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Our Ref : CI/TPD18002141/N

24 January 2018

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SGN 6422U

1. We refer to your request on 9 January 2018 to conduct a physical inspection of a motor car bearing registration number SGN 6422U (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 10 December 2017.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident.
3. Following the request, we had carried out a physical inspection of the Motor Car on 22 January 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.

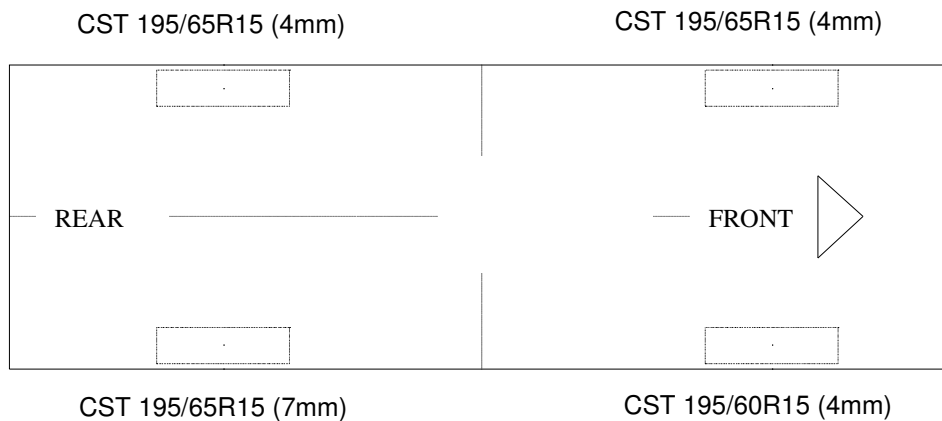
General Condition

4. The mileage of the Motor Car at the time of our inspection was not recorded as its engine could not be started due to a flat battery.
5. The Motor Car had sustained relatively minor impact at the right side of its front bumper, which had caused the front bonnet to be dented and the front windscreen to be cracked. The right side of the front bumper of the Motor Car was observed to be scratched. The left side mirror of the Motor Car was also dislodged.

Tyres and Wheel Rims

6. 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.

7. 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:-



8. The 4 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. See photos 1 – 9 below.



Photo 1 shows a general view of the front body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition except for some relatively minor impact damage at its front body and right front body. The left side mirror was also dislodged. The mileage of the Motor Car was not recorded as its engine could not be started due to a flat battery.



Photo 2 shows a general view of the front bonnet of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition. Its front bonnet was however observed to be dented at the right side (circled).



Photo 3 shows a general view of the Motor Car's front windscreen at the time of our inspection. The right side of the front windscreen of the Motor Car was observed to be cracked (circled).



Photo 4 shows a general view of the Motor Car's right front body at the time of our inspection. The Motor Car was observed to be in good general condition. Its front bumper was however observed to be scratched at the right side (circled).



Photo 5 shows a general view of the Motor Car's left front body at the time of our inspection. The Motor Car was observed to be in good general condition. Its left side mirror was however observed to be dislodged (circled).



Photo 6 shows the condition of the front left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. 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.



Photo 7 shows the condition of the front right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 8 shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. There was also no significant damage found on the 4 wheel rims of the Motor Car except for some marks of grazing nature on the outer spokes of all the wheel rims.



Photo 9 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres.

Engine Compartment & Operating Fluids

9. Upon examination of the engine compartment of the Motor Car, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, auto transmission fluid (ATF), engine oil and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
10. 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 Car.
11. Our subsequent checks on the underside of the Motor Car also revealed no fluid stain. Visually, the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage. See photos 10 – 14 below.



Photo 10 shows a general view of the Motor Car'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.



Photo 11 shows the brake fluid reservoir of the Motor Car at the time of our inspection. The brake fluid was observed to be of sufficient level and without any visible contamination.



Photo 12 shows checks being carried out to the engine coolant of the Motor Car at the time of our inspection. The engine coolant was observed to be of sufficient level and without any visible contamination.



Photo 13 shows the engine oil dipstick of the Motor Car at the time of our inspection. The engine oil was observed to be of sufficient level and without any visible contamination.



Photo 14 shows the ATF dipstick of the Motor Car at the time of our inspection. The ATF was observed to be of sufficient level and without any visible contamination.

Steering System & Braking System

12. The mechanical components of the Motor Car's steering system and braking system were all found to be visually intact and undamaged. Our visual examination of the various steering components, which had included the rack and pinion, tie rods, tie rod ends and ball joints revealed that these components were all generally in good condition. Components of the braking system like the brake master pump, brake booster, brake calipers and brake hoses amongst others were also found to be without any damage upon our visual inspection.
13. Static tests of the steering system and braking system could not be conducted as the engine of the Motor Car was not able to start. However basing on our visual inspection of the various mechanical components, it would appear that the steering system and braking system of the Motor Car were in serviceable condition. See photos 15 - 18 below.



Photo 15 shows the brake hose (arrowed) 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. Our visual inspection of the various mechanical components of the Motor Car'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.

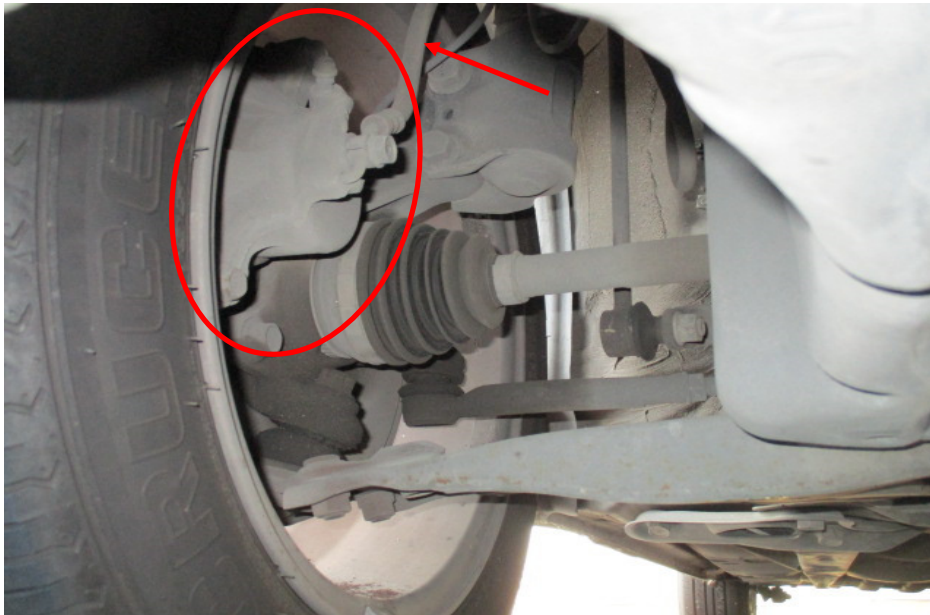


Photo 16 shows the brake hose (arrowed) at the front right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system, including its brake caliper (circled), 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 17 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition.



Photo 18 shows the various undercarriage components at the front left wheel of the Motor Car, which had included the steering tie rod (red arrow) and left drive shaft (yellow arrow). The various undercarriage components of the Motor Car were all found to be intact without any visible damage. There was also no sign of fluid stain observed on the various undercarriage components.

Electronic Safety / Warning Indicators

14. We were not able to initiate 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) as the self-test would involve cranking of the Motor Car's engine, and due to a flat battery, the Motor Car's engine could not be started.

Operational Behaviour of the Motor Car

15. For similar reason, we were also not able to carry out any operational test to primarily determine whether there was any operational abnormality to the engine system, transmission system, steering system and braking system of the Motor Car.

Conclusion

16. At the time of our inspection of the Motor Car, its steering system and braking system could not be tested as the Motor Car's engine could not be started due to a flat battery. However basing on our observations, it would appear that the steering system and braking system of the Motor Car 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 Car had indicated no evidence to suggest possible mechanical failure to the Motor Car that may have contributed to the accident.
18. The 4 tyres of the Motor Car 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 4mm each.
19. Our findings were based solely on a static and visual inspection of the Motor Car. No operational test(s) could be carried out to the Motor Car as its engine could not be started at the time of our inspection.

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