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/10833/2021 30th March 2021
Our Ref: CI/TPD21003855/P

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

MECHANICAL INSPECTION REPORT OF MOTOR LORRY GV 8094C

1. We refer to your request on 25th March 2021 to conduct a physical inspection of a motor lorry bearing registration number GV 8094C (herein referred to as "**Motor Lorry**"), which was involved in a road traffic accident on 1st March 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 30th March 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

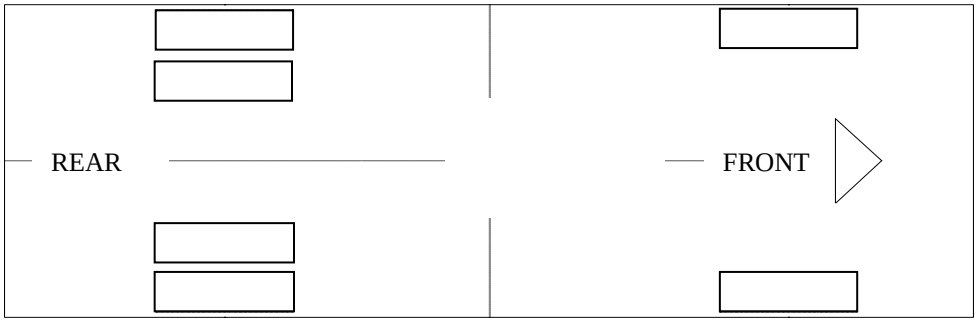
4. The mileage of the Motor Lorry at the time of my inspection was not recorded as the dashboard of the Motor Lorry was damaged as a result of the accident.

5. The Motor Lorry was observed to have sustained major damage at its front cabin & windscreen portion as well as its left door as a result of the accident.

Tyres and Wheel Rims

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

Westlake 155/ R12 (3.8mm) Good ride 185/ R15 (5.5mm)



Westlake 155/ R12 (4.1mm) Westlake 185/ R15 (3mm)

7. The 6 tyres were observed to be wrapped around standard steel wheel rims were found to be without any damages. See photo 1 - 12 below.

Photo 1 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 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.

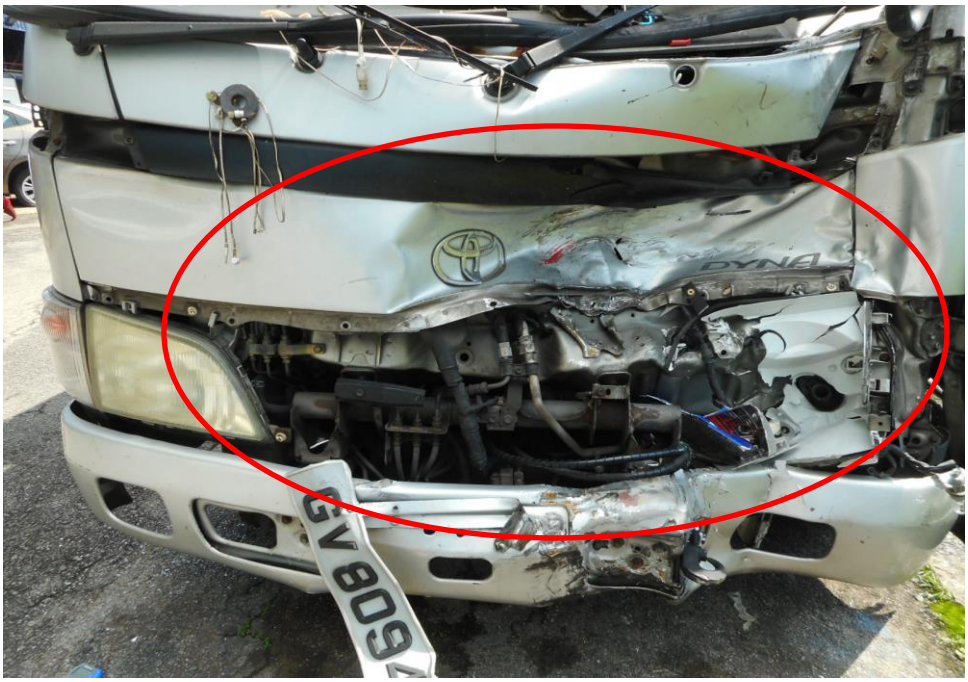


Photo 3 shows the close up view of the front portion of the Motor Lorry at the time of our inspection. The Motor Lorry was observed to have sustained major damages to its front body panel (circled) that was damaged as a result of the accident's impact.

Photo 4 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 damages to its left door (circled) as a result of the accident.

Photo 5 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 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.

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 close up view of the interior cabin of the Motor Lorry. It was observed to have sustained extensive induced damages to the dashboard as a result of the accident.

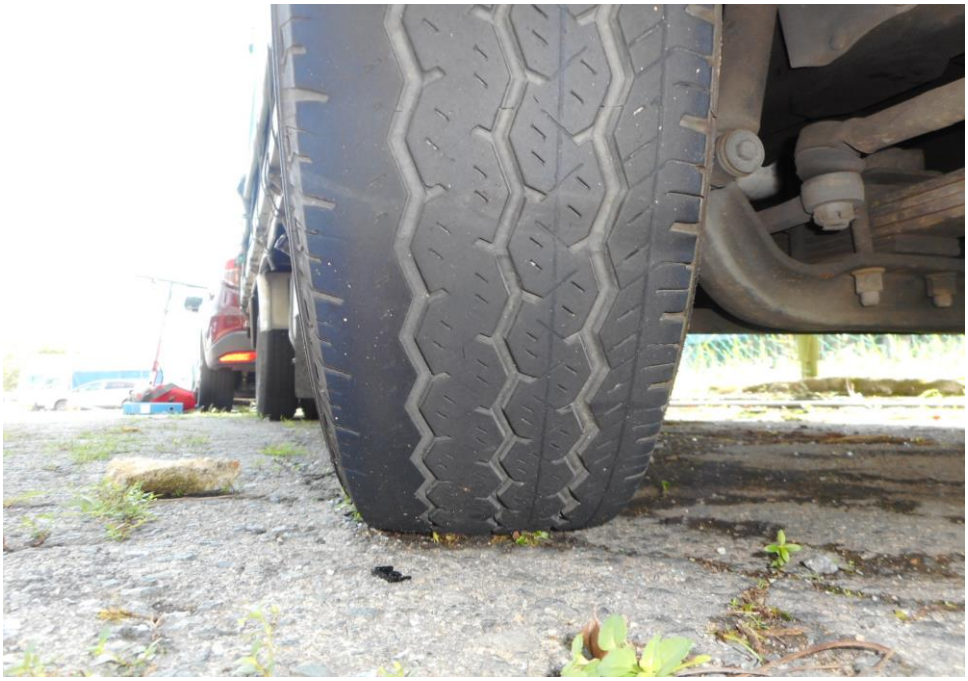


Photo 9 shows the condition of the front right tyre of the Motor Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 3mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.

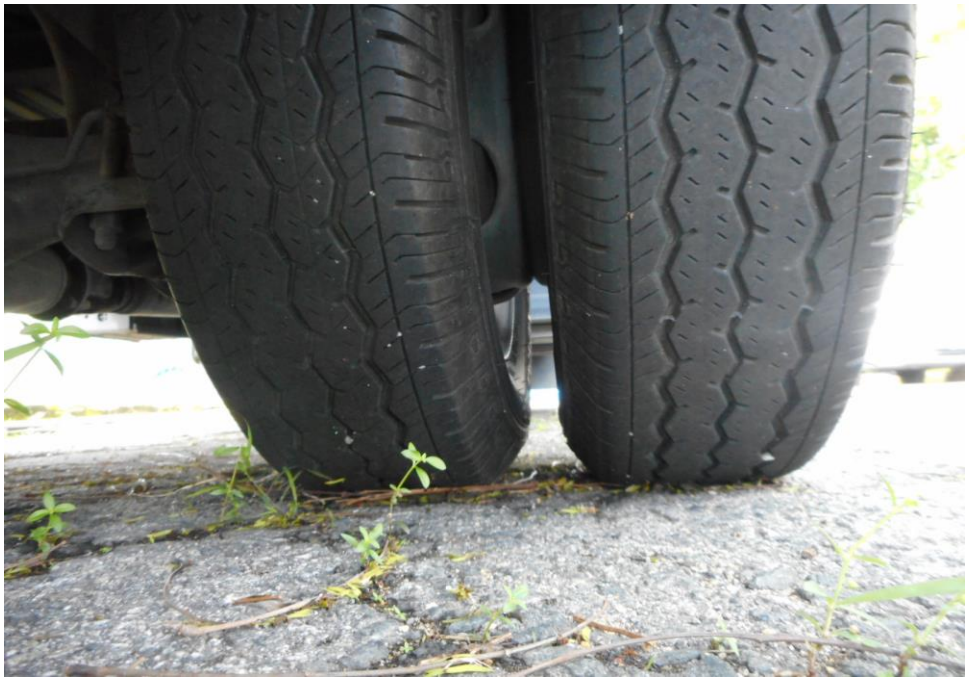


Photo 10 shows the condition of the rear right tyres of the Motor Lorry, which observed to be in serviceable condition with remaining tread depth of approximately 4.1mm. The tyres, which were wrapped around standard steel wheel rim, were also observed to be sufficiently inflated for vehicular operation.

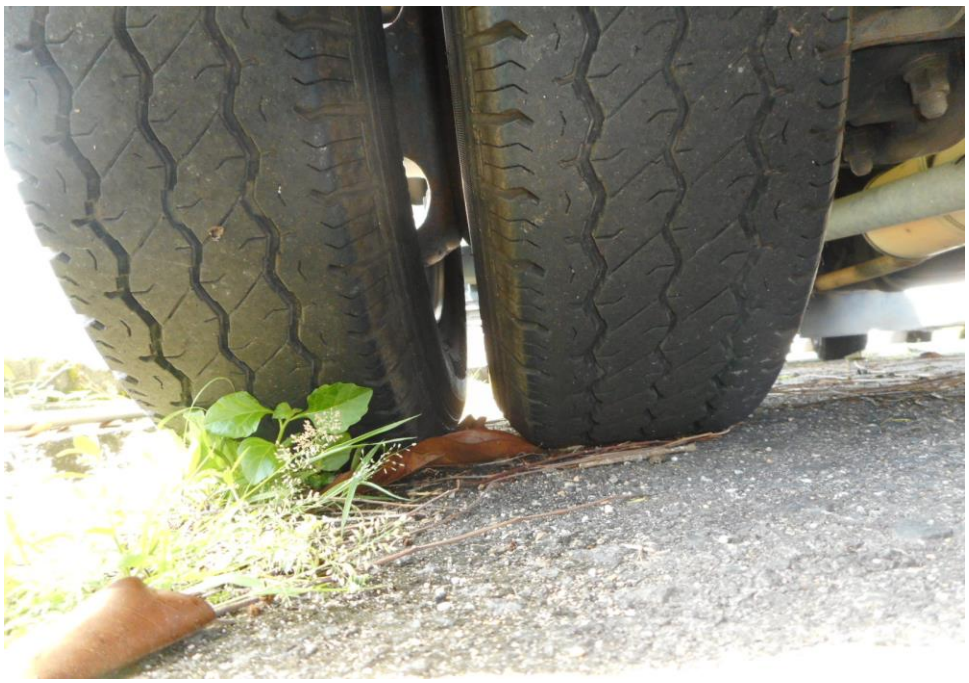


Photo 11 shows the condition of the rear left tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining, tread depth of approximately 3.8mm. See above.

Photo 12 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 steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.

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, however we are able to observed the brake fluid of the Motor Lorry and was observed to be sufficient level without any visible contamination.

9. Our subsequent checks on the underside of the Motor Lorry also revealed no fluid stain. Visually, the various undercarriage components of the Motor Lorry were all observed to be intact and without any visible damage. See photo 13 – 15 below.

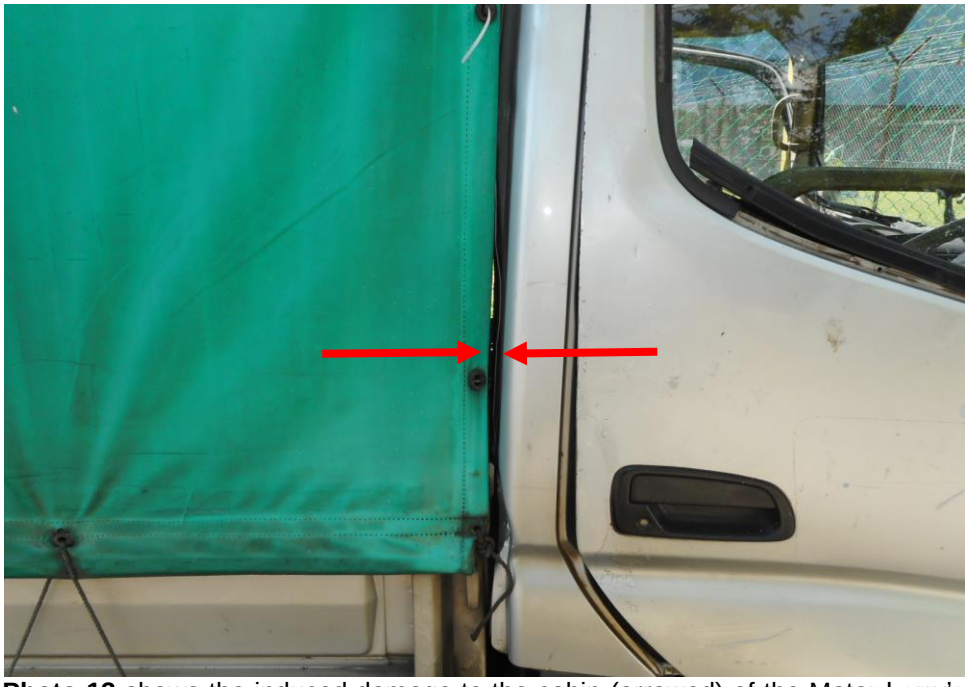


Photo 13 shows the induced damage to the cabin (arrowed) of the Motor Lorry's which immobilised the opening and viewing of the various parts and components inside the engine compartment, a result of the accident.

Photo 14 shows the brake fluid reservoir of the Motor Lorry at the time of our inspection. The brake fluid was observed to be of sufficient level and without any visible contamination (arrowed).

Photo 15 shows the undercarriage of the engine of the Motor Lorry at the time of our inspection. There was also sign(s) and indication(s) of old fluid stain within the engine undercarriage area.

Steering System & Braking System

10. Static steering tests was not conducted on the Motor Lorry as the 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 steering and braking system components was intact.

11. However, Static brake tests was able to be conducted on the Motor Lorry revealed no abnormality. The brake booster had responded well to the various tests conducted. There was also no abnormal movement of the brake pedal when it was depressed. In general, the static brake tests had suggested that there was no internal leakage of pressure/vacuum in the braking system of the Motor Lorry. The braking system of the Motor Lorry was likely to be in serviceable condition at the material time. This was also taking into consideration that the brake fluid was of sufficient level, and also that there was no sign(s) of brake fluid leakage along the brake hoses and brake pipes. See photo 16 - 21 below.

Photo 16 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 17 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) were observed to be damaged.

Photo 18 shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the brake hose (arrowed) and callipers (circled) 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.

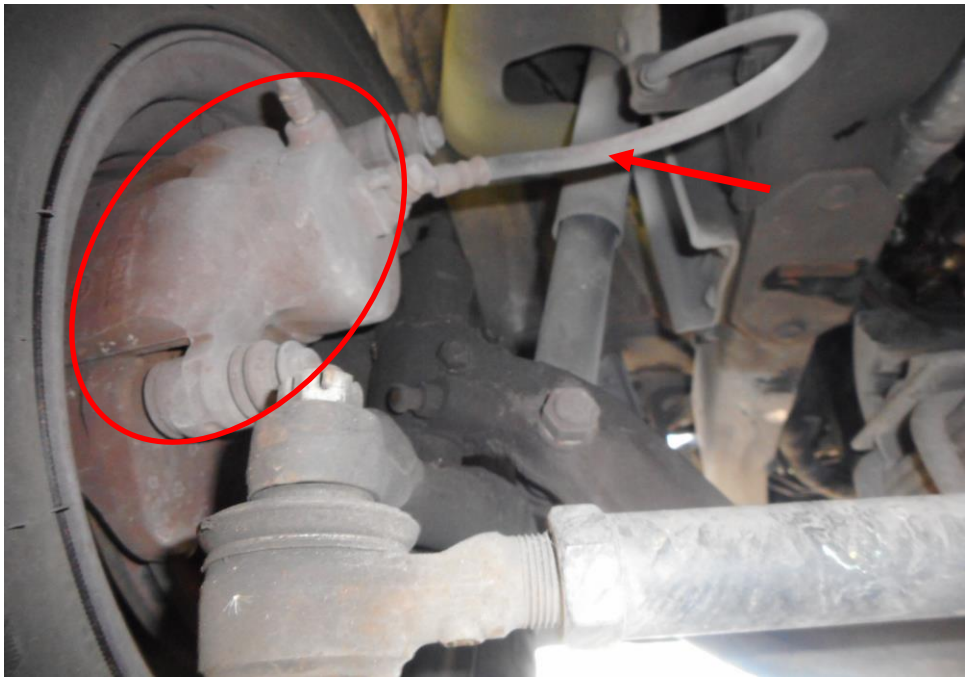


Photo 19 shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the brake hose (arrowed) and callipers (circled). The various undercarriage components of the Motor Lorry were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Photo 20 shows the various undercarriage components at the 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 21 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.

Electronic Safety / Warning Indicators

12. 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.

Seat Belts

13. The front right and front left seat belts of the “Motor Lorry” 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

14. An operational test of the Motor Lorry was not conducted as the Motor lorry was unsafe to operate at the time of inspection.

Conclusion

15. 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 and suspension system.

16. However, static brake tests able to be conducted and 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 and there was no leakage found at the braking components of the Motor Lorry.

17. 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. All 6 tyres were observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm to 5.5mm.

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.