

Your Ref: TP/IP/20345/2020
Our Ref : CI/TPD20005595/P

16th September 2020

Fatal Accident Investigation Team

Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 40886

MECHANICAL INSPECTION REPORT OF MOTOR BUS PC 6836K

1. I refer to your request on 28th April 2020 to conduct a physical inspection of a Motor Bus bearing registration number PC 6836K (herein referred to as "**Motor Bus**"), which was involved in a fatal road traffic accident on 21th April 2020.
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, I had carried out a visual inspection of the Motor Bus on 15th September 2020 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. I now set out below my observations and comments with respect to this inspection.

General Condition

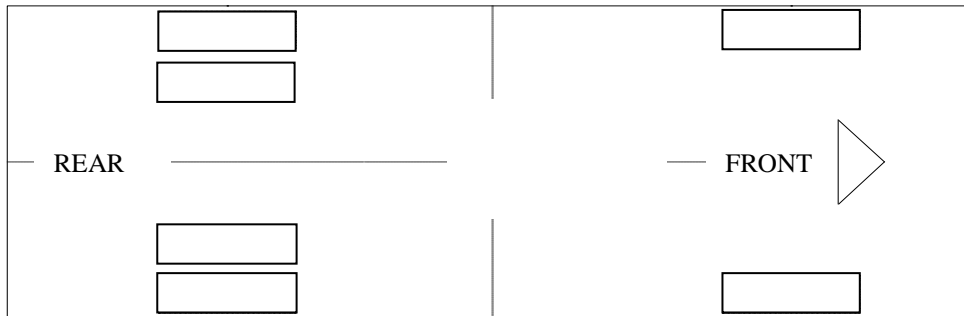
4. A visual inspection was conducted and the Motor Bus was observed to have sustained damage at its right portion. Its right body panel were amongst the body parts that were damaged as a result of the accident.

Tyres and Wheel Rims

5. The 6 tyres of the Motor Bus were observed to be in serviceable condition and sufficiently inflated for vehicular operation. I 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 6 tyres of the Motor Bus. The tyre brand, tyre size and remaining tread depth of the 6 tyres of the Motor Bus were recorded as follows:-

Aeolus 9 R22.5 (5.2mm)

Aeolus 9 R22.5 (12.2mm)



Double Coin 9 R22.5 (5.8mm)

Aeolus 9 R22.5 (12.1mm)

6. The 6 tyres of the Motor Bus were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 – 10 below.



Photo 1 shows a general view of the front right body of the Motor Bus at the time of my inspection. The Motor Bus was observed to have sustained damage at its right portion. Its right body panel were amongst the body parts that were damaged as a result of the accident.



Photo 2 shows a close up view of the front right body of the Motor Bus at the time of my inspection. The Motor Bus was observed to have sustained damage at its right portion. Its right body panel (circled) were amongst the body parts that were damaged as a result of the accident.



Photo 3 shows a general view of the front body of the Motor Bus front body at the time of my inspection. The front was observed to have been unaffected by the accident.

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Photo 4 shows a general view of the front right body of the Motor Bus at the time of my inspection, observed to have been unaffected by the accident.



Photo 5 shows a general view of the Motor Bus's rear body at the time of my inspection. There was no damage found to the rear portion of the Motor Bus.



Photo 6 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 12.1 mm. The tyre, which was wrapped around standard steel 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 6 tyres that were fitted on the Motor Bus.



Photo 7 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 5.8mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 8 shows the condition of the rear left tyres of the Motor Bus, which was observed to be in serviceable condition with remaining tread depth of approximately 5.2mm. The tyres, which were wrapped around standard steel wheel rim, were also observed to be sufficiently inflated for vehicular operation. There was also no damage found on all 6 steel wheel rims of the Motor Bus.



Photo 9 shows the condition of the front left tyres of the Motor Bus, which were observed to be in serviceable condition with remaining tread depth of approximately 12.2mm. 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 6 tyres that were fitted on the Motor Bus.



Photo 10 shows the undercarriage of the Motor Bus, at the area where the engine housing located. I did not find any sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside of the Motor Bus.

Steering System & Braking System

7. The mechanical components of the Motor Bus steering system were all found to be visually intact and undamaged. The steering shaft and steering rack of the Motor Bus were observed to be intact and securely attached to the front left wheel and front right wheel. The steering ball joints were also observed to be in a serviceable condition.
8. Although the steering & braking system was not be tested at the time of my inspection, it is likely that the steering & braking system of the Motor Bus was in serviceable condition since its mechanical components were all found to be generally intact and securely fitted. See photo 11 - 17 below.



Photo 11 shows the brake air cylinder of both the rear left & right wheel (arrowed) of the Motor Bus. My visual inspection of the mechanical components of the Motor Bus braking system & i did not observe any leakage to suggest that its braking system was in serviceable condition at the material time of accident.

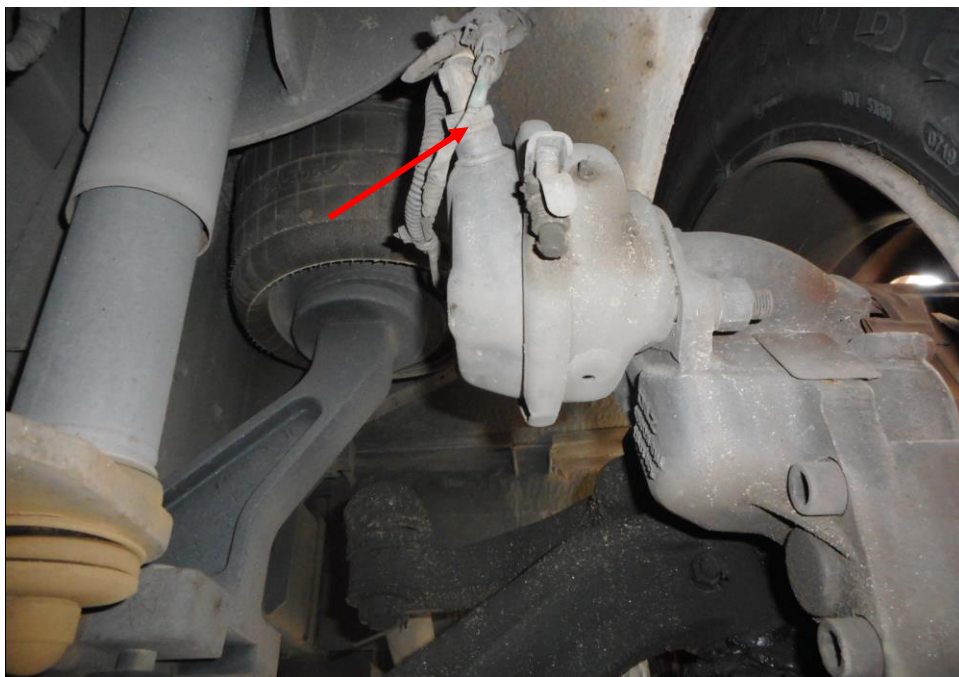


Photo 12 shows the brake air cylinder and air pipes at the front right wheel of the Motor Bus. My visual inspection of the mechanical components of the Motor Bus braking system appear to suggest that its braking system was in serviceable condition at the material time of accident.

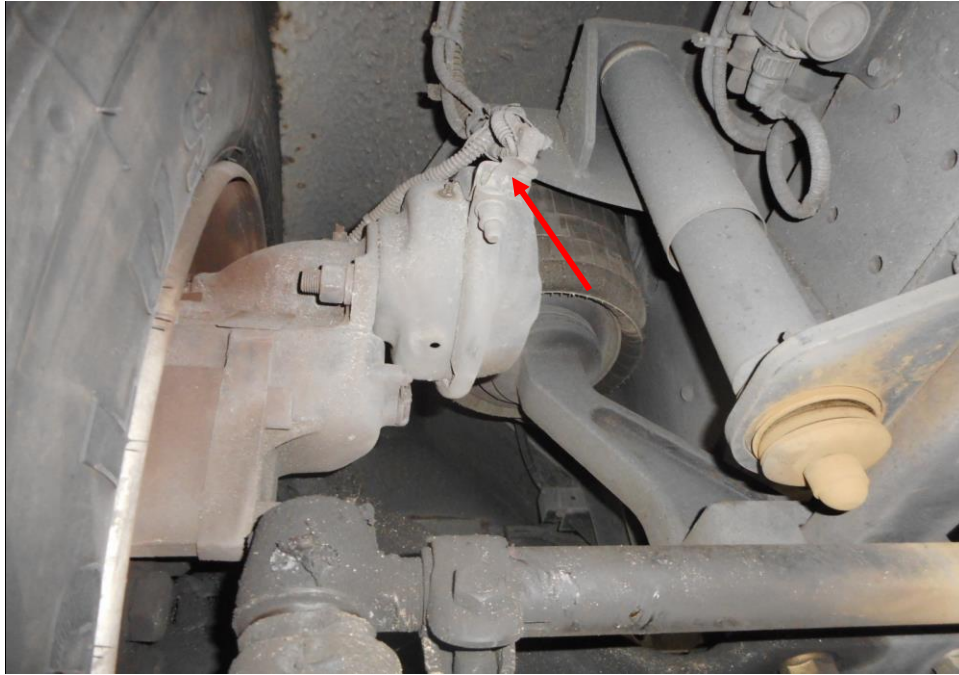


Photo 13 shows the brake air cylinder and air pipes at the front left wheel of the Motor Bus. My visual inspection of the mechanical components of the Motor Bus braking system appear to suggest that its braking system was in serviceable condition at the material time of accident.



Photo 14 shows the various undercarriage components at the front right wheel of the Motor Bus, in particular the steering tie rod end (arrowed). 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.



Photo 15 shows the air brake cylinders (arrowed) at the undercarriage of the Motor Bus. I did not observe any leakage of air brake fluid at the time of my inspection of the Motor Bus. My visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum. Hence the braking system of the Motor Bus was likely to be in serviceable condition at the material time of accident.

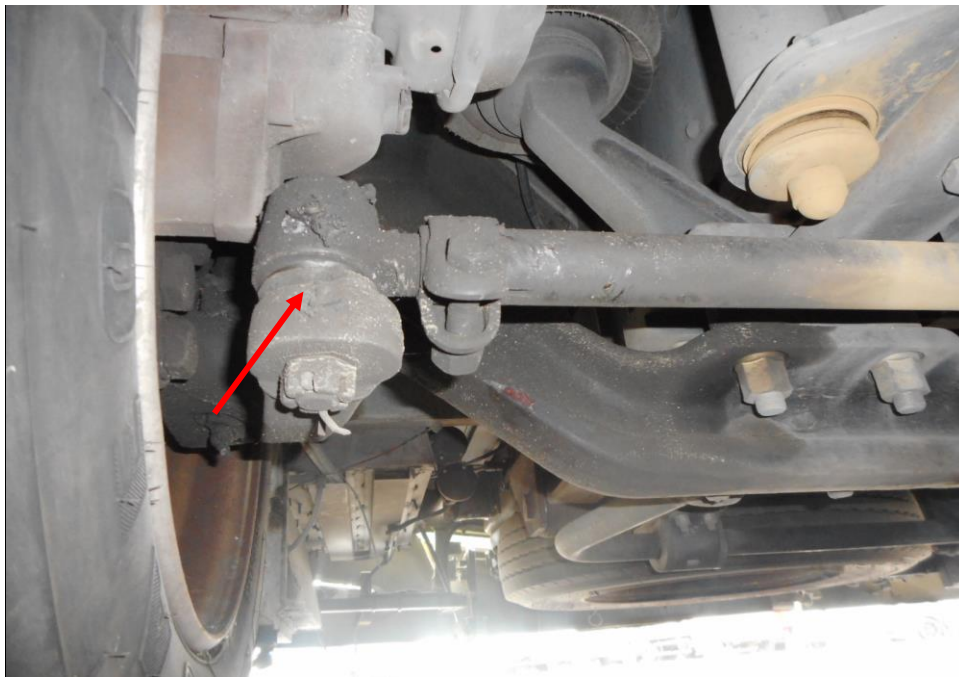


Photo 16 shows the various undercarriage components at the front left wheel of the Motor Bus, in particular the steering tie rod end (arrowed). The various undercarriage components of the Motor Bus were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

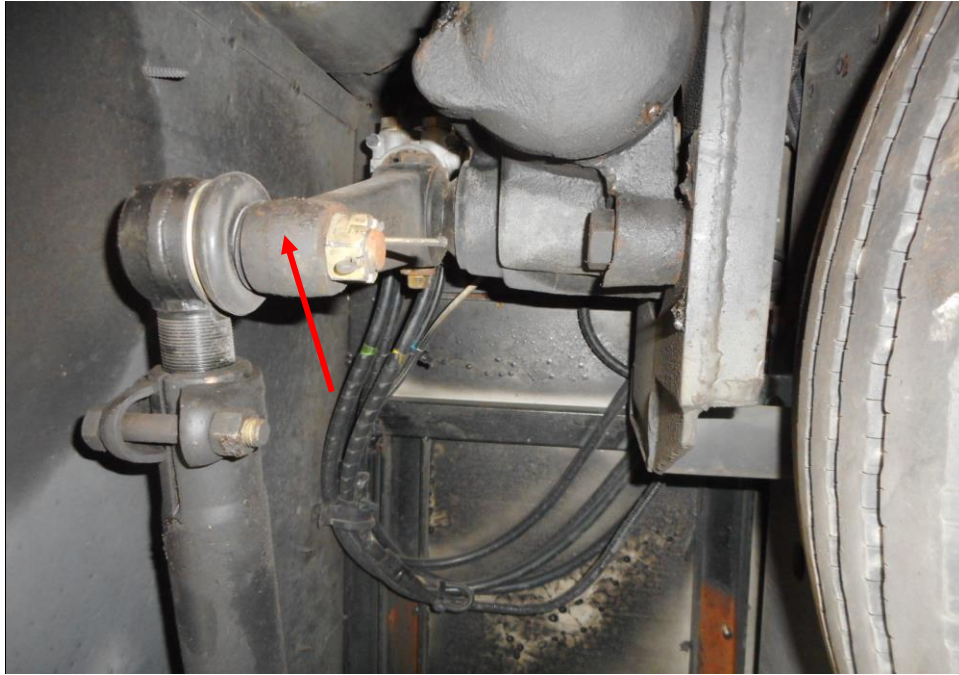


Photo 17 shows the steering box component (arrowed) at the undercarriage of the Motor Bus was found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Conclusion

9. At the time of my inspection of the Motor Bus, it would appear that the steering system and braking system of the Motor Bus were in serviceable condition. This takes into consideration that the various mechanical components of the steering system and braking system were found to be intact and undamaged.
10. The observation gathered from my visual 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.

11. The 6 tyres fitted on the Motor Bus were also found to be in serviceable condition. I 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 Motor Bus 6 tyres. The 6 tyres of the Motor Bus were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 5.2mm – 12.2mm.
12. My findings were based solely on a static and visual inspection of the Motor Bus.



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