LKK Auto Consultants Pte Ltd

Company Registration No. 199607198R

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: TP/IP/53115/2021
Our Ref: CI/TPD21013036/P

27th December 2021

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

MECHANICAL INSPECTION REPORT OF MOTOR LORRY GBE 447U

1. We refer to your request on 22nd December 2021 to conduct a physical inspection of a motor Lorry bearing registration number GBE 447U (herein referred to as "**Motor Lorry**"), which was involved in a road traffic accident on 8th November 2021.

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

3. Following the request, we had carried out a physical inspection of the Motor Lorry on 27th December 2021 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.

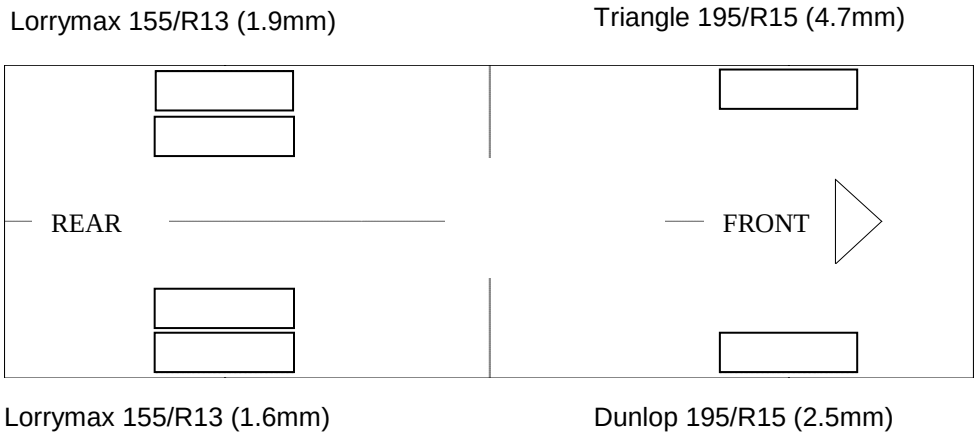
General Condition

4. The mileage of the Motor Lorry at the time of my inspection was not recorded as the dashboard of the Motor Lorry was damaged as a result of the accident.

5. The Motor Lorry was observed to have sustained major damage at its front cabin, front windscreen, front bumper and front body panel portion as well as its right door as a result of the accident.

Tyres and Wheel Rims

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



The 4 tyres were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 - 11 below.

Photo 1 shows a general view of the front portion of the Motor Lorry at the time of our inspection. The Motor Lorry was observed sustained major damages to its front cabin, front windscreen, front bumper and front body panel as well as its right door due to the accident.

Photo 2 shows the close up view of the front portion of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its front windscreen (circled) and its front cabin (arrowed) that was crushed due to the accident's impact.

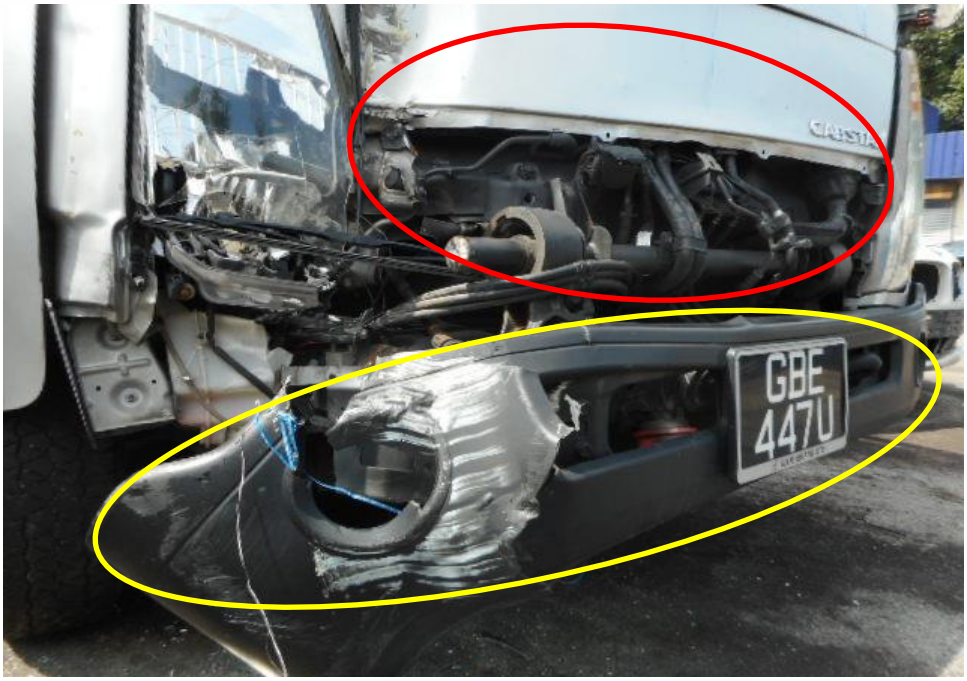


Photo 3 shows the close up view of the front portion of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its front body panel (red circle) and front bumper (yellow circle) that was damaged as a result of the accident's impact.

Photo 4 shows the close up view of the right door of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained damages to its right door (circled) as a result of the accident.

Photo 5 shows a general view of the Motor Lorry's right body at the time of my inspection. The right portion of the Motor Lorry was observed to have been unaffected by the accident.

Photo 6 shows a general view of the Motor Lorry's left body at the time of my inspection. The left portion of the Motor Lorry was observed to have been unaffected by the accident.

Photo 7 shows the general view of the Motor Lorry's rear body at the time of my inspection. The Motor Lorry rear was observed to be unaffected by the accident.

Photo 8 shows the condition of the front right tyre of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 5.1mm. The tyre, which was wrapped around standard steel wheel rim, it was observed to be sufficiently inflated for vehicular operation.

Photo 9 shows the condition of the rear right tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 1.6mm. The tyre, which was wrapped around standard steel wheel rim, it was observed to be sufficiently inflated for vehicular operation.

Photo 10 shows the condition of the rear left tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 1.9mm.

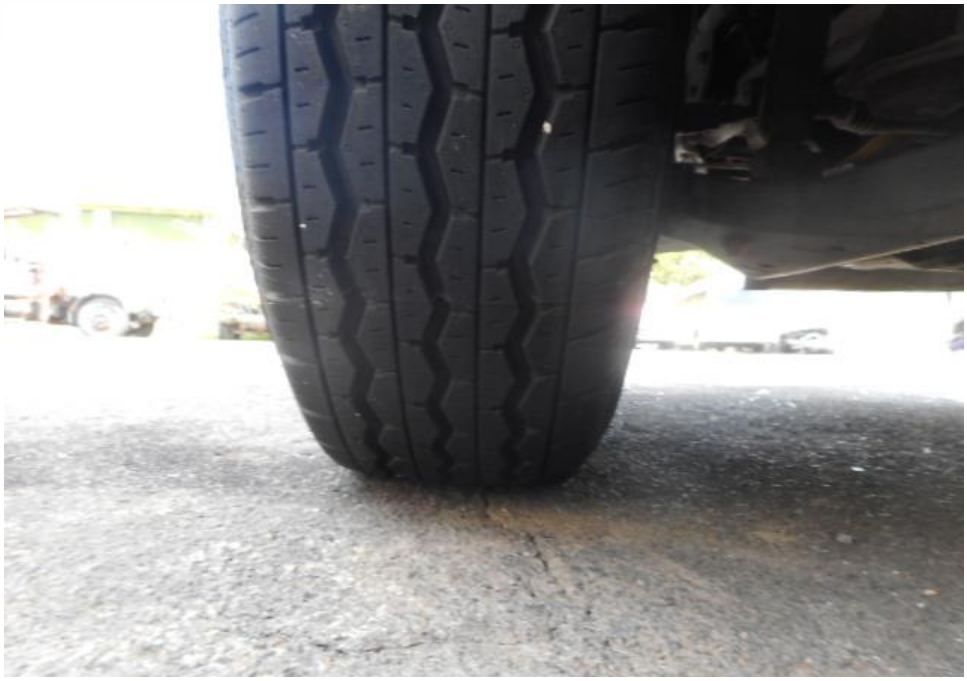


Photo 11 shows the condition of the front left tyre of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 4.7mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 6 tyres that were fitted on the Motor Lorry.

Engine Compartment & Operating Fluids

7. Upon examination of the Motor Lorry's engine compartment, we had observed that all the parts, components and fluids could not be inspection as due to the damage induced has crushed and deformed the cabin of the Motor Lorry which immobilized its opening and viewing. 12 below.

Photo 12 shows the induced damage to the lifter of the front cabin (arrowed) of the Motor Lorry's which had immobilised the opening and viewing of the various parts and components inside the engine compartment a result of the accident.

Steering System & Braking System

8. Static braking and steering tests was not conducted on the Motor Lorry as the braking and steering controls in the cabin had sustain major damage as the result of the accident. Our visual inspection of the mechanical components of the Motor Lorry's observed that its undercarriage braking system components was intact. However, the front left steering components had been damaged as a result of the accident.

9. However, my 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. See photo 13 - 18 below.

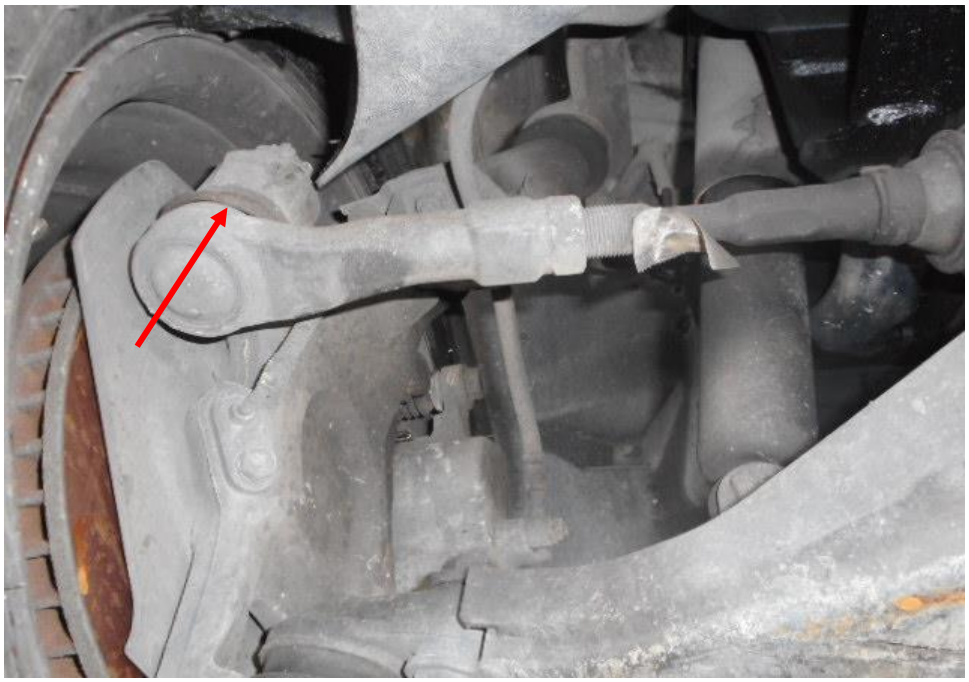


Photo 13 shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the steering tie rod end (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Lorry was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

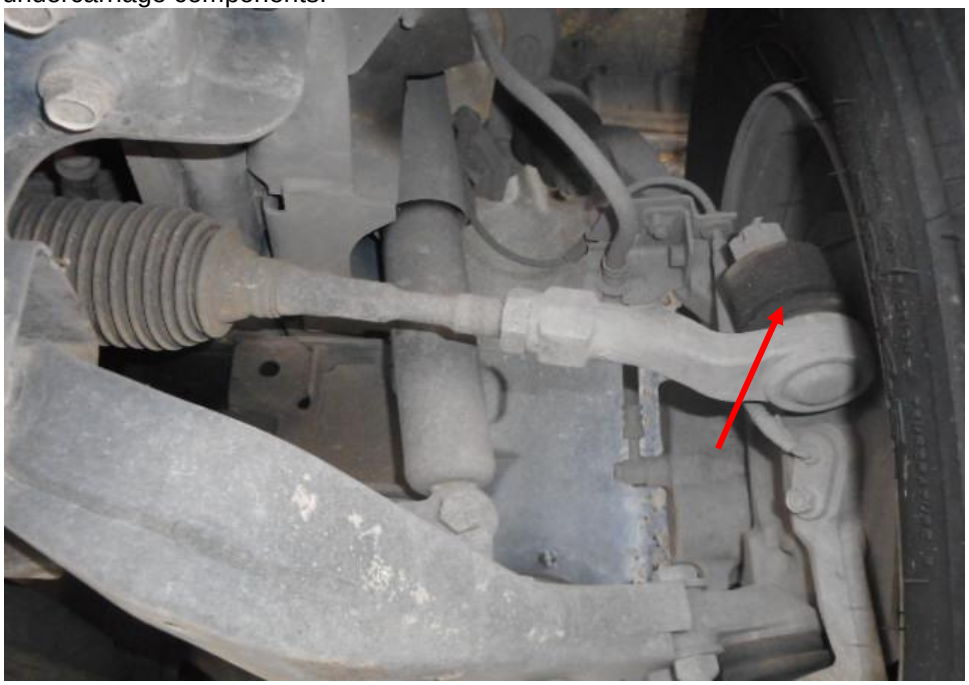


Photo 14 shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the steering tie rod end (arrowed). The various undercarriage components of the Motor Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Photo 15 shows the brake pipe (arrowed) at the rear right wheel of the Motor Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Lorry. My static tests of the Motor 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.

Photo 16 shows the brake pipe (arrowed) at the rear left wheel of the Motor Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Lorry. My static tests of the Motor 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. Hence the braking system of the Motor Lorry was likely to be in serviceable condition at the material time of accident.

Photo 17 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Lorry. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Photo 18 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Lorry. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Electronic Safety / Warning Indicators

10. The static test of the Motor Lorry electronic safety system could not be inspected as the instrument cluster was damaged due to the induce impact from the accident. See photo 19 below

Photo 19 shows instrument cluster and dashboard of the Motor Lorry at the time of our inspection. The instrument cluster was observed to be damaged as a result of the accident.

Seat Belts

11. The front right and left seat belt were tested and all the seat belts were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat.

Operational Behaviour of the Motor Lorry

12. An operational test of the Motor Lorry was not conducted as the Motor Lorry was unsafe and unable to operate at the time of inspection.

Conclusion

14. For this particular case, I was unable to determine whether there was any possible mechanical failure to the Motor Lorry that may have contributed to the accident. The extent of damage that it had sustained had prevented me from Carrying out any operational test(s) and/or static test(s) to its engine system, transmission system, steering system, braking system and suspension system.

15. In general our visual inspection of the mechanical components of the Motor Lorry's braking system appears to be intact and was not damaged by the accident.

16. The 6 tyres of the Motor 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 6 tyres. The 6 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 1.6mm to 4.7mm.

Sherwin Beh,
Technical Investigator

Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
Senior Technical Investigator
Technical Investigation & Reconstructionist (SAE-A)