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Our Ref : CI/TPD18013729/Z

19th September 2018

Drink & Drive Investigation Team
Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLG 3578B

1. We refer to your request on 19th July 2018 to conduct a physical inspection of a motor car bearing registration number SLG 3578B (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 01st May 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 15th August 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 collision.
5. The Motor Car had sustained extensive impact damages at its frontal portion, left, right & rear 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, braking system, steering system, body structure and transmission assembly, which were amongst the multiple parts and components inside the engine compartment that were damaged as a result of the accident.
6. Other body parts that were damaged had included the front bonnet, front bumper and rear bumper amongst others. The interior compartment was also affected badly; the driver's airbag, window's airbag & front passenger's airbag was also activated due to the extensive impact at time of the accident. See photo 1 to 12 below.

7. This was likely due to the consistency of the accident's case facts that 01st May 2018 at about 0710hrs, the driver of the Motor Car was negotiating a right turn along Rochor Road junction of Victoria Street when the Motor Car skidded. Driver then claimed that there was a mechanical fault to his Motor Car and his steering was locked.



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.



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 re-inforcement bar to be pushed inwards.



Photo 6 shows a closer view of the damage at the frontal internal portion of the Motor Car which includes the steering system & ignition system. The impact force was significant, causing the various parts and components inside the interior cabin to be pushed inwards, towards the rear of the Motor Car.



Photo 7 shows a general view of the damage at the left portion of the Motor Car. The impact force was significant, causing the body structure to be affected by the accident's impact collision.



Photo 8 shows a closer view of the damage at the driver's seat of the Motor Car. The impact force was significant, causing the various parts and components inside the interior compartment to be pushed inwards, including its ignition system. The driver's airbag was also activated.



Photo 9 shows a closer view of the left front passenger seat of the Motor Car. The impact force was significant, causing the airbag to be activated.



Photo 10 shows a closer view of the damages at the interior portion of the Motor Car due to the extensive impact collision at time of the accident. The window's airbag was also observed to be activated.



Photo 11 shows a general view of the rear left portion of the Motor Car at the time of our inspection. The rear portion was observed to be relatively sustained with minor impact by the accident.



Photo 12 shows a general view of the rear right portion of the Motor Car at the time of our inspection. The rear portion was observed to be unaffected by the accident.

Tyres and Wheel Rims

8. The conditions of the 4 Motor Car's tyres were observed not in serviceable condition. It was found to be deflated likely due to the accident's impact collision. 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 3 tyres (front left & right and rear right tyres). As for the rear left tyre, it was observed to sustain torn mark on the outer sidewall. The tyre brand, tyre size and remaining tread depth of the 3 tyres were recorded as follows:-

Ling Long - Crosswind
215/60R16 (6mm)(Deflated)(Torn
at outer sidewall)

Ling Long - Crosswind
215/60R16 (6mm)(Deflated)



Dunlop Enasave EC300
215/60R16 (6mm)(Deflated)

Dunlop Enasave EC300
215/60R16 (5mm)(Deflated)

9. The tyres were observed to be wrapped around alloy wheel rims that were found to be without any significant damage except for some marks of grazing nature on the outer spokes of the wheel rims, which are commonly associated to grazing against a road kerb. However, the front right alloy wheel rim was found to be broken due to the accident's impact collision. See photo 13 – 20 below.



Photo 13 shows the condition of the front right portion of the Motor Car, which was observed to be in severe damage. The tyre was found to be deflated & the alloy wheel rim was damaged due to the accident's impact.



Photo 14 shows the condition of the front right portion of the Motor Car, which was observed to be in severe damage. The tyre was found to be deflated & the alloy wheel rim was damaged due to the accident's impact.



Photo 15 shows the condition of the front left tyre of the Motor Car, which was observed to be deflated not in serviceable condition. The alloy wheel rim was also observed to have come off slightly from the tyre fitting due to the accident's impact.



Photo 16 shows the condition of the rear left tyre of the Motor Car, which was observed to be deflated not in serviceable condition likely due to the accident's impact collision. However, its tread depth was clearly visible, measured approximately around 6mm.



Photo 17 shows the condition of the rear left tyre of the Motor Car, which was observed to be deflated not in serviceable condition likely due to the accident's impact collision. However, its tread depth was clearly visible, measured approximately around 6mm.



Photo 18 shows the condition of the rear left tyre of the Motor Car, which was observed to be deflated not in serviceable condition likely due to the accident's impact collision. However, its tread depth was clearly visible, measured approximately around 6mm.



Photo 19 shows the condition of the rear right tyre of the Motor Car, which was observed to be deflated not in serviceable condition likely due to the accident's impact collision. However, its tread depth was clearly visible, measured approximately around 6mm.



Photo 20 shows the condition of the rear right tyre of the Motor Car, which was observed to be deflated not in serviceable condition likely due to the accident's impact collision. However, its tread depth was clearly visible, measured approximately around 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, undercarriage, steering system and braking system amongst others were found to be damaged.
11. Leakage of the various operating fluids like the engine oil, 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, 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.
12. Further observation on the operating fluids such as engine coolant & brake fluids were of insufficient level inside their respective reservoirs. This was likely due to the damages sustained to the mechanical components that caused leakage to the fluids as a result of the accident. See photo 21 to 26 below.



Photo 21 shows the close up view of the undercarriage of the Motor Car. Signs of fluid leakage were observed due to the accident's impact.



Photo 22 shows the close up view of the radiator's tank that was observed to be damaged likely due to the accident impact.



Photo 23 shows the close up view of the damage air intake due to the accident impact.



Photo 24 shows the close up view of the empty coolant fluid reservoir due to the damages sustained due to the accident's impact.



Photo 25 shows a close up view of an empty brake fluid reservoir due to the accident impact. It relatively affects the braking system.



Photo 26 shows a close up view of the engine fluid. Despite there's leakage to the engine fluid, it still contain sufficient level.

Steering System & Braking System

13. 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 27 to 34 below.



Photo 27 shows a close up view on the steering system that was affected by the accident's impact collision.



Photo 28 shows a close up view on the damaged steering rack as a result of the accident's impact collision.



Photo 29 shows a close up view on the front right drive shaft of the Motor Car that were damaged due to the accident's impact collision.



Photo 30 shows the damaged on the front left 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 fluids.

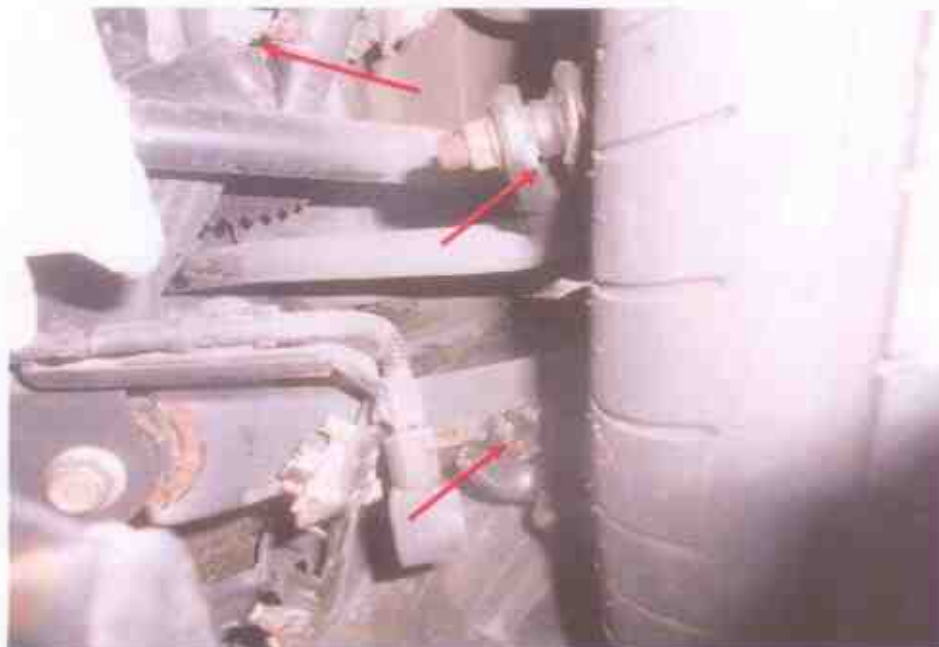


Photo 31 shows the damaged on the front right drive shaft of the Motor Car. We were not able to conduct any tests on the steering system of the Motor Car due to the damage to this components, as well as leakage of fluids.



Photo 32 shows the undercarriage components of the Motor Car. It was observe to sustain an extensive damage at the time of our inspection.



Photo 33 shows the rear left braking & undercarriage components that was unaffected by the accident's impact collision.



Photo 34 shows the rear right braking & undercarriage components that was unaffected by the accident's impact collision.

Electronic Safety / Warning Indicators

14. 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.
15. 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 airbag, window's airbag & 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 35 to 38 below.



Photo 35 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 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 36 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.



Photo 37 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 left window'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 38 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 right window'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

16. 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

17. 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.
18. The conditions of the 4 Motor Car's tyres were observed not in serviceable condition. It was found to be deflated likely due to the accident's impact collision.
19. 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 3 tyres (front left & right and rear right tyres). As for the rear left tyre, it was observed to sustain torn mark on the outer sidewall. However, the tread patterns of all tyres were visually clear with remaining tread depth of approximately 5mm to 6mm each.
20. 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.



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