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Your Ref: TP IP/32241/2022 14th June 2023
Our Ref : CI/TPD23001594/P

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

MECHANICAL INSPECTION REPORT OF LORRY, BQU 2351

1. I refer to your request on 7th February 2023 to conduct a visual inspection of a Lorry bearing registration number BQU 2351 (herein referred to as "**Lorry**"), which was involved in a road traffic accident on 29th November 2022.

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

3. Following the request, I had carried out a visual inspection of the Lorry on 5th June 2023 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

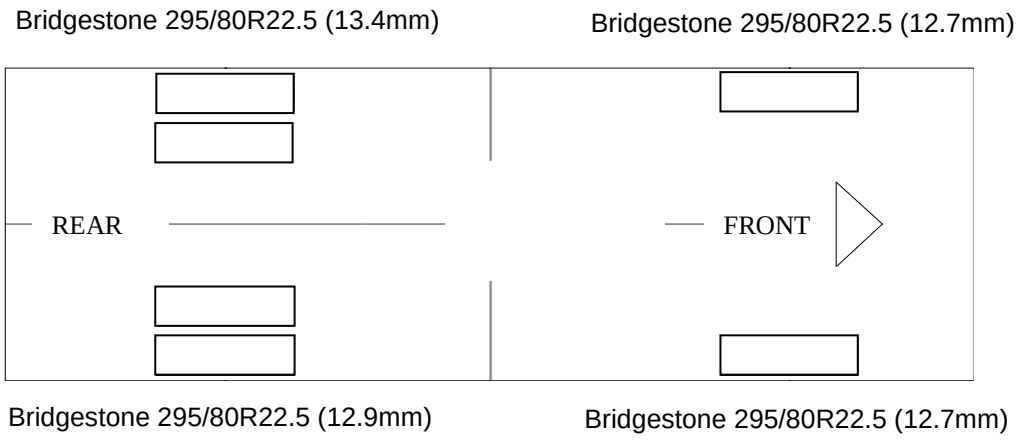
4. The mileage of the Lorry at the time of my inspection was not recorded, as the Lorry was not started up.

5. There was no visible damage observed on Lorry at the time of my inspection.

Tyres and Wheel Rims

6. The 2 front tyres and 4 rear tyres of the Lorry 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 Lorry. The tyre brand, tyre size and remaining tread depth of the 6 tyres of the Lorry were recorded as follows:-

Lorry



7. The 6 tyres of the Lorry were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 – 8 below.

Photo 1 shows a general view of the front body of the Lorry at the time of my inspection. The Lorry was observed to be intact and unaffected by the accident.

Photo 2 shows a general view of the right body of the Lorry at the time of my inspection. The Lorry was observed to be intact and unaffected by the accident.

Photo 3 shows a general view of the left body of the Lorry at the time of my inspection. The Lorry was observed to be intact and unaffected by the accident.

Photo 4 shows a general view of the Lorry's rear body at the time of my inspection. The Lorry was observed to be intact and unaffected by the accident.

Photo 5 shows the condition of the front right tyre of the Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 12.7 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 Lorry.

Photo 6 shows the condition of the rear right tyre of the Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 12.9mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 7 shows the condition of the rear left tyres of the Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 1.4mm. 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 Lorry.

Photo 8 shows the condition of the front left tyres of the Lorry, which were observed to be in serviceable condition with remaining tread depth of approximately 12.7mm. 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 12 tyres that were fitted on the Lorry.

Engine Compartment & Operating Fluids

8. The engine compartment of the Lorry was located below the front cabin of the Lorry. I was not able to carry out any checks on the engine compartment, as the cabin of the Lorry was not able to be lifted to the engine compartment as it requires the battery powered. The various operating fluids were also not able to be checked.

Steering System & Braking System

9. Static brake and steering tests was unable to be conducted on the Lorry as this components requires the engine to be started. However, my visual examination of the braking and steering components, there was no sign(s) of air leakage along the brake hoses, brake pipes, air cylinders and 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. See photo 9 - 16 below.

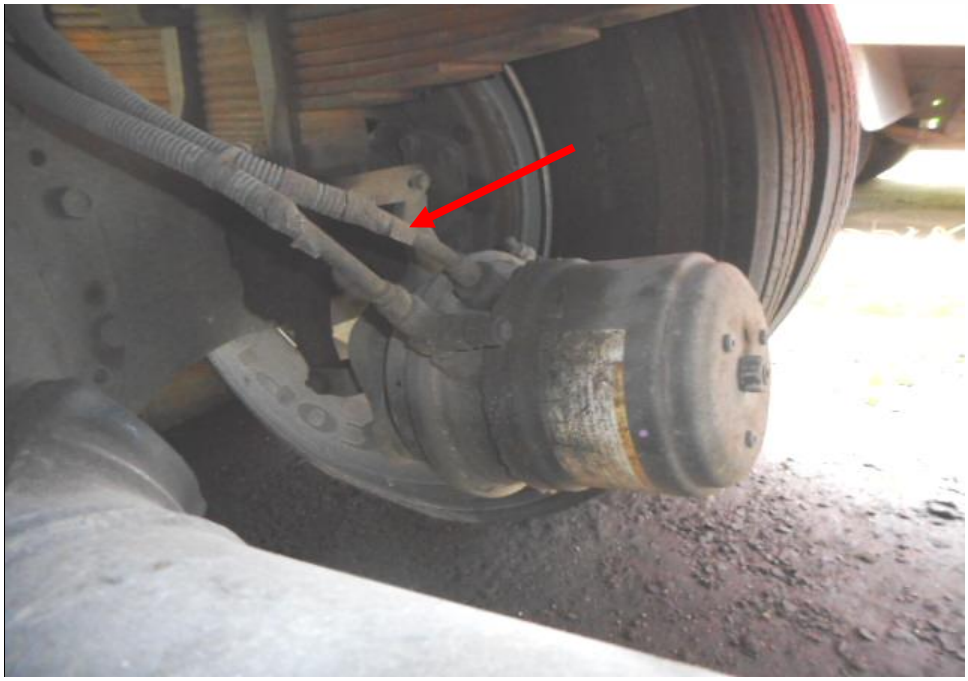


Photo 9 shows the brake pipe (arrowed) at the rear right wheel of the Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Lorry. My visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

Photo 10 shows the brake pipe (arrowed) at the rear left wheel of the Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Lorry. My static tests of the Lorry's braking system, along with my visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

Photo 11 shows the brake pipe (arrowed) at the front right wheel of the Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Lorry. My static tests of the Lorry's braking system, along with my visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

Photo 12 shows the brake pipe (arrowed) at the front left wheel of the Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Lorry. My visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

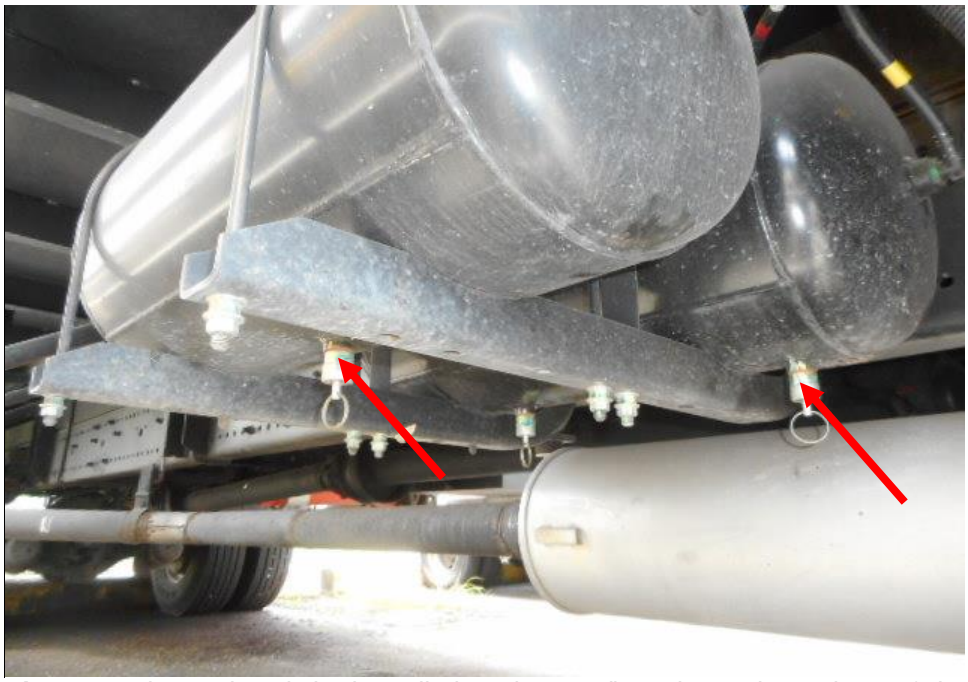


Photo 13 shows the air brake cylinders (arrowed) at the undercarriage of the Lorry. I did not observe any leakage of air brake fluid at the time of my inspection of the Lorry. My visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

Photo 14 shows the various undercarriage components at the front right wheel of the Lorry, 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 Lorry 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.

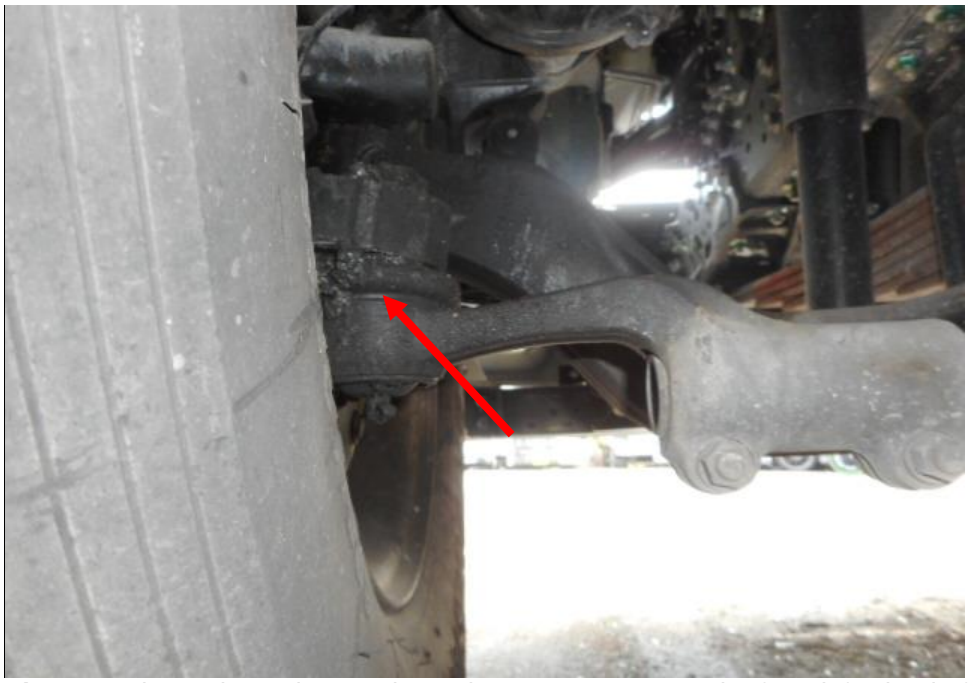


Photo 15 shows the various undercarriage components at the front left wheel of the Lorry, in particular the steering tie rod end (arrowed). The various undercarriage components of the Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

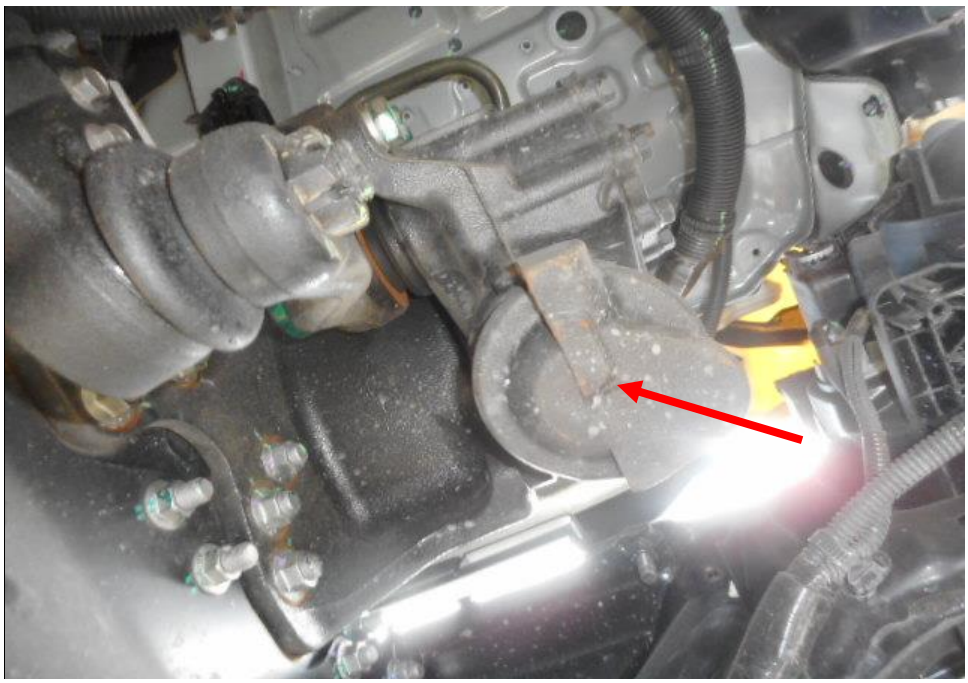


Photo 16 shows the steering box component (arrowed) at the undercarriage of the Lorry was found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Electronic Safety / Warning Indicators

10. The Lorry automatic self-test of the functionality of its various electronic operating systems was not conducted as the Lorry was not started up.

Operational Behaviour of the Lorry

11. As the engine of the Lorry was not be started, I was hence not able to carry out any operational test(s) to primarily determine whether there was any operational abnormality to its engine system, transmission system, steering system and braking system.

Conclusion

12. this particular case, the time of my inspection of the Lorry, its steering system and braking system could not be tested as the Lorry's engine could not be started. However basing on my observations, it would appear that the steering system and braking system of the Lorry 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.

13. The observation gathered from my physical inspection of the Lorry had indicated no evidence to suggest possible mechanical failure to the Lorry that may have contributed to the accident.

14. The 2 front tyres, 4 rear tyres fitted on the Lorry 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 Lorry 6 tyres. The 6 tyres of the Lorry were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 12.7mm – 13.4mm.

15. My findings were based solely on a static and visual inspection of the Lorry. No operational test(s) could be carried out to the Lorry, as its engine was not started at the time of my inspection.

Sherwin Beh
Technical Investigator

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