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