

Your Ref: TP/IP/08326/2022  
Our Ref: CI/TPD22005077/P

1<sup>st</sup> June 2022

**Fatal Accident Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR LORRY YN 7543J**

1. We refer to your request on 30<sup>th</sup> May 2022 to conduct a physical inspection of a motor Lorry bearing registration number YN 7543J (herein referred to as "**Motor Lorry**"), which was involved in a road traffic accident on 15<sup>th</sup> April 2022.
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 31<sup>st</sup> May 2022 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**

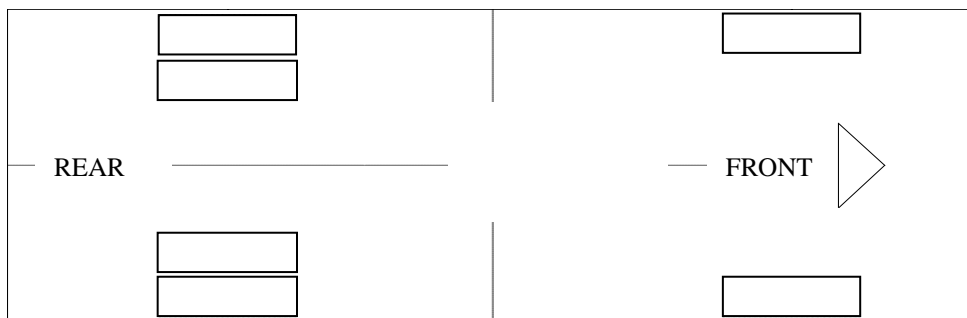
4. The mileage of the Motor Lorry at the time of my inspection was not recorded as the dashboard of the Motor Lorry was damaged as a result of the accident.
5. The Motor Lorry was observed to have sustained damages at its front windscreen, front body panel and front bumper portion as well as its right 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:-

West lake 205/85R16 (5.5mm)

West lake 205/85R16 (9.3mm)



West lake 205/85R16 (4.1mm)

West lake 205/85R16 (7.8mm)

The 4 tyres were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 - 12 below.



**Photo 1** 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 dashboard (circled) that was crushed due to the accident's impact.



**Photo 2** 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 windscreen, front body panel and front bumper portion as well as its right door as a result of the accident.





**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 windscreen (circled) as a result of the accident.



**Photo 4** 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.

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



**Photo 5** 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 left door (circled) as a result of the accident.



**Photo 6** 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.



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



**Photo 7** 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 8** 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.

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



**Photo 9** 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 7.8mm. 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 right tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 4.1mm. The tyre, which was wrapped around standard steel wheel rim, it was observed to be sufficiently inflated for vehicular operation.



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



**Photo 11** 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 5.5mm.

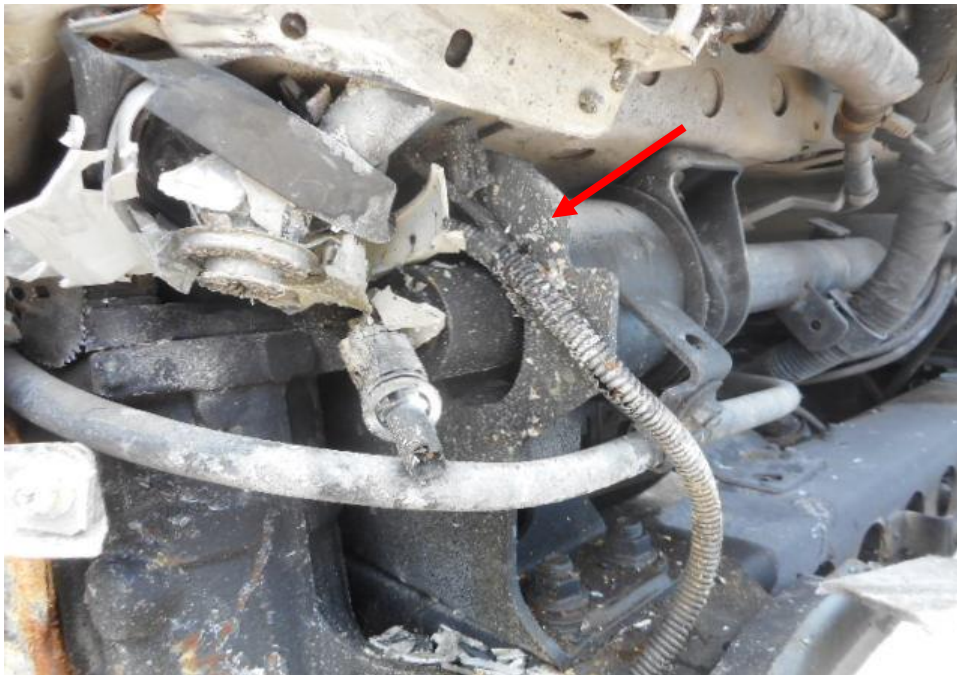


**Photo 12** shows the condition of the front left tyre of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 9.3mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 6 tyres 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.
8. However, we were been to inspect the engine coolant, power steering fluid and the brake fluid as they were located outside of the Motor Lorry's engine compartment and they were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
9. Our subsequent checks on the underside of the Motor Lorry visually, the various undercarriage components of the Motor Lorry were observed to be intact and without any visible damage. See photos 13- 17 below.



**Photo 13** 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.

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

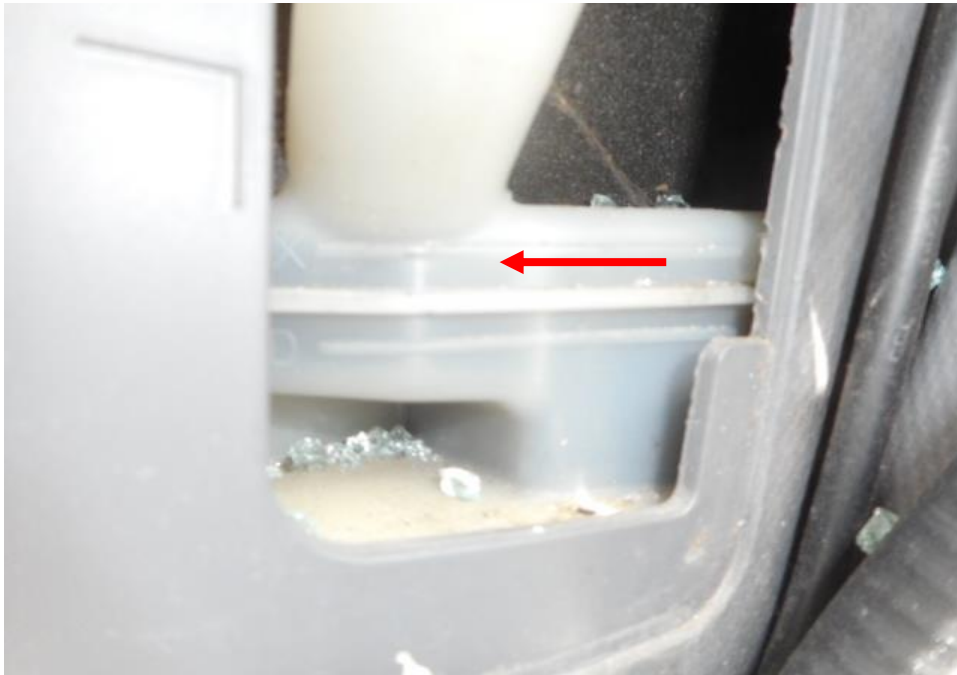


**Photo 14** shows checks being carried out to the engine coolant of the Motor Lorry at the time of my inspection. The engine coolant was observed to be of sufficient level and without any visible contamination.



**Photo 15** shows the power steering fluid reservoir of the Motor Lorry at the time of my inspection. The power steering fluid was observed to be of sufficient level and without any visible contamination.

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



**Photo 16** shows the brake fluid reservoir of the Motor Lorry at the time of my inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



**Photo 17** shows the undercarriage of the Motor Lorry, at the area where the engine housing and transmission housing are 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 Lorry.



### Steering System & Braking System

10. Static braking and steering tests was not conducted on the Motor Lorry as the braking and steering controls in the cabin had sustain 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 steering box arm had been damaged as a result of the accident.
11. 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 18 - 25 below.



**Photo 18** shows the steering box (arrowed) of the Motor Lorry's steering system. The steering box was observed to sustained damages a result of the accident.



**Photo 19** shows the steering box arm (arrowed) of the Motor Lorry's steering system. The steering box arm was observed to sustained damages a result of the accident.



**Photo 20** 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 21** 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 22** 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 23** 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 24** 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 25** 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**

12. The Motor Lorry's automatic self-test of the functionality of its various electronic operating systems at the time of our inspection was not able to be recorded as the whole dashboard including the odometer had been damaged by the accident

### **Operational Behaviour of the Motor Lorry**

13. An operational test of the Motor Lorry was not conducted as the Motor Lorry was 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 4.1mm to 9.3mm.



**Sherwin Beh,**  
*Technical Investigator*



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

DISCLAIMER OF LIABILITY TO THIRD PARTIES: - This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part, does so at his or her own risk.