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Your Ref: TP/IP/69085/2018
Our Ref: CI/TPD19000757/P

24th April 2019

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

MECHANICAL INSPECTION REPORT OF MOTOR LORRY GBF 6627Y

1. We refer to your request on 28th December 2018 to conduct a physical inspection of a motor lorry bearing registration number GBF 6627Y (herein referred to as "**Motor Lorry**"), which was involved in a fatal road traffic accident on 14th December 2018.

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 6th March 2019 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 was not able to be recorded as the odometer in the instrument cluster has been damage due to the accident at the time of our inspection.

5. The Motor Lorry was observed to have sustained major damage at its front cabin & windscreen portion as well as its left and right doors, was likely due to a result of the accident. See photo 1 and 9 below.

Photo 1 shows no mileage readings were recorded due to the damaged odometer in the instrument cluster of the Motor Lorry at the time of our inspection.

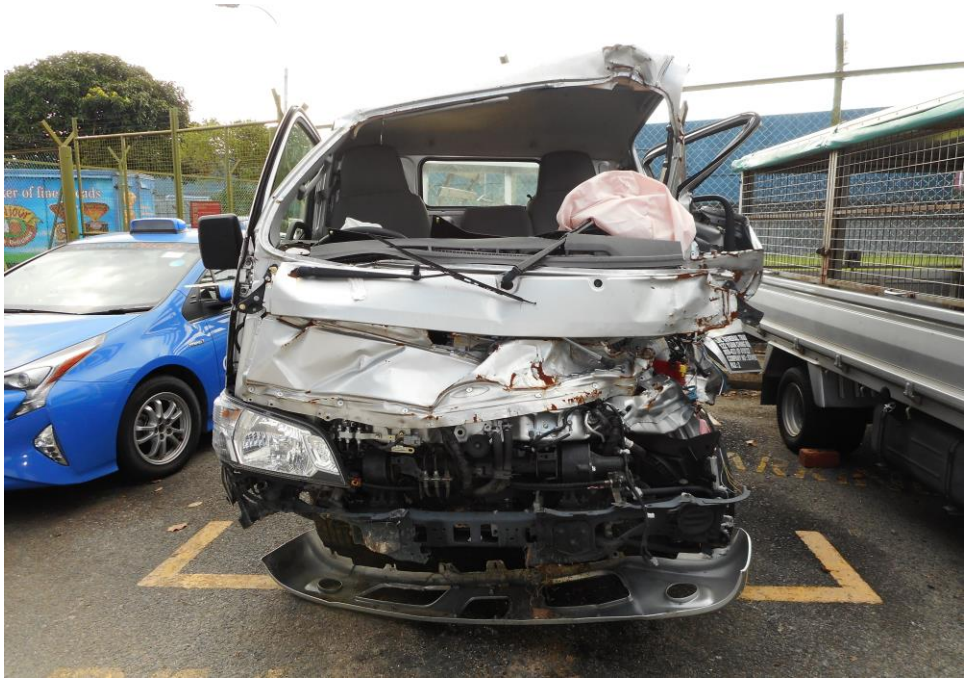


Photo 2 shows a general view of the front windscreen and body panel of the Motor Lorry at the time of our inspection. The Motor Lorry was observed sustained major damages to its frontal likely due to the accident's impact.

Photo 3 shows the number plate and the general view of the rear portion of the Motor Lorry at the time of our inspection. The Motor Lorry was observed sustained major damages to its rear which the tailgate was shifted out of place, likely due to the accident's impact.

Photo 4 shows a general view of the left body of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its doors that was crushed and dislodged due to the accident's impact.

Photo 5 shows a general view of the right body of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its doors that was crushed and dislodged due to the accident's impact.

Photo 6 shows the close up view of the left door of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its doors that was crushed and dislodged due to the accident's impact.

Photo 7 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 major damages to its doors that was crushed and dislodged due to the accident's impact.

Photo 8 shows the general view of the cabin from the rear of the Motor Lorry. It was observed to have sustained damages due to the induced impact as a result of the accident.

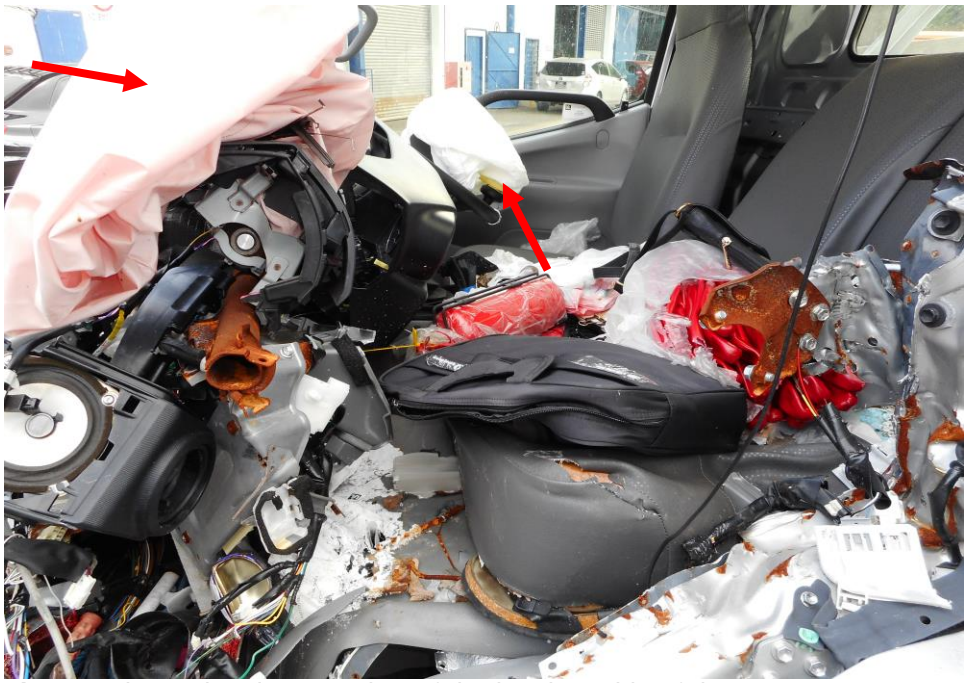
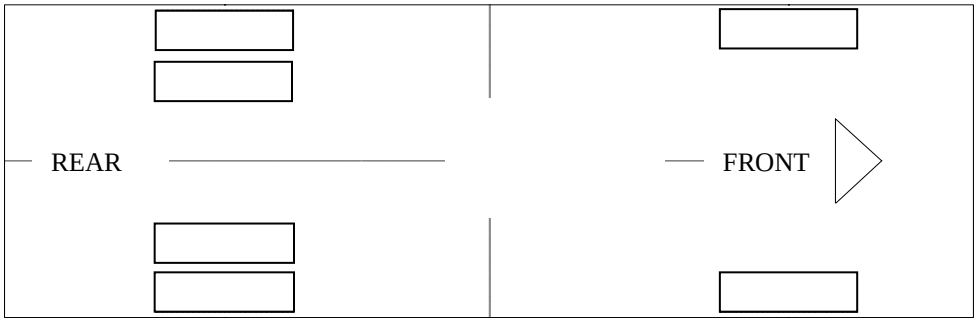


Photo 9 shows the close up view of the interior cabin of the Motor Lorry. It was observed to have sustained extensive induced damages to the dashboard, foot well and triggering both the driver and passenger's (SRS) airbags to be deployed as a result of the accident.

Tyres and Wheel Rims

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

Bridgestone 155/ R12 (3.3mm) Bridgestone 195/75 R15 (3.7mm)



Bridgestone 155/ R12 (2.2mm) Bridgestone 195/75 R15 (5.5mm)

7. The 6 tyres were observed to be wrapped around standard steel wheel rims that were found to be without any damages. See photo 10 – 13 below.

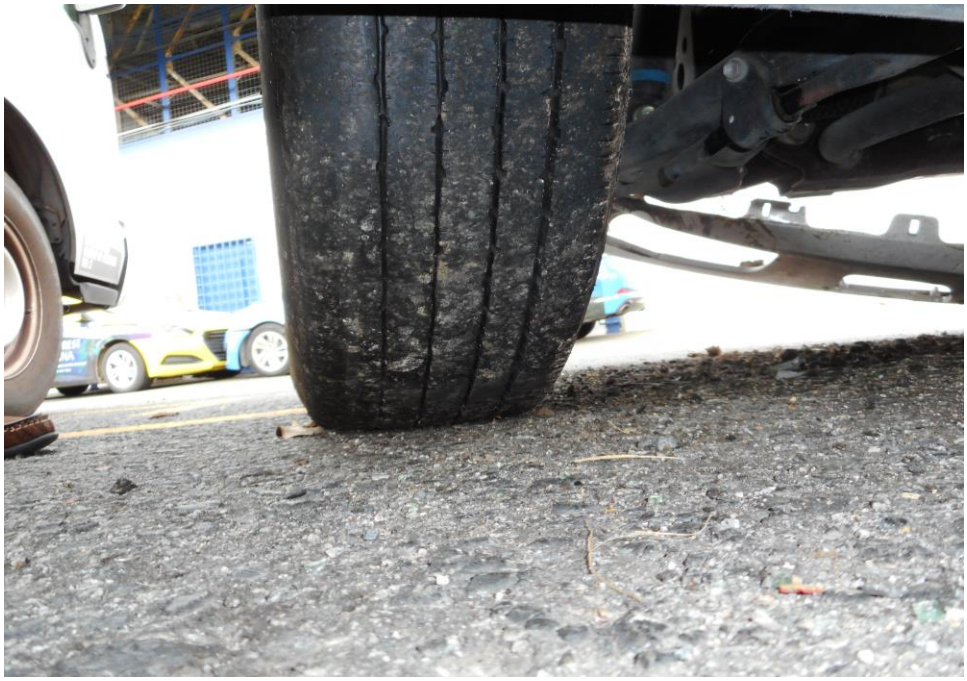


Photo 10 shows the condition of the front left tyre of the Motor Lorry, which observed to be in serviceable condition with remaining tread depth of approximately 3.7mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 11 shows the condition of the front right tyre of the Motor Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 5.5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

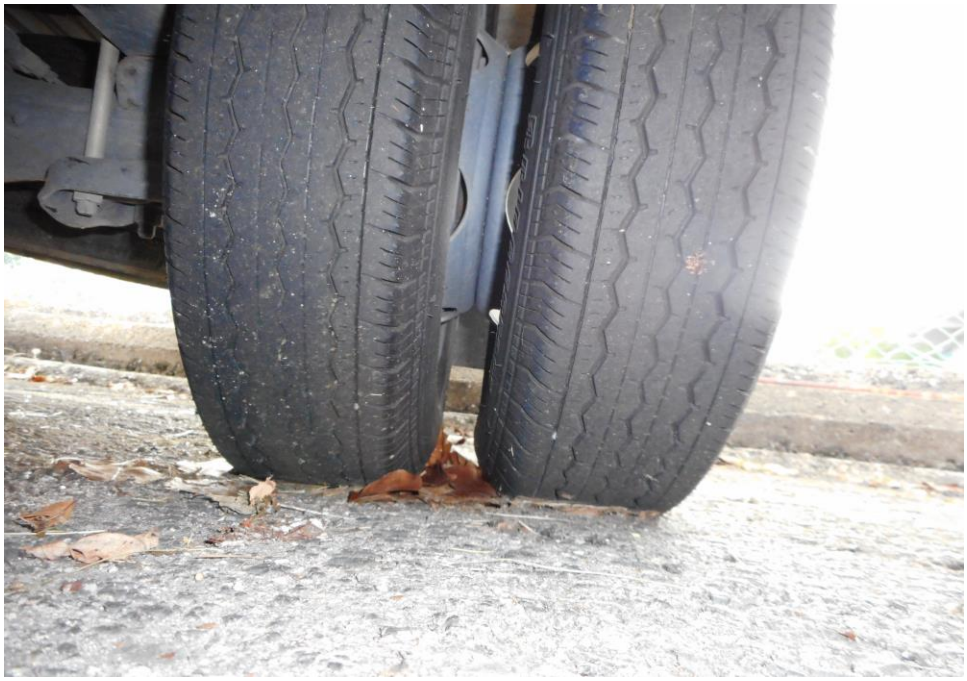


Photo 12 shows the condition of the rear left tyres of the Motor Lorry, which observed to be in serviceable condition with remaining tread depth of approximately 3.3mm. The tyres, which were wrapped around standard alloy wheel rim, were also observed to be sufficiently inflated for vehicular operation.

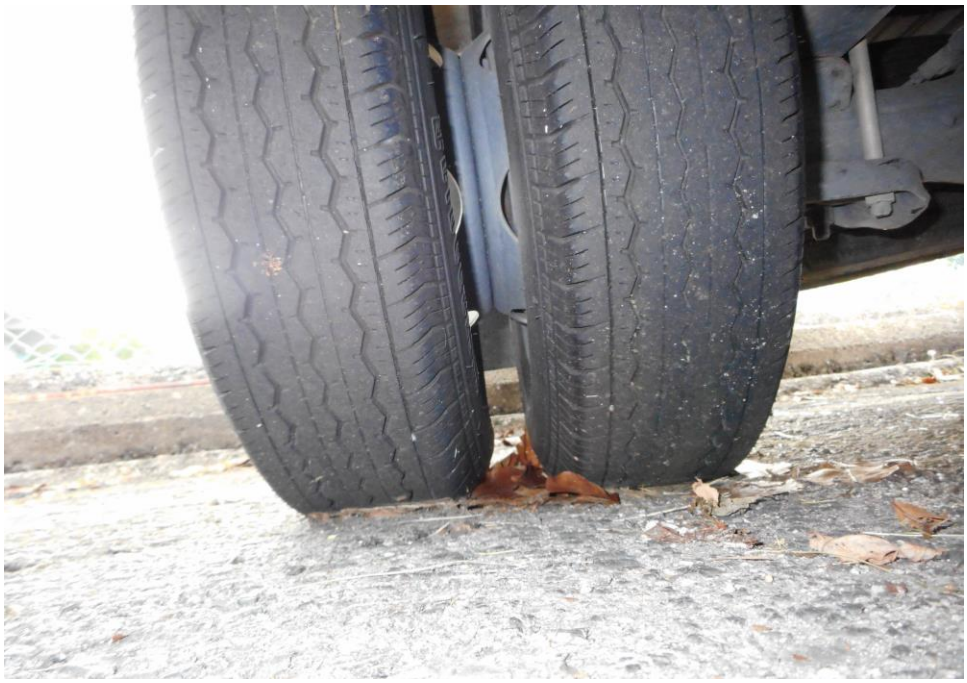


Photo 13 shows the condition of the rear right tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 2.2mm. See above.

Engine Compartment & Operating Fluids

8. 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.

9. Further examination of the engine compartment found that there was no sign(s) or indication(s) of fresh fluid leakage and/or fluid stain within the engine compartment of the Motor Lorry.

10. Our subsequent checks on the underside of the Motor Lorry also revealed no sign of fluid stain. Visually, the various undercarriage components of the Motor Lorry were all observed to be intact and without any visible damage. See photo 14 & 18.

Photo 14 shows the induced damage to the cabin of the Motor Lorry's which immobilised the opening and viewing of the various parts and components inside the engine compartment, a result of the accident.

Photo 15 shows the induced damage to the cabin of the Motor Lorry's which immobilised the opening and viewing of the various parts and components inside the engine compartment, a result of the accident.

Photo 16 shows the engine coolant reservoir of the Motor Lorry at the time of our inspection. The engine coolant was observed to be of sufficient level and without any visible contamination (arrowed).

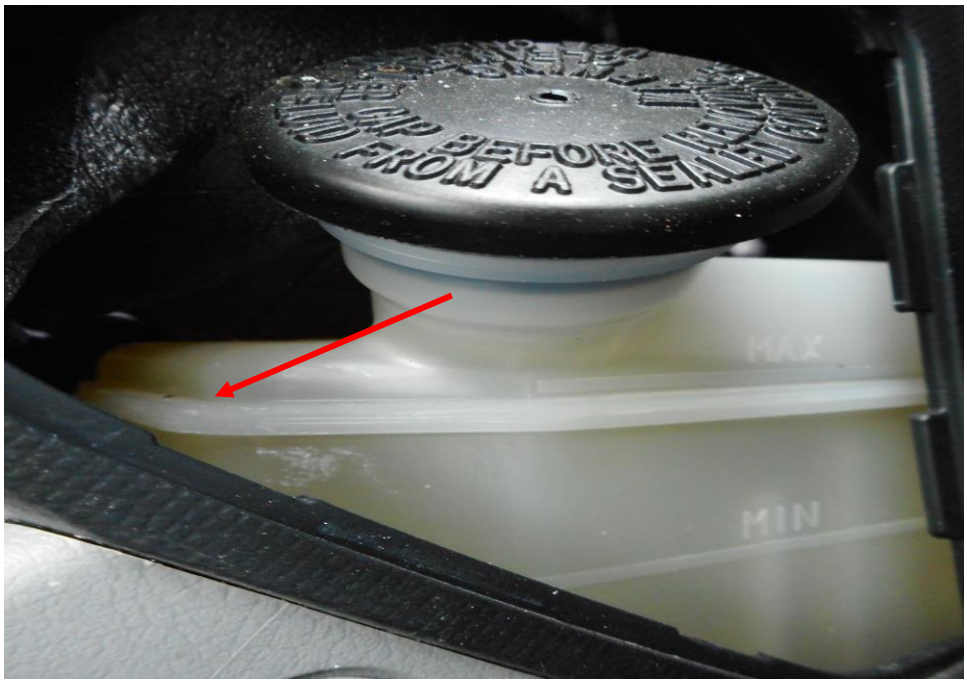


Photo 17 shows the brake fluid reservoir of the Motor Lorry at the time of our inspection. The brake fluid is all tilted to one side was due to the induced damages that tilted the cabin, but was observed to be of sufficient level and without any visible contamination (arrowed).

Photo 18 shows the undercarriage of the engine of the Motor Lorry at the time of our inspection. There was also no sign(s) or indication(s) of fresh fluid leakage and/or fluid stain within the engine area.

Steering System & Braking System

11. The mechanical components of the Motor Lorry steering system were all found to be visually intact and undamaged. The steering wheel, steering tie rods, drive shafts and ball joints of the Motor Lorry were observed to be intact and securely attached to the front left wheel and front right wheel.

12. Static test on the steering system of the Motor Lorry could not be inspection due to the damages that immobilized the movement. 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. See photo 19 - 24 below.

Photo 19 shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the steering tie rod end and ball joints (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.

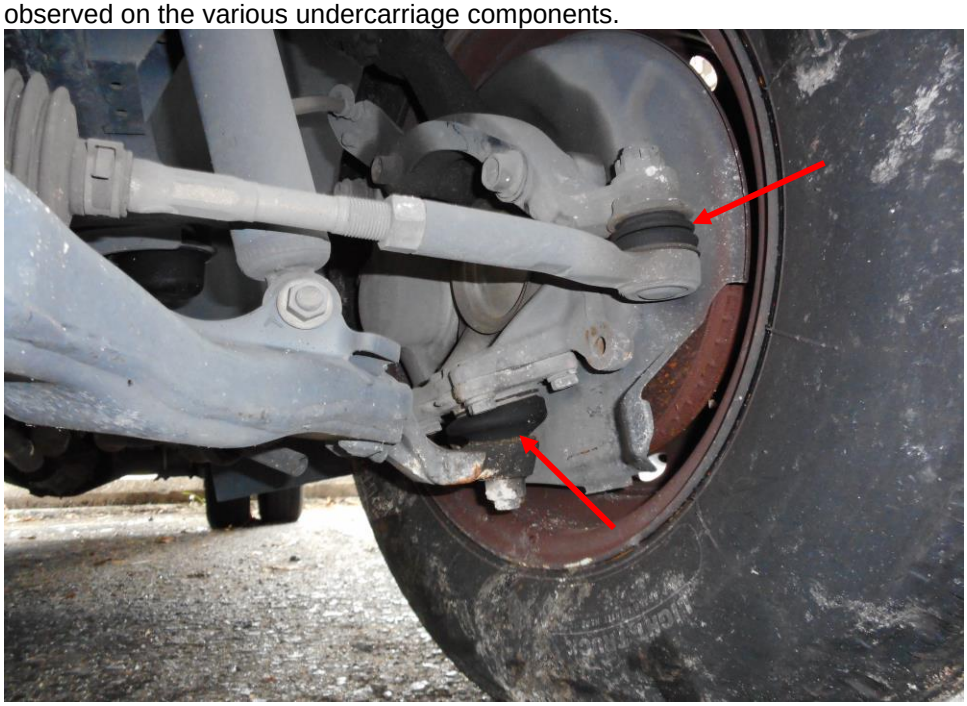


Photo 20 shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the steering tie rod end and ball joints (arrowed). The various undercarriage components of the Motor Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

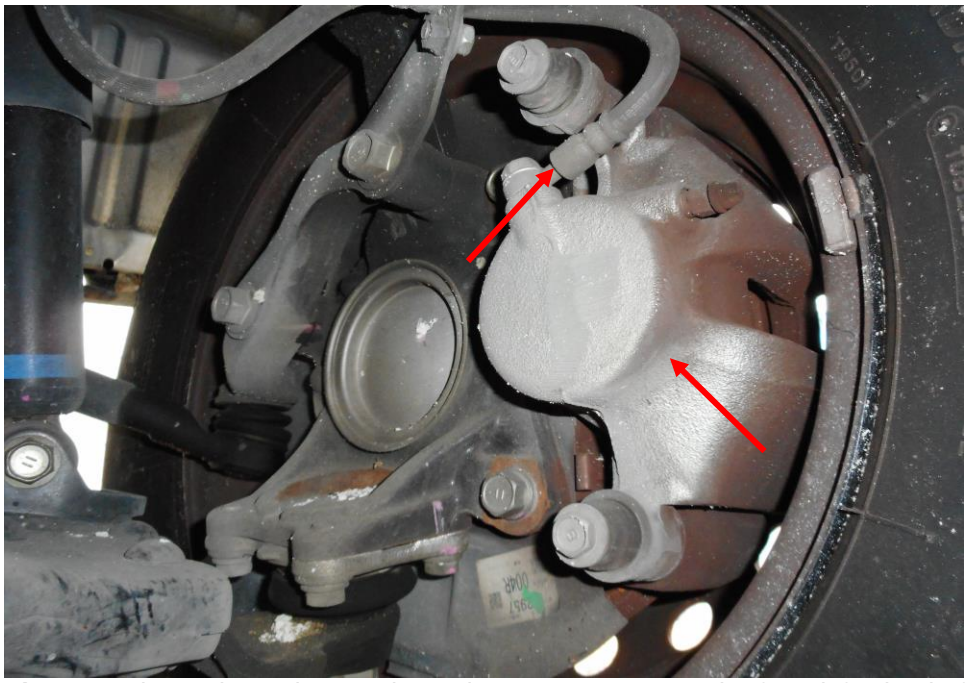


Photo 21 shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the brake hose and callipers (arrowed). The various undercarriage components of the Motor Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

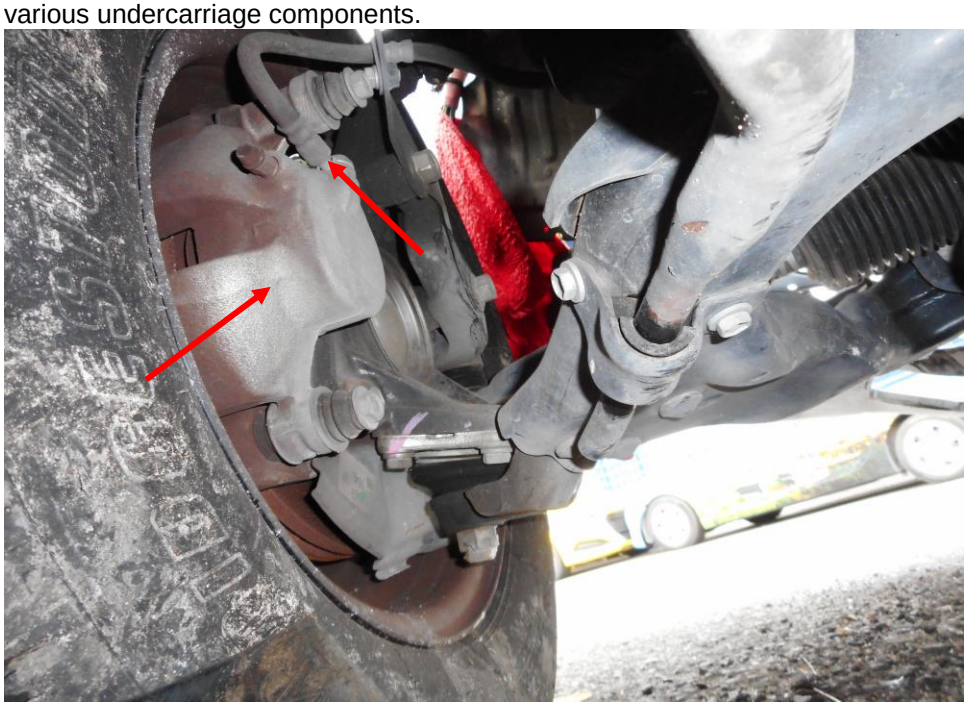


Photo 22 shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the brake hose and callipers (arrowed). The various undercarriage components of the Motor Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Photo 23 shows the various undercarriage components at the rear left wheel of the Motor Lorry, in particular the brake hose and drum brake (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 24 shows the various undercarriage components at the rear right wheel of the Motor Lorry, in particular the brake hose and drum brake (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.

14. Static brake tests were not conducted on the Motor Lorry due to the damages that was induced onto the cabin and various instruments caused the immobilization of the Motor Lorry. In general, our visual inspection of the mechanical components of the Motor Lorry's braking system appear to suggest that its braking system was in serviceable condition at the material time of accident.

Electronic Safety / Warning Indicators

15. 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 25.

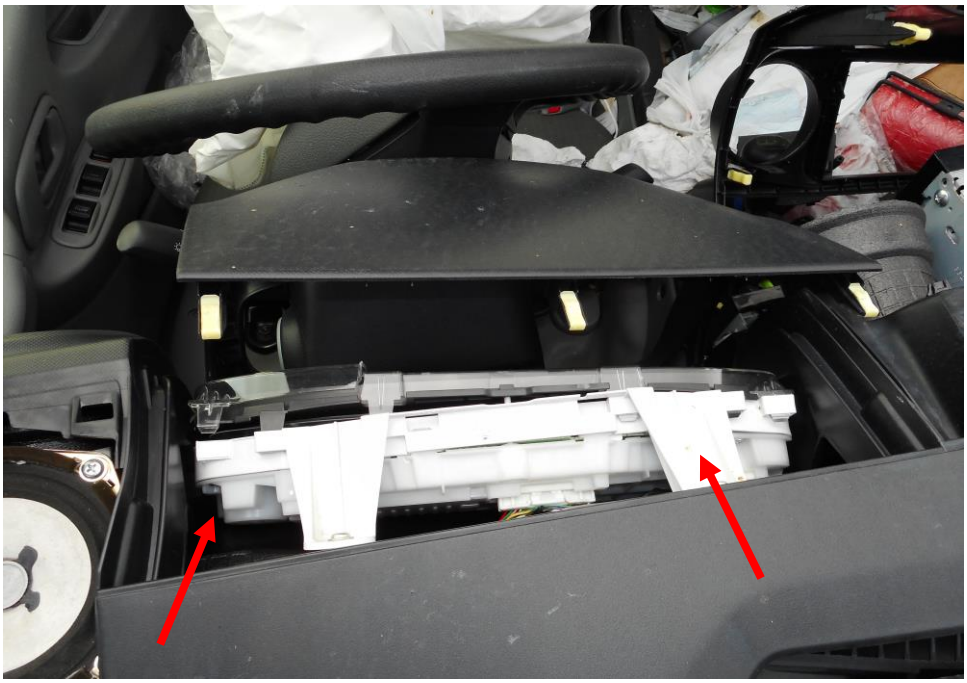


Photo 25 shows the damages on the Motor Lorry's instrument cluster induce impact from the accident rendering it not serviceable at the time of inspection.

Operational Behaviour of the Motor Lorry

16. An operational test of the Motor Lorry was not done due to the damages induced by the accident rendering all the major components of the Motor lorry unserviceable to conduct an operational test at the time of inspection.

Conclusion

17. From our physical inspection of the Motor Lorry, it appears that its, steering system, braking system were all in serviceable condition. Due to the damages on the Motor Lorry hindering, we were not able to inspect the engine, transmission systems and unable conduct an operational test. From our findings, we did not find any evidence(s) to suggest that there was possible mechanical failure to the Motor Lorry that may have caused and/or contributed to the accident.

18. The 2 front tyres and 4 rear tyres fitted on the Motor Lorry were also found to be in serviceable condition. 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 6 tyres. The 6 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 2.2mm to 5.5mm.

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