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Our Ref : CI/TPD18016115/Z

28th November 2018

Fatal Accident Investigation Team
Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLM 7686P

1. We refer to your request on 01st September 2018 to conduct a physical inspection of a motor car bearing registration number SLM 7686P (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 03rd August 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 01st October 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, left & right portion. Minor damages affects the rear boot lid. 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, headlamp, rooftop and front bumper amongst others. The driver's & front passenger'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 on 03rd August 2018 at about 0431hrs, the Motor Car SLM 7686P driver was travelling straight along Nicoll highway towards Guillemard Road on 1st lane of a 3 lanes road when his front right portion collided onto the rear left of a stationary Motor Lorry whom had stopped for traffic related works at LP 23/1. See photo 1 to 12 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 windshield & rooftop amongst others due to the accident.



Photo 7 shows a closer view of the interior cabin of the Motor Car. The impact force caused damages to the interior cabin and also activated both driver's & passenger's airbag at time of impact.



Photo 8 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.



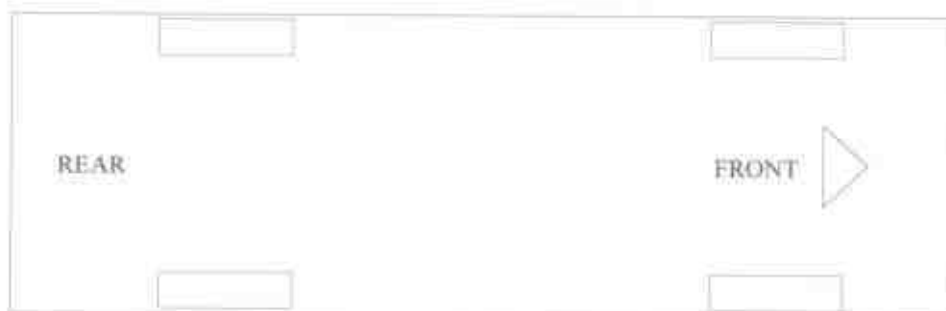
Photo 9 shows a general view of the rear right portion of the Motor Car. The rear portion was observed to be in good condition, no damages found on the Motor Car's body at time of our inspection. However, we found that the rear boot lid sustained minor misalignment due to the accident.

Tyres and Wheel Rims

8. The front left tyre was observed to be damaged (deflated & torn) due to the accident's impact. The remaining tread depth of the front left tyre was approximately 5mm.
9. The conditions of the Motor Car's 3 tyres which include front right, rear left & rear right tyres were observed to be in serviceable condition at time of our inspection. 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 tyre. It was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the front right tyre was approximately 6mm & both rear tyres were approximately 5mm each.
10. The tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows:-

Neuton NT 511 195/65R15 (5mm)

Neuton NT 511 195/65R15 (5mm)
(Damaged – Torn & deflated)



Neuton NT 511 195/65R15 (5mm)

Neuton NT 511 195/65R15 (6mm)

11. Despite only the front left tyre was deflated & torn due to the accident, the 4 tyres however were still observed to be wrapped around alloy wheel rims with some marks of grazing nature on the outer spokes of the wheel rims, which are commonly associated to grazing against a road kerb. See photo 10 to 14 below.



Photo 10 shows the general view condition of the front left tyre of the Motor Car. It was observed to be deflated as a result of the accident.



Photo 11 shows the condition of the front left tyre of the Motor Car, which was observed to be torn due to the accident's impact.



Photo 12 shows the condition of the front right tyre of the Motor Car, which was observed to be in serviceable condition. The tyre was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the front left tyre was approximately 6mm.



Photo 13 shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition. The tyre was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the front left tyre was approximately 5mm.



Photo 14 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition. The tyre was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the front left tyre was approximately 5mm.

Engine Compartment & Operating Fluids

12. The engine compartment of the Motor Car was severely affected by the collision. Most parts and components inside the engine compartment were badly damaged. Parts like the radiator for engine cooling system, air intake system, fuel rails, exhaust manifold, fuse box and steering system amongst others were found to be damaged.
13. Leakage of the various operating fluids like the engine coolant and brake 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 traces, 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. See photo 15 to 18 below.



Photo 15 shows the close up view of the radiator's tank that was observed to be damaged likely due to the accident impact.



Photo 16 shows the close up view of the brake fluid reservoir that was broken likely due to the accident impact.



Photo 17 shows the close up view of the engine coolant fluid reservoir & brake fluid reservoir damages due to the accident impact.



Photo 18 shows the close up view of the fluid leakage at the undercarriage area likely due to the accident impact.

Steering System & Braking System

14. 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 engine coolant fluid and brake fluid, both of which were a result of the accident, as well as damage to several mechanical components of the steering system and braking system. See photo 19 - 22 below.



Photo 19 shows a close up view on the front left lower arm of the Motor Car steering system. We were not able to conduct any tests on the steering system of the Motor Car due to the damage to these components as a result of the accident.



Photo 20 shows the damaged on the steering system 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 these components. It was observed to be misaligned from its original alignment as a result of the accident.



Photo 21 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 22 shows the braking & steering components at the left 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.

Electronic Safety / Warning Indicators

15. 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.
16. 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 & 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 23 & 24 below.



Photo 23 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 24 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 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

17. 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

18. 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.
19. The front left tyre was observed to be damaged (deflated & torn) due to the accident's impact. The remaining tread depth of the front left tyre was approximately 5mm.
20. The conditions of the Motor Car's 3 tyres which include front right, rear left & rear right tyres were observed to be in serviceable condition at time of our inspection. 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 tyre. It was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the front right tyre was approximately 6mm & rear tyres were approximately 5mm each.
21. 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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