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Your Ref: TP/IP/35301/2018
Our Ref : CI/TPD18011457/Z

15th October 2018

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

MECHANICAL INSPECTION REPORT OF MINI MOTOR BUS PA 7839G.

1. We refer to your request on 20th June 2018 to conduct a physical inspection of a Mini Motor Bus bearing registration number PA 7839G (herein referred to as "**Motor Bus**"), which was involved in a fatal road traffic accident on 15th February 2018.

2. The objective of this inspection is to determine if there was any possible mechanical failure to the Motor Bus that may have contributed to the accident.

3. Following the request, we had carried out a physical inspection of the Motor Bus on 20th July 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 Bus at the time of our inspection was not recorded due to the damages sustained on the ignition system as a result of the accident.

5. The Motor Bus was observed to have sustained damages at its front panel cover & grille; front lower bumper; front licence plate, front windshield, and front reinforcement structure amongst others likely due to the accident.

6. This was likely due to the consistency of the accident's case facts that the Motor Bus was travelling along Geylang road towards Kallang road on 2nd lane from the left of a 5 lanes road when a pedestrian dashed out onto the road, from the Motor Bus left to right, in front of a stationery vehicle parked on the extreme left. The Motor Bus was unable to brake in time and collided onto the pedestrian. See photo 1 to 9 below.

Photo 1 shows the mileage of the Motor Bus was not recorded due to the damages sustained on the ignition system as a result of the accident.

Photo 2 shows a general view of the front body of the Motor Bus at the time of our inspection. The Motor Bus was observed to sustained damages at the front right portion due to the accident's impact.

Photo 3 shows a general view of the internal cabin of the Motor Bus at the time of our inspection. The Motor Bus was observed to sustained damages at the internal cabin due to the accident's impact.

Photo 4 shows a semi-close up view of the internal cabin of the Motor Bus at the time of our inspection. The Motor Bus was observed to sustained damages at the internal cabin due to the accident's impact.

Photo 5 shows a close-up view of the damages on the right portion of the Motor Bus at the time of our inspection. It was likely due to the accident's impact collision.

Photo 6 shows a close-up view of the shattered windshield of the Motor Bus at the time of our inspection. It was likely due to the accident's impact collision.

Photo 7 shows a general view of the rear left body of the Motor Bus at the time of our inspection. The Motor Bus was observed to be in good general condition at time of inspection.

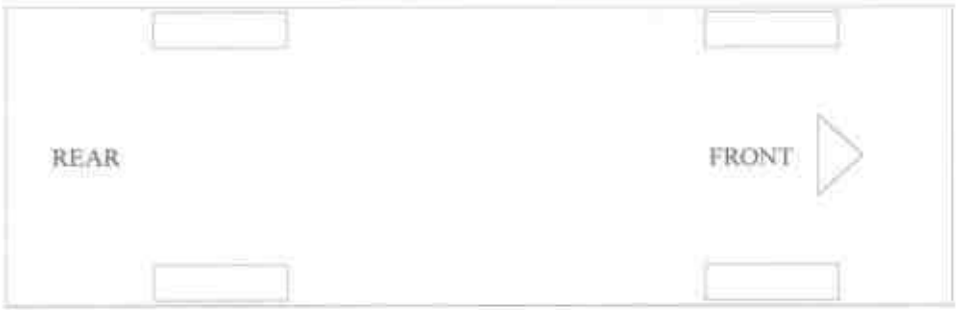
Photo 8 shows a general view of the rear right body of the Motor Bus at the time of our inspection. The Motor Bus was observed to be in good general condition at time of inspection.

Photo 9 shows a general view of the rear body of the Motor Bus at the time of our inspection. The Motor Bus was observed to be in good general condition at time of inspection.

Tyres and Wheel Rims

7. The 4 tyres were observed to be in serviceable condition and sufficiently inflated for vehicular operation. 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 tyre brand, tyre size and remaining tread depth of the 4 tyres of the Motor Bus were recorded as follows:-

Maxtek SU-810 195 R15 LT (8mm) CST Tires CL-31 195 R15 (7mm)



Maxtek SU-810 195 R15 LT (8mm) CST Tires CL-31 195 R15 (7mm)

8. The 4 tyres were observed to be wrapped around standard steel wheel rims. There was no significant damage observed on all of the wheel rims. See photo 10 – 13 below.

Photo 10 shows the condition of the front right tyre of the Motor Bus, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. The tyres were all observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread.

Photo 11 shows the condition of the front left tyre of the Motor Bus, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. The tyre, which was wrapped around standard wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 12 shows the condition of the rear left tyre of the Motor Bus, which was observed to be in serviceable condition with remaining tread depth of approximately 8mm. The tyre, which was wrapped around standard 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 Bus.

Photo 13 shows the condition of the rear right tyre of the Motor Bus, which was observed to be in serviceable condition with remaining tread depth of approximately 8mm. 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 tyre, which was also sufficiently inflated for vehicular operation.

Engine Compartment & Operating Fluids

9. Upon examination of the Motor Bus's engine compartment, we had observed most of the parts and components inside the engine compartment to be intact and unaffected by the accident, except for damage sustained to the radiator as a result of the accident. Its brake fluid, engine oil, ATF fluid and power steering fluid 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 Bus.

11. Our subsequent checks on the underside of the Motor Bus revealed no fluid stain. Visually, the various undercarriage components of the Motor Bus were all observed to be intact and without any visible damage. See photo 14 – 19 below.

Photo 14 shows a general view of the Motor Bus'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 15 shows the brake fluid reservoir of the Motor Bus at the time of our inspection. The brake fluid was observed to be of sufficient level and without any visible contamination.

Photo 16 shows the power steering fluid of the Motor Bus at the time of our inspection. It was observed to be of sufficient level and without any visible contamination.

Photo 17 shows the engine dip stick of the Motor Bus at the time of our inspection. The engine oil was observed to be of sufficient level and without any visible contamination.

Photo 18 shows the ATF dip stick of the Motor Bus at the time of our inspection. The ATF was observed to be of sufficient level and without any visible contamination.

Photo 19 shows the damaged radiator as a result of the accident.

Steering System & Braking System

12. The mechanical components of the Motor Bus's steering system were found to be damaged as a result of the accident. Particularly the steering wheel supporting components. However, steering column, steering rack and ball joints of the Motor Bus were observed to be intact and securely attached to the front left wheel and front right wheel.

13. Static test on the steering system of the Motor Bus was unable to be conducted due to the damage sustained on the steering wheel as a result of the accident. However, our visual examination of the various steering components which had included the rack and pinion, tie rods, tie rod ends and ball joints had revealed that these components were all generally in good condition.

14. As for the braking system, we were unable to conduct any static test due to the front portion of the Motor Bus were pushed inwards, hence causing the front cabin to be in an abnormal position. However, the braking system components such as brake fluid, brake booster, brake pedal, brake hoses amongst others were found to be intact & undamaged not affected by the accident's impact collision. See photo 20 - 25 below.

Photo 20 shows the damaged steering wheel at the time of our inspection of the Motor Bus. It was observed to be pushed inwards from the front portion.

Photo 21 shows the damaged steering wheel supporting component at the time of our inspection of the Motor Bus. It was observed to be dislodged from the original installation.

Photo 22 shows the various undercarriage components at the rear left wheel of the Motor Bus, in particular the brake hose (arrowed). We did not observed any leakage of brake fluid at the time of our inspection of the Motor Bus.

Photo 23 shows the brake hose at the front left wheel of the Motor Bus. We did not observe any leakage of brake fluid. Our visual inspection of the various mechanical components of the Motor Bus'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 24 shows the brake hose (arrowed) at the front right wheel of the Motor Bus. We did not observed any leakage of brake fluid at the time of our inspection of the Motor Bus. Our visual inspection of the various mechanical components of the Motor Van's braking system, including its brake calliper, revealed all to be intact and without visible damage.

Photo 25 shows the various undercarriage components at the rear right wheel of the Motor Bus. The various steering components were all found to be intact, suggesting that the steering system of the Motor Bus was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components at the 4 wheels of the Motor Bus.

Electronic Safety / Warning Indicators

15. The Motor Bus was not fitted with any electronic safety feature(s) like Anti-Brake Lock System (ABS), Supplemental Restraint System (SRS) etc. There was hence no test carried out on the functionality of these systems.

Operational Behaviour of the Motor Van

16. 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 Bus due to the extent of damages likely due to the accident impact collision.

Conclusion

17. At the time of our inspection of the Motor Bus, its steering system and braking system could not be tested due to the damages sustained on the mechanical supporting parts & basic structure of the Motor Bus due to the accident's impact collision. However basing purely on our observations, it would appear that the steering system and braking system of the Motor Bus were in serviceable condition. This is taking into consideration that most of the various main mechanical components were found to be intact and undamaged.

18. The observations gathered from our physical inspection of the Motor Bus had indicated no evidence to suggest possible mechanical failure to the Motor Bus that may have contributed to the accident.

19. The 4 tyres of the Motor Bus 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 7mm to 8mm each.

20. Our findings were based solely on a static and visual inspection of the Motor Bus. No operational test could be carried out to the Motor Bus due to the damages sustained as a result of the accident which rendered the immobility of the Motor Bus.

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