



Your Ref: TP/IP/01949/2020  
Our Ref: CI/TPD20001935/P

4<sup>th</sup> February 2020

**Fatal Accident Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR LORRY GBC 5887K**

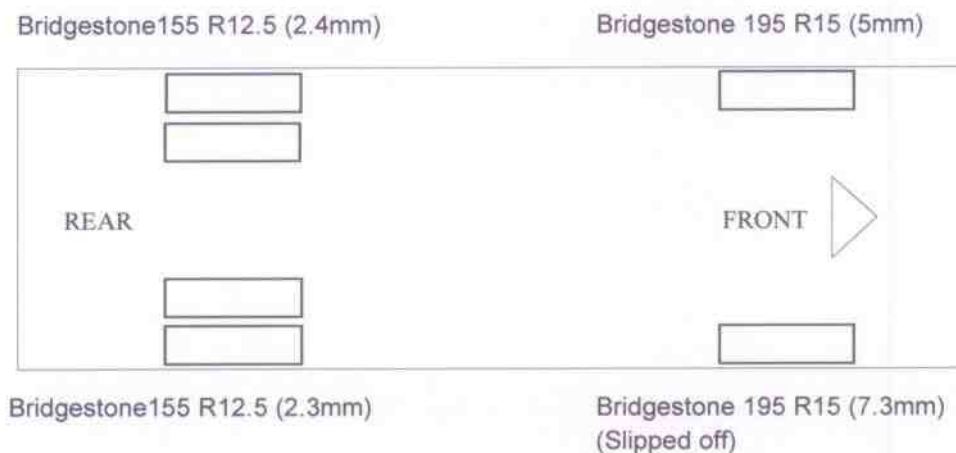
1. We refer to your request on 3<sup>rd</sup> February 2020 to conduct a physical inspection of a motor lorry bearing registration number GBC 5887K (herein referred to as "**Motor Lorry**"), which was involved in a fatal road traffic accident on 12<sup>th</sup> January 2020.
2. The objective of this 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 4<sup>th</sup> February 2020 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 damaged due to the accident at the time of our inspection.
5. The Motor Lorry was observed to have sustained major damage at its front portion. Its front windscreen, front bumper, front right head lamp and its right doors as a result of the accident.

## Tyres and Wheel Rims

6. The front right tyre and rims were found to have dislodged off from the Motor Lorry as a result of the accident, the rest of the 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 tyres. The tyre brand, tyre size and remaining tread depth of the 6 tyres of the Motor Lorry were recorded as follows:-



7. The 6 tyres were observed to be wrapped around standard steel wheel rims. See photo 1 – 11 below.



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



**Photo 2** shows a general view of the front portion of the Motor Lorry. Its front windscreen, front bumper, front right head lamp and its right doors 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. Its front windscreen (arrowed) was damaged 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. Its front bumper and left head lamp (arrowed) was damaged as a result of the accident.



**Photo 5** shows the close up view of the right portion of the Motor Lorry at the time of our inspection. Its right door was damaged as a result of the accident.



**Photo 6** shows a general view of the left body of the Motor Van at the time of my inspection. The Motor Van was observed to be unaffected by the accident.



**Photo 7** shows a general view of the rear body of the Motor Van at the time of my inspection. The Motor Van was observed to be unaffected by the accident.



**Photo 8** shows the condition of the front right tyre and rims of the Motor Lorry, which was observed to have been dislodged as a result of the accident. The remaining tread depth of approximately 7.3mm. The tyre was wrapped around standard alloy wheel rim.





**Photo 9** shows the condition of the rear right tyre of the Motor Lorry, which observed to be in serviceable condition with remaining tread depth of approximately 2.3mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



**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 2.4mm. 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 left tyre of the Motor Lorry, which observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

### **Engine Compartment & Operating Fluids**

8. We had only been able to observe the brake fluid. However, all the other parts, components and fluids could not be inspected as due to the damage induced has crushed and deformed the cabin of the Motor Lorry which immobilized its opening and viewing.
9. 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 12 and 13 below.





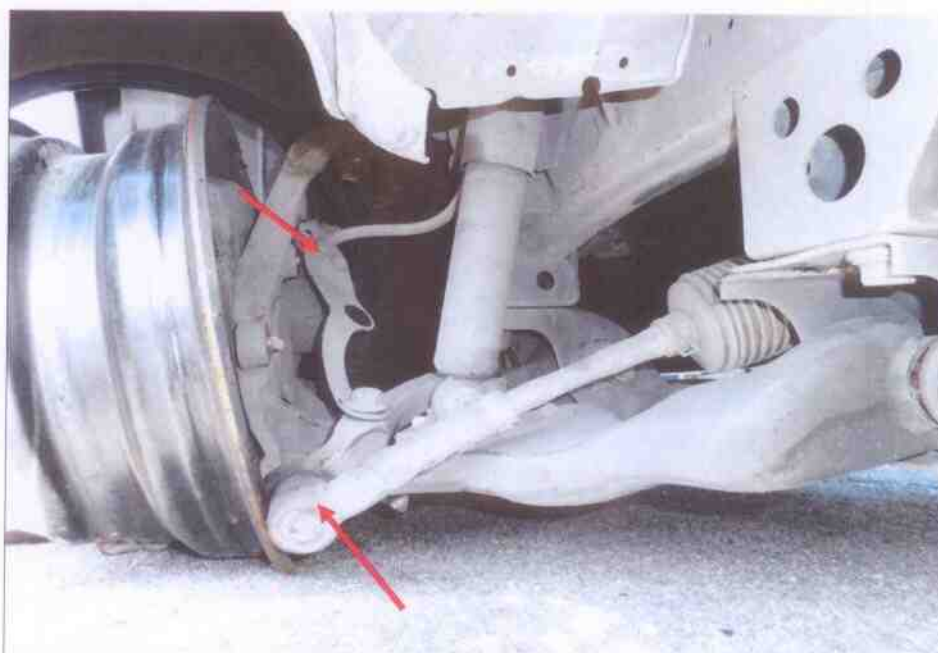
**Photo 12** shows the brake fluid reservoir of the Motor Van at the time of my inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



**Photo 13** 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

10. The mechanical components of the Motor Lorry's right steering tie rods and brake drum were found to be damaged and dislodged off from the steering knuckle. However the steering tie rods and brake caliper of the Motor Lorry were observed to be intact.
11. Static test on the steering system of the Motor Lorry could not be carried out due to the damages that immobilized the movement. Our visual examination of the various steering components of the left side which had included the, tie rods, tie rod ends and ball joints had revealed that these components were all intact.
12. 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 appears to be intact. See photo 14 - 18 below.



**Photo 14** shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the steering tie rod end and brake caliper (arrowed). The various undercarriage components of the Motor Lorry were all found to be damaged as a result of the accident.



**Photo 15** 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 16** shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the brake hose and caliper (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 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.



**Photo 18** 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.

### **Electronic Safety / Warning Indicators**

14. The static test of the Motor Lorry electronic safety system could not be inspected as the instrument cluster was damaged as a result from the accident.

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

13. Operational test to primarily determine whether there was any abnormality to the engine system, transmission system and braking system of the Motor Lorry could not be conducted given the extent of damage that it had sustained (undercarriage components such as the steering tie rod and brake caliper affected).

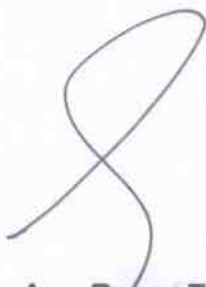
### **Conclusion**

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. However static test conducted to its braking system revealed no abnormality and was likely to be in serviceable condition at the material time.

16. The front right tyre and rim were found to be dislodged as a result of the accident. However, the other tyres fitted on the Motor Lorry were 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 5 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of 2.3mm to 7.3mm.



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Technical Investigator



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